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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1133-03-77 QUANTITY	1133-09-71 QUANTITY	1133-09-74 QUANTITY	1133-09-76 QUANTITY
0010	201.0105	CLEARING **P**	STA	190.000	22.000	143.000		25.000
0020	201.0205	GRUBBING **P**	STA	199.000	22.000	152.000		25.000
0030	203.0100	REMOVING SMALL PIPE CULVERTS	EACH	50.000	8.000	34.000		8.000
0040	203.0200	REMOVING OLD STRUCTURE (STATION) 01. 823+00	LS	1.000		1.000		
0050	203.0200	REMOVING OLD STRUCTURE (STATION) 02. 865+00	LS	1.000		1.000		
0060	203.0200	REMOVING OLD STRUCTURE (STATION) 03. 66+40	LS	1.000		1.000		
0070	203.0200	REMOVING OLD STRUCTURE (STATION) 04. 62+90	LS	1.000		1.000		
0080	203.0200	REMOVING OLD STRUCTURE (STATION) 05. 918+50	LS	1.000		1.000		
0090	203.0200	REMOVING OLD STRUCTURE (STATION) 06. 945+50	LS	1.000		1.000		
0100	203.0200	REMOVING OLD STRUCTURE (STATION) 07. 929+50	LS	1.000		1.000		
0110	203.0200	REMOVING OLD STRUCTURE (STATION) 700. 399+65	LS	1.000			1.000	
0120	203.0200	REMOVING OLD STRUCTURE (STATION) 703. 821+55.61 SB	LS	1.000		1.000		
0130	203.0200	REMOVING OLD STRUCTURE (STATION) 704. 821+55.61 NB	LS	1.000		1.000		
0140	203.0200	REMOVING OLD STRUCTURE (STATION) 705. 837+41 SB	LS	1.000		1.000		
0150	203.0200	REMOVING OLD STRUCTURE (STATION) 706. 838+10 NB	LS	1.000		1.000		
0160	203.0200	REMOVING OLD STRUCTURE (STATION) 710. 889+30.10 'NB'	LS	1.000		1.000		
0170	203.0200	REMOVING OLD STRUCTURE (STATION) 711. 888+95.18 ' NB'	LS	1.000		1.000		
0180	203.0200	REMOVING OLD STRUCTURE (STATION) 712. 894+75.47 'NB'	LS	1.000		1.000		
0190	203.0200	REMOVING OLD STRUCTURE (STATION) 713. 894+04.16 'NB'	LS	1.000		1.000		
0200	203.0200	REMOVING OLD STRUCTURE (STATION) 714. 931+64.56 'SB'	LS	1.000		1.000		
0210	203.0200	REMOVING OLD STRUCTURE (STATION) 715. 931+30.29 'NB'	LS	1.000		1.000		
0220	203.0200	REMOVING OLD STRUCTURE (STATION) 716. 961SB+30	LS	1.000	1.000			
0230	203.0200	REMOVING OLD STRUCTURE (STATION) 717. STA. 961+00	LS	1.000	1.000			
0240	203.0200	REMOVING OLD STRUCTURE (STATION) 718. STA. 983+00	LS	1.000	1.000			
0250	203.0200	REMOVING OLD STRUCTURE (STATION) 719. STA 983+00	LS	1.000	1.000			
0260	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 700. B-05-109	LS	1.000			1.000	
0270	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 703. B-05-107	LS	1.000		1.000		
0280	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 704. B-05-114	LS	1.000		1.000		
0290	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 705. B-05-135	LS	1.000		1.000		
0300	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 706. B-05-136	LS	1.000		1.000		

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1133-03-77 QUANTITY	1133-09-71 QUANTITY	1133-09-74 QUANTITY	1133-09-76 QUANTITY
0310	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 710. B-5-137	LS	1.000		1.000		
0320	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 711. B-5-138	LS	1.000		1.000		
0330	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 712. B-5-139	LS	1.000		1.000		
0340	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 713. B-5-140	LS	1.000		1.000		
0350	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 714. B-05-115	LS	1.000		1.000		
0360	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 715. B-05-124	LS	1.000		1.000		
0370	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 716. B-5-116	LS	1.000	1.000			
0380	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 717. B-5-132	LS	1.000	1.000			
0390	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 718. B-05-82	LS	1.000	1.000			
0400	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 719. B-5-83	LS	1.000	1.000			
0410	204.0100	REMOVING PAVEMENT **P**	SY	191,245.000	44,890.000	116,905.000		29,450.000
0420	204.0110	REMOVING ASPHALTIC SURFACE **P**	SY	1,160.000		1,050.000		110.000
0430	204.0115	REMOVING ASPHALTIC SURFACE BUTT JOINTS **P**	SY	100.000	30.000	60.000	10.000	
0440	204.0120	REMOVING ASPHALTIC SURFACE MILLING **P**	SY	12,710.000	1,750.000	10,230.000	730.000	
0450	204.0150	REMOVING CURB & GUTTER **P**	LF	10,620.000	1,335.000	3,765.000	755.000	4,765.000
0460	204.0155	REMOVING CONCRETE SIDEWALK **P**	SY	4,370.000	540.000	240.000	195.000	3,395.000
0470	204.0157	REMOVING CONCRETE BARRIER **P**	LF	350.000		350.000		
0480	204.0165	REMOVING GUARDRAIL **P**	LF	2,105.000	190.000	1,865.000	40.000	10.000
0490	204.0170	REMOVING FENCE **P**	LF	43,500.000	13,130.000	27,680.000		2,690.000
0500	204.0180	REMOVING DELINEATORS AND MARKERS	EACH	390.000	85.000	275.000		30.000
0510	204.0195	REMOVING CONCRETE BASES	EACH	28.000				28.000
0520	204.0210	REMOVING MANHOLES	EACH	7.000		1.000		6.000
0530	204.0220	REMOVING INLETS	EACH	67.000	7.000	25.000	5.000	30.000
0540	204.0245	REMOVING STORM SEWER (SIZE) **P** 10. 10-INCH	LF	110.000				110.000
0550	204.0245	REMOVING STORM SEWER (SIZE) **P** 12. 12-INCH	LF	1,500.000		230.000	125.000	1,145.000
0560	204.0245	REMOVING STORM SEWER (SIZE) **P** 15. 15-INCH	LF	85.000				85.000
0570	204.0245	REMOVING STORM SEWER (SIZE) **P** 18. 18-INCH	LF	2,285.000	770.000	1,005.000	100.000	410.000
0580	204.0245	REMOVING STORM SEWER (SIZE) **P** 21. 21-INCH	LF	15.000				15.000
0590	204.0245	REMOVING STORM SEWER (SIZE) **P** 24. 24-INCH	LF	350.000	350.000			
0600	204.0245	REMOVING STORM SEWER (SIZE) **P** 27. 27-INCH	LF	340.000				340.000
0610	204.0245	REMOVING STORM SEWER (SIZE) **P** 54. 54-INCH	LF	40.000				40.000
0620	204.0291.S	ABANDONING SEWER	CY	320.000		265.000		55.000
0630	204.9090.S	REMOVING (ITEM DESCRIPTION) 01. DRAIN SLOTTED VANE	LF	220.000	220.000			
0640	205.0100	EXCAVATION COMMON	CY	668,040.000	68,750.000	484,904.000	7,761.000	106,625.000
0650	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 700. B-05-611	LS	1.000			1.000	

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1133-03-77 QUANTITY	1133-09-71 QUANTITY	1133-09-74 QUANTITY	1133-09-76 QUANTITY
0660	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 701. B-05-612	LS	1.000		1.000		
0670	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 703. B-05-616	LS	1.000		1.000		
0680	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 704. B-05-617	LS	1.000		1.000		
0690	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 705. B-05-618	LS	1.000		1.000		
0700	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 706. B-05-619	LS	1.000		1.000		
0710	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 707. B-05-621	LS	1.000		1.000		
0720	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 708. B-05-622	LS	1.000		1.000		
0730	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 709. B-05-623	LS	1.000		1.000		
0740	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 710. B-5-624	LS	1.000		1.000		
0750	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 711. B-05-625	LS	1.000		1.000		
0760	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 712. B-05-626	LS	1.000		1.000		
0770	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 713. B-05-627	LS	1.000		1.000		
0780	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 714. B-05-628	LS	1.000		1.000		
0790	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 715. B-05-629	LS	1.000		1.000		
0800	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 716. B-05-630	LS	1.000	1.000			
0810	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 717. B-05-631	LS	1.000	1.000			
0820	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 718. B-05-632	LS	1.000	1.000			
0830	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 719. B-5-633	LS	1.000	1.000			
0840	206.6000.S	TEMPORARY SHORING	SF	80,682.000	15,780.000	63,032.000	1,870.000	
0850	209.0100	BACKFILL GRANULAR	CY	1,200.000	1,200.000			
0860	209.0300.S	BACKFILL COARSE AGGREGATE (SIZE) 01. NO. 1	CY	16.000	4.000	12.000		
0870	210.0100	BACKFILL STRUCTURE **P**	CY	9,100.000	3,313.000	4,190.000	1,597.000	
0880	213.0100	FINISHING ROADWAY (PROJECT) 01. 1133-03-77	EACH	1.000	1.000			
0890	213.0100	FINISHING ROADWAY (PROJECT) 02. 1133-09-71	EACH	1.000		1.000		
0900	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	15,900.000	4,200.000	10,060.000		1,640.000
0910	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	292,410.000	66,150.000	197,350.000	510.000	28,400.000
0920	311.0110	BREAKER RUN	TON	347,300.000	80,400.000	226,860.000	240.000	39,800.000
0930	315.0100	ASPHALTIC BASE	TON	68,100.000	21,100.000	44,480.000		2,520.000
0940	320.0150	CONCRETE BASE 8 1/2-INCH **P**	SY	7,035.000	1,290.000	5,745.000		
0950	416.0160	CONCRETE DRIVEWAY 6-INCH	SY	500.000				500.000
0960	416.0610	DRILLED TIE BARS	EACH	875.000	210.000	665.000		
0970	416.0620	DRILLED DOWEL BARS	EACH	560.000	335.000	165.000		60.000
0980	416.1110	CONCRETE RUMBLE STRIPS SHOULDER **P**	LF	80,150.000	18,650.000	61,500.000		
0990	440.4410.S	INCENTIVE IRI RIDE	DOL	91,310.000	25,822.000	58,720.000		6,768.000
1000	455.0105	ASPHALTIC MATERIAL PG58-28	TON	2,321.000	310.000	1,596.000	10.000	405.000
1010	455.0605	TACK COAT	GAL	4,021.000	670.000	2,731.000	30.000	590.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1133-03-77 QUANTITY	1133-09-71 QUANTITY	1133-09-74 QUANTITY	1133-09-76 QUANTITY
1020	460.1100	HMA PAVEMENT TYPE E-0.3	TON	14,650.000	2,510.000	11,610.000		530.000
1030	460.1101	HMA PAVEMENT TYPE E-1	TON	3,250.000		2,820.000	155.000	275.000
1040	460.1110	HMA PAVEMENT TYPE E-10	TON	19,000.000	2,100.000	11,200.000		5,700.000
1050	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	23,640.000	2,960.000	16,410.000	100.000	4,170.000
1060	465.0105	ASPHALTIC SURFACE	TON	640.000	215.000	425.000		
1070	465.0120	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	TON	20.000				20.000
1080	465.0310	ASPHALTIC CURB	LF	5,370.000				5,370.000
1090	465.0315	ASPHALTIC FLUMES **P**	SY	195.000		80.000		115.000
1100	465.0400	ASPHALTIC SHOULDER RUMBLE STRIP **P**	LF	34,500.000	4,900.000	29,600.000		
1110	502.3200	PROTECTIVE SURFACE TREATMENT **P**	SY	37,048.000	9,987.000	24,813.000	2,248.000	
1120	502.6105	MASONRY ANCHORS TYPE S 5/8-INCH **P**	EACH	15.000	15.000			
1130	502.6110	MASONRY ANCHORS TYPE S 3/4-INCH **P**	EACH	226.000	40.000	178.000	8.000	
1140	503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH **P**	LF	4,866.000		4,866.000		
1150	503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH **P**	LF	23,481.000	2,505.000	18,005.000	2,971.000	
1160	503.0172	PRESTRESSED GIRDER TYPE I 72W-INCH **P**	LF	3,020.000	3,020.000			
1170	504.0500	CONCRETE MASONRY RETAINING WALLS **P**	CY	4,367.000	3,741.000	563.000	63.000	
1180	504.0900	CONCRETE MASONRY ENDWALLS **P**	CY	2.000		2.000		
1190	505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	198,580.000		168,320.000	30,260.000	
1200	505.0415	BAR STEEL REINFORCEMENT HS RETAINING WALLS	LB	1,860.000	1,240.000	620.000		
1210	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	2,608,700.000	475,960.000	1,854,340.000	278,400.000	
1220	505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	463,070.000	387,650.000	70,300.000	5,120.000	
1230	505.0904	BAR COUPLERS NO. 4	EACH	32.000	32.000			
1240	505.0905	BAR COUPLERS NO. 5	EACH	1,893.000	1,845.000	48.000		
1250	505.0906	BAR COUPLERS NO. 6	EACH	212.000	212.000			
1260	505.0908	BAR COUPLERS NO. 8	EACH	96.000	96.000			
1270	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED **P**	EACH	616.000	90.000	462.000	64.000	
1280	506.4000	STEEL DIAPHRAGMS (STRUCTURE) **P** 700. B-05-611	EACH	42.000			42.000	
1290	506.4000	STEEL DIAPHRAGMS (STRUCTURE) **P** 701. B-05-612	EACH	20.000		20.000		
1300	506.4000	STEEL DIAPHRAGMS (STRUCTURE) **P** 703. B-05-616	EACH	34.000		34.000		
1310	506.4000	STEEL DIAPHRAGMS (STRUCTURE) **P** 704. B-05-617	EACH	22.000		22.000		
1320	506.4000	STEEL DIAPHRAGMS (STRUCTURE) **P** 705. B-05-618	EACH	40.000		40.000		
1330	506.4000	STEEL DIAPHRAGMS (STRUCTURE) **P** 706. B-05-619	EACH	32.000		32.000		
1340	506.4000	STEEL DIAPHRAGMS (STRUCTURE) **P** 707. B-05-621	EACH	16.000		16.000		
1350	506.4000	STEEL DIAPHRAGMS (STRUCTURE) **P** 708. B-05-622	EACH	15.000		15.000		
1360	506.4000	STEEL DIAPHRAGMS (STRUCTURE) **P** 709. B-05-623	EACH	15.000		15.000		
1370	506.4000	STEEL DIAPHRAGMS (STRUCTURE) **P** 710. B-5-624	EACH	36.000		36.000		
1380	506.4000	STEEL DIAPHRAGMS (STRUCTURE) **P** 711. B-05-625	EACH	27.000		27.000		
1390	506.4000	STEEL DIAPHRAGMS (STRUCTURE) **P** 712. B-05-626	EACH	36.000		36.000		
1400	506.4000	STEEL DIAPHRAGMS (STRUCTURE) **P** 713. B-05-627	EACH	24.000		24.000		

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1133-03-77 QUANTITY	1133-09-71 QUANTITY	1133-09-74 QUANTITY	1133-09-76 QUANTITY
1410	506.4000	STEEL DIAPHRAGMS (STRUCTURE) **P** 714. B-05-628	EACH	24.000		24.000		
1420	506.4000	STEEL DIAPHRAGMS (STRUCTURE) **P** 715. B-05-629	EACH	24.000		24.000		
1430	506.4000	STEEL DIAPHRAGMS (STRUCTURE) **P** 716. B-05-630	EACH	24.000	24.000			
1440	506.4000	STEEL DIAPHRAGMS (STRUCTURE) **P** 717. B-05-631	EACH	22.000	22.000			
1450	506.4000	STEEL DIAPHRAGMS (STRUCTURE) **P** 718. B-05-632	EACH	18.000	18.000			
1460	506.4000	STEEL DIAPHRAGMS (STRUCTURE) **P** 719. B-05-633	EACH	18.000	18.000			
1470	516.0500	RUBBERIZED MEMBRANE WATERPROOFING **P**	SY	975.000	407.000	516.000	52.000	
1480	520.4012	CULVERT PIPE TEMPORARY 12-INCH	LF	712.000		586.000		126.000
1490	520.4018	CULVERT PIPE TEMPORARY 18-INCH	LF	335.000		335.000		
1500	520.4024	CULVERT PIPE TEMPORARY 24-INCH	LF	72.000				72.000
1510	520.4042	CULVERT PIPE TEMPORARY 42-INCH	LF	176.000		176.000		
1520	520.8000	CONCRETE COLLARS FOR PIPE	EACH	70.000	44.000	19.000		7.000
1530	521.1012	APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH	EACH	5.000		5.000		
1540	522.0112	CULVERT PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	164.000		32.000		132.000
1550	522.0124	CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	110.000		110.000		
1560	522.0130	CULVERT PIPE REINFORCED CONCRETE CLASS III 30-INCH	LF	84.000		84.000		
1570	522.0142	CULVERT PIPE REINFORCED CONCRETE CLASS III 42-INCH	LF	340.000	340.000			
1580	522.0172	CULVERT PIPE REINFORCED CONCRETE CLASS III 72-INCH	LF	24.000		24.000		
1590	522.1012	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH	EACH	13.000	2.000	8.000		3.000
1600	522.1015	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 15-INCH	EACH	13.000	12.000	1.000		
1610	522.1018	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH	EACH	40.000	3.000	34.000	2.000	1.000
1620	522.1024	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	EACH	15.000	6.000	8.000		1.000
1630	522.1030	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH	EACH	6.000		4.000		2.000
1640	522.1036	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH	EACH	8.000		7.000		1.000
1650	522.1042	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 42-INCH	EACH	8.000	3.000	5.000		
1660	522.1048	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 48-INCH	EACH	2.000	1.000	1.000		
1670	522.1072	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 72-INCH	EACH	2.000		2.000		
1680	523.0119	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 19X30-INCH	LF	50.000		50.000		
1690	523.0134	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 34X53-INCH	LF	118.000				118.000
1700	523.0519	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 19X30-INCH	EACH	4.000		4.000		

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1710	523.0524	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 24X38-INCH	EACH	2.000		2.000		
1720	523.0534	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 34X53-INCH	EACH	4.000				4.000
1730	531.0200.S	NOISE BARRIERS SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE) 900. N-05-0010-01 **P**	SF	94,000.000		94,000.000		
1740	531.0200.S	NOISE BARRIERS SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE) 901. N-05-0011-01 **P**	SF	73,000.000		73,000.000		
1750	531.0200.S	NOISE BARRIERS SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE) 902. N-05-0010-02 **P**	SF	14,000.000	14,000.000			
1760	531.0200.S	NOISE BARRIERS SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE) 903. N-05-0011-02 **P**	SF	49,000.000	49,000.000			
1770	531.0200.S	NOISE BARRIERS SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE) 904. N-05-0012 **P**	SF	34,000.000	34,000.000			
1780	531.0200.S	NOISE BARRIERS SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE) 905. N-05-0013 **P**	SF	55,000.000	55,000.000			
1790	531.0200.S	NOISE BARRIERS SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE) 906. N-05-0014 **P**	SF	15,000.000	15,000.000			
1800	532.0700.S	WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	134,150.000	51,360.000	77,715.000	5,075.000	
1810	532.0750.S	TEMPORARY WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	3,890.000		3,890.000		
1820	550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	390.000			390.000	
1830	550.0500	PILE POINTS	EACH	363.000	64.000	299.000		
1840	550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	80,874.000	16,080.000	62,217.000	827.000	1,750.000
1850	601.0105	CONCRETE CURB TYPE A **P**	LF	10.000				10.000
1860	601.0110	CONCRETE CURB TYPE D **P**	LF	160.000				160.000
1870	601.0405	CONCRETE CURB & GUTTER 18-INCH TYPE A **P**	LF	670.000				670.000
1880	601.0407	CONCRETE CURB & GUTTER 18-INCH TYPE D **P**	LF	250.000				250.000
1890	601.0409	CONCRETE CURB & GUTTER 30-INCH TYPE A **P**	LF	8,075.000	950.000		110.000	7,015.000
1900	601.0411	CONCRETE CURB & GUTTER 30-INCH TYPE D **P**	LF	8,135.000	760.000	6,875.000	500.000	
1910	601.0413	CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G **P**	LF	90.000				90.000
1920	601.0452	CONCRETE CURB & GUTTER INTEGRAL 30-INCH TYPE D **P**	LF	5,230.000		550.000		4,680.000
1930	601.0574	CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G **P**	LF	5,060.000		3,845.000		1,215.000
1940	601.0576	CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J **P**	LF	120.000				120.000
1950	601.0600	CONCRETE CURB PEDESTRIAN **P**	LF	140.000				140.000
1960	602.0410	CONCRETE SIDEWALK 5-INCH **P**	SF	38,080.000	6,500.000	7,200.000	1,400.000	22,980.000
1970	602.0505	CURB RAMP DETECTABLE WARNING FIELD YELLOW **P**	SF	192.000				192.000
1980	603.1132	CONCRETE BARRIER TYPE S32 **P**	LF	2,510.000	2,510.000			
1990	603.1142	CONCRETE BARRIER TYPE S42 **P**	LF	14,620.000	4,790.000	9,405.000		425.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1133-03-77 QUANTITY	1133-09-71 QUANTITY	1133-09-74 QUANTITY	1133-09-76 QUANTITY
2000	603.3113	CONCRETE BARRIER TRANSITION TYPE NJ32SF TO S36 **P**	EACH	12.000	6.000	6.000		
2010	603.3513	CONCRETE BARRIER TRANSITION TYPE S32 TO S36 **P**	EACH	2.000	2.000			
2020	603.3535	CONCRETE BARRIER TRANSITION TYPE S36 TO S42 **P**	EACH	14.000	8.000	6.000		
2030	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	82,605.000	15,400.000	64,525.000		2,680.000
2040	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	148,270.000	51,870.000	93,720.000		2,680.000
2050	604.0400	SLOPE PAVING CONCRETE **P**	SY	1,185.000	189.000	964.000	32.000	
2060	604.0500	SLOPE PAVING CRUSHED AGGREGATE **P**	SY	2,594.000		2,430.000	164.000	
2070	606.0200	RIPRAP MEDIUM	CY	1,600.000	200.000	1,300.000	20.000	80.000
2080	606.0300	RIPRAP HEAVY	CY	1,150.000		1,150.000		
2090	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	2,106.000	170.000	427.000	64.000	1,445.000
2100	608.0315	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH	LF	1,211.000	1,109.000			102.000
2110	608.0318	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH	LF	6,011.000	1,222.000	4,239.000	202.000	348.000
2120	608.0324	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	15,566.000	3,925.000	9,690.000		1,951.000
2130	608.0330	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH	LF	4,544.000	949.000	3,321.000		274.000
2140	608.0336	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH	LF	513.000		447.000		66.000
2150	608.0342	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 42-INCH	LF	460.000	347.000	113.000		
2160	608.0348	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 48-INCH	LF	87.000		87.000		
2170	608.0354	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 54-INCH	LF	32.000				32.000
2180	608.0412	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH	LF	129.000				129.000
2190	608.0515	STORM SEWER PIPE REINFORCED CONCRETE CLASS V 15-INCH	LF	110.000	110.000			
2200	608.0524	STORM SEWER PIPE REINFORCED CONCRETE CLASS V 24-INCH	LF	107.000	107.000			
2210	608.0548	STORM SEWER PIPE REINFORCED CONCRETE CLASS V 48-INCH	LF	942.000	942.000			
2220	609.0130	RELAID STORM SEWER 30-INCH	LF	44.000				44.000
2230	610.0119	STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 19X30-INCH	LF	296.000		76.000		220.000
2240	610.0124	STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 24X38-INCH	LF	205.000		205.000		
2250	610.0134	STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 34X53-INCH	LF	212.000				212.000
2260	610.0419	STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 19X30-INCH	LF	350.000				350.000
2270	611.0420	RECONSTRUCTING MANHOLES	EACH	4.000		4.000		
2280	611.0430	RECONSTRUCTING INLETS	EACH	23.000		22.000	1.000	
2290	611.0535	MANHOLE COVERS TYPE J-SPECIAL	EACH	88.000	27.000	56.000		5.000
2300	611.0612	INLET COVERS TYPE C	EACH	3.000		3.000		

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1133-03-77 QUANTITY	1133-09-71 QUANTITY	1133-09-74 QUANTITY	1133-09-76 QUANTITY
2310	611.0624	INLET COVERS TYPE H	EACH	68.000		12.000	4.000	52.000
2320	611.0639	INLET COVERS TYPE H-S	EACH	17.000		8.000		9.000
2330	611.0642	INLET COVERS TYPE MS	EACH	32.000	17.000	11.000	2.000	2.000
2340	611.0654	INLET COVERS TYPE V	EACH	269.000	86.000	183.000		
2350	611.0666	INLET COVERS TYPE Z	EACH	5.000				5.000
2360	611.2004	MANHOLES 4-FT DIAMETER	EACH	85.000	26.000	45.000		14.000
2370	611.2005	MANHOLES 5-FT DIAMETER	EACH	1.000				1.000
2380	611.2006	MANHOLES 6-FT DIAMETER	EACH	44.000	13.000	24.000		7.000
2390	611.2007	MANHOLES 7-FT DIAMETER	EACH	1.000		1.000		
2400	611.2008	MANHOLES 8-FT DIAMETER	EACH	6.000	3.000	1.000		2.000
2410	611.3003	INLETS 3-FT DIAMETER	EACH	201.000	52.000	149.000		
2420	611.3004	INLETS 4-FT DIAMETER	EACH	4.000		4.000		
2430	611.3220	INLETS 2X2-FT	EACH	24.000		19.000		5.000
2440	611.3225	INLETS 2X2.5-FT	EACH	23.000	23.000			
2450	611.3230	INLETS 2X3-FT	EACH	63.000		17.000	4.000	42.000
2460	611.3901	INLETS MEDIAN 1 GRATE	EACH	6.000	1.000	3.000		2.000
2470	611.3902	INLETS MEDIAN 2 GRATE	EACH	6.000	4.000	1.000	1.000	
2480	611.8110	ADJUSTING MANHOLE COVERS	EACH	1.000				1.000
2490	611.8115	ADJUSTING INLET COVERS	EACH	23.000		23.000		
2500	611.8120.S	COVER PLATES TEMPORARY	EACH	37.000		21.000		16.000
2510	611.9800.S	PIPE GRATES	EACH	10.000	10.000			
2520	612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	1,060.000		920.000	140.000	
2530	612.0212	PIPE UNDERDRAIN UNPERFORATED 12-INCH	LF	341.000		292.000	49.000	
2540	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	21,890.000	6,880.000	14,340.000	670.000	
2550	612.0902.S	INSULATION BOARD POLYSTYRENE (INCH) 01. 2-INCH	SY	44.000				44.000
2560	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	19.000	4.000	10.000	5.000	
2570	614.0220	STEEL THRIE BEAM BULLNOSE TERMINAL	EACH	4.000		4.000		
2580	614.0230	STEEL THRIE BEAM	LF	810.000		810.000		
2590	614.0396	GUARDRAIL MOW STRIP ASPHALT	SY	8,280.000	810.000	6,530.000		940.000
2600	614.0805	CRASH CUSHIONS PERMANENT LOW MAINTENANCE	EACH	1.000		1.000		
2610	614.0905	CRASH CUSHIONS TEMPORARY	EACH	67.000	18.000	46.000		3.000
2620	614.0920	SALVAGED RAIL	LF	21,595.000	1,890.000	18,615.000	390.000	700.000
2630	614.0925	SALVAGED GUARDRAIL END TREATMENTS	EACH	65.000	8.000	51.000	4.000	2.000
2640	614.2300	MGS GUARDRAIL 3	LF	18,605.000	1,575.000	14,635.000	170.000	2,225.000
2650	614.2320	MGS GUARDRAIL 3 QS	LF	200.000		200.000		
2660	614.2500	MGS THRIE BEAM TRANSITION	LF	1,085.000	120.000	750.000	160.000	55.000
2670	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	34.000	4.000	21.000	2.000	7.000
2680	614.2620	MGS GUARDRAIL TERMINAL TYPE 2	EACH	28.000	3.000	17.000	2.000	6.000
2690	616.0100	FENCE WOVEN WIRE (HEIGHT) 001. 4-FT	LF	3,000.000		3,000.000		
2700	616.0204	FENCE CHAIN LINK 4-FT	LF	14,570.000	2,205.000	9,740.000		2,625.000
2710	616.0700.S	FENCE SAFETY	LF	5,000.000	1,000.000	3,000.000	500.000	500.000
2720	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 1133-03-77	EACH	1.000	1.000			
2730	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 02. 1133-09-71	EACH	1.000		1.000		
2740	619.1000	MOBILIZATION	EACH	1.000	0.300	0.620	0.030	0.050
2750	620.0100	CONCRETE CORRUGATED MEDIAN **P**	SF	235.000				235.000
2760	620.0300	CONCRETE MEDIAN SLOPED NOSE **P**	SF	840.000				840.000
2770	624.0100	WATER	MGAL	9,400.000	2,200.000	6,300.000	10.000	890.000
2780	625.0500	SALVAGED TOPSOIL	SY	533,870.000	128,900.000	369,770.000		35,200.000
2790	627.0200	MULCHING	SY	149,520.000	31,750.000	94,170.000		23,600.000
2800	628.1504	SILT FENCE	LF	17,600.000	4,900.000	12,000.000	100.000	600.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1133-03-77 QUANTITY	1133-09-71 QUANTITY	1133-09-74 QUANTITY	1133-09-76 QUANTITY
2810	628.1520	SILT FENCE MAINTENANCE	LF	8,800.000	2,450.000	6,000.000	50.000	300.000
2820	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	90.000	28.000	50.000	3.000	9.000
2830	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	54.000	16.000	30.000	2.000	6.000
2840	628.2004	EROSION MAT CLASS I TYPE B	SY	396,000.000	97,000.000	275,400.000		23,600.000
2850	628.2008	EROSION MAT URBAN CLASS I TYPE B	SY	3,350.000		1,450.000		1,900.000
2860	628.7005	INLET PROTECTION TYPE A	EACH	586.000	155.000	336.000	5.000	90.000
2870	628.7010	INLET PROTECTION TYPE B	EACH	403.000	120.000	248.000	2.000	33.000
2880	628.7015	INLET PROTECTION TYPE C	EACH	79.000		24.000	5.000	50.000
2890	628.7020	INLET PROTECTION TYPE D	EACH	34.000		24.000		10.000
2900	628.7504	TEMPORARY DITCH CHECKS	LF	1,300.000	600.000	700.000		
2910	628.7555	CULVERT PIPE CHECKS	EACH	17.000	2.000	10.000		5.000
2920	628.7560	TRACKING PADS	EACH	35.000	8.000	15.000		12.000
2930	628.7570	ROCK BAGS	EACH	1,180.000		1,180.000		
2940	629.0210	FERTILIZER TYPE B	CWT	365.000	90.000	250.000		25.000
2950	630.0120	SEEDING MIXTURE NO. 20	LB	10,680.000	2,565.000	7,565.000		550.000
2960	630.0130	SEEDING MIXTURE NO. 30	LB	2,595.000	675.000	1,790.000		130.000
2970	630.0140	SEEDING MIXTURE NO. 40	LB	180.000				180.000
2980	630.0200	SEEDING TEMPORARY	LB	14,425.000	3,550.000	10,125.000		750.000
2990	632.0101	TREES (SPECIES, ROOT, SIZE) 01. GINKGO, 'PRINCETON SENTRY', B&B, 2 1/2-INCH CAL.	EACH	10.000				10.000
3000	632.0101	TREES (SPECIES, ROOT, SIZE) 02. HONEYLOCUST, THORNLESS 'IMPERIAL', B&B, 2 1/2-INCH CAL.	EACH	6.000				6.000
3010	632.0101	TREES (SPECIES, ROOT, SIZE) 03. MAPLE, SILVER 'SILVER QUEEN', B&B, 2 1/2-INCH CAL.	EACH	4.000				4.000
3020	632.0101	TREES (SPECIES, ROOT, SIZE) 04. OAK, BUR, B&B, 2-INCH CAL.	EACH	10.000				10.000
3030	632.0101	TREES (SPECIES, ROOT, SIZE) 05. OAK, SWAMP WHITE, B&B, 2-INCH CAL.	EACH	1.000				1.000
3040	632.0101	TREES (SPECIES, ROOT, SIZE) 06. AMUR MAACKIA, 'STARBURST', B&B, 2-INCH CAL.	EACH	12.000				12.000
3050	632.0101	TREES (SPECIES, ROOT, SIZE) 07. BIRCH, RIVER 'FOX VALLEY' B&B, 4-FOOT HT.	EACH	23.000				23.000
3060	632.0101	TREES (SPECIES, ROOT, SIZE) 08. CRABAPPLE, 'ADAM'S (SHRUB FORM TREE) , B&B, 8-FOOT HT.	EACH	17.000				17.000
3070	632.0101	TREES (SPECIES, ROOT, SIZE) 09. CRABAPPLE, 'ADIRONDAK', B&B, 2-INCH CAL.	EACH	23.000				23.000
3080	632.0101	TREES (SPECIES, ROOT, SIZE) 10. CRABAPPLE, 'DONALD WYMAN', B&B, 2-INCH CAL.	EACH	6.000				6.000
3090	632.0101	TREES (SPECIES, ROOT, SIZE) 11. HAWTHORN, 'WINTER KING', B&B, 2-INCH CAL.	EACH	36.000				36.000
3100	632.0101	TREES (SPECIES, ROOT, SIZE) 12. JAPANESE TREE LILAC, 'IVORY SILK' B&B, 2-INCH CAL.	EACH	3.000				3.000
3110	632.0101	TREES (SPECIES, ROOT, SIZE) 13. JAPANESE TREE LILAC, 'IVORY SILK' (SHRUB FORM TREE), B&B, 8-FOOT HT.	EACH	5.000				5.000
3120	632.0101	TREES (SPECIES, ROOT, SIZE) 14. MUSCLEWOOD, B&B, 2-INCH CAL.	EACH	13.000				13.000
3130	632.0101	TREES (SPECIES, ROOT, SIZE) 15. PEAR, CALLERY 'CHANTICLEER', B&B 2 1/2-INCH CAL.	EACH	4.000				4.000
3140	632.0101	TREES (SPECIES, ROOT, SIZE) 16. EASTERN REDCEDAR, HILL DUNDEE B&B, 6-FOOT HT.	EACH	13.000				13.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1133-03-77 QUANTITY	1133-09-71 QUANTITY	1133-09-74 QUANTITY	1133-09-76 QUANTITY
3150	632.0101	TREES (SPECIES, ROOT, SIZE) 17. SPRUCE, BLACK HILLS, B&B, 6-FOOT HT.	EACH	8.000				8.000
3160	632.0101	TREES (SPECIES, ROOT, SIZE) 18. SPRUCE, BLACK HILLS, B&B, 8-FOOT HT.	EACH	13.000				13.000
3170	632.0201	SHRUBS (SPECIES, ROOT, SIZE) 01. JUNIPER, 'BAR HARBOR', CONT., 18-INCH SPR.	EACH	4.000				4.000
3180	632.0201	SHRUBS (SPECIES, ROOT, SIZE) 02. ROSE, 'DWARF PAVEMENT', CONT., 2-FOOT SPR.	EACH	95.000				95.000
3190	632.0201	SHRUBS (SPECIES, ROOT, SIZE) 03. SPIREA, 'GOLD MOUND', CONT., 12-INCH HT.	EACH	229.000				229.000
3200	632.0201	SHRUBS (SPECIES, ROOT, SIZE) 04. SPIREA, JAPANESE, 'FROEBELII', CONTAINER, 24-INCH HT.	EACH	20.000	20.000			
3210	632.9101	LANDSCAPE PLANTING SURVEILLANCE AND CARE CYCLES	EACH	26.000	13.000			13.000
3220	633.0100	DELINEATOR POSTS STEEL	EACH	263.000	48.000	192.000		23.000
3230	633.0500	DELINEATOR REFLECTORS	EACH	816.000	216.000	573.000		27.000
3240	633.1000	DELINEATOR BRACKETS	EACH	430.000	103.000	323.000		4.000
3250	633.5200	MARKERS CULVERT END	EACH	123.000	27.000	82.000	2.000	12.000
3260	634.0612	POSTS WOOD 4X6-INCH X 12-FT	EACH	2.000				2.000
3270	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	86.000	12.000	2.000		72.000
3280	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	49.000	20.000	24.000		5.000
3290	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	24.000	2.000	22.000		
3300	634.0620	POSTS WOOD 4X6-INCH X 20-FT	EACH	6.000				6.000
3310	634.0622	POSTS WOOD 4X6-INCH X 22-FT	EACH	6.000				6.000
3320	635.0200	SIGN SUPPORTS STRUCTURAL STEEL HS	LB	1,922.000	961.000	961.000		
3330	636.0100	SIGN SUPPORTS CONCRETE MASONRY **P**	CY	1,168.000	418.000	683.000		67.000
3340	636.0500	SIGN SUPPORTS STEEL REINFORCEMENT	LB	196.000	98.000	98.000		
3350	636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	38,140.000	14,720.000	22,010.000		1,410.000
3360	636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	137,590.000	51,930.000	78,920.000		6,740.000
3370	637.0101	SIGNS TYPE I	SF	15,294.000	5,231.000	10,063.000		
3380	637.0202	SIGNS REFLECTIVE TYPE II	SF	2,422.630	424.750	762.500		1,235.380
3390	637.0402	SIGNS REFLECTIVE FOLDING TYPE II	SF	92.840				92.840
3400	638.2101	MOVING SIGNS TYPE I	EACH	65.000	16.000	49.000		
3410	638.2601	REMOVING SIGNS TYPE I	EACH	58.000	15.000	43.000		
3420	638.2602	REMOVING SIGNS TYPE II	EACH	251.000	35.000	100.000		116.000
3430	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	194.000	37.000	96.000		61.000
3440	638.3100	REMOVING STRUCTURAL STEEL SIGN SUPPORTS	EACH	45.000	20.000	25.000		
3450	638.3610	ERECTING STATE OWNED SIGNS TYPE I	EACH	4.000		4.000		
3460	641.1200	SIGN BRIDGE CANTILEVERED (STRUCTURE) 968. S-05-188	LS	1.000		1.000		
3470	641.6600	SIGN BRIDGE (STRUCTURE) 950. S-05-159	LS	1.000		1.000		
3480	641.6600	SIGN BRIDGE (STRUCTURE) 951. S-05-160	LS	1.000		1.000		
3490	641.6600	SIGN BRIDGE (STRUCTURE) 952. S-05-161	LS	1.000		1.000		
3500	641.6600	SIGN BRIDGE (STRUCTURE) 953. S-05-162	LS	1.000		1.000		
3510	641.6600	SIGN BRIDGE (STRUCTURE) 954. S-05-163	LS	1.000		1.000		
3520	641.6600	SIGN BRIDGE (STRUCTURE) 955. S-05-164	LS	1.000		1.000		
3530	641.6600	SIGN BRIDGE (STRUCTURE) 956. S-05-165	LS	1.000		1.000		
3540	641.6600	SIGN BRIDGE (STRUCTURE) 957. S-05-166	LS	1.000		1.000		
3550	641.6600	SIGN BRIDGE (STRUCTURE) 958. S-05-167	LS	1.000		1.000		
3560	641.6600	SIGN BRIDGE (STRUCTURE) 959. S-05-168	LS	1.000		1.000		
3570	641.6600	SIGN BRIDGE (STRUCTURE) 960. S-05-173	LS	1.000		1.000		
3580	641.6600	SIGN BRIDGE (STRUCTURE) 961. S-05-170	LS	1.000	1.000			

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1133-03-77 QUANTITY	1133-09-71 QUANTITY	1133-09-74 QUANTITY	1133-09-76 QUANTITY
3590	641.6600	SIGN BRIDGE (STRUCTURE) 962. S-05-172	LS	1.000	1.000			
3600	641.6600	SIGN BRIDGE (STRUCTURE) 963. S-05-175	LS	1.000	1.000			
3610	641.6600	SIGN BRIDGE (STRUCTURE) 964. S-05-176	LS	1.000	1.000			
3620	641.6600	SIGN BRIDGE (STRUCTURE) 965. S-05-178	LS	1.000	1.000			
3630	641.6600	SIGN BRIDGE (STRUCTURE) 966. S-05-96	LS	1.000		1.000		
3640	641.6600	SIGN BRIDGE (STRUCTURE) 967. S-05-169	LS	1.000	1.000			
3650	641.6600	SIGN BRIDGE (STRUCTURE) 968. S-05-171	LS	1.000	1.000			
3660	641.6600	SIGN BRIDGE (STRUCTURE) 969. S-05-12	LS	1.000		1.000		
3670	641.8100	OVERHEAD SIGN SUPPORT (STRUCTURE) 950. SIGN BRIDGE S-05-226	LS	1.000				1.000
3680	641.8100	OVERHEAD SIGN SUPPORT (STRUCTURE) 951. SIGN BRIDGE S-05-227	LS	1.000				1.000
3690	641.8100	OVERHEAD SIGN SUPPORT (STRUCTURE) 952. SIGN BRIDGE S-05-230	LS	1.000				1.000
3700	641.8100	OVERHEAD SIGN SUPPORT (STRUCTURE) 953. S-05-233	LS	1.000	1.000			
3710	641.8100	OVERHEAD SIGN SUPPORT (STRUCTURE) 954. S-05-237	LS	1.000	1.000			
3720	642.5401	FIELD OFFICE TYPE D	EACH	1.000		1.000		
3730	643.0200	TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (PROJECT) 01. 1133-09-71	DAY	1,003.000		1,003.000		
3740	643.0300	TRAFFIC CONTROL DRUMS	DAY	1,035,240.000	267,850.000	559,740.000		207,650.000
3750	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	59,405.000	16,250.000	38,355.000	2,000.000	2,800.000
3760	643.0500	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	EACH	200.000				200.000
3770	643.0600	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	EACH	200.000				200.000
3780	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	130,005.000	32,450.000	87,965.000	3,990.000	5,600.000
3790	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	192,705.000	21,800.000	128,555.000		42,350.000
3800	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	6,935.000	1,500.000	5,435.000		
3810	643.0900	TRAFFIC CONTROL SIGNS	DAY	290,405.000	41,200.000	216,605.000	1,500.000	31,100.000
3820	643.0910	TRAFFIC CONTROL COVERING SIGNS TYPE I	EACH	11.000		11.000		
3830	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	45.000	10.000	25.000		10.000
3840	643.1000	TRAFFIC CONTROL SIGNS FIXED MESSAGE	SF	1,610.000	690.000	859.000	61.000	
3850	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	743.000		703.000	25.000	15.000
3860	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 1133-09-71	EACH	1.000		1.000		
3870	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	49,684.000		49,684.000		
3880	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	29,940.000	380.000	29,350.000	40.000	170.000
3890	645.0140	GEOTEXTILE FABRIC TYPE SAS	SY	265.000	45.000	220.000		
3900	646.0103	PAVEMENT MARKING PAINT 4-INCH	LF	195,800.000	154,750.000	41,050.000		
3910	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	151,800.000	35,900.000	107,130.000	1,330.000	7,440.000
3920	646.0123	PAVEMENT MARKING PAINT 8-INCH	LF	27,280.000	24,450.000	2,830.000		
3930	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	3,150.000				3,150.000
3940	646.0153	PAVEMENT MARKING PAINT 18-INCH	LF	220.000				220.000
3950	646.0600	REMOVING PAVEMENT MARKINGS	LF	22,000.000	5,000.000	15,000.000		2,000.000
3960	646.0841.S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH	LF	75,700.000	50,500.000	24,525.000		675.000
3970	646.0843.S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH	LF	29,900.000	6,500.000	19,430.000		3,970.000
3980	647.0166	PAVEMENT MARKING ARROWS EPOXY TYPE 2	EACH	15.000				15.000
3990	647.0356	PAVEMENT MARKING WORDS EPOXY	EACH	6.000				6.000
4000	647.0456	PAVEMENT MARKING CURB EPOXY	LF	520.000				520.000
4010	647.0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	LF	185.000				185.000
4020	647.0606	PAVEMENT MARKING ISLAND NOSE EPOXY	EACH	10.000				10.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1133-03-77 QUANTITY	1133-09-71 QUANTITY	1133-09-74 QUANTITY	1133-09-76 QUANTITY
4030	647.0726	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH	LF	25.000				25.000
4040	647.0766	PAVEMENT MARKING CROSSWALK EPOXY 6-INCH	LF	750.000				750.000
4050	647.0856	PAVEMENT MARKING CONCRETE CORRUGATED MEDIAN EPOXY	SF	110.000				110.000
4060	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	63,910.000		24,560.000		39,350.000
4070	649.0801	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	LF	2,960.000		2,960.000		
4080	649.1200	TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 18-INCH	LF	430.000				430.000
4090	649.2100	TEMPORARY RAISED PAVEMENT MARKERS	EACH	1,100.000	365.000	735.000		
4100	652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	2,672.000	1,805.000	867.000		
4110	652.0135	CONDUIT RIGID METALLIC 3-INCH	LF	956.000	346.000	610.000		
4120	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	16,991.000	1,492.000	13,456.000		2,043.000
4130	652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	LF	32,811.000	7,675.000	20,229.000		4,907.000
4140	652.0325	CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH	LF	6,425.000	120.000	6,305.000		
4150	652.0615	CONDUIT SPECIAL 3-INCH	LF	955.000	350.000	605.000		
4160	652.0800	CONDUIT LOOP DETECTOR	LF	2,657.000				2,657.000
4170	652.0900	LOOP DETECTOR SLOTS	LF	78.000				78.000
4180	653.0105	PULL BOXES STEEL 12X24-INCH	EACH	24.000				24.000
4190	653.0135	PULL BOXES STEEL 24X36-INCH	EACH	20.000		13.000		7.000
4200	653.0140	PULL BOXES STEEL 24X42-INCH	EACH	81.000	16.000	31.000		34.000
4210	653.0180	PULL BOXES STEEL COMMUNICATIONS (INCH) 01. 24X36-INCH	EACH	59.000		59.000		
4220	653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	12.000	9.000	3.000		
4230	653.0905	REMOVING PULL BOXES	EACH	41.000				41.000
4240	654.0101	CONCRETE BASES TYPE 1	EACH	14.000				14.000
4250	654.0102	CONCRETE BASES TYPE 2	EACH	4.000				4.000
4260	654.0105	CONCRETE BASES TYPE 5	EACH	24.000		22.000		2.000
4270	654.0107	CONCRETE BASES TYPE 7	EACH	23.000	6.000	17.000		
4280	654.0110	CONCRETE BASES TYPE 10	EACH	4.000				4.000
4290	654.0113	CONCRETE BASES TYPE 13	EACH	6.000				6.000
4300	654.0217	CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL	EACH	5.000	1.000	2.000		2.000
4310	654.0220	CONCRETE CONTROL CABINET BASES TYPE 10	EACH	2.000		2.000		
4320	655.0220	CABLE TRAFFIC SIGNAL 4-14 AWG	LF	72.000				72.000
4330	655.0230	CABLE TRAFFIC SIGNAL 5-14 AWG	LF	6,566.000				6,566.000
4340	655.0240	CABLE TRAFFIC SIGNAL 7-14 AWG	LF	192.000				192.000
4350	655.0260	CABLE TRAFFIC SIGNAL 12-14 AWG	LF	6,557.000				6,557.000
4360	655.0305	CABLE TYPE UF 2-12 AWG GROUNDED	LF	2,320.000				2,320.000
4370	655.0315	CABLE TYPE UF 2-10 AWG	LF	822.000				822.000
4380	655.0515	ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG	LF	9,937.000				9,937.000
4390	655.0610	ELECTRICAL WIRE LIGHTING 12 AWG	LF	10,964.000	3,318.000	5,234.000		2,412.000
4400	655.0615	ELECTRICAL WIRE LIGHTING 10 AWG	LF	3,259.000	1,000.000	2,259.000		
4410	655.0630	ELECTRICAL WIRE LIGHTING 4 AWG	LF	58,594.000	23,357.000	35,237.000		
4420	655.0635	ELECTRICAL WIRE LIGHTING 2 AWG	LF	2,651.000		2,651.000		
4430	655.0700	LOOP DETECTOR LEAD IN CABLE	LF	10,334.000				10,334.000
4440	655.0800	LOOP DETECTOR WIRE	LF	8,958.000				8,958.000
4450	656.0200	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 451. ELECTRICAL SERVICE METER BREAKER PEDESTAL CTH AAA & ALLIED STREET	LS	1.000				1.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1133-03-77 QUANTITY	1133-09-71 QUANTITY	1133-09-74 QUANTITY	1133-09-76 QUANTITY
4460	656.0200	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 452. ELECTRICAL SERVICE METER BREAKER PEDESTAL USH 41 & CTH AAA	LS	1.000				1.000
4470	656.0400	ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL (LOCATION) 350. CB 300	LS	1.000	1.000			
4480	656.0400	ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL (LOCATION) 351. CB 100	LS	1.000		1.000		
4490	656.0400	ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL (LOCATION) 352. CB 200	LS	1.000		1.000		
4500	657.0100	PEDESTAL BASES	EACH	14.000				14.000
4510	657.0210	TRANSFORMER BASES BREAKAWAY 15-17 INCH BOLT CIRCLE	EACH	23.000	6.000	17.000		
4520	657.0255	TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	EACH	23.000		18.000		5.000
4530	657.0315	POLES TYPE 4	EACH	4.000				4.000
4540	657.0322	POLES TYPE 5-ALUMINUM	EACH	20.000		18.000		2.000
4550	657.0337	POLES TYPE 17-ALUMINUM	EACH	28.000	11.000	17.000		
4560	657.0420	TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT	EACH	6.000				6.000
4570	657.0425	TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT	EACH	5.000				5.000
4580	657.0430	TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT	EACH	3.000				3.000
4590	657.0609	LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 6-FT	EACH	4.000				4.000
4600	657.0610	LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT	EACH	2.000				2.000
4610	657.0620	LUMINAIRE ARMS SINGLE MEMBER 6-INCH CLAMP 4-FT	EACH	21.000	4.000	17.000		
4620	657.0709	LUMINAIRE ARMS TRUSS TYPE 4-INCH CLAMP 12-FT	EACH	2.000				2.000
4630	657.0710	LUMINAIRE ARMS TRUSS TYPE 4 1/2-INCH CLAMP 12-FT	EACH	4.000		4.000		
4640	657.0730	LUMINAIRE ARMS TRUSS TYPE 6-INCH CLAMP 12-FT	EACH	7.000	7.000			
4650	657.1345	INSTALL POLES TYPE 9	EACH	2.000				2.000
4660	657.1350	INSTALL POLES TYPE 10	EACH	2.000				2.000
4670	657.1360	INSTALL POLES TYPE 13	EACH	6.000				6.000
4680	657.1525	INSTALL MONOTUBE ARMS 25-FT	EACH	2.000				2.000
4690	657.1530	INSTALL MONOTUBE ARMS 30-FT	EACH	2.000				2.000
4700	657.1535	INSTALL MONOTUBE ARMS 35-FT	EACH	1.000				1.000
4710	657.1545	INSTALL MONOTUBE ARMS 45-FT	EACH	2.000				2.000
4720	657.1555	INSTALL MONOTUBE ARMS 55-FT	EACH	3.000				3.000
4730	657.1812	INSTALL LUMINAIRE ARMS STEEL 12-FT	EACH	7.000				7.000
4740	657.1815	INSTALL LUMINAIRE ARMS STEEL 15-FT	EACH	2.000				2.000
4750	658.0110	TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL	EACH	42.000				42.000
4760	658.0115	TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL	EACH	9.000				9.000
4770	658.0215	BACKPLATES SIGNAL FACE 3 SECTION 12-INCH	EACH	42.000				42.000
4780	658.0220	BACKPLATES SIGNAL FACE 4 SECTION 12-INCH	EACH	9.000				9.000
4790	658.0416	PEDESTRIAN SIGNAL FACE 16-INCH	EACH	10.000				10.000
4800	658.0500	PEDESTRIAN PUSH BUTTONS	EACH	4.000				4.000
4810	658.0600	LED MODULES 12-INCH RED BALL	EACH	36.000				36.000
4820	658.0605	LED MODULES 12-INCH YELLOW BALL	EACH	34.000				34.000
4830	658.0610	LED MODULES 12-INCH GREEN BALL	EACH	34.000				34.000
4840	658.0615	LED MODULES 12-INCH RED ARROW	EACH	15.000				15.000
4850	658.0620	LED MODULES 12-INCH YELLOW ARROW	EACH	26.000				26.000
4860	658.0625	LED MODULES 12-INCH GREEN ARROW	EACH	17.000				17.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1133-03-77 QUANTITY	1133-09-71 QUANTITY	1133-09-74 QUANTITY	1133-09-76 QUANTITY
4870	658.0635	LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH	EACH	10.000				10.000
4880	658.5069	SIGNAL MOUNTING HARDWARE (LOCATION) 451. SIGNAL MOUNTING HARDWARE CTH AAA & ALLIED STREET	LS	1.000				1.000
4890	658.5069	SIGNAL MOUNTING HARDWARE (LOCATION) 452. SIGNAL MOUNTING HARDWARE USH41 & CTH AAA	LS	1.000				1.000
4900	659.0115	LUMINAIRES UTILITY HPS 150 WATTS	EACH	6.000		4.000		2.000
4910	659.0125	LUMINAIRES UTILITY HPS 250 WATTS	EACH	43.000	11.000	17.000		15.000
4920	659.0210	LUMINAIRES UNDERDECK 100 WATTS	EACH	11.000		11.000		
4930	659.0215	LUMINAIRES UNDERDECK 150 WATTS	EACH	6.000	6.000			
4940	659.0600	UNDERDECK LIGHTING (LOCATION) 350. R-05-206	LS	1.000		1.000		
4950	659.0600	UNDERDECK LIGHTING (LOCATION) 351. R-05-209	LS	1.000		1.000		
4960	659.0600	UNDERDECK LIGHTING (LOCATION) 352. B-05-612	LS	1.000		1.000		
4970	659.0600	UNDERDECK LIGHTING (LOCATION) 353. B-05-618	LS	1.000		1.000		
4980	659.0600	UNDERDECK LIGHTING (LOCATION) 354. B-05-619	LS	1.000		1.000		
4990	659.0600	UNDERDECK LIGHTING (LOCATION) 361. R-05-214	LS	1.000		1.000		
5000	659.0600	UNDERDECK LIGHTING (LOCATION) 362. R-05-215	LS	1.000		1.000		
5010	659.0600	UNDERDECK LIGHTING (LOCATION) 363. R-05-216	LS	1.000	1.000			
5020	659.0600	UNDERDECK LIGHTING (LOCATION) 364. R-05-217	LS	1.000	1.000			
5030	659.0600	UNDERDECK LIGHTING (LOCATION) 365. R-05-218	LS	1.000	1.000			
5040	659.0600	UNDERDECK LIGHTING (LOCATION) 366. R-05-219	LS	1.000	1.000			
5050	659.0802	PLAQUES SEQUENCE IDENTIFICATION	EACH	42.000	11.000	31.000		
5060	661.0200	TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 451. TEMPORARY TRAFFIC SIGNALS FOR INTERSECTION CTH AAA & ALLIED STREET	LS	1.000				1.000
5070	661.0200	TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 452. TEMPORARY TRAFFIC SIGNALS FOR INTERSECTION CTH AAA & SB RAMP TERMINALS	LS	1.000				1.000
5080	661.0200	TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 453. TEMPORARY TRAFFIC SIGNALS FOR INTERSECTION CTH AAA & NB RAMP TERMINALS	LS	1.000				1.000
5090	661.0300	GENERATORS	DAY	6.000				6.000
5100	670.0100	FIELD SYSTEM INTEGRATOR	LS	1.000		1.000		
5110	670.0200	ITS DOCUMENTATION	LS	1.000		1.000		
5120	672.0250	BASE CAMERA POLE 50-FT	EACH	1.000		1.000		
5130	672.0280	BASE CAMERA POLE 80-FT	EACH	1.000		1.000		
5140	673.0105	COMMUNICATION VAULT TYPE 1	EACH	33.000		33.000		
5150	673.0225.S	INSTALL POLE MOUNTED CABINET	EACH	2.000		2.000		
5160	674.0200	CABLE MICROWAVE DETECTOR	LF	21,617.000		21,617.000		
5170	675.0300	INSTALL MOUNTED CONTROLLER MICROWAVE DETECTOR ASSEMBLY	EACH	16.000		16.000		
5180	675.0400.S	INSTALL ETHERNET SWITCH	EACH	5.000		5.000		
5190	677.0100	INSTALL CAMERA POLE	EACH	2.000		2.000		

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5200	677.0200	INSTALL CAMERA ASSEMBLY	EACH	2.000		2.000		
5210	677.0300.S	INSTALL VIDEO ENCODER	EACH	2.000		2.000		
5220	678.0006	INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 6-CT	LF	770.000		770.000		
5230	678.0072	INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 72-CT	LF	26,310.000		26,310.000		
5240	678.0200	FIBER OPTIC SPLICE ENCLOSURE	EACH	4.000		4.000		
5250	678.0300	FIBER OPTIC SPLICE	EACH	264.000		264.000		
5260	678.0400	FIBER OPTIC TERMINATION	EACH	96.000		96.000		
5270	678.0500	COMMUNICATION SYSTEM TESTING	LS	1.000		1.000		
5280	690.0150	SAWING ASPHALT	LF	1,710.000	540.000	500.000	120.000	550.000
5290	690.0250	SAWING CONCRETE	LF	12,075.000	3,285.000	6,250.000	25.000	2,515.000
5300	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	139,417.500	38,703.000	88,537.500		12,177.000
5310	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	140,814.000	45,624.000	84,156.000	11,034.000	
5320	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT $5.00/HR	HRS	2,100.000	2,100.000			
5330	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	HRS	5,760.000	5,760.000			
5340	SPV.0035	SPECIAL **P** 700. HPC MASONRY STRUCTURES	CY	18,065.000	3,447.000	12,780.000	1,838.000	
5350	SPV.0035	SPECIAL 001. DRAINAGE BLANKET	CY	36,800.000		36,800.000		
5360	SPV.0035	SPECIAL 002. EXCAVATION OF PHRAGMITES SOIL	CY	6,890.000	20.000	6,870.000		
5370	SPV.0035	SPECIAL 010. ROADWAY EMBANKMENT	CY	542,918.000	157,477.000	347,778.000	164.000	37,499.000
5380	SPV.0035	SPECIAL 150. FINE-GRAINED SOIL	CY	2,700.000		2,700.000		
5390	SPV.0035	SPECIAL 500. PLANTING MIXTURE	CY	683.000	58.000			625.000
5400	SPV.0035	SPECIAL 501. TOPSOIL SPECIAL	CY	1,050.000		420.000		630.000
5410	SPV.0060	SPECIAL **P** 003. CONCRETE BARRIER TRANSITION TYPE V56 TO S56 (36-INCH WIDE BASE)	EACH	38.000	12.000	26.000		
5420	SPV.0060	SPECIAL 001. CPM BASELINE SCHEDULE	EACH	2.000	1.000	1.000		
5430	SPV.0060	SPECIAL 002. CPM SCHEDULE MONTHLY UPDATES	EACH	31.000	1.000	30.000		
5440	SPV.0060	SPECIAL 004. VIBRATING WIRE PIEZOMETER INSTRUMENTATION SYSTE DELIVERED	EACH	10.000		10.000		
5450	SPV.0060	SPECIAL 005. SETTLEMENT GAUGE	EACH	10.000		10.000		
5460	SPV.0060	SPECIAL 100. DRAIN SLOTTED VANE TYPE A 3-FOOT	EACH	204.000	61.000	143.000		
5470	SPV.0060	SPECIAL 101. DRAIN SLOTTED VANE TYPE B 6-FOOT	EACH	59.000	24.000	35.000		
5480	SPV.0060	SPECIAL 102. TEMPORARY DRAINAGE INLET 2X2-FT	EACH	20.000		20.000		
5490	SPV.0060	SPECIAL 103. TEMPORARY DRAINAGE INLET 2X3-FT	EACH	4.000				4.000
5500	SPV.0060	SPECIAL 104. TEMPORARY DRAINAGE INLET MEDIAN 1	EACH	8.000		8.000		
5510	SPV.0060	SPECIAL 105. TEMPORARY DRAINAGE MANHOLE 5-FT DIAMETER	EACH	2.000				2.000
5520	SPV.0060	SPECIAL 106. TEMPORARY INLET COVER	EACH	35.000		28.000		7.000
5530	SPV.0060	SPECIAL 107. INLET MEDIAN 2 GRATE MODIFIED AT STRUCTURE 243B	EACH	1.000		1.000		
5540	SPV.0060	SPECIAL 108. INLET MEDIAN 2 GRATE MODIFIED AT STRUCTURE 244A	EACH	1.000		1.000		
5550	SPV.0060	SPECIAL 109. STORM SEWER PLUG	EACH	26.000	19.000	7.000		
5560	SPV.0060	SPECIAL 110. TEMPORARY STONE DITCH CHECKS	EACH	12.000	2.000	10.000		
5570	SPV.0060	SPECIAL 150. TRACKING PAD MAINTENANCE	EACH	25.000	6.000	10.000		9.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1133-03-77 QUANTITY	1133-09-71 QUANTITY	1133-09-74 QUANTITY	1133-09-76 QUANTITY
5580	SPV.0060	SPECIAL 151. TEMPORARY SLOPE DRAIN	EACH	38.000	8.000	28.000	2.000	
5590	SPV.0060	SPECIAL 152. SEDIMENTATION BASIN	EACH	18.000	4.000	12.000		2.000
5600	SPV.0060	SPECIAL 200. MAINTENANCE AND REMOVAL OF CRASH CUSHIONS TEMP LEFT IN PLACE BY OTHERS	EACH	1.000		1.000		
5610	SPV.0060	SPECIAL 201. TEMPORARY THRIE BEAM CONNECTION	EACH	3.000		3.000		
5620	SPV.0060	SPECIAL 300. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS	EACH	9.000	2.000			7.000
5630	SPV.0060	SPECIAL 301. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2	EACH	24.000	4.000			20.000
5640	SPV.0060	SPECIAL 302. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 3	EACH	4.000	1.000			3.000
5650	SPV.0060	SPECIAL 351. CONCRETE BASE MEDIAN BARRIER TYPE 1	EACH	66.000	23.000	43.000		
5660	SPV.0060	SPECIAL 352. CONCRETE BASE MEDIAN BARRIER TYPE 2	EACH	14.000	1.000	13.000		
5670	SPV.0060	SPECIAL 353. CONCRETE CONTROL CABINET BASES TYPE 10 SPECIAL	EACH	1.000		1.000		
5680	SPV.0060	SPECIAL 358. LUMINAIRES UNDERDECK LED	EACH	20.000	8.000	12.000		
5690	SPV.0060	SPECIAL 359. ANCHOR BOLT COVER SHROUD	EACH	85.000	27.000	58.000		
5700	SPV.0060	SPECIAL 400. RAMP CLOSURE GATES SOLAR POWERED 37-FT	EACH	3.000		3.000		
5710	SPV.0060	SPECIAL 401. RAMP CLOSURE GATES SOLAR POWERED 40-FT	EACH	1.000		1.000		
5720	SPV.0060	SPECIAL 402. PEDESTAL BASES BLACK	EACH	2.000		2.000		
5730	SPV.0060	SPECIAL 403. TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE BLACK	EACH	4.000		4.000		
5740	SPV.0060	SPECIAL 404. TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT BLACK	EACH	2.000		2.000		
5750	SPV.0060	SPECIAL 405. COMMUNICATION MANHOLE	EACH	4.000		4.000		
5760	SPV.0060	SPECIAL 406. TRACER TEST STATION	EACH	13.000		13.000		
5770	SPV.0060	SPECIAL 407. INSTALL FIBER OPTIC CABLE MARKER	EACH	100.000		100.000		
5780	SPV.0060	SPECIAL 408. INSTALL TERMINATION PANEL	EACH	5.000		5.000		
5790	SPV.0060	SPECIAL 409. INSTALL IP RADIO	EACH	2.000		2.000		
5800	SPV.0060	SPECIAL 410. SALVAGE CAMERA ASSEMBLY	EACH	1.000		1.000		
5810	SPV.0060	SPECIAL 411. SALVAGE POLE MOUNTED CABINET	EACH	3.000		3.000		
5820	SPV.0060	SPECIAL 412. SALVAGE ETHERNET SWITCH	EACH	6.000		6.000		
5830	SPV.0060	SPECIAL 413. SALVAGE VIDEO ENCODER	EACH	1.000		1.000		
5840	SPV.0060	SPECIAL 414. SALVAGE IP RADIO	EACH	12.000		12.000		
5850	SPV.0060	SPECIAL 415. SALVAGE MOUNTED CONTROLLER MICROWAVE DETECTOR ASSEMBLY	EACH	2.000		2.000		
5860	SPV.0060	SPECIAL 416. SALVAGE SOLAR POWER SYSTEM	EACH	2.000		2.000		
5870	SPV.0060	SPECIAL 417. REMOVE WOOD POLE	EACH	3.000		3.000		
5880	SPV.0060	SPECIAL 418. EXPOSING EXISTING UTILITY	EACH	4.000		4.000		
5890	SPV.0060	SPECIAL 500. PERENNIALS, BEE BALM (SNOW QUEEN), CG, 1 GAL.	EACH	48.000	48.000			
5900	SPV.0060	SPECIAL 501. PERENNIALS, DAYLILY (RED HOT RETURNS), CG, 1 GAL.	EACH	70.000	70.000			
5910	SPV.0060	SPECIAL 502. PERENNIALS, FEATHER REED GRASS (VARIGATED), CG, 1GAL.	EACH	22.000	22.000			
5920	SPV.0060	SPECIAL 503. PERENNIALS, LITTLE BLUESTEM (JAZZ), CG, 1 GAL.	EACH	58.000	58.000			
5930	SPV.0060	SPECIAL 504. PERENNIALS, RUSSIAN SAGE (LITTLE SPIRE), CG, 1 GAL.	EACH	16.000	16.000			

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1133-03-77 QUANTITY	1133-09-71 QUANTITY	1133-09-74 QUANTITY	1133-09-76 QUANTITY
5940	SPV.0060	SPECIAL 505. PERENNIALS, SALVIA (MARCUS), CG, 1 GAL.	EACH	76.000	76.000			
5950	SPV.0060	SPECIAL 506. BULBS, TULIPS, PERENNIAL MIX, MULTICOLOR, BULB, 12+ CM	EACH	750.000				750.000
5960	SPV.0060	SPECIAL 650. ADJUSTING WATER VALVE BOX	EACH	17.000		1.000		16.000
5970	SPV.0060	SPECIAL 651. ADJUSTING VILLAGE OF ASHWAUBENON SANITARY MANHOLE COVERS	EACH	2.000				2.000
5980	SPV.0060	SPECIAL 652. ADJUSTING CITY OF GREEN BAY SANITARY MANHOLES	EACH	2.000	2.000			
5990	SPV.0060	SPECIAL 653. RECONSTRUCT SANITARY MANHOLE	EACH	1.000				1.000
6000	SPV.0060	SPECIAL 700. ANCHOR BOLT ASSEMBLY LIGHT POLE	EACH	10.000	7.000	3.000		
6010	SPV.0060	SPECIAL 701. ANCHOR ASSEMBLIES NOISE BARRIERS STRUCTURES	EACH	340.000	306.000	34.000		
6020	SPV.0060	SPECIAL 900. FIRE DEPARTMENT CONNECTORS	EACH	9.000	6.000	3.000		
6030	SPV.0060	SPECIAL 901. STANDPIPE SYSTEM	EACH	9.000	7.000	2.000		
6040	SPV.0060	SPECIAL 903. FIRE HYDRANT SIGN MOUNTING	EACH	18.000	12.000	6.000		
6050	SPV.0060	SPECIAL 904. MAINTENANCE DOORS	EACH	4.000	2.000	2.000		
6060	SPV.0075	SPECIAL 150. STREET SWEEPING	HRS	750.000	150.000	150.000		450.000
6070	SPV.0085	SPECIAL 500. TALL FESCUE SEED	LB	100.000		100.000		
6080	SPV.0085	SPECIAL 700. BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	42,282.000	8,670.000	33,612.000		
6090	SPV.0090	SPECIAL **P** 001. CONCRETE BARRIER TYPE S56 (36-INCH WIDE BASE)	LF	19,495.000	4,880.000	14,615.000		
6100	SPV.0090	SPECIAL **P** 002. CONCRETE BARRIER TYPE S56A (36-INCH WIDE BASE)	LF	7,005.000	1,350.000	5,655.000		
6110	SPV.0090	SPECIAL **P** 009. CONCRETE CURB & GUTTER 24-INCH TYPE D	LF	520.000				520.000
6120	SPV.0090	SPECIAL 003. CONC C&G AND BARRIER COLD WEATHER COVERING PLASTIC 1 LAYER	LF	5,700.000	1,550.000	4,150.000		
6130	SPV.0090	SPECIAL 004. CONC C&G AND BARRIER COLD WEATHER COVERING PLASTIC 2 LAYERS	LF	5,700.000	1,550.000	4,150.000		
6140	SPV.0090	SPECIAL 005. CONC C&G AND BARRIER COLD WEATHER COVERING PLASTIC/HAY/PLASTIC OR BLANKETS	LF	5,700.000	1,550.000	4,150.000		
6150	SPV.0090	SPECIAL 006. STRIP DRAINS	LF	1,489,300.000		1,489,300.000		
6160	SPV.0090	SPECIAL 007. PRE-BORED STRIP DRAINS	LF	493,800.000		493,800.000		
6170	SPV.0090	SPECIAL 008. SETTLEMENT SYSTEM	LF	185.000		185.000		
6180	SPV.0090	SPECIAL 100. JACKING REINFORCED CONCRETE PIPE CLASS V 36-INCH	LF	1,823.000		1,823.000		
6190	SPV.0090	SPECIAL 101. JACKING REINFORCED CONCRETE PIPE CLASS V 42-INCH	LF	245.000		245.000		
6200	SPV.0090	SPECIAL 102. DRAIN SLOTTED VANE LONGITUDINAL	LF	131.000	131.000			
6210	SPV.0090	SPECIAL 103. TEMPORARY DRAIN SLOTTED VANE LONGITUDINAL	LF	325.000		325.000		
6220	SPV.0090	SPECIAL 200. GLARE SCREENS TEMPORARY	LF	3,320.000		3,320.000		
6230	SPV.0090	SPECIAL 201. CONCRETE BARRIER TEMPORARY PRECAST ANCHORING	LF	1,250.000		1,250.000		
6240	SPV.0090	SPECIAL 305. TEMPORARY PAVEMENT MARKING EPOXY 4-INCH	LF	341,540.000	52,100.000	281,000.000		8,440.000
6250	SPV.0090	SPECIAL 306. TEMPORARY PAVEMENT MARKING EPOXY 8-INCH	LF	27,340.000	3,840.000	23,500.000		
6260	SPV.0090	SPECIAL 354. PULLBOX DRAIN DUCT	LF	425.000	125.000	300.000		
6270	SPV.0090	SPECIAL 400. CONDUIT HDPE 3-DUCT 2-INCH	LF	13,230.000		13,230.000		

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1133-03-77 QUANTITY	1133-09-71 QUANTITY	1133-09-74 QUANTITY	1133-09-76 QUANTITY
6280	SPV.0090	SPECIAL 401. CONDUIT HDPE DIRECTIONAL BORE 3-DUCT 2-INCH	LF	1,520.000		1,520.000		
6290	SPV.0090	SPECIAL 402. CONDUIT HDPE 4-DUCT 2-INCH	LF	4,030.000		4,030.000		
6300	SPV.0090	SPECIAL 403. CONDUIT HDPE DIRECTIONAL BORE 4-DUCT 2-INCH	LF	685.000		685.000		
6310	SPV.0090	SPECIAL 404. CONDUIT HDPE 5-DUCT 2-INCH	LF	385.000		385.000		
6320	SPV.0090	SPECIAL 405. CONDUIT HDPE DIRECTIONAL BORE 5-DUCT 2-INCH	LF	230.000		230.000		
6330	SPV.0090	SPECIAL 500. FENCE DECORATIVE BRIDGE	LF	750.000			750.000	
6340	SPV.0090	SPECIAL 501. FENCE DECORATIVE WING	LF	88.000			88.000	
6350	SPV.0090	SPECIAL 502. FENCE DECORATIVE WALL	LF	3,081.000		2,757.000	324.000	
6360	SPV.0090	SPECIAL 503. SHOVEL CUT EDGING	LF	136.000	136.000			
6370	SPV.0090	SPECIAL 850. RAILING	LF	512.000		512.000		
6380	SPV.0105	SPECIAL 001. SURVEY PROJECT 1133-03-77	LS	1.000	1.000			
6390	SPV.0105	SPECIAL 002. SURVEY PROJECT 1133-09-71	LS	1.000		1.000		
6400	SPV.0105	SPECIAL 003. SURVEY PROJECT 1133-09-74	LS	1.000			1.000	
6410	SPV.0105	SPECIAL 004. SURVEY PROJECT 1133-09-76	LS	1.000				1.000
6420	SPV.0105	SPECIAL 005. CONCRETE PAVEMENT JOINT LAYOUT	LS	1.000		1.000		
6430	SPV.0105	SPECIAL 006. GEOTECHNICAL INSTRUMENTATION	LS	1.000		1.000		
6440	SPV.0105	SPECIAL 375. ELECTRICAL SERVICE METER BREAKER PEDESTAL SPECIAL (CB 400)	LS	1.000		1.000		
6450	SPV.0105	SPECIAL 376. ELECTRICAL SERVICE METER BREAKER PEDESTAL SPECIAL (CB 600)	LS	1.000		1.000		
6460	SPV.0105	SPECIAL 377. ELECTRICAL SERVICE METER BREAKER PEDESTAL SPECIAL (CB 700)	LS	1.000	1.000			
6470	SPV.0105	SPECIAL 451. TRAFFIC SIGNAL CABINET & CONTROLLER CTH AAA & ALLIED STREET	LS	1.000				1.000
6480	SPV.0105	SPECIAL 452. REMOVE TRAFFIC SIGNALS CTH AAA & ALLIED STREET	LS	1.000				1.000
6490	SPV.0105	SPECIAL 453. REMOVE TRAFFIC SIGNALS USH 41 & CTH AAA	LS	1.000				1.000
6500	SPV.0105	SPECIAL 800. ABANDONING EXISTING BOX CULVERT B-05-110	LS	1.000		1.000		
6510	SPV.0165	SPECIAL **P** 700. LONGITUDINAL GROOVING BRIDGE DECK	SF	248,144.000	53,251.000	178,443.000	16,450.000	
6520	SPV.0165	SPECIAL **P** 850. PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	134,061.000	51,300.000	77,861.000	4,900.000	
6530	SPV.0165	SPECIAL 500. ARCHITECTURAL SURFACE TREATMENT	SF	95,153.000	28,070.000	56,636.000	9,647.000	800.000
6540	SPV.0165	SPECIAL 501. STAINING CONCRETE	SF	220,101.000	65,222.000	129,423.000	24,066.000	1,390.000
6550	SPV.0165	SPECIAL 502. STAINING CONCRETE BRICK	SF	646,844.000	320,070.000	319,914.000	6,060.000	800.000
6560	SPV.0165	SPECIAL 503. ARCHITECTURAL SURFACE TREATMENT SPECIAL	SF	21,193.000	1,200.000	19,993.000		
6570	SPV.0165	SPECIAL 900. COMBINATION BARRIER N-05-0012 **P**	SF	1,700.000	1,700.000			
6580	SPV.0165	SPECIAL 901. COMBINATION BARRIER N-05-0013 **P**	SF	18,000.000	18,000.000			
6590	SPV.0165	SPECIAL 950. SIGN BLANKS	SF	463.000		463.000		
6600	SPV.0180	SPECIAL **P** 005. HPC PAVEMENT 8-INCH	SY	1,225.000		1,225.000		
6610	SPV.0180	SPECIAL **P** 006. HPC PAVEMENT 9-INCH	SY	61,350.000	16,900.000	4,800.000		39,650.000
6620	SPV.0180	SPECIAL **P** 007. HPC PAVEMENT 10 1/2-INCH	SY	394,275.000	112,110.000	282,165.000		
6630	SPV.0180	SPECIAL 001. CONCRETE PAVEMENT COLD WEATHER COVERING PLASTIC 1 LAYER	SY	43,650.000	13,150.000	30,500.000		

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1133-03-77 QUANTITY	1133-09-71 QUANTITY	1133-09-74 QUANTITY	1133-09-76 QUANTITY
6640	SPV.0180	SPECIAL 002. CONCRETE PAVEMENT COLD WEATHER COVERING PLASTIC 2 LAYER	SY	43,650.000	13,150.000	30,500.000		
6650	SPV.0180	SPECIAL 003. CONCRETE PAVEMENT COLD WEATHER COVERING PLASTIC/HAY/PLASTIC OR BLANKETS	SY	43,650.000	13,150.000	30,500.000		
6660	SPV.0180	SPECIAL 004. GEOGRID REINFORCEMENT	SY	19,600.000				19,600.000
6670	SPV.0180	SPECIAL 008. HPC PAVEMENT HES 9-INCH	SY	490.000				490.000
6680	SPV.0180	SPECIAL 009. HPC PAVEMENT HES 10 1/2-INCH	SY	6,935.000		6,935.000		
6690	SPV.0180	SPECIAL 010. COLORED CONCRETE PAVEMENT 9-INCH	SY	450.000				450.000
6700	SPV.0180	SPECIAL 011. COLORED AND STAMPED CONCRETE 5-INCH	SY	6,330.000	1,620.000	600.000		4,110.000
6710	SPV.0180	SPECIAL 012. CONCRETE JOINT SEALER	SY	27,550.000				27,550.000
6720	SPV.0180	SPECIAL 013. HPC PAVEMENT APPROACH SLAB	SY	9,100.000	3,285.000	5,565.000	250.000	
6730	SPV.0180	SPECIAL 151. GEOSYNTHETIC CLAY LINER	SY	7,100.000		7,100.000		
6740	SPV.0180	SPECIAL 500. SHREDDED HARDWOOD BARK MULCH	SY	1,025.000	86.000			939.000
6750	SPV.0180	SPECIAL 501. QUARRIED LIMESTONE SLABS	SY	1,300.000		1,300.000		

CLEARING AND GRUBBING

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	LOCATION	201.0105 CLEARING (STA)	201.0205 GRUBBING (STA)
1000								
	1133-03-77							
		STAGE 2						
			USH 41 NB - NB					
			958+00	-	960+00	RT	2	2
			981+00	-	982+00	RT	1	1
			986+00	-	988+00	RT	2	2
			1006+00	-	1010+00	RT	4	4
			1014+00	-	1018+00	RT	4	4
			USH 41 SB - SB					
			985+00	-	987+00	LT	2	2
			993+00	-	994+00	LT	1	1
			1007+00	-	1013+00	LT	6	6
		STAGE 2 TOTAL					22	22
	PROJECT 1133-03-77 TOTAL						22	22
	1133-09-71							
		STAGE 1A						
			USH 41 NB - NB					
			800+00	-	802+00	RT	2	2
			804+00	-	809+00	RT	5	5
			812+00	-	814+00	RT	2	2
			850+00	-	854+00	RT	4	4
			858+00	-	867+00	RT	9	9
			901+00	-	908+00	RT	7	7
			912+00	-	914+00	RT	2	2
			920+00	-	922+00	RT	2	2
			INE RAMP - INE					
			872+00	-	878+00	RT	6	6
			879+00	-	890+00	RT	11	11
			STH 172 EB - E					
			59+00	-	62+00	RT	3	3
			63+00	-	67+00	RT	4	4
			IWN RAMP - IWN					
			889+00	-	891+00	RT	2	2
			891+00	-	892+00	RT	-	1
			892+00	-	901+00	RT	9	9
			IEN RAMP - IEN					
			870+00	-	884+00	RT	14	14
		STAGE 1A TOTAL					82	83
		STAGE 1B						
			USH 41 NB - NB					
			931+00	-	938+00	RT	-	8
			PILGRIM WAY - PIL					
			907+00	-	917+00	RT	10	10
		STAGE 1B TOTAL					10	18
1000								
	1133-09-71							
		STAGE 2						
			USH 41 SB - SB					
			801+00	-	803+00	LT	2	2
			806+00	-	807+00	LT	1	1
			811+00	-	813+00	LT	2	2
			856+00	-	859+00	LT	3	3
			860+00	-	862+00	LT	2	2
			866+00	-	869+00	LT	3	3
			870+00	-	872+00	LT	2	2
			941+00	-	943+00	LT	2	2
			952+00	-	954+00	LT	2	2
			OWA RAMP - OWA					
			845+00	-	847+00	LT	2	2
			OWB RAMP - OWB					
			822+00	-	825+00	LT	3	3
			IES RAMP - IES					
			882+00	-	883+00	LT	1	1
			885+00	-	890+00	LT	5	5
			ISE RAMP - ISE					
			910+00	-	912+00	RT	2	2
			NORTH ROAD - NOR					
			905+00	-	924+00	RT	19	19
		STAGE 2 TOTAL					51	51
	PROJECT 1133-09-71 TOTAL						143	152
	1133-09-76							
		STAGE 1A						
			OWB RAMP - OWB					
			828+00	-	834+00	RT	6	6
			OWC RAMP - OWC					
			838+00	-	840+00	RT	2	2
			841+00	-	846+00	RT	5	5
		STAGE 1A TOTAL					13	13
		STAGE 1B						
			ONEIDA STREET/WAUBE LANE WB - OWW					
			688+00	-	691+00	LT	3	3
		STAGE 1B TOTAL					3	3
		STAGE 2						
			OWB RAMP - OWB					
			825+00	-	834+00	LT	9	9
		STAGE 2 TOTAL					9	9
	PROJECT 1133-09-76 TOTAL						25	25
	CONTRACT S4-14-02 TOTAL						**190**	**199**

REMOVING SMALL PIPE CULVERTS

CATEGORY	PROJECT	STAGE	STATION	LOCATION	203.0100 (EACH)	NOTES
1000						
	1133-03-77					
		STAGE 1B				
			USH 41 NB - NB			
			966+02	MEDIAN	1	24" RCCP
			982+00	LT	1	18" RCCP
			999+09	MEDIAN	1	24" RCCP
			USH 41 SB - SB			
			982+06	RT	1	18" RCCP
		STAGE TOTAL			4	
		STAGE 2				
			USH 41 NB - NB			
			966+02	LT/RT	1	24" RCCP
			982+00	LT/RT	1	18" RCCP
			999+09	RT	1	24" RCCP
			USH 41 SB - SB			
			982+06	LT/RT	1	18" RCCP
		STAGE TOTAL			4	
	PROJECT 1133-03-77 TOTAL				8	
	1133-09-71					
		STAGE 1A				
			USH 41 NB - NB			
			820+46	RT	1	12" RCCP
			872+30	CROSS	1	18" RCCP
			887+43	RT	1	12" CMCP
			895+25	RT	1	12" CMCP
			OWC RAMP - OWC			
			829+89	RT	1	42" RCCP
			INE RAMP - INE			
			867+68	RT	1	24" CMCP
			868+40	RT	1	18" CMCP
			IWN RAMP - IWN			
			893+44	LT	1	12" RCCP
			897+40	LT	1	12" RCCP
			IEN RAMP - IEN			
			872+46	CROSS	1	24" RCCP
		STAGE TOTAL			10	
		STAGE 1B				
			USH 41 NB - NB			
			863+35	CROSS	1	18" RCCP
			864+94	LT	1	18" CMCP
			887+67	LT	1	12" CMCP
			890+79	CROSS/RT	1	18" CMCP
			895+81	LT	1	12" CMCP
			903+29	CROSS	1	18" CMCP
			915+27	CROSS	1	18" RCCP
			922+78	CROSS	1	30" RCCP
			USH 41 SB - SB			
			940+26	LT	1	18" RCCP
		STAGE TOTAL			9	
	1133-09-71					
		STAGE 2				
			USH 41 NB - NB			
			941+02	RT	1	42" RCCP
			948+29	RT	1	18" RCCP
			USH 41 SB - SB			
			834+41	LT/RT	1	42" RCCP
			836+08	CROSS	1	18" CMCP
			847+36	CROSS	1	18" RCCP
			852+34	CROSS	1	18" RCCP
			887+81	RT	1	12" CMCP
			888+15	LT	1	12" CMCP
			896+03	RT	1	12" CMCP
			896+27	LT	1	12" RCCP
			923+15	CROSS/RT	1	30" RCCP
			940+26	CROSS	1	18" CMCP
			IEN RAMP - IEN			
			915+27	CROSS	1	18" RCCP
			OWA RAMP - OWA			
			848+36	LT	1	36" RCCP
			PILGRIM WAY - PIL			
			922+40	LT	1	30" RCCP
		STAGE TOTAL			15	
	PROJECT 1133-09-71 TOTAL				34	
	1133-09-76					
		STAGE 1A				
			OWC RAMP - OWC			
			834+16	CROSS	1	15" RCCP
			834+18	RT	1	42" RCCP
			836+88	RT	1	18" RCCP
		STAGE TOTAL			3	
		STAGE 2				
			OWA RAMP - OWA			
			842+25	LT	1	24" RCCP
			OWB RAMP - OWB			
			834+05	RT	1	42" RCCP
			833+63	LT	1	30" RCCP
			ONEIDA STREET/WAUBE LANE EB - OWE			
			695+58	CROSS	1	36" RCCP
			704+53	CROSS	1	36" RCCP
		STAGE TOTAL			5	
	PROJECT 1133-09-76 TOTAL				8	
	CONTRACT S4-14-02 TOTAL				**50**	

REMOVING PAVEMENT

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	204.0100 (SY)
1000	1133-03-77					
		STAGE 1B				
			USH 41 NB - NB			
			1005+00	-	1017+50	700
			USH 41 SB - SB			
			1005+00	-	1016+75	1,650
		STAGE TOTAL				2,350
		STAGE 2				
			USH 41 NB - NB			
			954+00	-	960+27	2,450
			961+70	-	982+33	5,650
			983+85	-	1017+50	8,790
			USH 41 SB - SB			
			954+00	-	960+61	2,700
			962+04		982+43	6,250
			983+95	-	1016+75	7,500
			VKA RAMP - VKA			
			966+67	-	981+00	2,500
			VKB RAMP - VKB			
			984+14	-	1002+50	3,050
			VKC RAMP - VKC			
			985+70	-	1000+15	1,650
			VKD RAMP - VKD			
			966+00	-	975+75	1,300
			LOMBARDI AVENUE WB - VKW			
			101+60	-	104+20	350
			LOMBARDI AVENUE EB - VKE			
			101+60	-	104+20	350
		STAGE TOTAL				42,540
	PROJECT 1133-03-77 TOTALS					44,890

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	204.0100 (SY)
1000	1133-09-71					
		STAGE 1A				
			USH 41 NB - NB			
			801+25	-	813+54	1,415
			847+89	-	851+56	290
			909+50	-	912+81	170
			OWC RAMP - OWC			
			823+50 NB	-	829+96	855
			OWD RAMP - OWD			
			844+27	-	846+70	270
			INE RAMP - INE			
			866+57	-	890+30	3,725
			STH 172 EB - EE			
			59+55	-	66+45	800
			INW RAMP - INW			
			874+29 INE	-	881+15	895
			IWN RAMP - IWN			
			890+60	-	903+19 NB	3,370
			IEN RAMP - IEN			
			872+08	-	887+81	2,380
			IWS RAMP - IWS			
			921+00	-	926+62	1,110
		STAGE TOTAL				15,280
		STAGE 1B				
			USH 41 NB - NB			
			801+25	-	820+63	3,735
			822+50	-	837+38	4,015
			838+96	-	888+02	14,530
			889+85	-	893+08	1,065
			895+04	-	930+55	8,210
			USH 41 SB - SB			
			805+10	-	810+50	760
			OWC RAMP - OWC			
			823+73 NB	-	825+58	170
			OWD RAMP - OWD			
			845+07	-	847+89 NB	305
			848+52 NB	-	853+95 NB	505
			INE RAMP - INE			
			867+01	-	867+93	70
			IEN RAMP - IEN			
			884+83	-	887+85	185
			902+25	-	908+21	475
		STAGE TOTAL				34,025
	PROJECT 1133-09-71 TOTALS					116,905

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	204.0100 (SY)
1000	1133-09-71					
		STAGE 2				
			USH 41 NB - NB			
			912+81	-	930+49	4,030
			931+79	-	954+00	8,665
			USH 41 SB - SB			
			805+10	-	820+63	3,670
			822+50	-	836+60	3,630
			838+15	-	888+47	13,785
			890+33	-	893+79	1,055
			895+72	-	931+19	10,530
			932+33	-	954+00	8,440
			OWA RAMP - OWA			
			846+61	-	847+83	205
			OWB RAMP - OWB			
			821+17	-	828+97	960
			IES RAMP - IES			
			873+77 SB	-	888+70	2,190
			IWS RAMP - IWS			
			926+62	-	883+18 IWN	1,355
			895+96 SB	-	905+25	1,370
			ISW RAMP - ISW			
			904+65	-	910+15 ISE	730
			ISE RAMP - ISE			
			905+50	-	924+00	4,805
			IEN RAMP - IEN			
			864+00	-	868+75	800
			CORMIER ROAD - COR			
			498+25	-	501+00	1,380
		STAGE TOTAL				67,600
	PROJECT 1133-09-76 TOTALS					29,450

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	204.0100 (SY)
1000	1133-09-76					
		STAGE 1A				
			ONEIDA STREET/WAUBE LANE EB - OWE			
			699+42	-	701+25	230
			OWC RAMP - OWC			
			829+96	-	838+16	1,265
			OWD RAMP - OWD			
			840+15	-	844+27	695
		STAGE TOTAL				2,190
		STAGE 2				
			ONEIDA STREET/WAUBE LANE WB - OWW			
			681+58	-	711+24	10,815
			ONEIDA STREET/WAUBE LANE EB - OWE			
			681+72	-	711+48	9,720
			OWA RAMP - OWA			
			836+65	-	846+61	2,450
			OWB RAMP - OWB			
			828+97	-	835+33	1,430
			OWC RAMP - OWC			
			838+16	-	840+33	950
			OWD RAMP - OWD			
			839+45	-	840+93	470
			ALLIED STREET-ALL			
			799+27	-	799+75	330
			850+06	-	850+49	300
			RAMADA WAY - RA			
			898+90	-	899+68	440
			950+31	-	951+05	355
		STAGE TOTAL				27,260

CONTRACT S4-14-02 TOTALS **191,245**

REMOVING ASPHALTIC SURFACE

204.0110

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	(SY)
1000						
	1133-09-71					
		STAGE 2				
			PARKVIEW ROAD - PRK			
			198+50	-	201+10	1,050
	PROJECT 1133-09-71 TOTALS					1,050
	1133-09-76					
		STAGE 2				
			ONEIDA STREET/WAUBE LANE WB - OWW			
			687+30	-	688+30	75
			ONEIDA STREET/WAUBE LANE EB - OWE			
			689+97	-	690+07	35
	PROJECT 1133-09-76 TOTALS					110
	CONTRACT S4-14-02 TOTALS					**1,085**

REMOVING ASPHALTIC SURFACE BUTT JOINTS

204.0115

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	(SY)
1000						
	1133-03-77					
		STAGE 2				
			MORRIS AVENUE - MOR			
			597+71	-	597+74	15
			601+48	-	601+51	15
		STAGE TOTAL				30
	PROJECT 1133-03-77 TOTALS					30
	1133-09-71					
		STAGE 1B				
			PILGRIM WAY - PIL			
			916+92	-	916+94	5
			929+61	-	929+63	10
		STAGE TOTAL				15
		STAGE 2				
			NORTH ROAD - NOR			
			905+23	-	905+25	5
			908+77	-	909+52	10
			914+25	-	915+25	10
			927+49	-	928+29	10
			932+03	-	932+05	10
		STAGE TOTAL				45
	PROJECT 1133-09-71 TOTALS					60
	1133-09-74					
		STAGE 1A				
			HANSEN ROAD - HAN			
			403+75	-	403+77	10
		STAGE TOTAL				10
	PROJECT 1133-09-74 TOTALS					10
	CONTRACT S4-14-02 TOTAL					**100**

REMOVING ASPHALTIC SURFACE MILLING

204.0120

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	(SY)
1000						
	1133-03-77					
		STAGE 2				
			MORRIS AVENUE - MOR			
			597+71	-	601+51	1,750
	PROJECT 1133-03-77 TOTAL					1,750
	1133-09-71					
		STAGE 1B				
			PILGRIM WAY - PIL			
			916+92	-	929+63	3,240
		STAGE TOTAL				3,240
		STAGE 2				
			NORTH ROAD - NOR			
			904+46	-	932+04	6,990
		STAGE TOTAL				6,990
	PROJECT 1133-09-71 TOTAL					10,230
	1133-09-74					
		STAGE 1A				
			HANSEN ROAD - HAN			
			402+15	-	403+75	730
		STAGE 1A TOTAL				730
	PROJECT 1133-09-74 TOTAL					730
	CONTRACT S4-14-02 TOTAL					**12,710**

REMOVING CURB & GUTTER

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	LOCATION	204.0150 (LF)
1000							
	1133-03-77						
		STAGE 1B					
			LOMBARDI AVENUE WB - VKW				
			104+93	-	105+28	LT	35
			VKB RAMP - VKB				
			983+32	-	984+14	LT	85
		STAGE TOTAL					120
		STAGE 2					
			MORRIS AVENUE - MOR				
			597+71	-	601+18	LT	350
			598+07	-	601+51	RT	345
			LOMBARDI AVENUE WB - VKW				
			101+60	-	104+20	RT	260
			LOMBARDI AVENUE EB - VKE				
			101+60	-	104+20	LT	260
		STAGE TOTAL					1,215
	PROJECT 1133-03-77 TOTALS						1,335
	1133-09-71						
		STAGE 1A					
			STH 172 EB - E				
			41+92	-	46+32	RT	440
			IEN RAMP - IEN				
			886+00	-	886+75	LT	75
			STH 172 WB - W				
			30+64	-	38+36	LT	775
			IWS RAMP - IWS				
			916+69	-	921+00	RT	435
			CORMIER ROAD - COR				
			497+87	-	497+97	LT	10
			500+92	-	501+02	LT	10
		STAGE TOTAL					1,745
		STAGE 1B					
			IEN RAMP - IEN				
			865+30	-	866+00	LT	70
			865+30	-	866+00	LT	70
			PILGRIM WAY - PIL				
			904+46	-	907+16	RT	240
		STAGE TOTAL					380
		STAGE 2					
			PARKVIEW ROAD - PRK				
			198+50	-	201+10	LT	260
			198+50	-	201+10	RT	260
			IEN RAMP - IEN				
			861+53	-	865+34	LT	380
			866+75	-	867+55	LT	80
			STH 172 EB - E				
			37+35	-	41+17	RT	380
			STH 172 WB - W				
			38+35	-	41+08	LT	280
		STAGE TOTAL					1,640
	PROJECT 1133-09-71 TOTALS						3,765
	1133-09-74						
		STAGE 1A					
			HANSEN ROAD - HAN				
			396+12	-	398+04	LT	195
			396+37	-	398+27	RT	190
			401+06	-	402+82	LT	180
			401+31	-	403+19	RT	190
		STAGE TOTAL					755
	PROJECT 1133-09-74 TOTALS						755
	1133-09-76						
		STAGE 1A					
			ONEIDA STREET/WAUBE LANE WB - OWW				
			696+71	-	702+62	LT	590
			ONEIDA STREET/WAUBE LANE EB - OWE				
			696+93	-	702+85	LT	590
			OWA RAMP - OWA				
			836+65	-	836+94	LT	60
			836+65	-	836+94	RT	30
			OWC RAMP - OWC				
			840+11	-	840+37	LT/RT	450
			OWD RAMP - OWD				
			839+23	-	840+02	LT/RT	150
		STAGE TOTAL					1,870
		STAGE 1B					
			ONEIDA STREET/WAUBE LANE WB - OWW				
			681+58	-	686+50	LT	500
			687+11	-	696+13	LT	910
			694+01	-	696+24	RT	220
			703+67	-	707+91	LT	425
			708+47	-	711+11	LT	270
		STAGE TOTAL					2,325
		STAGE 2					
			ALLIED STREET - ALL				
			797+60	-	799+26	LT/RT	335
			850+48	-	851+66	LT/RT	235
		STAGE TOTAL					570
	PROJECT 1133-09-76 TOTALS						4,765
	CONTRACT S4-14-02 TOTAL						**10,620**

REMOVING CONCRETE SIDEWALK

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	LOCATION	204.0155 (SY)
1000							
	1133-03-77						
		STAGE 2					
			LOMBARDI AVENUE WB - VKW				
			102+17	-	103+53	RT	160
			101+60	-	104+20	LT	220
			LOMBARDI AVENUE WB - VKW				
			102+25	-	103+65	LT	160
		STAGE 2 TOTAL					540
	PROJECT 1133-03-77 TOTAL						540
	1133-09-71						
		STAGE 2					
			CORMIER ROAD - COR				
			498+13	-	500+80	RT	240
		STAGE 2 TOTAL					240
	PROJECT 1133-09-71 TOTAL						240
	1133-09-74						
		STAGE 1					
			HANSEN ROAD - HAN				
			396+12	-	398+01	LT	95
			401+33	-	401+55	LT	10
			401+06	-	402+71	LT	80
			398+11	-	398+31	RT	10
		STAGE 1 TOTAL					195
	PROJECT 1133-09-74 TOTAL						195

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	LOCATION	204.0155 (SY)
1000							
	1133-09-76						
		STAGE 1A					
			ONEIDA STREET/WAUBE LANE WB - OWW				
			696+75	-	702+75	LT	420
			ONEIDA STREET/WAUBE LANE EB - OWE				
			698+78	-	700+46	RT	170
			OWA RAMP - OWA				
			836+65	-	836+94	LT	25
			OWC RAMP - OWC				
			840+18	-	840+33	RT	145
			OWD RAMP - OWD				
			839+58	-	839+84	RT	90
		STAGE 1A TOTAL					850
		STAGE 1B					
			ONEIDA STREET/WAUBE LANE WB - OWW				
			694+01	-	696+24	RT	155
			703+89	-	707+84	LT	220
			708+56	-	707+84	LT	135
		STAGE 1B TOTAL					510
		STAGE 2					
			ONEIDA STREET/WAUBE LANE WB - OWW				
			692+23	-	695+96	RT	445
			696+97	-	698+77	RT	120
			699+24	-	699+85	RT	70
			700+29	-	702+23	RT	130
			702+98	-	703+47	LT	135
			ONEIDA STREET/WAUBE LANE EB - OWE				
			695+85	-	696+58	RT	315
			702+80	-	703+54	RT	175
			703+36	-	708+01	LT	535
			709+18	-	711+48	LT	110
		STAGE 2 TOTAL					2,035
	PROJECT 1133-09-76 TOTAL						3,395

CONTRACT S4-14-02 TOTAL **4,370**

REMOVING CONCRETE BARRIER

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	204.0157 (LF)
1000						
	1133-09-71					
		STAGE 1B				
			USH 41 NB - NB			
			799+00	-	799+82	82
			USH 41 SB - SB			
			798+88	-	801+40	252
			UNDISTRIBUTED			16
		STAGE TOTAL				350
	PROJECT 1133-09-71 TOTALS					350

CONTRACT S4-14-02 TOTAL 350

REMOVING FENCE

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	LOCATION	204.0170 (LF)
1000							
	1133-03-77						
		STAGE 1B					
			MORRIS AVENUE - MOR				
			599+82	-	600+27	RT	50
			599+01	-	599+46	LT	50
		STAGE TOTAL					100
		STAGE 2					
			USH 41 NB - NB				
			954+00	-	958+80	RT	510
			965+87	-	979+73	RT	1,500
			989+67	-	1022+00	RT	3,350
			USH 41 SB - SB				
			954+00	-	961+82	LT	850
			962+71	-	982+06	LT	2,050
			985+45	-	1021+70	LT	3,750
			MORRIS AVENUE - MOR				
			600+90	-	603+71	RT	290
			600+14	-	603+52	LT	430
			597+61	-	599+15	LT	170
			597+16	-	598+38	RT	130
		STAGE TOTAL					13,030
	PROJECT 1133-03-77 TOTALS						13,130
	1133-09-71						
		STAGE 1A					
			USH 41 NB - NB				
			918+31	-	930+25	RT	1,250
			IEN RAMP - IEN				
			900+89	-	918+31	RT	1,750
			IWN RAMP - IWN				
			889+32	-	900+91	RT	1,100
		STAGE TOTAL					4,100
		STAGE 1B					
			USH 41 NB - NB				
			800+42	-	820+56	RT	2,050
			820+56	-	820+56	RT	110
			820+59	-	820+59	LT	50
			822+53	-	822+53	RT	110
			822+55	-	822+55	LT	50
			822+49	-	824+30	RT	180
			846+70		867+21	RT	2,100
			930+36	-	954+00	RT	2,450
			OWC RAMP - OWC				
			824+30	-	829+96	RT	560
			OWD RAMP - OWD				
			844+27	-	846+70	RT	250
			INE RAMP - INE				
			867+90	-	890+30	RT	2,000
			STH 172 EB - E				
			59+55	-	66+69	RT	770
			CORMIER ROAD - COR				
			500+12	-	50+29	LT	250
		STAGE TOTAL					10,930
	CONTRACT S4-14-02 TOTAL						**43,500**

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	LOCATION	204.0170 (LF)
1000							
	1133-09-71						
		STAGE 2					
			USH 41 SB - SB				
			800+45	-	820+53	LT	2,050
			820+53	-	820+53	LT	90
			854+88	-	868+90	LT	1,450
			869+54	-	879+63	LT	1,200
			931+03	-	931+13	LT	80
			932+68	-	954+00	LT	2,350
			OWA RAMP - OWA				
			846+55	-	854+88	LT	800
			ISW RAMP - ISW				
			901+00	-	924+00	LT	650
			OWB RAMP - OWB				
			822+54	-	822+54	RT	160
			822+54	-	828+97	LT	610
			IES RAMP - IES				
			880+30	-	888+96	LT	910
			NORTH ROAD - NOR				
			908+10	-	931+04	RT	2,300
		STAGE TOTAL					12,650
	PROJECT 1133-09-71 TOTALS						27,680
	1133-09-76						
		STAGE 1B					
			OWC RAMP - OWC				
			829+96	-	838+00	RT	865
			OWD RAMP - OWD				
			840+31	-	844+27	RT	450
		STAGE TOTAL					1,315
		STAGE 2					
			OWA RAMP - OWA				
			837+72	-	846+55	LT	910
			OWB RAMP - OWB				
			828+97	-	833+58	LT	465
		STAGE TOTAL					1,375
	PROJECT 1133-09-76 TOTALS						2,690

REMOVING DELINEATORS AND MARKERS

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	204.0180 (EACH)
1000	1133-03-77					
		STAGE 2				
			USH 41 NB - NB			
			954+00	-	960+27	3
			961+70	-	982+33	15
			983+85	-	1021+90	6
			USH 41 SB - SB			
			954+00	-	960+61	3
			962+04		982+43	5
			983+95	-	1021+83	6
			VKA RAMP - VKA			
			966+67	-	981+00	9
			VKB RAMP - VKB			
			984+14	-	1002+50	14
			VKC RAMP - VKC			
			985+70	-	1000+15	14
			VKD RAMP - VKD			
			966+00	-	975+75	10
		STAGE 2 TOTAL				85
	PROJECT 1133-03-77 TOTAL					85
	1133-09-71					
		STAGE 1A				
			USH 41 NB - NB			
			799+00	-	820+86	11
			822+42	-	836+64	11
			839+21	-	888+10	23
			889+81	-	893+10	9
			895+02	-	912+81	4
			OWC RAMP - OWC			
			824+29	-	829+96	6
			OWD RAMP - OWD			
			844+27	-	846+70	3
			INE RAMP - INE			
			866+83	-	890+30	23
			STH 172 EB - E			
			59+51	-	66+45	7
			INW RAMP - INW			
			877+75	-	881+15	2
			IWN RAMP - IWN			
			890+60	-	900+91	4
			IEN RAMP - IEN			
			869+00	-	912+81	15
		STAGE 1A TOTAL				119
1000	1133-09-71					
		STAGE 2				
			USH 41 NB - NB			
			912+81	-	930+53	9
			932+01	-	954+00	10
			USH 41 SB - SB			
			799+00	-	820+86	23
			822+42	-	836+03	10
			838+61	-	888+40	21
			890+11	-	893+58	16
			895+50	-	930+94	14
			932+35	-	954+00	20
			OWB RAMP - OWB			
			822+00	-	828+97	7
			IES RAMP - IES			
			879+21	-	888+70	9
			IWS RAMP - IWS			
			901+44	-	905+25	4
			ISW RAMP - ISW			
			904+65	-	907+63	3
			ISE RAMP - ISE			
			905+50	-	924+00	10
		STAGE 2 TOTAL				156
	PROJECT 1133-09-71 TOTAL					275
	1133-09-76					
		STAGE 1A				
			OWC RAMP - OWC			
			829+96	-	839+81	11
			OWD RAMP - OWD			
			839+59	-	844+27	6
		STAGE 1A TOTAL				17
		STAGE 2				
			OWA RAMP - OWA			
			839+86	-	846+61	8
			OWB RAMP - OWB			
			828+97	-	833+67	6
		STAGE 2 TOTAL				13
	PROJECT 1133-09-76 TOTAL					30
	CONTRACT S4-14-02 TOTAL					**390**

REMOVING MANHOLES

CATEGORY	PROJECT	STAGE	STATION	LOCATION	204.0210 (EACH)
1000	1133-09-71				
		STAGE 2			
			USH 41 NB - NB		
			941+30	RT	1
		STAGE 2 TOTAL			1
	PROJECT 1133-09-71 TOTAL				1
	1133-09-76				
		STAGE 2			
			ONEIDA STREET/WAUBE LANE WB - OWW		
			683+23	LT	1
			684+91	LT	1
			686+32	LT	1
			704+70	RT	1
			ONEIDA STREET/WAUBE LANE EB - OWE		
			700+25	LT	1
			OWC RAMP - OWC		
			839+96	RT	1
		STAGE TOTAL			6
	PROJECT 1133-09-76 TOTALS				6
	CONTRACT S4-14-02 TOTAL				**7**

REMOVING INLETS

CATEGORY	PROJECT	STAGE	STATION	LOCATION	204.0220 (EACH)
1000					
	1133-03-77				
		STAGE 1B			
			USH 41 NB - NB		
			954+14	LT	1
			968+12	LT	1
			972+11	LT	1
			976+13	LT	1
			995+08	LT	1
			1007+88	LT	1
			1021+77	LT	1
		STAGE 1B TOTAL			7
	PROJECT 1133-03-77 TOTAL				7
	1133-09-71				
		STAGE 1A			
			USH 41 NB - NB		
			820+47	RT	1
			887+49	RT	1
			895+26	RT	1
		STAGE 1A TOTAL			3
		STAGE 1B			
			USH 41 NB - NB		
			801+40	LT	1
			803+00	LT	1
			805+31	LT	1
			812+19	LT	1
			875+00	LT	1
			875+00	LT	1
			877+50	LT	1
			877+50	LT	1
			887+75	LT	1
			895+64	LT	1
			903+29	LT	1
			915+27	LT	1
			922+79	LT	1
			940+26	RT	1
		STAGE 1B TOTAL			14
		STAGE 2			
			USH 41 NB -NB		
			938+43	RT	1
			USH 41 SB - SB		
			834+47	LT	1
			847+34	RT	1
			887+99	RT	1
			888+20	LT	1
			895+99	RT	1
			896+43	LT	1
			NORTH ROAD - NOR		
			923+36	RT	1
		STAGE 2 TOTAL			8
	PROJECT 1133-09-71 TOTAL				25

CATEGORY	PROJECT	STAGE	STATION	LOCATION	204.0220 (EACH)
1000					
	1133-09-74				
		STAGE 1A			
			HANSEN ROAD - HAN		
			397+05	LT	1
			401+26	LT	1
			401+30	LT	1
			401+57	RT	1
			401+60	RT	1
		STAGE 1A TOTAL			5
	PROJECT 1133-09-74 TOTAL				5
	1133-09-76				
		STAGE 1A			
			ONEIDA STREET/WAUBE LANE WB - OWW		
			699+70	LT	1
		STAGE 1A TOTAL			1
		STAGE 2			
			ONEIDA STREET/WAUBE LANE WB - OWW		
			683+19	LT	1
			686+12	LT	1
			692+20	LT	1
			695+95	RT	1
			696+20	RT	1
			699+70	RT	1
			702+00	RT	1
			707+50	RT	1
			707+56	LT	1
			710+28	RT	1
			ONEIDA STREET/WAUBE LANE EB - OWE		
			683+29	RT	1
			686+51	RT	1
			692+58	RT	1
			695+08	RT	1
			696+58	LT	1
			700+08	LT	1
			700+08	LT	1
			703+42	LT	1
			707+95	LT	1
			708+29	RT	1
			OWA RAMP - OWA		
			836+81	LT	1
			OWB RAMP - OWB		
			834+17	LT	1
			834+64	LT	1
			834+73	LT	1
			OWC RAMP - OWC		
			839+87	RT	1
			840+00	RT	1
			OWD RAMP - OWD		
			839+86	RT	1
			839+86	RT	1
			840+13	RT	1
		STAGE 2 TOTAL			29
	PROJECT 1133-09-76 TOTAL				30
	CONTRACT S4-14-02 TOTAL				**67**

REMOVING STORM SEWER

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	LOCATION	204.0245.10 10-INCH (LF)	204.0245.12 12-INCH (LF)	204.0245.15 15-INCH (LF)	204.0245.18 18-INCH (LF)	204.0245.21 21-INCH (LF)	204.0245.24 24-INCH (LF)	204.0245.27 27-INCH (LF)	204.0245.54 54-INCH (LF)	204.9090.S DRAIN SLOTTED VANE (LF)
1000															
	1133-03-77														
		STAGE 1B													
			USH 41 NB - NB												
			954+13	-	954+13	LT	-	-	-	35	-	-	-	-	-
			968+11	-	968+12	LT	-	-	-	35	-	-	-	-	-
			972+11	-	972+12	LT	-	-	-	40	-	-	-	-	-
			976+12	-	976+13	LT	-	-	-	40	-	-	-	-	-
			995+07	-	995+09	LT	-	-	-	-	-	60	-	-	-
			1007+88	-	1009+96	LT	-	-	-	210	-	-	-	-	-
			1005+00	-	1007+20	LT	-	-	-	-	-	-	-	-	220
		STAGE 1B TOTAL					0	0	0	360	0	60	0	0	220
		STAGE 2													
			USH 41 NB - NB												
			954+14	-	954+15	RT	-	-	-	80	-	-	-	-	-
			968+08	-	968+11	RT	-	-	-	140	-	-	-	-	-
			976+11	-	976+13	RT	-	-	-	85	-	-	-	-	-
			995+13	-	995+14	RT	-	-	-	-	-	85	-	-	-
			1007+87	-	1007+88	CROSS	-	-	-	-	-	70	-	-	-
			1007+88	-	1007+88	RT	-	-	-	-	-	45	-	-	-
			USH 41 SB - SB												
			972+06	-	972+10	LT	-	-	-	105	-	-	-	-	-
			995+14	-	995+16	LT	-	-	-	-	-	90	-	-	-
		STAGE 2 TOTAL					0	0	0	410	0	290	0	0	0
	PROJECT 1133-03-77 TOTAL						0	0	0	770	0	350	0	0	220
	1133-09-71														
		STAGE 1B													
			USH 41 NB - NB												
			801+40	-	801+40	LT	-	-	-	15	-	-	-	-	-
			801+50	-	803+00	LT	-	-	-	160	-	-	-	-	-
			803+00	-	805+31	LT	-	230	-	-	-	-	-	-	-
			875+00	-	875+00	LT	-	-	-	30	-	-	-	-	-
			875+00	-	877+50	LT	-	-	-	245	-	-	-	-	-
			877+50	-	877+50	LT	-	-	-	30	-	-	-	-	-
			880+58	-	884+00	LT	-	-	-	340	-	-	-	-	-
			877+50	-	879+36	LT	-	-	-	185	-	-	-	-	-
		STAGE 1B TOTAL					0	230	0	1,005	0	0	0	0	0
	PROJECT 1133-09-71 TOTAL						0	230	0	1,005	0	0	0	0	0
	1133-09-74														
		STAGE 1													
			HANSEN ROAD - HAN												
			397+03	-	397+05	LT	-	60	-	-	-	-	-	-	-
			397+05	-	397+60	LT	-	-	-	100	-	-	-	-	-
			401+26	-	401+30	LT	-	5	-	-	-	-	-	-	-
			401+30	-	401+60	CROSS	-	55	-	-	-	-	-	-	-
			401+60	-	401+57	RT	-	5	-	-	-	-	-	-	-
		STAGE 1 TOTAL					0	125	0	100	0	0	0	0	0
	PROJECT 1133-09-74 TOTAL						0	125	0	100	0	0	0	0	0

REMOVING STORM SEWER (CONTINUED)

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	LOCATION	204.0245.10 10-INCH (LF)	204.0245.12 12-INCH (LF)	204.0245.15 15-INCH (LF)	204.0245.18 18-INCH (LF)	204.0245.21 21-INCH (LF)	204.0245.24 24-INCH (LF)	204.0245.27 27-INCH (LF)	204.0245.54 54-INCH (LF)	204.9090.S DRAIN SLOTTED VANE (LF)
1000															
	1133-09-76														
		STAGE 2													
			ONEIDA STREET/WAUBE LANE WB - OWW												
			683+19	-	683+23	LT	-	10	-	-	-	-	-	-	-
			683+23	-	684+92	LT	-	-	-	-	-	-	170	-	-
			684+91	-	684+92	LT	-	-	-	-	15	-	-	-	-
			684+92	-	686+59	LT	-	-	-	-	-	-	170	-	-
			686+11	-	686+32	LT	-	22	-	-	-	-	-	-	-
			686+11	-	686+33	CROSS	-	60	-	-	-	-	-	-	-
			686+32	-	686+59	LT	-	30	-	-	-	-	-	-	-
			692+20	-	692+20	CROSS	-	75	-	-	-	-	-	-	-
			695+95	-	696+20	RT	25	-	-	-	-	-	-	-	-
			696+04	-	696+20	CROSS	78	-	-	-	-	-	-	-	-
			696+04	-	696+23	LT	-	22	-	-	-	-	-	-	-
			696+20	-	696+20	RT	7	-	-	-	-	-	-	-	-
			699+71	-	699+71	CROSS	-	30	-	-	-	-	-	-	-
			699+71	-	699+71	RT	-	20	-	-	-	-	-	-	-
			703+01	-	703+01	RT	-	7	-	-	-	-	-	-	-
			703+01	-	703+17	CROSS	-	60	-	-	-	-	-	-	-
			704+70	-	707+51	RT	-	285	-	-	-	-	-	-	-
			707+51	-	707+51	RT	-	5	-	-	-	-	-	-	-
			707+51	-	707+56	CROSS	-	35	-	-	-	-	-	-	-
			710+29	-	711+17	RT	-	90	-	-	-	-	-	-	-
			ONEIDA STREET/WAUBE LANE EB - OWE												
			686+82	-	686+81	RT	-	-	-	-	-	-	-	20	-
			692+58	-	692+69	RT	-	20	-	-	-	-	-	-	-
			693+19	-	683+31	CROSS	-	50	-	-	-	-	-	-	-
			695+08	-	695+18	RT	-	30	-	-	-	-	-	-	-
			700+09	-	700+09	LT	-	30	-	-	-	-	-	-	-
			700+09	-	700+26	LT	-	-	-	20	-	-	-	-	-
			700+26	-	703+07	CROSS	-	-	-	290	-	-	-	-	-
			704+60	-	705+10	CROSS	-	-	85	-	-	-	-	-	-
			707+95	-	708+28	CROSS	-	70	-	-	-	-	-	-	-
			ALLIED STREET - ALL												
			798+42	-	798+58	LT	-	-	-	-	-	-	-	20	-
			OWB RAMP - OWB												
			834+13	-	834+16	LT	-	25	-	-	-	-	-	-	-
			834+16	-	834+64	LT	-	50	-	-	-	-	-	-	-
			834+64	-	834+73	LT	-	20	-	-	-	-	-	-	-
			OWC RAMP - OWC												
			839+87	-	839+96	RT	-	14	-	-	-	-	-	-	-
			839+96	-	839+99	CROSS	-	-	-	40	-	-	-	-	-
			839+86	-	839+96	CROSS	-	-	-	60	-	-	-	-	-
			OWD RAMP - OWD												
			839+86	-	839+86	RT	-	20	-	-	-	-	-	-	-
			839+86	-	840+15	RT	-	40	-	-	-	-	-	-	-
			840+15	-	840+27	RT	-	25	-	-	-	-	-	-	-
		STAGE 2 TOTAL					110	1,145	85	410	15	0	340	40	0
	PROJECT 1133-09-76 TOTAL						110	1,145	85	410	15	0	340	40	0
CONTRACT S4-14-02 TOTAL							**110**	**1,500**	**85**	**2,285**	**15**	**350**	**340**	**40**	**220**

ABANDON STORM SEWER

204.0291.S

CATEGORY	PROJECT	STAGE	STATION	LOCATION	TO	STATION	LOCATION	(CY)
1000								
	1133-09-71							
		STAGE 1A						
			USH 41 NB - NB					
			872+31	26' RT	-	872+31	46' RT	4
		STAGE 1A TOTAL						4
		STAGE 1B						
			USH 41 NB - NB					
			801+39	17' LT	-	801+38	62' RT	5
			812+19	28' LT	-	812+19	81' RT	7
			903+29	39' RT	-	903+29	102' RT	6
			CD ROAD - CD					
			863+35	7' RT	-	863+36	47' RT	3
			IEN RAMP - IEN					
			890+76	12' LT	-	890+74	31' RT	3
		STAGE 1B TOTAL						24
		STAGE 2						
			USH 41 NB - NB					
			932+50	26' LT	-	932+50	2' RT	1
			940+00	18' LT	-	940+00	4' RT	1
			943+50	18' LT	-	943+50	2' RT	1
			946+50	19' LT	-	946+50	0' RT	1
			948+90	19' LT	-	948+90	1' LT	1
			951+50	19' LT	-	951+50	1' LT	1
			938+60	95' RT	-	939+76	154' LT	72
			USH 41 SB - SB					
			834+34	52' LT	-	833+93	143' RT	71
			902+29	116' LT	-	902+29	162' RT	73
			917+50	0' LT	-	917+50	19' RT	1
			921+00	0' LT	-	921+00	19' RT	1
			924+50	4' LT	-	924+50	19' RT	1
			928+00	11' LT	-	928+00	19' RT	1
			940+00	5' LT	-	940+00	26' RT	1
			943+50	3' LT	-	943+50	26' RT	1
			946+50	1' LT	-	946+50	26' RT	1
			949+40	1' RT	-	949+40	26' RT	1
			951+50	1' RT	-	951+50	26' RT	1
			PILGRIM WAY - PIL					
			922+27	13' LT	-	922+23	47' RT	11
			ISE RAMP - ISE					
			917+00	37' LT	-	917+00	12' LT	1
		STAGE 2 TOTAL						237
		PROJECT 1133-09-71 TOTAL						265
	1133-09-76							
		STAGE 1A						
			OWC RAMP - OWC					
			834+20	30' LT	-	834+31	76' RT	38
			836+00	12' LT	-	836+00	50' RT	2
		STAGE 1A TOTAL						40
		STAGE 2						
			OWA RAMP - OWA					
			838+38	45' LT	-	838+41	26' RT	10
			OWD RAMP - OWD					
			841+33	5' LT	-	841+34	56' RT	5
		STAGE 2 TOTAL						15
		PROJECT 1133-09-76 TOTAL						55
		PROJECT S4-14-02 TOTAL						**320**

3

TEMPORARY SHORING

206.6000.S (A)

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	(SF)
1000						
	1133-03-77					
		STAGE 1B				
			USH 41 NB - NB			
			1015+50		1016+16	1875
			1020+50		1021+25	1,875
		STAGE 1B TOTAL				3,750
	PROJECT 1133-03-77 TOTAL					3,750
	1133-09-71					
		STAGE 1A				
			CD ROAD - CD			
			843+75		847+00	5,250
			STH 172 WB - W			
			32+40		32+80	65
		STAGE 1A TOTAL				5,315
		STAGE 1B				
			USH 41 NB - NB			
			939+75		940+50	1,350
			939+75		942+50	4,850
			USH 41 SB - SB			
			842+75		845+00	3250
		STAGE 1B TOTAL				9,450
	PROJECT 1133-09-71 TOTAL					14,765
	CONTRACT S4-14-02 TOTAL					**18,515**

(A) REFER TO STRUCTURE PLANS FOR ADDITIONAL QUANTITIES

3

EARTHWORK

Category	Project	Stage	FROM/TO STATION	Location	205.0100* Common Excavation (1) Cut (2) (CY)	205.0100* Common Excavation (1) EBS Excavation (3) (CY)	Structure Excavation (CY) (6)	Fill (CY)	SPV.0035.010 Roadway Embankment (CY) (4)	Mass Ordinate +/- (5)	Comment:
1000	1133-03-77	1B	954+00'NB' - 960+60'NB'	USH 41 MEDIAN	856	0	-	183	183	672	
			961+85'NB' - 982+40'NB'	USH 41 MEDIAN	1,379	0	-	5,512	5,512	-4,133	
			983+85'NB' - 1021+89.96'NB'	USH 41 MEDIAN	6,386	0	-	13,834	13,834	-7,448	
			700+00'TRA' - 713+31'TRA'	TEMP RAMP 'TRA'	1,040	0	-	293	293	747	
			700+00'TRB' - 710+61'TRA'	TEMP RAMP 'TRB'	213	0	-	3,145	3,145	-2,932	
			700+00'TRC' - 710+64'TRC'	TEMP RAMP 'TRC'	494	0	-	436	436	58	
	1133-03-77	2	954+00'SB' - 960+88'SB'	USH 41-SB	2,267	0	-	4,501	4,501	-2,234	
			961+78'SB' - 982+48'SB'	USH 41-SB	3,743	0	-	25,163	25,163	-21,420	
			983+90'SB' - 1021+82.68'SB'	USH 41-SB	19,845	0	5,596	21,498	21,498	-1,652	
			954+00'NB' - 960+33'NB'	USH 41-NB	1,411	0	-	4,202	4,202	-2,791	
			961+43'NB' - 982+40'NB'	USH 41-NB	4,605	0	-	25,855	25,855	-21,250	
			983+80'NB' - 1021+83'NB'	USH 41-NB	21,180	0	3,793	27,714	27,714	-5,857	
			972+00'VKA' - 980+50'VKA'	VKA RAMP	204	0	-	10,060	10,060	-9,856	
			984+00'VKB' - 995+00'VKB'	VKB RAMP	1,109	0	2,258	8,923	8,923	-7,814	
			985+50'VKC' - 994+00'VKC'	VKC RAMP	3,591	0	416	4,141	4,141	-550	
			974+50'VKD' - 979+50'VKD'	VKD RAMP	427	0	-	2,018	2,018	-1,590	
Project 1133-03-77 Totals					68,750	0	12,064	157,477	157,477	-88,050	
Total Common Excavation					68,750						

1) Common Excavation is the sum of the Cut and EBS Excavation columns
2) Salvaged/Unsuable Pavement Material is included in Cut
3) EBS Excavation to be backfilled roadway embankment unless otherwise noted in plans.
4) Roadway Embankment = (Fill + EBS Excavation - Select Borrow)
5) The Mass Ordinate + or - Qty calculated for the Division. Positive quantity indicates an excess of material within the Division. Negative indicates a shortage of material within the Division.
6) Structure Excavation limits are assumed to be 70% of the retaining wall height. This is for informational purposes only, and will vary depending on shop drawing design.

3

EARTHWORK

Category	Project	Stage	From/To Station	Location	Excavation Common (CY) Cut (CY) (2)	Excavation Common (CY) EBS (CY) (3)	Structure Excavation (CY) (6)	Fill (CY)	SPV.0035.010 Roadway Embankment (CY) (4)	Mass Ordinate +/- (5)	Comment:
1000	1133-09-71	1A	799+00 NB - 820+86 NB	USH 41 NB & USH 41 CD	9,721	0	0	15,456	15,456	-5,735	
			822+43 NB - 836+99 NB	USH 41 NB & USH 41 CD	9,316	0	0	57,044	57,044	-47,728	
			839+51 NB - 879+00 NB	USH 41 NB & USH 41 CD	37,888	0	0	10,917	10,917	26,971	
			824+29 OWC - 829+96 OWC	RAMP OWC	945	0	0	26,026	26,026	-25,081	
			844+27 OWD - 846+70 OWD	RAMP OWD	538	0	0	18	18	520	
			57+00 EE - 66+43 EE	STH 172 EB	2,323	0	0	852	852	1,471	
			47+06 W - 59+40 W	STH 172 WB	750	0	0	186	185	564	
			866+73 INE - 890+30 INE	RAMP NE	49,281	0	0	1,931	1,931	47,350	
			877+65 INW - 881+15 INW	RAMP NW	1,186	0	0	67	67	1,119	
			883+18 IWN - 888+57 IWN	RAMP WN	1,664	0	0	0	0	1,664	
			890+60 IWN - 900+91 IWN	RAMP WN	4587	0	0	11,377	11,377	-6,790	
			924+65 IWS - 933+14 IWS	RAMP WS	4873	0	0	2,136	2,136	2,737	
			873+00 IEN - 887+64 IEN	RAMP EN	16,980	0	0	23,656	23,656	-6,676	
			889+73 IEN - 892+50 IEN	RAMP EN	410	0	0	5,290	5,290	-4,881	
			894+79 IEN - 912+80 IEN	RAMP EN	1,023	0	0	20,004	20,004	-18,982	
			904+46 PIL - 929+63 PIL	PILGRIM WAY	6,423	0	0	3,098	3,098	3,325	
			799+65 NB - 819+05 NB	PHASE ML-1 TEMP. PAVEMENT	2,781	0	0	74	74	2,707	
			844+35 NB - 882+13 NB	PHASE ML-1 TEMP. PAVEMENT	3,757	0	0	4	4	3,753	
			896+18 NB - 920+90 NB	PHASE ML-1 TEMP. PAVEMENT	2,546	0	0	49	49	2,497	
			850+90 NB - 852+50 NB	PHASE ML-2 TEMP. PAVEMENT	143	0	0	0	0	143	
			862+75 NB - 864+45 NB	PHASE ML-2 TEMP. PAVEMENT	51	0	0	0	0	51	
			903+00 NB - 909+50 NB	PHASE ML-2 TEMP. PAVEMENT	249	0	0	132	132	117	
			912+81 NB - 919+79 NB	PHASE ML-2 TEMP. PAVEMENT	871	0	0	169	169	703	
			20+01 CDT - 35+23 CDT	USH 41 CD TEMP. PAVEMENT	1,934	0	0	492	492	1,443	
			42+65 NET - 49+50 NET	RAMP NE TEMP. PAVEMENT	579	0	0	93	93	486	
			50+78 NET - 56+53 NET	RAMP NE TEMP. PAVEMENT	1,309	0	0	143	143	1,167	
			50+58 WNT - 64+28 WNT	RAMP WN TEMP. PAVEMENT	1,872	0	0	134	134	1,739	
			300+00 ENT - 304+82 ENT	RAMP EN TEMP. PAVEMENT	1,164	0	0	165	165	998	
			31+11 EW - 36+00 EW	STH 172 EB TEMP. PAVEMENT	618	0	0	0	0	618	
			19+76 W - 43+19 W	STH 172 WB TEMP. PAVEMENT	3,260	0	0	598	598	2,662	
		Project 1133-09-71 - Stage 1A Subtotal			169,043	0	0	180,110	180,109	-11,067	
		Project 1133-09-71 - Stage 1A Total			169,043				180,109		
1000	1133-09-71	1B	799+00 NB - 820+86 NB	USH 41 NB & USH 41 SB	10,466	0	0	3,697	3,697	6,769	
			822+43 NB - 836+64 NB	USH 41 NB & USH 41 SB	1,127	0	0	14,844	14,844	-13,717	
			839+21 NB - 887+90 NB	USH 41 NB & USH 41 SB	24,868	0	0	610	610	24,259	
			889+99 NB - 892+90 NB	USH 41 NB & USH 41 SB	1,266	0	0	561	561	705	
			895+19 NB - 930+60 NB	USH 41 NB & USH 41 SB	5,952	0	0	8,188	8,188	-2,236	
			932+00 NB - 933+00 NB	USH 41 NB & USH 41 SB	50	0	0	99	99	-49	
			933+00 NB - 954+00 NB	USH 41 NB & USH 41 SB	2,068	0	0	5,997	5,997	-3,930	
			857+25 NB - 862+75 NB	PHASE ML-1 TEMP. PAVEMENT	0	0	0	769	769	-769	
			908+40 NB - 912+50 NB	PHASE ML-1 TEMP. PAVEMENT	29	0	0	119	119	-89	
			948+00 NB - 952+50 NB	PHASE ML-1 TEMP. PAVEMENT	287	0	0	2	2	285	
			53+50 OWAT - 59+22 OWAT	RAMP OWA TEMP. PAVEMENT	1,576	0	0	673	673	902	
			61+16 OWAT - 68+45 OWAT	RAMP OWA TEMP. PAVEMENT	400	0	0	190	190	210	
			14+32 OWBT - 20+00 OWBT	RAMP OWB TEMP. PAVEMENT	575	0	0	1	1	573	
			99+34 WST - 108+48 WST	RAMP WS TEMP. PAVEMENT	394	0	0	862	862	-468	
		Project 1133-09-71 - Stage 1B Subtotal			49,057	0	0	36,613	36,613	12,444	
		Project 1133-09-71 - Stage 1B Total			49,057				36,613		
1000	1133-09-71	2	799+00 NB - 820+85 NB	USH 41 NB & USH 41 SB	15,934	0	0	9,909	9,909	6,025	
			822+42 NB - 836+22 NB	USH 41 NB & USH 41 SB	3,094	0	0	19,751	19,751	-16,657	
			838+84 NB - 888+20 NB	USH 41 NB & USH 41 SB	130,030	0	0	6,418	6,418	123,612	
			890+29 NB - 893+38 NB	USH 41 NB & USH 41 SB	2,939	0	0	1,614	1,614	1,325	
			895+67 NB - 930+94 NB	USH 41 NB & USH 41 SB	45,742	0	0	29,368	29,368	16,374	
			932+00 NB - 933+00 NB	USH 41 NB & USH 41 SB	2,409	0	0	681	681	1,728	
			933+00 NB - 954+00 NB	USH 41 NB & USH 41 SB	34,048	0	0	31,839	31,839	2,209	
			846+61 OWA - 849+66 OWA	RAMP OWA	1,265	0	0	521	521	744	
			822+42 OWB - 828+97 OWB	RAMP OWB	716	0	0	16,569	16,569	-15,853	
			19+76 W - 43+19 W	STH 172 WB	1,425	0	0	0	0	1,425	
			901+44 IWS - 905+25 IWS	RAMP WS	1,171	0	0	1,943	1,943	-772	
			917+00 IWS - 924+65 IWS	RAMP WS	1,609	0	0	240	240	1,369	
			905+50 ISE - 919+66 ISE	RAMP SE	13,887	0	0	3,492	3,492	10,395	
			904+65 ISW - 907+63 ISW	RAMP SW	1,023	0	0	1,684	1,684	-661	
			861+47 IEN - 873+00 IEN	RAMP EN	1,766	0	0	713	713	1,053	
			882+50 IEN - 884+50 IEN	RAMP EN	147	0	0	0	0	147	
			903+00 IEN - 909+00 IEN	RAMP EN	643	0	0	0	0	643	
			912+80 IEN - 918+31 IEN	RAMP EN	805	0	0	963	963	-158	
			879+21 IES - 888+70 IES	RAMP ES	1,663	0	0	3,326	3,326	-1,663	
			905+25 NOR - 932+05 NOR	NORTH ROAD	2,708	0	0	1,505	1,505	1,203	
			800+45 NB - 809+00 NB	PHASE ML-4 PAVEMENT REMOVAL	85	0	0	0	0	85	
			901+50 NB - 903+00 NB	PHASE ML-4 PAVEMENT REMOVAL	15	0	0	0	0	15	
			912+50 NB - 916+73 NB	PHASE ML-4 PAVEMENT REMOVAL	457	0	0	0	0	457	
			10+00 OWBT - 12+40 OWBT	RAMP OWB TEMP. PAVEMENT	319	0	0	309	309	10	
			195+73 SET - 201+50 SET	RAMP SE CROSS OVER	260	0	0	205	205	55	
			901+87 ISE - 916+28 ISE	PHASE ML-1 , RAMP SE, TEMP. PAVE.	1,280	0	0	0	0	1,280	
			904+60 ISE - 906+00 ISE	PHASE ML-2 , RAMP SE, TEMP. PAVE.	21	0	0	1	1	21	
			198+69 IES - 203+50 IES	PHASE ML-3, RAMP ES, TEMP. PAVE.	1,341	0	0	0	0	1,341	
		Project 1133-09-71 - Stage 2 Subtotal			266,804	0	0	131,054	131,054	135,751	
		Project 1133-09-71 - Stage 2 Total			266,804				131,054		

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3

EARTHWORK

Category	Project	Stage	From/To Station	Location	Excavation Common (CY) Cut (CY) (2)	Excavation Common (CY) EBS (CY) (3)	Structure Excavation (CY) (6)	Fill (CY)	SPV.0035.010 Roadway Embankment (CY) (4)	Mass Ordinate +/- (5)	Comment:
1000	1133-09-74	1	395+75 HAN - 397+79 HAN	HANSEN ROAD	375	0	0	153	153	222	
			401+50 HAN - 402+84 HAN	HANSEN ROAD	289	0	0	11	11	279	
			866+57 NB - 868+52 NB	R-5-33	2,548	0	0	0	0	2,548	
			868+04 NB - 870+70 NB	R-5-34	4,549	0	0	0	0	4,549	
		Project 1133-09-74 - Stage 1 Subtotal			7,761	0	0	164	164	7,597	
		Project 1133-09-74 - Stage 1 Total			7,761		0		164		

EARTHWORK

Category	Project	Stage	From/To Station	Location	Excavation Common (CY) Cut (CY) (2)	Excavation Common (CY) EBS (CY) (3)	Structure Excavation (CY) (6)	Fill (CY)	SPV.0035.010 Roadway Embankment (CY) (4)	Mass Ordinate +/- (5)	Comment:
1000	1133-09-76	1A	829+96 OWC - 836+50 OWC	RAMP OWC	18,115	0	0	21,177	21,177	-3,062	
			840+50 OWD - 844+27 OWD	RAMP OWD	911	0	0	371	371	540	
			834+37 OWC - 839+63 OWC	RAMP OWC TEMP. PAVEMENT	207	0	0	6,057	6,057	-5,850	
			10+50 OWDT - 18+55 OWDT	RAMP OWD TEMP. PAVEMENT	524	0	0	1,644	1,644	-1,120	
			696+61 OWT - 705+73 OWT	ONEIDA/WAUBE TEMP. PAVEMENT	5,442	0	0	2	2	5,440	
		Project 1133-09-76 - Stage 1A Subtotal			25,199	0	0	29,251	29,251	-4,052	
		Project 1133-09-76 - Stage 1A Total			25,199		0		29,251		
1000	1133-09-76	1B	50+45 OWAT - 53+50 OWAT	RAMP OWA TEMP. PAVEMENT	529	0	0	83	83	447	
			20+00 OWBT - 23+24 OWBT	RAMP OWB TEMP. PAVEMENT	510	0	0	0	0	510	
			681+66 OWT - 686+75 OWT	ONEIDA/WAUBE TEMP. PAVEMENT	877	0	0	1	1	877	
			687+30 OWT - 696+55 OWT	ONEIDA/WAUBE TEMP. PAVEMENT	1,530	0	0	0	0	1,530	
			703+22 OWT - 708+21 OWT	ONEIDA/WAUBE TEMP. PAVEMENT	725	0	0	7	7	718	
			708+70 OWT - 711+40 OWT	ONEIDA/WAUBE TEMP. PAVEMENT	626	0	0	0	0	626	
			898+40 RA - 898+63 RA	PHASE OW2-3 , RAMADA, TEMP. PAVE.	10	0	0	0	0	10	
			898+90 RA - 899+43 RA	PHASE OW2-3 , RAMADA, TEMP. PAVE.	31	0	0	0	0	31	
		Project 1133-09-76 - Stage 1B Subtotal			4,838	0	0	91	91	4,748	
		Project 1133-09-76 - Stage 1B Total			4,838		0		91		
1000	1133-09-76	2	836+98 OWA - 846+61 OWA	RAMP OWA	22,316	0	0	653	653	21,663	
			828+97 OWB - 834+90 OWB	RAMP OWB	7,974	0	0	1,378	1,378	6,596	
			834+50 OWC - 839+92 OWC	RAMP OWC	11,882	0	0	3,006	3,006	8,876	
			839+74 OWD - 842+00 OWD	RAMP OWD	491	0	0	1	1	490	
			681+65 OWE - 711+48 OWE	ONEIDA/WAUBE	32,244	0	0	3,106	3,106	29,138	
			898+90 RA - 899+35 RA	RAMADA WAY, SOUTH LEG	182	0	0	4	4	178	
			797+90 ALL - 799+60 ALL	ALLIED STREET, SOUTH LEG	734	0	0	3	3	731	
			850+40 ALL - 851+60 ALL	ALLIED STREET, NORTH LEG	572	0	0	1	1	571	
			21+18 OWBT - 22+78 OWBT	RAMP OWB TEMP. PAVEMENT	104	0	0	5	5	99	
			898+43 RA - 899+51 RA	PHASE OW3-1 , RAMADA, TEMP. PAVE.	58	0	0	0	0	58	
			950+50 RA - 950+85 RA	PHASE OW3-2 , RAMADA, TEMP. PAVE.	9	0	0	0	0	9	
			950+54 RA - 950+75 RA	PHASE OW4-1 , RAMADA, TEMP. PAVE.	12	0	0	0	0	12	
			951+03 RA - 951+32 RA	PHASE OW4-1 , RAMADA, TEMP. PAVE.	10	0	0	0	0	10	
		Project 1133-09-76 - Stage 2 Subtotal			76,588	0	0	8,157	8,157	68,431	
		Project 1133-09-76 - Stage 2 Total			76,588		0		8,157		

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BASE AGGREGATE DENSE

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	305.0110 3/4-INCH (TON)	305.0120 (B) 1 1/4-INCH (TON)
1000							
	1133-03-77						
		STAGE 1B					
			USH 41 NB - NB				
			954+00	-	960+27	-	800
			961+70	-	982+33	-	2,550
			983+85	-	1021+90	-	4,400
			USH 41 SB - SB				
			954+00	-	960+61	-	800
			962+04		982+43	-	2,500
			983+95	-	1021+83	-	4,500
		STAGE TOTAL				0	15,550
		STAGE 2					
			USH 41 NB - NB				
			954+00	-	960+27	0	2,100
			961+70	-	982+33	460	6,050
			983+85	-	1021+90	350	10,500
			USH 41 SB - SB				
			954+00	-	960+61	0	2,400
			962+04		982+43	300	6,950
			983+95	-	1021+83	250	9,550
			VKA RAMP - VKA				
			966+67	-	981+00	660	3,050
			VKB RAMP - VKB				
			984+14	-	1002+50	930	2,600
			VKC RAMP - VKC				
			985+70	-	1000+15	730	2,250
			VKD RAMP - VKD				
			966+00	-	975+75	520	1,000
		STAGE TOTAL				4,200	46,450
	PROJECT 1133-03-77 TOTALS					4,200	62,000
	1133-09-71						
		STAGE 1A					
			USH 41 NB - NB/CD ROAD - CD				
			799+00	-	820+86	350	5,400
			822+42	-	836+64	220	4,300
			839+21	-	888+10	550	11,200
			OWC RAMP - OWC				
			824+29	-	829+96	85	1,040
			OWD RAMP - OWD				
			844+27	-	846+70	5	260
			INE RAMP - INE				
			866+83	-	890+30	1,200	9,200
			STH 172 EB - E				
			59+51	-	66+45	210	2,100
			STH 172 WB - W				
			47+05	-	59+39	280	1,060
			INW RAMP - INW				
			877+75	-	881+15	180	820
			IWN RAMP - IWN				
			883+18	-	888+57	290	1,100
			890+60	-	900+91	550	4,200
			IWS RAMP - IWS				
			924+65	-	933+14	340	2,550
			IEN RAMP - IEN				
			873+00	-	912+81	900	10,100
		STAGE TOTAL				5,160	53,330

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	305.0110 3/4-INCH (TON)	305.0120 (B) 1 1/4-INCH (TON)
1000							
	1133-09-71						
		STAGE 1B					
			USH 41 NB - NB/USH 41 SB - SB				
			799+00	-	820+86	-	7,600
			822+42	-	836+64	-	3,950
			839+21	-	888+10	-	12,800
			889+81	-	893+10	-	850
			895+02	-	930+60	-	10,800
			932+01	-	954+00	-	4,950
			PILGRIM WAY - PIL				
			904+46	-	929+63	-	5,600
		STAGE TOTAL				0	46,550
		STAGE 2					
			USH 41 NB - NB/USH 41 SB - SB				
			799+00	-	820+86	510	5,750
			822+42	-	836+03	240	5,100
			838+61	-	888+40	1,250	22,300
			890+11	-	893+58	40	1,300
			895+50	-	930+94	460	16,600
			932+35	-	954+00	-	11,900
			IEN RAMP - IEN				
			861+47	-	873+00	200	900
			882+50	-	884+50	30	150
			903+00	-	909+00	-	400
			912+80	-	918+30	-	1,300
			OWA RAMP - OWA				
			846+61	-	854+88	100	620
			OWB RAMP - OWB				
			821+17	-	828+97	120	1,480
			IES RAMP - IES				
			879+21	-	888+70	530	2,500
			IWS RAMP - IWS				
			901+44	-	905+25	230	1,000
			917+00	-	924+65	50	2,200
			ISW RAMP - ISW				
			904+65	-	907+63	40	520
			STH 172 WB - W				
			905+50	-	924+00	830	4,300
			ISE RAMP - ISE				
			905+50	-	924+00	270	4,300
			NORTH ROAD - NOR				
			905+66	-	932+05	-	1,950
		STAGE TOTAL				4,900	84,570
	PROJECT 1133-09-71 TOTALS					10,060	184,450
	1133-09-74						
		STAGE 1A					
			HANSEN ROAD - HAN				
			395+75	-	397+79	-	260
			401+50	-	402+84	-	250
		STAGE TOTAL				0	510
	PROJECT 1133-09-74 TOTALS					0	510

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	305.0110 3/4-INCH (TON)	305.0120 (B) 1 1/4-INCH (TON)
1000							
	1133-09-76						
		STAGE 1A					
			OWC RAMP - OWC				
			829+96	-	836+50	180	1,600
			OWD RAMP - OWD				
			840+50	-	844+27	100	850
		STAGE TOTAL				280	2,450
		STAGE 2					
			ONEIDA STREET/WAUBE LANE				
			681+58	-	711+48	740	12,200
			OWA RAMP - OWA				
			836+50	-	846+55	240	3,100
			OWB RAMP - OWB				
			828+97	-	835+33	120	1,400
			OWC RAMP - OWC				
			836+50	-	839+92	160	1,100
			OWD RAMP - OWD				
			839+75	-	842+00	70	260
			ALLIED WAY - ALL				
			797+60	-	800+00	5	670
			850+00	-	851+66	20	500
			RAMADA WAY - RA				
			898+90	-	900+00	5	170
		STAGE TOTAL				1,360	19,400
	PROJECT 1133-09-76 TOTALS					1,640	21,850

CONTRACT S4-14-02 TOTAL **15,900** **268,810**

(B) REFER TO "TEMPORARY ASPHALT ITEMS" FOR ADDITONAL QUANTITIES

BREAKER RUN

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	311.0110 (C) (TON)
1000						
	1133-03-77					
		STAGE 1B				
			USH 41 NB - NB			
			954+00	-	960+27	950
			961+70	-	982+33	3,100
			983+85	-	1021+90	6,000
			USH 41 SB - SB			
			954+00	-	960+61	950
			962+04		982+43	3,100
			983+95	-	1021+83	6,300
		STAGE TOTAL				20,400
		STAGE 2				
			USH 41 NB - NB			
			954+00	-	960+27	2,250
			961+70	-	982+33	6,550
			983+85	-	1021+90	12,300
			USH 41 SB - SB			
			954+00	-	960+61	2,550
			962+04		982+43	7,450
			983+95	-	1021+83	11,550
			VKA RAMP - VKA			
			966+67	-	981+00	3,350
			VKB RAMP - VKB			
			984+14	-	1002+50	2,800
			VKC RAMP - VKC			
			985+70	-	1000+15	2,600
			VKD RAMP - VKD			
			966+00	-	975+75	1,000
		STAGE TOTAL				52,400
	PROJECT 1133-03-77 TOTALS					72,800
	1133-09-71					
		STAGE 1A				
			USH 41 NB - NB/CD ROAD - CD			
			799+00	-	820+86	4,700
			822+42	-	836+64	3,850
			839+21	-	888+10	17,300
			OWC RAMP - OWC			
			824+29	-	829+96	1,050
			OWD RAMP - OWD			
			844+27	-	846+70	340
			INE RAMP - INE			
			866+83	-	890+30	8,950
			STH 172 EB - EE			
			59+51	-	66+45	1,350
			STH 172 WB - W			
			47+05	-	49+00	250
			INW RAMP - INW			
			877+65	-	881+15	740
			IWN RAMP - IWN			
			883+18	-	888+57	880
			890+60	-	900+91	3,350
			IWS RAMP - IWS			
			924+65	-	933+14	1,900
			IEN RAMP - IEN			
			873+00	-	912+81	8,400
		STAGE TOTAL				53,060

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	311.0110 (C) (TON)
1000						
	1133-09-71					
		STAGE 1B				
			USH 41 NB - NB/USH 41 SB - SB			
			799+00	-	820+86	8,550
			822+42	-	836+64	4,700
			839+21	-	888+10	22,700
			889+81	-	893+10	950
			895+02	-	930+60	12,000
			932+01	-	954+00	6,450
			PILGRIM WAY - PIL			
			904+46	-	929+63	4,900
		STAGE TOTAL				60,250
		STAGE 2				
			USH 41 NB - NB/USH 41 SB - SB			
			799+00	-	820+86	5,100
			822+42	-	836+03	5,400
			838+61	-	888+40	35,400
			890+11	-	893+58	1,300
			895+50	-	930+94	15,850
			932+35	-	954+00	13,250
			IEN RAMP - IEN			
			861+47	-	873+00	1,300
			882+50	-	884+50	80
			903+00	-	909+00	300
			912+80	-	918+30	1,100
			OWA RAMP - OWA			
			846+61	-	854+88	590
			OWB RAMP - OWB			
			821+17	-	828+97	1,300
			IES RAMP - IES			
			879+21	-	888+70	2,200
			IWS RAMP - IWS			
			901+44	-	905+25	910
			917+00	-	924+65	790
			ISW RAMP - ISW			
			904+65	-	907+63	530
			ISE RAMP - ISE			
			905+50	-	924+00	3,800
			NORTH ROAD - NOR			
			905+25	-	932+05	1,650
		STAGE TOTAL				90,850
	PROJECT 1133-09-71 TOTALS					204,160
	1133-09-74					
		STAGE 1A				
			HANSEN ROAD - HANS			
			395+75	-	397+79	165
			401+50	-	402+84	75
		STAGE TOTAL				240
	PROJECT 1133-09-74 TOTALS					240

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	311.0110 (C) (TON)
1000						
	1133-09-76					
		STAGE 1A				
			OWC RAMP - OWC			
			829+96	-	836+50	1,500
			OWD RAMP - OWD			
			840+50	-	844+27	900
		STAGE TOTAL				2,400
		STAGE 2				
			ONEIDA STREET/WAUBE LANE			
			681+58	-	711+48	18,900
			OWA RAMP - OWA			
			836+50	-	846+55	3,250
			OWB RAMP - OWB			
			828+97	-	835+33	1,400
			OWC RAMP - OWC			
			836+50	-	839+92	950
			OWD RAMP - OWD			
			839+75	-	842+00	260
			ALLIED WAY - ALL			
			797+60	-	800+00	560
			850+00	-	851+66	420
			RAMADA WAY - RA			
			898+90	-	900+00	160
		STAGE TOTAL				25,900
	PROJECT 1133-09-76 TOTALS					28,300

CONTRACT S4-14-02 TOTAL **305,500**

(C) REFER TO "TEMPORARY ASPHALT ITEMS" FOR ADDITONAL QUANTITIES

HMA PAVEMENT ITEMS

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	315.0100 ASPHALTIC BASE (TON)	460.1100 HMA PAVEMENT TYPE E-0.3 (TON)	460.1101 HMA PAVEMENT TYPE E-1 (TON)	455.0105 (D) ASPHALTIC MATERIAL PG58-28 (TON)	455.0605 (E) TACK COAT (GAL)	465.0105 ASPHALTIC SURFACE 2-INCH (TON)	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES (TON)
1000	1133-03-77											
		STAGE 1B										
			USH 41 NB - NB									
			954+00	-	960+27	185	-	-	-	-	-	-
			961+70	-	982+33	600	-	-	-	-	-	-
			983+85	-	1021+90	1,460	-	-	-	-	-	-
							-	-	-	-	-	-
			USH 41 SB - SB									
			954+00	-	960+61	190	-	-	-	-	-	-
			962+04		982+43	600	-	-	-	-	-	-
			983+95	-	1021+83	1,450	-	-	-	-	-	-
		STAGE 1B TOTAL				4,485	0	0	0	0	0	0
		STAGE 2										
			USH 41 NB - NB									
			954+00	-	960+27	760	-	-	-	-	30	-
			961+70	-	982+33	1,925	510	-	35	50	10	-
			983+85	-	1021+90	4,110	465	-	30	50	-	-
											-	-
			USH 41 SB - SB									
			954+00	-	960+61	840	-	-	-	-	40	-
			962+04		982+43	2,160	325	-	20	30	20	-
			983+95	-	1021+83	3,920	455	-	30	50	15	-
			VKA RAMP - VKA									
			966+67	-	981+00	860	310	-	20	30	-	-
			VKB RAMP - VKB									
			984+14	-	1002+50	860	125	-	9	10	30	-
			VKC RAMP - VKC									
			985+70	-	1000+15	790	110	-	7	10	20	-
			VKD RAMP - VKD									
			966+00	-	975+75	390	35	-	3	5	50	-
			MORRIS AVENUE - MOR									
			597+71	-	601+51	-	175	-	10	45	-	-
		STAGE 2 TOTAL				16,615	2,510	0	165	280	215	0
	PROJECT 1133-03-77 TOTAL					21,100	2,510	0	165	280	215	0

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	315.0100 ASPHALTIC BASE (TON)	460.1100 HMA PAVEMENT TYPE E-0.3 (TON)	460.1101 HMA PAVEMENT TYPE E-1 (TON)	455.0105 (D) ASPHALTIC MATERIAL PG58-28 (TON)	455.0605 (E) TACK COAT (GAL)	465.0105 ASPHALTIC SURFACE 2-INCH (TON)	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES (TON)
1000	1133-09-71											
		STAGE 1A										
			USH 41 NB - NB									
			799+00	-	820+86	555	320	-	19	30	-	-
			822+42	-	836+64	-	-	-	-	-	-	-
			839+21	-	888+10	-	-	-	-	-	-	-
			889+81	-	893+10	155	165	-	10	20	-	-
			895+02	-	912+81	-	-	-	-	-	-	-
			CD ROADWAY - CD									
			808+89	-	820+86	790	220	-	13	20	-	-
			822+24	-	837+17	690	415	-	25	50	-	-
			839+73	-	875+23	2,090	910	-	55	80	-	-
			OWC RAMP - OWC									
			824+29	-	829+96	70	90	-	5	20	-	-
			OWD RAMP - OWD									
			844+27	-	846+70	145	40	-	3	10	-	-
			INE RAMP - INE									
			866+83	-	890+30	1,440	1,480	-	89	150	-	-
			STH 172 EB - E									
			59+51	-	66+45	350	305	-	18	30	-	-
			INW RAMP - INW									
			877+75	-	881+15	125	40	-	3	5	-	-
			IWN RAMP - IWN									
			890+60	-	900+91	595	770	-	46	80	-	-
			IEN RAMP - IEN									
			869+00	-	912+81	2,050	860	-	55	75	-	-
			IWS RAMP - IWS									
			924+65	-	933+14	390	160	-	10	30	-	-
			STH 172 WB - W									
			47+06	-	49+19	50	110	-	10	20	-	-
		STAGE 1A TOTAL				9,495	5,885	0	360	620	0	0
		STAGE 1B										
			USH 41 NB - NB									
			799+00	-	820+86	1,620	-	-	-	-	-	-
			822+42	-	836+64	1,170	-	-	-	-	-	-
			839+21	-	888+10	4,000	-	-	-	-	-	-
			889+81	-	893+10	185	-	-	-	-	-	-
			895+02	-	930+60	2,490	-	-	-	-	-	-
			932+01	-	954+00	630	-	-	-	-	-	-
			USH 41 SB - SB									
			799+00	-	820+86	860	-	-	-	-	-	-
			912+50	-	930+94	525	-	-	-	-	-	-
			932+35	-	954+00	615	-	-	-	-	-	-
			CD ROADWAY - CD									
			808+89	-	820+86	-	115	-	7	25	-	-
			IEN RAMP - IEN									
			869+00	-	912+81	-	30	-	3	10	-	-
			PILGRIM WAY - PIL									
			904+46	-	929+63	-	-	1,620	100	250	-	-
		STAGE 1B TOTAL				12,095	145	1,620	110	285	0	0

HMA PAVEMENT ITEMS (CONTINUED)

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	315.0100 ASPHALTIC BASE (TON)	460.1100 HMA PAVEMENT TYPE E-0.3 (TON)	460.1101 HMA PAVEMENT TYPE E-1 (TON)	455.0105 (D) ASPHALTIC MATERIAL PG58-28 (TON)	455.0605 (E) TACK COAT (GAL)	465.0105 ASPHALTIC SURFACE 2-INCH (TON)	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES (TON)
1000												
	1133-09-71											
		STAGE 2										
			USH 41 NB - NB									
			912+81	-	930+53	1,280	10	-	1	2	65	-
			932+01	-	954+00	2,720	10	-	1	2	120	-
			USH 41 SB - SB									
			799+00	-	820+86	1,630	640	-	38	60	-	-
			822+42	-	836+03	1,430	510	-	30	50	-	-
			838+61	-	888+40	6,440	2,010	-	120	180	-	-
			890+11	-	893+58	300	120	-	7	20	-	-
			895+50	-	930+94	3,840	625	-	50	60	30	-
			932+35	-	954+00	2,720	10	-	1	2	110	-
			OWA RAMP - OWA									
			846+61	-	854+88	180	55		3	20	-	-
			OWB RAMP - OWB									
			821+17	-	828+97	340	285	-	17	50	-	-
			IEN RAMP - IEN									
			869+00	-	912+81	420	-	-	-	-	60	-
			IES RAMP - IES									
			879+21	-	888+70	385	210	-	12	30	-	-
			IWS RAMP - IWS									
			901+44	-	924+65	315	15	-	6	10	-	-
			ISW RAMP - ISW									
			904+65	-	907+63	125	-	-	-	-	-	-
			ISE RAMP - ISE									
			905+50	-	924+00	765	980	-	58	100	40	-
			STH 172 WB - W									
			19+76	-	32+38	-	100	-	6	10	-	-
			PARKVIEW ROAD - PRK									
			198+50	-	201+10	-	-	180	11	26	-	-
			NORTH ROAD - NOR									
			905+66	-	932+04	-	-	1,020	65	210	-	-
		STAGE 2 TOTAL				22,890	5,580	1,200	426	831	425	0
	PROJECT 1133-09-71 TOTAL					44,480	11,610	2,820	896	1,736	425	0
1000												
	1133-09-74											
		STAGE 1										
			HANSEN ROAD - HAN									
			397+15	-	397+51	-	-	40	3	5	-	-
			401+80	-	402+15	-	-	40	2	5	-	-
			402+15	-	403+77	-	-	75	5	20	-	-
		STAGE 1 TOTAL				0	0	155	10	30	0	0
	PROJECT 1133-09-74 TOTAL					0	0	155	10	30	0	0
	1133-09-76											
		STAGE 2										
			ONEIDA STREET/WAUBE LANE EB - OWE									
			682+33	-	683+05	-	-	-	-	-	-	10
			689+97	-	690+07	-	-	-	-	-	-	10
			OWA RAMP - OWA									
			836+50	-	846+55	1,060	170	-	10	15	-	-
			OWB RAMP - OWB									
			828+97	-	835+33	440	115	-	8	10	-	-
			OWC RAMP - OWC									
			829+96	-	840+33	660	120	-	8	10	-	-
			OWD RAMP - OWD									
			839+23	-	844+27	360	125	-	8	11	-	-
			ALLIED WAY - ALL									
			797+60	-	800+00	-	-	185	10	20	-	-
			850+00	-	851+66	-	-	90	6	10	-	-
		STAGE 2 TOTAL				2,520	530	275	50	75	0	20
	PROJECT 1133-09-76 TOTAL					2,520	530	275	50	75	0	20
	CONTRACT S4-14-02 TOTAL					**68,100**	**14,650**	**3,250**	**1,122**	**2,122**	**640**	**20**

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CONCRETE PAVEMENT ITEMS

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	320.0150 BASE 8 1/2-INCH (SY)	SPV.0180.005 HPC PAVEMENT 8-INCH (SY)	SPV.0180.006 HPC PAVEMENT 9-INCH (SY)	SPV.0180.007 HPC PAVEMENT 10 1/2-INCH (SY)	SPV.0180.008 HPC PAVEMENT HES 9-INCH (SY)	SPV.0180.009 HPC PAVEMENT HES 10 1/2-INCH (SY)	SPV.0180.010 COLORED PAVEMENT 9-INCH (SY)	SPV.0180.013 HPC PAVEMENT APPROACH SLAB (SY)	416.0610 DRILLED TIE BARS (EACH)	416.0620 DRILLED DOWEL BARS (EACH)	SPV.0180.012 CONCRETE JOINT SEALER (SY)
1000																
	1133-03-77															
		STAGE 1B														
			USH 41 NB - NB													
			954+00	-	960+27	-	-	-	1,900	-	-	-	140	-	-	-
			961+70	-	982+33	-	-	-	6,400	-	-	-	120	-	-	-
			983+85	-	1021+74	-	-	-	12,150	-	-	-	45	-	30	-
			USH 41 SB - SB													
			954+00	-	960+61	-	-	-	2,030	-	-	-	65	-	-	-
			962+04		982+43	-	-	-	6,290	-	-	-	195	-	-	-
			983+95	-	1021+52	-	-	-	13,050	-	-	-	60	-	30	-
		STAGE 1B TOTAL				0	0	0	41,820	0	0	0	625	0	60	0
		STAGE 2														
			USH 41 NB - NB													
			954+00	-	960+27	-	-	-	3,900	-	-	-	200	-	-	-
			961+70	-	982+33	305	-	-	9,800	-	-	-	340	-	-	-
			983+85	-	1021+74	345	-	-	20,800	-	-	-	95	-	55	-
			USH 41 SB - SB													
			954+00	-	960+61	-	-	-	4,490	-	-	-	275	-	-	-
			962+04		982+43	315	-	-	11,150	-	-	-	335	-	-	-
			983+95	-	1021+52	325	-	-	20,150	-	-	-	85	-	55	-
			VKA RAMP - VKA													
			966+67	-	981+00	-	-	4,180	-	-	-	-	1,330	-	30	-
			VKB RAMP - VKB													
			984+14	-	1002+50	-	-	5,080	-	-	-	-	-	-	35	-
			VKC RAMP - VKC													
			985+70	-	1000+15	-	-	4,910	-	-	-	-	-	-	30	-
			VKD RAMP - VKD													
			966+00	-	975+75	-	-	2,030	-	-	-	-	-	-	30	-
			LOMBARDI AVENUE WB - VKW													
			101+60	-	104+20	-	-	350	-	-	-	-	-	105	20	-
			LOMBARDI AVENUE WB - VKW													
			101+60	-	104+20	-	-	350	-	-	-	-	-	105	20	-
		STAGE 2 TOTAL				1,290	0	16,900	70,290	0	0	0	2,660	210	275	0
	PROJECT 1133-03-77 TOTAL					1,290	0	16,900	112,110	0	0	0	3,285	210	335	0

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CONCRETE PAVEMENT ITEMS (CONTINUED)

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	320.0150 BASE 8 1/2-INCH (SY)	SPV.0180.005 HPC PAVEMENT 8-INCH (SY)	SPV.0180.006 HPC PAVEMENT 9-INCH (SY)	SPV.0180.007 HPC PAVEMENT 10 1/2-INCH (SY)	SPV.0180.008 HPC PAVEMENT HES 9-INCH (SY)	SPV.0180.009 HPC PAVEMENT HES 10 1/2-INCH (SY)	SPV.0180.010 COLORED PAVEMENT 9-INCH (SY)	SPV.0180.013 HPC PAVEMENT APPROACH SLAB (SY)	416.0610 DRILLED TIE BARS (EACH)	416.0620 DRILLED DOWEL BARS (EACH)	SPV.0180.012 CONCRETE JOINT SEALER (SY)
1000																
		1133-09-71														
		STAGE 1A														
			USH 41 NB - NB													
			799+00	-	820+86	40	-	-	3,180	-	-	-	-	-	-	-
			822+42	-	836+64	-	-	-	-	-	-	-	-	-	-	-
			839+21	-	888+10	-	-	-	750	-	-	-	-	-	-	-
			889+81	-	893+10	-	-	-	-	-	-	-	-	-	-	-
			895+02	-	912+81	345	-	-	-	-	-	-	-	-	-	-
			CD ROADWAY - CD													
			808+89	-	820+86	-	-	-	3,690	-	-	-	65	-	-	-
			822+24	-	837+17	325	-	-	4,830	-	-	-	140	-	-	-
			839+73	-	875+23	775	-	-	14,150	-	-	-	95	-	-	-
			OWC RAMP - OWC													
			824+29	-	829+96	-	-	1,450	-	-	-	-	-	-	-	-
			OWD RAMP - OWD													
			844+27	-	846+70	-	-	850	-	-	-	-	-	-	-	-
			INE RAMP - INE													
			866+83	-	890+30	-	-	-	1,940	-	3,900	-	-	-	-	-
			STH 172 EB - E													
			59+51	-	66+45	-	-	-	1,770	-	-	-	-	280	-	-
			INW RAMP - INW													
			877+75	-	881+15	-	-	-	-	-	585	-	-	-	15	-
			IWN RAMP - IWN													
			890+60	-	900+91	-	-	-	2,750	-	-	-	-	-	20	-
			IEN RAMP - IEN													
			869+00	-	912+81	325	-	-	12,100	-	-	-	340	-	15	-
			IWS RAMP - IWS													
			916+69	-	933+14	315	-	-	2,040	-	-	-	-	20	15	-
			STH 172 WB - W													
			30+63	-	40+19	-	-	-	250	-	-	-	-	365	-	-
		STAGE 1A TOTAL				2,125	0	2,300	47,450	0	4,485	0	640	665	65	0
		STAGE 1B														
			USH 41 NB - NB													
			799+00	-	820+86	900	-	-	11,200	-		-	85	-	-	-
			822+42	-	836+64	-	-	-	10,010	-		-	285	-	-	-
			839+21	-	888+10	65	-	-	31,750	-		-	365	-	-	-
			889+81	-	893+10	-	-	-	1,690	-		-	395	-	-	-
			895+02	-	930+60	-	-	-	20,700	-		-	415	-	-	-
			932+01	-	954+00	250	-	-	6,940	-		-	65	-	-	-
			USH 41 SB - SB													
			799+00	-	820+86	-	-	-	8,280	-		-	40	-	-	-
			912+50	-	930+94	-	-	-	5,020	-		-	65	-	-	-
			932+35	-	954+00	-	-	-	6,810	-		-	140	-	-	-
		STAGE 1B TOTAL				1,215	0	0	102,400	0	0	0	1,855	0	0	0

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CONCRETE PAVEMENT ITEMS (CONTINUED)

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	320.0150 BASE 8 1/2-INCH (SY)	SPV.0180.005 HPC PAVEMENT 8-INCH (SY)	SPV.0180.006 HPC PAVEMENT 9-INCH (SY)	SPV.0180.007 HPC PAVEMENT 10 1/2-INCH (SY)	SPV.0180.008 HPC PAVEMENT HES 9-INCH (SY)	SPV.0180.009 HPC PAVEMENT HES 10 1/2-INCH (SY)	SPV.0180.010 COLORED PAVEMENT 9-INCH (SY)	SPV.0180.013 HPC PAVEMENT APPROACH SLAB (SY)	416.0610 DRILLED TIE BARS (EACH)	416.0620 DRILLED DOWEL BARS (EACH)	SPV.0180.012 CONCRETE JOINT SEALER (SY)
1000																
	1133-09-71															
		STAGE 2														
			USH 41 NB - NB													
			912+81	-	930+53	-	-	-	8,170	-	-	-	135	-	-	-
			932+01	-	954+00	790	-	-	14,550	-	-	-	260	-	-	-
			USH 41 SB - SB													
			799+00	-	820+86	-	-	-	8,890	-	-	-	95	-	-	-
			822+42	-	836+03	265	-	-	9,710	-	-	-	445	-	-	-
			838+61	-	888+40	625	-	-	42,850	-	-	-	550	-	-	-
			890+11	-	893+58	150	-	-	2,130	-	-	-	710	-	-	-
			895+50	-	930+94	575	-	-	24,600	-	-	-	675	-	-	-
			932+35	-	954+00	-	-	-	14,150	-	-	-	200	-	-	-
			OWA RAMP - OWA													
			846+61	-	854+88	-	-	830	-	-	-	-	-	-	-	-
			OWB RAMP - OWB													
			821+17	-	828+97	-	-	1,670	-	-	-	-	-	-	-	-
			IEN RAMP - IEN													
			903+00	-	918+30	-	-	-	3,085	-	-	-	-	-	-	-
			IES RAMP - IES													
			879+21	-	888+70	-	-	-	1,590	-	-	-	-	-	20	-
			IWS RAMP - IWS													
			901+44	-	905+25	-	-	-	640	-	-	-	-	-	20	-
			ISW RAMP - ISW													
			904+65	-	907+63	-	-	-	-	-	500	-	-	-	20	-
			ISE RAMP - ISE													
			905+50	-	924+00	-	-	-	1,950	-	1,950	-	-	-	20	-
			CORMIER ROAD													
			498+25	-	501+00	-	1,225	-	-	-	-	-	-	-	20	-
		STAGE 2 TOTAL				2,405	1,225	2,500	132,315	0	2,450	0	3,070	0	100	0
	PROJECT 1133-09-71 TOTAL					5,745	1,225	4,800	282,165	0	6,935	0	5,565	665	165	0

3

CONCRETE PAVEMENT ITEMS (CONTINUED)

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	320.0150 BASE 8 1/2-INCH (SY)	SPV.0180.005 HPC PAVEMENT 8-INCH (SY)	SPV.0180.006 HPC PAVEMENT 9-INCH (SY)	SPV.0180.007 HPC PAVEMENT 10 1/2-INCH (SY)	SPV.0180.008 HPC PAVEMENT HES 9-INCH (SY)	SPV.0180.009 HPC PAVEMENT HES 10 1/2-INCH (SY)	SPV.0180.010 COLORED PAVEMENT 9-INCH (SY)	SPV.0180.013 HPC PAVEMENT APPROACH SLAB (SY)	416.0610 DRILLED TIE BARS (EACH)	416.0620 DRILLED DOWEL BARS (EACH)	SPV.0180.012 CONCRETE JOINT SEALER (SY)
1000																
	1133-09-74															
		STAGE 1														
			HANSEN ROAD - HAN													
			397+15	-	403+77	-	-	-	-	-	-	-	250	-	-	-
		STAGE 1 TOTAL				0	0	0	0	0	0	0	250	0	0	0
	PROJECT 1133-09-74 TOTALS					0	0	0	0	0	0	0	250	0	0	0
	1133-09-76															
		STAGE 1A														
			OWC RAMP - OWC													
			829+96	-	840+33	-	-	2,050	-	-	-	-	-	-	-	-
			OWD RAMP - OWD													
			839+23	-	844+27	-	-	1,180	-	-	-	-	-	-	-	-
		STAGE 1A TOTAL				0	0	3,230	0	0	0	0	0	0	0	0
		STAGE 2														
			ONEIDA STREET/WAUBE LANE WB - OWW													
			681+58	-	711+00	-	-	13,100	-	490	-	220	-	-	30	13,100
			ONEIDA STREET/WAUBE LANE EB - OWE													
			681+72	-	711+48	-	-	14,450	-	-	-	120	-	-	30	14,450
			OWA RAMP - OWA													
			836+50	-	846+55	-	-	5,460	-	-	-	50	-	-	-	-
			OWB RAMP - OWB													
			828+97	-	835+33	-	-	2,100	-	-	-	-	-	-	-	-
			OWC RAMP - OWC													
			829+96	-	840+33	-	-	1,160	-	-	-	-	-	-	-	-
			OWD RAMP - OWD													
			839+23	-	844+27	-	-	150	-	-	-	60	-	-	-	-
		STAGE 2 TOTAL				0	0	36,420	0	490	0	450	0	0	60	27,550
	PROJECT 1133-09-76 TOTALS					0	0	39,650	0	490	0	450	0	0	60	27,550
	CONTRACT S4-14-02 TOTAL					**7,035**	**1,225**	**61,350**	**394,275**	**490**	**6,935**	**450**	**9,100**	**875**	**560**	**27,550**

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CONCRETE DRIVEWAY

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	LOCATION	416.0160 6-INCH (SY)
1000							
	1133-09-76						
		STAGE 2					
			ONEIDA STREET/WAUBE LANE WB - OWW				
			681+60	-	682+05	LT	40
			684+49	-	684+91	LT	50
			ONEIDA STREET/WAUBE LANE EB - OWE				
			682+49	-	683+04	RT	40
			684+09	-	684+46	RT	55
			688+13	-	688+62	RT	95
			689+11	-	689+60	RT	60
			689+90	-	690+51	RT	45
			691+32	-	691+93	RT	45
			710+15	-	710+43	RT	10
			ALLIED STREET - ALL				
			850+92	-	851+34	RT	30
			RAMADA WAY - RA				
			950+75	-	951+07	RT	30
		STAGE 2 TOTAL					500
	PROJECT 1133-09-76 TOTAL						500
	CONTRACT S4-14-02 TOTAL						**500**

CONCRETE CORRUGATED MEDIAN

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	LOCATION	620.0100 (SF)
1000							
	1133-09-76						
		STAGE 2					
			ONEIDA STREET/WAUBE LANE EB - OWE				
			682+99	-	683+32	LT	235
		STAGE 2 TOTAL					235
	PROJECT 1133-09-76 TOTAL						235
	CONTRACT S4-14-02 TOTAL						**235**

RUMBLE STRIPS

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	416.1110 CONCRETE RUMBLE STRIPS SHOULDER (LF)	465.0400 ASPHALTIC SHOULDER RUMBLE STRIP (LF)
1000							
	1133-03-77						
		STAGE 1B					
			USH 41 NB - NB				
			954+00	-	960+27	630	-
			961+70	-	982+33	2,070	-
			983+85	-	1021+90	3,810	-
			USH 41 SB - SB				
			954+00	-	960+61	670	-
			962+04		982+43	2,050	-
			983+95	-	1021+83	3,800	-
		STAGE TOTAL				13,030	0
		STAGE 2					
			USH 41 NB - NB				
			954+00	-	960+27	630	-
			961+70	-	982+33	30	1,260
			983+85	-	1021+90	2,250	1,320
			USH 41 SB - SB				
			954+00	-	960+61	670	-
			962+04		982+43	290	1,020
			983+95	-	1021+83	1,750	1,300
		STAGE TOTAL				5,620	4,900
	PROJECT 1133-03-77 TOTALS					18,650	4,900
	133-09-71						
		STAGE 1A					
			USH 41 NB - NB				
			799+00	-	820+86	-	990
			822+42	-	836+64	-	-
			839+21	-	888+10	-	1,550
			889+81	-	893+10	-	-
			895+02	-	912+81	-	-
			INE RAMP - INE				
			866+83	-	890+30	-	4,140
			STH 172 EB - E				
			59+51	-	66+45	-	800
			INW RAMP - INW				
			877+75	-	881+15	-	350
			IWN RAMP - IWN				
			890+60	-	900+91	-	2,140
			IEN RAMP - IEN				
			869+00	-	912+81	2,250	5,310
			IWS RAMP - IWS				
			924+65	-	933+14	-	1,180
			STH 172 WB - W				
			47+06	-	49+19	-	540
		STAGE 1A TOTAL				2,250	17,000
	CONTRACT S4-14-02 TOTAL						

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	416.1110 CONCRETE RUMBLE STRIPS SHOULDER (LF)	465.0400 ASPHALTIC SHOULDER RUMBLE STRIP (LF)
1000							
	133-09-71						
		STAGE 1B					
			USH 41 NB - NB				
			799+00	-	820+86	2,200	-
			822+42	-	836+64	2,750	-
			839+21	-	888+10	13,200	-
			889+81	-	893+10	9,450	-
			895+02	-	912+81	5,000	-
			932+01	-	954+00	2,200	-
			USH 41 SB - SB				
			799+00	-	820+86	2,170	-
			822+42	-	836+03	-	-
			838+61	-	888+40	-	-
			890+11	-	893+58	-	-
			895+50	-	930+94	1,400	-
			932+35	-	954+00	2,140	-
		STAGE 1B TOTAL				40,510	0
		STAGE 2					
			USH 41 NB - NB				
			838+61	-	888+40	550	-
			912+81	-	930+53	1,120	-
			932+01	-	954+00	2,170	-
			USH 41 SB - SB				
			799+00	-	820+86	-	1,780
			822+42	-	836+03	1,300	1,160
			838+61	-	888+40	4,900	4,070
			890+11	-	893+58	250	250
			895+50	-	930+94	3,550	1,180
			932+35	-	954+00	4,250	-
			IEN RAMP - IEN				
			869+00	-	912+81	650	-
			IES RAMP - IES				
			879+21	-	888+70	-	1,770
			IWS RAMP - IWS				
			901+44	-	924+65	-	1,030
			ISW RAMP - ISW				
			904+65	-	907+63	-	180
			ISE RAMP - ISE				
			905+50	-	924+00	-	1,180
		STAGE 2 TOTAL				18,740	12,600
	PROJECT 1133-09-71 TOTALS					61,500	29,600
	CONTRACT S4-14-02 TOTAL					**80,150**	**34,500**

ASPHALTIC FLUMES

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	465.0315 (F) (SY)
1000						
	1133-09-71					
		STAGE 1B				
			PILGRIM WAY - PIL			
			906+30		LT	10
			906+47		RT	10
			908+51		RT	20
			912+50		RT	20
		STAGE 1B TOTAL				60
		STAGE 2				
			NORTH ROAD - NOR			
			905+70		RT	5
			919+50		RT	5
			925+50		RT	5
			929+25		RT	5
		STAGE 2 TOTAL				20
	PROJECT 1133-09-71 TOTAL					80
	1133-09-76					
		STAGE 1A				
			OWC RAMP - OWC			
			838+54		RT	30
			839+70		LT	30
		STAGE 1A TOTAL				60
		STAGE 2				
			OWA RAMP - OWA			
			837+22		LT	10
			837+96		LT	10
			OWB RAMP - OWB			
			834+18		LT	10
			834+24		LT	10
		STAGE 2 TOTAL				40
	PROJECT 1133-09-76 TOTAL					100
	CONTRACT S4-14-02 TOTAL					**180**

(F) REFER TO "TEMPORARY DRAINAGE" TABLE FOR ADDITIONAL QUANTITIES

TEMPORARY ASPHALT ITEMS

CATEGORY	PROJECT	STAGE	PHASE	STATION	TO	STATION	LOCATION	465.0310 ASPHALTIC CURB (LF)	460.1110 HMA PAVEMENT TYPE E-10 (TON)	455.0105 (D) ASPHALTIC MATERIAL PG58-28 (TON)	455.0605 (E) TACK COAT (GAL)	305.0120 (B) BASE AGGREGATE DENSE 1 1/4-INCH (TON)	305.0110 (C) BREAKER RUN (TON)
1000	1133-03-77												
		STAGE 1B		954+00	-	1035+50	USH 41	-	730	45	70	1,350	2,350
		STAGE 2A		954+00	-	1093+50	USH 41	-	720	45	135	1,300	2,500
		STAGE 2B		954+00	-	1093+50	USH 41	-	455	30	125	1,100	2,050
							PROJECT (UNDISTRIBUTED)	0	195	25	60	400	700
	PROJECT 1133-03-77 TOTALS							0	2,100	145	390	4,150	7,600
	1133-09-71												
		STAGE 1A	ML-1	799+00	-	954+00	USH 41	-	6,740	405	585	7,770	13,650
			ML-2					-	2,070	125	180	2,390	4,190
			NE-01					-	735	45	65	850	1,490
			NE-02					-	-	-	-	-	-
			ML-03					-	-	-	-	-	-
			NE-03					-	-	-	-	-	-
			NE-04					-	-	-	-	-	-
		STAGE 1B	ML-1	799+00	-	954+00	USH 41	-	425	30	40	490	855
		STAGE 2	ML-1	799+00	-	954+00	USH 41	-	190	15	20	215	380
			ML-2					-	-	-	-	-	-
			ML-3					-	-	-	-	-	-
			ML-4					-	-	-	-	-	-
			ML-5					-	-	-	-	-	-
			-	-	-	-	CORMIER RD (PARTIAL CLOSURE)	-	-	-	-	-	-
			-	-	-	-	CORMIER RD (FULL CLOSURE)	-	5	1	1	5	10
			-	-	-	-	PILGRIM WAY & RIDGE RD	-	-	-	-	-	-
		DETOURS	-	-	-	-	USH 41 NB	-	-	-	-	-	-
			-	-	-	-	USH 41 SB	-	-	-	-	-	-
			-	-	-	-	STH 172 EB	-	-	-	-	-	-
			-	-	-	-	STH 172 WB	-	-	-	-	-	-
			-	-	-	-	RAMP ES	-	-	-	-	-	-
			-	-	-	-	RAMP EN	-	-	-	-	-	-
			-	-	-	-	RAMP NW	-	-	-	-	-	-
			-	-	-	-	RAMP SE						
							PROJECT (UNDISTRIBUTED)	0	1,035	79	104	1,180	2,125
	PROJECT 1133-09-71 TOTALS							0	11,200	700	995	12,900	22,700
	1133-09-76												
		OW1		681+58	-	711+48	ONEIDA ST	1,200	1,800	110	160	2,080	3,640
		OW2	OW2-1	681+58	-	711+48	ONEIDA ST	-	500	30	45	550	965
			OW2-2					-	-	-	-	-	-
			OW2-3					3,680	2,480	150	215	2,860	5,020
		OW3	OW3-1	681+58	-	711+48	ONEIDA ST	-	-	-	-	-	-
			OW3-2					-	345	25	30	400	700
		OW4	OW4-1	681+58	-	711+48	ONEIDA ST	-	55	5	5	65	110
			OW4-2					-	-	-	-	-	-
		OW5		681+58	-	711+48	ONEIDA ST	-	-	-	-	-	-
							PROJECT (UNDISTRIBUTED)	490	520	35	60	595	1,065
	PROJECT 1133-09-76 TOTALS							5,370	5,700	355	515	6,550	11,500
	CONTRACT S4-14-02 TOTALS							**5,370**	**19,000**	**1,200**	**1,900**	**23,600**	**41,800**

(B) REFER TO "BASE AGGREGATE DENSE" TABLE FOR ADDITIONAL QUANTITIES
(C) REFER TO "BREAKER RUN" TABLE FOR ADDITIONAL QUANTITIES
(D) (E) REFER TO "HMA PAVEMENT ITEMS" TABLE FOR ADDITIONAL QUANTITIES

TEMPORARY DRAINAGE

CATEGORY	PROJECT	STAGE	STRUCT. NO.	FROM STATION		OFFSET	TO STATION OR STRUCT.		OFFSET	SPV.0060.102 TEMPORARY DRAINAGE INLET 2X2-FT (EACH)	SPV.0060.103 TEMPORARY DRAINAGE INLET 2X3-FT (EACH)	SPV.0060.104 TEMPORARY DRAINAGE INLET MEDIAN (EACH)	SPV.0060.105 TEMPORARY DRAINAGE MANHOLE 5-FT DIAMETER (EACH)	465.0315 (F) ASPHALTIC FLUMES (SY)	SPV.0060.106 TEMPORARY INLET COVER (EACH)	611.8120.S TEMPORARY COVER PLATE (EACH)	CASTING ELEV	INLET ELEV	OUTLET ELEV	SLOPE %	520.4012 CULVERT PIPE TEMPORARY 12-INCH (LF)	520.4018 CULVERT PIPE TEMPORARY 18-INCH (LF)	520.4024 CULVERT PIPE TEMPORARY 24-INCH (LF)	520.4042 CULVERT PIPE TEMPORARY 42-INCH (LF)	520.8000 (G) CONCRETE COLLAR FOR PIPES (EACH)	SPV.0090.103 TEMPORARY DRAIN SLOTTED VANE LONGITUDINAL (LF)	TEMPORARY INLET TYPE	COMMENTS
1000																												
	1133-09-71																											
		STAGE 1A																										
			T100	56+00.0	'WNT'	17.5' RT	56+00.0	'WNT'	12.5' LT	-	-	1	-	-	1	-	613.00	610.00	609.85	0.50%	30	30	-	-	-	-	TYPE MS	FIELD VERIFY
			T101	60+00.0	'WNT'	17.5' RT	60+00.0	'WNT'	17.5' LT	1	-	-	-	-	1	-	615.25	612.33	612.16	0.50%	35	36	-	-	-	-	TYPE V	FIELD VERIFY
			T102	801+38.0	'NB'	12.0' RT	801+38.0	'NB'	62.0' RT	-	-	-	-	-	-	-	-	599.44	597.90	3.08%	-	50	-	-	1	-	-	FIELD VERIFY
			T103	812+19.0	'NB'	73.6' RT	812+19.0	'NB'	81.0' RT	-	-	-	-	-	-	-	-	604.90	604.74	-	-	8	-	-	1	-	-	FIELD VERIFY
			T104	836+00.0	'OWC'	14.5' LT	836+00.0	'OWC'	47.0' RT	-	-	1	-	-	1	-	611.08	608.31	608.00	0.50%	62	-	-	-	-	-	TYPE MS	FIELD VERIFY
			T105	844+00.0	'CD'	9.5' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T106	834+20.0	'OWC'	30.4' LT	834+34.0	'OWC'	76.0' RT	-	-	-	-	-	-	-	-	597.84	597.84	0.00%	-	-	-	116	1	-	-	FIELD VERIFY
			T107	847+00.0	'CD'	9.5' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T108	834+17.0	'CD'	60.5' RT	834+20.0	'OWC'	120.5' RT	-	-	-	-	-	-	-	-	598.24	598.24	0.00%	-	-	-	60	1	-	-	FIELD VERIFY
			T109	905+00.0	'IEN'	9.3' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T110	905+90.0	'IEN'	9.3' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T111	909+00.0	'IEN'	9.3' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T112	826+04.0	'CD'	18.0' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T113	832+11.6	'CD'	18.0' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T114	835+66.2	'CD'	18.0' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T124	863+36.0	'CD'	7.0' RT	863+36.0	'CD'	47.0' RT	-	-	-	-	-	-	-	-	606.10	605.58	1.30%	-	40	-	-	1	-	-	FIELD VERIFY
			T151	910+00.0	'IEN'	47.8' RT	910+00.0	'IEN'	96.0' RT	-	-	1	-	-	1	-	617.94	614.48	614.00	1.00%	-	48	-	-	-	-	TYPE MS	FIELD VERIFY
			T152	913+15.0	'IEN'	35.5' RT	913+15.0	'IEN'	96.0' RT	-	-	1	-	-	1	-	619.30	617.60	617.00	1.00%	-	60	-	-	-	-	TYPE MS	FIELD VERIFY
			T153	917+50.0	'IEN'	52.2' RT	917+50.0	'IEN'	115.0' RT	-	-	1	-	-	1	-	623.04	620.63	620.00	1.00%	-	63	-	-	-	-	TYPE MS	FIELD VERIFY
		STAGE 1A TOTAL								1	0	5	0	0	6	8					127	335	0	176	5	0		
		STAGE 1B																										
			T115	829+24.0	'NB'	41.0' LT	-		-	-	-	1	-	-	1	-	629.75	-	623.48	-	-	-	-	-	-	-	TYPE MS	FIELD VERIFY
			T116	836+28.0	'NB'	41.5' LT	-		-	-	-	1	-	-	1	-	624.00	-	616.91	-	-	-	-	-	-	-	TYPE MS	FIELD VERIFY
			T117	850+00.0	'NB'	42.5' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T118	851+75.0	'NB'	34.5' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T119	851+75.0	'NB'	42.5' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T120	852+33.0	'NB'	52.0' LT	-		-	-	-	1	-	-	1	-	608.50	-	605.97	-	-	-	-	-	-	-	TYPE MS	FIELD VERIFY
			T121	854+50.0	'NB'	34.5' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T122	854+50.0	'NB'	42.5' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T123	862+00.0	'NB'	26.0' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T123A	858+50.0	'NB'	12.0' LT	861+75.0	'NB'	12.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	325	-	-
			T125	862+00.0	'NB'	34.5' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T126	898+50.0	'NB'	34.5' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T127	901+00.0	'NB'	41.5' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T128	911+50.0	'NB'	34.5' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T129	911+50.0	'NB'	41.5' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T130	914+00.0	'NB'	34.5' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T131	914+00.0	'NB'	41.5' LT	-		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T132	914+00.0	'NB'	48.0' LT	172C		41.5' LT	1	-	-	-	-	1	-	624.30	619.07	619.00	1.00%	7	-	-	-	-	-	TYPE V	FIELD VERIFY
			T133	917+50.0	'NB'	62.5' LT	171C		41.5' LT	1	-	-	-	-	1	-	628.00	625.50	625.40	0.50%	21	-	-	-	-	-	TYPE V	FIELD VERIFY
			T134	921+00.0	'NB'	68.0' LT	170C		41.5' LT	1	-	-	-	-	1	-	632.25	630.43	630.30	0.50%	27	-	-	-	-	-	TYPE V	FIELD VERIFY
			T135	924+50.0	'NB'	67.0' LT	169C		41.5' LT	1	-	-	-	-	1	-	640.00	638.40	638.27	0.50%	26	-	-	-	-	-	TYPE V	FIELD VERIFY
			T136	928+00.0	'NB'	74.0' LT	168C		41.5' LT	1	-	-	-	-	1	-	648.00	644.54	644.38	0.50%	33	-	-	-	-	-	TYPE V	FIELD VERIFY
			T137	932+50.0	'NB'	4.0' RT	187A		26.0' LT	1	-	-	-	-	1	-	653.00	648.63	648.48	0.50%	30	-	-	-	-	-	TYPE V	FIELD VERIFY
			T138	932+66.0	'NB'	64.0' LT	-		-	1	-	-	-	-	1	-	653.00	-	647.36	-	-	-	-	-	-	-	TYPE V	FIELD VERIFY
			T139	940+00.0	'NB'	68.0' LT	197A		34.5' LT	1	-	-	-	-	1	-	648.50	646.75	646.58	0.50%	34	-	-	-	-	-	TYPE V	FIELD VERIFY
			T140	940+00.0	'NB'	6.0' RT	197C		18.0' LT	1	-	-	-	-	1	-	648.50	646.62	646.50	0.50%	24	-	-	-	-	-	TYPE V	FIELD VERIFY
			T141	943+50.0	'NB'	66.0' LT	195A		34.5' LT	1	-	-	-	-	1	-	646.00	642.24	642.08	0.50%	32	-	-	-	-	-	TYPE V	FIELD VERIFY
			T142	943+50.0	'NB'	4.0' RT	195C		18.0' LT	1	-	-	-	-	1	-	646.00	642.11	642.00	0.50%	22	-	-	-	-	-	TYPE V	FIELD VERIFY
			T143	946+50.0	'NB'	64.0' LT	194A		34.5' LT	1	-	-	-	-	1	-	644.00	639.33	639.18	0.50%	30	-	-	-	-	-	TYPE V	FIELD VERIFY
			T144	946+50.0	'NB'	2.0' RT	194C		19.0' LT	1	-	-	-	-	1	-	644.00	639.21	639.10	0.50%	21	-	-	-	-	-	TYPE V	FIELD VERIFY
			T145	948+90.0	'NB'	1.0' RT	193C		19.0' LT	1	-	-	-	-	1	-	643.00	638.16	638.06	0.50%	20	-	-	-	-	-	TYPE V	FIELD VERIFY
			T146	949+40.0	'NB'	62.0' LT	192A		34.5' LT	1	-	-	-	-	1	-	643.00	638.48	638.34	0.50%	28	-	-	-	-	-	TYPE V	FIELD VERIFY
			T147	951+50.0	'NB'	62.0' LT	191A		34.5' LT	1	-	-	-	-	1	-	644.75	639.32	639.18	0.50%	28	-	-	-	-	-	TYPE V	FIELD VERIFY
			T148	951+50.0	'NB'	1.0' RT	191C		19.0' LT	1	-	-	-	-	1	-	644.75	639.20	639.10	0.50%	20	-	-	-	-	-	TYPE V	FIELD VERIFY
		STAGE 1B TOTAL								17	0	3	0	0	20	13					403	0	0	0	0	325		
		STAGE 2																										
	2		T149	910+75.0	'ISE'	10.0' LT	910+75.0	'ISE'	19.0' RT	1	-	-	-	-	1	-	619.00	617.15	617.00	0.50%	29	-	-	-	-	-	TYPE V	FIELD VERIFY
	2		T150	917+00.0	'ISE'	10.0' LT	224		37.3' LT	1	-	-	-	-	1	-	625.25	620.64	620.50	0.50%	27	-	-	-	-	-	TYPE V	FIELD VERIFY
		STAGE 2 TOTAL								2	0	0	0	0	2	0					56	0	0	0	0	0		
		PROJECT 1133-09-71 TOTAL								20	0	8	0	0	28	21					586	335	0	176	5	325		

3

TEMPORARY DRAINAGE (CONTINUED)

CATEGORY	PROJECT	STAGE	STRUCT. NO.	FROM STATION	OFFSET	TO STATION OR STRUCT.	OFFSET	SPV.0060.102 TEMPORARY DRAINAGE INLET 2X2-FT (EACH)	SPV.0060.103 TEMPORARY DRAINAGE INLET 2X3-FT (EACH)	SPV.0060.104 TEMPORARY DRAINAGE INLET MEDIAN (EACH)	SPV.0060.105 TEMPORARY DRAINAGE MANHOLE 5-FT DIAMETER (EACH)	465.0315 (F) ASPHALTIC FLUMES (SY)	SPV.0060.106 TEMPORARY INLET COVER (EACH)	611.8120.S TEMPORARY COVER PLATE (EACH)	CASTING ELEV	INLET ELEV	OUTLET ELEV	SLOPE %	520.4012 CULVERT PIPE TEMPORARY 12-INCH (LF)	520.4018 CULVERT PIPE TEMPORARY 18-INCH (LF)	520.4024 CULVERT PIPE TEMPORARY 24-INCH (LF)	520.4042 CULVERT PIPE TEMPORARY 42-INCH (LF)	520.8000 (G) CONCRETE COLLAR FOR PIPES (EACH)	SPV.0090.103 TEMPORARY DRAIN SLOTTED VANE LONGITUDINAL (LF)	TEMPORARY INLET TYPE	COMMENTS
1000																										
	1133-09-76																									
		STAGE 1A																								
			E63	700+08.0	'OWE' 9.0' LT	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T62	700+09.0	'OWE' 101.2' LT	641	85.5' LT	-	1	-	-	-	1	-	603.89	600.88	600.77	0.50%	22	-	-	-	-	-	TYPE H-S	FIELD VERIFY
			T63	700+09.0	'OWE' 18.8' RT	E63	9.0' LT	-	1	-	-	-	1	-	603.98	601.30	601.16	0.50%	28	-	-	-	-	-	TYPE H-S	FIELD VERIFY
			C67	700+22.5	'OWE' 85.5' LT	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			C68	700+47.5	'OWE' 85.5' LT	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T64	702+00.0	'OWE' 23.8' RT	-	-	-	-	-	1	-	-	1	604.78	599.05	599.05	0.00%	-	-	-	-	-	-	-	FIELD VERIFY
			F62	839+75.0	'OWD' 53.0' LT	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			C71	839+86.0	'OWD' 30.9' RT	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			P62	841+33.0	'OWD' 37.0' LT	841+33.0	'OWD' 4.5' LT	-	-	-	-	-	-	-	-	602.87	602.11	2.37%	-	-	32	-	-	-	-	FIELD VERIFY
		STAGE 1A TOTAL						0	2	0	1	5	2	5					50	0	32	0	0	0		
		STAGE 1B																								
			P61	838+38.0	'OWA' 36.0' RT	838+38.0	'OWA' 25.0' RT	-	-	-	-	-	-	-	-	601.80	601.74	0.50%	-	-	12	-	-	-	-	FIELD VERIFY
			P64	838+38.0	'OWA' 45.1' LT	838+38.0	'OWA' 61.3' LT	-	-	-	-	-	-	-	-	599.94	599.86	0.50%	-	-	16	-	-	-	-	FIELD VERIFY
		STAGE 1B TOTAL						0	0	0	0	0	0	0	0				0	0	28	0	0	0		
		STAGE 2																								
			C60	686+05.0	'OWE 11.5' LT	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			T60	686+26.7	'OWE' 51.0' LT	T61	40.3' LT	-	1	-	-	-	1	-	611.37	607.08	606.86	2.00%	11	-	-	-	-	-	TYPE H	FIELD VERIFY
			T61	686+26.7	'OWE' 40.3' LT	-	-	-	-	-	1	-	-	1	611.62	606.86	606.86	0.00%	-	-	-	-	-	-	-	FIELD VERIFY
			C61	686+28.0	'OWE' 24.7' LT	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			F61	689+20.0	'OWE' 50.0' LT	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			C62	689+60.0	'OWE' 1.5' LT	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			C63	691+35.0	'OWE' 9.0' LT	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			C64	692+48.0	'OWE' 57.0' LT	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			C65	696+58.0	'OWE' 36.4' LT	-	-	-	-	-	-	-	1	-	605.98	-	-	-	-	-	-	-	-	-	2'X3' FLAT GRATE	FIELD VERIFY
			C70	703+30.0	'OWE' 26.1' LT	-	-	-	-	-	-	-	1	-	605.71	-	-	-	-	-	-	-	-	-	2'X3' FLAT GRATE	-
			C68	703+42.0	'OWE' 38.0' LT	-	-	-	-	-	-	-	1	-	605.10	-	-	-	-	-	-	-	-	-	2'X3' FLAT GRATE	FIELD VERIFY
			C69	703+42.0	'OWE' 45.0' LT	-	-	-	-	-	-	-	1	-	605.19	-	-	-	-	-	-	-	-	-	2'X3' FLAT GRATE	FIELD VERIFY
			P63	704+60.0	'OWE' 113.3' LT	704+60.0	'OWE' 101.3' LT	-	-	-	-	-	-	-	-	600.59	600.35	2.00%	-	-	12	-	-	-	-	FIELD VERIFY
			E66	707+95.0	'OWE' 15.0' LT	655	9.5' LT	-	-	-	-	-	-	-	604.72	601.38	601.27	0.20%	48	-	-	-	-	-	-	FIELD VERIFY
			T65	708+01.0	'OWE' 70.7' LT	E65	53.4' LT	-	1	-	-	-	-	1	604.42	601.69	601.60	0.50%	17	-	-	-	-	-	TYPE H	FIELD VERIFY
			C72	708+43.0	'OWE' 9.5' LT	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			C73	709+80.0	'OWE' 11.0' LT	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			C74	710+75.0	'OWE' 8.2' LT	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			C66	836+82.0	'OWA' 36.3' LT	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			F63	840+13.0	'OWD' 72.0' RT	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		STAGE 2 TOTAL						0	2	0	1	10	5	11					76	0	12	0	0	0		
	PROJECT 1133-09-76 TOTAL							0	4	0	2	15	7	16					126	0	72	0	0	0		
	CONTRACT S4-14-02 TOTAL							**20**	**4**	**8**	**2**	**15**	**35**	**37**					**712**	**335**	**72**	**176**	**5**	**325**		

(F) REFER TO "ASPHALTIC FLUMES" TABLE FOR ADDITIONAL QUANTITIES
(G) REFER TO "CROSS CULVERT ITEMS" AND "STORM SEWER STRUCTURE SCHEDULE" TABLES FOR ADDITIONAL QUANTITIES

CROSS CULVERT ITEMS

CATEGORY	PROJECT	STAGE	INLET END STATION	INLET END OFFSET	INLET END ELEV	OUTLET END STATION	OUTLET END OFFSET	OUTLET END ELEV	SLOPE %	CULVERT PIPE REINFORCED CONCRETE CLASS III 522.0112 12-INCH (LF)	522.0124 24-INCH (LF)	522.0130 30-INCH (LF)	522.0142 42-INCH (LF)	522.0172 72-INCH (LF)	SPV.0090.100 (H) JACKING REINFORCED CONCRETE PIPE CLASS V 36-INCH (LF)	CULVERT PIPE REINFORCED CONCRETE 523.0119 19x30-INCH (LF)	523.0134 34x53-INCH (LF)	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 522.1012 (I) 12-INCH (EACH)	522.1024 (J) 24-INCH (EACH)	522.1030 (K) 30-INCH (EACH)	522.1036 (L) 36-INCH (EACH)	522.1042 (M) 42-INCH (EACH)	522.1072 72-INCH (EACH)	523.0519 (N) HORIZONTAL ELLIPTICAL 19 x 30-INCH (EACH)	523.0534 (O) HORIZONTAL ELLIPTICAL 34 x 53-INCH (EACH)	520.8000 (G) CONCRETE COLLAR FOR PIPES (EACH)	SPV.0060.109 (P) STORM SEWER PLUG (EACH)	633.5200 MARKERS CULVERT END (EACH)
1000																												
	1133-03-77																											
		STAGE 1B																										
			966+02.0	'SB'	0.0' RT	635.54	966+03.0	'NB'	0.0' RT	635.39	0.25%	-	-	-	61	-	-	-	-	-	-	-	-	-	-	-	2	-	-
		STAGE 1B TOTAL										0	0	0	61	0	0	0	0	0	0	0	0	0	0	0	2	0	0
		STAGE 2A																										
			966+03.0	'SB'	143.2' LT	635.89	966+02.0	'SB'	36.4' LT	635.63	0.25%	-	-	-	105	-	-	-	-	-	-	-	-	1	-	-	-	1	1	1
			966+02.0	'NB'	36.0' RT	635.3	966+02.0	'NB'	136.5' RT	635.01	0.28%	-	-	-	104	-	-	-	-	-	-	-	-	1	-	-	-	1	1	1
		STAGE 2A TOTAL										0	0	0	209	0	0	0	0	0	0	0	0	2	0	0	0	2	2	2
		STAGE 2B																										
			966+02.0	'SB'	36.4' LT	635.63	966+02.0	'SB'	0.0' RT	635.54	0.26%	-	-	-	35	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			966+03.0	'NB'	0.0' RT	635.39	966+02.0	'NB'	36.0' RT	635.3	0.26%	-	-	-	35	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
		STAGE 2B TOTAL										0	0	0	70	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0
	PROJECT 1133-03-77 TOTAL											0	0	0	340	0	0	0	0	0	0	0	0	2	0	0	0	8	2	2
	1133-09-71																											
		STAGE 1A																										
			872+00.0	'IEN'	19.5' LT	599.15	872+00.0	'IEN'	49.1' RT	595.53	5.28%	-	70'	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2
			878+50.0	'IEN'	71.9' RT	594.74	878+50.0	'IEN'	3.0' RT	592.00	3.98%	-	-	70	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	1
			885+72.0	'INE'	65.7' LT	589.88	885+70.0	'INE'	52.0' LT	589.81	0.50%	-	-	14	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	1
			899+00.0	'IWN'	74.0' RT	607.48	899+28.0	'NB'	166.1' LT	603.91	1.49%	-	-	-	-	-	240	-	-	-	-	-	2	-	-	-	-	-	-	2
			902+00.0	'IEN'	102.3' RT	609.93	901+50.0	'IEN'	89.8' RT	908.92	2.02%	-	-	-	-	-	-	50	-	-	-	-	-	-	-	2	-	-	-	2
			906+44.0	'NB'	252.6' LT	606.00	906+16.0	'NB'	236.6' LT	605.84	0.50%	32	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2
			923+61.0	'IWS'	37.7' LT	600.64	924+00.0	'IWS'	43.4' LT	600.83	0.47%	-	40	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	1
		STAGE 1A TOTAL										32	110	84	0	0	240	50	0	2	3	2	2	0	0	2	0	3	0	11
		STAGE 1B																										
			907+91.0	'PIL'	45.0' RT	605.80	907+87.0	'PIL'	34.8' RT	605.68	1.09%	-	-	-	-	11	-	-	-	-	-	-	-	-	-	1	-	-	1	-	1
		STAGE 1B TOTAL										0	0	0	0	11	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1
		STAGE 2																										
			906+71.0	'NB'	126.3' LT	604.26	906+66.0	'NB'	138.3' LT	604.10	1.23%	-	-	-	-	13	-	-	-	-	-	-	-	-	-	1	-	-	1	-	1
		STAGE 2 TOTAL										0	0	0	0	13	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1
	PROJECT 1133-09-71 TOTAL											32	110	84	0	24	240	50	0	2	3	2	2	0	2	2	0	5	0	13
	1133-09-76																											
		STAGE 1A																										
			834+00.0	OWC	55.2' LT	597.97	834+00.0	OWC	76.4' RT	597.97	0.00%	132	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	2
			834+10.0	OWC	45.6' LT	600.41	834+10.0	OWC	72.6' RT	597.97	2.06%	-	-	-	-	-	-	-	118	-	-	-	-	-	-	-	2	-	-	2
		STAGE 1A TOTAL										132	0	0	0	0	0	0	118	2	0	0	0	0	0	0	2	0	0	4
	PROJECT 1133-09-76 TOTAL											132	0	0	0	0	0	0	118	2	0	0	0	0	0	0	2	0	0	4
	CONTRACT S4-14-02 TOTAL											**164**	**110**	**84**	**340**	**24**	**240**	**50**	**118**	**4**	**3**	**2**	**2**	**2**	**2**	**2**	**2**	**13**	**2**	**19**

(G) REFER TO "TEMPORARY DRAINAGE" AND "STORM SEWER STRUCTURE" TABLES FOR ADDITIONAL QUANTITIES
(H) REFER TO "STORM SEWER PIPES" TABLE FOR ADDITIONAL QUANTITIES
(I) (J) (K) (L) (M) (N) (O) (P) REFER TO "STORM SEWER STRUCTURE" TABLE FOR ADDITIONAL QUANTITIES

CONCRETE CURB & GUTTER

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	O/S	601.0105 CONCRETE CURB TYPE A (LF)	601.0110 CONCRETE CURB TYPE D (LF)	601.0405 18-INCH TYPE A (LF)	601.0407 18-INCH TYPE D (LF)	601.0409 30-INCH TYPE A (LF)	601.0411 30-INCH TYPE D (LF)	601.0413 6-INCH SLOPED 30-INCH TYPE G (LF)	601.0452 INTEGRAL 30-INCH TYPE D (LF)	601.0574 4-INCH SLOPED 30-INCH TYPE G (LF)	601.0576 4-INCH SLOPED 30-INCH TYPE J (LF)	601.0600 PEDESTRIAN (LF)	620.0300 CONCRETE MEDIAN SLOPED NOSE (SF)	SPV.0090.009 24-INCH TYPE D (LF)
1000																			
	1133-03-77																		
		STAGE 2																	
			VKB RAMP - VKB																
			983+32	-	984+60	LT	-	-	-	-	130	-	-	-	-	-	-	-	-
			VKC RAMP - VKC																
			985+70	-	988+32	LT	-	-	-	-	265	-	-	-	-	-	-	-	-
			MORRIS AVENUE - MOR																
			597+71	-	601+51	LT	-	-	-	-	-	380	-	-	-	-	-	-	-
			597+71	-	601+51	RT	-	-	-	-	-	380	-	-	-	-	-	-	-
			LOMBARDI AVENUE WB - VKW																
			101+51	-	104+15	LT	-	-	-	-	255	-	-	-	-	-	-	-	-
			104+93	-	105+28	LT	-	-	-	-	35	-	-	-	-	-	-	-	-
			LOMBARDI AVENUE EB - VKE																
			101+64	-	104+28	RT	-	-	-	-	265	-	-	-	-	-	-	-	-
		STAGE 2 TOTAL					0	0	0	0	950	760	0	0	0	0	0	0	0
	PROJECT 1133-03-77 TOTAL						0	0	0	0	950	760	0	0	0	0	0	0	0
	1133-09-71																		
		STAGE 1A																	
			IWS RAMP - IWS																
			924+65	-	927+15	RT	-	-	-	-	-	-	-	-	250	-	-	-	-
		STAGE 1A TOTAL					0	0	0	0	0	0	0	0	250	0	0	0	0
		STAGE 1B																	
			PILGRIM WAY - PIL																
			904+46	-	929+63	LT	-	-	-	-	-	2,520	-	-	-	-	-	-	-
			904+46	-	905+77	RT	-	-	-	-	-	145	-	-	-	-	-	-	-
			906+27	-	916+56	RT	-	-	-	-	-	1,050	-	-	-	-	-	-	-
		STAGE 1B TOTAL					0	0	0	0	0	3,715	0	0	0	0	0	0	0
		STAGE 2																	
			OWB RAMP - OWB																
			825+27	-	828+97	RT	-	-	-	-	-	-	-	-	370	-	-	-	-
			IWS RAMP - IWS																
			916+69	-	924+65	RT	-	-	-	-	-	-	-	-	800	-	-	-	-
			ISE RAMP - ISE																
			904+92 'ISW	-	918+98	LT	-	-	-	-	-	-	-	-	1,375	-	-	-	-
			STH 172 WB - W																
			30+64	-	41+08	LT	-	-	-	-	-	-	-	-	1,050	-	-	-	-
			NORTH ROAD - NOR																
			905+67	-	932+05	RT	-	-	-	-	-	2,640	-	-	-	-	-	-	-
			PARKVIEW ROAD - PRK																
			198+50	-	201+10	LT/RT	-	-	-	-	-	520	-	-	-	-	-	-	-
			CORMIER ROAD - COR																
			498+25	-	501+00	LT/RT	-	-	-	-	-	-	-	550	-	-	-	-	-
		STAGE 2 TOTAL					0	0	0	0	0	3,160	0	550	3,595	0	0	0	0
	PROJECT 1133-09-71 TOTAL						0	0	0	0	0	6,875	0	550	3,845	0	0	0	0
	1133-09-74																		
		STAGE 1B																	
			HANSEN ROAD - HAN																
			396+12	-	397+65	LT	-	-	-	-	15	140	-	-	-	-	-	-	-
			396+37	-	397+92	RT	-	-	-	-	40	115	-	-	-	-	-	-	-
			401+39	-	402+82	LT	-	-	-	-	40	105	-	-	-	-	-	-	-
			401+65	-	403+19	RT	-	-	-	-	15	140	-	-	-	-	-	-	-
		STAGE 1B TOTAL					0	0	0	0	110	500	0	0	0	0	0	0	0
	PROJECT 1133-09-74 TOTAL						0	0	0	0	110	500	0	0	0	0	0	0	0

CONCRETE CURB & GUTTER (CONTINUED)

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	O/S	601.0105 CONCRETE CURB TYPE A (LF)	601.0110 CONCRETE CURB TYPE D (LF)	601.0405 18-INCH TYPE A (LF)	601.0407 18-INCH TYPE D (LF)	601.0409 30-INCH TYPE A (LF)	601.0411 30-INCH TYPE D (LF)	601.0413 6-INCH SLOPED 30-INCH TYPE G (LF)	601.0452 INTEGRAL 30-INCH TYPE D (LF)	601.0574 4-INCH SLOPED 30-INCH TYPE G (LF)	601.0576 4-INCH SLOPED 30-INCH TYPE J (LF)	601.0600 PEDESTRIAN (LF)	620.0300 CONCRETE MEDIAN SLOPED NOSE (SF)	SPV.0090.009 24-INCH TYPE D (LF)
1000	1133-09-76																		
		STAGE 2																	
			ONEIDA STREET/WAUBE LANE WB - OWW																
			681+58	-	686+03	LT	-	-	-	-	-	-	-	440	-	-	-	-	-
			683+19	-	686+26	RT	-	-	-	-	310	-	-	-	-	-	-	45	-
			687+23	-	688+74	LT	-	155	-	-	-	-	-	-	-	-	-	-	-
			687+40	-	689+67	RT	-	-	-	-	235	-	-	-	-	-	-	-	-
			687+57	-	694+78	LT	-	-	-	-	-	-	-	710	-	-	-	-	-
			690+16	-	693+66	RT	-	-	-	-	360	-	-	-	-	-	-	-	-
			693+66	-	694+08	RT	-	-	-	-	-	-	45	-	-	-	-	-	-
			694+08	-	696+19	RT	-	-	-	-	220	-	-	-	-	-	-	-	-
			696+89	-	702+37	LT	-	-	-	-	-	-	-	550	-	-	-	-	-
			697+06	-	701+98	RT	-	-	-	-	495	-	-	-	-	-	-	45	-
			702+87	-	707+52	RT	-	-	-	-	470	-	-	-	-	-	15	40	-
			704+67	-	707+00	LT	-	-	-	-	225	-	-	-	-	-	-	-	-
			705+63	-	707+11	LT	-	-	-	140	-	-	-	-	-	-	-	-	-
			707+00	-	707+59	LT	-	-	-	-	-	-	-	60	-	-	-	-	-
			707+72	-	708+64	RT	-	-	95	-	-	-	-	-	-	-	-	25	-
			708+68	-	711+00	RT	-	-	235	-	-	-	-	-	-	-	-	-	-
			708+89	-	711+00	LT	-	-	-	-	-	-	-	210	-	-	-	-	-
			709+01	-	709+09	LT	10	-	-	-	-	-	-	-	-	-	-	-	-
			ONEIDA STREET/WAUBE LANE EB - OWE																
			681+72	-	686+34	RT	-	-	-	-	-	-	-	470	-	-	-	-	-
			683+32	-	686+44	LT	-	-	-	-	310	-	-	-	-	-	-	-	-
			687+60	-	689+91	LT	-	-	-	-	230	-	-	-	-	-	-	85	-
			687+69	-	691+93	RT	-	-	-	-	-	-	-	435	-	-	-	-	-
			690+44	-	694+04	LT	-	-	-	-	360	-	-	-	-	-	-	45	-
			691+93	-	695+27	RT	-	-	-	-	345	-	-	-	-	-	-	-	-
			694+04	-	694+46	LT	-	-	-	-	-	-	45	-	-	-	-	-	-
			694+46	-	696+55	LT	-	-	-	-	210	-	-	-	-	-	-	45	-
			696+94	-	702+63	RT	-	-	-	-	-	-	-	575	-	-	-	-	-
			697+45	-	702+37	LT	-	-	-	-	495	-	-	-	-	-	-	45	-
			703+25	-	707+97	LT	-	-	-	-	475	-	-	-	-	-	-	45	-
			705+86	-	706+87	RT	-	-	-	-	105	-	-	-	-	-	-	-	-
			706+87	-	707+95	RT	-	-	-	-	-	-	-	115	-	-	-	-	-
			708+17	-	709+11	LT	-	-	95	-	-	-	-	-	-	-	-	25	-
			709+15	-	711+48	LT	-	-	235	-	-	-	-	-	-	-	15	25	-
			709+11	-	711+48	RT	-	-	-	-	-	-	-	240	-	-	-	-	-
			DRIVEWAYS			RT	-	5	10	100	-	-	-	-	15	120	-	-	-
			ALLIED STREET - ALL																
			797+60	-	799+25	LT	-	-	-	-	-	-	-	-	-	-	-	-	160
			797+60	-	799+25	RT	-	-	-	-	-	-	-	-	-	-	-	-	175
			850+88	-	851+66	LT	-	-	-	-	-	-	-	-	-	-	-	-	85
			850+88	-	851+66	RT	-	-	-	-	-	-	-	-	-	-	-	-	75
			SW RADIUS			LT	-	-	-	-	-	-	-	75	-	-	-	-	-
			SE RADIUS			RT	-	-	-	-	-	-	-	75	-	-	-	-	-
			NW RADIUS			LT	-	-	-	-	-	-	-	95	-	-	-	-	-
			NE RADIUS			RT	-	-	-	-	-	-	-	90	-	-	-	-	-
			DRIVEWAY			RT	-	-	-	10	-	-	-	-	-	-	-	-	-
			RAMADA WAY - RA																
			SW RADIUS			LT	-	-	-	-	-	-	-	85	-	-	-	-	-
			SE RADIUS			RT	-	-	-	-	-	-	-	100	-	-	-	-	-
			NW RADIUS			LT	-	-	-	-	-	-	-	75	-	-	-	-	-
			NE RADIUS			RT	-	-	-	-	-	-	-	75	-	-	-	-	-
			950+85	-	951+06	RT	-	-	-	-	-	-	-	-	-	-	-	-	25
			OWA RAMP - OWA																
			NW RADIUS	-	838+34	LT	-	-	-	-	285	-	-	-	-	-	-	-	-
			SW RADIUS	-	838+38	RT	-	-	-	-	155	-	-	-	-	-	-	-	-
			838+34	-	841+44	LT	-	-	-	-	-	-	-	-	330	-	-	-	-
			838+38	-	842+19	RT	-	-	-	-	-	-	-	-	380	-	-	-	-
			ISLAND				-	-	-	-	195	-	-	-	-	-	50	90	-
			OWB RAMP - OWB																
			828+97	-	833+84	RT	-	-	-	-	-	-	-	-	490	-	-	-	-
			833+84	-	834+90	RT	-	-	-	-	110	-	-	-	-	-	-	-	-
			SW RADIUS			LT	-	-	-	-	140	-	-	-	-	-	-	-	-
			SE RADIUS			RT	-	-	-	-	-	-	-	25	-	-	-	-	-
			ISLAND				-	-	-	-	75	-	-	-	-	-	-	120	-
			OWC RAMP - OWC																
			SE RADIUS			RT	-	-	-	-	380	-	-	-	-	-	-	-	-
			SW RADIUS			LT	-	-	-	-	35	-	-	-	-	-	-	-	-
			ISLAND				-	-	-	-	335	-	-	180	-	-	-	85	-
			OWD RAMP - OWD																
			NW RADIUS			LT	-	-	-	-	80	-	-	-	-	-	-	-	-
			NE RADIUS			RT	-	-	-	-	210	-	-	-	-	-	-	-	-
			ISLAND				-	-	-	-	170	-	-	-	-	-	60	75	
		STAGE 2 TOTAL					10	160	670	250	7,015	0	90	4,680	1,215	120	140	840	520
	PROJECT 1133-09-76 TOTAL						10	160	670	250	7,015	0	90	4,680	1,215	120	140	840	520
CONTRACT S4-14-02 TOTAL							**10**	**160**	**670**	**250**	**7,965**	**7,745**	**590**	**5,230**	**5,060**	**120**	**140**	**840**	**520**

CONCRETE SIDEWALK

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	LOCATION	602.0410 5-INCH (SF)	602.0505 DETECTABLE WARNING FIELD YELLOW (SF)	SPV.0180.011 COLORED AND STAMPED CONCRETE 5-INCH (SY)
1000									
	1133-03-77								
		STAGE 2							
			MORRIS AVENUE - MOR						
			597+71	-	601+51	LT	1,900	-	465
			597+71	-	601+51	RT	1,900	-	445
			LOMBARDI AVENUE WB - VKW						
			101+60	-	104+20	LT	1,350	-	355
			LOMBARDI AVENUE EB - VKE						
			101+60	-	104+20	RT	1,350	-	355
		STAGE 2 TOTAL					6,500	0	1,620
	PROJECT 1133-03-77 TOTAL						6,500	0	1,620
	1133-09-71								
		STAGE 2							
			PARKVIEW ROAD - PRK						
			198+50	-	201+10	LT	2,600	-	-
			198+50	-	201+10	RT	1,800	-	-
			CORMIER ROAD - COR						
			498+25	-	501+00	LT	1,400	-	300
			498+56	-	501+31	RT	1,400	-	300
		STAGE 2 TOTAL					7,200	0	600
	PROJECT 1133-09-71 TOTAL						7,200	0	600
	1133-09-74								
		STAGE 1A							
			HANSEN ROAD - HAN						
			396+12	-	397+61	LT	720	-	-
			401+37	-	402+71	LT	680	-	-
		STAGE 1A TOTAL					1,400	0	0
	PROJECT 1133-09-74 TOTAL						1,400	0	0
	1133-09-76								
		STAGE 2							
			ONEIDA STREET/WAUBE LANE WB - OWW						
			681+58	-	711+00	LT/RT	18,950	136	2,020
			ONEIDA STREET/WAUBE LANE EB - OWE						
			681+72	-	711+48	LT/RT	4,030	56	2,090
		STAGE 2 TOTAL					22,980	192	4,110
	PROJECT 1133-09-76 TOTAL						22,980	192	4,110
	CONTRACT S4-14-02 TOTAL						**38,080**	**192**	**6,330**

CONCRETE BARRIER

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	603.1132 TYPE S32 (LF)	603.1142 TYPE S42 (LF)	603.3113 TRANSITION TYPE NJ32SF TO S36 (EACH)	603.3513 TRANSITION TYPE S32 TO S36 (EACH)	603.3535 TRANSITION TYPE S36 TO S42 (EACH)	SPV.0060.003 TRANSITION TYPE V56 TO S56 36-INCH WIDE BASE (EACH)	SPV.0090.001 TYPE S56 36-INCH WIDE BASE (LF)	SPV.0090.002 TYPE S56A 36-INCH WIDE BASE (LF)
1000													
	1133-03-77												
		STAGE 1B											
			USH 41 NB - NB										
			954+00	-	960+27	-	-	-	-	-	2	600	-
		STAGE 1B TOTAL				0	0	0	0	0	2	600	0
		STAGE 2											
			USH 41 NB - NB										
			954+00	-	960+27	-	550	1	-	1	-	-	-
			961+70	-	982+33	-	275	1	-	1	-	-	-
			983+85	-	1021+90	-	1,295	1	-	1	-	-	-
			USH 41 SB - SB										
			954+00	-	960+61	-	655	1	-	1	-	-	-
			962+04		982+43	-	315	1	-	1	-	-	-
			983+95	-	1021+83	-	505	1	1	2	-	-	-
			VKB RAMP - VKB										
			984+14	-	1002+50	1,340	220	-	1	1	-	-	-
			VKC RAMP - VKC										
			985+70	-	1000+15	1,170	-	-	-	-	-	-	-
			VKD RAMP - VKD										
			966+00	-	975+75	-	975	-	-	-	-	-	-
		STAGE 2 TOTAL				2,510	4,790	6	2	8	0	0	0
	PROJECT 1133-03-77 TOTAL					2,510	4,790	6	2	8	2	600	0
	1133-09-71												
		STAGE 1A											
			USH 41 NB - NB										
			822+44	-	836+90	-	-	-	-	-	2	1,255	145
			839+21	-	869+05	-	-	-	-	-	6	1,745	555
			884+83	-	887+71	-	-	-	-	-	-	290	-
			889+80	-	892+60	-	-	-	-	-	-	-	280
			894+90	-	910+59	-	-	-	-	-	-	660	-
			CD ROADWAY - CD										
			814+86	-	820+38	-	575	1	-	1	-	-	-
			822+44	-	824+29	-	160	1	-	1	-	-	-
			OWC RAMP - OWC										
			824+29	-	829+96	-	570	-	-	-	-	-	-
			IEN RAMP - IEN										
			903+31	-	912+81	-	950	-	-	-	-	-	-
		STAGE 1A TOTAL				0	2,255	2	0	2	8	3,950	980

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	603.1132 TYPE S32 (LF)	603.1142 TYPE S42 (LF)	603.3113 TRANSITION TYPE NJ32SF TO S36 (EACH)	603.3513 TRANSITION TYPE S32 TO S36 (EACH)	603.3535 TRANSITION TYPE S36 TO S42 (EACH)	SPV.0060.003 TRANSITION TYPE V56 TO S56 36-INCH WIDE BASE (EACH)	SPV.0090.001 TYPE S56 36-INCH WIDE BASE (LF)	SPV.0090.002 TYPE S56A 36-INCH WIDE BASE (LF)
1000													
	1133-09-71												
		STAGE 1B											
			USH 41 NB - NB										
			839+21	-	868+05	-	-	-	-	-	0	300	160
			868+73	-	888+05	-	-	-	-	-	3	500	620
			889+81	-	893+10	-	-	-	-	-	-	-	300
			895+02	-	930+60	-	-	-	-	-	2	1,675	440
			932+01	-	954+00	-	-	-	-	-	2	1,045	1,090
		STAGE 1B TOTAL				0	0	0	0	0	7	3,520	2,610
		STAGE 2											
			USH 41 NB - NB										
			895+44	-	930+77	-	1,150	1	-	1	-	1,505	780
			932+18	-	954+00	-	2,190	1	-	1	-	-	-
			USH 41 SB - SB										
			838+61	-	888+40	-	-	-	-	-	-	480	265
			914+00	-	931+04	-	1,180	1	-	1	-	-	-
			932+94	-	954+00	-	2,080	1	-	1	-	-	-
			IEN RAMP - IEN										
			912+81	-	918+30	-	550	-	-	-	-	-	-
		STAGE 2 TOTAL				0	7,150	4	0	4	0	1,985	1,045
	PROJECT 1133-09-71 TOTAL					0	9,405	6	0	6	15	9,455	4,635
	1133-09-76												
		STAGE 1A											
			OWC RAMP - OWC										
			829+96	-	833+91	-	425	-	-	-	-	-	-
		STAGE 1A TOTAL				0	425	0	0	0	0	0	0
	PROJECT 1133-09-76 TOTAL					0	425	0	0	0	0	0	0
CATEGORY 1000 SUBTOTAL						2,510	14,620	12	2	14	17	10,055	4,635

3

CONCRETE BARRIER

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	603.1132 TYPE S32 (LF)	603.1142 TYPE S42 (LF)	603.3113 TRANSITION TYPE NJ32SF TO S36 (EACH)	603.3513 TRANSITION TYPE S32 TO S36 (EACH)	603.3535 TRANSITION TYPE S36 TO S42 (EACH)	SPV.0060.003 TRANSITION TYPE V56 TO S56 36-INCH WIDE BASE (EACH)	SPV.0090.001 TYPE S56 36-INCH WIDE BASE (LF)	SPV.0090.002 TYPE S56A 36-INCH WIDE BASE (LF)
1010													
	1133-03-77												
		STAGE 1B											
			USH 41 NB - NB										
			961+70	-	982+33	-	-	-	-	-	2	2,010	-
			983+85	-	1021+90	-	-	-	-	-	8	2,270	1,350
		STAGE TOTAL				0	0	0	0	0	10	4,280	1,350
	PROJECT 1133-03-77 TOTAL					0	0	0	0	0	10	4,280	1,350
	1133-09-71												
		STAGE 1B											
			USH 41 NB - NB										
			799+00	-	820+84	-	-	-	-	-	5	1,020	135
			822+44	-	836+43	-	-	-	-	-	-	1,400	-
			839+03	-	868+05	-	-	-	-	-	3	1,100	510
		STAGE 1B TOTAL				0	0	0	0	0	8	3,520	645
		STAGE 2											
			USH 41 NB - NB										
			799+00	-	820+84	-	-	-	-	-	1	835	-
			838+80	-	868+05	-	-	-	-	-	2	805	375
		STAGE 2 TOTAL				0	0	0	0	0	3	1,640	375
	PROJECT 1133-09-71 TOTAL					0	0	0	0	0	11	5,160	1,020
CATEGORY 1010 SUBTOTAL						0	0	0	0	0	21	9,440	2,370
CONTRACT S4-14-02 TOTAL						**2,510**	**14,620**	**12**	**2**	**14**	**38**	**19,495**	**7,005**

EROSION CONTROL ITEMS

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	606.0200 RIPRAP MEDIUM (CY)	606.0300 RIPRAP HEAVY (CY)	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)	628.2004 EROSION MAT CLASS I TYPE B (SY)	628.2008 EROSION MAT URBAN CLASS I TYPE B (SY)	628.7005 INLET PROTECTION TYPE A (EACH)	628.7010 INLET PROTECTION TYPE B (EACH)	628.7015 INLET PROTECTION TYPE C (EACH)	628.7020 INLET PROTECTION TYPE D (EACH)	628.7504 TEMPORARY DITCH CHECKS (LF)	628.7555 CULVERT PIPE CHECKS (EACH)	628.7570 ROCK BAGS (EACH)	645.0120 (Q) GEOTEXTILE FABRIC TYPE HR (SY)	645.0140 GEOTEXTILE FABRIC TYPE SAS (SY)	SPV.0060.110 TEMOPORARY STONE DITCH CHECKS (EACH)	SPV.0060.152 SEDIMENTATION BASIN (EACH)	SPV.0180.501 QUARRIED LIMESTONE SLABS (SY)
1000																							
	1133-03-77																						
		STAGE 1B																					
			USH 41																				
			954+00	-	968+00	-	-	-	-	-	-	13	8	-	-	-	-	-	-	-	-	-	-
			968+00	-	983+00	-	-	-	-	-	-	21	14	-	-	-	-	-	-	-	-	-	-
			983+00	-	997+00	-	-	-	-	-	-	12	8	-	-	-	-	-	-	-	-	-	-
			997+00	-	1012+00	-	-	-	-	-	-	23	14	-	-	-	-	-	-	-	-	-	-
			1012+00	-	1022+00	-	-	-	-	-	-	9	8	-	-	-	-	-	-	-	-	-	-
		STAGE 1B TOTAL				0	0	0	0	0	0	78	52	0	0	0	0	0	0	0	0	0	0
		STAGE 2																					
			USH 41																				
			954+00	-	968+00	100	-	1,050	525	18,000	-	7	7	-	-	-	-	-	200	-	-	-	-
			968+00	-	983+00	50	-	1,300	650	19,300	-	4	4	-	-	65	-	-	90	-	-	-	-
			983+00	-	997+00	-	-	790	395	20,700	-	8	8	-	-	120	1	-	0	-	-	-	-
			997+00	-	1012+00	-	-	690	345	14,200	-	19	18	-	-	115	-	-	10	-	-	-	-
			1012+00	-	1022+00	-	-	75	38	5,300	-	5	5	-	-	180	-	-	0	-	-	-	-
		STAGE 2 TOTAL				150	0	3,905	1,953	77,500	0	43	42	0	0	480	1	0	300	0	0	0	0
		UNDISTRIBUTED				50	0	995	497	19,500	0	34	26	0	0	120	1	0	80	45	2	4	0
	PROJECT 1133-03-77 TOTAL					200	0	4,900	2,450	97,000	0	155	120	0	0	600	2	0	380	45	2	4	0
	1133-09-71																						
		STAGE 1A																					
			USH 41																				
			799+00	-	828+00	25	-	115	60	12,300	-	12	11	-	-	35	1	-	50	21	1	-	-
			828+00	-	856+50	120	-	300	150	17,600	1,140	30	18	-	4	60	-	-	240	-	-	-	-
			856+50	-	886+50	410	-	1,180	590	17,150	-	11	8	-	-	50	-	-	820	-	-	-	-
			886+50	-	915+00	125	-	1,830	920	14,400	-	27	21	-	-	50	2	-	250	-	-	-	-
			915+00	-	954+00	-	-	40	20	610	-	1	0	1	-	-	-	945	-	-	-	-	-
			POND 8			-	915	-	-	-	-	-	-	-	-	-	-	-	1,380	-	-	-	1,020
			INE RAMP - INE																				
			871+00	-	890+30	-	-	165	85	14,800	-	-	-	-	-	-	-	-	-	-	-	-	-
			IEN RAMP - IEN																				
			869+00	-	882+00	20	-	1,420	710	11,400	-	2	2	-	-	-	2	-	-	-	-	-	-
		STAGE 1A TOTAL				700	915	5,050	2,535	88,260	1,140	83	60	1	4	195	5	945	2,740	21	1	0	1,020
		STAGE 1B																					
			USH 41																				
			799+00	-	828+00	15	-	40	20	-	-	22	16	-	-	-	-	-	25	-	-	-	-
			828+00	-	856+50	15	-	40	20	-	-	26	18	-	4	-	-	-	30	-	-	-	-
			856+50	-	886+50	20	-	-	-	-	-	25	18	-	2	-	-	-	40	-	-	-	-
			886+50	-	915+00	45	-	150	75	3,695	-	38	23	5	2	32	-	-	90	-	-	-	-
			915+00	-	954+00	50	-	225	115	30	-	36	37	3	2	8	-	-	100	-	-	-	-
		STAGE 1B TOTAL				145	0	455	230	3,725	0	147	112	8	10	40	0	0	285	0	0	0	0
		STAGE 2																					
			USH 41																				
			799+00	-	828+00	-	-	840	420	15,200	-	1	1	-	-	50	-	-	-	-	-	-	-
			828+00	-	856+50	50	-	40	20	16,500	-	1	1	-	-	105	-	-	100	-	-	-	-
			856+50	-	886+50	-	-	940	470	29,250	-	-	-	-	-	50	-	-	-	42	2	-	-
			886+50	-	915+00	65	-	1,330	665	14,450	-	2	2	-	-	65	-	-	125	42	2	-	-
			915+00	-	954+00	70	-	765	385	48,000	-	25	22	3	2	25	-	-	140	-	-	-	-
			ISE RAMP - ISE																				
			905+50	-	915+00	5	-	150	75	4,790	-	10	-	7	3	-	-	-	10	-	-	-	-
		STAGE 2 TOTAL				190	0	4,065	2,035	128,190	0	39	26	10	5	295	0	0	375	84	4	0	0
		UNDISTRIBUTED				265	235	2,430	1,200	55,225	310	67	50	5	5	170	5	235	850	115	5	12	280
	PROJECT 1133-09-71 TOTAL					1,300	1,150	12,000	6,000	275,400	1,450	336	248	24	24	700	10	1,180	4,250	220	10	12	1,300

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EROSION CONTROL ITEMS (CONTINUED)

CATEGORY	PROJECT	STAGE	STATION TO STATION	606.0200 RIPRAP MEDIUM (CY)	606.0300 RIPRAP HEAVY (CY)	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)	628.2004 EROSION MAT CLASS I TYPE B (SY)	628.2008 EROSION MAT URBAN CLASS I TYPE B (SY)	628.7005 INLET PROTECTION TYPE A (EACH)	628.7010 INLET PROTECTION TYPE B (EACH)	628.7015 INLET PROTECTION TYPE C (EACH)	628.7020 INLET PROTECTION TYPE D (EACH)	628.7504 TEMPORARY DITCH CHECKS (LF)	628.7555 CULVERT PIPE CHECKS (EACH)	628.7570 ROCK BAGS (EACH)	645.0120 (Q) GEOTEXTILE FABRIC TYPE HR (SY)	645.0140 GEOTEXTILE FABRIC TYPE SAS (SY)	SPV.0060.110 TEMOPORARY STONE DITCH CHECKS (EACH)	SPV.0060.152 SEDIMENTATION BASIN (EACH)	SPV.0180.501 QUARRIED LIMESTONE SLABS (SY)
1000																					
	1133-09-74																				
		STAGE 1																			
			HANSEN ROAD	15	-	75	38	-	-	3	1	4	-	-	-	-	30	-	-	-	-
		STAGE 1 TOTAL		15	0	75	38	0	0	3	1	4	0	0	0	0	30	0	0	0	0
		UNDISTRIBUTED		5	0	25	12	0	0	2	1	1	0	0	0	0	10	0	0	0	0
	PROJECT 1133-09-74 TOTAL			20	0	100	50	0	0	5	2	5	0	0	0	0	40	0	0	0	0
	1133-09-76																				
		STAGE 1A																			
			ONEIDA STREET/WAUBE LAI	-	-	-	-	-	-	6	-	5	-	-	-	-	-	-	-	-	-
			USH 41 RAMPS	15	-	190	95	7,150	-	-	-	-	-	-	2	-	30	-	-	-	-
		STAGE 1A TOTAL		15	0	190	95	7,150	0	6	0	5	0	0	2	0	30	0	0	0	0
		STAGE 2																			
			ONEIDA STREET/WAUBE LAI	-	-	-	-	-	1,500	68	28	29	8	-	-	-	-	-	-	-	-
			USH 41 RAMPS	50	-	300	150	11,700	-	-	-	-	-	-	-	-	100	-	-	-	-
		STAGE 2 TOTAL		50	0	300	150	11,700	1,500	68	28	29	8	0	0	0	100	0	0	0	0
		UNDISTRIBUTED		15	0	110	55	4,750	400	16	5	16	2	0	3	0	40	0	0	2	0
	PROJECT 1133-09-76 TOTAL			80	0	600	300	23,600	1,900	90	33	50	10	0	5	0	170	0	0	2	0
	CONTRACT S4-14-02 TOTAL			**1,600**	**1,150**	**17,600**	**8,800**	**396,000**	**3,350**	**587**	**402**	**78**	**34**	**1,300**	**17**	**1,180**	**4,840**	**265**	**12**	**18**	**1,300**

(Q) REFER TO "SUBGRADE REINFORCEMENT" TABLE FOR ADDITIONAL QUANTITIES

STORM SEWER PIPES

CATEGORY	PROJECT	STAGE	FROM STRUCT. NO.	TO STRUCT. NO.	INLET ELEV	OUTLET ELEV	SLOPE %	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 608.0312 12-INCH (LF)	608.0315 15-INCH (LF)	608.0318 18-INCH (LF)	608.0324 24-INCH (LF)	608.0330 30-INCH (LF)	608.0336 36-INCH (LF)	608.0342 42-INCH (LF)	608.0348 48-INCH (LF)	608.0354 54-INCH (LF)	CLASS IV 608.0412 12-INCH (LF)	CLASS V 608.0515 15-INCH (LF)	608.0524 24-INCH (LF)	608.0548 48-INCH (LF)	STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 610.0119 19x30-INCH (LF)	610.0124 24x38-INCH (LF)	610.0134 34x53-INCH (LF)	CLASS HE-IV 610.0419 19x30-INCH (LF)	612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH (LF)	SPV.0090.100 (H) JACKING REINFORCED CONCRETE PIPE CLASS V 36-INCH (LF)	SPV.0090.101 JACKING REINFORCED CONCRETE PIPE CLASS V 42-INCH (LF)	609.013 RELAID STORM SEWER 30-INCH (LF)
1000																												
	1133-03-77																											
		STAGE 1B																										
			300	301	657.89	657.82	1.00%	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			301	301P	640.52	640.28	1.00%	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-	-	-	-
			304	300	659.70	658.39	0.96%	-	-	137	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			305	306	657.92	657.86	0.86%	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			306	308P	651.78	651.63	0.58%	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-	-	-	-	-	-
			309	309M	654.63	654.55	1.00%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			310	309	654.72	654.63	1.29%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			318	318M	646.91	646.86	0.62%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			319	318	646.98	646.91	1.00%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			320	320M	642.77	642.73	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			321	320	642.81	642.77	0.57%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			323	323S	641.46	641.42	0.57%	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			324	324M	641.01	640.97	0.50%	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			325	324	641.06	641.01	0.62%	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			327	327M	641.07	640.97	0.77%	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			328	328M	642.55	642.49	0.67%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			331	331M	643.01	642.96	0.62%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			332	331	643.06	643.01	0.71%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			342	343	648.22	648.18	0.57%	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			343	342M	647.43	647.39	0.50%	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			344	344M	656.18	656.10	1.14%	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			345	344	656.24	656.18	0.75%	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			347	348	662.82	662.78	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			348	348M	662.78	662.74	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			370	370M	662.28	662.24	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			371	370	662.33	662.28	0.71%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			382	383	656.18	656.13	0.71%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			383	383M	656.13	656.08	0.56%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			384	384M	654.55	654.51	0.57%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			385	384	654.60	654.55	0.71%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			386	388M	648.52	648.47	0.56%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			388	389	648.85	648.64	0.50%	-	-	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			389	386	648.64	648.52	0.48%	-	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			390	389	649.07	648.64	3.58%	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			391	386	650.06	650.01	0.71%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			392	388	648.89	648.85	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			395	396	650.77	650.73	0.57%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			396	396M	650.73	650.70	0.33%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			397	397M	652.92	652.88	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			398	397	652.96	652.92	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			416	417	653.72	653.68	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			417	412M	653.68	653.54	0.50%	-	-	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			419	419M	651.36	651.31	0.63%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			420	419	651.40	651.36	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			422	422M	646.00	645.92	1.00%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			424	422	646.04	646.00	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			309M	315M	652.48	648.34	1.38%	-	-	-	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			311P	309M	654.37	654.26	0.52%	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			315M	318M	648.34	643.90	1.48%	-	-	-	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			318M	320M	643.90	642.00	0.63%	-	-	-	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			320M	322M	642.00	641.06	0.44%	-	-	-	216	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			322M	328M	641.06	640.83	0.52%	-	-	-	-	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			323S	322M	641.42	641.38	0.44%	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			324M	327M	640.72	640.57	0.42%	-	-	-	-	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			327M	329M	640.47	640.00	0.47%	-	-	-	-	101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			328M	324M	640.83	640.72	0.44%	-	-	-	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			329M	357C	639.88	639.46	0.84%	-	-	-	-	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			329P	322M	641.25	641.06	1.06%	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			331M	334M	639.32	638.26	0.44%	-	-	-	-	242	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			334M	334C	637.47	637.39	0.21%	-	-	-	-	-	-	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			334MC	334M	637.51	637.47	0.19%	-	-	-	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			342M	334M	645.50	645.13	0.73%	-	-	-	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			344M	342M	654.00	650.00	1.33%	-	-	-	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			348M	344M	662.24	657.47	1.62%	-	-	-	294	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			370A	370AP	665.51	665.21	1.15%	-	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			370M	383M	661.74	653.17	2.45%	-	-	-	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			371A	370A	665.83	665.76	1.00%	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			383M	385M	653.09	652.45	0.49%	-	-	-	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			384M	385M	650.41	649.58	0.41%	-	-	-	203	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			385M	385C	649.58	649.42	0.41%	-	-	-	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			388M	396M	647.97	647.07	0.52%	-	-	-	175	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			396M	398M	647.07	646.16	0.50%	-	-	-	181	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			397M	398M	651.98	650.92	1.00%	-	-	-	106	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			398M	398C	646.16	645.88	0.70%	-	-	-	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			412M	414E	653.00	652.41	0.98%	-	-	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			412P	412M	653.67	653.35	0.78%	-	-	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			419M	422M	650.81	644.93	1.71%	-	-	-	344	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			422M	423M	644.83	643.20	1.20%	-	-	-	136	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			422M	422P	645.66	645.57	0.50%	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			423M	423C	643.20	643.10	0.50%	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

STORM SEWER PIPES (CONTINUED)

CATEGORY	PROJECT	STAGE	FROM STRUCT. NO.	TO STRUCT. NO.	INLET ELEV	OUTLET ELEV	SLOPE %	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 608.0312 12-INCH (LF)	608.0315 15-INCH (LF)	608.0318 18-INCH (LF)	608.0324 24-INCH (LF)	608.0330 30-INCH (LF)	608.0336 36-INCH (LF)	608.0342 42-INCH (LF)	608.0348 48-INCH (LF)	608.0354 54-INCH (LF)	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 608.0412 12-INCH (LF)	STORM SEWER PIPE REINFORCED CONCRETE CLASS V 608.0515 15-INCH (LF)	608.0524 24-INCH (LF)	608.0548 48-INCH (LF)	STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 610.0119 19x30-INCH (LF)	610.0124 24x38-INCH (LF)	610.0134 34x53-INCH (LF)	CLASS HE-IV 610.0419 19x30-INCH (LF)	612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH (LF)	SPV.0090.100 (H) JACKING REINFORCED CONCRETE PIPE CLASS V 36-INCH (LF)	SPV.0090.101 JACKING REINFORCED CONCRETE PIPE CLASS V 42-INCH (LF)	609.013 RELAID STORM SEWER 30-INCH (LF)
1000																												
	1133-03-77																											
		STAGE 1B																										
			315	315M	651.35	651.30	0.63%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			316	315	651.41	651.35	0.86%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			322	304	659.78	659.70	1.00%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			302P	301	658.70	658.55	0.50%	-	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			303P	300	658.80	658.59	0.55%	-	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			306P	306	658.44	658.30	0.54%	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			307P	305	658.21	658.01	0.53%	-	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			314P	315M	651.71	651.60	0.52%	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		STAGE 1B TOTAL						0	229	651	3,533	498	0	60	0	0	0	26	24	0	0	0	0	0	0	0	0	0
		STAGE 2A																										
			302	302C	658.97	658.70	0.47%	-	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			307	307C	658.44	658.15	0.51%	-	57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			308	308C	658.73	658.44	0.51%	-	57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			311	311C	654.65	654.37	0.49%	-	57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			312	312D	656.70	656.60	0.56%	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			313	313D	653.08	652.98	0.50%	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			314	314C	651.99	651.71	0.49%	-	57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			317	317D	646.82	646.71	0.52%	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			329	329C	641.82	641.25	0.95%	-	-	-	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			334	334D	647.51	647.32	1.19%	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			336	336D	643.65	643.48	0.94%	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			337	337D	639.84	639.69	1.00%	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			338	338P	637.72	637.62	0.18%	-	-	-	-	-	-	56	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			339	336A	637.21	636.53	0.15%	-	-	-	-	-	-	-	0	-	-	-	-	456	-	-	-	-	-	-	-	-
			346	343M	645.20	645.00	0.48%	-	-	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			350	352	636.14	636.04	0.18%	-	-	-	-	-	-	-	0	-	-	-	-	55	-	-	-	-	-	-	-	-
			351	357	639.98	639.79	0.44%	-	-	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			352	352D	636.04	635.84	0.15%	-	-	-	-	-	-	-	-	-	-	-	-	131	-	-	-	-	-	-	-	-
			355	355D	649.08	648.86	1.00%	-	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			356	357M	639.02	638.93	0.35%	-	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			359	360	640.80	640.50	0.60%	-	-	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			360	361	640.50	640.16	0.69%	-	-	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			361	351	640.16	639.98	0.36%	-	-	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			362	343M	638.47	638.05	0.22%	-	-	-	-	194	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			376	376D	649.29	649.08	1.00%	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			393	393D	650.95	650.72	0.92%	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			399	399D	651.23	650.94	0.91%	-	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			412	412P	654.19	653.94	0.69%	-	-	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			414	414D	652.40	651.81	0.98%	-	-	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			418	418D	652.13	652.00	0.65%	-	20	-	-	-	-	101	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			421	421D	651.17	651.00	0.71%	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			423	422C	645.95	645.67	0.48%	-	-	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			425	425D	646.60	646.43	0.71%	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			301C	301D	640.28	639.45	0.93%	-	-		-	-	-	-	-	-	-	-	83	-	-	-	-	-	-	-	-	-
			306C	308D	651.63	651.17	0.55%	-	0	-	-	-	-	-	-	-	84	-	-	-	-	-	-	-	-	-	-	-
			314F	314FD	649.46	649.20	1.73%	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			315AF	315F	651.68	650.78	1.45%	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			315F	315FD	650.53	649.75	2.44%	-	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			329D	329	642.05	641.89	0.62%	-	-	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			334C	343M	637.33	637.30	0.25%	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			335A	337	642.40	641.10	0.75%	-	173	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			335F	335A	642.76	642.50	0.50%	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			335P	337	643.52	643.18	0.97%	-	-	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			336A	350	636.53	636.14	0.16%	-	-	-	-	-	-	-	0	-	-	-	-	251	-	-	-	-	-	-	-	-
			338D	338	637.75	637.70	0.23%	-	-	-	-	-	-	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			343M	339	637.30	637.21	0.18%	-	-	-	-	-	-	-	0	-	-	-	-	49	-	-	-	-	-	-	-	-
			355P	355	649.21	649.08	0.45%	-	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			357C	357M	639.46	639.03	0.86%	-	-	-	-	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			357M	362	638.93	638.47	0.22%	-	-	-	-	207	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			370P	370D	664.64	664.35	1.16%	-	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			385C	385D	649.23	649.09	0.39%	-	-	-	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			398C	398D	645.61	645.00	0.70%	-	-	-	87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			412MP	412M	653.53	653.35	0.82%	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			423C	423D	643.10	642.72	0.49%	-	-	-	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			EX-D	EX-C	638.81	638.72	0.53%	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		STAGE 2A TOTAL						170	762	489	303	451	0	191	0	0	0	84	83	942	0	0	0	0	0	0	0	0
		STAGE 2B																										
			303	303C	659.07	658.80	0.50%	-	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			335	335C	643.54	643.52	1.00%	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			334C	343C	637.39	637.33	0.12%	-	-	-	-	-	-	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			338C	334MC	637.62	637.51	0.24%	-	-	-	-	-	-	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			353A	355C	649.27	649.21	0.21%	-	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			370AC	370AP	665.70	665.40	1.15%	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			370AC	370C	665.21	664.64	1.16%	-	-	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			371A	370A	665.83	665.70	1.44%	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			385MC	385C	649.42	649.23	0.40%	-	-	-	47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			398MC	398C	645.88	645.61	0.64%	-	-	-	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			412C	412MC	653.94	653.67	0.87%	-	-	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		STAGE 2B TOTAL						0	118	82	89	0	0	96	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PROJECT 1133-03-77 TOTAL							170	1,109	1,222	3,925	949	0	347	0	0	0	110	107	942	0	0	0	0	0	0	0	0

STORM SEWER PIPES (CONTINUED)

CATEGORY	PROJECT	STAGE	FROM STRUCT. NO.	TO STRUCT. NO.	INLET ELEV	OUTLET ELEV	SLOPE %	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 608.0312 12-INCH (LF)	608.0315 15-INCH (LF)	608.0318 18-INCH (LF)	608.0324 24-INCH (LF)	608.0330 30-INCH (LF)	608.0336 36-INCH (LF)	608.0342 42-INCH (LF)	608.0348 48-INCH (LF)	608.0354 54-INCH (LF)	CLASS IV 608.0412 12-INCH (LF)	CLASS V 608.0515 15-INCH (LF)	608.0524 24-INCH (LF)	608.0548 48-INCH (LF)	STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 610.0119 19x30-INCH (LF)	610.0124 24x38-INCH (LF)	610.0134 34x53-INCH (LF)	CLASS HE-IV 610.0419 19x30-INCH (LF)	612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH (LF)	SPV.0090.100 (H) JACKING REINFORCED CONCRETE PIPE CLASS V 36-INCH (LF)	SPV.0090.101 JACKING REINFORCED CONCRETE PIPE CLASS V 42-INCH (LF)	609.013 RELAID STORM SEWER 30-INCH (LF)
1000																												
	1133-09-71																											
		STAGE 1A																										
			106	107	622.94	622.17	1.75%	-	-	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			107	108	621.67	619.92	1.75%	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			108	109A	619.92	615.55	1.75%	-	-	-	250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			109A	109B	609.23	608.50	1.25%	-	-	-	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			112A	112B	630.02	629.98	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			112B	112C	629.98	629.95	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			112C	114C	629.39	627.87	0.50%	-	-	-	303	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			114A	114B	631.37	631.33	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			114B	114C	631.33	631.30	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			114C	116A	627.87	626.45	0.40%	-	-	-	354	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			116A	116B	626.45	626.14	0.45%	-	-	-	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			116P	116A	631.23	631.14	0.50%	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			118A	118B	628.85	628.74	1.25%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			118B	118C	628.74	628.00	1.25%	-	-	59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			120A	120B	626.67	626.58	1.00%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			120B	120C	626.58	626.00	1.00%	-	-	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			122A	122B	621.00	620.03	2.00%	-	-	48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			131A	131B	606.95	606.91	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			131B	131C	606.91	606.87	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			131C	132C	606.37	605.58	0.35%	-	-	-	225	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			132A	132B	606.16	606.12	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			132B	132C	606.12	606.08	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			132C	133C	605.58	604.79	0.35%	-	-	-	227	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			133A	133B	605.37	605.33	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			133B	133C	605.33	605.29	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			133C	136C	604.79	604.53	0.35%	-	-	-	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			134	135	604.90	604.88	0.20%	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			135	133C	604.88	604.79	0.20%	-	-	47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			136A	136B	605.11	605.07	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			136B	136C	605.07	605.03	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			136C	137B	604.53	604.00	0.35%	-	-	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			137A	137B	604.73	604.50	0.50%	-	-	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			137B	138C	603.50	603.12	0.25%	-	-	-	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			138A	138B	606.58	606.54	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			138B	138C	606.54	606.50	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			138C	139C	603.12	602.37	0.25%	-	-	-	-	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			139A	139B	612.08	612.04	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			139B	139C	612.04	612.00	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			139C	139D	602.37	602.10	0.25%	-	-	-	-	107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			141A	141B	606.65	606.61	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			141B	141C	606.61	606.35	0.50%	-	-	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			139B	139C	612.04	612.00	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			139C	139D	602.37	602.10	0.25%	-	-	-	-	107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			141A	141B	606.65	606.61	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			141B	141C	606.61	606.35	0.50%	-	-	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			143A	143B	604.86	604.82	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			143B	143C	604.82	604.54	0.50%	-	-	56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			145A	145B	602.54	602.50	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			145B	147D	602.50	601.50	0.67%	-	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			147D	147E	598.45	596.00	1.50%	-	-	-	163	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			149P	149D	599.52	599.00	1.00%	-	-	-	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			150P	150C	601.78	601.00	1.50%	-	-	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			151P	151C	603.62	603.00	1.50%	-	-	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			152P	152C	608.75	608.00	1.50%	-	-	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			153A	153B	616.84	616.71	1.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			153B	153C	616.71	616.00	1.50%	-	-	47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			154C	154D	618.23	618.00	1.50%	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			154P	154C	618.86	618.23	1.50%	-	-	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			156A	156B	621.87	621.74	1.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			156B	156C	621.74	621.00	1.50%	-	-	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			157A	157B	623.00	611.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58	-	-	-
			159A	159B	622.00	621.87	1.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			159B	159C	621.87	621.00	1.50%	-	-	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			174A	174B	613.03	612.99	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			174B	174C	612.99	612.95	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			174C	175E	612.45	612.00	0.50%	-	-	-	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			175A	175B	612.55	612.50	0.50%	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			175B	175E	612.50	612.25	0.50%	-	-	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			175C	175D	613.03	612.87	0.50%	-	-	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			175D	175E	612.87	612.83	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			175E	181C	612.00	611.07	0.30%	-	-	-	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			179	180	616.71	613.71	1.00%	-	-	-	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			179P	179	617.01	616.71	1.00%	-	-	-	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			180	181D	613.71	613.27	1.00%	-	-	-	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			181A	181B	614.44	614.40	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			181B	181C	614.40	614.36	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			181C	181D	611.07	610.82	0.50%	-	-	-	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			181D	182A	610.41	609.85	0.60%	-	-	-	-	93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			182A	182B	609.85	609.50	0.40%	-	-	-	-	-	-	-	87	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			183A	183B	615.00	614.96	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			183B	183C	612.37	611.00	1.50%	-	-	91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			208A	208B	626.49	626.06	1.00%	-	-	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			209A	209B	613.53	613.33	1.00%	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			241A	241B	597.62	597.09	1.13%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	-	-	-	-
			241C	241D	596.95	596.80	0.52%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	-	-	-	-
			242A	242B	602.97	602.03	2.00%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	-	-	-
			242B	242C	601.61	601.12	0.50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	99	-	-	-
			242C	242D	601.12	600.82	0.50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59	-	-	-
			243B	243C	599.31	598.59	0.20%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	712	-	-
			259A	259B	604.61	604.08	1.00%	-	-	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	712	-	-
		STAGE 1A TOTAL						0	0	1,488	2,849	650	0	0	87	0	0	0	0	0	76	205	0	0	58	1,424	0	0

STORM SEWER PIPES (CONTINUED)

CATEGORY	PROJECT	STAGE	FROM STRUCT. NO.	TO STRUCT. NO.	INLET ELEV	OUTLET ELEV	SLOPE %	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 608.0312 12-INCH (LF)	608.0315 15-INCH (LF)	608.0318 18-INCH (LF)	608.0324 24-INCH (LF)	608.0330 30-INCH (LF)	608.0336 36-INCH (LF)	608.0342 42-INCH (LF)	608.0348 48-INCH (LF)	608.0354 54-INCH (LF)	CLASS IV 608.0412 12-INCH (LF)	CLASS V 608.0515 15-INCH (LF)	608.0524 24-INCH (LF)	608.0548 48-INCH (LF)	STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 610.0119 19x30-INCH (LF)	610.0124 24x38-INCH (LF)	610.0134 34x53-INCH (LF)	CLASS HE-IV 610.0419 19x30-INCH (LF)	612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH (LF)	SPV.0090.100 (H) JACKING REINFORCED CONCRETE PIPE CLASS V 36-INCH (LF)	SPV.0090.101 JACKING REINFORCED CONCRETE PIPE CLASS V 42-INCH (LF)	609.013 RELAID STORM SEWER 30-INCH (LF)
1000																												
	1133-09-71																											
		STAGE 1B																										
			100A	100B	597.41	597.37	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			100B	100C	597.39	597.35	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			100C	101C	597.33	596.88	0.15%	-	-	-	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			101A	101B	599.00	598.96	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			101B	101C	598.96	598.93	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			101C	105C	596.88	596.43	0.15%	-	-	-	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			102A	102B	622.98	622.94	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			102B	102C	622.94	622.90	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			102C	103C	620.25	613.25	2.00%	-	-	-	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			103A	103B	615.78	615.74	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			103B	103C	615.74	615.70	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			103C	104C	613.25	606.25	2.00%	-	-	-	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			104A	104B	607.08	607.04	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			104B	104C	607.04	607.00	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			104C	105C	606.25	601.00	1.50%	-	-	-	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			105A	105B	601.08	601.04	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			105B	105C	601.04	601.00	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			105C	105D	596.43	596.28	0.15%	-	-	-	-	-	97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			111A	111B	630.36	630.32	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			111B	112A	630.32	630.02	0.50%	-	-	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			113A	113B	631.71	631.67	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			113B	114A	631.67	631.37	0.50%	-	-	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			115A	115B	631.55	631.51	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			115B	115J	631.51	631.23	0.50%	-	-	56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			117A	117B	629.71	629.60	1.25%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			117B	118A	629.60	628.85	1.25%	-	-	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			119A	119B	627.36	627.27	1.00%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			119B	120A	627.27	626.67	1.00%	-	-	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			124A	124B	619.90	619.86	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			124B	124C	619.86	619.83	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			124C	130C	613.60	611.00	0.75%	-	-	-	346	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			125A	125B	607.75	607.71	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			125B	125C	607.71	607.68	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			125C	126C	606.65	606.02	0.25%	-	-	-	250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			126A	126B	606.60	606.56	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			126B	126C	606.56	606.52	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			126C	127C	606.02	605.33	0.25%	-	-	-	275	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			127A	127B	605.91	605.87	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			127B	127C	605.87	605.83	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			127C	128E	605.33	604.89	0.25%	-	-	-	175	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			128A	128B	605.02	604.97	0.50%	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			128B	128D	604.97	604.93	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			128C	128D	605.48	605.43	0.50%	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			128D	128E	604.93	604.89	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			128E	129C	604.39	603.79	0.20%	-	-	-	-	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			129A	129B	606.08	606.04	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			129B	129C	606.04	606.00	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			129C	130C	603.29	602.76	0.15%	-	-	-	-	-	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			130A	130B	611.58	611.54	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			130B	130C	611.54	611.50	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			130C	130D	602.26	602.00	0.25%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	105	-
			140A	140B	606.99	606.95	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			140B	141A	606.95	606.65	0.50%	-	-	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			142A	142B	605.20	605.16	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			142B	143A	605.16	604.86	0.50%	-	-	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			144A	144B	604.45	604.41	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			144B	144C	604.41	604.37	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			144C	147C	603.87	599.37	1.50%	-	-	-	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			147A	147B	602.08	602.04	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			147B	147C	602.04	602.00	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			147C	147D	599.37	598.45	1.50%	-	-	-	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			148A	148B	601.84	601.80	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			148B	148C	601.80	601.76	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			148C	149C	600.76	600.06	1.00%	-	-	-	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			149A	149B	602.14	602.10	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			149B	149C	602.10	602.06	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			149C	149J	600.06	599.52	1.00%	-	-	-	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			150A	150B	602.72	602.59	1.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			150B	150J	602.59	601.78	1.50%	-	-	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			151A	151B	604.50	604.37	1.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			151B	151J	604.37	603.62	1.50%	-	-	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			152A	152B	609.69	609.56	1.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			152B	152J	609.56	608.75	1.50%	-	-	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			154A	154B	619.92	619.79	1.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			154B	154J	619.79	618.86	1.50%	-	-	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			155A	155B	622.89	622.76	1.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			155B	156A	622.76	621.87	1.50%	-	-	59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			158A	158B	623.02	622.89	1.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			158B	159A	622.89	622.00	1.50%	-	-	59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			161A	161B	618.17	618.13	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

STORM SEWER PIPES (CONTINUED)

CATEGORY	PROJECT	STAGE	FROM STRUCT. NO.	TO STRUCT. NO.	INLET ELEV	OUTLET ELEV	SLOPE %	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 608.0312 12-INCH (LF)	608.0315 15-INCH (LF)	608.0318 18-INCH (LF)	608.0324 24-INCH (LF)	608.0330 30-INCH (LF)	608.0336 36-INCH (LF)	608.0342 42-INCH (LF)	608.0348 48-INCH (LF)	608.0354 54-INCH (LF)	CLASS IV 608.0412 12-INCH (LF)	CLASS V 608.0515 15-INCH (LF)	608.0524 24-INCH (LF)	608.0548 48-INCH (LF)	STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 610.0119 19x30-INCH (LF)	610.0124 24x38-INCH (LF)	610.0134 34x53-INCH (LF)	CLASS HE-IV 610.0419 19x30-INCH (LF)	612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH (LF)	SPV.0090.100 (H) JACKING REINFORCED CONCRETE PIPE CLASS V 36-INCH (LF)	SPV.0090.101 JACKING REINFORCED CONCRETE PIPE CLASS V 42-INCH (LF)	609.013 RELAID STORM SEWER 30-INCH (LF)
1000	1133-09-71																											
		STAGE 1B																										
			161B	161C	618.13	618.10	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			161C	162C	617.85	615.35	1.00%	-	-	-	250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			162A	162B	616.31	616.27	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			162B	162C	616.27	616.23	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			162C	163C	615.35	612.85	1.00%	-	-	-	250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			163A	163B	613.46	613.42	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			163B	163C	613.42	613.38	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			163C	164C	612.85	612.10	0.50%	-	-	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			164A	164B	612.72	612.68	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			164B	164C	612.68	612.64	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			164C	165C	612.10	611.80	0.50%	-	-	-	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			165A	165B	612.63	612.59	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			165B	165C	612.59	612.55	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			165C	166C	611.80	611.15	0.50%	-	-	-	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			166A	166B	612.29	612.25	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			166B	166C	612.25	612.21	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			166C	167C	611.15	610.10	0.50%	-	-	-	-	210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			167A	167B	613.00	612.96	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			167B	167C	612.96	612.92	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			167C	182A	610.10	609.85	0.50%	-	-	-	-	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			168A	168B	643.96	643.92	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			168B	168C	643.92	643.88	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			168C	169C	642.50	637.25	1.50%	-	-	-	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			169A	169B	637.85	637.81	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			169B	169C	637.81	637.77	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			169C	170C	634.75	629.50	1.50%	-	-	-	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			170A	170B	629.88	629.84	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			170B	170C	629.84	629.80	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			170C	171C	628.00	622.75	1.50%	-	-	-	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			171A	171B	623.07	623.03	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			171B	171C	623.03	622.99	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			171C	172C	622.25	617.00	1.50%	-	-	-	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			172A	172B	618.71	618.67	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			172B	172C	618.67	618.63	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			172C	173C	617.00	613.25	1.50%	-	-	-	250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			173A	173B	615.68	615.64	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			173B	173C	615.64	615.60	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			173C	182A	612.75	610.25	1.25%	-	-	-	-	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			187A	187B	647.98	647.85	1.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			187B	188A	647.85	646.36	1.50%	-	-	99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			188A	188B	646.36	646.00	1.50%	-	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			191A	191B	638.68	638.64	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			191B	191C	638.64	638.60	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			191C	192C	638.10	637.26	0.40%	-	-	-	210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			192A	192B	637.84	637.80	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			192B	192C	637.80	637.76	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			192C	193C	637.26	637.06	0.40%	-	-	-	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			193A	193B	637.64	637.60	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			193B	193C	637.60	637.56	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			193C	194C	637.06	636.10	0.40%	-	-	-	240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			194A	194B	638.68	638.64	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			194B	194C	638.64	638.60	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			194C	195C	635.60	634.40	0.40%	-	-	-	-	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			195A	195B	641.58	641.54	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			195B	195C	641.54	641.50	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			195C	197C	634.40	633.00	0.40%	-	-	-	-	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			196	197C	632.60	631.01	1.00%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	159	-	-
			197A	197B	646.08	646.04	0.50%	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			197B	197C	646.04	646.00	0.50%	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			197C	197D	625.74	624.69	0.75%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140	-
			210A	210B	611.43	611.22	0.50%	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			212A	212B	615.65	614.77	2.00%	-	-	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			213A	213B	617.88	617.00	2.00%	-	-	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			214A	214B	617.46	617.00	1.00%	-	-	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			215A	215B	618.89	618.00	1.00%	-	-	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			261A	261B	622.42	622.00	1.00%	-	-	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			262A	262B	625.41	625.25	1.00%	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		STAGE 1B TOTAL						58	0	1,828	6,171	1,410	447	0	0	0	0	0	0	0	0	0	0	0	0	159	245	0

STORM SEWER PIPES (CONTINUED)

CATEGORY	PROJECT	STAGE	FROM STRUCT. NO.	TO STRUCT. NO.	INLET ELEV	OUTLET ELEV	SLOPE %	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 608.0312 12-INCH (LF)	608.0315 15-INCH (LF)	608.0318 18-INCH (LF)	608.0324 24-INCH (LF)	608.0330 30-INCH (LF)	608.0336 36-INCH (LF)	608.0342 42-INCH (LF)	608.0348 48-INCH (LF)	608.0354 54-INCH (LF)	CLASS IV 608.0412 12-INCH (LF)	CLASS V 608.0515 15-INCH (LF)	608.0524 24-INCH (LF)	608.0548 48-INCH (LF)	STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 610.0119 19x30-INCH (LF)	610.0124 24x38-INCH (LF)	610.0134 34x53-INCH (LF)	CLASS HE-IV 610.0419 19x30-INCH (LF)	612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH (LF)	SPV.0090.100 (H) JACKING REINFORCED CONCRETE PIPE CLASS V 36-INCH (LF)	SPV.0090.101 JACKING REINFORCED CONCRETE PIPE CLASS V 42-INCH (LF)	609.013 RELAID STORM SEWER 30-INCH (LF)
1000																												
	1133-09-71																											
		STAGE 2																										
			110A	110B	627.00	602.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75	-	-	-
			121A	121B	621.00	602.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58	-	-	-
			160A	160B	622.00	605.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	-	-	-
			176	177	633.51	626.49	2.00%	-	-	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			177	178	625.46	620.22	1.50%	-	-	-	349	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			178	179J	620.22	617.01	1.00%	-	-	-	321	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			184A	184B	643.21	643.00	1.00%	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			185A	185B	643.22	643.00	1.00%	-	-	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			186A	186B	647.19	647.00	1.00%	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			189A	189B	646.17	646.00	1.00%	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			190A	190B	646.23	646.00	1.00%	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			198A	198B	641.17	641.00	1.00%	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			199A	199B	641.23	641.00	1.00%	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			200A	200B	636.20	636.00	1.00%	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			201	204	639.21	638.96	0.50%	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			202	203A	636.71	636.21	1.00%	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			203A	203B	636.21	636.00	1.00%	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			204	205A	638.96	638.51	0.50%	-	-	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			205A	205B	638.51	638.44	0.50%	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			206A	206B	639.66	639.50	1.00%	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			207A	207B	639.67	639.50	1.00%	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			220	221	626.08	625.68	1.00%	-	-	-	-	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			221	223	625.68	621.03	1.50%	-	-	-	-	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			222	223	622.76	622.53	1.00%	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			223	223A	621.03	619.78	1.00%	-	-	-	-	125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			223A	224	619.78	618.08	1.00%	-	-	-	-	170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			224	225	618.08	614.23	2.00%	-	-	-	-	193	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			225	226	614.23	610.00	1.00%	-	-	-	-	423	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			227	228	617.23	616.23	2.50%	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			228A	228B	616.28	616.23	2.50%	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			228B	229	615.73	615.50	0.20%	-	-	117	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			230	231	617.05	616.67	1.50%	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			231	232	616.67	615.81	1.50%	57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			232	233	615.31	614.00	1.50%	-	-	87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			234	235	613.45	612.35	1.50%	-	-	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			236	238	614.90	614.75	1.50%	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			237	238	614.90	614.75	1.50%	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			238	239	614.25	613.20	1.50%	-	-	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			240A	240B	620.39	613.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	-	-	-
			243A	243B	599.57	599.31	0.30%	-	-	-	-	-	-	88	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			244A	244B	625.88	625.83	0.20%	-	-	-	-	-	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		STAGE 2 TOTAL						369	0	923	670	1,261	0	113	0	0	0	0	0	0	0	0	0	0	234	0	0	0
	PROJECT 1133-09-71 TOTAL							427	0	4,239	9,690	3,321	447	113	87	0	0	0	0	0	76	205	0	0	292	1,583	245	0
	1133-09-74																											
		STAGE 1																										
			245A	245B	623.17	623.12	0.50%	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			245B	246B	623.02	622.58	1.00%	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			246B	247	608.48	603.28	4.00%	-	-	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			246A	246B	623.50	623.45	0.50%	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			248A	248B	638.15	628.35	20.00%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	-	-	-
			248B	248C	613.55	611.63	3.00%	-	-	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		STAGE 1 TOTAL						64	0	202	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49	0	0	0
	PROJECT 1133-09-74 TOTAL							64	0	202	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49	0	0	0

STORM SEWER PIPES (CONTINUED)

CATEGORY	PROJECT	STAGE	FROM STRUCT. NO.	TO STRUCT. NO.	INLET ELEV	OUTLET ELEV	SLOPE %	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 608.0312 12-INCH (LF)	608.0315 15-INCH (LF)	608.0318 18-INCH (LF)	608.0324 24-INCH (LF)	608.0330 30-INCH (LF)	608.0336 36-INCH (LF)	608.0342 42-INCH (LF)	608.0348 48-INCH (LF)	608.0354 54-INCH (LF)	CLASS IV 608.0412 12-INCH (LF)	CLASS V 608.0515 15-INCH (LF)	608.0524 24-INCH (LF)	608.0548 48-INCH (LF)	STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 610.0119 19x30-INCH (LF)	610.0124 24x38-INCH (LF)	610.0134 34x53-INCH (LF)	CLASS HE-IV 610.0419 19x30-INCH (LF)	612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH (LF)	SPV.0090.100 (H) JACKING REINFORCED CONCRETE PIPE CLASS V 36-INCH (LF)	SPV.0090.101 JACKING REINFORCED CONCRETE PIPE CLASS V 42-INCH (LF)	609.013 RELAID STORM SEWER 30-INCH (LF)
1000	1133-09-76																											
		STAGE 1A																										
			641	642	600.77	600.64	0.50%	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			642	645	600.64	600.45	0.50%	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			645	646	599.95	599.64	0.20%	-	-	-	152	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			646	647	599.64	599.62	0.20%	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			647	648	599.12	599.00	0.15%	-	-	-	-	83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		STAGE 1A TOTAL						63	0	0	163	83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		STAGE 2																										
			600	601	610.55	609.71	1.35%	-	-	-	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			600J	600	610.59	610.55	0.50%	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			601	606	609.71	606.93	1.00%	-	-	-	277	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			602	603	608.81	608.15	0.70%	-	94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			602J	602	608.87	608.81	0.70%	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			603	604	607.80	607.66	0.50%	-	-	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			604	605	607.66	607.62	0.50%	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			605	606	607.62	607.43	0.50%	-	-	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			606	608	606.75	605.96	1.00%	-	-	-	79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			608	608K	603.46	603.45	0.15%	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
			608J	608	603.47	603.46	0.15%	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
			609	610	606.93	606.50	1.00%	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			610	610K	603.25	603.24	0.16%	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
			610J	610	603.26	603.25	0.16%	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
			612	613	605.50	605.35	0.50%	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			613	614	605.35	605.25	0.50%	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			614	615	605.25	605.11	0.50%	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			615	619	604.11	603.25	0.50%	-	-	-	172	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			616	617	604.92	604.73	0.50%	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			617	618	604.73	604.57	1.00%	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			618	619	604.57	604.21	1.00%	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			619	621	603.25	602.37	0.50%	-	-	-	175	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			620	621	603.99	603.37	1.00%	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			621	625	602.37	601.60	0.50%	-	-	-	154	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			622	624	603.53	603.22	0.50%	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			623	624	603.47	603.22	0.50%	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			624	625	603.22	602.60	1.00%	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			625	632	601.60	600.98	0.50%	-	-	-	125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			626	627	600.49	600.33	0.40%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	-	-	-	-	-
			627	631	600.33	600.15	0.25%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	-	-	-	-	-
			628	631	602.90	602.65	0.50%	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			629	630	602.58	602.52	0.50%	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			630	631	602.52	602.15	0.50%	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			631	632	600.15	599.98	0.25%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	-	-	-	-	-
			632	633	599.98	599.91	0.25%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	-	-	-	-	-
			634	635	600.45	599.95	0.50%	-	-	98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			635	640	599.95	599.50	0.15%	-	-	-	301	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			636	637	600.75	600.65	0.40%	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			637	640	600.65	600.50	0.40%	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			638	639	600.69	600.56	0.50%	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			639	640	600.56	600.50	0.50%	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			640	647	599.50	599.12	0.25%	-	-	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			643	644	600.83	600.58	1.00%	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			644	645	600.58	600.45	1.00%	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			648J	648	599.05	599.00	0.15%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44
			649	650	599.40	599.00	0.20%	-	-	-	204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			651	652	601.65	601.46	0.30%	-	-	-	-	-	-	-	-	-	63	-	-	-	-	-	-	-	-	-	-	-
			652	653	601.46	601.43	0.30%	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-
			653	654	601.43	601.26	0.30%	-	-	-	-	-	-	-	-	-	56	-	-	-	-	-	-	-	-	-	-	-
			654	657	601.26	601.12	0.12%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	113	-	-	-	-
			655	657	601.27	601.12	0.30%	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			656	657	601.23	601.12	0.50%	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			656A	656	601.65	601.23	0.50%	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			657	662	601.12	600.94	0.12%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	148	-	-	-	-
			658	659	601.33	601.28	0.50%	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			659	660	601.28	601.07	0.50%	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			660	661	601.07	601.05	0.20%	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			661	662	601.05	600.94	0.20%	-	-	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			662	663	600.94	600.93	0.12%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-
			663	666	600.93	600.84	0.12%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	79	-	-	-	-
			664	665	601.45	601.14	0.50%	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			665	666	601.14	600.84	0.50%	59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			666	673	600.84	600.30	0.25%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	220	-	-	-	-	-	-
			667	668	601.11	601.06	0.50%	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			668	669	601.06	600.68	0.50%	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

3

STORM SEWER PIPES (CONTINUED)

CATEGORY	PROJECT	STAGE	FROM STRUCT. NO.	TO STRUCT. NO.	INLET ELEV	OUTLET ELEV	SLOPE %	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 608.0312 12-INCH (LF)	608.0315 15-INCH (LF)	608.0318 18-INCH (LF)	608.0324 24-INCH (LF)	608.0330 30-INCH (LF)	608.0336 36-INCH (LF)	608.0342 42-INCH (LF)	608.0348 48-INCH (LF)	608.0354 54-INCH (LF)	CLASS IV 608.0412 12-INCH (LF)	CLASS V 608.0515 15-INCH (LF)	608.0524 24-INCH (LF)	608.0548 48-INCH (LF)	STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 610.0119 19x30-INCH (LF)	610.0124 24x38-INCH (LF)	610.0134 34x53-INCH (LF)	CLASS HE-IV 610.0419 19x30-INCH (LF)	612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH (LF)	SPV.0090.100 (H) JACKING REINFORCED CONCRETE PIPE CLASS V 36-INCH (LF)	SPV.0090.101 JACKING REINFORCED CONCRETE PIPE CLASS V 42-INCH (LF)	609.013 RELAID STORM SEWER 30-INCH (LF)
1000	1133-09-76	STAGE 2	669	670	600.68	600.58	0.20%	-	-	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			670	671	600.58	600.46	0.20%	-	-	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			671	673	600.46	600.30	0.20%	-	-	-	81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			672	673	601.00	600.30	0.37%	-	-	-	-	191	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			673	674	600.30	600.10	0.30%	-	-	-	-	-	66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			675	676	600.59	600.49	1.00%	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			676	677	600.49	600.00	1.00%	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			678	679	600.06	599.95	0.30%	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			679	681	599.95	599.93	0.30%	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			680	681	600.13	599.93	0.40%	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			681	EXIST	599.93	599.66	0.30%	91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		STAGE 2 TOTAL						1,382	102	348	1,788	191	66	0	0	32	129	0	0	0	220	0	212	350	0	0	0	44
	PROJECT 1133-09-76 TOTAL							1,445	102	348	1,951	274	66	0	0	32	129	0	0	0	220	0	212	350	0	0	0	44
	CONTRACT S4-14-02 TOTAL							**2,106**	**1,211**	**6,011**	**15,566**	**4,544**	**513**	**460**	**87**	**32**	**129**	**110**	**107**	**942**	**296**	**205**	**212**	**350**	**341**	**1,583**	**245**	**44**

(H) REFER TO "CROSS CULVERT ITEMS" TABLE FOR ADDITIONAL QUANTITIES

STORM SEWER STRUCTURE SCHEDULE

CATEGORY	PROJECT	STAGE	STRUCT. NO.	STATION		OFFSET	FINISHED: CASTING ELEV	FINISHED: TOP STRUCT. ELEV	FINISHED: BOTTOM STRUCT. ELEV	FINISHED: DEPTH	TEMPORARY: CASTING ELEV	TEMPORARY: TOP STRUCT. ELEV	TEMPORARY: BOTTOM STRUCT. ELEV	TEMPORARY: DEPTH	611.8110 ADJ. MANHOLE COVERS (EACH)	611.8115 ADJ. INLET COVERS (EACH)	611.0420 RECON. MANHOLE (EACH)	611.0430 RECON. INLET (EACH)	INLETS: 611.3003 3-FT DIA. (EACH)	INLETS: 611.3004 4-FT DIA. (EACH)	INLETS: 611.3220 2X2-FT (EACH)	INLETS: 611.3225 2X2.5-FT (EACH)	INLETS: 611.3230 2X3-FT (EACH)	INLETS: 611.3901 MEDIAN 1 GRATE (EACH)	INLETS: 611.3902 MEDIAN 2 GRATE (EACH)	SPV.0060.107 MEDIAN 2 GRATE MODIFIED STR. 243B (EACH)	SPV.0060.108 MEDIAN 2 GRATE MODIFIED STR. 244A (EACH)	MANHOLES: 611.2004 4-FT DIA. (EACH)	MANHOLES: 611.2005 5-FT DIA. (EACH)	MANHOLES: 611.2006 6-FT DIA. (EACH)	MANHOLES: 611.2007 7-FT DIA. (EACH)	MANHOLES: 611.2008 8-FT DIA. (EACH)
1000																															
	1133-03-77																														
		STAGE 1B																													
			300	1020+87	SB	26.8' RT	663.73	662.86	657.64	5.22	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			301	1020+87	NB	26.5' LT	663.60	662.27	640.21	22.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
			304	1019+50	SB	26.8' RT	664.26	662.93	659.49	3.44	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			305	1015+04	SB	26.8' RT	663.12	661.79	657.73	4.06	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			306	1015+04	NB	26.8' LT	663.47	662.14	651.59	10.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
			309	1012+37	SB	26.8' RT	660.10	658.77	654.42	4.35	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			310	1012+37	NB	26.8' LT	660.82	659.49	654.51	4.98	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			315	1009+37	SB	26.8' RT	656.01	654.68	651.14	3.54	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			316	1009+37	NB	26.8' LT	656.63	655.30	651.20	4.10	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			318	1006+37	SB	26.8' RT	651.94	650.61	646.70	3.91	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			319	1006+37	NB	26.8' LT	651.57	650.24	646.77	3.47	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			320	1003+44	SB	26.8' RT	647.95	646.62	642.56	4.06	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			321	1003+37	NB	26.8' LT	646.60	645.27	642.60	2.67	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			322	1019+50	NB	26.8' LT	664.21	662.88	659.57	3.31	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			323	1001+15	NB	26.8' LT	644.69	643.36	641.27	2.09	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			324	1000+52	SB	26.0' RT	646.48	645.15	640.82	4.33	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			325	1000+46	NB	26.8' LT	644.55	643.22	640.87	2.35	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			327	1000+10	NB	26.8' LT	644.59	643.26	640.86	2.40	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			328	1000+77	SB	26.5' RT	646.47	645.14	642.34	2.80	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			331	997+62	SB	26.8' RT	648.58	647.25	642.80	4.45	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			332	997+56	NB	26.8' LT	646.57	645.24	642.85	2.39	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			342	994+57	NB	26.8' LT	652.91	651.58	648.03	3.55	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			343	994+62	SB	26.8' RT	654.53	653.20	647.18	6.02	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			344	991+62	SB	26.0' RT	662.69	661.36	655.93	5.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
			345	991+57	NB	26.8' LT	661.69	660.36	655.99	4.37	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			347	988+58	NB	26.8' LT	667.61	666.28	662.61	3.67	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			348	988+62	SB	26.8' RT	668.15	666.82	662.57	4.25	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			370	981+00	SB	26.8' RT	666.51	665.18	662.07	3.11	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			371	980+98	NB	26.8' LT	666.51	665.18	662.12	3.06	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			382	977+50	NB	26.8' LT	660.25	658.92	655.97	2.95	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			383	977+51	SB	26.8' RT	660.25	658.92	655.92	3.00	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			384	974+05	NB	26.8' RT	654.69	653.36	650.34	3.02	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			385	974+05	NB	26.8' LT	654.71	653.38	650.39	2.99	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			386	971+75	SB	26.8' RT	653.68	652.35	648.31	4.04	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			388	972+42	SB	26.8' RT	653.70	652.37	648.64	3.73	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			389	972+00	SB	26.8' RT	653.65	652.32	648.43	3.89	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			390	972+09	NB	25.9' LT	653.76	652.43	648.86	3.57	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			391	971+75	NB	26.8' LT	653.80	652.47	649.85	2.62	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			392	972+43	NB	26.8' LT	653.78	652.45	648.68	3.77	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			395	970+00	NB	26.8' LT	654.82	653.49	650.56	2.93	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			396	970+00	NB	26.8' LT	654.59	653.26	650.52	2.74	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			397	967+00	SB	26.8' RT	657.26	655.93	652.71	3.22	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			398	967+00	NB	26.8' LT	657.48	656.15	652.75	3.40	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			416	962+16	SB	26.8' RT	657.48	656.15	653.51	2.64	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			417	962+16	NB	26.8' LT	658.44	657.11	653.47	3.64	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			419	959+00	NB	26.8' LT	656.05	654.72	651.15	3.57	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			420	959+00	SB	26.8' RT	655.87	654.54	651.19	3.35	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			422	955+50	NB	26.8' LT	650.74	649.41	645.79	3.62	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			424	955+50	SB	26.8' RT	650.36	649.03	645.83	3.20	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			301P	1020+86	NB	0.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			302P	1020+86	NB	0.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			303P	1020+87	SB	12.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			306P	1015+02	NB	0.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			307P	1015+01	SB	12.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			308P	1015+02	NB	0.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			309M	1012+31	SB	21.0' RT	660.30	659.06	652.23	6.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
			311P	1012+33	SB	0.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			314P	1009+33	SB	0.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			315M	1009+31	SB	21.0' RT	656.22	654.98	648.09	6.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
			318M	1006+31	SB	21.0' RT	652.13	650.89	643.65	7.24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
			320M	1003+38	SB	21.0' RT	648.14	646.90	641.75	5.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			322M	1001+21	SB	18.0' RT	646.91	645.67	640.77	4.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			323S	1001+21	SB	26.8' RT	646.51	645.18	641.23	3.95	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			324M	1000+52	SB	18.0' RT	646.86	645.62	640.43	5.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			327M	1000+16	SB	21.0' RT	646.81	645.57	640.18	5.39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			328M	1000+78	SB	18.0' RT	646.86	645.62	640.54	5.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			329M	999+16	SB	22.7' RT	647.22	645.98	639.59	6.39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			329P	1001+21	SB	0.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			331M	997+56	SB	21.0' RT	648.93	647.69	639.03	8.66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			334C	995+07	NB	0.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			334M	995+13	SB	21.2' RT	653.47	652.23	637.10	15.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			334MC	995+14	SB	0.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			342M	994+62	SB	18.6' RT	654.85	653.52	645.25	8.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
			344M	991+62	SB	19.1' RT	663.04	661.71	653.75	7.96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
			348M	988+67	SB	21.0' RT	668.34	667.10	661.99	5.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-

3

STORM SEWER STRUCTURE SCHEDULE (CONTINUED)

CATEGORY	PROJECT	STAGE	STRUCT. NO.	INLET AND MANHOLE COVERS							APRON ENDWALLS FOR CULVERT PIPE																									
											REINFORCED CONCRETE									REINFORCED CONCRETE HORIZONTAL			STEEL													
				611.0535 TYPE J SPECIAL (EACH)	611.0612 TYPE C (EACH)	611.0624 TYPE H (EACH)	611.0639 TYPE H-S (EACH)	611.0642 TYPE MS (EACH)	611.0654 TYPE V (EACH)	611.0666 TYPE Z (EACH)	522.1012 (I) 12-IN. (EACH)	522.1015 15-IN. (EACH)	522.1018 18-IN. (EACH)	522.1024 (J) 24-IN. (EACH)	522.1030 (K) 30-IN. (EACH)	522.1036 (L) 36-IN. (EACH)	522.1042 (M) 42-IN. (EACH)	522.1048 48-IN. (EACH)	523.0519 (N) 19 x 30-IN. (EACH)	523.0524 24 x 38-IN. (EACH)	523.0534 (O) 34 x 53-IN. (EACH)	521.1012 12-INCH (EACH)	504.0900 CONCRETE MASONRY ENDWALLS (CY)	611.9800.S PIPE GRATES (EACH)	520.8000 (G) CONCRETE COLLAR FOR PIPES (EACH)	SPV.0060.109 (P) STORM SEWER PLUG (EACH)	SPV.0060.100 DRAIN VANE TYPE A 3-FOOT (EACH)	SPV.0060.101 DRAIN VANE TYPE B 6-FOOT (EACH)	SPV.0090.102 DRAIN SLOTTED VANE LONGITUDIAL (LF)	612.0406 PIPE UNDERDRAIN WRAPPED 6-INCH (LF)	209.0300.S BACKFILL COARSE AGGREGATE SIZE NO. 1 (CY)	633.5200 MARKERS CULVERT END (EACH)
1000	1133-03-77																																			
		STAGE 1B																																		
			300	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			301	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			304	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			305	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			306	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			309	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			315	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			316	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			318	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			319	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			320	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			321	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			322	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			323	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-
			324	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	100	1	-	-	-
			325	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	100	1	-	-	-
			327	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			328	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			331	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			332	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			342	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			343	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			344	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			345	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			347	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			348	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			370	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			371	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			382	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			383	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			384	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			385	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			386	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			388	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			389	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	100	1	-	-	-
			390	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	100	1	-	-	-
			391	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			392	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			395	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			396	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			397	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			398	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			416	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			417	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			419	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			420	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			422	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			424	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			301P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			302P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			303P	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			306P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			307P	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			308P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			309M	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			311P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			314P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			315M	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			318M	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			320M	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			322M	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			323S	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			324M	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			327M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			328M	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			329M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			329P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			331M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			334C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			334M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			334MC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			342M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			344M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			348M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

STORM SEWER STRUCTURE SCHEDULE (CONTINUED)

CATEGORY	PROJECT	STAGE	STRUCT. NO.	STATION		OFFSET	FINISHED CASTING ELEV	FINISHED TOP STRUCT. ELEV	FINISHED BOTTOM STRUCT. ELEV	FINISHED DEPTH	TEMPORARY CASTING ELEV	TEMPORARY TOP STRUCT. ELEV	TEMPORARY BOTTOM STRUCT. ELEV	TEMPORARY DEPTH	611.8110 ADJ. MANHOLE COVERS (EACH)	611.8115 ADJ. INLET COVERS (EACH)	611.0420 RECON. MANHOLE (EACH)	611.0430 RECON. INLET (EACH)	INLETS 611.3003 3-FT DIA. (EACH)	INLETS 611.3004 4-FT DIA. (EACH)	INLETS 611.3220 2X2-FT (EACH)	INLETS 611.3225 2X2.5-FT (EACH)	INLETS 611.3230 2X3-FT (EACH)	INLETS 611.3901 MEDIAN 1 GRATE (EACH)	INLETS 611.3902 MEDIAN 2 GRATE (EACH)	SPV.0060.107 MEDIAN 2 GRATE MODIFIED STR. 243B (EACH)	SPV.0060.108 MEDIAN 2 GRATE MODIFIED STR. 244A (EACH)	MANHOLES 611.2004 4-FT DIA. (EACH)	MANHOLES 611.2005 5-FT DIA. (EACH)	MANHOLES 611.2006 6-FT DIA. (EACH)	MANHOLES 611.2007 7-FT DIA. (EACH)	MANHOLES 611.2008 8-FT DIA. (EACH)
1000																															
	1133-03-77																														
		STAGE 1B																													
			357C	999+09	NB	12.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			370A	984+20	NB	26.0' LT	669.79	668.46	665.30	3.16	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			370AP	984+19	NB	0.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			370M	980+94	SB	21.0' RT	666.70	665.46	661.49	3.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			371A	984+23	SB	26.0' RT	669.92	668.59	665.64	2.95	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			383M	977+44	SB	21.0' RT	660.41	659.17	652.84	6.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			384M	974+10	SB	21.7' RT	654.99	653.75	650.16	3.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			385C	976+12	NB	0.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			385M	976+13	SB	21.5' RT	658.03	656.79	649.33	7.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			388M	971+69	SB	20.4' RT	653.98	652.74	647.72	5.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			396M	969+94	SB	21.1' RT	654.91	653.67	646.82	6.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			397M	967+06	SB	21.0' RT	657.48	656.24	651.73	4.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			398C	968+11	NB	0.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			398M	968+12	SB	20.5' RT	656.49	655.25	645.91	9.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			412M	962+44	NB	21.0' LT	658.81	657.57	652.79	4.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			412P	962+55	SB	--	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			419M	958+94	NB	21.0' LT	656.25	655.01	650.56	4.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			422M	955+50	NB	18.0' LT	651.13	649.89	644.58	5.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			422P	955+51	NB	0.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			423C	954+14	NB	--	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			423M	954+14	NB	19.7' LT	648.70	647.46	642.95	4.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
		STAGE 1B TOTAL													0	0	0	0	49	0	0	0	0	0	0	0	0	20	0	9	0	0
		STAGE 2A																															
			302	1020+76	NB	57.0' RT	663.70	662.37	658.78	3.59 #	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			303	1020+78	SB	65.0' LT	663.68	662.35	658.88	3.47 #	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			307	1014+98	SB	58.2' LT	663.12	661.79	658.25	3.54 #	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			308	1014+96	NB	57.0' RT	663.42	662.09	658.54	3.55 #	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			311	1012+37	SB	57.5' LT	660.14	658.81	654.46	4.35 #	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			312	1011+89	NB	59.00' RT	660.21	658.88	656.51	2.37 #	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			313	1010+03	NB	58.6' RT	657.63	656.30	652.89	3.41 #	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			314	1009+37	SB	56.9' LT	656.05	654.72	651.80	2.92 #	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			317	1006+37	SB	58.00' LT	651.95	650.62	646.63	3.99 #	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			329	1001+21	SB	60.3' LT	646.44	645.11	641.57	3.54 #	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			334	1006+53	NB	58.0' RT	651.82	650.49	647.34	3.15 #	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			336	1003+77	NB	58.0' RT	647.19	645.86	643.48	2.38 #	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			337	998+30	SB	79.4' LT	647.47	646.14	639.63	6.51 #	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			338	995+15	SB	102.0' LT	651.75	650.42	637.33	13.09 #	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			339	994+57	NB	63.8' RT	653.01	652.84	636.73	16.11 #	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			346	995+13	NB	102.6' RT	650.95	649.62	644.99	4.63 #	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			350	987+50	NB	132.5' RT	655.81	655.64	635.66	19.98 #	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			351	974+05	SB	21.7' RT	644.50	643.17	639.77	3.40 #	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			352	987+53	NB	187.8' RT	651.01	649.68	635.56	14.12 #	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			355	971+97	SB	85.6' LT	653.11	651.78	648.89	2.89 #	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			356	999+00	NB	84.1' RT	640.08	639.91	638.82	1.09 #	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			359	1001+00	NB	60.7' RT	644.39	643.06	640.59	2.47 #	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			360	1000+51	NB	61.8' RT	644.34	643.01	640.29	2.72 #	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			361	1000+01	NB	61.5' RT	644.39	643.06	639.95	3.11 #	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			362	995+05	NB	61.1' RT	647.83	647.66	638.18	9.48 #	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			376	974+94	SB	119.7' LT	652.89	651.56	649.10	2.46 #	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			393	969+55	SB	68.6' LT	654.53	653.20	650.76	2.44 #	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			399	966+55	SB	67.7' LT	657.39	656.06	651.04	5.02 #	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			412	962+72	SB	65.6' LT	658.42	657.09	653.98	3.11 #	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			414	962+50	NB	57.8' RT	658.55	657.22	652.19	5.03 #	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			418	959+00	NB	58.0' RT	656.08	654.75	651.94	2.81 #	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			421	959+00	SB	59.0' LT	655.87	654.54	650.98	3.56 #	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			423	955+55	NB	57.7' RT	650.81	649.48	645.74	3.74 #	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			425	955+50	SB	59.0' LT	650.34	649.01	646.41	2.60 #	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			301C	1020+86	NB	0.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			301D	1020+82	NB	86.6' RT	-	-	639.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			302C	1020+86	NB	0.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			303C	1020+87	SB	12.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			306C	1015+02	NB	--	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			307C	1015+01	SB	12.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			308C	1015+02	NB	--	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			308D	1014+95	NB	82.9' RT	-	-	651.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			311C	1012+34	SB	0.0. RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			312D	1011+88	NB	77.3' RT	-	-	656.60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			313D	1010+03	NB	78.1' RT	-	-	652.98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			314C	1009+33	SB	0.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			314F	1008+25	SB	87.0' LT	652.78	652.61	649.27	3.34	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			314FD	1008+23	SB	72.4' LT	-	-	649.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			315AF	1008+62	NB	108.60' RT	656.10	655.93	651.51	4.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			315F	1008+00	NB	108.60' RT	653.22	653.05	650.34	2.71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			315FD	1007+98	NB	80.6' RT	-	-	649.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			317D	1006+36	SB	79.0' LT	-	-	647.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			329C	1001+21	SB	26.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			329D	1001+34	SB	83.8' LT	-	-	642.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			334D	1006+54	NB	74.2' RT	-	-	647.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			335A	1000+02	SB	67.8' LT	646.45	645.12	642.21	2.91	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			335F	1000+53	SB	65.0' LT	646.39	645.06	642.59	2.47	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			335P	998+27	SB	48.7' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			336D	1003+78	NB	75.5' RT	-	-	649.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

STORM SEWER STRUCTURE SCHEDULE (CONTINUED)

CATEGORY	PROJECT	STAGE	STRUCT. NO.	INLET AND MANHOLE COVERS							APRON ENDWALLS FOR CULVERT PIPE																				
											REINFORCED CONCRETE								REINFORCED CONCRETE HORIZONTAL			STEEL									
				611.0535 TYPE J SPECIAL (EACH)	611.0612 TYPE C (EACH)	611.0624 TYPE H (EACH)	611.0639 TYPE H-S (EACH)	611.0642 TYPE MS (EACH)	611.0654 TYPE V (EACH)	611.0666 TYPE Z (EACH)	522.1012 (I) 12-IN. (EACH)	522.1015 15-IN. (EACH)	522.1018 18-IN. (EACH)	522.1024 (J) 24-IN. (EACH)	522.1030 (K) 30-IN. (EACH)	522.1036 (L) 36-IN. (EACH)	522.1042 (M) 42-IN. (EACH)	522.1048 48-IN. (EACH)	523.0519 (N) 19 x 30-IN. (EACH)	523.0524 24 x 38-IN. (EACH)	523.0534 (O) 34 x 53-IN. (EACH)	521.1012 12-INCH (EACH)	504.0900 CONCRETE MASONRY ENDWALLS (CY)	611.9800.S PIPE GRATES (EACH)	520.8000 (G) CONCRETE COLLAR FOR PIPES (EACH)	SPV.0060.109 (P) STORM SEWER PLUG (EACH)	SPV.0060.100 DRAIN VANE TYPE A 3-FOOT (EACH)	SPV.0060.101 DRAIN VANE TYPE B 6-FOOT (EACH)	SPV.0090.102 DRAIN SLOTTED VANE LONGITUDIAL (LF)	612.0406 PIPE UNDERDRAIN WRAPPED 6-INCH (LF)	209.0300.S BACKFILL COARSE AGGREGATE SIZE NO. 1 (CY)	633.5200 MARKERS CULVERT END (EACH)
1000	1133-03-77																														
		STAGE 1B																													
			357C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			370A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			370AP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			370M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			371A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			383M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			384M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			385C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			385M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			388M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			396M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			397M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			398C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			398M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			412M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			412P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			419M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			422M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			422P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			423C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			423M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		STAGE 1B TOTAL		26	0	0	0	0	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	12	52	0	0	400	4	0
		STAGE 2A																													
			302	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			303	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			307	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			308	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			311	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			312	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			313	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			314	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			317	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			329	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			334	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			336	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			337	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			338	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			339	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			346	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			350	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			351	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			352	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			355	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			356	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			359	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			360	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			361	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			362	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			376	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			393	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			399	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			412	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			414	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			418	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			421	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			423	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			425	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			301C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			301D	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			302C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			303C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			306C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			307C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			308C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			308D	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			311C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			312D	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			313D	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			314C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			314F	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			314FD	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			315AF	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			315F	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			315FD	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			317D	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			329C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			329D	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
			334D	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			335A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			335F	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			335P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			336D	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

3

STORM SEWER STRUCTURE SCHEDULE (CONTINUED)

CATEGORY	PROJECT	STAGE	STRUCT. NO.	STATION		OFFSET	FINISHED CASTING ELEV	FINISHED TOP STRUCT. ELEV	FINISHED BOTTOM STRUCT. ELEV	FINISHED DEPTH	TEMPORARY CASTING ELEV	TEMPORARY TOP STRUCT. ELEV	TEMPORARY BOTTOM STRUCT. ELEV	TEMPORARY DEPTH	611.8110 ADJ. MANHOLE COVERS (EACH)	611.8115 ADJ. INLET COVERS (EACH)	611.0420 RECON. MANHOLE (EACH)	611.0430 RECON. INLET (EACH)	INLETS 611.3003 3-FT DIA. (EACH)	611.3004 4-FT DIA. (EACH)	611.3220 2X2-FT (EACH)	611.3225 2X2.5-FT (EACH)	611.3230 2X3-FT (EACH)	611.3901 MEDIAN 1 GRATE (EACH)	611.3902 MEDIAN 2 GRATE (EACH)	SPV.0060.107 MEDIAN 2 GRATE MODIFIED STR. 243B (EACH)	SPV.0060.108 MEDIAN 2 GRATE MODIFIED STR. 244A (EACH)	MANHOLES 611.2004 4-FT DIA. (EACH)	611.2005 5-FT DIA. (EACH)	611.2006 6-FT DIA. (EACH)	611.2007 7-FT DIA. (EACH)	611.2008 8-FT DIA. (EACH)
1000																															
	1133-03-77																														
		STAGE 2A																													
			336A	990+00	NB	100.0' RT	658.31	658.14	636.05	22.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			337D	998+31	SB	94.9' LT	-	-	639.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			338D	995+00	SB	117.7' LT	-	-	637.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			338P	995+14	SB	52.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			343C	995+06	NB	49.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			343M	995+05	NB	61.1' RT	651.91	651.74	636.82	14.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			352D	987+59	NB	318.7' RT	-	-	635.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			355D	971+86	SB	104.8' LT	-	-	648.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			355P	971+99	SB	56.7' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			357C	999+09	NB	12.1' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			357M	999+08	NB	61.9' RT	644.87	643.63	638.64	4.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			370D	984+16	NB	75.0' RT	-	-	664.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			370P	984+17	NB	49.5' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			376D	974+87	SB	139.7' LT	-	-	649.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			385C	976+12	NB	49.3' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			385D	976+11	NB	83.3' RT	-	-	649.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			393D	969+53	SB	93.7' LT	-	-	650.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			398C	969+10	NB	46.7' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			398D	969+08	NB	128.7' RT	-	-	645.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			399D	966+55	SB	99.7' LT	-	-	650.94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			412P	962+64	SB	36.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			414D	963+00	NB	91.9' RT	-	-	651.81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			418D	959+03	NB	77.9' RT	-	-	652.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			421D	959+02	SB	82.7' LT	-	-	651.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			422C	955+51	NB	0.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			423C	954+14	NB	0.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			423D	954+15	NB	77.4' RT	-	-	642.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			425D	955+55	SB	82.7' LT	-	-	646.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			EX-C	1021+77	SB	100.3' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			EX-D	1021+60	SB	97.6' LT	-	-	638.81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		STAGE 2A TOTAL													0	0	0	0	3	0	0	21	0	1	4	0	0	6	0	4	0	3
		STAGE 2B																													
			335	998+27	SB	48.7' LT	648.37	647.04	643.33	3.71	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			353	971+32	SB	44.4' LT	654.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			334C	995+06	NB	49.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			334MC	995+14	SB	0.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			335C	998+27	SB	48.7' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			338C	995+14	SB	52.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			343C	995+14	NB	52.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			353A	972+00	SB	44.9' LT	654.19	652.86	649.08	3.78	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
			355C	971+99	SB	56.7' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			370AC	984+19	NB	0.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			370C	984+17	NB	49.5' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			385C	976+12	NB	49.3' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			385MC	976+12	NB	0.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			398C	968+10	NB	46.7' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			398MC	969+11	NB	0.0'LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			412C	962+64	SB	36.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			412MC	962+55	SB	--	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		STAGE 2B TOTAL													0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
PROJECT 1133-03-77 TOTAL															0	0	0	0	52	0	0	23	0	1	4	0	0	26	0	13	0	3

3

STORM SEWER STRUCTURE SCHEDULE (CONTINUED)

CATEGORY	PROJECT	STAGE	STRUCT. NO.	INLET AND MANHOLE COVERS 611.0535 TYPE J SPECIAL (EACH)	611.0612 TYPE C (EACH)	611.0624 TYPE H (EACH)	611.0639 TYPE H-S (EACH)	611.0642 TYPE MS (EACH)	611.0654 TYPE V (EACH)	611.0666 TYPE Z (EACH)	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 522.1012 (I) 12-IN. (EACH)	522.1015 15-IN. (EACH)	522.1018 18-IN. (EACH)	522.1024 (J) 24-IN. (EACH)	522.1030 (K) 30-IN. (EACH)	522.1036 (L) 36-IN. (EACH)	522.1042 (M) 42-IN. (EACH)	522.1048 48-IN. (EACH)	REINFORCED CONCRETE HORIZONTAL 523.0519 (N) 19 x 30-IN. (EACH)	523.0524 24 x 38-IN. (EACH)	523.0534 (O) 34 x 53-IN. (EACH)	STEEL 521.1012 12-INCH (EACH)	504.0900 CONCRETE MASONRY ENDWALLS (CY)	611.9800.S PIPE GRATES (EACH)	520.8000 (G) CONCRETE COLLAR FOR PIPES (EACH)	SPV.0060.109 (P) STORM SEWER PLUG (EACH)	SPV.0060.100 DRAIN VANE TYPE A 3-FOOT (EACH)	SPV.0060.101 DRAIN VANE TYPE B 6-FOOT (EACH)	SPV.0090.102 DRAIN SLOTTED VANE LONGITUDIAL (LF)	612.0406 PIPE UNDERDRAIN WRAPPED 6-INCH (LF)	209.0300.S BACKFILL COARSE AGGREGATE SIZE NO. 1 (CY)	633.5200 MARKERS CULVERT END (EACH)
1000	1133-03-77																															
		STAGE 2A																															
			336A	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			337D	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
			338D	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
			338P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			343C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			343M	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			352D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	1
			355D	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			355P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			357C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			357M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			370D	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
			370P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			376D	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			385C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			385D	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
			393D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			398C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			398D	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
			399D	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			412P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			414D	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
			418D	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			421D	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			422C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			423C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			423D	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
			425D	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			EX-C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			EX-D	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
		STAGE 2A TOTAL		1	0	0	0	17	32	0	2	12	3	6	0	0	1	1	0	0	0	0	0	10	16	5	9	22	0	0	0	25
		STAGE 2B																															
			335	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			353	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	131	-	-	-	-
			334C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			334MC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			335C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			338C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			343C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			353A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			355C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			370AC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			370C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			385C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			385MC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			398C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			398MC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			412C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			412MC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
		STAGE 2B TOTAL		0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	2	131	0	0	0	
	PROJECT 1133-03-77 TOTAL			27	0	0	0	17	86	0	2	12	3	6	0	0	1	1	0	0	0	0	0	10	36	17	61	24	131	400	4	25

STORM SEWER STRUCTURE SCHEDULE (CONTINUED)

CATEGORY	PROJECT	STAGE	STRUCT. NO.	STATION		OFFSET	FINISHED CASTING ELEV	FINISHED TOP STRUCT. ELEV	FINISHED BOTTOM STRUCT. ELEV	FINISHED DEPTH	TEMPORARY CASTING ELEV	TEMPORARY TOP STRUCT. ELEV	TEMPORARY BOTTOM STRUCT. ELEV	TEMPORARY DEPTH	611.8110 ADJ. MANHOLE COVERS (EACH)	611.8115 ADJ. INLET COVERS (EACH)	611.0420 RECON. MANHOLE (EACH)	611.0430 RECON. INLET (EACH)	INLETS 611.3003 3-FT DIA. (EACH)	611.3004 4-FT DIA. (EACH)	611.3220 2X2-FT (EACH)	611.3225 2X2.5-FT (EACH)	611.3230 2X3-FT (EACH)	611.3901 MEDIAN 1 GRATE (EACH)	611.3902 MEDIAN 2 GRATE (EACH)	SPV.0060.107 MEDIAN 2 GRATE MODIFIED STR. 243B (EACH)	SPV.0060.108 MEDIAN 2 GRATE MODIFIED STR.244A (EACH)	MANHOLES 611.2004 4-FT DIA. (EACH)	611.2005 5-FT DIA. (EACH)	611.2006 6-FT DIA. (EACH)	611.2007 7-FT DIA. (EACH)	611.2008 8-FT DIA. (EACH)
1000	1133-09-71																														
		STAGE 1A																													
			106	818+50.0	'CD'	9.0' LT	-	-	-	-	628.60	628.60	622.73	5.87	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			112A	823+00.0	'CD'	18.0' LT	-	-	-	-	634.75	633.92	629.81	4.11	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			131A	855+25.0	'CD'	18.0' LT	-	-	-	-	610.88	610.05	606.74	3.31	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			132A	853+00.0	'CD'	18.0' LT	-	-	-	-	608.50	607.67	605.95	1.72	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			133A	850+73.0	'CD'	18.0' LT	-	-	-	-	608.25	607.42	605.16	2.26	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			136A	850+00.0	'CD'	18.0' LT	-	-	-	-	608.75	607.92	604.90	3.02	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			138A	847+00.0	'CD'	18.0' LT	-	-	-	-	610.50	609.67	606.37	3.30	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			139A	844+00.0	'CD'	18.0' LT	-	-	-	-	616.75	615.92	611.87	4.05	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			141A	862+00.0	'CD'	18.0' LT	-	-	-	-	610.30	609.47	606.44	3.03	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			143A	864+75.0	'CD'	18.0' LT	-	-	-	-	610.00	609.17	604.65	4.52	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			145A	869+00.0	'CD'	18.0' LT	-	-	-	-	607.90	607.07	602.33	4.74	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			174A	905+00.0	'IEN'	17.8' LT	-	-	-	-	616.10	615.27	612.82	2.45	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			175C	905+60.0	'IEN'	17.8' LT	-	-	-	-	616.93	616.10	612.82	3.28	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			181A	909+00.0	'IEN'	17.8' LT	-	-	-	-	619.38	618.55	614.23	4.32	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			183A	901+00.0	'IEN'	17.8' LT	-	-	-	-	618.10	617.27	614.79	2.48	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			107	818+50.0	'CD'	35.0' RT	629.16	627.83	621.42	6.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			108	817+50.0	'CD'	35.0' RT	626.48	625.15	619.67	5.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			109A	815+00.0	'CD'	35.0' RT	621.77	620.44	608.98	11.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			109B	814+50.0	'CD'	64.3' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			112B	823+00.0	'CD	9.5' LT	635.06	633.73	629.77	3.96	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			112C	823+00.0	'CD'	2.5' LT	635.34	634.09	629.14	4.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			114A	826+04.0	'CD'	18.0' LT	-	636.81	631.16	5.65	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			114B	826+04.0	'CD'	9.5' LT	637.36	636.03	631.12	4.91	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			114C	826+03.5	'CD'	2.5' LT	637.64	636.39	627.62	8.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			116A	829+58.3	'CD'	1.5' LT	638.45	637.20	626.20	11.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			116B	829+58.3	'CD'	68.6' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			116P	829+50.0	'CD'	30.3' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			118A	832+11.6	'CD'	18.0' LT	-	635.77	628.64	7.13	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			118B	832+11.6	'CD'	9.5' LT	637.43	636.10	628.53	7.57	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			118C	832+11.6	'CD'	49.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			120A	835+66.2	'CD'	18.0' LT	-	633.13	626.46	6.67	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			120B	835+66.2	'CD'	9.5' LT	634.75	633.42	626.37	7.05	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			120C	835+66.2	'CD'	48.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			122A	840+50.0	'CD'	10.3' LT	626.75	625.42	620.79	4.63	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
			122B	840+50.0	'CD'	38.3' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			131B	855+25.0	'CD'	9.5' LT	611.43	610.18	606.70	3.48	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			131C	855+25.0	'CD'	2.5' LT	611.79	610.54	606.12	4.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			132B	853+00.0	'CD'	9.5' LT	610.29	609.04	605.91	3.13	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			132C	853+00.0	'CD'	2.5' LT	610.65	609.40	605.33	4.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			133B	850+73.0	'CD'	9.5' LT	609.38	608.13	605.12	3.01	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			133C	850+73.0	'CD'	2.5' LT	609.74	608.49	604.54	3.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			134	850+63.0	'CD'	44.9' RT	608.69	607.44	604.69	2.75	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			135	850+73.0	'CD'	44.9' RT	608.68	607.43	604.68	2.75	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			136B	850+00.0	'CD'	9.5' LT	609.36	608.11	604.86	3.25	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			136C	850+00.0	'CD'	2.5' LT	609.72	608.47	604.27	4.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			137A	848+50.0	'CD'	44.9' RT	609.19	607.94	604.52	3.42	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			137B	848+50.0	'CD'	1.5' LT	610.52	609.27	603.20	6.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			138B	847+00.0	'CD'	9.5' LT	611.66	610.41	606.33	4.08	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			138C	847+00.0	'CD'	1.5' LT	612.06	610.81	602.83	7.98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			139B	844+00.0	'CD'	9.5' LT	617.49	616.24	611.83	4.41	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			139C	844+00.0	'CD	1.5' LT	617.89	616.64	602.08	14.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			139D	844+00.0	'CD'	105.1' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			141B	862+00.0	'CD'	9.5' LT	611.15	609.90	606.40	3.50	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			141C	862+00.0	'CD'	42.2' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			143B	864+75.0	'CD'	9.5' LT	609.63	608.38	604.61	3.77	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			143C	864+75.0	'CD'	46.6' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			145B	869+00.0	'CD'	9.5' LT	607.36	606.03	602.29	3.74	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			147D	870+50.0	'CD'	5.9' LT	607.42	606.17	598.20	7.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			147E	872+00.0	'CD'	63.8' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			149D	873+50.0	'NB'	87.5' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			149P	873+00.0	'NB'	35.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			150C	875+00.0	'NB'	79.6' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			150P	875+00.0	'NB'	27.6' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			151C	877+00.0	'NB'	65.1' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			151P	877+00.0	'NB'	24.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			152C	881+00.0	'NB'	77.5' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			152P	881+00.0	'NB'	28.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			153A	885+00.0	'IEN'	17.8' LT	623.18	621.85	616.63	5.22	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			153B	885+00.0	'IEN'	9.3' LT	622.68	621.35	616.50	4.85	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			153C	885+00.0	'IEN'	37.7' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			154C	887+16.0	'IEN'	25.2' RT	625.48	624.15	618.02	6.13	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			154D	887+16.0	'IEN'	40.5' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			154P	887+10.1	'NB'	35.7' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			156A	890+00.0	'IEN'	17.8' LT	629.48	628.15	621.66	6.49	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			156B	890+00.0	'IEN'	9.3' LT	628.44	627.11	621.53	5.58	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-

3

STORM SEWER STRUCTURE SCHEDULE (CONTINUED)

CATEGORY	PROJECT	STAGE	STRUCT. NO.	INLET AND MANHOLE COVERS 611.0535 TYPE J SPECIAL (EACH)	611.0612 TYPE C (EACH)	611.0624 TYPE H (EACH)	611.0639 TYPE H-S (EACH)	611.0642 TYPE MS (EACH)	611.0654 TYPE V (EACH)	611.0666 TYPE Z (EACH)	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 522.1012 (I) 12-IN. (EACH)	522.1015 15-IN. (EACH)	522.1018 18-IN. (EACH)	522.1024 (J) 24-IN. (EACH)	522.1030 (K) 30-IN. (EACH)	522.1036 (L) 36-IN. (EACH)	522.1042 (M) 42-IN. (EACH)	522.1048 48-IN. (EACH)	REINFORCED CONCRETE HORIZONTAL 523.0519 (N) 19 x 30-IN. (EACH)	523.0524 24 x 38-IN. (EACH)	523.0534 (O) 34 x 53-IN. (EACH)	STEEL 521.1012 12-INCH (EACH)	504.0900 CONCRETE MASONRY ENDWALLS (CY)	611.9800.S PIPE GRATES (EACH)	520.8000 (G) CONCRETE COLLAR FOR PIPES (EACH)	SPV.0060.109 (P) STORM SEWER PLUG (EACH)	SPV.0060.100 DRAIN VANE TYPE A 3-FOOT (EACH)	SPV.0060.101 DRAIN VANE TYPE B 6-FOOT (EACH)	SPV.0090.102 DRAIN SLOTTED VANE LONGITUDIAL (LF)	612.0406 PIPE UNDERDRAIN WRAPPED 6-INCH (LF)	209.0300.S BACKFILL COARSE AGGREGATE SIZE NO. 1 (CY)	633.5200 MARKERS CULVERT END (EACH)
1000	1133-09-71																														
		STAGE 1A																														
			106	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			112A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			131A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			132A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			133A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			136A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			138A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			139A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			141A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			143A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			145A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			174A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			175C	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			181A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			183A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			107	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			108	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			109A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			109B	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			112B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			112C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			114A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			114B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			114C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			116A	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			116B	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			116P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			118A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			118B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			118C	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			120A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			120B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			120C	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			122A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			122B	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			131B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			131C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			132B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			132C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			133B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			133C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			134	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			135	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			136B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			136C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			137A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			137B	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			138B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			138C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			139B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			139C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			139D	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			141B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			141C	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			143B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			143C	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			145B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			147D	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			147E	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			149D	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			149P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			150C	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			150P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			151C	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			151P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			152C	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			152P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			153A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			153B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			153C	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			154C	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			154D	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			154P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			156A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			156B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-

STORM SEWER STRUCTURE SCHEDULE (CONTINUED)

CATEGORY	PROJECT	STAGE	STRUCT. NO.	STATION		OFFSET	FINISHED CASTING ELEV	FINISHED TOP STRUCT. ELEV	FINISHED BOTTOM STRUCT. ELEV	FINISHED DEPTH	TEMPORARY CASTING ELEV	TEMPORARY TOP STRUCT. ELEV	TEMPORARY BOTTOM STRUCT. ELEV	TEMPORARY DEPTH	611.8110 ADJ. MANHOLE COVERS (EACH)	611.8115 ADJ. INLET COVERS (EACH)	611.0420 RECON. MANHOLE (EACH)	611.0430 RECON. INLET (EACH)	INLETS 611.3003 3-FT DIA. (EACH)	611.3004 4-FT DIA. (EACH)	611.3220 2X2-FT (EACH)	611.3225 2X2.5-FT (EACH)	611.3230 2X3-FT (EACH)	611.3901 MEDIAN 1 GRATE (EACH)	611.3902 MEDIAN 2 GRATE (EACH)	SPV.0060.107 MEDIAN 2 GRATE MODIFIED STR. 243B (EACH)	SPV.0060.108 MEDIAN 2 GRATE MODIFIED STR. 244A (EACH)	MANHOLES 611.2004 4-FT DIA. (EACH)	611.2005 5-FT DIA. (EACH)	611.2006 6-FT DIA. (EACH)	611.2007 7-FT DIA. (EACH)	611.2008 8-FT DIA. (EACH)
1000																															
	1133-09-71																														
		STAGE 1A																													
			156C	890+00.0	'IEN'	40.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			157A	894+91.0	'IEN'	26.0' RT	628.29	626.96	622.83	4.13	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
			157B	894+91.0	'IEN'	84.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			159A	896+00.0	'IEN'	17.8' LT	628.70	627.37	621.79	5.58	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			159B	896+00.0	'IEN'	9.3' LT	628.02	626.69	621.66	5.03	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			159C	896+00.0	'IEN'	48.3' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			174B	905+00.0	'IEN'	9.3' LT	-	616.74	612.78	3.96	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			174C	905+00.0	'IEN'	2.3' LT	618.35	617.10	612.20	4.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			175A	905+80.0	'IEN'	47.0' RT	617.09	615.76	612.34	3.42	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			175B	905+90.0	'IEN'	47.0' RT	617.08	615.75	612.29	3.46	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			175D	905+90.0	'IEN'	9.3' LT	-	616.62	612.66	3.96	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			175E	905+90.0	'IEN'	2.3' LT	618.23	616.98	611.75	5.23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			179	912+50.0	'IEN'	35.0' RT	622.52	621.19	616.46	4.73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			179P	912+50.0	'IEN'	36.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			180	909+50.0	'IEN'	44.8' RT	619.33	618.00	613.46	4.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			181B	909+00.0	'IEN'	9.3' LT	-	618.15	614.19	3.96	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			181C	909+00.0	'IEN'	2.3' LT	619.76	618.51	610.82	7.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			181D	909+50.0	'IEN'	1.3' LT	620.31	619.06	610.12	8.94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			182A	909+50.0	'NB'	43.5' LT	618.85	617.60	609.43	8.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			182B	909+50.0	'NB'	130.4' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			183B	901+00.0	'IEN'	9.3' LT	621.83	620.50	612.16	8.34	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			183C	901+00.0	'IEN'	81.2' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			208A	829+50.0	'OWC'	22.0' RT	632.27	630.94	626.28	4.66	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			208B	829+50.0	'OWC'	20.9' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			209A	833+75.0	'OWC'	25.2' RT	621.77	620.44	613.32	7.12	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			209B	833+75.0	'OWC'	45.2' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			241A	801+00.0	'NB'	84.1' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			241B	800+56.0	'NB'	66.4' RT	600.39	599.14	596.84	2.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			241C	799+76.0	'NB'	66.1' RT	599.91	598.66	596.70	1.96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			241D	799+50.0	'NB'	78.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			242A	866+50.0	'CD'	68.9' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			242B	867+00.0	'INE'	43.0' RT	606.99	605.74	601.32	4.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			242C	868+00.0	'INE'	43.0' RT	605.29	604.04	600.82	3.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			242D	868+62.0	'INE'	48.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			243B	833+90.0	'NB'	190.6' LT	603.52	603.52	598.98	4.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			243C	834+00.0	'CD'	165.2' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			249A	830+00.0	'OWC'	90.8' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			250A	834+12.0	'OWC'	105.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			251A	836+85.0	'OWC'	93.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			254A	861+50.0	'IEN'	23.0' LT	605.08	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			254B	861+50.0	'IEN'	1.0' LT	608.45	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			255A	863+90.0	'IEN'	22.3' LT	605.88	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			255B	863+90.0	'IEN'	12.5' LT	605.57	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			255C	863+90.0	'IEN'	1.0' LT	605.85	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			256A	866+90.0	'IEN'	23.2' LT	604.88	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			256B	866+90.0	'IEN'	1.0' LT	604.84	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			257A	869+88.0	'IEN'	24.6' LT	604.10	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			257B	869+89.0	'IEN'	14.0' LT	603.16	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			257C	869+89.0	'IEN'	1.0' LT	603.91	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			258A	925+35.0	'IWS'	23.5' RT	608.40	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			259A	926+50.0	'IWS'	9.3' RT	609.07	609.07	604.40	4.67	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			259B	926+50.0	'IWS'	43.8' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		STAGE 1A TOTAL													0	11	0	0	47	1	2	0	0	2	0	1	0	17	0	7	0	1
		STAGE 1B																													
			106	818+50.0	'CD'	9.0' LT	629.31	629.31	622.73	6.58	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			112A	823+00.0	'CD'	18.0' LT	635.66	634.33	629.81	4.52	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			131A	855+25.0	'CD'	18.0' LT	611.99	610.74	606.74	4.00	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			132A	853+00.0	'CD'	18.0' LT	610.85	609.60	605.95	3.65	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			133A	850+73.0	'CD'	18.0' LT	609.81	608.56	605.16	3.40	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			136A	850+00.0	'CD'	18.0' LT	609.66	608.41	604.90	3.51	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			138A	847+00.0	'CD'	18.0' LT	611.48	610.23	606.37	3.86	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			139A	844+00.0	'CD'	18.0' LT	617.58	616.33	611.87	4.46	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			141A	862+00.0	'CD'	18.0' LT	612.17	610.92	606.44	4.48	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			143A	864+75.0	'CD'	18.0' LT	610.79	609.54	604.65	4.89	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			145A	869+00.0	'CD'	18.0' LT	608.74	607.41	602.33	5.08	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			174A	905+00.0	'IEN'	17.8' LT	618.28	616.95	612.82	4.13	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			175C	905+60.0	'IEN'	17.8' LT	618.25	616.92	612.82	4.10	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			181A	909+00.0	'IEN'	17.8' LT	620.17	618.84	614.23	4.61	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			183A	901+00.0	'IEN'	17.8' LT	621.86	620.53	614.79	5.74	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			124C	840+00.0	'NB'	41.5' LT	-	-	-	-	622.50	621.75	613.35	8.40	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			125B	857+00.0	'NB'	34.5' LT	-	-	-	-	610.25	609.42	607.50	1.92	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			128D	850+00.0	'NB'	34.5' LT	-	-	-	-	608.00	607.17	604.72	2.45	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			129B	847+00.0	'NB'	34.5' LT	-	-	-	-	610.00	609.17	605.83	3.34	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			130B	843+50.0	'NB'	34.5' LT	-	-	-	-	615.50	614.67	611.33	3.34	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			142A	864+75.0	'NB'	34.5' LT	-	-	-	-	608.50	607.67	604.99	2.68	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			144A	867+50.0	'NB'	34.5' LT	-	-	-	-	609.75	608.92	604.24	4.68	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			147A	870+50.0	'NB'	34.5' LT	-	-	-	-	607.15	606.32	601.87	4.45	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			148A	872+80.0	'NB'	34.5' LT	-	-	-	-	606.50	605.67	601.63	4.04	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			149A	873+50.0	'NB'	34.5' LT	-	-	-	-	607.00	606.17	601.93	4.24	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-

STORM SEWER STRUCTURE SCHEDULE (CONTINUED)

CATEGORY	PROJECT	STAGE	STRUCT. NO.	INLET AND MANHOLE COVERS							APRON ENDWALLS FOR CULVERT PIPE																					
											REINFORCED CONCRETE								REINFORCED CONCRETE HORIZONTAL			STEEL									
				611.0535 TYPE J SPECIAL (EACH)	611.0612 TYPE C (EACH)	611.0624 TYPE H (EACH)	611.0639 TYPE H-S (EACH)	611.0642 TYPE MS (EACH)	611.0654 TYPE V (EACH)	611.0666 TYPE Z (EACH)	522.1012 (I) 12-IN. (EACH)	522.1015 15-IN. (EACH)	522.1018 18-IN. (EACH)	522.1024 (J) 24-IN. (EACH)	522.1030 (K) 30-IN. (EACH)	522.1036 (L) 36-IN. (EACH)	522.1042 (M) 42-IN. (EACH)	522.1048 48-IN. (EACH)	523.0519 (N) 19 x 30-IN. (EACH)	523.0524 24 x 38-IN. (EACH)	523.0534 (O) 34 x 53-IN. (EACH)	521.1012 12-INCH (EACH)	504.0900 CONCRETE MASONRY ENDWALLS (CY)	611.9800.S PIPE GRATES (EACH)	520.8000 (G) CONCRETE COLLAR FOR PIPES (EACH)	SPV.0060.109 (P) STORM SEWER PLUG (EACH)	SPV.0060.100 DRAIN VANE TYPE A 3-FOOT (EACH)	SPV.0060.101 DRAIN VANE TYPE B 6-FOOT (EACH)	SPV.0090.102 DRAIN SLOTTED VANE LONGITUDIAL (LF)	612.0406 PIPE UNDERDRAIN WRAPPED 6-INCH (LF)	209.0300.S BACKFILL COARSE AGGREGATE SIZE NO. 1 (CY)	633.5200 MARKERS CULVERT END (EACH)
1000	1133-09-71																														
		STAGE 1A																													
			156C	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			157A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			157B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
			159A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			159B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			159C	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			174B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			174C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			175A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			175B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			175D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	0.3	-
			175E	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			179	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			179P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			180	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			181B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			181C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			181D	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			182A	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			182B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			183B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			183C	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			208A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			208B	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			209A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			209B	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			241A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
			241B	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			241C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			241D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
			242A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
			242B	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			242C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			242D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
			243B	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			243C	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	1.7	-	-	-	-	-	-	-	3
			249A	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			250A	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			251A	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			254A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			254B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			255A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			255B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			255C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			256A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			256B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			257A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			257B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			257C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			258A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			259A	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			259B	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
		STAGE 1A TOTAL		20	0	0	0	6	49	0	0	0	1	17	4	1	2	1	1	2	2	0	1	2	0	0	7	24	13	0	160	1	33
		STAGE 1B																														
			106	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			112A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			131A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			132A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			133A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			136A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			138A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			139A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			141A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			143A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			145A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			174A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			175C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	40	0.3	-
			181A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			183A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			124C	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			125B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			128D	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			129B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			130B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			142A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			144A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			147A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			148A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			149A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

STORM SEWER STRUCTURE SCHEDULE (CONTINUED)

CATEGORY	PROJECT	STAGE	STRUCT. NO.	STATION		OFFSET	FINISHED CASTING ELEV	FINISHED TOP STRUCT. ELEV	FINISHED BOTTOM STRUCT. ELEV	FINISHED DEPTH	TEMPORARY CASTING ELEV	TEMPORARY TOP STRUCT. ELEV	TEMPORARY BOTTOM STRUCT. ELEV	TEMPORARY DEPTH	611.8110 ADJ. MANHOLE COVERS (EACH)	611.8115 ADJ. INLET COVERS (EACH)	611.0420 RECON. MANHOLE (EACH)	611.0430 RECON. INLET (EACH)	INLETS 611.3003 3-FT DIA. (EACH)	611.3004 4-FT DIA. (EACH)	611.3220 2X2-FT (EACH)	611.3225 2X2.5-FT (EACH)	611.3230 2X3-FT (EACH)	611.3901 MEDIAN 1 GRATE (EACH)	611.3902 MEDIAN 2 GRATE (EACH)	SPV.0060.107 MEDIAN 2 GRATE MODIFIED STR. 243B (EACH)	SPV.0060.108 MEDIAN 2 GRATE MODIFIED STR. 244A (EACH)	MANHOLES 611.2004 4-FT DIA. (EACH)	611.2005 5-FT DIA. (EACH)	611.2006 6-FT DIA. (EACH)	611.2007 7-FT DIA. (EACH)	611.2008 8-FT DIA. (EACH)
1000																															
	1133-09-71																														
		STAGE 1B																													
			150A	875+00.0	'NB'	34.5' LT	-	-	-	-	607.50	606.67	602.51	4.16	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			151A	877+00.0	'NB'	34.5' LT	-	-	-	-	608.50	607.67	604.29	3.38	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			152A	881+00.0	'NB'	34.5' LT	-	-	-	-	614.00	613.17	609.48	3.69	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			154A	887+00.0	'NB'	34.5' LT	-	-	-	-	622.75	621.92	619.71	2.21	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			155A	890+00.0	'NB'	34.5' LT	-	-	-	-	626.50	625.67	622.68	2.99	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			158A	896+00.0	'NB'	34.5' LT	-	-	-	-	627.00	626.17	622.81	3.36	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			161C	898+50.0	'NB'	41.5' LT	-	-	-	-	621.50	620.75	617.60	3.15	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			162C	901+00.0	'NB'	41.5' LT	-	-	-	-	-	620.00	615.10	4.90	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			163C	903+50.0	'NB'	41.5' LT	-	-	-	-	616.00	615.25	612.60	2.65	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			165B	905+60.0	'NB'	34.5' LT	-	-	-	-	615.50	614.67	612.38	2.29	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			166B	906+90.0	'NB'	34.5' LT	-	-	-	-	615.25	614.42	612.04	2.38	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			167B	909+00.0	'NB'	34.5' LT	-	-	-	-	617.00	616.17	612.75	3.42	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			100A	801+00.0	'NB'	26.0' LT	601.84	600.51	597.20	3.31	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			100B	801+00.0	'NB'	34.5' LT	601.88	600.55	597.18	3.37	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			100C	801+00.0	'NB'	41.5' LT	602.16	600.91	597.08	3.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			101A	804+00.0	'NB'	26.0' LT	603.49	602.16	598.79	3.37	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			101B	804+00.0	'NB'	34.5' LT	603.53	602.20	598.75	3.45	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			101C	804+00.0	'NB'	41.5' LT	603.81	602.56	596.63	5.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			102A	817+50.0	'NB'	26.0' LT	627.52	626.19	622.77	3.42	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			102B	817+50.0	'NB'	34.5' LT	628.04	626.71	622.73	3.98	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			102C	817+50.0	'NB'	41.5' LT	628.32	627.07	620.00	7.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			103A	814+00.0	'NB'	26.0' LT	620.38	619.05	615.57	3.48	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			103B	814+00.0	'NB'	34.5' LT	621.19	619.86	615.53	4.33	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			103C	814+00.0	'NB'	41.5' LT	621.47	620.22	613.00	7.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			104A	810+50.0	'NB'	26.0' LT	611.72	610.39	606.87	3.52	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			104B	810+50.0	'NB'	34.5' LT	612.26	610.93	606.83	4.10	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			104C	810+50.0	'NB'	41.5' LT	612.54	611.29	606.00	5.29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			105A	807+00.0	'NB'	26.0' LT	605.62	604.29	600.87	3.42	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			105B	807+00.0	'NB'	34.5' LT	605.55	604.22	600.83	3.39	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			105C	807+00.0	'NB'	42.5' LT	605.87	604.62	596.10	8.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			105D	807+00.0	'NB'	139.9' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			111A	823+00.0	'NB'	34.5' LT	634.97	633.64	630.15	3.49	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			111B	823+00.0	'NB'	26.0' LT	634.65	633.32	630.11	3.21	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			113A	826+00.0	'NB'	34.5' LT	636.62	635.29	631.50	3.79	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			113B	826+00.0	'NB'	26.0' LT	636.00	634.67	631.45	3.22	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			114A	826+04.0	'CD'	18.0' LT	638.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			115A	829+50.0	'NB'	34.5' LT	636.09	634.76	631.34	3.42	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			115B	829+50.0	'NB'	26.0' LT	636.12	634.79	631.30	3.49	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			115J	829+50.0	'NB'	30.3' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			117A	832+00.0	'NB'	34.5' LT	634.89	633.56	629.50	4.06	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			117B	832+00.0	'NB'	26.0' LT	634.96	633.63	629.39	4.24	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			118A	832+11.6	'CD'	18.0' LT	637.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			119A	835+50.0	'NB'	34.5' LT	632.47	631.14	627.15	3.99	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			119B	835+50.0	'NB'	26.0' LT	632.16	630.83	627.06	3.77	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			120A	835+66.2	'CD'	18.0' LT	634.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			124A	840+00.0	'NB'	26.0' LT	624.46	623.21	619.69	3.52	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			124B	840+00.0	'NB'	34.5' LT	625.24	623.99	619.65	4.34	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			125A	857+00.0	'NB'	26.0' LT	612.34	611.09	607.54	3.55	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			125C	857+00.0	'NB'	41.5' LT	613.07	611.82	606.40	5.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			126A	854+50.0	'NB'	26.0' LT	611.15	609.90	606.39	3.51	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			126B	854+50.0	'NB'	34.5' LT	-	610.20	606.35	3.85	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			126C	854+50.0	'NB'	42.5' LT	-	610.60	605.77	4.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			127A	851+75.0	'NB'	26.0' LT	609.77	608.52	605.70	2.82	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			127B	851+75.0	'NB'	34.5' LT	-	608.82	605.66	3.16	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			127C	851+75.0	'NB'	42.5' LT	-	609.22	605.08	4.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			128A	849+90.0	'NB'	26.0' LT	609.22	607.97	604.81	3.16	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			128B	850+00.0	'NB'	26.0' LT	609.20	607.95	604.76	3.19	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			128C	849+90.0	'NB'	34.5' LT	609.54	608.29	605.27	3.02	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			128E	850+00.0	'NB'	42.5' LT	-	608.67	604.10	4.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			129A	847+00.0	'NB'	26.0' LT	611.02	609.77	605.87	3.90	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			129C	847+00.0	'NB'	42.5' LT	611.44	610.19	602.95	7.24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			130A	843+50.0	'NB'	26.0' LT	617.19	615.94	611.37	4.57	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			130C	843+50.0	'NB'	42.5' LT	617.83	616.58	601.89	14.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			130D	843+00.0	'NB'	135.7' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			140A	862+00.0	'NB'	34.5' LT	-	612.07	606.78	5.29	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			140B	862+00.0	'NB'	26.0' LT	-	610.46	606.74	3.72	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			142B	864+75.0	'NB'	26.0' LT	610.33	609.08	604.95	4.13	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			144B	867+50.0	'NB'	26.0' LT	609.03	607.70	604.20	3.50	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			144C	867+50.0	'NB'	19.0' LT	609.31	608.06	603.62	4.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			147B	870+50.0	'NB'	26.0' LT	607.54	606.21	601.83	4.38	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			147C	870+50.0	'NB'	19.0' LT	607.82	606.57	599.11	7.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			148B	872+80.0	'NB'	26.0' LT	606.91	605.58	601.59	3.99	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			148C	872+80.0	'NB'	19.0' LT	607.19	605.94	600.51	5.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			149B	873+50.0	'NB'	26.0' LT	606.98	605.65	601.89	3.76	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			149C	873+50.0	'NB'	18.0' LT	607.30	606.05	599.81	6.24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			149J	873+00.0	'NB'	35.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			150B	875+00.0	'NB'	26.0' LT	607.48	606.15	602.38	3.77	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			150J	875+00.0	'NB'	27.6' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			151B	877+00.0	'NB'	26.0' LT	609.03	607.70	604.16	3.54	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			151J	877+00.0	'NB'	24.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			152B	881+00.0	'NB'	26.0' LT	615.06	613.73	609.35	4.38	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			152J	881+00.0	'NB'	28.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			154B	887+00.0	'NB'	26.0' LT	625.95	624.62	619.58	5.04	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			154J	887+10.1	'NB'	35.7' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			155B	890+00.0	'NB'	26.0' LT	629.21	627.88	622.55	5.33	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-

STORM SEWER STRUCTURE SCHEDULE (CONTINUED)

CATEGORY	PROJECT	STAGE	STRUCT. NO.	INLET AND MANHOLE COVERS 611.0535 TYPE J SPECIAL (EACH)	611.0612 TYPE C (EACH)	611.0624 TYPE H (EACH)	611.0639 TYPE H-S (EACH)	611.0642 TYPE MS (EACH)	611.0654 TYPE V (EACH)	611.0666 TYPE Z (EACH)	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 522.1012 (I) 12-IN. (EACH)	522.1015 15-IN. (EACH)	522.1018 18-IN. (EACH)	522.1024 (J) 24-IN. (EACH)	522.1030 (K) 30-IN. (EACH)	522.1036 (L) 36-IN. (EACH)	522.1042 (M) 42-IN. (EACH)	522.1048 48-IN. (EACH)	REINFORCED CONCRETE HORIZONTAL 523.0519 (N) 19 x 30-IN. (EACH)	523.0524 24 x 38-IN. (EACH)	523.0534 (O) 34 x 53-IN. (EACH)	STEEL 521.1012 12-INCH (EACH)	504.0900 CONCRETE MASONRY ENDWALLS (CY)	611.9800.S PIPE GRATES (EACH)	520.8000 (G) CONCRETE COLLAR FOR PIPES (EACH)	SPV.0060.109 (P) STORM SEWER PLUG (EACH)	SPV.0060.100 DRAIN VANE TYPE A 3-FOOT (EACH)	SPV.0060.101 DRAIN VANE TYPE B 6-FOOT (EACH)	SPV.0090.102 DRAIN SLOTTED VANE LONGITUDIAL (LF)	612.0406 PIPE UNDERDRAIN WRAPPED 6-INCH (LF)	209.0300.S BACKFILL COARSE AGGREGATE SIZE NO. 1 (CY)	633.5200 MARKERS CULVERT END (EACH)
1000	1133-09-71																															
		STAGE 1B																															
			150A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			151A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			152A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			154A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			155A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			158A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			161C	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			162C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			163C	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			165B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			166B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			167B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			100A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			100B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			100C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			101A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			101B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			101C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			102A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			102B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			102C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			103A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			103B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			103C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			104A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			104B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			104C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			105A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			105B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			105C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			105D	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			111A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			111B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			113A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			113B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			114A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			115A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			115B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			115J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			117A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			117B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			118A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			119A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			119B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			120A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			124A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			124B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			125A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			125C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			126A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			126B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			126C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			127A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			127B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			127C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			128A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			128B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			128C	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			128E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			129A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			129C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			130A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			130C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			130D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			140A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			140B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	0.15	-
			142B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			144B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			144C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			147B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			147C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			148B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			148C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			149B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	40	0.3	-
			149C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			149J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			150B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			150J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			151B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			151J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			152B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			152J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			154B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			154J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			155B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-

STORM SEWER STRUCTURE SCHEDULE (CONTINUED)

CATEGORY	PROJECT	STAGE	STRUCT. NO.	STATION		OFFSET	FINISHED CASTING ELEV	FINISHED TOP STRUCT. ELEV	FINISHED BOTTOM STRUCT. ELEV	FINISHED DEPTH	TEMPORARY CASTING ELEV	TEMPORARY TOP STRUCT. ELEV	TEMPORARY BOTTOM STRUCT. ELEV	TEMPORARY DEPTH	611.8110 ADJ. MANHOLE COVERS (EACH)	611.8115 ADJ. INLET COVERS (EACH)	611.0420 RECON. MANHOLE (EACH)	611.0430 RECON. INLET (EACH)	INLETS 611.3003 3-FT DIA. (EACH)	611.3004 4-FT DIA. (EACH)	611.3220 2X2-FT (EACH)	611.3225 2X2.5-FT (EACH)	611.3230 2X3-FT (EACH)	611.3901 MEDIAN 1 GRATE (EACH)	611.3902 MEDIAN 2 GRATE (EACH)	SPV.0060.107 MEDIAN 2 GRATE MODIFIED STR. 243B (EACH)	SPV.0060.108 MEDIAN 2 GRATE MODIFIED STR. 244A (EACH)	MANHOLES 611.2004 4-FT DIA. (EACH)	611.2005 5-FT DIA. (EACH)	611.2006 6-FT DIA. (EACH)	611.2007 7-FT DIA. (EACH)	611.2008 8-FT DIA. (EACH)
1000																															
	1133-09-71																														
		STAGE 1B																													
			158B	896+00.0	'NB'	26.0' LT	628.23	626.90	622.68	4.22	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			161A	898+50.0	'NB'	26.0' LT	625.25	623.92	617.96	5.96	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			161B	898+50.0	'NB'	34.5' LT	625.79	624.46	617.92	6.54	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			162A	901+00.0	'NB'	26.0' LT	621.40	620.07	616.10	3.97	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			162B	901+00.0	'NB'	34.5' LT	622.97	621.64	616.06	5.58	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			163A	903+50.0	'NB'	26.0' LT	618.55	617.22	613.25	3.97	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			163B	903+50.0	'NB'	34.5' LT	619.42	618.09	613.21	4.88	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			164A	905+00.0	'NB'	26.0' LT	617.81	616.48	612.51	3.97	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			164B	905+00.0	'NB'	34.5' LT	617.97	616.64	612.47	4.17	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			164C	905+00.0	'NB'	41.5' LT	618.25	617.00	611.85	5.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			165A	905+60.0	'NB'	26.0' LT	617.79	616.46	612.42	4.04	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			165C	905+60.0	'NB'	41.5' LT	617.95	616.70	611.55	5.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			166A	906+90.0	'NB'	26.0' LT	618.05	616.72	612.08	4.64	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			166C	906+90.0	'NB'	42.5' LT	617.65	616.40	610.86	5.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			167A	909+00.0	'NB'	26.0' LT	619.70	618.37	612.79	5.58	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			167C	909+00.0	'NB'	42.5' LT	618.36	617.11	609.81	7.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			168A	928+00.0	'NB'	26.0' LT	649.24	647.91	643.75	4.16	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			168B	928+00.0	'NB'	34.5' LT	649.00	647.67	643.71	3.96	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			168C	928+00.0	'NB'	41.5' LT	649.28	648.03	642.25	5.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			169A	924+50.0	'NB'	26.0' LT	642.94	641.61	637.64	3.97	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			169B	924+50.0	'NB'	34.5' LT	642.93	641.60	637.60	4.00	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			169C	924+50.0	'NB'	41.5' LT	643.21	641.96	634.50	7.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			170A	921+00.0	'NB'	26.0' LT	634.97	633.64	629.67	3.97	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			170B	921+00.0	'NB'	34.5' LT	635.05	633.72	629.63	4.09	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			170C	921+00.0	'NB'	41.5' LT	635.33	634.08	627.75	6.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			171A	917+50.0	'NB'	26.0' LT	628.42	627.09	622.86	4.23	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			171B	917+50.0	'NB'	34.5' LT	628.11	626.78	622.82	3.96	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			171C	917+50.0	'NB'	41.5' LT	628.39	627.14	622.00	5.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			172A	914+00.0	'NB'	26.0' LT	624.71	623.38	618.50	4.88	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			172B	914+00.0	'NB'	34.5' LT	-	622.42	618.46	3.96	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			172C	914+00.0	'NB'	41.5' LT	-	622.78	616.75	6.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			173A	911+50.0	'NB'	26.0' LT	622.20	620.87	615.47	5.40	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			173B	911+50.0	'NB'	34.5' LT	-	619.39	615.43	3.96	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			173C	911+50.0	'NB'	41.5' LT	-	619.75	612.46	7.29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			187A	932+50.0	'NB'	26.0' LT	653.52	652.19	647.77	4.42	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			187B	932+50.0	'NB'	34.5' LT	653.56	652.23	647.64	4.59	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			188A	933+00.0	'NB'	119.5' LT	653.97	652.64	646.15	6.49	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			188B	933+00.0	'NB'	143.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			191A	951+50.0	'NB'	34.5' LT	644.12	642.79	638.47	4.32	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			191B	951+50.0	'NB'	26.0' LT	644.18	642.85	638.43	4.42	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			191C	951+50.0	'NB'	19.0' LT	644.46	643.21	637.85	5.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			192A	949+40.0	'NB'	34.5' LT	642.95	641.62	637.63	3.99	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			192B	949+40.0	'NB'	26.0' LT	642.61	641.28	637.59	3.69	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			192C	949+40.0	'NB'	19.0' LT	642.89	641.64	637.01	4.63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			193A	948+90.0	'NB'	34.5' LT	642.99	641.66	637.43	4.23	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			193B	948+90.0	'NB'	26.0' LT	642.51	641.18	637.39	3.79	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			193C	948+90.0	'NB'	19.0' LT	642.79	641.54	636.81	4.73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			194A	946+50.0	'NB'	34.5' LT	645.23	643.90	638.47	5.43	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			194B	946+50.0	'NB'	26.0' LT	643.90	642.57	638.43	4.14	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			194C	946+50.0	'NB'	19.0' LT	644.18	642.93	635.31	7.62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			195A	943+50.0	'NB'	34.5' LT	649.73	648.40	641.37	7.03	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			195B	943+50.0	'NB'	26.0' LT	647.34	646.01	641.33	4.68	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			195C	943+50.0	'NB'	18.0' LT	647.66	646.41	634.11	12.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			196	940+00.0	'NB'	176.9' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			197A	940+00.0	'NB'	34.5' LT	653.29	651.96	645.87	6.09	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			197B	940+00.0	'NB'	26.0' LT	651.36	650.03	645.83	4.20	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			197C	940+00.0	'NB'	18.0' LT	651.68	650.43	625.37	25.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			197D	940+00.0	'NB'	122.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			210A	905+64.5	'PIL'	51.0' RT	615.01	614.01	611.26	2.75	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			210B	905+27.3	'PIL'	30.6' RT	615.75	614.75	610.97	3.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			212A	911+00.0	'PIL'	1.5' LT	620.49	619.49	615.44	4.05	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			212B	911+00.0	'PIL'	42.5' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			213A	913+00.0	'PIL'	1.5' LT	622.62	621.62	617.67	3.95	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			213B	913+00.0	'PIL'	42.4' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			214A	915+00.0	'PIL'	1.5' LT	623.83	622.83	617.25	5.58	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			214B	915+00.0	'PIL'	44.9' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			215A	917+00.0	'PIL'	1.5' LT	625.00	624.00	620.21	3.79	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			215B	917+00.0	'PIL'	41.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			261A	919+50.0	'PIL'	1.5' LT	626.46	625.46	622.21	3.25	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			261B	919+50.0	'PIL'	40.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			262A	928+50.0	'PIL'	1.5' LT	628.28	627.28	625.24	2.04	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			262B	928+50.0	'PIL'	17.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		STAGE 1B TOTAL													0	8	0	7	102	1	0	0	7	0	0	0	0	25	0	12	0	0
		STAGE 2																													
			124C	840+00.0	'NB'	41.5' LT	625.55	624.30	613.35	10.95	-	-	-	-	-	-	1	-	-	-	-		-	-	-	-	-	-	-	1	-
			125B	857+00.0	'NB'	34.5' LT	612.71	611.46	607.50	3.96	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			128D	850+00.0	'NB'	34.5' LT	609.52	608.27	604.72	3.55	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			129B	847+00.0	'NB'	34.5' LT	611.04	609.79	605.83	3.96	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			130B	843+50.0	'NB'	34.5' LT	617.47	616.22	611.33	4.89	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			142A	864+75.0	'NB'	34.5' LT	612.04	610.79	604.99	5.80	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			144A	867+50.0	'NB'	34.5' LT	610.74	609.41	604.24	5.17	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			147A	870+50.0	'NB'	34.5' LT	609.23	607.90	601.87	6.03	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			148A	872+80.0	'NB'	34.5' LT	608.30	606.97	601.63	5.34	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			149A	873+50.0	'NB'	34.5' LT	608.25	606.92	601.93	4.99	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			150A	875+00.0	'NB'	34.5' LT	608.48	607.15	602.51	4.64	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			151A	877+00.0	'NB'	34.5' LT	609.69	608.36	604.29	4.07	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			152A	881+00.0	'NB'	34.5' LT	615.07	613.74	609.48	4.26	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			154A	887+00.0	'NB'	34.5' LT	624.70	623.37	619.71	3.66	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			155A	890+00.0	'NB'	34.5' LT	628.34	627.01	622.68	4.33	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-

STORM SEWER STRUCTURE SCHEDULE (CONTINUED)

CATEGORY	PROJECT	STAGE	STRUCT. NO.	INLET AND MANHOLE COVERS							APRON ENDWALLS FOR CULVERT PIPE												504.0900 CONCRETE MASONRY ENDWALLS (CY)	611.9800.S PIPE GRATES (EACH)	520.8000 (G) CONCRETE COLLAR FOR PIPES (EACH)	SPV.0060.109 (P) STORM SEWER PLUG (EACH)	SPV.0060.100 DRAIN VANE TYPE A 3-FOOT (EACH)	SPV.0060.101 DRAIN VANE TYPE B 6-FOOT (EACH)	SPV.0090.102 DRAIN SLOTTED VANE LONGITUDIAL (LF)	612.0406 PIPE UNDERDRAIN WRAPPED 6-INCH (LF)	209.0300.S BACKFILL COARSE AGGREGATE SIZE NO. 1 (CY)	633.5200 MARKERS CULVERT END (EACH)
											REINFORCED CONCRETE								REINFORCED CONCRETE HORIZONTAL			STEEL										
				611.0535 TYPE J SPECIAL (EACH)	611.0612 TYPE C (EACH)	611.0624 TYPE H (EACH)	611.0639 TYPE H-S (EACH)	611.0642 TYPE MS (EACH)	611.0654 TYPE V (EACH)	611.0666 TYPE Z (EACH)	522.1012 (I) 12-IN. (EACH)	522.1015 15-IN. (EACH)	522.1018 18-IN. (EACH)	522.1024 (J) 24-IN. (EACH)	522.1030 (K) 30-IN. (EACH)	522.1036 (L) 36-IN. (EACH)	522.1042 (M) 42-IN. (EACH)	522.1048 48-IN. (EACH)	523.0519 (N) 19 x 30-IN. (EACH)	523.0524 24 x 38-IN. (EACH)	523.0534 (O) 34 x 53-IN. (EACH)	521.1012 12-INCH (EACH)										
1000																																
	1133-09-71																															
		STAGE 1B																														
			158B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			161A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			161B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			162A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			162B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			163A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			163B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			164A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			164B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			164C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			165A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	40	0.3	-
			165C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			166A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	40	0.3	-
			166C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			167A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			167C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			168A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			168B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			168C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			169A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			169B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			169C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			170A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			170B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			170C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			171A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			171B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			171C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			172A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			172B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			172C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			173A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			173B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			173C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			187A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			187B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			188A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			188B	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			191A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			191B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			191C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			192A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			192B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			192C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			193A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			193B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	40	0.3	-
			193C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			194A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			194B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			194C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			195A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			195B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			195C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			196	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			197A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			197B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	20	0.15	-
			197C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			197D	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			210A	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			210B	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-
			212A	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			212B	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			213A	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			213C	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			214A	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			214B	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			215A	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			215B	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			261A	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			261B	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			262A	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			262B	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
		STAGE 1B TOTAL		27	3	7	1	0	100	0	1	0	6	0	0	2	2	0	0	0	0	0	0	0	8	0	92	1	0	1,400	11	11
		STAGE 2																														
			124C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			125B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			128D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			129B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			130B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			142A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			144A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			147A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			148A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			149A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			150A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			151A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			152A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			154A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			155A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-

STORM SEWER STRUCTURE SCHEDULE (CONTINUED)

CATEGORY	PROJECT	STAGE	STRUCT. NO.	STATION		OFFSET	FINISHED CASTING ELEV	FINISHED TOP STRUCT. ELEV	FINISHED BOTTOM STRUCT. ELEV	FINISHED DEPTH	TEMPORARY CASTING ELEV	TEMPORARY TOP STRUCT. ELEV	TEMPORARY BOTTOM STRUCT. ELEV	TEMPORARY DEPTH	611.8110 ADJ. MANHOLE COVERS (EACH)	611.8115 ADJ. INLET COVERS (EACH)	611.0420 RECON. MANHOLE (EACH)	611.0430 RECON. INLET (EACH)	INLETS 611.3003 3-FT DIA. (EACH)	611.3004 4-FT DIA. (EACH)	611.3220 2X2-FT (EACH)	611.3225 2X2.5-FT (EACH)	611.3230 2X3-FT (EACH)	611.3901 MEDIAN 1 GRATE (EACH)	611.3902 MEDIAN 2 GRATE (EACH)	SPV.0060.107 MEDIAN 2 GRATE MODIFIED STR. 243B (EACH)	SPV.0060.108 MEDIAN 2 GRATE MODIFIED STR. 244A (EACH)	MANHOLES 611.2004 4-FT DIA. (EACH)	611.2005 5-FT DIA. (EACH)	611.2006 6-FT DIA. (EACH)	611.2007 7-FT DIA. (EACH)	611.2008 8-FT DIA. (EACH)
1000																																
	1133-09-71																															
		STAGE 2																														
			158A	896+00.0	'NB'	34.5' LT	627.55	626.22	622.81	3.41	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			161C	898+50.0	'NB'	41.5' LT	626.07	624.82	617.60	7.22	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			162C	901+00.0	'NB'	41.5' LT	623.25	622.00	615.10	6.90	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			163C	903+50.0	'NB'	41.5' LT	619.70	618.45	612.60	5.85	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			165B	905+60.0	'NB'	34.5' LT	617.67	616.34	612.38	3.96	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			166B	906+90.0	'NB'	34.5' LT	617.33	616.00	612.04	3.96	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			167B	909+00.0	'NB'	34.5' LT	618.04	616.71	612.75	3.96	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			110A	820+75.0	'NB'	122.0' LT	631.85	630.52	626.83	3.69	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			110B	820+75.0	'NB'	197.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			121A	839+05.0	'NB'	107.5' LT	624.96	623.63	620.83	2.80	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			121B	839+05.0	'NB'	164.8' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			126B	854+50.0	'NB'	34.5' LT	611.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			126C	854+50.0	'NB'	42.5' LT	611.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			127B	851+75.0	'NB'	34.5' LT	610.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			127C	851+75.0	'NB'	42.5' LT	610.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			128E	850+00.0	'NB'	42.5' LT	609.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			140A	862+00.0	'NB'	34.5' LT	613.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			140B	862+00.0	'NB'	26.0' LT	611.71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			160A	896+50.0	'NB'	119.5' LT	627.26	625.93	621.83	4.10	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			160B	896+50.0	'NB'	174.6' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			172B	914+00.0	'NB'	34.5' LT	623.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			172C	914+00.0	'NB'	41.5' LT	624.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			173B	911+50.0	'NB'	34.5' LT	620.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			173C	911+50.0	'NB'	41.5' LT	621.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			174B	905+00.0	'IEN'	9.3' LT	618.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			175D	905+90.0	'IEN'	9.3' LT	617.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			176	923+00.0	'NB'	59.0' RT	639.41	638.08	633.30	4.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			177	919+50.0	'NB'	59.3' RT	631.63	630.30	625.21	5.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			178	916+00.0	'NB'	35.0' RT	626.07	624.74	619.97	4.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			179J	912+00.0	'IEN'	36.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			181B	909+00.0	'IEN'	9.3' LT	619.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			184A	928+00.0	'NB'	59.0' RT	649.22	647.89	643.00	4.89	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			184B	928+00.0	'NB'	80.5' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			185A	928+00.0	'NB'	119.5' LT	648.83	647.50	643.01	4.49	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			185B	928+00.0	'NB'	141.5' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			186A	932+00.0	'NB'	59.0' RT	653.25	651.92	646.98	4.94	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			186B	932+00.0	'NB'	77.7' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			189A	939+00.0	'NB'	59.0' RT	652.21	650.88	646.00	4.88	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			189B	939+00.0	'NB'	75.6' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			190A	939+00.0	'NB'	119.5' LT	653.85	652.52	646.06	6.46	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			190B	939+00.0	'NB'	142.6' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			198A	944+00.0	'NB'	59.0' RT	646.68	645.35	640.96	4.39	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			198B	944+00.0	'NB'	76.2' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			199A	944+00.0	'NB'	119.5' LT	648.96	647.63	641.02	6.61	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			199B	944+00.0	'NB'	142.3' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			200A	948+00.0	'NB'	59.0' RT	642.60	641.27	635.99	5.28	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			200B	948+00.0	'NB'	79.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			201	949+40.0	'NB'	119.5' LT	643.05	641.72	639.04	2.68	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			202	949+40.0	'NB'	59.0' RT	642.71	641.38	636.54	4.84	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			203A	948+90.0	'NB'	59.0' RT	642.61	641.28	636.04	5.24	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			203B	948+90.0	'NB'	79.8' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			204	948+90.0	'NB'	119.5' LT	643.09	641.76	638.75	3.01	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			205A	948+00.0	'NB'	119.5' LT	643.54	642.21	638.30	3.91	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			205B	948+00.0	'NB'	133.8' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			206A	952+00.0	'NB'	59.0' RT	644.72	643.39	639.49	3.90	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			206B	952+00.0	'NB'	74.8' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			207A	952+00.0	'NB'	119.5' LT	644.62	643.29	639.50	3.79	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			207B	952+00.0	'NB'	136.4' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			220	923+34.0	'ISE'	66.3' LT	631.44	631.44	625.78	5.66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			221	923+10.0	'ISE'	35.0' LT	639.74	638.41	625.39	13.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			222	920+00.0	'ISE'	58.0' LT	626.76	626.76	622.59	4.17	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			223	920+00.0	'ISE'	35.0' LT	632.28	630.95	620.74	10.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			223A	918+75.0	'ISE'	35.0' LT	629.38	628.05	619.49	8.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			224	917+00.0	'ISE'	37.3' LT	625.15	624.15	617.79	6.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			225	915+00.0	'ISE'	37.3' LT	621.41	620.41	613.94	6.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			226	911+00.0	'NB'	151.2' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			227	913+50.0	'NOR'	1.5' RT	624.29	623.29	617.06	6.23	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			228A	913+10.0	'ISE'	37.3' LT	619.04	618.04	616.11	1.93	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			228B	913+00.0	'ISE'	37.3' LT	619.02	618.02	615.53	2.49	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			229	912+00.0	'ISE'	25.5' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			230	909+00.0	'NOR'	1.5' RT	621.97	620.97	616.38	4.59	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			231	908+75.0	'NOR'	1.5' RT	621.99	620.99	616.00	4.99	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			232	908+00.0	'ISE'	51.4' LT	620.65	619.65	615.10	4.55	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			233	908+00.0	'ISE'	35.4' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			234	909+75.0	'ISE'	37.4' LT	619.60	618.60	613.24	5.36	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			235	909+75.0	'ISE'	35.3' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			236	910+90.0	'ISE'	37.3' LT	619.31	618.31	614.73	3.58	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			237	911+10.0	'ISE'	37.3' LT	619.28	618.28	614.73	3.55	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			238	911+00.0	'ISE'	37.3' LT	619.29	618.29	614.04	4.25	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			239	911+00.0	'ISE'	32.1' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			240A	888+15.0	'NB'	119.5' LT	625.83	624.50	620.22	4.28	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
			240B	888+15.0	'NB'	166.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			243A	833+50.0	'OWB'	60.5' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			244A	944+09.0	'NB'	128.5' RT	631.11	631.11	625.50	5.61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			244B	943+84.0	'NB'	128.5' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			252A	842+27.0	'OWA'	110.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			253A	848+43.8	'OWA'	83.6' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			260A	919+35.0	'IWS'	1.0' RT	607.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			260B	919+35.0	'IWS'	23.0' RT	607.30	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		STAGE 2 TOTAL													0	4	4	15	0	2	17	0	10	1	1	0	1	3	0	5	1	0
	PROJECT 1133-09-71 TOTAL														0	23	4	22	149	4	19	0	17	3	1	1	1	45	0	24	1	1

STORM SEWER STRUCTURE SCHEDULE (CONTINUED)

CATEGORY	PROJECT	STAGE	STRUCT. NO.	INLET AND MANHOLE COVERS							APRON ENDWALLS FOR CULVERT PIPE								REINFORCED CONCRETE HORIZONTAL			STEEL	504.0900	611.9800.S	520.8000 (G)	SPV.0060.109 (P)	SPV.0060.100	SPV.0060.101	SPV.0090.102	612.0406	209.0300.S	633.5200
				611.0535 TYPE J SPECIAL (EACH)	611.0612 TYPE C (EACH)	611.0624 TYPE H (EACH)	611.0639 TYPE H-S (EACH)	611.0642 TYPE MS (EACH)	611.0654 TYPE V (EACH)	611.0666 TYPE Z (EACH)	522.1012 (I) 12-IN. (EACH)	522.1015 15-IN. (EACH)	522.1018 18-IN. (EACH)	522.1024 (J) 24-IN. (EACH)	522.1030 (K) 30-IN. (EACH)	522.1036 (L) 36-IN. (EACH)	522.1042 (M) 42-IN. (EACH)	522.1048 48-IN. (EACH)	523.0519 (N) 19 x 30-IN. (EACH)	523.0524 24 x 38-IN. (EACH)	523.0534 (O) 34 x 53-IN. (EACH)	521.1012 12-INCH (EACH)	CONCRETE MASONRY ENDWALLS (CY)	PIPE GRATES (EACH)	CONCRETE COLLAR FOR PIPES (EACH)	STORM SEWER PLUG (EACH)	DRAIN VANE TYPE A 3-FOOT (EACH)	DRAIN VANE TYPE B 6-FOOT (EACH)	DRAIN SLOTTED VANE LONGITUDIAL (LF)	PIPE UNDERDRAIN WRAPPED 6-INCH (LF)	BACKFILL COARSE AGGREGATE SIZE NO. 1 (CY)	MARKERS CULVERT END (EACH)
1000	1133-09-71																														
		STAGE 2																														
			158A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			161C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			162C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			163C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			165B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			166B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			167B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			110A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			110B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
			121A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			121B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
			126B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			126C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			127B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			127C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			128E	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			140A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			140B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			160A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			160B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
			172B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			172C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			173B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			173C	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			174B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			175D	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			176	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			177	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			178	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			179J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			181B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			184A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			184B	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			185A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			185B	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			186A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			186B	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			189A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			189B	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			190A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			190B	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			198A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			198B	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			199A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			199B	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			200A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			200B	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			201	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			202	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			203A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			203B	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			204	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			205A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			205B	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			206A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			206B	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			207A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			207B	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			220	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			221	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			222	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			223	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			223A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			224	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			225	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			226	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			227	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			228A	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			228B	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			229	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			230	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			231	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			232	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			233	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			234	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			235	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			236	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			237	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			238	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			239	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			240A	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			240B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
			243A	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			244A	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			244B	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			252A	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			253A	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			260A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			260B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		STAGE 2 TOTAL		9	0	5	7	5	34	0	5	0	11	1	1	1	2	0	0	0	0	4	0	0	1	0	27	21	0	0	0	25
	PROJECT 1133-09-71 TOTAL			56	3	12	8	11	183	0	6	1	34	5	2	5	5	1	2	2	0	5	2	0	9	7	143	35	0	1,560	12	69

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STORM SEWER STRUCTURE SCHEDULE (CONTINUED)

CATEGORY	PROJECT	STAGE	STRUCT. NO.	STATION		OFFSET	FINISHED CASTING ELEV	FINISHED TOP STRUCT. ELEV	FINISHED BOTTOM STRUCT. ELEV	FINISHED DEPTH	TEMPORARY CASTING ELEV	TEMPORARY TOP STRUCT. ELEV	TEMPORARY BOTTOM STRUCT. ELEV	TEMPORARY DEPTH	611.8110 ADJ. MANHOLE COVERS (EACH)	611.8115 ADJ. INLET COVERS (EACH)	611.0420 RECON. MANHOLE (EACH)	611.0430 RECON. INLET (EACH)	INLETS 611.3003 3-FT DIA. (EACH)	INLETS 611.3004 4-FT DIA. (EACH)	INLETS 611.3220 2X2-FT (EACH)	INLETS 611.3225 2X2.5-FT (EACH)	INLETS 611.3230 2X3-FT (EACH)	INLETS 611.3901 MEDIAN 1 GRATE (EACH)	INLETS 611.3902 MEDIAN 2 GRATE (EACH)	SPV.0060.107 MEDIAN 2 GRATE MODIFIED STR. 243B (EACH)	SPV.0060.108 MEDIAN 2 GRATE MODIFIED STR. 244A (EACH)	MANHOLES 611.2004 4-FT DIA. (EACH)	MANHOLES 611.2005 5-FT DIA. (EACH)	MANHOLES 611.2006 6-FT DIA. (EACH)	MANHOLES 611.2007 7-FT DIA. (EACH)	MANHOLES 611.2008 8-FT DIA. (EACH)
1000																															
	1133-09-74																														
		STAGE 1																													
			245A	401+96.1	'HAN'	21.5' RT	626.67	625.67	623.00	2.67	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			245B	401+86.1	'HAN'	21.5' RT	627.00	626.00	622.85	3.15	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			246A	401+86.1	'HAN'	21.5' LT	627.00	626.00	623.33	2.67	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			246B	401+76.1	'HAN'	21.5' LT	627.34	626.34	608.27	18.07	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			247	401+00.4	'HAN'	127.1' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			248A	397+02.8	'HAN'	21.2' LT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			248B	396+80.0	'HAN'	65.3' LT	634.70	634.70	613.58	21.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			248C	871+00.0	'NB'	200.0' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		STAGE 1 TOTAL													0	0	0	1	0	0	0	0	4	0	1	0	0	0	0	0	0	0
	PROJECT 1133-09-74 TOTAL														0	0	0	1	0	0	0	0	4	0	1	0	0	0	0	0	0	0
	1133-09-76																														
		STAGE 1A																													
			641	700+22.5	'OWE'	85.5' LT	-	603.31	600.60	2.71	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			642	700+47.5	'OWE'	85.5' LT	-	603.33	600.47	2.86	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			645	700+47.5	'OWE'	48.0' LT	604.64	603.39	599.70	3.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			646	702+00.0	'OWE'	34.2' LT	605.07	604.07	599.39	4.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
			647	702+00.0	'OWE'	23.5' LT	604.94	603.94	598.83	5.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			648	702+00.0	'OWE'	59.2' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		STAGE 1A TOTAL													0	0	0	0	0	0	0	0	2	0	0	0	0	1	1	1	0	0
		STAGE 2																													
			600	683+33.7	'OWE'	35.4' LT	616.86	615.86	610.30	5.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			600J	683+25.8	'OWE'	34.6' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			601	683+33.7	'OWE'	26.5' RT	617.05	616.05	609.46	6.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			602	685+07.0	'OWE'	46.5' LT	613.73	612.73	608.62	4.11	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			602J	685+07.2	'OWE'	54.5' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			603	686+05.0	'OWE	46.5' LT	612.26	611.26	607.59	3.67	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			604	686+05.0	'OWE'	18.5' LT	612.61	611.61	607.45	4.16	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			605	686+05.0	'OWE'	11.5' LT	612.84	611.84	607.41	4.43	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			606	686+05.0	'OWE	26.5' RT	612.41	611.41	606.50	4.91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			607	686+77.6	'OWE'	33.4' LT	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			608	686+82.0	'OWE'	29.4' RT	611.78	610.53	603.00	7.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			608J	686+81.7	'OWE'	21.4' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			608K	686+84.7	'OWE'	37.3' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			609	798+50.0	'ALL'	23.5' RT	610.60	609.60	606.76	2.84	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			610	798+50.0	'ALL'	19.5' LT	610.80	609.80	602.79	7.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			610J	798+58.0	'ALL'	19.5' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			610K	798+42.0	'ALL'	19.5' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			612	689+60.0	'OWE'	51.2' LT	609.36	608.36	605.33	3.03	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			613	689+60.0	'OWE'	21.7' LT	609.84	608.84	605.18	3.66	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			614	689+60.0	'OWE	1.5' LT	610.16	609.16	605.08	4.08	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			615	689+62.0	'OWE'	26.5' RT	609.66	608.66	603.86	4.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			616	691+35.0	'OWE'		608.50	607.50	604.75	2.75	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			617	691+35.0	'OWE'		608.82	607.82	604.56	3.26	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			618	691+35.0	'OWE'		608.80	607.80	604.40	3.40	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			619	691+30.0	'OWE'	26.5' RT	608.48	607.48	603.00	4.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			620	693+00.0	'OWE	23.5' LT	607.69	606.69	603.82	2.87	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			621	693+00.0	'OWE'	38.5' RT	607.39	606.39	602.12	4.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			622	694+50.0	'OWE'	85.5' LT	606.99	605.99	603.36	2.63	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			623	694+00.0	'OWE'	23.5' LT	607.19	606.19	603.30	2.89	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			624	694+50.0	'OWE'	23.5' LT	606.94	605.94	603.05	2.89	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			625	694+50.0	'OWE'	38.5' RT	606.64	605.64	601.35	4.29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			626	695+75.0	'OWE'	137.5' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			627	695+75.0	'OWE	94.9' LT	606.20	605.20	599.96	5.24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			628	695+25.0	'OWE'	23.5' LT	606.56	605.56	602.73	2.83	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			629	696+50.0	'OWE'	36.0' LT	606.06	605.06	602.42	2.64	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			630	696+50.0	'OWE'	23.5' LT	605.94	604.94	602.36	2.58	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			631	695+75.0	'OWE'	23.5' LT	606.31	605.31	599.78	5.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			632	695+75.0	'OWE	46.7' RT	605.74	604.74	599.61	5.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			633	695+75.0	'OWE'	75.5' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			634	697+75.0	'OWE	117.9' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			635	697+50.0	'OWE'	23.5' LT	605.44	604.44	599.70	4.74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			636	700+25.0	'OWE'	26.5' RT	604.19	603.19	600.58	2.61	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			637	700+50.0	'OWE'	26.5' RT	604.21	603.21	600.48	2.73	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			638	700+25.0	'OWE	23.5' LT	604.25	603.25	600.52	2.73	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			639	700+50.0	'OWE'	23.5' LT	604.27	603.27	600.40	2.87	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-

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STORM SEWER STRUCTURE SCHEDULE (CONTINUED)

CATEGORY	PROJECT	STAGE	STRUCT. NO.	INLET AND MANHOLE COVERS							APRON ENDWALLS FOR CULVERT PIPE																					
											REINFORCED CONCRETE								REINFORCED CONCRETE HORIZONTAL			STEEL									
				611.0535 TYPE J SPECIAL (EACH)	611.0612 TYPE C (EACH)	611.0624 TYPE H (EACH)	611.0639 TYPE H-S (EACH)	611.0642 TYPE MS (EACH)	611.0654 TYPE V (EACH)	611.0666 TYPE Z (EACH)	522.1012 (I) 12-IN. (EACH)	522.1015 15-IN. (EACH)	522.1018 18-IN. (EACH)	522.1024 (J) 24-IN. (EACH)	522.1030 (K) 30-IN. (EACH)	522.1036 (L) 36-IN. (EACH)	522.1042 (M) 42-IN. (EACH)	522.1048 48-IN. (EACH)	523.0519 (N) 19 x 30-IN. (EACH)	523.0524 24 x 38-IN. (EACH)	523.0534 (O) 34 x 53-IN. (EACH)	521.1012 12-INCH (EACH)	504.0900 CONCRETE MASONRY ENDWALLS (CY)	611.9800.S PIPE GRATES (EACH)	520.8000 (G) CONCRETE COLLAR FOR PIPES (EACH)	SPV.0060.109 (P) STORM SEWER PLUG (EACH)	SPV.0060.100 DRAIN VANE TYPE A 3-FOOT (EACH)	SPV.0060.101 DRAIN VANE TYPE B 6-FOOT (EACH)	SPV.0090.102 DRAIN SLOTTED VANE LONGITUDIAL (LF)	612.0406 PIPE UNDERDRAIN WRAPPED 6-INCH (LF)	209.0300.S BACKFILL COARSE AGGREGATE SIZE NO. 1 (CY)	633.5200 MARKERS CULVERT END (EACH)
1000																															
	1133-09-74																														
		STAGE 1																													
			245A	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			245B	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			246A	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			246B	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			247	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			248A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			248B	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			248C	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
		STAGE 1 TOTAL		0	0	4	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	PROJECT 1133-09-74 TOTAL			0	0	4	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	1133-09-76																														
		STAGE 1A																													
			641	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			642	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			645	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			646	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			647	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			648	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
		STAGE 1A TOTAL		1	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
		STAGE 2																													
			600	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			600J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			601	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			602	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			602J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			603	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			604	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			605	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			606	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			607	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			608	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			608J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			608K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			609	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			610	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			610J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			610K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
			612	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			613	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			614	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			615	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			616	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			617	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			618	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			619	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			620	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			621	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			622	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			623	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			624	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			625	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			626	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
			627	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			628	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			629	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			630	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			631	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			632	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			633	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
			634	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			635	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			636	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			637	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			638	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			639	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

3

STORM SEWER STRUCTURE SCHEDULE (CONTINUED)

CATEGORY	PROJECT	STAGE	STRUCT. NO.	STATION		OFFSET	FINISHED CASTING ELEV	FINISHED TOP STRUCT. ELEV	FINISHED BOTTOM STRUCT. ELEV	FINISHED DEPTH	TEMPORARY CASTING ELEV	TEMPORARY TOP STRUCT. ELEV	TEMPORARY BOTTOM STRUCT. ELEV	TEMPORARY DEPTH	611.8110 ADJ. MANHOLE COVERS (EACH)	611.8115 ADJ. INLET COVERS (EACH)	611.0420 RECON. MANHOLE (EACH)	611.0430 RECON. INLET (EACH)	INLETS 611.3003 3-FT DIA. (EACH)	INLETS 611.3004 4-FT DIA. (EACH)	INLETS 611.3220 2X2-FT (EACH)	INLETS 611.3225 2X2.5-FT (EACH)	INLETS 611.3230 2X3-FT (EACH)	INLETS 611.3901 MEDIAN 1 GRATE (EACH)	INLETS 611.3902 MEDIAN 2 GRATE (EACH)	SPV.0060.107 MEDIAN 2 GRATE MODIFIED STR. 243B (EACH)	SPV.0060.108 MEDIAN 2 GRATE MODIFIED STR. 244A (EACH)	MANHOLES 611.2004 4-FT DIA. (EACH)	MANHOLES 611.2005 5-FT DIA. (EACH)	MANHOLES 611.2006 6-FT DIA. (EACH)	MANHOLES 611.2007 7-FT DIA. (EACH)	MANHOLES 611.2008 8-FT DIA. (EACH)
1000																															
	1133-09-76																														
		STAGE 2																													
			640	700+50.0	'OWE'	11.0' LT	604.52	603.27	599.25	4.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			641	700+22.5	'OWE'	85.5' LT	604.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			642	700+47.5	'OWE'	85.5' LT	604.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			643	700+22.5	'OWE'	35.5' LT	604.37	603.37	600.66	2.71	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			644	700+47.5	'OWE'	35.5' LT	604.39	603.39	600.41	2.98	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			648J	702+00.0	'OWE'	24.0' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			649	702+71.6	'OWE'	137.5' LT	602.97	602.97	599.15	3.82	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			650	702+24.3	'OWE'	62.9' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			651	709+40.0	'OWE'	59.8' LT	604.10	603.10	601.48	1.62	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			652	709+80.0	'OWE'	11.0' LT	604.06	602.98	601.29	1.69	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			653	709+80.0	'OWE'	1.0' LT	604.19	603.11	601.26	1.85	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			654	709+40.0	'OWE'	38.5' RT	604.15	603.15	601.01	2.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			655	708+43.0	'OWE'	9.5' LT	604.56	603.48	601.10	2.38	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			656	899+38.1	'RA'	31.6' LT	604.90	603.90	601.06	2.84	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			656A	707+50.0	'OWE'	67.0' RT	603.89	603.89	601.48	2.41	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			657	708+30.0	'OWE	37.9' RT	605.18	603.93	600.87	3.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			658	707+14.0	'OWE'	63.7' LT	604.47	603.47	601.16	2.31	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			659	707+04.0	'OWE	65.5' LT	604.50	603.50	601.12	2.38	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			660	707+00.0	'OWE'	22.5' LT	605.46	604.46	600.86	3.60	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			661	707+00.0	'OWE'	11.5' LT	605.24	604.24	600.84	3.40	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			662	706+87.1	'OWE'	42.5' RT	604.59	603.59	600.69	2.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			663	706+77.1	'OWE'	41.4' RT	604.67	603.67	600.68	2.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			664	706+00.0	'OWE'	76.4' LT	605.01	604.01	601.28	2.73	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			665	706+00.0	'OWE'	15.4' LT	605.63	604.63	600.97	3.66	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			666	706+00.0	'OWE'	40.5' RT	605.11	604.11	600.59	3.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			667	703+97.0	'OWE	126.7' LT	604.64	603.64	600.94	2.70	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			668	703+90.3	'OWE'	134.3' LT	604.58	603.58	600.89	2.69	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			669	703+45.0	'OWE'	74.8' LT	605.71	604.71	600.47	4.24	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			670	703+30.0	'OWE'	26.1' LT	605.71	604.71	600.37	4.34	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			671	703+00.0	'OWE'	26.5' RT	605.38	604.38	600.21	4.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			672	704+10.7	'OWE	152.9' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			673	703+80.0	'OWE'	35.2' RT	605.91	604.66	599.97	4.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			674	703+69.5	'OWE	100.3' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			675	703+54.7	'OWE'	74.5' RT	604.79	603.79	600.42	3.37	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			676	703+45.8	'OWE'	79.0' RT	604.76	603.76	600.32	3.44	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			677	703+40.0	'OWE'	127.2' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			678	710+75.0	'OWE'	38.0' RT	603.50	602.50	599.89	2.61	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			679	710+75.0	'OWE	0.5' LT	603.75	602.67	599.78	2.89	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			680	710+75.0	'OWE'	57.3' LT	603.52	602.52	599.96	2.56	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
			681	710+75.0	'OWE'	8.2' LT	603.64	602.56	599.76	2.80	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
		STAGE 2 TOTAL													1	0	0	0	0	0	5	0	40	2	0	0	0	13	0	6	0	2
	PROJECT 1133-09-76 TOTAL														1	0	0	0	0	0	5	0	42	2	0	0	0	14	1	7	0	2
CONTRACT S4-14-02 TOTAL															**1**	**23**	**4**	**23**	**201**	**4**	**24**	**23**	**63**	**6**	**6**	**1**	**1**	**85**	**1**	**44**	**1**	**6**

GENERAL NOTES

1) STRUCTURE DEPTH = TOP OF STRUCTURE - BOTTOM STRUCTURE
2) JOINT TIES ARE REQUIRED AT REINFORCED CONCRETE APRON ENDWALLS AND ADJOINING 2 SECTIONS OF STORM SEWER PIPE, JOINT TIES ARE INCIDENTAL TO REINFORCED CONCRETE PIPE STORM SEWER.
3) CONTRACTOR SHALL VERIFY EXISTING PIPE SIZES, MATERIALS AND INVERT ELEVATION WHEN CONNECTING NEW STORM SEWER INTO EXISTING PIPES PRIOR TO MANUFACTURING STRUCTURES.
4) STATION / OFFSET OF CONCRETE APRON ENDWALLS ARE TO PIPE END.
5) FLAT SLAB TOP WITH 21" X 24" RECTANGULAR OPENING REQUIRED ON ALL MANHOLES AND INLETS WITH TYPE V INLET COVERS. OPENINGS TO BE ORIENTED ACCORDINGLY WITH GUTTER FLOW LINE.
6) FLAT SLAB TOP WITH CENTERED 24" X 36" RECTANGULAR OPENING REQUIRED ON ALL MANHOLES WITH TYPE H AND HS INLET COVERS.
7) STATIONS AND OFFSETS ARE TO THE CENTER OF GRATE - SEE DETAIL FOR STRUCTURE PLACEMENT
8) TEMPORARY TOP STRUCTURE ELEVATION IS BASED ON NO ADJUSTMENT RINGS USED.
9) PIPE LENGTHS AND SLOPES ARE MEASURED TO THE CENTER OF STRUCTURES OR THE END OF APRON ENDWALLS.
10) RIM ELEVATIONS ARE GIVEN AT THE FLOW LINE FOR INLET GRATES OR THE CENTER OF THE MANHOLE COVER FOR MANHOLES UNLESS OTHERWISE NOTED.
11) PROVIDE ADJUSTING RINGS WHERE ONLY A NEW COVER IS CALLED FOR. INCIDENTAL TO COVER.
12) FIELD VERIFY EXISTING PIPE INVERTS AND RECALCULATE SLOPE IF NECESSARY. DOWNSTREAM INVERT DOES NOT CHANGE UNLESS OTHERWISE SPECIFIED BY THE FIELD ENGINEER.
13) IN LOCATIONS WHERE EXISTING PIPES ARE BEING TIED INTO PROPOSED DRAINAGE STRUCTURES, FIELD VERFIY PIPE SIZE AND INVERT ELEVATION
14) WELD MANHOLE AND INLET COVER TO FRAME PRIOR TO RUNNING TRAFFIC OVER THE COVER. WELDS SHOULD BE 4-INCH IN LENGTH AT 3 LOCATIONS ON COVER. REMOVE WELDS PRIOR TO PROJECT COMPLETION. WELD IS INCIDENTAL TO COVER.

STORM SEWER STRUCTURE SCHEDULE (CONTINUED)

CATEGORY	PROJECT	STAGE	STRUCT. NO.	INLET AND MANHOLE COVERS							APRON ENDWALLS FOR CULVERT PIPE								REINFORCED CONCRETE HORIZONTAL			STEEL	504.0900	611.9800.S	520.8000 (G)	SPV.0060.109 (P)	SPV.0060.100	SPV.0060.101	SPV.0090.102	612.0406	209.0300.S	633.5200
				611.0535 TYPE J SPECIAL (EACH)	611.0612 TYPE C (EACH)	611.0624 TYPE H (EACH)	611.0639 TYPE H-S (EACH)	611.0642 TYPE MS (EACH)	611.0654 TYPE V (EACH)	611.0666 TYPE Z (EACH)	522.1012 (I) 12-IN. (EACH)	522.1015 15-IN. (EACH)	522.1018 18-IN. (EACH)	REINFORCED CONCRETE 522.1024 (J) 24-IN. (EACH)	522.1030 (K) 30-IN. (EACH)	522.1036 (L) 36-IN. (EACH)	522.1042 (M) 42-IN. (EACH)	522.1048 48-IN. (EACH)	523.0519 (N) 19 x 30-IN. (EACH)	523.0524 24 x 38-IN. (EACH)	523.0534 (O) 34 x 53-IN. (EACH)	521.1012 12-INCH (EACH)	CONCRETE MASONRY ENDWALLS (CY)	PIPE GRATES (EACH)	CONCRETE COLLAR FOR PIPES (EACH)	STORM SEWER PLUG (EACH)	DRAIN VANE TYPE A 3-FOOT (EACH)	DRAIN VANE TYPE B 6-FOOT (EACH)	DRAIN SLOTTED VANE LONGITUDIAL (LF)	PIPE UNDERDRAIN WRAPPED 6-INCH (LF)	BACKFILL COARSE AGGREGATE SIZE NO. 1 (CY)	MARKERS CULVERT END (EACH)
1000	1133-09-76																														
		STAGE 2																														
			640	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			641	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			642	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			643	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			644	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			648J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			649	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			650	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			651	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			652	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			653	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			654	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			655	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			656	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			656A	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			657	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			658	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			659	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			660	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			661	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			662	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			663	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			664	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			665	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			666	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			667	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			668	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			669	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			670	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			671	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			672	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			673	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			674	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			675	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			676	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			677	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
			678	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			679	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			680	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			681	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		STAGE 2 TOTAL		4	0	50	9	2	0	5	1	0	1	1	1	1	0	0	0	0	2	0	0	0	7	0	0	0	0	0	0	7
	PROJECT 1133-09-76 TOTAL			5	0	52	9	2	0	5	1	0	1	1	2	1	0	0	0	0	2	0	0	0	7	0	0	0	0	0	0	8
CONTRACT S4-14-02 TOTAL				**88**	**3**	**68**	**17**	**32**	**269**	**5**	**9**	**13**	**40**	**12**	**4**	**6**	**6**	**2**	**2**	**2**	**2**	**5**	**2**	**10**	**52**	**24**	**204**	**59**	**131**	**1,960**	**16**	**104**

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(I) (J) (K) (L) (M) (N) (O) (P) REFER TO "CROSS CULVERT ITEMS" TABLE FOR ADDITIONAL QUANTITIES
(G) REFER TO "TEMPORARY DRAINAGE" AND "CROSS CULVERT ITEMS" TABLES FOR ADDITIONAL QUANTITIES

GUARDRAIL

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	LOCATION	614.0220 STEEL THRIE BEAM BULLNOSE TEMINAL (EA)	614.0230 STEEL THRIE BEAM (LF)	614.0396 MOW STRIP ASPHALT (SY)	614.2300 MGS GUARDRAIL 3 (LF)	614.2320 MGS GUARDRAIL 3QS (LF)	614.2500 MGS GUARDRAIL THRIE BEAM TRANSITION (LF)	614.2610 MGS GUARDRAIL TERMINAL EAT (EACH)	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 (EACH)
1000														
	1133-03-77													
		STAGE 2												
			USH 41 NB - NB											
			979+07	-	981+57	RT	-	-	120	160	-	40	1	-
			USH 41 SB -SB											
			984+71	-	995+68	LT	-	-	440	1,005	-	40	1	-
			VKA RAMP - VKA											
			973+79	-	976+03	LT	-	-	100	175	-	-	1	1
			974+47	-	976+10	RT	-	-	75	110	-	-	1	1
			VKC RAMP - VKC											
			986+71	-	988+33	LT	-	-	75	125	-	40	-	1
		STAGE 2 TOTAL					0	0	810	1,575	0	120	4	3
	PROJECT 1133-03-77 TOTAL						0	0	810	1,575	0	120	4	3
	1133-09-71													
		STAGE 1A												
			USH 41 NB - NB											
			806+37	-	814+89	RT	-	-	340	760	-	40	1	-
			876+49	-	879+23	RT	-	-	115	225	-	-	1	1
			CD ROAD - CD											
			831+50	-	837+38	RT	-	-	235	500	-	40	1	-
			839+85	-	844+71	RT	-	-	190	475	-	40	-	1
			853+47	-	869+37	RT	-	-	625	1,565	-	40	-	1
			OWD RAMP - OWD											
			844+27	-	844+53	RT	-	-	15	-	-	30	-	-
			INE RAMP - INE											
			875+44	-	881+21	RT	-	-	235	525	-	-	1	1
			STH 172 EB - E											
			63+84	-	66+45	RT	-	-	110	210	-	-	1	1
			INW RAMP - INW											
			875+22	-	880+40	LT	-	-	210	465	-	-	1	1
			IEN RAMP - IEN											
			863+63	-	867+18	LT	2	250	-	-	-	-	-	-
			879+95	-	887+30	RT	-	-	295	650	-	40	1	-
			889+81	-	892+08	RT	-	-	90	150	-	80	-	-
			900+95	-	903+31	RT	-	-	95	200	-	40	-	-
			IWS RAMP - IWS											
			921+00	-	924+87	RT	2	280	-	-	-	-	-	-
			IWN RAMP - IWN											
			897+93	-	900+91	RT	-	-	125	245	-	-	1	-
			883+26	-	885+69	LT	-	-	105	190	-	-	1	1
			STH 172 WB - W											
			35+47	-	38+27	LT	-	280	-	-	-	-	-	-
			49+85	-	51+71	LT	-	-	80	135	-	-	1	1
			57+31	-	58+82	LT	-	-	65	100	-	-	1	1
			57+32	-	58+81	RT	-	-	65	100	-	-	1	1
		STAGE 1A TOTAL					4	810	2,995	6,495	0	350	12	10
	PROJECT 1133-09-71 TOTAL						4	810	6,530	14,635	200	750	21	17
	1133-09-74													
		STAGE 1B												
			HANSEN ROAD - HAN											
			396+47	-	397+62	RT	-	-	-	80	-	40	-	1
			396+72	-	397+77	RT	-	-	-	15	-	40	1	-
			401+36	-	402+47	LT	-	-	-	20	-	40	1	-
			401+91	-	402+84	LT	-	-	-	55	-	40	-	1
		STAGE 1B TOTAL					0	0	0	170	0	160	2	2
	PROJECT 1133-09-74 TOTAL						0	0	0	170	0	160	2	2
	1133-09-76													
		STAGE 1A												
			OWC RAMP - OWC											
			832+50	-	839+29	LT	-	-	270	630	-	-	1	1
			833+88	-	836+24	RT	-	-	100	200	-	40	-	1
			OWD RAMP - OWD											
			841+05	-	843+30	LT	-	-	95	175	-	-	1	1
			841+24	-	844+27	RT	-	-	125	240	-	15	1	-
		STAGE 1A TOTAL					0	0	590	1,245	0	55	3	3
		STAGE 2												
			OWA RAMP - OWA											
			842+18	-	844+17	RT	-	-	85	150	-	-	1	1
			842+22	-	845+02	LT	-	-	115	230	-	-	1	1
			OWB RAMP - OWB											
			828+97	-	832+45	LT	-	-	150	300	-	-	1	-
			828+97	-	832+45	RT	-	-	-	300	-	-	1	1
		STAGE 2 TOTAL					0	0	350	980	0	0	4	3
	PROJECT 1133-09-76 TOTAL						0	0	940	2,225	0	55	7	6
CONTRACT S4-14-02 TOTAL							**4**	**810**	**8,280**	**18,605**	**200**	**1,085**	**34**	**28**

SALVAGED RAIL

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	LOCATION	614.0920 (LF)	614.0925 END TREATMENTS (EACH)	204.0165 REMOVING GUARDRAIL (LF)
1000	1133-03-77								
		STAGE 1B							
			USH 41 NB - NB						
			957+00	-	960+21	LT	325	1	-
			960+22	-	960+22	LT	45	-	-
			961+86	-	961+86	LT	45	-	-
			978+95	-	982+12	LT	320	1	-
			982+12	-	982+12	LT	40	-	-
			983+98	-	983+98	LT	40	-	-
			USH 41 SB - SB						
			962+11	-	965+34	RT	325	1	-
			984+09	-	986+75	RT	220	1	-
		STAGE TOTAL					1,360	4	0
		STAGE 2							
			USH 41 NB - NB						
			958+72	-	959+91	RT	120	1	-
			980+87	-	982+06	RT	120	1	-
			USH 41 SB - SB						
			962+43	-	963+62	LT	120	1	-
			984+13	-	986+30	LT	170	1	-
		STAGE TOTAL					530	4	0
		UNDISTRIBUTED					-	-	190
	PROJECT 1133-03-77 TOTALS						1,890	8	190
	1133-09-71								
		STAGE 1A							
			USH 41 NB - NB						
			814+32	-	820+53	RT	630	1	-
			822+59	-	824+30	RT	180	-	-
			832+35	-	837+24	RT	490	1	-
			865+40	-	866+55	RT	70	2	-
			890+08	-	892+47	RT	240	-	-
			895+24	-	897+48	RT	230	-	-
			OWC RAMP - OWC						
			824+29	-	829+96	RT	570	-	-
			INE RAMP - INE						
			875+38	-	877+16	RT	130	2	-
			875+36	-	877+75	LT	190	1	-
			879+71	-	881+46	RT	130	2	-
			883+56	-	888+30	LT	430	2	-
			INW RAMP - INW						
			877+75	-	880+65	LT	290	1	-
			892+65	-	903+54	LT	1100	1	-
			IEN RAMP - IEN						
			863+31	-	867+31	LT	400	1	-
			863+31	-	867+31	LT	400	1	-
			876+50	-	881+79	LT	680	2	-
			881+07	-	887+50	RT	650	1	-
			IWS RAMP - IWS						
			920+65	-	924+94	RT	430	1	-
			920+65	-	924+94	RT	430	1	-
			933+41	-	935+17	RT	130	2	-
			STH 172 WB -W						
			25+94	-	27+94	LT	150	2	-
		STAGE TOTAL					7,950	24	0
1000	1133-09-71								
		STAGE 1B							
			USH 41 NB - NB						
			817+32	-	820+53	LT	330	1	-
			820+53	-	820+53	LT	40	-	-
			822+61	-	822+61	LT	40	-	-
			833+86	-	836+98	LT	320	1	-
			836+67	-	836+98	LT	60	-	-
			838+81	-	839+04	LT	50	-	-
			839+33	-	844+33	RT	520	1	-
			867+08	-	869+66	LT	260	-	-
			876+62	-	879+81	LT	320	2	-
			884+60	-	887+76	LT	320	1	-
			887+79	-	888+01	LT	50	-	-
			890+33	-	890+56	LT	50	-	-
			890+33	-	892+86	LT	260	-	-
			892+86	-	893+14	LT	50	-	-
			895+59	-	895+91	LT	60	-	-
			927+27	-	930+47	LT	320	1	-
			930+48	-	930+77	LT	60	-	-
			932+22	-	932+43	LT	50	-	-
			USH 41 SB - SB						
			867+09	-	869+67	RT	260	-	-
		STAGE TOTAL					3,420	7	0
		STAGE 2							
			USH 41 SB - SB						
			813+18	-	820+53	LT	740	1	-
			822+62	-	825+80	RT	320	1	-
			833+18	-	836+21	LT	310	1	-
			838+23	-	841+46	LT	330	1	-
			838+53	-	841+79	RT	330	1	-
			890+57	-	893+15	RT	260	-	-
			890+75	-	893+58	LT	290	-	-
			895+92	-	899+11	RT	320	1	-
			896+41	-	901+85	LT	500	1	-
			917+95	-	919+68	RT	180	2	-
			929+04	-	930+78	RT	180	1	-
			929+43	-	931+06	LT	170	1	-
			932+48	-	935+68	RT	320	1	-
			932+74	-	933+95	LT	130	1	-
			OWB RAMP - OWB						
			822+63	-	828+97	LT	640	-	-
			IES RAMP - IES						
			879+85	-	881+17	LT	90	1	-
			IWS RAMP - IWS						
			905+97	-	909+92	RT	500	1	-
			IWN RAMP - IWN						
			888+66	-	892+65	LT	395	-	-
			ISE RAMP - ISE						
			900+00	-	909+74	RT	930	1	-
			907+99	-	909+71	LT	130	2	-
			917+89	-	919+60	LT	180	2	-
		STAGE TOTAL					7,245	20	-
		UNDISTRIBUTED					-	-	1,865
	PROJECT 1133-09-71 TOTALS						18,615	51	1,865
1000	1133-09-74								
		STAGE 1A							
			HANSEN ROAD - HAN						
			396+61	-	397+75	LT	120	1	-
			396+92	-	398+10	RT	70	1	-
			401+24	-	402+44	LT	70	1	-
			401+55	-	402+78	RT	130	1	-
		STAGE TOTAL					390	4	0
		UNDISTRIBUTED					-	-	40
	PROJECT 1133-09-74 TOTALS						390	4	40
	1133-09-76								
		STAGE 1A							
			OWC RAMP - OWC						
			829+96	-	835+96	RT	600	1	-
		STAGE TOTAL					600	1	0
		STAGE 2							
			OWB RAMP - OWB						
			828+97	-	829+96	LT	100	1	-
		STAGE TOTAL					100	1	0
		UNDISTRIBUTED					-	-	10
	PROJECT 1133-09-76 TOTALS						700	2	10
	CONTRACT S4-14-02 TOTAL						**21,595**	**65**	**2,105**

INSULATION BOARD POLYSTYRENE, 2-INCH

CATEGORY	PROJECT	STAGE	STATION	612.0902.S (SY)
1000				
	1133-09-76			
		STAGE 2		
			ONEIDA STREET/WAUBE LANE EB - OWE	
			693+00	4
			694+50	4
			695+75	4
			700+50	4
			702+00	4
			702+37	4
			703+15	4
			703+80	4
			706+00	4
			706+95	4
			708+30	4
		STAGE TOTAL		44
	PROJECT 1133-09-76 TOTAL			44
	CONTRACT S4-14-02 TOTAL			**44**

CRASH CUSHIONS PERMANENT LOW MAINTENANCE

CATEGORY	PROJECT	STAGE	STATION	LOCATION	614.0805 (EACH)
1000					
	1133-09-71				
		STAGE 1B			
			USH 41 NB - NB		
			820+73*	RT	1
		STAGE TOTAL			1
	CONTRACT S4-14-02 TOTAL				**1**

*CRASH CUSHION PERMANENT DESIGN CRITERIA:
TL-3 CRASH TEST LEVEL
12 FT X 55 FT AREA
OM-3C OBJECT MARKING PATTERN

FENCE

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	LOCATION	616.0100 WOVEN WIRE 4-FT (LF)	616.0204 CHAIN LINK 4-FT (LF)
1000								
	1133-03-77							
		STAGE 2						
			USH 41 NB - NB					
			963+01	-	980+21	RT	-	2,015
			989+55	-	989+67	RT	-	100
			USH 41 SB - SB					
			981+85	-	982+06	LT	-	65
			985+33	-	985+45	LT	-	25
		STAGE 2 TOTAL					0	2,205
	PROJECT 1133-03-77 TOTAL						0	2,205
	1133-09-71							
		STAGE 2						
			USH 41 NB - NB					
			800+46	-	814+81	RT	-	1,440
			853+50	-	866+56	RT	-	1,340
			USH 41 SB - SB					
			800+47	-	821+10	LT	-	2,170
			822+16	-	828'OWB'+97	LT	-	750
			846+69	-	868+04	LT	-	2,160
			870+70	-	878+88	LT	-	1,070
			INE RAMP - INE					
			868+62	-	873+77	RT	-	510
			873+77	-	800+58	RT	750	-
			881+25	-	66'EE'+72	RT	1,550	-
			IWN RAMP - IWN					
			889+27	-	890+25	RT	100	-
			IES RAMP - IES					
			879+54	-	882+61	LT	-	300
			882+61	-	88+50	LT	560	-
			NORTH ROAD - NOR					
			905+41	-	905+67	RT	40	-
		STAGE 2 TOTAL					3,000	9,740
	PROJECT 1133-09-71 TOTAL						3,000	9,740
	1133-09-76							
		STAGE 2						
			OWA RAMP - OWA					
			836+69	-	846+61	LT	-	1,050
			OWB RAMP - OWB					
			828+97	-	834+20	LT	-	500
			OWC RAMP - OWC					
			833+57	-	838+67	RT	-	625
			OWD RAMP - OWD					
			840+39	-	844+50	RT	-	450
		STAGE 2 TOTAL					0	2,625
	PROJECT 1133-09-76 TOTAL						0	2,625
	CONTRACT S4-14-02 TOTAL						**3,000**	**14,570**

WATER

CATEGORY	PROJECT	NOTE	624.0100 (MGAL)
1000			
	1133-03-77		
	PROJECT	BASE COMPACTION	1,100
	PROJECT	DUST CONTROL	1,100
	PROJECT 1133-03-77 TOTAL		2,200
	1133-09-71		
	PROJECT	BASE COMPACTION	3,150
	PROJECT	DUST CONTROL	3,150
	PROJECT 1133-09-71 TOTAL		6,300
	1133-09-74		
	PROJECT	BASE COMPACTION	5
	PROJECT	DUST CONTROL	5
	PROJECT 1133-09-74 TOTAL		10
	1133-09-76		
	PROJECT	BASE COMPACTION	445
	PROJECT	DUST CONTROL	445
	PROJECT 1133-09-76 TOTAL		890
CONTRACT S4-14-02 TOTAL			**9,400**

LANDSCAPING ITEMS

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	625.0500 SALVAGED TOPSOIL (SY)	627.0200 MULCHING (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0120 SEEDING MIXTURE NO. 20 (LB)	630.0130 SEEDING MIXTURE NO. 30 (LB)	630.0140 SEEDING MIXTURE NO. 40 (LB)	630.0200 SEEDING TEMPORARY (LB)	SPV.0035.501 TOPSOIL SPECIAL (CY)	SPV.0085.500 TALL FESCUE SEED (LB)
1000														
	1133-03-77													
		STAGE 2												
			USH 41 NB/SB											
			954+00	-	960+27	7,600	-	5	150	45	-	210	-	-
			961+70	-	982+33	26,800	7,300	17	580	100	-	730	-	-
			983+85	-	1021+74	41,600	16,600	27	830	210	-	1,150	-	-
			VKA RAMP - VKA											
			966+67	-	981+00	7,500	500	5	140	45	-	210	-	-
			VKB RAMP - VKB											
			984+14	-	1002+50	6,950	1,000	5	110	60	-	190	-	-
			VKC RAMP - VKC											
			985+70	-	1000+15	5,650	-	4	85	45	-	160	-	-
			VKD RAMP - VKD											
			966+00	-	975+75	7,000	-	5	150	30	-	190	-	-
					UNDISTRIBUTED	25,800	6,350	22	520	140	-	710	-	-
		STAGE 2 TOTAL				128,900	31,750	90	2,565	675	0	3,550	0	0
	PROJECT 1133-03-77 TOTAL					128,900	31,750	90	2,565	675	0	3,550	0	0
	1133-09-71													
		STAGE 1A												
			USH 41 NB - NB											
			799+00	-	820+70	10,400	950	7	180	70	-	280	-	-
			822+58	-	836+29	17,600	5,200	12	390	60	-	480	-	72
			839+58	-	887+56	18,500	3,450	12	330	120	-	500	-	-
			895+02	-	912+81	4,600	1,000	3	80	40	-	130	-	-
			USH 41 TREES			-	-	-	-	-	-	-	240	-
			OWC RAMP - OWC											
			824+29	-	829+96	4,550	-	3	100	20	-	130	-	-
			INE RAMP - INE											
			866+83	-	890+30	24,000	9,200	16	460	130	-	650	-	-
			STH 172 EB - E											
			59+51	-	66+45	2,250	1,750	2	30	25	-	60	-	-
			IEN RAMP - IEN											
			869+00	-	912+81	20,100	2,100	13	370	120	-	550	-	-
			IWN RAMP - IWN											
			890+60	-	900+91	12,200	1,200	8	260	50	-	330	-	-
			PILGRIM WAY - PIL											
			904+46	-	929+63	4,550	1,550	4	70	40	-	130	-	-
					UNDISTRIBUTED	29,700	6,600	20	570	170	-	810	60	28
		STAGE 1A TOTAL				148,450	33,000	100	2,840	845	0	4,050	300	100

LANDSCAPING ITEMS (CONTINUED)

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	625.0500 SALVAGED TOPSOIL (SY)	627.0200 MULCHING (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0120 SEEDING MIXTURE NO. 20 (LB)	630.0130 SEEDING MIXTURE NO. 30 (LB)	630.0140 SEEDING MIXTURE NO. 40 (LB)	630.0200 SEEDING TEMPORARY (LB)	SPV.0035.501 TOPSOIL SPECIAL (CY)	SPV.0085.500 TALL FESCUE SEED (LB)
1000														
	1133-09-71													
		STAGE 2												
			USH 41 NB - NB											
			912+81	-	930+53	8,750	4,400	6	160	55	-	240	-	-
			932+01	-	954+00	25,800	-	17	600	70	-	700	-	-
			USH 41 SB - SB											
			799+00	-	820+86	16,300	6,300	11	350	70	-	440	-	-
			822+42	-	836+39	7,300	-	5	150	40	-	200	-	-
			838+22	-	888+40	43,200	3,200	28	940	160	-	1,200	-	-
			890+37	-	893+58	1,950	-	2	35	15	-	55	-	-
			895+77	-	930+94	34,100	17,000	22	760	120	-	920	-	-
			932+35	-	954+00	12,300	-	8	260	55	-	340	-	-
			USH 41 TREES			-	-	-	-	-	-	-	90	-
			OWB RAMP - OWB											
			821+17	-	828+97	4,950	-	4	110	25	-	140	-	-
			IES RAMP - IES											
			879+21	-	888+70	6,400	3,200	5	110	45	-	180	-	-
			ISE RAMP - ISE											
			905+50	-	924+00	13,700	12,500	9	260	75	-	370	-	-
			ISW RAMP - ISW											
			904+65	-	907+63	570	570	1	10	10	-	20	-	-
			IWS RAMP - IWS											
			901+44	-	905+25	1,700	1,700	2	30	15	-	50	-	-
			UNDISTRIBUTED			44,300	12,300	30	950	190	-	1,220	30	-
		STAGE 2 TOTAL				221,320	61,170	150	4,725	945	0	6,075	120	0
	PROJECT 1133-09-71 TOTAL					369,770	94,170	250	7,565	1,790	0	10,125	420	100
	1133-09-76													
		STAGE 1A												
			OWC & OWD RAMPS			10,750	3,600	10	210	55	-	290	-	-
			UNDISTRIBUTED			2,700	900	5	55	15	-	80	-	-
		STAGE 1A TOTAL				13,450	4,500	15	265	70	0	370	0	0
		STAGE 2												
			ONEIDA STREET/WAUBE LANE			6,450	13,000	1	-	-	130	-	-	-
			OWA & OWB RAMPS			10,950	2,250	7	225	48	-	300	-	-
			USH 41 TREES			-	-	-	-	-	-	-	500	-
			UNDISTRIBUTED			4,350	3,850	2	60	12	50	80	130	-
		STAGE 2 TOTAL				21,750	19,100	10	285	60	180	380	630	0
	PROJECT 1133-09-76 TOTAL					35,200	23,600	25	550	130	180	750	630	0
CONTRACT S4-14-02 TOTAL						**533,870**	**149,520**	**365**	**10,680**	**2,595**	**180**	**14,425**	**1,050**	**100**

MOBILIZATIONS EROSION CONTROL

CATEGORY	PROJECT	STAGE	628.1905 (EACH)	628.1910 EMERGENCY (EACH)
1000				
	1133-03-77			
		STAGE 1B	12	7
		STAGE 2	16	9
	PROJECT 1133-03-77 TOTAL		28	16
	1133-09-71			
		STAGE 1A	12	7
		STAGE 1B	16	9
		STAGE 2	22	14
	PROJECT 1133-09-71 TOTAL		50	30
	1133-09-74			
		STAGE 1	3	2
	PROJECT 1133-09-74 TOTAL		3	2
	1133-09-76			
		STAGE 1A	2	1
		STAGE 2	7	5
	PROJECT 1133-09-76 TOTAL		9	6
CONTRACT S4-14-02 TOTAL			**90**	**54**

3

LANDSCAPE PLANTING SURVEILLANCE AND CARE CYCLES

PROJECT	CATEGORY	ROADWAY	LOCATION	632.9101 LANDSCAPE PLANTING SURVEILLANCE AND CARE CYCLES EACH
1133-03-77	1410	LOMBARDI (CTH VK)	ALL	13
			SUBTOTAL	13
1133-09-76	1400	ONEIDA ST & WAUBE LN (CTH AAA)	ALL	13
			SUBTOTAL	13
			TOTALS	26

SHOVEL CUT EDGE

PROJECT	CATEGORY	ROADWAY	LOCATION	SPV.0090.503 SHOVEL CUT EDGE LF
1133-03-77	1410	LOMBARDI AVE (CTH VK)	BED 1	33
		LOMBARDI AVE (CTH VK)	BED 2	35
		LOMBARDI AVE (CTH VK)	BED 3	35
		LOMBARDI AVE (CTH VK)	BED 4	33
			SUBTOTAL	136
1133-09-76	1400	ONEIDA ST & WAUBE LN (CTH AAA)	ALL	0
			SUBTOTAL	0
			TOTALS	136

PLANTING MIXTURE

PROJECT	CATEGORY	ROADWAY	LOCATION	SPV.0035.500 PLANTING MIXTURE CY
1133-03-77	1410	LOMBARDI AVE (CTH VK)	BED 1	14
		LOMBARDI AVE (CTH VK)	BED 2	15
		LOMBARDI AVE (CTH VK)	BED 3	15
		LOMBARDI AVE (CTH VK)	BED 4	14
			SUBTOTAL	58
1133-09-76	1400	WAUBE LN (CTH AAA)	BED 1	47
		WAUBE LN (CTH AAA)	BED 2	47
		ONEIDA ST (CTH AAA)	BED 3	164
		ONEIDA ST (CTH AAA)	BED 4	254
		ONEIDA ST (CTH AAA)	BED 5	60
		ONEIDA ST (CTH AAA)	BED 6	17
		ONEIDA ST (CTH AAA)	BED 7	36
			SUBTOTAL	625
			TOTALS	683

SHREDDED HARDWOOD BARK MULCH

PROJECT	CATEGORY	ROADWAY	LOCATION	SPV.0180.500 SHREDDED HARDWOOD BARK MULCH SY
1133-03-77	1410	LOMBARDI AVE (CTH VK)	BED 1	21
		LOMBARDI AVE (CTH VK)	BED 2	22
		LOMBARDI AVE (CTH VK)	BED 3	22
		LOMBARDI AVE (CTH VK)	BED 4	21
			SUBTOTAL	86
1133-09-76	1400	WAUBE LN (CTH AAA)	BED 1	71
		WAUBE LN (CTH AAA)	BED 2	71
		ONEIDA ST (CTH AAA)	BED 3	246
		ONEIDA ST (CTH AAA)	BED 4	381
		ONEIDA ST (CTH AAA)	BED 5	90
		ONEIDA ST (CTH AAA)	BED 6	26
		ONEIDA ST (CTH AAA)	BED 7	54
			SUBTOTAL	939
			TOTALS	1025

TRACKING PAD

CATEGORY	PROJECT	LOCATION	628.7560 (EACH)	SPV.0060.150 MAINTENANCE (EACH)
1000				
	1133-03-77			
		UNDISTRIBUTED	8	6
	PROJECT 1133-03-77 TOTAL		8	6
	1133-09-71			
		UNDISTRIBUTED	15	10
	PROJECT 1133-09-71 TOTAL		15	10
	1133-09-76			
		UNDISTRIBUTED	12	9
	PROJECT 1133-09-76 TOTAL		12	9
CONTRACT S4-14-02 TOTAL			**35**	**25**

DELINEATORS

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	633.0100 POSTS STEEL (EACH)	633.0500 REFLECTORS (EACH)	633.1000 BRACKETS (EACH)
1000								
	1133-03-77							
		STAGE 1B						
			USH 41 NB - NB					
			954+00	-	960+27	-	6	3
			961+70	-	982+33	-	20	10
			983+85	-	1021+90	-	38	19
		STAGE 1B TOTAL				0	64	32
		STAGE 2						
			USH 41 NB - NB					
			954+00	-	960+27	-	6	6
			961+70	-	982+33	13	21	1
			983+85	-	1021+90	13	21	5
			USH 41 SB - SB					
			954+00	-	960+61	-	3	3
			962+04		982+43	5	35	15
			983+95	-	1021+83	6	26	12
			VKA RAMP - VKA					
			966+67	-	981+00	11	11	-
			VKB RAMP - VKB					
			984+14	-	1002+50	-	13	13
			VKC RAMP - VKC					
			985+70	-	1000+15	-	11	11
			VKD RAMP - VKD					
			966+00	-	975+75	-	3	3
		STAGE 2 TOTAL				48	152	70
	PROJECT 1133-03-77 TOTAL					48	216	103
	1133-09-71							
		STAGE 1A						
			USH 41 NB - NB					
			799+00	-	820+86	2	2	-
			822+42	-	836+64	-	17	17
			839+21	-	888+10	8	41	33
			889+81	-	893+10	-	-	-
			895+02	-	912+81	-	28	21
			CD ROADWAY - CD					
			808+89	-	820+86	6	23	5
			822+24	-	837+17	9	14	3
			839+73	-	875+23	5	9	1
			OWC RAMP - OWC					
			824+29	-	829+96	-	8	6
			OWD RAMP - OWD					
			844+27	-	846+70	-	5	2
			INE RAMP - INE					
			866+83	-	890+30	24	27	-
			STH 172 EB - E					
			59+51	-	66+45	7	7	-
			INW RAMP - INW					
			877+75	-	881+15	2	2	-
			IWN RAMP - IWN					
			890+60	-	900+91	9	9	-
			IEN RAMP - IEN					
			869+00	-	912+81	28	41	17
		STAGE 1A TOTAL				100	233	105
	1133-09-71							
		STAGE 1B						
			USH 41 NB - NB					
			799+00	-	820+86	-	11	11
			822+42	-	836+64	-	7	7
			839+21	-	888+10	-	25	25
			889+81	-	893+10	-	2	2
			895+02	-	930+60	-	18	18
			932+01	-	954+00	-	11	11
			USH 41 SB - SB					
			799+00	-	820+86	-	11	11
			822+42	-	836+64	-	7	7
			839+21	-	888+10	-	25	25
			889+81	-	893+10	-	2	2
			895+02	-	930+60	-	18	18
			932+01	-	954+00	-	11	11
		STAGE 1B TOTAL				0	147	147
		STAGE 2						
			USH 41 NB - NB					
			912+81	-	930+53	-	13	13
			932+01	-	954+00	-	22	22
			USH 41 SB - SB					
			799+00	-	820+86	6	6	-
			822+42	-	836+03	12	12	-
			838+61	-	888+40	9	13	6
			890+11	-	893+58	10	13	-
			895+50	-	930+94	8	14	9
			932+35	-	954+00	-	22	8
			IEN RAMP - IEN					
			912+81	-	918+31	-	6	6
			OWA RAMP - OWA					
			846+61	-	854+88	7	14	-
			OWB RAMP - OWB					
			821+17	-	828+97	11	11	-
			IES RAMP - IES					
			879+21	-	888+70	9	11	-
			IWS RAMP - IWS					
			901+44	-	905+25	4	8	-
			ISW RAMP - ISW					
			904+65	-	907+63	3	3	-
			ISE RAMP - ISE					
			905+50	-	924+00	13	26	8
		STAGE 2 TOTAL				92	194	71
	PROJECT 1133-09-71 TOTAL					192	573	323
	1133-09-76							
		STAGE 1A						
			OWC RAMP - OWC					
			829+96	-	838+58	5	9	4
			OWD RAMP - OWD					
			840+93	-	844+27	3	3	-
		STAGE 1A TOTAL				8	12	4
		STAGE 2						
			OWA RAMP - OWA					
			799+00	-	820+86	10	10	-
			OWB RAMP - OWB					
			799+00	-	820+86	5	5	-
		STAGE 2 TOTAL				15	15	0
	PROJECT 1133-09-76 TOTAL					23	27	4
CONTRACT S4-14-02 TOTAL						**263**	**816**	**429**

SUBGRADE REINFORCEMENT

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	645.0120 (Q) GEOTEXTILE FABRIC TYPE HR (SY)	SPV.0180.004 GEOGRID REINFORCEMENT (SY)
1000							
	1133-09-71						
		STAGE 1A					
			USH 41 NB				
			859+00	-	869+00	4,550	-
		STAGE 1A TOTAL				4,550	0
		STAGE 1B					
			USH 41 NB				
			859+00	-	869+00	6,750	-
		STAGE 1B TOTAL				6,750	0
		STAGE 2					
			USH 41 SB				
			859+00	-	869+00	9,600	-
		STAGE 2 TOTAL				9,600	0
		UNDISTRIBUTED				4,200	0
	PROJECT 1133-09-71 TOTAL					25,100	0
	1133-09-76						
		STAGE 2					
			ONEIDA STREET/WAUBE LANE				
			695+00	-	704+50	-	14,100
			OWA RAMP - OWA				
			837+00	-	839+50	-	1,950
			OWB RAMP - OWB				
			833+50	-	834+42	-	450
			OWC RAMP - OWC				
			839+00	-	840+01	-	1,000
			OWD RAMP - OWD				
			840+14	-	840+50	-	300
		STAGE 2 TOTAL				0	17,800
		UNDISTRIBUTED				0	1,800
	PROJECT 1133-09-76 TOTAL					0	19,600
CONTRACT S4-14-02 TOTAL						**25,100**	**19,600**

(Q) REFER TO "EROSION CONTROL ITEMS" TABLE FOR ADDITIONAL QUANTITIES

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ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE I
ERECTING STRUCTURAL STEEL SIGN SUPPORTS

SIGN NO.	LOCATION	SIGN CODE	637.0101 SIGNS, TYPE I W X H	S.F.	635.0200 SIGN SUPPORTS STRUCT. STEEL HIGH-STRENGTH LB	636.0100 SIGN SUPPORTS CONCRETE MASONRY CY	636.0500 SIGN SUPPORTS STEEL REINFORCEMENT LB	TYPE/SIZE OF STEEL	638.2601 REMOVING SIGNS TYPE I EACH	643.0910 TRAFFIC CONTROL COVERING TYPE I SIGNS EACH	INFO ONLY - POST LENGTH TO BE VERIFIED BY CONTRACTOR POST NO. 1 LENGTH FT	POST NO. 2 LENGTH FT	OFFSET DIST. FT	DIST. BETWEEN POSTS (S) FT	REMARKS
100	USH 41, S. OF ONEIDA ST, ON PARKVIEW RD STRUCTURE	E6-51	528" X 168"	616.00											MOUNT ON SIGN BRIDGE S-05-159, SEE SIGN DETAIL
100A	"	E1-5P	144" X 30"	30.00											MOUNT ON TOP OF SIGN #100
100B	USH 41, S. OF ONEIDA ST	E6-51	588" X 180"	735.00											MOUNT ON SIGN BRIDGE S-05-160, SEE SIGN DETAIL
100C	"	E1-5P	144" X 30"	30.00											MOUNT ON TOP OF SIGN #100C, MIDDLE, SEE SIGN DETAIL
100D	"	E1-5P	144" X 30"	30.00											MOUNT ON TOP OF SIGN #100C, RIGHT, SEE SIGN DETAIL
100E	"	E3-1	216" X 120"	180.00	961	1.6	98	2-TYPE A			18	21	30	10.8	SEE SIGN DETAIL SHEET
100F	"	E6-51								1					COVER SIGN AS SHOWN FOR STAGE 2 ON STRUCTURE S-05-157
101	USH 41, S. OF ONEIDA ST, CD ROADWAY	E6-1	348" X 180"	435.00											MOUNT ON SIGN BRIDGE S-05-163, SEE SIGN DETAIL
101A	"	E1-5P	144" X 30"	30.00											MOUNT ON TOP OF SIGN #101, LEFT, SEE SIGN DETAIL
101B	"	E1-5P	144" X 30"	30.00											MOUNT ON TOP OF SIGN #101, RIGHT, SEE SIGN DETAIL
102	USH 41, N. OF ONEIDA ST	E8-1	240" X 114"	190.00											MOUNT ON BUTTERFLY S-05-161, SEE SIGN DETAIL, FACING SB
102A	"	E9-1	144" X 54"	54.00											MOUNT ON BUTTERFLY S-05-161, SEE SIGN DETAIL, FACING NB
103	"	E7-3	336" X 150"	350.00											MOUNT ON SIGN BRIDGE S-05-162, SEE SIGN DETAIL
104	"	E6-51	288" X 192"	384.00											"
104A	"	E1-5P	144" X 30"	30.00											MOUNT ON TOP OF SIGN #104
105	USH 41, N. OF ONEIDA ST, CD ROADWAY	E6-51	408" X 216"	612.00											MOUNT ON SIGN BRIDGE S-05-166, *CHECK # OF ALUM SUPPORT BEAMS* NEEDED ON SIGN STRUCTURE DESIGN SHEETS, SEE SIGN DETAIL
105A	"	E1-5P	144" X 30"	30.00											MOUNT ON TOP OF SIGN #105
106	"	E6-51	408" X 204"	578.00											MOUNT ON SIGN BRIDGE S-05-164, CHECK # OF ALUM. SUPPORT I-BEAMS NEEDED ON SIGN STRUCTURE DESIGN SHEETS, SEE SIGN DETAIL
106A	"	E1-5P	144" X 30"	30.00											MOUNT ON TOP OF SIGN #106
107	USH 41, S. OF STH 172, CD ROADWAY	E7-3	336" X 150"	350.00											MOUNT ON SIGN BRIDGE S-05-165, SEE SIGN DETAIL
108	"	E6-51	288" X 192"	384.00											MOUNT ON SIGN BRIDGE S-05-165, SEE SIGN DETAIL
108A	"	E5-1P	144" X 30"	30.00											MOUNT ON TOP OF SIGN #108
109	EASTBOUND STH 172	E6-1	396" X 198"	544.50											MOUNT ON EXISTING SIGN BRIDGE S-05-45, *CHECK # OF ALUM.* SUPPORT I-BEAMS NEEDED ON SIGN STRUCTURE DESIGN SHEETS, SEE SIGN DETAIL
109A	"	E6-1	192" X 156"	208.00											MOUNT ON SIGN BRIDGE S-05-96, SEE SIGN DETAIL
109B	"	E7-3	336" X 150"	350.00											MOUNT ON SIGN BRIDGE S-05-96, SEE SIGN DETAIL
109C	RAMP SPLIT FOR STH 172 EASTBOUND AND WESTBOUND	E7-1	156" X 150"	162.50											MOUNT ON SIGN BRIDGE S-05-167, SEE SIGN DETAIL
109D	"	E6-1	216" X 144"	216.00											MOUNT ON SIGN BRIDGE S-05-167, SEE SIGN DETAIL
109E	"	E11-2	72" X 30"	15.00											MOUNT ABOVE SIGN #109D UPPER LEFT CORNER
110	WESTBOUND STH 172, 100' E. OF DUTCHMAN CREEK	E6-51	336" X 180"	420.00					3						MOUNT ON EXISTING SIGN BRIDGE S-05-42
110A	"	E6-51								1					COVER SIGN AS SHOWN FOR STAGE 1A THRU 2 ON STRUCTURE S-05-42
110B	STH 172 WB & USH 41 NB SPLIT	E6-51								1					COVER SIGN AS SHOWN FOR STAGE 1A THRU 2 ON STRUCTURE S-05-12
111	USH 41, N. OF STH 172, SPAN BOTH ROADWAYS	E7-3	336" X 150"	350.00											MOUNT ON SIGN BRIDGE S-05-168, SEE SIGN DETAIL
112	"	E9-1	396" X 204"	561.00											MOUNT ON SIGN BRIDGE S-05-168, CHECK # OF ALUM. SUPPORT I-BEAMS NEEDED ON SIGN STRUCTURE DESIGN SHEETS, SEE SIGN DETAIL
112A	"	E1-5P	144" X 30"	30.00											"
113	"	E7-3	336" X 150"	350.00											"
114	"	E6-51	300" X 156"	325.00											
114A	"	E1-5P	120" X 30"	25.00											
115	"	E8-1	384" X 108"	288.00											MOUNT ON BUTTERFLY S-05-173, SEE SIGN DETAIL
116	"	E8-1	228" X 108"	171.00											"
117	STH 172 WB & USH 41 NB SPLIT	E6-51	468" X 186"	604.50											MOUNT ON BRIDGE S-05-12 OVERHEAD, SEE SIGN DETAIL
117A	RAMP TO USH 41 NB AFTER STH 172 SPLIT	E7-2	192" X 144"	192.00											MOUNT ON BRIDGE S-05-15 OVERHEAD, SEE SIGN DETAIL
118	STH 172 WB, RAMP GORE POINT TO USH 41 SB	E6-1	180" X 90"	112.50											MOUNT ON CANTILEVER S-05-188, SEE SIGN DETAIL
	PAGE SUBTOTALS			10063.00	961	2	98		3	3					

PLAN SHEET PRODUCED

BY WisDOT - NE REGION

REMOVAL OF PERMANENT SIGNING, TYPE I

SIGN NO.	LOCATION	SIGN CODE	637.0101 SIGNS, TYPE I W X H	S.F.	635.0200 SIGN SUPPORTS STRUCT. STEEL HIGH-STRENGTH LB	636.0100 SIGN SUPPORTS CONCRETE MASONRY CY	636.0500 SIGN SUPPORTS STEEL REINFORCEMENT LB	TYPE/SIZE OF STEEL	638.2601 REMOVING SIGNS TYPE I EACH	643.0910 TRAFFIC CONTROL COVERING TYPE I SIGNS EACH	638.3100 REMOVING STRUCT. STEEL SIGN SUPPORTS EACH	203.0200 REMOVING OLD STRUCTURE (STA) LS	REMARKS
200	USH 41, S. OF ONEIDA ST	E3-1							1				
200A	"										2		
201	"	E3-1							1				
201A	"										2		
202	"	E1-1							2				ALSO REMOVE E1-5
202A	"										2		
203	"	E6-1							2				ALSO REMOVE E1-5
203A	"											1 (823+00)	REMOVING OF SIGN STRUCTURE - CANTILEVER
204	"	E1-1							2				ALSO REMOVE E1-5
204A	"										3		
205	"	E8-1							1				
205A	"										2		
206	USH 41, N. OF ONEIDA ST	E8-1							1				
206A	"										2		
207	"	E6-1							2				ALSO REMOVE E1-5
207A	"										2		
208	USH 41 AND STH 172 EXIT	E6-51							2				ALSO REMOVE E1-5
208A	"											1 (865+00)	REMOVING OF SIGN STRUCTURE - CANTILEVER
209	USH 41, S. OF STH 172 OVERPASS	E1-1							2				ALSO REMOVE E1-5
209A	"										2		
209B	RAMP SPLIT FOR STH 172 EASTBOUND AND WESTBOUND								1				
209C	"								1				
210	USH 41 AND STH 172 SB RAMP	E6-1							1				
210A	"	E1-1							1				
210B	"	W9-63							1				
210C	"	E6-1							1				
210D	"											1 (66+40)	REMOVING OF SIGN STRUCTURE - CANTILEVER
211	STH 172 WB	E1-1							1				
211A	"	E6-1							1				
211B	"	E6-1							1				
211C	"											1	REMOVING OF SIGN STRUCTURE - BRIDGE
212	USH 41, N. OF STH 172	E9-1							1				
212A	"										2		
213	"	E3-1							1				
213A	"										2		
214	"	E6-1							1				
214A	"	E6-51							2				ALSO REMOVE E1-5
214B	"	E6-51							2				ALSO REMOVE E1-5
214C	"											1 (918+50)	REMOVING OF SIGN STRUCTURE - BRIDGE
215	"	E8-1							1				
215A	"										2		
216	USH 41, N. OF CORMIER	E3-1							1				
216A	"										2		
217	"	E6-1							2				ALSO REMOVE E1-5
217A	"											1 (945+50)	
218	WESTBOUND STH 172, 100' E. OF DUTCHMAN CREEK	E6-51							1				
218A	"	E6-51							1				
218B	"	E6-51							1				
219	USH 41 NB, W. OF STH 172 & USH 41 SPLIT	E6-1							1				
220	USH 41 SB, S. OF CORMIER RD.	E7-2							1				
220A	"	E6-51							2				ALSO REMOVE E1-5
220B	"											1 (929+50)	
	PAGE SUBTOTALS			0.00	0	0	0		43	0	25	7	
	PROJECT TOTALS			**10063.00**	**961**	**2**	**98**		**46**	**3**	**25**	**7**	

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ERECTION OF TYPE II SIGNS AND SUPPORTS

SIGN NO.	LOCATION	SIGN CODE	W X H	637.0202 SIGNS REFLECTIVE TYPE II S.F.	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	634.0618 POSTS WOOD 4x6x18 EACH	REMARKS
1	USH 41, CD ROADWAY TO ONEIDA ST	E5-1B	96" X 84"	56.00				EXIT 164A-B, MOUNT ON SINGLE SLOPE BARRIER WALL
1A	USH 41, NB, N. OF CTH G	R2-1	48" X 60"	20.00				COVER SPEED LIMIT SIGN HEADING NB, RIGHT AFTER CTH G ENTRANCE RAMP
2	USH 41, ENTRANCE RAMP FROM ONEIDA ST	W4-2R	48" X 48"	16.00		1	1	FLUORESCENT REFLECTIVE SHEETING
3	CD ROADWAY, ONEIDA ST EXIT GORE	E5-1B	108" X 60"	45.00			2	EXIT 164A
4	ONEIDA ST EXIT, SE RAMP	W3-3	36" X 36"	9.00		1		FLUORESCENT REFLECTIVE SHEETING
5	USH 41, S. OF ONEIDA ST	W4-1	48" X 48"	16.00		1	1	FLUORESCENT REFLECTIVE SHEETING
6	ONEIDA ST ENTRANCE RAMP TO USH 41	W4-2R	36" X 36"	9.00		1		FLUORESCENT REFLECTIVE SHEETING
7	CD ROADWAY, S. OF ONEIDA ST	W4-3	48" X 48"	16.00		1	1	FLUORESCENT REFLECTIVE SHEETING
8	ONEIDA ST EXIT, NW RAMP	W3-3	36" X 36"	9.00		1		FLUORESCENT REFLECTIVE SHEETING
9	"	W3-3	36" X 36"	9.00		1		FLUORESCENT REFLECTIVE SHEETING
10	ONEIDA ST ENTRANCE RAMP TO CD ROADWAY	W4-2R	48" X 48"	16.00		1	1	FLUORESCENT REFLECTIVE SHEETING
11	ONEIDA ST EXIT GORE, NW RAMP	E5-1B	108" X 60"	45.00			2	EXIT 164A
12	USH 41, N. OF ONEIDA ST	R2-1	48" X 60"	20.00		1	1	65 MPH
13	USH 41, S. OF HANSON RD OVERPASS	J4-1	36" X 51"	12.75		1		SOUTH USH 41, SEE PLAN SHEET
14	"	W4-1	48" X 48"	16.00				MOUNT TO S-05-164 SIGN BRIDGE COLUMN, FLUORESCENT REFLECTIVE SHEETING
15	VACANT							
16	STH 172 EXIT GORE FROM CD ROADWAY	E5-1B	108" X 60"	45.00			2	EXIT 164B
17	USH 41, S. OF STH 172	W4-1	48" X 48"	16.00		1	1	FLUORESCENT REFLECTIVE SHEETING
17A	RAMP SPLIT TO EB & WB STH 172	W9-62	72" X 90"	45.00				MOUNT TO S-05-167 CENTERED OVER RIGHT LANE, FLUORESCENT REFLECTIVE SHEETING
18	USH 41, AT STH 172	W4-3	48" X 48"	16.00		1	1	FLUORESCENT REFLECTIVE SHEETING
19	ENTRANCE RAMP FROM STH 172 TO CD ROADWAY	W4-2R	48" X 48"	16.00		1	1	FLUORESCENT REFLECTIVE SHEETING
19A	"	W9-63	72" X 84"	42.00				MOUNT TO STRUCTURE S-05-15 OVER RIGHT PAVED SHLDR, SEE SIGN DETAIL, FLUORESCENT REFLECTIVE SHEETING
20	RAMP TO STH 172 EASTBOUND	R2-1	36" X 48"	12.00		1		55 MPH
21	"	R2-1	36" X 48"	12.00		1		
22	RAMP GORE BETWEEN STH 172 EAST & WEST	J2-2	72" X 84"	42.00	1	1		EAST STH 172, WEST STH 172, SEE SIGN DETAIL SHEET
23	USH 41, N. OF STH 172	W4-3	48" X 48"	16.00				MOUNT ON SINGLE SLOPE BARRIER WALL, FLUORESCENT REFLECTIVE SHEETING
24	EXIT RAMP FROM USH 41 TO STH 172	W13-3	48" X 60"	20.00		1	1	45 MPH, FLUORESCENT REFLECTIVE SHEETING
25	USH 41, N. OF STH 172	W4-1	48" X 48"	16.00		1	1	FLUORESCENT REFLECTIVE SHEETING
26	EXIT RAMP FROM USH 41 TO STH 172	W3-5	48" X 48"	16.00		1	1	55 MPH, FLUORESCENT REFLECTIVE SHEETING
27	"	W3-5	48" X 48"	16.00		1	1	55 MPH, FLUORESCENT REFLECTIVE SHEETING
28	EXIT GORE FOR USH 41 TO STH 172	E5-1B	108" X 60"	45.00			2	EXIT 164B
29	USH 41, N. OF STH 172	J4-1	36" X 51"	12.75		1		SOUTH USH 41
30	VACANT							
31	USH 41, N. OF STH 172	R2-1	48" X 60"	20.00	1	1		65 MPH
32	"	W13-3	48" X 60"	20.00		1	1	45 MPH, FLUORESCENT REFLECTIVE SHEETING
33 & 34	VACANT							
35	USH 41, S. OF MORRIS AVE	R2-1	48" X 60"	20.00		1	1	65 MPH
	PROJECT TOTALS			**762.50**	**2**	**24**	**22**	

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

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REMOVING, TYPE II SIGNS AND REMOVING SMALL SIGN SUPPORTS

SIGN	LOCATION	SIGN CODE	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
400	USH 41, N. OF GLORY RD	R3-4	2	1	ALSO REMOVE R3-4A
401	"	R3-4	2	1	ALSO REMOVE R3-4A
402	"	D10-3	1	1	
403	"	D10-3	1	1	
404	"	M1-94	1	2	"PARKVIEW RD"
405	USH 41, S. OF ONEIDA ST	W5-52L	1	1	
406	"	W5-52R	1	1	
407	"	W5-52L	1	1	
408	"	W5-52R	1	1	
409	"	J4-1	2	1	
410	"	M1-94	1	2	"PARKVIEW RD"
411	"	J12-1	2	1	
412	"	I55-56	1	1	
413	"	E5-1A	1	2	
414	EXIT RAMP TO ONEIDA ST	W3-3	1	1	
415	USH 41, S. OF ONEIDA ST	J4-1	2	1	
416	"	W4-1	1	2	
417	"	W5-52L	1	1	
418	"	W5-52R	1	1	
419	USH 41, N. OF ONEIDA ST	W5-52R	1	1	
420	"	W5-52L	1	1	
421	EXIT RAMP TO ONEIDA ST	W3-3	1	1	
422	USH 41, N. OF ONEIDA ST	E5-1A	1	2	
423	"	W4-1	1	2	
424	"	J13-1	2	1	
425	"	I55-56	1	1	
426	"	R3-4	2	1	ALSO REMOVE R3-4A
427	"	R3-4	2	1	ALSO REMOVE R3-4A
428	USH 41, AT HANSEN RD OVERPASS	W8-5	1		CURRENTLY ATTACHED TO STH 172 CANTILEVER
429	"	M1-94	1	2	"HANSEN RD"
430	"	D10-3	1	1	
431	"	D10-3	1	1	
432	"	M1-94	1	2	"HANSEN RD"
433	EXIT RAMP TO STH 172	E5-1A	1	2	
434	USH 41, S. OF STH 172	W4-1	1	2	
435	"	W4-1	1	2	
436	"	W5-52L	1	1	
437	"	W5-52R	1	1	
438	USH 41, AT STH 172	W5-52R	1	1	
439	"	W5-52L	1	1	
440	"	W5-52L	1	1	
441	"	W5-52R	1	1	
	PAGE SUBTOTAL		50	52	

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

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REMOVING, TYPE II SIGNS AND REMOVING SMALL SIGN SUPPORTS

SIGN	LOCATION	SIGN CODE	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
442	USH 41, N. OF STH 172	J4-1	2	1	
443	"	W5-52R	1	1	
444	"	W5-52L	1	1	
445	"	W4-3	1	2	
446	ENTRANCE RAMP FROM STH 172 ONTO USH 41	W4-2R	1	1	
446A	"	W9-63	1		CURRENTLY ATTACHED OVER RIGHT LANE ON S-05-15
447	"	R2-1	1	1	
448	"	J4-1	2	1	
449	EXIT RAMP TO STH 172 FROM USH 41	R2-1	1	1	
450	"	R2-1	1	1	
451	"	J3-2	6	2	
452	"	W4-1	1	2	
453	"	W13-3	1		CURRENTLY ATTACHED TO STH 172 SIGN BRIDGE
454	"	R2-5A	2	1	ALSO REMOVE W13-1W
455	"	R2-5A	2	1	ALSO REMOVE W13-1W
456	"	E5-1A	1	2	
457	USH 41, N. OF STH 172	W13-3	1		CURRENTLY ATTACHED TO STH 172 SIGN BRIDGE
458	"	D10-3	1	1	
459	"	D10-3	1	1	
460	USH 41, S. OF CORMIER RD	R3-4	2	1	ALSO REMOVE R3-4A
461	"	R3-4	2	1	ALSO REMOVE R3-4A
462	"	W13-3	1	2	
463	USH 41, AT CORMIER RD OVERPASS	M1-94	1	2	
464	"	W5-52L	1	1	
465	"	W5-52R	1	1	
466	"	W5-52L	1	1	
467	"	M1-94	1	2	
468	"	W5-52R	1	1	
469	"	R3-75	1	2	
470	USH 41, S. OF MORRIS AVE	R3-4	2	1	ALSO REMOVE R3-4A
471	"	R3-4	2	1	ALSO REMOVE R3-4A
472	USH 41, AT MORRIS AVE OVERPASS	M1-94	1	2	
473	"	W5-52L	1	1	
474	"	W5-52R	1	1	
475	"	W5-52R	1	1	
476	"	W5-52L	1	1	
477	"	M1-94	1	2	
	PAGE SUBTOTAL		50	44	
	PROJECT TOTALS		**100**	**96**	

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

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ERECTING STATE OWNED SIGNS

SIGN NO.	638.3610 ERECTING STATE OWNED SIGNS TYPE I EACH	REMARKS
100G	1	MOUNT ON S-05-158
100H	1	MOUNT ABOVE #100F OVER
100I	1	"
100J	1	MOUNT ON S-05-155 OVER LEFT LANE

PROJECT TOTALS **4**

MOVING SIGNS

SIGN	LOCATION	638.2101 MOVING SIGNS TYPE I EACH	REMARKS
2M-01	USH 41 SB, S. OF ONEIDA ST	2	ADVANCED SIGN FOR CTH G - MAIN AVE
2M-02	USH 41 NB, S. OF ONEIDA ST	2	EXIT GORE SIGN FOR CTH AAA - ONEIDA ST
2M-03	USH 41 NB, S. OF ONEIDA ST	2	ADVANCED SIGN FOR STH 172 - A. STRAUBEL AIRPORT
2M-04	USH 41 SB, N. OF ONEIDA ST	2	EXIT GORE SIGN FOR CTH AAA - ONEIDA ST
2M-05	USH 41 NB, S. OF STH 172	2	EXIT GORE SIGN FOR STH 172
2M-06	USH 41 SB, S. OF STH 172	2	ADVANCED SIGN FOR CTH AAA - ONEIDA ST
2M-07	USH 41 SB, N. OF STH 172	2	EXIT GORE SIGN FOR STH 172

PROJECT TOTALS **14**

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE I
ERECTING STRUCTURAL STEEL SIGN SUPPORTS

SIGN NO.	LOCATION	SIGN CODE	637.0101 SIGNS, TYPE I W X H	S.F.	638.2601 REMOVING SIGNS TYPE I EACH	638.3100 REMOVING STRUCT. STEEL SIGN SUPPORTS EACH	REMARKS
100	USH 41, S. OF LOMBARDI AVE	E6-51	300" X 156"	325.00			MOUNT ON SIGN BRIDGE S-05-172, SEE SIGN DETAILS
100A	"	E1-5P	120" X 30"	25.00			MOUNT ABOVE SIGN #100, RIGHT SIDE
100B	"	E6-1	336" X 150"	350.00			MOUNT ON SIGN BRIDGE S-05-172, SEE SIGN DETAILS
100C	"	E6-1	336" X 150"	350.00			MOUNT ON SIGN BRIDGE S-05-170, SEE SIGN DETAILS
100D	"	E9-1	396" X 216"	594.00			MOUNT ON SIGN BRIDGE S-05-170, CHECK # OF ALUM. SUPPORT I-BEAMS NEEDED ON SIGN STRUCTURE DESIGN SHEETS, SEE SIGN DETAILS
100E	"	E1-5P	144" X 30"	30.00			MOUNT ABOVE SIGN #100D, RIGHT SIDE
101	USH 41, N. OF LOMBARDI AVE	E6-1	336" X 150"	350.00			MOUNT ON SIGN BRIDGE S-05-175, SEE SIGN DETAILS
102	"	E6-51	300" X 156"	325.00			MOUNT ON SIGN BRIDGE S-05-175, SEE SIGN DETAILS
102A	"	E1-5P	120" X 30"	25.00			MOUNT ABOVE SIGN #102, RIGHT SIDE
103	"	E6-2	204" X 150"	212.50			MOUNT ON SIGN BRIDGE S-05-175, SEE SIGN DETAILS
104	"	E6-51	432" X 186"	558.00			MOUNT ON SIGN BRIDGE S-05-175, SEE SIGN DETAILS
104A	"	E1-5P	168" X 30"	35.00			MOUNT ABOVE SIGN #104, LEFT SIDE
104B	"	E1-5P	144" X 30"	30.00			MOUNT ABOVE SIGN #104, RIGHT SIDE
105	"	E8-1	276" X 108"	207.00			MOUNT ON BUTTERFLY S-05-176, SEE SIGN DETAILS, FOR NB TRAFFIC
106	"	E8-1	372" X 108"	279.00			MOUNT ON BUTTERFLY S-05-176, SEE SIGN DETAILS, FOR SB TRAFFIC
107	USH 41, S. OF 9TH ST	E6-2	204" X 150"	212.50			MOUNT ON SIGN BRIDGE S-05-178, SEE SIGN DETAILS
108	"	E6-51	432" X 186"	558.00			MOUNT ON SIGN BRIDGE S-05-178, SEE SIGN DETAILS
108A	"	E1-5P	168" X 30"	35.00			MOUNT ABOVE SIGN #106, LEFT SIDE
108B	"	E1-5P	144" X 30"	30.00			MOUNT ABOVE SIGN #106, RIGHT SIDE
109	"	E6-1	336" X 150"	350.00			MOUNT ON SIGN BRIDGE S-05-178, SEE SIGN DETAILS
110	"	E6-51	300" X 156"	325.00			MOUNT ON SIGN BRIDGE S-05-178, SEE SIGN DETAILS
110A	"	E1-5P	120" X 30"	25.00			MOUNT ABOVE SIGN #110, RIGHT SIDE
200	USH 41, S. OF LOMBARDI AVE		X		2		ALSO REMOVE E1-5
200A	"		X			2	
201	"		X		2		ALSO REMOVE E1-5
201A	"		X			2	
202	"		X		1		
202A	"		X			2	
203	USH 41, N. OF LOMBARDI AVE		X		1		
203A	"		X			2	
204	"		X		2		ALSO REMOVE E1-5
204A	"		X			2	
205	"		X		1		
205A	"		X			2	
206	"		X		2		ALSO REMOVE E1-5
206A	"		X			2	
207	"		X		1		
207A	"		X			2	
208	USH 41, S. OF 9TH ST		X		2		
208A	"		X			2	
209	"		X		1		
209A	"		X			2	
	PROJECT TOTALS			**5231.00**	**15**	**20**	

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

ERECTION OF TYPE II SIGNS AND SUPPORTS

SIGN NO.	LOCATION	SIGN CODE	W X H	637.0202 SIGNS REFLECTIVE TYPE II S.F.	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	634.0618 POSTS WOOD 4x6x18 EACH	REMARKS
1 & 2	VACANT							
3	USH 41, AT MORRIS AVE OVERPASS	J4-1	36" X 51"	12.75		1		SOUTH USH 41, SEE PLAN SHEET
4	USH 41 NB EXIT RAMP LOMBARDI AVE	E5-1A	90" X 60"	37.50		1	1	
5	USH 41 SB ENTRANCE RAMP FROM LOMBARDI	W4-2R	48" X 48"	16.00	1	1		FLUORESCENT REFLECTIVE SHEETING
6	USH 41 NB EXIT RAMP LOMBARDI AVE	W3-3	36" X 36"	9.00		1		FLUORESCENT REFLECTIVE SHEETING
7	"	W3-3	36" X 36"	9.00		1		FLUORESCENT REFLECTIVE SHEETING
8	"	D1-2	90" X 30"	18.75	1	1		SEE SIGN DETAIL SHEET
9	"	D1-2	90" X 24"	15.00	1	1		SEE SIGN DETAIL SHEET
9A	"	R3-6L	42" X 48"	14.00				MOUNT ON S-05-237, CENTERED OVER LEFT LANE
9B	"	R3-5R	42" X 48"	14.00				MOUNT ON S-05-237, CENTERED OVER RIGHT LANE
10	USH 41, S. OF LOMBARDI AVE	W4-3	48" X 48"	16.00	1	1		FLUORESCENT REFLECTIVE SHEETING
11	USH 41, N. OF LOMBARDI AVE	I2-3A	96" X 30"	20.00	1	1		SEE SIGN DETAIL SHEET
11A	USH 41 SB EXIT RAMP LOMBARDI AVE	R3-5L	42" X 48"	14.00				MOUNT ON S-05-233, CENTERED OVER LEFT LANE
11B	"	R3-6L	42" X 48"	14.00				MOUNT ON S-05-233, CENTERED OVER MIDDLE LANE
11C	"	R3-5R	42" X 48"	14.00				MOUNT ON S-05-233, CENTERED OVER RIGHT LANE
12	USH 41 SB EXIT RAMP LOMBARDI AVE	D1-2	90" X 30"	18.75	1	1		SEE SIGN DETAIL SHEET
13	"	D1-2	90" X 24"	15.00	1	1		SEE SIGN DETAIL SHEET
14	USH 41, N. OF LOMBARDI AVE	W4-3	48" X 48"	16.00	1	1		FLUORESCENT REFLECTIVE SHEETING
15	USH 41 NB ENTRANCE RAMP FROM LOMBARDI	W4-2R	36" X 36"	9.00		1		FLUORESCENT REFLECTIVE SHEETING
16	USH 41, N. OF LOMBARDI AVE	W3-3	36" X 36"	9.00		1		FLUORESCENT REFLECTIVE SHEETING
17	"	E5-1A	90" X 60"	37.50		1	1	
17A	"	I2-2R	84" X 36"	21.00	1	1		ONEIDA INDIAN RESERVATION, SEE SIGN DETAIL SHEET
18	USH 41, N. OF LOMBARDI AVE	J4-1	36" X 51"	12.75		1		NORTH USH 41, SEE PLAN SHEET
19	USH 41, S. OF 9TH ST	R2-1	48" X 60"	20.00	1	1		65 MPH
20	"	R2-1	48" X 60"	20.00	1	1		65 MPH
21	"	J4-1	36" X 51"	12.75		1		SOUTH USH 41, SEE PLAN SHEET
21A	USH 41, EXIT RAMP TO MASON ST	W3-2	36" X 36"	9.00	1			FLUORESCENT REFLECTIVE SHEETING
	PROJECT TOTALS			**424.75**	**12**	**20**	**2**	

MOVING SIGNS

SIGN	LOCATION	638.2101 MOVING SIGNS TYPE I EACH	REMARKS
2M-01	USH 41 SB, ADVANCED SIGN	2	STH 172 A. STRAUBEL AIRPORT 1 MILE
2M-02	USH 41 NB, SIGN AT EXIT GORE	2	LOMBARDI AVE
2M-03	USH 41 NB, ADVANCED SIGN	2	STH 54/32 MASON ST 1/2 MILE
2M-04	USH 41 SB, SIGN AT EXIT GORE	2	LOMBARDI AVE
2M-05	USH 41 SB, ADVANCED SIGN	2	LOMBARDI AVE
	PROJECT TOTALS	**10**	

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

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REMOVING, TYPE II SIGNS AND REMOVING SMALL SIGN SUPPORTS

SIGN	LOCATION	SIGN CODE	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
400	USH 41, N. OF MORRIS AVE	J4-1	2	1	
401	"	I55-56	1	1	
402	EXIT RAMP TO LOMBARDI AVE	E5-1A	1	2	
403	USH 41, N. OF MORRIS AVE	D10-3	1	1	
404	"	D10-3	1	1	
405	EXIT RAMP TO LOMBARDI AVE	W3-3	1	1	
406	USH 41, N. OF MORRIS AVE	W5-52R	1	1	
407	"	W5-52R	1	1	
408	"	W5-52R	1	1	
409	EXIT RAMP TO LOMBARDI AVE	D1-2	1	2	
410	USH 41, N. OF MORRIS AVE	W5-52R	1	1	
411	"	W4-3	1	2	
412	"	W5-52R	1	1	
413	"	W5-52R	1	1	
414	USH 41, AT LOMBARDI AVE OVERPASS	W5-52R	1	1	
415	"	W5-52L	1	1	
416	"	I2-3A	1	2	
417	"	I2-3A	1	2	
418	USH 41, N. OF LOMBARDI AVE	W4-1	1	2	
419	EXIT RAMP TO LOMBARDI AVE	D1-2	1	2	
420	"	W3-3	1	1	
421	"	E5-1A	1	2	
422	USH 41, N. OF LOMBARDI AVE	I55-56	1	1	
423	"	R2-1	1	1	
424	USH 41, S. OF 9TH ST	J4-1	2	1	
425	"	R3-4	2	1	ALSO REMOVE R3-4A
426	"	R3-4	2	1	ALSO REMOVE R3-4A
427	"	M1-94	1	2	
428	USH 41 NB OFF-RAMP TO MASON ST	W2-6	1		REMOVE FROM LIGHT POLE
429	"	W2-6P	1		REMOVE FROM LIGHT POLE
430	"	W3-2	1		REMOVE FROM LIGHT POLE
	PROJECT TOTALS		**35**	**37**	

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

ERECTION OF TYPE II SIGNS AND SUPPORTS

SIGN NO.	LOCATION	SIGN CODE	W X H	637.0202 SIGNS REFLECTIVE TYPE II S.F.	637.0402 SIGNS TYPE II FOLDING S.F.	634.0612 POSTS WOOD 4x6x12 EACH	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	634.0620 POSTS WOOD 4x6x20 EACH	634.0622 POSTS WOOD 4x6x22 EACH	REMARKS
1	W. OF ALLIED STREET	W6-1	36" X 36"	9.00			1				FLUORESCENT REFLECTIVE SHEETING
2	"	R4-7	24" X 30"	5.00			1				
3	"	R5-1	36" X 36"	9.00			1				
4	"	W6-3	36" X 36"	9.00							MOUNT ON BACK OF SIGN #3, FLUORESCENT REFLECTIVE SHEETING
5	"	R6-2R	24" X 30"	5.00			1				
6	"	R5-1A	36" X 24"	6.00			1				
7	"	R6-2R	24" X 30"	5.00			1				
8	"	R2-1	24" X 30"	5.00				1			35 MPH
8A	"	R7-1D	18" X 24"	3.00							MOUNT BELOW SIGN #8
8B	ON N. ALLIED ST	R1-1F	30" X 30"		5.18						MOUNT ON TRAFFIC SIGNAL
9	W. OF ALLIED STREET	R5-1	36" X 36"	9.00			1				MOUNT ON TRAFFIC SIGNAL
9A	"	R1-1F	36" X 36"		7.46						MOUNT ON TRAFFIC SIGNAL
10	"	R4-7	24" X 30"	5.00			1				MOUNT ON TRAFFIC SIGNAL
10A	"	R10-50	30" X 36"	7.50							MOUNT ON TRAFFIC SIGNAL BELOW SIGN #10
10B	"	R1-1F	36" X 36"		7.46						MOUNT ON TRAFFIC SIGNAL
11	E. OF ALLIED STREET	R4-7	24" X 30"	5.00			1				MOUNT ON TRAFFIC SIGNAL
11A	"	R10-50	30" X 36"	7.50							MOUNT ON TRAFFIC SIGNAL BELOW SIGN #11
11B	"	R1-1F	36" X 36"		7.46						MOUNT ON TRAFFIC SIGNAL
12	"	J1-1	24" X 39"	6.50			1				USH 41, SEE PLAN SHEET
12A	ON S. ALLIED STREET	R1-1F	30" X 30"		5.18						MOUNT ON TRAFFIC SIGNAL
13	E. OF ALLIED STREET	R5-1	36" X 36"	9.00			1				
13A	"	R1-1F	36" X 36"		7.46						MOUNT ON TRAFFIC SIGNAL
14	"	R6-2R	24" X 30"	5.00			1				
15	"	D1-72	120" X 60"	50.00					3		SEE SIGN DETAIL
16	"	R5-1A	36" X 24"	6.00			1				
17	"	R6-2R	24" X 30"	5.00			1				
18	"	R4-7	24" X 30"	5.00			1				
19	"	R4-7	24" X 30"	5.00			1				
20	"	W3-3	36" X 36"	9.00			1				FLUORESCENT REFLECTIVE SHEETING
21	"	R6-2R	24" X 30"	5.00			1				
22	"	D15-1	48" X 90"	30.00							USH 41, SEE PLAN SHEET, MOUNT ON SIGN BRIDGE
23	"	D15-1	48" X 90"	30.00							USH 41, SEE PLAN SHEET, MOUNT ON SIGN BRIDGE
24	"	D15-1	36" X 78"	19.50							CTH AAA, SEE PLAN SHEET, MOUNT ON SIGN BRIDGE
25	"	D15-1	36" X 78"	19.50							CTH AAA, SEE PLAN SHEET, MOUNT ON SIGN BRIDGE
26	"	D15-1	48" X 90"	30.00							USH 41, SEE PLAN SHEET, MOUNT ON SIGN BRIDGE
27	USH 41 SW RAMP	R5-57	36" X 36"	9.00			1				
28	VACANT										
29	USH 41 SW RAMP ISLAND @ CTH AAA	W12-1D	24" X 24"	4.00			1				FLUORESCENT REFLECTIVE SHEETING
30	CTH AAA @ USH 41 SW RAMP	R11-54F	48" X 30"		10.00		1				
30A	"	R11-54F	48" X 30"		10.00		1				
31	CTH AAA MEDIAN @ USH 41 W. RAMP	R3-2	36" X 36"	9.00			1				
32	"	R5-1	36" X 36"	9.00							MOUNT ON BACK OF SIGN #31
32A	"	R10-11F	30" X 36"	7.50							MOUNT BELOW SIGNAL FOR LEFT LANE - RIGHT TURN FROM USH 41 SB RAMP
33	USH 41 NW RAMP ISLAND @ CTH AAA	R5-1	36" X 36"	9.00			1				
34	"	R6-2R	30" X 36"	7.50							MOUNT ON BACK OF SIGN #33
	PAGE SUBTOTALS			379.50	60.20	0	24	1	3	0	

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

ERECTION OF TYPE II SIGNS AND SUPPORTS

SIGN NO.	LOCATION	SIGN CODE	W X H	637.0202 SIGNS REFLECTIVE TYPE II S.F.	637.0402 SIGNS TYPE II FOLDING S.F.	634.0612 POSTS WOOD 4x6x12 EACH	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	634.0620 POSTS WOOD 4x6x20 EACH	634.0622 POSTS WOOD 4x6x22 EACH	REMARKS
35	USH 41 NW RAMP @ CTH AAA	R1-2	36" X 31"	3.88			1				
36	"	R6-2R	30" X 36"	7.50			1				
37	USH 41 NW RAMP ISLAND @ CTH AAA	R1-1F	36" X 36"		7.46						BAND TO TRAFFIC SIGNAL
38	"	W12-1D	24" X 24"	4.00		1					FLUORESCENT REFLECTIVE SHEETING
39	USH 41 NW RAMP	R5-1	36" X 36"	9.00				1			
40	"	J13-1	24" X 45"	7.50							CTH AAA, SEE PLAN SHEET, MOUNT ON BACK OF SIGN #39
41	"	R5-1A	36" X 24"	6.00			2				
42	"	D1-2	72" X 30"	15.00							SEE SIGN DETAIL, MOUNT ON BACK OF SIGN #41
43	"	R5-1A	36" X 24"	6.00			1				
44	"	D4-56R	36" X 36"	9.00			1				SEE SIGN DETAIL
44A	"	R3-5R	42" X 48"	14.00							MOUNT CENTERED OVER LANE ON S-05-227, SEE PLAN SHEET
44B	"	R3-5R	42" X 48"	14.00							MOUNT CENTERED OVER LANE ON S-05-227, SEE PLAN SHEET
44C	"	R3-6L	42" X 48"	14.00							MOUNT CENTERED OVER LANE ON S-05-227, SEE PLAN SHEET
44D	"	R3-5L	42" X 48"	14.00							MOUNT CENTERED OVER LANE ON S-05-227, SEE PLAN SHEET
45	"	D1-2	90" X 24"	15.00			2				SEE SIGN DETAIL
46	USH 41 SW RAMP @ CTH AAA	R1-2	36" X 31"	3.88			1				
47	E. OF USH 41 SW RAMP	D1-4	96" X 90"	60.00						3	SEE SIGN DETAIL
48	"	D1-2	120" X 48"	40.00							SEE SIGN DETAIL, MOUNT ON BACK OF SIGN #47
49	E. OF USH 41 NW RAMP	R5-1	36" X 36"	9.00			1				
50	"	R3-1	36" X 36"	9.00							MOUNT ON BACK OF SIGN #49
51	"	R4-7	24" X 30"	5.00			1				
52	"	R3-8Y	30" X 36"	7.50			1				
53	"	R5-1A	36" X 24"	6.00							MOUNT ON BACK OF SIGN #53A
53A	"	J2-1	24" X 57"	9.50				1			
54	W. OF USH 41 E. RAMPS	R5-1A	36" X 24"	6.00							MOUNT ON BACK OF SIGN #54A
54A		J2-1	24" X 57"	9.50				1			
55	"	R3-8Y	30" X 36"	7.50			1				
56	"	R3-2	24" X 24"	4.00			1				
57	VACANT										
58	USH 41 SE RAMP	D1-2	90" X 24"	15.00			2				SEE SIGN DETAIL
59	"	D4-56R	36" X 36"	9.00			1				SEE SIGN DETAIL
60	"	D1-2	72" X 30"	15.00			2				SEE SIGN DETAIL
61	"	R5-1A	36" X 24"	6.00			1				
62	"	J13-1	24" X 45"	7.50				1			CTH AAA, SEE PLAN SHEET
63	"	R5-1A	36" X 24"	6.00							MOUNT ON BACK OF SIGN #62
64	USH 41 SE RAMP ISLAND @ CTH AAA	W12-1D	24" X 24"	4.00			1				FLUORESCENT REFLECTIVE SHEETING
65	W. OF USH 41 SE RAMP	R5-1	30" X 30"	6.25			1				
66	USH 41 SE RAMP ISLAND @ CTH AAA	R1-1F	30" X 30"		5.18						BAND TO TRAFFIC SIGNAL
67	"	R5-1	30" X 30"	6.25			1				
68	W. OF USH 41 E. RAMPS	R4-7	24" X 30"	5.00			1				
69	E. OF USH 41 E. RAMPS	R3-1	24" X 24"	4.00			1				
70	USH 41 NE RAMP	R11-54F	48" X 30"		10.00		1				
71	"	R11-54F	48" X 30"		10.00		1				
	PAGE SUBTOTALS			399.76	32.64	1	27	4	0	3	

PLAN SHEET PRODUCED

BY WisDOT - NE REGION

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ERECTION OF TYPE II SIGNS AND SUPPORTS

SIGN NO.	LOCATION	SIGN CODE	W X H	637.0202 SIGNS REFLECTIVE TYPE II S.F.	637.0402 SIGNS TYPE II FOLDING S.F.	634.0614 POSTS WOOD 4x6x12 EACH	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	634.0620 POSTS WOOD 4x6x20 EACH	634.0622 POSTS WOOD 4x6x22 EACH	REMARKS
72	W. OF USH 41 NE RAMP	D1-4	96" X 90"	60.00						3	SEE SIGN DETAIL
73	"	D1-2	120" X 48"	40.00							SEE SIGN DETAIL, MOUNT ON BACK OF SIGN #72
74	USH 41 NE RAMP	R5-57	36" X 36"	9.00			1				
75	USH 41 NE RAMP ISLAND @ CTH AAA	J2-1	24" X 57"	9.50		1					FLUORESCENT REFLECTIVE SHEETING
76	"	R1-2	36" X 31"	3.88			1				
77	USH 41 SE RAMP ISLAND @ CTH AAA	R1-2	36" X 31"	3.88			1				
78	E. OF USH 41 E. RAMPS	D15-1	48" X 90"	30.00							USH 41, SEE PLAN SHEET, MOUNT ON SIGN BRIDGE
79	"	D15-1	48" X 90"	30.00							USH 41, SEE PLAN SHEET, MOUNT ON SIGN BRIDGE
80	"	D15-1	36" X 78"	19.50							CTH AAA, SEE PLAN SHEET, MOUNT ON SIGN BRIDGE
81	"	D15-1	36" X 78"	19.50							CTH AAA, SEE PLAN SHEET, MOUNT ON SIGN BRIDGE
82	"	D15-1	48" X 90"	30.00							USH 41, SEE PLAN SHEET, MOUNT ON SIGN BRIDGE
83	"	D15-1	48" X 90"	30.00							USH 41, SEE PLAN SHEET, MOUNT ON SIGN BRIDGE
84	"	R5-1A	36" X 24"	6.00			1				
85	W. OF RAMADA WAY	R5-1A	36" X 24"	6.00			1				
86	"	R5-1	36" X 36"	9.00			1				
87	"	R5-1	36" X 36"	9.00			1				
88	"	W3-3	36" X 36"	9.00			1				FLUORESCENT REFLECTIVE SHEETING
89	RAMADA WAY	R6-2R	24" X 30"	5.00			1				
90	"	R1-1	30" X 30"	5.18			1				
91	"	R4-8	24" X 30"	5.00			1				
92	"	R6-2R	24" X 30"	5.00			1				
93	"	R6-2R	24" X 30"	5.00			1				
94	"	R4-8	24" X 30"	5.00			1				
95	"	R1-1	30" X 30"	5.18			1				
96	"	R6-2R	24" X 30"	5.00			1				
97	"	R5-1	36" X 36"	9.00			1				
98	E. OF RAMADA WAY	R5-1	36" X 36"	9.00			1				
99	"	R2-1	24" X 30"	5.00			1				35 MPH
100	"	D1-72	120" X 60"	50.00					3		SEE SIGN DETAIL
101	"	R5-1A	36" X 24"	6.00							MOUNT ON BACK OF SIGN #100
102	"	R5-1A	36" X 24"	6.00			1				
103	"	J1-1	24" X 39"	6.50			1				USH 41, SEE PLAN SHEET
	PAGE SUBTOTALS			456.12	0.00	1	21	0	3	3	
	PROJECT TOTALS			**1235.38**	**92.84**	**2**	**72**	**5**	**6**	**6**	

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

3

REMOVING, TYPE II SIGNS AND REMOVING SMALL SIGN SUPPORTS

SIGN	LOCATION	SIGN CODE	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
200	W. OF ALLIED STREET	W6-1	1	1	
201	"	R2-1	1	1	
202	"	R7-1D	1		
203	E. OF ALLIED STREET	J1-1	2	1	
203A	"	R7-1D	1	1	
203B	"	R2-1	1	1	
203C	"	R7-1D	1		
204	"	W3-3	1		REMOVE FROM LIGHT POLE
205	"	R4-7	1	1	
206	"	W3-3	1		
207	"	R5-1	1	1	
208	"	W3-3	1		
209	"	D1-3	1	2	
210	"	R7-1D	1		
211	W. OF USH 41 W. RAMPS	R5-1A	1		
212	"	R2-1	1	1	
213	"	R7-1D	1		
214	"	R5-1A	1	1	
215	"	W6-3	1		
216	"	J2-2	6	2	
217	"	R5-1	1		
218	USH 41 SW RAMP ISLAND	J2-1	3	1	
219	USH 41 SW RAMP	R1-2	1	1	
220	"	R5-57	1	1	
221	VACANT				
222	USH 41 SW RAMP ISLAND	R6-2L	1		REMOVE FROM TRAFFIC SIGNAL
223	CTH AAA @ USH 41 W. RAMPS	R3-1	1		REMOVE FROM TRAFFIC SIGNAL
224	"	J2-1	3		REMOVE FROM TRAFFIC SIGNAL
225	USH 41 NW RAMP @ CTH AAA	R7-1D	1		REMOVE FROM LIGHT POLE
226	"	R1-1F	1		REMOVE FROM TRAFFIC SIGNAL
227	USH 41 NW RAMP ISLAND @ CTH AAA	R1-1F	1		REMOVE FROM TRAFFIC SIGNAL
228	"	R6-2L	1		REMOVE FROM TRAFFIC SIGNAL
229	USH 41 NW RAMP @ CTH AAA	R5-1	1		
230	USH 41 NW RAMP	R5-1	1	1	
231	"	J12-1	2		
232	"	R5-1A	1	2	
	PAGE SUBTOTALS		46	19	

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

3

REMOVING, TYPE II SIGNS AND REMOVING SMALL SIGN SUPPORTS

SIGN	LOCATION	SIGN CODE	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
233	USH 41 NW RAMP	D1-2	1		
234	"	D1-2	1	2	
235	"	SP	1	2	
236	"	W3-3	1	1	
237	VACANT				
238	VACANT				
239	E. OF USH 41 W. RAMPS	R5-1	1		REMOVE FROM TRAFFIC SIGNAL
240	"	R3-1	1		REMOVE FROM TRAFFIC SIGNAL
241	"	R4-7	1		REMOVE FROM TRAFFIC SIGNAL
242	"	R7-1D	1		REMOVE FROM TRAFFIC SIGNAL
243	"	J2-1	3	1	
244	"	R5-1A	1	1	
245	"	D1-2	1	2	
246	"	R3-56L	1	1	
247	W. OF USH 41 E. RAMPS	R3-56L	1	1	
248	"	D1-2	1	2	
249	"	R7-1D	1	1	
250	"	R5-1A	1		
251	"	J2-1	3	1	
252	"	R3-1	1		REMOVE FROM TRAFFIC SIGNAL
253	"	R5-1	1		REMOVE FROM TRAFFIC SIGNAL
254	"	R5-1	1	1	
255	"	J2-1	3		REMOVE FROM TRAFFIC SIGNAL
256	"	R4-7	1		REMOVE FROM TRAFFIC SIGNAL
257	USH 41 SE RAMP ISLAND @ CTH AAA	R5-1	1	1	
258	VACANT				
259	USH 41 SE RAMP	W3-3	1	1	
260	"	D1-2	1	2	
261	"	D1-2	1	2	
262	"	R5-1A	1		
263	"	SP	1	2	SEE PLAN SHEET
264	"	R5-1A	1		
265	USH 41 SE RAMP ISLAND @ CTH AAA	W12-1D	1	1	
266	USH 41 SE RAMP	W4-6	1	1	
267	"	R5-1	1		
268	USH 41 SE RAMP ISLAND	R1-1F	1		REMOVE FROM TRAFFIC SIGNAL
	PAGE SUBTOTALS		39	26	

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

3

REMOVING, TYPE II SIGNS AND REMOVING SMALL SIGN SUPPORTS

SIGN	LOCATION	SIGN CODE	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
269	USH 41 SE RAMP ISLAND	R6-2L	1	1	
270	"	R6-2R	1	1	
271	"	J12-1	2		REMOVE FROM TRAFFIC SIGNAL
272	VACANT				
273	E. OF USH 41 E. RAMP	R3-1	1		REMOVE FROM TRAFFIC SIGNAL
274	USH 41 NE RAMP ISLAND	J2-1	3	1	
275	"	R5-1	1		
276	"	R6-2L	1		REMOVE FROM TRAFFIC SIGNAL
277	USH 41 NE RAMP	R1-2	1	1	
278	"	R5-57	1	1	
279	E. OF USH 41 E. RAMP	R1-2	1	1	
280	"	R5-1A	1	1	
281	"	J2-1	3		
282	W. OF RAMADA WAY	SP	1	2	SEE PLAN SHEET
283	"	R7-1D	1		REMOVE FROM POWER POLE
284	RAMADA WAY	R4-7	1	1	
285	"	W3-3	1	1	
286	"	R6-2L	1	1	
287	"	R1-1	1		
288	"	R6-2R	1		
289	"	R1-1	1	1	
290	"	R6-2R	1		
291	"	R6-2R	1		
292	"	R2-1	1		REMOVE FROM POWER POLE
293	"	R7-1D	1		REMOVE FROM POWER POLE
294	"	R4-7	1	1	
295	E. OF RAMADA WAY	SP	1	2	SEE PLAN SHEET
	PAGE SUBTOTALS		31	16	
	PROJECT TOTALS		116	61	

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

MOVING SIGNS

638.2101 (R)

CATEGORY	PROJECT	STAGE	PHASE	SIGN NUMBER	TYPE I (EACH)	REMARKS
1000						
	1133-03-77					
		STAGE 2A				
				1002	1	FIXED MESSAGE SIGN
				1003	1	FIXED MESSAGE SIGN
		STAGE 2B TOTAL			2	
		STAGE 2B				
				1002	1	FIXED MESSAGE SIGN
				1003	1	FIXED MESSAGE SIGN
				1004	1	FIXED MESSAGE SIGN
				1005	1	FIXED MESSAGE SIGN
		STAGE 2B TOTAL			4	
	PROJECT 1133-03-77 TOTAL				6	
	1133-09-71					
		STAGE 1A				
			ML-2	514	2	FIXED MESSAGE SIGN
			ML-3	501	1	FIXED MESSAGE SIGN
				502	1	FIXED MESSAGE SIGN
				503	1	FIXED MESSAGE SIGN
				504	1	FIXED MESSAGE SIGN
			NE-3	505	1	FIXED MESSAGE SIGN
		STAGE 1A TOTAL			7	
		STAGE 1B				
			ML-1	500	1	FIXED MESSAGE SIGN
				501	1	FIXED MESSAGE SIGN
				502	1	FIXED MESSAGE SIGN
				503	1	FIXED MESSAGE SIGN
				504	1	FIXED MESSAGE SIGN
				514	2	FIXED MESSAGE SIGN
		STAGE 1B TOTAL			7	
		STAGE 2				
			ML-1	506	1	FIXED MESSAGE SIGN
				507	1	FIXED MESSAGE SIGN
				508	1	FIXED MESSAGE SIGN
				509	1	FIXED MESSAGE SIGN
				510	1	FIXED MESSAGE SIGN
			ML-2	506	1	FIXED MESSAGE SIGN
				507	1	FIXED MESSAGE SIGN
				508	1	FIXED MESSAGE SIGN
				509	2	FIXED MESSAGE SIGN
				510	2	FIXED MESSAGE SIGN
				514	2	FIXED MESSAGE SIGN
			ML-3	506	1	FIXED MESSAGE SIGN
				507	1	FIXED MESSAGE SIGN
				508	1	FIXED MESSAGE SIGN
				509	1	FIXED MESSAGE SIGN
				510	1	FIXED MESSAGE SIGN
			ML-4	507	1	FIXED MESSAGE SIGN
				508	1	FIXED MESSAGE SIGN
		STAGE 2 TOTAL			21	
	PROJECT 1133-09-71 TOTAL				35	
	CONTRACT S4-14-02 TOTAL				**41**	

(R) REFER TO SIGNING PLANS FOR ADDITIONAL QUANTITIES

TRAFFIC CONTROL COVERING SIGNS

				643.0910 (R) TYPE I			643.0920 TYPE II		
CATEGORY	PROJECT	STAGE	PHASE	NUMBER OF SIGNS	NUMBER OF CYCLES	(EACH)	NUMBER OF SIGNS	NUMBER OF CYCLES	(EACH)
1000									
	1133-03-77								
		PROJECT (UNDISTRIBUTED)				-			10
	PROJECT 1133-03-77 TOTAL					-			10
	1133-09-71								
		STAGE 1A							
			ML-2	1	1	1	1	1	1
		STAGE 1A TOTAL				1			1
		STAGE 2							
			ML-3	1	1	1	-	-	-
		STAGE 2 TOTAL				1			0
		PROJECT (UNDISTRIBUTED)				6			24
	PROJECT 1133-09-71 TOTAL					8			25
	1133-09-76								
		PROJECT (UNDISTRIBUTED)				-			10
	PROJECT 1133-09-76 TOTAL					0			10
	CONTRACT S4-14-02 TOTAL					**8**			**45**

(R) REFER TO SIGNING PLANS FOR ADDITIONAL QUANTITIES

3

TRAFFIC CONTROL DEVICES

CATEGORY	PROJECT	STAGE	PHASE	STATION	TO	STATION	LOCATION	DAYS IN PHASE	603.8000 CONCRETE BARRIER TEMPORARY DELIVERED (LF)	603.8125 CONCRETE BARRIER PRECAST INSTALLED (LF)	614.0905 CRASH CUSHION TEMPORARY (EACH)	643.1000 SIGNS FIXED MESSAGE (SF)	643.1050 SIGNS PCMS (DAYS)	643.0300 DRUMS (DAYS)	643.0420 BARRICADES TYPE III (DAYS)	643.0705 WARNING LIGHTS TYPE A (DAYS)	643.0715 WARNING LIGHTS TYPE C (DAYS)	643.0800 ARROW BOARDS (DAYS)	643.0900 TRAFFIC CONTROL SIGNS (DAYS)	649.2100 TEMPORARY RAISED PAVEMENT MARKERS (EACH)	643.0500 FLEXIBLE TUBULAR MARKER POSTS (EACH)	643.0600 FLEXIBLE TUBULAR MARKER BASES (EACH)	SPV.0060.200 MAINTENANCE AND REMOVAL OF CRASH CUSHIONS LEFT IN PLACE BY OTHERS (EACH)	SPV.0060.201 TEMPORARY THRIE BEAM CONNECTION (EACH)	SPV.0090.200 GLARE SCREENS TEMPORARY (LF)	SPV.0090.201 CONCRETE BARRIER TEMPORARY PRECAST ANCHORING (LF)
1000	1133-03-77																									
		STAGE 1B		954+00	-	1035+50	USH 41	331	15,400	25,100	8	195	-	54,650	5,300	10,600	3,310	-	15,250	225	-	-	-	-	-	-
		STAGE 2A		954+00	-	1093+50	USH 41	300	-	17,550	6	245	-	118,800	5,400	10,800	12,000	900	17,100	65	-	-	-	-	-	-
		STAGE 2B		954+00	-	1093+50	USH 41	150	-	9,220	3	0	-	70,050	4,050	8,100	4,500	450	5,100	40	-	-	-	-	-	-
							PROJECT (UNDISTRIBUTED)		0	0	1	250	0	24,350	1,500	2,950	1,990	150	3,750	35	0	0	0	0	0	0
	PROJECT 1133-03-77 TOTALS								15,400	51,870	18	690	0	267,850	16,250	32,450	21,800	1,500	41,200	365	0	0	0	0	0	0
	1133-09-71																									
		STAGE 1A	ML-1	799+00	-	954+00	USH 41	30	-	-	-	-	-	14,950	-	-	3,480	420	2,520	-	-	-	-	-	-	-
			ML-2					157	18,050	18,050	12	304	28	58,250	2,670	5,340	-	475	28,300	-	-	-	-	-	-	750
			NE-01					21	3,200	3,200	2	-	-	2,170	-	-	695	25	275	-	-	-	-	-	-	-
			NE-02					45	1,510	2,830	-	72	-	2,300	-	-	945	-	300	-	-	-	-	-	-	-
			ML-03					70	5,115	8,480	4	-	14	28,500	1,190	2,380	-	210	14,350	-	-	-	-	-	-	-
			NE-03					14	375	2,430	1	-	-	1,610	15	30	505	15	210	-	-	-	-	-	-	-
			NE-04					14	-	400	-	-	-	1,420	15	30	505	-	130	-	-	-	-	-	-	-
		STAGE 1B	ML-1	799+00	-	954+00	USH 41	331	24,320	27,200	9	344	14	136,400	8,280	16,550	45,350	995	61,900	-	-	-	1	-	-	-
		STAGE 2	ML-1	799+00	-	954+00	USH 41	30	805	13,800	5	58	14	18,600	1,050	2,100	5,340	120	5,430	665	-	-	-	2	3,010	-
			ML-2					255	5,435	8,000	1	-	14	138,500	7,910	15,850	40,550	1,020	45,400	-	-	-	-	-	-	300
			ML-3					90	4,000	7,100	4	-	14	60,500	-	8,280	12,150	270	16,200	-	-	-	-	-	-	-
			ML-4					40	1,085	1,600	-	-	14	30,650	-	2,240	5,960	1,120	5,200	-	-	-	-	-	-	-
			ML-5					35	-	-	-	-	-	2,100	-	-	560	175	1,260	-	-	-	-	-	-	-
			-	-	-	-	PARKVIEW ROAD	52	-	-	-	-	14	-	730	1,250	-	-	520	-	-	-	-	-	-	-
			-	-	-	-	NORTH ROAD	14	-	-	-	-	-	840	-	-	-	-	185	-	-	-	-	-	-	-
			-	-	-	-	CORMIER RD (PARTIAL CLOSURE)	646	630	630	-	-	-	-	9,885	19,770	-	-	8,475	-	-	-	-	-	-	-
			-	-	-	-	CORMIER RD (FULL CLOSURE)	70	-	-	-	-	14	2,000	300	595	-	-	445	-	-	-	-	-	-	-
			-	-	-	-	PILGRIM WAY & RIDGE RD	30	-	-	-	-	-	-	340	680	-	-	-	-	-	-	-	-	-	-
		DETOURS	-	-	-	-	USH 41 NB	8	-	-	-	-	21	680	100	195	240	25	280	-	-	-	-	-	-	-
			-	-	-	-	USH 41 SB	8	-	-	-	-	21	940	120	240	240	25	345	-	-	-	-	-	-	-
			-	-	-	-	STH 172 EB	27	-	-	-	-	84	580	235	470	-	-	505	-	-	-	-	-	-	-
			-	-	-	-	STH 172 WB	27	-	-	-	-	84	615	165	325	290	40	560	-	-	-	-	-	-	-
			-	-	-	-	RAMP IES	113	-	-	-	-	42	1,810	455	905	-	-	1,020	-	-	-	-	-	-	-
			-	-	-	-	RAMP IEN	289	-	-	-	-	70	4,630	1,160	2,320	-	-	2,650	-	-	-	-	-	-	-
			-	-	-	-	RAMP INW	27	-	-	-	-	84	515	130	260	-	-	290	-	-	-	-	-	-	-
			-	-	-	-	RAMP ISE	27	-	-	-	-	91	275	70	140	0	0	155	-	-	-	-	-	-	-
							PROJECT (UNDISTRIBUTED)		0	0	8	81	66	50,905	3,535	8,015	11,745	500	19,700	70	0	0	0	1	310	200
	PROJECT 1133-09-71 TOTALS								64,525	93,720	46	859	703	559,740	38,355	87,965	128,555	5,435	216,605	735	0	0	1	3	3,320	1,250
	1133-09-74																									
			--	--	-	--	HANSEN RD	370	-	-	-	51	14	-	1,810	3,620	-	-	1,360	-	-	-	-	-	-	-
							PROJECT (UNDISTRIBUTED)		0	0	0	10	11	0	190	370	0	0	140	0	0	0	0	0	0	0
	PROJECT 1133-09-74 TOTALS								0	0	0	61	25	0	2,000	3,990	0	0	1,500	0	0	0	0	0	0	0
	1133-09-76																									
		OW1		681+58	-	711+48	ONEIDA ST	30	-	-	-	-	-	3,270	-	-	390	-	660	-	-	-	-	-	-	-
		OW2	OW2-1	681+58	-	711+48	ONEIDA ST	157	1,180	1,180	3	-	-	19,950	315	630	6,600	-	4,560	-	-	-	-	-	-	-
			OW2-2					616	175	175	-	-	-	116,450	-	-	28,350	-	11,100	-	-	-	-	-	-	-
			OW2-3					21	-	-	-	-	-	6,280	-	-	970	-	105	-	-	-	-	-	-	-
		OW3	OW3-1	681+58	-	711+48	ONEIDA ST	35	525	525	0	-	7	13,850	735	1,470	735	-	2,700	-	115	115	-	-	-	-
			OW3-2					35	550	550	0	-	-	9,770	350	700	420	-	2,660	-	-	-	-	-	-	-
		OW4	OW4-1	681+58	-	711+48	ONEIDA ST	32	250	250	-	-	7	6,120	580	1,160	640	-	2,470	-	55	55	-	-	-	-
			OW4-2					32	-	-	-	-	-	6,080	320	640	385	-	2,310	-	-	-	-	-	-	-
		OW5		681+58	-	711+48	ONEIDA ST	30	-	-	-	-	-	6,960	240	480	-	-	1,680	-	-	-	-	-	-	-
							PROJECT (UNDISTRIBUTED)		0	0	0	0	1	18,920	260	520	3,860	0	2,855	0	30	30	0	0	0	0
	PROJECT 1133-09-76 TOTALS								2,680	2,680	3	0	15	207,650	2,800	5,600	42,350	0	31,100	0	200	200	0	0	0	0
	CONTRACT S4-14-02 TOTALS								**82,605**	**148,270**	**67**	**1,610**	**743**	**1,035,240**	**59,405**	**130,005**	**192,705**	**6,935**	**290,405**	**1,100**	**200**	**200**	**1**	**3**	**3,320**	**1,250**

TRAFFIC CONTROL DETOUR SIGNS AND COVERING SIGNS

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 113 DAYS	643.3000 DETOUR SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.1000 SIGNS FIXED MESSAGE S.F.	643.0905.S COVERING SIGNS EACH	REMARKS
1	300' E OF J1-1 (JCT 41) @ BABCOCK RD	FIXED		1				XXXXXX		SEE SIGN DETAILS
2	ACROSS FROM # 1 (MEDIAN SIDE)	FIXED		1				XXXXXX		SEE SIGN DETAILS
3	300' E OF J1-1 (JCT 41)	MO 3-3	30"x15"	1	113	113				
	"	M 1-4	36"x36"	1	113	113				41
	"	W20-2-A	48"x48"	1	113	113				
4	ACROSS FROM # 3 (MEDIAN SIDE)	MO 3-3	30"x15"	1	113	113				
	"	M 1-4	36"x36"	1	113	113				41
	"	W20-2-A	48"x48"	1	113	113				
5	TYPE 1 (41; DE PERE/MARINETTE; TILT RT)	R 55-58-A	76"x12"	1	113	113				PLACE OVER DE PERE
6	@ 172 EB SIGN BRIDGE TO 41 RAMPS (RT LEG)	MO 4-5	30"x15"	1	113	113				
	"	MO 3-3	30"x15"	1	113	113				
	"	M 1-4	36"x36"	1	113	113				41
	"	MO 6-1	30"x30"	1	113	113				AHEAD
7	ACROSS FROM # 6 (MEDIAN SIDE)	MO 4-5	30"x15"	1	113	113				
	"	MO 3-3	30"x15"	1	113	113				
	"	M 1-4	36"x36"	1	113	113				41
	"	MO 6-1	30"x30"	1	113	113				AHEAD
8	MODIFY J 3-2 (172-AH ARROW; 41-TILT RT ARROW)	MO 4-5	30"x15"	1	113	113				41 TILT RT
	"	MO 3-3	30"x15"	1	113	113				
	"	M 1-4	EXISTING							
	"	MO 6-1	30"x30"	1	113	113				AHEAD
9	ACROSS FROM # 8 (MEDIAN SIDE)	MO 4-5	30"x15"	1	113	113				
	"	MO 3-3	30"x15"	1	113	113				
	"	M 1-4	36"x36"	1	113	113				41
	"	MO 6-1	30"x30"	1	113	113				AHEAD
10	TYPE 1 (41-SOUTH; DE PERE, TILT RT)	R 55-58-A	76"x12"	1	113	113				PLACE OVER DE PERE
11	LT OF J4-1 (EAST 172)	MO 4-5	30"x15"	1	113	113				
	"	MO 3-3	30"x15"	1	113	113				
	"	M 1-4	36"x36"	1	113	113				41
	"	MO 6-1	30"x30"	1	113	113				AHEAD
12	ACROSS FROM # 11 (MEDIAN SIDE)	MO 4-5	30"x15"	1	113	113				
	"	MO 3-3	30"x15"	1	113	113				
	"	M 1-4	36"x36"	1	113	113				41
	"	MO 6-1	30"x30"	1	113	113				AHEAD
13	LT OF TYPE 1 (32; ONEIDA ST/ASHLAND AVE; EXIT 1/2 MILE)	MO 4-5	30"x15"	1	113	113				
	"	MO 3-3	30"x15"	1	113	113				
	"	M 1-4	36"x36"	1	113	113				41
	"	MO 5-2-R	30"x30"	1	113	113				
14	ACROSS FROM # 13 (MEDIAN SIDE)	MO 4-5	30"x15"	1	113	113				
	"	MO 3-3	30"x15"	1	113	113				
	"	M 1-4	36"x36"	1	113	113				41
	"	MO 5-2-R	30"x30"	1	113	113				
15	LT OF TYPE 1 (32; ONEIDA ST/ASHLAND AVE; EXIT ONLY)	MO 4-5	30"x15"	1	113	113				
	"	MO 3-3	30"x15"	1	113	113				
	"	M 1-4	36"x36"	1	113	113				41
	"	MO 5-2-R	30"x30"	1	113	113				
16	ACROSS FROM # 15 (MEDIAN SIDE)	MO 4-5	30"x15"	1	113	113				
	"	MO 3-3	30"x15"	1	113	113				
	"	M 1-4	36"x36"	1	113	113				41
	"	MO 5-2-R	30"x30"	1	113	113				
17	LT OF TYPE 1 (32-ONEIDA ST/ASHLAND AVE- TILT RT)	MO 4-5	30"x15"	1	113	113				
	"	MO 3-3	30"x15"	1	113	113				
	"	M 1-4	36"x36"	1	113	113				41
	"	MO 6-2	30"x30"	1	113	113				RIGHT
18	ACROSS FROM STOP AHEAD SIGN (LEFT SIDE)	MO 4-5	24"x12"	1	113	113				
	"	MO 3-3	24"x12"	1	113	113				
	"	M 1-4	24"x24"	1	113	113				41
	"	MO 5-1-L	21"x21"	1	113	113				
19	ACROSS FROM J3-2 (TO-32-LT; H LT & RT)	MO 4-5	24"x12"	1	113	113				
	"	MO 3-3	24"x12"	1	113	113				
	"	M 1-4	24"x24"	1	113	113				41
	"	MO 6-1	21"x21"	1	113	113				LEFT
20	LT OF ONE WAY-RT ARROW SIGN ON VANDERPERREN WAY	MO 4-5	24"x12"	1	113	113				
	"	MO 3-3	24"x12"	1	113	113				
	"	M 1-4	24"x24"	1	113	113				41
	"	MO 6-1	21"x21"	1	113	113				LEFT
21	LT OF J1-1 (JCT 32)	MO 4-5	24"x12"	1	113	113				
	"	MO 3-3	24"x12"	1	113	113				
	"	M 1-4	24"x24"	1	113	113				41
	"	MO 5-1-R	21"x21"	1	113	113				
22	ACROSS FROM # 21 (MEDIAN SIDE)	MO 4-5	24"x12"	1	113	113				
	"	MO 3-3	24"x12"	1	113	113				
	"	M 1-4	24"x24"	1	113	113				41
	"	MO 5-1-R	21"x21"	1	113	113				
23	LT OF J3-1 (S-32-RT)	MO 4-5	24"x12"	1	113	113				
	"	MO 3-3	24"x12"	1	113	113				
	"	M 1-4	24"x24"	1	113	113				41
	"	MO 6-1	21"x21"	1	113	113				RIGHT
24	200' S OF VANDERPERREN WAY INTERSECTION ON ASHLAND AVE	MO 4-5	24"x12"	1	113	113				
	"	MO 3-3	24"x12"	1	113	113				
	"	M 1-4	24"x24"	1	113	113				41
25	ACROSS FROM # 24 (MEDIAN SIDE)	MO 4-5	24"x12"	1	113	113				
	"	MO 3-3	24"x12"	1	113	113				
	"	M 1-4	24"x24"	1	113	113				41
26	LT OF D1-2 (HANSEN RD, LT-EAST/WEST-RT; LT-TO BROADWAY)	MO 4-5	24"x12"	1	113	113				
	"	MO 3-3	24"x12"	1	113	113				
	"	M 1-4	24"x24"	1	113	113				41
	"	MO 6-1	21"x21"	1	113	113				AHEAD
27	ACROSS FROM # 26 (MEDIAN SIDE)	MO 4-5	24"x12"	1	113	113				
	"	MO 3-3	24"x12"	1	113	113				
	"	M 1-4	24"x24"	1	113	113				41
	"	MO 6-1	21"x21"	1	113	113				AHEAD
28	LT OF J4-1 (SOUTH-32)	MO 4-5	24"x12"	1	113	113				
	"	MO 3-3	24"x12"	1	113	113				
	"	M 1-4	24"x24"	1	113	113				41
29	ACROSS FROM # 28 (MEDIAN SIDE)	MO 4-5	24"x12"	1	113	113				
	"	MO 3-3	24"x12"	1	113	113				
	"	M 1-4	24"x24"	1	113	113				41
30	200' S OF BAETEN RD ON ASHLAND AVE	MO 4-5-A	24"x12"	1	113	113				
	"	M 1-4	24"x24"	1	113	113				41
31	ACROSS FROM # 23 (MEDIAN SIDE)	MO 4-5-A	24"x18"	1	113	113				
	"	M 1-4	24"x24"	1	113	113				41
	TOTAL			*101*		*11,187*	*0*	*0*	*0*	

TRAFFIC CONTROL DETOUR SIGNS AND COVERING SIGNS

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 289 DAYS	643.3000 DETOUR SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.1000 SIGNS FIXED MESSAGE S.F.	643.0905.S COVERING SIGNS EACH	REMARKS
50	300' E OF J1-1 (JCT 41) @ BABCOCK RD	FIXED		1				XXXXXX		SEE SIGN DETAILS
51	ACROSS FROM # 1 (MEDIAN SIDE)	FIXED		1				XXXXXX		SEE SIGN DETAILS
52	300' E OF J1-1 (JCT 41)	MO 3-1	30"x15"	1	289	289				
	"	M 1-4	36"x36"	1	289	289				41
	"	W20-2-A	48"x48"	1	289	289				
53	ACROSS FROM # 52 (MEDIAN SIDE)	MO 3-1	30"x15"	1	289	289				
	"	M 1-4	36"x36"	1	289	289				41
	"	W20-2-A	48"x48"	1	289	289				
54	TYPE 1 (41; DE PERE/MARINETTE; TILT RT)	R 55-58-A	76"x12"	1	289	289				PLACE OVER MARINETTE
55	@ 172 EB SIGN BRIDGE TO 41 RAMPS (RT LEG)	MO 4-5	30"x15"	1	289	289				
	"	MO 3-1	30"x15"	1	289	289				
	"	M 1-4	36"x36"	1	289	289				41
	"	MO 6-1	30"x30"	1	289	289				AHEAD
56	ACROSS FROM # 55 (MEDIAN SIDE)	MO 4-5	30"x15"	1	289	289				
	"	MO 3-1	30"x15"	1	289	289				
	"	M 1-4	36"x36"	1	289	289				41
	"	MO 6-1	30"x30"	1	289	289				AHEAD
57	MODIFY J 3-2 (172-AH ARROW; 41-TILT RT ARROW)	MO 4-5	30"x15"	1	289	289				41 TILT RT
	"	MO 3-1	30"x15"	1	289	289				
	"	M 1-4	EXISTING							41
	"	MO 6-1	30"x30"	1	289	289				AHEAD
58	ACROSS FROM # 57 (MEDIAN SIDE)	MO 4-5	30"x15"	1	289	289				
	"	MO 3-1	30"x15"	1	289	289				
	"	M 1-4	36"x36"	1	289	289				41
	"	MO 6-1	30"x30"	1	289	289				AHEAD
59	TYPE 1 (41-NORTH; MARINETTE, DOWN ARROW)	R 55-58-A	76"x12"	1	289	289				PLACE OVER MARINETTE
60	LT OF J4-1 (EAST 172)	MO 4-5	30"x15"	1	289	289				
	"	MO 3-1	30"x15"	1	289	289				
	"	M 1-4	36"x36"	1	289	289				41
	"	MO 6-1	30"x30"	1	289	289				AHEAD
61	ACROSS FROM # 60 (MEDIAN SIDE)	MO 4-5	30"x15"	1	289	289				
	"	MO 3-1	30"x15"	1	289	289				
	"	M 1-4	36"x36"	1	289	289				41
	"	MO 6-1	30"x30"	1	289	289				AHEAD
62	LT OF TYPE 1 (32; ONEIDA ST/ASHLAND AVE; EXIT 1/2 MILE)	MO 4-5	30"x15"	1	289	289				
	"	MO 3-1	30"x15"	1	289	289				
	"	M 1-4	36"x36"	1	289	289				41
	"	MO 5-2-R	30"x30"	1	289	289				
63	ACROSS FROM # 62 (MEDIAN SIDE)	MO 4-5	30"x15"	1	289	289				
	"	MO 3-1	30"x15"	1	289	289				
	"	M 1-4	36"x36"	1	289	289				41
	"	MO 5-2-R	30"x30"	1	289	289				
64	LT OF TYPE 1 (32; ONEIDA ST/ASHLAND AVE; EXIT ONLY)	MO 4-5	30"x15"	1	289	289				
	"	MO 3-1	30"x15"	1	289	289				
	"	M 1-4	36"x36"	1	289	289				41
	"	MO 5-2-R	30"x30"	1	289	289				
65	ACROSS FROM # 64 (MEDIAN SIDE)	MO 4-5	30"x15"	1	289	289				
	"	MO 3-1	30"x15"	1	289	289				
	"	M 1-4	36"x36"	1	289	289				41
	"	MO 5-2-R	30"x30"	1	289	289				
66	LT OF TYPE 1 (32-ONEIDA ST/ASHLAND AVE- TILT RT)	MO 4-5	30"x15"	1	289	289				
	"	MO 3-1	30"x15"	1	289	289				
	"	M 1-4	36"x36"	1	289	289				41
	"	MO 6-2	30"x30"	1	289	289				RIGHT
67	150' S OF STOP AHEAD SIGN	MO 4-5	24"x12"	1	289	289				
	"	MO 3-1	24"x12"	1	289	289				
	"	M 1-4	24"x24"	1	289	289				41
	"	MO 5-1-R	21"x21"	1	289	289				
68	RT OF J3-2 (TO-32-LT; H LT & RT)	MO 4-5	24"x12"	1	289	289				
	"	MO 3-1	24"x12"	1	289	289				
	"	M 1-4	24"x24"	1	289	289				41
	"	MO 6-1	21"x21"	1	289	289				RIGHT
69	RT OF STOP SIGN	MO 4-5	24"x12"	1	289	289				
	"	MO 3-1	24"x12"	1	289	289				
	"	M 1-4	24"x24"	1	289	289				41
	"	MO 6-1	21"x21"	1	289	289				RIGHT
70	LT OF SIGNAL AHEAD SIGN ON VANDERPERREN WAY (NB)	MO 4-5	24"x12"	1	289	289				
	"	MO 3-1	24"x12"	1	289	289				
	"	M 1-4	24"x24"	1	289	289				41
	"	MO 5-1-R	21"x21"	1	289	289				
71	LT OF NEAR RT SIGNAL AT VANDERPERREN WAY & HOLMGREN WAY	MO 4-5	24"x12"	1	289	289				
	"	MO 3-1	24"x12"	1	289	289				
	"	M 1-4	24"x24"	1	289	289				41
	"	MO 6-1	21"x21"	1	289	289				RIGHT
72	500' N OF VANDERPERREN WAY INTERSECTION ON HOLMGREN WAY	MO 4-5	24"x12"	1	289	289				
	"	MO 3-1	24"x12"	1	289	289				
	"	M 1-4	24"x24"	1	289	289				41
	"	MO 6-1	21"x21"	1	289	289				AHEAD
73	LT OF J2-1 (W-172-AH RT)	MO 4-5	24"x12"	1	289	289				
	"	MO 3-1	24"x12"	1	289	289				
	"	M 1-4	24"x24"	1	289	289				41
	"	MO 5-1-R	21"x21"	1	289	289				
74	LT OF J3-1 (W-172-RT)	MO 4-5	24"x12"	1	289	289				
	"	MO 3-1	24"x12"	1	289	289				
	"	M 1-4	24"x24"	1	289	289				41
	"	MO 6-1	21"x21"	1	289	289				RIGHT
75	LT OF J2-1 (W-172-AH RT)	MO 4-5	24"x12"	1	289	289				
	"	MO 3-1	24"x12"	1	289	289				
	"	M 1-4	24"x24"	1	289	289				41
	"	MO 5-1-R	21"x21"	1	289	289				AHEAD
	TOTAL			*89*		*25,143*	*0*	*0*	*0*	

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TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 8 DAYS	643.3000 DETOUR SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.0920 COVERING SIGNS EACH	REMARKS
	NORTHBOUND DETOUR										
125	FIELD DETERMINED (1000' S OF SIGN # 127)	W-20-2-A	48"x48"	1	8	8					
126	FIELD DETERMINED (ACROSS FROM SIGN # 125 - MEDIAN SIDE)	W-20-2-A	48"x48"	1	8	8					
127	FIELD DETERMINED (1000' S OF SIGN # 129)	MO 4-8	36"x18"	1	8	8					
	"	MO 3-1	36"x18"	1	8	8					41
	"	M 1-4	36"x36"	1	8	8					
	"	MO 5-2-R	30"x30"	1	8	8					
128	FIELD DETERMINED (ACROSS FROM SIGN # 127 - MEDIAN SIDE)	MO 4-8	36"x18"	1	8	8					
	"	MO 3-1	36"x18"	1	8	8					
	"	M 1-4	36"x36"	1	8	8					41
	"	MO 5-2-R	30"x30"	1	8	8					
129	FIELD DETERMINED (1000' S OF SIGN # 131)	MO 4-8	36"x18"	1	8	8					
	"	MO 3-1	36"x18"	1	8	8					
	"	M 1-4	36"x36"	1	8	8					41
	"	MO 5-2-R	30"x30"	1	8	8					
130	FIELD DETERMINED (ACROSS FROM SIGN # 129 - MEDIAN SIDE)	MO 4-8	36"x18"	1	8	8					
	"	MO 3-1	36"x18"	1	8	8					
	"	M 1-4	36"x36"	1	8	8					41
	"	MO 5-2-R	30"x30"	1	8	8					
131	FIELD DETERMINED (@ GORE TO ASHLAND AVE EXIT RAMP)	MO 4-8	36"x18"	1	8	8					
	"	MO 3-1	36"x18"	1	8	8					
	"	M 1-4	36"x36"	1	8	8					41
	"	MO 6-2	30"x30"	1	8	8					RIGHT
132	RT LEG OF SIGN BRIDGE @ ASHLAND AVE & 8TH ST	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
133	FIELD DETERMINED (ACROSS FROM SIGN # 129 - MEDIAN SIDE)	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
134	ABOVE D1-1 (32-NORTH-TILT RT) IN NORTH SPLITTER ISLAND	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-2	21"x21"	1	8	8					RIGHT
135	ACROSS FROM SIGN # 134 - RIGHT SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
136	LT OF J1-1 (JCT HH)	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
137	ACROSS FROM SIGN # 136 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
138	LT OF J2-2 (E-172-AH LT; W-172-AH)	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
139	RT OF J2-2 (TO-57-AH-LT; TO-43-AH LT)	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
140	250' N OF VANDERRPERREN WAY INTERSECTION ON ASHLAND AVE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
141	ACROSS FROM SIGN # 140 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
142	ACROSS FROM SIGN # 143 - RIGHT SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
143	RT OF D1-1 (A STRAUBEL AIRPORT)	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
144	RT OF J4-1 (N-32) @ PILGRIM WAY	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
145	ACROSS FROM SIGN # 144 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
146	500' S OF CORMEIR RD INTERSECTION ON ASHLAND AVE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
147	ACROSS FROM SIGN # 146 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
148	RT OF J4-1 (N-32) @ CORMIER RD	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
149	ACROSS FROM SIGN # 148 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
150	500' S OF POTTS AVE INTERSECTION ON ASHLAND AVE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
151	ACROSS FROM SIGN # 150 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
152	LT OF J4-1 (N-32) @ POTTS AVE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 5-1-L	21"x21"	1	8	8					

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TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 8 DAYS	643.3000 DETOUR SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.0920 COVERING SIGNS EACH	REMARKS
153	ACROSS FROM SIGN # 150 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 5-1-L	21"x21"	1	8	8					
154	LT OF D1-1 (GREEN BAY POPULATION SIGN)	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-2	21"x21"	1	8	8					LEFT
155	RT OF D1-1 (LOMBARDI AVE; LT-WEST/EAST-RT)	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-2	21"x21"	1	8	8					LEFT
156	BACKSIDE OF TRAFFIC SIGNAL (RT SIDE MEDIAN)	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					LEFT
157	100' W OF NORWOOD AVE INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
158	ACROSS FROM SIGN # 157 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
159	200' E OF HOLMGREN WAY INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
160	ACROSS FROM SIGN # 159 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
161	250' E OF ONEIDA ST INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
162	ACROSS FROM SIGN # 161 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
163	300' E OF RIDGE RD INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
164	ACROSS FROM SIGN # 163 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
165	300' E OF MARLEE LN INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
166	ACROSS FROM SIGN # 165 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-1	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
	DIRECTION SUBTOTAL			*154*		*1,232*					

TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 8 DAYS	643.3000 DETOUR SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.0920 COVERING SIGNS EACH	REMARKS
	SOUTHBOUND DETOUR				8						
	GAP IN SIGN NUMBERING										
175	FIELD DETERMINED (1000' N OF SIGN # 177)	W-20-2-A	48"x48"	1	8	8					
176	FIELD DETERMINED (ACROSS FROM SIGN # 175 - MEDIAN SIDE)	W-20-2-A	48"x48"	1	8	8					
177	FIELD DETERMINED (1000' N OF SIGN # 179)	MO 4-8	36"x18"	1	8	8					
	"	MO 3-3	36"x18"	1	8	8					41
	"	M 1-4	36"x36"	1	8	8					
	"	MO 5-2-R	30"x30"	1	8	8					
178	FIELD DETERMINED (ACROSS FROM SIGN # 177 - MEDIAN SIDE)	MO 4-8	36"x18"	1	8	8					
	"	MO 3-3	36"x18"	1	8	8					
	"	M 1-4	36"x36"	1	8	8					41
	"	MO 5-2-R	30"x30"	1	8	8					
179	FIELD DETERMINED (1000' N OF SIGN # 181)	MO 4-8	36"x18"	1	8	8					
	"	MO 3-3	36"x18"	1	8	8					
	"	M 1-4	36"x36"	1	8	8					41
	"	MO 5-2-R	30"x30"	1	8	8					
180	FIELD DETERMINED (ACROSS FROM SIGN # 179 - MEDIAN SIDE)	MO 4-8	36"x18"	1	8	8					
	"	MO 3-3	36"x18"	1	8	8					
	"	M 1-4	36"x36"	1	8	8					41
	"	MO 5-2-R	30"x30"	1	8	8					
181	FIELD DETERMINED (@ GORE TO LOMBARDI AVE EXIT RAMP)	MO 4-8	36"x18"	1	8	8					
	"	MO 3-3	36"x18"	1	8	8					
	"	M 1-4	36"x36"	1	8	8					41
	"	MO 6-2	30"x30"	1	8	8					RIGHT
182	700' N OF LOMBARDI AVE INTERSECTION ON SB OFF RAMP	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 5-1-L	21"x21"	1	8	8					
183	ACROSS FROM SIGN # 182 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 5-1-L	21"x21"	1	8	8					
184	LT OF TRAFFIC SIGNAL (RT SIDE ISLAND) LOMBARDI & RAMP	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					LEFT
185	ACROSS FROM SIGN # 184 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					LEFT
186	BACKSIDE OF R 5-1A (WRONG WAY) SIGN	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
187	ACROSS FROM SIGN # 186 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
188	LT OF J4-1 (EAST-VK)	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
189	ACROSS FROM SIGN # 188 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
190	500' W OF MARLEE LN INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
191	ACROSS FROM SIGN # 190 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
192	500' W OF RIDGE RD INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
193	ACROSS FROM SIGN # 192 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
194	400' W OF ONEIDA ST INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
195	ACROSS FROM SIGN # 194 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
196	250' W OF HOLMGREN WAY INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
197	ACROSS FROM SIGN # 196 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
198	100' E OF 12TH ST INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 5-1-R	21"x21"	1	8	8					
199	ACROSS FROM SIGN # 198 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 5-1-R	21"x21"	1	8	8					
200	LT OF J1-2 (JCT 32; END VK)	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 5-1-R	21"x21"	1	8	8					
201	ACROSS FROM SIGN # 200 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 5-1-R	21"x21"	1	8	8					

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TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 8 DAYS	643.3000 DETOUR SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.0920 COVERING SIGNS EACH	REMARKS
202	LT OF J4-1 (32- LT & RT)	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					RIGHT
203	LT OF J4-1 (SOUTH-32) @ LOMBARDI AVE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
204	ACROSS FROM SIGN # 203 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
205	400' N OF POTTS AVE INTERSECTION ON ASHLAND AVE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
206	ACROSS FROM SIGN # 205 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
207	200' S OF POTTS AVE INTERSECTION ON ASHLAND AVE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
208	ACROSS FROM SIGN # 207 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
209	LT OF D1-2 (CORMIER RD, LT-EAST/WEST-RT; LT-TO BROADWAY)	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
210	ACROSS FROM SIGN # 209 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
211	400' N OF PILGRIM WAT INTERSECTION ON ASHLAND AVE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
212	ACROSS FROM SIGN # 211 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
213	LT OF J2-2 (TO-57-AH RT; TO-43-AH RT)	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
214	ACROSS FROM SIGN # 213 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
215	LT OF D1-2 (HANSEN RD, LT-EAST/WEST-RT; LT-TO BROADWAY)	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
216	ACROSS FROM SIGN # 215 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
217	LT OF J4-1 (SOUTH 32) @ HANSEN RD	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
218	ACROSS FROM SIGN # 217 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
219	350' N OF PARKVIEW RD INTERSECTION ON ASHLAND AVE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
220	ACROSS FROM SIGN # 219 - MEDIAN SIDE	MO 4-8	24"x12"	1	8	8					
	"	MO 3-3	24"x12"	1	8	8					
	"	M 1-4	24"x24"	1	8	8					41
	"	MO 6-1	21"x21"	1	8	8					AHEAD
	DIRECTION SUBTOTAL			*170*		*1,360*					
	ROUTE TOTAL			324		2,592	0	0	0	0	

TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 18 DAYS	643.3000 DETOUR SIGNS DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.1000 SIGNS FIXED MESSAGE S.F.	643.0920 COVERING SIGNS EACH	REMARKS
	EASTBOUND DETOUR									
250	300' E OF S. POINT RD ON STH 172 EB	W 20-2-A	48"x48"	1	18	18				
251	ACROSS FROM SIGN # 250 - (MEDIAN SIDE)	W 20-2-A	48"x48"	1	18	18				
252	LT OF J1-1 (JCT EB)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-1-L	21"x21"	1	18	18				
253	ACROSS FROM SIGN # 252 - (MEDIAN SIDE)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-1-L	21"x21"	1	18	18				
254	500' E OF SIGN # 252	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-2	21"x21"	1	18	18				LEFT
255	BACKSIDE OF TRAFFIC SIGNAL (RT SIDE MEDIAN)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				LEFT
256	300' N OF HWY 172 INTERSECTION ON CTY EB (PACKERLAND DR)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
257	ACROSS FROM SIGN # 256 - (MEDIAN SIDE)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
258	200' N OF CORMIER RD INTERSECTION ON CTY EB (PACKERLAND DR)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
259	ACROSS FROM SIGN # 258 - (MEDIAN SIDE)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
260	LT OF J1-1 (JCT VK)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-1-R	21"x21"	1	18	18				
261	ACROSS FROM SIGN # 260 - (MEDIAN SIDE)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-1-R	21"x21"	1	18	18				
262	ABOVE J3-2 (CTY EB-AH; CTH VK-LT & RT)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				RIGHT
263	200' E OF CTY EB INTERSECTION ON CTY VK (HAZELWOOD LN)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
264	200' E OF WOOD LN INTERSECTION ON CTY VK (LOMBARDI AVE)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
265	RT LEG OF SIGN BRIDGE EB CTH VK	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
266	LT LEG OF SIGN BRIDGE EB CTH VK	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
267	FIELD DETERMINED (1000' S OF SIGN # 269)	M 1-6	24"x24"	1	18	18				172
	"	W-20-2-A	48"x48"	1	18	18				
268	FIELD DETERMINED (ACROSS FROM SIGN # 267 - MEDIAN SIDE)	M 1-6	24"x24"	1	18	18				172
	"	W-20-2-A	48"x48"	1	18	18				
269	FIELD DETERMINED (1000' S OF SIGN # 271)	MO 4-8	36"x18"	1	18	18				
	"	M 1-6	36"x36"	1	18	18				
	"	MO 5-2-R	30"x30"	1	18	18				
270	FIELD DETERMINED (ACROSS FROM SIGN # 269 - MEDIAN SIDE)	MO 4-8	36"x18"	1	18	18				
	"	M 1-6	36"x36"	1	18	18				172
	"	MO 5-2-R	30"x30"	1	18	18				
271	FIELD DETERMINED (1000' S OF SIGN # 273)	MO 4-8	36"x18"	1	18	18				
	"	M 1-6	36"x36"	1	18	18				172
	"	MO 5-2-R	30"x30"	1	18	18				
272	FIELD DETERMINED (ACROSS FROM SIGN # 271 - MEDIAN SIDE)	MO 4-8	36"x18"	1	18	18				
	"	M 1-6	36"x36"	1	18	18				172
	"	MO 5-2-R	30"x30"	1	18	18				
273	FIELD DETERMINED (@ GORE TO LOMBARDI AVE EXIT RAMP)	MO 4-8	36"x18"	1	18	18				
	"	M 1-6	36"x36"	1	18	18				172
	"	MO 6-2	30"x30"	1	18	18				RIGHT
274	700' N OF LOMBARDI AVE INTERSECTION ON SB OFF RAMP RT SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-1-R	21"x21"	1	18	18				
275	ACROSS FROM SIGN # 274 - LEFT SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-1-L	21"x21"	1	18	18				
276	EAST QUAD OF LOMBARDI AVE & SB OFF RAMP	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				LEFT
277	WEST QUAD OF LOMBARDI AVE & SB OFF RAMP	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				RIGHT
278	BACKSIDE OF R 5-1A (WRONG WAY) SIGN	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
279	ACROSS FROM SIGN # 278 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
280	LT OF J4-1 (EAST-VK)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
281	ACROSS FROM SIGN # 280 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172

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TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 18 DAYS	643.3000 DETOUR SIGNS DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.1000 SIGNS FIXED MESSAGE S.F.	643.0920 COVERING SIGNS EACH	REMARKS
282	500' W OF MARLEE LN INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
283	ACROSS FROM SIGN # 282 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
284	500' W OF RIDGE RD INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
285	ACROSS FROM SIGN # 284 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
286	400' W OF ONEIDA ST INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
287	ACROSS FROM SIGN # 286 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
288	250' W OF HOLMGREN WAY INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
289	ACROSS FROM SIGN # 288 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
290	100' E OF 12TH ST INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-1-R	21"x21"	1	18	18				
291	ACROSS FROM SIGN # 290 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-1-R	21"x21"	1	18	18				
292	LT OF J1-2 (JCT 32; END VK)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-1-R	21"x21"	1	18	18				
293	ACROSS FROM SIGN # 292 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-1-R	21"x21"	1	18	18				
294	LT OF J4-1 (32- LT & RT)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				RIGHT
295	LT OF J4-1 (SOUTH-32) @ LOMBARDI AVE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
296	ACROSS FROM SIGN # 295 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
297	400' N OF POTTS AVE INTERSECTION ON ASHLAND AVE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
298	ACROSS FROM SIGN # 297 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
299	200' S OF POTTS AVE INTERSECTION ON ASHLAND AVE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
300	ACROSS FROM SIGN # 299 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
301	LT OF D1-2 (CORMIER RD, LT-EAST/WEST-RT; LT-TO BROADWAY)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
302	ACROSS FROM SIGN # 301 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
303	MODIFY J3-2 (E-172-AH; W-172-AH RT)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	EXISTING	1	18	18				
	"	M 1-6	EXISTING	1	18	18				172
	"	MO 6-1	EXISTING	1	18	18				
304	J3-2 (E-172-AH; W-172-AH RT)								1	WEST 172 AH RT
305	ACROSS FROM SIGN # 303 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-1-R	21"x21"	1	18	18				
306	LT OF J2-2 (W-172-RT; CTH YY-RT)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	EXISTING	1	18	18				
	"	M 1-6	EXISTING	1	18	18				172
	"	MO 6-1	EXISTING	1	18	18				AHEAD
307	J3-2 (W-172-RT; CTH YY-RT)								1	WEST 172 RT
308	ACROSS FROM SIGN # 306 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
309	LT OF J2-2 (TO-57-AH RT; TO-43-AH RT)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-1-R	21"x21"	1	18	18				
310	ACROSS FROM SIGN # 309 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-2	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-1-R	21"x21"	1	18	18				
	DIRECTION SUBTOTAL			**212**		**3,816**				

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TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 18 DAYS	643.3000 DETOUR SIGNS DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.1000 SIGNS FIXED MESSAGE S.F.	643.0920 COVERING SIGNS EACH	REMARKS
	WESTBOUND DETOUR									
	GAP IN SIGN NUMBERING				18					
325	LT OF TYPE 1 (TO 32; ONEIDA ST/ASHLAND AVE; EXIT 1 MILE)	W 20-2-A	48"x48"	1	18	18				
326	ACROSS FROM SIGN # 325 - MEDIAN SIDE	W 20-2-A	48"x48"	1	18	18				
327	1700' W OF SIGN # 325	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-2-R	21"x21"	1	18	18				
328	ACROSS FROM SIGN # 327 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-2-R	21"x21"	1	18	18				
329	1700' W OF SIGN # 327	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-2-R	21"x21"	1	18	18				
330	ACROSS FROM SIGN # 329 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-2-R	21"x21"	1	18	18				
331	LT OF SIGN BRIDGE (CANTILIVER)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-2	21"x21"	1	18	18				RIGHT
332	300' N OF SIGNAL AHEAD SIGN ON PILGRIM WAY OFF RAMP	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-1-R	21"x21"	1	18	18				
333	LT OF J3-2 (CTY YY-LT; 32-RT)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				RIGHT
334	200' E OF OFF RAMP INTERSECTION ON PILGRIM WAY	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-2-L	21"x21"	1	18	18				
335	RT OF LT LEG OF SIGN BRIDGE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				LEFT
336	RT OF J4-1 (N-32) @ PILGRIM WAY	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
337	ACROSS FROM SIGN # 336 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
338	500' S OF CORMEIR RD INTERSECTION ON ASHLAND AVE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
339	ACROSS FROM SIGN # 338 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
340	RT OF J4-1 (N-32) @ CORMIER RD	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
341	ACROSS FROM SIGN # 340 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
342	500' S OF POTTS AVE INTERSECTION ON ASHLAND AVE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
343	ACROSS FROM SIGN # 342 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
344	LT OF J4-1 (N-32) @ POTTS AVE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-1-L	21"x21"	1	18	18				
345	ACROSS FROM SIGN # 344 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-1-L	21"x21"	1	18	18				
346	LT OF D1-1 (GREEN BAY POPULATION SIGN)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-2	21"x21"	1	18	18				LEFT
347	RT OF D1-1 (LOMBARDI AVE; LT-WEST/EAST-RT)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-2	21"x21"	1	18	18				LEFT
348	BACKSIDE OF TRAFFIC SIGNAL (RT SIDE MEDIAN)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				LEFT
349	100' W OF NORWOOD AVE INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
350	ACROSS FROM SIGN # 157 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
351	200' E OF HOLMGREN WAY INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
352	ACROSS FROM SIGN # 351 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD

TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 18 DAYS	643.3000 DETOUR SIGNS DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.1000 SIGNS FIXED MESSAGE S.F.	643.0920 COVERING SIGNS EACH	REMARKS
353	250' E OF ONEIDA ST INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
354	ACROSS FROM SIGN # 353 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
355	300' E OF RIDGE RD INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
356	ACROSS FROM SIGN # 355 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
357	200' W OF D1-2 (LT-MARLEE LN/MILITARY AVE-RT)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
358	ACROSS FROM SIGN # 357 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
359	@ RT LEG OF SIGN BRIDGE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
360	@ LT LEG OF SIGN BRIDGE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
361	300' W OF NB ON-RAMP INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
362	ACROSS FROM SIGN # 361 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
363	300' W OF SB OFF-RAMP INTERSECTION ON LOMBARDI AVE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
364	ACROSS FROM SIGN # 363 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
365	200' W OF WOOD LANE ON HAZELWOOD LANE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
366	ABOVE J1-2 (JCT EB; END VK)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-1-L	21"x21"	1	18	18				
367	RT OF TRAFFIC SIGNAL (HAZELWOOD/PACKERLAND) NEAR RT	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				LEFT
368	LT OF TRAFFIC SIGNAL (HAZELWOOD/PACKERLAND) FAR LT	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				LEFT
369	200' W HAZELWOOD LN INTERSECTION ON CTY EB (PACKERLAND DR)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
370	ACROSS FROM SIGN # 369 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
371	150' S CORMIER RD INTERSECTION ON CTY EB (PACKERLAND DR)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
372	ACROSS FROM SIGN # 370 - MEDIAN SIDE	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	DIRECTION SUBTOTAL			**173**		**3,114**				

TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 18 DAYS	643.3000 DETOUR SIGNS DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.1000 SIGNS FIXED MESSAGE S.F.	643.0920 COVERING SIGNS EACH	REMARKS
	NORTH TO EAST MANUVER									
	GAP IN NUMBERS									
375	500' S OF SIGN BRIDGE	W 20-2-A	48"x48"	1	18	18				
376	ACROSS FROM SIGN # 375 - MEDIAN SIDE	W 20-2-A	48"x48"	1	18	18				
377	LT LEG OF SIGN BRIDGE EB TO HWY 172	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-2	21"x21"	1	18	18				RIGHT
378	MODIFY J3-2 (W-172-TILT LT; E-172-TILT RT)	MO 4-8	24"x12"	1	18	18				
	"	M 3-4	EXISTING							
	"	M 1-6	EXISTING							172
	"	MO 6-2	21"x21"	1	18	18				RIGHT
379	LT OF TYPE 1 (32; ONEIDA ST/ASHLAND AVE; EXIT ONLY)	MO 4-8	30"x15"	1	18	18				
	"	MO 3-4	30"x15"	1	18	18				
	"	M 1-6	36"x36"	1	18	18				172
	"	MO 5-2-R	30"x30"	1	18	18				
380	LT OF TYPE 1 (32-ONEIDA ST/ASHLAND AVE- TILT RT)	MO 4-8	30"x15"	1	18	18				
	"	MO 3-4	30"x15"	1	18	18				
	"	M 1-6	36"x36"	1	18	18				172
	"	MO 6-2	30"x30"	1	18	18				RIGHT
381	ACROSS FROM STOP AHEAD SIGN (LEFT SIDE)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-1-L	21"x21"	1	18	18				
382	ACROSS FROM J3-2 (TO-32-LT; H LT & RT)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				LEFT
383	LT OF ONE WAY-RT ARROW SIGN ON VANDERPERREN WAY	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				LEFT
384	LT OF J1-1 (JCT 32)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-1-L	21"x21"	1	18	18				
385	ACROSS FROM # 384 (MEDIAN SIDE)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 5-1-L	21"x21"	1	18	18				
386	RT OF J3-1 (N-32-LT) (MEDIAN SIDE)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	24"x12"	1	18	18				
	"	M 1-6	24"x24"	1	18	18				172
	"	MO 6-1	21"x21"	1	18	18				LEFT
387	MODIFY J3-2 (W-YY-NEXT LEFT; W-172-NEXT LEFT)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	EXISTING							
	"	M 1-6	EXISTING							172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
388	MODIFY J2-2 (W-YY-LT ; W-172-LT)	MO 4-8	24"x12"	1	18	18				
	"	MO 3-4	EXISTING							
	"	M 1-6	EXISTING							172
	"	MO 6-1	21"x21"	1	18	18				AHEAD
	DIRECTION SUBTOTAL			**44**		**792**	**0**	**0**	**0**	
	HWY 172 SUBTOTAL			429		7,722	0	0	0	

TRAFFIC CONTROL DETOUR SIGNS AND COVERING SIGNS

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 32 DAYS	643.3000 DETOUR SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.1000 SIGNS FIXED MESSAGE S.F.	643.0905.S COVERING SIGNS EACH	REMARKS
	NORTH TO WEST MANUVER									
	GAP IN NUMBERS									
400	500' S OF SIGN BRIDGE	W 20-2-A	48"x48"	1	32	32				
401	ACROSS FROM SIGN # 375 - MEDIAN SIDE	W 20-2-A	48"x48"	1	32	32				
402	LT LEG OF SIGN BRIDGE EB TO HWY 172	MO 4-8	24"x12"	1	32	32				
	"	MO 3-4	24"x12"	1	32	32				
	"	M 1-6	24"x24"	1	32	32				172
	"	MO 6-2	21"x21"	1	32	32				RIGHT
403	MODIFY J3-2 (W-172-TILT LT; E-172-TILT RT)	MO 4-8	24"x12"	1	32	32				
	"	M 3-4	EXISTING							
	"	M 1-6	EXISTING							172
	"	MO 6-2	21"x21"	1	32	32				RIGHT
404A	LT OF TYPE 1 (32; ONEIDA ST/ASHLAND AVE; EXIT ONLY)	MO 4-8	30"x15"	1	32	32				
	"	MO 3-4	30"x15"	1	32	32				
	"	M 1-6	36"x36"	1	32	32				172
	"	MO 5-2-R	30"x30"	1	32	32				
404B	LT OF TYPE 1 (32-ONEIDA ST/ASHLAND AVE- TILT RT)	MO 4-5	30"x15"	1	32	32				
	"	MO 3-4	30"x15"	1	32	32				
	"	M 1-6	36"x36"	1	32	32				172
	"	MO 6-2	30"x30"	1	32	32				RIGHT
405	150' S OF STOP AHEAD SIGN	MO 4-5	24"x12"	1	32	32				
	"	MO 3-4	24"x12"	1	32	32				
	"	M 1-6	24"x24"	1	32	32				172
	"	MO 5-1-R	21"x21"	1	32	32				
406	RT OF J3-2 (TO-32-LT; H LT & RT)	MO 4-5	24"x12"	1	32	32				
	"	MO 3-4	24"x12"	1	32	32				
	"	M 1-6	24"x24"	1	32	32				172
	"	MO 6-1	21"x21"	1	32	32				RIGHT
407	RT OF STOP SIGN	MO 4-5	24"x12"	1	32	32				
	"	MO 3-4	24"x12"	1	32	32				
	"	M 1-6	24"x24"	1	32	32				172
	"	MO 6-1	21"x21"	1	32	32				RIGHT
408	LT OF SIGNAL AHEAD SIGN ON VANDERPERREN WAY (NB)	MO 4-5	24"x12"	1	32	32				
	"	MO 3-4	24"x12"	1	32	32				
	"	M 1-6	24"x24"	1	32	32				172
	"	MO 5-1-R	21"x21"	1	32	32				
409	LT OF NEAR RT SIGNAL AT VANDERPERREN WAY & HOLMGREN WAY	MO 4-5	24"x12"	1	32	32				
	"	MO 3-4	24"x12"	1	32	32				
	"	M 1-6	24"x24"	1	32	32				172
	"	MO 6-1	21"x21"	1	32	32				RIGHT
410	500' N OF VANDERPERREN WAY INTERSECTION ON HOLMGREN WAY	MO 4-5	24"x12"	1	32	32				
	"	MO 3-4	24"x12"	1	32	32				
	"	M 1-6	24"x24"	1	32	32				172
	"	MO 6-1	21"x21"	1	32	32				AHEAD
	TOTAL			*40*		*1,280*	*0*	*0*	*0*	

TRAFFIC CONTROL DETOUR SIGNS AND COVERING SIGNS

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 32 DAYS	643.3000 DETOUR SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.1000 SIGNS FIXED MESSAGE S.F.	643.0905.S COVERING SIGNS EACH	REMARKS
100	1500' N OF TYPE 1 SIGN BRIDGE @ CORMIER RD (RT SIDE)	FIXED		1				XXXXXX		SEE SIGN DETAILS
101	750' N OF TYPE 1 SIGN BRIDGE @ CORMIER RD (RT SIDE)	MO 3-4	30"x15"	1	32	32				
	"	M 1-6	36"x36"	1	32	32				172
	"	W20-2-A	48"x48"	1	32	32				
102	TYPE 1 (172 WEST; A. STRAUBEL AIRPORT; TILT RT)	R 55-58-A	76"x12"	1	32	32				PLACE OVER TILT RIGHT ARROW
103	LT OF RT LEG TO SIGN BRIDGE AT CORMIER RD	MO 4-5	30"x15"	1	32	32				
	"	MO 3-4	30"x15"	1	32	32				
	"	M 1-6	36"x36"	1	32	32				172
	"	MO 6-1	30"x30"	1	32	32				AHEAD
104	TYPE 1 (172-WEST; A. STRAUBEL AIRPORT; TILT RT)	R 55-58-A	76"x12"	1	32	32				PLACE BELOW "WEST"
105	MODIFY J 3-2 (E-172-TILT LT-ARROW; W-172-TILT RT ARROW)	MO 4-5	30"x15"	1	32	32				
	"	MO 3-4	EXISTING							
	"	M 1-6	EXISTING							172
	"	MO 6-2	30"x30"	1	32	32				LEFT
106	LT OF TYPE 1 (32; ONEIDA ST/ASHLAND AVE; EXIT 1/2 MILE)	MO 4-5	30"x15"	1	32	32				
	"	MO 3-4	30"x15"	1	32	32				
	"	M 1-6	36"x36"	1	32	32				172
	"	MO 5-2-R	30"x30"	1	32	32				
107	ACROSS FROM # 106 (MEDIAN SIDE)	MO 4-5	30"x15"	1	32	32				
	"	MO 3-4	30"x15"	1	32	32				
	"	M 1-6	36"x36"	1	32	32				172
	"	MO 5-2-R	30"x30"	1	32	32				
108	LT OF TYPE 1 (32; ONEIDA ST/ASHLAND AVE; EXIT ONLY)	MO 4-5	30"x15"	1	32	32				
	"	MO 3-4	30"x15"	1	32	32				
	"	M 1-6	36"x36"	1	32	32				172
	"	MO 5-2-R	30"x30"	1	32	32				
109	ACROSS FROM # 108 (MEDIAN SIDE)	MO 4-5	30"x15"	1	32	32				
	"	MO 3-4	30"x15"	1	32	32				
	"	M 1-6	36"x36"	1	32	32				172
	"	MO 5-2-R	30"x30"	1	32	32				
110	LT OF TYPE 1 (32-ONEIDA ST/ASHLAND AVE- TILT RT)	MO 4-5	30"x15"	1	32	32				
	"	MO 3-4	30"x15"	1	32	32				
	"	M 1-6	36"x36"	1	32	32				172
	"	MO 6-2	30"x30"	1	32	32				RIGHT
111	150' S OF STOP AHEAD SIGN	MO 4-5	24"x12"	1	32	32				
	"	MO 3-4	24"x12"	1	32	32				
	"	M 1-6	24"x24"	1	32	32				172
	"	MO 5-1-R	21"x21"	1	32	32				
112	RT OF J3-2 (TO-32-LT; H LT & RT)	MO 4-5	24"x12"	1	32	32				
	"	MO 3-4	24"x12"	1	32	32				
	"	M 1-6	24"x24"	1	32	32				172
	"	MO 6-1	21"x21"	1	32	32				RIGHT
113	RT OF STOP SIGN	MO 4-5	24"x12"	1	32	32				
	"	MO 3-4	24"x12"	1	32	32				
	"	M 1-6	24"x24"	1	32	32				172
	"	MO 6-1	21"x21"	1	32	32				RIGHT
114	LT OF SIGNAL AHEAD SIGN ON VANDERPERREN WAY (NB)	MO 4-5	24"x12"	1	32	32				
	"	MO 3-4	24"x12"	1	32	32				
	"	M 1-6	24"x24"	1	32	32				172
	"	MO 5-1-R	21"x21"	1	32	32				
115	LT OF NEAR RT SIGNAL AT VANDERPERREN WAY & HOLMGREN WAY	MO 4-5	24"x12"	1	32	32				
	"	MO 3-4	24"x12"	1	32	32				
	"	M 1-6	24"x24"	1	32	32				172
	"	MO 6-1	21"x21"	1	32	32				RIGHT
116	500' N OF VANDERPERREN WAY INTERSECTION ON HOLMGREN WAY	MO 4-5	24"x12"	1	32	32				
	"	MO 3-4	24"x12"	1	32	32				
	"	M 1-6	24"x24"	1	32	32				172
	"	MO 6-1	21"x21"	1	32	32				AHEAD
	TOTAL			*56*		*1,760*	*0*	*0*	*0*	

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TEMPORARY PAVEMENT MARKING

CATEGORY	PROJECT	STAGE	STATION		STATION	LOCATION	646.0103 PAINT 4-INCH WHITE (LF)	646.0103 PAINT 4-INCH YELLOW (LF)	646.0123 PAINT 8-INCH WHITE (LF)	646.0153 PAINT STOP LINE 18-INCH (LF)	646.0600 REMOVING PAVEMENT MARKINGS (LF)	649.0400 REMOVABLE TAPE 4-INCH WHITE (LF)	649.0400 REMOVABLE TAPE 4-INCH YELLOW (LF)	649.0400 REMOVABLE TAPE 4-INCH BLACK (LF)	649.0801 REMOVABLE TAPE 8-INCH WHITE (LF)	649.1200 REMOVABLE TAPE STOP LINE 18-INCH (LF)	SPV.0090.305 EPOXY 4-INCH WHITE (LF)	SPV.0090.305 EPOXY 4-INCH YELLOW (LF)	SPV.0090.306 EPOXY 8-INCH WHITE (LF)
1000	1133-03-77																		
		STAGE 1B	954+00	-	1035+50	USH 41	-	-	-	-	-	-	-	-	-	-	31,850	15,500	3,490
		STAGE 2A	954+00	-	1093+50	USH 41	50,750	20,550	11,500	-	-	-	-	-	-	-	-	-	-
		STAGE 2B	954+00	-	1093+50	USH 41	49,300	20,000	10,700	-	-	-	-	-	-	-	-	-	-
						PROJECT (UNDISTRIBUTED)	10,050	4,100	2,250	0	5,000	0	0	0	0	0	3,200	1,550	350
	PROJECT 1133-03-77 TOTALS						110,100	44,650	24,450	0	5,000	0	0	0	0	0	35,050	17,050	3,840
	1133-09-71																		
		STAGE 1A	799+00	-	954+00	USH 41	15,250	10,550	2,570	-	-	1,310	1,960	-	500	-	52,950	26,200	6,040
		STAGE 1B	799+00	-	954+00	USH 41	-	-	-	-	-	-	-	345	-	-	50,450	32,800	7,900
		STAGE 2	799+00	-	954+00	USH 41	3,840	7,640	-	-	-	10,400	7,590	660	2,190	-	56,100	36,950	7,390
						PROJECT (UNDISTRIBUTED)	1,910	1,860	260	-	15,000	1,190	1,000	105	270	-	15,950	9,600	2,170
	PROJECT 1133-09-71 TOTALS						21,000	20,050	2,830	0	15,000	12,900	10,550	1,110	2,960	0	175,450	105,550	23,500
	1133-09-76																		
		OW1	681+58	-	711+24	ONEIDA ST	-	-	-	-	-	-	-	-	-	-	-	-	-
		OW2	681+58	-	711+24	ONEIDA ST	-	-	-	200	-	145	-	-	-	-	4,980	2,690	-
		OW3	681+58	-	711+24	ONEIDA ST	-	-	-	-	-	12,200	7,240	-	-	180	-	-	-
		OW4	681+58	-	711+24	ONEIDA ST	-	-	-	-	-	9,850	6,290	-	-	210	-	-	-
		OW5	681+58	-	711+24	ONEIDA ST	-	-	-	-	-	-	-	-	-	-	-	-	-
						PROJECT (UNDISTRIBUTED)	0	0	0	20	2,000	2,255	1,370	0	0	40	500	270	0
	PROJECT 1133-09-76 TOTALS						0	0	0	220	2,000	24,450	14,900	0	0	430	5,480	2,960	0
	CONTRACT S4-14-02 TOTALS						**131,100**	**64,700**	**27,280**	**220**	**22,000**	**37,350**	**25,450**	**1,110**	**2,960**	**430**	**215,980**	**125,560**	**27,340**

PAVEMENT MARKING

CATEGORY	PROJECT	STATION	TO	STATION	LOCATION	646.0106 EPOXY 4-INCH (WHITE) (LF)	646.0106 EPOXY 4-INCH (YELLOW) (LF)	646.0841.S GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE) (LF)	646.0843.S GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE) (LF)	646.0126 EPOXY 8-INCH (WHITE) (LF)	647.0166 ARROWS EPOXY TYPE 2 (EACH)	647.0356 WORDS EPOXY (ONLY) (EACH)	647.0456 CURB EPOXY (YELLOW) (LF)	647.0566 STOP LINE EPOXY 18-INCH (WHITE) (LF)	647.0606 EPOXY ISLAND NOSE (YELLOW) (EACH)	647.0726 DIAGONAL EPOXY 12-INCH (YELLOW) (LF)	647.0766 CROSSWALK EPOXY 6-INCH (WHITE) (LF)	647.0856 CONCRETE CORRUGATED MEDIAN EPOXY (YELLOW) (SF)	SPV.0060.300 GROOVED PREFORMED THERMOPLASTIC WORDS, WHITE (ONLY) (EACH)	SPV.0060.301 GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2 (EACH)	SPV.0060.302 GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 3 (EACH)
1000																					
	1133-03-77																				
		954+00	-	983+75	USH 41 NB	3,500	3,350	9,980	1,820	-	-	-	-	-	-	-	-	-	-	-	-
		954+00	-	983+75	USH 41 SB	3,290	3,270	11,350	860	-	-	-	-	-	-	-	-	-	-	-	-
		983+75	-	1021+90	USH 41 NB	4,385	4,385	13,675	980	-	-	-	-	-	-	-	-	-	-	-	-
		983+75	-	1029+83	USH 41 SB	4,365	4,355	13,875	1,850	-	-	-	-	-	-	-	-	-	-	-	-
		975+50	-	981+00	VKA RAMP	550	550	-	730	-	-	-	-	-	-	-	-	-	2	2	-
		984+00	-	991+00	VKB RAMP	700	640	700	-	-	-	-	-	-	-	-	-	-	-	-	-
		985+00	-	991+00	VKC RAMP	270	535	420	260	-	-	-	-	-	-	-	-	-	-	2	1
		976+00	-	981+00	VKD RAMP	400	500	500	-	-	-	-	-	-	-	-	-	-	-	-	-
		597+71	-	601+51	MORRIS AVENUE	760	95	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SUBTOTAL					18,220	17,680														
	PROJECT 1133-03-77 TOTAL					35,900		50,500	6,500	0	0	0	0	0	0	0	0	0	2	4	1
	1133-09-71																				
		777+00	-	822+25	USH 41 NB	3,270	4,620	1,730	3,435	-		-	-	-	-	-	-	-	-	-	-
		777+00	-	822+25	USH 41 SB	2,330	2,330	1,810	730	-	-	-	-	-	-	-	-	-	-	-	-
		822+25	-	839+00	USH 41 NB & RAMPS	3,670	3,670	840	680	-	-	-	-	-	-	-	-	-	-	-	-
		822+25	-	839+00	USH 41 SB & RAMPS	2,100	2,100	1,270	470	-	-	-	-	-	-	-	-	-	-	-	-
		839+00	-	889+75	USH 41 NB	8,930	8,930	2,980	3,910	-	-	-	-	-	-	-	-	-	-	-	-
		839+00	-	889+75	USH 41 SB	5,090	5,150	4,390	2,980	-	-	-	-	-	-	-	-	-	-	-	-
		889+75	-	932+25	USH 41 NB	6,540	6,530	3,290	2,230	-	-	-	-	-	-	-	-	-	-	-	-
		889+75	-	932+25	USH 41 SB	4,330	4,330	3,450	2,700	-	-	-	-	-	-	-	-	-	-	-	-
		932+25	-	954+00	USH 41 NB	2,180	2,180	1,730	455	-	-	-	-	-	-	-	-	-	-	-	-
		932+25	-	954+00	USH 41 SB	2,180	2,180	1,730	455	-	-	-	-	-	-	-	-	-	-	-	-
		870+50	-	890+30	NE RAMP	2,320	1,940	615	1,010	-	-	-	-	-	-	-	-	-	-	-	-
		59+55	-	66+44	STH 172 EB	555	175	185	-	-	-	-	-	-	-	-	-	-	-	-	-
		881+50	-	888+70	ES RAMP	720	720	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		869+00	-	882+50	EN RAMP	1,300	1,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		890+60	-	898+50	WN RAMP	790	790	200	-	-	-	-	-	-	-	-	-	-	-	-	-
		903+50	-	905+24	WS RAMP	175	175	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		903+70	-	915+50	SE RAMP	1,240	1,240	305	375	-	-	-	-	-	-	-	-	-	-	-	-
		904+46	-	916+92	PILGRIM WAY	-	5,030	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		498+00	-	501+00	CORMIER ROAD	600	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		198+50	-	201+10	PARKVIEW ROAD	-	65	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		905+68	-	932+05	NORTH ROAD	-	5,280	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SUBTOTAL					48,320	58,810														
	PROJECT 1133-09-71 TOTAL					107,130		24,525	19,430	0	0	0	0	0	0	0	0	0	0	0	0
	1133-09-74																				
		397+15	-	403+77	HANSEN ROAD	1,330	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PROJECT 1133-09-74 TOTAL					1,330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1133-09-76																				
		681+58	-	711+48	ONEIDA STREET/WAUBE LANE	1,360	955	350	2,620	2,950	15	6	520	185	10	25	640	110	4	13	1
		797+60	-	851+65	ALLIED STREET	-	580	-	-	200	-	-	-	-	-	-	110	-	-	-	-
		838+25	-	846+60	OWA RAMP	565	835	105	1,310	-	-	-	-	-	-	-	-	-	3	6	2
		828+97	-	834+25	OWB RAMP	495	485	125	-	-	-	-	-	-	-	-	-	-	-	-	-
		829+95	-	838+50	OWC RAMP	595	855	-	40	-	-	-	-	-	-	-	-	-	-	1	-
		840+50	-	844+27	OWD RAMP	335	380	95	-	-	-	-	-	-	-	-	-	-	-	-	-
	SUBTOTAL					3,350	4,090														
	PROJECT 1133-09-76 TOTAL					7,440		675	3,970	3,150	15	6	520	185	10	25	750	110	7	20	3
	CONTRACT S4-14-02 TOTAL					**151,800**		**75,700**	**29,900**	**3,150**	**15**	**6**	**520**	**185**	**10**	**25**	**750**	**110**	**9**	**24**	**4**

3

SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

QUANTITY	UNIT	DESCRIPTION
2	EACH	POLES TYPE 9
2	EACH	POLES TYPE 10
2	EACH	MONOTUBE ARMS 25-FT
2	EACH	MONOTUBE ARMS 30-FT
2	EACH	LUMINAIRE ARMS STEEL 15-FT

PULL BOXES STEEL 24X36-INCH
PULL BOXES STEEL 24X42-INCH

PULL BOX NO	STATION	ALI	LOCATION	653 0135 PULL BOXES STEEL 24X36-INCH EACH	653 0140 PULL BOXES STEEL 24X42-INCH EACH
PB1	850+66 4	ALL	40 3' LT		1
PB2	850+87 4	ALL	26 5' LT	1	
PB3	852+77 0	ALL	22 0' LT	1	
PB4	850+66 4	ALL	25 0' RT		1
PB5	687+58 2	OWW	29 5' LT		1
PB6	689+47 8	OWW	29 5' LT	1	
PB7	687+58 1	OWW	14 5' LT		1
PB8	687+78 2	OWE	29 5' RT		1
PB9	799+48 0	ALL	32 5' RT		1
PB10	799+25 0	ALL	32 5' RT	1	
PB11	797+25 0	ALL	32 5' RT	1	
PB12	799+48 0	ALL	21 8' LT		1
PB13	686+29 8	OWE	29 5' RT		1
PB14	683+86 5	OWE	29 5' RT	1	
PB15	686+29 8	OWE	15 0' LT		1
PB16	686+15 5	OWE	15 0' LT	1	
PB17	686+12 2	OWW	42 6' LT		1
			*** TOTALS	7	10

* FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD
*** ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH
CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH

FROM	TO	652 0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH L F	652 0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH L F.
CB1	PB1		57
PB1	PB2		50
PB2	PB3	198	
PB2	PB4		130
PB4	PB5		128
PB5	PB6	219	
PB5	PB7		88
PB7	PB8		70
PB8	PB9		116
PB9	PB10	23	
PB10	PB11	211	
PB9	PB12		122
PB12	PB13		104
PB13	PB14	250	
PB13	PB15		90
PB15	PB16	14	
PB15	PB17		96
PB17	CB1		51
PB1	SB1	9	
PB4	SB2	6	
PB5	SB3	25	
PB7	SB4	10	
PB7	SB5	143	
PB8	SB6	25	
PB9	SB7	3	
PB12	SB8	7	
PB13	SB9	7	
PB15	SB10	6	
PB16	SB11	128	
PB17	SB12	9	
	*** TOTALS	1293	1102

*** ADDITIONAL QUANTITIES SHOWN ELSEWHERE

REMOVING CONCRETE BASES

EXISTING BASE NO	STATION	ALI	LOCATION	204 0195 REMOVING CONCRETE BASES EACH
CB1	687+62 6	OWE	42 0' LT	1
SB1	687+60 1	OWE	32 5' LT	1
SB2	687+50 0	OWE	35 0' RT	1
SB3	799+40 2	ALL	30 8' RT	1
SB4	799+41 3	ALL	24 3' LT	1
SB5	686+47 2	OWE	33 7' RT	1
SB6	686+41 9	OWE	30 5'LT	1
SB7	850+38 0	ALL	28 2' LT	1
SB8	850+43 6	ALL	30 2' RT	1
			*** TOTAL	9

*** QUANTITIES LISTED ELSEWHERE ON PLAN

CONDUIT LOOP DETECTOR
LOOP DETECTOR SLOTS
LOOP DETECTOR LEAD IN CABLE
LOOP DETECTOR WIRE

LOOP NO	HOME RUN PB	STATION	ALI	LOCATION	SIZE	NO OF TURNS	SDD INSTALLATION REFERENCE	652 0800 CONDUIT LOOP DETECTOR L F.	652 0900 LOOP DETECTOR SLOTS L F.	655 0700 LOOP DETECTOR LEAD IN CABLE L F.	655 0800 LOOP DETECTOR WIRE L F.
11	PB15	686+11 5	OWE	5 0' LT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	68		96	234
12	PB15	686+39 5	OWE	5 0' LT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	68		96	234
21	PB6	689+84 7	OWW	11.0' LT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	70		384	264
41	PB3	852+77.0	ALL	8.0' LT	6'X10'	4	LOOP DETECTOR INSTALLED IN EXISTING ASPHALTIC PAVEMENT	50	40	259	360
42	PB2	850+91.4	ALL	17.0' LT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	68		61	252
43	PB2	850+63.4	ALL	17.0' LT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	68		61	252
44	PB2	850+91.4	ALL	6.0' LT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	68		61	312
45	PB2	850+63.4	ALL	6.0' LT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	68		61	312
51	PB7	687+62.0	OWW	5.0' RT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	68		203	252
52	PB7	687+34.0	OWW	5.0' RT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	68		203	252
61	PB14	683+86.5	OWE	11.0' RT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	70		377	264
81	PB11	797+25.0	ALL	8.0' RT	6'X10'	5	LOOP DETECTOR INSTALLED IN EXISTING ASPHALTIC PAVEMENT	72	38	474	580
82	PB10	799+23 0	ALL	17.0' RT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	78		257	312
83	PB10	799+53 0	ALL	17.0' RT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	82		257	336
84	PB10	799+23.0	ALL	6.0' RT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	68		257	348
85	PB10	799T+53.0	ALL	6.0' RT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	68		257	354
							*** TOTALS	1102	78	3364	4898

* STATION AND LOCATION IS TO FRONT CENTER OF DETECTION LOOP
** FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD
*** ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	MISCELLANEOUS QUANTITIES	SHEET	E

3

REMOVING PULL BOXES

PULL BOX NO.	STATION	ALI	LOCATION	653.0905 REMOVING PULL BOXES EACH
PB1	687+45.5	OWE	38.5' LT	1
PB2	688+66.2	OWE	30.5' LT	1
PB3	690+20.0	OWE	40.0' LT	1
PB4	687+44.6	OWE	36.5' RT	1
PB5	799+29.5	ALL	28.0' RT	1
PB6	799+28.0	ALL	20.2' LT	1
PB7	686+54.7	OWE	33.9' RT	1
PB8	685+41.2	OWE	28.0' RT	1
PB9	683+90.0	OWE	28.0' RT	1
PB10	686+55.5	OWE	35.9' LT	1
PB11	850+26.1	ALL	33.1' LT	1
PB12	850+33.2	ALL	32.0' RT	1
			*** TOTAL	12

*** ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONCRETE BASES TYPE 1
CONCRETE BASES TYPE 2
CONCRETE BASES TYPE 5
CONCRETE BASES TYPE 10
CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL

BASE NO.	STATION	ALI	LOCATION	654.0101 CONCRETE BASES TYPE 1 EACH	654.0102 CONCRETE BASES TYPE 2 EACH	654.0105 CONCRETE BASES TYPE 5 EACH	654.0110 CONCRETE BASES TYPE 10 EACH	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH
CB1	850+52.2	ALL	52.2' LT					1
SB1	850+52.7	ALL	32.0' LT	1				
SB2	850+62.8	ALL	29.7' RT				1	
SB3	687+34.8	OWW	38.3' LT	1				
SB4	687+48.2	OWW	14.5' RT		1			
SB5	688+98.2	OWW	8.4' RT			1		
SB6	687+54.0	OWE	34.5' RT				1	
SB7	799+50.0	ALL	35.0' RT	1				
SB8	799+40.8	ALL	28.2' LT				1	
SB9	686+36.5	OWE	32.1' RT	1				
SB10	686+35.8	OWE	15.0' LT		1			
SB11	686+15.5	OWE	15.0' LT			1		
SB12	686+16.7	OWW	34.5' LT				1	
			*** TOTALS	4	2	2	4	1

* FINAL LOCATION TO BE DETERMINED BY THE ENGINEER N THE FIELD
*** ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CABLE TRAFFIC SIGNAL 4-14 AWG
CABLE TRAFFIC SIGNAL 5-14 AWG
CABLE TRAFFIC SIGNAL 7-14 AWG
CABLE TRAFFIC SIGNAL 12-14 AWG

FROM	TO	655.0220 CABLE TRAFFIC SIGNAL 4-14 AWG L.F.	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG L.F.
CB1	SB1				45
SB1	HEAD 14		19		
SB1	HEAD 16		19		
SB1	HEAD 19	18			
CB1	SB2				113
SB2	HEAD 15		50		
SB2	HEAD 20	18			
CB1	SB3				202
SB3	HEAD 5			22	
SB3	HEAD 7		22		
SB3	HEAD 21	18			
CB1	SB4				240
SB4	HEAD 6			22	
SB4	HEAD 10			22	
CB1	SB6				293
SB6	HEAD 2		55		
SB6	HEAD 3		43		
SB6	HEAD 22	18			
CB1	SB7				267
SB7	HEAD 13		19		
SB7	HEAD 17		19		
CB1	SB8				204
SB8	HEAD 18		50		
CB1	SB9				146
SB9	HEAD 1		22		
SB9	HEAD 11			22	
CB1	SB10				94
SB10	HEAD 4			22	
SB10	HEAD 12			22	
CB1	SB12				43
SB12	HEAD 8		55		
SB12	HEAD 9		43		
	*** TOTALS	72	416	132	1847

*** ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CABLE TYPE UF 2-10 AWG
ELECTRICAL WIRE LIGHTING 12 AWG

FROM	TO	655.0315 CABLE TYPE UF 2-10 AWG (W/ GROUND) L.F.	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.
CB1	SB2	113	
SB2	LUMN		126
SB2	SB4	144	
SB4	LUMN		288
SB4	SB5	167	
SB5	LUMN		117
CB1	SB10	94	
SB10	LUMN		288
SB10	SB11	168	
SB11	LUMN		117
SB10	SB8	136	
SB8	LUMN		126
	*** TOTALS	822	1062

*** ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

FROM	TO	655.0515 L.F.
CB1	SB1	45
SB1	SB2	100
SB2	SB3	115
SB3	SB4	99
SB4	SB6	90
SB6	SB7	106
SB7	SB8	85
SB8	SB9	86
SB9	SB10	78
SB10	SB12	83
SB12	CB1	43
PB1	SB1	19
PB4	SB2	16
PB5	SB3	35
PB7	SB4	20
PB8	SB6	35
PB9	SB7	13
PB12	SB8	17
PB13	SB9	17
PB15	SB10	16
PB17	SB13	19
	*** TOTAL	1137

*** ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

ELECTRICAL SERVICE METER BREAKER PEDESTAL
INTERSECTION OF CTH AA & ALLIED STREET

BASE NO.	656.0200.451 L.S.
CB1	1
TOTAL	1

* FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

SIGNAL MOUNTING HARDWARE
INTERSECTION OF CTH AAA & ALLIED STREET

LOCATION	658.5069.451 L.S.
CTH AAA & ALLIED STREET	1
TOTAL	1

3

TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL
TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL
BACKPLATES SIGNAL FACE 3 SECTION 12-INCH
BACKPLATES SIGNAL FACE 4 SECTION 12-INCH
PEDESTRIAN SIGNAL FACE 16-INCH
LED MODULES 12-INCH RED BALL
LED MODULES 12-INCH YELLOW BALL
LED MODULES 12-INCH GREEN BALL
LED MODULES 12-INCH RED ARROW
LED MODULES 12-INCH YELLOW ARROW
LED MODULES 12-INCH GREEN ARROW
LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH

SIGNAL HEAD NO.	SIGNAL BASE NO.	658.0110 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	658.0115 TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL EACH	658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH	658.0220 BACKPLATES SIGNAL FACE 4 SECTION 12-INCH EACH	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH EACH	658.0600 LED MODULES 12-INCH RED BALL EACH	658.0605 LED MODULES 12-INCH YELLOW BALL EACH	658.0610 LED MODULES 12-INCH GREEN BALL EACH	658.0615 LED MODULES 12-INCH RED ARROW EACH	658.0620 LED MODULES 12-INCH YELLOW ARROW EACH	658.0625 LED MODULES 12-INCH GREEN ARROW EACH	658.0635 LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH EACH
1	SB9	1		1			1	1	1				
2	SB5	1		1			1	1	1				
3	SB6	1		1			1	1	1				
4	SB10		1		1					1	2	1	
5	SB3		1		1					1	2	1	
6	SB4		1		1					1	2	1	
7	SB3	1		1			1	1	1				
8	SB12	1		1			1	1	1				
9	SB12	1		1			1	1	1				
10	SB4		1		1					1	2	1	
11	SB9		1		1					1	2	1	
12	SB10		1		1					1	2	1	
13	SB7	1		1			1	1	1				
14	SB1	1		1			1	1	1				
15	SB2	1		1			1	1	1				
16	SB1	1		1			1	1	1				
17	SB7	1		1			1	1	1				
18	SB8	1		1			1	1	1				
19	SB1					1							1
20	SB2					1							1
21	SB3					1							1
22	SB5					1							1
	*** TOTALS	12	6	12	6	4	12	12	12	6	12	6	4

*** ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

3

PEDESTAL BASES
TRANSFORMER BASES BREAKAWAY 11 1/2 INCH BOLT CIRCLE
POLES TYPE 4
POLES TYPE 5 ALUMINUM
TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT
TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT
LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 6-FT
LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT
INSTALL POLES TYPE 9
INSTALL POLES TYPE 10
INSTALL MONOTUBE ARMS 25-FT
INSTALL MONOTUBE ARMS 30-FT
INSTALL LUMINAIRE ARMS STEEL 15-FT
PEDESTRIAN PUSH BUTTONS
LUMINAIRES UTILITY HPS 150 WATTS
LUMINAIRES UTILITY HPS 250 WATTS

SIGNAL BASE NO.	657.0100 PEDESTAL BASES EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2 INCH BOLT CIRCLE EACH	657.0315 POLES TYPE 4 EACH	657.0322 POLES TYPE 5 ALUMINUM EACH	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT EACH	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	657.0609 LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 6-FT EACH	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT EACH	657.1345 INSTALL POLES TYPE 9 EACH	657.1350 INSTALL POLES TYPE 10 EACH	657.1525 INSTALL MONOTUBE ARMS 25-FT EACH	657.1530 INSTALL MONOTUBE ARMS 30-FT EACH	657.1815 INSTALL LUMINAIRE ARMS STEEL 15-FT EACH	658.0500 PEDESTRIAN PUSH BUTTONS EACH	659.0115 LUMINAIRES UTILITY HPS 150 WATTS EACH	659.0125 LUMINAIRES UTILITY HPS 250 WATTS EACH
SB1	1				1									1		
SB2										1	1		1	1		1
SB3	1					1								1		
SB4		1	1				2									2
SB5		1		1				1							1	
SB6									1			1		1		
SB7	1				1											
SB8										1	1		1			1
SB9	1					1										
SB10		1	1				2									2
SB11		1						1							1	
SB12									1			1				
*** TOTALS	4	4	2	1	2	2	4	2	2	2	2	2	2	4	2	6

*** ADDITIONAL QUANTITIES SHOWN ELSEWHERE

TRAFFIC SIGNAL CABINET & CONTROLLER, CTH AAA & ALLIED STREET

LOCATION	SPV.0105.451 L.S.
CTH AAA & ALLIED STREET	1
TOTAL	1

REMOVE TRAFFIC SIGNALS INTERSECTION OF CTH AAA & ALLIED STREET

LOCATION	SPV.0105.452 L.S.
CTH AAA & ALLIED STREET	1
TOTAL	1

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS
INTERSECTION OF CTH AAA & ALLIED STREET
INTERSECTION OF US 41 SB & CTH AAA
INTERSECTION OF US 41 NB & CTH AAA
GENERATORS

LOCATION	661.0200.451 TEMPORARY TRAFFIC SIGNALS L.S.	661.0200.452 TEMPORARY TRAFFIC SIGNALS L.S.	661.0200.453 TEMPORARY TRAFFIC SIGNALS L.S.	661.0300 GENERATORS DAYS
CTH AAA & ALLIED STREET	1	-	-	2
US 41 SB & CTH AAA	-	1	-	2
US 41 NB & CTH AAA	-	-	1	2
TOTALS	1	1	1	6

3

REMOVING CONCRETE BASES

CATEGORY	PROJECT	STAGE	INTERSECTION	204.0195 (A) (EACH)
1300				
	1133-09-76			
		STAGE 2		
			USH 41 & CTH AAA	19
USH 41 & CTH AAA TOTALS				**19**

(A) ADDITIONAL QUANTITIES FOUND IN MULTIPLE TABLES

PULL BOXES

CATEGORY	PROJECT	STAGE	INTERSECTION	653.0105 STEEL 12X24-INCH (EACH)	653.0140 (A) STEEL 24X42-INCH (EACH)
1300					
	1133-09-76				
		STAGE 2			
			USH 41 & CTH AAA	24	24
USH 41 & CTH AAA TOTALS				**24**	**24**

NOTES: FINAL LOCATION TO BE DETEMINED BY THE ENGINEER IN THE FIELD

(A) ADDITIONAL QUANTITIES FOUND IN MULTIPLE TABLES

REMOVING PULL BOXES

CATEGORY	PROJECT	STAGE	INTERSECTION	653.0905 (A) (EACH)
1300				
	1133-09-76			
		STAGE 2		
			USH 41 & CTH AAA	29
USH 41 & CTH AAA TOTALS				29

(A) ADDITIONAL QUANTITIES FOUND IN MULTIPLE TABLES

3

LOOP DETECTORS

CATEGORY	PROJECT	STAGE	LOOP NO.	NO. OF TURNS	652.0800 (A) CONDUIT LOOP DETECTOR (LF)	655.0700 (A) LOOP DETECTOR LEAD IN CABLE (LF)	655.0800 (A) LOOP DETECTOR WIRE (LF)
1300							
	1133-09-76						
		STAGE 2					
			USH 41 & CTH AAA				
			11	2	85	240	190
			12	2	100	240	210
			13	2	85	240	190
			14	2	100	240	210
			21	4	90	530	330
			41	3	85	400	260
			42	3	100	400	280
			43	3	85	400	260
			44	3	100	400	280
			51	2	95	350	200
			52	2	95	290	200
			53	2	75	290	150
			54	2	75	240	150
			55	2	75	290	150
			56	2	75	240	150
			81	4	65	650	240
			82	4	90	800	340
			83	4	80	730	270
			INTERSECTION TOTAL		1,555	6,970	4,060
USH 41 & CTH AAA TOTALS					**1,555**	**6,970**	**4,060**

NOTES: STATION AND LOCATION IS TO FRONT CENTER OF DETECTION LOOP
FINAL LOCATION TO BE DETEMINED BY THE ENGINEER IN THE FIELD

(A) ADDITIONAL QUANTITIES FOUND IN MULTIPLE TABLES

CONDUIT RIGID NONMETALLIC SCHEDULE 40

CATEGORY	PROJECT	STAGE	FROM		TO	652.0225 (A) 2-INCH (LF)	652.0235 (A) 3-INCH (LF)
1300							
	1133-09-76						
		STAGE 2					
			USH 41 SB RAMPS & CTH AAA				
			CB1	-	PB1	-	5
			CB1	-	PB1	-	5
			CB1	-	PB1	-	5
			CB1	-	PB1	-	5
			PB1	-	PB2	-	140
			PB1	-	PB2	-	140
			PB2	-	SB1	-	20
			PB2	-	PB3	-	60
			PB2	-	PB3	-	60
			PB3	-	PB4	-	60
			PB3	-	PB4	-	60
			PB4	-	SB2	-	10
			PB4	-	PB5	-	100
			PB4	-	PB5	-	100
			PB5	-	PB6	-	60
			PB5	-	PB6	-	60
			PB6	-	PB10	-	40
			PB10	-	PB11	110	-
			PB11	-	PB12	120	-
			PB6	-	SB3	-	10
			PB6	-	PB7	-	70
			PB6	-	PB7	-	70
			PB7	-	PB14	140	-
			PB14	-	PB13	140	-
			PB7	-	PB15	-	50
			PB15	-	SB5	-	5
			PB15	-	SB6	-	20
			PB7	-	PB8	-	90
			PB7	-	PB8	-	90
			PB8	-	PB16	-	50
			PB8	-	SB8	-	10
			PB8	-	PB9	-	50
			PB8	-	PB9	-	50
			PB9	-	SB9	-	10
			PB9	-	PB2	-	60
			PB9	-	PB2	-	60
			WPS Conduit			-	150
			INTERSECTION TOTAL			510	1,775

CATEGORY	PROJECT	STAGE	FROM		TO	652.0225 (A) 2-INCH (LF)	652.0235 (A) 3-INCH (LF)
1300							
	1133-09-76						
		STAGE 2					
			USH 41 NB RAMPS & CTH AAA				
			PB1	-	PB17	-	160
			PB1	-	PB17	-	160
			PB17	-	PB18	-	140
			PB17	-	PB18	-	140
			PB18	-	SB10	-	10
			PB18	-	PB19	-	80
			PB18	-	PB19	-	80
			PB19	-	SB11	-	5
			PB19	-	PB20	-	70
			PB19	-	PB20	-	70
			PB19	-	PB27	-	60
			PB27	-	SB12	-	5
			PB27	-	SB13	-	20
			PB27	-	PB28	-	90
			PB28	-	SB16	-	5
			PB28	-	PB20	-	60
			PB20	-	SB15	-	15
			PB20	-	SB14	-	10
			PB20	-	PB21	-	70
			PB20	-	PB21	-	70
			PB21	-	PB29	130	-
			PB29	-	PB30	110	-
			PB21	-	PB22	-	50
			PB21	-	PB22	-	50
			PB22	-	SB17	-	10
			PB22	-	PB23	-	60
			PB22	-	PB23	-	60
			PB23	-	SB18	-	10
			PB23	-	PB24	-	40
			PB23	-	PB24	-	40
			PB24	-	PB25	-	60
			PB24	-	PB25	-	60
			PB25	-	SB19	-	10
			PB25	-	PB26	-	70
			PB25	-	PB26	-	70
			PB26	-	PB18	-	60
			PB26	-	PB18	-	60
			INTERSECTION TOTAL			240	2,030
USH 41 & CTH AAA TOTALS						**750**	**3,805**

(A) ADDITIONAL QUANTITIES FOUND IN MULTIPLE TABLES

3

COCRETE BASES

CATEGORY	PROJECT	STAGE	INTERSECTION	654.0101 (A) TYPE 1 (EACH)	654.0102 (A) TYPE 2 (EACH)	654.0113 (A) TYPE 13 (EACH)	654.0217 (A) CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL (EACH)
1300							
	1133-09-76						
		STAGE 2					
			USH 41 & CTH AAA	10	2	6	1
USH 41 & CTH AAA TOTALS				10	2	6	1

NOTES: FINAL LOCATION TO BE DETEMINED BY THE ENGINEER IN THE FIELD

(A) ADDITIONAL QUANTITIES FOUND IN MULTIPLE TABLES

ELECTRICAL SERVICE METER BREAKER PEDESTAL

CATEGORY	PROJECT	STAGE	INTERSECTION	656.0200.452 (LS)
1300				
	1133-09-76			
		STAGE 2		
			USH 41 & CTH AAA	1
USH 41 & CTH AAA TOTALS				**1**

SIGNAL MOUNTING HARDWARE

CATEGORY	PROJECT	STAGE	INTERSECTION	658.5069.452 (LS)
1300				
	1133-09-76			
		STAGE 2		
			USH 41 & CTH AAA	1
USH 41 & CTH AAA TOTALS				**1**

3

CABLE TYPE UF

CATEGORY	PROJECT	STAGE	FROM	TO	655.0305 (A) 2-12 AWG GROUNDED (LF)	655.0610 (A) ELECTRICAL WIRE LIGHTING 12 AWG (LF)
1300						
	1133-09-76					
		STAGE 2				
			USH 41 RAMPS & CTH AAA			
			CB1	SB1	210	-
			SB1	LUMIN	-	150
			SB1	SB2	200	-
			SB2	LUMIN	-	150
			CB1	SB4	450	-
			SB4	LUMIN	-	300
			SB4	SB3	150	-
			SB3	LUMIN	-	150
			CB1	SB10	370	-
			SB10	LUMIN	-	150
			SB10	SB19	200	-
			SB19	LUMIN	-	150
			CB1	SB14	540	-
			SB14	LUMIN	-	150
			SB14	SB17	200	-
			SB17	LUMIN	-	150
			INTERSECTION TOTAL		2,320	1,350
USH 41 & CTH AAA TOTALS					**2,320**	**1,350**

(A) ADDITIONAL QUANTITIES FOUND IN MULTIPLE TABLES

CABLE TRAFFIC SIGNAL

CATEGORY	PROJECT	STAGE	FROM	TO	655.0230 (A) 5-14 AWG (LF)	655.0240 (A) 7-14 AWG (LF)	655.0260 (A) 12-14 AWG (LF)
1300							
	1133-09-76						
		STAGE 2					
			USH 41 SB RAMPS & CTH AAA				
			CB1	SB8	-	-	330
			SB8	HEAD 16	15	-	-
			SB8	SB5	-	-	210
			SB5	HEAD 14	15	-	-
			SB5	SB6	-	-	60
			SB6	HEAD 15	15	-	-
			CB1	SB3	-	-	530
			SB3	HEAD 12	60	-	-
			SB3	HEAD 13	50	-	-
			CB1	SB9	280	-	-
			SB9	HEAD 17	15	-	-
			SB9	SB8	130	-	-
			SB8	HEAD 18	15	-	-
			CB1	SB1	-	-	210
			SB1	HEAD 6	15	-	-
			SB1	SB2	200	-	-
			SB2	HEAD 7	80	-	-
			SB2	HEAD 8	70	-	-
			SB2	HEAD 9	60	-	-
			SB2	HEAD 10	50	-	-
			CB1	SB4	-	-	450
			SB4	HEAD 5	70	-	-
			SB4	HEAD 4	60	-	-
			CB1	SB4	-	-	450
			SB4	HEAD 3	50	-	-
			SB4	HEAD 2	40	-	-
			CB1	SB3	-	-	530
			SB3	HEAD 1	15	-	-
			SB3	HEAD 11	15	-	-
			INTERSECTION TOTAL		1,320	0	2,770

CATEGORY	PROJECT	STAGE	FROM	TO	655.0230 (A) 5-14 AWG (LF)	655.0240 (A) 7-14 AWG (LF)	655.0260 (A) 12-14 AWG (LF)
1300							
	1133-09-76						
		STAGE 2					
			USH 41 NB RAMPS & CTH AAA				
			CB1	SB14	540	-	-
			SB14	HEAD 28	60	-	-
			SB14	HEAD 29	50	-	-
			CB1	SB18	640	-	-
			SB18	HEAD 30	15	-	-
			CB1	SB11	460	-	-
			SB11	HEAD 35	15	-	-
			SB11	SB14	130	-	-
			SB14	HEAD 34	15	-	-
			CB1	SB14	-	-	540
			SB14	HEAD 21	15	-	-
			SB14	HEAD 22	15	-	-
			CB1	SB17	710	-	-
			SB14	HEAD 23	80	-	-
			SB14	HEAD 24	70	-	-
			CB1	SB17	710	-	-
			SB17	HEAD 25	60	-	-
			SB17	HEAD 26	50	-	-
			CB1	SB12	-	-	530
			SB12	HEAD 31	-	20	-
			SB12	SB16	-	-	150
			SB16	HEAD 33	-	20	-
			CB1	SB13	-	-	550
			SB13	HEAD 32	-	20	-
			CB1	SB15	555	-	-
			SB15	HEAD 37	15	-	-
			SB15	SB16	135	-	-
			SB16	HEAD 36	15	-	-
			CB1	SB10	-	-	370
			SB10	HEAD 17	80	-	-
			SB10	HEAD 18	70	-	-
			SB10	HEAD 19	60	-	-
			SB10	HEAD 20	50	-	-
			SB10	SB19	200	-	-
			SB19	HEAD 27	15	-	-
			INTERSECTION TOTAL		4,830	60	2,140
USH 41 & CTH AAA TOTALS					**6,150**	**60**	**4,910**

(A) ADDITIONAL QUANTITIES FOR MULTIPLE TABLES

3

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

655.0515 (A)

CATEGORY	PROJECT	STAGE	FROM		TO	(LF)
1300						
	1133-09-76					
		STAGE 2				
			USH 41 RAMPS & CTH AAA			
			CB1	-	PB1	30
			CB1	-	SB1	420
			SB1	-	PB2	40
			SB1	-	SB2	400
			SB1	-	PB3	110
			SB2	-	PB4	30
			SB2	-	SB3	480
			SB3	-	PB5	110
			SB3	-	PB6	40
			SB3	-	SB4	300
			SB4	-	PB7	40
			SB4	-	SB5	240
			SB5	-	PB15	30
			SB5	-	SB6	120
			SB6	-	SB8	440
			SB8	-	PB8	30
			SB8	-	SB9	240
			SB9	-	PB9	40
			SB9	-	CB1	560
			CB1	-	SB10	740
			CB1	-	PB17	200
			SB10	-	PB18	30
			SB10	-	SB11	280
			SB11	-	PB19	30
			SB11	-	SB12	240
			SB12	-	PB27	30
			SB12	-	SB13	120
			SB13	-	SB14	420
			SB14	-	PB20	30
			SB14	-	SB15	120
			SB15	-	SB16	260
			SB16	-	PB28	30
			SB16	-	SB17	520
			SB17	-	PB21	90
			SB17	-	PB22	30
			SB17	-	SB18	240
			SB18	-	PB23	30
			SB18	-	PB24	80
			SB18	-	SB19	360
			SB19	-	PB25	40
			SB19	-	PB26	120
			SB19	-	CB1	1,060
			INTERSECTION TOTAL			8,800
USH 41 & CTH AAA TOTALS						**8,800**

(A) ADDITIONAL QUANTITIES FOUND IN MULTIPLE TABLES

REMOVE TRAFFIC SIGNALS

SPV.0105.453

CATEGORY	PROJECT	STAGE	INTERSECTION	(LS)
1300				
	1133-09-76			
		STAGE 2		
			USH 41 & CTH AAA	1
USH 41 & CTH AAA TOTALS				**1**

TRAFFIC SIGNAL

CATEGORY	PROJECT	STAGE	INTERSECTION	658.0110 (A) FACE 3-12 INCH VERTICAL (EACH)	658.0115 (A) FACE 4-12 INCH VERTICAL (EACH)	658.0215 (A) BACKPLATES SIGNAL FACE 3 SECTION 12-INCH (EACH)	658.0220 (A) BACKPLATES SIGNAL FACE 4 SECTION 12-INCH (EACH)	658.0416 (A) PEDESTRIAN SIGNAL FACE 16-INCH (EACH)	658.0600 (A) LED MODULES 12-INCH RED BALL (EACH)	658.0605 (A) LED MODULES 12-INCH YELLOW BALL (EACH)	658.0610 (A) LED MODULES 12-INCH GREEN BALL (EACH)	658.0615 (A) LED MODULES 12-INCH RED ARROW (EACH)	658.0620 (A) LED MODULES 12-INCH YELLOW ARROW (EACH)	658.0625 (A) LED MODULES 12-INCH GREEN ARROW (EACH)	658.0635 (A) LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH (EACH)
1300															
	1133-09-76														
		STAGE 2													
			USH 41 & CTH AAA	30	3	30	3	6	24	22	22	9	14	11	6
USH 41 & CTH AAA TOTALS				**30**	**3**	**30**	**3**	**6**	**24**	**22**	**22**	**9**	**14**	**11**	**6**

(A) ADDITIONAL QUANTITIES FOUND IN MULTIPLE TABLES

POLES

CATEGORY	PROJECT	STAGE	INTERSECTION	657.0100 (A) PEDESTAL BASES (EACH)	657.0255 (A) TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE (EACH)	657.0315 (A) TYPE 4 (EACH)	657.0420 (A) TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT (EACH)	657.0425 (A) TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT (EACH)	657.0430 (A) TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT (EACH)	657.0709 LUMINAIRE ARMS TRUSS TYPE 4-INCH CLAMP 12-FT (EACH)	657.1360 INSTALL POLES TYPE 13 (EACH)	657.1535 INSTALL MONOTUBE ARMS 35-FT (EACH)	657.1545 INSTALL MONOTUBE ARMS 45-FT (EACH)	657.1555 INSTALL MONOTUBE ARMS 55-FT (EACH)	657.1812 INSTALL LUMINAIRE ARMS STEEL 12-FT (EACH)	659.0125 (A) LUMINAIRES UTILITY HPS 250 WATTS (EACH)
1300																
	1133-09-76															
		STAGE 2														
			USH 41 & CTH AAA	10	1	2	4	3	3	2	6	1	2	3	7	9
USH 41 & CTH AAA TOTALS				**10**	**1**	**2**	**4**	**3**	**3**	**2**	**6**	**1**	**2**	**3**	**7**	**9**

(A) ADDITONAL QUANTITIES FOUND IN MULTIPLE TABLES

3

LIGHTING CONDUIT AND WIRE

FROM	-	TO	652.0125 * CONDUIT RIGID METALLIC 2-INCH LF	652.0135 * CONDUIT RIGID METALLIC 3-INCH LF	652.0225 * CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235 * CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0615 * CONDUIT SPECIAL 3-INCH LF	655.0610* ELECTRICAL WIRE LIGHTING 12 AWG LF	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG LF	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG LF	REMARKS
PROJECT ID 1133-09-71											
ALL ITEMS ARE CATEGORY 1100											
Existing	-	LB 100	--	--	--	55	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 100	-	PB 100	--	--	--	85	--	--	--	--	--
LB 100	-	PB 101	--	--	--	85	--	--	--	--	--
LB 100	-	LB 101	--	--	--	244	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 101	-	LB 102	--	--	--	244	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 102	-	LB 103	--	--	--	244	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 103	-	LB 104	--	--	--	244	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 104	-	LB 105	--	--	--	268	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 105	-	LB 106	--	--	--	268	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 106	-	LB 107	--	--	--	268	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 107	-	LB 108	--	--	--	268	--	--	--	--	PORTION OF CONDUITS INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 108	-	LB 109	--	10	--	119	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE B-05-617 PLANS & THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 109	-	LB 110	--	--	--	498	--	--	--	--	2-3" CONDUITS & PORTION OF CONDUITS INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 110	-	LB 111	--	--	--	498	--	--	--	1,350	2-3" CONDUITS & PORTION OF CONDUITS INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 111	-	LB 112	--	--	--	498	--	--	--	1,350	2-3" CONDUITS & PORTION OF CONDUITS INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 112	-	LB 113	--	--	--	498	--	--	--	1,350	2-3" CONDUITS & PORTION OF CONDUITS INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 113	-	LB 114	--	--	--	498	--	--	--	1,350	2-3" CONDUITS & PORTION OF CONDUITS INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 114	-	LB 116	--	100	--	--	--	--	--	1,535	2-3" CONDUITS & PORTION OF CONDUITS INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
PB 106	-	LB 115	35	--	--	--	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE B-05-612 PLANS
LB 115	-	PB 107	20	--	--	--	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE B-05-612 PLANS
SL 100	-	SL 101	--	--	289	--	--	--	--	897	--
SL 101	-	SL 102	--	--	290	--	--	--	--	1,500	--
SL 102	-	SL 103	--	--	286	--	--	--	--	1,480	--
SL 103	-	SL 104	--	--	290	--	--	--	--	1,500	--
SL 104	-	PB 102	--	--	100	--	--	--	115	555	--
PB 102	-	PB 103	51	--	--	--	--	--	--	890	PORTION OF CONDUIT INCLUDED IN THE B-05-621 PLANS
PB 103	-	SL 105	--	--	26	--	--	--	45	185	--
SL 105	-	SL 106	--	--	290	--	--	--	--	1,500	--
SL 106	-	PB 105	--	--	--	16	--	--	30	270	--
PB 105	-	SL 107	--	--	275	--	--	--	--	1,430	--
SL 107	-	SL 108	--	--	301	--	--	--	--	1,555	--
SL 108	-	SL 109	--	--	145	--	--	--	--	775	--
SL 109	-	SL 110	--	--	252	--	--	--	--	1,310	--
SL 110	-	SL 111	--	--	252	--	--	--	--	786	--
LB 109	-	PB 104	--	--	--	125	--	--	--	--	--
PB 105	-	LB 110	--	--	--	152	--	--	--	--	--
LB 116	-	PB 111	--	--	--	90	--	--	105	510	--
LB 116	-	PB 111	--	--	--	90	--	--	--	--	--
PB 111	-	PB 108	--	--	--	161	--	--	--	865	--
PB 111	-	PB 108	--	--	--	161	--	--	--	--	--
PB 108	-	CB 100	--	--	--	18	--	--	33	150	--
PB 108	-	CB 100	--	--	--	18	--	--	--	150	--
PB 108	-	CB 100	--	--	--	18	--	--	--	--	--
PB 108	-	PB 109	--	--	--	128	--	--	--	700	--
PB 109	-	PB 110	--	--	--	76	--	--	91	440	--
PB 110	-	SL 112	--	--	113	--	--	--	128	620	--
SL 112	-	SL 113	--	--	147	--	--	--	--	471	--
LB 116	-	LB 117	--	--	--	510	--	--	--	--	2-3" CONDUITS & PORTION OF CONDUITS INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 117	-	PB 112	--	--	--	124	--	--	--	--	--
PB 112	-	PB 113	--	--	--	98	--	--	--	--	--
PB 114	-	PB 115	40	--	--	--	--	--	--	--	--
LB 117	-	LB 118	--	--	--	259	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 118	-	LB 119	--	--	--	259	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 119	-	LB 120	--	--	--	279	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 120	-	LB 121	--	--	--	279	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 121	-	LB 122	--	--	--	279	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 122	-	LB 123	--	--	--	271	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 123	-	LB 124	--	--	--	271	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 124	-	LB 125	--	--	--	271	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 125	-	LB 126	--	--	--	271	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 126	-	LB 127	--	--	--	281	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 127	-	LB 128	--	--	--	278	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
SUBTOTALS			**146**	**110**	**3056**	**9665**	**0**	**0**	**547**	**25474**	

LIGHTING CONDUIT AND WIRE - CONTINUED

FROM	-	TO	652.0125 * CONDUIT RIGID METALLIC 2-INCH LF	652.0135 * CONDUIT RIGID METALLIC 3-INCH LF	652.0225 * CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235 * CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0615 * CONDUIT SPECIAL 3-INCH LF	655.0610* ELECTRICAL WIRE LIGHTING 12 AWG LF	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG LF	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG LF	REMARKS
SUBTOTALS FROM PREVIOUS SHEET			146	110	3056	9665	0	0	547	25474	
LB 128	-	LB 129	--	--	--	278	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 129	-	LB 130	--	--	--	278	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 130	-	PB 116	--	--	--	91	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 130	-	PB 117	--	--	--	119	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 130	-	LB 131	--	--	--	278	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 131	-	LB 132	--	--	--	278	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 132	-	LB 133	--	--	--	278	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 133	-	LB 134	--	10	--	266	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE B-05-625 PLANS & THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
PB 118	-	LB 133-2	50	--	--	--	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE B-05-622 PLANS & THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 133-2	-	PB 119	50	--	--	--	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE B-05-622 PLANS & THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
PB 120	-	LB 135-2	50	--	--	--	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE B-05-623 PLANS & THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 135-2	-	PB 121	50	--	--	--	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE B-05-623 PLANS & THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 134	-	LB 135	--	--	--	259	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 135	-	LB 136	--	10	--	266	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE B-05-627 PLANS & THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 136	-	LB 137	--	--	--	279	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 137	-	LB 138	--	--	--	283	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 138	-	PB 123	--	--	--	108	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 138	-	PB 122	--	--	--	138	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 138	-	LB 139	--	--	--	283	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 139	-	LB 140	--	--	--	283	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 140	-	LB 141	--	--	--	283	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 141	-	LB 142	--	--	--	283	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 142	-	LB 143	--	--	--	283	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 143	-	LB 144	--	--	--	283	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 144	-	PB 127	--	--	--	132	--	--	--	--	--
LB 144	-	PB 127	--	--	--	132	--	--	--	--	--
PB 127	-	PB 124	--	--	--	235	--	--	--	--	--
PB 127	-	SL 204	--	--	80	--	--	--	95	460	--
SL 204	-	PB 126	--	--	240	--	--	--	--	1,255	--
PB 126	-	PB 125	--	--	--	64	--	--	--	--	--
PB 126	-	SL 203	--	--	15	--	--	--	--	130	--
SL 203	-	SL 202	--	--	272	--	--	--	--	1,410	--
SL 202	-	SL 201	--	--	272	--	--	--	--	1,410	--
SL 201	-	SL 200	--	--	270	--	--	--	--	840	--
PB 127	-	PB 128	--	--	--	40	--	--	--	260	--
PB 127	-	PB 128	--	--	--	40	--	--	--	--	--
PB 127	-	PB 128	--	--	--	40	--	--	--	--	--
PB 128	-	PB 129	--	--	--	192	--	--	207	1,020	--
PB 128	-	PB 129	--	--	--	192	--	--	--	--	--
PB 128	-	PB 129	--	--	--	192	--	--	--	--	--
PB 129	-	CB 200	--	--	--	17	--	--	32	145	--
PB 129	-	CB 200	--	--	--	17	--	--	--	--	--
PB 129	-	CB 200	--	--	--	17	--	--	--	--	--
PB 129	-	SL 205	--	--	--	35	--	--	--	460	--
SL 205	-	SL 206	--	--	294	--	--	--	--	912	--
LB 144	-	LB 145	--	--	--	283	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 145	-	LB 146	--	--	--	283	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 146	-	LB 147	--	--	--	286	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 147	-	LB 148	--	--	--	286	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 148	-	PB 130	--	--	--	103	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 148	-	LB 149	--	33	--	164	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE B-05-629 PLANS & THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 149	-	LB 150	--	--	--	289	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 150	-	LB 151	--	--	--	289	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 151	-	LB 152	--	--	--	271	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 152	-	LB 153	--	--	--	287	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 153	-	LB 154	--	--	--	287	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 154	-	LB 155	--	--	--	287	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 155	-	LB 156	--	--	--	287	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
CB 400	-	PB 400	--	--	10	--	--	93	--	--	--
CB 500	-	PB 500	--	--	--	50	--	426	--	--	--
PB 500	-	PB 501	--	--	--	--	95	348	--	--	--
PB 501	-	PB 502	--	--	--	--	70	273	--	--	--
CB 600	-	PB 600	--	--	25	--	--	138	--	--	--
CB 600	-	PB 601	--	--	--	--	90	333	--	--	--
UNDISTRIBUTED			54	82	--	--	350	497	--	--	--
PROJECT ID 1133-09-71 TOTALS			**400**	**245**	**4534**	**19359**	**605**	**2108**	**881**	**33776**	

LIGHTING PULLBOXES

PULLBOX NUMBER	STATION	OFFSET	R/L	653.0140 * PULLBOXES STEEL 24X42-INCH EACH	SPV.0090.354 PULLBOX DRAIN DUCT LF
PROJECT ID 1133-09-71					
ALL ITEMS ARE CATEGORY 1100					
PB 100	799 NB+70	41.0'	RT	1	--
PB 101	799 NB+70	113.5'	LT	1	--
PB 102	820 NB+82	93.7'	RT	1	15
PB 103	822 NB+47	93.7'	RT	1	15
PB 104	823 NB+45	149.0'	LT	1	--
PB 105	825 OWC+33	29.0'	RT	1	--
PB 106	837 NB+13	86.8'	RT	1	15
PB 107	839 NB+84	86.7'	RT	1	15
PB 108	698 OWW+29	66.5'	LT	1	45
PB 109	838 OWA+65	23.5'	RT	1	--
PB 110	838 OWA+65	51.5'	LT	1	15
PB 111	839 SB+21	56.0'	LT	1	--
PB 112	841 OWD+85	56.7'	LT	1	--
PB 113	841 OWD+85	40.0'	RT	1	15
PB 114	844 OWD+35	40.0'	RT	1	15
PB 115	853 CD+67	52.8'	RT	1	15
PB 116	878 NB+72	50.0'	RT	1	--
PB 117	878 NB+72	149.5'	LT	1	--
PB 118	887 NB+23	79.2'	RT	1	15
PB 119	889 NB+88	79.2'	RT	1	15
PB 120	892 NB+01	79.7'	RT	1	15
PB 121	894 NB+85	79.7'	RT	1	15
PB 122	901 NB+54	98.0'	RT	1	--
PB 123	901 NB+54	142.0'	LT	1	--
PB 124	918 NB+74	74.3'	RT	1	15
PB 125	915 SE+42	19.0'	RT	1	15
PB 126	915 SE+42	44.5'	LT	1	--
PB 127	918 SE+72	54.9'	LT	1	15
PB 128	919 SE+09	64.7'	LT	1	15
PB 129	920 SE+61	66.3'	LT	1	15
PB 130	930 NB+81	131.0'	LT	1	--
PB 400	201 VRK+43	36.9'	RT	1	--
PB 500	698 OWE+40	108.0'	LT	1	--
PB 501	698 OWE+76	29.6'	LT	1	--
PB 502	699 OWE+29	33.1'	LT	1	--
PB 600	498 COR+65	46.0'	RT	1	--
PB 601	498 COR+21	42.3'	LT	1	--
PROJECT ID 1133-09-71 TOTALS				**31**	**300**
PROJECT ID 1133-03-77					
ALL ITEMS ARE CATEGORY 1100					
PB 131	973 VKA+94	42.5'	LT	1	15
PB 132	973 NB+83	48.0'	RT	1	--
PB 133	971 NB+08	153.5'	LT	1	15
PB 134	984 NB+43	201.5'	LT	1	35
PB 135	984 NB+89	119.5'	LT	1	--
PB 136	991 NB+16	122.5'	LT	1	--
PB 137	991 VKC+16	44.0'	LT	1	15
PB 138	988 NB+12	53.0'	RT	1	--
PB 139	989 VKB+37	44.5'	RT	1	15
PB 140	997 NB+82	84.5'	RT	1	15
PB 141	1000 NB+22	140.0'	LT	1	15
PB 700	598 MOR+60	36.7'	RT	1	--
PB 701	598 MOR+23	26.5'	LT	1	--
PB 800	101 VKW+21	63.0'	LT	1	--
PB 801	101 VKW+92	50.5'	LT	1	--
PB 802	102 VKW+06	84.7'	RT	1	--
PROJECT ID 1133-03-77 TOTALS				**16**	**125**
CONTRACT TOTALS				**47**	**425**

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

LIGHTING CONDUIT AND WIRE - CONTINUED

FROM	-	TO	652.0125 * CONDUIT RIGID METALLIC 2-INCH LF	652.0135 * CONDUIT RIGID METALLIC 3-INCH LF	652.0225 * CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235 * CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0615 * CONDUIT SPECIAL 3-INCH LF	655.0610* ELECTRICAL WIRE LIGHTING 12 AWG LF	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG LF	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG LF	REMARKS
PROJECT ID 1133-03-77											
ALL ITEMS ARE CATEGORY 1100											
LB 156	-	LB 157	--	--	--	287	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 157	-	LB 158	--	--	--	287	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 158	-	LB 159	--	28	--	124	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE B-05-631 PLANS & THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 159	-	LB 160	--	--	--	266	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 160	-	LB 161	--	--	--	258	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 161	-	LB 162	--	--	--	258	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 162	-	PB 133	--	--	--	129	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 162	-	LB 163	--	--	--	258	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 163	-	PB 132	--	--	--	87	--	--	--	495	--
PB 132	-	SL 304	--	--	126	--	--	--	164	822	--
PB 132	-	PB 131	--	--	--	96	--	--	--	540	--
PB 131	-	SL 303	--	--	235	--	--	--	246	1,230	--
SL 303	-	SL 302	--	--	240	--	--	--	--	1,250	--
SL 302	-	SL 301	--	--	250	--	--	--	--	1,300	--
SL 301	-	SL 300	--	--	265	--	--	--	--	825	--
LB 163	-	LB 164	--	--	--	265	--	--	--	1,430	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 164	-	LB 165	--	--	--	265	--	--	--	1,430	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 165	-	LB 166	--	--	--	265	--	--	--	1,430	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 166	-	LB 167	--	20	--	90	--	--	--	1,635	PORTION OF CONDUIT INCLUDED IN THE B-05-633 PLANS & THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 167	-	PB 135	--	--	--	95	--	--	--	535	--
LB 167	-	PB 135	--	--	--	95	--	--	106	535	--
PB 135	-	PB 134	--	--	--	97	--	--	--	545	--
PB 135	-	PB 134	--	--	--	97	--	--	--	545	--
PB 134	-	CB 300	--	--	--	19	--	--	34	155	--
PB 134	-	CB 300	--	--	--	19	--	--	--	155	--
LB 167	-	LB 168	--	--	--	285	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 168	-	PB 138	--	--	--	87	--	--	--	--	--
PB 138	-	PB 139	--	--	--	212	--	--	--	--	--
PB 139	-	LB 180	22	--	--	--	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE R-05-71 PLANS & THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 180	-	LB 181	--	--	--	--	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE R-05-71 PLANS & THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 181	-	LB 182	--	--	--	--	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE R-05-71 PLANS & THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 182	-	PB 140	28	--	--	--	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE R-05-711 PLANS & THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 168	-	LB 169	--	--	--	285	--	--	--	1,530	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 169	-	PB 136	--	--	--	99	--	--	--	580	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
PB 136	-	SL 309	--	--	175	--	--	--	113	1,116	--
PB 136	-	PB 137	--	--	--	94	--	--	--	530	--
PB 137	-	SL 308	10	--	--	--	--	--	138	530	PORTION OF CONDUIT INCLUDED IN THE R-05-69 PLANS & THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
SL 308	-	SL 310	--	--	--	--	--	--	--	1,205	PORTION OF CONDUIT INCLUDED IN THE R-05-69 PLANS & THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
SL 310	-	SL 311	--	--	--	--	--	--	--	1,200	PORTION OF CONDUIT INCLUDED IN THE R-05-69 PLANS & THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
SL 311	-	SL 312	--	--	--	--	--	--	--	1,205	PORTION OF CONDUIT INCLUDED IN THE R-05-69 PLANS & THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
SL 312	-	PB 141	10	--	--	--	--	--	113	264	PORTION OF CONDUIT INCLUDED IN THE R-05-69 PLANS & THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
PB 141	-	SL 313	--	--	170	--	--	--	--	543	--
LB 169	-	LB 170	--	--	--	285	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 170	-	LB 171	--	--	--	294	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 171	-	LB 172	--	--	--	285	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 172	-	LB 173	--	--	--	285	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 173	-	LB 174	--	--	--	256	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 174	-	LB 175	--	--	--	311	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 175	-	LB 176	--	--	--	311	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 176	-	LB 177	--	--	--	309	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 177	-	LB 178	--	--	--	301	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 178	-	LB 179	--	--	--	301	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
LB 179	-	EXISTING	--	48	--	--	--	--	--	--	PORTION OF CONDUIT INCLUDED IN THE CONCRETE BASES MEDIAN BARRIER PAY ITEM
CB 700	-	PB 700	--	--	10	--	--	66	--	--	--
CB 700	-	PB 701	--	--	--	--	70	246	--	--	--
CB 800	-	PB 800	--	--	--	10	--	132	--	--	--
PB 800	-	PB 801	--	--	--	75	--	522	--	--	--
PB 801	-	PB 802	--	--	--	--	140	456	--	--	--
UNDISTRIBUTED			50	54	--	--	140	78	88	--	--
PROJECT ID 1133-03-77 TOTALS			**120**	**150**	**1471**	**7442**	**350**	**1500**	**1002**	**23560**	
CONTRACT TOTALS			**520**	**395**	**6005**	**26801**	**955**	**3608**	**1883**	**57336**	

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

3

FREEWAY LIGHTING

LIGHT NUMBER		STATION	OFFSET	R/L	SPV.0060.351 CONCRETE BASE MEDIAN BARRIER TYPE 1 EACH	SPV.0060.352 CONCRETE BASE MEDIAN BARRIER TYPE 2 EACH	SPV.0060.359 ANCHOR BOLT COVER SHROUD EACH	654.0105 * CONCRETE BASES TYPE 5 EACH	654.0107 CONCRETE BASES TYPE 7 EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	657.0210 TRANSFORMER BASES BREAKAWAY 15-17 INCH BOLT CIRCLE EACH	657.0322 * POLES TYPE 5 ALUMINUM EACH	657.0337 POLES TYPE 17 ALUMINUM EACH	659.0802 PLAQUES SEQUENCE IDENTIFICATION EACH	657.0710 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 12-FT EACH	657.0620 LUMINAIRE ARMS SINGLE MEMBER 6-INCH CLAMP 4-FT EACH	657.0730 LUMINAIRE ARMS TRUSS TYPE 6-INCH CLAMP 12-FT EACH	659.0115 LUMINAIRES UTILITY 150 WATT EACH	659.0125 LUMINAIRES UTILITY 250 WATT EACH	655.0610* ELECTRICAL WIRE LIGHTING 12 AWG LF
PROJECT ID 1133-09-71																				
ALL ITEMS ARE CATEGORY 1100																				
LB	100	799 NB+59	30.0'	LT	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	101	802 NB+12	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	102	804 NB+65	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	103	807 NB+18	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	104	809 NB+71	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	105	812 NB+48	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	106	815 NB+25	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	107	818 NB+03	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	108	820 NB+80	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	109	823 NB+32	30.0'	LT	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	110	825 NB+93	30.0'	LT	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	111	828 NB+53	30.0'	LT	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	112	831 NB+14	30.0'	LT	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	113	833 NB+74	30.0'	LT	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	114	836 NB+35	30.0'	LT	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	115	837 NB+85	79.9'	RT	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	116	839 NB+34	30.0'	LT	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	117	842 NB+01	30.0'	LT	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	118	844 NB+71	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	119	847 NB+58	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	120	850 NB+47	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	121	853 NB+35	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	122	856 NB+23	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	123	859 NB+03	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	124	861 NB+83	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	125	864 NB+62	31.5'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	126	866 NB+43	35.5'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	127	870 NB+28	37.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	128	873 NB+15	37.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	129	876 NB+02	37.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	130	878 NB+88	37.0'	LT	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	131	881 NB+75	37.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	132	884 NB+61	37.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	133	887 NB+49	37.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	133-2	888 NB+45	72.5'	RT	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	134	890 NB+24	37.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	135	892 NB+82	37.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	135-2	893 NB+57	72.5'	RT	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	136	895 NB+57	37.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	137	898 NB+45	37.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	138	901 NB+37	37.0'	LT	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	139	904 NB+29	37.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	140	907 NB+22	37.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	141	910 NB+14	37.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	142	913 NB+06	36.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	143	915 NB+98	31.5'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	144	918 NB+90	30.0'	LT	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	145	921 NB+82	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	146	924 NB+77	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	147	927 NB+74	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	148	930 NB+67	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	149	933 NB+65	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	150	936 NB+62	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	151	939 NB+60	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	152	942 NB+40	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	153	945 NB+36	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	154	948 NB+33	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB	155	951 NB+29	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
SUBTOTALS					**43**	**13**	**58**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

3

FREEWAY LIGHTING - CONTINUED

LIGHT NUMBER	STATION	OFFSET	R/L	SPV.0060.351 CONCRETE BASE MEDIAN BARRIER TYPE 1 EACH	SPV.0060.352 CONCRETE BASE MEDIAN BARRIER TYPE 2 EACH	SPV.0060.359 ANCHOR BOLT COVER SHROUD EACH	654.0105 * CONCRETE BASES TYPE 5 EACH	654.0107 CONCRETE BASES TYPE 7 EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	657.0210 TRANSFORMER BASES BREAKAWAY 15-17 INCH BOLT CIRCLE EACH	657.0322 * POLES TYPE 5 ALUMINUM EACH	657.0337 POLES TYPE 17 ALUMINUM EACH	659.0802 PLAQUES SEQUENCE IDENTIFICATION EACH	657.0710 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 12-FT EACH	657.0620 LUMINAIRE ARMS SINGLE MEMBER 6-INCH CLAMP 4-FT EACH	657.0730 LUMINAIRE ARMS TRUSS TYPE 6-INCH CLAMP 12-FT EACH	659.0115 LUMINAIRES UTILITY 150 WATT EACH	659.0125 LUMINAIRES UTILITY 250 WATT EACH	655.0610* ELECTRICAL WIRE LIGHTING 12 AWG LF
SUBTOTALS FROM PREVIOUS SHEET				43	13	58	0	0	0	0	0	0	0	0	0	0	0	0	0
SL 100	808 NB+29	54.0'	RT	--	--	--	--	1	--	1	--	1	1	--	1	--	--	1	150
SL 101	811 NB+17	57.3'	RT	--	--	--	--	1	--	1	--	1	1	--	1	--	--	1	150
SL 102	814 NB+07	68.4'	RT	--	--	--	--	1	--	1	--	1	1	--	1	--	--	1	150
SL 103	816 NB+93	79.8'	RT	--	--	--	--	1	--	1	--	1	1	--	1	--	--	1	150
SL 104	819 NB+82	90.6'	RT	--	--	--	--	1	--	1	--	1	1	--	1	--	--	1	150
SL 105	822 NB+73	93.5'	RT	--	--	--	--	1	--	1	--	1	1	--	1	--	--	1	150
SL 106	825 OWC+67	29.0'	RT	--	--	--	--	1	--	1	--	1	1	--	1	--	--	1	150
SL 107	828 OWC+57	29.0'	RT	--	--	--	--	1	--	1	--	1	1	--	1	--	--	1	150
SL 108	831 OWC+57	49.0'	RT	--	--	--	1	--	1	--	1	--	1	1	--	--	1	--	144
SL 109	833 OWC+00	49.0'	RT	--	--	--	1	--	1	--	1	--	1	1	--	--	1	--	144
SL 110	835 OWC+40	29.0'	RT	--	--	--	--	1	--	1	--	1	1	--	1	--	--	1	150
SL 111	837 OWC+84	36.9'	RT	--	--	--	--	1	--	1	--	1	1	--	1	--	--	1	150
SL 112	839 OWA+73	72.5'	LT	--	--	--	1	--	1	--	1	--	1	1	--	--	1	--	144
SL 113	841 OWA+20	72.5'	LT	--	--	--	1	--	1	--	1	--	1	1	--	--	1	--	144
SL 200	907 SE+04	66.2'	LT	--	--	--	--	1	--	1	--	1	1	--	1	--	--	1	150
SL 201	909 SE+73	45.3'	LT	--	--	--	--	1	--	1	--	1	1	--	1	--	--	1	150
SL 202	912 SE+45	44.5'	LT	--	--	--	--	1	--	1	--	1	1	--	1	--	--	1	150
SL 203	915 SE+27	44.5'	LT	--	--	--	--	1	--	1	--	1	1	--	1	--	--	1	150
SL 204	917 SE+91	44.5'	LT	--	--	--	--	1	--	1	--	1	1	--	1	--	--	1	150
SL 205	920 SE+83	42.0'	LT	--	--	--	--	1	--	1	--	1	1	--	1	--	--	1	150
SL 206	923 SE+74	42.7'	LT	--	--	--	--	1	--	1	--	1	1	--	1	--	--	1	150
PROJECT ID 1133-09-71 TOTALS				**43**	**13**	**58**	**4**	**17**	**4**	**17**	**4**	**17**	**21**	**4**	**17**	**0**	**4**	**17**	**3126**
PROJECT ID 1133-03-77																			
ALL ITEMS ARE CATEGORY 1100																			
LB 156	954 NB+26	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 157	957 NB+22	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 158	960 NB+18	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 159	963 NB+14	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 160	965 NB+89	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 161	968 NB+56	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 162	971 NB+24	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 163	973 NB+91	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 164	976 NB+83	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 165	979 NB+39	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 166	982 NB+00	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 167	985 NB+06	30.0'	LT	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 168	988 NB+00	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 169	990 NB+93	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 170	993 NB+87	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 171	996 NB+80	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 172	999 NB+74	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 173	1002 NB+67	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 174	1005 NB+33	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 175	1008 NB+53	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 176	1011 NB+73	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 177	1014 NB+93	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 178	1018 NB+03	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 179	1021 NB+14	30.0'	LT	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
SL 300	964 NB+00	64.0'	RT	--	--	--	--	1	--	1	--	1	1	--	--	1	--	1	174
SL 301	966 NB+66	74.0'	RT	--	--	--	--	1	--	1	--	1	1	--	--	1	--	1	174
SL 302	969 VKA+17	38.0'	RT	--	--	--	--	1	--	1	--	1	1	--	--	1	--	1	174
SL 303	971 VKA+58	38.0'	RT	--	--	--	--	1	--	1	--	1	1	--	--	1	--	1	174
SL 304	972 NB+57	55.0'	RT	--	--	--	--	1	--	1	--	1	1	--	--	1	--	1	174
LB 180	991 VKB+41	34.0'	RT	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
LB 181	993 VKB+72	32.0'	RT	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
SUBTOTALS				**23**	**1**	**26**	**0**	**5**	**0**	**5**	**0**	**5**	**5**	**0**	**0**	**5**	**0**	**5**	**870**

FREEWAY LIGHTING - CONTINUED

LIGHT NUMBER	STATION	OFFSET	R/L	SPV.0060.351 CONCRETE BASE MEDIAN BARRIER TYPE 1 EACH	SPV.0060.352 CONCRETE BASE MEDIAN BARRIER TYPE 2 EACH	SPV.0060.359 ANCHOR BOLT COVER SHROUD EACH	654.0105 * CONCRETE BASES TYPE 5 EACH	654.0107 CONCRETE BASES TYPE 7 EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	657.0210 TRANSFORMER BASES BREAKAWAY 15-17 INCH BOLT CIRCLE EACH	657.0322 * POLES TYPE 5 ALUMINUM EACH	657.0337 POLES TYPE 17 ALUMINUM EACH	659.0802 PLAQUES SEQUENCE IDENTIFICATION EACH	657.0710 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 12-FT EACH	657.0620 LUMINAIRE ARMS SINGLE MEMBER 6-INCH CLAMP 4-FT EACH	657.0730 LUMINAIRE ARMS TRUSS TYPE 6-INCH CLAMP 12-FT EACH	659.0115 LUMINAIRES UTILITY 150 WATT EACH	659.0125 LUMINAIRES UTILITY 250 WATT EACH	655.0610* ELECTRICAL WIRE LIGHTING 12 AWG LF
SUBTOTALS FROM PREVIOUS SHEET				23	1	26	0	5	0	5	0	5	5	0	0	5	0	5	870
LB 182	996 VKB+02	25.0'	RT	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
SL 308	992 VKC+39	33.0'	LT	--	--	--	--	--	--	--	--	1	1	--	1	--	--	1	150
SL 309	992 NB+90	118.5'	LT	--	--	--	--	--	--	--	--	1	1	--	--	1	--	1	174
SL 310	994 VKC+69	33.5'	LT	--	--	--	--	--	--	--	--	1	1	--	1	--	--	1	150
SL 311	996 VKC+99	34.0'	LT	--	--	--	--	--	--	--	--	1	1	--	1	--	--	1	150
SL 312	999 VKC+39	34.0'	LT	--	--	--	--	--	--	--	--	1	1	--	1	--	--	1	150
SL 313	1001 NB+91	133.0'	LT	--	--	--	--	1	--	1	--	1	1	--	--	1	--	1	174
PROJECT ID 1133-03-77 TOTALS				**23**	**1**	**27**	**0**	**6**	**0**	**6**	**0**	**11**	**11**	**0**	**4**	**7**	**0**	**11**	**1818**
CONTRACT TOTALS				**66**	**14**	**85**	**4**	**23**	**4**	**23**	**4**	**28**	**32**	**4**	**21**	**7**	**4**	**28**	**4944**

UNDERDECK LIGHTING ITEMS

LOCATION	659.0210 LUMINAIRES UNDERDECK 100 WATTS EACH	659.0215 LUMINAIRES UNDERDECK 150 WATTS EACH	SPV.0060.358 LUMINAIRES UNDERDECK LED EACH	659.0600.350 UNDERDECK LIGHTING (R-05-206) LS	659.0600.351 (R-05-209) LS	659.0600.352 (B-05-612) LS	659.0600.353 (B-05-618) LS	659.0600.354 (B-05-619) LS	659.0600.355 (R-05-214) LS	659.0600.356 (R-05-215) LS	659.0600.357 (R-05-216) LS	659.0600.358 (R-05-217) LS	659.0600.359 (R-05-218) LS	659.0600.360 (R-05-219) LS
PROJECT ID 1133-09-71 ALL ITEMS ARE CATEGORY 1100														
(R-05-206)	--	--	4	1	--	--	--	--	--	--	--	--	--	--
(R-05-209)	3	--	--	--	1	--	--	--	--	--	--	--	--	--
(B-05-612)	2	--	--	--	--	1	--	--	--	--	--	--	--	--
(B-05-618)	4	--	--	--	--	--	1	--	--	--	--	--	--	--
(B-05-619)	2	--	--	--	--	--	--	1	--	--	--	--	--	--
(R-05-214)	--	--	4	--	--	--	--	--	1	--	--	--	--	--
(R-05-215)	--	--	4	--	--	--	--	--	--	1	--	--	--	--
PROJECT ID 1133-09-71 TOTALS	**11**	**0**	**12**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**0**	**0**	**0**	**0**
PROJECT ID 1133-03-77 ALL ITEMS ARE CATEGORY 1100														
(R-05-216)	--	--	4	--	--	--	--	--	--	--	1	--	--	--
(R-05-217)	--	--	4	--	--	--	--	--	--	--	--	1	--	--
(R-05-218)	--	3	--	--	--	--	--	--	--	--	--	--	1	--
(R-05-219)	--	3	--	--	--	--	--	--	--	--	--	--	--	1
PROJECT ID 1133-03-77 TOTALS	**0**	**6**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**1**
CONTRACT TOTALS	**11**	**6**	**20**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**

3

LIGHTING CONTROL

CABINET NUMBER	STATION	OFFSET	R/L	654.0217 * CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH	SPV.0060.353 CONCRETE CONTROL CABINET BASES TYPE 10 SPECIAL EACH	656.0400.351 ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL (CB 100) LS	656.0400.352 ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL (CB 200) LS	656.0400.350 ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL (CB 300) LS	SPV.0105.375 ELECTRICAL SERVICE METER BREAKER PEDESTAL SPECIAL (CB 400) LS	SPV.0105.376 ELECTRICAL SERVICE METER BREAKER PEDESTAL SPECIAL (CB 600) LS	SPV.0105.377 ELECTRICAL SERVICE METER BREAKER PEDESTAL SPECIAL (CB 700) LS
PROJECT ID 1133-09-71											
ALL ITEMS ARE CATEGORY 1100											
CB100	698 OWW+28	49.5'	LT	1	--	1	--	--	--	--	--
CB200	920 SE+61	42.0'	LT	1	--	--	1	--	--	--	--
CB400	201 PRK+44	49.0'	RT	--	--	--	--	--	1	--	--
CB500	698 OWE+82	108.5'	LT	--	1	--	--	--	--	--	--
CB600	498 COR+43	44.0'	RT	--	--	--	--	--	--	1	--
PROJECT 1133-09-71 TOTALS				**2**	**1**	**1**	**1**	**0**	**1**	**1**	**0**
PROJECT ID 1133-03-77											
ALL ITEMS ARE CATEGORY 1100											
CB300	984 NB+43	201.5'	LT	1	--	--	--	1	--	--	--
CB700	598 MOR+49	35.5'	RT	--	--	--	--	--	--	--	1
PROJECT 1133-03-77 TOTALS				**1**	**0**	**0**	**0**	**1**	**0**	**0**	**1**
CONTRACT TOTALS				**3**	**1**	**1**	**1**	**1**	**1**	**1**	**1**

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

ITS PULL BOX, COMMUNICATION VAULT & MANHOLE ITEMS

STATION	LOCATION	ITEM ID	653.0135 PULL BOXES STEEL 24x36-INCH EACH	653.0180 PULL BOXES STEEL COMMUNICATIONS (24X36-INCH) EACH	673.0105 COMMUNICATION VAULT TYPE 1 EACH	SPV.0060.405 COMMUNICATION MANHOLE EACH	SPV.0060.406 TRACER TEST STATION EACH
CATEGORY 1200							
833CD+75	RT	PB-E1	1	---	---	---	---
833SB+40	LT	PB-E2	1	---	---	---	---
697OWE+40	RT	PB-E3	1	---	---	---	---
697OWW+05	LT	PB-E4	1	---	---	---	---
698OWW+65	LT	PB-E5	1	---	---	---	---
834OWB+70	RT	PB-E6	1	---	---	---	---
839OWD+90	LT	PB-E7	1	---	---	---	---
840OWB+55	LT	PB-E8	1	---	---	---	---
840OWD+55	RT	PB-E9	1	---	---	---	---
703OWW+75	LT	PB-E10	1	---	---	---	---
101VKW+75	LT	PB-E11	1	---	---	---	---
985SB+90	LT	PB-E12	1	---	---	---	---
987SB+95	LT	PB-E13	1	---	---	---	---
703NB+40	RT	PB-C1	EXISTING COMMUNICATION PULL BOX (1133-06-71)				
822OWB+75	LT	PB-C2	---	1	---	---	---
825OWB+05	LT	PB-C3	---	1	---	---	---
827SB+40	LT	PB-C4	---	1	---	---	---
830SB+40	LT	PB-C5	---	1	---	---	---
833SB+40	LT	PB-C6	---	1	---	---	---
697OWE+40	RT	PB-C7	---	1	---	---	---
697OWW+05	LT	PB-C8	---	1	---	---	---
838SB+60	LT	PB-C9	---	1	---	---	---
841SB+60	LT	PB-C10	---	1	---	---	---
845OWA+05	RT	PB-C11	---	1	---	---	---
846OWA+80	LT	PB-C12	---	1	---	---	---
828CD+90	RT	PB-C13	---	1	---	---	---
831CD+30	RT	PB-C14	---	1	---	---	---
833CD+75	RT	PB-C15	---	1	---	---	---
836CD+60	RT	PB-C16	---	1	---	---	---
702OWE+50	RT	PB-C17	---	1	---	---	---
702OWW+35	LT	PB-C18	---	1	---	---	---
842OWD+30	LT	PB-C19	---	1	---	---	---
879IES+55	LT	PB-C20	---	1	---	---	---
881SB+35	LT	PB-C21	---	1	---	---	---
884SB+35	LT	PB-C22	---	1	---	---	---
887SB+35	LT	PB-C23	---	1	---	---	---
864IEN+20	RT	PB-C24	---	1	---	---	---
885ISE+05	RT	PB-C25	---	1	---	---	---
892SB+35	LT	PB-C26	---	1	---	---	---
899INW+85	LT	PB-C27	---	1	---	---	---
921IWS+00	LT	PB-C28	---	1	---	---	---
898SB+90	LT	PB-C29	---	1	---	---	---
901SB+20	LT	PB-C30	---	1	---	---	---
904IWS+25	LT	PB-C31	---	1	---	---	---
907IWS+25	LT	PB-C32	---	1	---	---	---
907IWS+25	RT	PB-C33	---	1	---	---	---
907ISE+45	RT	PB-C34	---	1	---	---	---
878INW+00	LT	PB-C35	---	1	---	---	---
881INW+00	LT	PB-C36	---	1	---	---	---
884INW+00	LT	PB-C37	---	1	---	---	---
875IEN+05	RT	PB-C38	---	1	---	---	---
872IEN+70	RT	PB-C39	---	1	---	---	---
870IEN+35	RT	PB-C40	---	1	---	---	---
867IEN+70	RT	PB-C41	---	1	---	---	---
886IEN+15	RT	PB-C42	---	1	---	---	---
43EE+60	LT	PB-C43	---	1	---	---	---
890IEN+15	RT	PB-C44	EXISTING COMMUNICATION PULL BOX (1133-06-82)				
896INW+20	LT	PB-C45	---	1	---	---	---
925IWS+40	LT	PB-C46	---	1	---	---	---
894IWN+00	RT	PB-C47	---	1	---	---	---
897IWN+00	RT	PB-C48	---	1	---	---	---
900IWN+00	RT	PB-C49	---	1	---	---	---
973VKD+65	RT	PB-C50	---	1	---	---	---
976SB+60	LT	PB-C51	---	1	---	---	---
979SB+60	LT	PB-C52	---	1	---	---	---

3

ITS PULL BOX, COMMUNICATION VAULT & MANHOLE ITEMS

STATION	LOCATION	ITEM ID	653.0135 PULL BOXES STEEL 24x36-INCH EACH	653.0180 PULL BOXES STEEL COMMUNICATIONS (24X36-INCH) EACH	673.0105 COMMUNICATION VAULT TYPE 1 EACH	SPV.0060.405 COMMUNICATION MANHOLE EACH	SPV.0060.406 TRACER TEST STATION EACH
101VKE+75	RT	PB-C53	---	1	---	---	---
101VKW+75	LT	PB-C54	---	1	---	---	---
985SB+90	LT	PB-C55	---	1	---	---	---
987SB+95	LT	PB-C56	---	1	---	---	---
990SB+85	LT	PB-C57	---	1	---	---	---
969VKA+50	RT	PB-C58	---	1	---	---	---
971VKA+65	RT	PB-C59	---	1	---	---	---
973VKA+85	RT	PB-C60	---	1	---	---	---
990NB+85	RT	PB-C61	---	1	---	---	---
668SB+75	LT	CV1	EXISTING COMMUNICATION VAULT (1133-06-82)				
675SB+75	LT	CV2	EXISTING COMMUNICATION VAULT (1133-06-71)				
677SB+20	LT	CV3	EXISTING COMMUNICATION VAULT (1133-06-71)				
679FC+20	RT	CV4	EXISTING COMMUNICATION VAULT (1133-06-71)				
679FC+20	LT	CV5	EXISTING COMMUNICATION VAULT (1133-06-71)				
703SB+40	LT	CV6	EXISTING COMMUNICATION VAULT (1133-06-71)				
721SB+30	LT	CV7	EXISTING COMMUNICATION VAULT (1133-06-71)				
738SB+55	LT	CV8	EXISTING COMMUNICATION VAULT (1133-06-71)				
739SB+35	LT	CV9	EXISTING COMMUNICATION VAULT (1133-06-71)				
754BS+50	LT	CV10	EXISTING COMMUNICATION VAULT (1133-06-71)				
769BS+70	LT	CV11	EXISTING COMMUNICATION VAULT (1133-06-71)				
771BS+40	LT	CV12	EXISTING COMMUNICATION VAULT (1133-06-71)				
773GD+80	LT	CV13	EXISTING COMMUNICATION VAULT (1133-06-71)				
773BS+75	RT	CV14	EXISTING COMMUNICATION VAULT (1133-06-71)				
781BS+35	RT	CV15	EXISTING COMMUNICATION VAULT (1133-06-82)				
781BS+35	LT	CV16	EXISTING COMMUNICATION VAULT (1133-06-71)				
782GC+90	RT	CV17	EXISTING COMMUNICATION VAULT (1133-06-71)				
782GC+90	LT	CV18	EXISTING COMMUNICATION VAULT (1133-06-71)				
785GC+75	LT	CV19	EXISTING COMMUNICATION VAULT (1133-06-71)				
786GC+35	LT	CV20	EXISTING COMMUNICATION VAULT (1133-06-71)				
799SB+00	LT	CV21	EXISTING COMMUNICATION VAULT (1133-06-71)				
801SB+00	LT	CV22	---	---	1	---	1
820SB+70	LT	CV23	---	---	1	---	---
822OWB+75	LT	CV24	---	---	1	---	1
825OWB+05	LT	CV25	---	---	1	---	---
827SB+40	LT	CV26	---	---	1	---	---
833SB+40	LT	CV27	---	---	1	---	---
833CD+75	RT	CV28	---	---	1	---	1
702OWE+50	RT	CV29	---	---	1	---	---
702OWW+35	LT	CV30	---	---	1	---	---
843OWD+75	LT	CV31	---	---	1	---	---
845OWD+95	RT	CV32	---	---	1	---	1
865INE+75	RT	CV33	---	---	1	---	---
869INE+00	RT	CV34	---	---	1	---	1
878INE+05	RT	CV35	EXISTING COMMUNICATION VAULT (1211-18-93)				
875INE+75 (OUTSIDE NE REGION OFFICE)	RT	CV36	EXISTING COMMUNICATION VAULT (1211-18-93)				
878INW+80	LT	CV37	EXISTING COMMUNICATION VAULT (1133-06-82)				
48EE+80	RT	CV38	EXISTING COMMUNICATION VAULT (1133-06-82)				
48EE+35	LT	CV39	EXISTING COMMUNICATION VAULT (1133-06-82)				
890IEN+15	RT	CV40	EXISTING COMMUNICATION VAULT (1133-06-82)				
896INW+20	LT	CV41	---	---	1	---	---
899INW+85	LT	CV42	---	---	1	---	---
921IWS+00	LT	CV43	---	---	1	---	---
901SB+20	LT	CV44	---	---	1	---	---
903SB+30	LT	CV45	---	---	1	---	1
915SB+45	LT	CV46	---	---	1	---	---
918ISE+85	LT	CV47	---	---	1	---	1
498COR+60	RT	CV48	---	---	1	---	1
498COR+05	LT	CV49	---	---	1	---	---
943SB+00	LT	CV50	---	---	1	---	1
598MOR+50	RT	CV51	---	---	1	---	---
597MOR+95	LT	CV52	---	---	1	---	1
973VKD+65	LT	CV53	---	---	1	---	---
973VKD+65	RT	CV54	---	---	1	---	1
101VKE+75	RT	CV55	---	---	1	---	---
101VKW+75	LT	CV56	---	---	1	---	---
987SB+95	LT	CV57	---	---	1	---	1
995SB+45	LT	CV58	---	---	1	---	---
1003SB+00	LT	CV59	---	---	1	---	---
1007SB+35	LT	CV60	---	---	1	---	1
1007SB+55	LT	MH1	---	---	---	1	---
1012SB+00	LT	MH2	---	---	---	1	---
1016SB+50	LT	MH3	---	---	---	1	---
1021SB+40	LT	MH4	---	---	---	1	---
TOTALS			13	59	33	4	13

ITS CONDUIT ITEMS

FROM	TO	LINEAR DISTANCE	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0325 CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH LF	SPV.0060.418 EXPOSING EXISTING UTILITY EACH	SPV.0090.400 CONDUIT HDPE 3-DUCT 2-INCH LF	SPV.0090.401 CONDUIT HDPE DIRECTIONAL BORE 3-DUCT 2-INCH LF	SPV.0090.402 CONDUIT HDPE 4-DUCT 2-INCH LF	SPV.0090.403 CONDUIT HDPE DIRECTIONAL BORE 4-DUCT 2-INCH LF	SPV.0090.404 CONDUIT HDPE 5-DUCT 2-INCH LF	SPV.0090.405 CONDUIT HDPE DIRECTIONAL BORE 5-DUCT 2-INCH LF
CATEGORY 1200											
CCTV-05-0040	CV1	25				EXISTING CONDUIT 1-DUCT 2-INCH (1133-06-82)					
CV1	CV2	725				EXISTING CONDUIT HDPE 3-DUCT & 4-DUCT 2-INCH (1133-06-71)					
CV2	CV3	150				EXISTING CONDUIT 3-DUCT 2-INCH (1133-06-72)					
CV3	CV4	205				EXISTING CONDUIT HDPE 3-DUCT 2-INCH (1133-06-71)					
CV4	CV5	55				EXISTING CONDUIT HDPE 3-DUCT 2-INCH (1133-06-71)					
CV5	CV6	2430				EXISTING CONDUIT HDPE 3-DUCT 2-INCH (1133-06-71)					
CV6	PB-C1	175				EXISTING CONDUIT HDPE 2-DUCT 2-INCH (1133-06-71)					
PB-C1	DMS-05-0004 (CABINET)	25				EXISTING CONDUIT 2-DUCT 2-INCH (1133-06-71)					
CV6	CV7	1790				EXISTING CONDUIT HDPE 3-DUCT 2-INCH (1133-06-71)					
CV7	CV8	1730				EXISTING CONDUIT HDPE 3-DUCT 2-INCH (1133-06-71)					
CV8	CV9	80				EXISTING CONDUIT HDPE 3-DUCT 2-INCH (1133-06-71)					
CV9	CV10	1520				EXISTING CONDUIT HDPE 3-DUCT 2-INCH (1133-06-71)					
CV10	CV11	1530				EXISTING CONDUIT HDPE 3-DUCT 2-INCH (1133-06-71)					
CV11	CV12	170				EXISTING CONDUIT HDPE 3-DUCT 2-INCH (1133-06-71)					
CV12	CV13	240				EXISTING CONDUIT HDPE 3-DUCT 2-INCH (1133-06-71)					
CV13	CV14	80				EXISTING CONDUIT HDPE 3-DUCT 2-INCH (1133-06-71)					
CV14	CV15	775				EXISTING CONDUIT HDPE 4-DUCT 2-INCH (1133-06-71)					
CV15	CCTV-05-0041	20				EXISTING CONDUIT 1-DUCT 2-INCH (1133-06-82)					
CV15	CV16	60				EXISTING CONDUIT HDPE 4-DUCT 2-INCH (1133-06-71)					
CV16	CV17	195				EXISTING CONDUIT HDPE 4-DUCT 2-INCH (1133-06-71)					
CV17	CV18	50				EXISTING CONDUIT HDPE 4-DUCT 2-INCH (1133-06-71)					
CV18	CV19	285				EXISTING CONDUIT HDPE 4-DUCT 2-INCH (1133-06-71)					
CV19	CV20	60				EXISTING CONDUIT HDPE 4-DUCT 2-INCH (1133-06-71)					
CV20	CV21	1265				EXISTING CONDUIT HDPE 3-DUCT & 4-DUCT 2-INCH (1133-06-71)					
CV21	CV22	205	---	---	---	---	205	---	---	---	---
CV22	CV23	1970	---	---	---	1970	---	---	---	---	---
CV23	CV24	195			3-CONDUIT 2-INCH WITHIN BRIDGE PARAPET (SEE B-05-616 PLANS FOR CONDUIT MATERIAL AND QUANTITY)						
SDS-05-0013SW	PB-C2	20	20	---	---	---	---	---	---	---	---
CV24 / PB-C2	CV25 / PB-C3	250	---	---	---	---	---	250	---	---	---
CV25 / PB-C3	CV26 / PB-C4	245	---	---	---	---	---	245	---	---	---
CV26 / PB-C4	PB-C5	300	---	---	---	---	---	300	---	---	---
PB-C5	CV27 / PB-C6	300	---	---	---	---	---	300	---	---	---
PB-C6 / PB-E2	PB-C7 / PB-E3	220	440	---	---	---	---	---	---	---	---
PB-C7 / PB-E3	PB-C8 / PB-E4	155	---	310	---	---	---	---	---	---	---
PB-E4	PB-E5	160	160	---	---	---	---	---	---	---	---
PB-E5	SOURCE OF POWER (ONEIDA)	15	15	---	---	---	---	---	---	---	---
PB-C8	PB-C9	245	245	---	---	---	---	---	---	---	---
PB-C9	PB-C10	300	300	---	---	---	---	---	---	---	---
PB-C10	PB-C11	300	300	---	---	---	---	---	---	---	---
PB-C11	PB-C12	195	---	195	---	---	---	---	---	---	---
PB-C12	SDS-05-0013NW	25	25	---	---	---	---	---	---	---	---
CV27 / PB-C6 / PB-E2	CV28 / PB-C15 / PB-E1	230	---	---	---	---	---	---	---	---	230
SDS-05-0013 SEA/SEB	PB-C13	25	25	---	---	---	---	---	---	---	---
PB-C13	PB-C14	245	245	---	---	---	---	---	---	---	---
PB-C14	PB-C15	245	245	---	---	---	---	---	---	---	---
CV28 / PB-C15 / PB-E1	CCTV-05-0042	25	100	---	---	---	---	---	---	---	---
CV28 / PB-C15	PB-C16	295	---	---	---	---	---	295	---	---	---
PB-C16	CV29 / PB-C17	275	---	---	---	---	---	275	---	---	---
CV29 / PB-C17	CV30 / PB-C18	150	---	---	---	---	---	150	---	---	---
CV30 / PB-C18	PB-C19	270	---	---	---	---	---	270	---	---	---
PB-C19	SDS-05-0013NE	15	15	---	---	---	---	---	---	---	---
PB-C19	CV31	145	---	---	---	145	---	---	---	---	---
CV31	CV32	230	---	---	---	230	---	---	---	---	---
CV32	CV33	1970	---	---	---	1970	---	---	---	---	---
CV33	CV34	325	---	---	---	---	325	---	---	---	---
CV34	CV35	905	---	---	---	905	---	---	---	---	---
CV35	CV36	655				EXISTING CONDUIT HDPE 4-DUCT 3-INCH (1211-18-93)					
CV36	NE REGION OFFICE COMMUNICATIONS ROOM	300				FOR INFORMATION ONLY					
CV35	CV37	125				EXISTING CONDUIT HDPE 2-DUCT 3-INCH (1211-18-93)					
G-05-0011	PB-E6	80	---	80	---	---	---	---	---	---	---
SB CONTROLLER CABINET	PB-E6	25	25	---	---	---	---	---	---	---	---
G-05-0040	PB-E6	15	15	---	---	---	---	---	---	---	---
G-05-0010	PB-E7	20	20	---	---	---	---	---	---	---	---
NB CONTROLLER CABINET	PB-E7	10	10	---	---	---	---	---	---	---	---
PB-E7	PB-E8	70	70	---	---	---	---	---	---	---	---
PB-E8	PB-E9	55	---	55	---	---	---	---	---	---	---
PB-E9	PB-E10	65	65	---	---	---	---	---	---	---	---
PB-E10	G-05-0039	10	10	---	---	---	---	---	---	---	---
SDS-05-0014SW	PB-C20	20	20	---	---	---	---	---	---	---	---
PB-C20	PB-C21	190	---	190	---	---	---	---	---	---	---

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ITS CONDUIT ITEMS

FROM	TO	LINEAR DISTANCE	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0325 CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH LF	SPV.0060.418 EXPOSING EXISTING UTILITY EACH	SPV.0090.400 CONDUIT HDPE 3-DUCT 2-INCH LF	SPV.0090.401 CONDUIT HDPE DIRECTIONAL BORE 3-DUCT 2-INCH LF	SPV.0090.402 CONDUIT HDPE 4-DUCT 2-INCH LF	SPV.0090.403 CONDUIT HDPE DIRECTIONAL BORE 4-DUCT 2-INCH LF	SPV.0090.404 CONDUIT HDPE 5-DUCT 2-INCH LF	SPV.0090.405 CONDUIT HDPE DIRECTIONAL BORE 5-DUCT 2-INCH LF
PB-C21	PB-C22	300	300	---	---	---	---	---	---	---	---
PB-C22	PB-C23	300	300	---	---	---	---	---	---	---	---
PB-C23	PB-C24	175	175	---	---	---	---	---	---	---	---
PB-C24	PB-C25	125	---	125	---	---	---	---	---	---	---
PB-C25	PB-C26	205	205	---	---	---	---	---	---	---	---
PB-C26	PB-C27	205	205	---	---	---	---	---	---	---	---
CV42 / PB-C27	CV43 / PB-C28	160	---	---	---	---	---	---	160	---	---
CV43 / PB-C28	PB-C29	300	---	---	---	---	---	300	---	---	---
PB-C29	CV44 / PB-C30	235	---	---	---	---	---	235	---	---	---
SDS-05-0014NWA	PB-C30	15	15	---	---	---	---	---	---	---	---
PB-C30	PB-C31	290	290	---	---	---	---	---	---	---	---
PB-C31	PB-C32	300	300	---	---	---	---	---	---	---	---
PB-C32	PB-C33	45	---	45	---	---	---	---	---	---	---
PB-C33	PB-C34	300	300	---	---	---	---	---	---	---	---
PB-C34	SDS-05-0014NWB	20	20	---	---	---	---	---	---	---	---
CV37	CV38	825	EXISTING CONDUIT HDPE 3-DUCT 2-INCH (1133-06-82)								
CV38	CV39	105	EXISTING CONDUIT HDPE 3-DUCT 2-INCH (1133-06-82)								
CV39	CV40	610	EXISTING CONDUIT HDPE 3-DUCT 2-INCH (1133-06-82)								
SDS-05-014SEB	PB-C35	25	25	---	---	---	---	---	---	---	---
PB-C35	PB-C36	300	300	---	---	---	---	---	---	---	---
PB-C36	PB-C37	300	300	---	---	---	---	---	---	---	---
PB-C37	PB-C38	125	---	125	---	---	---	---	---	---	---
PB-C38	PB-C39	235	235	---	---	---	---	---	---	---	---
PB-C39	PB-C40	235	235	---	---	---	---	---	---	---	---
PB-C40	PB-C41	265	265	---	---	---	---	---	---	---	---
SDS-05-0014SEA	PB-C42	15	15	---	---	---	---	---	---	---	---
PB-C42	PB-C41	155	155	---	---	---	---	---	---	---	---
PB-C41	PB-C43	105	---	105	---	---	---	---	---	---	---
PB-C43	PB-C44	180	180	---	---	---	---	---	---	---	---
PB-C44	CCTV-05-0051	15[A]	---	15	---	---	---	---	---	---	---
CV40 / PB-C44	CV41 / PB-C45	215	---	---	---	---	---	215	---	---	---
CV41 / PB-C45	CV42 / PB-C27	370	---	---	---	---	---	---	370	---	---
PB-C45	PB-C46	130	---	130	---	---	---	---	---	---	---
PB-C46	PB-C47	255	---	255	---	---	---	---	---	---	---
PB-C47	PB-C48	300	300	---	---	---	---	---	---	---	---
PB-C48	PB-C49	300	300	---	---	---	---	---	---	---	---
PB-C49	SDS-05-0014NE	85	85	---	---	---	---	---	---	---	---
CV44	CV45	225	---	---	---	225	---	---	---	---	---
CV45	CV46	1215	---	---	---	1215	---	---	---	---	---
CV46	CV47	345	---	---	---	345	---	---	---	---	---
CV47	CV48	1275	---	---	---	1275	---	---	---	---	---
CV48	CV49	110	---	---	---	---	110	---	---	---	---
CV49	CV50	1035	---	---	---	1035	---	---	---	---	---
CV50	CV51	1835	---	---	---	1835	---	---	---	---	---
CV51	CV52	110	---	---	---	---	110	---	---	---	---
CV52	CV53	1125	---	---	---	1125	---	---	---	---	---
CV53	CV54	55	---	---	---	55	---	---	---	---	---
CV54 / PB-C50	PB-C51	300	---	---	---	---	---	300	---	---	---
SDS-05-0015 SWA/SWB	PB-C51	20	20	---	---	---	---	---	---	---	---
PB-C51	PB-C52	300	---	---	---	---	---	300	---	---	---
PB-C52	CV55 / PB-C53	300	---	---	---	---	---	300	---	---	---
CV55 / PB-C53	CV56 / PB-C54	155	---	---	---	---	---	---	155	---	---
SOURCE OF POWER (LOMBARDI)	PB-E11	30	30	---	---	---	---	---	---	---	---
CV56 / PB-C54 / PB-E11	PB-C55 / PB-E12	185	---	---	---	---	---	---	---	185	---
PB-C55 / PB-E12	CV57 / PB-C56 / PB-E13	200	---	---	---	---	---	---	---	200	---
CV57 / PB-C56 / PB-E13	CCTV-05-0043	20	80	---	---	---	---	---	---	---	---
CV57 / PB-C56	PB-C57	295	---	---	---	---	---	295	---	---	---
SDS-05-0015NW (RAMP VKC)	PB-C57	20	20	---	---	---	---	---	---	---	---
PB-C57	CV58	460	---	---	---	460	---	---	---	---	---
CV58	CV59	770	---	---	---	---	770	---	---	---	---
CV59	CV60	440	---	---	---	440	---	---	---	---	---
SDS-05-0015SE	PB-C58	25	25	---	---	---	---	---	---	---	---
PB-C58	PB-C59	220	220	---	---	---	---	---	---	---	---
PB-C59	PB-C60	220	220	---	---	---	---	---	---	---	---
PB-C60	PB-C50	265	---	265	---	---	---	---	---	---	---
SDS-05-0015NE (RAMP VKB)	PB-C61	25	25	---	---	---	---	---	---	---	---
PB-C61	PB-C57	180	---	180	---	---	---	---	---	---	---
CV60	MH1	25	---	75	---	---	---	---	---	---	---
MH1	MH2	445	---	1335	---	---	---	---	---	---	---
MH2	MH3	450	---	1350	---	---	---	---	---	---	---
MH3	MH4	490	---	1470	---	---	---	---	---	---	---
UNDISTRIBUTED	---	---	---	---	4	---	---	---	---	---	---
TOTALS			7515	6305	4	13230	1520	4030	685	385	230

A: RUN INCLUDES EXISTING CONDUIT 1-DUCT 2-INCH (1133-06-82)

ITS CABLE ITEMS

FROM	TO	LINEAR DISTANCE	NUMBER OF ELECTRICAL WIRES LIGHTING 10 AWG	NUMBER OF ELECTRICAL WIRES LIGHTING 4 AWG	NUMBER OF ELECTRICAL WIRES LIGHTING 2 AWG	NUMBER OF CABLE MICROWAVE DETECTOR	CABLE SLACK ELECTRICAL AND/OR MICROWAVE DETECTOR	CABLE SLACK 6-CT FIBER OPTIC	CABLE SLACK 72-CT FIBER OPTIC	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG LF	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG LF	655.0635 ELECTRICAL WIRE LIGHTING 2 AWG LF	674.0200 CABLE MICROWAVE DETECTOR LF	678.0006 INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 6-CT LF	678.0072 INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 72-CT LF	SPV.0060.407 INSTALL FIBER OPTIC CABLE MARKER EACH
CATEGORY 1200																
CCTV-05-0040	CV1	25	---	---	---	---	---	100	100	---	---	---	---	125	100	---
CV1	CV2	725	---	---	---	---	---	---	100	---	---	---	---	---	825	---
CV2	CV3	150	---	---	---	---	---	---	100	---	---	---	---	---	250	---
CV3	CV4	205	---	---	---	---	---	---	100	---	---	---	---	---	305	---
CV4	CV5	55	---	---	---	---	---	---	100	---	---	---	---	---	155	---
CV5	CV6	2430	---	---	---	---	---	---	100	---	---	---	---	---	2530	---
CV6	PB-C1	175	---	---	---	---	---	100	---	---	---	---	---	275	---	---
PB-C1	DMS-05-0004 (CABINET)	25	---	---	---	---	---	100	---	---	---	---	---	125	---	---
CV6	CV7	1790	---	---	---	---	---	---	100	---	---	---	---	---	1890	---
CV7	CV8	1730	---	---	---	---	---	---	100	---	---	---	---	---	1830	---
CV8	CV9	80	---	---	---	---	---	---	100	---	---	---	---	---	180	---
CV9	CV10	1520	---	---	---	---	---	---	100	---	---	---	---	---	1620	---
CV10	CV11	1530	---	---	---	---	---	---	100	---	---	---	---	---	1630	---
CV11	CV12	170	---	---	---	---	---	---	100	---	---	---	---	---	270	---
CV12	CV13	240	---	---	---	---	---	---	100	---	---	---	---	---	340	---
CV13	CV14	80	---	---	---	---	---	---	100	---	---	---	---	---	180	---
CV14	CV15	775	---	---	---	---	---	---	100	---	---	---	---	---	875	---
CV15	CCTV-05-0041	20	---	---	---	---	---	100	---	---	---	---	---	120	---	---
CV15	CV16	60	---	---	---	---	---	---	100	---	---	---	---	---	160	---
CV16	CV17	195	---	---	---	---	---	---	100	---	---	---	---	---	295	---
CV17	CV18	50	---	---	---	---	---	---	100	---	---	---	---	---	150	---
CV18	CV19	285	---	---	---	---	---	---	100	---	---	---	---	---	385	---
CV19	CV20	60	---	---	---	---	---	---	100	---	---	---	---	---	160	---
CV20	CV21	1265	---	---	---	---	---	---	100	---	---	---	---	---	1365	---
CV21	CV22	205	---	---	---	---	---	---	100	---	---	---	---	---	305	---
CV22	CV23	1970	---	---	---	---	---	---	100	---	---	---	---	---	2070	---
CV23	CV24	195	---	---	---	---	---	---	100	---	---	---	---	---	295	---
CV24	CV25	250	---	---	---	---	---	---	100	---	---	---	---	---	350	---
CV25	CV26	245	---	---	---	---	---	---	100	---	---	---	---	---	345	---
CV26	CV27	600	---	---	---	---	---	---	100	---	---	---	---	---	700	---
CV27	CV28	230	---	---	---	---	---	---	100	---	---	---	---	---	330	---
CV28	CCTV-05-0042	25	---	---	---	---	---	100	---	---	---	---	---	125	---	---
CV28	CV29	570	---	---	---	---	---	---	100	---	---	---	---	---	670	---
CV29	CV30	150	---	---	---	---	---	---	100	---	---	---	---	---	250	---
CV30	CV31	415	---	---	---	---	---	---	100	---	---	---	---	---	515	---
CV31	CV32	230	---	---	---	---	---	---	100	---	---	---	---	---	330	---
CV32	CV33	1970	---	---	---	---	---	---	100	---	---	---	---	---	2070	---
CV33	CV34	325	---	---	---	---	---	---	100	---	---	---	---	---	425	---
CV34	CV35	905	---	---	---	---	---	---	100	---	---	---	---	---	1005	---
CV35	CV36	655	---	---	---	---	---	---	100	---	---	---	---	---	755	---
CV36	NE REGION OFFICE COMMUNICATIONS ROOM	300	---	---	---	---	---	---	100	---	---	---	---	---	400	---
SDS-05-0013SW	PB-C2	20	---	---	---	1	30	---	---	---	---	---	50	---	---	---
PB-C2	PB-C3	250	---	---	---	1	12	---	---	---	---	---	265	---	---	---
PB-C3	PB-C4	245	---	---	---	1	12	---	---	---	---	---	260	---	---	---
PB-C4	PB-C5	300	---	---	---	1	12	---	---	---	---	---	315	---	---	---
PB-C5	PB-C6	300	---	---	---	1	12	---	---	---	---	---	315	---	---	---
PB-C6 / PB-E2	PB-C7 / PB-E3	220	1	---	3	1	12	---	---	235	---	700	235	---	---	---
PB-C7 / PB-E3	PB-C8 / PB-E4	155	1	---	3	1	12	---	---	170	---	505	170	---	---	---
PB-E4	PB-E5	160	1	---	3	---	12	---	---	175	---	520	---	---	---	---
PB-E5	SOURCE OF POWER (ONEIDA)	15	1	---	3	---	12	---	---	27	---	81	---	---	---	---
PB-C8	PB-C9	245	---	---	---	1	12	---	---	---	---	---	260	---	---	---
PB-C9	PB-C10	300	---	---	---	1	12	---	---	---	---	---	315	---	---	---
PB-C10	PB-C11	300	---	---	---	1	12	---	---	---	---	---	315	---	---	---
PB-C11	PB-C12	195	---	---	---	1	12	---	---	---	---	---	210	---	---	---
PB-C12	SDS-05-0013NW	25	---	---	---	1	30	---	---	---	---	---	55	---	---	---
PB-C6 / PB-E2	PB-C15 / PB-E1	230	1	---	3	2	12	---	---	245	---	730	485	---	---	---
SDS-05-0013 SEA/SEB	PB-C13	25	---	---	---	2	30	---	---	---	---	---	110	---	---	---
PB-C13	PB-C14	245	---	---	---	2	12	---	---	---	---	---	515	---	---	---
PB-C14	PB-C15	245	---	---	---	2	12	---	---	---	---	---	515	---	---	---
PB-C15 / PB-E1	CCTV-05-0042	25	1	---	3	5	12	---	---	37	---	115	185	---	---	---
PB-C15	PB-C16	295	---	---	---	1	12	---	---	---	---	---	310	---	---	---
PB-C16	PB-C17	275	---	---	---	1	12	---	---	---	---	---	290	---	---	---
PB-C17	PB-C18	150	---	---	---	1	12	---	---	---	---	---	165	---	---	---
PB-C18	PB-C19	270	---	---	---	1	12	---	---	---	---	---	285	---	---	---
PB-C19	SDS-05-0013NE	15	---	---	---	1	30	---	---	---	---	---	45	---	---	---
G-05-0011	PB-E6	80	FLASHER POWER DISTRIBUTION CABLES INCIDENTAL TO RAMP CLOSURE GATES SPV ITEMS													
SB CONTROLLER CABINET	PB-E6	25	FLASHER POWER DISTRIBUTION CABLES INCIDENTAL TO RAMP CLOSURE GATES SPV ITEMS													
G-05-0040	PB-E6	15	FLASHER POWER DISTRIBUTION CABLES INCIDENTAL TO RAMP CLOSURE GATES SPV ITEMS													
G-05-0010	PB-E7	20	FLASHER POWER DISTRIBUTION CABLES INCIDENTAL TO RAMP CLOSURE GATES SPV ITEMS													
NB CONTROLLER CABINET	PB-E7	10	FLASHER POWER DISTRIBUTION CABLES INCIDENTAL TO RAMP CLOSURE GATES SPV ITEMS													
PB-E7	PB-E8	70	FLASHER POWER DISTRIBUTION CABLES INCIDENTAL TO RAMP CLOSURE GATES SPV ITEMS													
PB-E8	PB-E9	55	FLASHER POWER DISTRIBUTION CABLES INCIDENTAL TO RAMP CLOSURE GATES SPV ITEMS													
PB-E9	PB-E10	65	FLASHER POWER DISTRIBUTION CABLES INCIDENTAL TO RAMP CLOSURE GATES SPV ITEMS													
PB-E10	G-05-0039	10	FLASHER POWER DISTRIBUTION CABLES INCIDENTAL TO RAMP CLOSURE GATES SPV ITEMS													
SDS-05-0014SW	PB-C20	20	---	---	---	1	30	---	---	---	---	---	50	---	---	---
PB-C20	PB-C21	190	---	---	---	1	12	---	---	---	---	---	205	---	---	---
PB-C21	PB-C22	300	---	---	---	1	12	---	---	---	---	---	315	---	---	---
PB-C22	PB-C23	300	---	---	---	1	12	---	---	---	---	---	315	---	---	---
PB-C23	PB-C24	175	---	---	---	1	12	---	---	---	---	---	190	---	---	---
PB-C24	PB-C25	125	---	---	---	1	12	---	---	---	---	---	140	---	---	---

ITS CABLE ITEMS

FROM	TO	LINEAR DISTANCE	NUMBER OF ELECTRICAL WIRES LIGHTING 10 AWG	NUMBER OF ELECTRICAL WIRES LIGHTING 4 AWG	NUMBER OF ELECTRICAL WIRES LIGHTING 2 AWG	NUMBER OF CABLE MICROWAVE DETECTOR	CABLE SLACK ELECTRICAL AND/OR MICROWAVE DETECTOR	CABLE SLACK 6-CT FIBER OPTIC	CABLE SLACK 72-CT FIBER OPTIC	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG LF	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG LF	655.0635 ELECTRICAL WIRE LIGHTING 2 AWG LF	674.0200 CABLE MICROWAVE DETECTOR LF	678.0006 INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 6-CT LF	678.0072 INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 72-CT LF	SPV.0060.407 INSTALL FIBER OPTIC CABLE MARKER EACH
PB-C25	PB-C26	205	---	---	---	1	12	---	---	---	---	---	220	---	---	---
PB-C26	PB-C27	205	---	---	---	1	12	---	---	---	---	---	220	---	---	---
PB-C27	PB-C28	160	---	---	---	2	12	---	---	---	---	---	345	---	---	---
PB-C28	PB-C29	300	---	---	---	2	12	---	---	---	---	---	625	---	---	---
PB-C29	PB-C30	235	---	---	---	2	12	---	---	---	---	---	495	---	---	---
SDS-05-0014NWA	PB-C30	15	---	---	---	1	30	---	---	---	---	---	45	---	---	---
PB-C30	PB-C31	290	---	---	---	1	12	---	---	---	---	---	305	---	---	---
PB-C31	PB-C32	300	---	---	---	1	12	---	---	---	---	---	315	---	---	---
PB-C32	PB-C33	45	---	---	---	1	12	---	---	---	---	---	57	---	---	---
PB-C33	PB-C34	300	---	---	---	1	12	---	---	---	---	---	315	---	---	---
PB-C34	SDS-05-0014NWB	20	---	---	---	1	30	---	---	---	---	---	50	---	---	---
SDS-05-014SEB	PB-C35	25	---	---	---	1	30	---	---	---	---	---	55	---	---	---
PB-C35	PB-C36	300	---	---	---	1	12	---	---	---	---	---	315	---	---	---
PB-C36	PB-C37	300	---	---	---	1	12	---	---	---	---	---	315	---	---	---
PB-C37	PB-C38	125	---	---	---	1	12	---	---	---	---	---	140	---	---	---
PB-C38	PB-C39	235	---	---	---	1	12	---	---	---	---	---	250	---	---	---
PB-C39	PB-C40	235	---	---	---	1	12	---	---	---	---	---	250	---	---	---
PB-C40	PB-C41	265	---	---	---	1	12	---	---	---	---	---	280	---	---	---
SDS-05-0014SEA	PB-C42	15	---	---	---	1	30	---	---	---	---	---	45	---	---	---
PB-C42	PB-C41	155	---	---	---	1	12	---	---	---	---	---	170	---	---	---
PB-C41	PB-C43	105	---	---	---	2	12	---	---	---	---	---	235	---	---	---
PB-C43	PB-C44	180	---	---	---	2	12	---	---	---	---	---	385	---	---	---
PB-C44	CCTV-05-0051	15[A]	---	---	---	6	12	---	---	---	---	---	165	---	---	---
PB-C44	PB-C45	215	---	---	---	4	12	---	---	---	---	---	910	---	---	---
PB-C45	PB-C27	370	---	---	---	3	12	---	---	---	---	---	1150	---	---	---
PB-C45	PB-C46	130	---	---	---	1	12	---	---	---	---	---	145	---	---	---
PB-C46	PB-C47	255	---	---	---	1	12	---	---	---	---	---	270	---	---	---
PB-C47	PB-C48	300	---	---	---	1	12	---	---	---	---	---	315	---	---	---
PB-C48	PB-C49	300	---	---	---	1	12	---	---	---	---	---	315	---	---	---
PB-C49	SDS-05-0014NE	85	---	---	---	1	30	---	---	---	---	---	115	---	---	---
PB-C50	PB-C51	300	---	---	---	1	12	---	---	---	---	---	315	---	---	---
SDS-05-0015 SWA/SWB	PB-C51	20	---	---	---	2	30	---	---	---	---	---	100	---	---	---
PB-C51	PB-C52	300	---	---	---	3	12	---	---	---	---	---	940	---	---	---
PB-C52	PB-C53	300	---	---	---	3	12	---	---	---	---	---	940	---	---	---
PB-C53	PB-C54	155	---	---	---	3	12	---	---	---	---	---	505	---	---	---
SOURCE OF POWER (LOMBARDI)	PB-E11	30	1	3	---	---	12	---	---	42	130	---	---	---	---	---
PB-C54 / PB-E11	PB-C55 / PB-E12	185	1	3	---	3	12	---	---	200	595	---	595	---	---	---
PB-C55 / PB-E12	PB-C56 / PB-E13	200	1	3	---	3	12	---	---	215	640	---	640	---	---	---
PB-C56 / PB-E13	CCTV-05-0043	20	1	3	---	5	12	---	---	32	96	---	160	---	---	---
PB-C56	PB-C57	295	---	---	---	2	12	---	---	---	---	---	615	---	---	---
SDS-05-0015NW (RAMP VKC)	PB-C57	20	---	---	---	1	30	---	---	---	---	---	50	---	---	---
SDS-05-0015SE	PB-C58	25	---	---	---	1	30	---	---	---	---	---	55	---	---	---
PB-C58	PB-C59	220	---	---	---	1	12	---	---	---	---	---	235	---	---	---
PB-C59	PB-C60	220	---	---	---	1	12	---	---	---	---	---	235	---	---	---
PB-C60	PB-C50	265	---	---	---	1	12	---	---	---	---	---	280	---	---	---
SDS-05-0015NE (RAMP VKB)	PB-C61	25	---	---	---	1	30	---	---	---	---	---	55	---	---	---
PB-C61	PB-C57	180	---	---	---	1	12	---	---	---	---	---	195	---	---	---
UNDISTRIBUTED	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100
TOTALS										1378	1461	2651	21617	770	26310	100

A: DISTRIBUTE CABLES BETWEEN EXISTING CONDUIT 1-DUCT 2-INCH (1133-06-82) AND NEW CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH

ITS RAMP CLOSURE GATE ITEMS

STATION	LOCATION	ITEM ID	654.0105* CONCRETE BASES TYPE 5 EACH	654.0220 CONCRETE CONTROL CABINET BASES TYPE 10 EACH	SPV.0060.400 RAMP CLOSURE GATES SOLAR POWERED 37-FT EACH	SPV.0060.401 RAMP CLOSURE GATES SOLAR POWERED 40-FT EACH	SPV.0060.402 PEDESTAL BASES BLACK EACH	SPV.0060.403 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE BLACK EACH	SPV.0060.404 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT BLACK EACH
CATEGORY 1200									
703OWW+80	LT	G-05-0039	1	---	1	---	---	1	---
839OWD+80	LT	G-05-0010	1	---	---	1	---	1	---
839OWD+90	LT	NB CONTROLLER CABINET	---	1	---	---	1	---	1
695OWE+95	RT	G-05-0011	1	---	1	---	---	1	---
834OWB+80	RT	G-05-0040	1	---	1	---	---	1	---
834OWB+65	RT	SB CONTROLLER CABINET	---	1	---	---	1	---	1
TOTALS			4	2	3	1	2	4	2

* ADDITIONAL QUANTITY OF SAME ITEM SHOWN ELSEWHERE

ITS MICROWAVE RADAR ITEMS

STATION	LOCATION	ITEM ID	654.0105* CONCRETE BASES TYPE 5 EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	657.0322 POLES TYPE 5-ALUMINUM EACH	675.0300 INSTALL MOUNTED CONTROLLER MICROWAVE DETECTOR ASSEMBLY EACH
CATEGORY 1200						
822OWB+75	LT	SDS-05-0013SW	1	1	1	1
828OWC+75	LT	SDS-05-0013SEA (RAMP CD/MAINLINE) SDS-05-0013SEB (RAMP OWC)	1	1	1	2
842OWD+40	LT	SDS-05-0013NE (RAMP OWD)	1	1	1	1
846OWA+95	LT	SDS-05-0013NW	1	1	1	1
877INW+75	LT	SDS-05-0014SEB (RAMPS INW/INE)	1	1	1	1
879IES+30	LT	SDS-05-0014SW	1	1	1	1
886IEN+00	RT	SDS-05-0014SEA	1	1	1	1
901SB+50	LT	SDS-05-0014NWA	1	1	1	1
900IWN+85	RT	SDS-05-0014NE	1	1	1	1
907ISE+55	RT	SDS-05-0014NWB (RAMPS ISE/ISW)	1	1	1	1
969VKA+30	RT	SDS-05-0015SE	1	1	1	1
991VKB+00	LT	SDS-05-0015NE (RAMP VKB)	1	1	1	1
991VKC+00	RT	SDS-05-0015NW (RAMP VKC)	1	1	1	1
976VKD+50	RT	SDS-05-0015SWA (MAINLINE) SDS-05-0015SWB (RAMP VKD)	1	1	1	2
TOTALS			14	14	14	16

* ADDITIONAL QUANTITY OF SAME ITEM SHOWN ELSEWHERE

ITS CCTV ITEMS

STATION	LOCATION	ITEM ID	672.0250 BASE CAMERA POLE 50-FT EACH	672.0280 BASE CAMERA POLE 80-FT EACH	673.0225.S INSTALL POLE MOUNTED CABINET EACH	677.0100 INSTALL CAMERA POLE EACH	677.0200 INSTALL CAMERA ASSEMBLY EACH	677.0300.S INSTALL VIDEO ENCODER EACH
CATEGORY 1200								
833CD+50	RT	CCTV-05-0042	1	---	1	1	1	1
987SB+90	LT	CCTV-05-0043	---	1	1	1	1	1
TOTALS			1	1	2	2	2	2

ITS REMOVE & SALVAGE ITEMS

STATION	LOCATION	ITEM ID	SPV.0060.410 SALVAGE CAMERA ASSEMBLY EACH	SPV.0060.411 SALVAGE POLE MOUNTED CABINET EACH	SPV.0060.412 SALVAGE ETHERNET SWITCH EACH	SPV.0060.413 SALVAGE VIDEO ENCODER EACH	SPV.0060.414 SALVAGE IP RADIO EACH	SPV.0060.415 SALVAGE MOUNTED CONTROLLER MICROWAVE DETECTOR ASSEMBLY EACH	SPV.0060.416 SALVAGE SOLAR POWER SYSTEM EACH	SPV.0060.417 REMOVE WOOD POLE EACH
CATEGORY 1200										
668SB+65	LT	CCTV-05-0040	---	---	1	---	2	---	---	---
705NB+75	ON ALIGNMENT	DMS-05-0004	---	---	---	---	1	---	---	---
781BS+30	RT	CCTV-05-0041	---	---	1	---	3	---	---	---
890IEN+25	RT	CCTV-05-0051	---	---	1	---	2	---	---	---
949SB+05	LT	INTERIM SYSTEM DETECTOR STATION (SOUTH OF MORRIS AVENUE)	---	1	1	---	1	1	1	1
101VKW+40	LT	INTERIM CCTV-05-0043	1	1	1	1	2	---	---	1
1130SB+05	LT	INTERIM SYSTEM DETECTOR STATION (MEMORIAL DRIVE)	---	1	1	---	1	1	1	1
TOTALS			1	3	6	1	12	2	2	3

ITS COMMUNICATION ITEMS

STATION	LOCATION	ITEM ID	659.0802 PLAQUES SEQUENCE IDENTIFICATION EACH	670.0100 FIELD SYSTEM INTEGRATOR LS	670.0200 ITS DOCUMENTATION LS	675.0400.S INSTALL ETHERNET SWITCH EACH	678.0200 FIBER OPTIC SPLICE ENCLOSURE EACH	678.0300 FIBER OPTIC SPLICE EACH	678.0400 FIBER OPTIC TERMINATION EACH	678.0500 COMMUNICATION SYSTEM TESTING LS	SPV.0060.408 INSTALL TERMINATION PANEL EACH	SPV.0060.409 INSTALL IP RADIO EACH
CATEGORY 1200												
668SB+65	LT	CCTV-05-0040	---	---	---	---	---	---	6	---	1	---
668SB+75	LT	CV1	---	---	---	---	1	39	---	---	---	---
703SB+40	LT	CV6	---	---	---	---	1	75	---	---	---	---
703NB+65	RT	DMS-05-0004 (CABINET)	---	---	---	1	---	---	6	---	1	---
781BS+35	RT	CV15	---	---	---	---	1	75	---	---	---	---
781BS+30	RT	CCTV-05-0041	---	---	---	---	---	---	6	---	1	---
833CD+75	RT	CV28	---	---	---	---	1	75	---	---	---	---
833CD+50	RT	CCTV-05-0042[A]	4	---	---	1	---	---	6	---	1	---
876INE+95	RT	NE REGION OFFICE COMMUNICATIONS ROOM	---	---	---	---	---	---	72	---	1	---
890IEN+25	RT	CCTV-05-0051[B]	2	---	---	1	---	---	---	---	---	---
987SB+90	LT	CCTV-05-0043[C]	4	---	---	2	---	---	---	---	---	2
UNDISTRIBUTED	---	---	---	1	1	---	---	---	---	1	---	---
TOTALS			10	1	1	5	4	264	96	1	5	2

A: INCLUDES (2) PLAQUES FOR SDS-05-0013
B: INCLUDES (2) PLAQUES FOR SDS-05-0014
C: INCLUDES (2) PLAQUES FOR SDS-05-0015

SAWING

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	690.0150 ASPHALT (LF)	690.0250 CONCRETE (LF)
1000	1133-03-77						
		STAGE 1B					
			USH 41 NB - NB				
			1005+00	-	1021+90	440	1,280
			USH 41 SB - SB				
			1005+00	-	1021+83	510	1,190
		STAGE 1B TOTAL				440	2,470
		STAGE 2					
			USH 41 NB - NB				
			954+00	-	960+27	-	40
			961+70	-	982+33	-	-
			983+85	-	1017+50	-	30
			USH 41 SB - SB				
			954+00	-	960+61	-	40
			962+04		982+43	-	-
			983+95	-	1016+75	-	20
			VKA RAMP - VKA				
			966+67	-	981+00	-	25
			VKB RAMP - VKB				
			984+14	-	1002+50	-	40
			VKC RAMP - VKC				
			985+70	-	1000+15	-	20
			VKD RAMP - VKD				
			966+00	-	975+75	-	20
			MORRIS AVENUE - MOR				
			597+71	-	601+41	100	-
			LOMBARDI AVENUE WB - VKW				
			101+60	-	104+20	-	290
			LOMBARDI AVENUE EB - VKE				
			101+60	-	104+20	-	290
		STAGE 2 TOTAL				100	815
	PROJECT 1133-03-77 TOTAL					540	3,285

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	690.0150 ASPHALT (LF)	690.0250 CONCRETE (LF)
1000	1133-09-71						
		STAGE 1A					
			USH 41 NB - NB				
			799+00	-	820+86	-	780
			822+42	-	836+64	-	-
			839+21	-	888+10	-	150
			889+81	-	893+10	-	-
			895+02	-	912+81	-	-
			CD ROADWAY - CD				
			808+89	-	820+86	-	465
			822+24	-	837+17	-	210
			839+73	-	875+23	-	330
			OWC RAMP - OWC				
			824+29	-	829+96	-	-
			OWD RAMP - OWD				
			844+27	-	846+70	-	170
			INE RAMP - INE				
			866+83	-	890+30	-	-
			STH 172 EB - E				
			59+51	-	66+45	-	15
			INW RAMP - INW				
			877+75	-	881+15	-	15
			IWN RAMP - IWN				
			890+60	-	900+91	-	285
			IEN RAMP - IEN				
			869+00	-	912+81	-	1,345
		STAGE 1A TOTAL				0	3,765
		STAGE 1B					
			USH 41 NB - NB				
			799+00	-	820+86	-	15
			822+42	-	836+64	-	-
			839+21	-	888+10	-	-
			889+81	-	893+10	-	-
			895+02	-	930+60	-	1,810
			932+01	-	954+00	-	-
			USH 41 SB - SB				
			799+00	-	820+86	-	570
			912+50	-	930+94	-	-
			932+35	-	954+00	-	-
			PILGRIM WAY - PIL				
			904+46	-	929+63	140	-
		STAGE 1B TOTAL				140	2,395

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	690.0150 ASPHALT (LF)	690.0250 CONCRETE (LF)
1000	1133-09-71						
		STAGE 2					
			USH 41 NB - NB				
			912+81	-	930+53	-	-
			932+01	-	954+00	-	-
			USH 41 SB - SB				
			799+00	-	820+86	-	15
			822+42	-	836+03	-	-
			838+61	-	888+40	-	-
			890+11	-	893+58	-	-
			895+50	-	930+94	-	-
			932+35	-	954+00	-	-
			IES RAMP - IES				
			879+21	-	888+70	-	15
			IWS RAMP - IWS				
			901+44	-	905+25	-	15
			ISW RAMP - ISW				
			904+65	-	907+63	-	15
			ISE RAMP - ISE				
			905+50	-	924+00	-	30
			NORTH ROAD - NOR				
			905+64	-	932+05	280	-
			PARKVIEW ROAD - PRK				
			198+50	-	201+00	80	-
		STAGE 2 TOTAL				360	90
	PROJECT 1133-03-71 TOTAL					500	6,250

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	690.0150 ASPHALT (LF)	690.0250 CONCRETE (LF)
1000	1133-09-74						
		STAGE 1					
			HANSEN ROAD - HAN				
			396+12			-	7
			396+37			-	5
			397+15			40	-
			402+15			40	-
			402+71			-	5
			402+82			-	5
			403+19			-	3
			403+77			40	-
	PROJECT 1133-09-74 TOTAL					120	25
	1133-09-76						
		STAGE 1A					
			ONEIDA STREET/WAUBE LANE WB - OWW				
			681+58	-	711+00	-	760
			ONEIDA STREET/WAUBE LANE EB - OWE				
			681+72	-	711+48	-	860
			OWA RAMP - OWA				
			836+50	-	846+55	-	90
			OWC RAMP - OWC				
			829+96	-	840+33	-	460
			OWD RAMP - OWD				
			839+23	-	844+27	-	260
		STAGE 1A TOTAL				0	2,430
		STAGE 2					
			ONEIDA STREET/WAUBE LANE WB - OWW				
			681+58	-	711+24	70	35
			ONEIDA STREET/WAUBE LANE EB - OWE				
			681+72	-	711+48	320	50
			ALLIED WAY - ALL				
			797+60	-	800+00	40	-
			850+00	-	851+66	40	-
			RAMADA WAY - RA				
			898+90	-	900+00	40	-
			950+00	-	950+85	40	-
		STAGE 2 TOTAL				550	85
	PROJECT 1133-09-76 TOTAL					550	2,515

CONTRACT S4-14-02 TOTAL **1,710** **12,075**

EXCAVATION OF PHRAGMITES SOIL

SPV.0035.002 (1)

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	(CY)
1000						
	1133-03-77					
		STAGE 1B				
			USH 41 NB - NB			
			965+02	-	965+27	20
		STAGE 1B TOTAL				20
	PROJECT 1133-03-77 TOTALS					20
	1133-09-71					
		STAGE 1A				
			USH 41 NB - NB			
			848+07	-	857+60	1,100
			880+91	-	887+57	500
		STAGE 1A TOTAL				1,600
		STAGE 1B				
			USH 41 NB - NB			
			804+60	-	805+64	120
			806+35	-	806+77	50
			810+19	-	811+25	120
			811+98	-	813+22	100
			812+80	-	817+95	880
			817+22	-	818+68	110
			829+10	-	829+50	50
			831+79	-	832+37	50
			833+53	-	834+72	90
			841+34	-	841+89	50
			842+33	-	846+81	500
			848+95	-	853+50	635
			858+55	-	861+82	250
			862+20	-	866+94	400
			890+69	-	892+55	350
			895+76	-	897+18	160
			904+29	-	905+05	90
			909+14	-	909+87	90
			915+14	-	915+89	90
			918+64	-	919+96	150
			920+93	-	921+67	60
			922+30	-	923+80	225
			927+74	-	927+99	20
			939+53	-	940+38	70
			946+63	-	947+19	70
			948+74	-	949+54	90
			USH 41 OWC - OWC			
			827+50	-	828+10	25
			833+55	-	838+95	375
		STAGE 1B TOTAL				5,270
	PROJECT 1133-09-71 TOTALS					6,870
	CONTRACT S4-14-02 TOTAL					**6,890**

(1) ASSUMED EXCAVATION DEPTH OF 2 FEET

POND LINER ITEMS

CATEGORY	PROJECT	STAGE	LOCATION	SPV.0035.150 FINE-GRAINED SOIL (CY)	SPV.0180.151 GEOSYNTHETIC CLAY LINER (SY)
1000					
	1133-09-71				
		STAGE 1A			
			POND 8	2,700	7,100
		STAGE 1A TOTAL		2,700	7,100
	PROJECT 1133-09-71 TOTAL			2,700	7,100
	CONTRACT S4-14-02 TOTAL			**2,700**	**7,100**

VIBRATING WIRE PIEZOMETER INSTRUMENTATION SYSTEM DELIVERED

SPV.0060.004

CATEGORY	PROJECT	STAGE	STATION	O/S	(EA)
1000					
	1133-09-71				
		STAGE 1A			
			USH 41 NB - NB		
			821+00	85' RT	2
			822+26	75' RT	2
			837+27	75' RT	2
			839+45	72' RT	2
			OWC RAMP - OWC		
			829+00	60' RT	2
		STAGE 1A TOTAL			10
	PROJECT 1133-09-71 TOTAL				10
	CONTRACT S4-14-02 TOTAL				**10**

SETTLEMENT GAUGE

SPV.0060.005

CATEGORY	PROJECT	STAGE	STATION	O/S	(EA)
1000					
	1133-09-71				
		STAGE 1A			
			USH 41 NB - NB		
			816+00	74' RT	1
			819+00	86' RT	1
			823+50	95' RT	1
			824+00	150' LT	1
			826+00	170' LT	1
			842+00	84' RT	1
			OWC RAMP - OWC		
			826+00	25' RT	1
			829+00	25' RT	1
			832+00	45' RT	1
			835+00	28' RT	1
		STAGE 1A TOTAL			10
	PROJECT 1133-09-71 TOTAL				10
	CONTRACT S4-14-02 TOTAL				**10**

UTILITY ADJUSTMENTS

CATEGORY	PROJECT	STAGE	STATION	O/S	SPV.0060.650 ADJUSTING WATER VALVE BOX (EA)	SPV.0060.651 ADJUSTING VILLAGE OF ASHWAUBENON SANITARY MANHOLE COVERS (EA)	SPV.0060.652 ADJUSTING CITY OF GREEN BAY SANITARY MANHOLE COVERS (EA)	SPV.0060.653 RECONSTRUCT SANITARY MANHOLE (EA)
1710								
	1133-03-77							
		STAGE 2						
			USH 41 NB - NB					
			987+17	107' RT	-	-	1	-
			USH 41 SB - SB					
			988+52	94' LT	-	-	1	-
		STAGE 2 TOTAL			0	0	2	0
	PROJECT 1133-03-77 TOTAL				0	0	2	0
CATEGORY 1710 SUBTOTAL					0	0	2	0
1700								
	1133-09-71							
		STAGE 1B						
			PILGRIM WAY - PIL					
			906+18	7' RT	1	-	-	-
		STAGE 1B TOTAL			1	0	0	0
	PROJECT 1133-09-71 TOTAL				1	0	0	0
	1133-09-76							
		STAGE 2						
			ONEIDA STREET/WAUBE LANE WB - OWW					
			684+63	22' LT	2	-	-	-
			685+09	17' LT	2	-	-	-
			686+43	20' LT	2	-	-	-
			686+50	29' LT	2	-	-	-
			687+24	45' RT	-	1	-	-
			709+72	36' LT	-	1	-	1
			ONEIDA STREET/WAUBE LANE EB - OWE					
			686+76	41' RT	1	-	-	-
			686+79	30' RT	1	-	-	-
			695+49	17' RT	1	-	-	-
			708+37	36' RT	1	-	-	-
			708+59	35' RT	1	-	-	-
			710+46	37' RT	1	-	-	-
			RAMADA WAY - RA					
			898+94	4' RT	1	-	-	-
			950+74	15' LT	1			
		STAGE 2 TOTAL			16	2	0	1
	PROJECT 1133-09-76 TOTAL				16	2	0	1
CATEGORY 1700 SUBTOTAL					17	2	0	1
CONTRACT S4-14-02 TOTAL					**17**	**2**	**2**	**1**

STREET SWEEPING

CATEGORY	PROJECT	SPV.0075.150 (HRS)
1000		
	1133-03-77	
	UNDISTRIBUTED	150
	PROJECT 1133-09-71 TOTAL	150
	1133-09-71	
	UNDISTRIBUTED	150
	PROJECT 1133-09-71 TOTAL	150
	1133-09-76	
	UNDISTRIBUTED	450
	PROJECT 1133-09-76 TOTAL	450
CONTRACT S4-14-02 TOTAL		**750**

STRIP DRAIN ITEMS

CATEGORY	PROJECT	STAGE	STATION	TO	STATION	SPV.0035.001 DRAINAGE BLANKET (CY)	SPV.0090.006 STRIP DRAIN (LF)	SPV.0090.007 PRE-BORED STRIP DRAIN (LF)
1000								
	1133-09-71							
		STAGE 1A						
			USH 41 NB - NB					
			814+00	-	820+90	4,100	193,250	91,500
			829+00	-	838+00	3,250	192,800	60,750
			837+70	-	844+00	3,000	98,500	33,000
			CD ROADWAY - CD / OWC RAMP - OWC					
			822+00	-	838+00	14,750	450,500	162,000
		STAGE 1A TOTAL				25,100	935,050	347,250
		STAGE 2						
			OWB RAMP - OWB					
			822+15	-	830+00	4,600	189,000	81,250
			PARKVIEW ROAD					
			821'SB'+10	-	820'NB'+87	300	23,500	-
			822'OWB'+15	-	822'CD'+00	500	52,000	-
			ONEIDA STREET					
			835'SB'+75	-	837'NB'+00	800	48,000	-
			838'SB'+08	-	837'NB'+70	700	47,500	-
		STAGE 2 TOTAL				6,900	360,000	81,250
		UNDISTRIBUTED				4,800	194,250	65,300
	PROJECT 1133-09-71 TOTAL					36,800	1,489,300	493,800
CONTRACT S4-14-02 TOTAL						**36,800**	**1,489,300**	**493,800**

CONCRETE COLD WEATHER COVERING

CATEGORY	PROJECT	SPV.0090.003 CURB & GUTTER AND BARRIER PLASTIC 1 LAYER (LF)	SPV.0090.004 CURB & GUTTER AND BARRIER PLASTIC 2 LAYERS (LF)	SPV.0090.005 CURB & GUTTER AND BARRIER PLASTIC/HAY/ PLASTIC OR BLANKETS (LF)	SPV.0180.001 PAVEMENT PLASTIC 1 LAYER (SY)	SPV.0180.002 PAVEMENT PLASTIC 2 LAYERS (SY)	SPV.0180.003 PAVEMENT PLASTIC OR BLANKETS (SY)
1000	1133-03-77	1,550	1,550	1,550	13,150	13,150	13,150
	1133-09-71	4,150	4,150	4,150	30,500	30,500	30,500
CONTRACT S4-14-02 TOTAL		**5,700**	**5,700**	**5,700**	**43,650**	**43,650**	**43,650**

SETTLEMENT SYSTEM

CATEGORY	PROJECT	STAGE	STATION	O/S	SPV.0090.008 (LF)
1000	1133-09-71				
		STAGE 1A			
			USH 41 NB - NB		
			821+00	95' RT	50
			822+26	85' RT	50
			837+22	80' RT	50
			839+50	80' RT	35
		STAGE 1A TOTAL			185
	PROJECT 1133-09-71 TOTAL				185
CONTRACT S4-14-02 TOTAL					**185**

STAINING CONCRETE

CATEGORY	PROJECT	RETAINING WALL NO.	SPV.0165.501 (S) (SF)	REMARKS
2020	1133-09-71			
		R-5-204	705	WEST ABUTMENT OF GLORY ROAD BRIDGE
		R-5-205	620	EAST ABUTMENT OF GLORY ROAD BRIDGE
	PROJECT 1133-09-71 TOTAL		1,325	
CONTRACT S4-14-02 TOTAL			**1,325**	

(S) REFER TO STRUCTURE PLANS FOR ADDITIONAL QUANTITIES

3

FENCE SAFETY

CATEGORY	PROJECT	NOTE	616.0700.S (LF)
1000	1133-03-77		
		UNDISTRIBUTED	1,000
	PROJECT 1133-03-77 TOTAL		1,000
	1133-09-71		
		UNDISTRIBUTED	3,000
	PROJECT 1133-09-71 TOTAL		3,000
	1133-09-74		
		UNDISTRIBUTED	500
	PROJECT 1133-09-74 TOTAL		500
	1133-09-76		
		UNDISTRIBUTED	500
	PROJECT 1133-09-76 TOTAL		500
	CONTRACT S4-14-02 TOTAL		**5,000**

SIGN BLANKS

CATEGORY	PROJECT	SIGN STRUCTURE	SPV.0165.950 (SF)
1000	1133-09-71		
		S-05-160	152
		S-05-163	106
		S-05-164	101
		S-05-166	104
	PROJECT 1133-09-71 TOTAL		463
	CONTRACT S4-14-02 TOTAL		**463**

TEMPORARY SLOPE DRAIN

CATEGORY	PROJECT	NOTE	SPV.0060.151 (EACH)
1000	1133-03-77		
		PROJECT	8
	PROJECT 1133-03-77 TOTAL		8
	1133-09-71		
		PROJECT	28
	PROJECT 1133-09-71 TOTAL		28
	1133-09-74		
		PROJECT	2
	PROJECT 1133-09-74 TOTAL		2
	CONTRACT S4-14-02 TOTAL		**38**

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
1133-09-22		
FEDERAL PROJECT NUMBER	4.01	

PLAT OF RIGHT OF WAY REQUIRED FOR

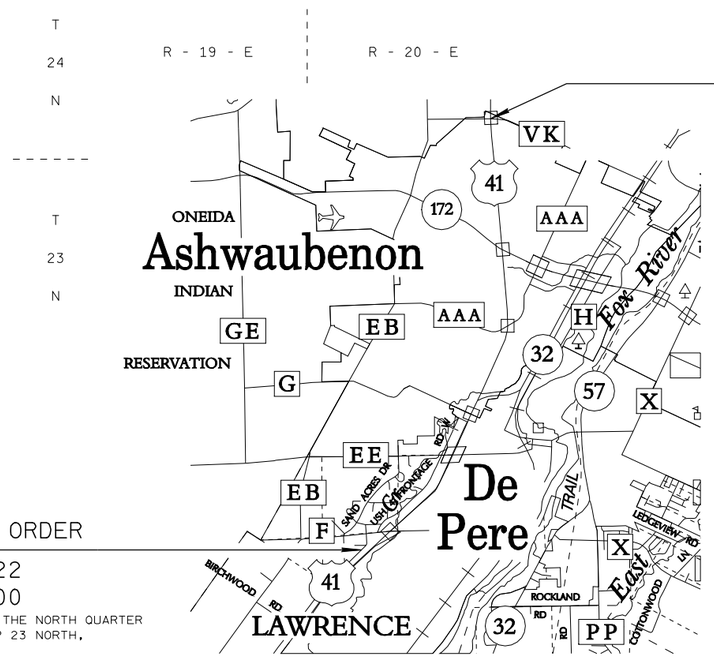
MID VALLEY DR. - MORRIS AVE.

USH 41 — BROWN COUNTY

CONVENTIONAL ABBREVIATIONS AND SYMBOLS

EXISTING 2" x 30" IRON PIPE	◉	SET R/W MONUMENT (1-¼" OUTSIDE DIA. IRON PIPE)	○
ACCESS RIGHTS	AR		
ACRES	AC		
AND OTHERS	ET AL	EXISTING R/W POINT	△
CENTERLINE	℄	PROPOSED R/W	
CENTRAL ANGLE OR DELTA	△	BOUNDARY POINT	PRW0001
CHORD BEARING	CH BRG		
CHORD DISTANCE	CH DIS	CORPORATE LIMITS	//////////
DEED	(D)	EXISTING R/W	
DOCUMENT	DOC	SECTION LINE	
EAST BOUND	EB	QUARTER LINE	
ENVELOPE DESCRIPTION	ENV1	SIXTEENTH LINE	
ESTATE	EST	OLD CENTERLINE	
GAS VALVE	GV	PROPOSED OR NEW R/W LINE	
LAND CONTRACT	LC	EASEMENT LINE	
LENGTH OF CURVE	L		
MONUMENT	MON	PARCEL NUMBER	(01)
NORTH BOUND	NB		
OUTLOT	OL	UTILITY PARCEL NUMBER	100
PAGE	PG		
PRIVATE CLAIM	PC	PROPERTY LINE	PL
PERMANENT LIMITED EASEMENT	PLE	LOT, TIE AND OTHER MINOR DASHED LINES	
PRIVATE DRIVEWAY	PD		
PROPERTY LINE	PL	NO ACCESS (By Previous Acquisition or Covenant)	
QUIT CLAIM DEED	QCD		
RADIUS	R	NO ACCESS (By Acquisition)	
REFERENCE LINE	℞		
REMAINING	REM	NO ACCESS (By Statutory Authority)	
RIGHT OF WAY	R/W		
SPECIAL CROSSING	SC	LIMITED EASEMENT (Temporary or Permanent)	
SECTION	SEC		
SECTION LINE	℅	BURIED FIBER OPTICS CABLE	FO
FOUND IRON PIPE	IP ●	BURIED TELEPHONE CABLE	T
STATION	STA	BURIED GAS LINE	G
TANGENT	TAN		
TEMPORARY INTEREST	TI	BUILDING TO BE RAZED	
TEMPORARY LIMITED EASEMENT	TLE		
TIE POINT	DB1	FEE ACQUISITION	VARIOUS HATCHING
VOLUME	VOL		
ADJOINING LANDS WITH SAME OWNER			
PARALLEL TO LINE	40'		

	COMPENSABLE	NON-COMPENSABLE
POWER POLE	●	○
TELEPHONE POLE	⌀	⌀
SIGN	▶	▷
TELEPHONE PEDESTAL	■	□



END RELOCATION ORDER

PROJECT 1133-09-22
STATION 5367+00.00

2092.51 FEET S 71°43'50" E OF THE NORTHWEST CORNER OF PRIVATE CLAIM 16, BROWN COUNTY.
Y = 564513.505
X = 82154.148

BEGIN RELOCATION ORDER

PROJECT 1133-09-22
STATION 5025+00.00

2379.29 FEET S 18°19'00" W OF THE NORTH QUARTER CORNER OF SECTION 31, TOWNSHIP 23 NORTH, RANGE 20 EAST, BROWN COUNTY.
Y = 534250.147
X = 71681.516

GN

NOTES

COORDINATES AND BEARINGS ON THIS PLAT ARE ORIENTED TO THE BROWN COUNTY COORDINATE SYSTEMS.
ALL PLAT DISTANCES ARE GROUND LENGTH.

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

EXISTING RIGHT OF WAY AND PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATION LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES AND SHOULD NOT BE USED AS A SUBSTITUE FOR AN ACCURATE FIELD SURVEY.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, INCLUDING THE RIGHT TO OPERATE THE NECESSARY EQUIPMENT, THE RIGHT OF INGRESS AND EGRESS AS REQUIRED AND THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT ANY VEGETATION. ALL TLES ON THIS PLAT EXPIRE AT THE COMPLETION OF THE PROJECT.

LAYOUT
0 1 MI.
SCALE

TOTAL NET LENGTH OF CENTERLINE = 6.48 MI.

REVISION DATE	STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
11-16-10	APPROVED:
	DATE: 9/16/10 — 1302 — FOR DISTRICT DIRECTOR

SE-NW

LOT 2
CSM 4820
31CSM72
DOC 1427320

Y=536508.885
X=72429.247

QTR132
MAG NAIL
W/ WASHER

T 23 N
R 30 E
31
20

D30

5035

TOWN OF LAWRENCE
CITY OF DE PERE

TLE STATION OFFSET TABLE

T63	5030+34.00	205.00'
T62	5030+34.00	178.25'
T68	5031+00.80	250.98'
T67	5031+09.26	226.89'
T64	5031+10.00	270.00'
T65	5031+45.00	270.00'
T66	5031+45.00	178.24'

REFERENCE LINE COURSE TABLE

POINT TO POINT		BEARING	DISTANCE
QTR132	D29	S 18°19'00" W	2379.29'
D29	D30	N 48°50'31" E	1100.00'
D30	CTRS145	S 02°13'25" W	1117.30'

D29 = STA. 5025+00
D30 = STA. 5036+00

SIGN
T68
T67
50
TLE FOR
SLOPING
MH
W
SAN
VARIES
UA#220
UA#221
SIGN
SIGN
SIGN
5030
5025
D29
USH 41 R/W
T66
T62
T65
T63
T64
20
TLE FOR
SLOPING
LOT 1
CSM 2315
10CSM325
DOC 968552
PL
PL

Y=533857.640
X=72466.350

T 23 N
R 31 E
20

CTRS145

SW-NE

GN

SCHEDULE OF LANDS & INTERESTS REQUIRED

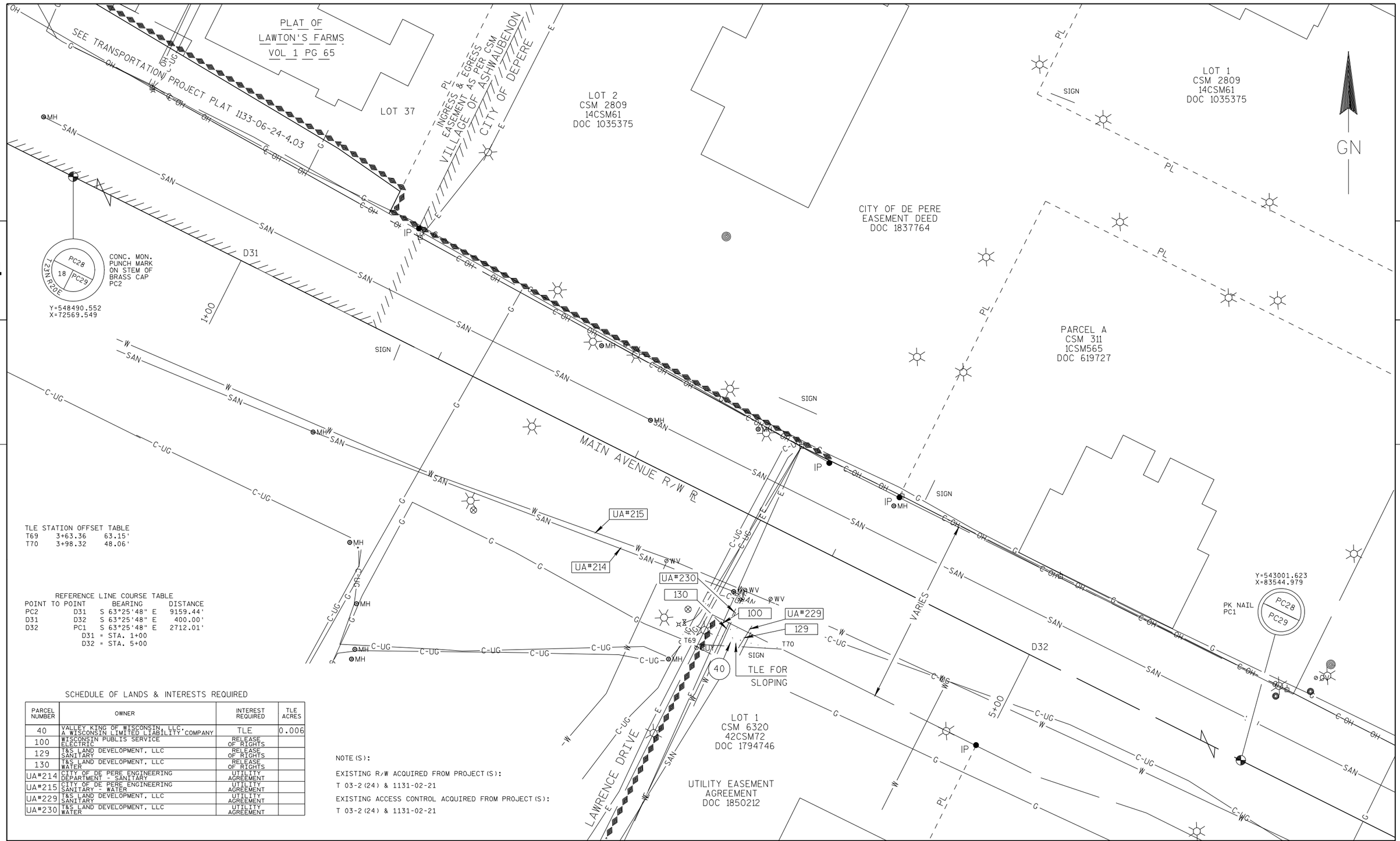
PARCEL NUMBER	OWNER	INTEREST REQUIRED	TLE ACRES
20	CITY OF DE PERE, A MUNICIPAL CORPORATION	TLE	0.177
50	BEVERLY A. FRENCH	TLE	0.002
UA#220	TOWN OF LAWRENCE SANITARY	UTILITY AGREEMENT	
UA#221	TOWN OF LAWRENCE WATER	UTILITY AGREEMENT	

NOTE(S):

EXISTING R/W ACQUIRED FROM PROJECT(S):
3803, T 03-2(24) & 1131-08-23

USH 41 IN BROWN COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF THE WISCONSIN STATUTES BY THE HIGHWAY COMMISSION ON JUNE 8, 1972

REVISION DATE 11-16-10 N.C.	DATE 9-16-10	SCALE, FEET 0 50 100	HWY: USH 41	STATE R/W PROJECT NUMBER 1133-09-22	PLAT SHEET NO: 4.02
	GRID FACTOR		COUNTY: BROWN	CONSTRUCTION PROJECT NUMBER 1133-09-72	PS&E SHEET NO: 1303 E



TLE STATION OFFSET TABLE

T69	3+63.36	63.15'
T70	3+98.32	48.06'

REFERENCE LINE COURSE TABLE

POINT TO POINT		BEARING	DISTANCE
PC2	D31	S 63°25'48" E	9159.44'
D31	D32	S 63°25'48" E	400.00'
D32	PC1	S 63°25'48" E	2712.01'

D31 = STA. 1+00
D32 = STA. 5+00

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	TLE ACRES
40	VALLEY KING OF WISCONSIN, LLC, A WISCONSIN LIMITED LIABILITY COMPANY	TLE	0.006
100	WISCONSIN PUBLIS SERVICE ELECTRIC	RELEASE OF RIGHTS	
129	T&S LAND DEVELOPMENT, LLC SANITARY	RELEASE OF RIGHTS	
130	T&S LAND DEVELOPMENT, LLC WATER	RELEASE OF RIGHTS	
UA#214	CITY OF DE PERE ENGINEERING DEPARTMENT - SANITARY	UTILITY AGREEMENT	
UA#215	CITY OF DE PERE ENGINEERING SANITARY - WATER	UTILITY AGREEMENT	
UA#229	T&S LAND DEVELOPMENT, LLC SANITARY	UTILITY AGREEMENT	
UA#230	T&S LAND DEVELOPMENT, LLC WATER	UTILITY AGREEMENT	

NOTE(S):

EXISTING R/W ACQUIRED FROM PROJECT(S):
T 03-2(24) & 1131-02-21

EXISTING ACCESS CONTROL ACQUIRED FROM PROJECT(S):
T 03-2(24) & 1131-02-21

REVISION DATE 11-16-10 N.C.	DATE 9-16-10	SCALE, FEET 0 20 40	HWY: USH 41	STATE R/W PROJECT NUMBER 1133-09-22	PLAT SHEET NO: 4.03
	GRID FACTOR		COUNTY: BROWN	CONSTRUCTION PROJECT NUMBER 1133-09-72	PS&E SHEET NO: 1304

FILE NAME : F:\d3_11330922\040107_rw.dgn PLOT DATE : 04-NOV-2011 09:45 PLOT BY : $$...plotuser...$$ ORG DATE : 10-17-08 Originator : Dist3 PLOT SCALE : 40.000000:1.000000

WISDOT/CADDS SHEET 75D

4

4

NOTE(S):

EXISTING R/W ACQUIRED FROM PROJECT(S):
1151-03-21
USH 41 IN BROWN COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF THE WISCONSIN STATUTES BY THE HIGHWAY COMMISSION ON JUNE 8, 1972

REFERENCE LINE COURSE TABLE

POINT TO POINT		BEARING	DISTANCE
PC5	D3	S 49°14'20" E	6633.68'
D3	D4	N 26°11'05" E	2500.00'
D4	PC291	S 51°26'17" E	3852.49'

D3 = STA. 5190+00
D4 = STA. 5215+00

TLE STATION OFFSET TABLE

T14	5192+41.07	280.00'
T12	5192+67.34	158.82'
T13	5192+67.34	260.00'
T16	5194+87.59	158.00'
T15	5194+87.59	147.37'
T17	5201+89.59	121.00'
T18	5206+06.83	146.97'
T19	5206+06.88	136.91'
T192	5206+06.81	151.94'
T191	5206+06.88	136.91'
T193	5212+74.76	193.58'

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	TLE ACRES
4	NICOLET REAL ESTATE AND INVESTMENT CORPORATION, A WISCONSIN CORPORATION	TLE	0.053
5	KTLAND, LLC, A WISCONSIN LIMITED LIABILITY COMPANY	TLE	0.046
6	DHBC PROPERTIES, LLC, A WISCONSIN LIMITED LIABILITY COMPANY	TLE	0.046
8	WAREHOUSE SPECIALISTS, INC., A WISCONSIN CORPORATION	TLE	0.230
36	LENAN OF GREEN BAY, LLP	TLE	0.143
111	VILLAGE OF ASHWAUBENON SANITARY	RELEASE OF RIGHTS	
UA#211	VILLAGE OF ASHWAUBENON SANITARY	UTILITY AGREEMENT	
UA#228	VILLAGE OF ASHWAUBENON WATER	UTILITY AGREEMENT	

REVISION DATE 11-16-10	DATE 9-27-10	SCALE, FEET 0 100 200	HWY: USH 41	STATE R/W PROJECT NUMBER 1133-09-22	PLAT SHEET NO: 4.04
	GRID FACTOR		COUNTY: BROWN	CONSTRUCTION PROJECT NUMBER 1133-09-	PS&E SHEET NO: 1305

FILE NAME : F:\d3_11330922\040101_rw.dgn PLOT DATE : 13-DEC-2011 16:54 PLOT BY : $$...plotuser...$$ ORG DATE : 10-17-08 Originator : Dist3 PLOT SCALE : 200.000000:1.000000

WISDOT/CADDS SHEET 75D

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	TLE ACRES
17	CI OF GREEN BAY LLC, A WISCONSIN LIMITED LIABILITY COMPANY	TLE	0.037
41	WESTERN LANES, INC.	TLE	0.112
UA#228	VILLAGE OF ASWAUBENON - WATER	UTILITY AGREEMENT	

CURVE TABLE

CURVE	CH BEARING	CH DISTANCE	RADIUS	ARC LENGTH
C1	N 2°00'53" E	741.62'	3819.72'	742.79'

PI C1 Y 551009.779 X 82993.391

TLE STATION OFFSET TABLE

T85	5227+32.31	450.80'
T158	5234+36.86	302.46'
T157	5234+42.09	311.43'

REFERENCE LINE COURSE TABLE

POINT TO POINT		BEARING	DISTANCE
PC10	D16	S 59°46'07" E	6229.82'
D16	PT C1	SEE CURVE TABLE CURVE C1	
PT C1	D17	N 03°33'23" W	57.21'
D17	PC288	S 61°03'44" E	5938.60'

D16 = STA. 5228+00
D17 = STA. 5236+00

PC10
CONC MON
W/ BRASS CAP
Y=553777.150
X=77561.660

PC288
CONCRETE MON
W/ BRASS CAP
Y=548565.290
X=88163.880

T 23 N R 20 E
8
PC25
PC26

ALLIED STREET
CENTENNIAL STREET
VILLAGE
ASHWAUBENON
USH 41 R/W RL
PL
T157
T158
T85
IP
D17
D16
PT 5235+42.79
5235
5230
C1
GN
LOT 1
22CSM271
CSM 3872
DOC 1208307
LOT 2
22CSM271
CSM 3872
DOC 1208307
TLE FOR
SLOPING
ELECTRIC AND
TELEPHONE EASEMENT
VOL 1100 PG 455
DOC 803294
CABLE TELEVISION
EASEMENT
DOC 2078440
UA#228
41
17
OF
SIGN
GUY
WV
MH
OH
E
W
C-UG

NOTE(S):

EXISTING R/W ACQUIRED FROM PROJECT(S):
1151-03-21
USH 41 IN BROWN COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF THE WISCONSIN STATUTES BY THE HIGHWAY COMMISSION ON JUNE 8, 1972

4

REVISION DATE	DATE 10-14-11	SCALE, FEET 0 50 100	HWY: USH 41	STATE R/W PROJECT NUMBER 1133-09-22	PLAT SHEET NO: 4.05
	GRID FACTOR		COUNTY: BROWN	CONSTRUCTION PROJECT NUMBER 1133-09-	PS&E SHEET NO: 1306

FILE NAME : F:\d3_11330922\040102_rw.dgn PLOT DATE : 04-NOV-2011 09:47 PLOT BY : $$...plotuser...$$ ORG DATE : 10-17-08 Originator : Dist3 PLOT SCALE : 100.000000:1.000000

WISDOT/CADDS SHEET 75D

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	TLE ACRES
14	WSH DEVELOPMENT, LLC A WISCONSIN LIMITED LIABILITY COMPANY	TLE	0.046
22	SMET INVESTMENTS, LLC, A WISCONSIN LIMITED LIABILITY COMPANY	TLE	0.197
46	APPLE HILL HOMES LIMITED PARTNERSHIP, A WISCONSIN LIMITED PARTNERSHIP	TLE	0.076
51	BEST BUILT, INC. L.C.	TLE	0.219
57	HILGENBERG & ASSOCIATES, A WISCONSIN CORPORATION	TLE	0.018
58	SATURN OF GREEN BAY, INC., A WISCONSIN CORPORATION	TLE	0.065
59	GBR NICOLET, LLC	TLE	0.016
60	CLAIM MANAGEMENT SERVICES, INC.	TLE	0.071
65	CRAIG A. BRAUN	TLE	0.024
66	PERRY A. SNOEYENBOS	TLE	0.022
82	FRANK R. HEREVICH	TLE	0.016
83	EARL AND VERNON HEYRMAN PARTNERSHIP	TLE	0.017
84	ALLAN AND CAROLE FROMM L.C.	TLE	0.071
90	VERNON DRIVE PROFESSIONAL OFFICES, LLC	TLE	0.137

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED
100	WISCONSIN PUBLIC SERVICE - ELECTRIC	RELEASE OF RIGHTS
101	AT&T WISCONSIN	RELEASE OF RIGHTS
132	CLAIM MANAGEMENT SERVICES	RELEASE OF RIGHTS
UA#209	GREEN BAY METROPOLITAN SEWERAGE DISTRICT (GBMSD)	UTILITY AGREEMENT
UA#228	VILLAGE OF ASHWAUBENON WATER	UTILITY AGREEMENT

4

4

PC12

MAG NAIL W/ WASHER
Y=555927.753
X=78619.132

PC23 PC24 PC25

SPRINGHURST COURT

RIDGE ROAD

LOT 1
35CSM338
CSM 5443
DOC 1560374

OUTLOT 1
16CSM303
CSM 3146
DOC 1090313

LOT 1
13CSM321
CSM 2759
DOC 1031743

LOT 2
35CSM338
CSM 5443
DOC 1560374

ASHWAUBENON INDUSTRIAL PARK
SECOND ADDITION
VOL 16 PG 45 DOC 796611

101
TELEPHONE EASEMENT
J 24291 I 26
DOC 1431950

LOT 83

LOT 84

ALLIED STREET

LOT 92

LOT 93

LOT 91

LOT 90

LOT 89

LOT 88

LOT 87

LOT 86

LOT 85

TLE FOR SLOPING

UA#228

USH 41 R/W

VILLAGE OF ASHWAUBENON

UA#209

T BAR W/O CAP

T BAR W/ CAP

LOT 2
30CSM19
CSM 4657
DOC 1384564

LOT 1
30CSM19
CSM 4657
DOC 1384564

LOT 1
23CSM160
CSM 3973
DOC 1223636

LOT 2
23CSM160
CSM 3973
DOC 1223636

LOT 1
40CSM39
CSM 6039
DOC 1731788

LOT 2
40CSM39
CSM 6039
DOC 1731788

100
ELECTRIC EASEMENT
J 13686 I 20
DOC 1166873

101
TELEPHONE EASEMENT
VOL 2767 I 10
DOC 906233

101
TELEPHONE EASEMENT
VOL 2767 I 7
DOC 906232

CABLE TELEVISION EASEMENT
DOC 1877929

HANSEN ROAD

VERNON DRIVE

VANDERPERREN WAY

RAMADA WAY

PC286

1¼" IP
W/ ALUM CAP
Y=551703.220
X=89160.740

GN

NOTE(S):

EXISTING R/W ACQUIRED FROM PROJECT(S):
1151-03-21
USH 41 IN BROWN COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF THE WISCONSIN STATUTES BY THE HIGHWAY COMMISSION ON JUNE 8, 1972

REFERENCE LINE COURSE TABLE

POINT TO POINT		BEARING	DISTANCE
PC12	D5	S 49°03'35" E	5693.02'
D5	PC286	S 85°28'26" E	6260.67'
PC286	D6	N 60°54'58" W	7360.98'

D5 = STA. 5243+60
D6 = STA. 5274+50

TLE STATION OFFSET TABLE

T77	5243+64.91	154.00'
T78	5243+65.30	148.70'
T59	5249+58.24	148.90'
T58	5249+58.24	153.90'
T57	5252+90.88	153.82'
T75	5252+91.12	154.64'
T22	5256+54.45	181.64'
T21	5256+54.45	191.67'
T76	5257+90.09	212.29'
T56	5259+35.56	214.08'
T55	5260+43.44	263.08'
T54	5260+46.27	255.64'
T8	5260+66.43	273.53'
T7	5260+69.83	264.58'
T20	5260+82.80	224.44'
T9	5264+08.63	428.97'
T10	5264+30.22	446.86'
T11	5264+37.89	433.73'
T1	5269+91.07	225.18'
T2	5270+47.89	328.67'
T3	5272+26.62	295.57'
T4	5272+26.62	225.04'
T5	5273+40.59	225.00'
T6	5273+96.14	250.00'

REVISION DATE 11-16-10	DATE 9-27-10	SCALE, FEET 0 100 200	HWY: USH 41	STATE R/W PROJECT NUMBER 1133-09-22	PLAT SHEET NO: 4.06
	GRID FACTOR		COUNTY: BROWN	CONSTRUCTION PROJECT NUMBER 1133-09-	PS&E SHEET NO: E

FILE NAME : F:\d3_11330922\040103_rw.dgn PLOT DATE : 16-JUL-2012 09:14 PLOT BY : $$...plotuser...$$ ORG DATE : 10-17-08 Originator : Dist3 PLOT SCALE : 200.000000:1.000000

PC295
Y=557696.737
X=79489.503

PC22 / PC23

5285

N 3°33'23" W

USH 41R/W ℄

5290

5295

CUT CROSS
Y=559976.786
X=76421.452

PC21 / PC22 / PC31

PC20

SAN

G

VARIES

N

VILLAGE

4

4

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	TLE ACRES
24	VHC, INC. A WISCONSIN CORPORATION	TLE	0.112
30	RUEDEN'S EDEN FAMILY PARTNERSHIP, A WISCONSIN LIMITED PARTNERSHIP	TLE	0.125

CURVE TABLE

CURVE	CH BEARING	CH DISTANCE	RADIUS	ARC LENGTH
C1	N 39°57'01" W	330.10'	1292.39'	331.01'
C2	N 19°05'23" W	605.17'	1294.39'	610.82'

PI C1 Y 556596.755 X 83093.818 PI C2 Y 556998.092 X 82834.678

REFERENCE LINE COURSE TABLE

POINT TO POINT		BEARING	DISTANCE
PC295	D7	S 62°25'32" E	3600.92'
D7	D8	N 03°33'23" W	1400.00'
D8	PC20	N 67°33'30" W	6678.90'

D7 = STA. 5282+00
D8 = STA. 5296+00

TLE STATION OFFSET TABLE

T23	5284+59.26	701.89'	
T24	5284+66.17	709.12'	
T25	5286+19.96	561.83'	PC C1
T27	5288+84.80	364.17'	PC C2
T26	5288+85.68	365.97'	PT C1
T28	5294+67.86	202.10'	PT C2

NOTE(S):

EXISTING R/W ACQUIRED FROM PROJECT(S):
1151-03-21
USH 41 IN BROWN COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF THE WISCONSIN STATUTES BY THE HIGHWAY COMMISSION ON JUNE 8, 1972

TLE FOR SLOPING

T27

T26

T28

T25

T23

T24

IP

T BAR W/ WISDOT CAP

LOT 1
18CSM27
CSM 3315
DOC 1126930

LOT 2
18CSM27
CSM 3315
DOC 1126930

24

30

OF

C1

C2

PC

PT

E

EG

M

NYS

SAN

SIGN

MH

HWY

C-UG

PILGRIM WAY

ASHWAUBENON

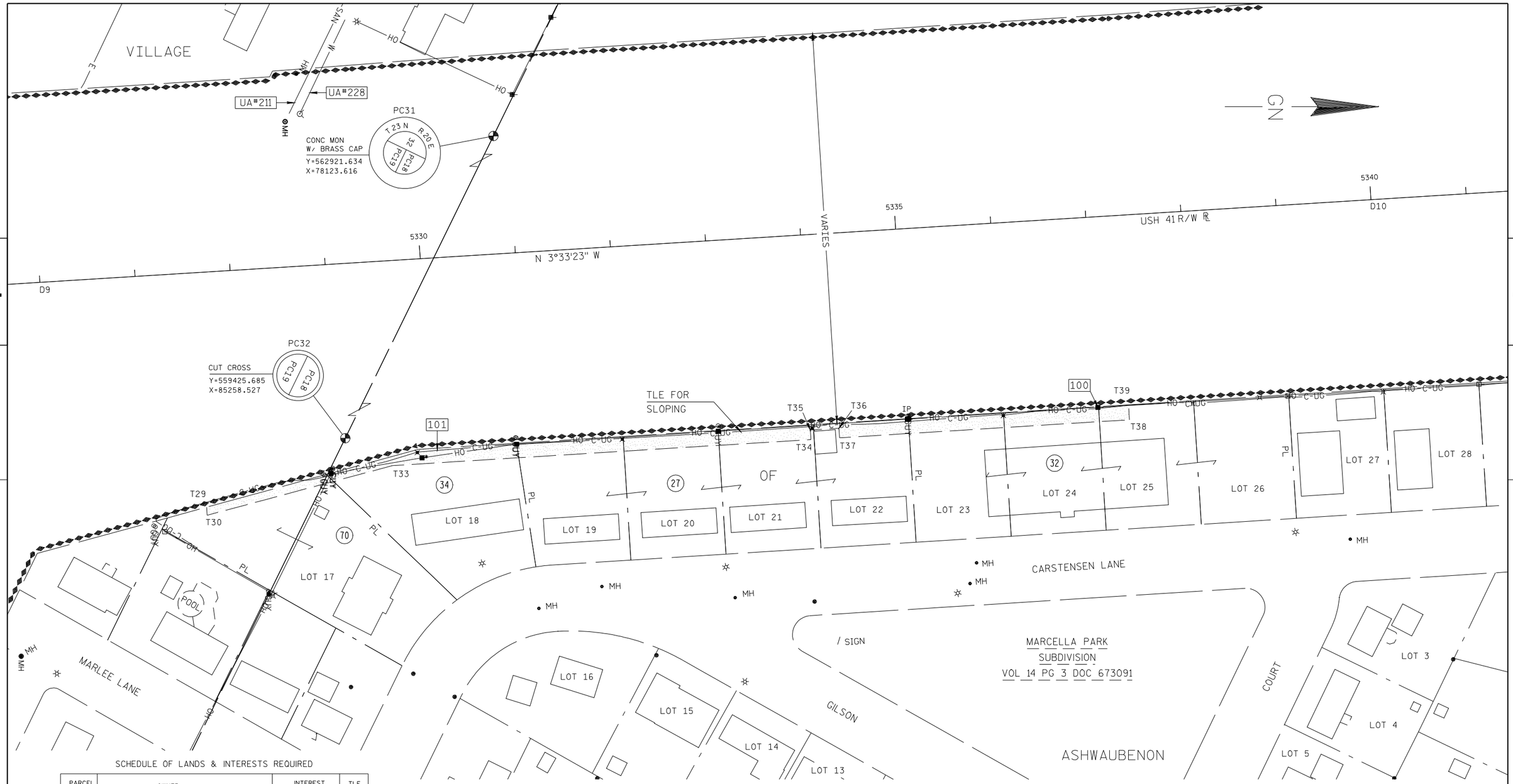
PC20

STH 172

REVISION DATE	DATE 5-16-11	SCALE, FEET 0 50 100	HWY: USH 41	STATE R/W PROJECT NUMBER 1133-09-22	PLAT SHEET NO: 4.07
	GRID FACTOR		COUNTY: BROWN	CONSTRUCTION PROJECT NUMBER 1133-09-	PS&E SHEET NO: 1308

FILE NAME : F:\d3_11330922\040104_rw.dgn PLOT DATE : 26-OCT-2011 14:06 PLOT BY : $$...plotuser...$$ ORG DATE : 10-17-08 Originator : Dist3 PLOT SCALE : 100.000000:1.000000

WISDOT/CADDS SHEET 75D



SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	TLE ACRES
27	PHILLIPS DEVELOPMENT, LLC	TLE	0.140
32	CHARLES A. PERRY & MARILYN J. PERRY LIVING TRUST UAD DECEMBER 26, 1995	TLE	0.083
34	LEE W. & JOLIENE K. COUNARD	TLE	0.058
70	LEO B. YELLE	TLE	0.027
100	WISCONSIN PUBLIC SERVICE - ELECTRIC	RELEASE OF RIGHTS	
101	AT&T WISCONSIN	RELEASE OF RIGHTS	
UA#211	VILLAGE OF ASHWAUBENON - SANITARY	UTILITY AGREEMENT	
UA#228	VILLAGE OF ASHWAUBENON - WATER	UTILITY AGREEMENT	

TLE STATION OFFSET TABLE

T29	5327+60.00	246.47'
T30	5327+60.00	255.00'
T33	5329+57.59	215.00'
T35	5333+97.59	205.00'
T34	5333+97.59	215.00'
T36	5334+27.59	205.00'
T37	5334+27.59	215.00'
T39	5337+32.59	199.24'
T38	5337+32.59	215.00'

REFERENCE LINE COURSE TABLE

POINT TO POINT		BEARING	DISTANCE
PC31	D9	S 59°44'10" E	4960.96'
D9	D10	N 03°33'23" W	1400.00'
D10	PC32	S 50°49'35" E	3788.39'

D9 = STA. 5326+00
D10 = STA. 5340+00

NOTE(S):

EXISTING R/W ACQUIRED FROM PROJECT(S):
1151-03-21
USH 41 IN BROWN COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF THE WISCONSIN STATUTES BY THE HIGHWAY COMMISSION ON JUNE 8, 1972

REVISION DATE	DATE 5-16-11	SCALE, FEET 0 50 100	HWY: USH 41	STATE R/W PROJECT NUMBER 1133-09-22	PLAT SHEET NO: 4.08
	GRID FACTOR		COUNTY: BROWN	CONSTRUCTION PROJECT NUMBER 1133-09-	PS&E SHEET NO: 1309

LOT 11

PARK PLACE
VOL 18 PG 187
DOC 1219512

E-C-UG

PARK PLACE

LOT 10

E-C-UG

VILLAGE

C-UG

E-C-UG

T43

T44

SIGN

LOT 18

UTILITY EASEMENT
J 10211141
DOC 1079769

N

R-20 E
T-23 N
32
PC15
PC16
PC40

Y=565169.479
X=80167.118

WOODMONT DRIVE

MH

PL

78

OF

TLE FOR
SLOPING

T42

LOT 48

77

T41 IP T40

PL

LOT 40

HILLTOP DRIVE

WOODMONT ESTATES
VOL 18 PG 13
DOC 1089763

LOT 41

LOT 47

PC 5367+09.23

D12

N 03°33'23" W

GN

USH 41 R/W ℄

5365

ASHWAUBENON

Y=558673.84
X=93552.24

PC15
PC16

CONC MON W/
BRASS CAP
PC301

D11

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	TLE ACRES
77	DEAN S. & CLAUDIA J. ROBERG	TLE	0.015
78	JJT PROPERTIES, LLC	TLE	0.038

TLE STATION OFFSET TABLE

T41	5364+48.28	210.64'
T40	5364+48.29	200.64'
T42	5365+03.38	212.00'
T43	5366+56.67	250.26'
T44	5366+59.16	240.57'

REFERENCE LINE COURSE TABLE

POINT TO POINT		BEARING	DISTANCE
PC40	D11	S 64°31'44" E	2221.57'
D11	D12	N 03°33'23" W	300.00'
D12	PC301	S 62°52'20" E	12806.96'

D11 = STA. 5364+00
D12 = STA. 5367+00

NOTE(S):

EXISTING R/W ACQUIRED FROM PROJECT(S):

T02-5(26)

USH 41 IN BROWN COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF THE WISCONSIN STATUTES BY THE HIGHWAY COMMISSION ON JUNE 8, 1972

4

REVISION DATE	DATE 5-19-11	SCALE, FEET 0 20 40	HWY: USH 41	STATE R/W PROJECT NUMBER 1133-09-22	PLAT SHEET NO: 4.09
	GRID FACTOR		COUNTY: BROWN	CONSTRUCTION PROJECT NUMBER 1133-09-72	PS&E SHEET NO: 1310

TRANSPORTATION PROJECT PLAT NO: 1133-03-22-4.07

PART OF LOTS 47, 48, 49, 50, 51, & 52, IN THE PLAT OF RED OAK ESTATES 1ST ADDITION, WITHIN LOT 12, SECTION 28, T24N-R20E; PART OF PARCELS 1, 2, & 3, CSM #3271, PART OF PARCELS 1, 2, & 3, CSM #992, PART OF LOT 5, CSM #1009, AND PART OF LOTS 63, 64, 65, & 66 IN THE PLAT OF RED OAK ESTATES 2ND ADDITION, WITHIN LOT 1, SECTION 33, T24N-R20E; PART OF LOTS 65 & 66 IN THE PLAT OF RED OAK ESTATES 2ND ADDITION, WITHIN PRIVATE CLAIMS 12 WEST SIDE FOX RIVER(WSFR); PART OF LOTS 12, 14, 15, & 18, IN THE OAK CREST PLAT LOCATED IN AND INCLUDING UNPLATTED LANDS WITHIN PRIVATE CLAIMS 11 WSFR; PART OF LOTS 2, 3, & 4, CSM #974, WITHIN PRIVATE CLAIMS 10 WSFR; ALL LOCATED IN THE CITY OF GREEN BAY, BROWN COUNTY, WISCONSIN.

RELOCATION ORDER USH 41 BROWN COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3) AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

CONVENTIONAL ABBREVIATIONS AND SYMBOLS

ACCESS POINT	AP
ACCESS RIGHTS	AR
ACRES	AC
CHORD BEARING	CH BRG
CHORD DISTANCE	CH DIS
DEED	(D)
DOCUMENT	DOC
EAST BOUND	EB
GAS VALVE	GV
INLET	I.L.
LENGTH OF CURVE	L
MANHOLE	MH
MONUMENT	MON
NORTH BOUND	NB
PAGE	PG
PERMANENT	PERM
PERMANENT LIMITED EASEMENT	PLE
PRIVATE DRIVEWAY	PD
PROPERTY LINE	PL
RADIUS	RAD
REFERENCE LINE	℄
REMAINING	REM
RIGHT OF WAY	R/W
SECTION	SEC
SECTION LINE	℄
FOUND IRON PIPE	IP
STATION	STA
TEMPORARY LIMITED EASEMENT	TLE
TIE POINT	DB1
VOLUME	VOL
ADJOINING LANDS WITH SAME OWNER	
PARALLEL TO LINE	00°
BUILDING TO BE RAZED	
FEE ACQUISITION	VARIOUS HATCHING

SECTION CORNER (MATERIAL AS NOTED)
SET R/W MONUMENT W/CAP (1-¼" OUTSIDE DIA.x18" IRON PIPE 1.13 LBS/FT)
SET P.K. NAIL
PROPOSED R/W BOUNDARY POINT (PRW000)
CORPORATE LIMITS
EXISTING R/W
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
PROPOSED OR NEW R/W LINE
PROPOSED EASEMENT LINE
PARCEL NUMBER (00)
UTILITY PARCEL NUMBER (000)
PROPERTY LINE (PL)
LOT, TIE AND OTHER MINOR DASHED LINES
ACCESS CONTROL (By Previous Acquisition or Covenant)
NO ACCESS (By Acquisition)
NO ACCESS (By Statutory Authority)
LIMITED EASEMENT (Temporary or Permanent)
ORIGINAL CREEK LINE FROM FHWA SURVEY

COMMUNICATION UNDERGROUND — C-UG
BURIED GAS LINE — G
SANITARY SEWER LINE — SAN
BURIED WATER LINE — W
BURIED ELECTRIC LINE — E
OVERHEAD ELECTRIC LINE — OH

COMPENSABLE / NON-COMPENSABLE
POWER POLE
TELEPHONE POLE
SIGN
TELEPHONE PEDESTAL

SEC236
SEC CORNER
Y=568021.168
X=80384.785

RESERVE FOR CLAUSES AND NOTE INFORMATION

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

RIGHT OF WAY MONUMENTS ARE TYPE 2 AND WILL BE PLACED PRIOR TO OR AT THE TIME OF LAND TITLE TRANSFER.

AREAS SHOWN IN THE TOTAL ACRES COLUMN OF THE SCHEDULE OF LANDS & INTEREST TABLE MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.

COORDINATES AS SHOWN ARE NOT INTENDED TO BE USED FOR RETRACEMENT PURPOSES AND MUST BE VERIFIED WITH THE COUNTY SURVEY DEPARTMENT.

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, BROWN COUNTY, (ENGLISH), NAD OF 1983 (1999) ADJUSTMENT. ALL PLAT DISTANCES ARE GROUND LENGTH.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

EXISTING RIGHT OF WAY WAS ACQUIRED FROM PROJECTS: 1 02-5(26), 1451-08-21 & COUNTY MAPS

EXISTING ACCESS CONTROL WAS ACQUIRED UNDER PROJECTS: 1 02-5(26)

USH 41 IN BROWN COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF THE WISCONSIN STATUTES BY THE HIGHWAY COMMISSION ON 6/8/1972.

RIGHT OF WAY REFERENCE LINE MAY NOT BE THE SAME AS THE CONSTRUCTION REFERENCE LINE.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE TO PREVENT EROSION OF THE SOIL. ALL TLEs ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

A PERMANENT LIMITED EASEMENT (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE TO PREVENT EROSION OF THE SOIL, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHT TO MAKE OR CONSTRUCT IMPROVEMENTS ON SAID LANDS OR TO FLATTEN SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO DEPARTMENT OF TRANSPORTATION.

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENTS OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

JON L. HERBEL — PRINTED NAME
SIGNATURE
3/28/2011 — DATE

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

NORMAN PAWELCZYK — PRINTED NAME
SIGNATURE
3/28/2011 — DATE

POINT	STATION	OFFSET	COORDINATES
DB129	5367+09.22	0.00'R	Y 564522.710 X 82153.580
DB130	5391+38.12	0.00'L	Y 566950.370 X 82131.530
DB284	5402+16.05	0.00'L	Y 568027.265 X 82178.853
CLC161	5402+19.86	80.50'R	Y 568027.539 X 82259.440
PRW798	5403+79.74	134.69'L	Y 568196.707 X 82051.482
PRW801	5403+79.98	129.73'L	Y 568196.730 X 82056.440
DB282	5403+86.29	0.00'L	Y 568197.338 X 82186.326
PRW799	5407+02.54	134.66'L	Y 568519.197 X 82065.680
PRW800	5407+04.98	129.74'L	Y 568521.417 X 82070.697
DB283	5407+69.35	0.00'L	Y 568580.025 X 82203.141
DB131	5453+86.44	0.00'R	Y 573192.670 X 82405.820
DB132	5473+38.97	0.00'L	Y 575038.040 X 82975.640
DB133	5491+27.96	0.00'L	Y 576558.420 X 83918.460
DB162	5504+27.88	0.00'R	Y 577657.861 X 84612.017
DB163	5533+07.03	0.00'L	Y 580104.730 X 86129.370

POINT	STATION	OFFSET	COORDINATES
TLE "A"			
TLE175	5392+11.01	129.18'L	Y 567028.866 X 82005.676
TLE174	5392+60.01	147.15'L	Y 567078.598 X 81989.880
TLE172	5393+60.00	145.88'L	Y 567178.445 X 81995.539
TLE171	5394+58.69	157.72'L	Y 567277.560 X 81988.041
TLE170	5395+59.56	178.58'L	Y 567379.242 X 81971.628
TLE169	5396+49.33	181.45'L	Y 567469.052 X 81972.700
TLE200	5396+49.36	183.75'L	Y 567469.180 X 81970.404
TLE201	5397+69.04	183.64'L	Y 567588.741 X 81975.767
TLE202	5399+63.40	139.72'L	Y 567780.991 X 82028.175
TLE211	5401+07.25	129.73'L	Y 567924.265 X 82044.475
TLE210	5401+07.36	139.71'L	Y 567924.809 X 82034.506
TLE "B"			
TLE209	5402+09.44	139.70'L	Y 568026.790 X 82038.996
TLE212	5402+09.91	129.73'L	Y 568026.823 X 82048.979
TLE204	5403+79.25	144.69'L	Y 568196.660 X 82041.470
TLE203	5403+79.50	139.69'L	Y 568196.683 X 82046.476
TLE205	5406+97.58	144.66'L	Y 568514.679 X 82055.471
TLE206	5407+00.06	139.66'L	Y 568516.938 X 82060.576
TLE207	5407+79.98	139.65'L	Y 568596.782 X 82064.091
TLE208	5407+79.98	129.75'L	Y 568596.347 X 82073.987
TLE "C"			
TLE194	5394+00.94	175.73'R	Y 567205.225 X 82318.636
TLE195	5394+03.51	166.44'R	Y 567208.195 X 82309.462
TLE178	5394+68.42	194.35'R	Y 567271.821 X 82340.199
TLE198	5396+69.53	194.52'R	Y 567472.728 X 82349.200
TLE197	5398+69.58	149.82'R	Y 567674.547 X 82313.318
TLE196	5402+98.85	149.37'R	Y 568103.427 X 82331.715
TLE199	5403+03.17	139.37'R	Y 568108.179 X 82321.915

2520168
CATHY WILLIQUETTE LINDSAY
BROWN COUNTY RECORDER
GREEN BAY, WI
RECORDED ON
03/29/2011 11:35 AM
REC FEE: 25.00
EXEMPT #
PAGES: 1

RESERVE FOR REGISTER OF DEEDS
PROJECT NUMBER 1133-03-22 - 4.07
AMENDMENT NUMBER:

SCHEDULE OF UTILITIES & INTERESTS REQUIRED

UTILITY NUMBER	OWNER	INTEREST REQUIRED
100	WISCONSIN PUBLIC SERVICE-ELECTRIC	RELEASE OF RIGHTS
101	AT&T WISCONSIN	RELEASE OF RIGHT
108	TIME WARNER CABLE	RELEASE OF RIGHTS
212	CITY OF GREEN BAY-SANITARY-UA	
213	GREEN BAY WATER DEPARTMENT-UA	

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	FEE ACRES	T.L.E. ACRES	P.L.E. ACRES
31	JEFFERY W. MATHIAS & LINDA KAY ELLIOT	TLE	-	0.018	-
32	LINDA KAY ELLIOT	FEE & TLE	0.022	0.043	-
33	MICHAEL J. ZOLPER	FEE & TLE	11,459 SQ. FT. / 0.002		-
34	JOHN L. BEHNKE & JEANAE S. BEHNKE	FEE & TLE	0.014	0.028	-
35	JAMES M. GLASS, STACY J. GLASS & PATRICIA A. GLASS	TLE	-	0.019	-
36	JOSEPH L. BERKOVITZ	TLE	-	0.019	-
		TLE	-	-	-
38	KENT R. BUERGI & BRENDA A. BUERGI	TLE	-	0.022	-
39	KENT R. BUERGI & BRENDA A. BUERGI	TLE	-	0.022	-
40	CHRIS A. BAYE	TLE	-	0.021	-
41	LAWRENCE J. OLIVER & GAYLE M. OLIVER	TLE	-	0.019	-
42	DARREN J. STOCK & LORI J. STOCK	TLE	-	0.023	-
43	ANNIE PITT & CAROL PITT	TLE	-	0.016	-
44	JAMES A. SCHADEN & JEANIE E. SCHADEN	TLE	-	0.011	-
45	DAVID A. FENGLER	TLE	-	0.020	-
46	MICHAEL H. ASCHENBRENNER	TLE	-	0.031	-
47	ERIC J. CHALLEEN	TLE	-	0.021	-
48	RONALD J. AMBROSIUS & MICHELLE L. SEEFELDT	TLE	-	0.018	-
49	MICHAEL J.BOSTEDT & RITA M.BOSTEDT	TLE	-	0.019	-
50	JAMES C. BAER & CHRISTINE A. BAER	TLE	-	0.021	-
51	KEVIN J.SRENASKI & GLORIA L.SRENASKI	TLE	-	0.018	-
52	BRANDON DUMKE	TLE	-	0.019	-
53	BRUCE W. KOLLMAN	TLE	-	0.031	-
54	CITY OF GREEN BAY, A MUNICIPLE CORP.	TLE	-	0.081	-
			-	-	-
			-	-	-

POINT TO POINT		BEARING	DISTANCE
CLC161	DB284	S 89°48'19" W	80.59'
DB284	DB282	N 02°30'57" E	170.24'
DB282	DB283	N 02°30'57" E	383.06'
DB283	PRW800	S 66°07'48" W	144.83'
PRW800	PRW799	S 66°07'48" W	5.49'
PRW799	PRW798	S 02°31'15" W	322.80'
PRW798	PRW801	N 89°43'55" E	4.96'
PRW801	DB282	N 89°43'55" E	129.89'

COURSE TABLE
USH 41 R/W REFERENCE LINE

POINT TO POINT		BEARING	DISTANCE
DB237	DB129	N 03°33'23" W	13166.44'
DB129	DB130	SEE CURVE TABLE CL58	
DB130	DB131	N 02°30'58" E	6248.32'
DB131	DB132	SEE CURVE TABLE CL59	
DB132	DB133	N 31°48'14" E	1788.98'
DB133	DB162	N 32°14'42" E	1299.92'
DB162	DB163	N 31°48'14" E	2879.15'

CURVE TABLE

CURVE	CH DISTANCE	CH BEARING	RADIUS	ARC LENGTH	PI COORDINATES	
CL59	1931.35'	N 17°09'36" E	3819.72'	1952.53'	Y=574189.806	X=82449.633
CL58	2427.76'	N 0°31'13" W	22918.31	2428.90'	Y=565735.960	X=82078.174

PRIVATE CLAIMS 10 & 11 WSFR, AND SECTION 28 & 33, T24N-R20E

LOCATION SKETCH (NOT TO SCALE)

GRAPHIC SCALE, FEET: 0, 100, 200

PC506 PC CORNER Y=569186.965 X=82591.303
PC505 PC CORNER Y=568605.542 X=82424.882
PC502 PC CORNER Y=567897.139 X=82222.116
PC267 PC CORNER Y=567290.869 X=82054.638
PRW801 CLC161 PC CORNER Y=568027.539 X=82259.440

CITY OF GREEN BAY

FILE NAME : C:\USERS\P\D3\113303A\dgn\USH 41\11330322\040107_rw.dgn
PLOT DATE : 24-MAR-2011 10:11
PLOT BY : $$...plotuser...$$
PLOT NAME : D3
PLOT SCALE : 100.000000:1.000000
APPRAISAL PLAT DATE :

TRANSPORTATION PROJECT PLAT NO: 1133-03-22-4.08

PART OF LOTS 69, 70 & 71, WITHIN THE PLAT OF RED OAK ESTATES 2ND ADDITION, PART OF LOTS 1, 2, & 3, WITHIN THE PLAT OF WOODLAND TRAILS, AND INCLUDING UNPLATTED LANDS IN PRIVATE CLAIMS 12 WEST SIDE FOX RIVER(WSFR); PART OF LOT 3, WITHIN THE PLAT OF WOODLAND TRAILS, AND INCLUDING UNPLATTED LANDS IN PRIVATE CLAIMS 13 WSFR; ALL LOCATED WITHIN THE CITY OF GREEN BAY, BROWN COUNTY, WISCONSIN.

RELOCATION ORDER USH 41 BROWN COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3) AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

CONVENTIONAL ABBREVIATIONS AND SYMBOLS

ACCESS POINT	AP	SECTION CORNER (MATERIAL AS NOTED)	
ACCESS RIGHTS	AR	SET R/W MONUMENT W/CAP (1-1/4" OUTSIDE DIA.x18" IRON PIPE 1.13 LBS/FT)	
ACRES	AC	SET P.K. NAIL	
CHORD BEARING	CH BRG	PROPOSED R/W BOUNDARY POINT	PRWDOO
CHORD DISTANCE	CH DIS	CORPORATE LIMITS	
DEED	(D)	EXISTING R/W	
DOCUMENT	DOC	SECTION LINE	
EAST BOUND	EB	QUARTER LINE	
GAS VALVE	GV	SIXTEENTH LINE	
INLET	▭ IL	PROPOSED OR NEW R/W LINE	
LENGTH OF CURVE	L	PROPOSED EASEMENT LINE	
MANHOLE	◆ MH	PARCEL NUMBER	00
MONUMENT	MON	UTILITY PARCEL NUMBER	000
NORTH BOUND	NB	PROPERTY LINE	PL
PAGE	PG	LOT, TIE AND OTHER MINOR DASHED LINES	
PERMANENT	PERM	ACCESS CONTROL (By Previous Acquisition or Covenant)	
PERMANENT LIMITED EASEMENT	PLE	NO ACCESS (By Acquisition)	
PRIVATE DRIVEWAY	PD	NO ACCESS (By Statutory Authority)	
PROPERTY LINE	PL	LIMITED EASEMENT (Temporary or Permanent)	
RADIUS	RAD		
REFERENCE LINE	℄		
REMAINING	REM		
RIGHT OF WAY	R/W		
SECTION	SEC		
SECTION LINE	¾		
FOUND IRON PIPE	IP ●		
STATION	STA		
TEMPORARY LIMITED EASEMENT	TLE		
TIE POINT	DB1		
VOLUME	VOL		
ADJOINING LANDS WITH SAME OWNER			
PARALLEL TO LINE	00'		
BUILDING TO BE RAZED			
FEE ACQUISITION	VARIOUS HATCHING		

COMMUNICATION UNDERGROUND	C-UG
BURIED GAS LINE	G
SANITARY SEWER LINE	SAN
BURIED WATER LINE	W
BURIED ELECTRIC LINE	E
OVERHEAD ELECTRIC LINE	OH

	COMPENSABLE	NON-COMPENSABLE
POWER POLE	■	□
TELEPHONE POLE	■	□
SIGN	▶	▷
TELEPHONE PEDESTAL	×	×

RESERVE FOR CLAUSES AND NOTE INFORMATION

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

RIGHT OF WAY MONUMENTS ARE TYPE 2 AND WILL BE PLACED PRIOR TO OR AT THE TIME OF LAND TITLE TRANSFER.

AREAS SHOWN IN THE TOTAL ACRES COLUMN OF THE SCHEDULE OF LANDS & INTEREST TABLE MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.

COORDINATES AS SHOWN ARE NOT INTENDED TO BE USED FOR RETRACEMENT PURPOSES AND MUST BE VERIFIED WITH THE COUNTY SURVEY DEPARTMENT.

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, BROWN COUNTY, (ENGLISH), NAD OF 1983 (1991) ADJUSTMENT. ALL PLAT DISTANCES ARE GROUND LENGTH.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

EXISTING RIGHT OF WAY WAS ACQUIRED FROM PROJECTS(S):
F 020 3(9), 9202-02-21, 9202-07-21, 9202-02-22, & COUNTY MAPS

EXISTING ACCESS CONTROL WAS ACQUIRED UNDER PROJECTS(S):
F 020 3(9), 9202-02-22

RIGHT OF WAY REFERENCE LINE MAY NOT BE THE SAME AS THE CONSTRUCTION REFERENCE LINE.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS AS LONG AS REQUIREDFOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE TO PREVENT EROSION OF THE SOIL. ALL TLEs ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO DEPARTMENT OF TRANSPORTATION.

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENTS OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

JON L. HERBEL		3/28/2011
PRINTED NAME	SIGNATURE	DATE

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

NORMAN PAWELCZYK		3/28/2011
PRINTED NAME	SIGNATURE	DATE

PC267
PC CORNER
Y=567290.869
X=82054.638

PC535
PC CORNER
Y=566659.643
X=81880.266

PC47
PC CORNER
COMPUTED
Y=566493.401
X=81834.343

PC46
PC CORNER
COMPUTED
Y=566120.186
X=81364.237

WHITE OAK TERRACE

CITY OF GREEN BAY

LOT 1

OAKWOOD DRIVE

LOT 3

BEECH TREE DRIVE

SUGAR MAPLE COURT

IRONWOOD DRIVE

HAZELWOOD LANE/CTH VK

PC 11 WSFR

PC 12 WSFR

PC 13 WSFR

PC 14 WSFR

USH 41

5385

5390

5380

TLE "A" FOR SLOPING

RIGHT-OF-WAY ℄

BIEMERET STREET

TRAEGER STREET

WIESNER STREET

KENNEDY DRIVE

JOHN MUIR PARK

GREEN BAY

212

GN

0 100 200

GRAPHIC SCALE, FEET

RESERVE FOR REGISTER OF DEEDS
PROJECT NUMBER 1133-03-22 - 4.08
AMENDMENT NUMBER:

2520172
CATHY WILLIQUETTE LINDSAY
BROWN COUNTY RECORDER
GREEN BAY, WI
RECORDED ON
03/29/2011 11:48 AM
REC FEE: 25.00
EXEMPT #
PAGES: 1

POINT TO	POINT	BEARING	DISTANCE
PC535	PC47	S 15°26'33" W	172.47'
PC47	DB285	S 64°09'38" E	309.82'
DB285	PRW794	N 36°06'43" W	245.08'
PRW794	PRW793	N 79°49'55" W	15.00'
PRW793	PRW792	N 10°09'55" E	173.28'
PRW792	PRW791	S 86°55'27" E	3.82'
PRW791	PRW790	N 02°02'10" E	75.01'
PRW790	PRW789	S 86°54'51" E	5.03'
PRW789	DB130	N 42°47'41" E	199.39'
DB130	PRW795	N 47°15'26" E	183.53'
PRW795	PRW796	S 02°14'11" E	446.00'
PRW796	PRW797	S 06°22'32" E	463.66'
PRW797	DB285	N 49°27'34" W	292.16'

POINTS	STATION	OFFSET	COORDINATES
TLE "A"			
TLE185	5385+82.91	173.41'L	Y 566398.870 X 81940.506
TLE184	5385+85.42	189.07'L	Y 566401.712 X 81924.895
PRW793	5387+42.15	163.65'L	Y 566559.006 X 81953.979
TLE183	5387+43.64	173.54'L	Y 566560.771 X 81944.136
TLE182	5388+71.94	154.28'L	Y 566689.368 X 81967.193
TLE180	5390+61.44	129.33'L	Y 566879.003 X 81999.070
TLE181	5390+61.55	137.51'L	Y 566879.442 X 81990.906

POINT	STATION	OFFSET	COORDINATES
DB129	5367+09.22	0.00'R	Y 564522.710 X 82153.580
PRW797	5383+58.12	224.66'R	Y 566168.471 X 82335.206
DB285	5385+45.82	0.00'R	Y 566358.368 X 82113.183
PRW794	5387+39.91	148.82'L	Y 566556.358 X 81968.743
PRW793	5387+42.15	163.65'L	Y 566559.006 X 81953.979
PRW796	5388+21.73	163.96'R	Y 566629.268 X 82283.718
PRW791	5389+12.36	134.44'L	Y 566729.363 X 81988.376
PRW792	5389+12.44	138.26'L	Y 566729.568 X 81984.561
DB130	5391+38.12	0.00'L	Y 566950.370 X 82131.530
PRW795	5392+68.48	129.18'R	Y 567074.932 X 82266.314
DB131	5453+86.44	0.00'R	Y 573192.670 X 82405.820
DB132	5473+38.97	0.00'L	Y 575038.040 X 82975.640
DB133	5491+27.96	0.00'L	Y 576558.420 X 83918.460
DB162	5504+27.88	0.00'R	Y 577657.861 X 84612.017
DB163	5533+07.03	0.00'L	Y 580104.730 X 86129.370

SCHEDULE OF UTILITIES & INTERESTS REQUIRED

UTILITY NUMBER	OWNER	INTEREST REQUIRED
100	WISCONSIN PUBLIC SERVICE-ELECTRIC	RELEASE OF RIGHTS
101	AT&T WISCONSIN	RELEASE OF RIGHT
108	TIME WARNER CABLE	RELEASE OF RIGHTS
212	CITY OF GREEN BAY-SANITARY-LIA	

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	FEE ACRES	T.L.E. ACRES	P.L.E. ACRES
54	CITY OF GREEN BAY, A MUNICIPLE CORP.	FEE	0.327		-
55	TIMOTHY K. ANDERSON	TLE		0.020	-
56	XEE VUE	FEE & TLE	0.022	374-143 SQ. FT	-
57	GARY J. HAEN	FEE & TLE	0.018	0.022	-
58	RIO GRANDE PROPERTIES LLC.	FEE & TLE	0.035	0.023	-
59	PAULA J. LEES	TLE	-	0.028	-
60	DANIEL J. & LISA M. FRANCOIS	TLE		0.029	-
			-	-	-
				-	-
			-	-	-
				-	-
			-	-	-

PRIVATE CLAIMS 12 & 13
WEST SIDE FOX RIVER

COURSE TABLE
USH 41 R/W REFERENCE LINE

POINT TO	POINT	BEARING	DISTANCE
DB237	DB129	N 03°53'23" W	13166.44'
DB129	DB130	SEE CURVE TABLE CL58	
DB130	DB131	N 02°30'58" E	6248.32'
DB131	DB132	SEE CURVE TABLE CL59	
DB132	DB133	N 31°48'14" E	1788.98'
DB133	DB162	N 32°14'42" E	1299.92'
DB162	DB163	N 31°48'14" E	2879.15'

CURVE TABLE

CURVE	CH DISTANCE	CH BEARING	RADIUS	ARC LENGTH	PI COORDINATES	
CL59	1931.35'	N 17°09'36" E	3819.72'	1952.53'	Y=574189.806	X=82449.633
CL58	2427.76'	N 0°31'13" W	22918.31	2428.90'	Y=565735.960	X= 82078.174

LOCATION SKETCH
(NOT TO SCALE)

FILE NAME : C:\USERS\P\D3\113303A\dgn\USH 41\11330322\040108_rw.dgn PLOT DATE : 24-MAR-2011 10:07 PLOT BY : $$...plotuser...$$ PLOT NAME : D3 PLOT SCALE : 100.000000:1.000000
APPRAISAL PLAT DATE :

4.

TRANSPORTATION PROJECT PLAT NO: 1133-09-21-4.01

BEING PART OF LOTS 2 AND 3 OF CERTIFIED SURVEY MAP NO. 3031 AND PART OF LOT 2 OF CERTIFIED SURVEY MAP NO. 2607 AND PART OF LOTS 42, 44 AND 60 OF ASHWAUBENON INDUSTRIAL PARK, FIRST ADDITION, PRIVATE CLAIM 26, VILLAGE OF ASHWAUBENON, BROWN COUNTY, WISCONSIN.

RELOCATION ORDER USH 41 BROWN COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3) AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

2550622
CATHY WILLIQUETTE LINDSAY
BROWN COUNTY RECORDER
GREEN BAY, WI
RECORDED ON
12/06/2011 3:04 PM
REC FEE: 25.00
EXEMPT #
PAGES: 1

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1133-09-21-4.01
AMENDMENT NO:

REFERNCE LINE COURSE TABLE

POINT TO POINT		BEARING	DISTANCE
PC10	D22	S 48°52'27" E	4935.74'
D22	PC C6	S 63°44'33" E	149.52'
PC C6	PT C6	SEE CURVE TABLE	CURVE C6
PT C6	PC C7	S 86°57'46" E	17.08'
PC C7	D23	SEE CURVE TABLE	CURVE C7
D23	PC288	S 72°38'54" E	6175.20'

CONVENTIONAL ABBREVIATIONS AND SYMBOLS

ACCESS POINT	AP	SECTION CORNER (MATERIAL AS NOTED)	
ACCESS RIGHTS	AR	SET R/W MONUMENT W/CAP (1-1/4" OUTSIDE DIA.x18" IRON PIPE 1.13 LBS/FT.)	○
ACRES	AC	SET P.K. NAIL	△
CHORD BEARING	CH BRG	PROPOSED R/W	000
CHORD DISTANCE	CH DIS	BOUNDARY POINT	
DEED	(D)	CORPORATE LIMITS	
DOCUMENT	DOC	EXISTING R/W	
EAST BOUND	EB	SECTION LINE	
GAS VALVE	GV	QUARTER LINE	
INLET		SIXTEENTH LINE	
MANHOLE	MH	PROPOSED OR NEW R/W LINE	
MONUMENT	MON	PROPOSED EASEMENT LINE	
NORTH BOUND	NB	PARCEL NUMBER	00
PAGE	PG	UTILITY PARCEL NUMBER	000
PERMANENT	PERM	PROPERTY LINE	PL
PERMANENT LIMITED EASEMENT	PLE	LOT, TIE AND OTHER MINOR DASHED LINES	
PRIVATE DRIVEWAY	PD	ACCESS RESTRICTED (By Previous Project/Control)	
PROPERTY LINE	PL	NO ACCESS (By Acquisition)	
RADIUS	RAD	NO ACCESS (By Statutory Authority)	
REFERENCE LINE	RL	LIMITED EASEMENT (Temporary or Permanent)	
REMAINING	REM	BURIED FIBER OPTICS CABLE	
RIGHT OF WAY	R/W	BURIED TELEPHONE CABLE	
SECTION	SEC	BURIED GAS LINE	
SECTION LINE			
FOUND 1" IRON PIPE	IP ●		
FOUND 2" IRON PIPE	IP ◉		
STATION	STA		
TEMPORARY LIMITED EASEMENT	TLE		
TIE POINT	DI		
VOLUME	VOL		
ADJOINING LANDS WITH SAME OWNER			
PARALLEL TO LINE	00'		
BUILDING TO BE RAZED			
FEE ACQUISITION	VARIOUS WIDTHS		

	COMPENSABLE	NON-COMPENSABLE
POWER POLE	■	⊕
TELEPHONE POLE	■	⊕
SIGN	▶	⊳
TELEPHONE PEDESTAL	×	⊠

RESERVED FOR NOTE INFORMATION

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTEREST TO DOT.

RIGHT OF WAY REFERENCE LINE MAY NOT BE THE SAME AS THE CONSTRUCTION REFERENCE LINE

RIGHT OF WAY MONUMENTS WILL BE TYPE 2 MONUMENTS AND WILL BE PLACED PRIOR TO OR AT THE TIME OF LAND TITLE TRANSFER.

USH 41 IN BROWN COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF THE WISCONSIN STATUES BY THE HIGHWAY COMMISSION ON JUNE 8, 1972.

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE BROWN COUNTY COORDINATE SYSTEM, NAD OF 1983 (1991) ADJUSTMENT. ALL PLAT DISTANCES ARE GROUND LENGTH.

EXISTING RIGHT OF WAY WAS ACQUIRED UNDER PROJECT(S): 1151-03-21

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

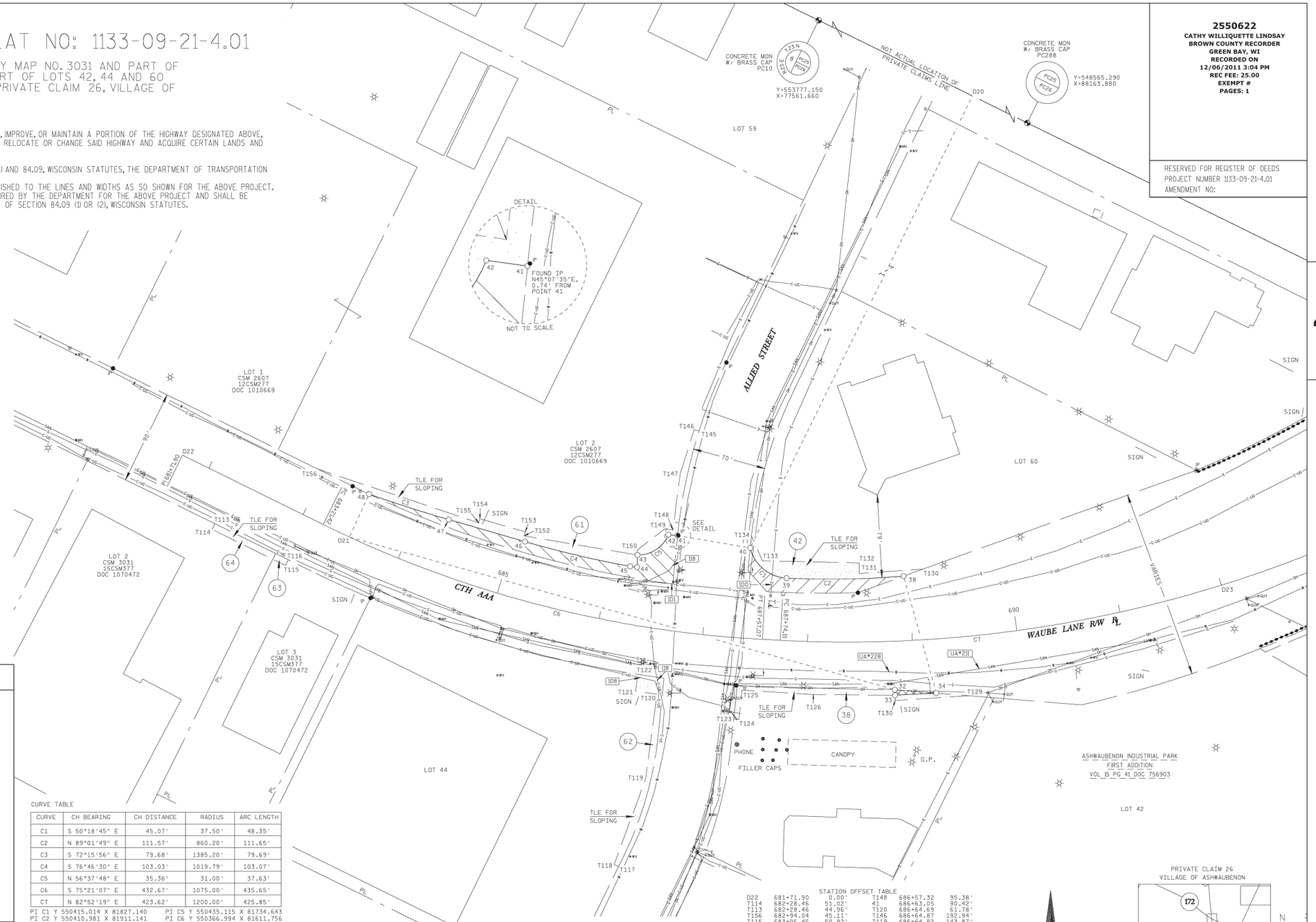
A TEMPORARY LIMITED EASEMENT IS A RIGHT FOR CONSTRUCTION PURPOSES, INCLUDING THE RIGHT TO OPERATE THE NECESSARY EQUIPMENT, THE RIGHT OF INGRESS AND EGRESS AS REQUIRED AND THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT ANY VEGETATION. THE EASEMENT IS TO TERMINATE UPON THE COMPLETION OF THE PROJECT OR 5 YEARS AFTER THE RECORDING OF THIS DOCUMENT, WHICHEVER OCCURS FIRST.

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENTS OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

GREGORY T. BELANGER — PRINTED NAME — Gregory T. Belanger — SIGNATURE — 12/01/2011 — DATE

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

NORMAN PAWELCZYK — PRINTED NAME — Norman H. Pawelczyk — SIGNATURE — 12/01/2011 — DATE



CURVE TABLE

CURVE	CH BEARING	CH DISTANCE	RADIUS	ARC LENGTH
C1	S 50°18'45" E	45.07'	37.50'	48.35'
C2	N 89°01'49" E	111.57'	860.20'	111.65'
C3	S 72°15'56" E	79.68'	1385.20'	79.69'
C4	S 76°46'30" E	103.03'	1019.79'	103.07'
C5	N 56°37'48" E	35.36'	31.00'	37.63'
C6	S 75°21'07" E	432.67'	1075.00'	435.65'
C7	N 82°52'19" E	423.62'	1200.00'	425.85'

PI C1 Y 550415.014 X 81827.140
PI C2 Y 550410.981 X 81911.141
PI C3 Y 550480.422 X 81495.048
PI C4 Y 550434.071 X 81655.519
PI C5 Y 550435.115 X 81734.643
PI C6 Y 550366.994 X 81611.756
PI C7 Y 550342.977 X 82064.240

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	R/W ACRES REQUIRED NEW	EXISTING	TOTAL	TLE ACRES
38	AT&T, INC. A WISCONSIN CORPORATION	FEE & TLE	0.002	-	0.002	0.029
42	GOSSEN & ASSOCIATES, LLC, A WISCONSIN LIMITED LIABILITY COMPANY	FEE & TLE	0.041	-	0.041	0.042
61	JAVIC REALTY PARTNERSHIP	FEE & TLE	0.077	-	0.077	0.075
62	MIDWEST EXPANSION, LLC, A WISCONSIN LIMITED LIABILITY COMPANY	TLE				0.034
63	BERNARD M. & DONNA R. SUSTMAN REVOCABLE TRUST OF THE SUSTMAN REVOCABLE TRUST	TLE				0.002
64	R. WOLTERSTEIN, LLC, A WISCONSIN LIMITED LIABILITY COMPANY	TLE				0.009

SCHEDULE OF UTILITIES & INTERESTS REQUIRED

UTILITY NUMBER	OWNER	INTEREST REQUIRED
100	WISCONSIN PUBLIC SERVICE ELECTRIC (WPS)	RELEASE OF RIGHTS
101	AT&T WISCONSIN	RELEASE OF RIGHTS
108	TIME WARNER CABLE	RELEASE OF RIGHTS
118	SCHNEIDER NATIONAL	RELEASE OF RIGHTS
UA*211	VILLAGE OF ASHWAUBENON SANITARY	UTILITY AGREEMENT
UA*228	VILLAGE OF ASHWAUBENON WATER	UTILITY AGREEMENT

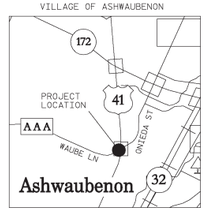
COURSE TABLE

POINT TO POINT		BEARING	DISTANCE
PC10	D20	S 63°49'20" E	5293.25'
D20	40	S 26°10'40" W	1113.78'
40	39	SEE CURVE TABLE	CURVE C1
39	38	SEE CURVE TABLE	CURVE C2
38	34	S 15°34'15" E	115.71'
34	33	S 87°00'28" W	39.31'
33	32	N 02°05'13" W	5.27'
32	D21	N 74°21'47" W	539.85'
D21	48	N 24°47'14" E	44.98'
48	47	SEE CURVE TABLE	CURVE C3
47	46	S 73°52'57" E	75.60'
46	45	SEE CURVE TABLE	CURVE C4
45	44	S 84°08'10" E	6.62'
44	43	N 01°24'00" E	11.50'
43	42	SEE CURVE TABLE	CURVE C5
42	41	S 82°13'51" E	8.83'
41	40	S 80°36'14" E	70.15'

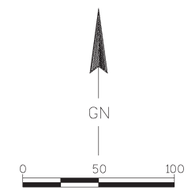
STATION OFFSET TABLE

D22	681+71.90	0.00'	T148	686+57.32	95.38'
T114	682+28.46	51.02'	41	686+63.05	90.42'
T113	682+28.46	44.96'	T120	686+64.69	61.78'
T156	682+94.04	45.11'	T146	686+64.87	132.94'
T115	683+06.46	50.92'	T119	686+64.92	143.87'
T116	683+06.46	44.86'	T145	686+70.66	192.14'
48	683+49.02	44.98'	T123	687+35.28	77.43'
47	684+32.18	51.70'	40	687+39.36	86.28'
T154	684+61.42	62.39'	T134	687+41.81	74.78'
T155	684+61.61	58.40'	T124	687+39.94	77.57'
T153	685+09.20	63.50'	T125	687+40.77	49.50'
T152	685+09.21	59.50'	T133	687+52.81	74.72'
46	685+11.66	54.50'	39	687+77.09	59.51'
45	686+20.24	54.50'	T126	688+06.88	50.45'
T150	686+24.56	71.31'	T132	688+50.00	75.38'
43	686+25.37	66.36'	T131	688+50.00	65.37'
44	686+27.19	54.99'	33	688+81.61	51.50'
T121	686+45.00	61.82'	T128	688+81.61	56.50'
T122	686+45.00	45.71'	32	688+81.61	46.23'
T149	686+48.73	95.27'	38	688+94.62	61.58'
T118	686+49.80	228.31'	T130	689+14.75	67.29'
42	686+53.40	90.34'	34	689+19.31	51.50'
T117	686+53.54	229.40'	T129	689+48.67	56.50'
T147	686+56.31	149.34'	D23	692+00.00	0.00'

PRIVATE CLAIM 26
VILLAGE OF ASHWAUBENON



LOCATION SKETCH (NOT TO SCALE)



FILE NAME : F:\d3_113309\040104_rw.dgn
APPRAISAL PLAT DATE :
PLOT DATE : 06-DEC-2011 09:42 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : 50.000000:1.000000

TRANSPORTATION PROJECT PLAT NO: 1133-09-21-4.02

BEING PART OF LOT 1 OF CERTIFIED SURVEY MAP NO. 2359 AND PART OF LOT 42 OF ASHWAUBENON INDUSTRIAL PARK, FIRST ADDITION, PRIVATE CLAIM 26, VILLAGE OF ASHWAUBENON, BROWN COUNTY, WISCONSIN.

RELOCATION ORDER USH 41 BROWN COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3) AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

2550623
CATHY WILLIQUETTE LINDSAY
BROWN COUNTY RECORDER
GREEN BAY, WI
RECORDED ON
12/06/2011 3:04 PM
REC FEE: 25.00
EXEMPT #
PAGES: 1

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1133-09-21-4.02
AMENDMENT NO:

REFERENCE LINE COURSE TABLE

POINT TO POINT		BEARING	DISTANCE
PC10	D1	S 50°29'40" E	6588.48'
D1	D2	SEE CURVE TABLE CURVE C1	
D2	PC288	S 69°18'55" E	5594.82'

CONVENTIONAL ABBREVIATIONS AND SYMBOLS

ACCESS POINT	AP	SECTION CORNER (MATERIAL AS NOTED)
ACCESS RIGHTS	AR	SET R/W MONUMENT W/CAP 1-1/4" OUTSIDE DIA.x18" IRON PIPE 1.13 LBS/FT1
ACRES	AC	
CHORD BEARING	CH BRG	
CHORD DISTANCE	CH DIS	
DEED	(D)	SET P.K. NAIL
DOCUMENT	DOC	PROPOSED R/W
EAST BOUND	EB	BOUNDARY POINT
GAS VALVE	GV	CORPORATE LIMITS
INLET	I.L.	EXISTING R/W
MANHOLE	MH	SECTION LINE
MONUMENT	MON	QUARTER LINE
NORTH BOUND	NB	SIXTEENTH LINE
PAGE	PG	PROPOSED OR NEW R/W LINE
PERMANENT	PERM	PROPOSED EASEMENT LINE
PERMANENT LIMITED EASEMENT	PLE	PARCEL NUMBER
PRIVATE DRIVEWAY	PD	UTILITY PARCEL NUMBER
PROPERTY LINE	PL	PROPERTY LINE
RADIUS	RAD	LOT, TIE AND OTHER MINOR DASHED LINES
REFERENCE LINE	R	ACCESS RESTRICTED (By Previous Project/Control)
REMAINING	REM	NO ACCESS (By Acquisition)
RIGHT OF WAY	R/W	NO ACCESS (By Statutory Authority)
SECTION	SEC	LIMITED EASEMENT (Temporary or Permanent)
SECTION LINE		BURIED FIBER OPTICS CABLE
FOUND 1" IRON PIPE	IP	BURIED TELEPHONE CABLE
FOUND 2" IRON PIPE	IP	BURIED GAS LINE
STATION	STA	
TEMPORARY LIMITED EASEMENT	TLE	
TIE POINT	TI	
VOLUME	VOL	
ADJOINING LANDS WITH SAME OWNER		
PARALLEL TO LINE	00'	
BUILDING TO BE RAZED		
FEE ACQUISITION	VARIOUS HATCHING	

	COMPENSABLE	NON-COMPENSABLE
POWER POLE	■	⌽
TELEPHONE POLE	■	⌽
SIGN	▶	⌽
TELEPHONE PEDESTAL	✖	⌽

RESERVED FOR NOTE INFORMATION

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTEREST TO DOT.

RIGHT OF WAY REFERENCE LINE MAY NOT BE THE SAME AS THE CONSTRUCTION REFERENCE LINE.

RIGHT OF WAY MONUMENTS WILL BE TYPE 2 MONUMENTS AND WILL BE PLACED PRIOR TO OR AT THE TIME OF LAND TITLE TRANSFER.

USH 41 IN BROWN COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF THE WISCONSIN STATUES BY THE HIGHWAY COMMISSION ON JUNE 8, 1972.

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE BROWN COUNTY COORDINATE SYSTEM, NAD OF 1983 (1991) ADJUSTMENT. ALL PLAT DISTANCES ARE GROUND LENGTH.

EXISTING RIGHT OF WAY WAS ACQUIRED UNDER PROJECT(S): 1151-03-21

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

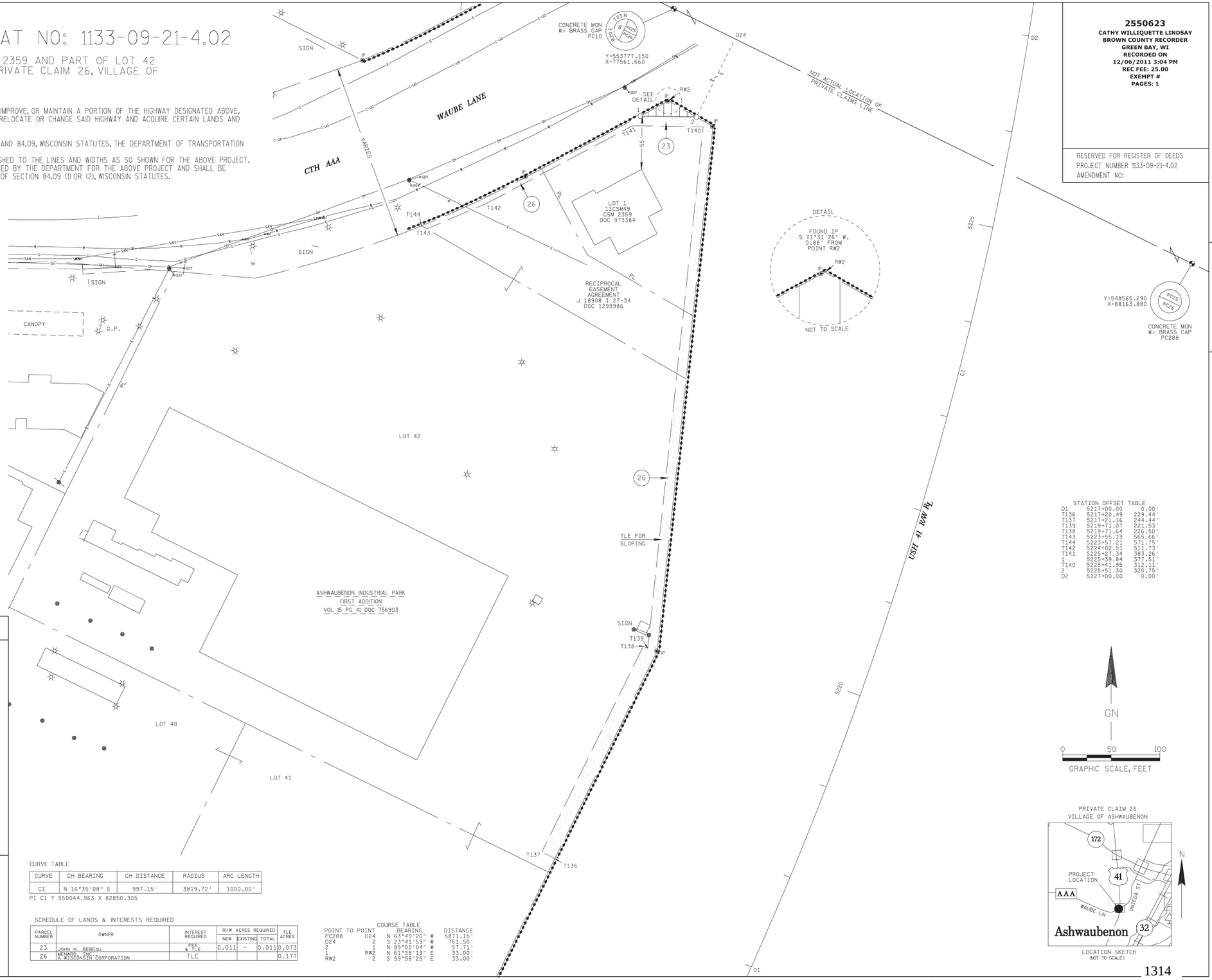
A TEMPORARY LIMITED EASEMENT IS A RIGHT FOR CONSTRUCTION PURPOSES, INCLUDING THE RIGHT TO OPERATE THE NECESSARY EQUIPMENT, THE RIGHT OF INGRESS AND EGRESS AS REQUIRED AND THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT ANY VEGETATION. THE EASEMENT IS TO TERMINATE UPON THE COMPLETION OF THE PROJECT OR 5 YEARS AFTER THE RECORDING OF THIS DOCUMENT, WHICHEVER OCCURS FIRST.

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENTS OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

GREGORY T. BELANGER — PRINTED NAME
Gregory T. Belanger — SIGNATURE
12/01/2011 — DATE

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

NORMAN PAWELCZYK — PRINTED NAME
Norman W. Pawelczyk — SIGNATURE
12/01/2011 — DATE



STATION OFFSET TABLE

D1	5217+00.00	0.00'
T136	5217+20.49	229.44'
T137	5217+21.16	244.44'
T139	5219+71.07	221.53'
T138	5219+71.64	226.50'
T143	5223+55.19	565.66'
T144	5223+57.21	571.75'
T142	5224+02.51	511.73'
T141	5225+27.34	383.26'
1	5225+39.84	377.51'
T140	5225+41.95	312.11'
2	5225+51.30	320.75'
D2	5227+00.00	0.00'

CURVE TABLE

CURVE	CH BEARING	CH DISTANCE	RADIUS	ARC LENGTH
C1	N 16°35'08" E	997.15'	3819.72'	1000.00'

PI C1 Y 550044.963 X 82850.305

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	R/W ACRES REQUIRED NEW	EXISTING	TOTAL	TLE ACRES
23	JOHN H. BEBEAU	FEE & TLE	0.011	-	0.011	0.073
26	MENARD, INC. A WISCONSIN CORPORATION	TLE				0.177

COURSE TABLE

POINT TO POINT		BEARING	DISTANCE
PC288	D24	N 63°49'20" W	5871.15'
D24	2	S 23°41'59" W	761.50'
2	1	N 89°00'04" W	57.71'
1	RW2	N 61°58'19" E	33.00'
RW2	2	S 59°58'25" E	33.00'

GN
0 50 100
GRAPHIC SCALE, FEET

PRIVATE CLAIM 26
VILLAGE OF ASHWAUBENON

LOCATION SKETCH
(NOT TO SCALE)

FILE NAME : F:\d3_113309\040101_rw.dgn
APPRAISAL PLAT DATE :
PLOT DATE : 01-DEC-2011 09:39 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : 50.000000:1.000000

TRANSPORTATION PROJECT PLAT NO: 1133-09-21-4.03

BEING PART OF LOT 1 OF CERTIFIED SURVEY MAP NO. 2929 AND PART OF LOT 3 OF CERTIFIED SURVEY MAP NO. 3324 AND PART OF LOT 2 OF CERTIFIED SURVEY MAP NO. 4221 AND PART OF LOT 1 OF CERTIFIED SURVEY MAP NO. 1965 AND PART OF LOTS 1 AND 2 OF CERTIFIED SURVEY MAP NO. 7708 AND PART OF UNPLATTED LANDS, PRIVATE CLAIM 25, VILLAGE OF ASHWAUBENON, BROWN COUNTY, WISCONSIN.

RELOCATION ORDER USH 41 BROWN COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3) AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

REFERENCE LINE COURSE TABLE

POINT TO POINT		BEARING	DISTANCE
PC10	D29	S 63°56'14" E	6428.84'
D29	PC C8	N 58°33'23" E	218.02'
PC C8	PT C8	SEE CURVE TABLE	CURVE C8
PT C8	PC C9	N 44°17'00" E	40.31'
PC C9	PT C9	SEE CURVE TABLE	CURVE C9
PT C9	PC288	S 55°7'00" E	5135.17'

COURSE TABLE

POINT TO POINT		BEARING	DISTANCE
PC288	D28	N 63°49'20" W	5274.47'
D28	31	N 26°10'40" E	54.93'
31	30	SEE CURVE TABLE	CURVE C1
30	29	N 54°42'38" E	15.16'
29	28	N 56°05'31" E	302.34'
28	27	SEE CURVE TABLE	CURVE C2
27	26	N 71°58'36" E	4.91'
26	25	N 12°36'53" E	83.94'
25	24	SEE CURVE TABLE	CURVE C3
24	23	N 44°17'04" E	48.53'
23	22	N 45°42'46" W	6.20'
22	14	N 15°52'04" E	239.90'
14	15	SEE CURVE TABLE	CURVE C4
15	16	S 41°22'37" W	13.52'
16	17	N 48°06'03" W	12.00'
17	18	S 42°15'15" W	9.22'
18	19	S 47°23'03" E	12.00'
19	20	S 43°02'09" W	110.97'
20	21	SEE CURVE TABLE	CURVE C5
21	3	S 43°09'34" W	69.84'
3	4	SEE CURVE TABLE	CURVE C6
4	5	N 36°16'18" W	1.03'
5	6	S 57°20'01" W	117.71'
6	7	SEE CURVE TABLE	CURVE C7
7	8	S 66°34'09" W	31.61'
8	9	S 62°45'21" W	13.89'
9	31	S 12°52'06" E	178.78'

CONVENTIONAL ABBREVIATIONS AND SYMBOLS

ACCESS POINT	AP	SECTION CORNER (MATERIAL AS NOTED)	
ACCESS RIGHTS	AR	SET R/W MONUMENT W/CAP (1-1/4" OUTSIDE DIA.x18" IRON PIPE 1.13 LBS/FT)	
ACRES	AC		
CHORD BEARING	CH BRG		
CHORD DISTANCE	CH DIS		
DEED	(D)	SET P.K. NAIL	
DOCUMENT	DOC	PROPOSED R/W	
EAST BOUND	EB	BOUNDARY POINT	
GAS VALVE	GV	CORPORATE LIMITS	
INLET	IL	EXISTING R/W	
MANHOLE	MH	SECTION LINE	
MONUMENT	MON	QUARTER LINE	
NORTH BOUND	NB	SIXTEENTH LINE	
PAGE	PG	PROPOSED OR NEW R/W LINE	
PERMANENT	PERM	PROPOSED EASEMENT LINE	
PERMANENT LIMITED EASEMENT	PLE	PARCEL NUMBER	00
PRIVATE DRIVEWAY	PD	UTILITY PARCEL NUMBER	000
PROPERTY LINE	PL	PROPERTY LINE	PL
RADIUS	RAD	LOT, TIE AND OTHER MINOR DASHED LINES	
REFERENCE LINE	℄	ACCESS RESTRICTED (By Previous Project/Control)	
REMAINING	REM	NO ACCESS (By Acquisition)	
RIGHT OF WAY	R/W	NO ACCESS (By Statutory Authority)	
SECTION	SEC	LIMITED EASEMENT (Temporary or Permanent)	
SECTION LINE	S	BURIED FIBER OPTICS CABLE	
FOUND 1" IRON PIPE	IP ●	BURIED TELEPHONE CABLE	
FOUND 2" IRON PIPE	IP ⊕	BURIED GAS LINE	
STATION	STA		
TEMPORARY LIMITED EASEMENT	TLE		
TIE POINT	(D)		
VOLUME	VOL		
ADJOINING LANDS WITH SAME OWNER			
PARALLEL TO LINE	00'		
BUILDING TO BE RAZED			
FEE ACQUISITION	VARIOUS HATCHING		

	COMPENSABLE	NON-COMPENSABLE
POWER POLE	■	○
TELEPHONE POLE	■	□
SIGN	▶	▷
TELEPHONE PEDESTAL	×	⌧

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GREGORY T. BELANGER (PRINTED NAME) — Gregory T. Belanger (SIGNATURE) — 12/01/2011 (DATE)

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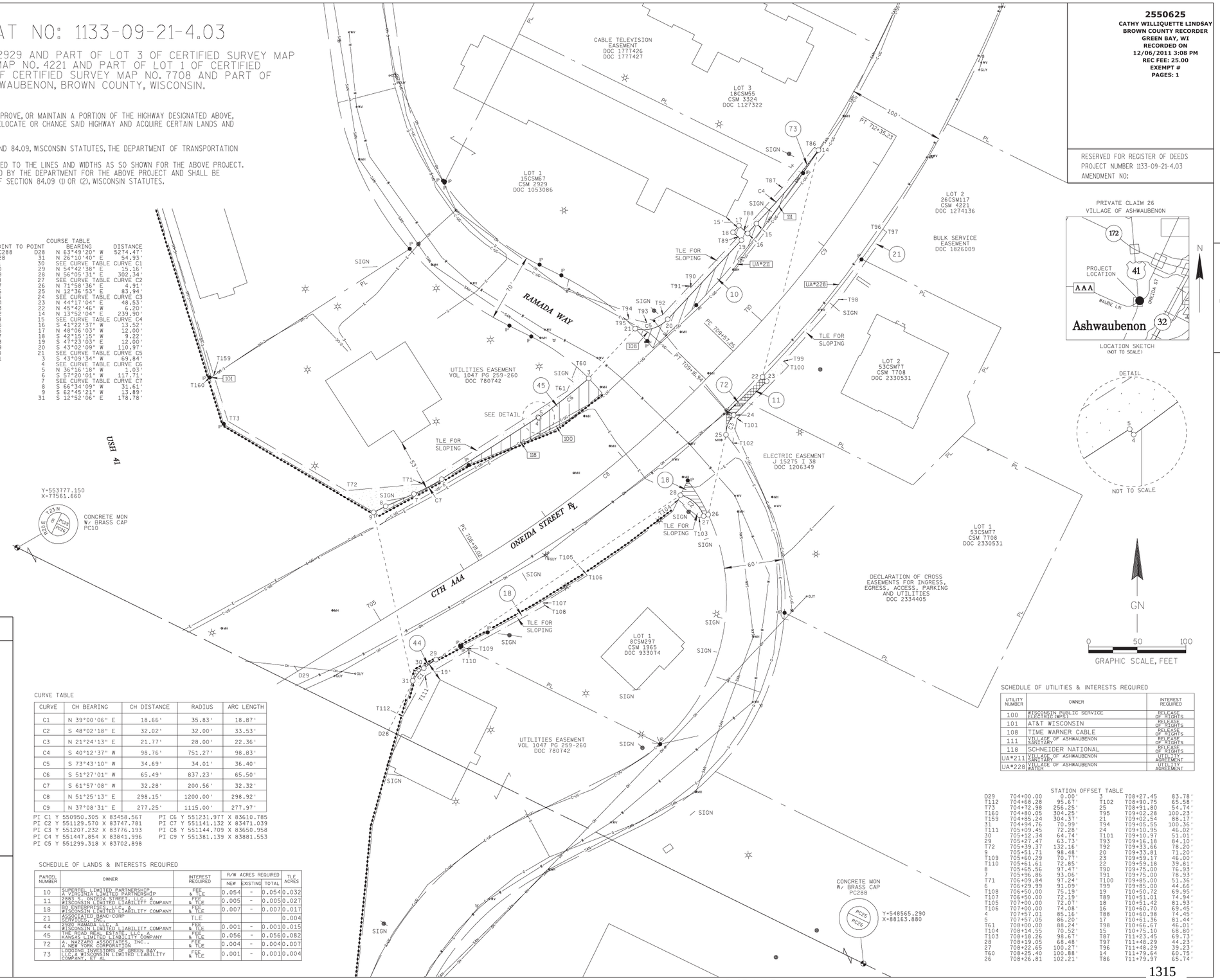
NORMAN PAWELCZYK (PRINTED NAME) — Norman H. Pawelczyk (SIGNATURE) — 12/01/2011 (DATE)



CURVE TABLE

CURVE	CH BEARING	CH DISTANCE	RADIUS	ARC LENGTH
C1	N 39°00'06" E	18.66'	35.83'	18.87'
C2	S 48°02'18" E	32.02'	32.00'	33.53'
C3	N 21°24'13" E	21.77'	28.00'	22.36'
C4	S 40°12'37" W	98.76'	751.27'	98.83'
C5	S 73°43'10" W	34.69'	34.01'	36.40'
C6	S 51°27'01" W	65.49'	837.23'	65.50'
C7	S 61°57'08" W	32.28'	200.56'	32.32'
C8	N 51°25'13" E	298.15'	1200.00'	298.92'
C9	N 37°08'31" E	277.25'	1115.00'	277.97'

PI C1 Y 550950.305 X 83458.567
PI C2 Y 551129.570 X 83747.781
PI C3 Y 551207.232 X 83776.193
PI C4 Y 551447.854 X 83841.996
PI C5 Y 551299.318 X 83702.898
PI C6 Y 551231.977 X 83610.785
PI C7 Y 551141.132 X 83471.039
PI C8 Y 551144.709 X 83650.958
PI C9 Y 551381.139 X 83881.553

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	R/W ACRES REQUIRED NEW	EXISTING	TOTAL	TLE ACRES
10	SUPERIOR LIMITED PARTNERSHIP, A VIRGINIA LIMITED PARTNERSHIP	FEE & TLE	0.054	-	0.054	0.032
11	2882 ONEIDA STREET, LLC, A #WISCONSIN LIMITED LIABILITY COMPANY	FEE & TLE	0.005	-	0.005	0.027
18	#WISCONSIN LIMITED LIABILITY COMPANY	FEE & TLE	0.007	-	0.007	0.017
21	ASSOCIATED BANC-CORP SERVICES, INC	TLE				0.004
44	2920 RAMADA LLC, A #WISCONSIN LIMITED LIABILITY COMPANY	FEE & TLE	0.001	-	0.001	0.015
45	THE ROAD REAL ESTATE, LLC, A KANSAS LIMITED LIABILITY COMPANY	FEE & TLE	0.056	-	0.056	0.082
72	A. NAZZARO ASSOCIATES, INC., A NEW YORK CORPORATION	FEE & TLE	0.004	-	0.004	0.007
73	LODGING INVESTORS OF GREEN BAY, LLC, A #WISCONSIN LIMITED LIABILITY COMPANY, ET AL	FEE & TLE	0.001	-	0.001	0.004

SCHEDULE OF UTILITIES & INTERESTS REQUIRED

UTILITY NUMBER	OWNER	INTEREST REQUIRED
100	#WISCONSIN PUBLIC SERVICE ELECTRIC (MP&L)	RELEASE OF RIGHTS
101	AT&T WISCONSIN	RELEASE OF RIGHTS
108	TIME WARNER CABLE	RELEASE OF RIGHTS
111	VILLAGE OF ASHWAUBENON SANITARY	RELEASE OF RIGHTS
118	SCHNEIDER NATIONAL	RELEASE OF RIGHTS
UA*211	VILLAGE OF ASHWAUBENON SANITARY	UTILITY AGREEMENT
UA*228	VILLAGE OF ASHWAUBENON WATER	UTILITY AGREEMENT

STATION OFFSET TABLE

D29	704+00.00	0.00'	3	708+27.45	83.78'
T112	704+68.28	95.67'	T102	708+90.75	65.58'
T73	704+72.98	256.25'	25	708+91.80	54.74'
T160	704+80.05	304.25'	T95	709+02.28	100.23'
T159	704+85.24	304.37'	21	709+02.54	88.17'
31	704+96.76	70.99'	T94	709+05.55	100.36'
T111	705+09.45	72.28'	24	709+10.95	46.02'
30	705+12.34	64.74'	T101	709+10.97	51.01'
29	705+27.47	63.73'	T93	709+16.18	84.10'
T72	705+39.37	132.16'	T92	709+33.66	78.20'
9	705+51.71	98.48'	20	709+33.81	71.20'
T109	705+60.29	70.77'	23	709+59.17	46.00'
T110	705+61.61	72.85'	22	709+59.18	39.81'
8	705+65.56	97.47'	T90	709+75.00	16.93'
7	705+96.86	93.06'	T91	709+75.00	78.93'
T71	706+09.84	97.24'	T100	709+85.00	51.36'
6	706+29.39	91.09'	T99	709+85.00	64.66'
T108	706+50.00	75.19'	19	710+50.72	69.95'
T107	706+50.00	72.19'	T89	710+51.01	74.94'
T105	707+00.00	72.07'	18	710+51.42	81.93'
T106	707+00.00	74.08'	16	710+60.70	69.45'
4	707+57.01	85.16'	T88	710+60.98	74.45'
5	707+57.05	86.20'	17	710+61.36	81.44'
T61	708+00.00	88.24'	T98	710+66.67	46.01'
T104	708+14.59	70.52'	15	710+75.10	68.80'
T103	708+18.26	98.67'	T87	711+23.45	69.73'
28	708+19.05	68.48'	T97	711+48.29	44.23'
27	708+22.65	100.27'	T96	711+48.29	39.23'
T60	708+25.40	100.88'	14	711+79.64	60.75'
26	708+26.81	102.21'	T86	711+79.97	65.74'

2550625
CATHY WILLIQUETTE LINDSAY
BROWN COUNTY RECORDER
GREEN BAY, WI
RECORDED ON
12/06/2011 3:08 PM
REC FEE: 25.00
EXEMPT #
PAGES: 1

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1133-09-21-4.03
AMENDMENT NO:

PRIVATE CLAIM 26
VILLAGE OF ASHWAUBENON

LOCATION SKETCH
(NOT TO SCALE)

TRANSPORTATION PROJECT PLAT NO: 1133-09-21-4.04

BEING PART OF LOTS 1, 2 AND 3 OF CERTIFIED SURVEY MAP NO. 3255 AND PART OF LOTS 94 AND 95 OF ASHWAUBENON INDUSTRIAL PARK, SECOND ADDITION AND PART OF LOT 7 OF LANGTON'S ESTATE SUBDIVISION OF PART OF PRIVATE CLAIM 25 WEST, VOL. 1, PG. 149 AND PART OF UNPLATTED LANDS, PRIVATE CLAIM 25, VILLAGE OF ASHWAUBENON, BROWN COUNTY, WISCONSIN.

RELOCATION ORDER USH 41 BROWN COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3) AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
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SCHEDULE OF UTILITIES & INTERESTS REQUIRED

UTILITY NUMBER	OWNER	INTEREST REQUIRED
101	AT&T WISCONSIN	RELEASE OF RIGHTS

CONVENTIONAL ABBREVIATIONS AND SYMBOLS

ACCESS POINT	AP	SECTION CORNER (MATERIAL AS NOTED)	
ACCESS RIGHTS	AR	SET R/W MONUMENT W/CAP (1-1/4" OUTSIDE DIA.x18" IRON PIPE 1.13 LBS/FT)	○
ACRES	AC		
CHORD BEARING	CH BRG		
CHORD DISTANCE	CH DIS		
DEED	(D)	SET P.K. NAIL	△
DOCUMENT	DOC	PROPOSED R/W	000
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PRIVATE DRIVEWAY	PD	UTILITY PARCEL NUMBER	000
PROPERTY LINE	PL	PROPERTY LINE	PL
RADIUS	RAD	LOT, TIE AND OTHER MINOR DASHED LINES	
REFERENCE LINE	R	ACCESS RESTRICTED (By Previous Project/Control)	
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FOUND 2" IRON PIPE	IP ⊕	BURIED GAS LINE	
STATION	STA		
TEMPORARY LIMITED EASEMENT	TLE		
TIE POINT	(1)		
VOLUME	VOL		
ADJOINING LANDS WITH SAME OWNER			
PARALLEL TO LINE	00'		
BUILDING TO BE RAZED			
FEE ACQUISITION	VARIOUS HATCHING		

	COMPENSABLE	NON-COMPENSABLE
POWER POLE	●	⊕
TELEPHONE POLE	■	▯
SIGN	▶	▷
TELEPHONE PEDESTAL	✖	⌗

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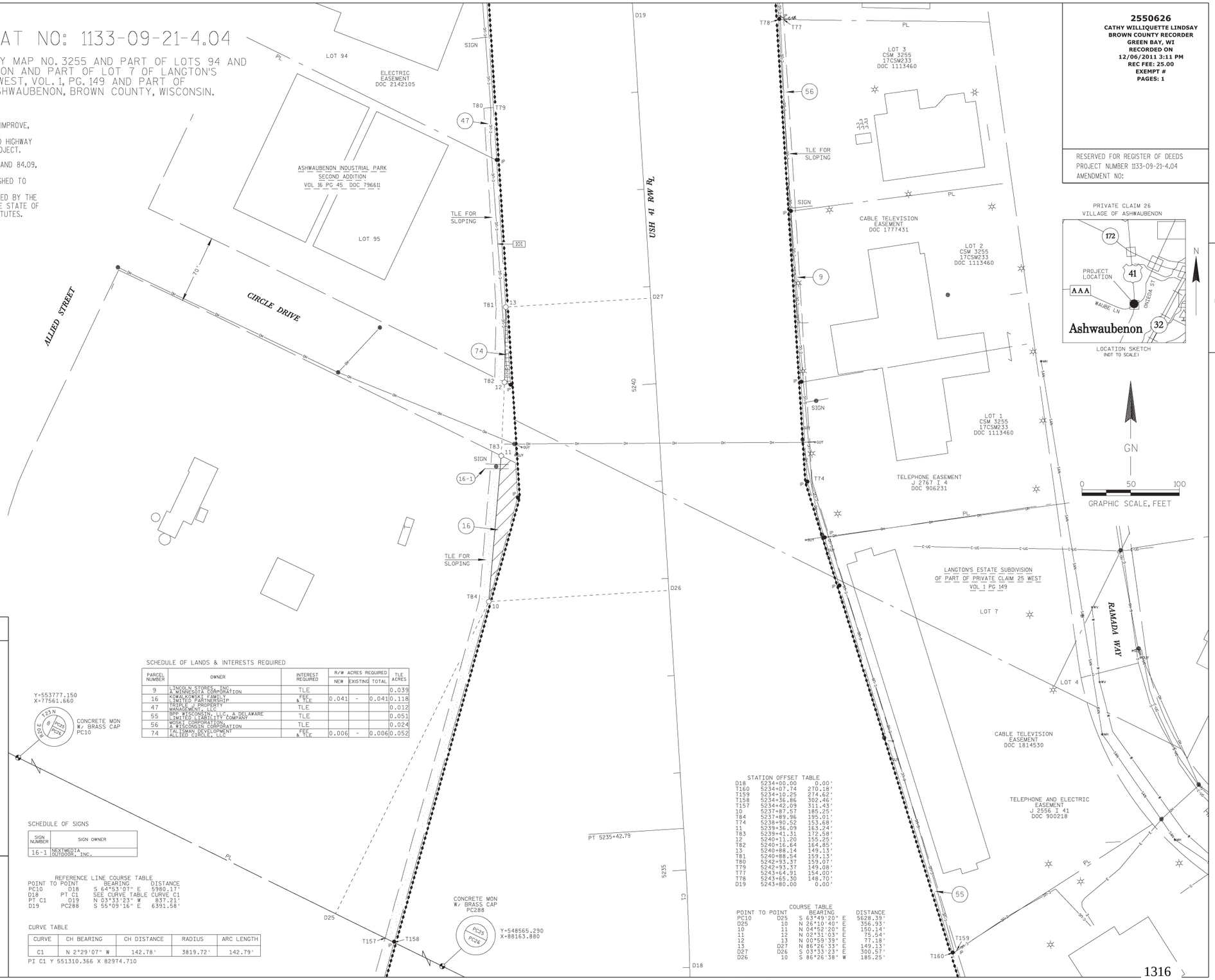


SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	R/W ACRES REQUIRED NEW	EXISTING	TOTAL	TLE ACRES
9	LINCOLN STORES, INC., A MINNESOTA CORPORATION	TLE				0.039
16	KOWALKOWSKI FAMILY LIMITED PARTNERSHIP	FEE & TLE	0.041	-	0.041	0.118
47	TRIPLE T PROPERTY MANAGEMENT, LLC	TLE				0.012
55	SPP WISCONSIN, LLC, A DELAWARE LIMITED LIABILITY COMPANY	TLE				0.051
56	MOSKI CORPORATION, A WISCONSIN CORPORATION	TLE				0.024
74	TALISMAN DEVELOPMENT ALLIED CIRCLE, LLC	FEE & TLE	0.006	-	0.006	0.052

SCHEDULE OF SIGNS

SIGN NUMBER	SIGN OWNER
16-1	NEXTMEDIA OUTDOOR, INC.

REFERENCE LINE COURSE TABLE

POINT TO POINT		BEARING	DISTANCE
PC10	D18	S 64°53'07" E	5980.17'
D18	PT C1	SEE CURVE TABLE	CURVE C1
PT C1	D19	N 03°33'23" W	837.21'
D19	PC288	S 55°09'16" E	6391.58'

CURVE TABLE

CURVE	CH BEARING	CH DISTANCE	RADIUS	ARC LENGTH
C1	N 2°29'07" W	142.78'	3819.72'	142.79'

PI C1 Y 551310.366 X 82974.710

STATION OFFSET TABLE

D18	5234+00.00	0.00'
T160	5234+07.74	270.18'
T159	5234+10.25	274.62'
T158	5234+36.86	302.46'
T157	5234+42.09	311.43'
10	5237+87.57	185.25'
T84	5237+89.96	195.01'
T74	5238+90.52	153.68'
11	5239+36.09	163.24'
T83	5239+41.31	172.58'
12	5240+11.20	155.25'
T82	5240+16.64	164.85'
13	5240+88.14	149.13'
T81	5240+88.54	159.13'
T80	5242+93.37	159.07'
T79	5242+93.37	149.08'
T77	5243+64.91	154.00'
T78	5243+65.30	148.70'
D19	5243+80.00	0.00'

COURSE TABLE

POINT TO POINT		BEARING	DISTANCE
PC10	D25	S 63°49'20" E	5628.39'
D25	10	N 26°10'40" E	356.93'
10	11	N 04°52'20" E	150.14'
11	12	N 02°31'03" E	75.54'
12	13	N 00°59'39" E	77.18'
13	D27	N 86°26'33" E	149.13'
D27	D26	S 03°33'23" E	300.57'
D26	10	S 86°26'38" W	185.25'

2550626
CATHY WILLIQUETTE LINDSAY
BROWN COUNTY RECORDER
GREEN BAY, WI
RECORDED ON
12/06/2011 3:11 PM
REC FEE: 25.00
EXEMPT #
PAGES: 1

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1133-09-21-4.04
AMENDMENT NO:

PRIVATE CLAIM 26
VILLAGE OF ASHWAUBENON

LOCATION SKETCH (NOT TO SCALE)

FILE NAME : F:\d3_113309\040105_rw.dgn
APPRAISAL PLAT DATE :
PLOT DATE : 06-DEC-2011 12:02 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : 50.000000:1.000000

TRANSPORTATION PROJECT PLAT NO: 1133-09-21-4.05

BEING PART OF LOTS 13, 14, 15 AND 16, BLOCK "C" OF GREEN RIDGE SUBDIVISION, FIRST ADDITION AND PART OF UNPLATTED LANDS, PRIVATE CLAIM 20, VILLAGE OF ASHWAUBENON, BROWN COUNTY, WISCONSIN.

RELOCATION ORDER USH 41 BROWN COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3) AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

CONVENTIONAL ABBREVIATIONS AND SYMBOLS

ACCESS POINT	AP	SECTION CORNER (MATERIAL AS NOTED)
ACCESS RIGHTS	AR	SET R/W MONUMENT W/CAP (1-1/4" OUTSIDE DIA.x18" IRON PIPE 1.13 LBS/FT)
ACRES	AC	
CHORD BEARING	CH BRG	
CHORD DISTANCE	CH DIS	
DEED	(D)	SET P.K. NAIL
DOCUMENT	DOC	PROPOSED R/W
EAST BOUND	EB	BOUNDARY POINT
GAS VALVE	GV	CORPORATE LIMITS
INLET	DIL	
MANHOLE	MH	EXISTING R/W
MONUMENT	MON	SECTION LINE
NORTH BOUND	NB	QUARTER LINE
PAGE	PG	SIXTEENTH LINE
PERMANENT	PERM	PROPOSED OR NEW R/W LINE
PERMANENT LIMITED EASEMENT	PLE	PROPOSED EASEMENT LINE
PRIVATE DRIVEWAY	PD	
PROPERTY LINE	PL	PARCEL NUMBER
RADIUS	RAD	
REFERENCE LINE	℄	
REMAINING	REM	UTILITY PARCEL NUMBER
RIGHT OF WAY	R/W	
SECTION	SEC	PROPERTY LINE
SECTION LINE	S	LOT, TIE AND OTHER MINOR DASHED LINES
FOUND 1" IRON PIPE	IP	ACCESS RESTRICTED (By Previous Project/Control)
FOUND 2" IRON PIPE	IP	ACCESS RESTRICTED (By Acquisition)
STATION	STA	NO ACCESS (By Statutory Authority)
TEMPORARY LIMITED EASEMENT	TLE	LIMITED EASEMENT (Temporary or Permanent)
TIE POINT	DI	BURIED FIBER OPTICS CABLE
VOLUME	VOL	BURIED TELEPHONE CABLE
ADJOINING LANDS WITH SAME OWNER		BURIED GAS LINE
PARALLEL TO LINE	00'	
BUILDING TO BE RAZED		
FEE ACQUISITION	VARIOUS HATCHING	

	COMPENSABLE	NON-COMPENSABLE
POWER POLE	■	▯
TELEPHONE POLE	■	▯
SIGN	▶	▷
TELEPHONE PEDESTAL	✖	✖

RESERVED FOR NOTE INFORMATION

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTEREST TO DOT.

RIGHT OF WAY REFERENCE LINE MAY NOT BE THE SAME AS THE CONSTRUCTION REFERENCE LINE

RIGHT OF WAY MONUMENTS WILL BE TYPE 2 MONUMENTS AND WILL BE PLACED PRIOR TO OR AT THE TIME OF LAND TITLE TRANSFER.

USH 41 IN BROWN COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF THE WISCONSIN STATUES BY THE HIGHWAY COMMISSION ON JUNE 8, 1972.

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE BROWN COUNTY COORDINATE SYSTEM, NAD OF 1983 (1991) ADJUSTMENT. ALL PLAT DISTANCES ARE GROUND LENGTH.

EXISTING RIGHT OF WAY WAS ACQUIRED UNDER PROJECT(S): 1151-03-21

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

A TEMPORARY LIMITED EASEMENT IS A RIGHT FOR CONSTRUCTION PURPOSES, INCLUDING THE RIGHT TO OPERATE THE NECESSARY EQUIPMENT, THE RIGHT OF INGRESS AND EGRESS AS REQUIRED AND THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT ANY VEGETATION. THE EASEMENT IS TO TERMINATE UPON THE COMPLETION OF THE PROJECT OR 5 YEARS AFTER THE RECORDING OF THIS DOCUMENT, WHICHEVER OCCURS FIRST.

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENTS OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

GREGORY T. BELANGER (PRINTED NAME) — Gregory T. Belanger (SIGNATURE) — 12/01/2011 (DATE)

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

NORMAN PAWELCZYK (PRINTED NAME) — Norman W. Pawelczyk (SIGNATURE) — 12/01/2011 (DATE)

STATION OFFSET TABLE

D13	5298+00.00	0.00'
T45	5298+85.23	238.98'
35	5301+56.64	221.30'
T46	5301+56.79	226.30'
36	5303+06.64	219.30'
T47	5303+06.89	224.30'
37	5304+06.64	210.58'
T48	5304+06.86	215.58'
T49	5307+16.64	215.49'
T50	5307+16.64	210.49'
D14	5307+50.00	0.00'

REFERENCE LINE COURSE TABLE

POINT TO POINT		BEARING	DISTANCE
PC292	D13	N 64°00'46" W	7883.79'
D13	D14	N 03°33'23" W	950.00'
D14	PC29	N 71°49'26" W	6114.73'

COURSE TABLE

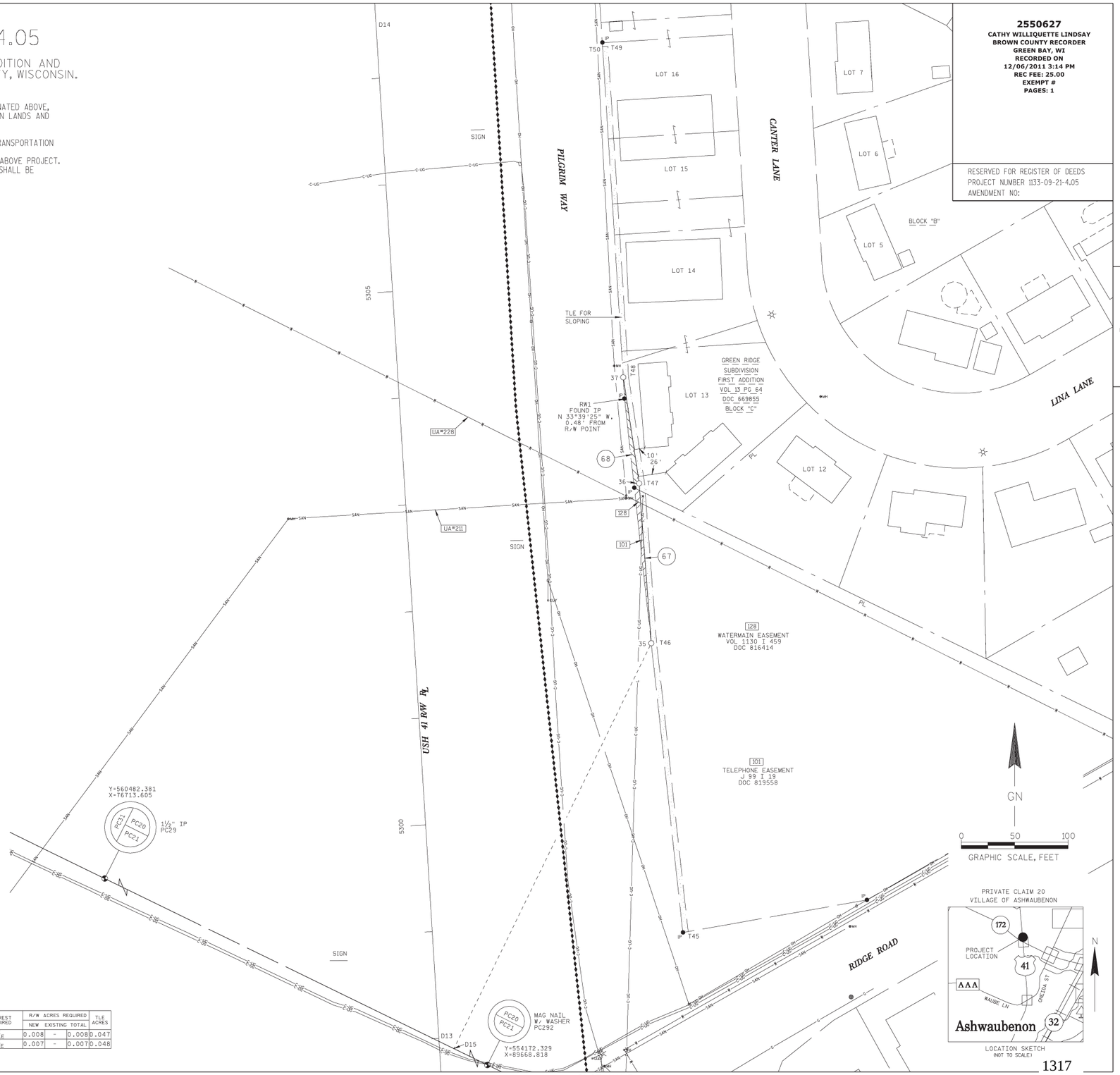
POINT TO POINT		BEARING	DISTANCE
PC29	D15	S 64°01'51" E	6543.23'
D15	35	N 25°58'09" E	421.89'
35	36	N 04°19'12" W	150.01'
36	37	N 08°32'42" W	100.38'
37	RW1	S 03°34'29" E	20.40'
RW1	35	S 06°13'48" E	229.85'

SCHEDULE OF UTILITIES & INTERESTS REQUIRED

UTILITY NUMBER	OWNER	INTEREST REQUIRED
101	AT&T WISCONSIN	RELEASE OF RIGHTS
128	VILLAGE OF ASHWAUBENON WATER	RELEASE OF RIGHTS
UA*211	VILLAGE OF ASHWAUBENON SANITARY	UTILITY AGREEMENT
UA*228	VILLAGE OF ASHWAUBENON WATER	UTILITY AGREEMENT

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	R/W ACRES REQUIRED NEW	EXISTING	TOTAL	TLE ACRES
67	ROBERT A. THOMPSON AS TRUSTEE OF THE ROBERT A THOMPSON TRUST	FEE & TLE	0.008	-	0.008	0.047
68	THE HOPKINS 2401, LLC, A WISCONSIN LIMITED LIABILITY PARTNERSHIP	FEE & TLE	0.007	-	0.007	0.048



2550627
CATHY WILLIQUETTE LINDSAY
BROWN COUNTY RECORDER
GREEN BAY, WI
RECORDED ON
12/06/2011 3:14 PM
REC FEE: 25.00
EXEMPT #
PAGES: 1

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1133-09-21-4.05
AMENDMENT NO:

4

4

1317

FILE NAME : F:\d3_113309\040103_rw.dgn
APPRAISAL PLAT DATE :

PLOT DATE : 01-DEC-2011 09:46 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : 50.000000:1.000000

4.

TRANSPORTATION PROJECT PLAT NO: 1133-09-21-4.06

BEING PART OF LOT 1 OF CERTIFIED SURVEY MAP NO. 2759 AND PART OF LOT 2 OF CERTIFIED SURVEY MAP NO. 5443, PRIVATE CLAIM 24 AND PART OF OUTLOT 1 OF CERTIFIED SURVEY MAP NO. 3146, PRIVATE CLAIMS 23 AND 24, VILLAGE OF ASHWAUBENON, BROWN COUNTY, WISCONSIN.

RELOCATION ORDER USH 41 BROWN COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3) AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

2558854
CATHY WILLIQUETTE LINDSAY
BROWN COUNTY RECORDER
GREEN BAY, WI
RECORDED ON
02/07/2012 10:38 AM
REC FEE: 25.00
EXEMPT #
PAGES: 1

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1133-09-21-4.06
AMENDMENT NO:

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	R/W ACRES REQUIRED NEW	EXISTING	TOTAL	TLE ACRES
52	SMET INVESTMENT, LLC, A WISCONSIN LIMITED LIABILITY COMPANY	FEE	0.032	-	0.032	
81	BEST BUILT, INC., L.C.	FEE & TLE	0.170	-	0.170	0.113
85	JAMMA ENTERPRISES, LLC	TLE				0.016

CONVENTIONAL ABBREVIATIONS AND SYMBOLS

ACCESS POINT	AP	SECTION CORNER (MATERIAL AS NOTED)	
ACCESS RIGHTS	AR	SET R/W MONUMENT W/CAP (1-¼" OUTSIDE DIA.x18" IRON PIPE 1.13 LBS/FT)	○
ACRES	AC	SET P.K. NAIL	△
CHORD BEARING	CH BRG	PROPOSED R/W	
CHORD DISTANCE	CH DIS	BOUNDARY POINT	000
DEED	(D)	CORPORATE LIMITS	
DOCUMENT	DOC	EXISTING R/W	
EAST BOUND	EB	SECTION LINE	
GAS VALVE	GV	QUARTER LINE	
INLET	O IL	SIXTEENTH LINE	
MANHOLE	◉ MH	PROPOSED OR NEW R/W LINE	
MONUMENT	MON	PROPOSED EASEMENT LINE	
NORTH BOUND	NB	PARCEL NUMBER	(00)
PAGE	PG	UTILITY PARCEL NUMBER	(000)
PERMANENT	PERM	PROPERTY LINE	PL
PERMANENT LIMITED EASEMENT	PLE	LOT, TIE AND OTHER MINOR DASHED LINES	
PRIVATE DRIVEWAY	PD	ACCESS RESTRICTED (By Previous Project/Control)	
PROPERTY LINE	PL	NO ACCESS (By Acquisition)	
RADIUS	RAD	NO ACCESS (By Statutory Authority)	
REFERENCE LINE	℄	LIMITED EASEMENT (Temporary or Permanent)	
REMAINING	REM	BURIED FIBER OPTICS CABLE	
RIGHT OF WAY	R/W	BURIED TELEPHONE CABLE	
SECTION	SEC	BURIED GAS LINE	
SECTION LINE	℄		
FOUND 1" IRON PIPE	IP ●		
FOUND 2" IRON PIPE	IP ⊕		
STATION	STA		
TEMPORARY LIMITED EASEMENT	TLE		
TIE POINT	(1)		
VOLUME	VOL		
ADJOINING LANDS WITH SAME OWNER			
PARALLEL TO LINE	00'		
BUILDING TO BE RAZED			
FEE ACQUISITION	VARIOUS HATCHING		

	COMPENSABLE	NON-COMPENSABLE
POWER POLE	●	○
TELEPHONE POLE	■	□
SIGN	▶	▷
TELEPHONE PEDESTAL	×	⌧

RESERVED FOR NOTE INFORMATION

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTEREST TO DOT.

RIGHT OF WAY REFERENCE LINE MAY NOT BE THE SAME AS THE CONSTRUCTION REFERENCE LINE

RIGHT OF WAY MONUMENTS WILL BE TYPE 2 MONUMENTS AND WILL BE PLACED PRIOR TO OR AT THE TIME OF LAND TITLE TRANSFER.

USH 41 IN BROWN COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF THE WISCONSIN STATUES BY THE HIGHWAY COMMISSION ON JUNE 8, 1972.

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE BROWN COUNTY COORDINATE SYSTEM, NAD OF 1983 (1991) ADJUSTMENT. ALL PLAT DISTANCES ARE GROUND LENGTH.

EXISTING RIGHT OF WAY WAS ACQUIRED UNDER PROJECT(S): 1151-03-21

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

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I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENTS OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

GREGORY T. BELANGER (PRINTED NAME) — Gregory T. Belanger (SIGNATURE) — 02/02/2012 (DATE)

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

NORMAN PAWELCZYK (PRINTED NAME) — Norman H. Pawelczyk (SIGNATURE) — 02/02/2012 (DATE)

OUTLOT 1
CSM 3146
16CSM303
DOC 1090313

LOT 2
CSM 5443
35CSM338
DOC 1560374

LOT 1
CSM 2759
13CSM321
DOC 1031743

EXISTING TLE FROM PROJECT 1133-09-22

TLE FOR SLOPING

SPRINGHURST COURT

HANSEN ROAD

USH 41 RW ℄

PC12
MAG NAIL
W/ WASHER
Y=555927.753
X=78619.132

1¼" IP
W/ ALUM CAP
Y=551703.220
X=89160.740
PC286

STATION OFFSET TABLE

D33	5264+00.00	0.00'
T51	5265+37.47	289.27'
T52	5265+37.47	299.29'
T53	5266+91.75	290.14'
T135	5268+84.73	254.70'
49	5268+96.64	242.34'
T127	5270+28.25	292.89'
50	5270+76.64	290.25'
51	5271+71.78	225.06'
D34	5273+00.00	0.00'

REFERENCE LINE COURSE TABLE

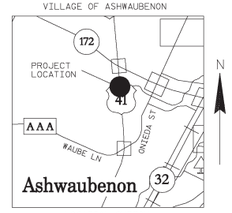
POINT TO POINT		BEARING	DISTANCE
PC12	D33	S 67°54'19" E	4504.73'
D33	D34	N 03°33'23" W	900.00'
D34	PC286	S 61°54'36" E	7281.17'

COURSE TABLE

POINT TO POINT		BEARING	DISTANCE
PC286	D30	N 63°59'23" W	7126.47'
D30	D31	S 03°33'23" E	99.57'
D31	49	S 86°26'36" W	242.34'
49	50	N 18°27'37" W	186.27'
0	51	N 30°51'46" E	115.34'
51	D32	N 86°26'39" E	225.06'
D32	D30	S 03°33'23" E	175.57'

GN
0 50 100
GRAPHIC SCALE, FEET

PRIVATE CLAIMS 23 & 24
VILLAGE OF ASHWAUBENON



LOCATION SKETCH
(NOT TO SCALE)

FILE NAME : F:\d3_113309\040106_rw.dgn
APPRAISAL PLAT DATE :
PLOT DATE : 02-FEB-2012 09:17
PLOT BY : $$...plotuser...$$ PLOT NAME :
PLOT SCALE : 50.000000:1.000000

TRANSPORTATION PROJECT PLAT NO: 1133-03-21 - 4.01

BEING PART OF LOTS 40, 41 AND 42 OF OAK PARK SUBDIVISION FIRST ADDITION, LOT "E" OF CSM NO. 506, PARCEL 1 OF CSM NO. 1001 AND PARCEL 1 OF CSM NO. 1155, ALL LOCATED IN LOT 12, SECTION 28, T24N_R20E, CITY OF GREEN BAY, BROWN COUNTY, WISCONSIN.

CITY

RELOCATION ORDER USH 41 BROWN COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

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1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
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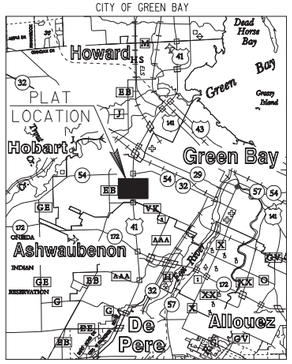
CONVENTIONAL ABBREVIATIONS AND SYMBOLS

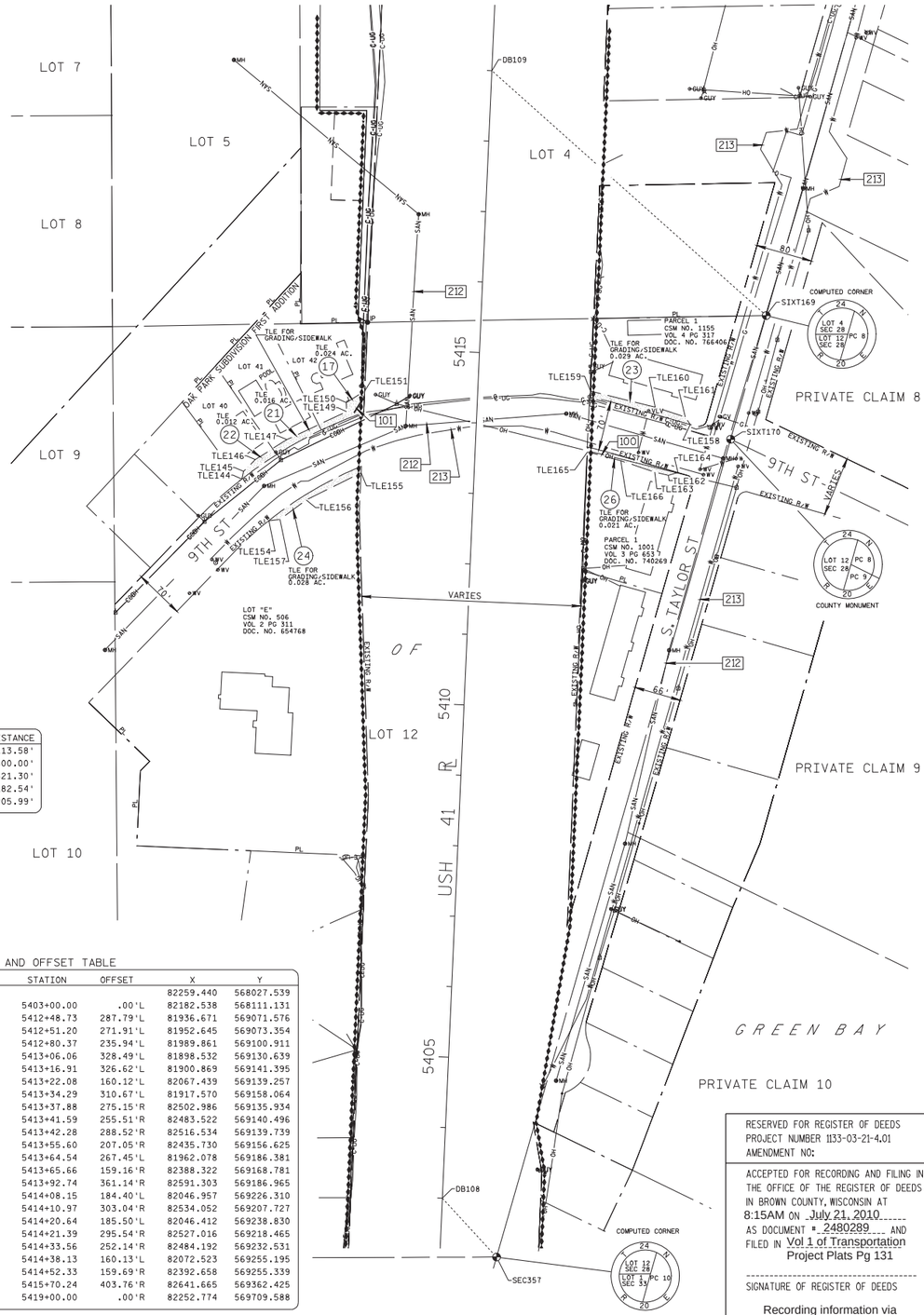
ACRES	AC	SECTION CORNER	
CHORD BEARING	CH BRG	SET R/W MONUMENT W/CAP (1-1/4" OUTSIDE DIA.x18" IRON PIPE 1.13 LBS/FT)	
CHORD DISTANCE	CH DIS		
DEED	(D)	SET P.K. NAIL	
DOCUMENT	DOC	CORPORATE LIMITS	
EAST BOUND	EB	EXISTING R/W	
GAS VALVE	GV	SECTION LINE	
INLET		QUARTER LINE	
MANHOLE		SIXTEENTH LINE	
MONUMENT	MON	PROPOSED OR NEW R/W LINE	
NORTH BOUND	NB	PROPOSED EASEMENT LINE	
PAGE	PG	PROPERTY LINE	
PERMANENT LIMITED EASEMENT	PLE	LOT, TIE AND OTHER MINOR DASHED LINES	
PRIVATE DRIVEWAY	PD	COMMUNICATION LINE	
PROPERTY LINE	PL	BURIED GAS LINE	
RADIUS	RAD	OVERHEAD ELECTRIC LINE	
REFERENCE LINE	℄	BURIED ELECTRIC LINE	
REMAINING	REM	NO ACCESS (By Acquisition)	
RIGHT OF WAY	R/W	NO ACCESS (By Statutory Authority)	
SECTION	SEC	ACCESS RESTRICTED (By Previous Project/Control)	
SECTION LINE	S	LIMITED EASEMENT (Temporary or Permanent)	
FOUND IRON PIPE	IP	PARCEL NUMBER	00
STATION	STA	UTILITY PARCEL NUMBER	000-00
TEMPORARY LIMITED EASEMENT	TLE		
TIE POINT	DB1		
VOLUME	VOL		
ADJOINING LANDS WITH SAME OWNER			
BUILDING TO BE RAZED			
FEE ACQUISITION	VARIOUS HATCHING		
PROPOSED R/W BOUNDARY POINT	PRW000		

	COMPENSABLE	NON-COMPENSABLE
POWER POLE		
TELEPHONE POLE		
SIGN		
TELEPHONE PEDESTAL		

SECTION 28 T24N - R20E
CITY OF GREEN BAY



LOCATION SKETCH
(NOT TO SCALE)



GN

0 100 200
GRAPHIC SCALE, FEET

COURSE TABLE
USH 41 REFERENCE LINE

POINT TO	POINT	BEARING	DISTANCE
SEC357	DB108	N 42°36'47" W	113.58'
DB108	DB109	N 02°30'57" E	1600.00'
DB109	SIXT169	S 48°14'41" E	521.30'
SIXT169	SIXT170	S 16°00'54" W	182.54'
SIXT170	SEC357	S 15°58'22" W	1205.99'

STATION AND OFFSET TABLE

POINT	STATION	OFFSET	X	Y
SEC357			82259.440	568027.539
DB108	5403+00.00	.00'L	82182.538	568111.131
TLE154	5412+48.73	287.79'L	81936.671	569071.576
TLE157	5412+51.20	271.91'L	81952.645	569073.354
TLE156	5412+80.37	235.94'L	81989.861	569100.911
TLE144	5413+06.06	328.49'L	81898.532	569130.639
TLE145	5413+16.91	326.62'L	81900.869	569141.395
TLE155	5413+22.08	160.12'L	82067.439	569139.257
TLE146	5413+34.29	310.67'L	81917.570	569158.064
TLE162	5413+37.88	275.15'R	82502.986	569135.934
TLE163	5413+41.59	255.51'R	82483.522	569140.496
TLE164	5413+42.28	288.52'R	82516.534	569139.739
TLE166	5413+55.60	207.05'R	82435.730	569156.625
TLE147	5413+64.54	267.45'L	81962.078	569186.381
TLE165	5413+65.66	159.16'R	82388.322	569168.781
SIXT170	5413+92.74	361.14'R	82591.303	569186.965
TLE149	5414+08.15	184.40'L	82046.957	569226.310
TLE158	5414+10.97	303.04'R	82534.052	569207.727
TLE150	5414+20.64	185.50'L	82046.412	569238.830
TLE161	5414+21.39	295.54'R	82527.016	569218.465
TLE160	5414+33.56	252.14'R	82484.192	569232.531
TLE151	5414+38.13	160.13'L	82072.523	569255.195
TLE159	5414+52.33	159.69'R	82392.658	569255.339
SIXT169	5415+70.24	403.76'R	82641.665	569362.425
DB109	5419+00.00	.00'R	82252.774	569709.588

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	*OWNER	INTEREST REQUIRED	NEW R/W ACRES	P.L.E. ACRES	T.L.E. ACRES
17	TRENT PLUISTER AND JAMIE HELLER	TLE			0.024
21	LARRY & KIMBERLY CLAXTON JR	TLE			0.016
22	PETER GEISHEKER	TLE			0.012
23	THOMAS WRIGHT	TLE			0.029
24	INCARNATION LUTHERAN CHURCH OF GB A RELIGIOUS CORP.	TLE			0.028
26	GERALD & GLORIA BIGELOW	TLE			0.021
100	WISCONSIN PUBLIC SERVICE-ELEC	RELEASE OF RIGHTS			
101	AT&T WISCONSIN	RELEASE OF RIGHTS			
212	CITY OF GREEN BAY	UTILITY AGREEMENT			
213	GREEN BAY WATER DEPT	UTILITY AGREEMENT			

*OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

RESERVE FOR CLAUSES AND NOTE INFORMATION

COORDINATES AND BEARINGS ON THIS PLAT ARE ORIENTED TO THE BROWN COUNTY COORDINATE SYSTEM, (ENGLISH), NAD 1983 (1991) ADJUSTMENT. ALL PLAT DISTANCES ARE GROUND LENGTHS.

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

USH 41 IN BROWN COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF THE WISCONSIN STATUTES BY THE HIGHWAY COMMISSION ON JUNE 8, 1972.

EXISTING RIGHT OF WAY WAS REESTABLISHED UNDER PROJECT(S): T 02-5(26).

THE REFERENCE LINE SHOWN ON THIS PLAT MAY NOT BE THE SAME AS THE REFERENCE LINE SHOWN ON THE CONSTRUCTION PLAN

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE TO PREVENT EROSION OF THE SOIL. ALL TLE'S EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENTS OF SECTION 84.095, WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

JEFFREY T. BOHRTZ, RLS-2223 — PRINTED NAME
Jeffrey T. Bohrtz — SIGNATURE
7/15/2010 — DATE

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

NORMAN PAWELCZYK — PRINTED NAME
Norman A. Pawelczyk — SIGNATURE
7/15/2010 — DATE

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1133-03-21-4.01
AMENDMENT NO:

ACCEPTED FOR RECORDING AND FILING IN THE OFFICE OF THE REGISTER OF DEEDS IN BROWN COUNTY, WISCONSIN AT 8:15AM ON July 21, 2010 AS DOCUMENT # 2480289 AND FILED IN Vol 1 of Transportation Project Plats Pg 131

SIGNATURE OF REGISTER OF DEEDS

Recording information via email from Debbie Gore, Chief Deputy

FILE NAME : F:\D3_11330321\040101_rw.dgn
APPRAISAL PLAT DATE :
PLOT DATE : 15-JUL-2010 09:52
PLOT BY : $$...plotuser...$$ PLOT NAME :
PLOT SCALE : 100.000000:1.000000

N

SCALE, FEET 0 50 100

WISCONSIN PUBLIC SERVICE
OVERHEAD ELECTRIC

FIBER OPTIC
AT&T

EXISTING R/W

WETLAND BOUNDRY (TYP.)
SLOPE INTERCEPT (TYP.)

EXISTING R/W

R-5-204

ENFORCEMENT PAD

USH 41 SB R

5

796SB USH 41 798SB 800SB 802SB USH 41 SB 804SB 806SB 808SB

MATCH LINE STA. 810+00 NB

5

796NB 798NB 800NB 802NB 804NB 806NB 808NB

USH 41

USH 41 NB

ENFORCEMENT PAD

SLOPE INTERCEPT (TYP.)

USH 41 NB R

NORTH BOUND CD ROADWAY R

S-5-160

EXISTING R/W

BEGIN PROJECT
I.D. 1133-09-71
STA. 799+00.00 NB
Y = 547,213.45
X = 81,515.06

B-5-615

R-5-205

EXISTING R/W

TLE REQ'D FOR
SLOPING

VILLAGE OF ASHWAUBENON
WATER MAIN

GLORY ROAD

TLE REQ'D FOR
SLOPING

VILLAGE OF ASHWAUBENON
SANITARY SEWER

CORONET WAY

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN SHEET USH 41	SHEET 1320	E

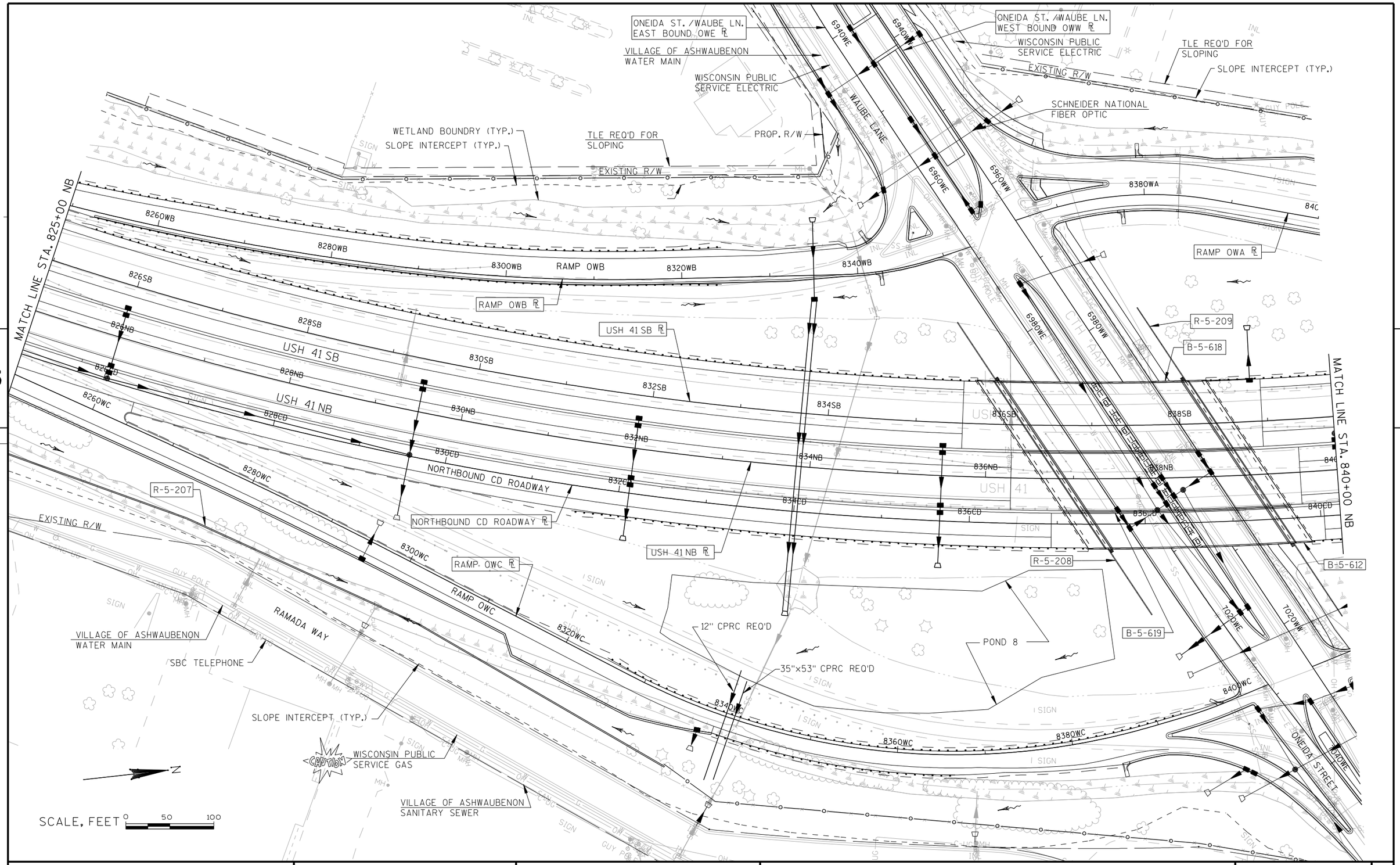
FILE NAME : j:\jobs2006\20062041\ne_11330900eb\1133-09-71_US41_Mainline\050101_pp.dgn PLOT DATE : 4/7/2013 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

SCALE, FEET 0 50 100

SCHNEIDER NATIONAL FIBER OPTIC
CAUTION
WISCONSIN PUBLIC SERVICE GAS
VILLAGE OF ASHWAUBENON SANITARY SEWER
WISCONSIN CENTRAL LTD.
PARKVIEW RD.
ATT TELEPHONE
EXISTING R/W
GRADE EXISTING DITCHES AWAY FROM RAILROAD TRACKS TO DRAIN TO THE NORTH
SLOPE INTERCEPT (TYP.)
WETLAND BOUNDRY (TYP.)
EXISTING R/W
198PRK
B-5-616
R-5-206
S-5-159
R-5-207
RAMP OWB
USH 41 SB
8220WB
8240WB
MATCH LINE STA. 810+00 NB
812SB 814SB 816SB 818SB 820SB 822SB 824SB
USH 41 SB
812NB 814NB 816NB 818NB 820NB 822NB 824NB
812CD 814CD 816CD 818CD 820CD 822CD 824CD
USH 41 NB
NORTHBOUND CD ROADWAY
B-5-617
200PRK
S-5-163
S-5-160
SLOPE INTERCEPT (TYP.)
TLE REQ'D FOR SLOPING
USH 41 NB
RAMP OWC
B-5-621
EXISTING R/W
R-5-206
NORTHBOUND CD ROADWAY
TLE REQ'D FOR SLOPING
ATT TELEPHONE
PARKVIEW ROAD
202PRK
RAMADA WAY
EXISTING R/W
VILLAGE OF ASHWAUBENON WATER MAIN
WISCONSIN CENTRAL LTD.
CORONET WAY
MATCH LINE STA. 825+00 NB

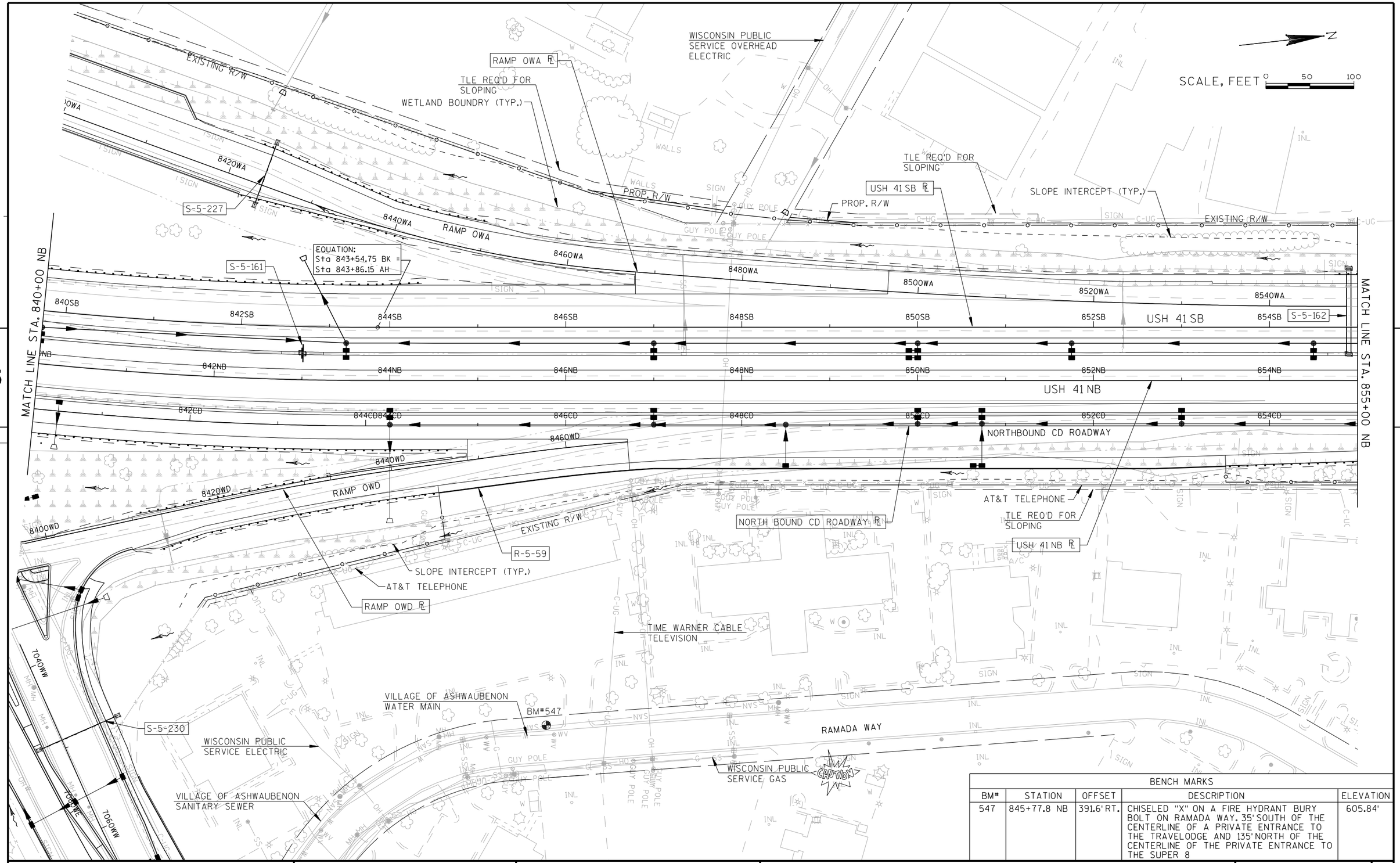
PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN SHEET USH 41	SHEET 1321 E

FILE NAME : j:\jobs2006\20062041\ne_11330900eb\1133-09-71_us41_mainline\050102_pp.dgn PLOT DATE : 4/7/2013 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$



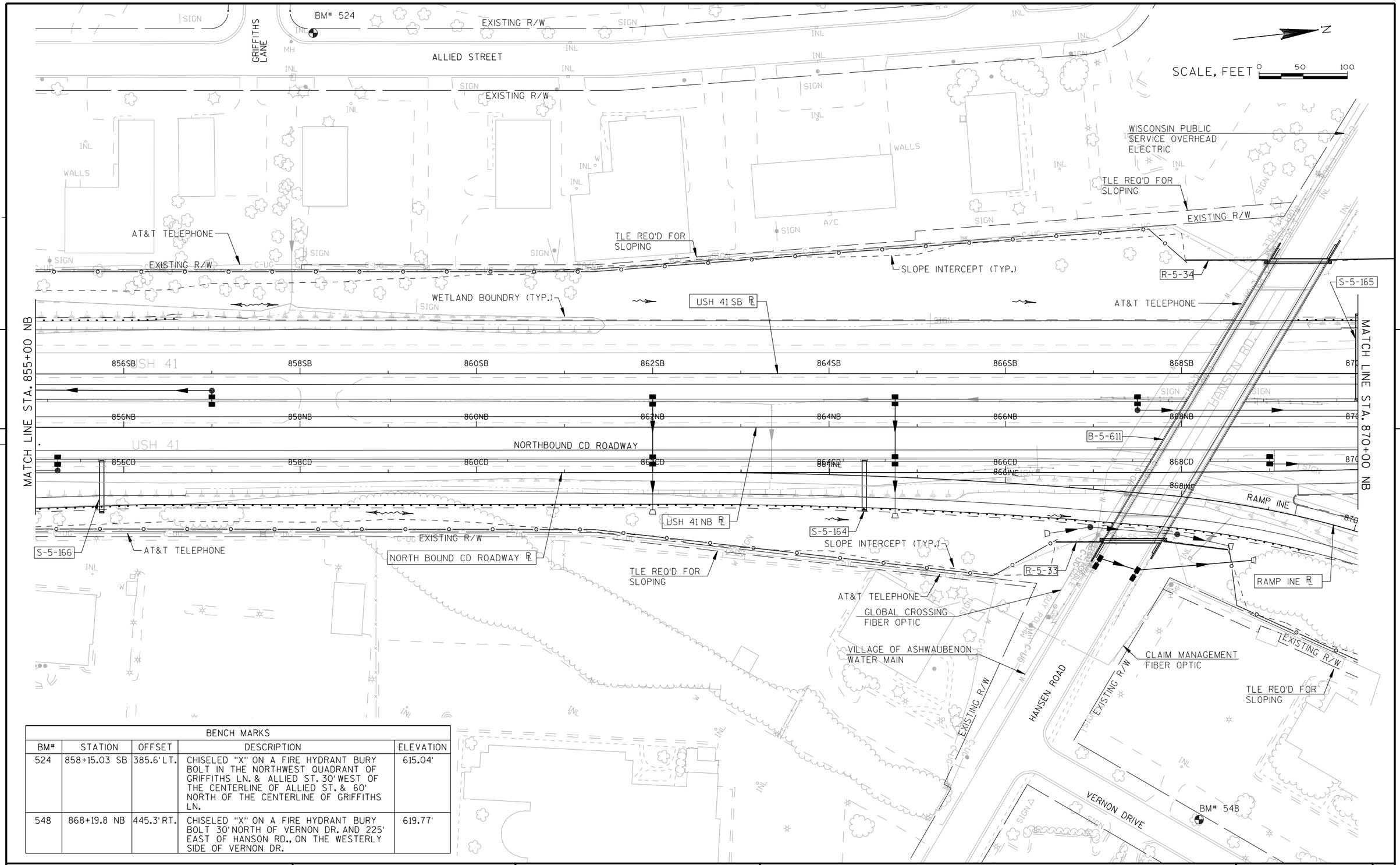
PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN SHEET USH 41	SHEET 1322 E

FILE NAME : j:\jobs2006\20062041\ne_11330900eb\1133-09-71_us41_mainline\050103_pp.dgn PLOT DATE : 4/7/2013 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 44



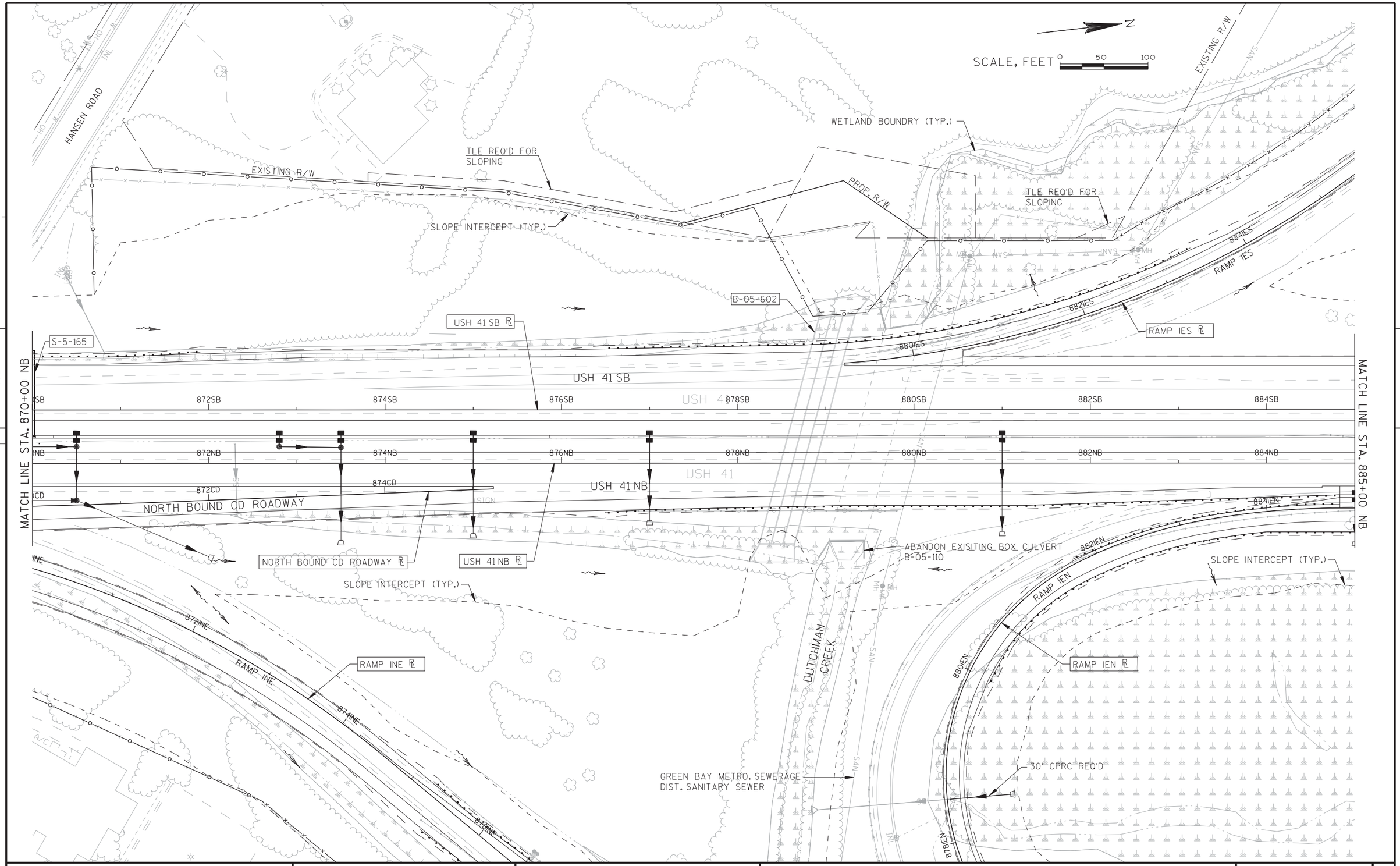
BENCH MARKS				
BM#	STATION	OFFSET	DESCRIPTION	ELEVATION
547	845+77.8 NB	391.6' RT.	CHISELED "X" ON A FIRE HYDRANT BURY BOLT ON RAMADA WAY, 35' SOUTH OF THE CENTERLINE OF A PRIVATE ENTRANCE TO THE TRAVELODGE AND 135' NORTH OF THE CENTERLINE OF THE PRIVATE ENTRANCE TO THE SUPER 8	605.84'

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN SHEET USH 41	SHEET 1323	E



BENCH MARKS				
BM#	STATION	OFFSET	DESCRIPTION	ELEVATION
524	858+15.03 SB	385.6' LT.	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE NORTHWEST QUADRANT OF GRIFFITHS LN. & ALLIED ST. 30' WEST OF THE CENTERLINE OF ALLIED ST. & 60' NORTH OF THE CENTERLINE OF GRIFFITHS LN.	615.04'
548	868+19.8 NB	445.3' RT.	CHISELED "X" ON A FIRE HYDRANT BURY BOLT 30' NORTH OF VERNON DR. AND 225' EAST OF HANSON RD., ON THE WESTERLY SIDE OF VERNON DR.	619.77'

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN SHEET USH 41	SHEET 1324 E



5

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN SHEET USH 41	SHEET 1325	E

N

SCALE, FEET 0 50 100

GREEN BAY METRO. SEWERAGE DIST. SANITARY SEWER

WETLAND BOUNDRY (TYP.)

RAMP ISE

RAMP IWS

RAMP INW

SLOPE INTERCEPT (TYP.)

B-5-624

R-5-210

R-5-211

USH 41 SB

B-5-626

B-5-625

B-5-627

USH 41 NB

B-5-622

B-5-623

R-5-212

R-5-213

USH 41 NB

RAMP IEN

24" CPRC REQ'D

WISDOT FIBER OPTIC

RAMP IWN

N-05-0010-01

EXISTING R/W

TLE REQ'D FOR SLOPING

STH 172 WB

STH 172 EB

RAMP IEN

MATCH LINE STA. 885+00 NB

MATCH LINE STA. 900+00 NB

5

5

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN SHEET USH 41	SHEET 1326 E

SCALE, FEET 0 50 100

WETLAND BOUNDRY (TYP.)

GREEN BAY METRO. SEWERAGE DIST. SANITARY SEWER

COORDINATE WITH WISDOT TO DETERMINE IF EXISTING PIPE CAN REMAIN OR NEEDS TO BE REPLACED.

CAUTION

WISCONSIN PUBLIC SERVICE GAS

VILLAGE OF ASHWAUBENON SANITARY SEWER

RAMP IWS ℄

RAMP IWS 904IWS

902IWS

POND 9

AT&T TELEPHONE

12" CPRC REQ'D

USH 41 SB ℄

SIGN

VILLAGE OF ASHWAUBENON SCHOOL DISTRICT FIBER OPTIC

VILLAGE OF ASHWAUBENON WATER MAIN

TIME WARNER CABLE TELEVISION

N-05-0011-01

WISCONSIN PUBLIC SERVICE ELECTRIC

NORTH ROAD ℄

NORTH ROAD 912NOR

910ISE

RAMP ISE

RAMP ISE ℄

VILLAGE OF ASHWAUBENON SANITARY SEWER

912ISE

914NOR

914ISE

SLOPE INTERCEPT (TYP.)

MATCH LINE STA. 900+00 NB

902SB 904SB 906SB 908SB USH 41 SB 910SB 912SB USH 41 914SB

902NB 904NB 906NB 908NB USH 41 NB 910NB 912NB 914NB

902IEN 904IEN 906IEN 908IEN 910IEN 912IEN USH 41 914IEN

RAMP IEN

RAMP IWN

RAMP IWN ℄

RAMP IEN ℄

VILLAGE OF ASHWAUBENON SANITARY SEWER

SLOPE INTERCEPT (TYP.)

906PIL 908PIL 910PIL 912PIL 914PIL

USH 41 NB ℄

N-05-0010-01

PILGRIM WAY ℄

72" CPRC REQ'D

AT&T TELEPHONE

EXISTING R/W

19"x30" CPRC REQ'D

TLE REQ'D FOR SLOPING

WISCONSIN PUBLIC SERVICE ELECTRIC

CAUTION

WISCONSIN PUBLIC SERVICE GAS

TIME WARNER CABLE TELEVISION

PILGRIM WAY

RIDGE ROAD

VILLAGE OF ASHWAUBENON SANITARY SEWER

VILLAGE OF ASHWAUBENON WATER MAIN

WISCONSIN PUBLIC SERVICE OVERHEAD ELECTRIC

VILLAGE OF ASHWAUBENON WATER MAIN

TLE REQ'D FOR SLOPING

VILLAGE OF ASHWAUBENON SANITARY SEWER

MATCH LINE STA. 915+00 NB

5 5

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN SHEET USH 41	SHEET 1327 E

BENCH MARKS

BM#	STATION	OFFSET	DESCRIPTION	ELEVATION
550	929+77.0 NB	325.4'	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE NORTHEAST QUADRANT OF PILGRIM WAY & CORMIER RD. 25' NORTH OF CORMIER RD. & 90' EAST OF THE CENTERLINE OF PILGRIM WAY	629.65'

N

SCALE, FEET 0 50 100

5

5

MATCH LINE STA. 915+00 NB

MATCH LINE STA. 930+00 NB

CEDAR RIDGE

WISCONSIN PUBLIC SERVICE ELECTRIC

WISCONSIN PUBLIC SERVICE ELECTRIC

AT&T TELEPHONE

TIME WARNER CABLE TELEVISION

AT&T TELEPHONE

CAUTION

WISCONSIN PUBLIC SERVICE GAS

NORTH ROAD

916NOR

RAMP ISE R

NORTH ROAD R

EXISTING R/W

SLOPE INTERCEPT (TYP.)

928NOR

NORTH ROAD

930NO

918NOR

WETLAND BOUNDRY (TYP.)

920NOR

922NOR

924NOR

926NOR

N-05-0011-01

USH 41 SB R

916ISE

RAMP ISE

918ISE

920ISE

922ISE

S-5-168

924ISE

USH 41 SB

916SB

918SB

920SB

922SB

924SB

926SB

928SB

930

916NB

918NB

920NB

922NB

924NB

926NB

928NB

930

USH 41 NB

916IEN

918IEN

RAMP IEN

USH 41 NB R

N-05-0010-01

916PIL

918PIL

920PIL

922PIL

924PIL

926PIL

928PIL

PILGRIM WAY

PILGRIM WAY R

R-5-35

SLOPE INTERCEPT (TYP.)

EXISTING R/W

WISCONSIN PUBLIC SERVICE ELECTRIC

VILLAGE OF ASHWAUBENON SANITARY SEWER

EXISTING R/W

CANTER LANE

CORMIER ROAD

BM# 550

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN SHEET USH 41	SHEET 1328	E

BENCH MARKS

BM#	STATION	OFFSET	DESCRIPTION	ELEVATION
528A	934+30.3 SB	418.6' LT.	CHISELED "X" ON A FIRE HYDRANT BURY BOLT ON CORMIER RD., 275' WEST OF THE CENTERLINE OF NORTH RD. & 25' NORTH OF THE CENTERLINE OF CORMIER RD.	642.72'

N

SCALE, FEET 0 50 100

BM# 528A

WISCONSIN PUBLIC SERVICE GAS

WISCONSIN PUBLIC SERVICE ELECTRIC

NORTH ROAD

932NOR

496COR

VILLAGE OF ASHWAUBENON SANITARY SEWER

BROWN COUNTY FIBER OPTIC

AT&T TELEPHONE

TIME WARNER CABLE TELEVISION

B-5-628

R-5-214

WETLAND BOUNDRY (TYP.)

ORLANDO DRIVE

WISCONSIN PUBLIC SERVICE ELECTRIC

EXISTING R/W

SLOPE INTERCEPT (TYP.)

USH 41 SB R

N-05-0011-01

USH 41 SB

USH 41

USH 41 NB

USH 41 NB R

N-05-0010-01

S-5-173

MATCH LINE STA. 930+00 NB

MATCH LINE STA. 945+00 NB

932SB 934SB 936SB 938SB 940SB 942SB 944SB

932NB 934NB 936NB 938NB 940NB 942NB 944NB

5

5

R-5-215

B-5-629

CORMIER ROAD

502COR

VILLAGE OF ASHWAUBENON WATER MAIN

SLOPE INTERCEPT (TYP.)

EXISTING R/W

AT&T TELEPHONE

TLE REQ'D FOR SLOPING

WISCONSIN PUBLIC SERVICE ELECTRIC

CARSTENSEN LANE

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN SHEET USH 41	SHEET 1329 E

BENCH MARKS

BM#	STATION	OFFSET	DESCRIPTION	ELEVATION
529	946+62.6 SB	453.4' LT.	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE SOUTHWEST QUADRANT OF SANTA BARBARA DR. & EMINENCE ST. 35' WEST OF SANTA BARBARA DR. AND 25' NORTH OF PRIVATE ENTRANCE 1351	646.43'
551	959+51.6 NB	334.4' RT.	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE NORTHWEST QUADRANT OF MORRIS AVE. & ARGONNE ST. 40' NORTH OF MORRIS AVE. & 60' WEST OF ARGONNE ST.	640.59'

N

SCALE, FEET 0 50 100

BM# 529

EXISTING R/W

MESA DRIVE

WISCONSIN PUBLIC SERVICE ELECTRIC

EXISTING R/W

WETLAND BOUNDRY (TYP.)

SLOPE INTERCEPT (TYP.)

N-05-0011-01

USH 41 SB

END PROJECT I.D. 1133-09-71

BEGIN PROJECT I.D. 1133-03-77

STA. 954+00 NB

5

5

MATCH LINE STA. 945+00 NB

946SB 948SB 950SB 952SB 954SB 956SB 958SB 960SB

946NB 948NB 950NB 952NB 954NB 956NB 958NB 960NB

USH 41 SB

USH 41 NB

USH 41

USH 41 NB

N-05-0010-01

VILLAGE OF ASHWAUBENON WATER MAIN

SLOPE INTERCEPT (TYP.)

EXISTING R/W

TLE REQ'D FOR SLOPING

AT&T TELEPHONE

WISCONSIN PUBLIC SERVICE ELECTRIC

VILLAGE OF ASHWAUBENON SANITARY SEWER

VILLAGE OF ASHWAUBENON WATER MAIN

EXISTING R/W

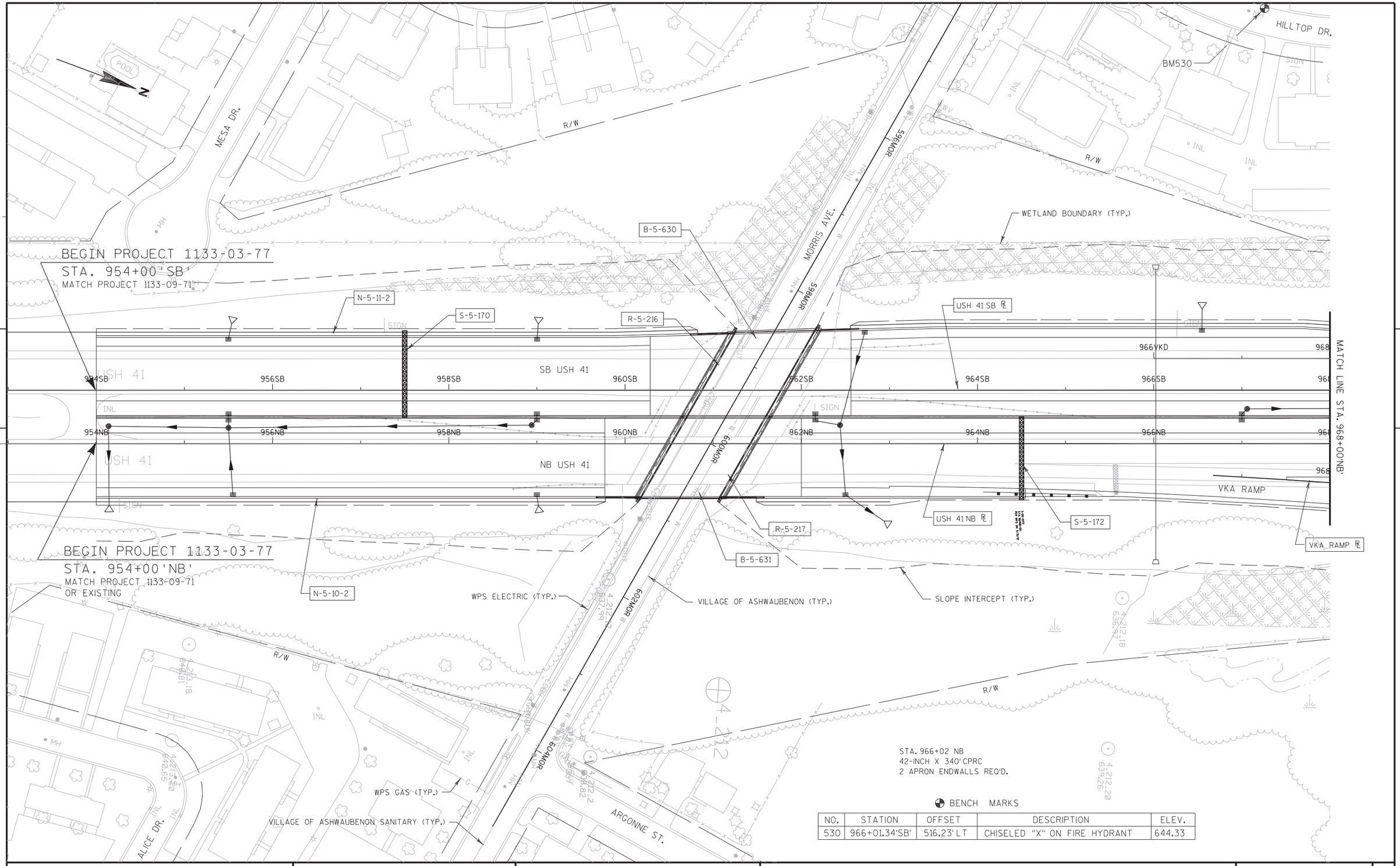
CARSTENSEN LANE

ECHO LANE

MORRIS AVENUE

BM# 551

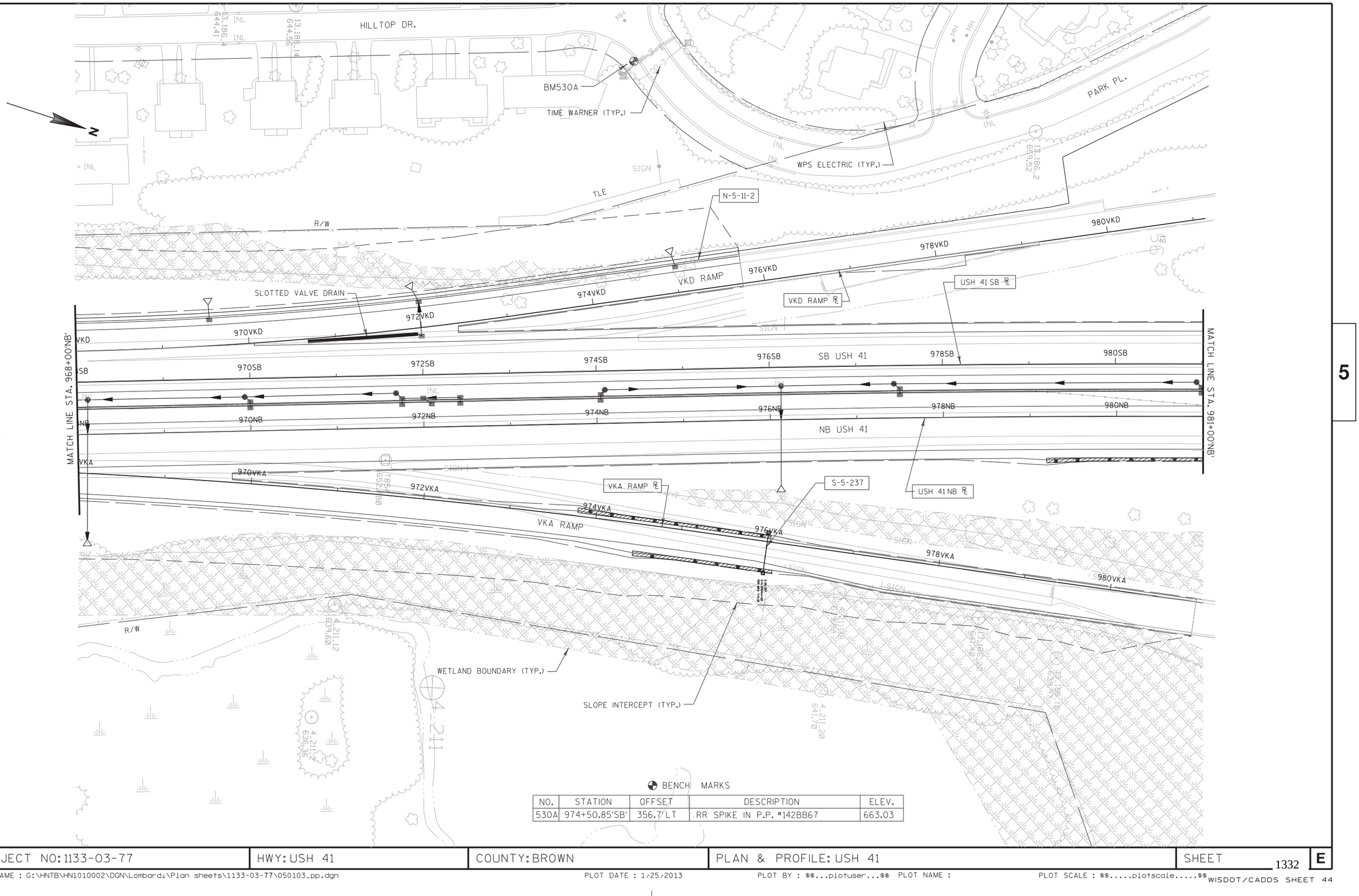
PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN SHEET USH 41	SHEET 1330	E



BENCH MARKS

NO.	STATION	OFFSET	DESCRIPTION	ELEV.
530	966+01.34'SB'	516.23' LT	CHISELED "X" ON FIRE HYDRANT	644.33

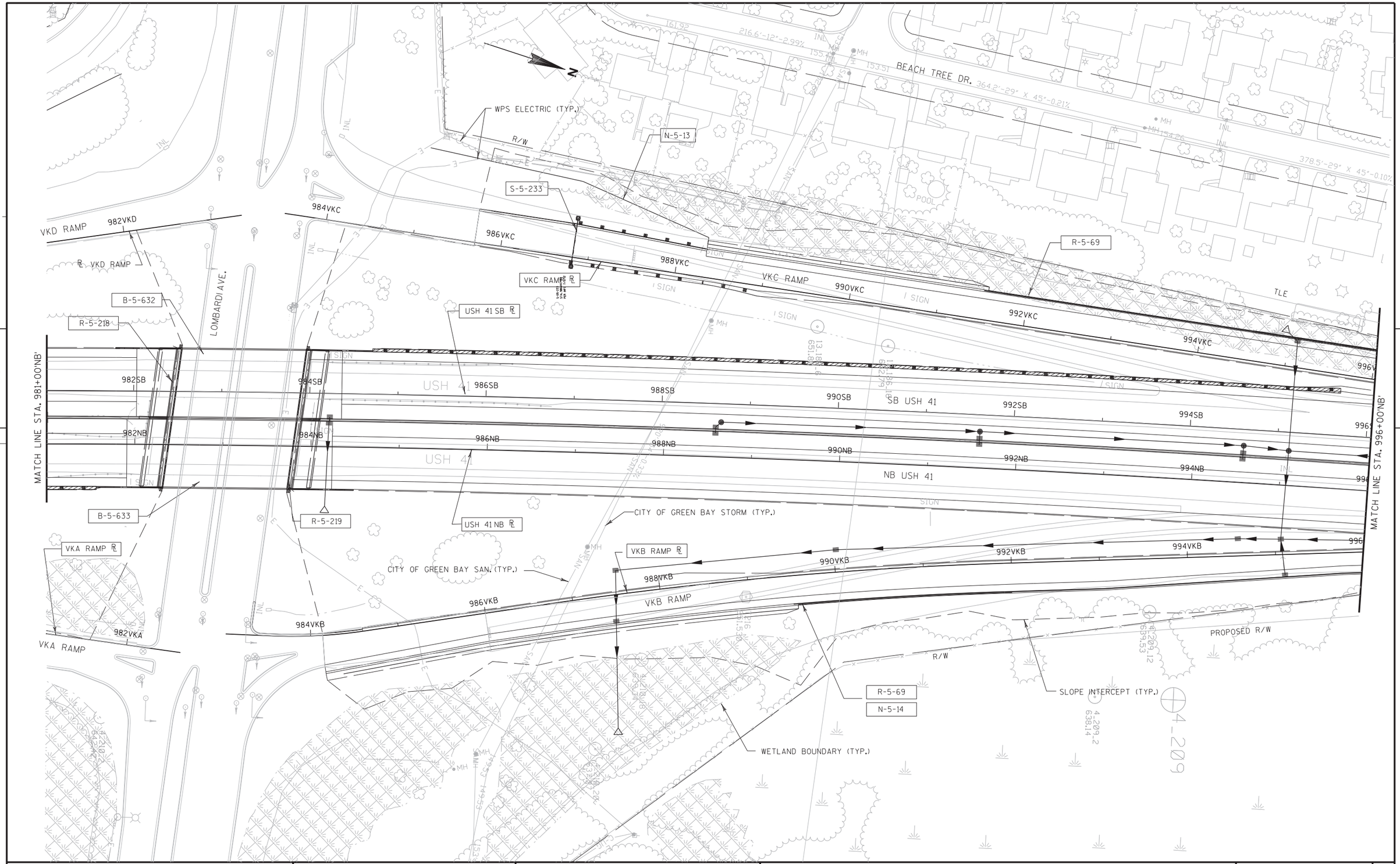
PROJECT NO: 1133-03-77	HWY: USH 41	COUNTY: BROWN	PLAN & PROFILE: USH 41	SHEET 1331	E



BENCH MARKS

NO.	STATION	OFFSET	DESCRIPTION	ELEV.
530A	974+50.85'SB'	356.7' LT	RR SPIKE IN P.P. #142BB67	663.03

PROJECT NO: 1133-03-77	HWY: USH 41	COUNTY: BROWN	PLAN & PROFILE: USH 41	SHEET 1332	E



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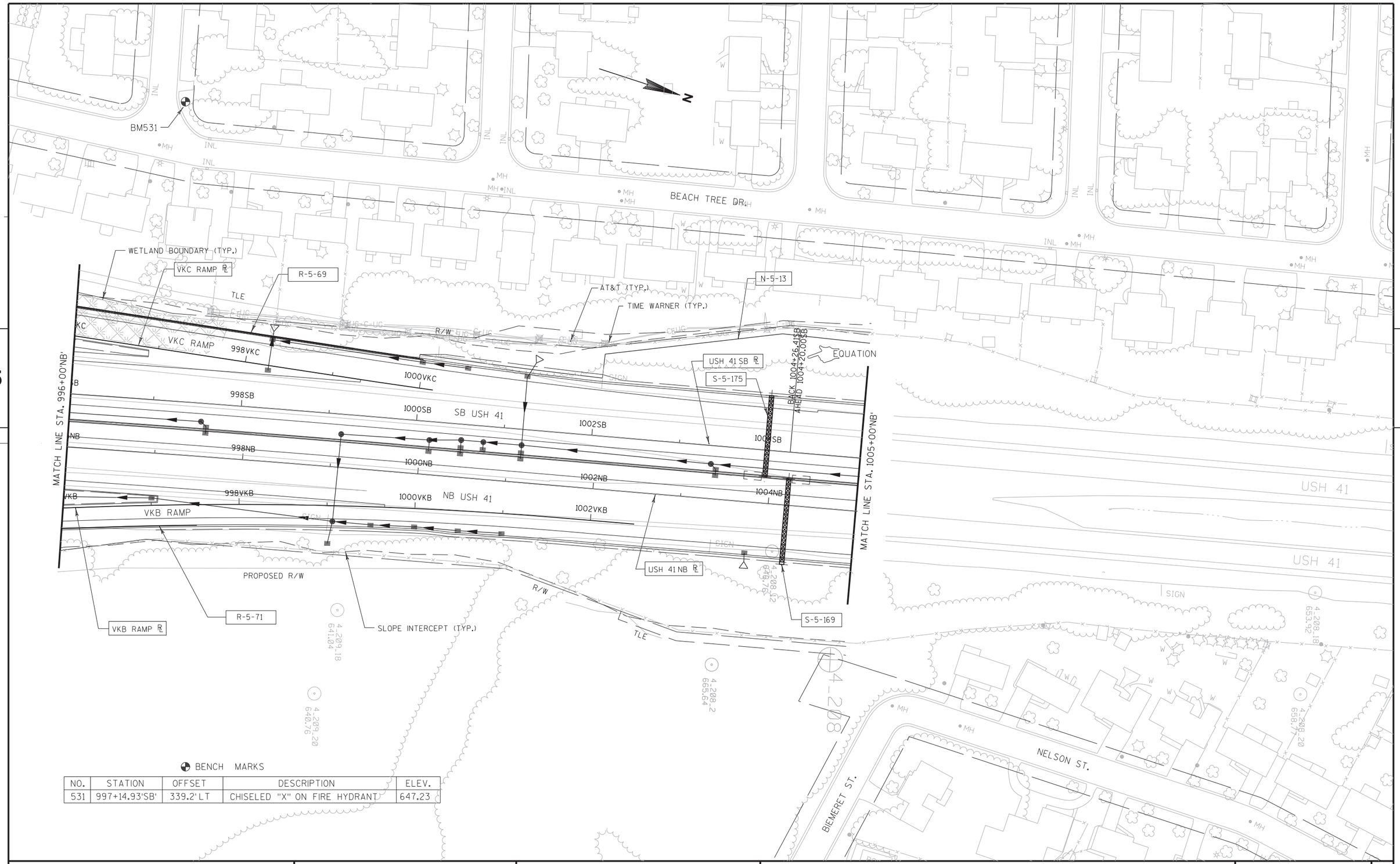
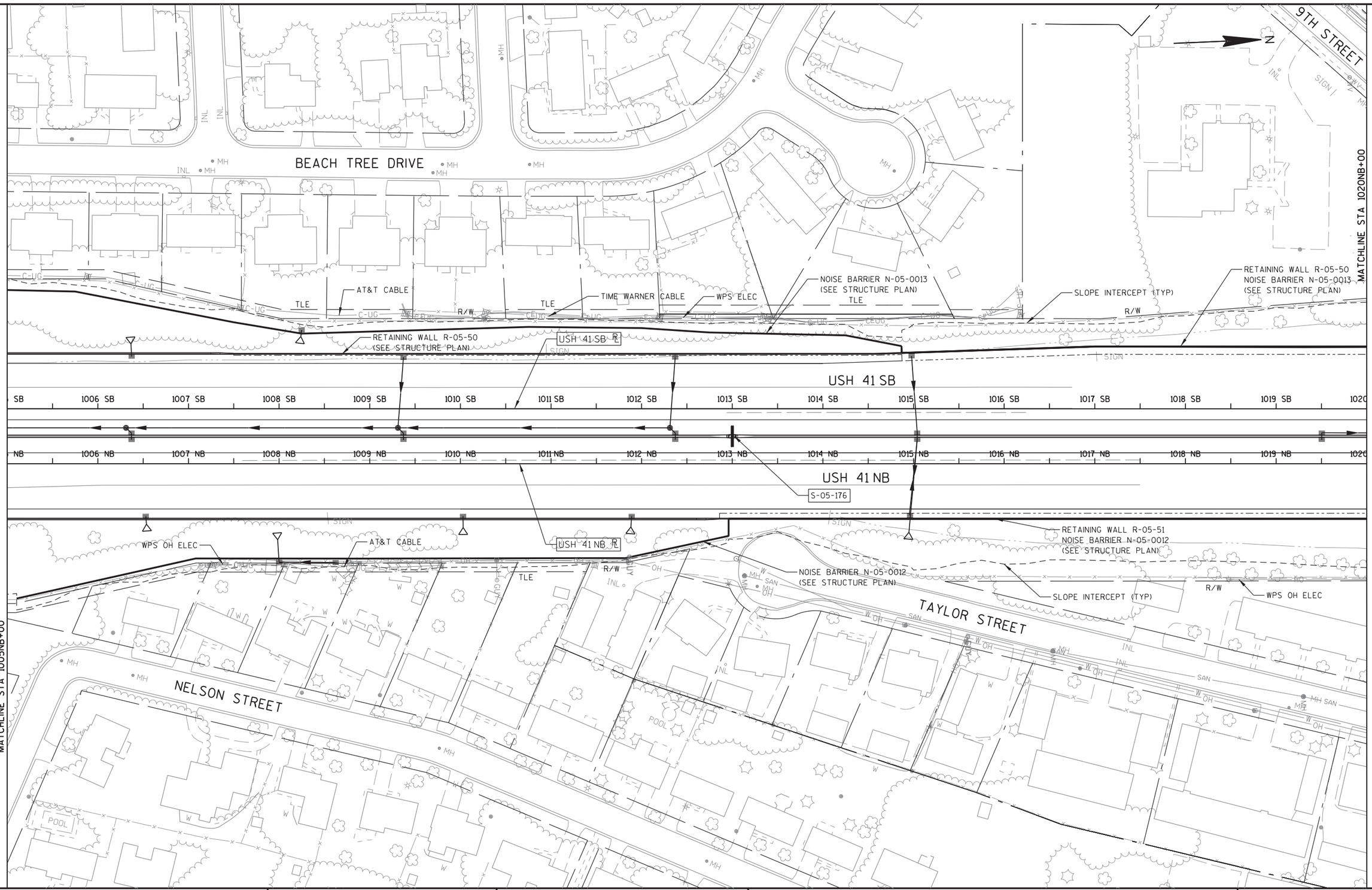


BENCH MARKS

NO.	STATION	OFFSET	DESCRIPTION	ELEV.
531	997+14.93'SB'	339.2'LT	CHISELED "X" ON FIRE HYDRANT	647.23

PROJECT NO: 1133-03-77	HWY: USH 41	COUNTY: BROWN	PLAN & PROFILE: USH 41	SHEET 1334 E



PROJECT NO: 1133-03-77	HWY: USH 41	COUNTY: BROWN	PLAN USH 41 MAINLINE	SHEET 1335 E

FILE NAME : S:\DOT\DOT_NE\100061-41_29\41-29_Phase 2\1133-03-77_41 Morris-Ninth\DGN Files\Plan Sheets\050101_PP.dgn PLOT DATE : 2/12/2013 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 44

MATCHLINE STA 1020NB+00

SLOPE INTERCEPT (TYP)

R/W

RETAINING WALL R-05-50
NOISE BARRIER N-05-0013
(SEE STRUCTURE PLAN)

S-05-178

END CONSTRUCTION
STA 1021SB+82.68

9TH STREET

USH 41 SB

SB 1021 SB 1022 SB 1023 SB 1024 SB 1025 SB 1026 SB 1027 SB 1028 SB 1029 SB 1030 SB 1031 SB 1032 SB 1033 SB 1034 SB 1035 SB

NB 1021 NB 1022 NB 1023 NB 1024 NB 1025 NB 1026 NB 1027 NB 1028 NB 1029 NB 1030 NB 1031 NB 1032 NB 1033 NB 1034 NB 1035 NB

END PROJECT
1133-03-77
STA 1021NB+89.96

USH 41 NB

S-05-171

WPS ELEC

TIME WARNER CABLE

WPS OH ELEC

SLOPE INTERCEPT (TYP)

RETAINING WALL R-05-51
NOISE BARRIER N-05-0012
(SEE STRUCTURE PLAN)

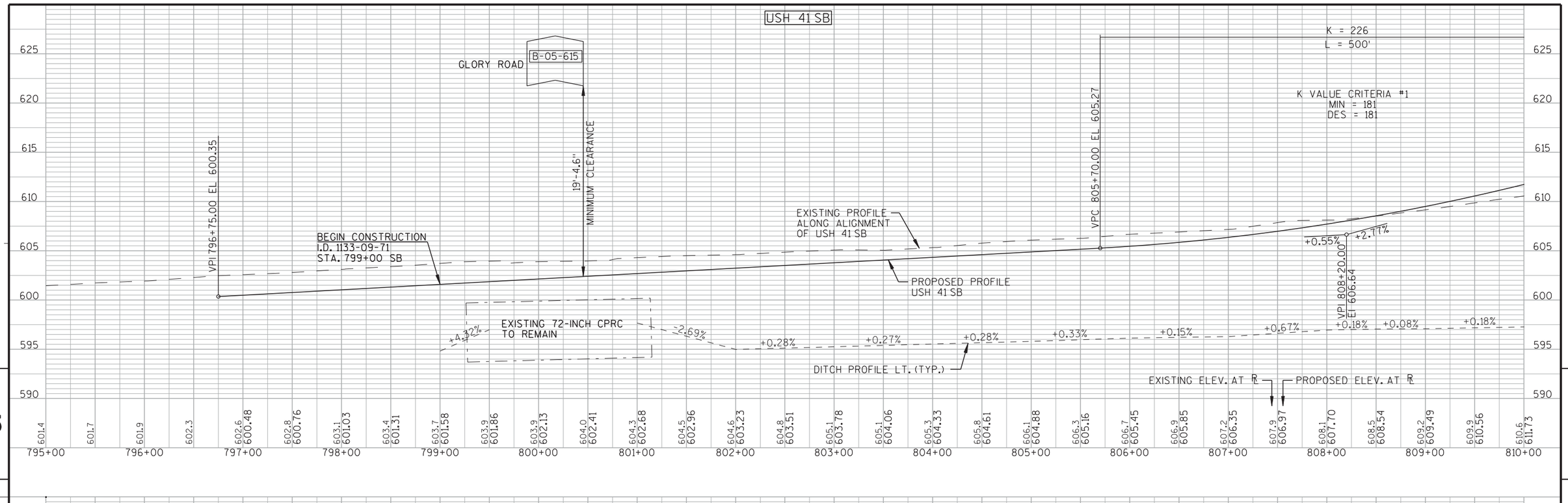
TAYLOR STREET

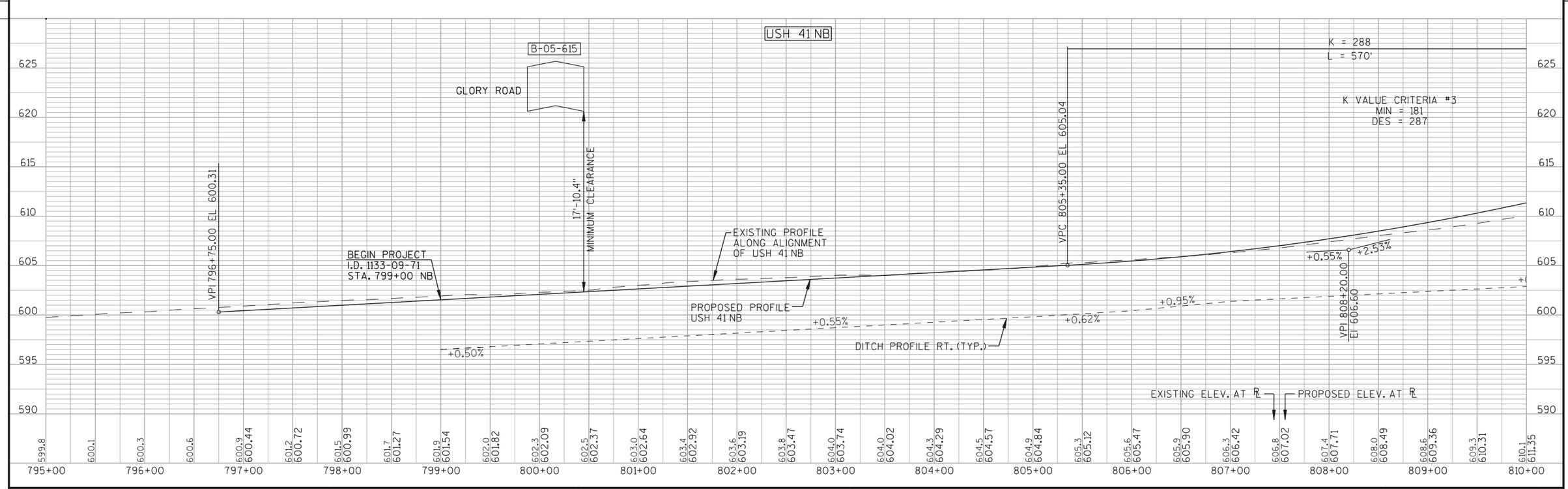
FOOTBRIDGE

POOL

PROJECT NO: 1133-03-77	HWY: USH 41	COUNTY: BROWN	PLAN USH 41 MAINLINE	SHEET 1336 E

FILE NAME : S:\DOT\DOT_NE\100061-41_29\41-29_Phase 2\1133-03-77_41 Morris-Ninth\DGN Files\Plan Sheets\050103_PP.dgn PLOT DATE : 2/12/2013 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100





PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PROFILE SHEET USH 41	SHEET 1337 E

USH 41 SB

PI 820+45.00
EI 640.53
+2.77% -0.50%

PROPOSED PROFILE
USH 41 SB

EXISTING PROFILE
ALONG ALIGNMENT
OF USH 41 SB

VPT 810+70.00
EL 613.56

VPC 811+20.00
EL 614.94

BEGIN STA. 821+04.30
STRUCTURE B-5-616
SINGLE SPAN 45W PRESTRESSED GIRDER
VARIES 99'-2 1/2" TO 100'-6 3/8" OVERALL WIDTH
114'-10" LENGTH
SKEW 0° 14' 29"

REMOVE STRUCTURE B-05-107
TWO SPAN CONTINUOUS STEEL GIRDER BRIDGE
190'-4" OVERALL LENGTH
58'-1" OVERALL WIDTH

B-5-616

21'-0" MINIMUM CLEARANCE

21'-4" MINIMUM CLEARANCE

R-5-206

R-5-207

K VALUE CRITERIA #3
MIN = 401
DES = 566

WISCONSIN CENTRAL LTD. RAILROAD

PARKVIEW RD.

VC = 1,850'
K = 566

EXISTING ELEV. AT ℄

PROPOSED ELEV. AT ℄

810+00	811+00	812+00	813+00	814+00	815+00	816+00	817+00	818+00	819+00	820+00	821+00	822+00	823+00	824+00	825+00
610.6 / 611.73	611.3 / 613.01	612.1 / 614.39	613.0 / 615.76	613.9 / 617.10	614.9 / 618.39	616.1 / 619.63	617.1 / 620.84	618.0 / 621.99	619.3 / 623.11	620.8 / 624.18	622.0 / 625.20	623.2 / 626.18	624.4 / 627.12	625.5 / 628.02	626.6 / 628.86	627.9 / 629.67	628.9 / 630.43	630.2 / 631.15	631.4 / 631.82	632.5 / 632.45	633.5 / 633.03	612.3 / 633.57	606.8 / 634.07	606.7 / 634.52	633.4 / 634.93	634.8 / 635.29	634.4 / 635.61	633.8 / 635.89	633.4 / 636.12	632.9 / 636.30

USH 41 NB

PI 822+35.00
EI 642.43
+2.53% -0.65%

PROPOSED PROFILE
USH 41 NB

EXISTING PROFILE
ALONG ALIGNMENT
OF USH 41 NB

VPT 811+05.00
EL 613.82

VPC 812+85.00
EL 618.38

DITCH PROFILE RT. (TYP.)
+0.30%

BEGIN STA. 821+05.55 NB
STRUCTURE B-5-617
SINGLE SPAN - 45W" PRESTRESSED GIRDER
68'-0" OVERALL WIDTH
115'-0" LENGTH
SKEW 0° 14' 29" RHF

REMOVE STRUCTURE B-05-114
TWO SPAN CONTINUOUS STEEL GIRDER BRIDGE
189' 1/4" OVERALL LENGTH
51'-6" OVERALL WIDTH

B-5-617

21'-2" MINIMUM CLEARANCE

22'-4" MINIMUM CLEARANCE

R-5-206

R-5-207

WISCONSIN CENTRAL LTD. RAILROAD

K VALUE CRITERIA #3
MIN = 401
DES = 566

PARKVIEW RD.

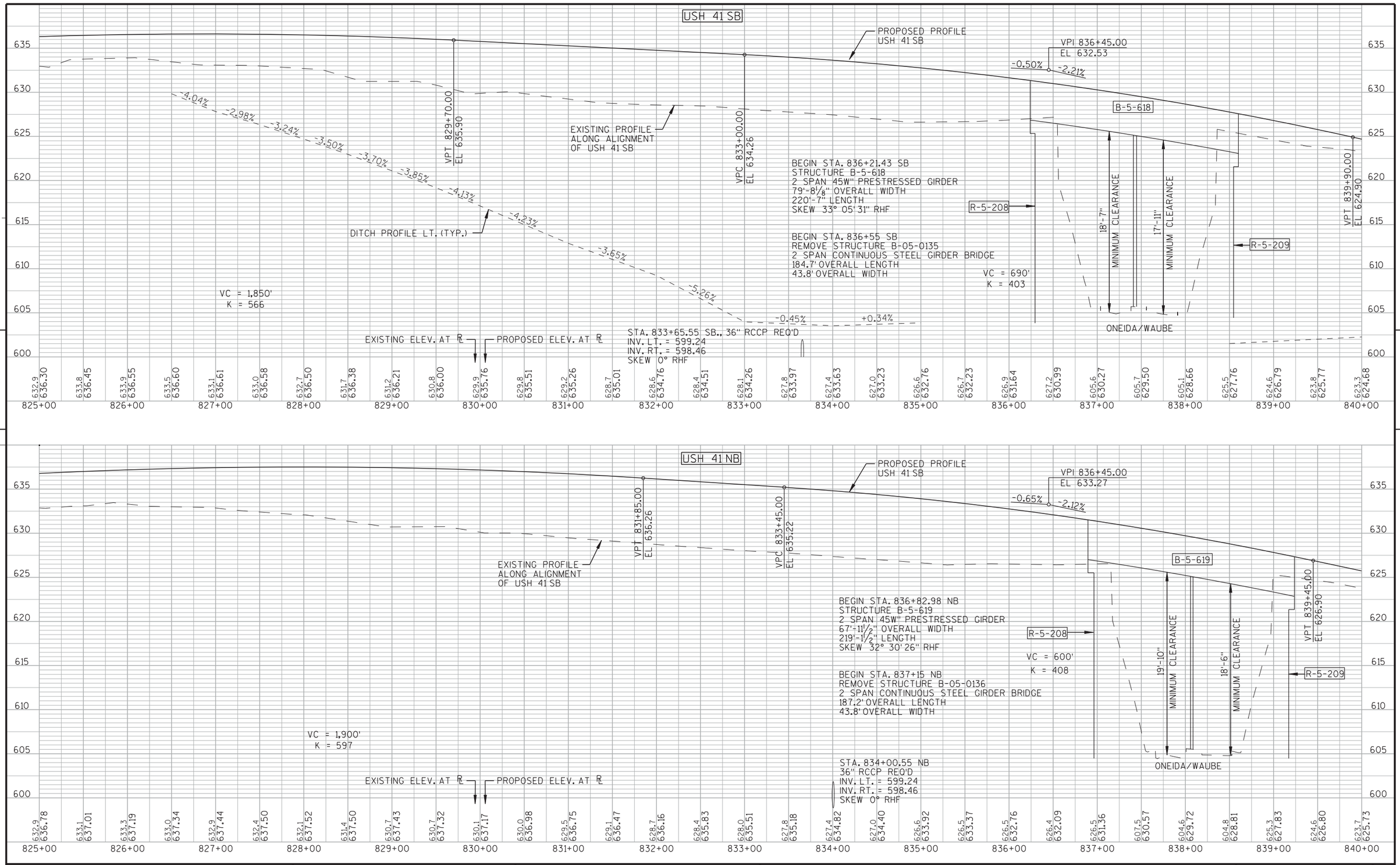
VC = 1,900'
K = 597

EXISTING ELEV. AT ℄

PROPOSED ELEV. AT ℄

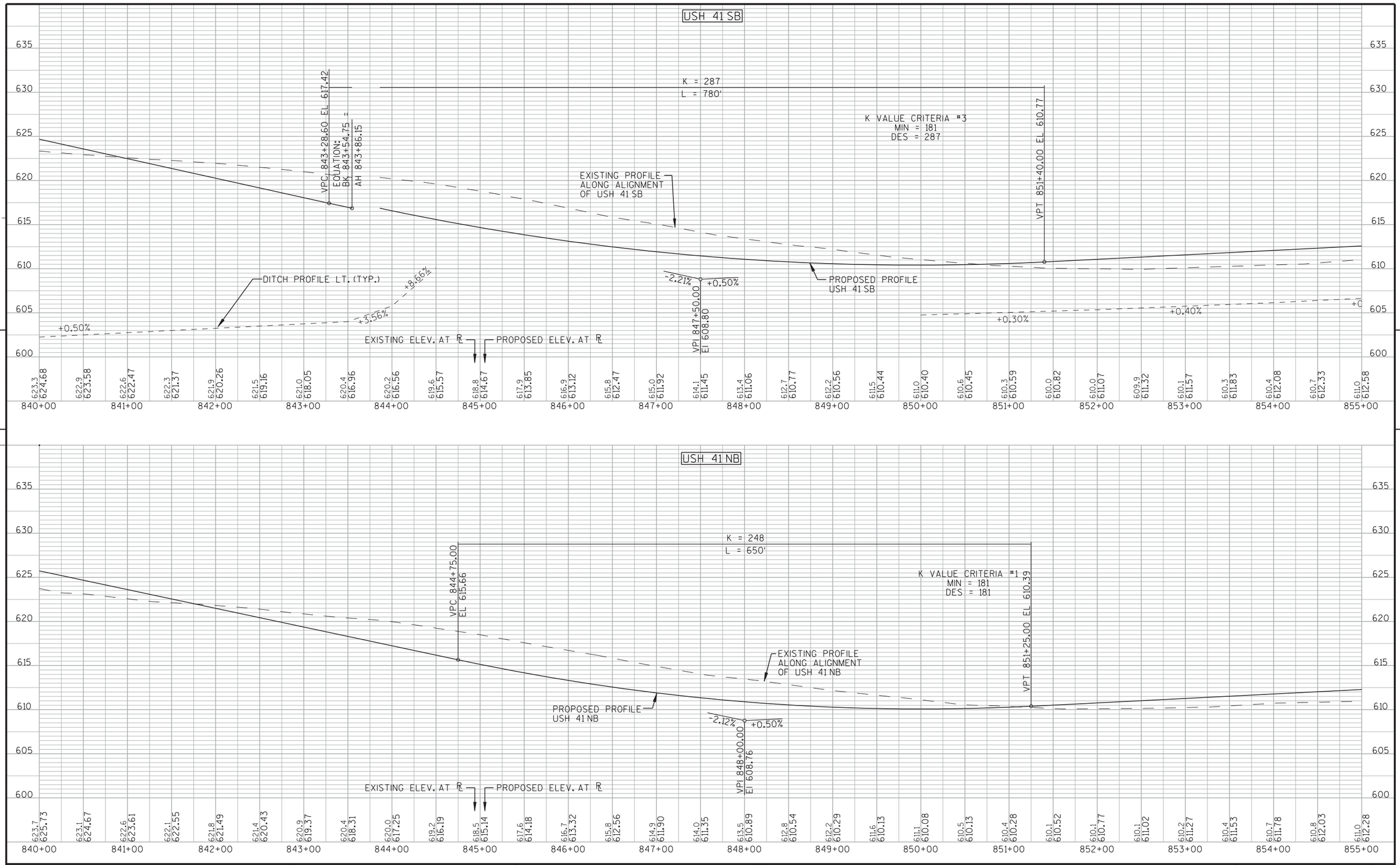
810+00	811+00	812+00	813+00	814+00	815+00	816+00	817+00	818+00	819+00	820+00	821+00	822+00	823+00	824+00	825+00
610.1 / 611.35	611.0 / 612.48	611.9 / 613.69	612.7 / 614.96	613.7 / 616.23	614.8 / 617.49	616.1 / 618.76	617.1 / 619.99	618.1 / 621.18	619.6 / 622.33	621.0 / 623.43	622.2 / 624.50	623.4 / 625.52	624.6 / 626.50	625.7 / 627.44	626.7 / 628.34	627.8 / 629.20	628.8 / 630.01	629.8 / 630.78	631.0 / 631.51	632.2 / 632.20	633.2 / 632.85	612.3 / 633.45	606.7 / 634.01	606.7 / 634.54	633.7 / 635.01	634.8 / 635.45	634.2 / 635.85	633.7 / 636.20	633.2 / 636.51	632.9 / 636.78

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PROFILE SHEET USH 41	SHEET 1338	E

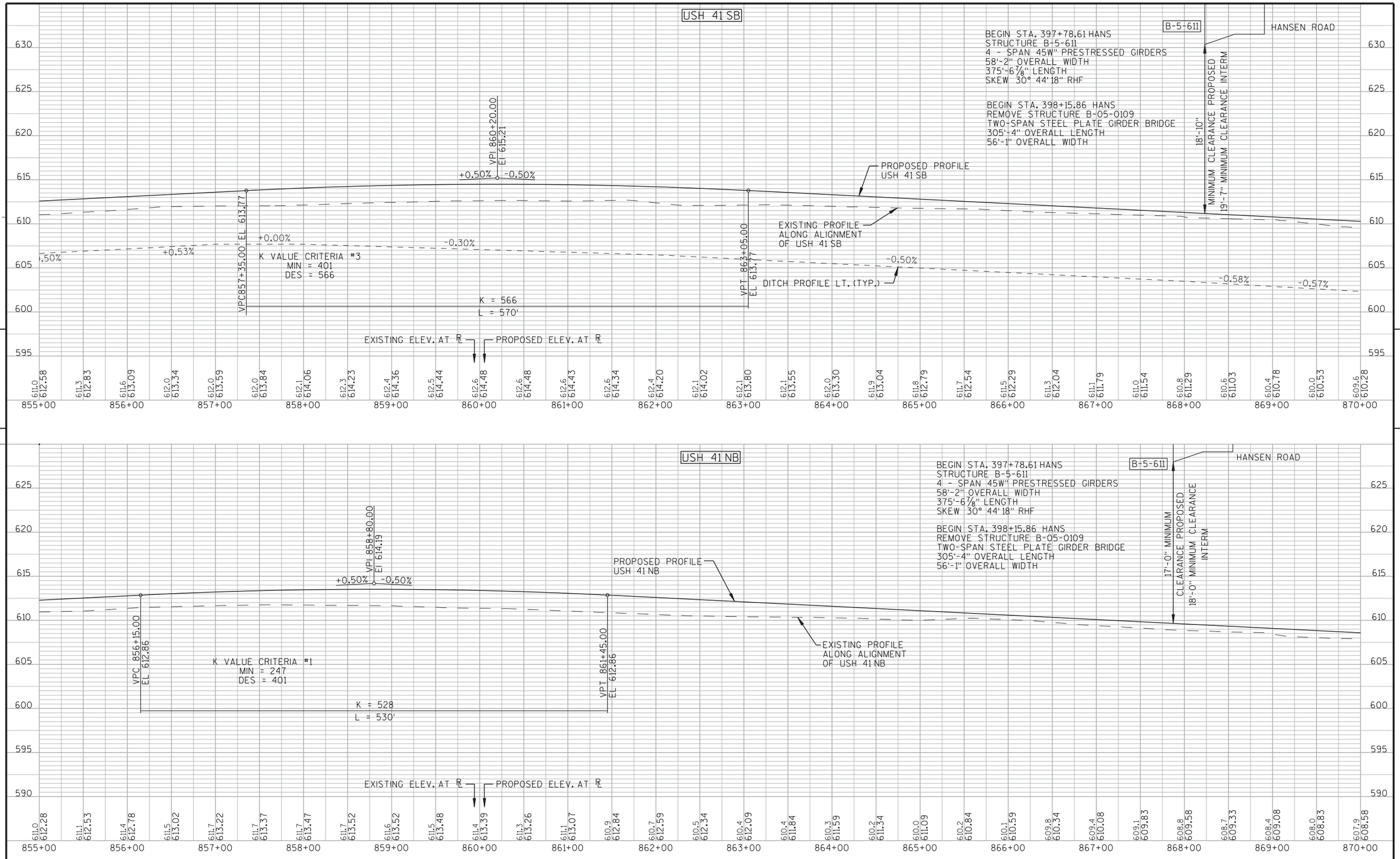


PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PROFILE SHEET USH 41	SHEET 1339	E

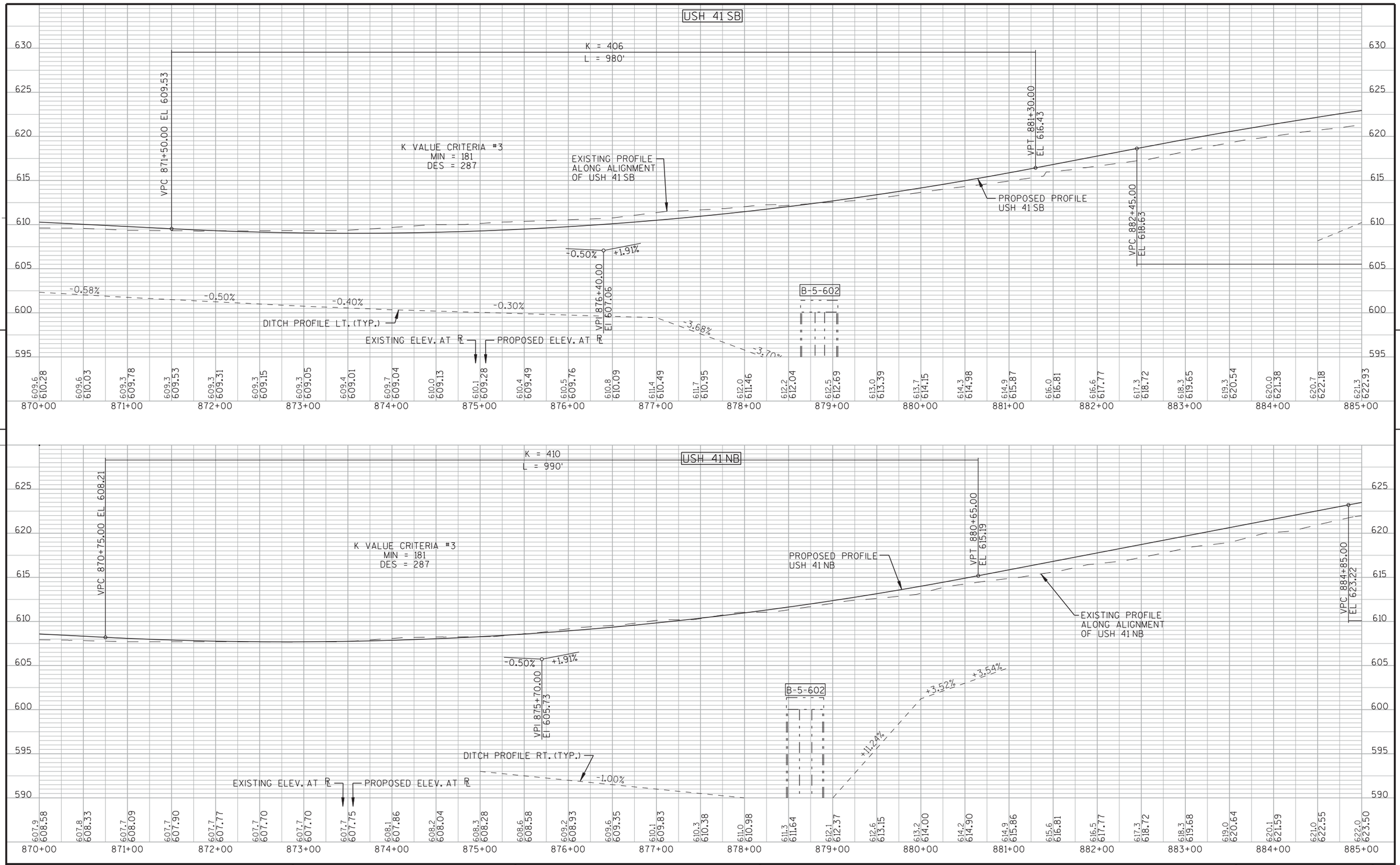
FILE NAME : j:\jobs2006\20062041\ne_11330900eb\1133-09-71_us41_mainline\050114_pp.dgn PLOT DATE : 1/31/2013 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 44



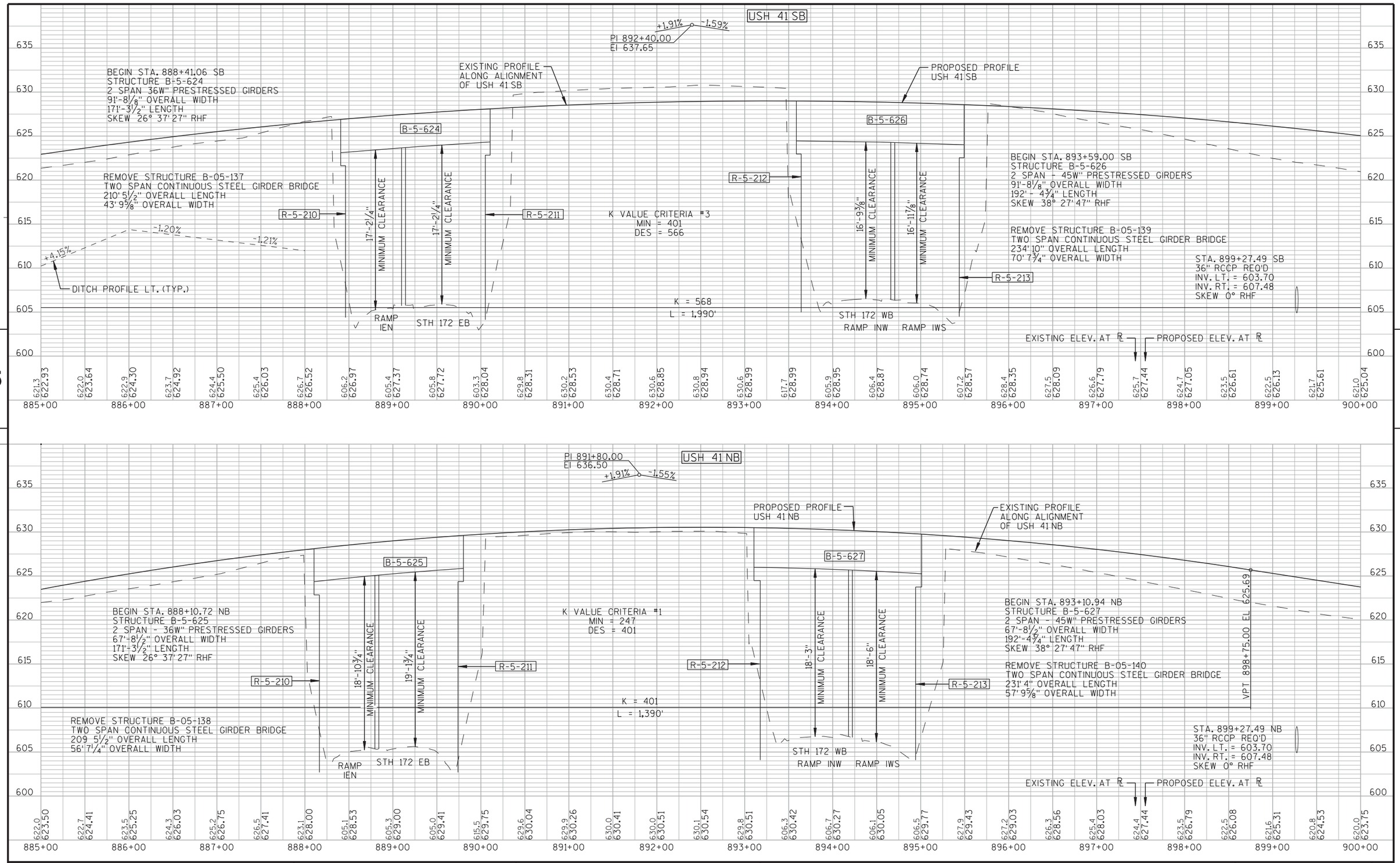
PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PROFILE SHEET USH 41	SHEET 1340 E



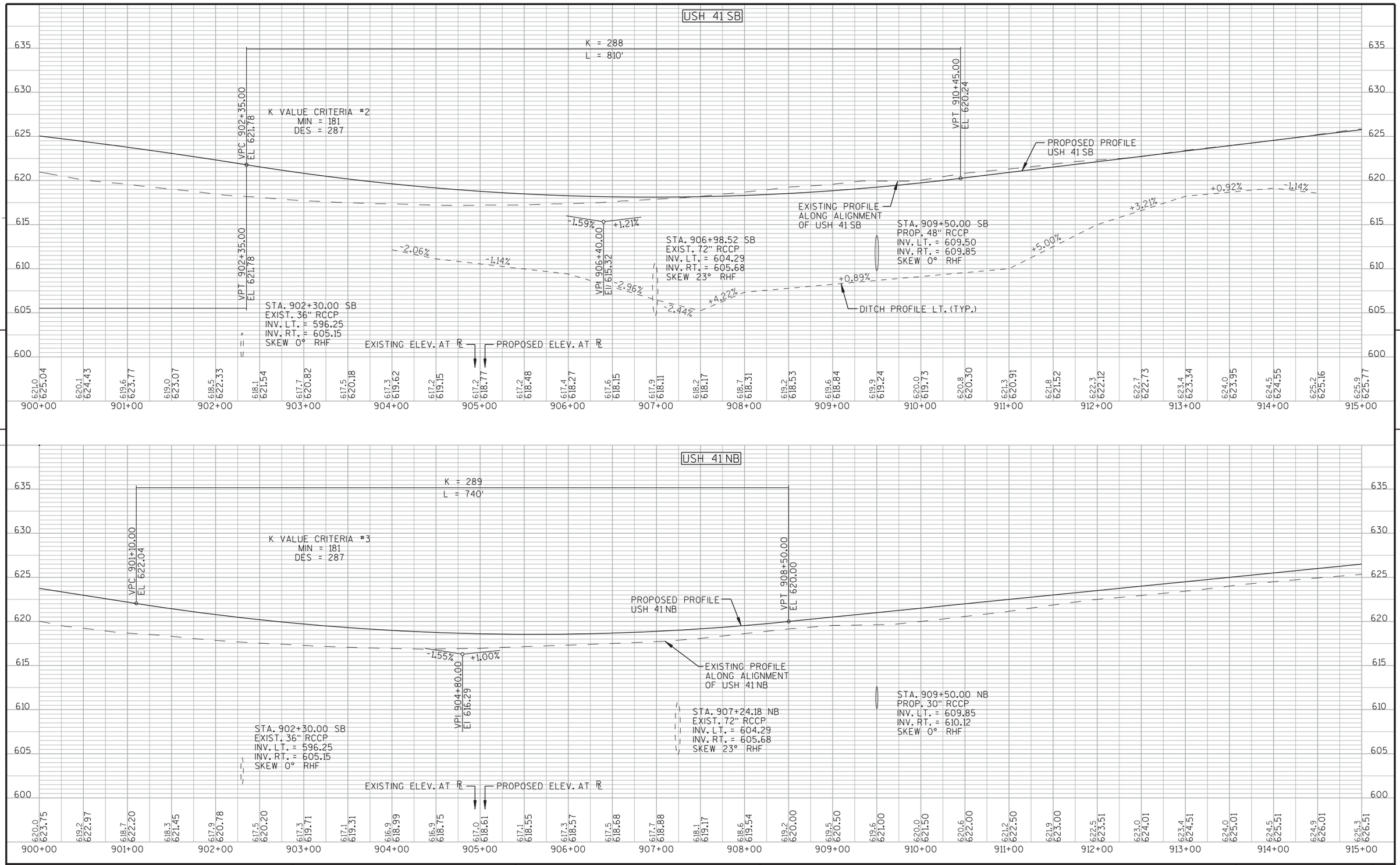
PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PROFILE SHEET USH 41	SHEET 1341 E



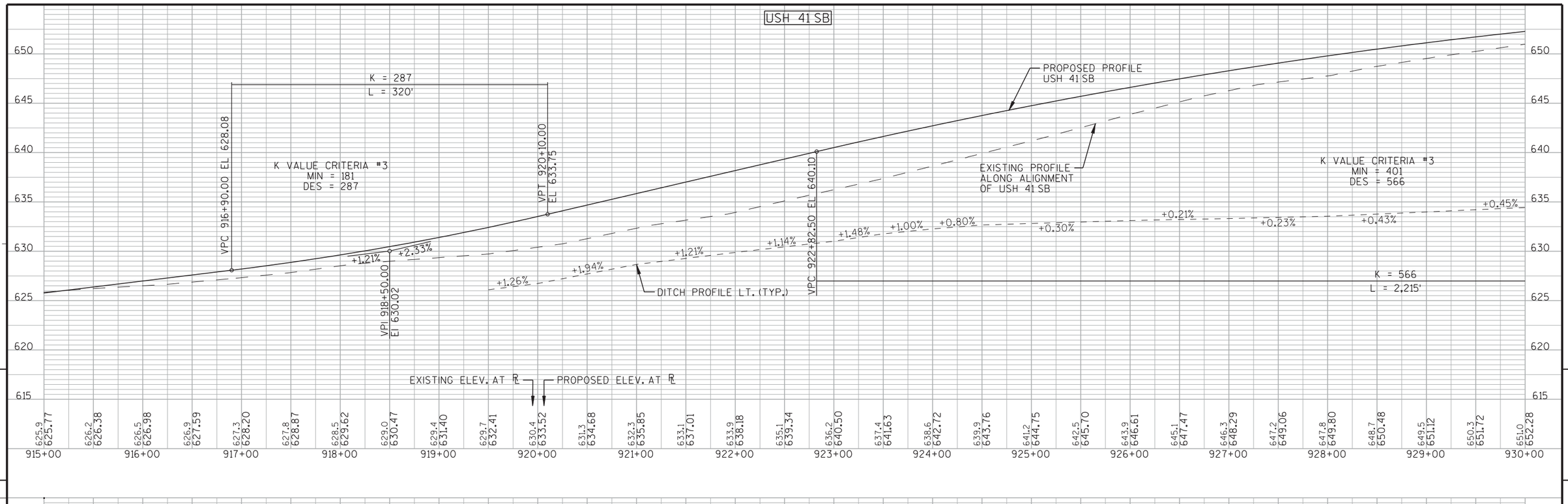
PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PROFILE SHEET USH 41	SHEET 1342	E

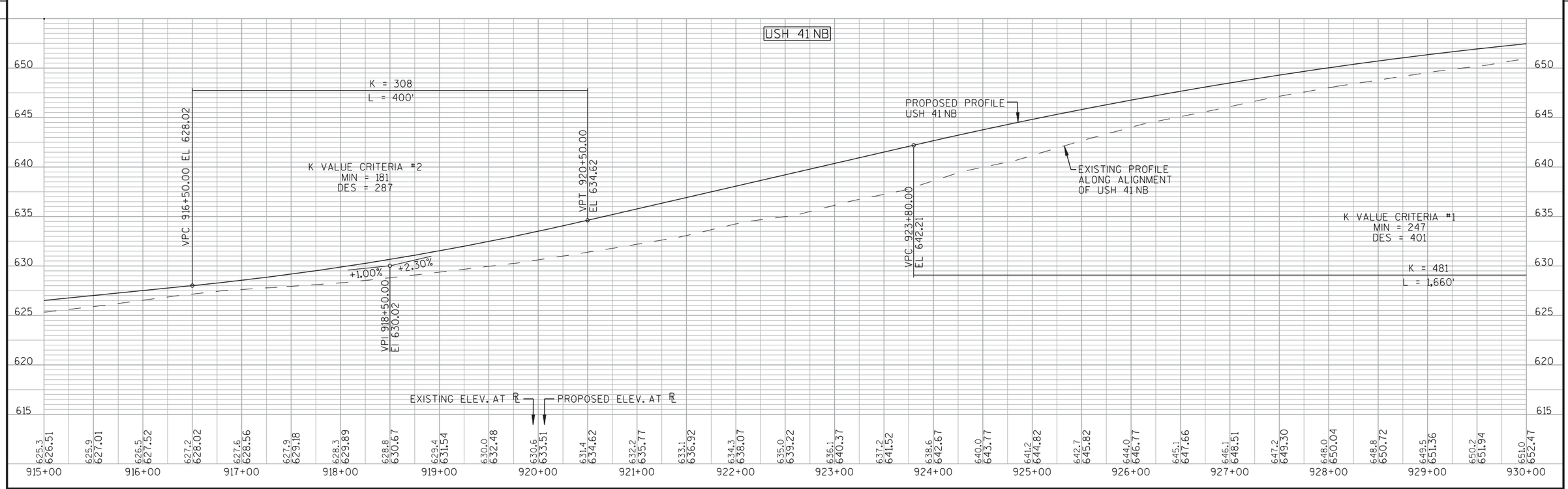


PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PROFILE SHEET USH 41	SHEET 1343	E

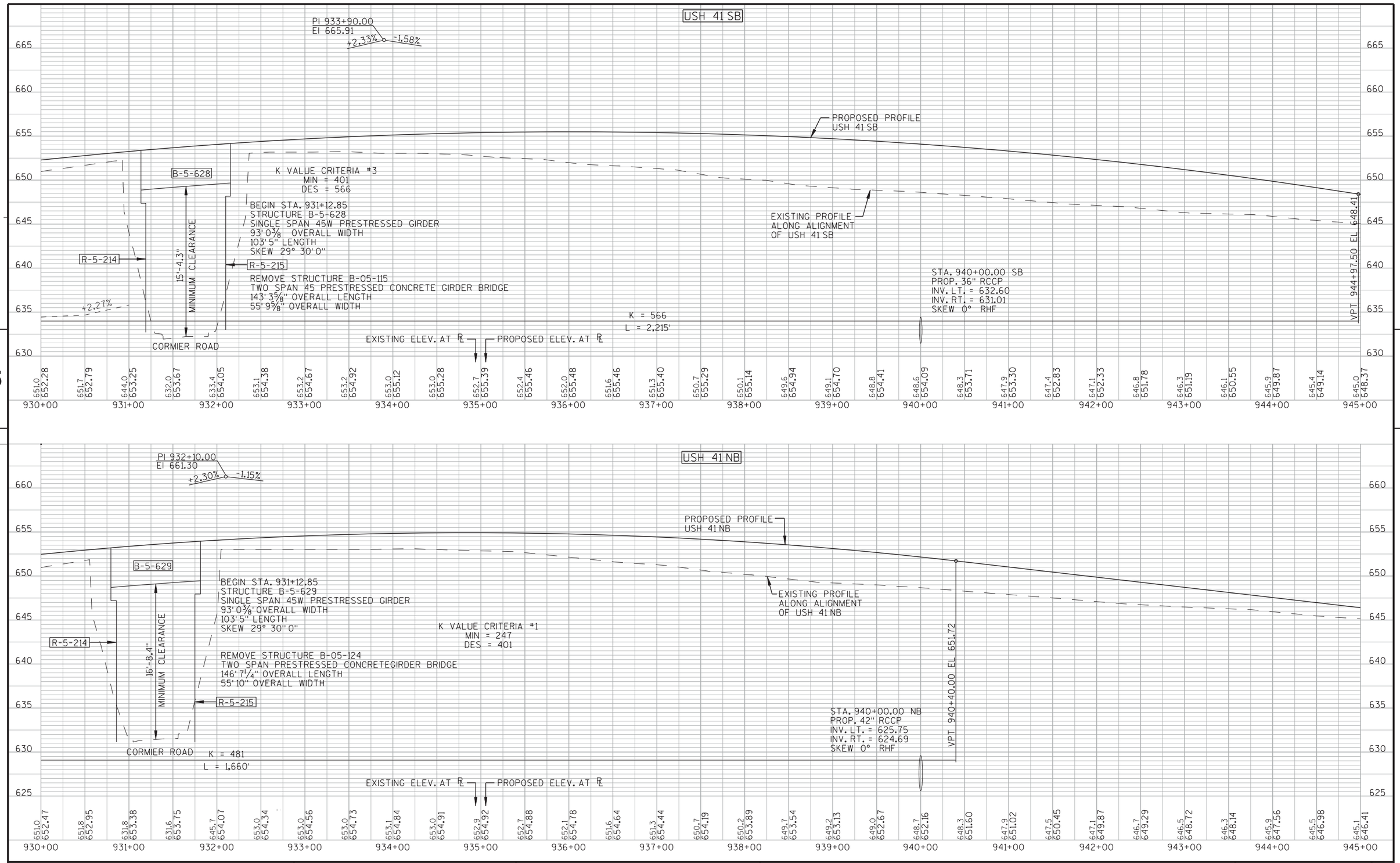


PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PROFILE SHEET USH 41	SHEET 1344 E



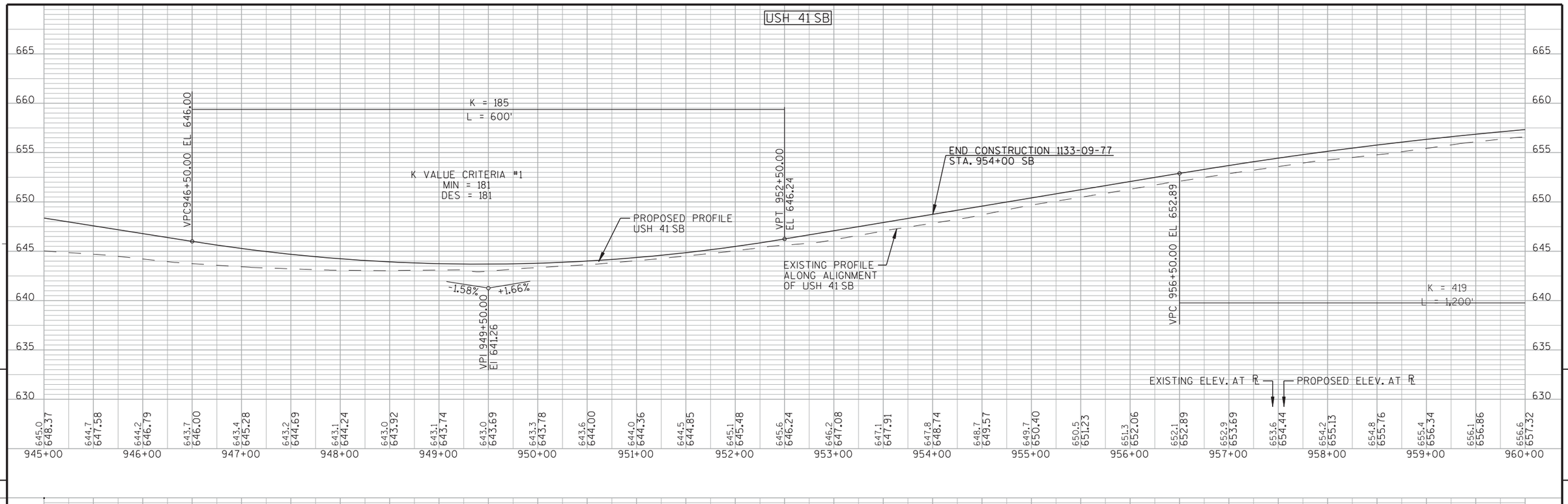


PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PROFILE SHEET USH 41	SHEET 1345 E

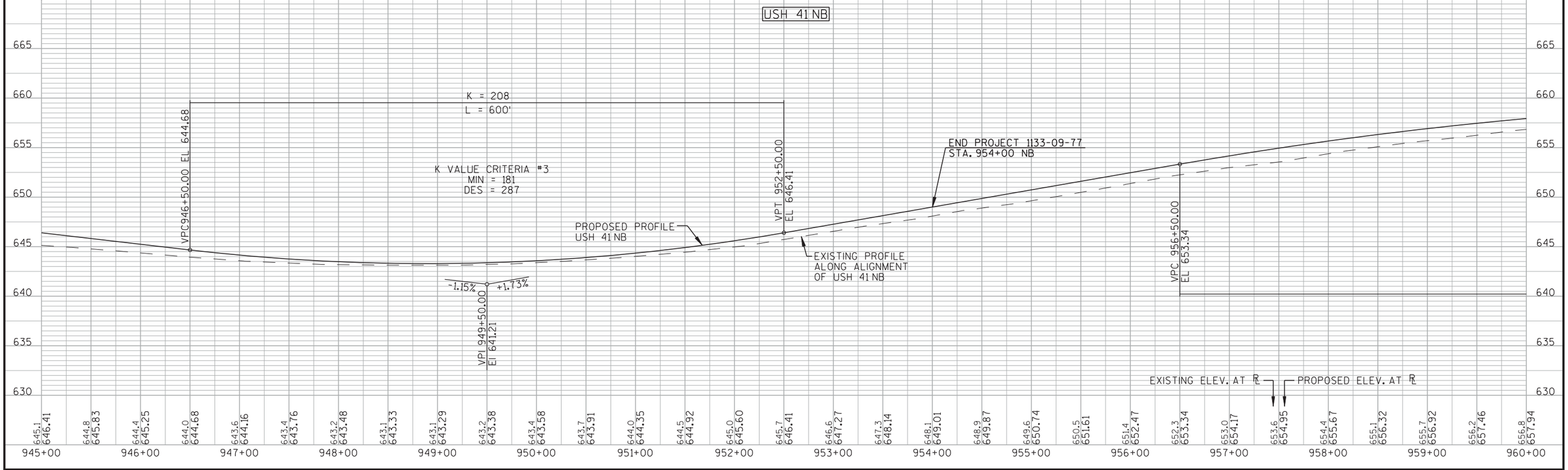


PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PROFILE SHEET USH 41	SHEET 1346 E

USH 41 SB



USH 41 NB



PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PROFILE SHEET USH 41	SHEET 1347 E

STA. 961+32'SB'
STRUCTURE B-5-630 REQ'D.
1 SPAN 45" PRESTRESSED GIRDER
ROADWAY WIDTH 92.30'
SKEW 30°00'00" LHF
MIN. VERTICAL CLEARANCE 15.25'
SEE STRUCTURAL DRAWINGS

VPI STA 962+00.00
VPI EL663.33

VPI STA 955+50.00
VPI EL651.23

VPC STA 956+15.00
VPC EL652.44

VPT STA 967+85.00
VPT EL657.35

B-5-630

PROPOSED PROFILE USH 41 SB

963+70.44
659.47

EXISTING PROFILE ALONG ALIGNMENT OF USH 41 SB

+1.86 %

5 %

K = 405.82
VCL 1170.00

15.25'

BEGIN CONSTRUCTION
STA. 954+00'SB'

R-5-216

R-5-217

EXISTING ELEV. AT ℄

PROPOSED ELEV. AT ℄

STA. 966+02'NB'
42-INCH X 340' CPRC
2 APRON ENDWALLS

954+00	955+00	956+00	957+00	958+00	959+00	960+00	961+00	962+00	963+00	964+00	965+00	966+00	967+00	968+00
647.84	648.74	648.69	649.57	649.68	650.40	650.47	**651.23**	651.29	652.16	652.10	653.08	652.85	653.93	653.57	654.73	654.25	655.46	654.79	656.13	655.43	656.74	656.08	657.29	656.59	657.78	657.01	658.21	638.41	658.57	637.58	658.87	651.78	659.11	658.31	659.29	658.44	659.41	658.60	659.47	658.54	659.46	658.44	659.39	658.35	659.26	658.16	659.07	657.96	658.82	657.73	658.51	657.39	658.13	656.99	657.70	656.62	657.20

STA. 960+98'NB'
STRUCTURE B-5-631 REQ'D.
1 SPAN 45" PRESTRESSED GIRDER
ROADWAY WIDTH 88.76'
SKEW 30°00'00" LHF
MIN. VERTICAL CLEARANCE 15.25'
SEE STRUCTURAL DRAWINGS

VPI STA 962+00.00
VPI EL662.87

VPC STA 956+50.00
VPC EL653.34

VPT STA 967+50.00
VPT EL657.94

B-5-631

PROPOSED PROFILE USH 41 NB

963+74.73
659.62

EXISTING PROFILE ALONG ALIGNMENT OF USH 41 NB

+1.73 %

K = 418.24
VCL 1100.00

15.25'

BEGIN PROJECT
STA. 954+00'NB'

R-5-216

R-5-217

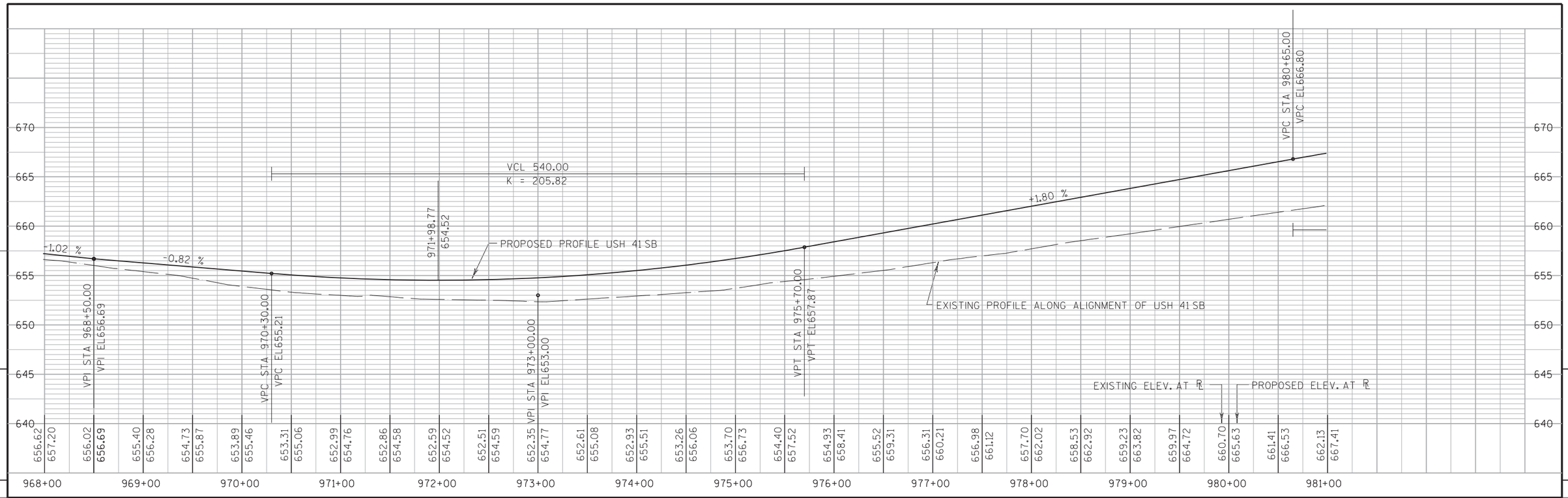
EXISTING ELEV. AT ℄

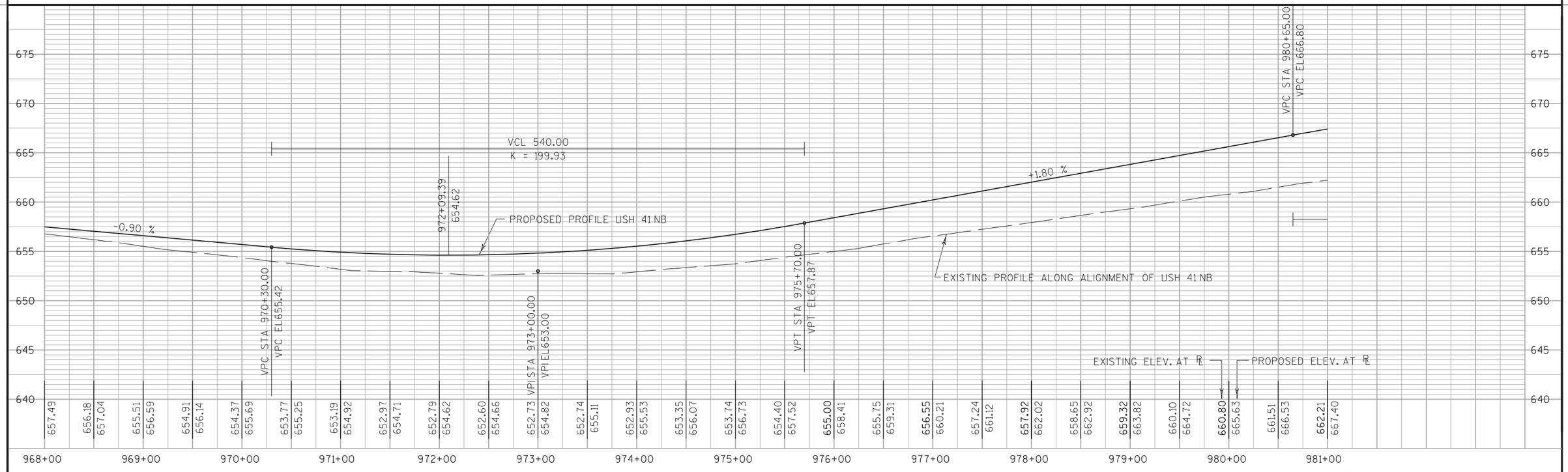
PROPOSED ELEV. AT ℄

STA. 966+02'NB'
42-INCH X 340' CPRC
2 APRON ENDWALLS

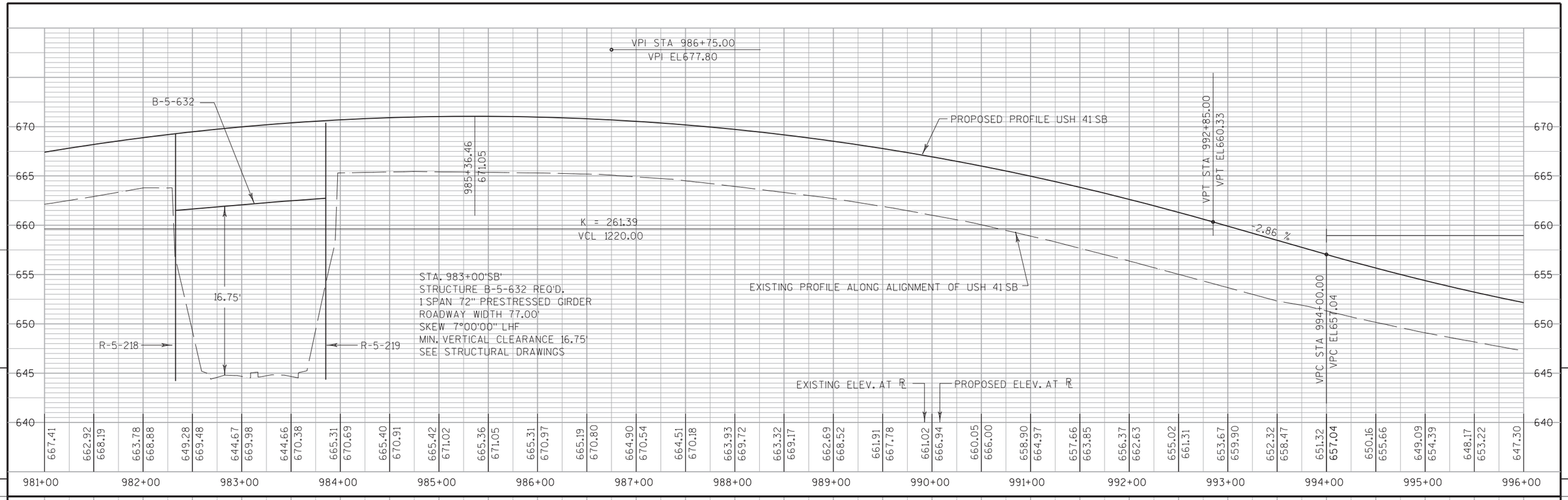
954+00	955+00	956+00	957+00	958+00	959+00	960+00	961+00	962+00	963+00	964+00	965+00	966+00	967+00	968+00
649.01	648.91	649.87	649.64	650.74	650.49	651.61	651.38	652.47	652.26	**653.34**	652.98	654.18	653.56	654.95	654.38	655.67	655.09	656.33	655.70	656.92	656.25	657.46	656.84	657.94	642.80	658.36	637.56	658.72	645.38	659.01	658.16	659.25	658.28	659.43	658.43	659.55	658.53	659.61	658.57	659.61	658.57	659.55	658.49	659.43	658.39	659.25	658.24	659.01	657.93	658.71	657.51	658.35	657.23	657.94	656.77	657.49

PROJECT NO: 1133-03-77	HWY: USH 41	COUNTY: BROWN	PLAN & PROFILE: USH 41	SHEET 1348	E

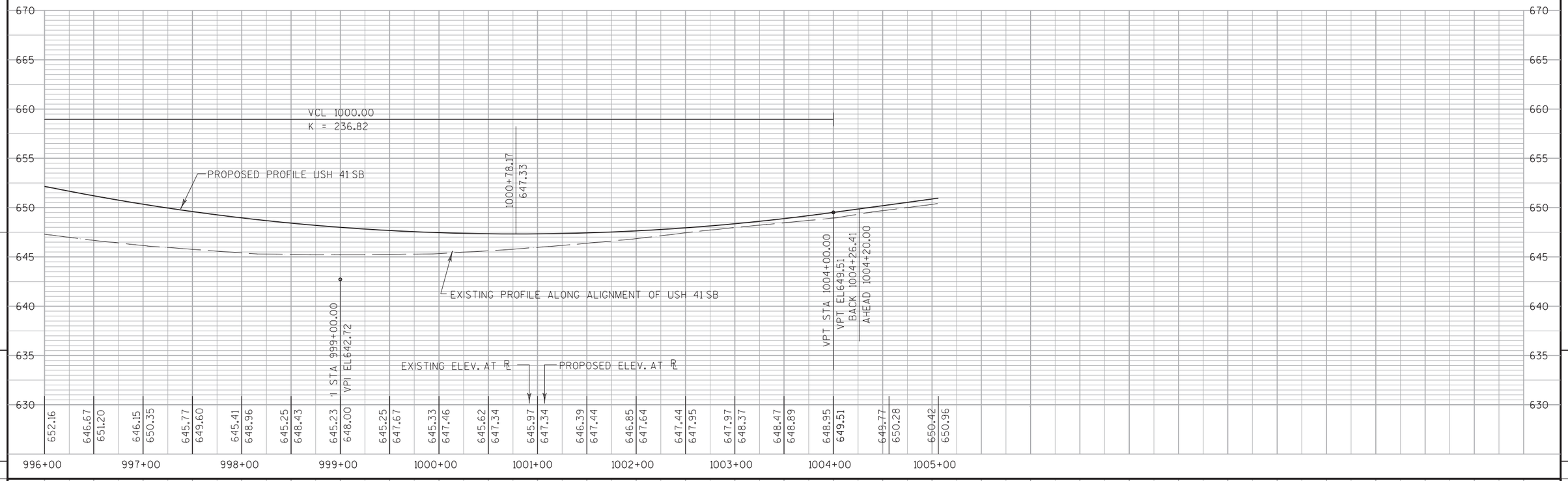


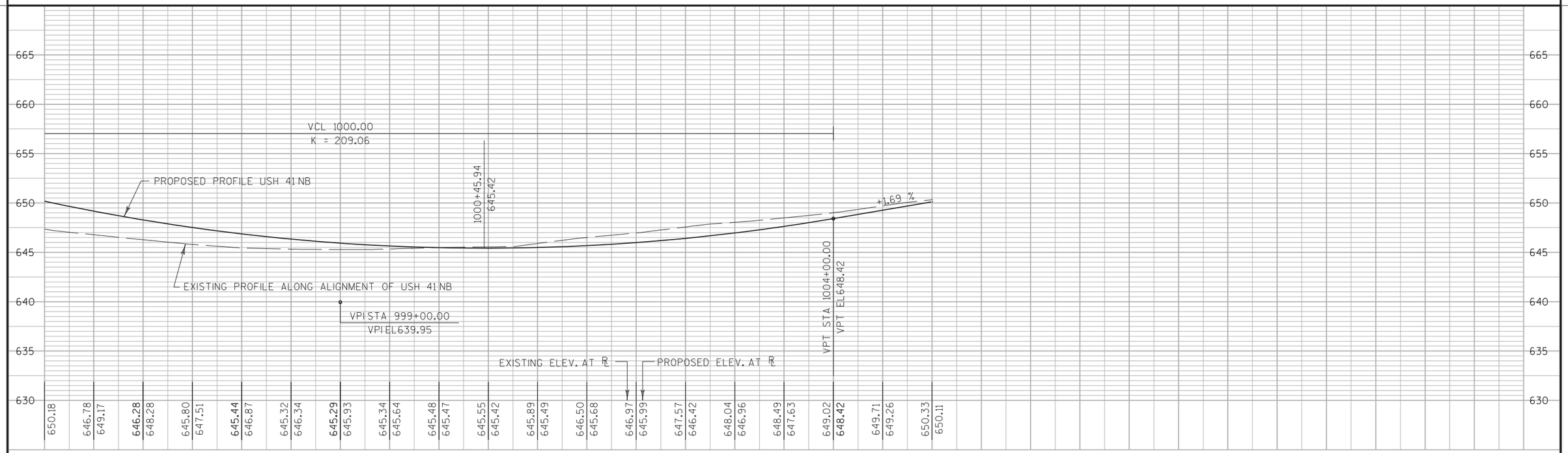


PROJECT NO: 1133-03-77	HWY: USH 41	COUNTY: BROWN	PLAN & PROFILE: USH 41	SHEET 1349	E



PROJECT NO: 1133-03-77	HWY: USH 41	COUNTY: BROWN	PLAN & PROFILE: USH 41	SHEET 1350	E

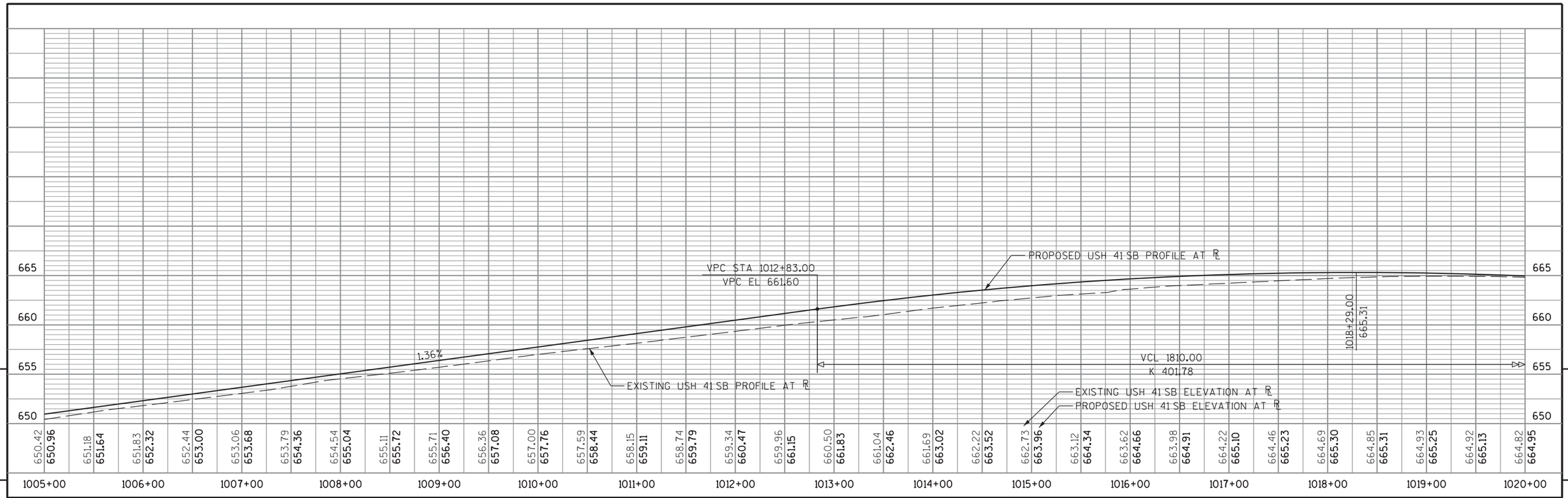


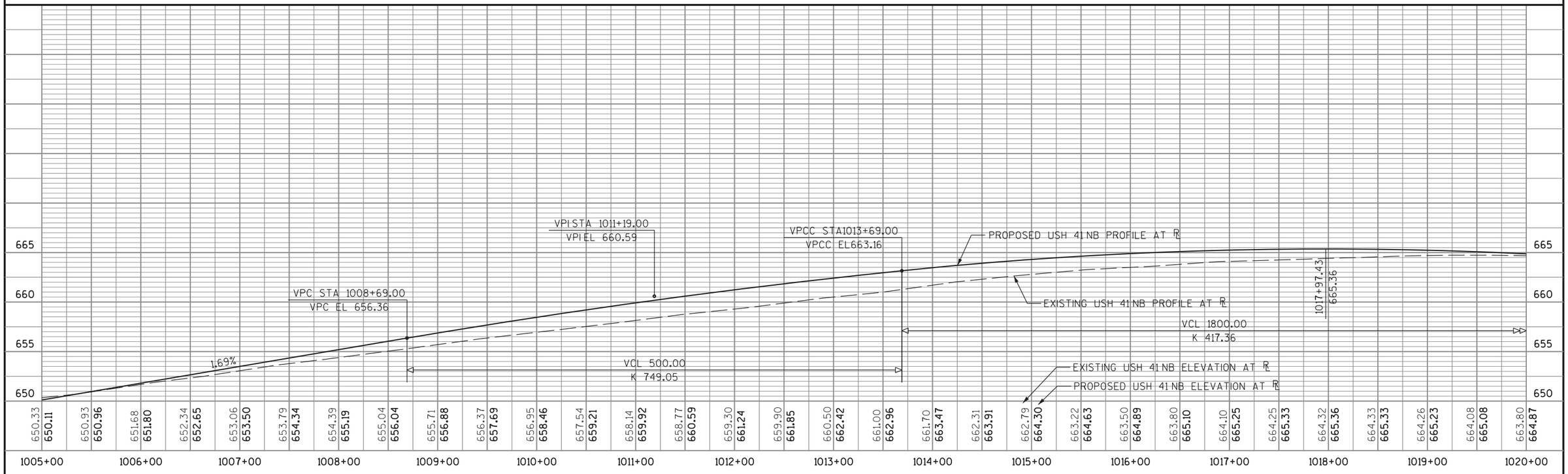


5

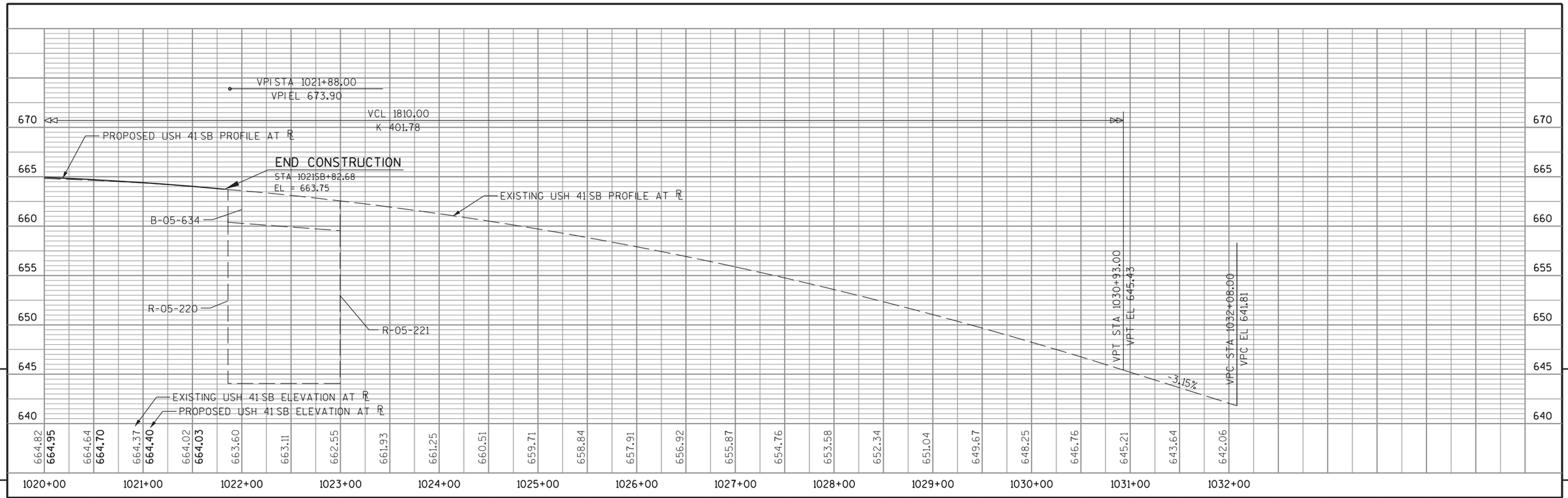
5

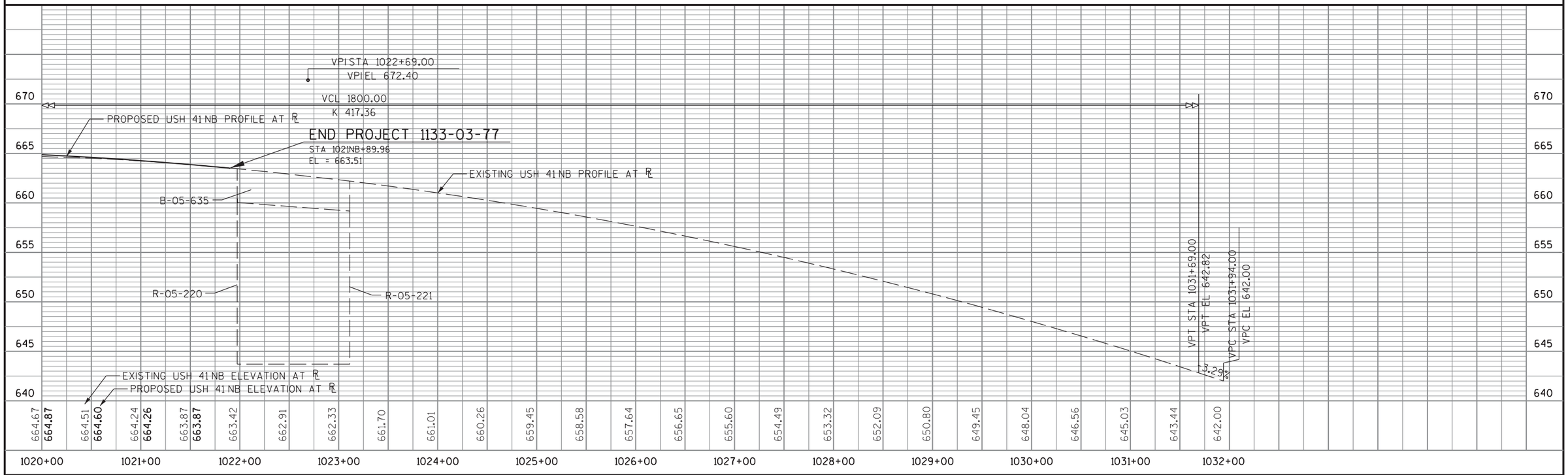
PROJECT NO: 1133-03-77	HWY: USH 41	COUNTY: BROWN	PLAN & PROFILE: USH 41	SHEET 1351	E





PROJECT NO: 1133-03-77	HWY: USH 41	COUNTY: BROWN	PLAN USH 41 MAINLINE	SHEET 1352	E





PROJECT NO: 1133-03-77	HWY: USH 41	COUNTY: BROWN	PLAN USH 41 MAINLINE	SHEET 1353	E

FILE NAME : S:\DOT\DOT_NE\100061-41_29\41-29_Phase 2\1133-03-77_41 Morris-Ninth\DGN Files\Plan Sheets\050104_PP.dgn PLOT DATE : 2/12/2013 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100
WISDOT/CADDS SHEET 46

SCALE, FEET 0 50 100

N

VILLAGE OF ASHWAUBENON WATER MAIN

EXISTING R/W

AT&T TELEPHONE

EXISTING R/W

RAMP OWB R

RAMP OWB

8280WB

8260WB

8240WB

MATCH LINE STA. 829+50 CD

198PRK

R-5-207

SCHNEIDER NATIONAL FIBER OPTIC

R-5-206

USH 41 SB R

SLOPE INTERCEPT (TYP.)

WETLAND BOUNDRY (TYP.)

8220WB

B-5-616

USH 41 SB

828SB

826SB

824SB

822SB

820SB

818SB

816SB

S-5-159

USH 41

828NB

826NB

824NB

822NB

820NB

818NB

816NB

B-5-617

USH 41 NB

828CD

826CD

824CD

822CD

820CD

818CD

816CD

B-5-621

S-5-163

8260WC

8280WC

RAMP OWC

RAMP OWC R

NORTHBOUND CD ROADWAY

NORTH BOUND CD ROADWAY

WISCONSIN PUBLIC SERVICE ELECTRIC

USH 41 NB R

200PRK

PARKVIEW ROAD

202PRK

EXISTING R/W

TLE FOR SLOPING

TLE REQ'D FOR SLOPING

VILLAGE OF ASHWAUBENON SANITARY SEWER

PARKVIEW ROAD R

WISCONSIN CENTRAL LTD.

SLOPE INTERCEPT (TYP.)

WISCONSIN PUBLIC SERVICE GAS

CAUTION

RAMADA WAY

EXISTING R/W

5

5

NORTHBOUND CD ROADWAY

VPI 825+00.00
EL 641.56

+1.89%

-0.53%

PROPOSED PROFILE
NORTH BOUND CD ROADWAY

635
630
625
620
615
610

VPI 814+49.73
EL. 621.75

BEGIN STA. 821+05.50 SB
STRUCTURE B-5-621
SINGLE SPAN - 45W" PRESTRESSED GIRDERS
51'-2 1/8" OVERALL WIDTH
118'-10" LENGTH
SKEW 0° 14' 29" RHF

VPC 817+65.00
EL 627.70

B-5-621

R-5-206

21'-0" MINIMUM CLEARANCE

22'-7" MINIMUM CLEARANCE

R-5-207

PARKVIEW ROAD

WISCONSIN CENTRAL LTD.

K VALUE CRITERIA #3
MIN = 245
DES = 455

K = 610
L = 1,470'

EXISTING PROFILE ALONG ALIGNMENT OF NORTHBOUND CD ROADWAY

-5.11%

-6.06%

DITCH PROFILE RT. (TYP.)

EXISTING ELEV. AT R

PROPOSED ELEV. AT R

619.4 621.76
620.7 622.70
622.1 623.65
623.2 624.59
624.5 625.53
625.5 626.47
626.2 627.42
626.9 628.35
627.6 629.24
628.3 630.09
628.6 630.91
629.1 631.68
630.1 632.41
612.2 633.09
606.4 633.74
605.5 634.35
628.1 634.91
632.9 635.44
632.9 635.92
633.2 636.36
633.8 636.76
634.0 637.12
634.2 637.44
634.2 637.72
633.7 637.96
633.1 638.16
631.9 638.31
631.5 638.42
631.1 638.50
630.6 638.53
629.8 638.52

815+00 816+00 817+00 818+00 819+00 820+00 821+00 822+00 823+00 824+00 825+00 826+00 827+00 828+00 829+00

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: NORTHBOUND CD ROADWAY	SHEET 1354	E

MATCH LINE STA. 829+50 CD

USH 41 SB ℄

VILLAGE OF ASHWAUBENON WATER MAIN

R-5-208

ONEIDA ST. /WAUBE LN. WEST BOUND OWW ℄

WISCONSIN PUBLIC SERVICE ELECTRIC SCHNEIDER NATIONAL FIBER OPTIC

R-5-209

B-5-618

RAMP OWA ℄

S-5-227

SCALE, FEET 0 50 100

N

RAMP OWC ℄

NORTHBOUND CD ROADWAY

USH 41 NB ℄

NORTHBOUND CD ROADWAY ℄

WETLAND BOUNDRY (TYP.)

SLOPE INTERCEPT (TYP.)

R-5-207

WISCONSIN PUBLIC SERVICE GAS

CAUTION

WISCONSIN PUBLIC SERVICE ELECTRIC

AT&T TELEPHONE

VILLAGE OF ASHWAUBENON SANITARY SEWER

RAMADA WAY

POND 8

B-5-612

ONEIDA ST. /WAUBE LN. EAST BOUND OWE ℄

B-5-619

S-5-161

RAMP OWD

RAMP OWD ℄

MATCH LINE STA. 843+50 CD

5

5

NORTHBOUND CD ROADWAY

PROPOSED PROFILE NORTH BOUND CD ROADWAY

VPI 837+50.01
EL 634.98

-0.53%

-2.51%

VPT 832+35.00
EL 637.69

VPC 832+95.01
EL 637.37

EXISTING PROFILE ALONG ALIGNMENT OF NORTHBOUND CD ROADWAY

B-5-612

DITCH PROFILE RT. (TYP.)

-6.63%

-6.75%

-6.53%

-8.90%

-13.5%

K VALUE CRITERIA #3
MIN = 245
DES = 455

R-5-208

22'-1" MINIMUM CLEARANCE

20'-6" MINIMUM CLEARANCE

BEGIN STA. 837CD+36.86
STRUCTURE B-5-612
TWO SPAN 45W PRESTRESSED GIRDER
42' 2 1/8" OVERALL WIDTH
217' 10 3/4" LENGTH
SKEW 32° 01' 35"

VPT 842+05.01
EL 623.54

K = 458
L = 910'

R-5-209

+3.37%

+4.68%

EXISTING ELEV. AT ℄ — PROPOSED ELEV. AT ℄

ONEIDA/WAUBE

635 630 625 620 615 610 605

629.8 638.52 | 629.2 638.47 | 628.7 638.38 | 628.4 638.25 | 628.0 638.08 | 627.5 637.86 | 627.2 637.61 | 626.5 637.35 | 626.3 637.05 | 625.8 636.70 | 624.6 636.29 | 623.9 635.84 | 623.4 635.32 | 623.0 634.75 | 623.3 634.13 | 623.3 633.45 | 622.7 632.72 | 607.7 631.93 | 605.0 631.09 | 604.9 630.19 | 618.4 629.24 | 622.0 628.24 | 621.9 627.18 | 621.7 626.06 | 621.4 624.89 | 621.1 623.67 | 620.3 622.41 | 619.8 621.16 | 619.2 619.90

830+00 831+00 832+00 833+00 834+00 835+00 836+00 837+00 838+00 839+00 840+00 841+00 842+00 843+00

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: NORTHBOUND CD ROADWAY	SHEET 1355	E

RAMP OWA ℄
TLE REQ'D FOR SLOPING
PROP. R/W
WETLAND BOUNDRY (TYP.)
TLE REQ'D FOR SLOPING
SLOPE INTERCEPT (TYP.)
AT&T TELEPHONE
EXISTING R/W
USH 41 SB ℄
EQUATION:
Sta 844+13.63 BK =
Sta 843+86.15 AH
MATCH LINE STA. 843+50 CD
MATCH LINE STA. 858+50 CD
840OWA
RAMP OWA
846OWA
848OWA
850OWA
852OWA
854OWA
844SB
846SB
848SB
850SB
USH 41 SB
852SB
854SB
S-5-162
856SB
USH 41
858SB
USH 41 NB
844NB
846NB
848NB
850NB
852NB
854NB
856NB
858NB
844CD
846CD
848CD
850CD
852CD
854CD
856CD
858CD
NORTH BOUND CD ROADWAY ℄
S-5-166
860WD
840WD
RAMP OWD
R-5-59
EXISTING R/W
WISCONSIN PUBLIC SERVICE ELECTRIC
RAMP OWD ℄
SLOPE INTERCEPT (TYP.)
NORTH BOUND CD ROADWAY ℄
AT&T TELEPHONE
TLE REQ'D FOR SLOPING
USH 41 NB ℄
N
SCALE, FEET 0 50 100

NORTHBOUND CD ROADWAY

635
630
625
620
615
610
605

EQUATION:
BK 844+13.63 =
AH 843+86.15

VPC 844+05.00
EL 617.83

K = 255
L = 770'

VPT 851+75.00 EL 610.11

K VALUE CRITERIA #3
MIN = 136
DES = 254

EXISTING PROFILE ALONG ALIGNMENT OF NORTHBOUND CD ROADWAY

PROPOSED PROFILE NORTHBOUND CD ROADWAY

+1.74%
+3.37%
+1.74%
DITCH PROFILE RT. (TYP.)
-2.51%
+0.51%
VPI 847+90.00
EI 608.15

VPC 856+05.00
EL 612.30

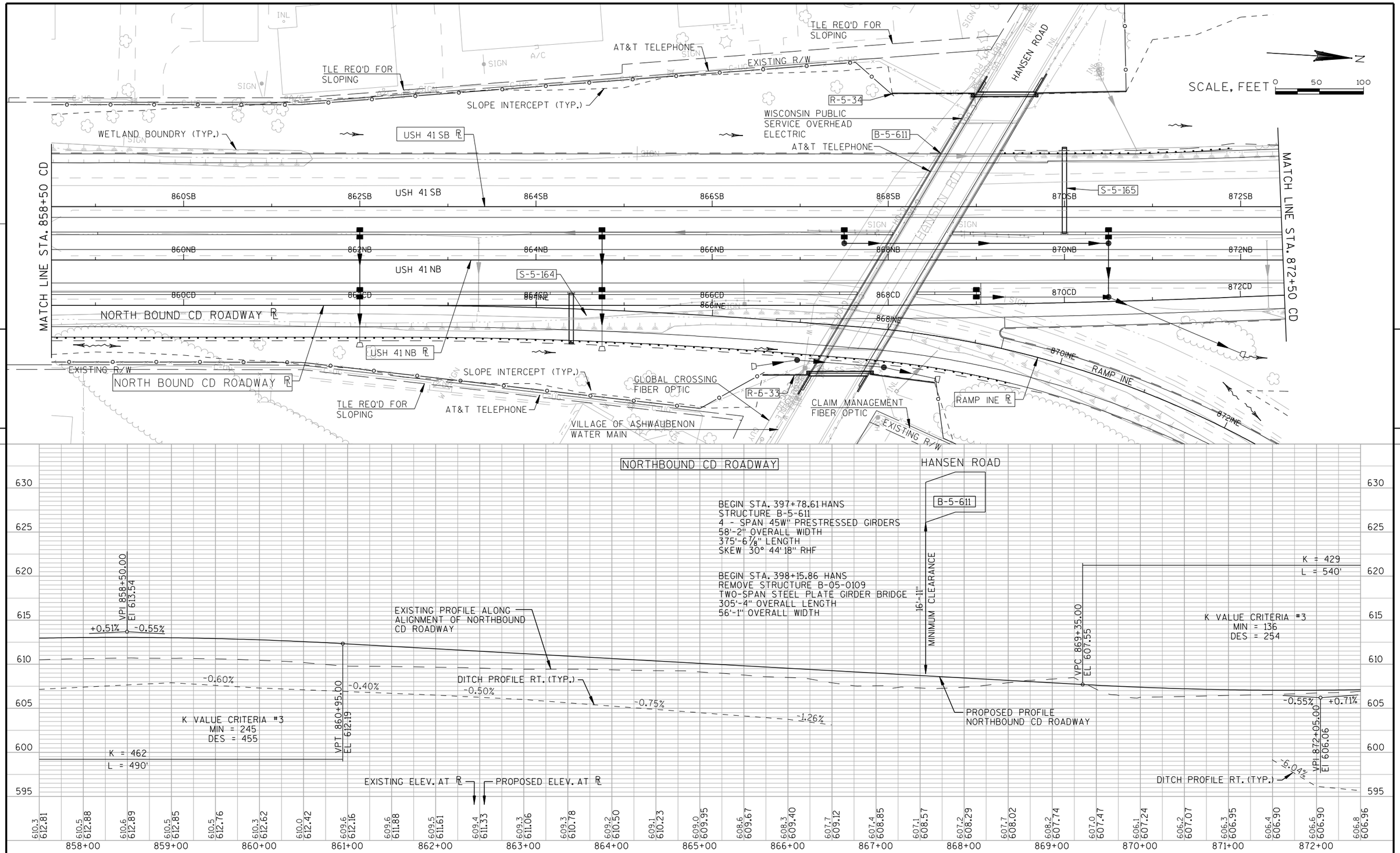
EXISTING ELEV. AT ℄
PROPOSED ELEV. AT ℄

620.3 622.41 | 619.8 621.16 | 619.2 619.90 | 618.5 618.64 | 618.1 617.95 | 617.1 616.74 | 615.9 615.62 | 614.9 614.60 | 613.7 613.67 | 612.9 612.85 | 612.8 612.12 | 612.4 611.49 | 611.8 610.96 | 611.2 610.53 | 610.8 610.20 | 610.5 609.96 | 610.3 609.82 | 610.2 609.78 | 609.8 609.84 | 609.6 610.00 | 609.5 610.24 | 609.4 610.49 | 609.3 610.75 | 609.4 611.00 | 609.6 611.25 | 609.7 611.51 | 609.7 611.76 | 609.8 612.02 | 610.0 612.27 | 610.2 612.50

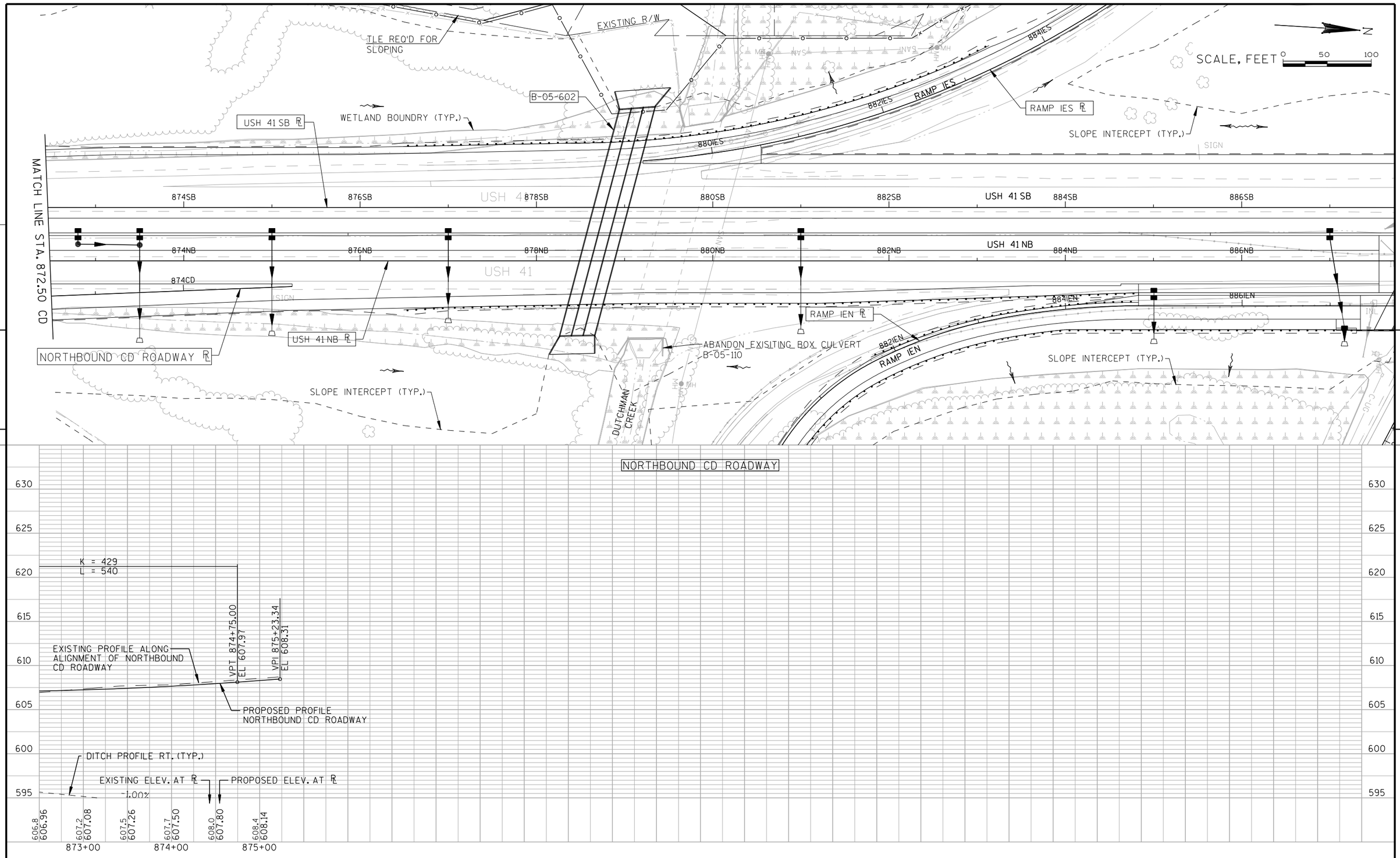
843+00 844+00 844+00 845+00 846+00 847+00 848+00 849+00 850+00 851+00 852+00 853+00 854+00 855+00 856+00

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: NORTHBOUND CD ROADWAY	SHEET 1356	E

FILE NAME : j:\jobs2006\20062041\ne_11330900eb\1133-09-71_us41_mainline\050125_pp.dgn PLOT DATE : 4/7/2013 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 40



PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: NORTHBOUND CD ROADWAY	SHEET 1357	E



PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: NORTHBOUND CD ROADWAY	SHEET 1358	E

FILE NAME : j:\jobs2006\20062041\ne_11330900eb\1133-09-71_us41_mainline\050127_pp.dgn PLOT DATE : 4/7/2013 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 40

SCALE, FEET 0 50 100

N

WISCONSIN PUBLIC SERVICE ELECTRIC
TLE REQ'D FOR SLOPING
EXISTING R/W
WAUBE LANE
6940WW
6960WE
6960WW
8380WA
8400WA
RAMP OWA
8420WA
8440WA
8460WA
8480WA
8500WA
S-5-227
WETLAND BOUNDRY (TYP.)
SLOPE INTERCEPT (TYP.)
WISCONSIN PUBLIC SERVICE ELECTRIC
TLE REQ'D FOR SLOPING
PROP. R/W
CIRCLE DRIVE
PROP. R/W
TLE REQ'D FOR SLOPING
ATT TELEPHONE
OWB
RAMP OWB R
ONEIDA ST./WAUBE LN. WEST BOUND OWW R
RAMP OWA R
ONEIDA ST./WAUBE LN. EAST BOUND OWE R
VILLAGE OF ASHWAUBENON WATER MAIN
6980WE
6980WW
CTH "AA"
SCHNEIDER NATIONAL FIBER OPTIC
R-5-208
R-5-209
B-5-618
USH 41 SB
USH 41 NB
836SB
838SB
840SB
842SB
844SB
846SB
848SB
850SB
836NB
838NB
840NB
842NB
844NB
846NB
848NB
850NB
836CD
838CD
840CD
842CD
844CD
846CD
848CD
850CD
S-5-161
RAMP OWA

5 5

K = 48
L = 140'
VPI 836+61.90
EI 606.10
VPI 836+50.52
EL 606.33
K VALUE CRITERIA #1
MIN = 37
DES = 37
VPC 836+85.00
EL 605.64
VPT 838+25.00
EL 605.15
VPI 836+76.40
EI 605.80
VPI 837+55.00
EI 604.38
-2.02%
-2.07%
-2.07%
-1.81%
+1.10%
+0.33%
+0.00%
+0.30%
-0.20%
+0.30%
DITCH PROFILE RT. (TYP.)
STA. 837+49.52 OWA
12" RCCP REQ'D
INV. LT. = 601.27
INV. RT. = 601.00
SKEW 3° LHF
EXISTING ELEV. AT R
PROPOSED ELEV. AT R
VPI 844+75.00
EI 612.30
EXISTING PROFILE ALONG ALIGNMENT OF RAMP OWA
+1.10%
-0.68%
PROPOSED PROFILE RAMP OWA
K VALUE CRITERIA #1
MIN = 151
DES = 245
VPC 842+55.00
EL 609.88
+0.30%
+0.29%
+2.50%
+2.94%
+0.54%
+0.30%
DITCH PROFILE LT. (TYP.)
K = 247
L = 440'
VPT 846+95.00
EL 610.81
-0.30%
+0.20%
+0.30%
+1.86%
+0.30%
K = 197
L = 150'
K VALUE CRITERIA #1
MIN = 136
DES = 136
VPC 847+45.00
EL 610.47
VPT 848+95.00
EL 610.02
VPI 849+65.91
EL 610.08
-0.68%
+0.08%
VPI 848+20.00
EI 609.96

620 615 610 605 600 595 590

606.0 605.40 | 606.2 604.91 | 606.8 604.94 | 607.7 605.42 | 608.6 605.97 | 609.1 606.52 | 610.7 607.07 | 611.4 607.62 | 612.2 608.17 | 613.1 608.72 | 614.0 609.27 | 614.6 609.82 | 615.0 610.33 | 615.1 610.74 | 615.2 611.05 | 615.4 611.26 | 614.6 611.36 | 614.4 611.37 | 614.0 611.27 | 613.1 611.07 | 611.7 610.77 | 611.1 610.44 | 611.1 610.17 | 611.3 610.04 | 611.5 610.03 | 611.3 610.07

837+00 838+00 839+00 840+00 841+00 842+00 843+00 844+00 845+00 846+00 847+00 848+00 849+00

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: RAMP OWA	SHEET 1359	E

SCALE, FEET 0 50 100

N

VILLAGE OF ASHWAUBENON SANITARY SEWER
WISCONSIN PUBLIC SERVICE GAS
CAUTION
WISCONSIN PUBLIC SERVICE ELECTRIC
WETLAND BOUNDRY (TYP.)
SLOPE INTERCEPT (TYP.)
VILLAGE OF ASHWAUBENON WATER MAIN
TLE REQ'D FOR SLOPING
EXISTING R/W
AT&T TELEPHONE
PARKVIEW ROAD
198PRK
200PRK
PARKVIEW ROAD ℄
R-5-206
R-5-207
B-5-616
RAMP OWB ℄
RAMP OWB
MATCH LINE STA. 827+00 OWB
USH 41 SB
USH 41 NB
USH 41
S-5-159
B-5-617
B-5-621
S-5-163
812SB 814SB 816SB 818SB 820SB 822SB 824SB 826SB
812NB 814NB 816NB 818NB 820NB 822NB 824NB 826NB
812CD 814CD 816CD 818CD 820CD 822CD 824CD 826CD
8220WB 8240WB 8260WB
8260WC
RAMP OWC ℄
RAMP OWC
SLOPE INTERCEPT (TYP.)
TLE REQ'D FOR SLOPING
NORTHBOUND CD ROADWAY ℄
WISCONSIN CENTRAL LTD.
SIGN
INL
5

RAMP OWB

VPI 821+16.66
EL 632.90
VPI 825+05.00
EL 636.34
+0.88%
-3.72%
PROPOSED PROFILE RAMP OWB
EXISTING PROFILE ALONG ALIGNMENT OF RAMP OWB
B-5-616
R-5-207
R-5-206
VPC 821+55.00 EL 633.24
21'-0" MINIMUM CLEARANCE
21'-4" MINIMUM CLEARANCE
K VALUE CRITERIA #1
MIN = 84
DES = 136
K = 152
L = 700'
WISCONSIN CENTRAL LTD.
PARKVIEW ROAD
DITCH PROFILE LT. (TYP.)
-0.25%
EXISTING ELEV. AT ℄
PROPOSED ELEV. AT ℄

635 630 625 620 615 610 605 600

606.6 633.20 | 605.6 633.58 | 630.9 633.79 | 632.5 633.84 | 630.9 633.72 | 629.8 633.44 | 628.2 633.00 | 627.5 632.39 | 627.4 631.62 | 627.2 630.68 | 627.6 629.59 | 627.1 628.32

822+00 823+00 824+00 825+00 826+00 827+00

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: RAMP OWB	SHEET 1360	E

FILE NAME : j:\jobs2006\20062041\ne_11330900eb\1133-09-71_us41_mainline\050148_pp.dgn PLOT DATE : 4/7/2013 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

SCALE, FEET 0 50 100 N

MATCH LINE STA. 827+00 OWB

VILLAGE OF ASHWAUBENON WATER MAIN

WISCONSIN PUBLIC SERVICE ELECTRIC

WETLAND BOUNDRY (TYP.)
SLOPE INTERCEPT (TYP.)
TLE REQ'D FOR SLOPING

SLOPE INTERCEPT (TYP.)
TLE REQ'D FOR SLOPING

EXISTING R/W

ASHWAUBENON LANE

6940WE 6940WW 6960WE 6960WW 6980WE 6980WW

8280WB 8300WB 8320WB 8340WB 8360WB 8380WA 8400WA 8420WA

RAMP OWB

RAMP OWA

RAMP OWB R

SCHNEIDER NATIONAL FIBER OPTIC

WISCONSIN PUBLIC SERVICE ELECTRIC

S-5-227

USH 41 NB

USH 41 SB

R-5-208

B-5-618

R-5-209

S-5-161

828SB 830SB 832SB 834SB 836SB 838SB 840SB 842SB

828NB 830NB 832NB 834NB 840NB 842NB

828CB 830CB

CTH PAPA

5 5

RAMP OWB

EXISTING PROFILE ALONG ALIGNMENT OF RAMP OWB

PROPOSED PROFILE RAMP OWB

DITCH PROFILE RT. (TYP.)

DITCH PROFILE LT. (TYP.)

-3.30% -3.88% -3.90% -4.00% -4.89% -3.71% +0.93% +0.13% -0.60% -0.61% -1.02% -1.00% -0.53% -0.50% +0.27% +0.00% +0.93% +1.86% +1.76% +1.86%

VPT 828+55.00 EL 623.37

VPC 832+65.00 EL 608.16

K = 43
L = 200'

VPT 834+65.00 EL 605.38

K VALUE CRITERIA #1
MIN = 37
DES = 37

VPI 835+21.15 EI 606.04

VPI 835+32.54 EL 606.24

STA. 833+13.32 OWB
PROP. 53"x34" RCCP
INV. LT. = 599.84
INV. RT. = 598.56
SKEW 13° 1' 57" LHF

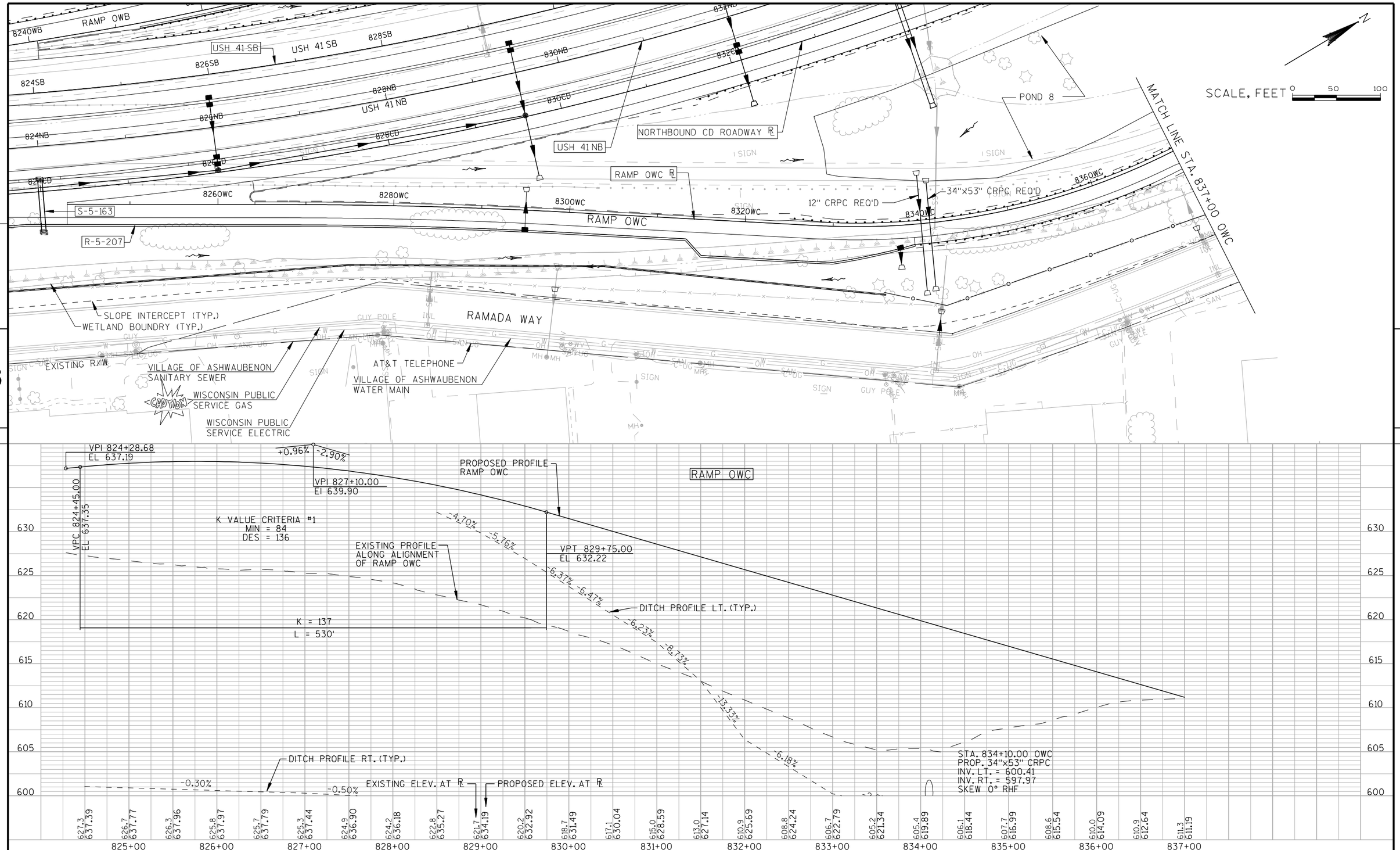
VPI 833+65.00 EI 604.45

VPI 835+06.66 EI 605.77

EXISTING ELEV. AT R

PROPOSED ELEV. AT R

| | | |



PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: RAMP OWC	SHEET 1362	E

SCALE, FEET 0 50 100

N

B-5-612
R-5-208
POND 8
R-5-209
NORTHBOUND CD ROADWAY
RAMP OWC ℄
VILLAGE OF ASHWAUBENON WATER MAIN
RAMP OWC
RAMP OWD
MATCH LINE STA. 837+00 OWC
RAMADA WAY
EXISTING R/W
VILLAGE OF ASHWAUBENON SANITARY SEWER
WISCONSIN PUBLIC SERVICE ELECTRIC
WISCONSIN PUBLIC SERVICE GAS
ATT TELEPHONE
VILLAGE OF ASHWAUBENON WATER MAIN
CAUTION
PROP. R/W
TLE REQ'D FOR SLOPING
ONEIDA STREET
ONEIDA ST. /WAUBE LN. EAST BOUND OWE ℄
ONEIDA ST. /WAUBE LN. WEST BOUND OWW ℄
WETLAND BOUNDRY (TYP.)
SLOPE INTERCEPT (TYP.)
TLE REQ'D FOR SLOPING
S-5-230
EXISTING R/W
NORTHBOUND CD ROADWAY ℄
RAMP OWD ℄
USH 41 NB ℄
USH 41 NB
GUY POLE

RAMP OWC

K = 38
L = 150'
K VALUE CRITERIA #1
MIN = 37
DES = 37
VPT 838+55.00
EL 606.70
VPT 840+05.00
EL 605.28
VPI 840+33.44
EL 605.83
EXISTING PROFILE ALONG ALIGNMENT OF RAMP OWC
PROPOSED PROFILE RAMP OWC
-2.90%
+1.00%
+2.06%
+2.06%
DITCH PROFILE RT. (TYP.)
VPI 839+30.00
EL 604.53
VPI 840+22.05
EL 605.60
VPI 840+07.56
EL 605.30

EXISTING ELEV. AT ℄ — PROPOSED ELEV. AT ℄

837+00	838+00	839+00	840+00
611.3 / 611.19	610.5 / 609.75	609.5 / 608.30	608.0 / 606.85	606.7 / 605.66	605.9 / 605.12	605.4 / 605.23

625 620 615 610 605 600 595 590

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: RAMP OWC	SHEET 1363	E

FILE NAME : j:\jobs2006\20062041\ne_11330900eb\1133-09-71_us41_mainline\050151_pp.dgn PLOT DATE : 4/7/2013 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 40

POND 8
B-5-612
R-5-208
R-5-209
RAMP OWC
WISCONSIN PUBLIC SERVICE ELECTRIC
8380WC
8400WC
RAMP OWC
8400WD
8420WD
RAMP OWD
842CD
842NB
840CD
842SB
844SB
844NB
844CD
844DWD
846SB
846NB
846CD
846OWD
8460WA RAMP OWA
8480WA
848SB
848NB
848CD
8500WA
850SB
USH 41 SB
850NB
USH 41 NB
852CD
TLE REQ'D FOR SLOPING
RAMP OWA
USH 41 SB
7020WE
7020WW
7040WE
7040WW
NORTHBOUND CD ROADWAY
EXISTING R/W
VILLAGE OF ASHWAUBENON WATER MAIN
PROP. R/W
TLE REQ'D FOR SLOPING
ONEIDA ST./WAUBE LN. EAST BOUND OWE R
SCHNEIDER NATIONAL FIBER OPTIC
TLE REQ'D FOR SLOPING
S-5-230
ONEIDA ST./WAUBE LN. WEST BOUND OWW R
RAMP OWD R
SLOPE INTERCEPT (TYP.)
WETLAND BOUNDRY (TYP.)
ATT TELEPHONE
WISCONSIN PUBLIC SERVICE ELECTRIC
NORTHBOUND CD ROADWAY R
USH 41 NB R
R-05-59
TLE REQ'D FOR SLOPING
SCALE, FEET 0 50 100

RAMP OWD

K VALUE CRITERIA #1
MIN = 26
DES = 26
K = 31
L = 110'

VPI 839+22.63
EL 606.02
VPC 839+50.00
EL 605.53
VPT 840+60.00
EL 606.79
VPI 843+95.00
EL 616.60
VPI 846+70.25
EL 612.18
PROPOSED PROFILE RAMP OWD
+2.93%
-1.66%
-1.35%
1.66%
1.86%
1.86%
-0.65%
+2.93%
VPI 839+33.85
EL 605.81
VPI 839+48.14
EL 605.55
VPI 840+05.00
EL 605.17
+0.00%
VPC 841+70.00
EL 610.01
EXISTING PROFILE ALONG ALIGNMENT OF RAMP OWD
K VALUE CRITERIA #1
MIN = 98
DES = 61
VPI 846+25.00
EL 612.79
+0.30%
DITCH PROFILE RT.(TYP.)
VPT 846+20.00
EL 612.88
K = 98
L = 450'

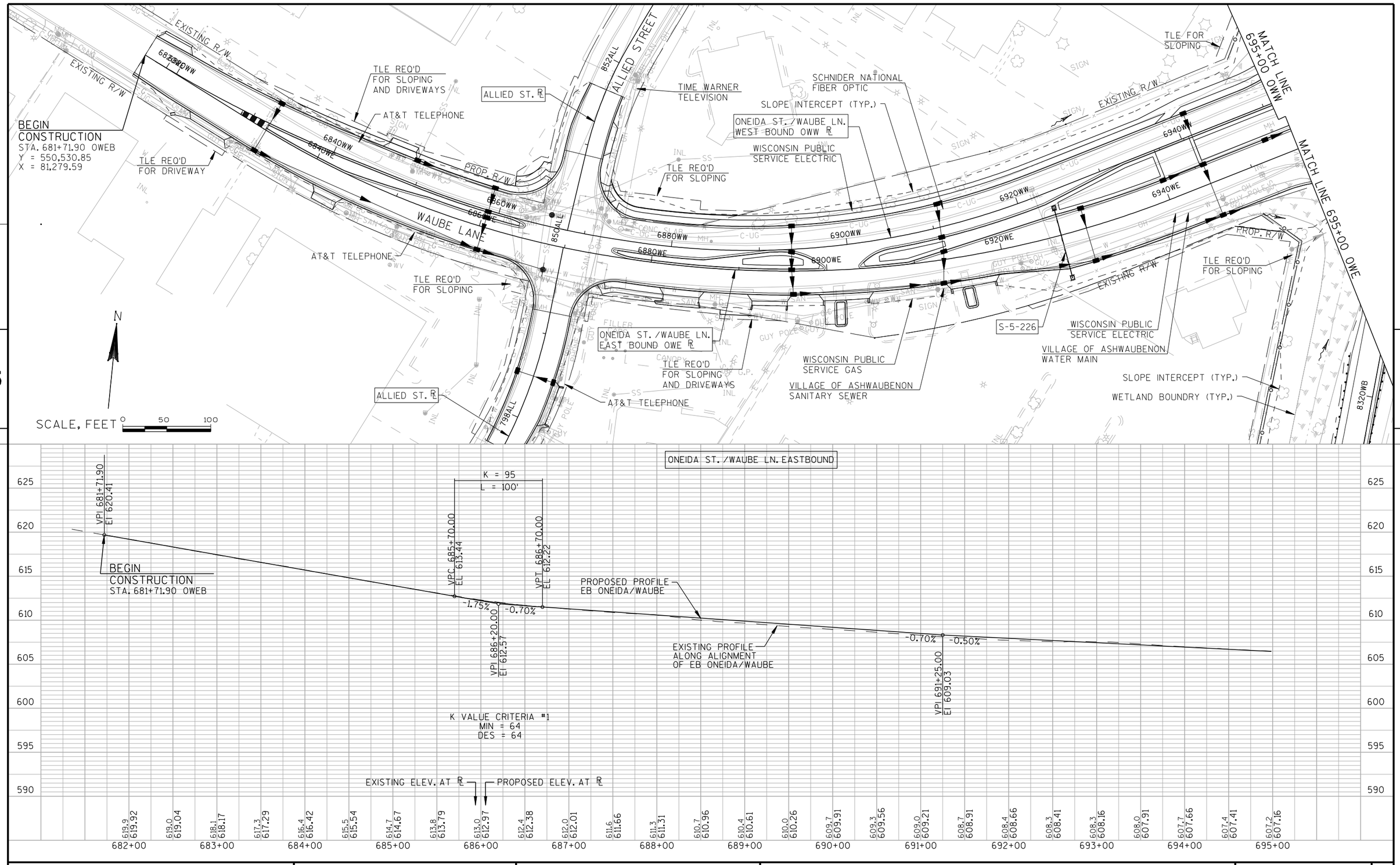
EXISTING ELEV. AT ℄
PROPOSED ELEV. AT ℄

840+00	841+00	842+00	843+00	844+00	845+00	846+00
605.6 / 605.53	604.4 / 605.61	604.6 / 606.51	605.1 / 607.96	605.7 / 609.42	606.8 / 610.84	607.6 / 612.03
608.9 / 612.96	610.0 / 613.63	610.9 / 614.05	611.7 / 614.22	612.4 / 614.13	612.8 / 613.79	612.9 / 613.19	612.4 / 612.46

615 610 605 600 595 590

5 5

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: RAMP OWD	SHEET 1364	E



PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE ONEIDA & WAUBE EASTBOUND	SHEET 1365	E

BEGIN CONSTRUCTION
STA. 681+71.90 OWWB
Y = 550,524.93
X = 81,291.59

TLE REQ'D FOR DRIVEWAY

TLE REQ'D FOR SLOPING AND DRIVEWAYS

AT&T TELEPHONE

ALLIED ST. ℄

ALLIED STREET

852ALL

TIME WARNER TELEVISION

SCHNIDER NATIONAL FIBER OPTIC

SLOPE INTERCEPT (TYP.)

ONEIDA ST./WAUBE LN. WEST BOUND OWW ℄

WISCONSIN PUBLIC SERVICE ELECTRIC

TLE REQ'D FOR SLOPING

TLE FOR SLOPING

MATCH LINE 695+00 OWW

MATCH LINE 695+00 OWE

EXISTING R/W

PROP. R/W

6820WW
6840WW
6840WE
6860WW
6860WE
6880WW
6880WE
6900WW
6900WE
6920WW
6920WE
6940WW
6940WE

WAUBE LANE

850ALL

AT&T TELEPHONE

TLE REQ'D FOR SLOPING

ONEIDA ST./WAUBE LN. EAST BOUND OWE ℄

TLE REQ'D FOR SLOPING AND DRIVEWAYS

WISCONSIN PUBLIC SERVICE GAS

VILLAGE OF ASHWAUBENON SANITARY SEWER

S-5-226

WISCONSIN PUBLIC SERVICE ELECTRIC

VILLAGE OF ASHWAUBENON WATER MAIN

SLOPE INTERCEPT (TYP.)

WETLAND BOUNDRY (TYP.)

TLE REQ'D FOR SLOPING

ALLIED ST. ℄

798ALL

AT&T TELEPHONE

8320WB

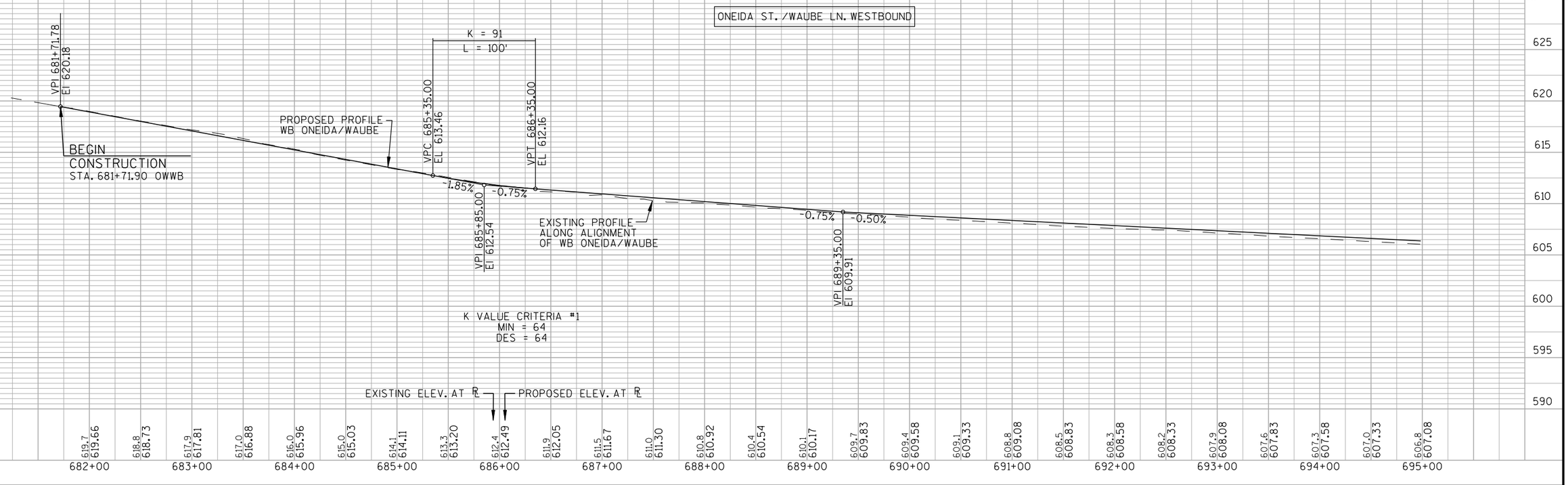
N

SCALE, FEET 0 50 100

5

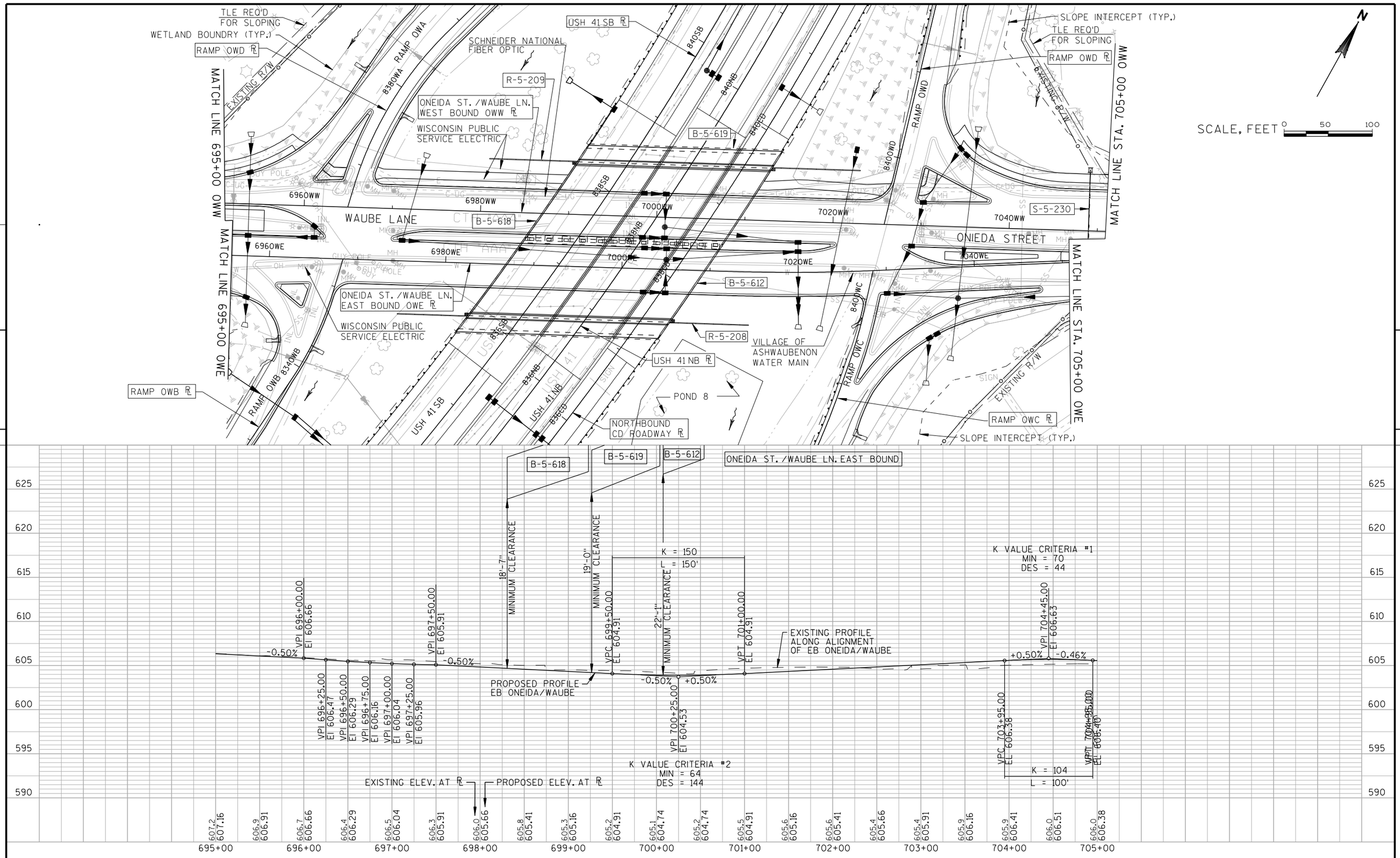
5

ONEIDA ST./WAUBE LN. WESTBOUND



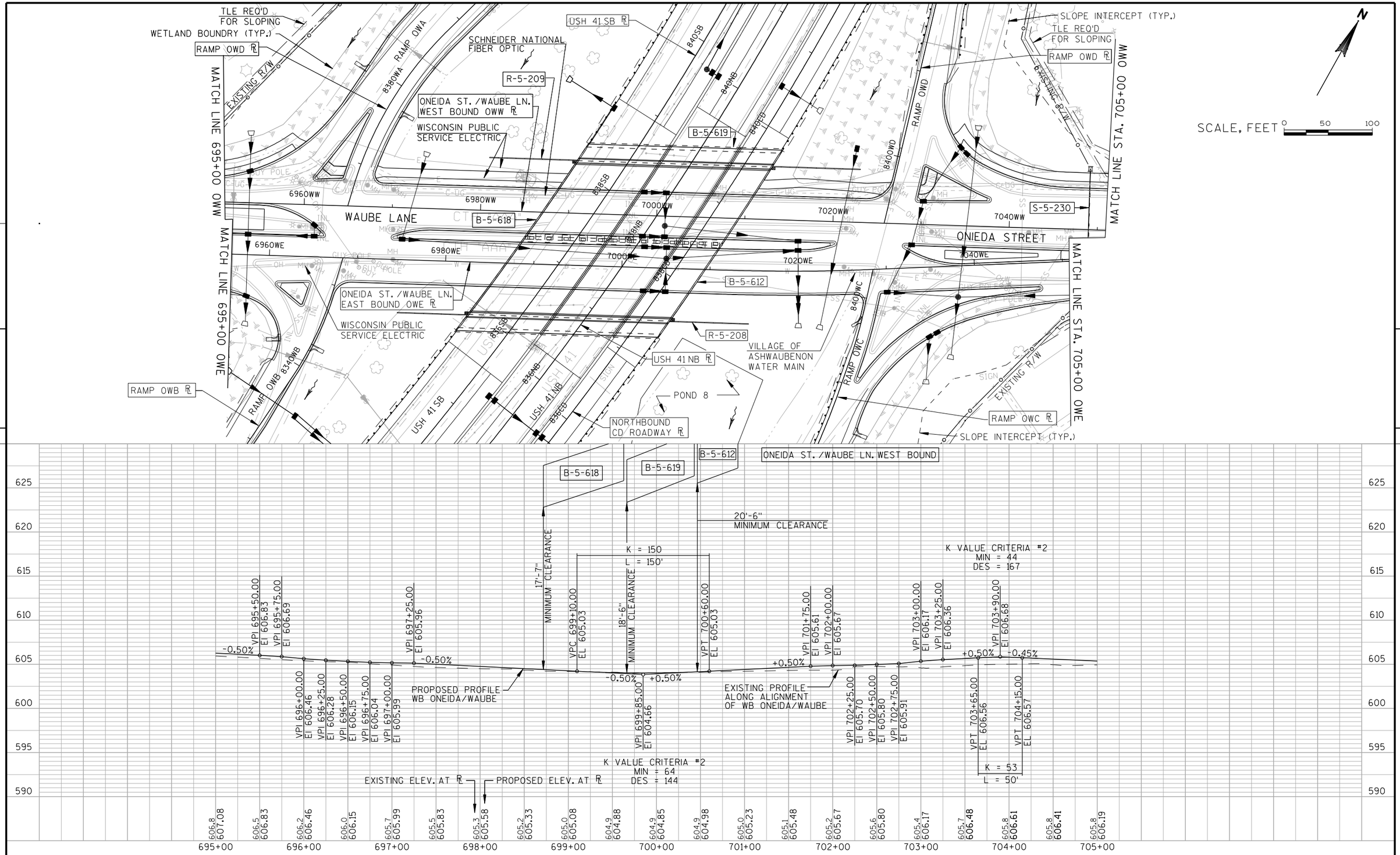
PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE ONEIDA & WAUBE WESTBOUND	SHEET 1366	E

FILE NAME : j:\jobs2006\20062041\ne_11330900eb\1133-09-71_us41_mainline\050142_pp.dgn PLOT DATE : 4/7/2013 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 40

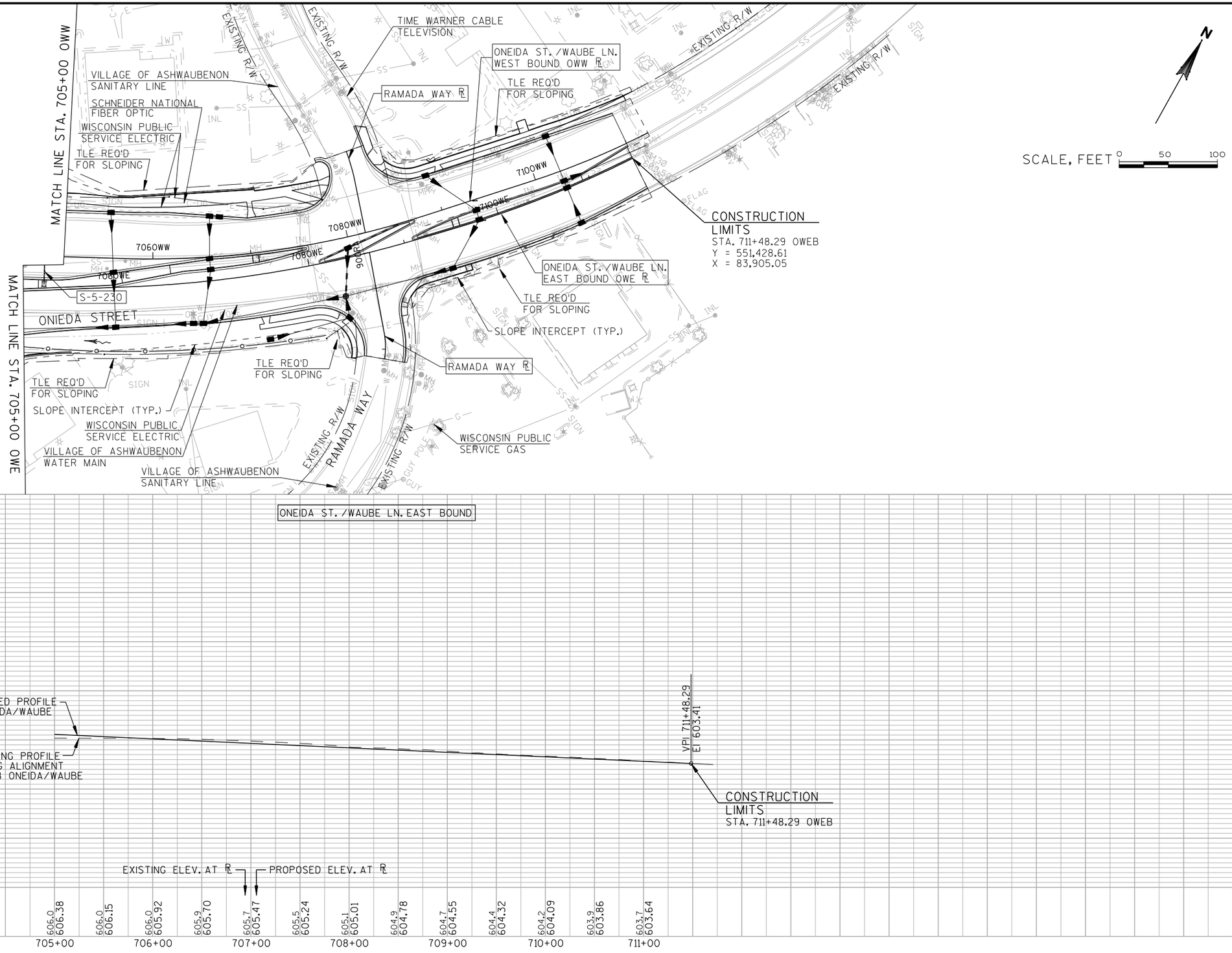


PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE ONEIDA & WAUBE EASTBOUND	SHEET 1367	E

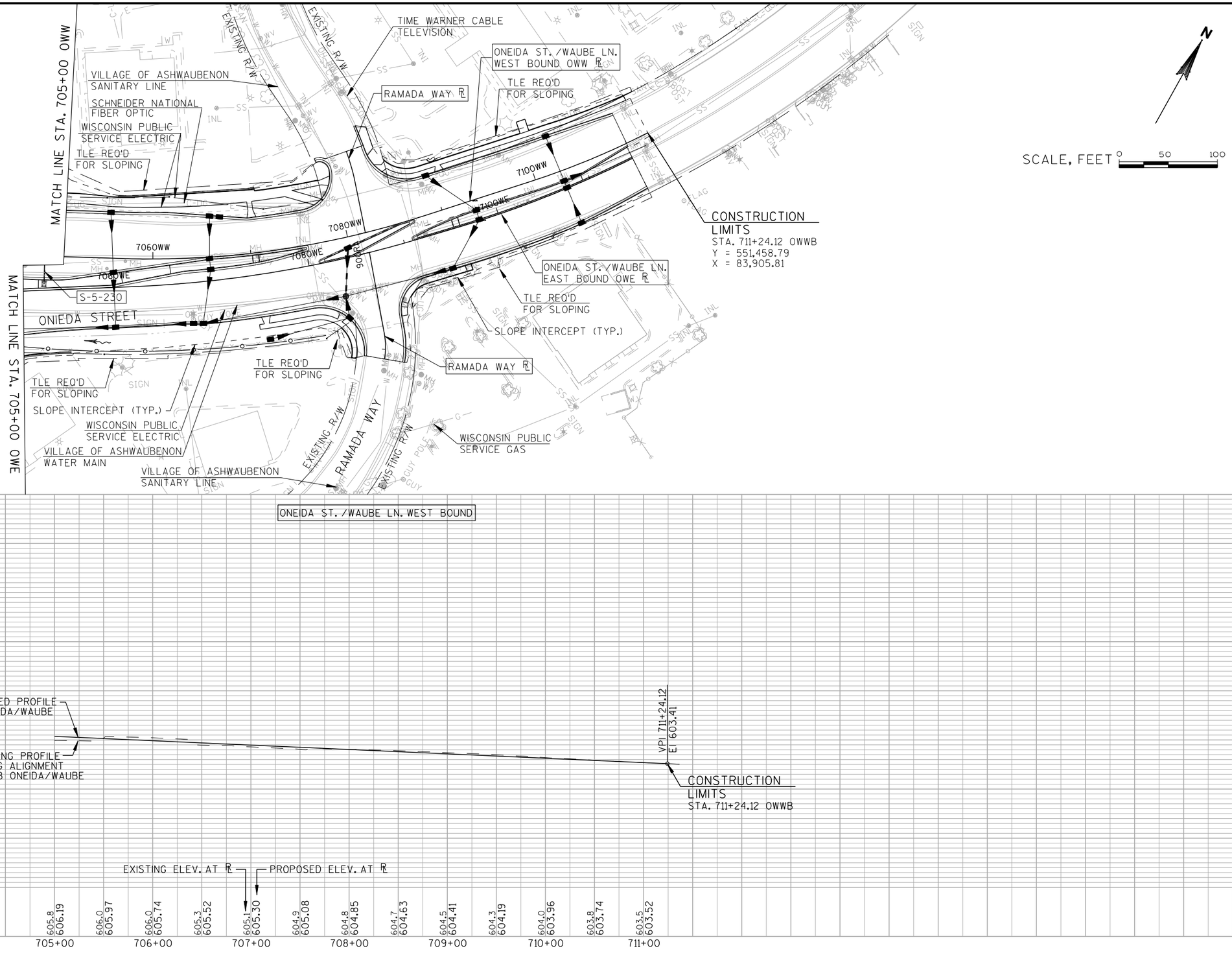
FILE NAME : j:\jobs2006\20062041\ne_11330900eb\1133-09-71_us41_mainline\050143_pp.dgn PLOT DATE : 4/7/2013 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 40



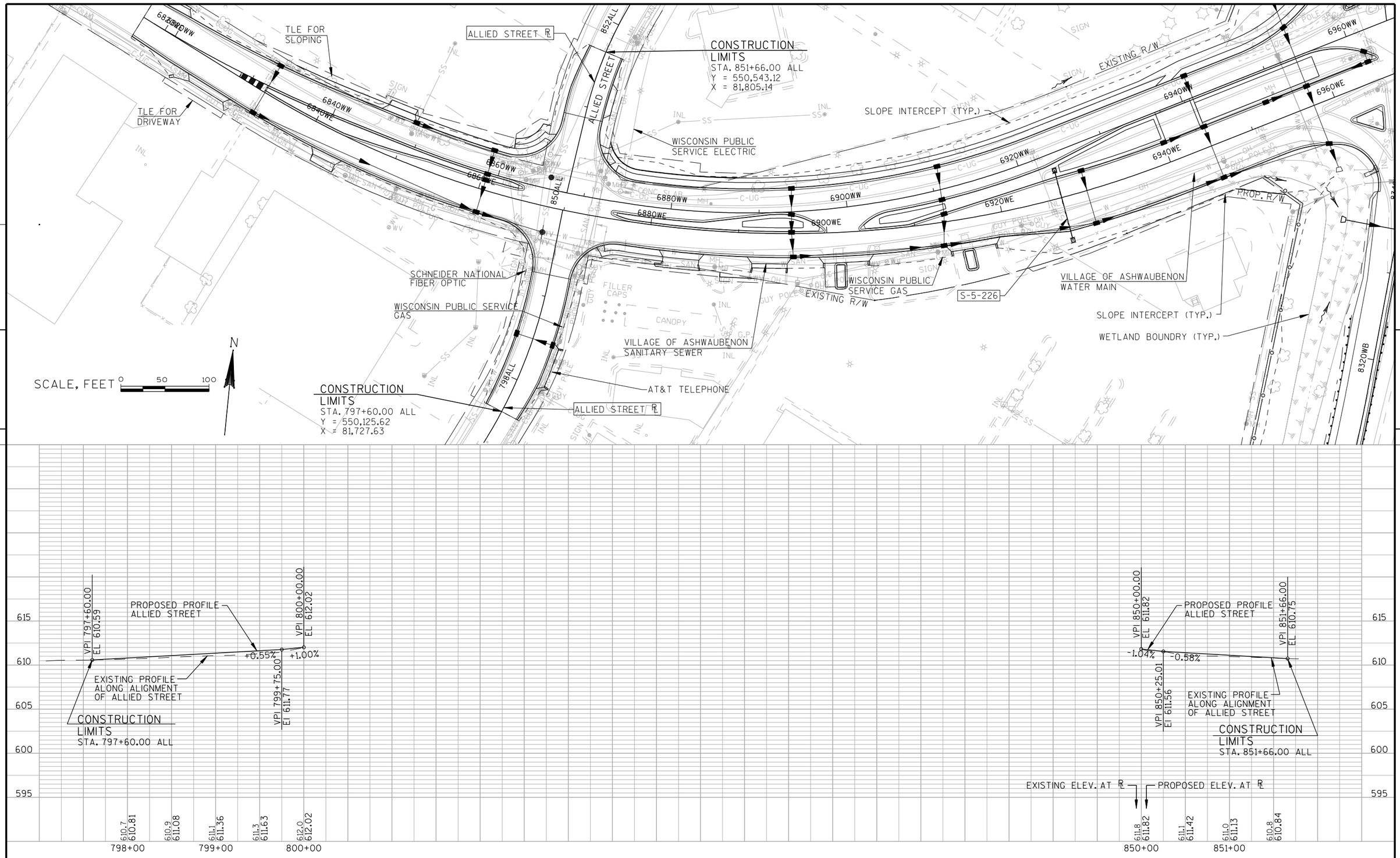
PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE ONEIDA & WAUBE WEST BOUND	SHEET 1368	E



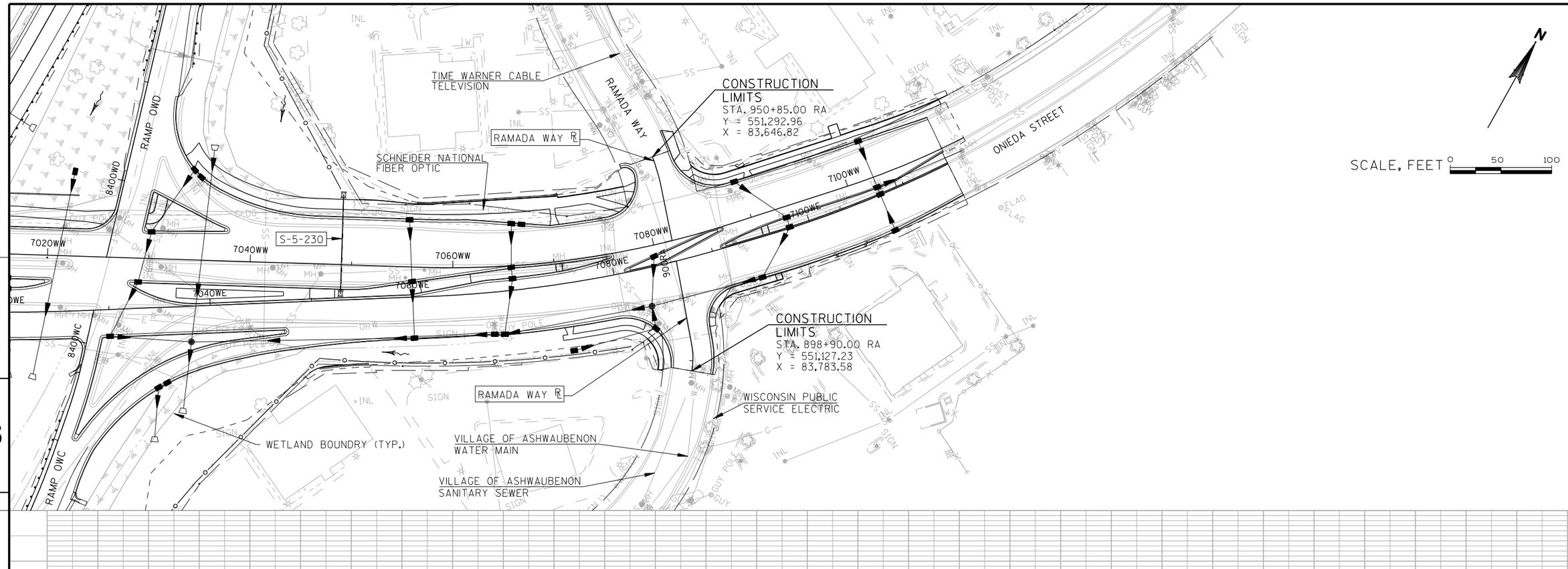
PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE ONEIDA & WAUBE EAST BOUND	SHEET 1369	E

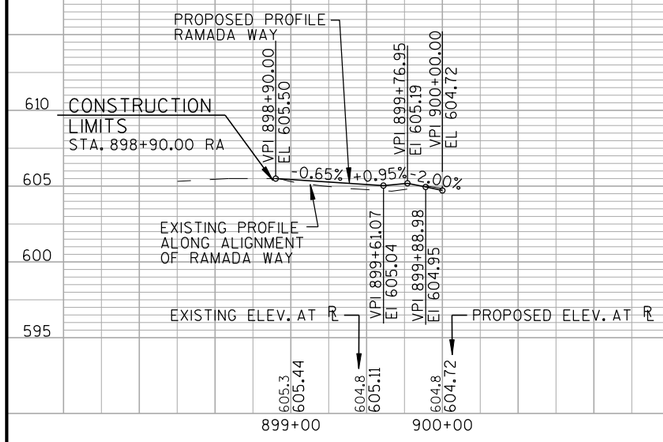


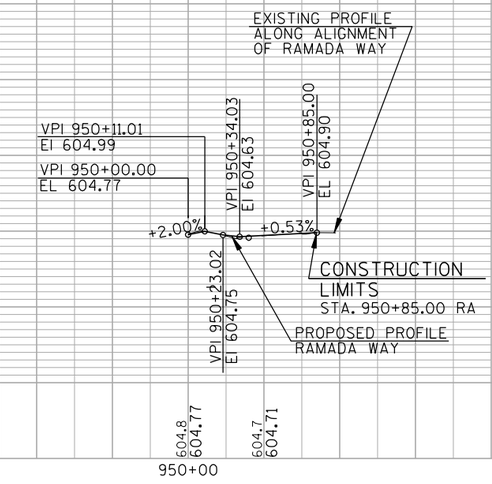
PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE ONEIDA & WAUBE WEST BOUND	SHEET 1370	E



PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE ALLIED STREET	SHEET 1371	E







PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE RAMADA WAY	SHEET 1372	E

FILE NAME : j:\jobs2006\20062041\ne_11330900eb\1133-09-71_us41_mainline\050157_pp.dgn PLOT DATE : 4/7/2013 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 40

SCALE, FEET 0 50 100

N

STH 172 EE R

STH 172

62W

56EE 58EE 60EE 62EE 64EE 66EE

BEGIN CONSTRUCTION
STA. 57+00.00 EE
Y = 555,249.94
X = 84,135.13

STH 172 EASTBOUND

890INE

SLOPE INTERCEPT (TYP.) STH 172

S-05-96

END CONSTRUCTION
STA. 66+44.00 EE

B-5-386

888INE

SLOPE INTERCEPT (TYP.)

886INE

RAMP INE

RAMP INE

884INE

EXISTING R/W

WISDOT
FIBER OPTIC

WISCONSIN PUBLIC
SERVICE ELECTRIC

TIME WARNER
CABLE TELEVISION

WETLAND BOUNDRY (TYP.)

ONEIDA STREET

STH 172 EE

EXISTING PROFILE
ALONG ALIGNMENT
OF EE STH 172

EXISTING ELEV. AT R

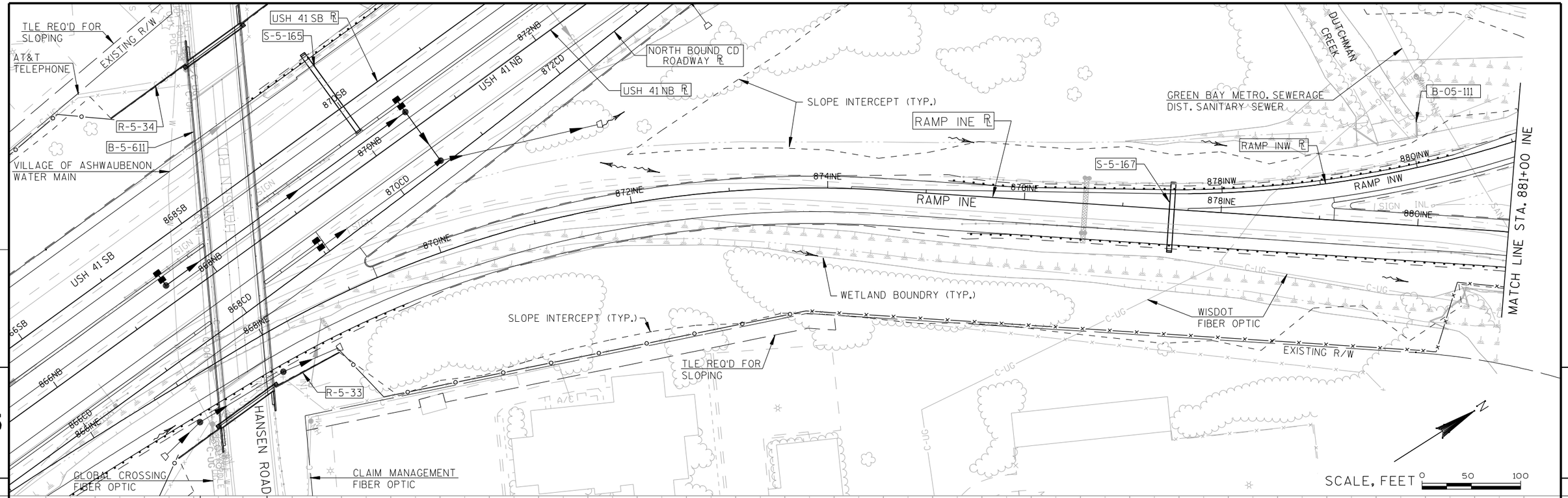
625 620 615 610 605 600 595

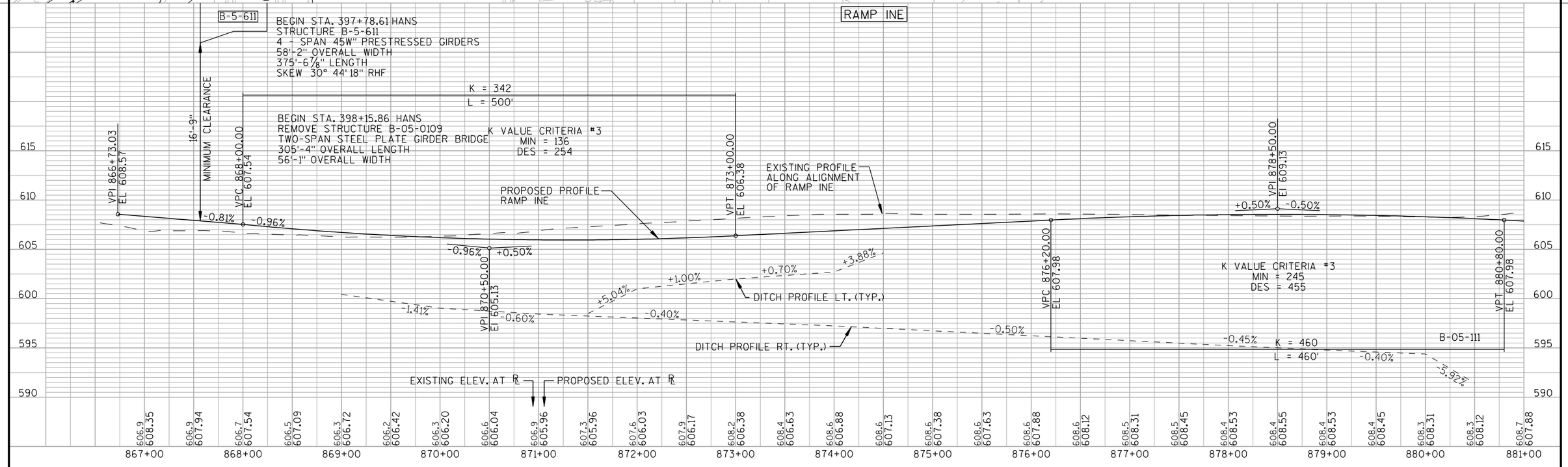
605.6 606.2 606.9 607.5 608.1 608.8 609.4 610.1 610.9 611.5 612.2 612.8 613.5 614.2 614.8 615.4 616.0 616.7 617.3 617.8 618.4 618.8 619.2 619.5 619.9 620.3 605.3 602.7

54+00 55+00 56+00 57+00 58+00 59+00 60+00 61+00 62+00 63+00 64+00 65+00 66+00 67+00

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE STH 172 EE	SHEET 1373	E

FILE NAME : j:\jobs2006\20062041\ne_11330900eb\1133-09-71_us41_mainline\050153_pp.dgn PLOT DATE : 4/7/2013 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$





PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: RAMP INE	SHEET 1374	E

WISDOT FIBER OPTIC

RAMP INW ℞

884INW

882INW

RAMP INW

MATCH LINE STA. 881+00 INE

30" CRPC REQ'D

RAMP INE ℞

SLOPE INTERCEPT (TYP.)

888INE

886INE

884INE

882INE

RAMP INE

SLOPE INTERCEPT (TYP.)

EXISTING R/W

WETLAND BOUNDRY (TYP.)

B-05-111

GREEN BAY METRO. SEWERAGE
DIST. SANITARY SEWER

58EE

58W

60EE

60W

890INE

STH 172 EASTBOUND

STH 172 EASTBOUND ℞

62EE

62W

64EE

STH 172

EXISTING R/W

WISDOT
FIBER OPTIC

TIME WARNER CABLE
TELEVISION

WISCONSIN PUBLIC SERVICE
ELECTRIC

N

SCALE, FEET 0 50 100

5

5

RAMP INE

K = 254
L = 550'

K VALUE CRITERIA #1
MIN = 136
DES = 136

VPC 883+15.00
EL 606.80

VPT 888+65.00
EL 609.99

VPI 890+30.32
EL 612.74

VPI 885+90.00
EL 605.42

EXISTING PROFILE
ALONG ALIGNMENT
OF RAMP INE

PROPOSED PROFILE
RAMP INE

DITCH PROFILE LT. (TYP.)

DITCH PROFILE RT. (TYP.)

-1.66%

-0.50%

+0.40%

-0.51%

+10.58%

-27.81%

+1.66%

+5.80%

+5.02%

STA. 885+61.00 INE
EXISTING 30" RCCP
INV. LT. = 589.81
INV. LT. = 587.97
SKEW = 12.4° LHF

EXISTING ELEV. AT ℞

PROPOSED ELEV. AT ℞

615
610
605
600
595
590

608.7 607.88
609.0 607.63
608.6 607.38
608.3 607.13
607.7 606.88
608.2 606.65
608.6 606.52
608.3 606.48
606.5 606.55
605.1 606.71
605.7 606.97
606.0 607.33
606.8 607.79
606.9 608.34
609.1 609.00
608.6 609.75
611.6 610.58
613.4 611.41
612.9 612.24
612.7
613.4

881+00 882+00 883+00 884+00 885+00 886+00 887+00 888+00 889+00 890+00 891+00

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: RAMP INE	SHEET 1375	E

FILE NAME : j:\jobs2006\20062041\ne_11330900eb\1133-09-71_us41_mainline\050129_pp.dgn PLOT DATE : 4/7/2013 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

SCALE, FEET 0 50 100

N

GREEN BAY METRO. SEWERAGE
DIST. SANITARY SEWER

DUTCHMAN CREEK

B-05-111

RAMP INE R

SLOPE INTERCEPT (TYP.)

RAMP INW R

S-5-167

874INE

876INE

878INW

878INE

880INW

RAMP INW

880INE

RAMP INE

882INW

882INE

884INW

884INE

CONSTRUCTION LIMITS
STA. 881+15.00 INW
Y = 554,987.94
X = 83,448.15

SLOPE INTERCEPT (TYP.)

52EE

54EE

WETLAND BOUNDRY (TYP.)

WISDOT FIBER OPTIC

TLE REQ'D FOR SLOPING

SLOPE INTERCEPT (TYP.)

EXISTING R/W

5

5

RAMP INW

K = 127
L = 310'

K VALUE CRITERIA #1
MIN = 115
DES = 115

VPI 877+65.38
EL 607.70

VPC 878+05.00 EL 607.42

EXISTING PROFILE ALONG RAMP INW ALIGNMENT

VPN 881+15.00 EL 608.95

-0.73%

+1.72%

PROPOSED PROFILE RAMP INW

B-05-111

VPI 879+60.00
El 606.29

EXISTING ELEV. AT R L

PROPOSED ELEV. AT R L

878+00	879+00	880+00	881+00	882+00	883+00	884+00
607.7 607.45	607.5 607.17	607.3 607.08	607.4 607.19	607.5 607.50	608.0 608.00	608.7 608.70	609.7	610.8	612.2	613.9	615.6	617.5

625 620 615 610 605 600 595 590

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: RAMP INW	SHEET 1376	E

B-05-602

DUTCHMAN CREEK

WETLAND BOUNDRY (TYP.)

SCALE, FEET 0 50 100

N

TLE REQ'D FOR SLOPING

GREEN BAY METRO. SEWERAGE DIST. SANITARY SEWER

EXISTING R/W

880IES

880SB

880NB

882IES

SLOPE INTERCEPT (TYP.)

884IES

886IES

RAMP IES

888IES

RAMP IES ℄

SLOPE INTERCEPT (TYP.)

CONSTRUCTION LIMITS
STA. 888+70.0 IES
Y = 555,694.58
X = 82,186.81

882SB USH 41 SB

USH 41 NB

882NB

USH 41 NB

USH 41 SB

884SB

882IEN

RAMP IEN

884NB

RAMP IEN ℄

SIGN

5

5

RAMP IES

VPI 879+20.95
EL 612.39

VPC 879+35.00
EL 612.57

+1.23%

VPI 881+50.00
EL 615.21

-0.50%

PROPOSED PROFILE RAMP IES

EXISTING PROFILE ALONG ALIGNMENT OF RAMP IES

K VALUE CRITERIA #1
MIN = 151
DES = 245

K = 248
L = 430'

VPT 883+65.00 EL 614.14

VPC 883+70.00 EL 614.11

-3.09%

VPI 884+50.00
EL 613.71

-0.50%

-1.15%

-0.77%

VPT 885+30.00
EL 612.79

-0.47%

-2.84%

DITCH PROFILE RT. (TYP.)

K = 246
L = 160'

K VALUE CRITERIA #1
MIN = 151
DES = 245

VPC 887+60.00
EL 610.15

K = 136
L = 110'

VPT 888+70.00
EL 609.33

-1.15%

-0.34%

VPI 888+15.00
EL 609.52

K VALUE CRITERIA #1
MIN = 136
DES = 136

615
610
605
600
595
590

EXISTING ELEV. AT ℄ — PROPOSED ELEV. AT ℄

611.2 612.75 | 611.3 613.28 | 611.5 613.72 | 611.6 614.05 | 611.5 614.28 | 611.4 614.42 | 611.2 614.45 | 611.2 614.38 | 611.0 614.21 | 610.9 613.95 | 610.8 613.58 | 610.7 613.12 | 610.5 612.56 | 610.3 611.99 | 610.0 611.41 | 609.9 610.84 | 609.7 610.26 | 609.5 609.75 | 609.4 609.41 | 609.3 | 609.3 | 609.3 | 609.5 | 609.6 | 610.0 | 610.3 | 610.8 | 611.3

880+00 881+00 882+00 883+00 884+00 885+00 886+00 887+00 888+00 889+00 890+00 891+00 892+00 893+00

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE RAMP IES	SHEET 1377	E

MATCH LINE STA. 877+00 IEN

RAMP INW

RAMP INE

RAMP INW

RAMP INE

SLOPE INTERCEPT (TYP.)

WISDOT FIBER OPTIC

24" CRPC REQ'D

RAMP IEN R

RAMP IEN

SLOPE INTERCEPT (TYP.)

USH 41 NB

USH 41 SB

WISDOT FIBER OPTIC

CONSTRUCTION LIMITS
STA. 869+00.00 IEN
Y = 555,722.77
X = 83,023.35

WETLAND BOUNDRY (TYP.)

RAMP IEN

SCALE, FEET 0 50 100

K = 255
L = 450'

K VALUE CRITERIA #1
MIN = 96
DES = 186

CONSTRUCTION LIMITS
STA. 869+00.00 IEN

VPC 869+00.00
EL 604.09

VPI 871+25.00
EI 602.96

VPT 873+50.00
EL 605.80

EXISTING PROFILE ALONG ALIGNMENT OF RAMP IEN

PROPOSED PROFILE RAMP IEN

DITCH PROFILE RT. (TYP.)

DITCH PROFILE LT. (TYP.)

-0.50% +1.26% -1.08% +0.50% +1.25% +0.40% +0.46% +0.87% +1.76% +2.52%

STA. 869+70.00 IEN
EXISTING 30" RCCP
INV. LT. = 595.47
INV. RT. = 593.81
SKEW = 20° RHF

STA. 872+00.00 IEN
PROP. 24" CRPC
INV. LT. = 599.15
INV. RT. = 595.53
SKEW 0° RHF

EXISTING ELEV. AT ℄ PROPOSED ELEV. AT ℄

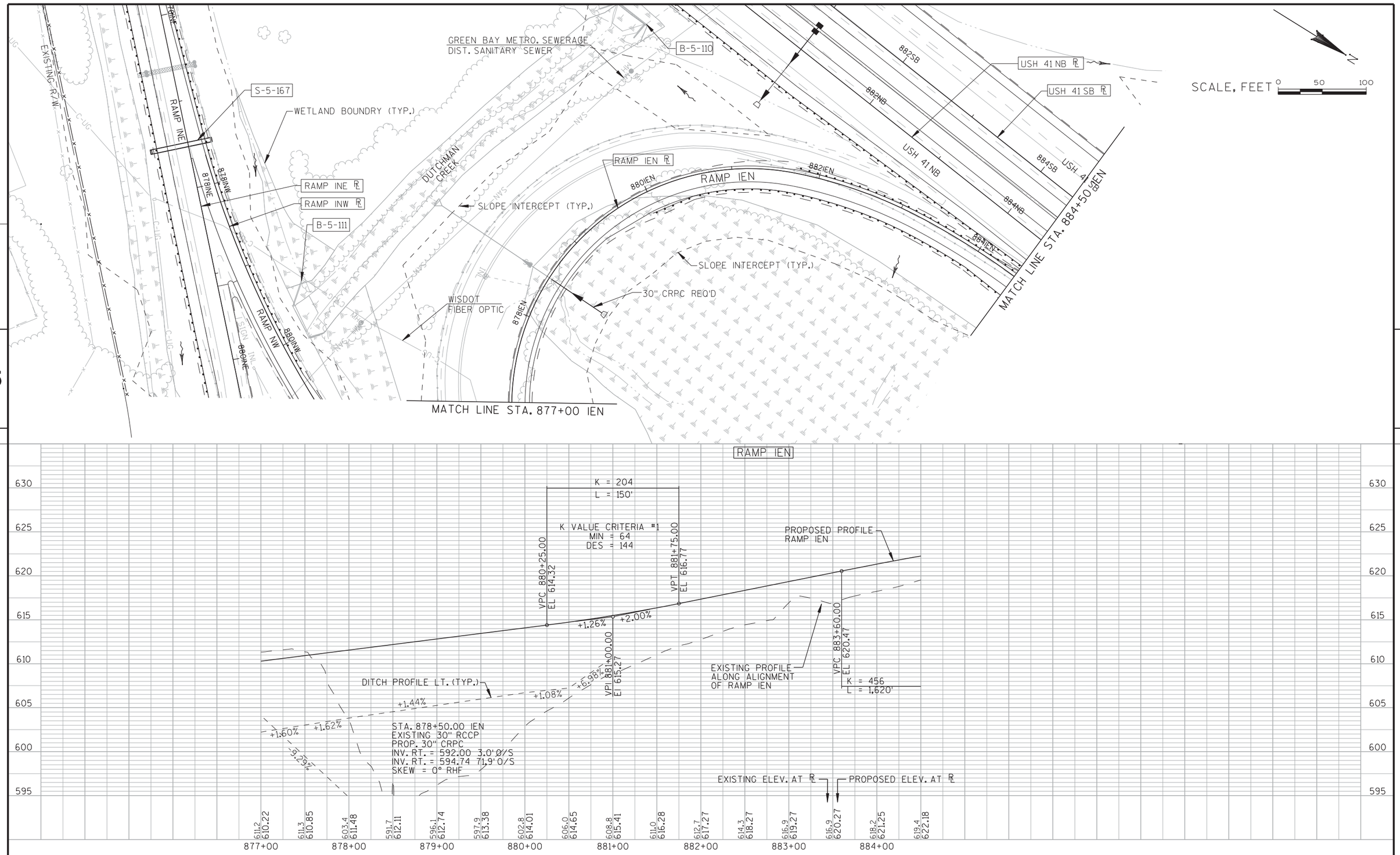
630 625 620 615 610 605 600 595

604.4 604.3 604.1 604.09 603.9 603.88 603.7 603.78 603.6 603.78 603.5 603.87 603.4 604.06 603.4 604.35 603.3 604.73 603.3 605.22 603.6 605.80 603.7 606.43 603.2 607.06 602.0 607.69 604.6 608.33 609.0 608.96 610.9 609.59 611.2 610.22

868+00 869+00 870+00 871+00 872+00 873+00 874+00 875+00 876+00 877+00

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE RAMP: IEN	SHEET 1378	E

FILE NAME : j:\jobs2006\20062041\ne_11330900eb\1133-09-71_us41_mainline\050132_pp.dgn PLOT DATE : 4/7/2013 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$



PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: RAMP IEN	SHEET 1379	E

SCALE, FEET 0 50 100

N

SLOPE INTERCEPT (TYP.)

B-5-624

R-5-210

STH 172 EASTBOUND

SLOPE INTERCEPT (TYP.)

R-5-211

USH 41 SB ℄

B-5-626

STH 172 WESTBOUND

WETLAND BOUNDRY (TYP.)

R-5-213

MATCH LINE STA. 884+50 IEN

886SB USH 41 SB 888SB 890SB 892SB 894SB 896SB 898SB

886NB USH 41 NB 888NB 890NB 892NB 894NB 896NB 898NB

B-5-625

B-5-627

886IEN 888IEN 889 IEN 891IEN 892IEN 894IEN 898IEN

MATCH LINE STA. 899+50 IEN

B-5-622

USH 41 NB ℄

RAMP IEN ℄

R-5-212

B-5-623

RAMP IWN ℄

898IWN

RAMP IWN

SLOPE INTERCEPT (TYP.)

SLOPE INTERCEPT (TYP.)

SLOPE INTERCEPT (TYP.)

WISDOT FIBER OPTIC

WISDOT FIBER OPTIC

896IWN

RAMP IEN PI 891+70.00 EI 636.66

+2.00% -1.55%

PROPOSED PROFILE RAMP IEN

EXISTING PROFILE ALONG ALIGNMENT OF RAMP IEN

B-5-622

B-5-623

BEGIN STA. 887+84.73 IEN
STRUCTURE B-5-622
TWO SPAN 36W" PRESTRESSED GIRDERS
41'-11⅛" OVERALL WIDTH
171'-3½" LENGTH
SKEW 26° 37' 27" RHF

17'-10⅜" MINIMUM CLEARANCE

17'-10¼" MINIMUM CLEARANCE

K VALUE CRITERIA *3
MIN = 245
DES = 455

16'-9¾" MINIMUM CLEARANCE

17'-4¼" MINIMUM CLEARANCE

BEGIN STA. 892+69.99 IEN
STRUCTURE B-5-623
TWO SPAN 45W" PRESTRESSED GIRDERS
41'-11⅛" OVERALL WIDTH
192'-4¾" LENGTH
SKEW 38° 27' 47" RHF

R-5-210 R-5-211 R-5-212 R-5-213

K = 456
L = 1,620'

STA. 899+27.05 IEN
PROP. 36" RCCP
INV. RT 607.48
INV. LT 603.70
SKEW = 0° RHF

RAMP IEN STH 172 EB

STH 172 WB
RAMP INW

RAMP IWS

EXISTING ELEV. AT ℄ PROPOSED ELEV. AT ℄

630 625 620 615 610 605 600

619.4 622.18 | 620.7 623.05 | 621.8 623.87 | 622.6 624.63 | 623.4 625.34 | 624.6 625.99 | 624.9 626.59 | 603.7 627.14 | 605.2 627.63 | 605.4 628.06 | 603.8 628.44 | 625.4 628.77 | 627.3 629.04 | 627.3 629.25 | 627.2 629.41 | 626.8 629.52 | 623.7 629.57 | 605.8 629.56 | 607.2 629.50 | 606.5 629.39 | 604.9 629.22 | 614.0 629.00 | 625.1 628.72 | 624.5 628.39 | 623.4 628.00 | 622.9 627.56 | 622.1 627.06 | 621.0 626.51 | 620.0 625.90 | 618.8 625.24 | 618.0 624.52

885+00 886+00 887+00 888+00 889+00 890+00 891+00 892+00 893+00 894+00 895+00 896+00 897+00 898+00 899+00

5 5

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: RAMP IEN	SHEET 1380 E

SCALE, FEET 0 50 100

N

MATCH LINE STA. 899+50 IEN

MATCH LINE STA. 914+50 IEN

SLOPE INTERCEPT (TYP.)

WETLAND BOUNDRY (TYP.)

RAMP IWS 904IWS

902IWS

RAMP IWS ℄

WISCONSIN PUBLIC SERVICE GAS

CAUTION

AT&T TELEPHONE

POND 9

USH 41 SB ℄

RAMP ISE ℄

914ISE

VILLAGE OF ASHWAUBENON WATER MAIN

900SB 902SB 904SB USH 41 SB 906SB 908SB 910SB 912SB USH 41 914SB

900NB 902NB 904NB 906NB 908NB 910NB 912NB 914NB

USH 41 NB

USH 41

900IEN 902IEN 904IEN 906IEN 908IEN 910IEN 912IEN 914IEN

RAMP IEN

900IWN

RAMP IWN

RAMP IEN ℄

RAMP IWN ℄

19"x35" CPRC REQ'D

EXISTING R/W

TLE REQ'D FOR SLOPING

SLOPE INTERCEPT (TYP.)

VILLAGE OF ASHWAUBENON SANITARY SEWER

906PIL

USH 41 NB ℄

PILGRIM WAY ℄

N-05-0010-01

PILGIM WAY

VILLAGE OF ASHWAUBENON SANITARY SEWER

EXISTING R/W

PROPOSED R/W

TLE REQ'D FOR SLOPING

WISCONSIN PUBLIC SERVICE OVERHEAD ELECTRIC

AT&T TELEPHONE

RAMP IEN

K = 309

L = 800'

K VALUE CRITERIA #3
MIN = 136
DES = 254

VPC 901+10.00
EL 622.04

VPT 899+80.00
EL 624.06

VPT 909+10.00
EL 619.95

PROPOSED PROFILE RAMP IEN

EXISTING PROFILE ALONG ALIGNMENT OF RAMP IEN

-1.55%

+1.03%

VPI 905+10.00
El 615.82

+4.94%

+0.85%

+1.45%

PROPOSED DITCH PROFILE RT. (TYP.)

STA. 902+30.00 IEN
EXISTING 36" RCCP
INV. LT. = 596.25
INV. RT. = 605.15
SKEW 0° RHF

STA. 907+45.49 IEN
EXISTING 72" RCCP
INV. LT. = 604.29
INV. RT. = 605.68
SKEW 23° RHF

EXISTING ELEV. AT ℄

PROPOSED ELEV. AT ℄

630 625 620 615 610 605 600

900+00	901+00	902+00	903+00	904+00	905+00	906+00	907+00	908+00	909+00	910+00	911+00	912+00	913+00	914+00
618.0 624.52	616.3 623.75	617.3 622.97	616.9 622.20	616.4 621.45	615.9 620.77	615.6 620.18	619.7 619.67	619.2 619.24	618.9 618.89	618.6 618.62	618.4 618.44	618.3 618.33	618.3 618.30	618.4 618.36	618.5 618.50	618.7 618.71	619.0 619.01	619.4 619.39	619.8 619.85	620.3 620.36	619.9 620.88	620.5 621.39	621.0 621.91	621.4 622.42	621.8 622.94	622.3 623.46	623.3 623.97	623.6 624.49	624.1 625.00	625.0 625.52

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: RAMP IEN	SHEET 1381	E

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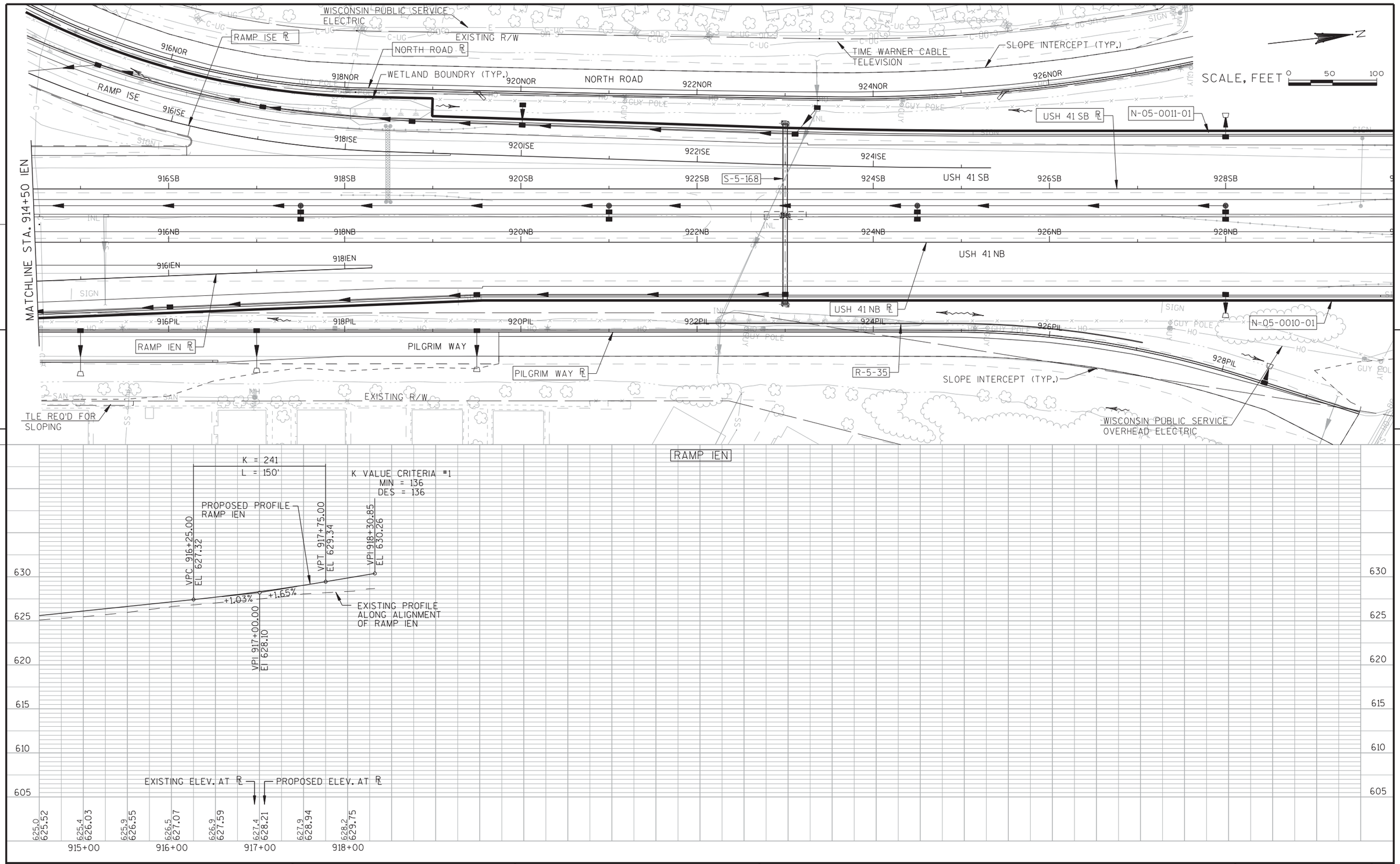

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: RAMP IEN	SHEET 1382	E

SCALE, FEET 0 50 100

USH 41 NB ℄
USH 41 SB ℄
RAMP 1EN ℄
RAMP IWN ℄
RAMP IWS ℄
RAMP SW ℄
RAMP SE ℄
NORTH ROAD ℄

898SB
898NB
898IEN
USH 41 SB
USH 41 NB
900SB
900NB
900IEN
900IWN
RAMP WN
902IWS
902SB
902NB
902IEN
904SB
904NB
904IEN
904IWS
906IWS RAMP IWS
908IWS
RAMP ISW
906ISW
906SE RAMP ISE
906NOR
NORTH ROAD
908NOR
908SE
910NOR

WETLAND BOUNDRY (TYP.)
SLOPE INTERCEPT (TYP.)
WISCONSIN PUBLIC SERVICE GAS
CAUTION
GREEN BAY METRO. SEWERAGE DIST. SANITARY SEWER
CONSTRUCTION LIMITS
STA. 905+25.00 IWS
Y = 557,546.48
X = 82,374.59
SLOPE INTERCEPT (TYP.)
VILLAGE OF ASHWAUBENON WATER MAIN
EXISTING R/W
TIME WARNER CABLE TELEVISION
N-05-0010-01
N-05-0011-01
EXISTING R/W
TLE REQ'D FOR SLOPING
VILLAGE OF ASHWAUBENON SANITARY SEWER
POND 9
VILLAGE OF ASHWAUBENON SANITARY SEWER

5 5

RAMP IWS

K = 64
L = 150'

VPI 901+43.63 EL 622.82
VPI 902+05.00 EL 621.58
PROPOSED PROFILE RAMP IWS
-2.03%
-2.90%
VPC 901+45.00 EL 622.80
PI 904+05.00 EL 621.58
VPC 903+75.00 EL 616.65
VPT 905+25.00 EL 614.04
CONSTRUCTION LIMITS
STA. 905+25.00 IWS
-2.90%
-0.57%
EXISTING PROFILE ALONG ALIGNMENT OF RAMP IWS
VPT 902+65.00 EL 619.84
DITCH PROFILE RT. (TYP.)
+3.22%
-0.26%
+1.24%
+0.17%
VPI 904+50.00 EL 614.47
+2.10%
K = 138
L = 120'
DITCH PROFILE LT. (TYP.)
72" RCCP TO REMAIN

STA. 902+31.00 IWS
EXIST. 36" RCCP
INV. LT. = 596.25
INV. RT. = 605.15
SKEW 11° LHF

EXISTING ELEV. AT ℄
PROPOSED ELEV. AT ℄

625 620 615 610 605 600 595

617.6 622.69 | 616.8 621.57 | 616.1 620.26 | 615.7 618.82 | 615.2 617.37 | 614.8 615.97 | 614.5 614.91 | 614.2 614.23 | 614.0 | 613.7 | 613.5 | 613.3

902+00 903+00 904+00 905+00 906+00 907+00

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: RAMP IWS	SHEET 1383	E

N

GREEN BAY METRO. SEWERAGE DIST. SANITARY SEWER

WETLAND BOUNDRY (TYP.)

SCALE, FEET 0 50 100

USH 41 SB

USH 41 NB

SLOPE INTERCEPT (TYP.)

RAMP IWN

RAMP IEN

CONSTRUCTION LIMITS
STA. 921+00.0 IWS
Y = 556,544.42
X = 82,514.09

RAMP IWS

B-5-623

R-5-212

24" CRPC REQ'D

914IWS 916IWS 918IWS 920IWS 922IWS 924IWS 926IWS 928

MATCH LINE STA. 928+00 IWS

28W 30W 32W 34W 36W 38W 40W

STH 172 WB

STH 172

RAMP INW

902INW 900INW 898INW 896INW 894INW

B-5-626

R-5-212

B-5-627

B-5-623

RAMP IWS

Ⓐ 17'-0" MINIMUM CLEARANCE INTERM

Ⓑ ---" MINIMUM CLEARANCE PROPOSED

Ⓒ 18'-6" MINIMUM CLEARANCE INTERM

Ⓓ ---" MINIMUM CLEARANCE PROPOSED

Ⓔ 17'-4" MINIMUM CLEARANCE INTERM

Ⓕ ---" MINIMUM CLEARANCE PROPOSED

K = 218
L = 500'

VPI 921+00.00
EL 606.40

VPC 921+40.00 EL 606.22

EXISTING PROFILE ALONG ALIGNMENT OF RAMP IWS

PROPOSED PROFILE RAMP IWS

VPT 926+40.00
EL 609.77

-0.44% +1.85%

VPI 923+90.00
EL 605.14

CONSTRUCTION LIMITS
STA. 921+00.0 IWS

EXISTING ELEV. AT ℄ — PROPOSED ELEV. AT ℄

625 620 615 610 605 600 595

915+00	916+00	917+00	918+00	919+00	920+00	921+00	922+00	923+00	924+00	925+00	926+00	927+00	928+00
609.1	608.7	608.4	608.1	607.8	607.6	607.4	607.3	607.2	607.0	606.8	606.6	606.4 606.40	606.2 606.18	606.1 606.04	606.1 606.02	606.2 606.11	606.5 606.32	606.8 606.64	607.2 607.07	608.3 607.62	608.8 608.29	609.1 609.07	609.4 609.96	610.0 610.88	609.6 611.81	610.3 612.74

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: RAMP IWS	SHEET 1384	E

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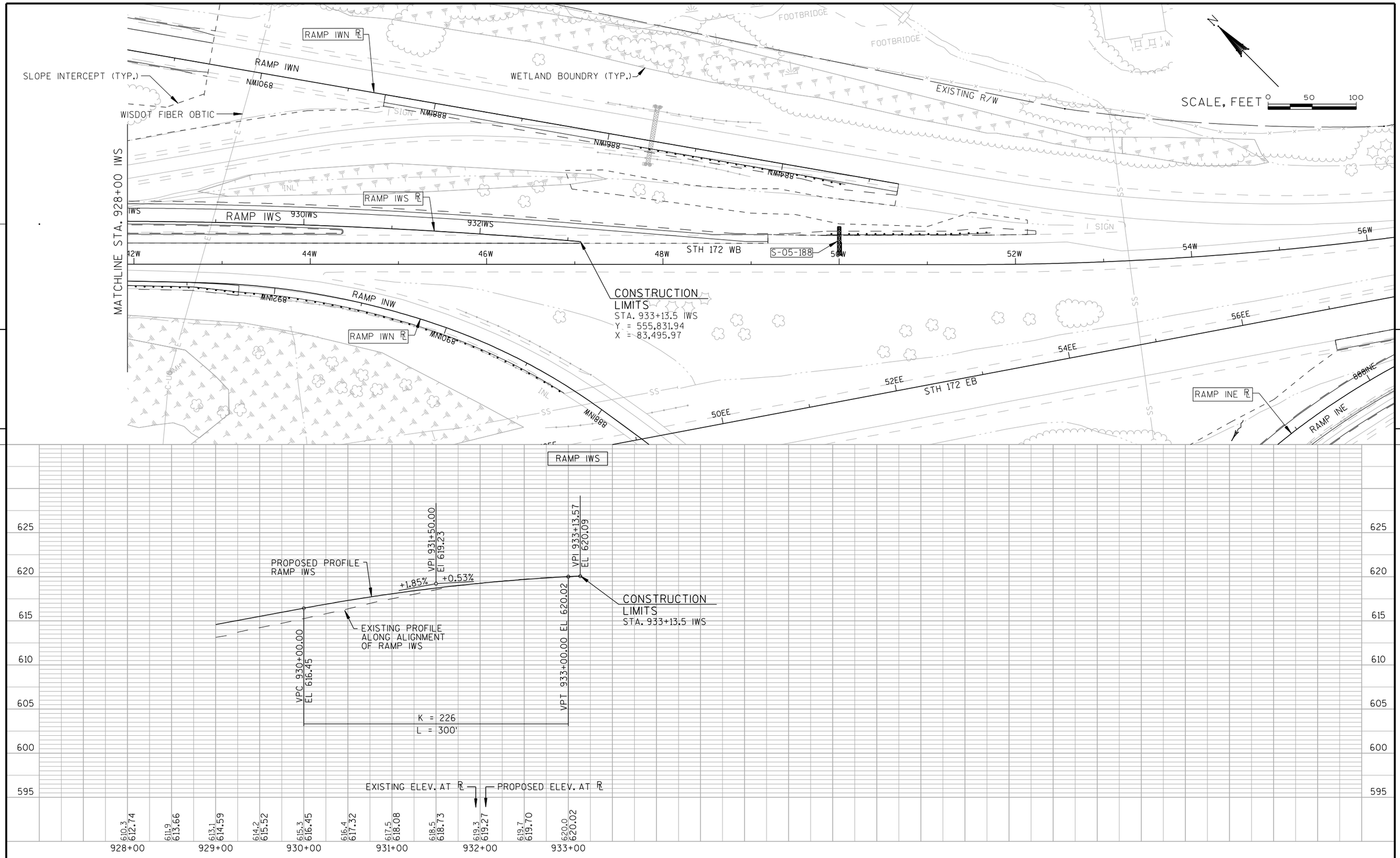
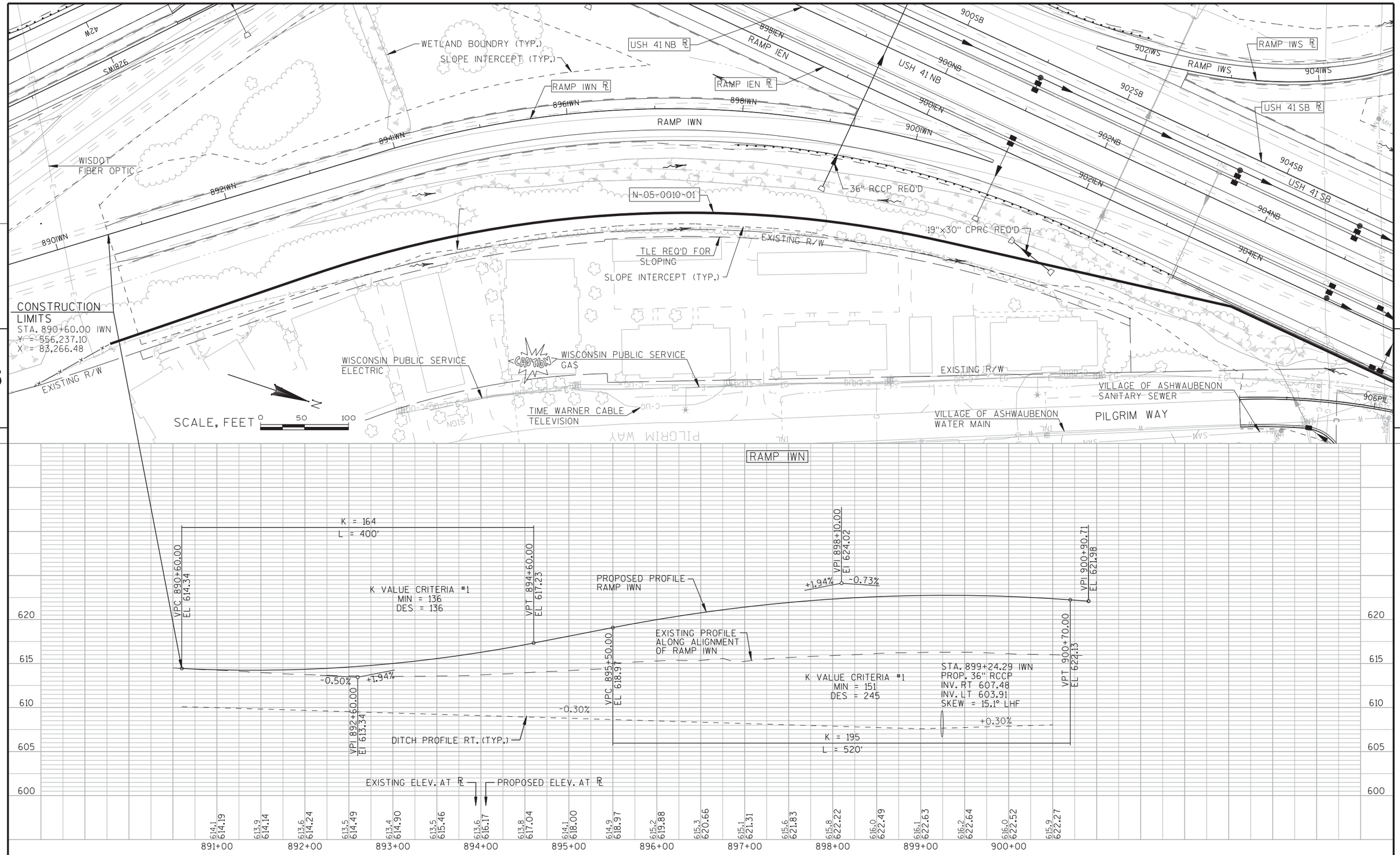
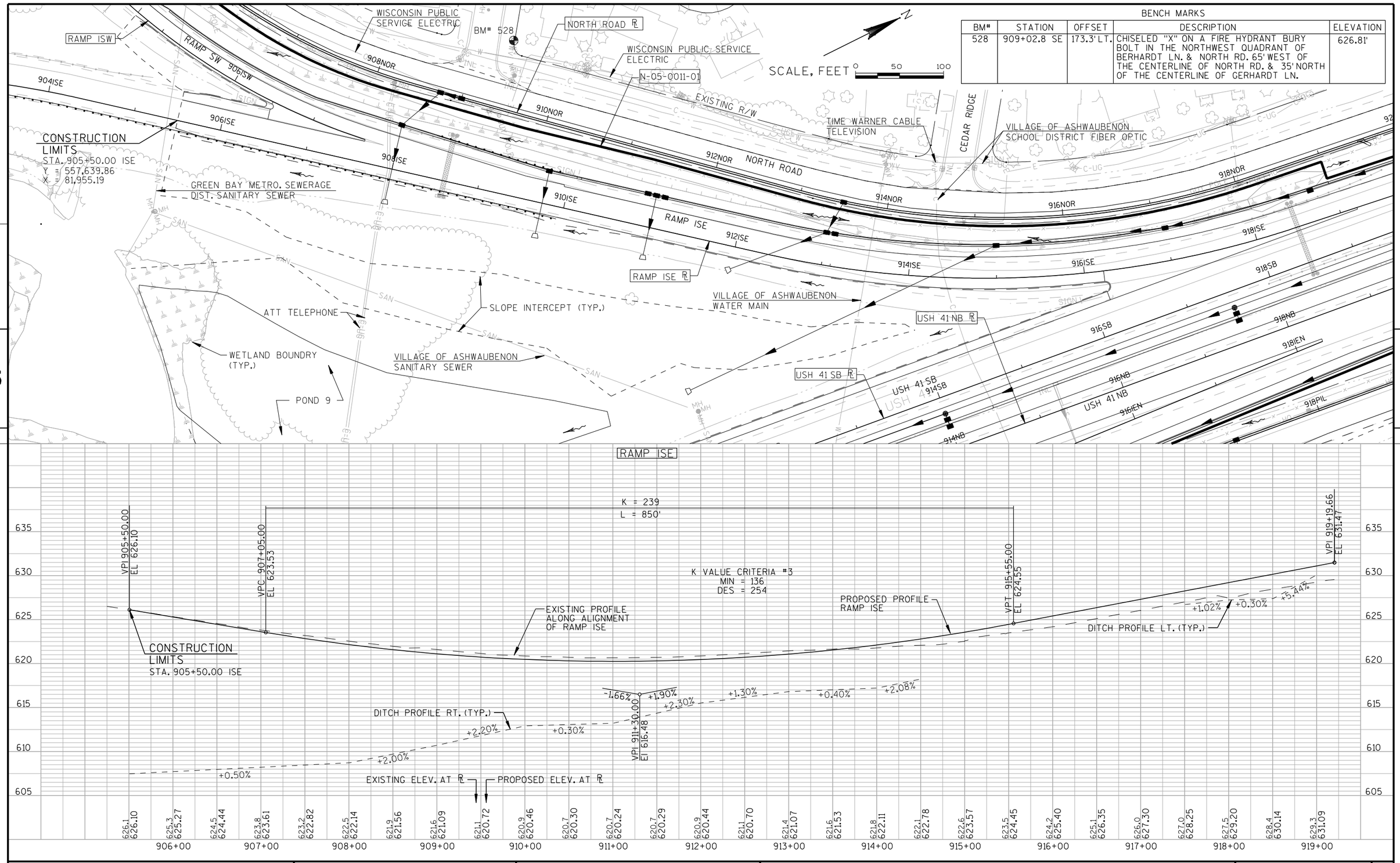


PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: RAMP IWS	SHEET 1385	E



PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: RAMP IWN	SHEET 1386 E



PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE RAMP ISE	SHEET 1387 E

SCALE, FEET 0 50 100

VILLAGE OF ASHWAUBENON
SCHOOL DISTRICT FIBER OPTIC

WISCONSIN PUBLIC
SERVICE ELECTRIC

VILLAGE OF ASHWAUBENON
WATER MAIN

EXISTING R/W

RAMP ISW R

906NOR

908NOR

910NOR

912NOR

GERHARDT LANE

TIME WARNER CABLE
TELEVISION

WISCONSIN PUBLIC
SERVICE ELECTRIC

BM# 528

NORTH ROAD

912ISE

910ISE

908ISE

906ISE

RAMP ISW

904ISW

906ISW

RAMP ISE R

WETLAND BOUNDRY (TYP.)

20W

22W

CONSTRUCTION
LIMITS
STA. 904+65.00 ISW
Y = 557,632.04
X = 81,824.49

GREEN BAY METRO. SEWERAGE
DIST. SANITARY SEWER

904ISE

906ISE RAMP SE

SLOPE INTERCEPT (TYP.)

ATT TELEPHONE

BENCH MARKS

BM#	STATION	OFFSET	DESCRIPTION	ELEVATION
528			CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE NORTHWEST QUADRANT OF BERHARDT LN. & NORTH RD. 65' WEST OF THE CENTERLINE OF NORTH RD. & 35' NORTH OF THE CENTERLINE OF GERHARDT LN.	626.81'

5

5

RAMP ISW

640
635
630
625
620
615
610
605

VPI 904+65.00
EL 624.22

VPI 905+70.00
EL 623.92

VPI 907+62.72
EL 622.07

EXISTING PROFILE
ALONG ALIGNMENT
OF RAMP ISW

-0.29%
-0.96%
-0.02%
-0.14%
+0.74%
+0.34%
+2.62%
-15.70%

CONSTRUCTION
LIMITS
STA. 904+65.00 ISW

DITCH PROFILE
LT. (TYP.)

DITCH PROFILE
RT. (TYP.)

PROPOSED PROFILE
RAMP ISW

VPC 904+70.00
EL 624.21

VPT 906+70.00
EL 622.96

K VALUE CRITERIA #1
MIN = 151
DES = 245

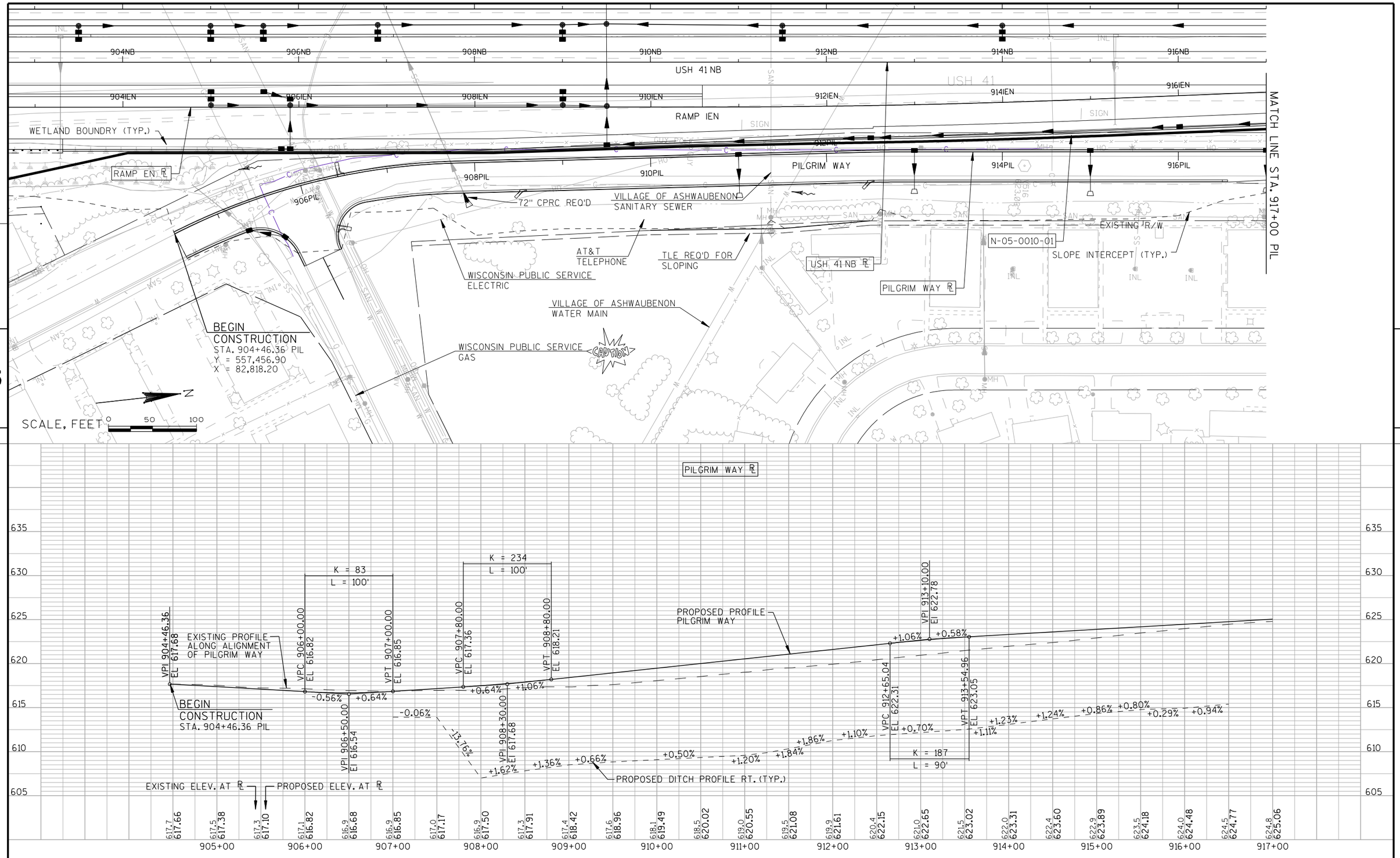
K = 297
L = 200'

EXISTING ELEV. AT R
PROPOSED ELEV. AT R

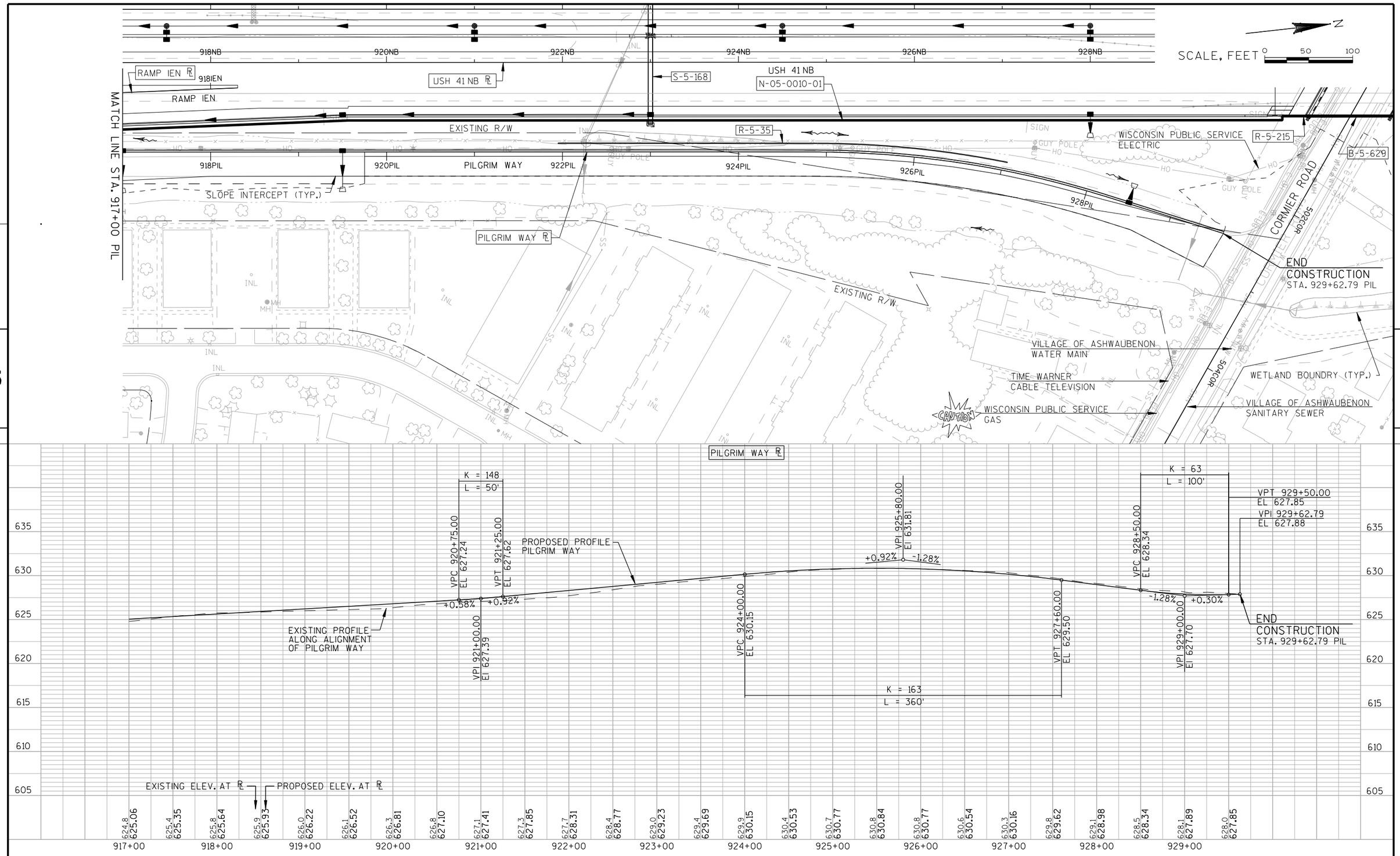
624.3
624.2
624.1 624.11
624.0 623.87
623.8 623.55
623.5 623.15
623.1 622.67
622.7 622.19

904+00
905+00
906+00
907+00

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE RAMP ISW	SHEET 1388	E



PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: PILGRIM WAY	SHEET 1389	E



PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: PILGRIM WAY	SHEET 1390	E

CONSTRUCTION LIMITS
STA. 905+23.00 NOR
Y = 557,687.84
X = 81,765.05

SCALE, FEET 0 50 100

WISCONSIN PUBLIC SERVICE ELECTRIC
EXISTING R/W
GERHARDT LANE
BM# 528
VILLAGE OF ASHWAUBENON SCHOOL DISTRICT FIBER OPTIC
NORTH ROAD ℄
N-05-0011-01
WISCONSIN PUBLIC SERVICE ELECTRIC
TIME WARNER CABLE TELEVISION
EXISTING R/W
CEDAR RIDGE
WISCONSIN PUBLIC SERVICE ELECTRIC
EXISTING R/W
MATCH LINE STA. 920+00 NOR

906NOR
908NOR
910NOR
912NOR NORTH ROAD
914NOR
916NOR
918NOR
RAMP ISW
906ISW
906ISE RAMP ISE
908ISE
910ISE
912ISE
914ISE
916ISE
918ISE
RAMP ISE ℄
USH 41 NB ℄
GREEN BAY METRO. SEWERAGE DIST. SANITARY SEWER
ATT TELEPHONE
WETLAND BOUNDRY (TYP.)
VILLAGE OF ASHWAUBENON SANITARY SEWER
SLOPE INTERCEPT (TYP.)
VILLAGE OF ASHWAUBENON WATER MAIN
USH 41 SB ℄
USH 41 SB
USH 41 NB
916SB
918SB
918NB
918IEN
914SB
SMI806
POND 9

BENCH MARKS

BM#	STATION	OFFSET	DESCRIPTION	ELEVATION
528	909+39 NOR	78.5' LT.	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE NORTHWEST QUADRANT OF BERHARDT LN. & NORTH RD. 65' WEST OF THE CENTERLINE OF NORTH RD. & 35' NORTH OF THE CENTERLINE OF GERHARDT LN.	626.81'

RAMP NORTH ROAD

VPI 905+67.01 EL 621.27
VPC 908+15.00 EL 622.01
K = 100 L = 50'
VPI 908+40.00 EI 622.09
VPT 908+65.00 EL 622.04
K = 214 L = 150'
VPC 908+65.00 EL 622.04
VPT 910+15.00 EL 622.26
VPI 909+40.00 EI 621.89
VPC 910+95.00 EL 622.66
K = 182 L = 50'
VPI 911+20.00 EI 622.79
VPT 911+45.00 EL 622.98
VPC 913+05.00 EL 624.22
K = 182 L = 50'
VPI 913+30.00 EI 624.41
VPT 913+55.00 EL 624.54
PROPOSED PROFILE NORTH ROAD
EXISTING PROFILE ALONG ALIGNMENT OF RAMP ISE
VPC 914+45.00 EL 624.99
K = 258 L = 50'
VPI 914+70.00 EI 625.11
VPT 914+95.00 EL 625.29
VPC 916+30.00 EL 626.22
K = 153 L = 50'
VPI 916+55.00 EI 626.40
VPT 916+80.00 EL 626.49
VPC 917+20.00 EL 626.64
K = 260 L = 220'
VPI 918+30.00 EI 627.04
VPT 919+40.00 EL 628.38

+0.30% +0.20% -0.20% +0.50% +0.50% +0.77% +0.77% +0.50% +0.50% +0.69% +0.69% +0.37% +0.37% +1.22%

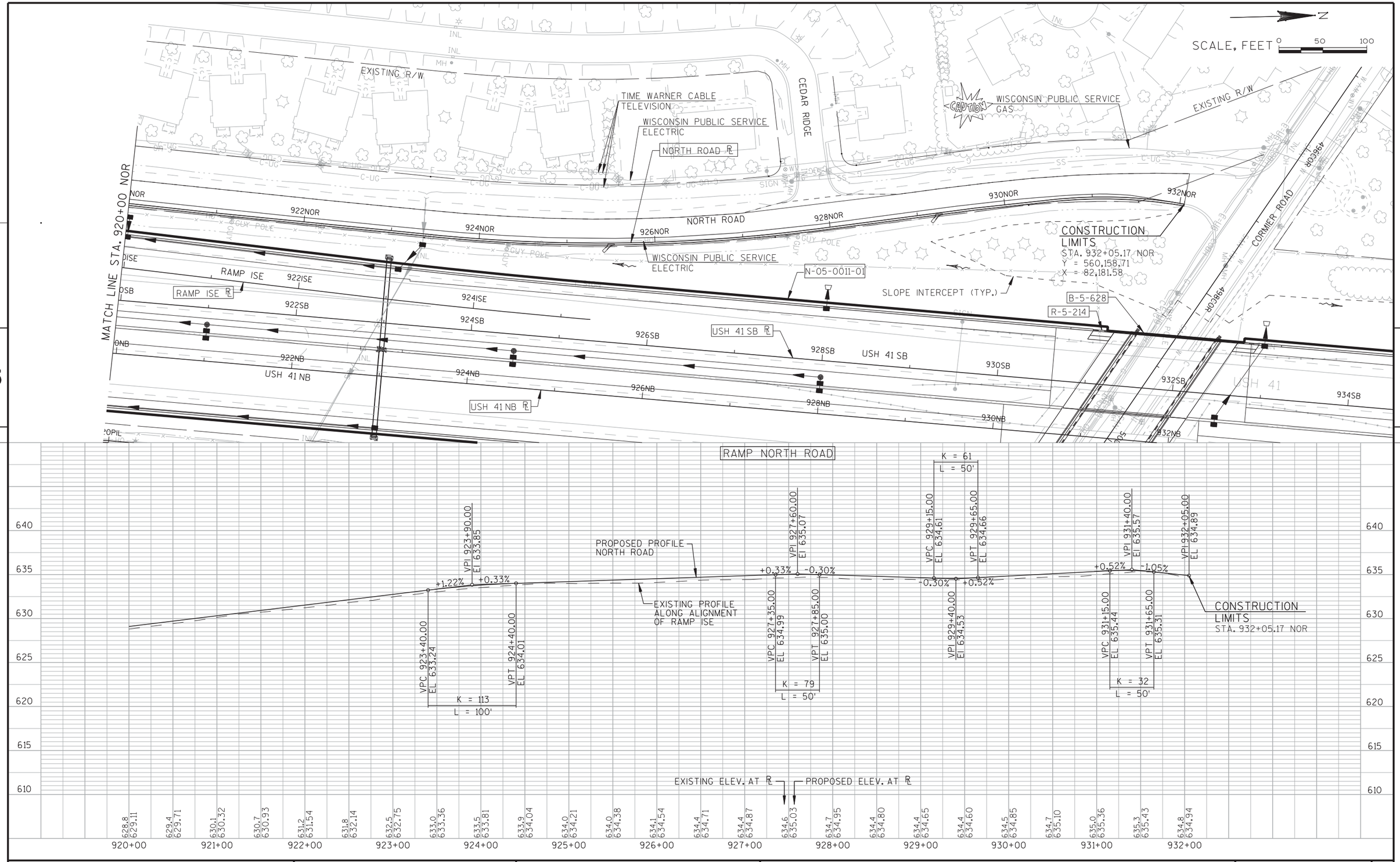
EXISTING ELEV. AT ℄ — PROPOSED ELEV. AT ℄

906+00	907+00	908+00	909+00	910+00	911+00	912+00	913+00	914+00	915+00	916+00	917+00	918+00	919+00	920+00
621.1 / 621.37	621.3 / 621.52	621.4 / 621.67	621.7 / 621.82	622.0 / 621.97	621.7 / 622.06	621.8 / 622.00	621.7 / 622.04	621.9 / 622.19	622.3 / 622.44	622.5 / 622.69	622.6 / 623.02	623.0 / 623.41	623.4 / 623.79	623.8 / 624.18	624.1 / 624.51	624.5 / 624.76	625.0 / 625.02	625.2 / 625.32	625.4 / 625.67	625.7 / 626.02	626.1 / 626.35	626.6 / 626.56	626.8 / 626.76	627.0 / 627.05	627.2 / 627.44	627.6 / 627.92	628.2 / 628.50	628.8 / 629.11

640 635 630 625 620 615 610 605

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE NORTH ROAD	SHEET 1391	E

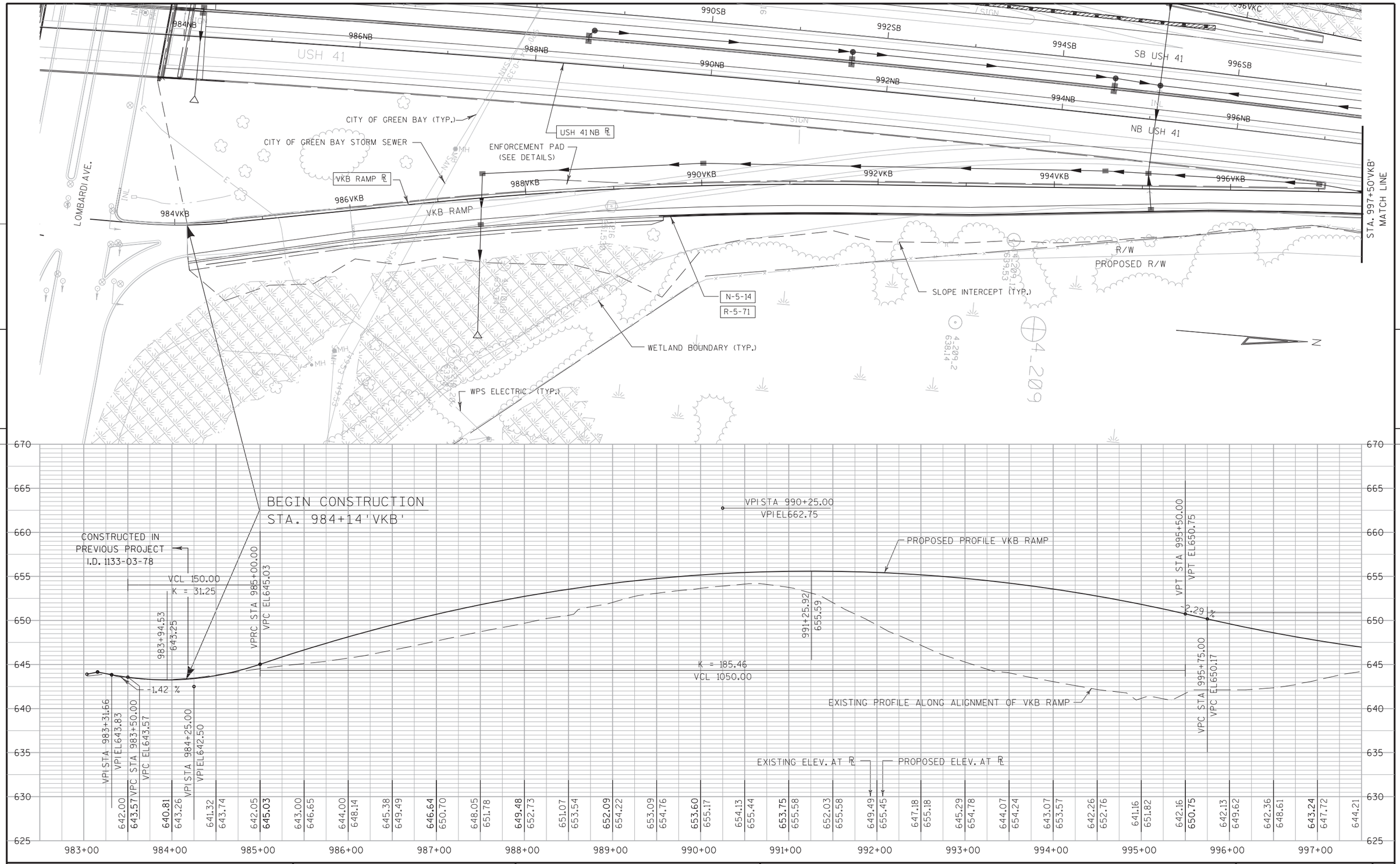
FILE NAME : j:\jobs2006\20062041\ne_11330900eb\1133-09-71_us41_mainline\050160_pp.dgn PLOT DATE : 4/8/2013 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 40



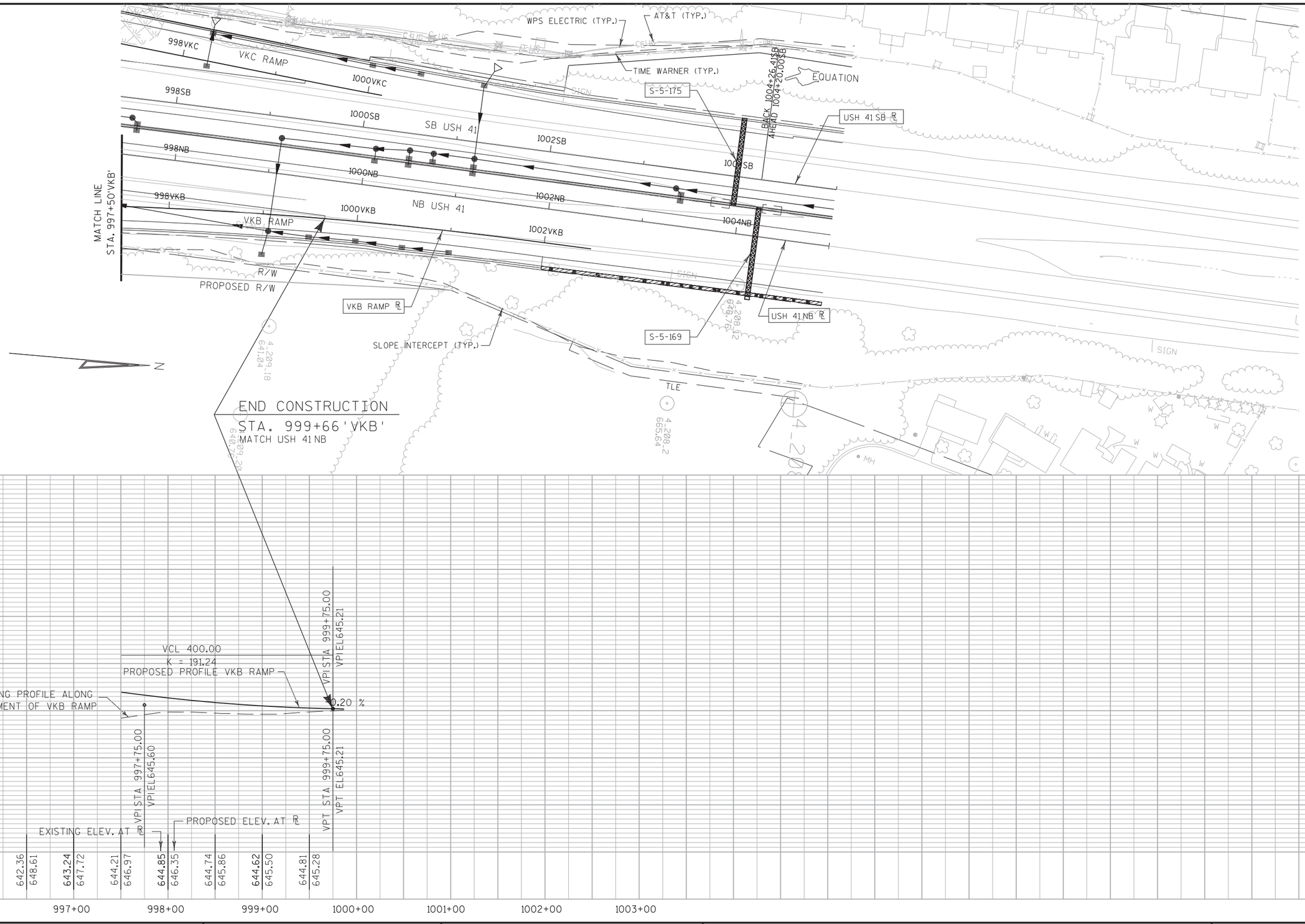
PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE NORTH ROAD	SHEET 1392	E

USH 41 SB ℄
USH 41 NB ℄
S-05-237
VKA RAMP ℄
SB USH 41
NB USH 41
VKA RAMP
LOMBARDI AVE.
SLOPE INTERCEPT (TYP.)
R/W
WETLAND BOUNDARY (TYP.)
968VKD 970VKD 972VKD 974SB 976SB 978NB 980NB
968SB 970SB 972SB 974NB 976NB
968NB 970NB 972NB
968VKA 970VKA 972VKA 974VKA 976VKA 978VKA 980VKA 982VKA
BEGIN CONSTRUCTION
STA. 967+50 'VKA'
MATCH USH 41NB
END CONSTRUCTION
STA. 981+00 'VKA'
-1.05 %
-0.32 %
-2.06 %
VCL 200.00
K = 273.60
VCL 150.00
K = 38.46
K = 401.01
VCL 700.00
VPC STA 970+50.00
VPC EL654.39
VPI STA 971+50.00
VPI EL653.35
VPT STA 972+50.00
VPT EL653.03
VPC STA 973+00.00
VPC EL652.87
VPI STA 976+50.00
VPI EL651.75
VPT STA 980+00.00
VPT EL644.52
VPC STA 980+55.00
VPC EL643.39
981+34.40
642.57
VPI STA 981+30.00
VPI EL641.84
VPT STA 982+05.00
VPT EL643.22
PROPOSED PROFILE VKA RAMP
EXISTING PROFILE ALONG ALIGNMENT OF VKA RAMP
CONSTRUCTED IN PREVIOUS PROJECT I.D. 1133-03-78
EXISTING ELEV. AT ℄
PROPOSED ELEV. AT ℄
4-211.12 639.60
4-211.18 639.80
4-211.20 641.70
4-211.20 639.70
4-211.20 642.40
657.55 656.25 657.02 655.55 656.50 654.56 655.97 653.50 655.45 652.18 654.92 651.56 654.39 650.77 653.92 650.26 653.53 650.05 653.23 649.93 653.03 649.86 652.87 649.63 652.68 649.33 652.42 648.75 652.11 648.21 651.73 647.75 651.29 647.19 650.79 646.61 650.22 646.02 649.60 645.41 648.91 644.71 648.15 644.25 647.34 643.80 646.46 643.39 645.53 642.88 644.52 642.56 643.49 642.41 642.72 642.41 642.60 642.31 643.13 643.93
968+00 969+00 970+00 971+00 972+00 973+00 974+00 975+00 976+00 977+00 978+00 979+00 980+00 981+00 982+00
670 665 660 655 650 645 640 635 630 625
5

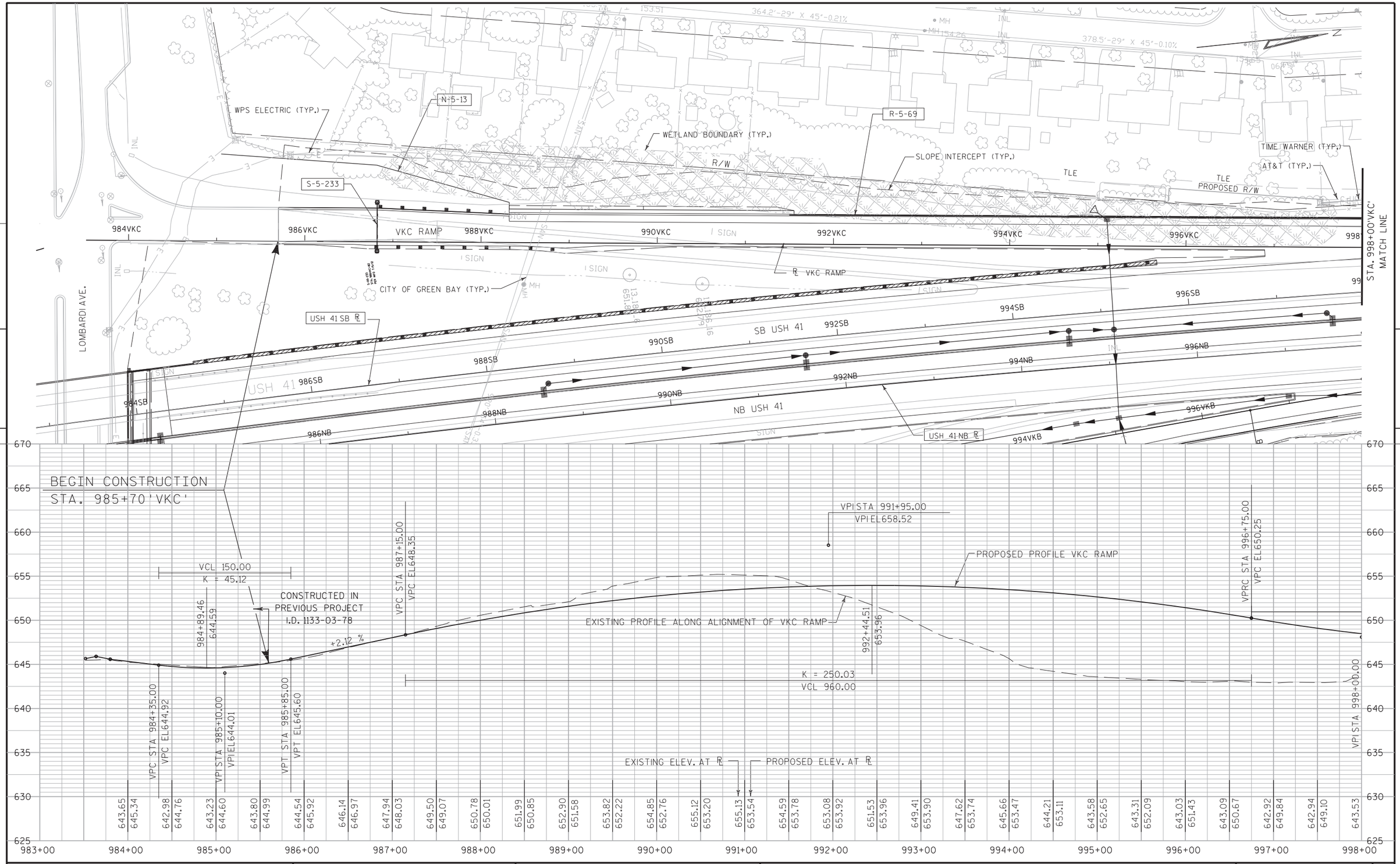
PROJECT NO: 1133-03-77	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE - RAMP VKA	SHEET 1393 E



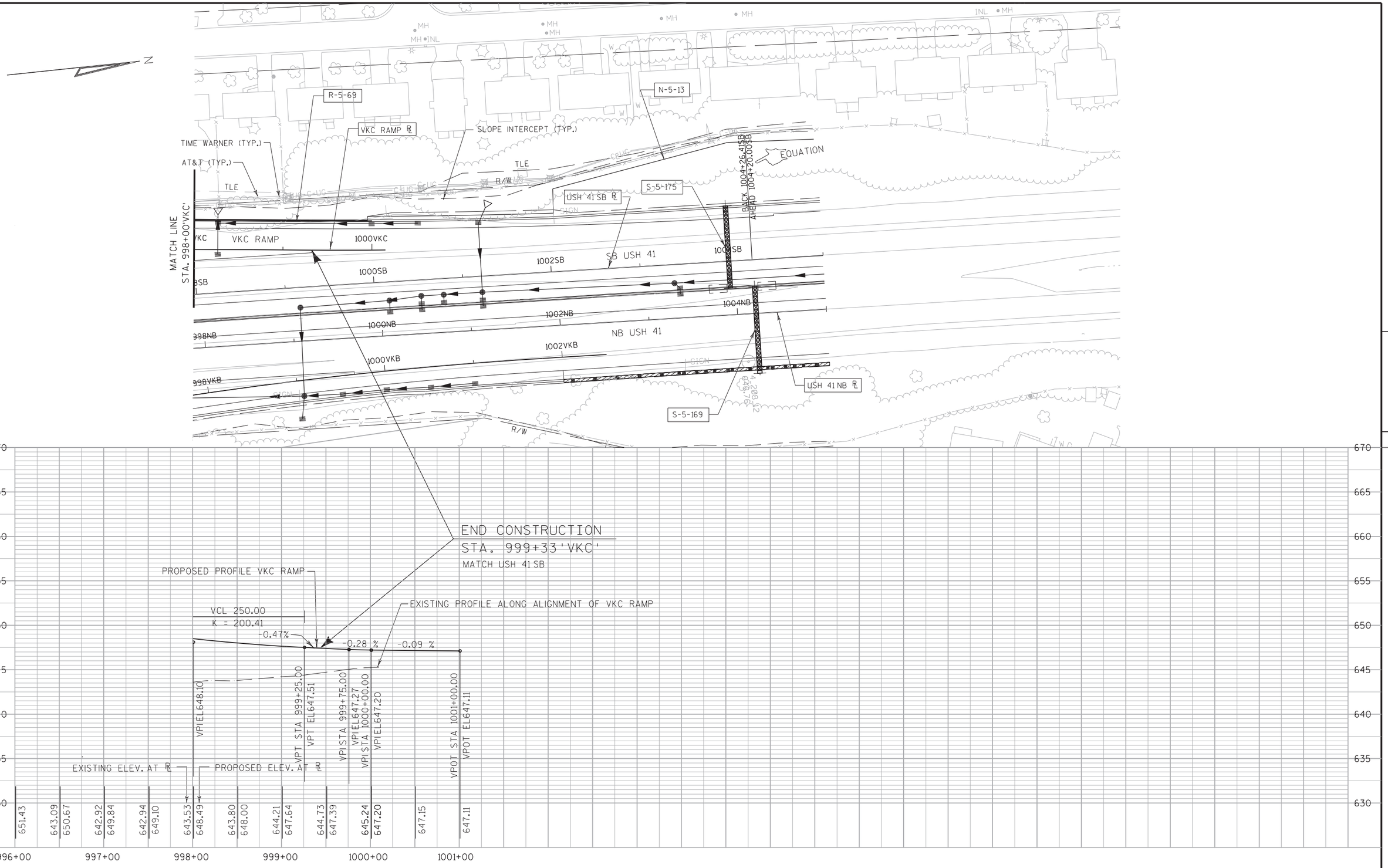
PROJECT NO:1133-03-77	HWY:USH 41	COUNTY:BROWN	PLAN AND PROFILE - RAMP VKB	SHEET 1394	E



PROJECT NO: 1133-03-77	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE - RAMP VKB	SHEET 1395	E



PROJECT NO: 1133-03-77	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE - RAMP VKC	SHEET 1396	E



PROJECT NO: 1133-03-77	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE - RAMP VKC	SHEET 1397	E

WETLAND BOUNDARY (TYP.)
SLOPE INTERCEPT (TYP.)
TLE
R/W
SIGN
INL
PARK PL.
VKD RAMP
N-5-11-2
970VKD
972VKD
974VKD
976VKD
VKD RAMP
978VKD
980VKD
982VKD
970SB
972SB
974SB
976SB
SB USH 41
978SB
980SB
982SB
970NB
972NB
974NB
976NB
NB USH 41
978NB
980NB
982NB
ENFORCEMENT PAD
(SEE DETAIL)
USH 41 SB
USH 41 NB
LOMBARDI AVE.
970VKA
972VKA
974VKA
VKA RAMP
BEGIN CONSTRUCTION
STA. 970+06 'VKD'
MATCH USH 41 SB
END CONSTRUCTION
STA. 979+20 'VKD'
VPI EL656.02
VPC STA 970+00.00
VPC EL655.13
VPI STA 971+50.00
VPI EL654.00
VPT STA 973+00.00
VPT EL653.95
VPC STA 973+45.00
VPC EL653.93
VPI STA 977+45.00
VPI EL653.80
VPT STA 981+45.00
VPT EL647.31
-0.89 %
VCL 300.00
K = 416.83
-0.03 %
PROPOSED PROFILE VKD RAMP
K = 503.45
VCL 800.00
CONSTRUCTED IN
PREVIOUS PROJECT
I.D. 1133-03-78
EXISTING PROFILE ALONG ALIGNMENT OF VKD RAMP
EXISTING ELEV. AT ℄
PROPOSED ELEV. AT ℄

| | | |

WETLAND BOUNDRY (TYP.)

R-5-206

R-5-207

SLOPE INTERCEPT (TYP.)

SCALE, FEET 0 20 40

822QWB

822SB

822NB

822CD

ATT TELEPHONE

EXISTING R/W

WISCONSIN CENTRAL LTD.

EXISTING R/W

BEGIN CONSTRUCTION
STA. 198+50.00 PRK
Y= 549,173.25
X= 82,601.33

198PRK 199PRK 200PRK 201PRK 202PRK

VILLAGE OF ASHWAUBENON
WATER

PARKVIEW ROAD ℄

END CONSTRUCTION
STA. 201+10.00 PRK

PARKVIEW ROAD

WISCONSIN PUBLIC
SERVICE GAS

CAUTION

EXISTING R/W

SCHNIDER NATIONAL
COMMUNICATION

821SB

821NB

821CD

EXISTING R/W
VILLAGE OF ASHWAUBENON
SANITARY SEWER
TLE REQ'D FOR
SLOPING

ATT TELEPHONE

WISCONSIN PUBLIC
SERVICE ELECTRIC

SLOPE INTERCEPT (TYP.)

B-5-616

B-5-617

B-5-621

R-5-206

USH 41 SB ℄

USH 41 NB ℄

NORTHBOUND CD ROADWAY ℄

PARKVIEW ROAD ℄

B-5-616

B-5-617

B-5-621

21'-0"
MINIMUM CLEARANCE

21'-7"
MINIMUM CLEARANCE

20'-1"
MINIMUM CLEARANCE

EXISTING PROFILE
ALONG ALIGNMENT
OF PARKVIEW ROAD

PROPOSED PROFILE
PARKVIEW ROAD

VPI 198+50.00
EL 606.72

VPI 199+60.00
EL 606.95

VPI 201+10.00
EL 606.44

+0.21%

-0.34%

VPC 199+35.00
EL 606.90

VPT 199+85.00
EL 606.86

K = 91
L = 50'

BEGIN CONSTRUCTION
STA. 198+50.00 PRK

END CONSTRUCTION
STA. 201+10.00 PRK

608 606 604 602 600 598

EXISTING ELEV. AT ℄ PROPOSED ELEV. AT ℄

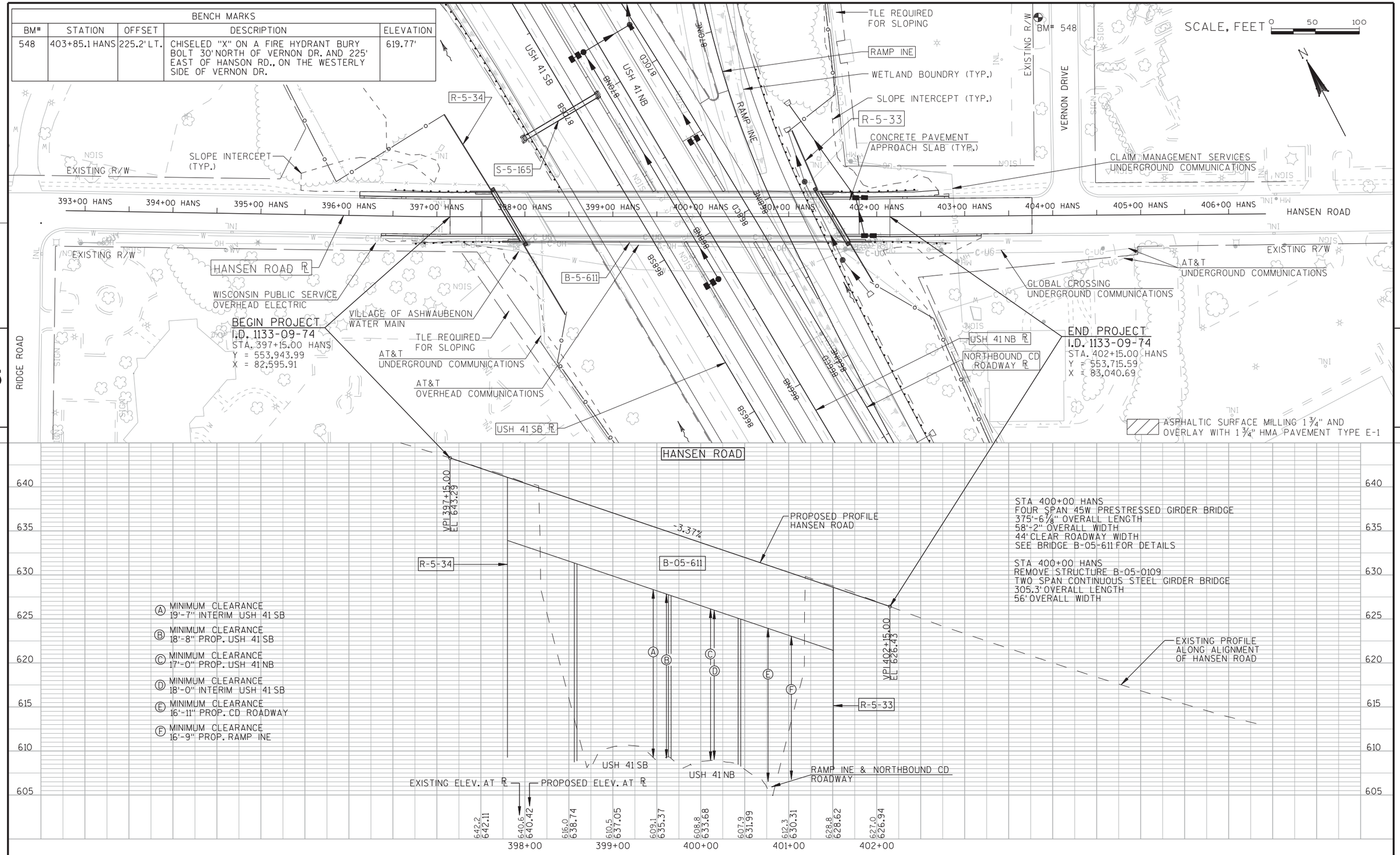
606.5 606.4 606.5 606.7 606.72 606.8 606.82 606.9 606.92 606.8 606.81 606.7 606.64 606.5 606.47 606.4 606.5 606.6

197+00 197+50 198+00 198+50 199+00 199+50 200+00 200+50 201+00 201+50 202+00 202+50

PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: PARKVIEW ROAD	SHEET 1399	E

FILE NAME : j:\jobs2006\20062041\ne_11330900eb\1133-09-71_us41_mainline\050159_pp.dgn PLOT DATE : 4/7/2013 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

BENCH MARKS				
BM#	STATION	OFFSET	DESCRIPTION	ELEVATION
548	403+85.1 HANS	225.2' LT.	CHISELED "X" ON A FIRE HYDRANT BURY BOLT 30' NORTH OF VERNON DR. AND 225' EAST OF HANSON RD., ON THE WESTERLY SIDE OF VERNON DR.	619.77'



PROJECT NO: 1133-09-74	HWY: USH 41	COUNTY: BROWN	PLAN AND PROFILE: HANSEN ROAD	SHEET 1400	E

BENCH MARKS

BM#	STATION	OFFSET	DESCRIPTION	ELEVATION
550	503+58.5 COR	26.8' LT.	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE NORTHEAST QUADRANT OF PILGRIM WAY & CORMIER RD. 25' NORTH OF CORMIER RD. & 90' EAST OF THE CENTERLINE OF PILGRIM WAY	629.65'
528A	494+35.1 COR	24.8' LT.	CHISELED "X" ON A FIRE HYDRANT BURY BOLT ON CORMIER RD., 275' WEST OF THE CENTERLINE OF NORTH RD. & 25' NORTH OF THE CENTERLINE OF CORMIER RD.	642.72'

SLOPE INTERCEPT (TYP.)
N-05-0011-01
VILLAGE OF ASHWAUBENON SANITARY SEWER
BROWN COUNTY COMMUNICATION
VILLAGE OF ASHWAUBENON WATER MAIN
EXISTING R/W
BM# 528A
494COR
496COR
498COR
500COR
502COR
504COR
506COR
BM# 550
EXISTING R/W
CORMIER ROAD
EXISTING R/W
CORMIER ROAD ℄
AT&T TELEPHONE
TIME WARNER CABLE TELEVISION
WISCONSIN PUBLIC SERVICE GAS
CAUTION
EXISTING R/W
END CONSTRUCTION
STA 501+00.0 COR
BEGIN CONSTRUCTION
STA 498+25.0 COR
Y= 560,187.44
X= 82,300.75
NORTH ROAD
USH 41 SB ℄
USH 41 NB ℄
R-5-214
B-5-628
R-5-215
B-5-629
RAMP PIL ℄
WISCONSIN PUBLIC SERVICE ELECTRIC
PILGRIM WAY
WETLAND BOUNDRY (TYP.)
SLOPE INTERCEPT (TYP.)
N-05-0010-01
USH 41 NB
USH 41 SB
SCALE, FEET 0 50 100
N

CORMIER ROAD
B-5-628
B-5-629
VPI 498+25.01
EL 633.60
15'-4" MINIMUM CLEARANCE
16'-8" MINIMUM CLEARANCE
PROPOSED PROFILE CORMIER ROAD
VPI 501+00.00
EL 630.50
1.13%
EXISTING PROFILE ALONG ALIGNMENT OF CORMIER ROAD
EXISTING ELEV. AT ℄
PROPOSED ELEV. AT ℄

| | | |

Standard Detail Drawing List

08A05-18A	INLET COVERS TYPE A, H, A-S, & H-S
08A05-18B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-18C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-18D	INLET COVER, TYPE BW, Z MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C06-01	INLETS 3-FT AND 4-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D03-06	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-14A	CURB RAMPS TYPES 1 AND 1-A
08D05-14B	CURB RAMPS TYPES 2 AND 3
08D05-14C	CURB RAMPS TYPE 4A
08D05-14D	CURB RAMPS TYPE 4B
08D05-14E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D17-06	MANHOLES, MANHOLE & INLET COVERS
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F10-01	CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH
09B02-07	CONDUIT
09B04-10	PULL BOX
09C02-06	CONCRETE BASES, TYPES 1, 2 & 5
09C03-03	TRANSFORMER/PEDESTAL BASES
09C05-07	CONCRETE CONTROL CABINET BASES
09C06-05	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C08-04	CONCRETE BASE, TYPE 7
09C10-02	TRANSFORMER BASE FOR 15" BOLT CIRCLE
09C11-02	CONCRETE BASE TYPE 10
09C12-02A	CONCRETE BASE TYPE 13
09C12-02B	CONCRETE BASE TYPE 13
09C13-01	CONCRETE BASE TYPE 10 & TYPE 13 EXTENSION
09D01-04	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-02	SIGNAL OR LIGHTING CONTROL CABINET
09E01-11C	POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 4
09E01-11D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-11F	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 17 (40 FEET)
09E01-11G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E02-03	FREEWAY LIGHTING UNIT POLE WIRING
09E03-04	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E06-04	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E07-05	TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS
09E08-04A	TYPE 9 POLE 15'-30' MONOTUBE ARM
09E08-04B	TYPE 10 POLE 15'-30' MONOTUBE ARM
09E08-04C	TYPE 12 POLE 35'-55' MONOTUBE ARM
09E08-04D	TYPE 13 POLE 35'-55' MONOTBE ARM
09E08-04E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09F09-03	LOOP DETECTOR PLACED IN CRUSHED AGGREGATE BASE (NEW CONCRETE PAVEMENT)
09F13-03	LOOP DETECTOR INSTALLED IN EXISTING ASPHALTIC PAVEMENT
09F15-03A	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)
09F15-03B	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
09G01-03A	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03B	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03C	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03D	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03E	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03F	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03G	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
10A01-02	ELECTRICAL HANDHOLE WIRING
10A02-02	IDENTIFICATION PLAQUES LIGHT POLES
10A15-03A	ELECTRICAL DETAILS UNDERDECK LIGHTING
10A15-03B	ELECTRICAL DETAILS UNDERDECK LIGHTING
11B01-05	CONCRETE CORRUGATED MEDIAN

6

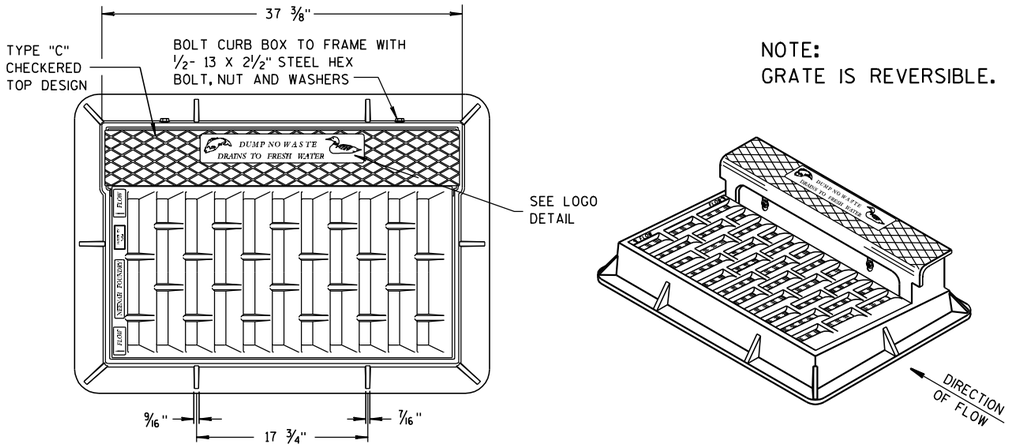
Standard Detail Drawing List

11B02-02	CONCRETE MEDIAN NOSE
12A03-10	NAME PLATE (STRUCTURES)
12A04-03	STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES & OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS
13A03-05	CONCRETE PAVEMENT SHOULDERS
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13B02-06	CONCRETE PAVEMENT APPROACH SLAB
13C01-15	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C11-10A	RURAL DOWELED CONCRETE PAVEMENT
13C11-10B	RURAL DOWELED CONCRETE PAVEMENT
13C13-07	URBAN DOWELED CONCRETE PAVEMENT
13C15-05A	CONCRETE BASE
13C15-05B	CONCRETE BASE
13C17-01A	CONCRETE JOINT DETAIL FOR EXIT RAMP TERMINI
13C17-01B	CONCRETE JOINT DETAIL FOR ENTRANCE RAMP TERMINI
13C18-01A	CONCRETE PAVEMENT JOINTING
13C18-01B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-01C	CONCRETE PAVEMENT JOINT TIES
13C18-01D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14A02-01	TREE PLANTING DETAIL
14B07-13A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B26-02A	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-02B	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-02C	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-02D	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-02E	STEEL THRIE BEAM BULLNOSE TERMINAL
14B28-02	GUARDRAIL MOW STRIP
14B32-01A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-01B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-01C	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-01D	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B33-01A	CONCRETE BARRIER SINGLE SLOPE 32" THRIE BEAM ANCHOR
14B33-01B	CONCRETE BARRIER SINGLE SLOPE 32" THRIE BEAM ANCHOR
14B35-01A	32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 32-INCH SSCB TRANSITION
14B35-01B	32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 32-INCH SSCB TRANSITION
14B35-01C	32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 36-INCH SSCB TRANSITION
14B35-01D	32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 36-INCH SSCB TRANSITION
14B39-01A	32-INCH SSCB TO 36-INCH SSCB HEIGHT TRANSITION
14B39-01C	36-INCH SSCB TO 42-INCH SSCB HEIGHT TRANSITION
14B40-01I	56-INCH VERTICAL SHAPE CONCRETE BARRIER TO 56-INCH SSCB TRANSITION
14B40-01J	56-INCH VERTICAL SHAPE CONCRETE BARRIER TO 56-INCH SSCB TRANSITION
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-01A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-01B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-01C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15A02-07	DELINEATOR POST, DELINEATOR BRACKET AND DELINEATOR

6

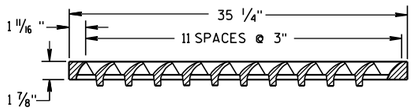
Standard Detail Drawing List

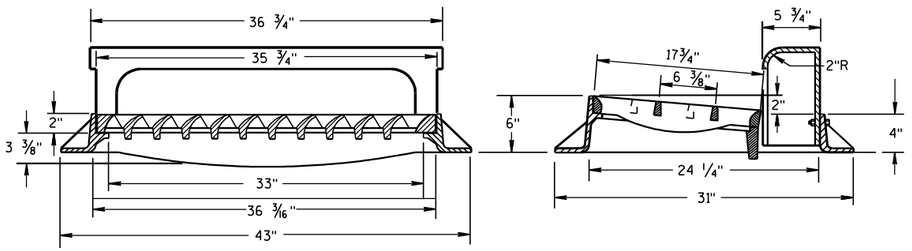
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15B03-12A	CHAIN LINK FENCE
15B03-12B	CHAIN LINK FENCE
15C02-04A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-01	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-15A	PAVEMENT MARKING (MAINLINE)
15C08-15E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-15F	PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)
15C10-10	PAVEMENT MARKINGS FOR DROP LANES FREEWAY/EXPRESSWAY
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15C12-03	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C18-03	MEDIAN ISLAND MARKING
15C19-01C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C27-01	DOUBLE ARROW WARNING SIGN PLACEMENT
15C31-01A	PAVEMENT MARKING (RAMPS AND GORES)
15C31-01B	LANE DROP PAVEMENT MARKING
15C31-01C	PAVEMENT MARKING MAJOR SPLIT FREEWAY TO FREEWAY
15D03-01	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D06-02	TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION
15D07-03	TRAFFIC CONTROL, TEMPORARY EXIT RAMP CROSSOVER
15D08-03	TRAFFIC CONTROL, TEMPORARY ENTRANCE RAMP CROSSOVER
15D12-02	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.
15D14-01	TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)
15D16-01	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D20-01	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-01	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-01	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE



NOTE:
GRATE IS REVERSIBLE.

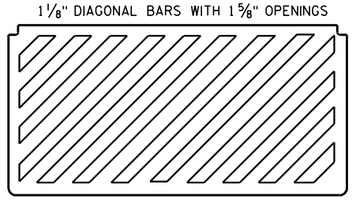
NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"





TYPE "H"

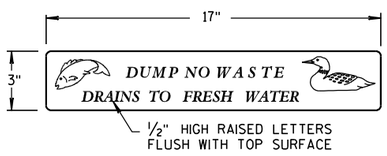
(APPROXIMATE WEIGHT 441 LBS.)
FRAME..... 181 LBS.
GRATE..... 146 LBS.
CURB BOX..... 114 LBS.



SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")
(APPROXIMATE WEIGHT 159 LBS.)
GRATE..... 159 LBS.

(NOTED AS TYPE H-S ON DRAINAGE TABLE)



LOGO DETAIL

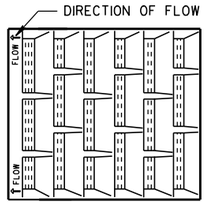
GENERAL NOTES

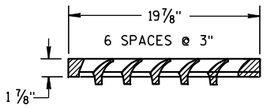
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

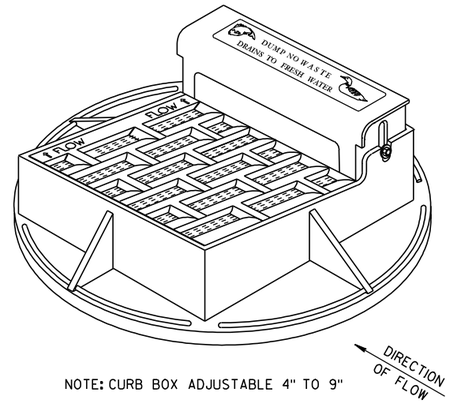
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

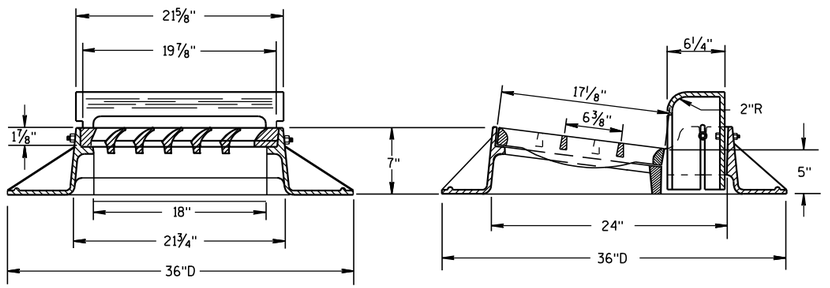
THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.





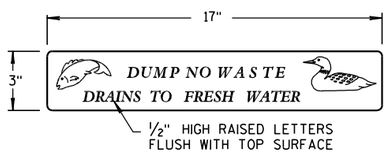


NOTE: CURB BOX ADJUSTABLE 4" TO 9"



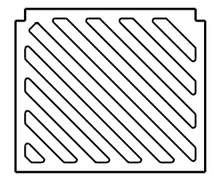
TYPE "A"

(APPROXIMATE WEIGHT 340 LBS.)
FRAME..... 185 LBS.
GRATE..... 71 LBS.
CURB BOX..... 84 LBS.



LOGO DETAIL

NOTE:
GRATE IS REVERSIBLE.



SPECIAL GRATE FOR TYPE "A" COVER

(MEASURES 19 3/4" X 17" X 1 7/8"
GRATE..... 84 LBS.

(NOTED AS TYPE A-S ON DRAINAGE TABLE)

INLET COVERS TYPE A, H, A-S, & H-S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

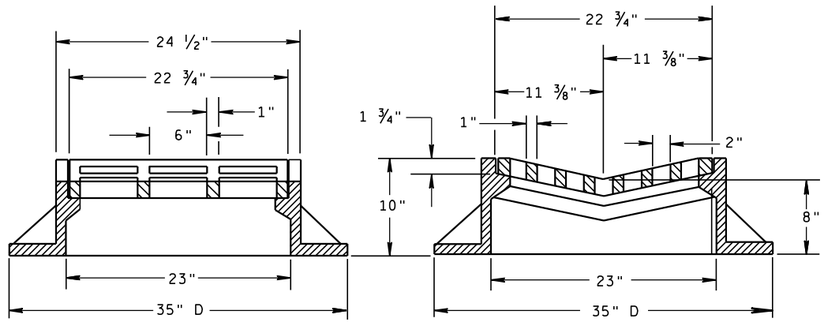
APPROVED
6/5/2012 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
1405
FHWA

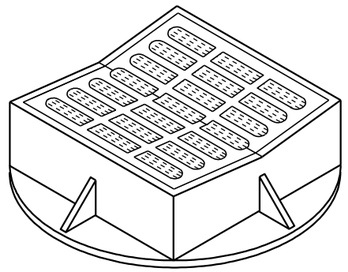
6

S.D.D. 8 A 5-18a

6

S.D.D. 8 A 5-18a

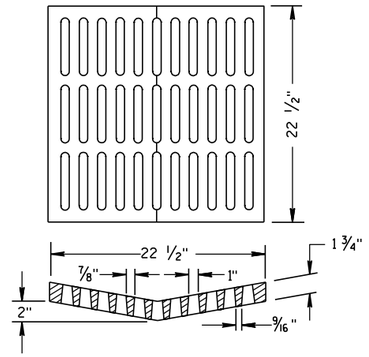




TYPE "B"

(APPROXIMATE WEIGHT 405 LBS.)

FRAME..... 294 LBS.
GRATE..... 111 LBS.

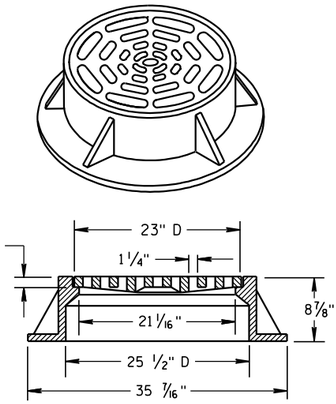


ALTERNATIVE GRATE FOR TYPE "B" COVER

(APPROXIMATE GRATE WEIGHT 134 LBS.)

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.

NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

(APPROXIMATE WEIGHT 259 LBS.)

FRAME..... 152 LBS.
GRATE..... 107 LBS.

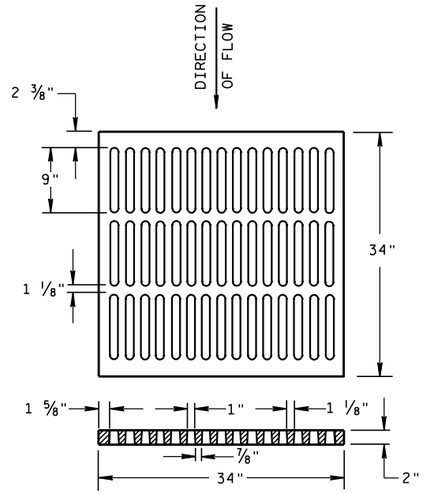
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.

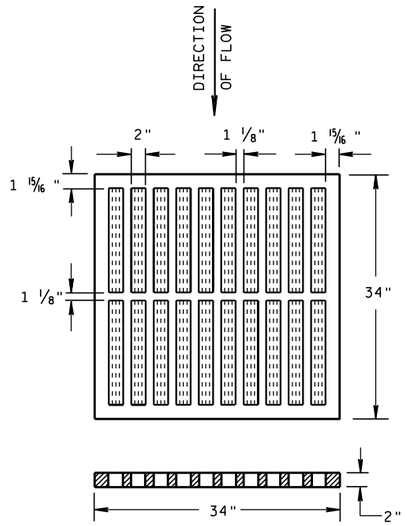


ALTERNATIVE TYPE "MS"

(APPROXIMATE GRATE WEIGHT 329 LBS.)

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED

NOTED AS TYPE MS-A ON THE DRAINAGE TABLE

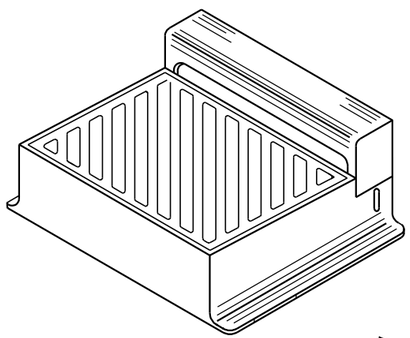


TYPE "MS"

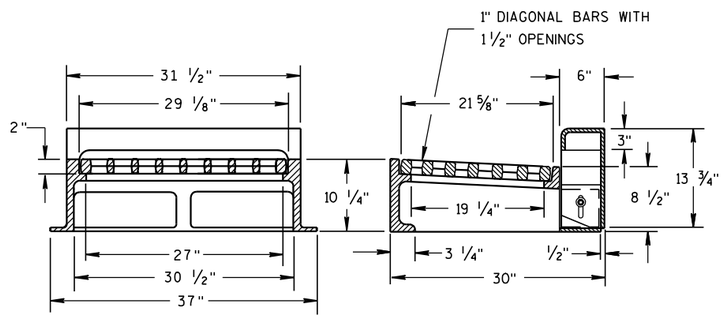
(APPROXIMATE GRATE WEIGHT 268 LBS.)

USE ON FREEWAYS AND EXPRESSWAYS

NOTED AS TYPE MS ON DRAINAGE TABLE



DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

(APPROXIMATE WEIGHT 648 LBS.)

FRAME..... 355 LBS.
GRATE..... 156 LBS.
CURB BOX..... 137 LBS.

INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012 DATE

/S/ Jerry H. Zaas
ROADWAY STANDARDS ENGINEER

1406 ENT

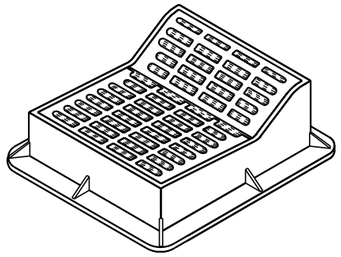
FHWA

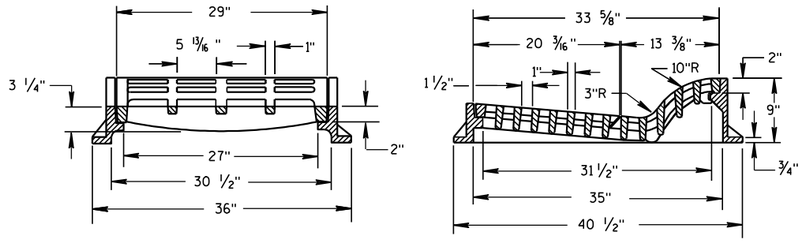
6

S.D.D. 8 A 5-18b

6

S.D.D. 8 A 5-18b



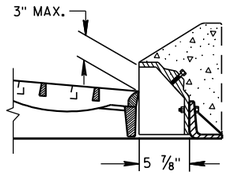


TYPE "F"

(APPROXIMATE WEIGHT 644 LBS.)

FRAME.....302 LBS.
GRATE.....160 LBS.
GRATE.....182 LBS.

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

(APPROXIMATE WEIGHT CURB BOX 68 LBS.)

USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

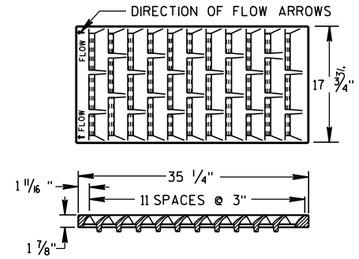
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

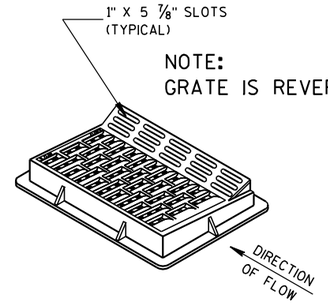
GENERAL NOTES

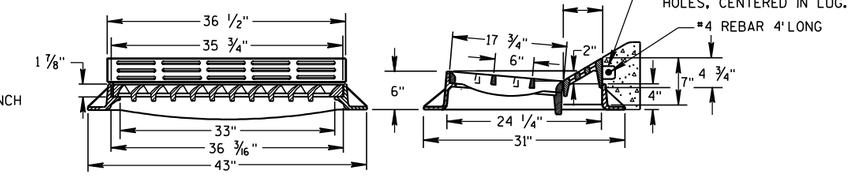
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.







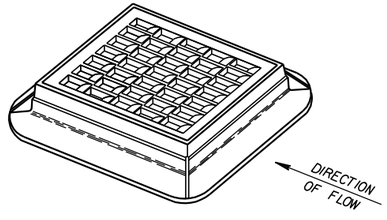
TYPE "HM"

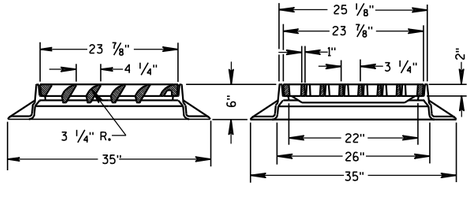
(APPROXIMATE WEIGHT 414 LBS.)

FRAME..... 181 LBS.
GRATE..... 159 LBS.
CURB BOX..... 74 LBS.

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE

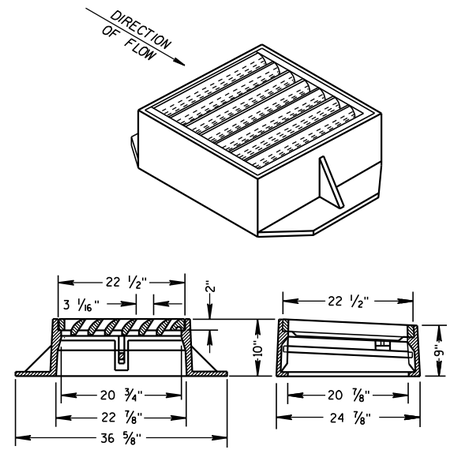




TYPE "S"

(APPROXIMATE WEIGHT 333 LBS.)

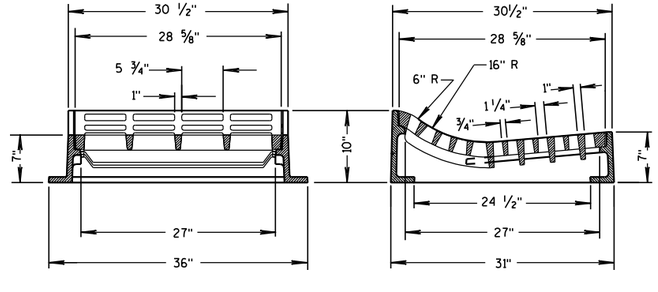
FRAME.....164 LBS.
GRATE..... 169 LBS.

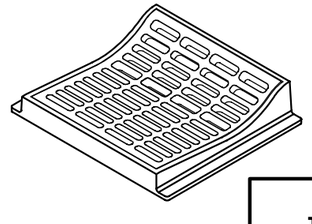


TYPE "V"

(APPROXIMATE WEIGHT 410 LBS.)

FRAME..... 269 LBS.
GRATE..... 136 LBS.
SAFETY BAR..... 5 LBS.





TYPE "T"

(APPROXIMATE WEIGHT 530 LBS.)

FRAME.....270 LBS.
GRATE.....260 LBS.

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.

INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

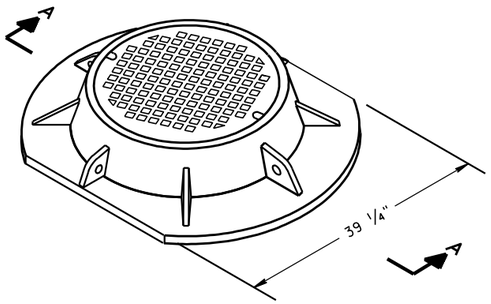
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
1407
FHWA

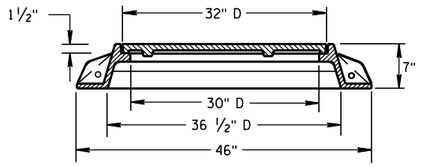
6

S.D.D. 8 A 5-18c

6

S.D.D. 8 A 5-18c



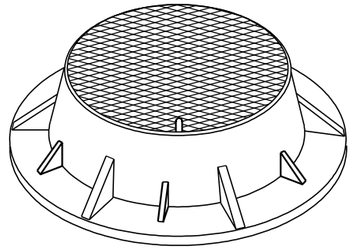


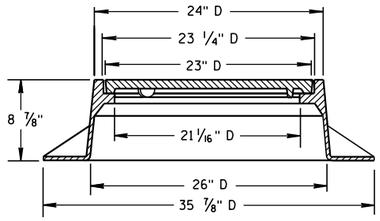
SECTION A-A

TYPE "K"

(APPROXIMATE WEIGHT 439 LBS.)

FRAME.....216 LBS.
LID.....223 LBS.

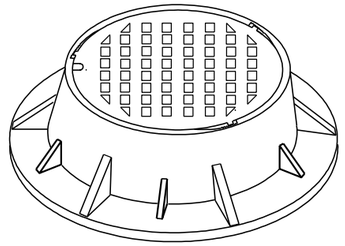


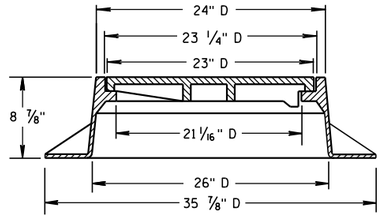


TYPE "J"

(APPROXIMATE WEIGHT 267 LBS.)

FRAME.....152 LBS.
LID.....115 LBS.





TYPE "J" SPECIAL

TYPE "B" NON-ROCKING SELF-SEAL LID

(APPROXIMATE WEIGHT 267 LBS.)

FRAME.....158 LBS.
LID.....109 LBS.

(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

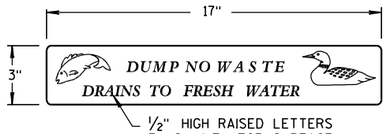
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

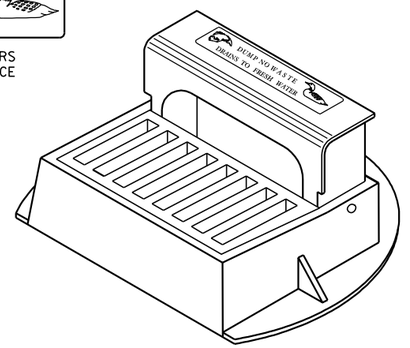
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

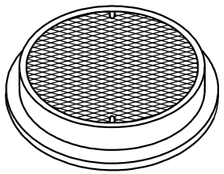
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

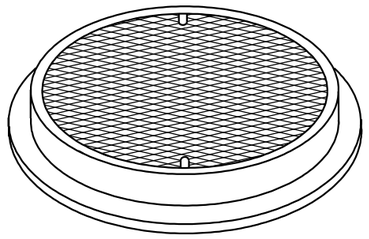
THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.

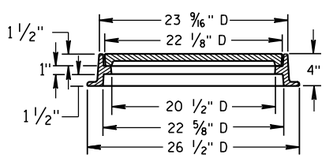


LOGO DETAIL





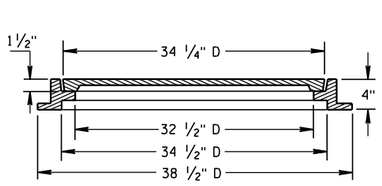




TYPE "L"

(APPROXIMATE WEIGHT 158 LBS.)

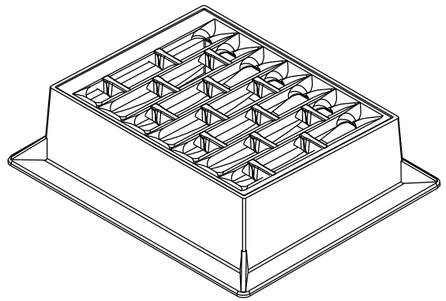
FRAME.....81 LBS.
LID.....77 LBS.

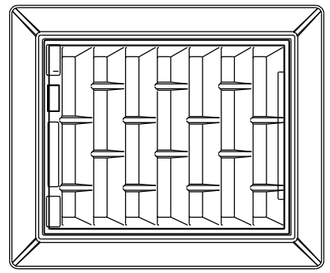


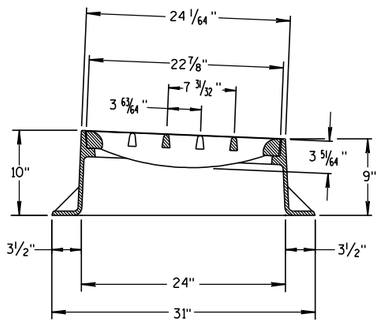
TYPE "M"

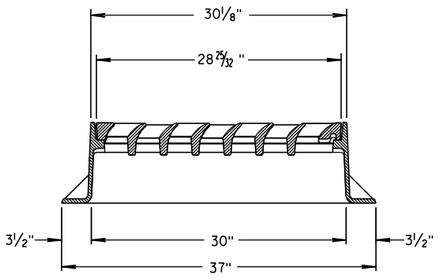
(APPROXIMATE WEIGHT 377 LBS.)

FRAME..... 125 LBS.
LID..... 252 LBS.

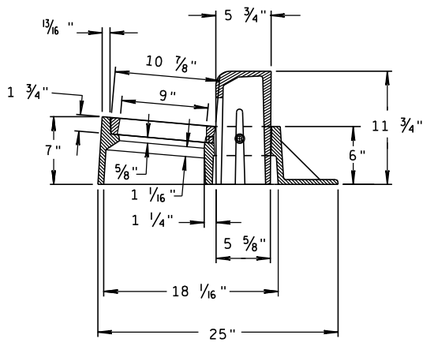








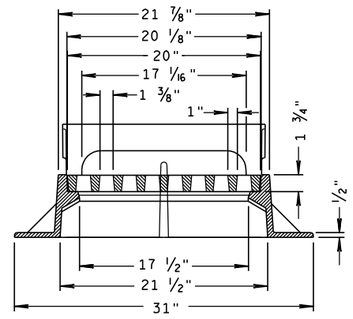
INLET COVER TYPE "BW"



INLET COVER TYPE "Z"

(APPROXIMATE WEIGHT 344 LBS.)

FRAME.....206 LBS.
GRATE..... 46 LBS.
CURB BOX..... 92 LBS.



INLET COVERS, TYPE BW, Z
MANHOLE COVERS, TYPE K, J, J-S, L & M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS | 1408 .NT
ENGINEER

FHWA

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S.D.D. 8 A 5-18d

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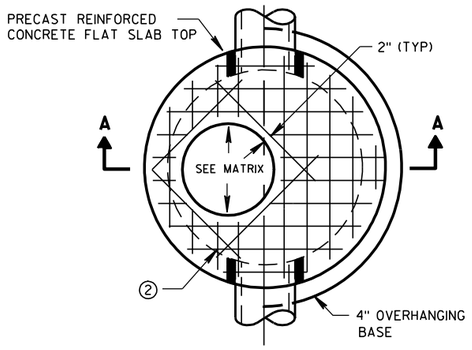
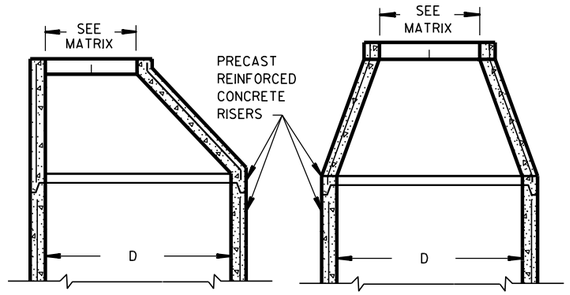
S.D.D. 8 A 5-18d

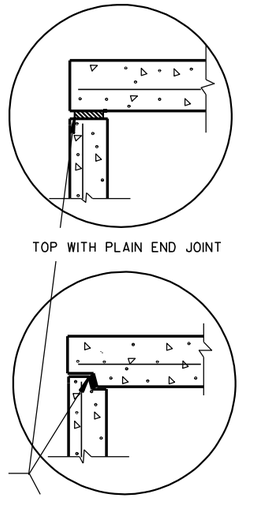


PLAN VIEW CIRCULAR OPENING



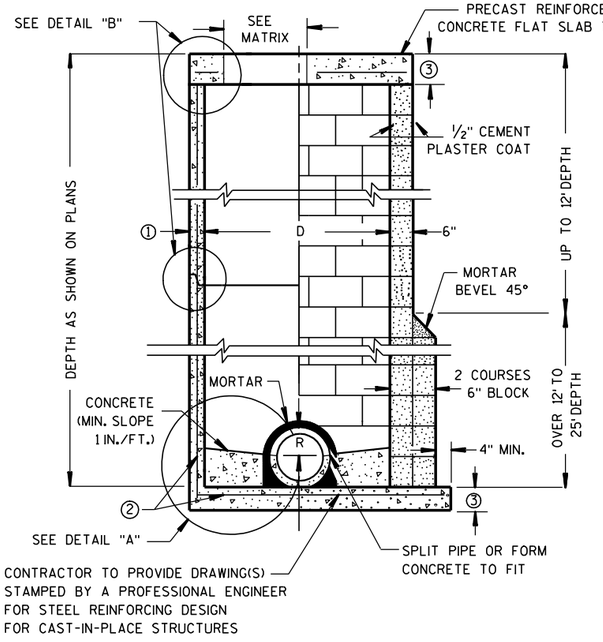
OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



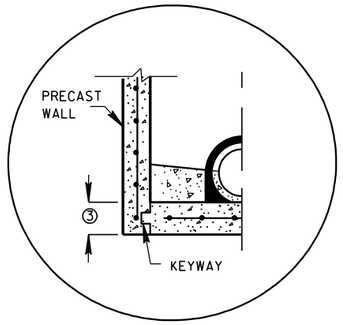
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

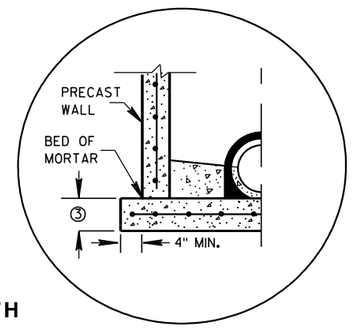


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

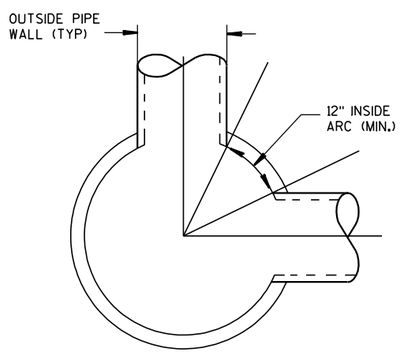


PRECAST REINFORCED
CONCRETE WITH INTEGRAL BASE OPTION



SEPERATE PRECAST REINFORCED
CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½" AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPERATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.

② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	C	ALL J'S	K	L	M
OPENING SIZE (FT)					
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER 1409

FHWA

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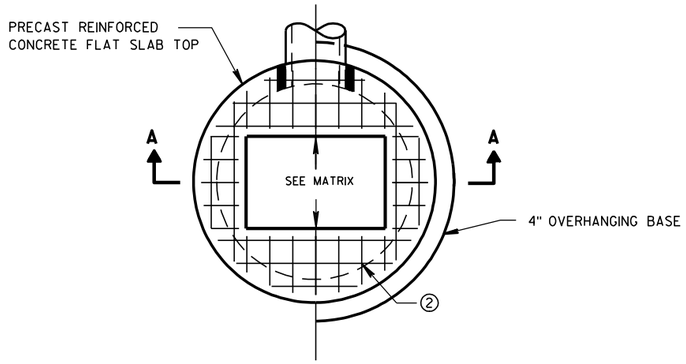
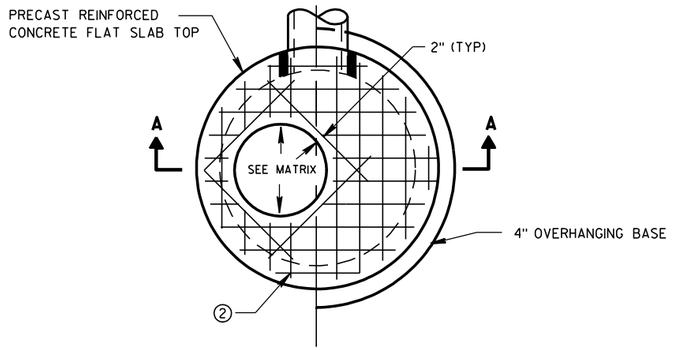
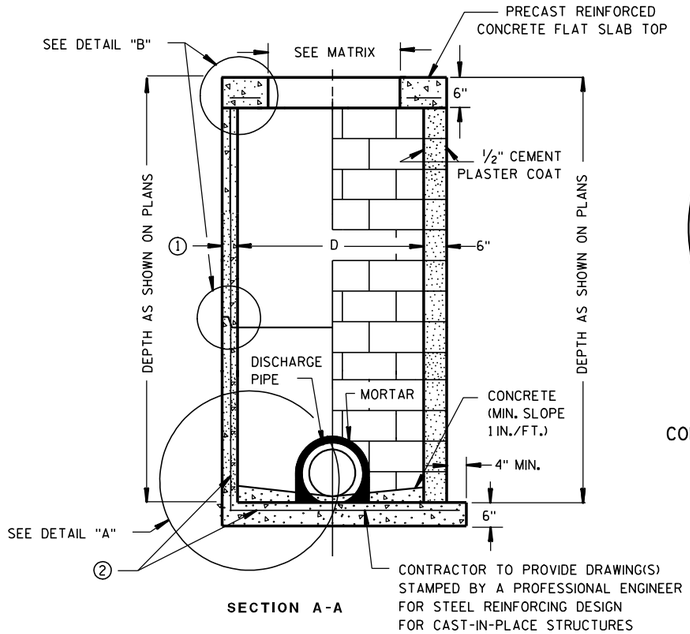
S.D.D. 8 B 9-1



PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

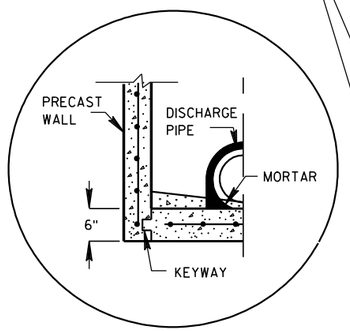


SECTION A-A

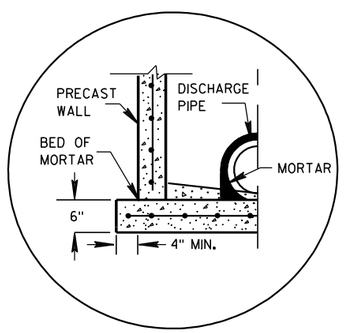
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

CIRCULAR INLETS W/ FLAT TOP

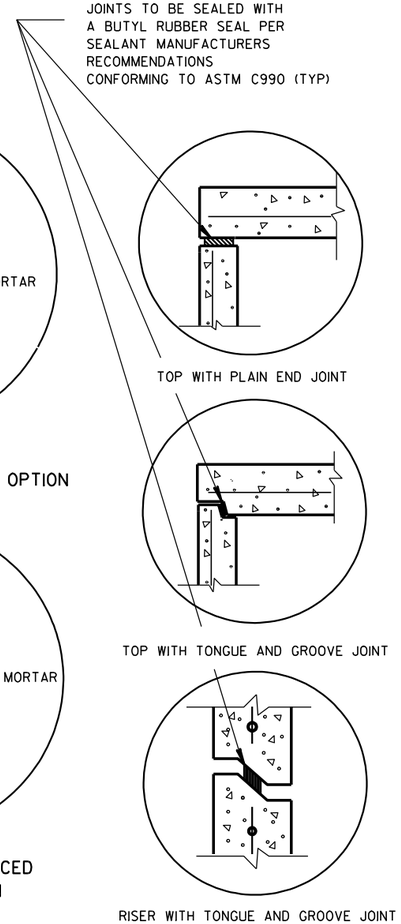


PRECAST REINFORCED
CONCRETE WITH INTEGRAL BASE OPTION



SEPERATE PRECAST REINFORCED
CONCRETE BASE OPTION

DETAIL "A"



DETAIL "B"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPERATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

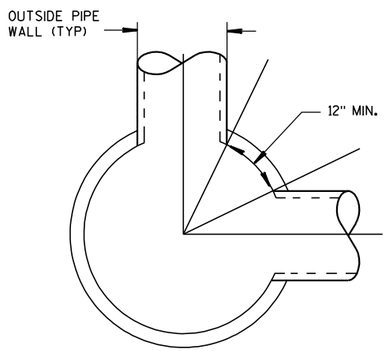
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.

② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
INLET SIZE	OPENING SIZE (FT)											
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2X3						X					
	2.5X3					X						



DETAIL "C"

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

1410

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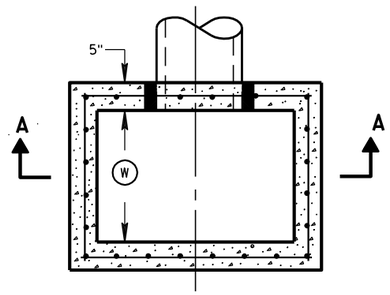
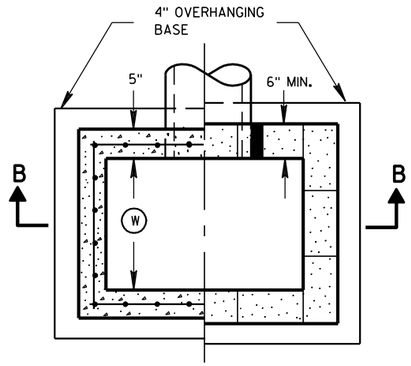
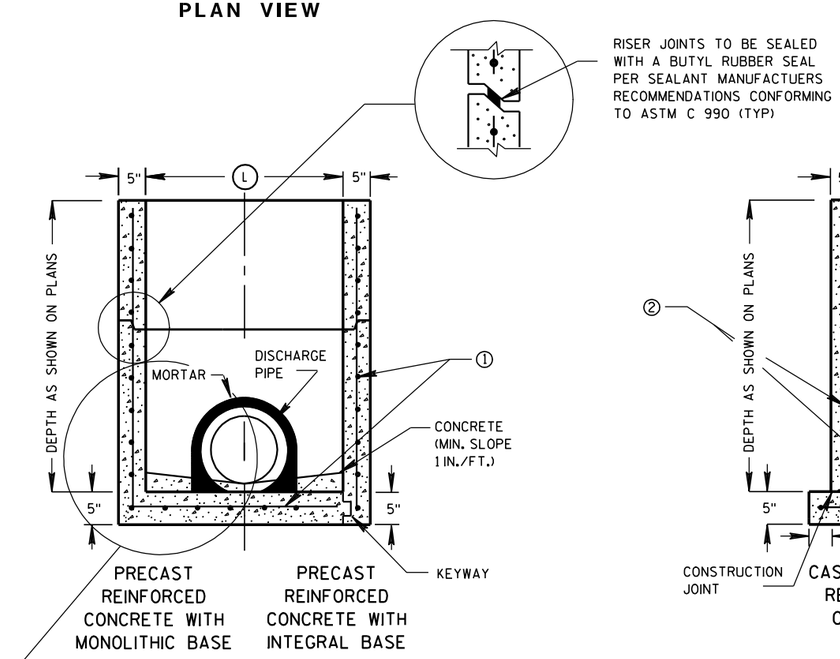
S.D.D. 8 C 6-1



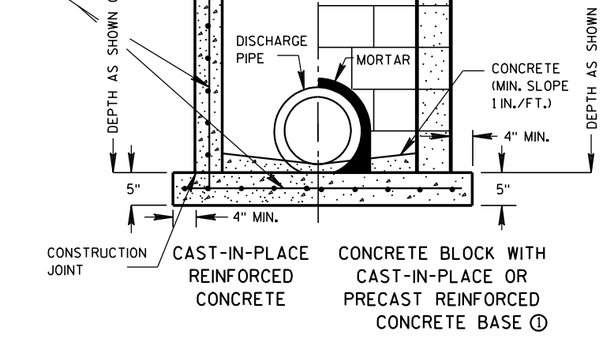
PLAN VIEW



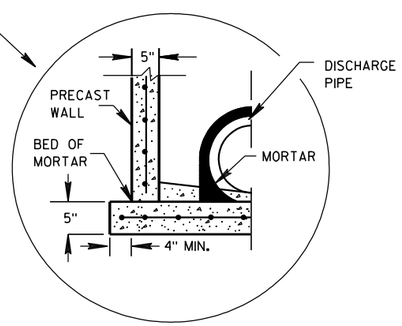
PLAN VIEW



SECTION A-A



SECTION B-B



SEPERATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPERATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

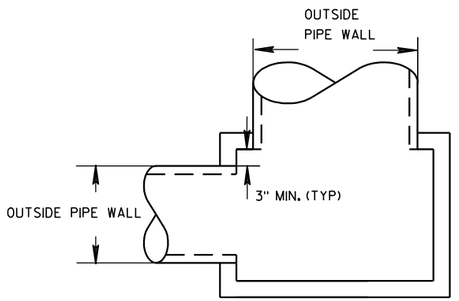
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24

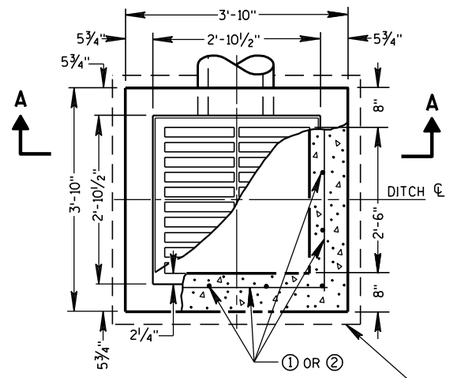


DETAIL "A"

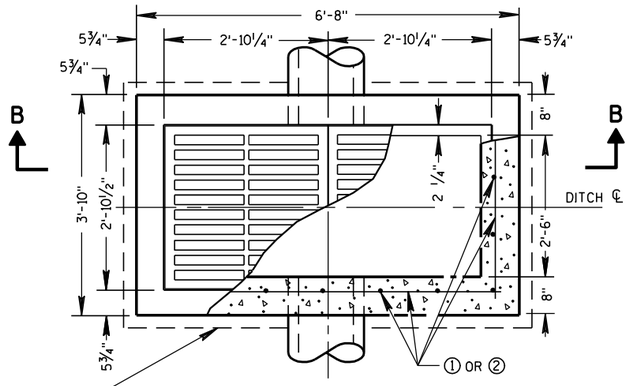
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARDS D ENGINEER
1411 IT
FHWA

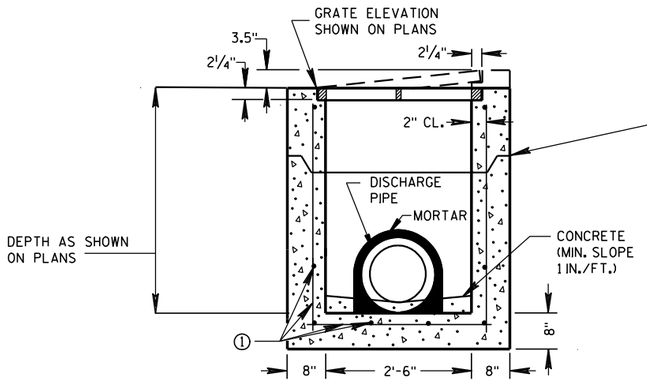


PLAN VIEW

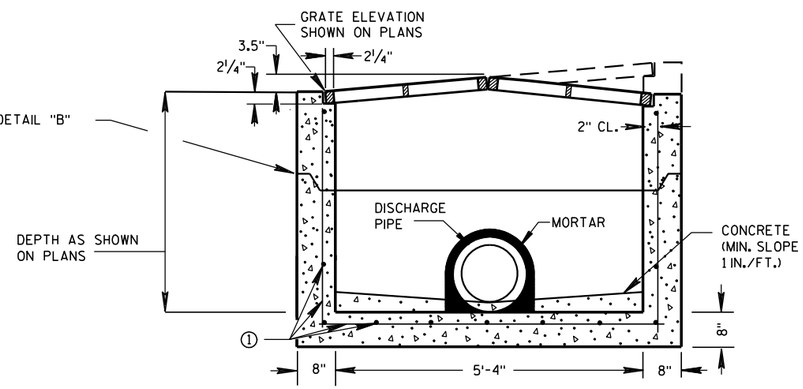


PLAN VIEW

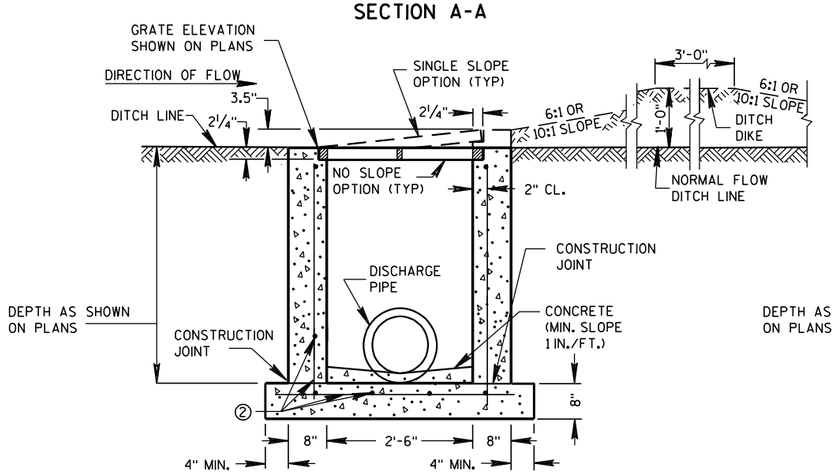
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



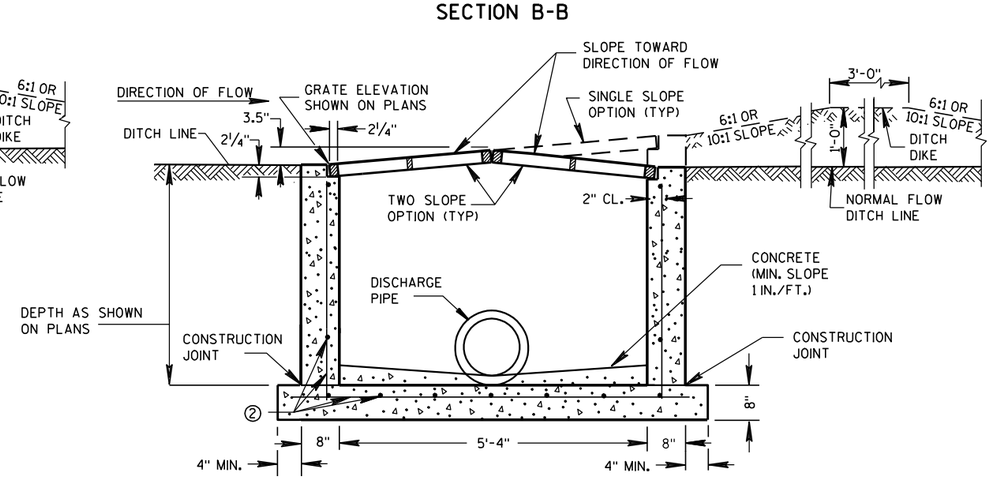
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

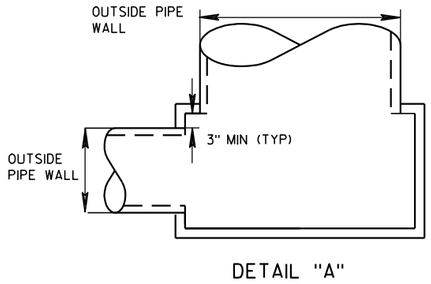
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

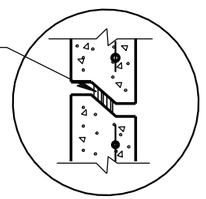
PIPE MATRIX

	MAXIMUM INSIDE PIPE DIAMETER	
INLET SIZE	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



DETAIL "B"

INLETS MEDIAN 1 GRATE

INLETS MEDIAN 2 GRATE

INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 C 8-1

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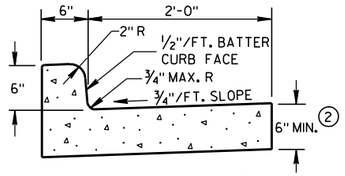
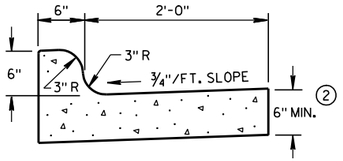
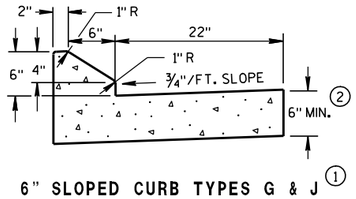
S.D.D. 8 C 8-1



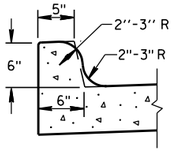
TYPES A & D (1)



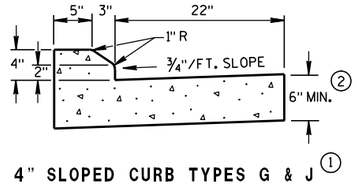
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

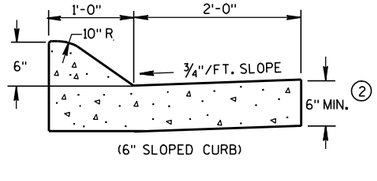


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

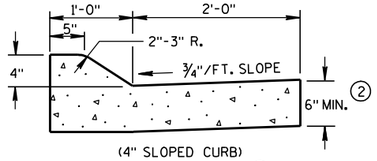


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

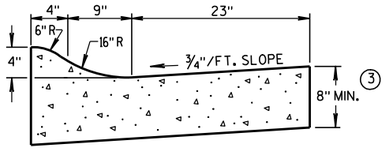


(6" SLOPED CURB)



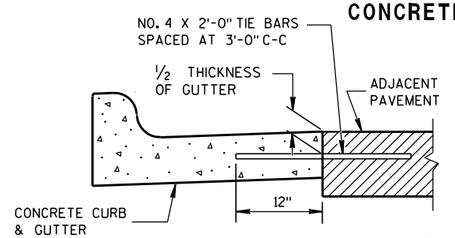
(4" SLOPED CURB)

TYPES A & D (1)



4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"



TYPICAL TIE BAR LOCATION (1)

REVERSE SLOPE GUTTER (5)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

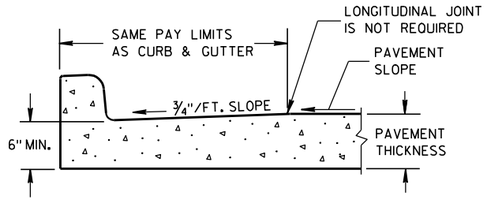
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

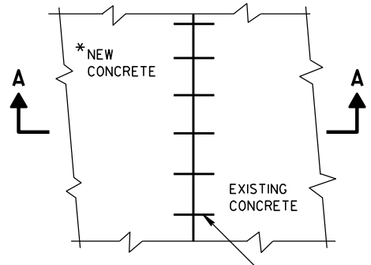
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(4) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(5) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

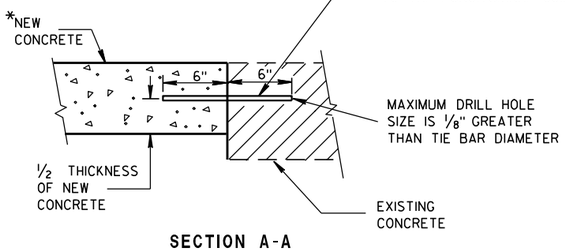


PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



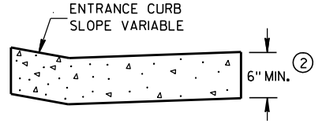
PLAN VIEW

*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

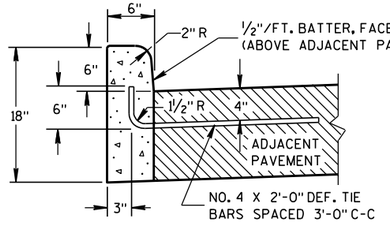


SECTION A-A

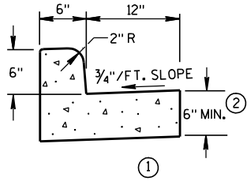
TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

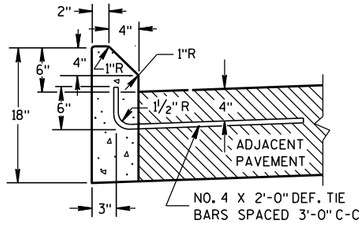


(1) TYPES A & D

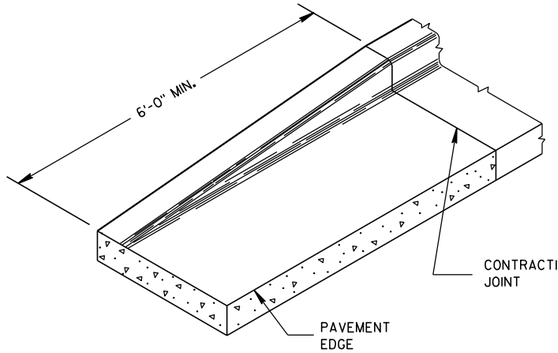


(1) TYPES A & D

CONCRETE CURB & GUTTER 18"



(1) TYPES G & J



END SECTION CURB & GUTTER

CONCRETE CURB

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
9/4/08 DATE	/S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER
FHWA	1413 ENT

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S.D.D. 8 D 1-17

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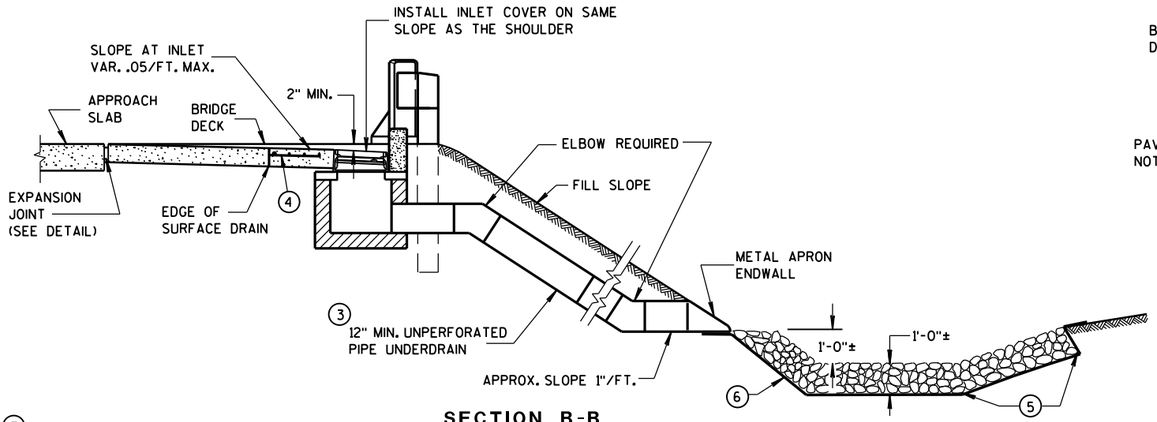
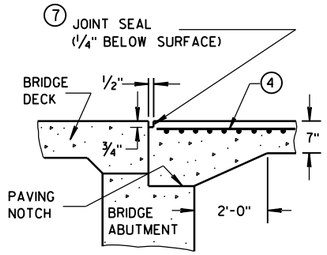
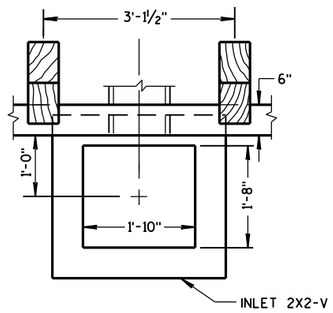
S.D.D. 8 D 1-17



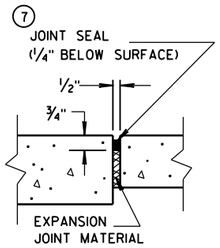
SECTION B-B



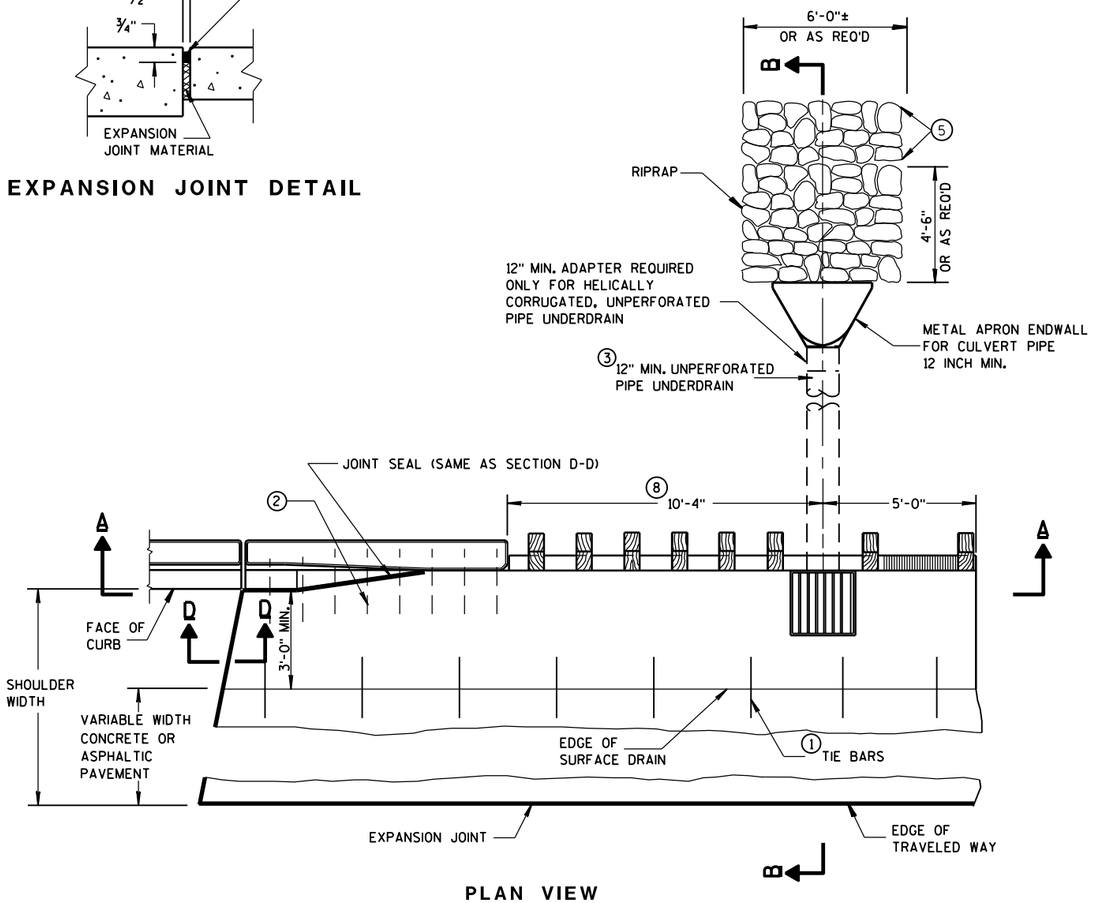
SECTION D-D



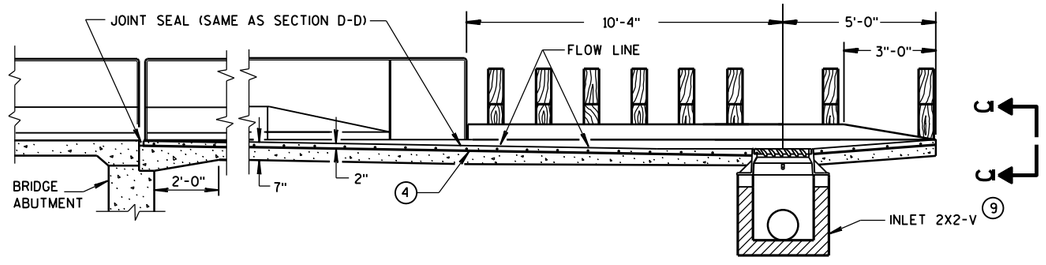
PLAN VIEW



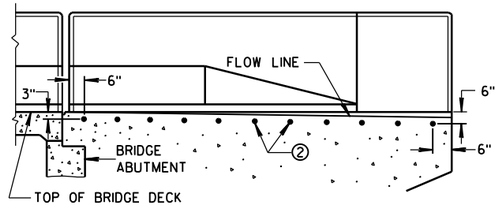
EXPANSION JOINT DETAIL



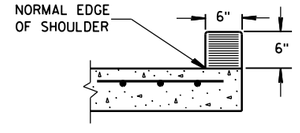
PLAN VIEW



SECTION A-A



LOCATION OF TIE BARS IN WINGWALL



SECTION C-C

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

(1) NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.

(2) NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) THE PIPE UNDERDRAIN MAY BE ANY ONE OF THE SIX MATERIALS LISTED IN THE STANDARD SPECIFICATIONS SECTION 612.2 EXCEPT DRAIN TILE.

(4) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

(5) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

(6) GEOTEXTILE FABRIC, TYPE 'R'

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".

(9) SEE CURRENT STANDARD DETAIL DRAWINGS 8A5 AND 8C7 FOR DETAILS.

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/4/08
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

1414

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S.D.D. 8 D 3-6

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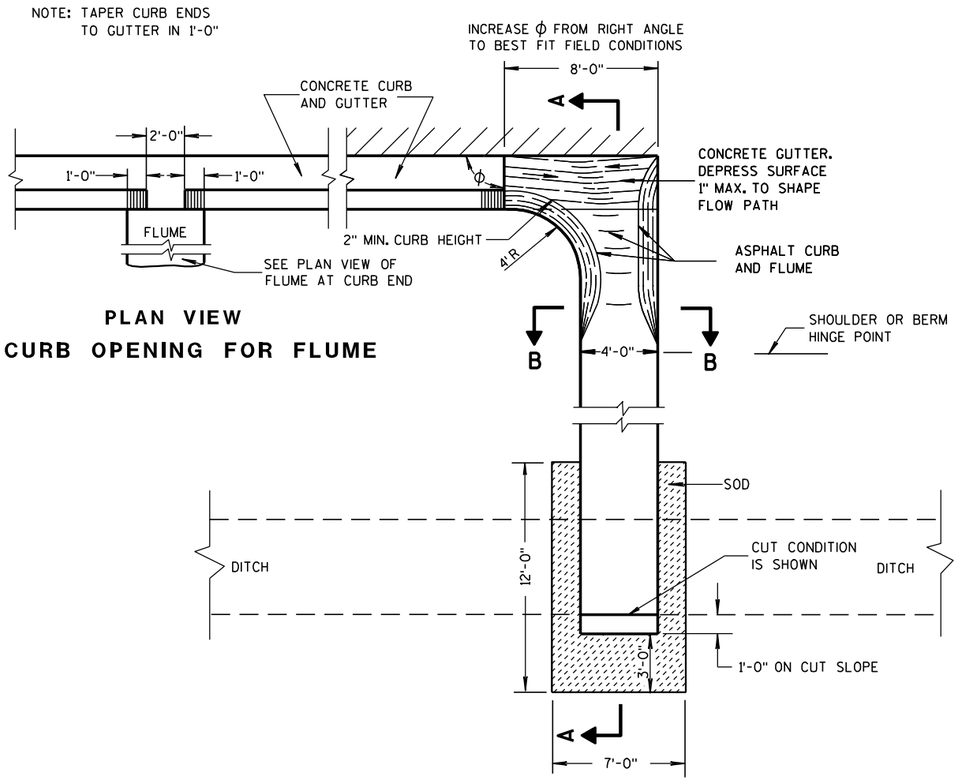
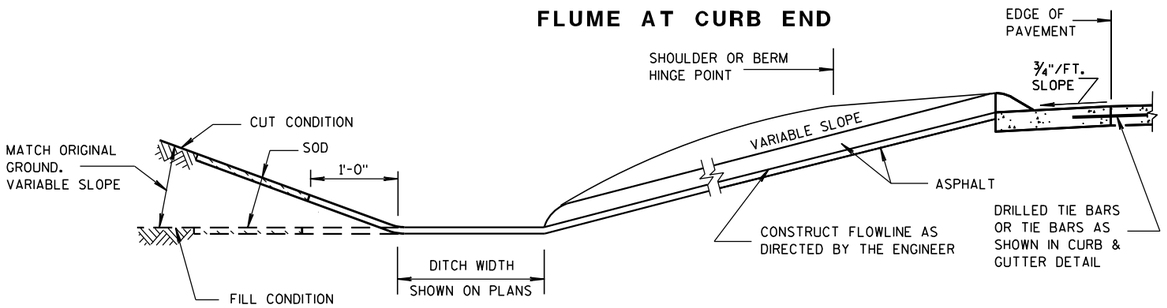
S.D.D. 8 D 3-6

ASPHALTIC FLUME

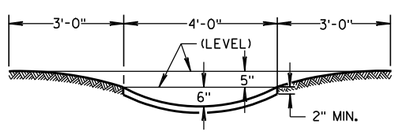


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

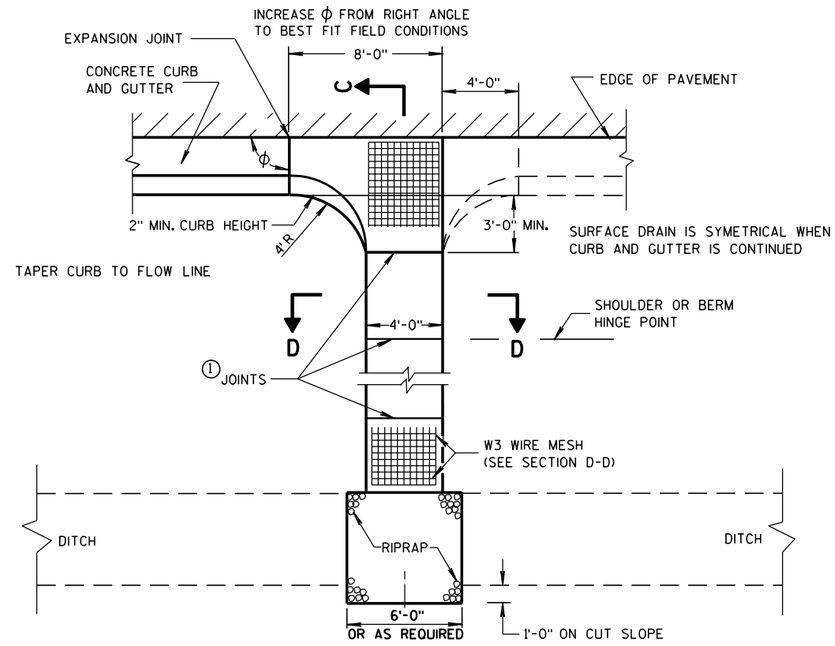
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

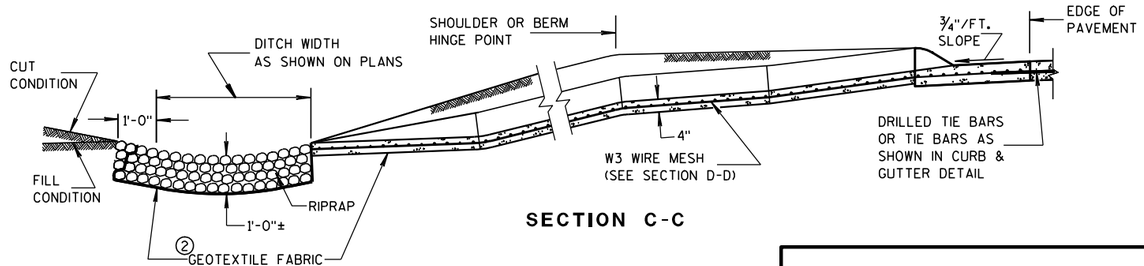
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

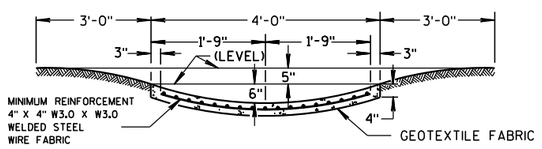
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
1415
MENT

FHWA

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S.D.D. 8 D 4-5

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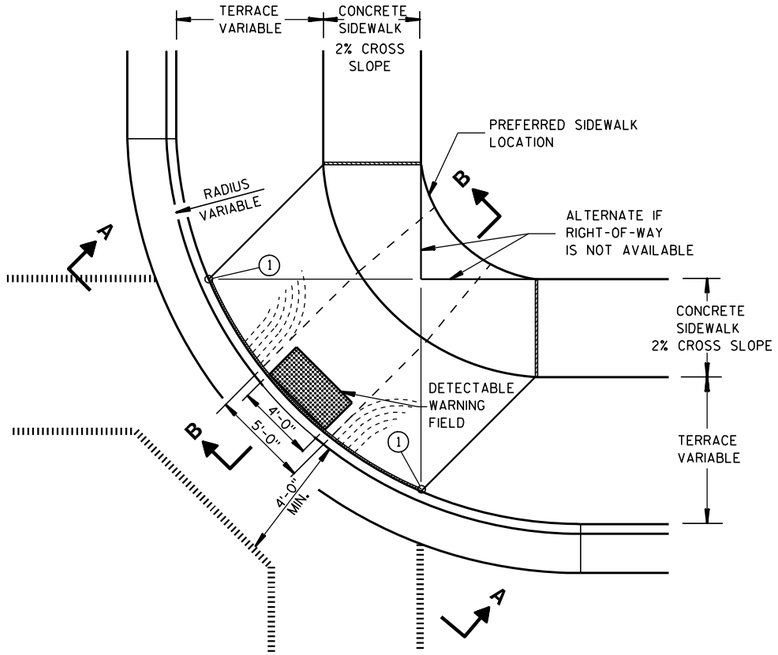
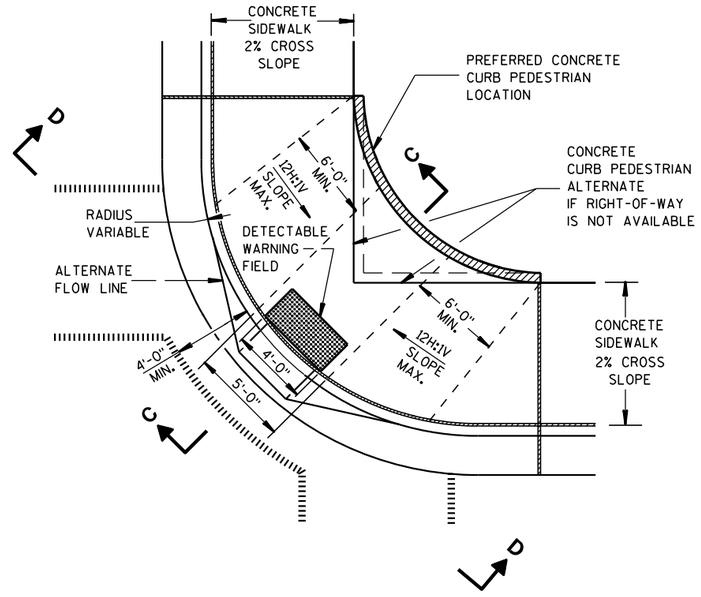
S.D.D. 8 D 4-5



PLAN VIEW

TYPE 1 RAMP

(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

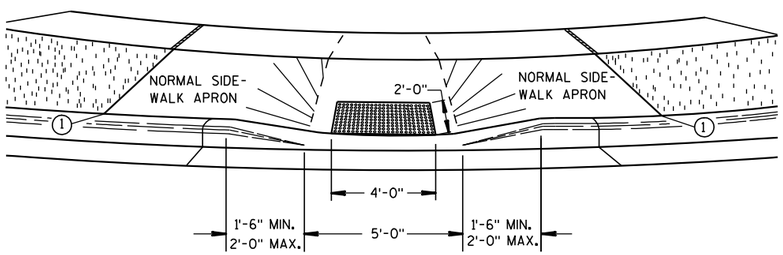
SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

(1) THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

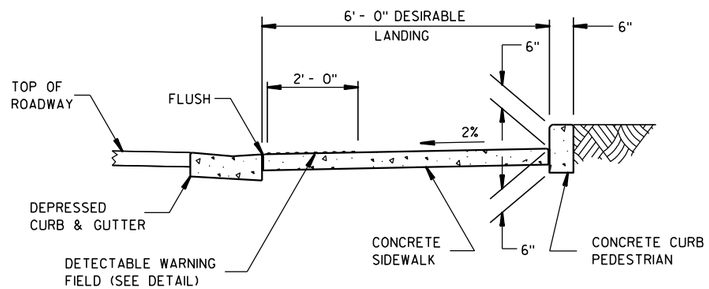
(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

LEGEND

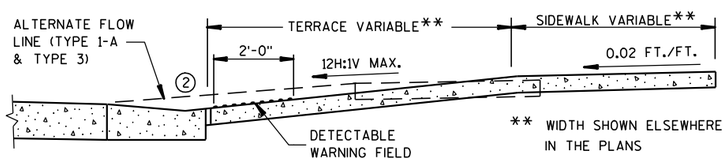
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



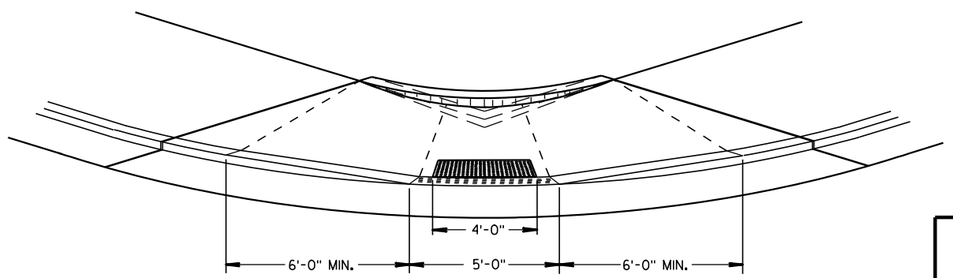
VIEW A-A



SECTION C-C



SECTION B-B



VIEW D-D

CURB RAMPS TYPES 1 AND 1-A

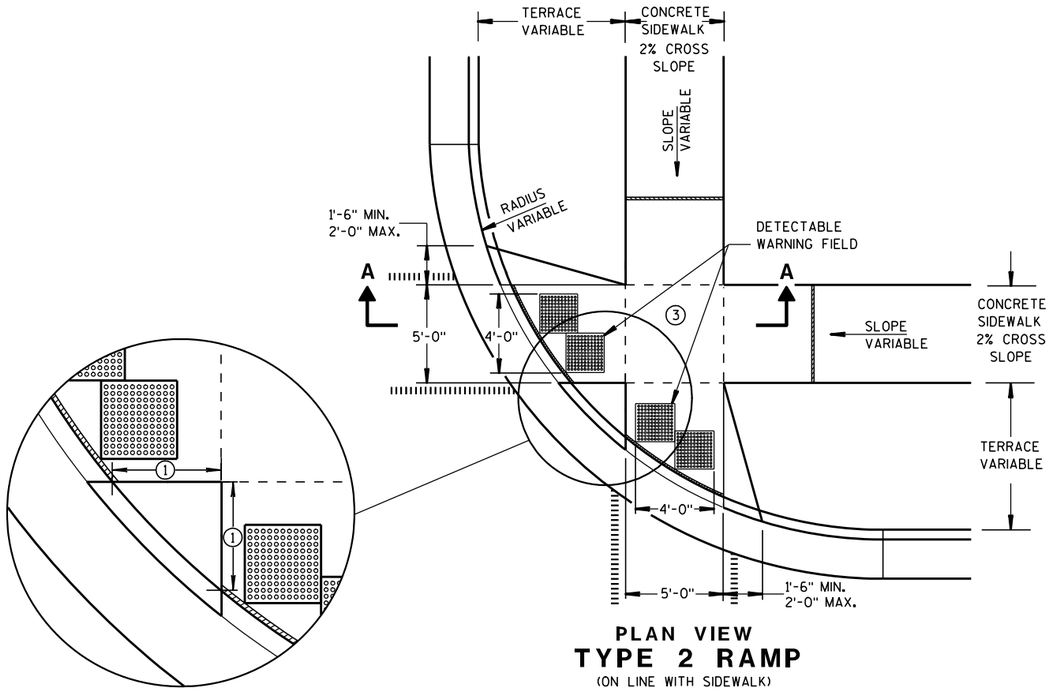
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

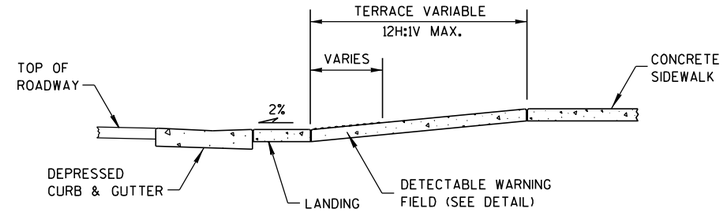
S.D.D. 8 D 5-14a

6

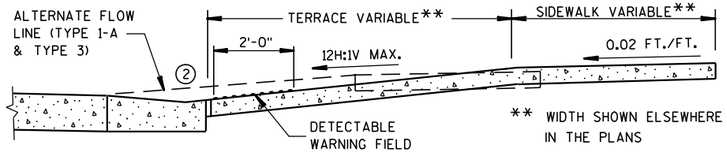
S.D.D. 8 D 5-14a



PLAN VIEW
TYPE 2 RAMP
(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

GENERAL NOTES

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

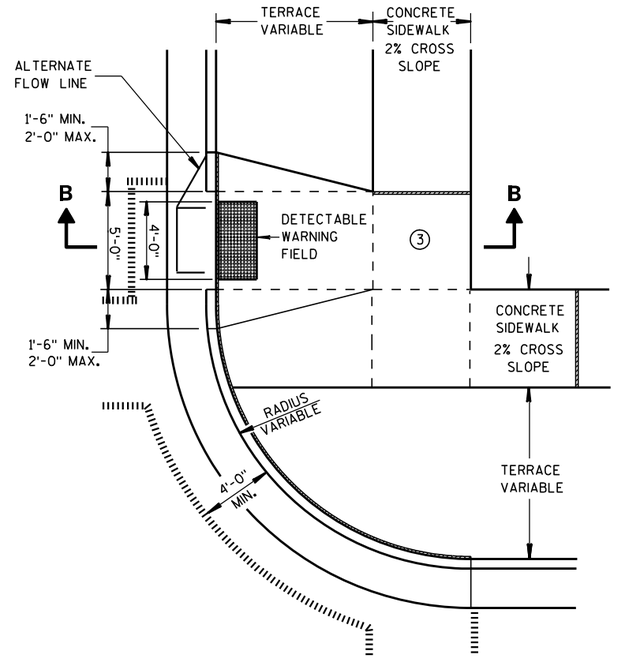
(1) WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

(3) PROVIDE LANDING AT TOP OF RAMP WITH NO MORE THAN 2% SLOPE IN ANY DIRECTION.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

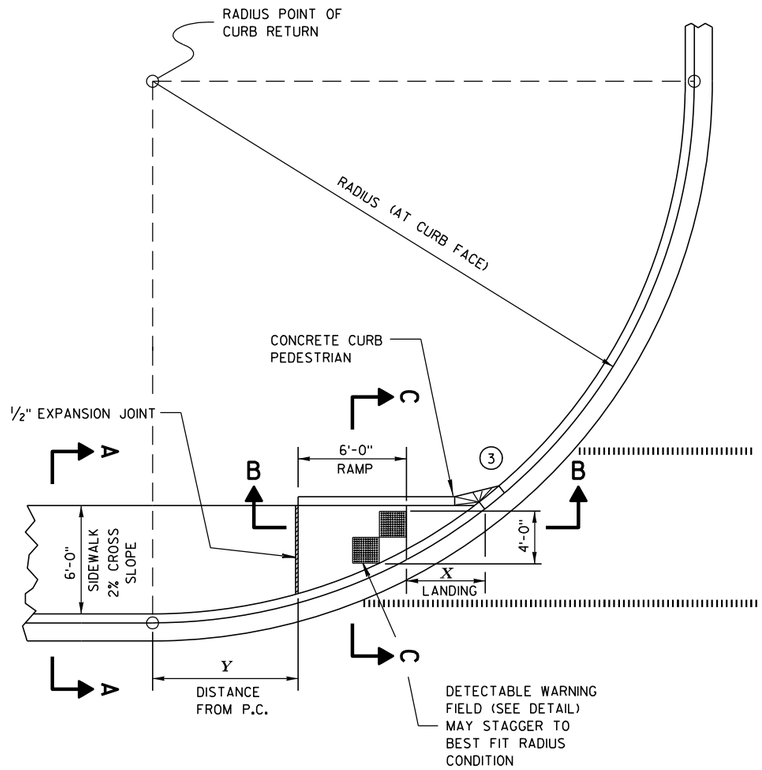


PLAN VIEW
TYPE 3 RAMP
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

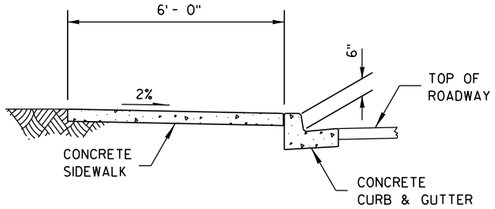
6
S.D.D. 8 D 5-14b



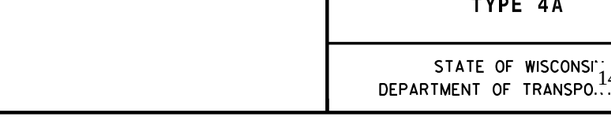
CURB RAMP TYPE 4A
PLAN VIEW

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1¾"	2'-7¼"
30 FEET	7'-11¾"	4'-8¼"
40 FEET	9'-5¼"	6'-5"
50 FEET	10'-8¾"	7'-11¼"
60 FEET	11'-10¼"	9'-3½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A



ISOMETRIC VIEW

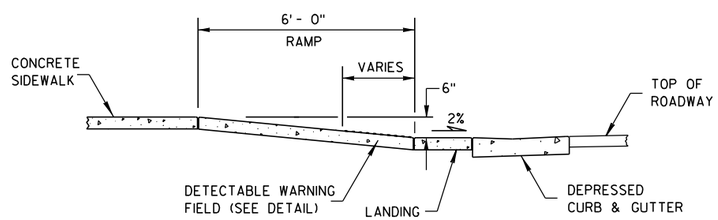
GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

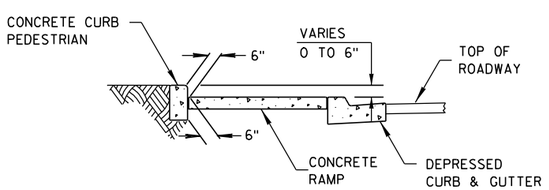
RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.



SECTION B-B



SECTION C-C

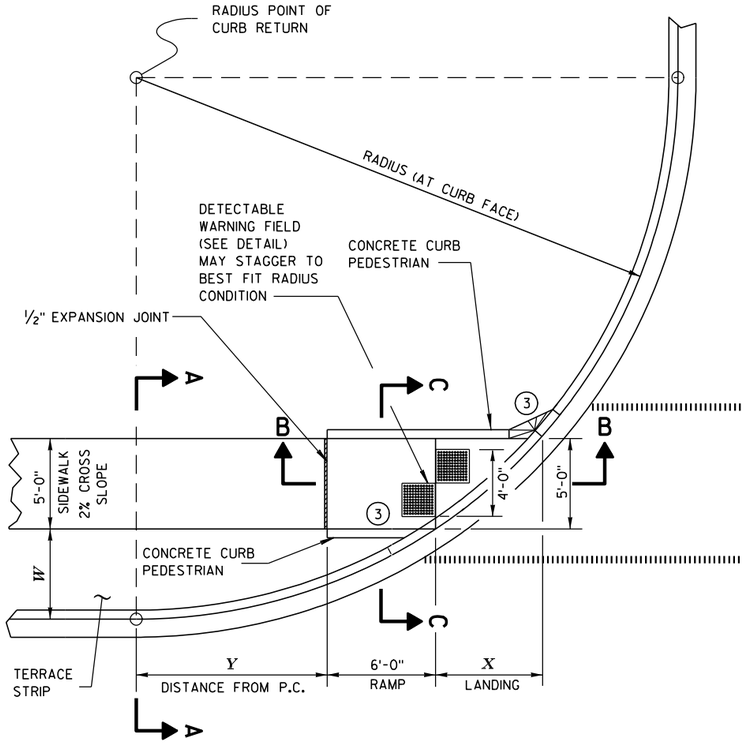
LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPE 4A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 8 D 5-14c



CURB RAMP TYPE 4B
PLAN VIEW

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

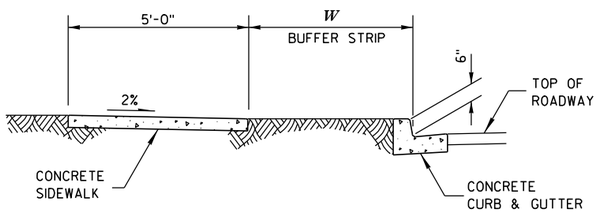
RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

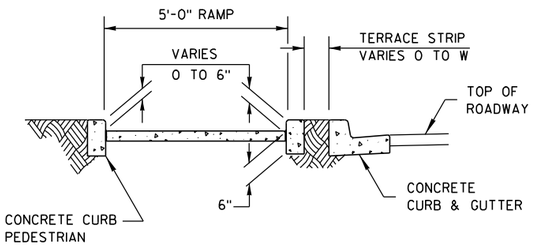
(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

RADIUS (AT CURB FACE)	W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5½"	4'-6½"	4'-8½"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-3½"	3'-1½"	9'-2½"
30 FEET	7'-3¾"	7'-1"	6'-5½"	8'-11½"	5'-9¼"	10'-7"	5'-2½"	12'-0"	4'-8¾"	13'-3¼"
40 FEET	8'-9½"	9'-2½"	7'-10"	11'-5¼"	7'-1"	13'-4½"	6'-5¾"	15'-¾"	5'-11½"	16'-7¼"
50 FEET	10'-¾"	11'-¾"	9'-¼"	13'-7¼"	8'-2½"	15'-9½"	7'-6½"	17'-9"	6'-11¾"	19'-6¼"
60 FEET	11'-2½"	12'-8¾"	10'-¾"	15'-6½"	9'-2¼"	17'-11¾"	8'-5¾"	20'-1¾"	7'-10½"	22'-1½"
70 FEET	12'-2¾"	14'-3¼"	11'-¼"	17'-4"	10'-1"	19'-11¾"	9'-3¾"	22'-4¼"	8'-8¼"	24'-6¼"
80 FEET	13'-2"	15'-8½"	11'-10½"	18'-11¾"	10'-10¾"	21'-10"	10'-1"	24'-4¾"	9'-5"	26'-8¾"
90 FEET	14'- ½"	17'-½"	12'-8¼"	20'-6½"	11'-7¾"	23'-7"	10'-9¾"	26'-3¾"	10'-1¼"	28'-9½"
100 FEET	14'-10½"	18'-3¾"	13'-5½"	22'-0"	12'-4¼"	25'-2¾"	11'-5¾"	28'-1½"	10'-9"	30'-9"

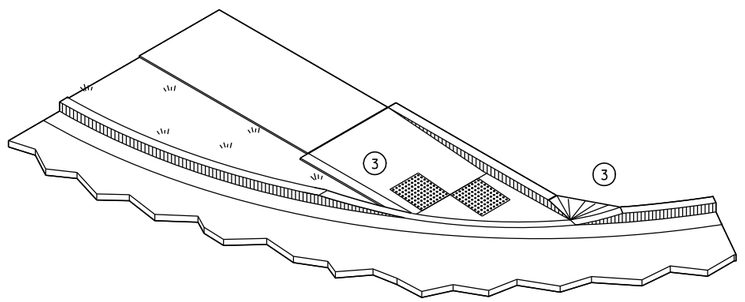
INTERMEDIATE RADII CAN BE INTERPOLATED



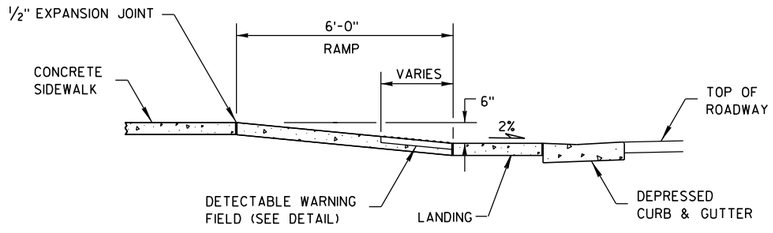
SECTION A-A



SECTION C-C



ISOMETRIC VIEW



SECTION B-B

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

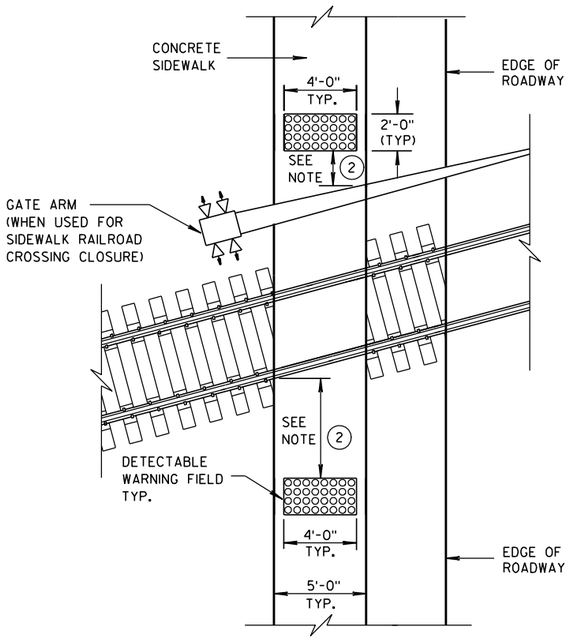
PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPE 4B

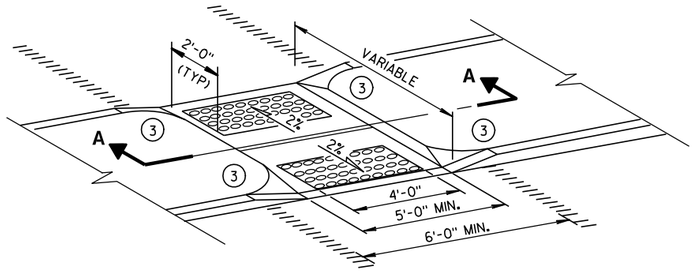
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

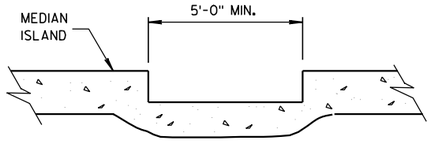
S.D.D. 8 D 5-14d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5



SECTION A-A

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

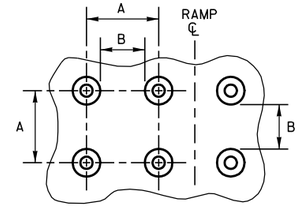
(1) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(2) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

LEGEND

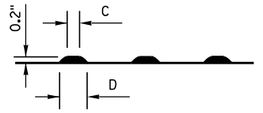
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)



PLAN VIEW

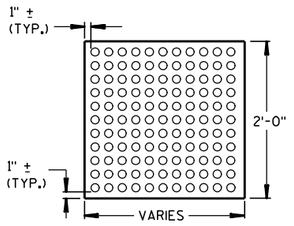
	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



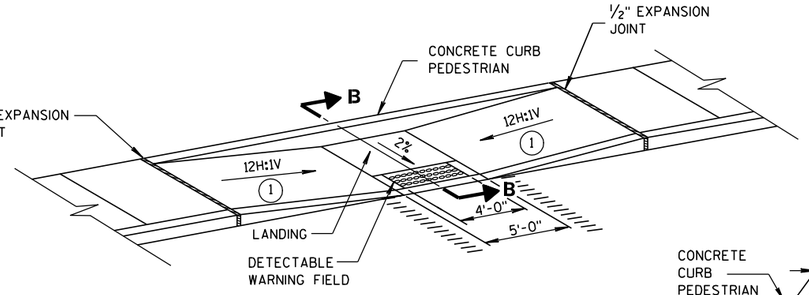
ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

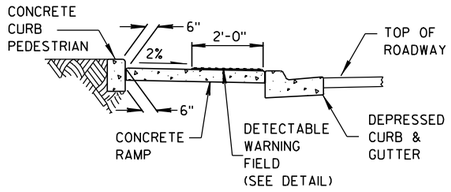


PLAN VIEW

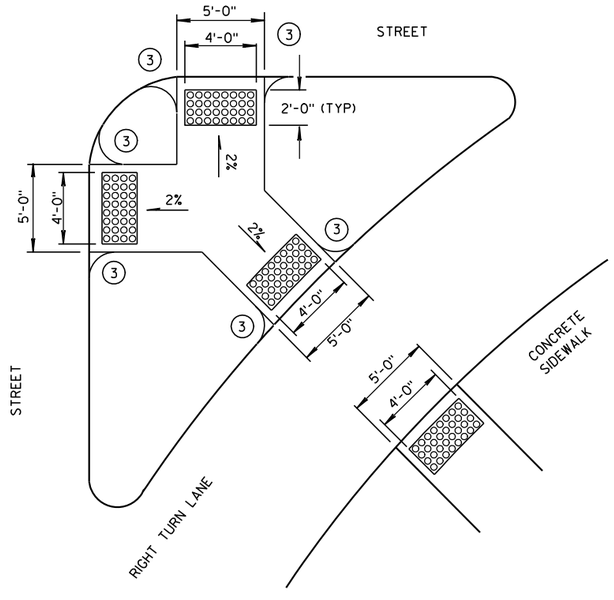
DETECTABLE WARNING FIELD (TYPICAL)



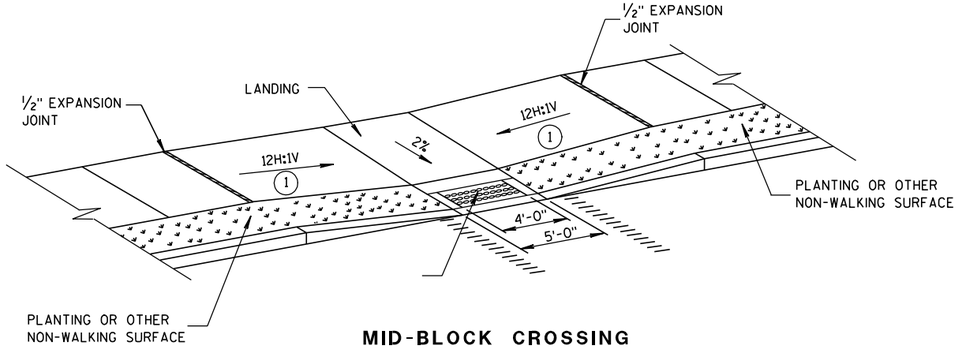
MID-BLOCK CROSSING
TYPE 7A



SECTION B-B



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

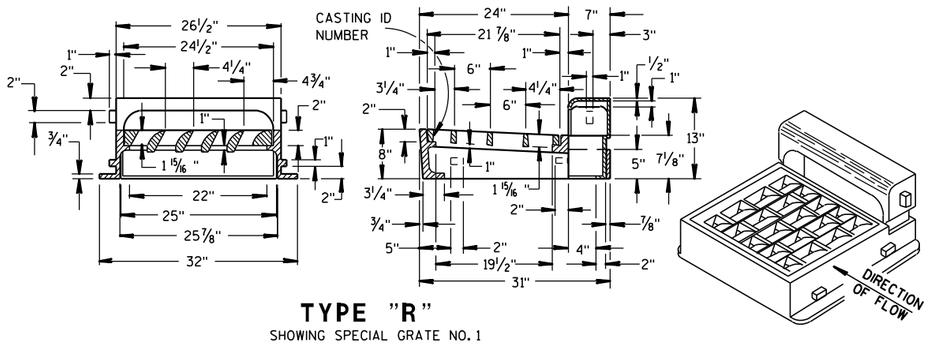
CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2-9-10 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER 1420 ENT
FHWA

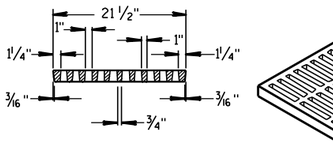
6
S.D.D. 8 D 5-14e

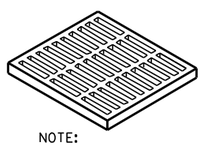
INLET COVERS



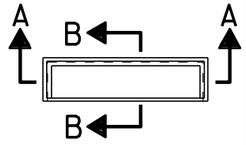
TYPE "R"

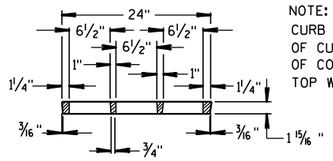
SHOWING SPECIAL GRATE NO. 1
(TO BE NOTED AS R-1 IN DRAINAGE TABLE)



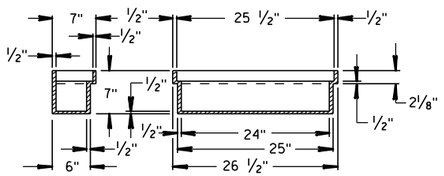


(APPROX. WEIGHT - 510 LBS.)
FRAME..... 245 LBS.
CURB..... 120 LBS.
GRATE..... 145 LBS.





NOTE:
CURB PLUG USED IN PLACE OF CURB BOX IN ABSENCE OF CONC. CURB. FILL TO TOP WITH CONCRETE.



SECTION B-B SECTION A-A

GRATE FOR TYPE "R" INLET COVER

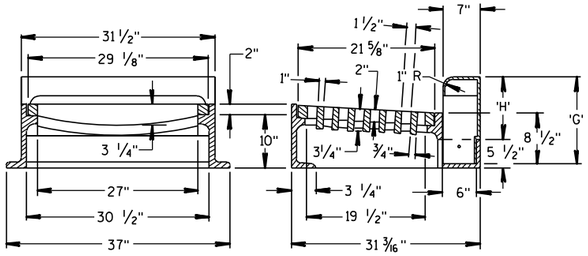
(GRATE..... 150 LBS.)
(TO BE USED UNLESS OTHERWISE NOTED IN DRAINAGE TABLE)

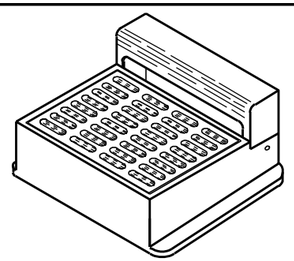
SPECIAL CURB PLUG "P"

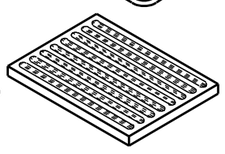
(CURB PLUG..... 85 LBS.)
(TO BE NOTED AS R-P IN DRAINAGE TABLE)

'H' = 9" FOR 6" CURB
'H' = 11" FOR 8" CURB

'G' = 13 3/4" FOR 6" CURB
'G' = 15 3/4" FOR 8" CURB



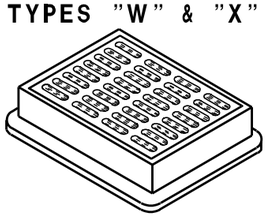


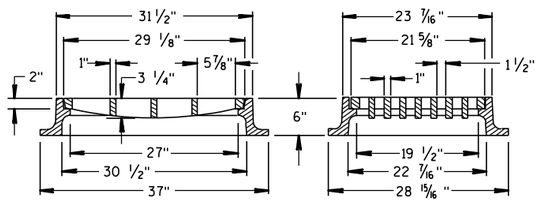


(APPROX. WEIGHT - 670 LBS.)
FRAME..... 350 LBS.
CURB BOX..... 135 LBS.
GRATE..... 185 LBS.

TYPE "W"

ALTERNATE GRATE
(FOR EXPRESSWAY RAMPS)
TYPES "W" & "X"

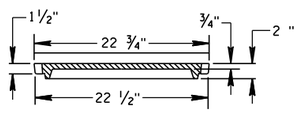




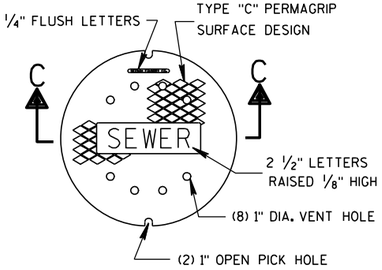
TYPE "X"

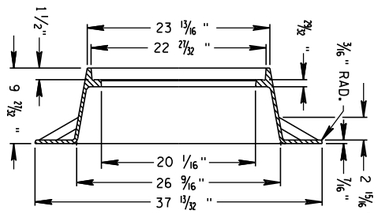
(APPROX. WEIGHT - 470 LBS.)

MANHOLE COVER



SECTION C-C





TYPE "Q"

(APPROX. WEIGHT - 290 LBS.)

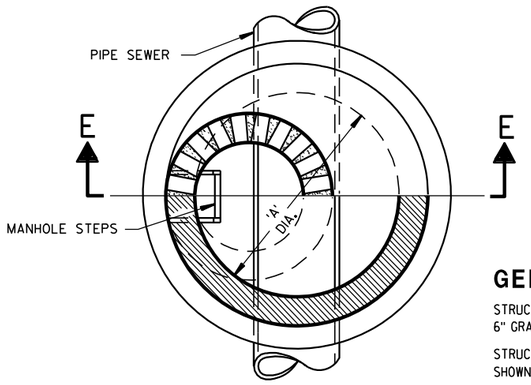
TABLE OF DIMENSIONS

TYPE	'A'	'B'	'C'
11	3'-6"	2'-8"	12" - 36"*
12	4'-0"	3'-8"	12" - 42"**
13	5'-0"	5'-8"	42" - 48"
14	6'-0"	7'-8"	54" - 60"

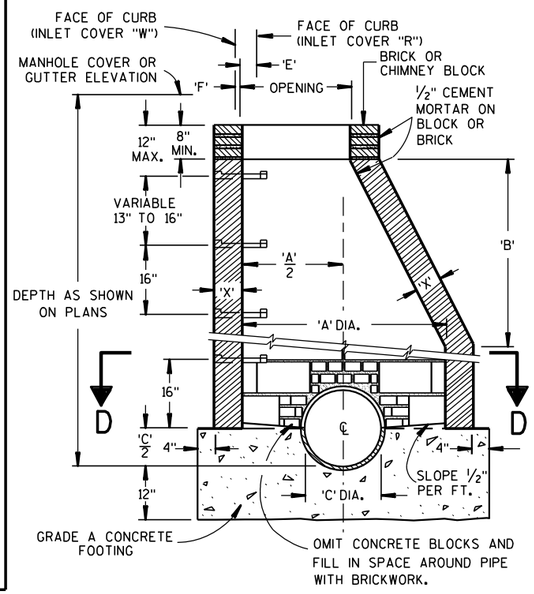
* 12" - 21" FOR PRECAST MANHOLES
** 12" - 24" FOR PRECAST MANHOLES

THE FIRST STEP SHALL BE PLACED 16" ABOVE THE BENCH.

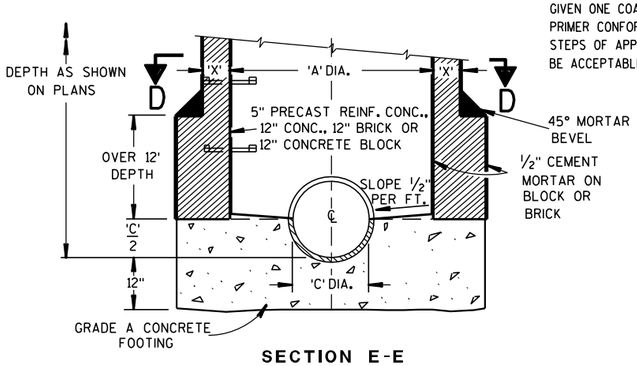
MANHOLE



HALF SECTION D-D



SECTION E-E



SECTION E-E

TYPES 11, 12, 13 & 14

TABLE OF OPENING DIMENSIONS

COVER TYPE	COVER DESCRIPTION	OPENING	'E'	'F'
"O"	ROUND	2'-2" DIA.	—	—
"W"	CURB BOX	1'-8" X 2'-6"	—	1"
"X"	INLET	1'-10" X 2'-6"	—	—
"R"	CURB BOX	2'-0" X 2'-1"	4"	—

GENERAL NOTES

STRUCTURE WALL THICKNESS 'X' TO BE 8" BRICK, 6" CONCRETE BLOCK, 6" GRADE A CONCRETE OR 5" PRECAST REINFORCED CONCRETE.

STRUCTURE FOOTINGS ARE TO BE GRADE A CONCRETE OF THE THICKNESS SHOWN IN THE DETAIL OR 5" PRECAST REINFORCED CONCRETE.

REINFORCEMENT FOR 5" PRECAST REINFORCED CONCRETE SHALL BE 6" X 6" W16 X W16 WELDED SREEL WIRE FABRIC AND SHALL BE EMBEDDED 2" CLEAR.

PRECAST INLET UNITS AND BASES SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

PRECAST CONCRETE FLAT SLAB TOPS MAY BE USED ON THE STRUCTURES. THE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6" IN DEPTH, WHICH MEETS THE REQUIREMENTS FOR GRANULAR BACK-FILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

SET FRAME ELEVATION 0.03 FT. LOWER THAN ELEVATION INDICATED ON THE PLANS.

THE CONTRACTOR MAY FORM AND POUR MONOLITHIC CONCRETE INVERT PROVIDED THE PIPE ENDS ARE EXTENDED INTO THE M.H. AND NOT TERMINATED WITHIN THE M.H. WALLS.

MANHOLE STEPS

STEPS MEETING THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH; 16 INCH C-C MAX. SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM WALL EMBEDMENT OF 3 INCHES IN PRECAST MANHOLE AND 6 INCHES IN 8 INCH BRICK OR 6 INCH BLOCK MANHOLE; TREAD OF STEP SHALL HAVE A NON-SKID SURFACE AND BE FLANKED BY CLEATS, WITH A MINIMUM OF 10 INCHES CLEAR BETWEEN CLEATS, TO PREVENT FOOT SLIPPING OFF THE EDGE CLEATS SHALL BE A MINIMUM OF 3/4 INCH HIGH BY 3/4 INCH WIDE HAVING A MINIMUM THICKNESS OF 5/8 INCH. STEPS SHALL BE CAPABLE OF SUPPORTING A CONCENTRATED LOAD OF 300 LBS. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

SOLID ALUMINUM STEPS SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 0.75 INCH. ALUMINUM SURFACES TO BE EMBEDDED IN CONCRETE SHALL BE GIVEN ONE COAT OF SUITABLE QUALITY PAINT, SUCH AS ZINC CHROMATE PRIMER CONFORMING TO FEDERAL SPECIFICATION TT-P-645 OR EQUIVALENT. STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCING BAR WILL BE ACCEPTABLE.

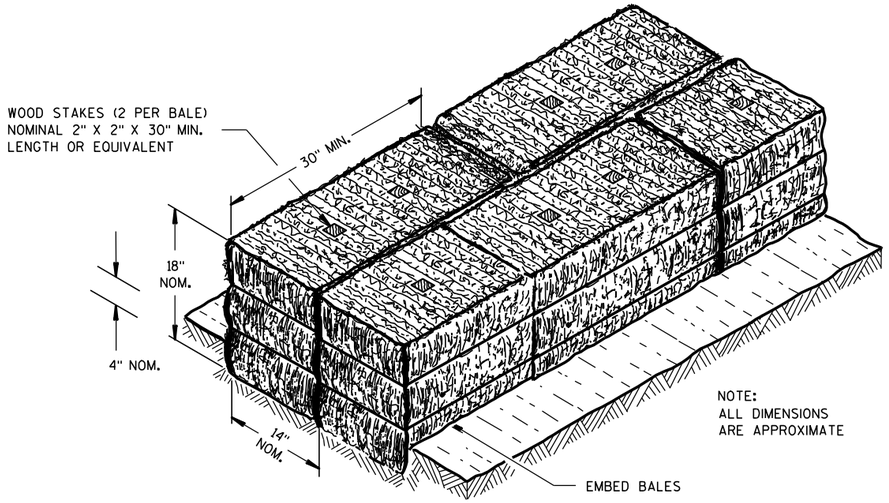
MANHOLES, MANHOLE & INLET COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

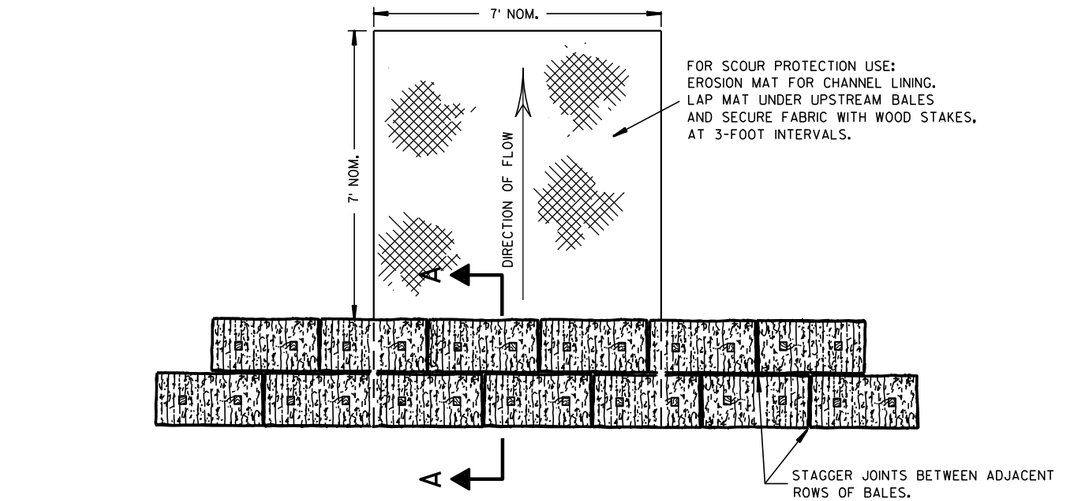
APPROVED
4/12/2011 — DATE
/S/ Jerry H. Zogg — ROADSIDE STANDARDS ENGINEER
1421
FHWA

6

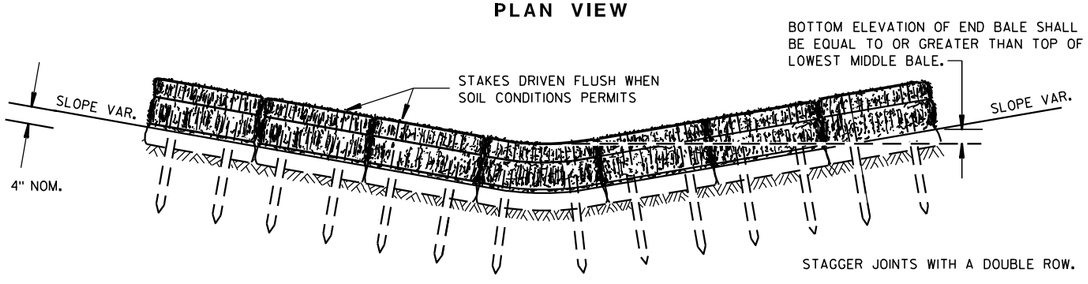
S.D.D. 8 D 17-6



SECTION A-A



PLAN VIEW



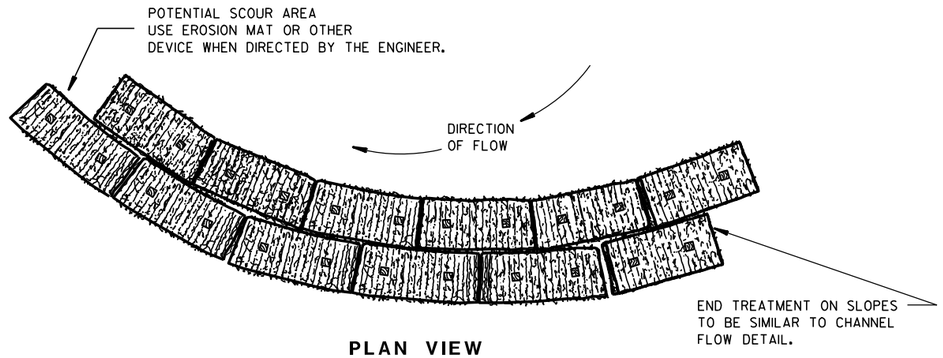
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

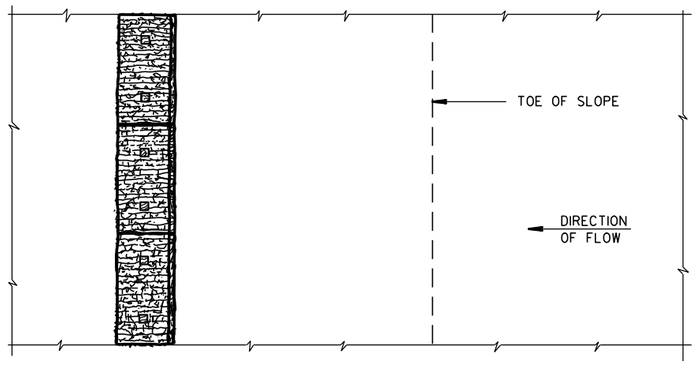
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

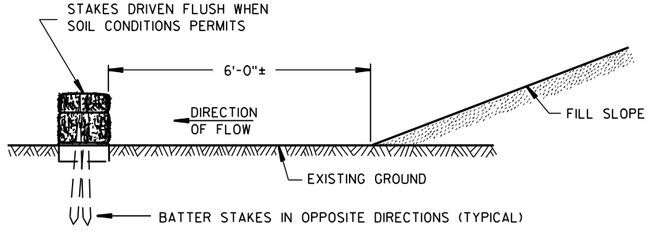


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

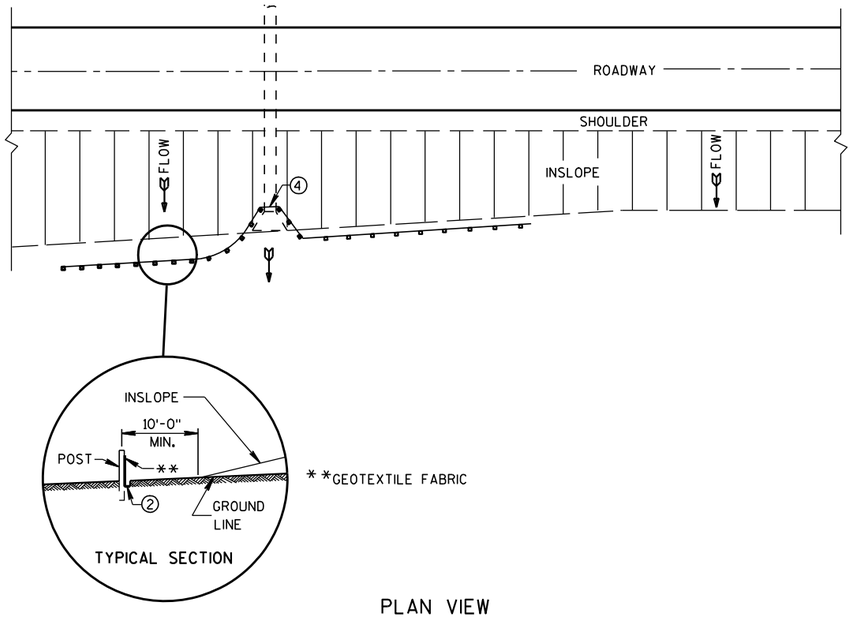
1422

6

S.D.D. 8 E 8-3

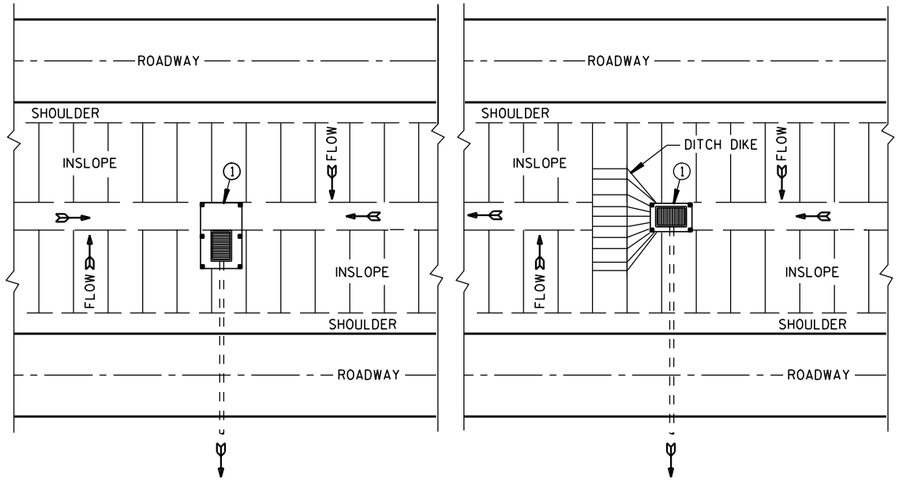
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



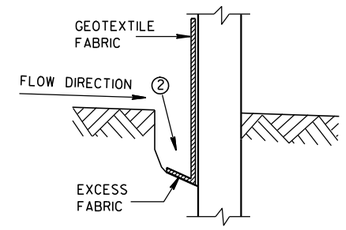
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

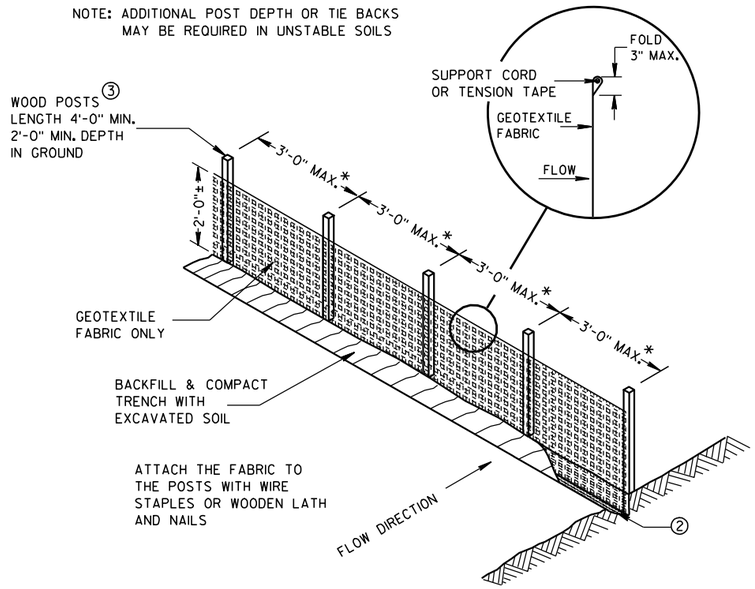
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

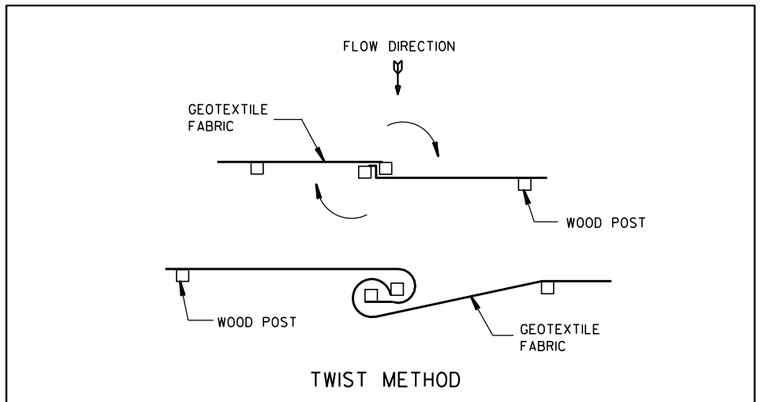
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



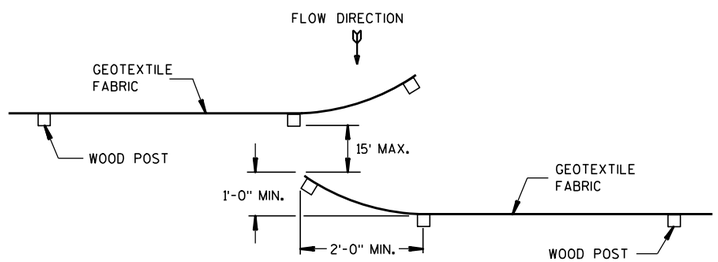
TRENCH DETAIL



SILT FENCE

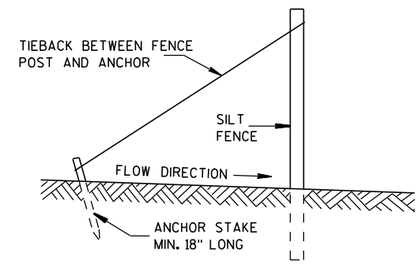


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

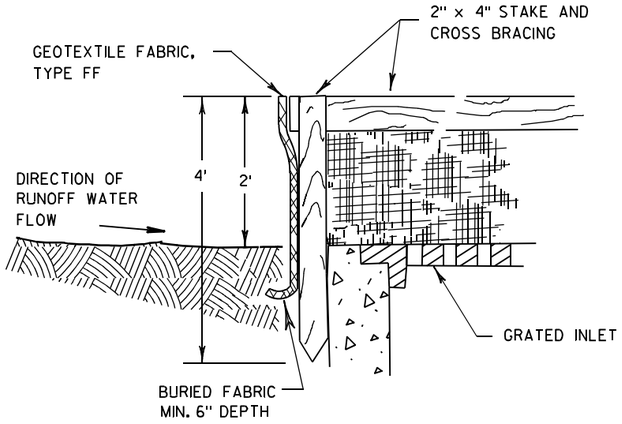
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
1423
FHWA

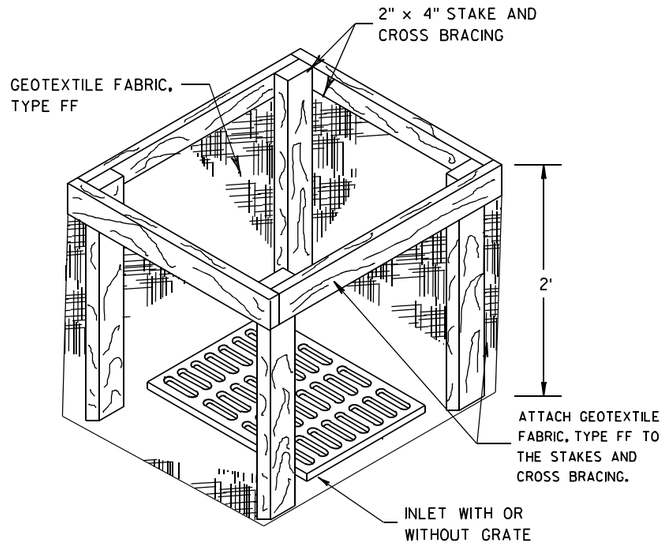
6

S.D.D. 8 E 9-6

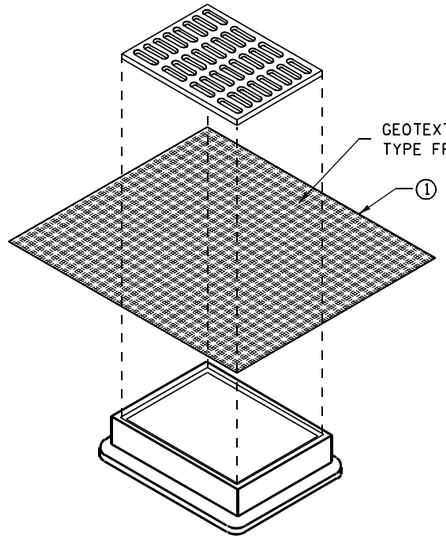
6

S.D.D. 8 E 9-6



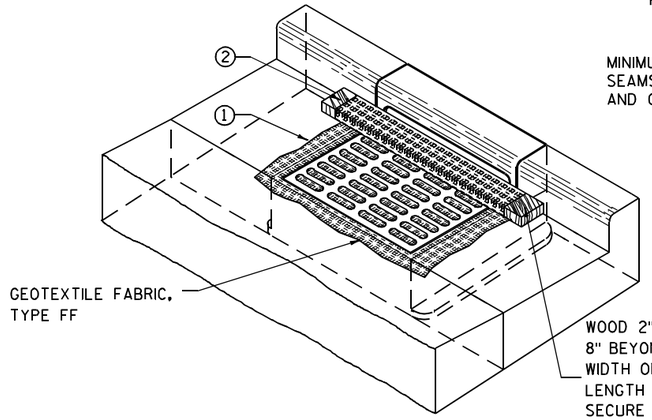


INLET PROTECTION, TYPE A

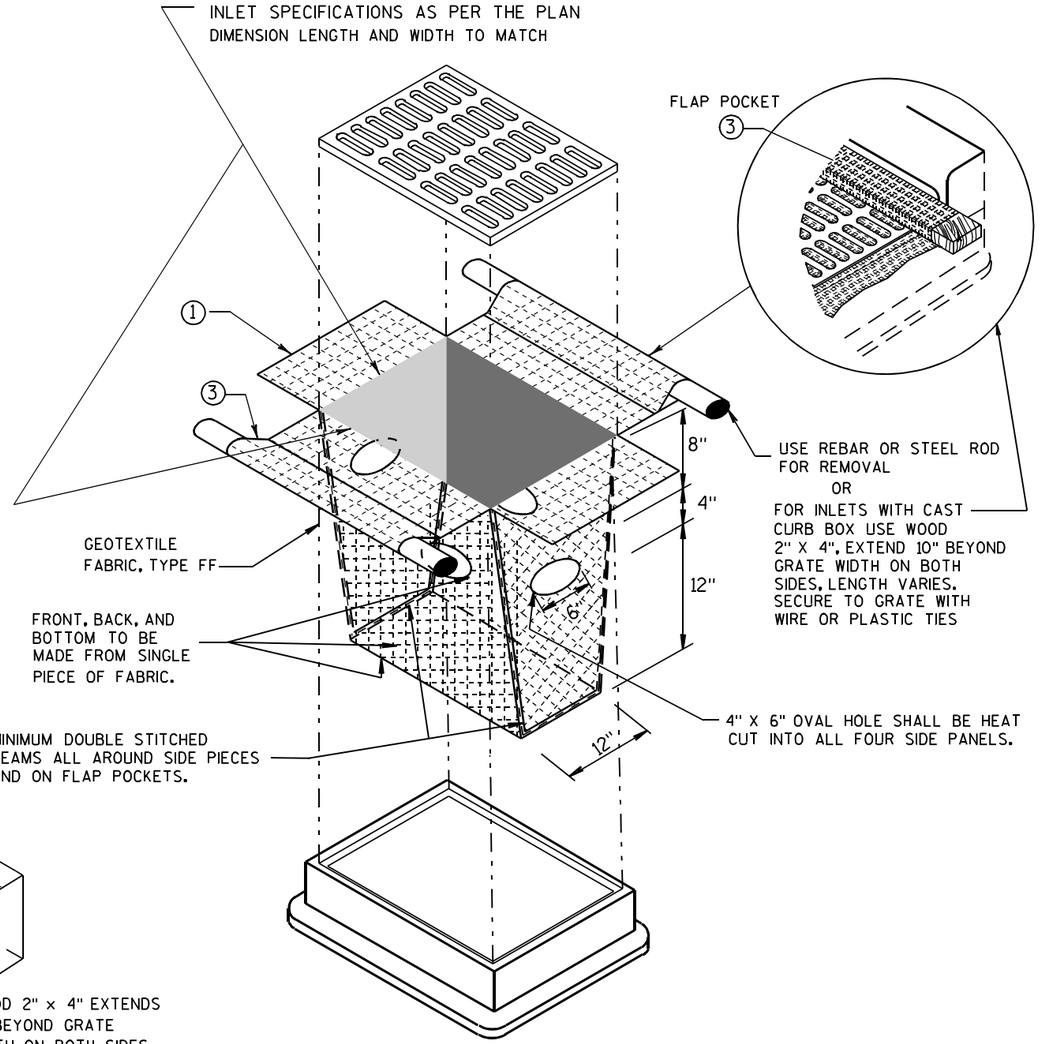


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE ②)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

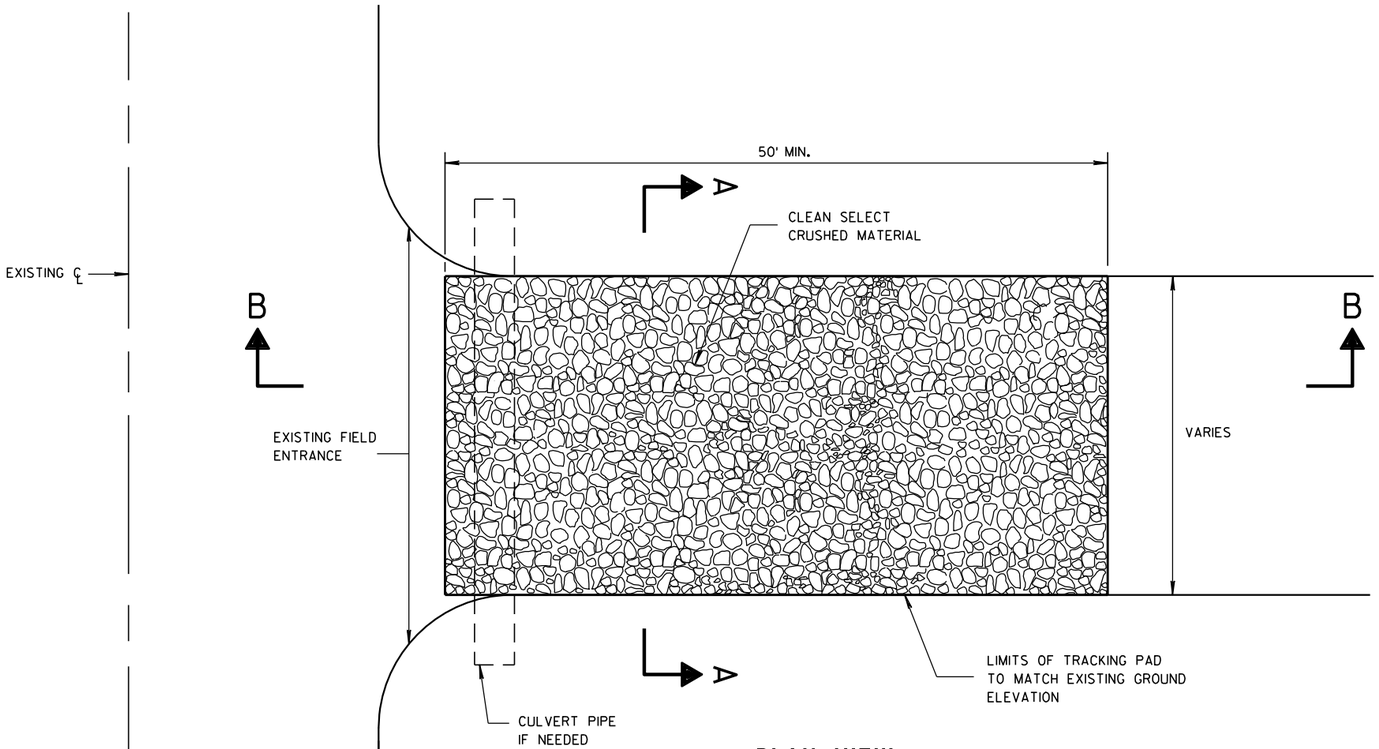
FHWA

6

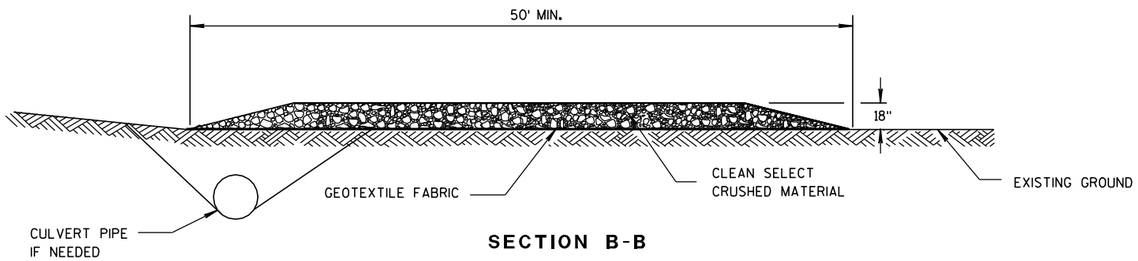
S.D.D. 8 E 10-2

6

S.D.D. 8 E 10-2



PLAN VIEW



SECTION B-B

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

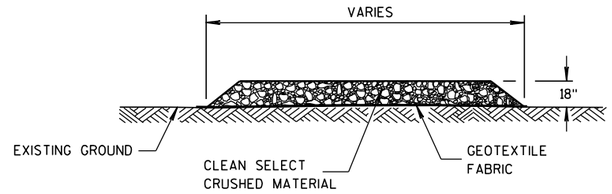
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



SECTION A-A

TRACKING PAD

6

S.D.D. 8 E 14-1

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/24/2011
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS ENGINEER

1425 ENT

FHWA

6

S.D.D. 8 E 14-1

METAL APRON ENDWALLS

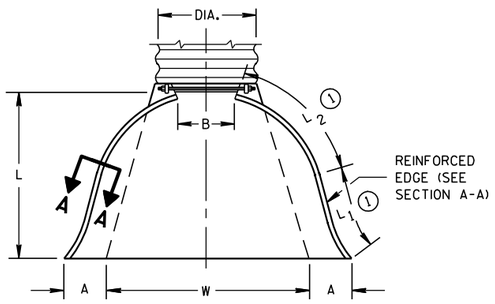
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

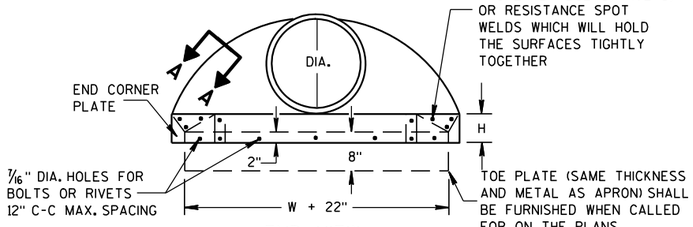
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

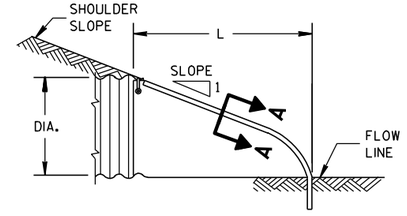
*MINIMUM
**MAXIMUM



PLAN VIEW

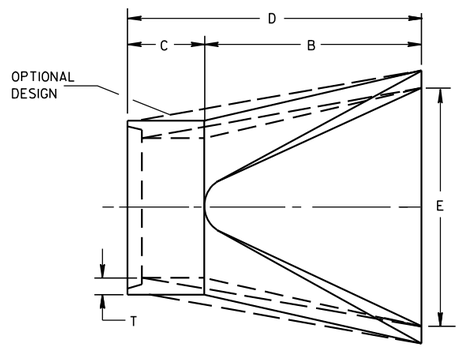


END VIEW

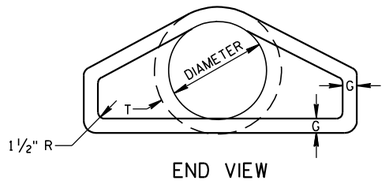


SIDE ELEVATION

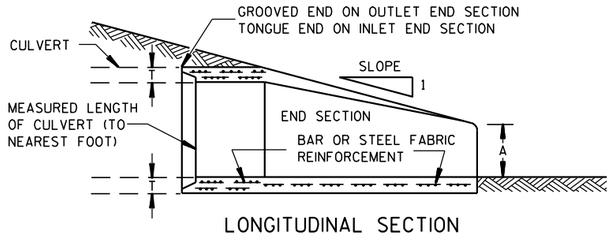
METAL ENDWALLS



PLAN

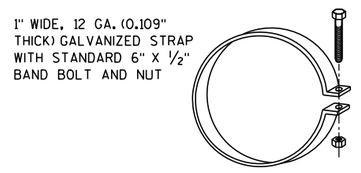


END VIEW



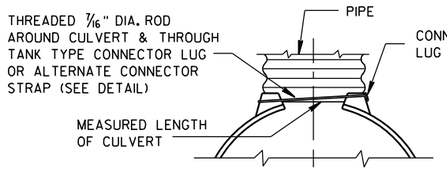
LONGITUDINAL SECTION

CONCRETE ENDWALLS

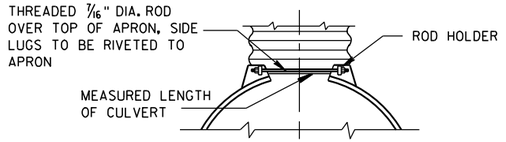


ALTERNATE FOR TYPE 1 CONNECTION

END SECTION CONNECTOR STRAP

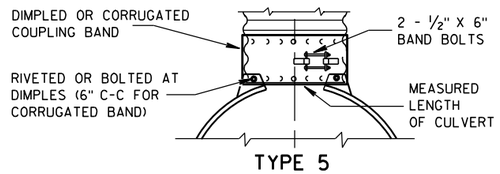


TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE

TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

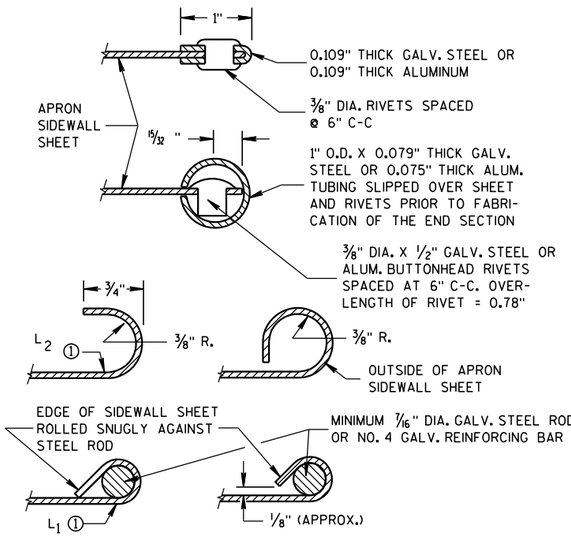
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

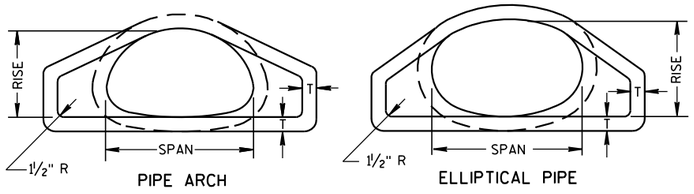
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

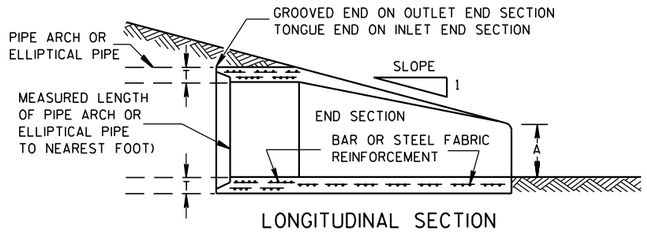
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith CHIEF ROADWAY DEVELOP 1426 NEER
FHWA

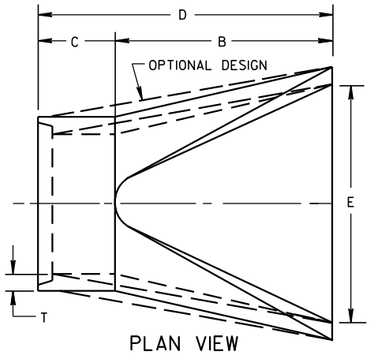
6
S.D.D. 8 F 1-11



END VIEW

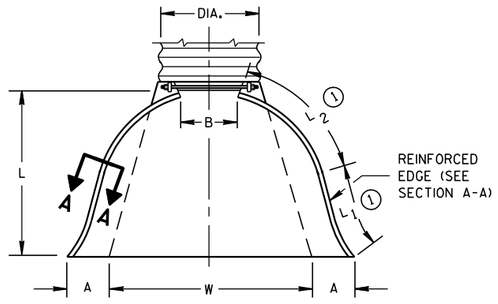


LONGITUDINAL SECTION

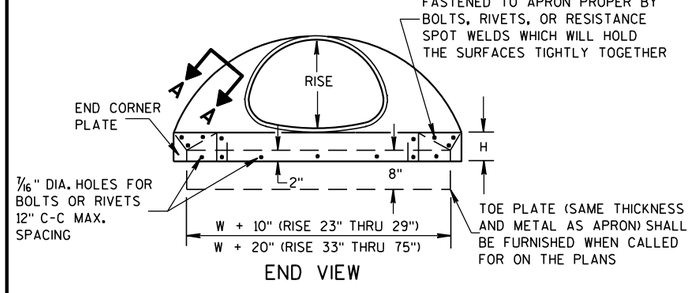


PLAN VIEW

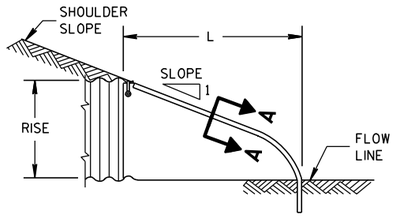
CONCRETE ENDWALLS



PLAN VIEW

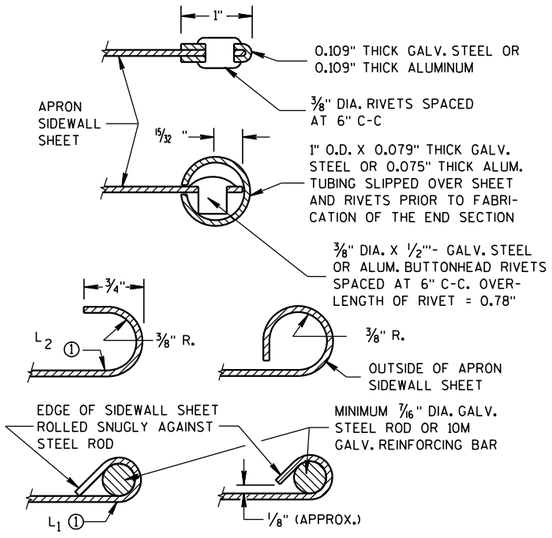


END VIEW



SIDE ELEVATION

METAL ENDWALLS



SECTION A-A

2- 2/3" X 1/2" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
15	17	13	.064	.060	7	9	6	19	14	16	30	2½ to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19⅜	36	2½ to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21¾	42	2½ to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27½	48	2½ to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37⅝	60	2½ to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45⅜	75	2½ to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54¾	85	2½ to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2½ to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72¾	102	2¼ to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82¼	114	2¼ to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
48	53	41	.109	.105	18	26	12	63	24	72¾	90	2½ to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82¼	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1½ to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1½ to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1½ to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1½ to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1½ to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1½ to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

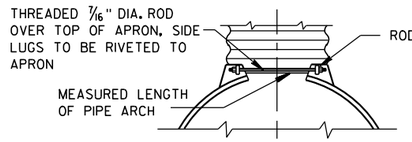
REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	29	18	3	8½	39	33	72	48	3 to 1
30	36	22	3½	9½	50	46	96	60	3 to 1
36	44	27	4	11⅛	60	36	96	72	3 to 1
42	51	31	4½	15 13/16	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5½	25½	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28½	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

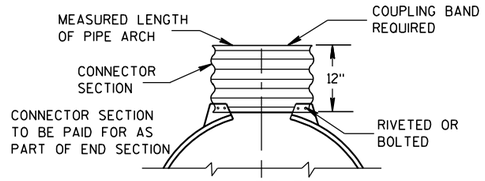
EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	30	19	3¼	8½	39	33	72	48	3 to 1
30	38	24	3¾	9½	54	18	72	60	3 to 1
36	45	29	4½	11⅛	60	24	84	72	2½ to 1
42	53	34	5	15¾	60	36	96	78	2½ to 1
48	60	38	5½	21	60	36	96	84	2½ to 1
54	68	43	6	25½	60	36	96	90	2½ to 1
60	76	48	6½	30	60	36	96	96	2½ to 1

**NOMINAL SIZE



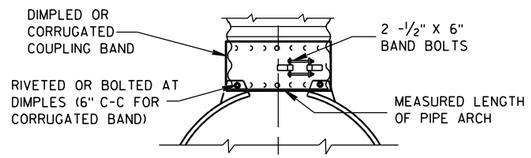
TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5

ALTERNATE FOR:

ALL SIZES CORRUGATED PIPE ARCHES

NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE APRON ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM APRON ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE ARCH PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 77" X 52" THROUGH 112" X 75" APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/94 — DATE

/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

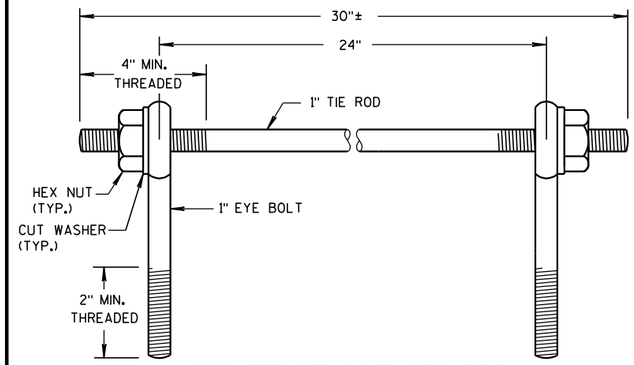
1427

6

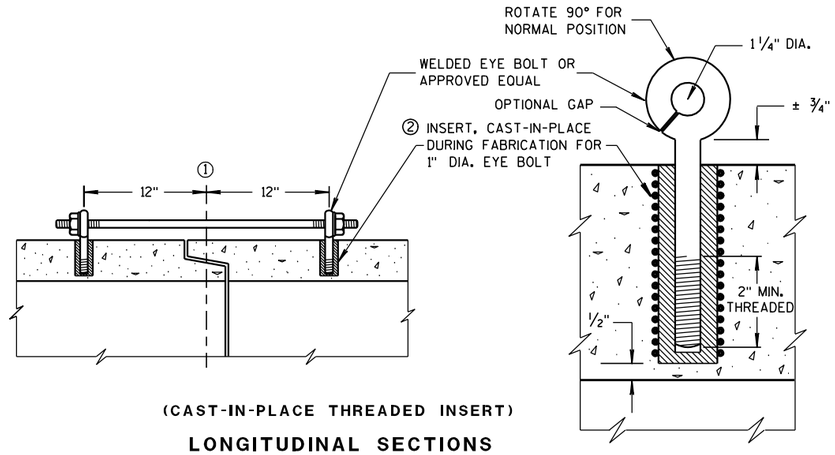
S.D.D. 8 F 2-1

6

S.D.D. 8 F 2-1



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

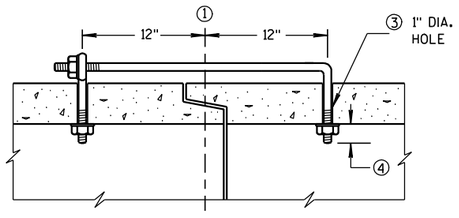
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

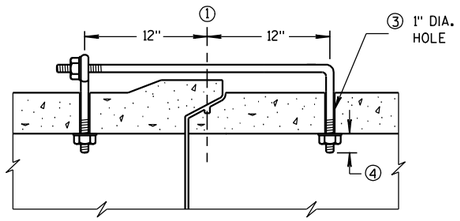
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

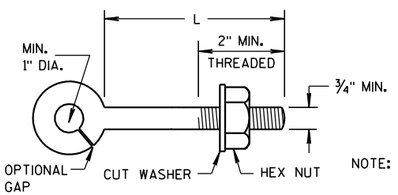


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

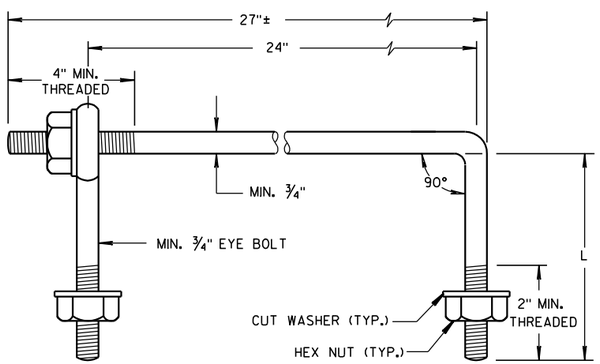
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

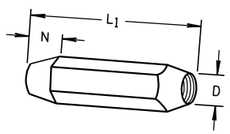
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES



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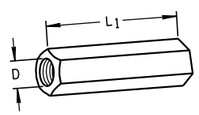
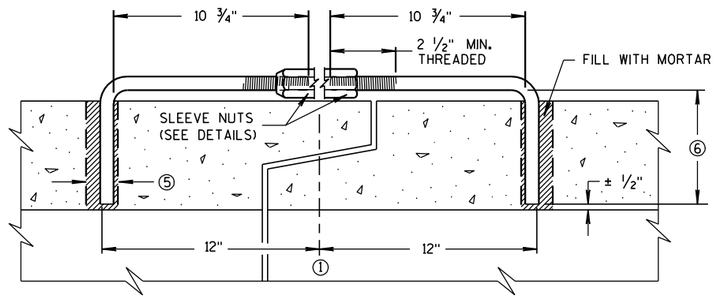


PLAIN

RIGHT AND LEFT THREADS

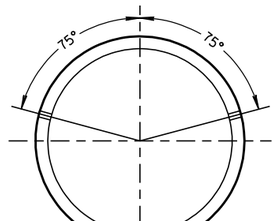
SLEEVE NUTS



LONGITUDINAL SECTION

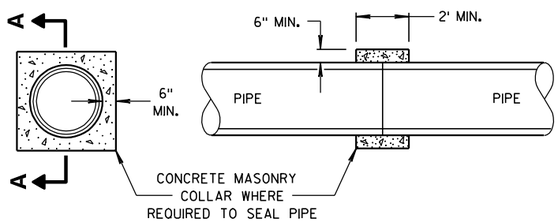
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
1428 — FHWA

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S.D.D. 8 F 4-7

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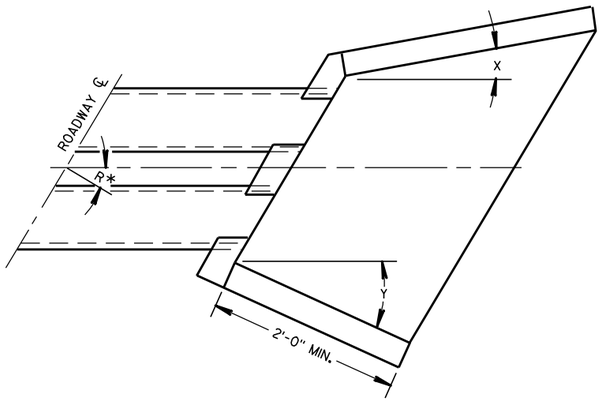
S.D.D. 8 F 4-7



WINGWALL ANGLE DETAILS

INLET			OUTLET		
R*	X	Y	R*	X	Y
0 - 7°	30°	30°	0 - 15°	15°	15°
8 - 22°	25°	"	16 - 45°	10°	"
23 - 37°	20°	"	46 - 75°	5°	"
38 - 52°	15°	"	OVER 75°	0°	"
53 - 67°	10°	"			
68 - 82°	5°	"			
OVER 82°	0°	"			

*R = NUMBER OF DEGREES RIGHT OR LEFT HAND FORWARD

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

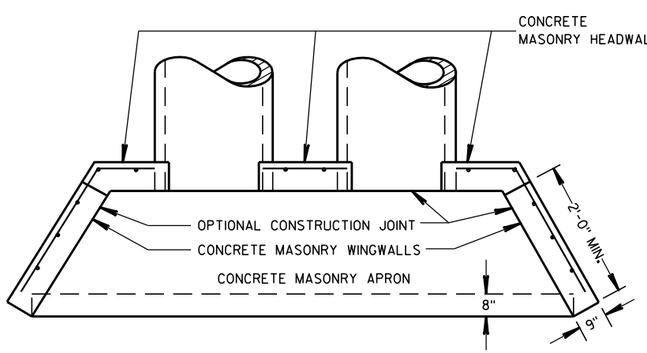
FILL SLOPES FLATTER THAN 2 ½:1 SHALL BE WARPED TO MEET THE TOP OF THE WINGWALLS.

ALL STEEL REINFORCEMENT AND WELDED STEEL WIRE FABRIC SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE NOTED.

(1) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS SPACED 12" C-C IN BOTH DIRECTIONS.

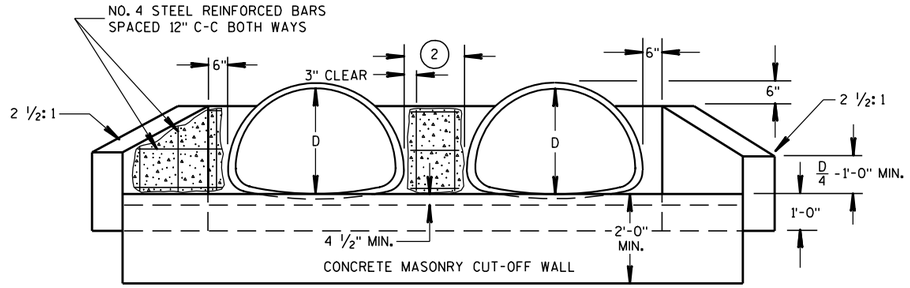
(2) THE SPACE BETWEEN PIPES SHALL BE AS FOLLOWS:

DIAMETER OR SPAN	SPACE
UP TO AND INCLUDING 48"	2'-0"
OVER 48" TO 72"	½ DIA. OR SPAN
OVER 72"	3'-0"



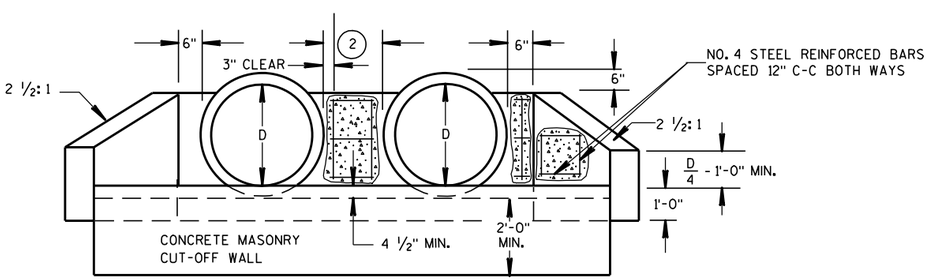
PLAN VIEW

CULVERT PIPE AND PIPE ARCH



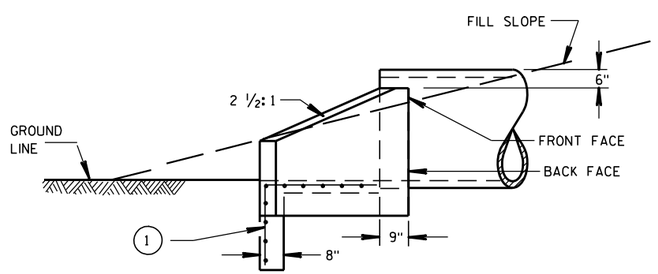
END ELEVATION

PIPE ARCH



END ELEVATION

CULVERT PIPE



SIDE ELEVATION

CULVERT PIPE AND PIPE ARCH

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/14/98 DATE
/S/ Rory L. Rhinehart
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

1429

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S.D.D. 8 F 10-1

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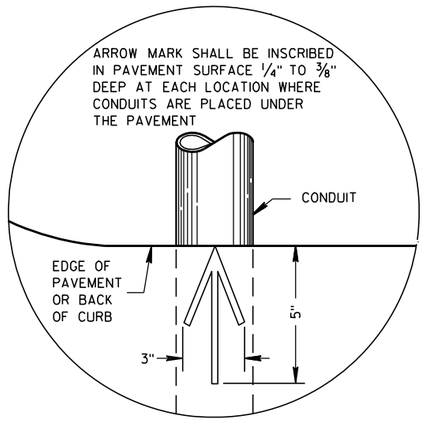
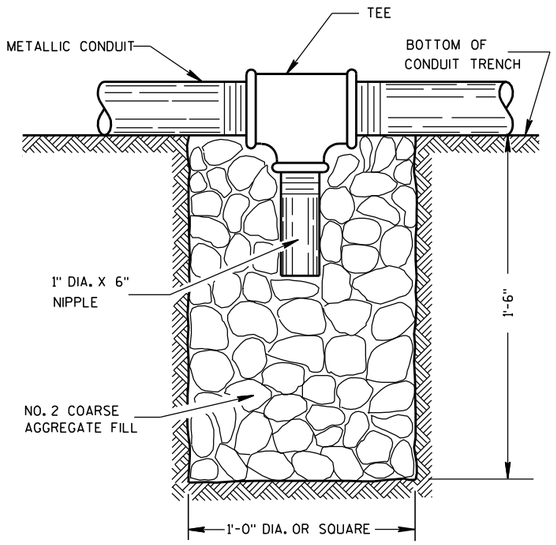
S.D.D. 8 F 10-1



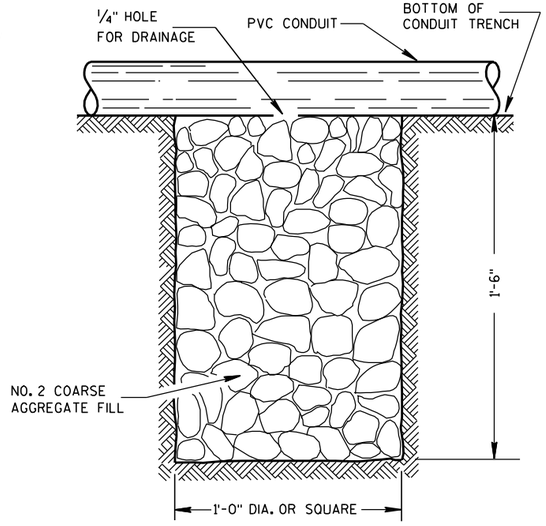
PLAN VIEW

ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

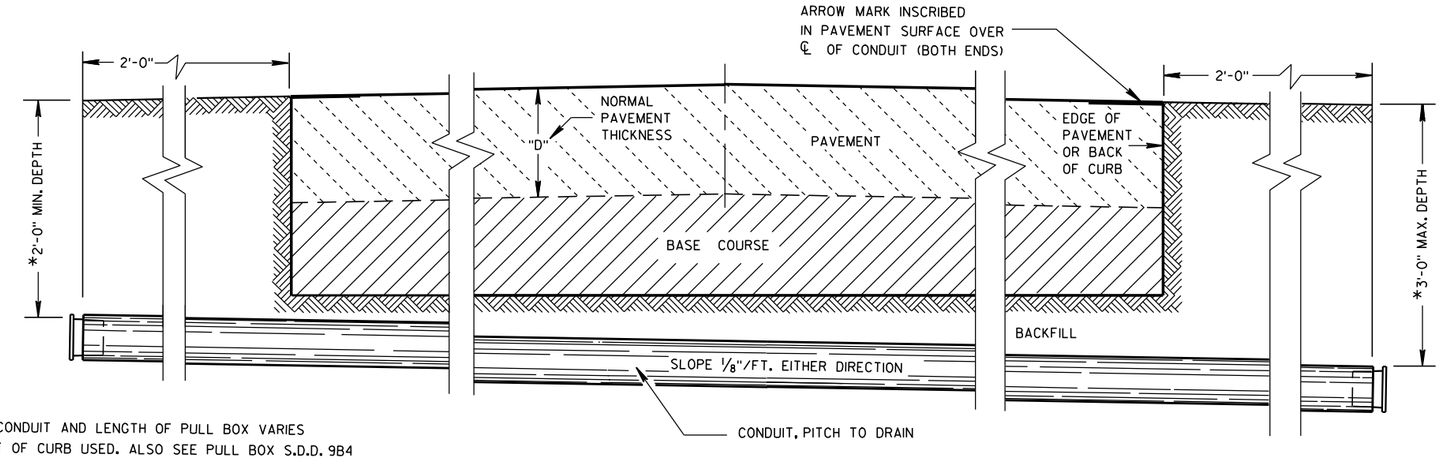
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03 — DATE

/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI 1430 HWYS

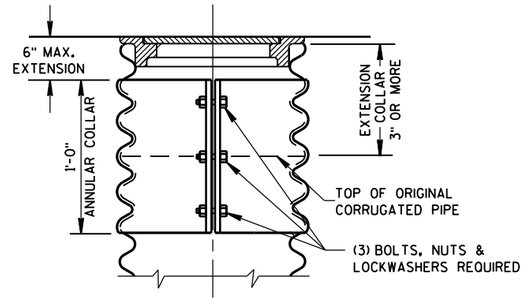
FHWA

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

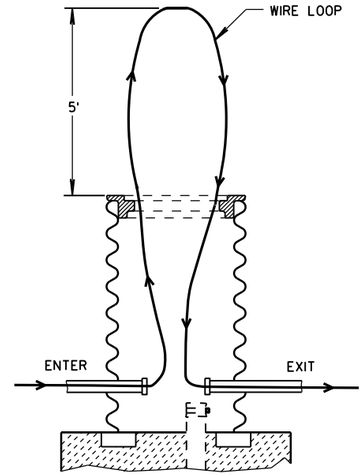
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

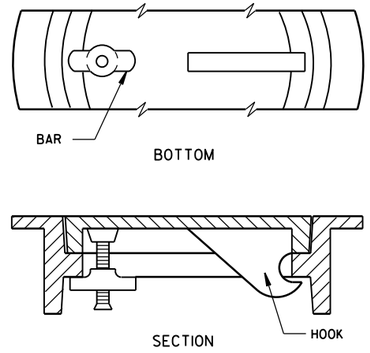
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

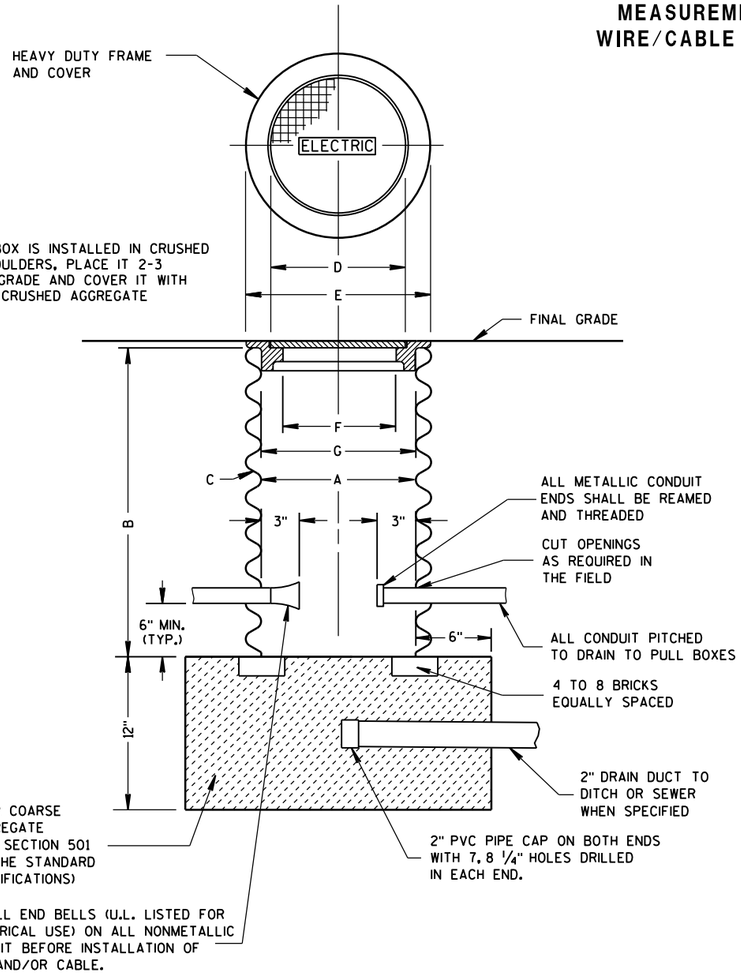


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



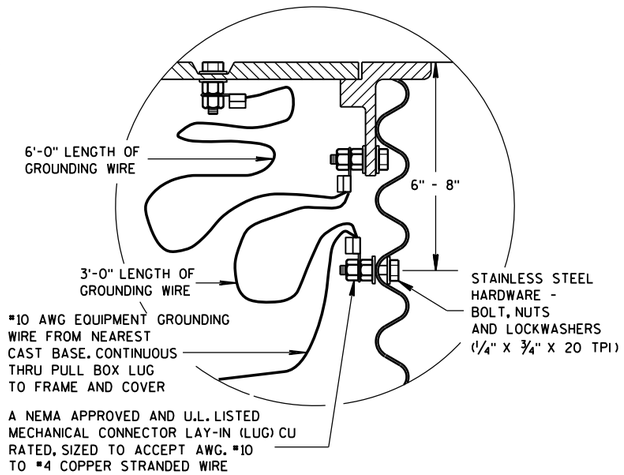
ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE

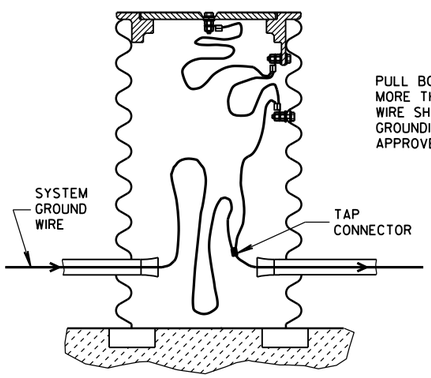


WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.

PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2-7-2013
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL 1431

FHWA

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S.D.D. 9 B 4-10

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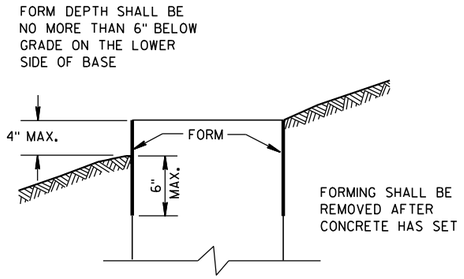
S.D.D. 9 B 4-10



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 2 AND TYPE 5 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-449, OR ASTM A-687 (GRADE 105).

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

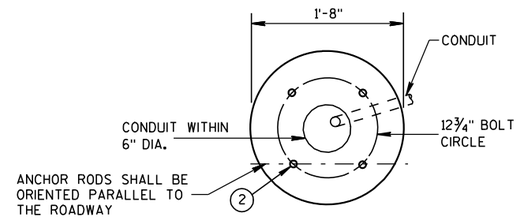
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

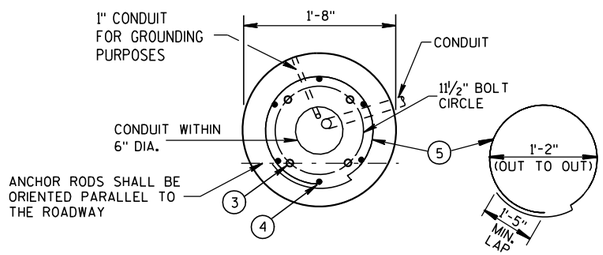
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

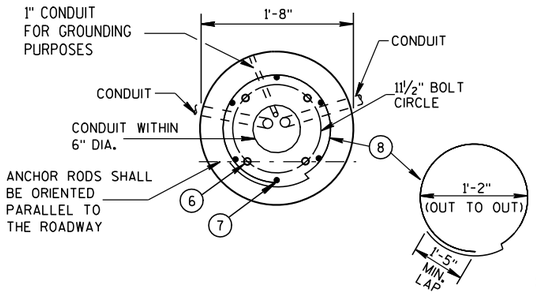
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

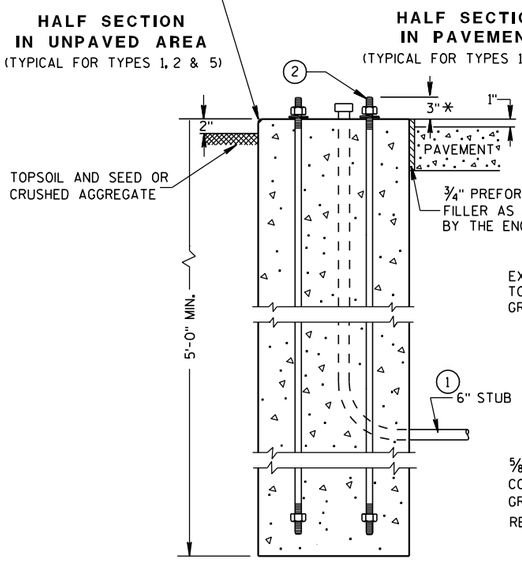






FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

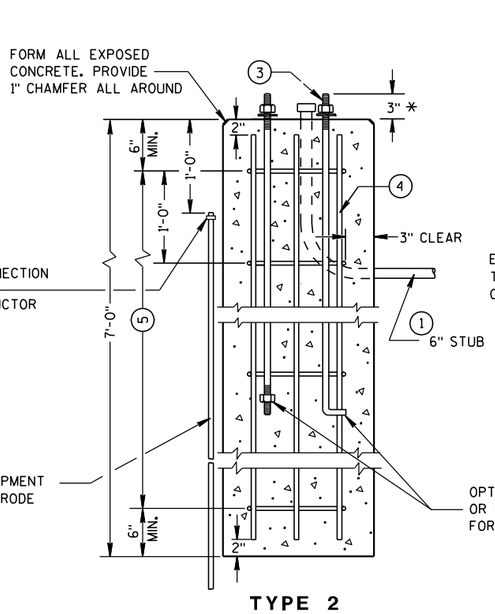
HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2 & 5)



HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2 & 5)

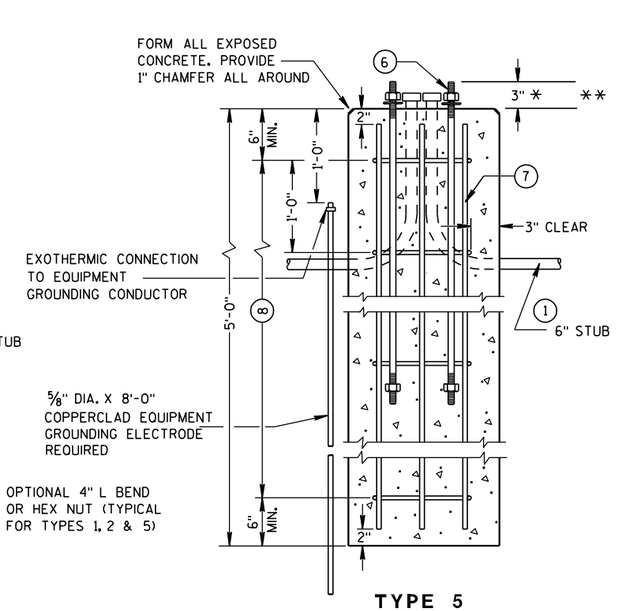
TYPE 1

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 2

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 5

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2 & 5

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/3/10 — DATE
/S/ Joanna L. Rush — STATE ELECTRICAL ENGI 1432 — HWYS
FHWA

6
S.D.D. 9 C 2-6

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-325, (92,000 YIELD) HEAVY HEX NUT AND BE GALVANIZED IN ACCORDANCE WITH ASTM A-153, CLASS C.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED AND U.L. LISTED MECHANICAL CONNECTOR (LUG) AL/CU RATED AND SIZED TO ACCEPT #10 AWG STRANDED WIRE, SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

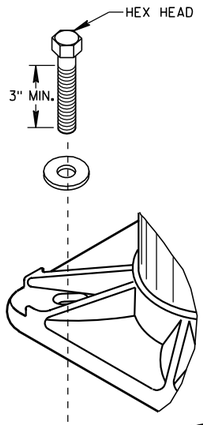
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

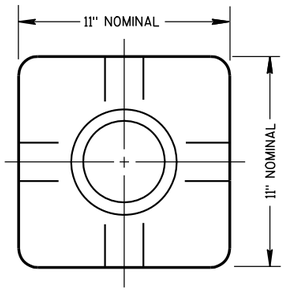
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

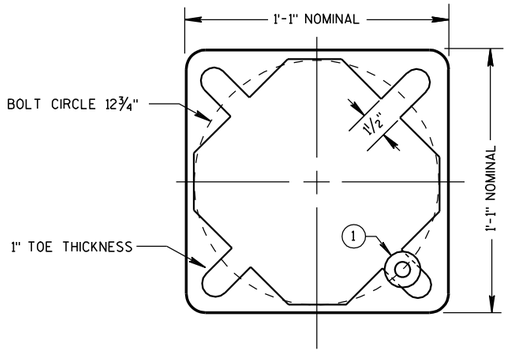
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1½", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.

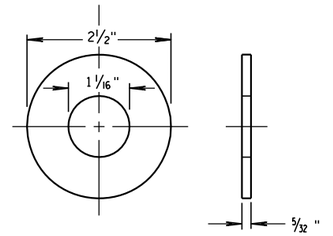




TOP VIEW
(PEDESTAL BASE)

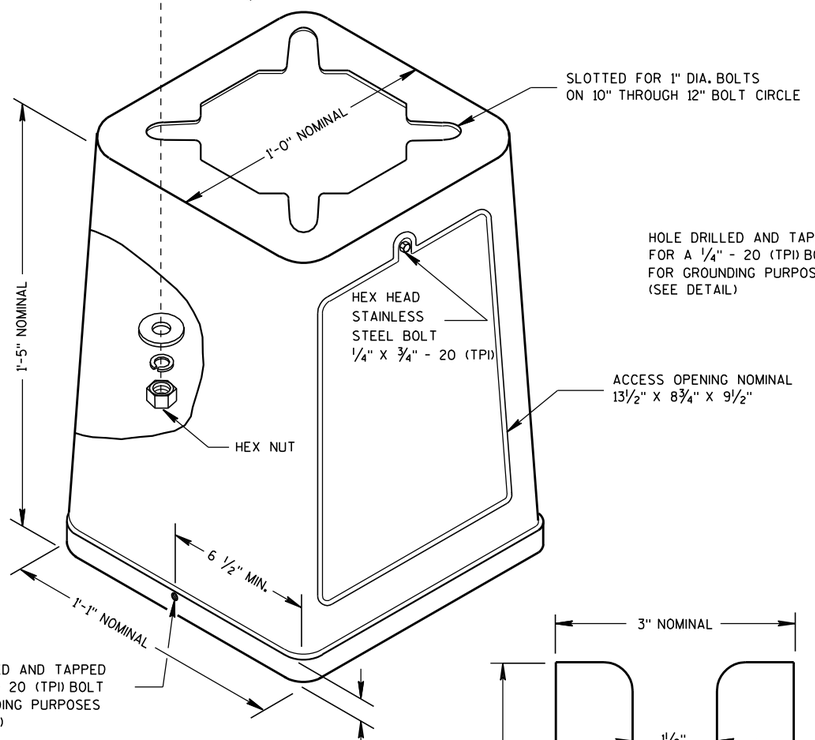


BOTTOM VIEW
(PEDESTAL BASE)

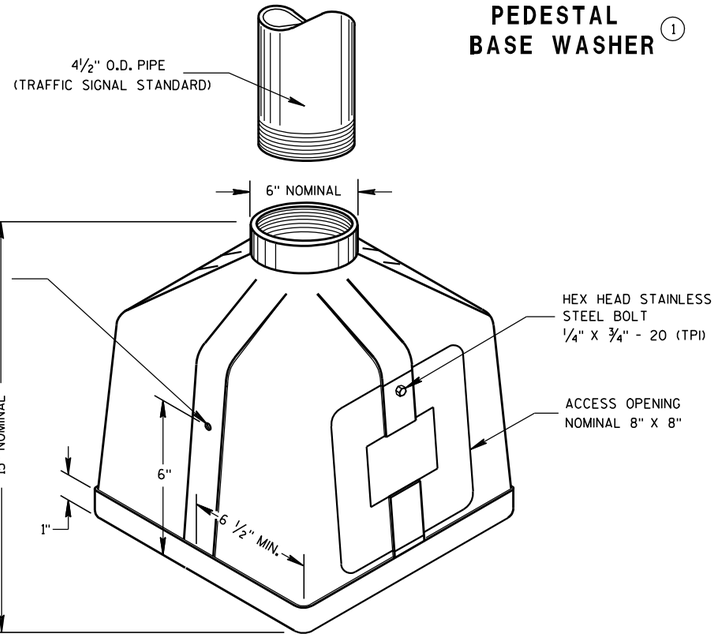


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

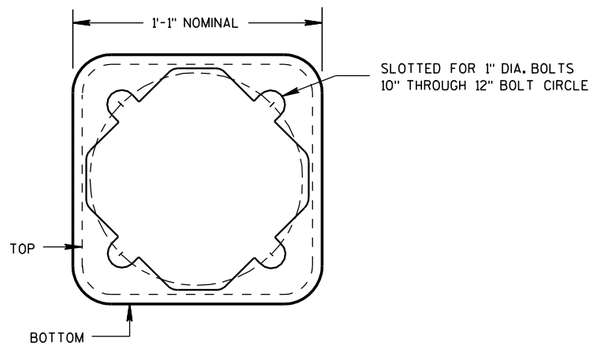


ISOMETRIC VIEW

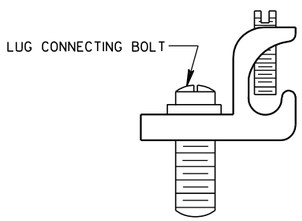


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

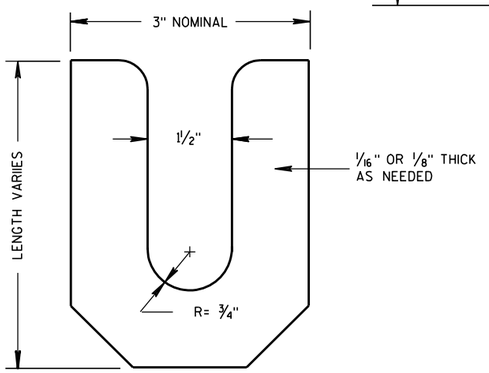


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES



LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/27/09 — DATE
/S/ Joanna L. Rush — STATE ELECTRICAL ENGI 1433 — HWYS
FHWA

6

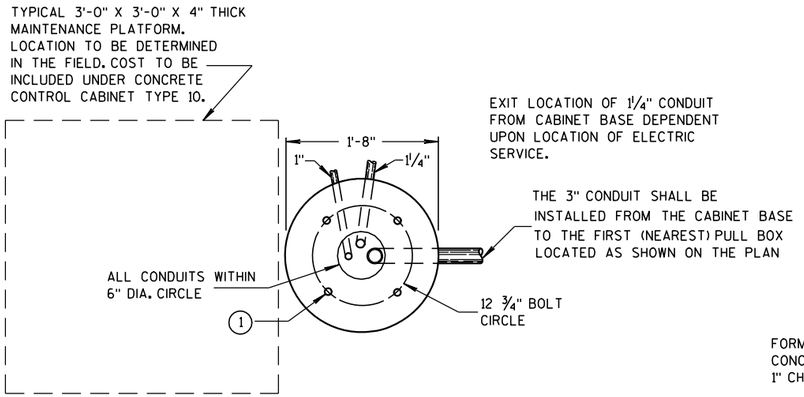
S.D.D. 9 C 3-3

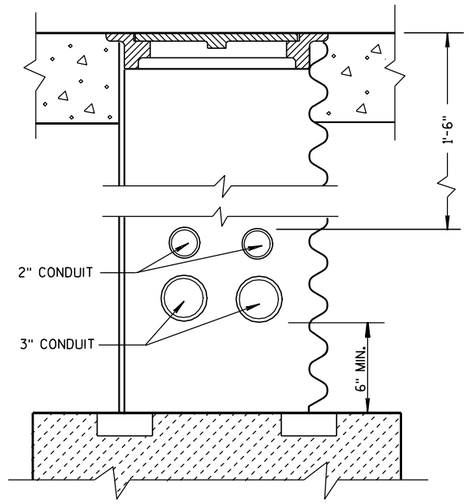
6

S.D.D. 9 C 3-3

CONTROL CABINET BASE TYPE	DIMENSIONS				C.Y. CONCRETE (APPROX.)
	H	I	J	K	
TYPE 6 - 30" CABINET	34"	60"	10"	17"	.64
TYPE 7 - 38" CABINET	42"	60"	10"	21"	.93
TYPE 8 - 38" CABINET	42"	72"	12"	21"	1.29
TYPE 9 - VARIABLE	54"	72"	14"	27"	1.56
TYPE 10 - POST MOUNT	AS SHOWN				.65 *

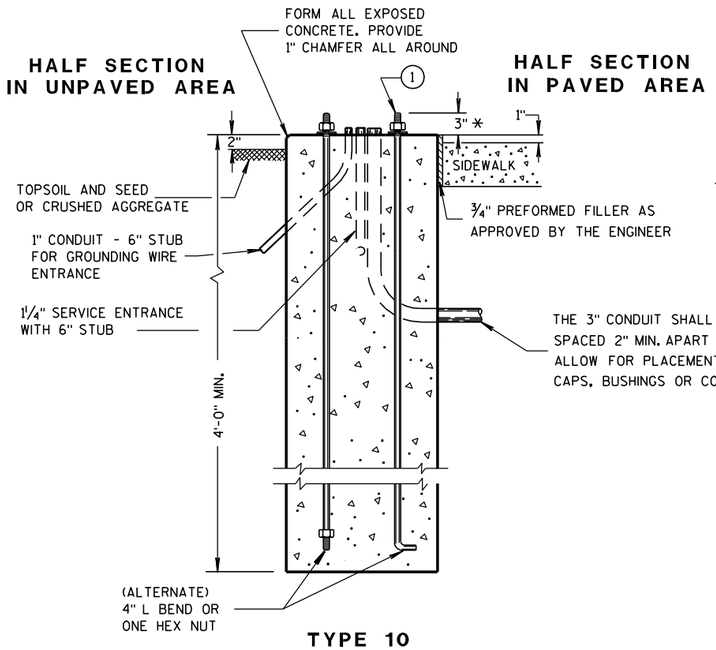
* INCLUDES MAINTENANCE PLATFORM.



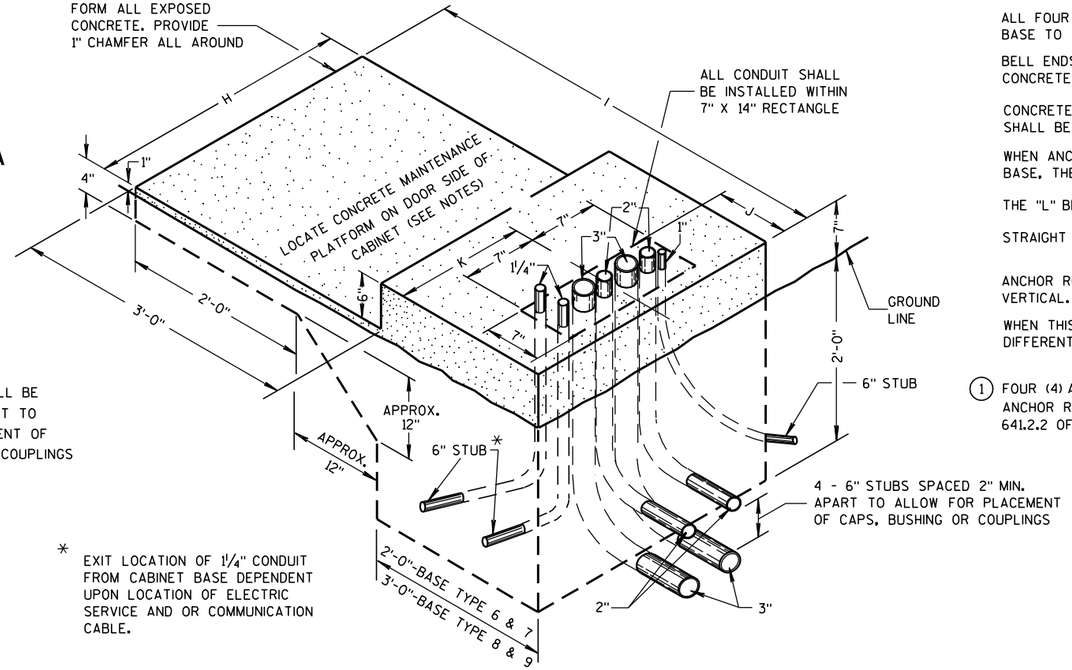


CONDUIT LOCATIONS IN 24" X 36" PULL BOX

(LEADING TO CONTROLLER CABINET BASE TYPE 6, 7, 8 AND 9)



TYPE 10



TYPE 6,7,8 AND 9 (ISOMETRIC VIEW)

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

* EXIT LOCATION OF 1¼" CONDUIT FROM CABINET BASE DEPENDENT UPON LOCATION OF ELECTRIC SERVICE AND OR COMMUNICATION CABLE.

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

INSTALL FOUR ½ INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

CONTROL CABINET BASE TOP SURFACES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

WHEN A TYPE 10 CONTROL CABINET BASE IS USED TO POST MOUNT A CONTROL CABINET, A 36" SQUARE 4" THICK CONCRETE MAINTENANCE PLATFORM SHALL BE REQUIRED ON THE DOOR SIDE OF THE CABINET. THE TOP 1 INCH SHALL BE ABOVE FINISHED GRADE AND BE BROOM FINISHED AND LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

ALL FOUR (TWO INCH AND THREE INCH) CONDUIT SHALL BE INSTALLED FROM THE CABINET BASE TO THE FIRST (NEAREST PULL BOX LOCATED AS SHOWN ON THE PLANS.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

WHEN ANCHOR RODS USING THE ALTERNATE L BEND ARE FURNISHED FOR THE TYPE 10 BASE, THE 4" L BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH.

THE "L" BEND SHALL NOT BE THREADED.

STRAIGHT ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WHEN THIS DRAWING IS USED FOR STREET LIGHTING CABINET BASES, CONDUIT MAY BE DIFFERENT AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

(1) FOUR (4) ANCHOR RODS, 1" DIA. X 3'-6"
ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS.

CONCRETE CONTROL CABINET BASES

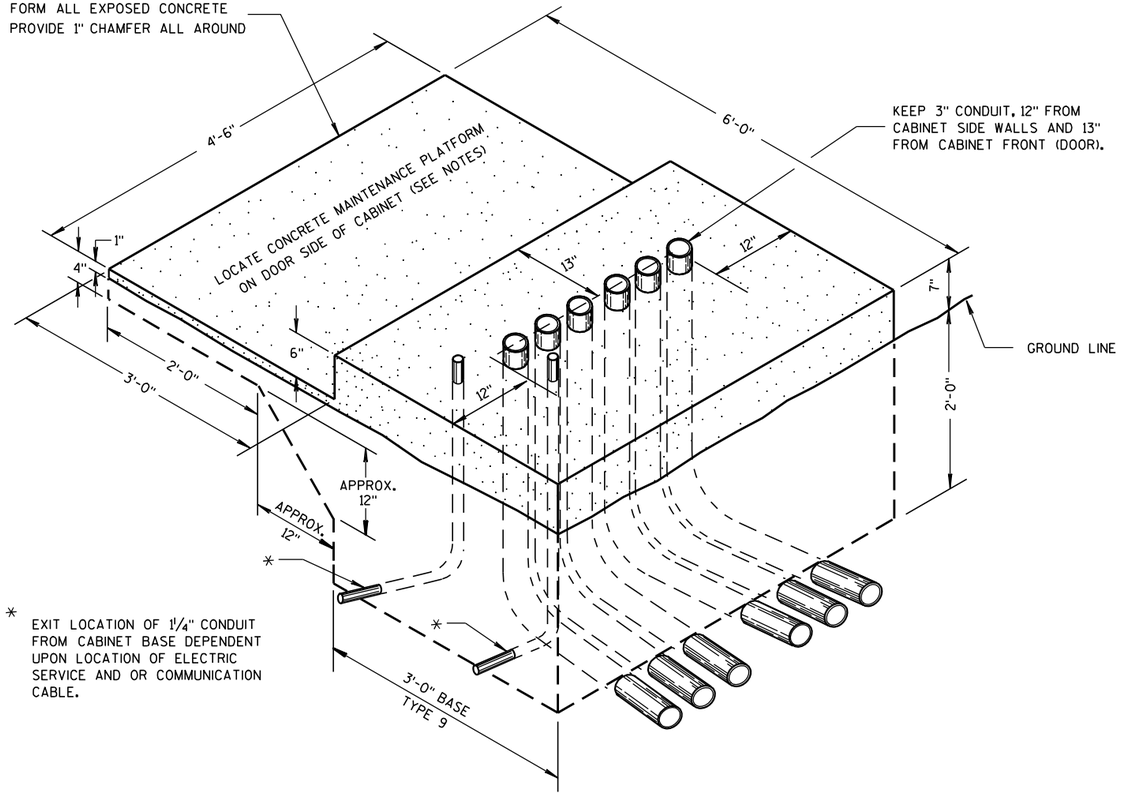
CONCRETE CONTROL CABINET BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/3/10 DATE
/S/ Joanna L. [illegible] STATE ELECTRICAL ENGI
1434
HWYS
FHWA

6

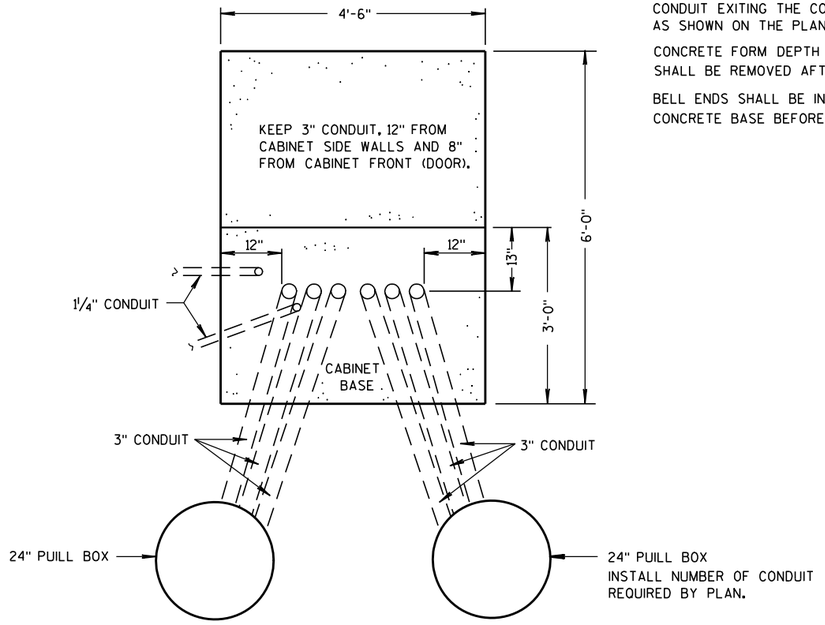
S.D.D. 9 C 5-7



ISOMETRIC VIEW

TYPE 9, SPECIAL

(C.Y. CONCRETE = APPROX. 1.56)



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

INSTALL FOUR ½ INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2/27/07
DATE

/S/ Balu Anantharayanan
STATE ELECTRICAL ENGI 1435 HWYS

FHWA

6

6

S.D.D. 9 C 6-5

S.D.D. 9 C 6-5

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL ENTER THE BASE THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE 1" X 60".

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

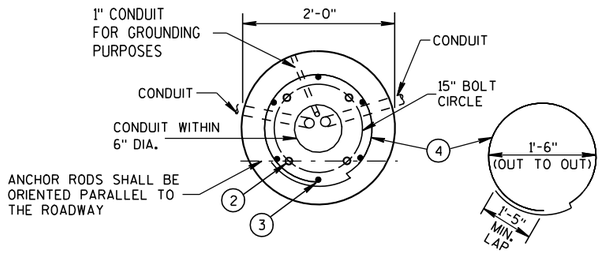
BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

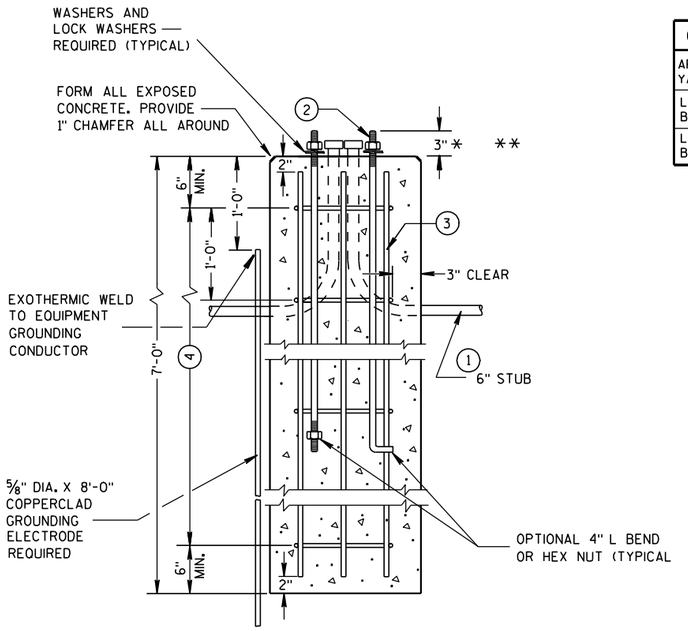
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 5'-0" ANCHOR RODS

(3) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

(4) (7) NO. 4 X 6'-2" BAR STEEL REINFORCEMENT @ 1'-0" C-C.



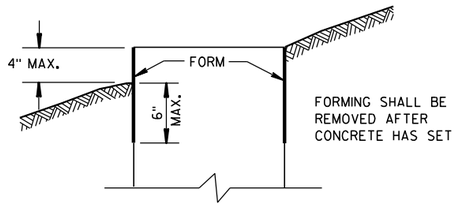


CONCRETE BASE, TYPE 7 (FOR 40' LIGHT POLES)

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

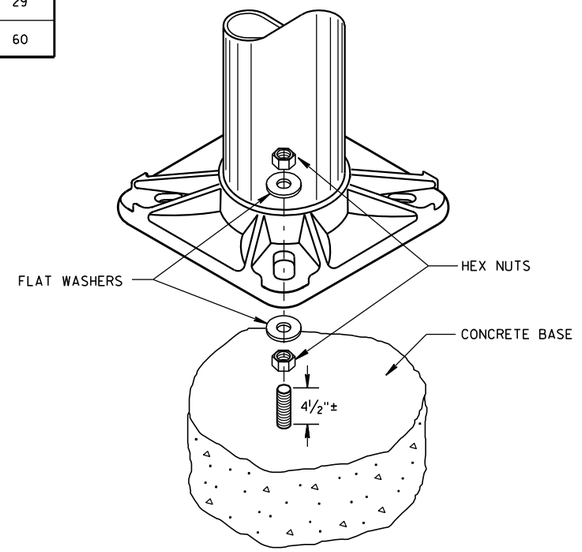
** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	
APPROX. CUBIC YARDS OF CONCRETE	0.8
LBS. OF HOOP BAR STEEL	29
LBS. OF VERTICAL BAR STEEL	60



NON-BREAKAWAY INSTALLATION (LEVELING NUT)

CONCRETE BASE, TYPE 7

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/3/10 DATE

/S/ Joanna L. Rich
STATE ELECTRICAL ENGI 1436 HWYS

FHWA

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S.D.D. 9 C 8-4

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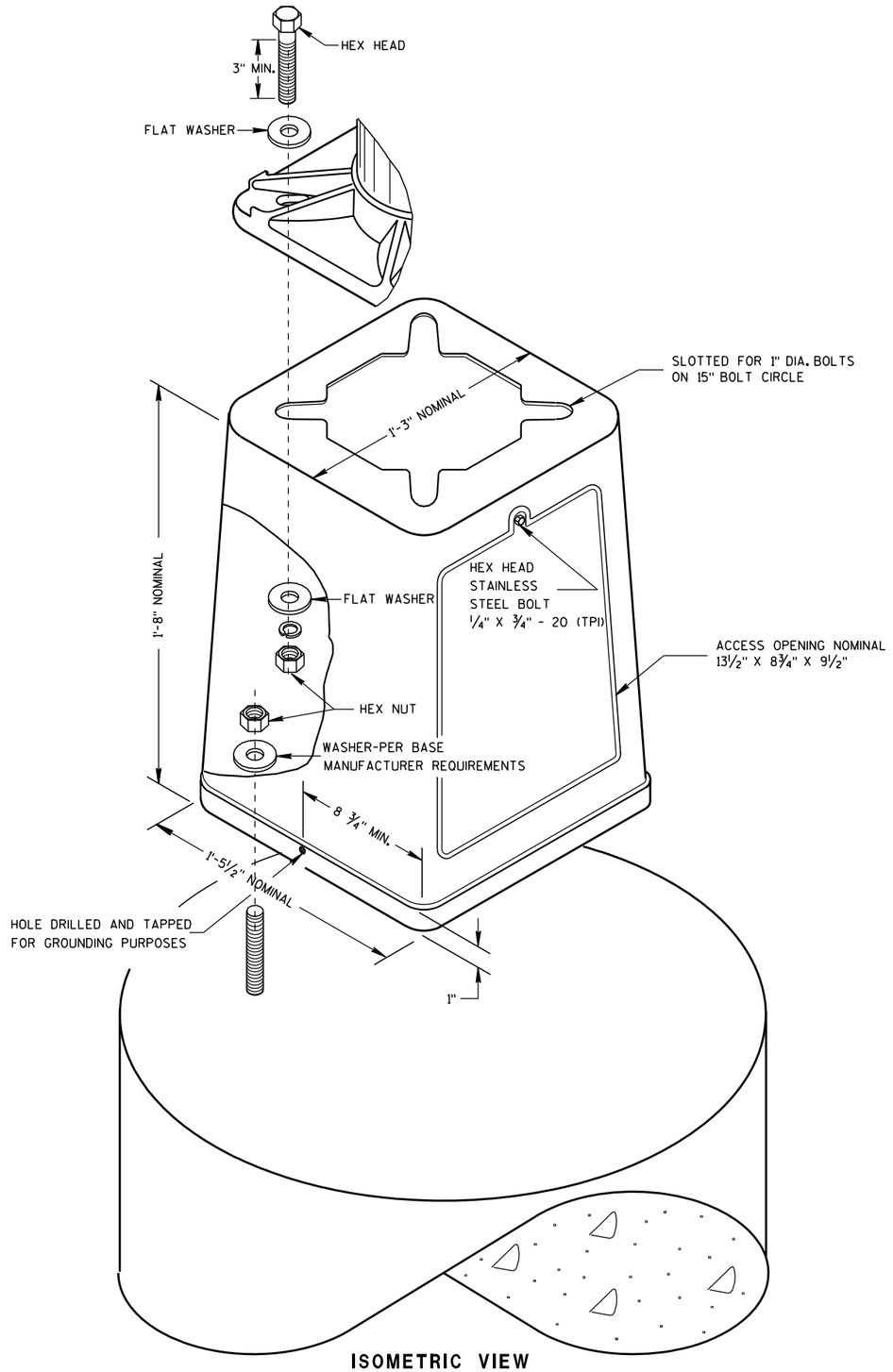
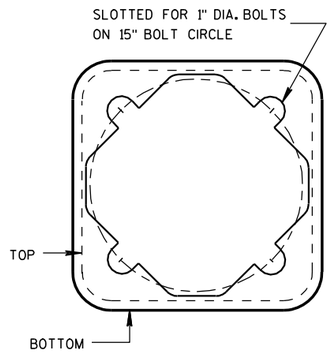
S.D.D. 9 C 8-4

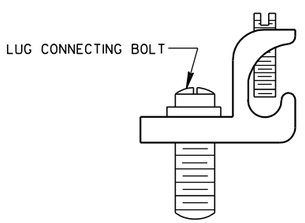


ISOMETRIC VIEW

TRANSFORMER BASE



BOTTOM VIEW



TYPICAL MECHANICAL
CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

BREAKAWAY BASES (WHERE REQUIRED) WILL BE MEASURED AND PAID AS SEPARATE ITEMS OF WORK IN ADDITION TO THE LIGHT POLE.

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-325, (92,000 YIELD), HEAVY HEX NUT AND BE GALVANIZED IN ACCORDANCE WITH ASTM A-153, CLASS C.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIMS SHALL BE SIZED TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

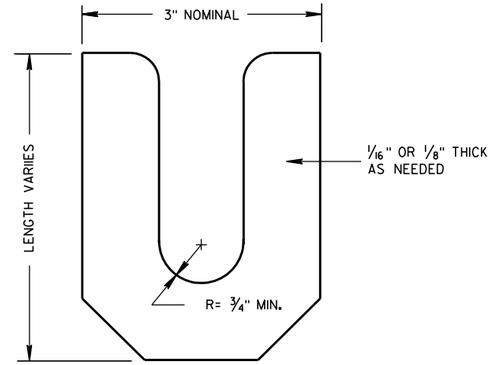
A NEMA APPROVED AND U.L. LISTED MECHANICAL CONNECTOR (LUG) AL/CU RATED AND SIZED TO ACCEPT #10 AWG STRANDED WIRE, SHALL BE FURNISHED AND INSTALLED IN THE TRANSFORMER BASES.

THE MECHANICAL CONNECTOR (GROUNDING LUG) SHALL BE INSTALLED USING THE TAPPED HOLE PROVIDED BY THE MANUFACTURER. THE MOUNTING BOLT HEXHEAD), NUT, WASHER AND LOCK WASHER SHALL BE STAINLESS STEEL, SIZED TO FIT THE THREADING AND HOLE SIZE, AND BE OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

SHOULD A GROUNDING LUG MOUNTING HOLE NOT BE PROVIDED, THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" X 3/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE. IT SHALL BE MOUNTED IN THE SAME LOCATION AS IS SHOWN ON THE DRAWING.

SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, AND LOCK WASHERS, THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

THE ACCESS DOOR SHALL BE MANUFACTURED OF THE SAME MATERIAL AS THE BASE.



LEVELING SHIM

TRANSFORMER BASE FOR 15" BOLT CIRCLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/07 — DATE

/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI 1437 HWYS

FHWA

6

S.D.D. 9 C 10-2

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S.D.D. 9 C 10-2

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 4 INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL END INSTALLED. ALL CONDUIT SHALL BE SLOPED TO PULL BOX.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUIT IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL ENTER THE BASE THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

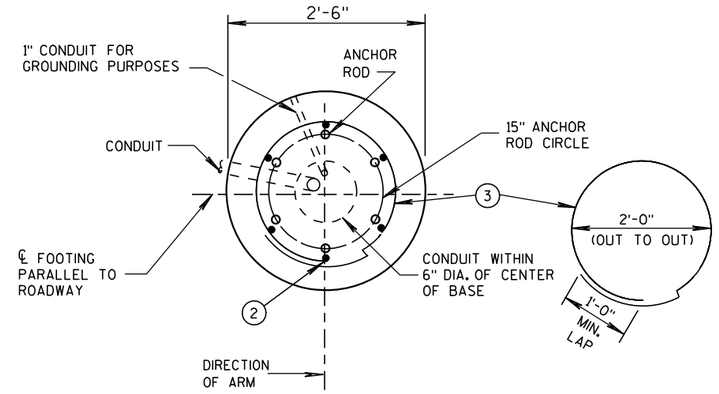
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

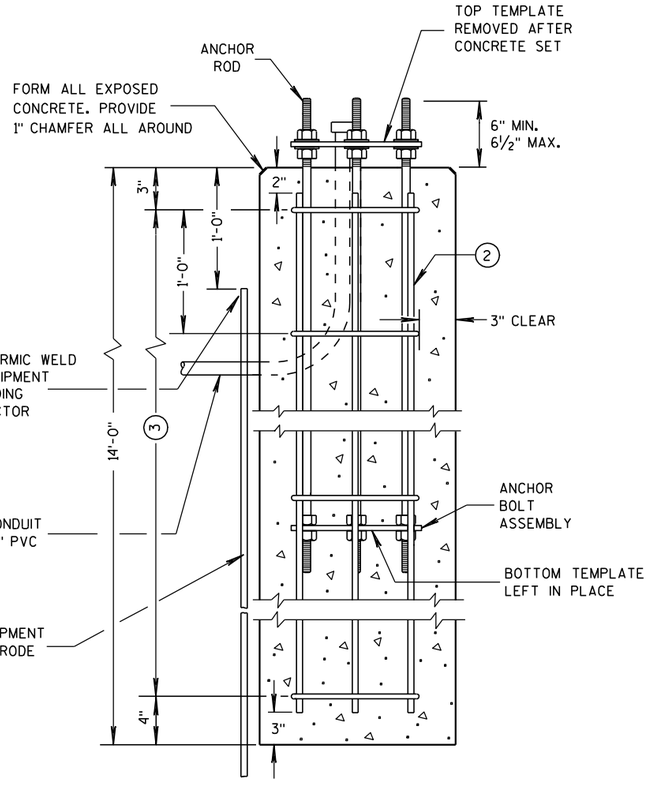
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES. (GREATER THAN 36 INCHES IF INSTALLED IN BREAKER-RUN), EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (6) NO. 6 X 13'-7" BAR STEEL REINFORCEMENT.

(3) (15) NO. 4 X 7'-4" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

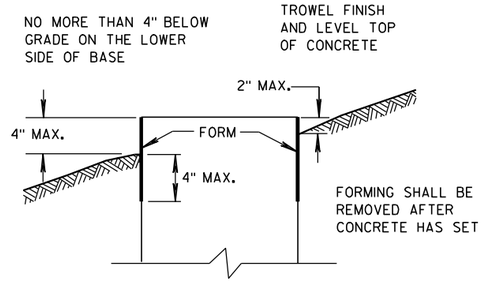
CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, AASHTO M314 GRADE 55	fy=55,000 p.s.i.
TEMPLATES, ASTM, A709 GRADE 36	fy=36,000 p.s.i.



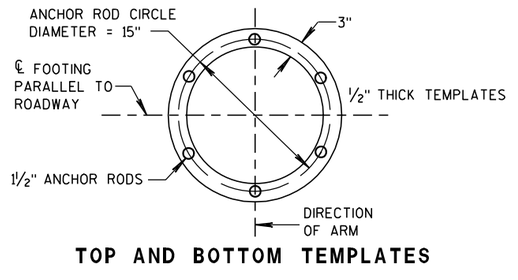


CONCRETE BASE TYPE 10
(FOR TYPE 9 & 10 POLES)

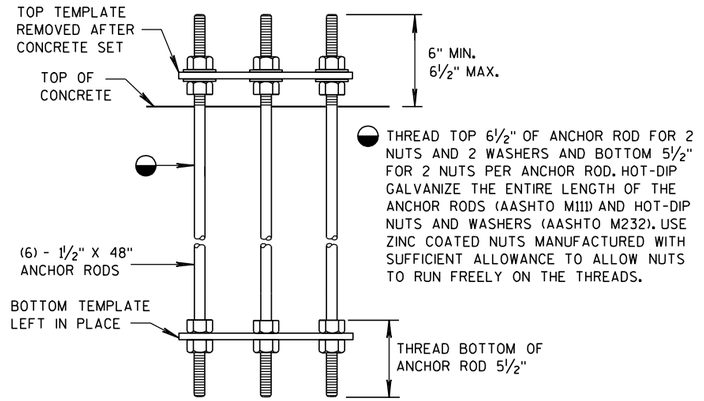
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION. SEE S.D.D. 9C13-1 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.



FORMING DETAIL



TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 10
ANCHOR ASSEMBLY

QUANTITY REQUIREMENTS	
APPROX. CUBIC YARDS OF CONCRETE	2.5
LBS. OF HOOP BAR STEEL	69
LBS. OF VERTICAL BAR STEEL	122

CONCRETE BASE TYPE 10

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3-2-11 DATE

/S/ Thomas J. Cornine
STATE ELECTRICAL ENGI 1438 HWYS

FHWA

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S.D.D. 9 C 11-2

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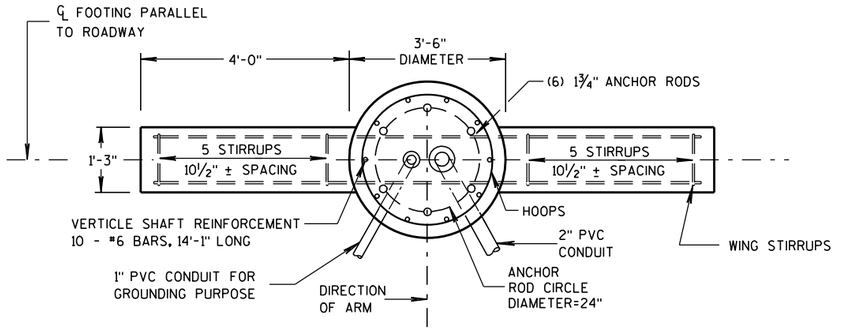
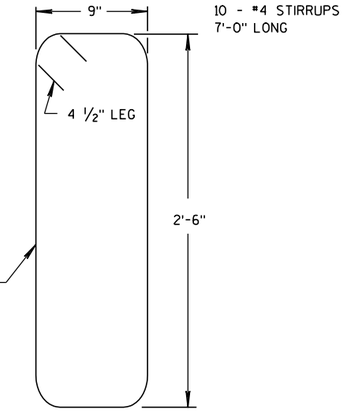
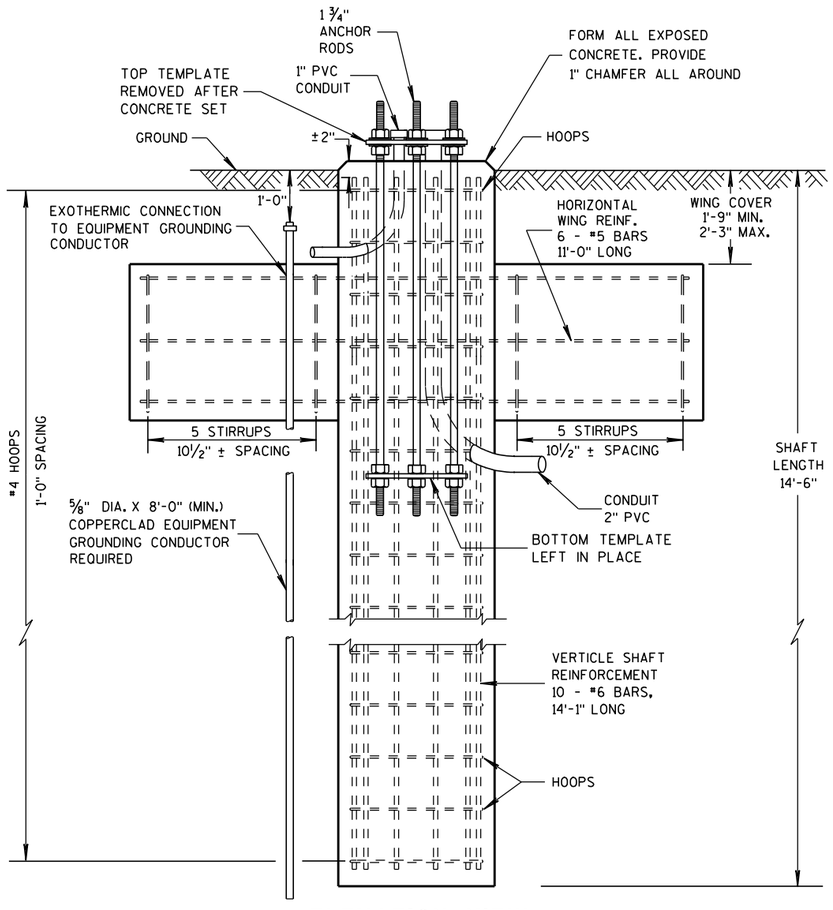
S.D.D. 9 C 11-2



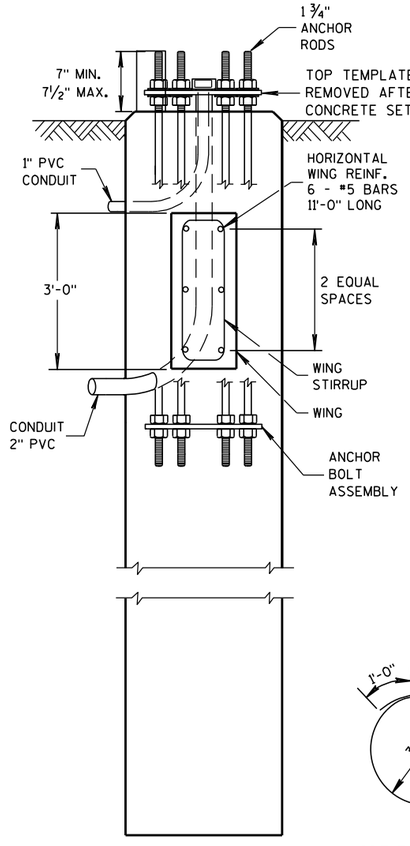
PLAN VIEW



WING STIRRUP

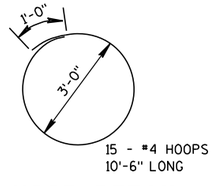


ELEVATION VIEW



SIDE VIEW

DOES NOT SHOW HOOPS OR
VERTICAL SHAFT REINFORCEMENT



15 - #4 HOOPS
10'-6" LONG

HOOP DETAIL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ORIENT ANCHOR RODS IN FOOTING AND PROVIDE ANCHOR ROD PROJECTION ABOVE TOP OF CONCRETE FOOTING BASE PER THIS SHEET.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF THE UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

WELDING OF ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

BASES (SHAFT), BELOW THE WING, SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUNG THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

TOP SURFACE OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

CONDUIT SIZE AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASE SHALL BE 4½" INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.

ALL CONDUIT ENDS AT THE TOP OF THE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTOR FITTINGS, UL LISTED FOR ELECTRICAL USE, SHALL BE USED.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE THROUGH A 1-INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4-FOOT COIL OF WIRE ABOVE THE CONCRETE BASE, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS.

THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVEL WAY SHALL BE 24-INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18-INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36-INCHES, (GREATER THAN 36-INCHES IF INSTALLED IN BREAKER-RUN), EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, AASHTO M314 GRADE 55	fy=55,000 p.s.i.
TEMPLATES, ASTM A709 GRADE 36	fy=36,000 p.s.i.

(FOR TYPE 12 & 13 POLES)

CONCRETE = 6.3 C.Y.
H.S. REINFORCEMENT = 433 LBS.

TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION.
SEE S.D.D. 9C13-1 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.

CONCRETE BASE TYPE 13

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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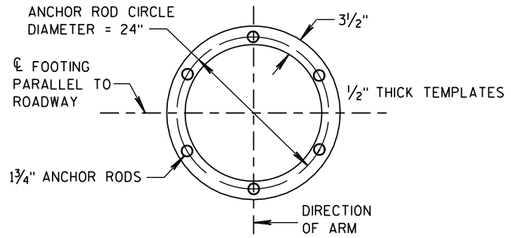
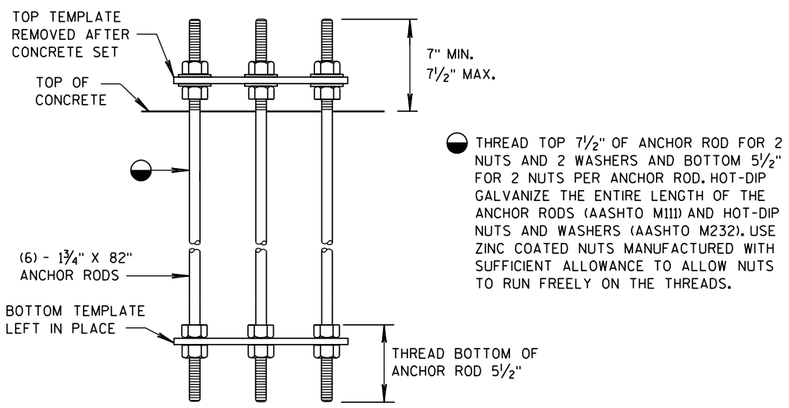
S.D.D. 9 C 12 -2a



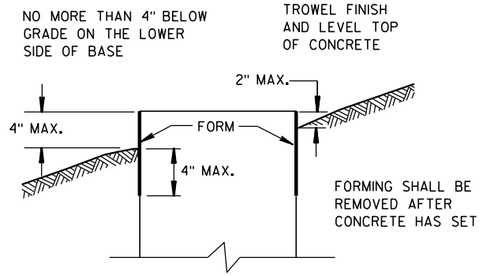
TOP AND BOTTOM TEMPLATES



◒ THREAD TOP 7½" OF ANCHOR ROD FOR 2 NUTS AND 2 WASHERS AND BOTTOM 5½" FOR 2 NUTS PER ANCHOR ROD. HOT-DIP GALVANIZE THE ENTIRE LENGTH OF THE ANCHOR RODS (AASHTO M111) AND HOT-DIP NUTS AND WASHERS (AASHTO M232). USE ZINC COATED NUTS MANUFACTURED WITH SUFFICIENT ALLOWANCE TO ALLOW NUTS TO RUN FREELY ON THE THREADS.

ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 13 ANCHOR ASSEMBLY



FORMING DETAIL

6

CONCRETE BASE TYPE 13

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3-2-11
DATE

/S/ Thomas J. Cearlock
STATE ELECTRICAL ENGI 1440 HWYS

FHWA

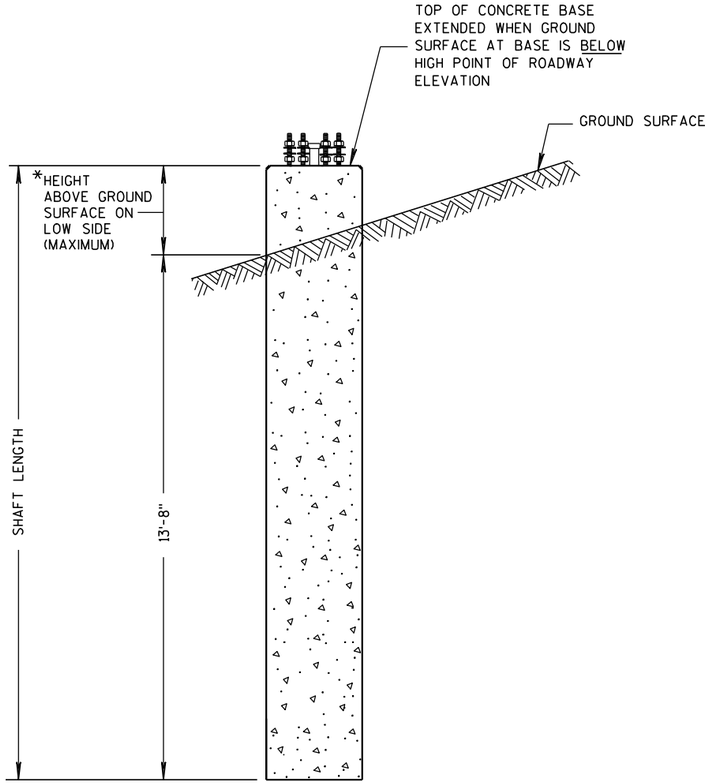
S.D.D. 9 C 12-2b

REINFORCEMENT AND CONCRETE QUANTITIES
ADJUSTED FOR EXTENDED TYPE 10 CONCRETE BASE

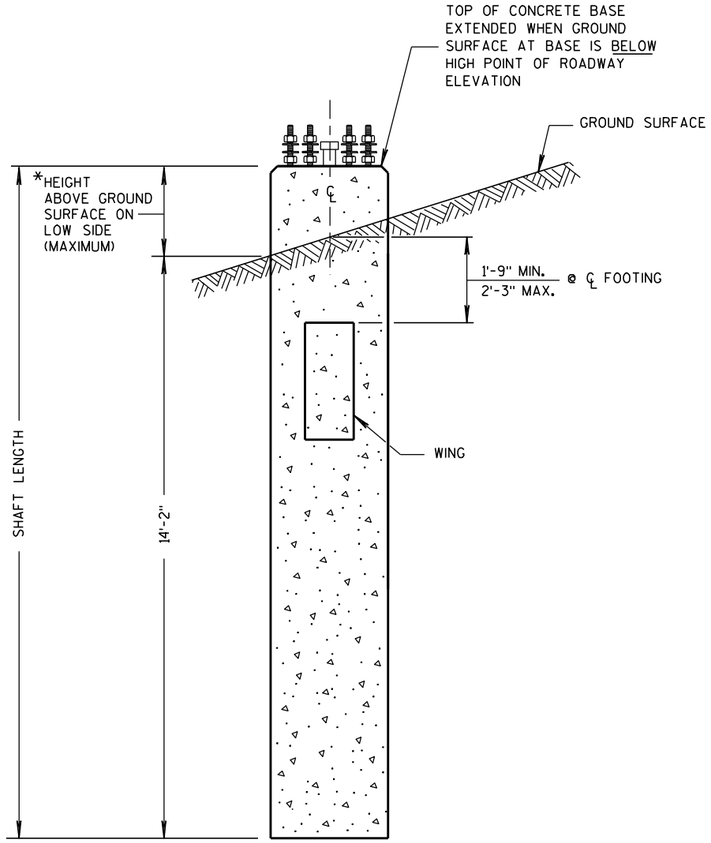
HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF HOOP BAR STEEL	LBS. OF VERTICAL BAR STEEL
>0" TO 6"	10"	14'-6"	14'-1"	16	2.6	78	127
>6" TO 1'-0"	1'-4"	15'-0"	14'-7"	16	2.7	78	131
>1'-0" TO 1'-6"	1'-10"	15'-6"	15'-1"	17	2.8	83	136
>1'-6" TO 2'-0"	2'-4"	16'-0"	15'-7"	17	2.9	83	141

REINFORCEMENT AND CONCRETE QUANTITIES
ADJUSTED FOR EXTENDED TYPE 13 CONCRETE BASE

HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF H.S. BAR STEEL
>0" TO 6"	10"	15'-0"	14'-7"	16	6.5	447
>6" TO 1'-0"	1'-4"	15'-6"	15'-1"	16	6.6	454
>1'-0" TO 1'-6"	1'-10"	16'-0"	15'-7"	17	6.8	469
>1'-6" TO 2'-0"	2'-4"	16'-6"	16'-1"	17	7.0	476



CONCRETE BASE TYPE 10 (EXTENDED)



CONCRETE BASE TYPE 13 (EXTENDED)

CONCRETE BASE
TYPE 10 & TYPE 13 EXTENSION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3-3-10 DATE — /S/ Joanna L. Rush STATE ELECTRICAL ENGI 1441 HWYS

FHWA

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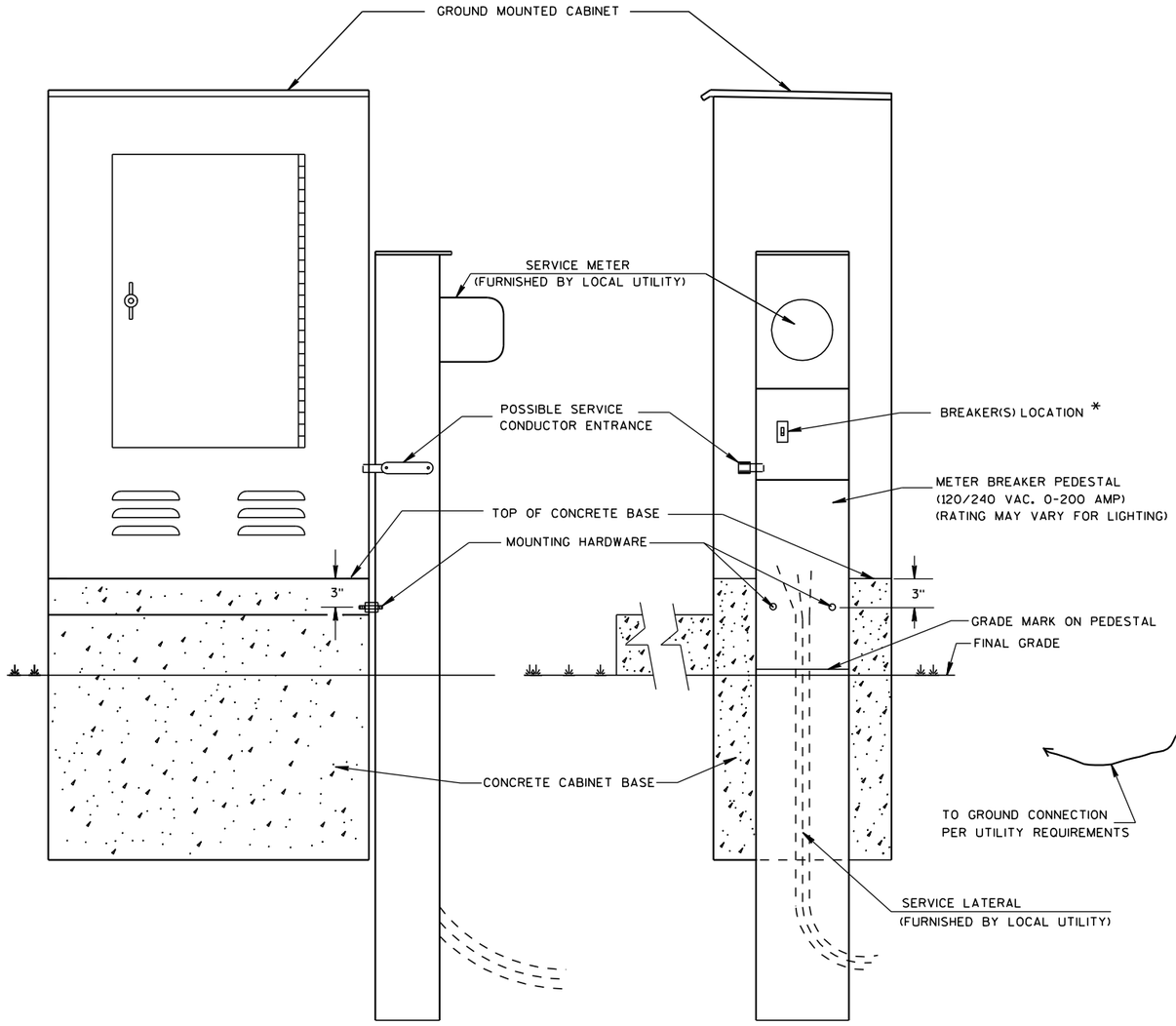
S.D.D. 9 C 13-1

6

S.D.D. 9 C 13-1



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE. CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH. THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

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S.D.D. 9 D 1-4

CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/27/09 DATE

/S/ Joanna L. Bush
STATE ELECTRICAL ENGI 1442 HWYS

FHWA

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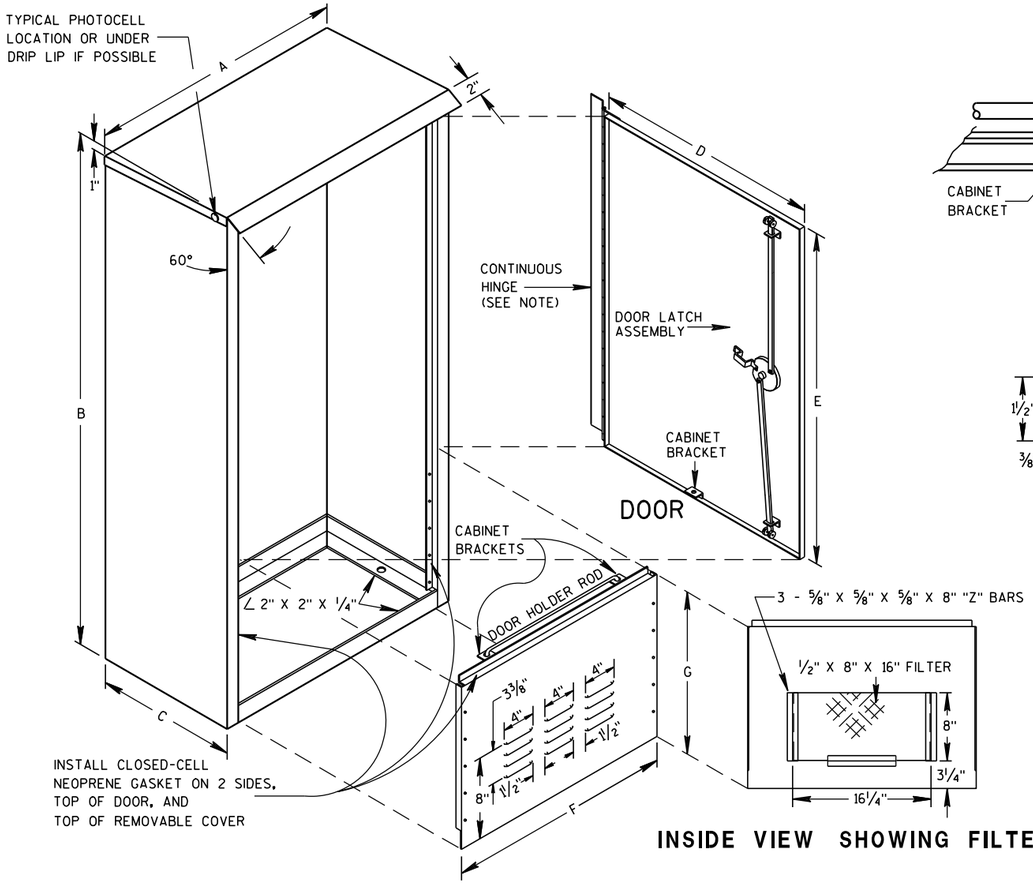
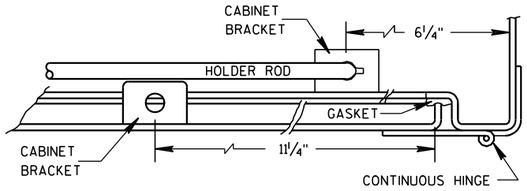
S.D.D. 9 D 1-4

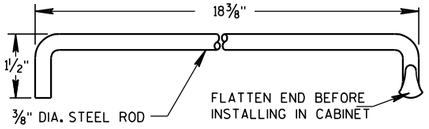


INSIDE VIEW SHOWING FILTER

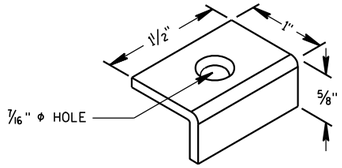
REMOVABLE COVER



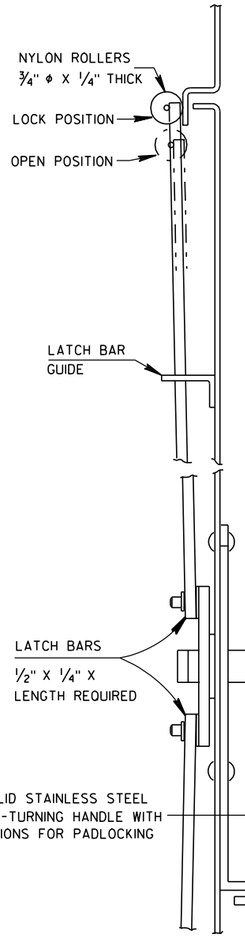
HINGE & DOOR HOLDER



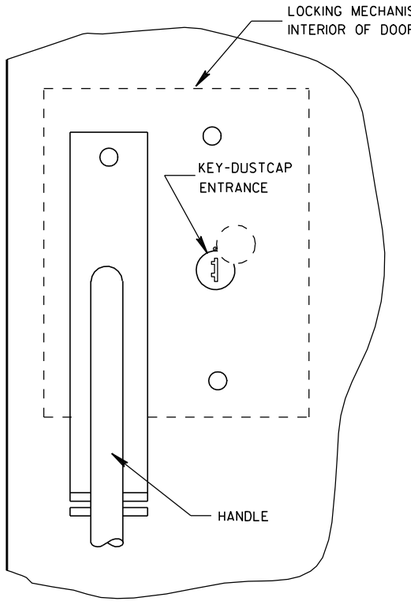
HOLDER ROD



CABINET BRACKET

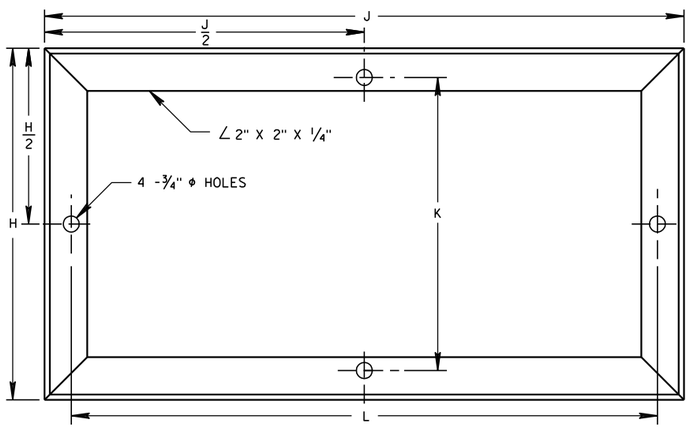


SIDE VIEW



FRONT VIEW

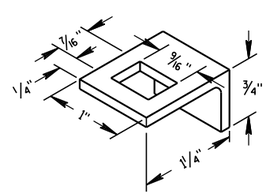
LATCH ASSEMBLY



MOUNTING BASE

TABLE OF DIMENSIONS (INCHES)

MARK	CABINET TYPE		
	3060	3860	3866
A	30	38	38
B	60	60	66
C	16 1/2	16 1/2	24
D	26 1/2	34 3/4	33 3/4
E	38 3/4	38 3/4	38 3/4
F	26 1/2	34 3/4	33 3/4
G	19	19	25
H	16 1/2	16 1/2	24
H/2	8 1/4	8 1/4	12
J	30	38	38
J/2	15	19	19
K	13 3/4	13 3/4	21 1/4
L	27 1/2	35 1/2	35 1/2



LATCH BAR GUIDE

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

PRIME WITH PHOSPHATE TREATMENT AND PRIMER.

FINISH EXTERIOR SURFACES WITH RUSTOLEUM #906 SILVER GRAY OR APPROVED EQUAL.

FINISH INTERIOR WITH RUSTOLEUM #2766 HIGH GLOSS WHITE ENAMEL OR APPROVED EQUAL.

ALL SHEET METAL PARTS SHALL BE .125 INCH THICK ALUMINUM.

ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

ALUMINUM SHALL BE TYPE 5052-H32.

CONTINUOUS HINGE SHALL BE HEAVY GAUGE ALUMINUM WITH 1/4" DIAMETER STAINLESS STEEL HINGE PIN. HINGE IS SECURED WITH 1/4" X 20 TPI STAINLESS STEEL CARRIAGE BOLTS AND STAINLESS STEEL NYLOCK NUTS.

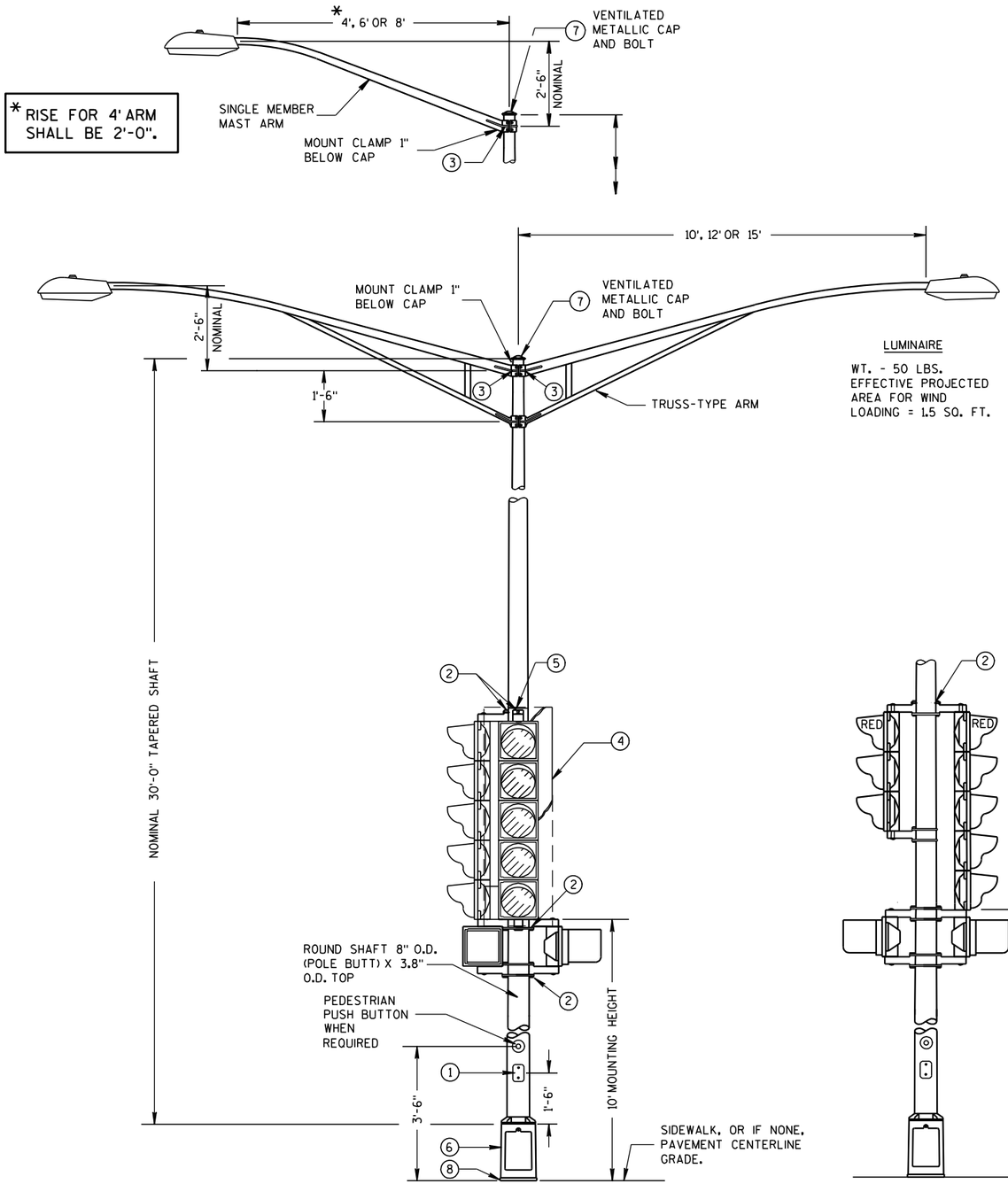
A SINGLE PHOTOCELL SHALL BE LOCATED ON THE NORTH-NORTHEAST SIDE OF THE CABINET UNLESS OTHERWISE CALLED FOR IN THE SPECIAL PROVISIONS. THE PHOTOCELL SHALL BE PLACED AS SHOWN AND SHALL BE AN APPROVED TYPE.

DOOR LATCH ASSEMBLY TO BE PROVIDED WITH THREE-POINT LOCKING MECHANISM.

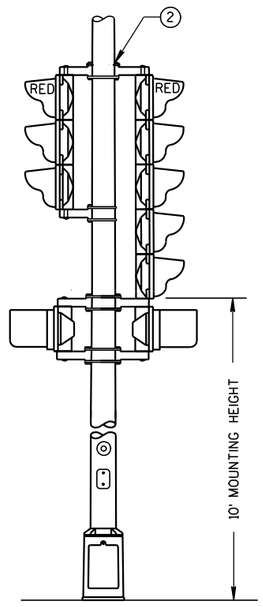
SIGNAL OR LIGHTING CONTROL CABINET

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

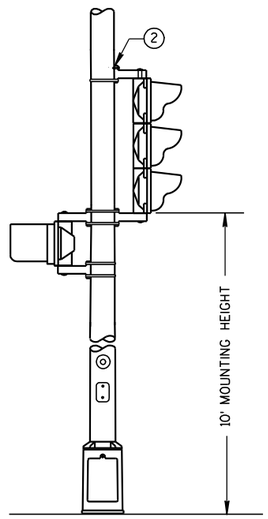
APPROVED
10/21/96 — DATE
/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI 1443 HWYS
FHWA



(MAXIMUM LOAD)

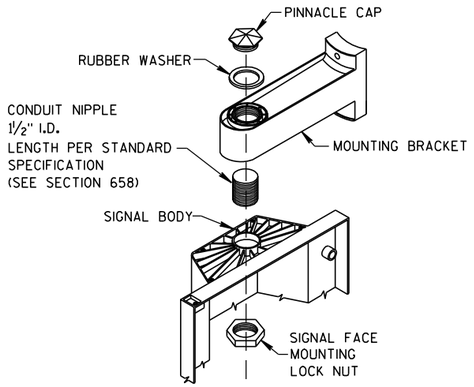


TYPICAL MOUNTING OF BACK TO BACK 3 AND 5 SECTION SIGNAL FACES



TYPICAL MOUNTING OF 3 SECTION SIGNAL FACE

TYPE 4 POLE MOUNTING CONFIGURATION



SIGNAL FACE MOUNTING DETAIL
(BANDED)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ALL TYPE 4 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

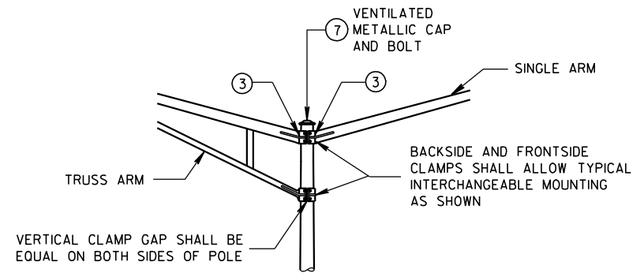
POLES SHALL BE GALVANIZED STEEL WITH A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

1. 4" X 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.
2. SIGNAL FACE MOUNTING BRACKETS, MOUNT WITH CAP SCREWS AND BANDING. (SEE STANDARD SPECIFICATIONS - SEC. 658).
3. GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.
4. SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.
5. POLE MOUNTED SIGNAL FACES SHALL REQUIRE 1 OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACE.
6. CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
7. FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
8. SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.



INTERCHANGEABLE MOUNTING DETAIL

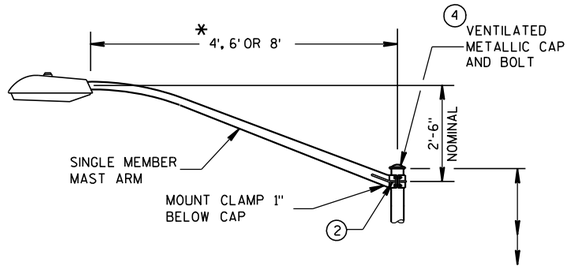
POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 4

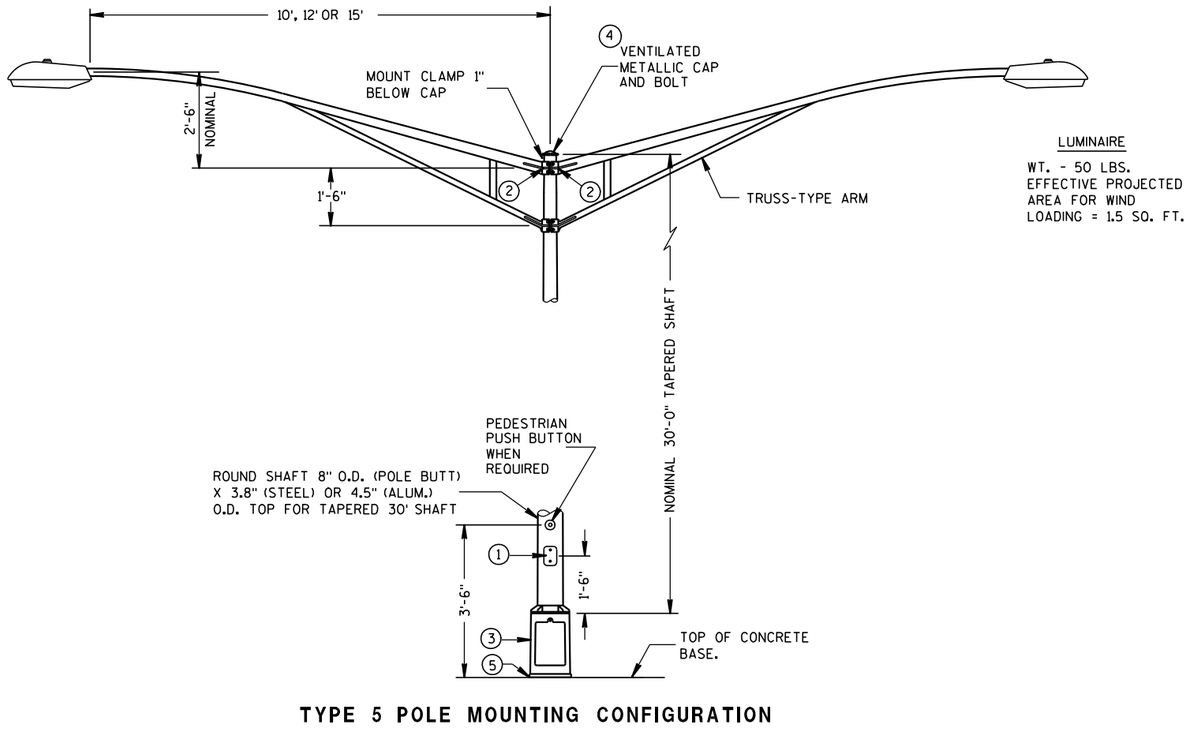
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

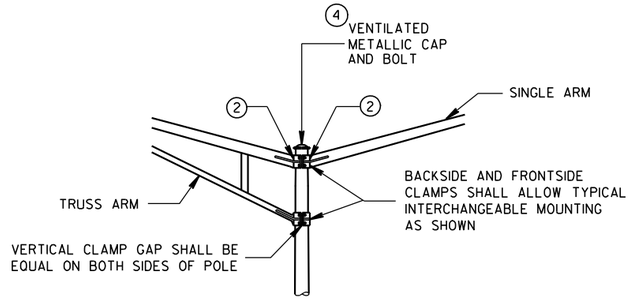
S.D.D. 9 E 1-11c

*RISE FOR 4' ARM SHALL BE 2'-0".





TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY



INTERCHANGEABLE MOUNTING DETAIL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

THE TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.188".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONEECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

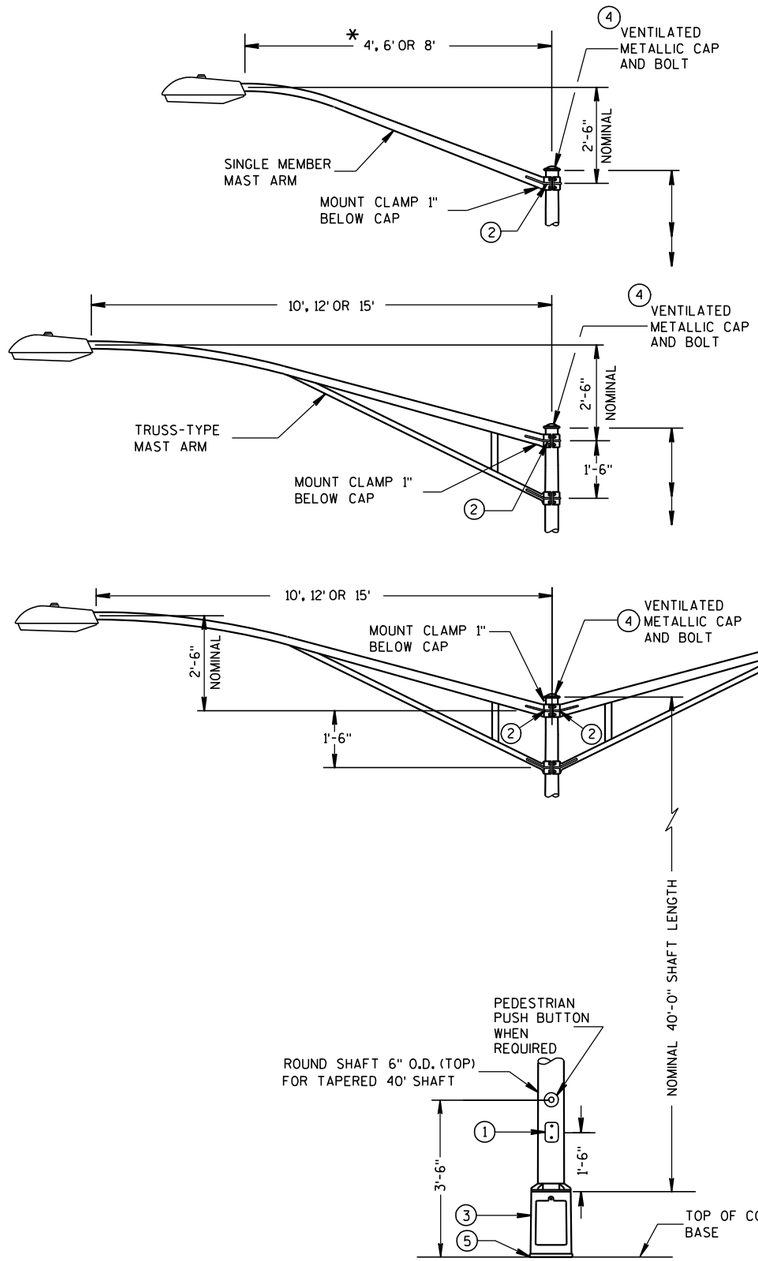
1. 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.
2. GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.
3. CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
4. FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
5. SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.

POLE MONTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

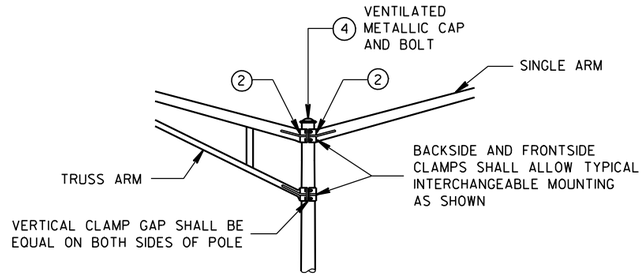
6
S.D.D. 9 E 1-11d

*RISE FOR 4' ARM SHALL BE 2'-0".



TYPE 17 POLE MOUNTING CONFIGURATION

(MAXIMUM LOAD)
LIGHTING ONLY



INTERCHANGEABLE MOUNTING DETAIL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ALL LUMINAIRE POLE MOUNTINGS SHALL BE DESIGNED FOR TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.

TYPE 17 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

TYPE 17 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

THE SHOE BASE SHALL BE SLOTTED TO ACCEPT A 15" BOLT CIRCLE (14" X 16" SLOT) USING 1" ANCHOR RODS.

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

(1) 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.

(2) GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR A 1⅜" HOLE IN THE POLE SHAFT FOR WIRING.

(3) CAST ALUMINUM FHWA APPROVED TRANSFORMER BASE WHEN REQUIRED, SHALL HAVE AN ULTIMATE STATIC LOAD STRENGTH OF AT LEAST 40,000 FT. - LBS.

(4) FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

(5) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.

POLE MOUNTINGS FOR LIGHTING UNIT, TYPE 17 (40 FEET)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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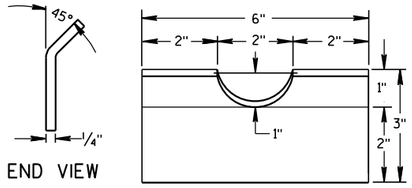
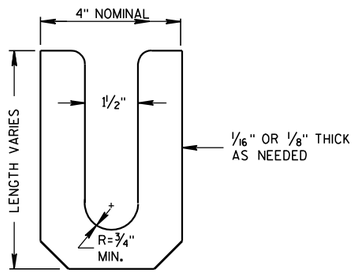
S.D.D. 9 E 1-11f



FRONT VIEW

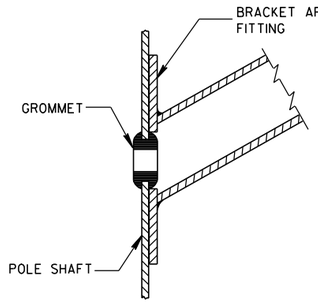
RECTANGULAR CLAMP SHIM

(4 TO A SET)

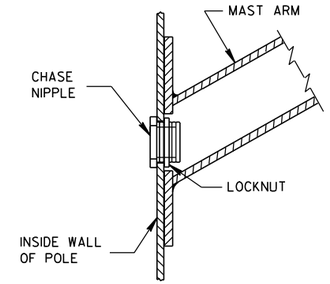


LEVELING SHIM (15)

SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

(10.) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

(11.) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)

(12.) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

(13.) OUTSIDE SHIM DIAMETER - (4.5" O.D. FOR LUMINAIRE MAST ARM)
(6.625" O.D. FOR TROMBONE MAST ARM)

(14.) VARIABLE SHIM THICKNESS - (0.10", 0.25", 0.35", 0.53" OR 0.70")

SHIM THICKNESS FOR TROMBONE MAST ARMS MAY BE TYPICALLY 0.25", 0.35", 0.53" OR 0.70".

SHIM THICKNESS FOR LUMINAIRE MAST ARMS MAY BE TYPICALLY 0.10", 0.25" OR 0.35".

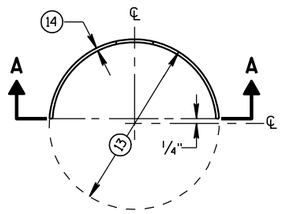
SHIM MATERIAL SHALL BE ALUMINUM ALLOY.

SHIM THICKNESS SHALL BE IMPRESSED INTO EACH SHIM. NUMERALS SHALL BE 1/4" HIGH AND LEGIBLE.

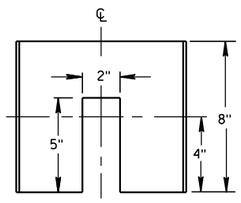
THE CONTRACTOR SHALL SUBMIT TWO COPIES OF ALL SHIM SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.

(15.) LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.

SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



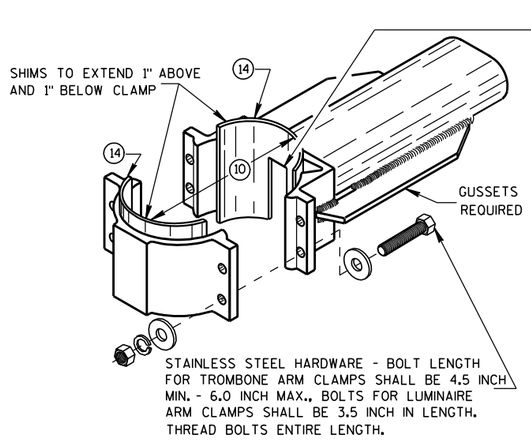
PLAN VIEW



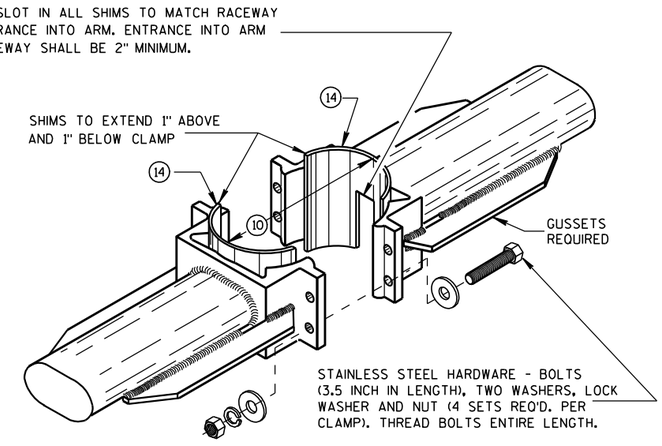
SECTION A-A

CIRCULAR CLAMP SHIM

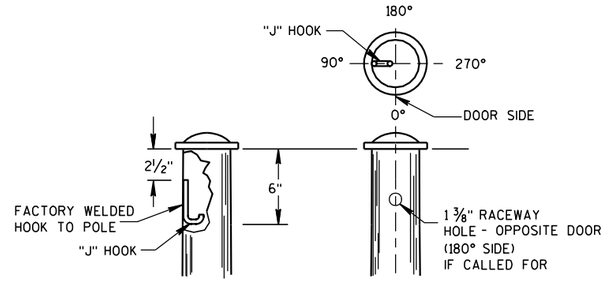
(2 TO A SET)



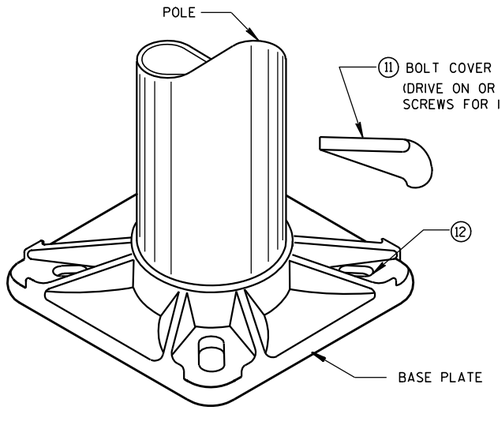
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



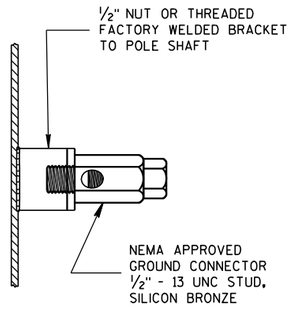
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

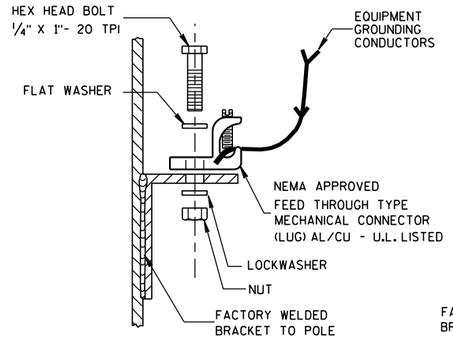


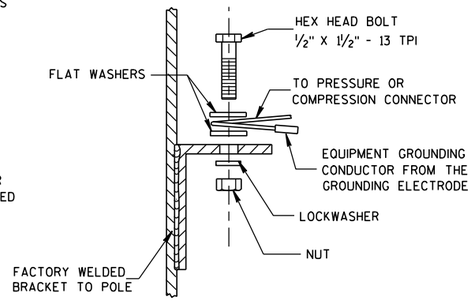
TYPICAL "J" HOOK LOCATION



BASE PLATE







TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

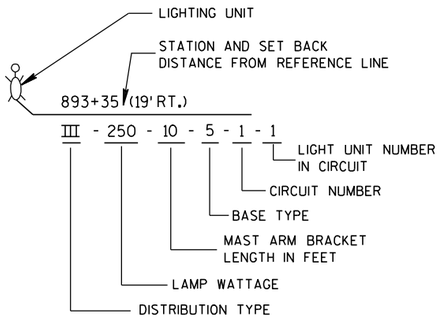
3/2/11
DATE

/S/ Thomas J. Goerlinger
STATE ELECTRICAL ENGI 1447 HWYS

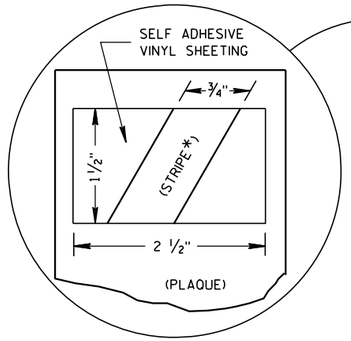
FHWA

6

S.D.D. 9 E 1-11g



LIGHTING UNIT CODE
(TYPICAL)



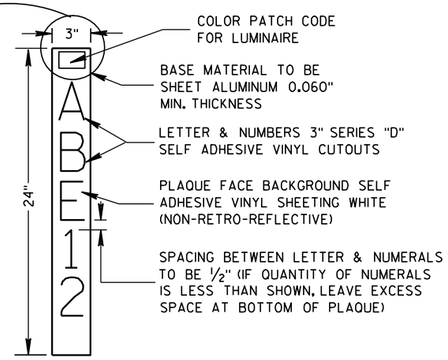
COLOR PATCH CODE FOR LUMINAIRES

(HIGH PRESSURE SODIUM)

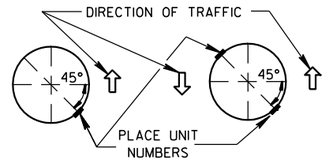
1000 WATT - NO PATCH
400 WATT - ORANGE
310 WATT - BLUE
250 WATT - ORANGE W/WHITE STRIPE*
200 WATT - RED
150 WATT - GREEN
100 WATT - BROWN

(MERCURY VAPOR)

400 WATT - (NO PATCH)
250 WATT - YELLOW



IDENTIFICATION PLAQUE



SINGLE ARM POLE MEDIAN POLE

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE WITH 3 ALUMINUM POP RIVETS (ALUM. POLES) OR STAINLESS STEEL POP RIVETS (STEEL POLES)

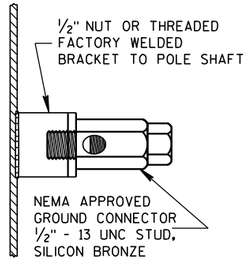
NOTES:

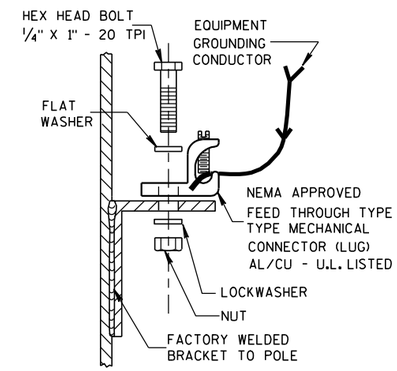
1) PLACE BOTTOM OF UNIT NUMBER PLAQUE 5'-0" ABOVE ELEVATION OF ADJACENT CURB OR SHOULDER.

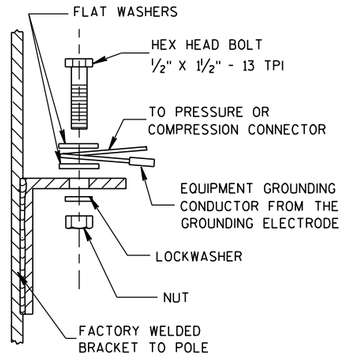
2) UNIT NUMBERS: ONE REQUIRED FOR SINGLE ARM POLES TWO REQUIRED FOR MEDIAN MOUNT POLES.

LIGHTING UNIT IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENT
(TYPICAL ALL LIGHTING UNITS)

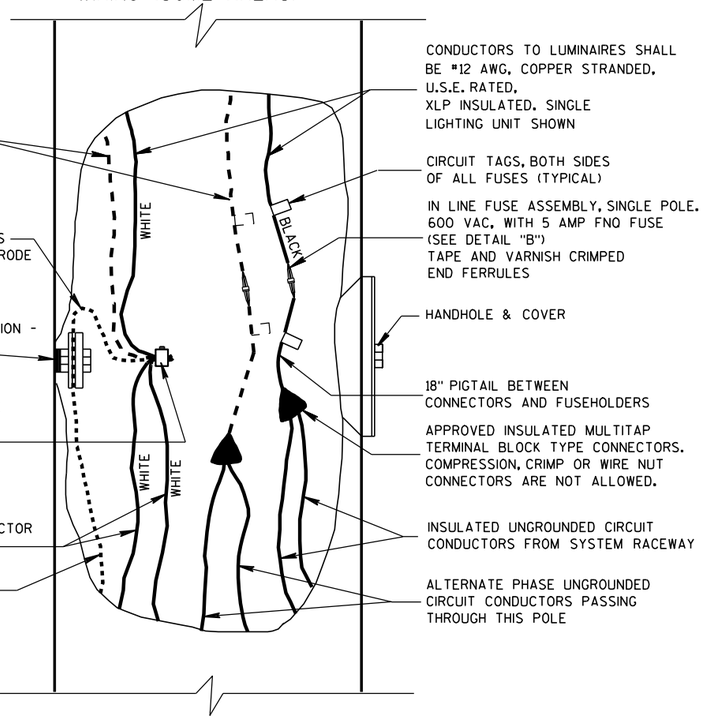
FURNISH PLAQUE WHEN CALLED FOR BY SPECIAL PROVISIONS



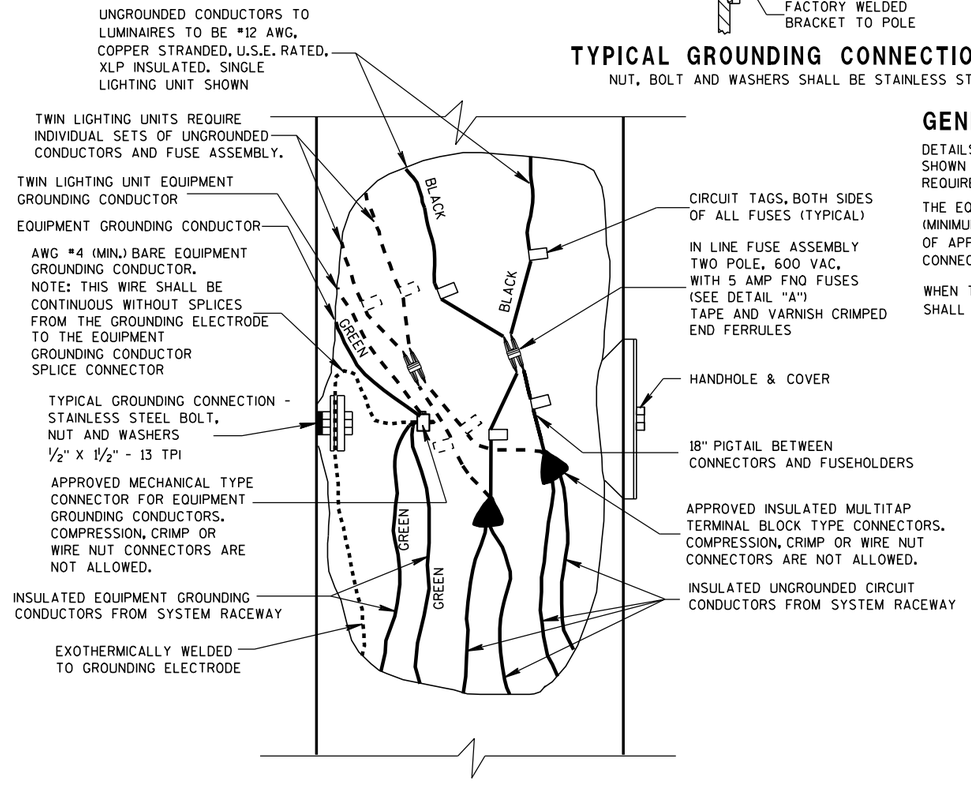




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



2 WIRE - 120, 240 OR 480 VAC TO GROUND



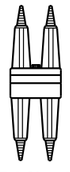
2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

GENERAL NOTES

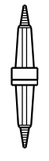
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

THE EQUIPMENT GROUND CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.



DETAIL "A"
BREAKAWAY DOUBLE POLE WITH WATERPROOF INSULATING BOOT



DETAIL "B"
BREAKAWAY SINGLE POLE WITH WATERPROOF INSULATING BOOT

FREEWAY LIGHTING UNIT POLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

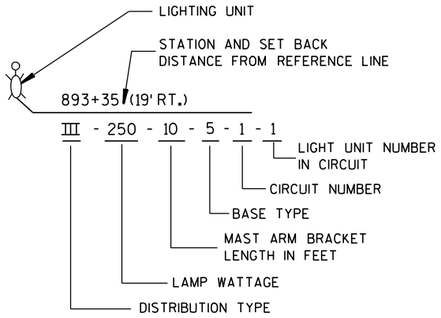
APPROVED
3/2/2011 DATE
/S/ Thomas J. Gosrich
STATE ELECTRICAL ENGI 1448 HWYS
FHWA

6

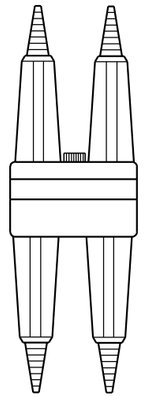
S.D.D. 9 E 2-3

6

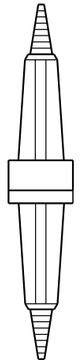
S.D.D. 9 E 2-3



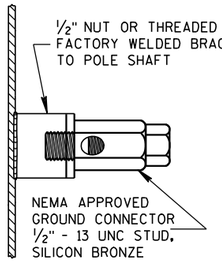
LIGHTING UNIT CODE
(TYPICAL)

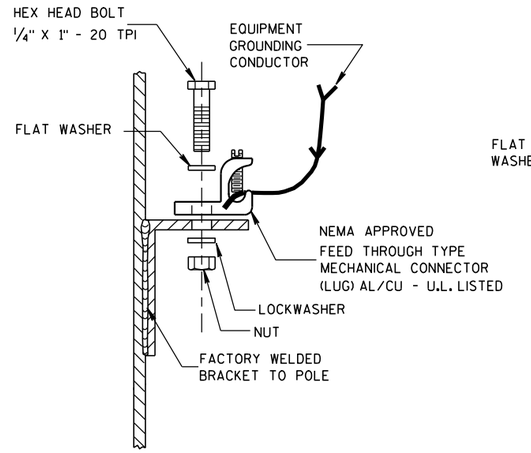


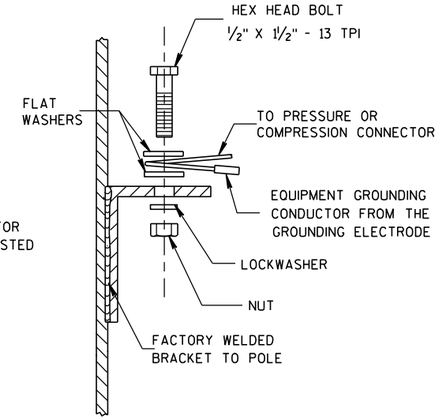
DETAIL "A"
BREAKAWAY
DOUBLE POLE WITH
WATERPROOF
INSULATING BOOT



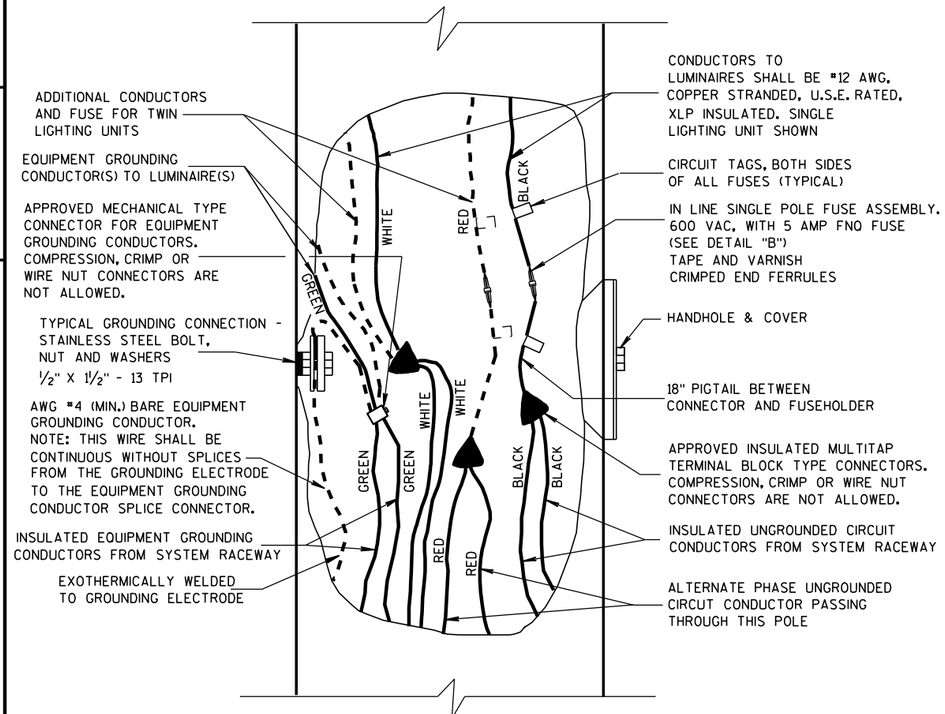
DETAIL "B"
BREAKAWAY
SINGLE POLE WITH
WATERPROOF
INSULATING BOOT



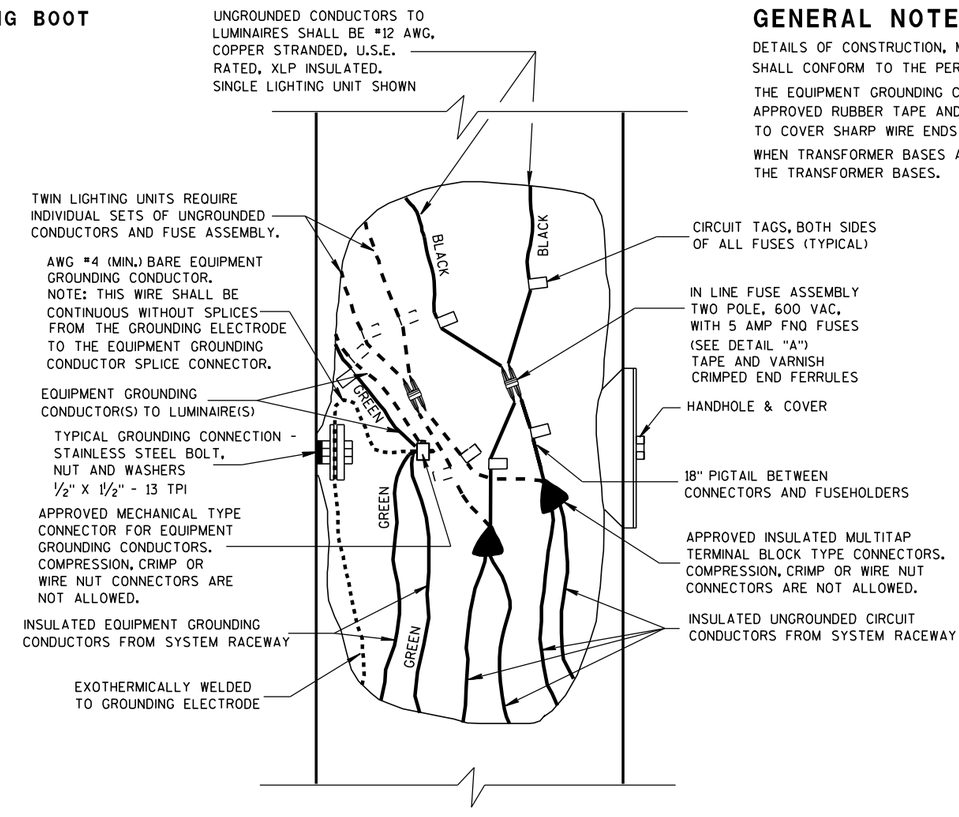




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



3 WIRE - 120, 240 OR 480 VAC (UNGROUNDED CONDUCTOR) WITH GROUNDED CONDUCTOR AND WITH EQUIPMENT GROUNDING CONDUCTOR



2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

NON-FREEWAY LIGHTING UNIT POLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

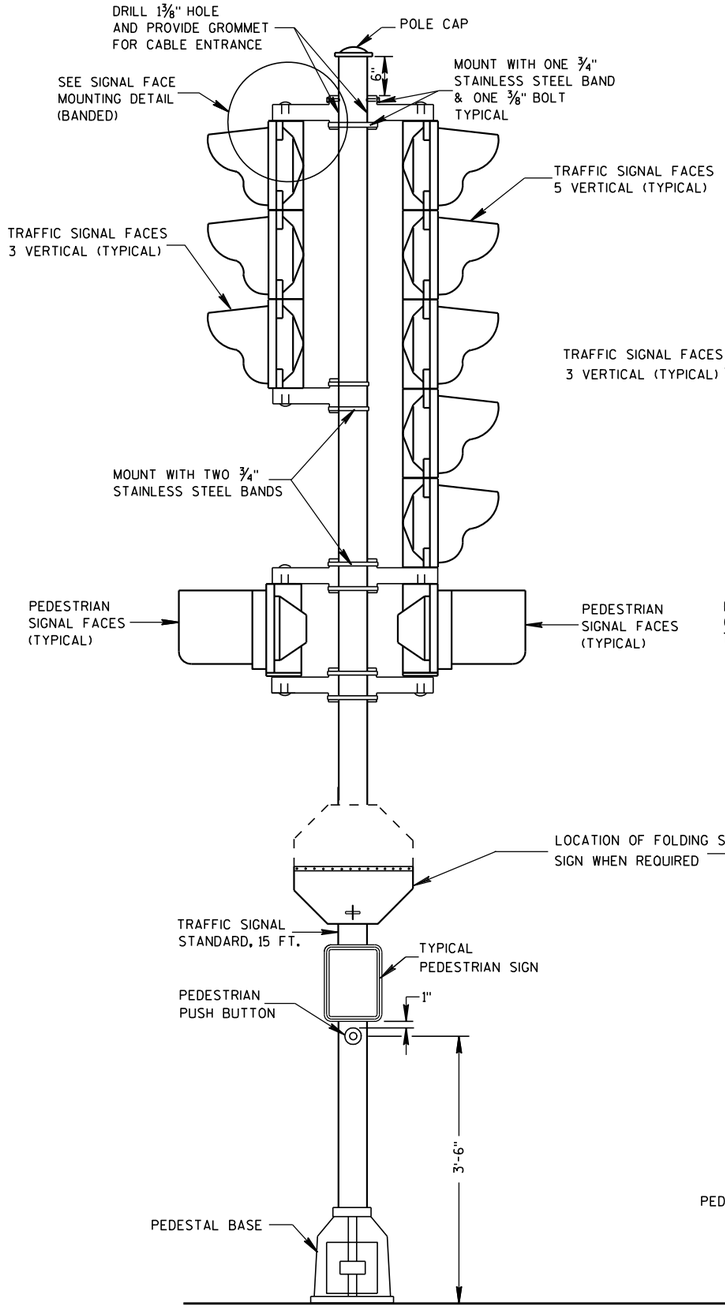
3/2/2011
DATE

/S/ Thomas J. Gosnine
STATE ELECTRICAL ENGI

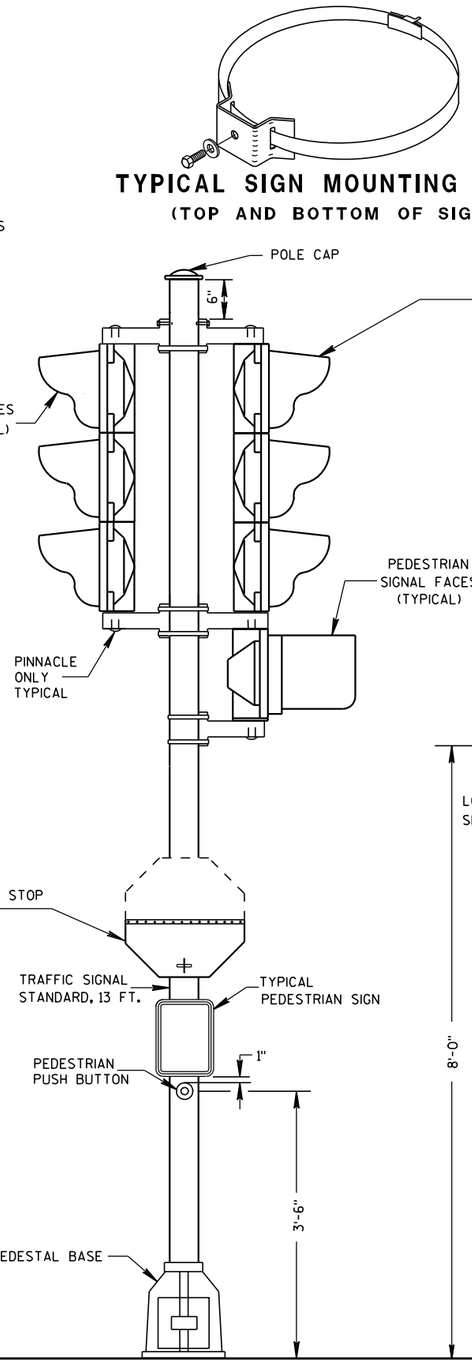
1449
HWYS

FHWA

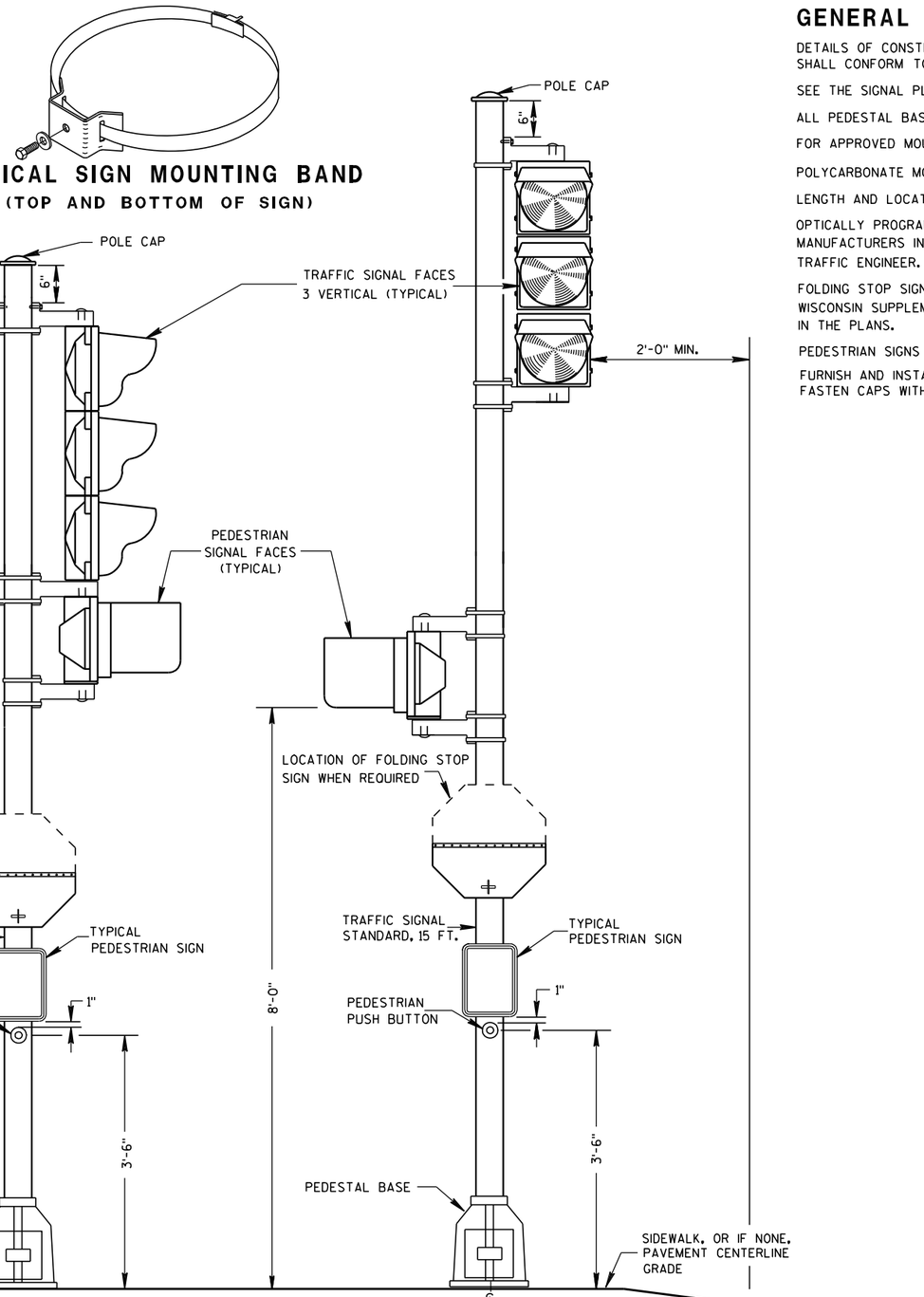
6
S.D.D. 9 E 3-4



TRAFFIC SIGNAL STANDARD-15 FT.



TRAFFIC SIGNAL STANDARD-13 FT.



TRAFFIC SIGNAL STANDARD-15 FT.
3M MOUNTING (TYPICAL)

TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLYCARBONATE MOUNTING BRACKETS SHALL BE USED.

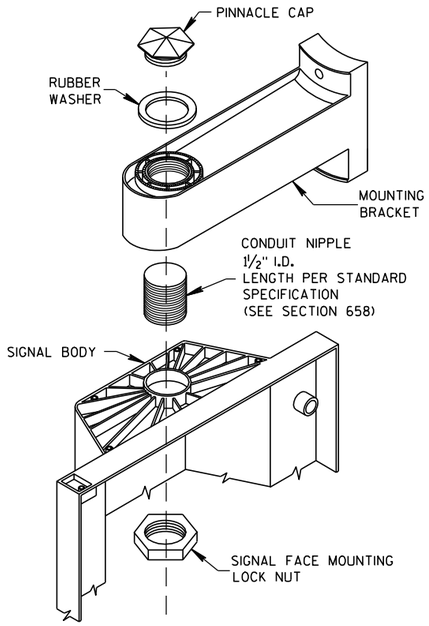
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

OPTICALLY PROGRAMMED SIGNAL FACES SHALL BE MASKED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, AND UNDER THE DIRECTIONS OF THE DISTRICT TRAFFIC ENGINEER.

FOLDING STOP SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND/OR THE LATEST WISCONSIN SUPPLEMENT. THE SIGNS SHALL BE SIZED AND LOCATED AS CALLED FOR IN IN THE PLANS.

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



SIGNAL FACE MOUNTING DETAIL
(BANDED)

TRAFFIC SIGNAL STANDARD
POLY BRACKET MOUNTINGS
(TYPICAL) 13 FT. OR 15 FT.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

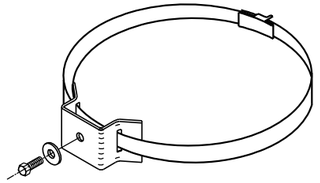
APPROVED
5/11/10 DATE
/S/ John Corbin
STATE ELECTRICAL ENGI 1450 HWYS
FHWA

6

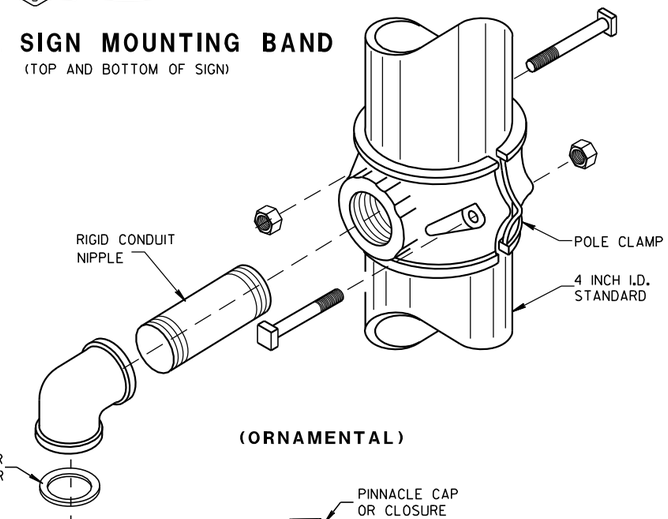
S.D.D. 9 E 6-4

6

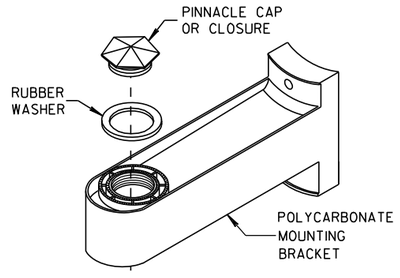
S.D.D. 9 E 6-4



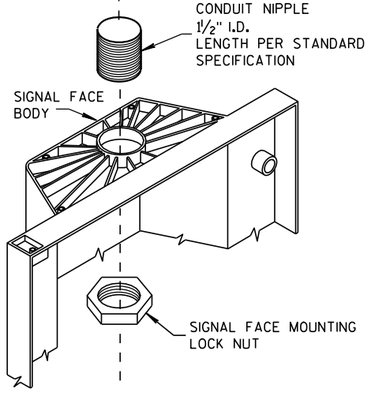
TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



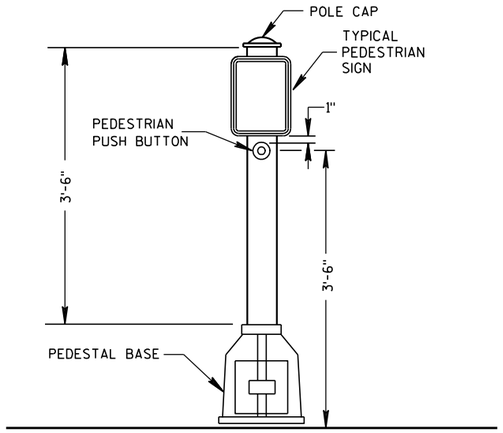
(ORNAMENTAL)



(BANDED)



SIGNAL FACE MOUNTING DETAILS



PEDESTRIAN PUSH BUTTON TYPICAL MOUNTING

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIFICATIONS.

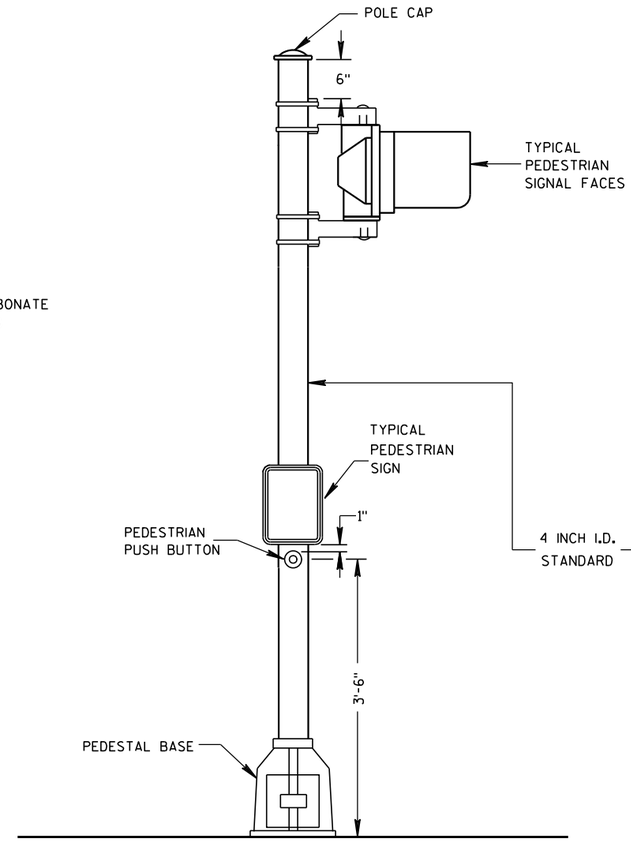
POLYCARBONATE SIGNAL FACE MOUNTING BRACKETS SHALL BE USED UNLESS ORNAMENTAL POLE CLAMPS ARE SPECIFIED.

LENGTH OF TRAFFIC STANDARDS SHALL BE AS SHOWN ON THE PLANS.

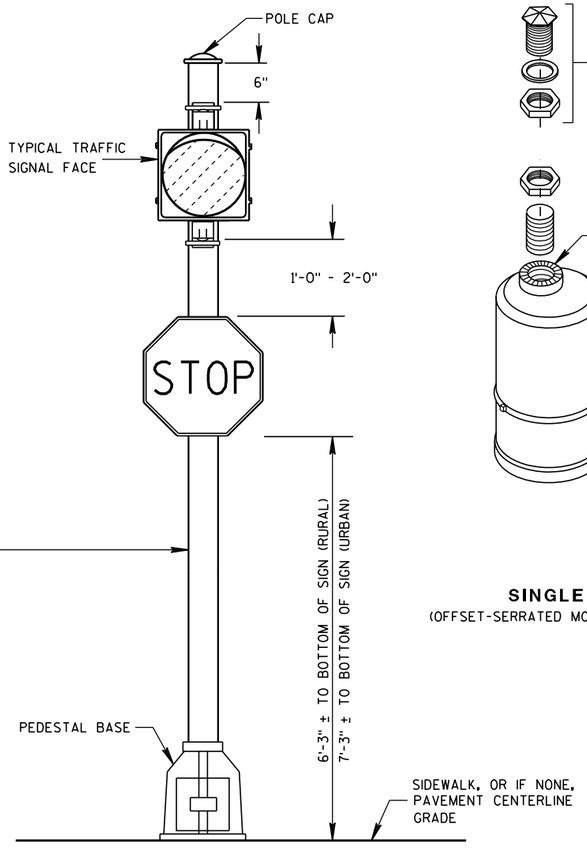
MOUNTINGS AND BRACKETS SHALL BE AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIAL PROVISIONS (BY THE DISTRICT TRAFFIC ENGINEER).

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

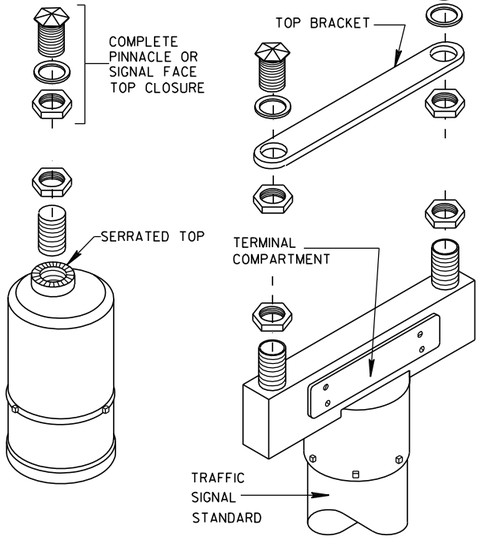
FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



PEDESTRIAN FACE STANDARD-10 FT.
(WALK-DON'T WALK)



STANDARD FLASHER.
10 FOOT, 13 FOOT OR 15 FOOT AS REQUIRED



SINGLE
(OFFSET-SERRATED MOUNTING)

DOUBLE
(SERRATED MOUNTING)

SLIPFITTERS

TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/11/10
DATE

/S/ John Corbin
STATE ELECTRICAL ENGI 1451 HWYS

FHWA

6

S.D.D. 9 E 7-5

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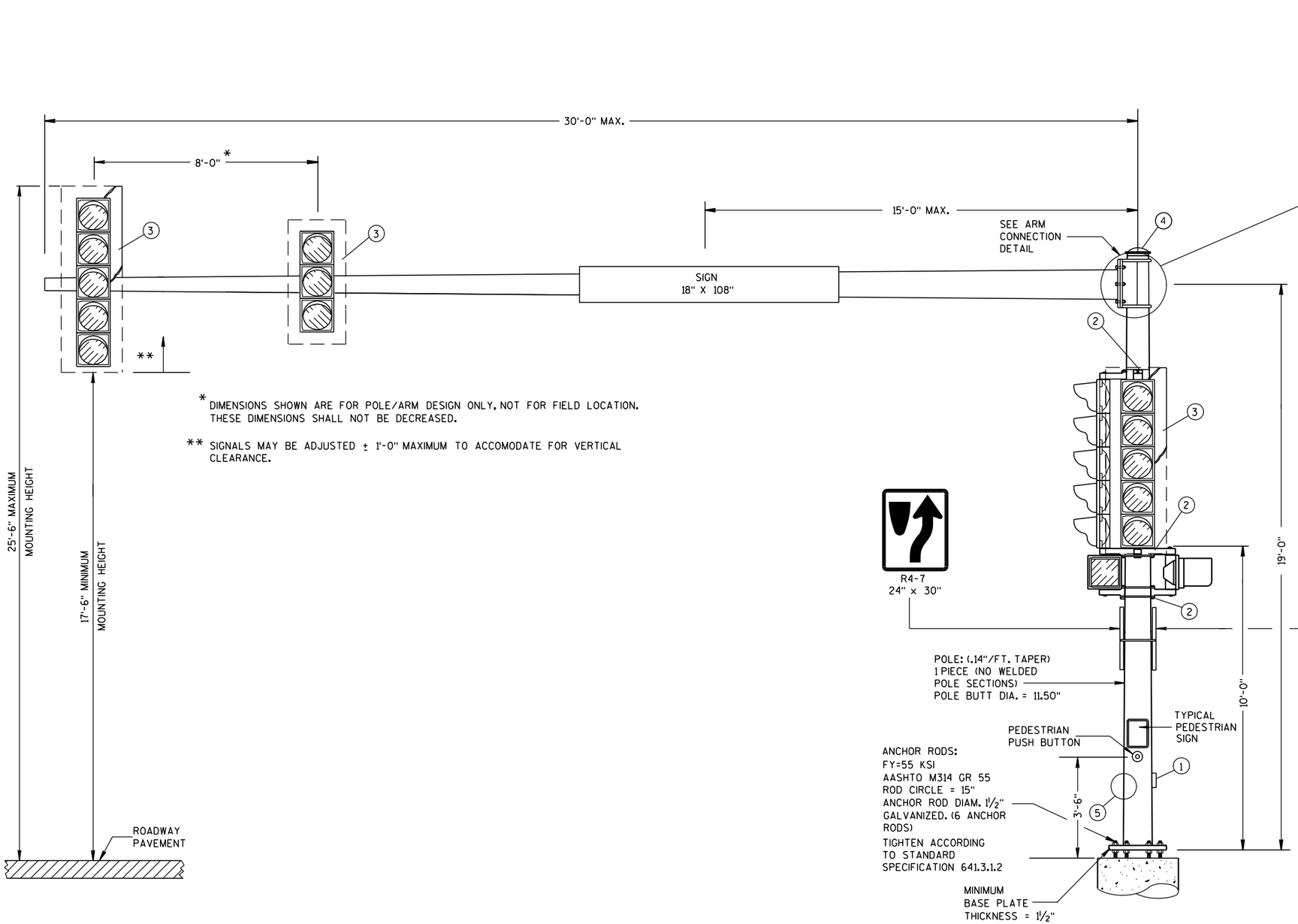
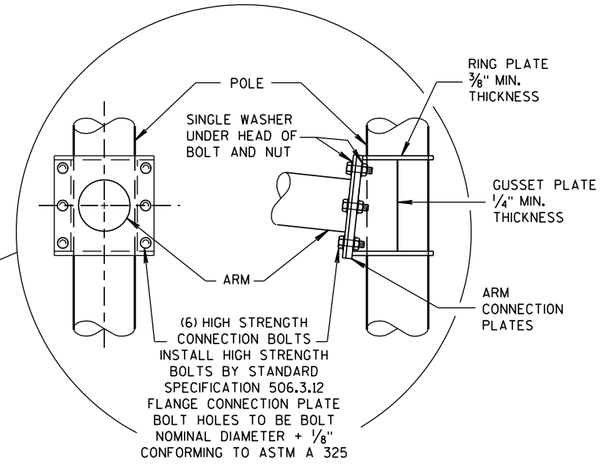
S.D.D. 9 E 7-5



* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY. NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.



6 BOLT ARM CONNECTION DETAIL

ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 9 POLE 15'- 30' MONOTUBE ARM

TYPE 9 POLE 15' - 30' MONOTUBE ARM	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 3/2/2011 DATE	/S/ Thomas J. Corrigan STATE ELECTRICAL ENGI 1452 HWYS
FHWA	

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S.D.D. 9 E 8-4a

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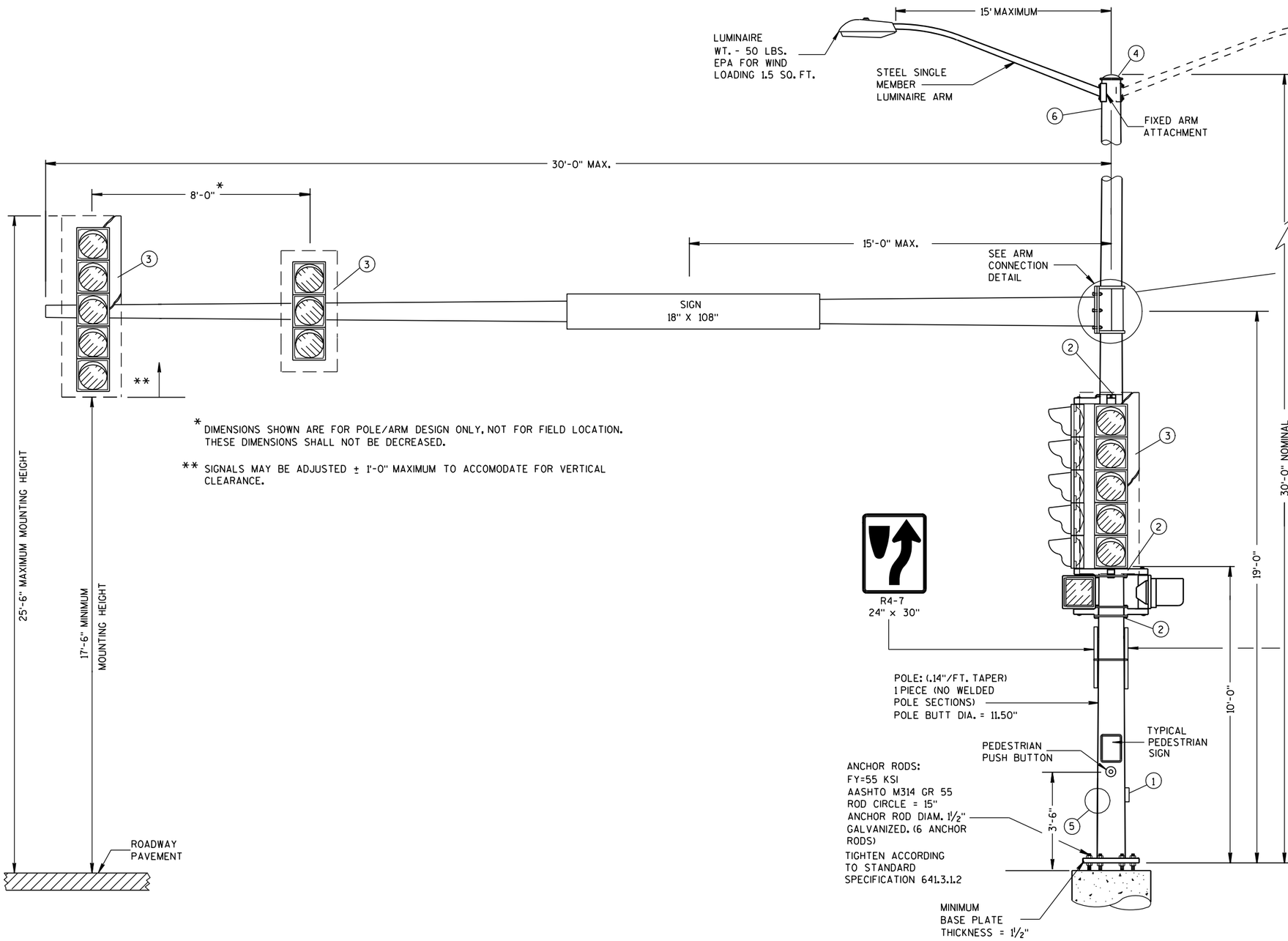

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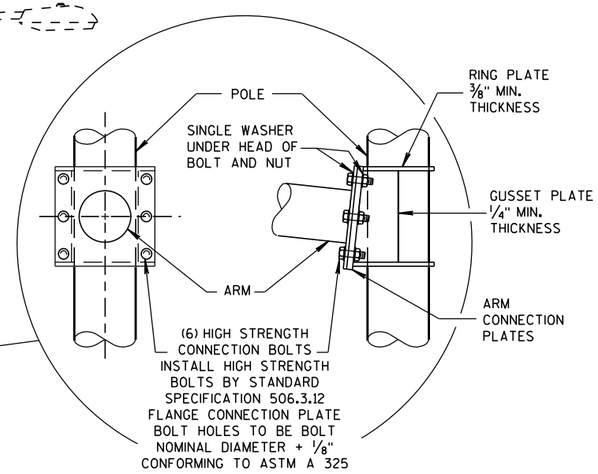
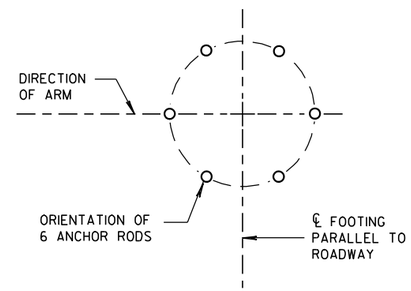
** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.



6 BOLT ARM CONNECTION DETAIL



ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 10 POLE
15'- 30' MONOTUBE ARM

TYPE 10 POLE 15' - 30' MONOTUBE ARM	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
3/2/2011 DATE	/S/ Thomas J. Corrigo STATE ELECTRICAL ENGI 1453 HWYS
FHWA	

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S.D.D. 9 E 8-4b

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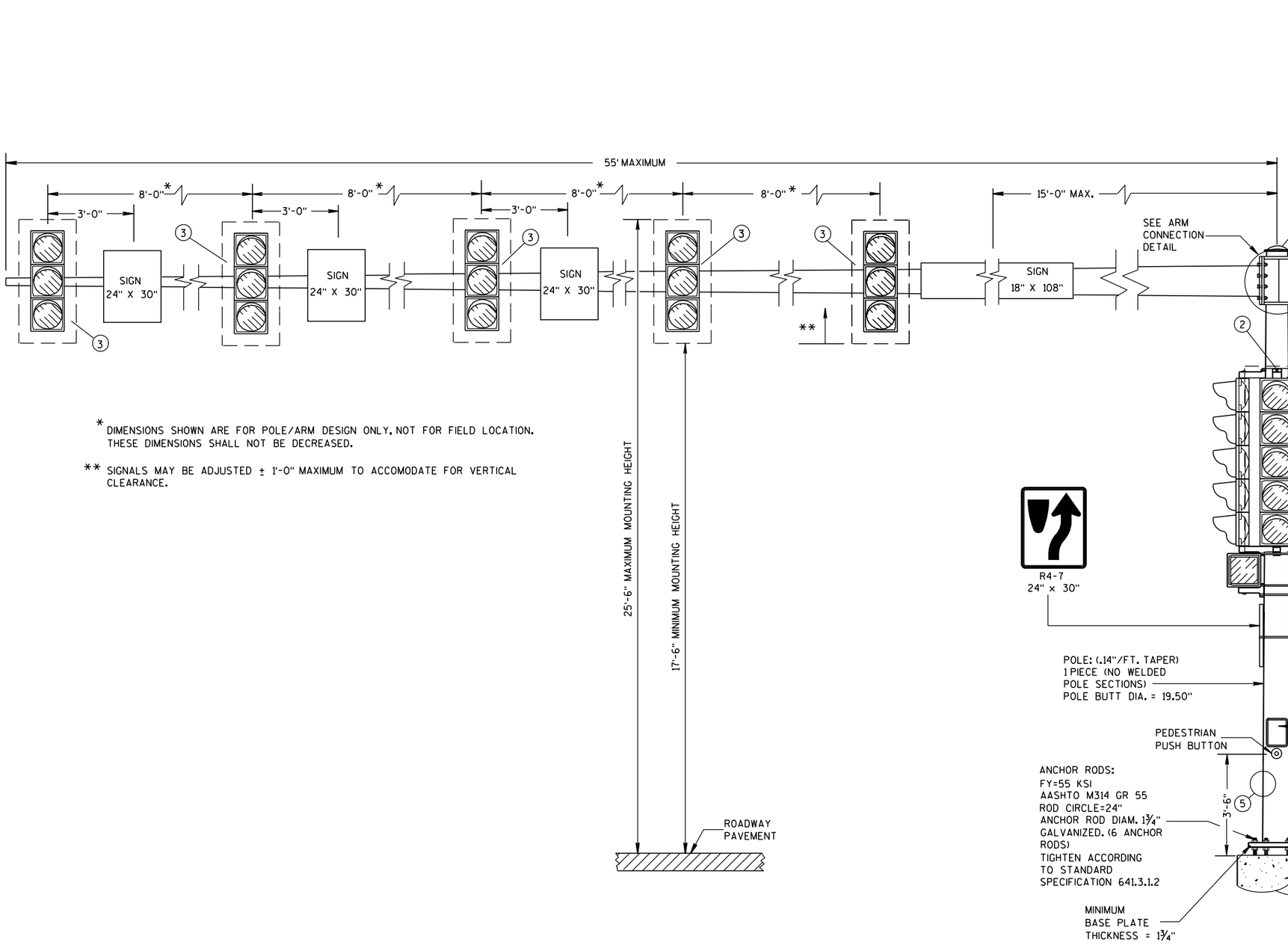
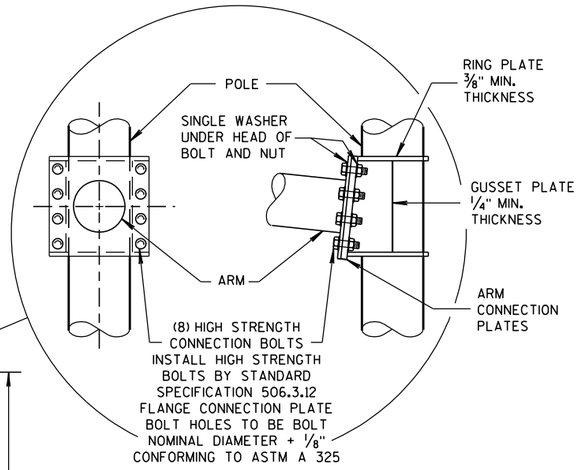
S.D.D. 9 E 8-4b

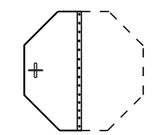


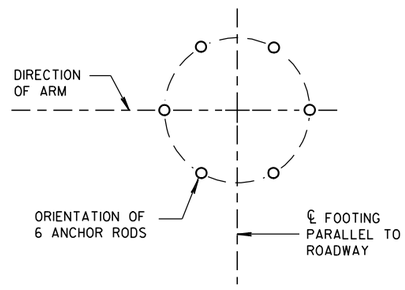
* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.



8 BOLT ARM CONNECTION DETAIL





ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 12 POLE 35'- 55' MONOTUBE ARM

TYPE 12 POLE
35' - 55' MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/2/2011 — DATE
/S/ Thomas J. Gorring — STATE ELECTRICAL ENGI 1454 — HWYS
FHWA

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S.D.D. 9 E 8-4c

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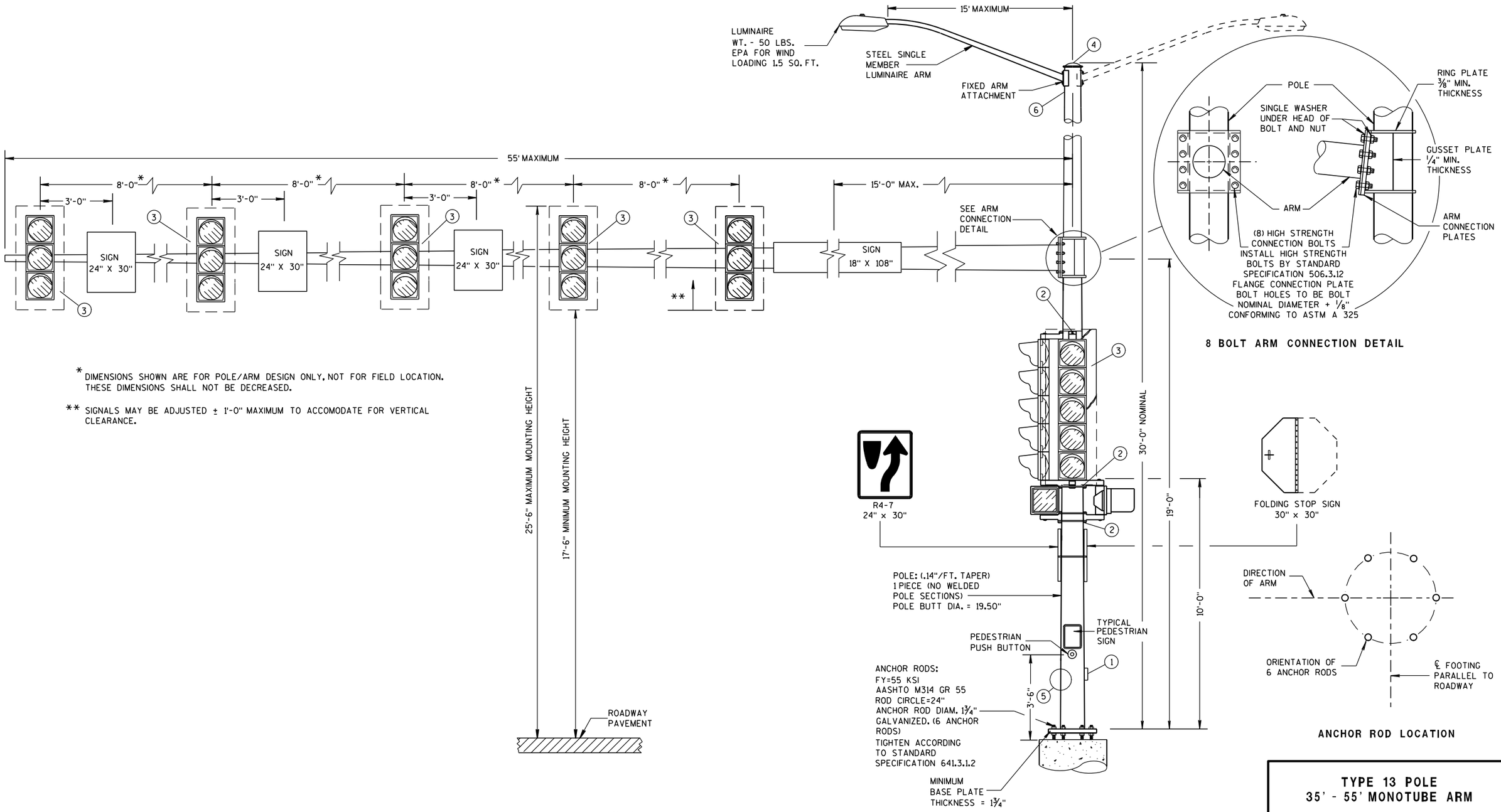

* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.

(MAXIMUM LOAD)

TYPE 13 POLE 35'- 55' MONOTUBE ARM

8 BOLT ARM CONNECTION DETAIL

ANCHOR ROD LOCATION

TYPE 13 POLE
35' - 55' MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011 — DATE

/S/ Thomas J. Corrigan — STATE ELECTRICAL ENGI 1455 — HWYS

FHWA

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S.D.D. 9 E 8-4d

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S.D.D. 9 E 8-4d

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15-FOOT TO 30-FOOT.

POLE TYPES 12 AND 13 ARE FOR ARM LENGTHS 35-FOOT TO 55-FOOT.

MONOTUBE POLE AND ARM SHALL BE GALVANIZED STEEL.

RING-STIFFENED BUILT-UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE (1) PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3 % ± RISE).

SECTION 657, POLES OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

PROVIDE WIREWAY THRU POLE WALL AND ARM CONNECTION PLATES. PROVIDE ROUND, SMOOTH INSIDE SURFACE.

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE LATEST AASHTO AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR TRAFFIC AND LIGHTING STRUCTURES AND AS FOLLOWS:

- CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.
- CATEGORY II FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 12 AND TYPE 13 STRUCTURES.
- 90 MPH (3-SECOND GUST) WIND SPEED AND A 50 YEAR DESIGN LIFE.

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH ¾" S.S. BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL ½" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

SIGNAL FACE SHALL BE MOUNTED 6 INCHES (NOMINAL) FROM THE END OF THE MONOTUBE ARM OR AS SHOWN ON THE PLAN CONSTRUCTION DETAIL OR AS DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEADS AT SAME ELEVATION.

SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

(1) DESIGN FOR MAXIMUM ALLOWABLE HANDHOLE WITH COVER ASSEMBLY WITH TWO ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

(2) SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING, (SEE SPECIFICATIONS SEC. 658).

(3) SECURELY MOUNT BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.

(4) THE TOP OF THE POLE SHAFT AND THE END OF THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.

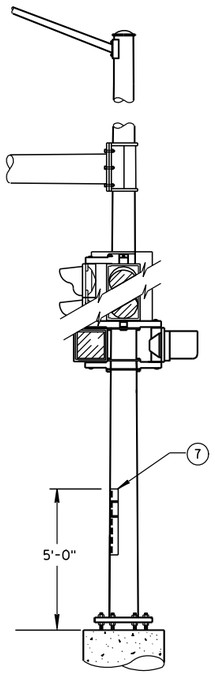
(5) FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.

(6) FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

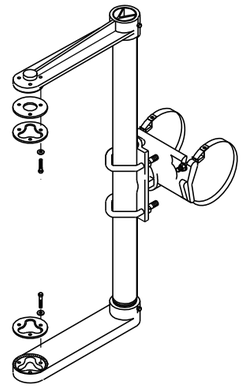
(7) INSTALL DEPARTMENT PROVIDED STRUCTURAL IDENTIFICATION PLAQUES.

STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

MOUNTING HEIGHT SHALL BE 5'-0" ABOVE THE CURB OR SHOULDER . ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

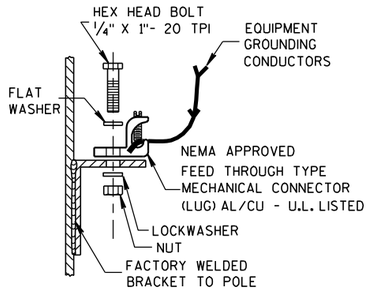


STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT



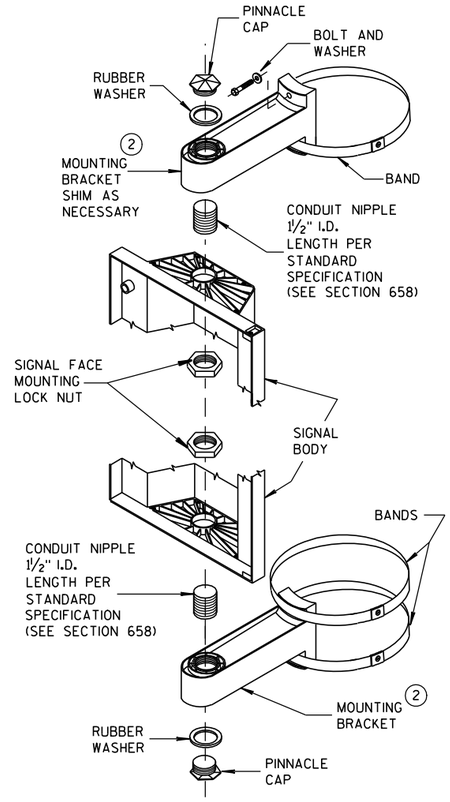
SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM

(MOUNT PER MANUFACTURER'S RECOMMENDATION)

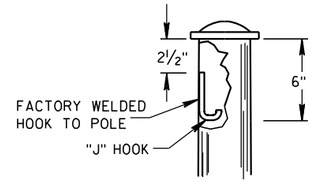


TYPICAL GROUNDING CONNECTIONS (5)

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



SIGNAL FACE VERTICAL MOUNTING DETAIL



"J" HOOK WIRE SUPPORT (6)

GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011 DATE

/S/ Thomas J. Corrigan
STATE ELECTRICAL ENGI 1456 HWYS

FHWA

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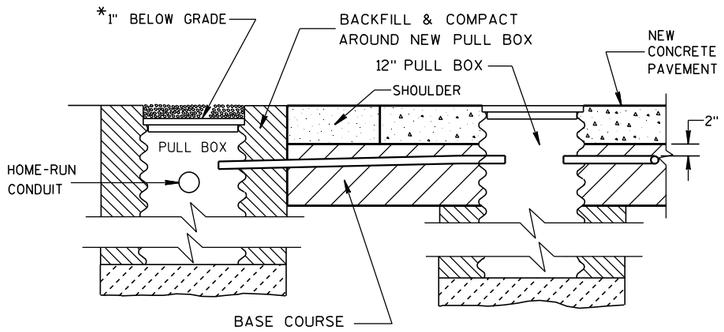


SECTION A-A

NO CURB & GUTTER

LOOP DETECTOR INSTALLATION DETAILS

*RECESS PULL BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

LOOP SIZE, LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS SUCH AS 3M TYPE 82A1 OR APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

ANTI-SIEZE LUBRICATING MATERIAL SHALL BE USED ON ALL THREADS OF THREADED ASSEMBLIES BEFORE INSTALLATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

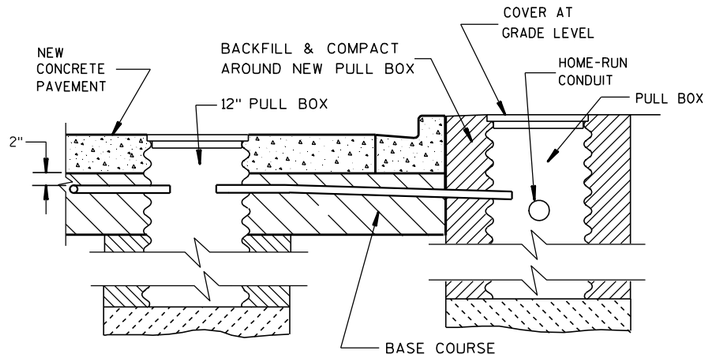
THE #12 AWG LOOP WIRE FROM THE LOOP TO THE ROADSIDE PULL BOX, SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE INSTALLATION.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL BOXES AT THE SIDE OF THE ROAD.

THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL BOX, THROUGH THE LOOP DUCT, BACK TO THE ROADSIDE PULL BOX, AND BE INSTALLED IN ONE, NON-SPLICED, CONTINUOUS LENGTH.

PROTECTION OF THE CONDUIT, CONDULET AND PULL BOX SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE THE NEW CONCRETE PAVEMENT IS PLACED.

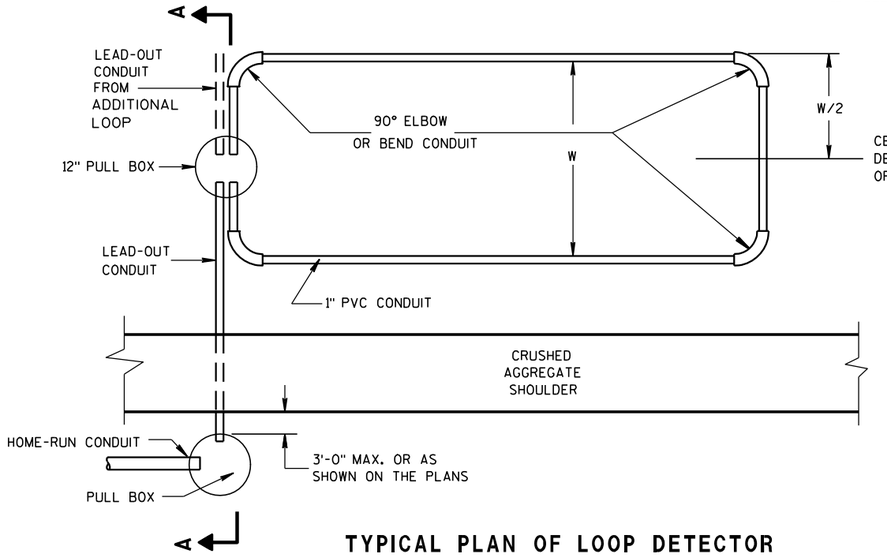
12" PULL BOXES IN PAVEMENT SHALL BE CORRUGATED STEEL ONLY.



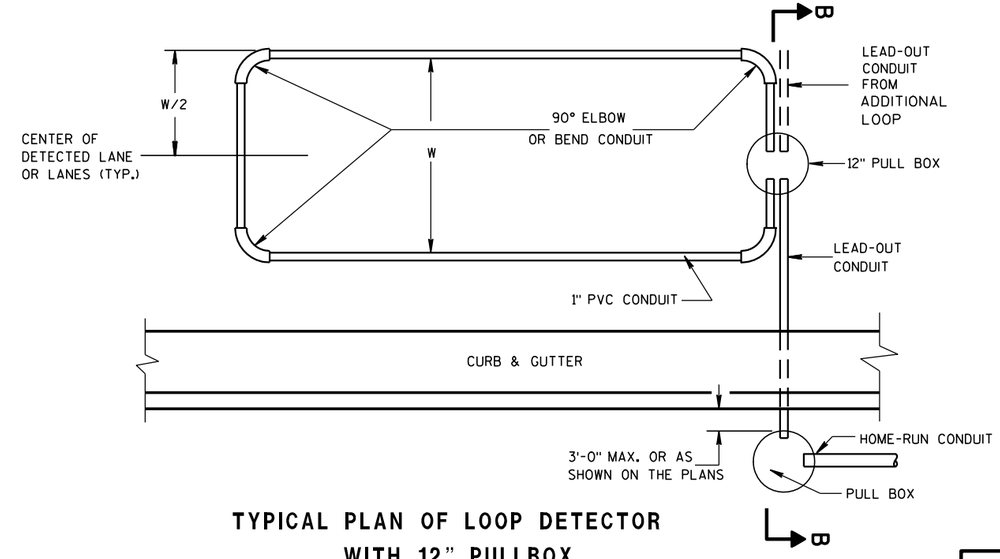
SECTION B-B

CURB & GUTTER

LOOP DETECTOR INSTALLATION DETAILS



TYPICAL PLAN OF LOOP DETECTOR WITH 12" PULLBOX



TYPICAL PLAN OF LOOP DETECTOR WITH 12" PULLBOX

LOOP DETECTOR PLACED IN CRUSHED AGGREGATE BASE (NEW CONCRETE PAVEMNET)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6-7-06 DATE

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI 1457 HWYS

FHWA

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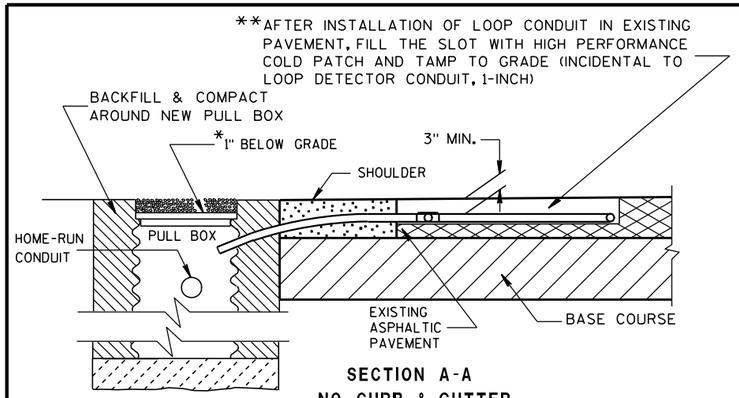
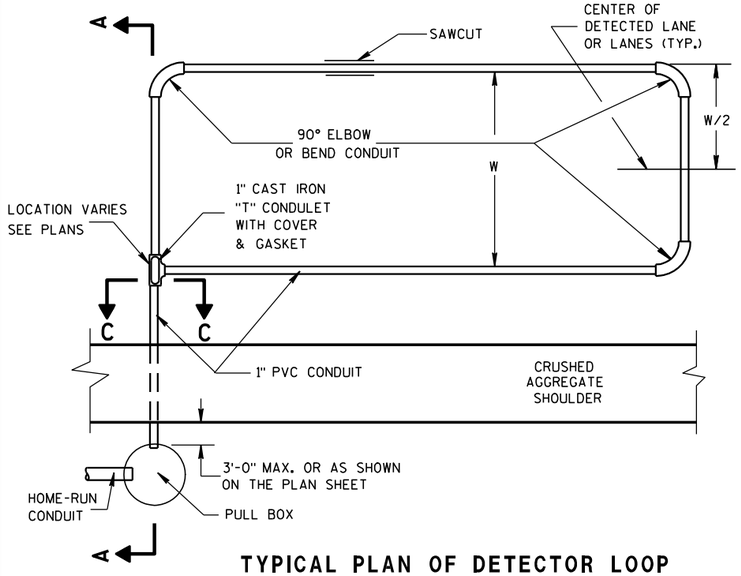


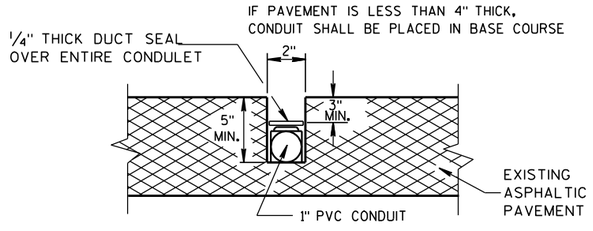
SECTION A-A
NO CURB & GUTTER

TYPICAL PLAN OF LOOP DETECTOR

*RECESS PULL BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.



TYPICAL PLAN OF DETECTOR LOOP



SIDE VIEW
SECTION C-C

LOOP DETECTOR SLOT DETAIL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

LOOP SIZE, LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS SUCH AS 3M TYPE 82A1 OR APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISITANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

ANTI-SIEZE LUBRICATING MATERIAL SHALL BE USED ON ALL THREADS OF THREADED ASSEMBLIES BEFORE INSTALLATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

THE #12 AWG LOOP WIRE FROM THE LOOP TO THE ROADSIDE PULL BOX, SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE INSTALLATION.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL BOXES AT THE SIDE OF THE ROAD.

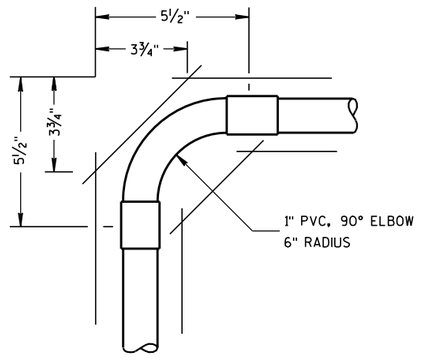
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL BOX, AND BE INSTALLED IN ONE, NON-SPLICED, CONTINUOUS LENGTH.

IN THE EVENT THAT THE EXISTING PAVEMENT IS MORE THAN 5 INCHES THICK, AND THEREFORE , THE 1 INCH CONDUIT DOES NOT REQUIRE INSTALLATION BELOW THE PAVEMENT INTO THE BASE COURSE, PLACE SOME OF THE TAR OR EPOXY SEALANT IN THE SLOT TO A DEPTH OF APPROXIMATELY 1/2 INCH BEFORE INSTALLATION OF THE CONDUIT. IF THE CONDUIT MUST BE PLACED IN THE BASE COURSE, DO NOT PLACE THE TAR OR EPOXY SEALANT IN THE SLOT.

ONCE THE 2" LOOP SLOT HAS BEEN CHIPPED OUT, THE LOOP INSTALLATION SHALL BE COMPLETED PRIOR TO OPENING THE LANE(S) TO TRAFFIC.

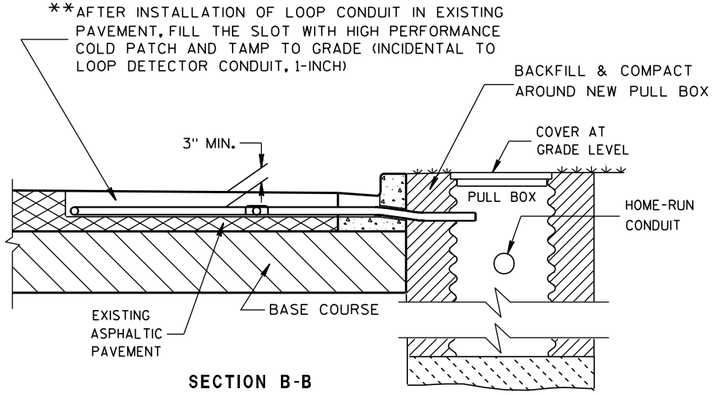
** AFTER THE HIGH PERFORMANCE COLD PATCH HAS BEEN TAMPED, SEAL THE SLOT/HIGH PERFORMANCE COLD PATCH/ PAVEMENT OPENING WITH HOT POURED ELASTIC TYPE MATERIAL CONFORMING TO THE REQUIREMENTS OF THE "SPECIFICATION FOR JOINT SEALANTS, HOT POURED, FOR CONCRETE AND ASPHALT PAVEMENTS, ASTM DESIGNATION: D3405".

IN THE EVENT HIGH PERFORMANCE COLD PATCH IS NOT AVAILABLE, AND FLEXIBLE TYPE EPOXY IS USED AS A LOOP SLOT FILLER, THE 2 INCH SLOT SHALL BE TOTALLY CLEAN AND DRY BEFORE ITS INSTALLATION. EPOXY USE SHALL BE APPROVED BY THE DISTRICT TRAFFIC ENGINEER AND THE FURNISHED EPOXY SHALL BE INSTALLED AFTER WRITTEN APPROVAL BY THE PROJECT ENGINEER.



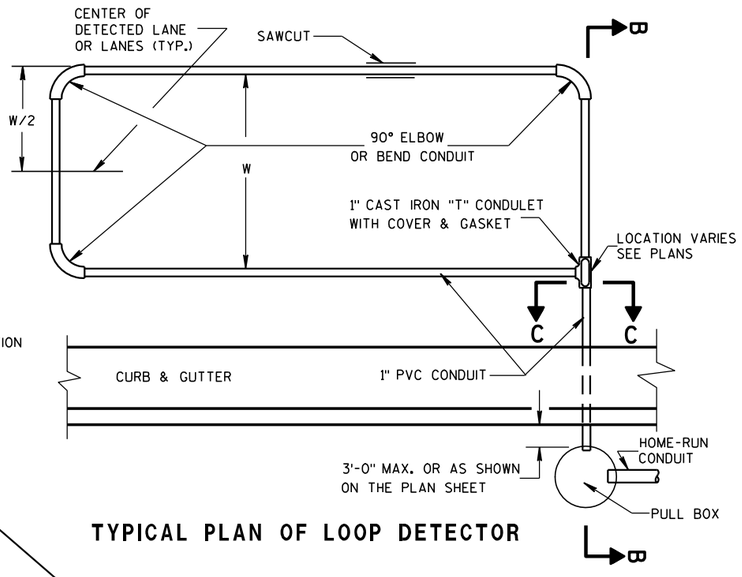
TOP VIEW

CORNER SAW SLOT DETAIL

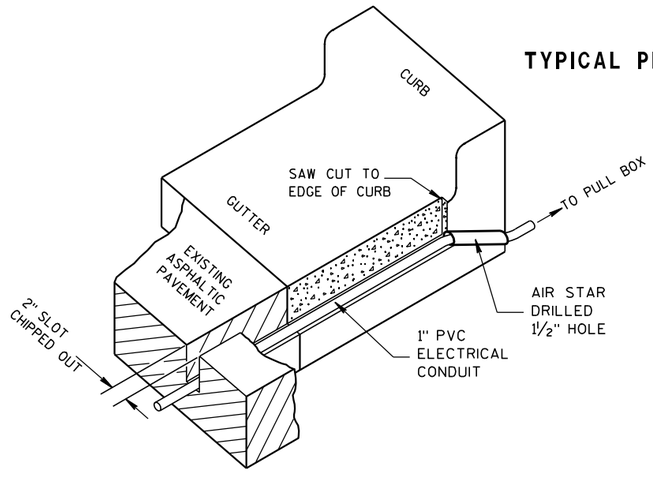


SECTION B-B
CURB & GUTTER

LOOP DETECTOR INSTALLATION DETAIL



TYPICAL PLAN OF LOOP DETECTOR



ISOMETRIC VIEW

TYPICAL SAW CUT DETAIL FOR LEAD-IN CONDUIT

LOOP DETECTOR INSTALLED IN EXISTING ASPHALTIC PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/7/06 DATE
/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI 1458 HWYS
FHWA

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S.D.D. 9 F 13-3

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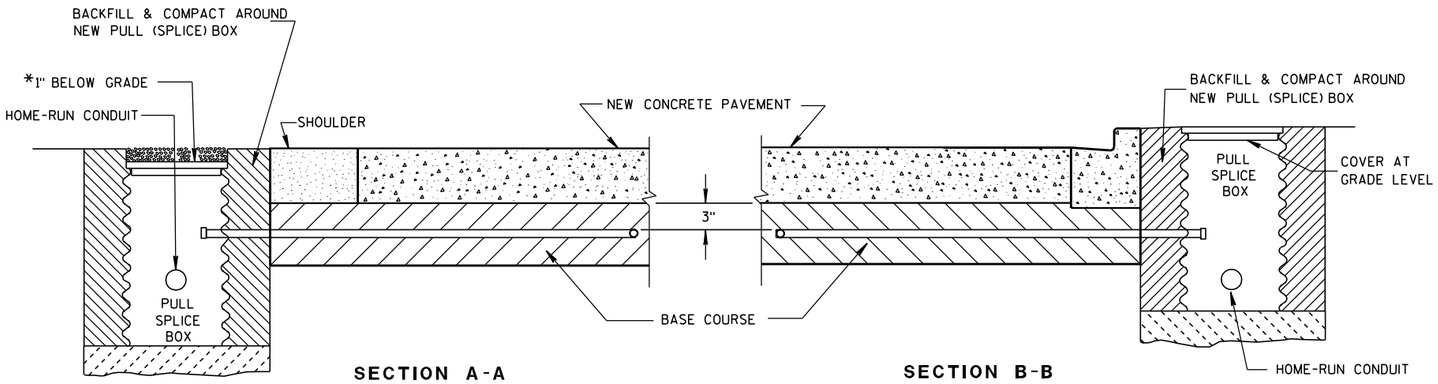


SECTION A-A
NO CURB & GUTTER

SECTION B-B
CURB & GUTTER

*RECESS PULL (SPLICE) BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS SUCH AS 3M TYPE 82A1 OR APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

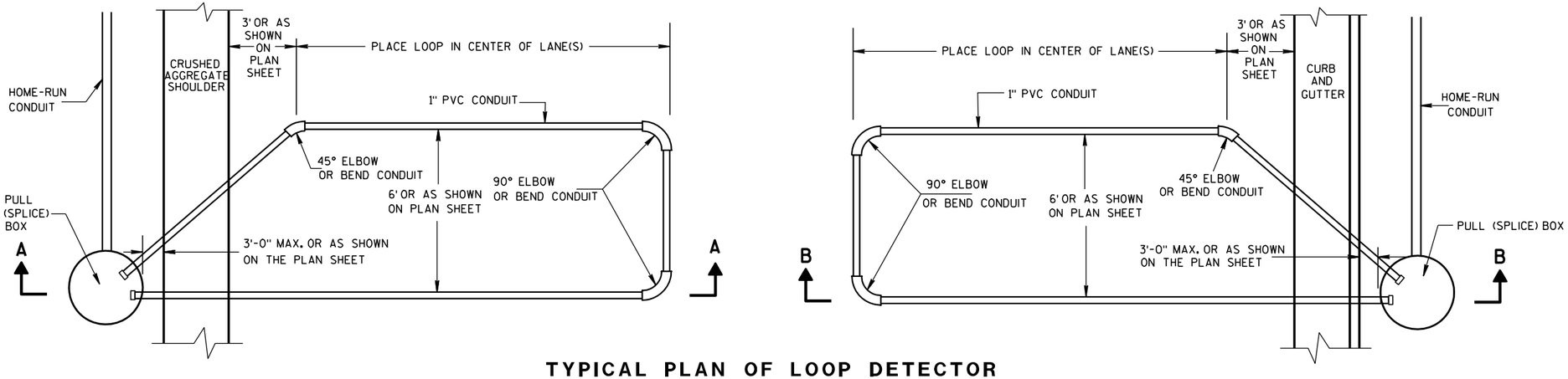
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICE CONTINUOUS LENGTH.

PROTECTION OF THE CONDUIT IN THE BASE COURSE, SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.



TYPICAL PLAN OF LOOP DETECTOR WITH 18" OR 24" PULL (SPLICE) BOX

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/7/06 — DATE
/S/ Balu Aganthangarayangan — STATE ELECTRICAL ENGI 1459 HWYS
FHWA

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S.D.D. 9 F 15-3a

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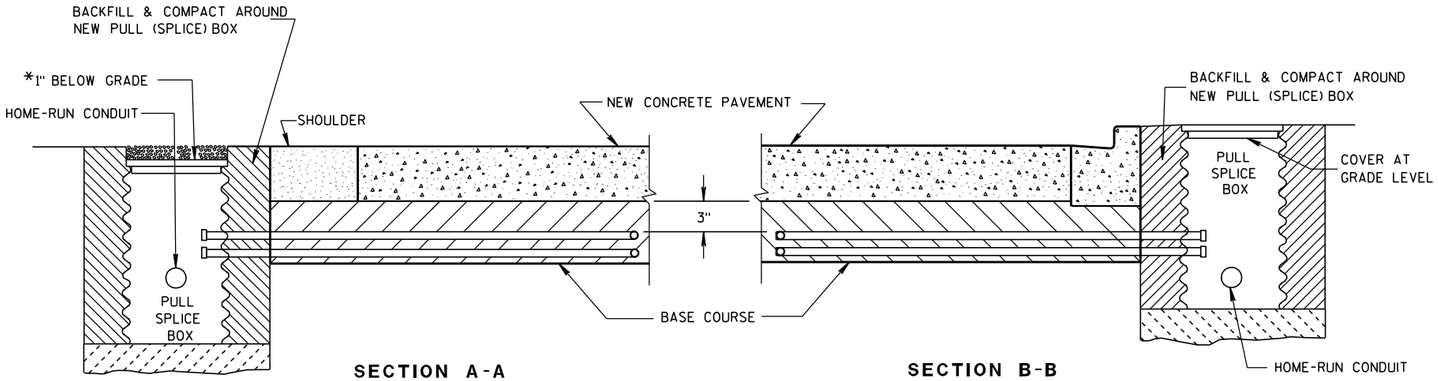
S.D.D. 9 F 15-3a



SECTION A-A
NO CURB & GUTTER

SECTION B-B
CURB & GUTTER

*RECESS PULL (SPLICE) BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS SUCH AS 3M TYPE 82A1 OR APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

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THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

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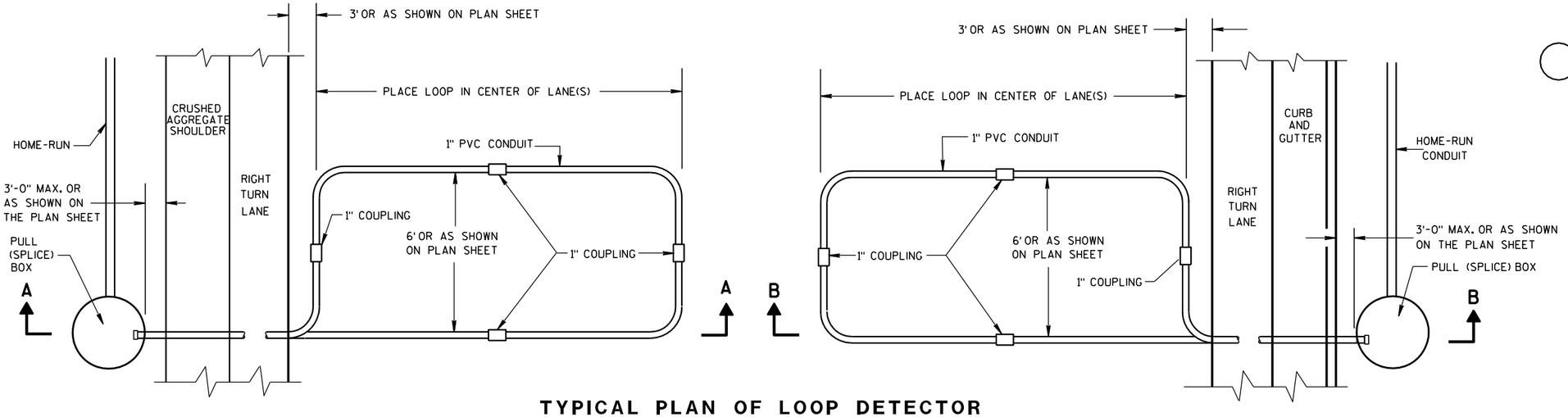
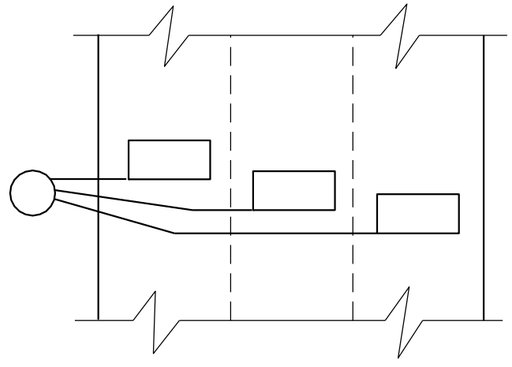
PROTECTION OF THE CONDUITS IN THE BASE COURSE SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.



TYPICAL PLAN OF LOOP DETECTOR WITH 24" PULL (SPLICE) BOX



MULTI-LANE INSTALLATION

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/7/06 DATE
/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI 1460 HWYS
FHWA

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S.D.D. 9 F 15-3b

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S.D.D. 9 F 15-3b

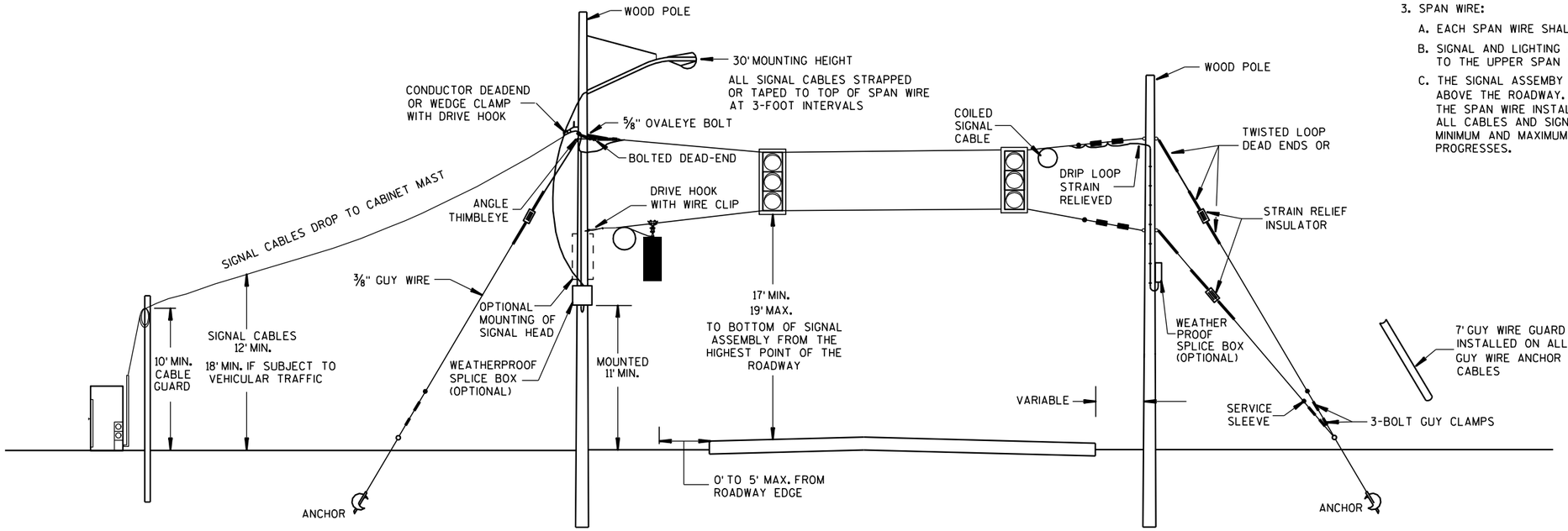
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

1. WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.

2. SIGNAL FACES:
   A. ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
   B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
   C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
   D. NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.

3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL ASSEMBY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.



SPAN WIRE
TEMPORARY SIGNALS

MINIMUM POLE LENGTHS	POLE BURIEL DEPTHS
25'	5'
30'	6'
35'	7'
40'	8'
45'	9'

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08 DATE

/S/ Balu Ananthar[illegible]n
STATE ELECTRICAL ENGI 1461 HWYS

FHWA

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S.D.D. 9 G 1-3a

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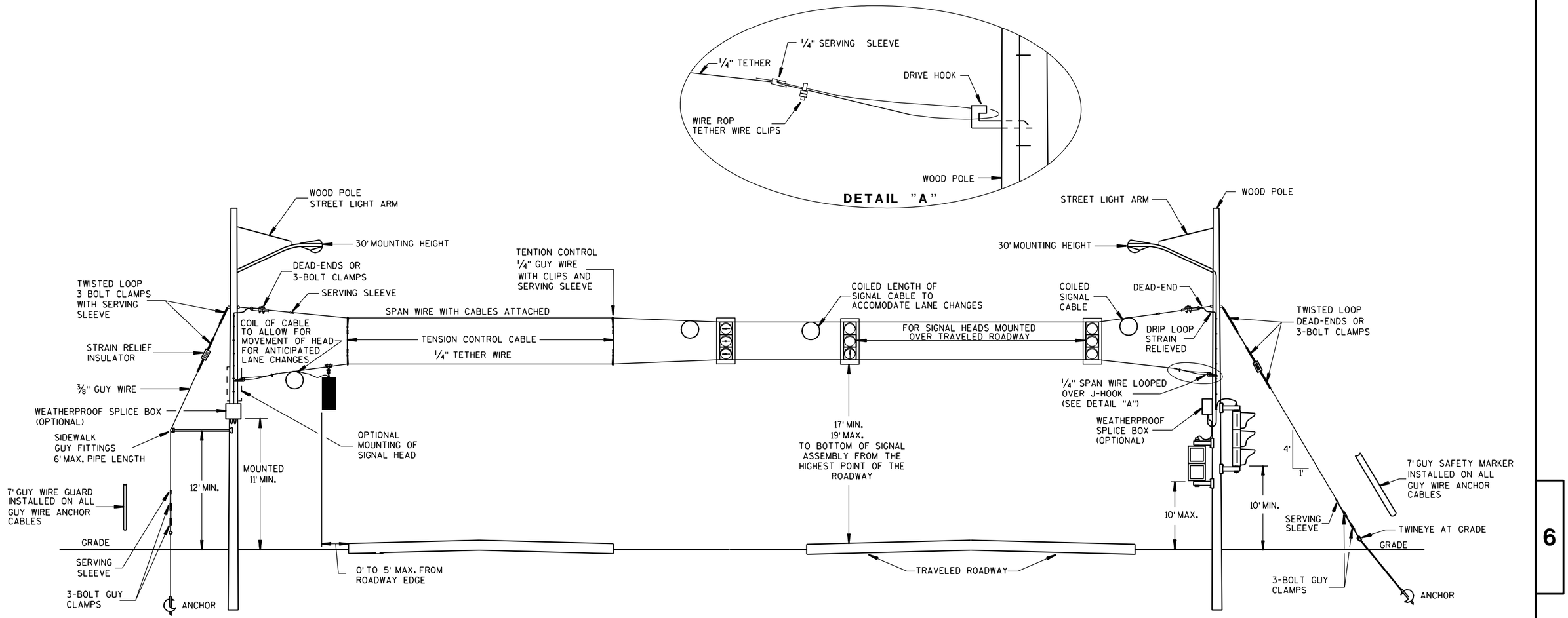

GENERAL NOTES

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   E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.
3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL ASSEMBY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.

SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

MINIMUM POLE LENGTHS	CLASS	MIN. BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08 DATE

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI 1462 HWYS

FHWA

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S.D.D. 9 G 1-3b

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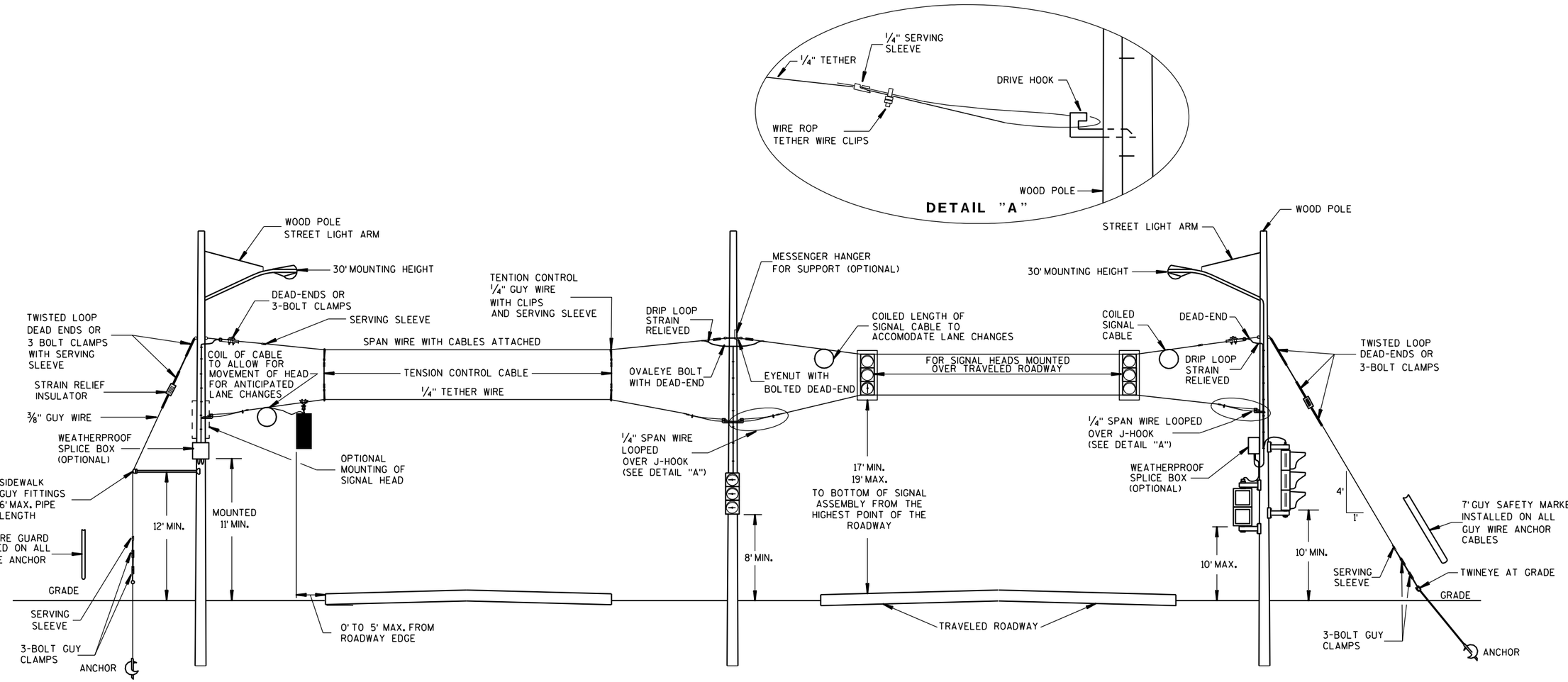
S.D.D. 9 G 1-3b



SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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MINIMUM POLE LENGTHS	CLASS	MIN. BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08 DATE

/S/ Balu Aganthangarayanan
STATE ELECTRICAL ENGI 1463 HWYS

FHWA

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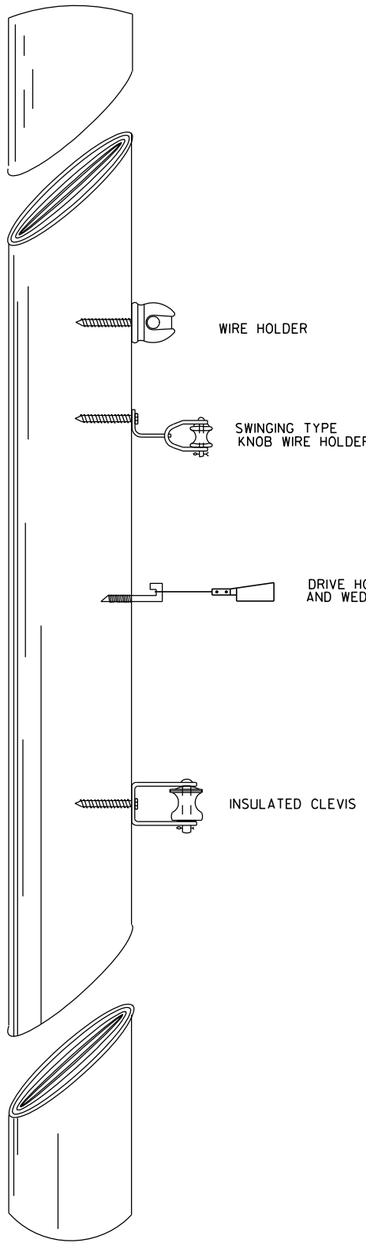
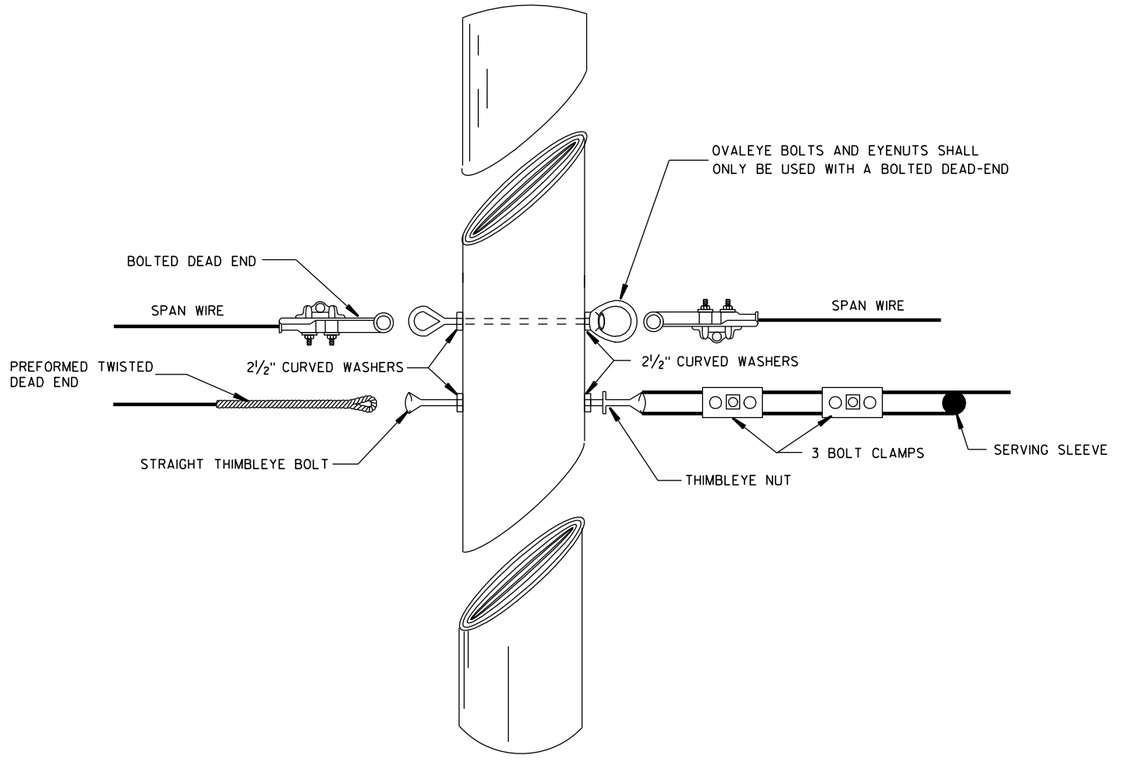
S.D.D. 9 G 1-3c



TYPICAL CABLE HANGERS



TYPICAL DEAD-ENDING

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08
DATE

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI 1464 HWYS

FHWA

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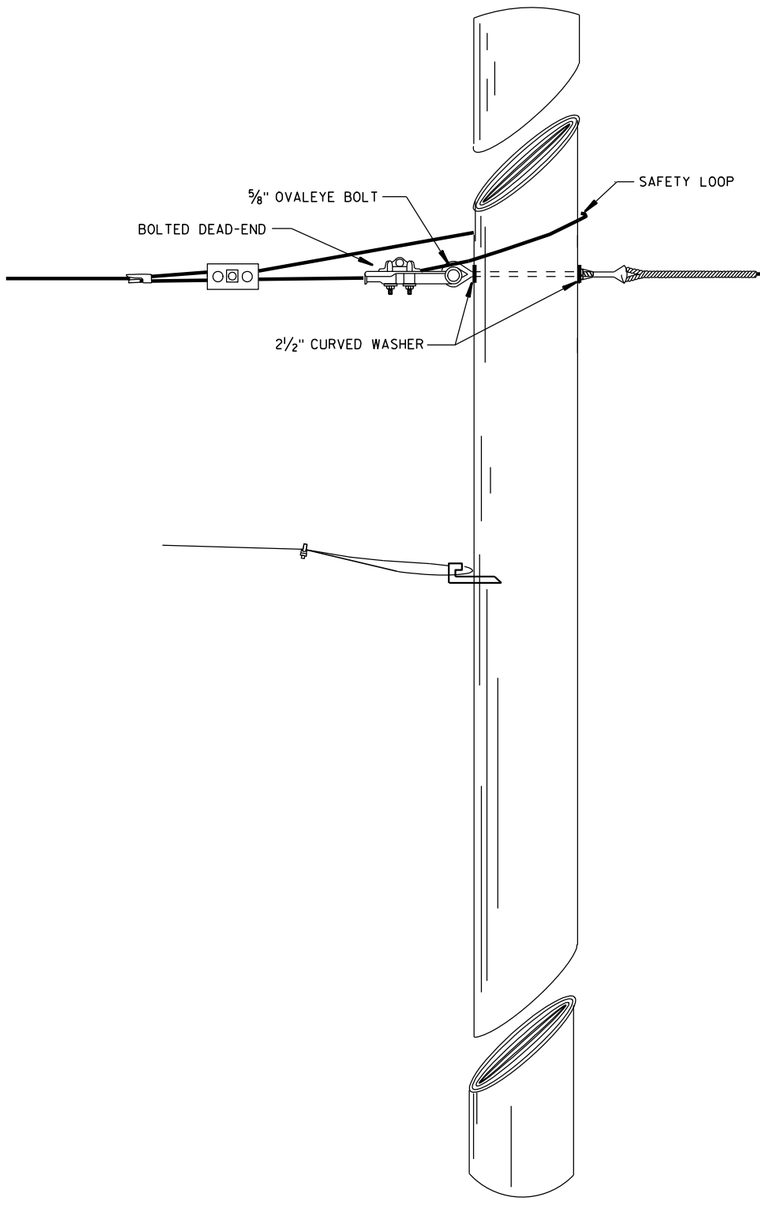
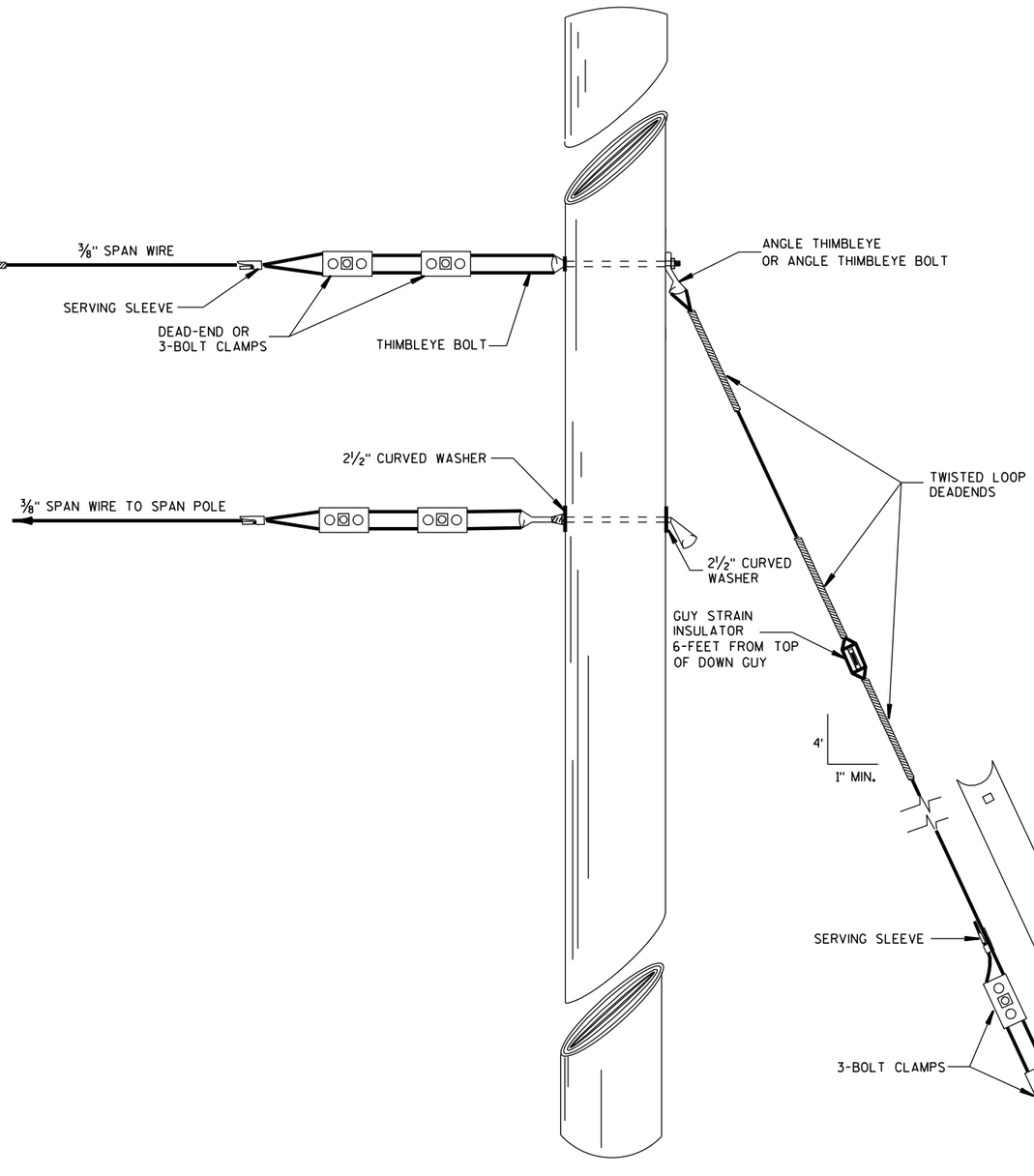
S.D.D. 9 G 1-3d

GENERAL NOTES

1. USE ¾" DRILL IN WOOD POLE TO PROVIDE HOLE FOR ⅝" BOLTS.
2. SAFTY LOOP REQUIRED ON EACH END OF ALL SPAN WIRES.



SPAN WIRE POLE



GUY POLE

TYPICAL DEAD-ENDINGS OR GUYING

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7-14-08 DATE
/S/ Balu Aganthanarayanan
STATE ELECTRICAL ENGI 1465 HWYS
FHWA

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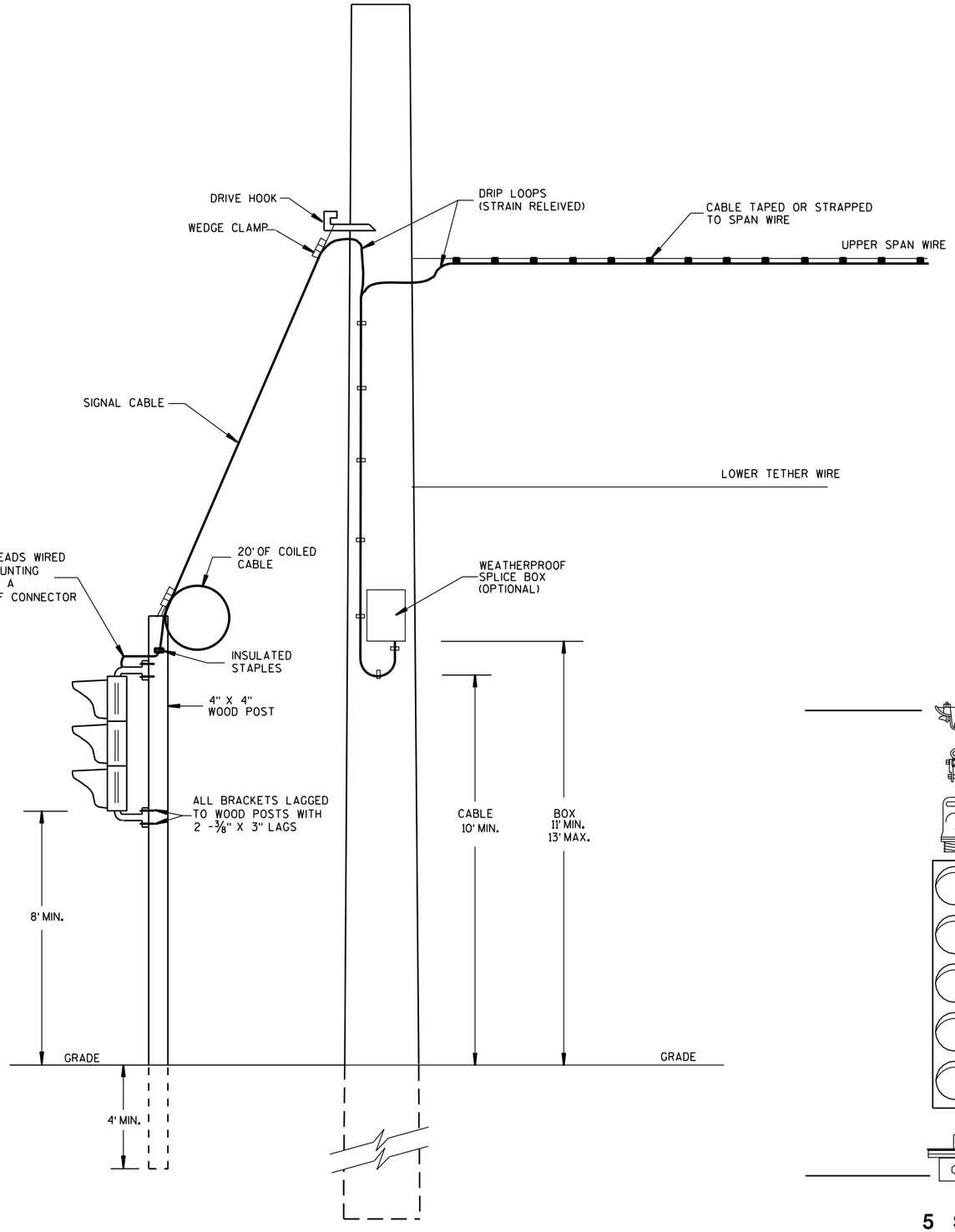
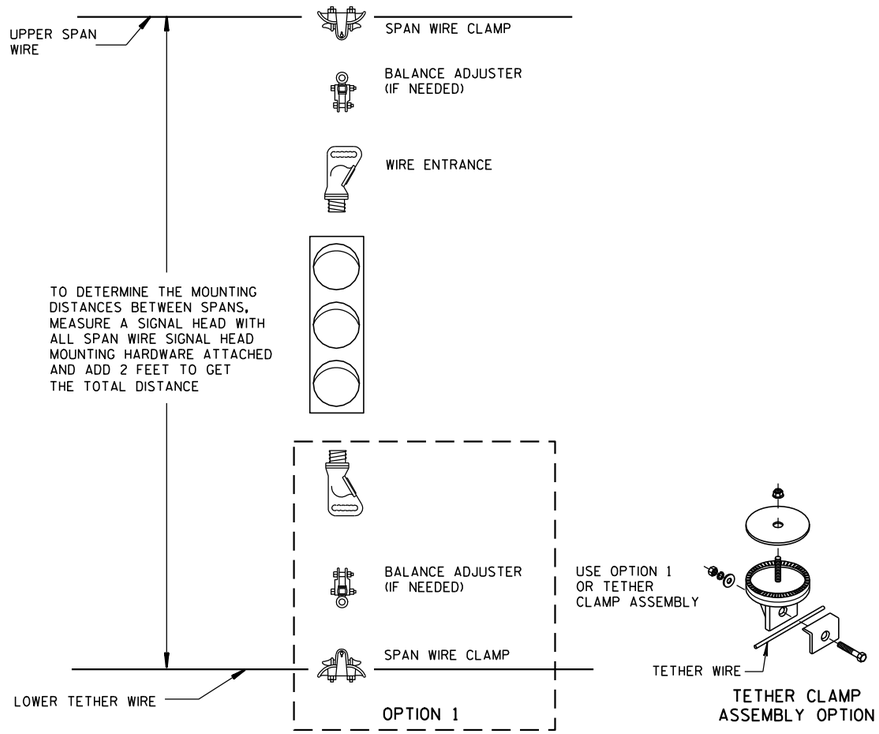
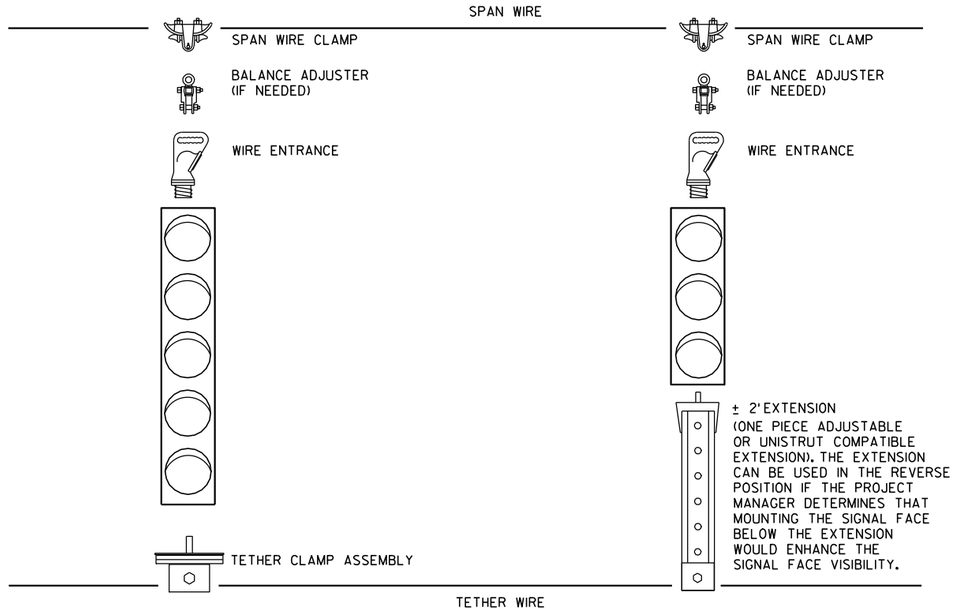
S.D.D. 9 G 1-3e



TYPICAL DROP TO TEMPORARY MOVEABLE SIGNAL



TYPICAL SPAN WIRE MOUNTING HARDWARE



5 SECTION VERTICAL WITH 3 SECTION VERTICAL ON ONE SPAN WIRE

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08
DATE

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI 1466 HWYS

FHWA

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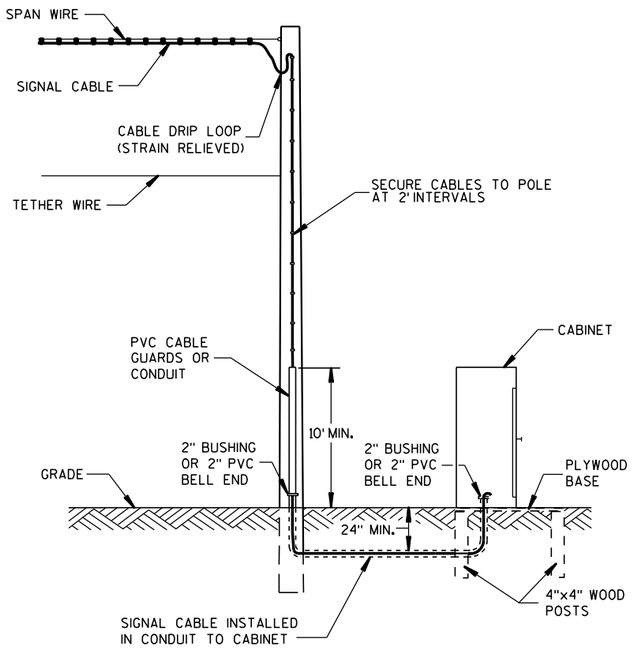
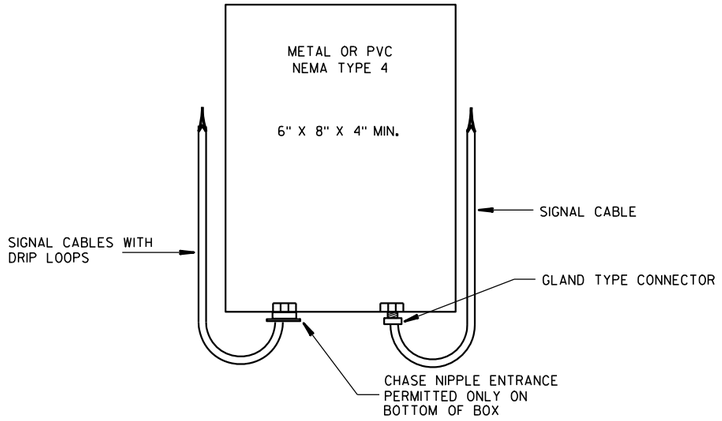
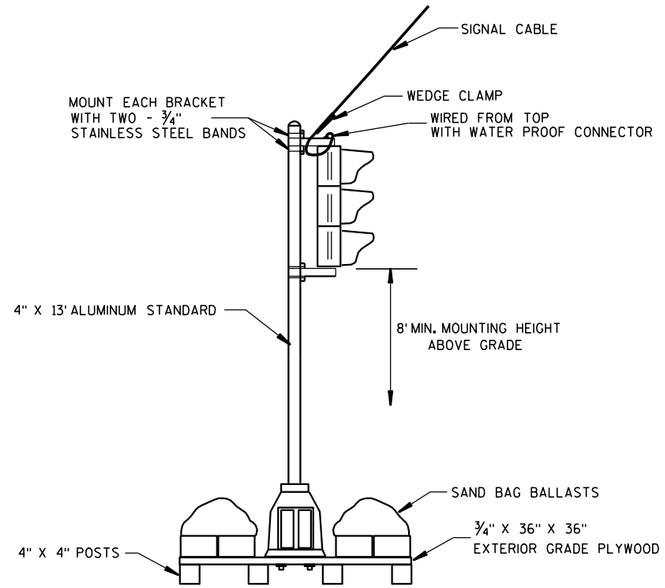
S.D.D. 9 G 1-3f

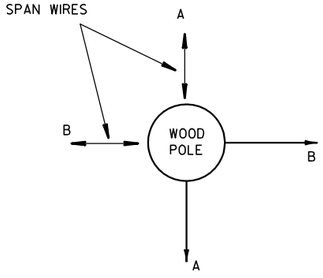




SPLICE BOX

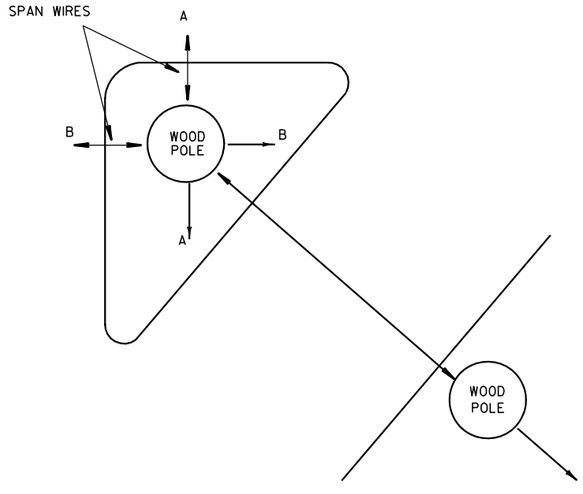


TYPICAL SKID TYPE TEMPORARY

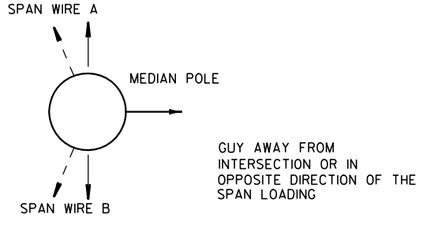


ALL DOWN OR SIDEWALK GUYS SHALL BE INSTALLED IN THE OPPOSITE DIRECTION OF THE STRAIN OF THE SPAN WIRE

CORNER POLES



ISLAND POLES



GUY AWAY FROM INTERSECTION OR IN OPPOSITE DIRECTION OF THE SPAN LOADING

MEDIAN POLES

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08
DATE

/S/ Balu Aganthangayagan
STATE ELECTRICAL ENGI 1467 HWYS

FHWA

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S.D.D. 9 G 1-3g

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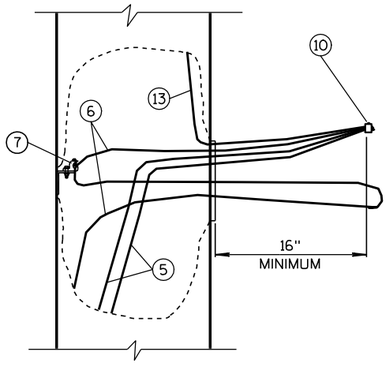
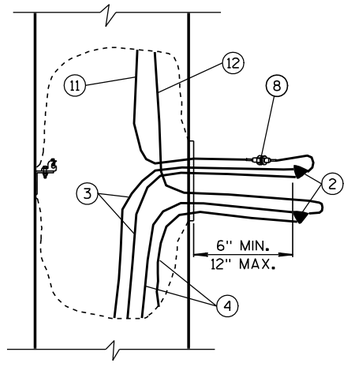
S.D.D. 9 G 1-3g

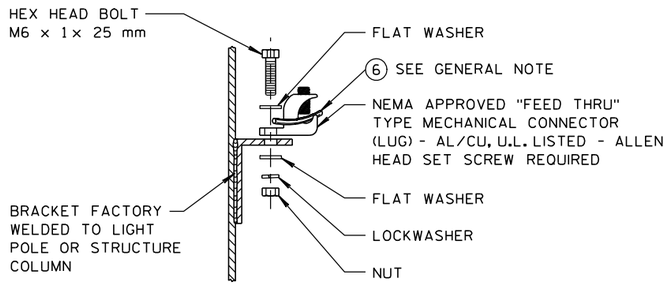


EQUIPMENT GROUNDING CONDUCTOR SLACK



UNGROUNDED CONDUCTOR SLACK (AND GROUNDED NEUTRAL SLACK IN GROUNDED NEUTRAL SYSTEM)

TYPICAL CONDUCTOR SLACK AT HANDHOLES



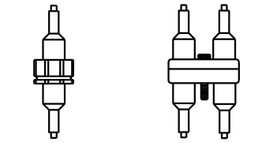
HANDHOLE GROUNDING LUG

(NUT, BOLT, WASHERS, AND LOCK WASHERS SHALL BE STAINLESS STEEL)

CONDUCTOR COLOR CODES

KEY	CONDUCTOR	COLOR
3	UNGROUNDED LINE WIRE	*
4	GROUNDED LINE WIRE	WHITE
5	SYSTEM GROUNDING LINE WIRE	GREEN
6	GROUNDING ELECTRODE CONDUCTOR	BARE
11	UNGROUNDED POLE WIRE	*
12	GROUNDED POLE WIRE	WHITE
13	EQUIPMENT GROUNDING POLE WIRE	GREEN

* FOLLOW COLOR CODING SHOWN IN THE PLANS. WHERE THE PLANS DO NOT SHOW COLOR CODING, USE BLACK FOR SINGLE LUMINAIRE POLES; BLACK AND RED FOR TWIN LUMINAIRE POLES.



FUSE ASSEMBLIES

GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN IN THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

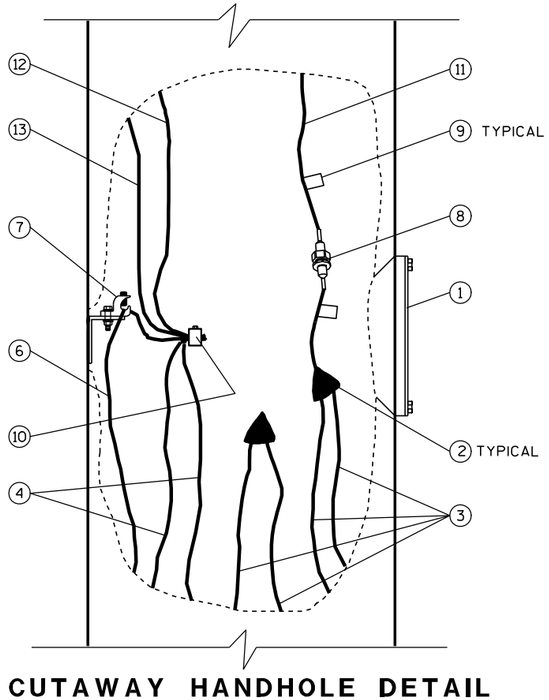
USE THIS DETAIL IN CONJUNCTION WITH THE ELECTRICAL DETAILS FOR THE APPLICATION, WHICH MAY BE A LIGHT POLE, SIGN BRIDGE, ETC.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING LUG TO THE CONNECTOR.

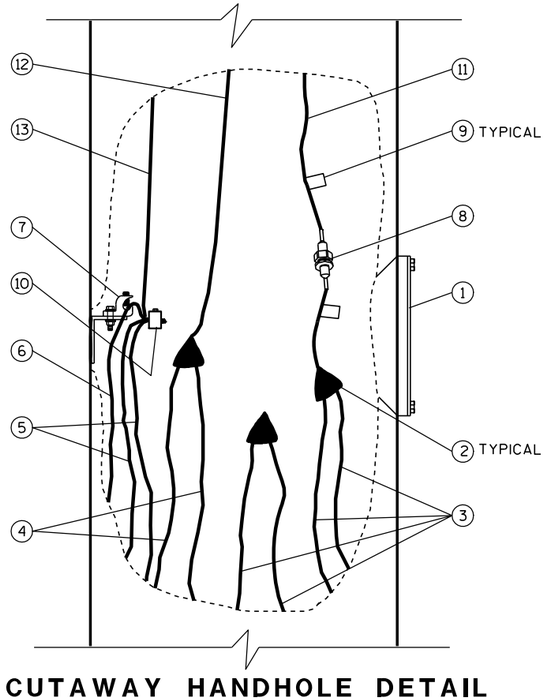
THREE POLE WIRES ARE SHOWN FOR A SINGLE LUMINAIRE LIGHT POLE. THREE ADDITIONAL POLE WIRES REQUIRED FOR TWIN LUMINAIRE LIGHT POLES ARE OMITTED FROM THE DRAWING FOR CLARITY. IN THE TWIN POLE CASE, BUNDLE EACH SET OF THREE WIRES WITH A NYLON CABLE TIE.

IN 3-PHASE SYSTEMS, THERE WILL BE ONE MORE UNGROUNDED LINE WIRE, WHICH IS OMITTED FROM THE DRAWING FOR CLARITY.

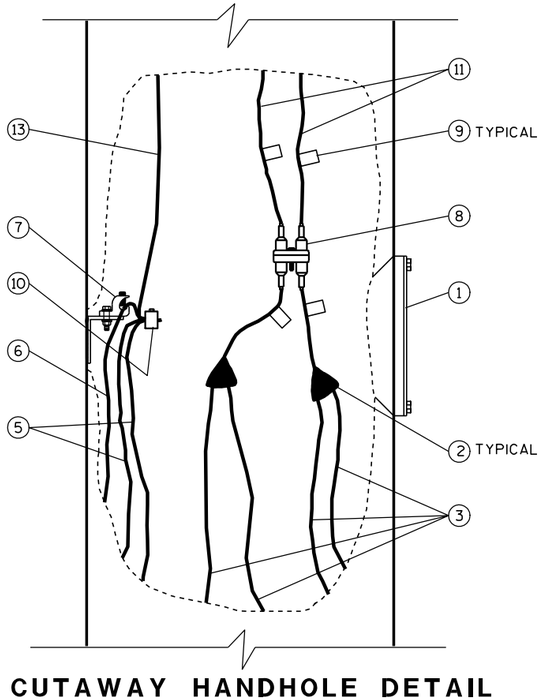
CIRCUIT TAGS SHALL BE INSTALLED ONLY WHERE REQUIRED IN THE SPECIAL PROVISIONS.



CUTAWAY HANDHOLE DETAIL
GROUNDED NEUTRAL SYSTEMS
1-φ



CUTAWAY HANDHOLE DETAIL
ISOLATED NEUTRAL SYSTEMS
1-φ SHOWN; 3-φ WYE SIMILAR
(SEE GENERAL NOTE)



CUTAWAY HANDHOLE DETAIL
PHASE-TO-PHASE SYSTEMS
1-φ SHOWN; 3-φ DELTA SIMILAR
(SEE GENERAL NOTE)

NOTE: REQUIRED CONDUCTOR SLACK NOT SHOWN ON "CUTAWAY HAND HOLE" DETAILS FOR DRAWING CLARITY, SEE "TYPICAL CONDUCTOR SLACK AT HANDHOLES" ON THIS SHEET.

1. HANDHOLE AND COVER
2. INSULATED SPLICE
3. UNGROUNDED LINE WIRE
4. GROUNDED LINE WIRE
5. SYSTEM GROUNDING LINE WIRE
6. GROUNDING ELECTRODE CONDUCTOR
7. HANDHOLE GROUNDING LUG
8. FUSE ASSEMBLY, 1P OR 2P AS REQUIRED
9. CIRCUIT TAG (SEE GENERAL NOTE)
10. REVERSIBLE PRESSURE OR COMPRESSION GROUNDING CONNECTOR (NOT INSULATED)
11. UNGROUNDED POLE WIRE
12. GROUNDED POLE WIRE
13. EQUIPMENT GROUNDING POLE WIRE

ELECTRICAL HANDHOLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/25/2010 DATE
/S/ John Corbin STATE ELECTRICAL ENGI 1468 HWYS
FHWA

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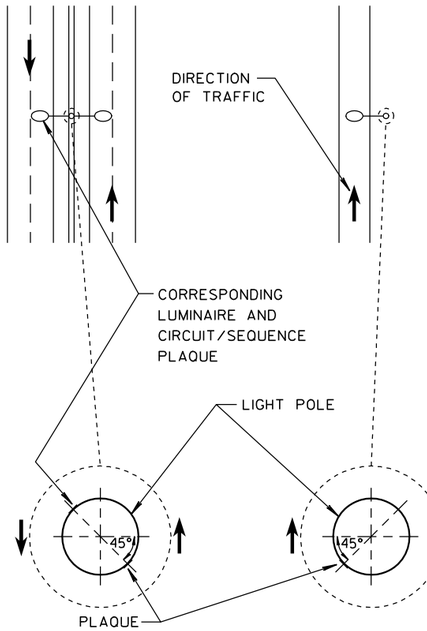
S.D.D. 10 A 1-2



MEDIAN POLE SINGLE ARM POLE

LOCATION OF LIGHT POLE CIRCUIT/SEQUENCE PLAQUE

GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN IN THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

WHERE SHOWN IN THE PLANS, REPLACEMENT PLAQUES WILL BE MEASURED AND PAID SEPARATELY.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETRORFLECTIVE

LINES - BLACK, 1/2" WIDE, SELF-ADHESIVE

CHARACTERS - BLACK, SELF-ADHESIVE, SERIES "D", SIZE AS SHOWN

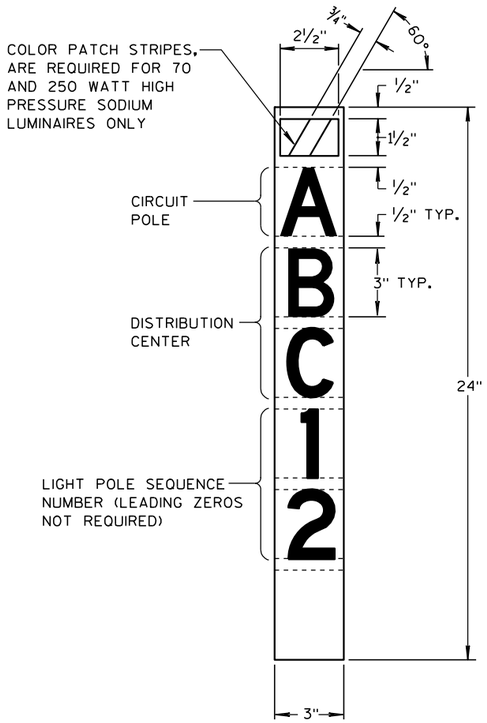
COLOR PATCHES - VARIOUS COLORS, SELF-ADHESIVE VINYL SHEETING

WITH THE APPROVAL OF THE ENGINEER, THE BASE MATERIAL MAY BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE SURFACE, IN CASES SUCH AS SMOOTH, CLEAN ALUMINUM POLES.

ALTERNATIVE COMPUTER-GENERATED SIGN LETTERING MAY BE ACCEPTED IF THE ENGINEER FINDS IT TO BE EQUIVALENT.

COLOR PATCH CODE FOR HPS LUMINAIRES

1000 WATT - NO PATCH
400 WATT - ORANGE
310 WATT - BLUE
250 WATT - ORANGE WITH WHITE STRIPE
200 WATT - RED
150 WATT - GREEN
100 WATT - BROWN
70 WATT - BROWN WITH WHITE STRIPE



LIGHT POLE CIRCUIT/SEQUENCE PLAQUE

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S.D.D. 10 A 2-2

IDENTIFICATION PLAQUES LIGHT POLES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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10/25/2010 — DATE
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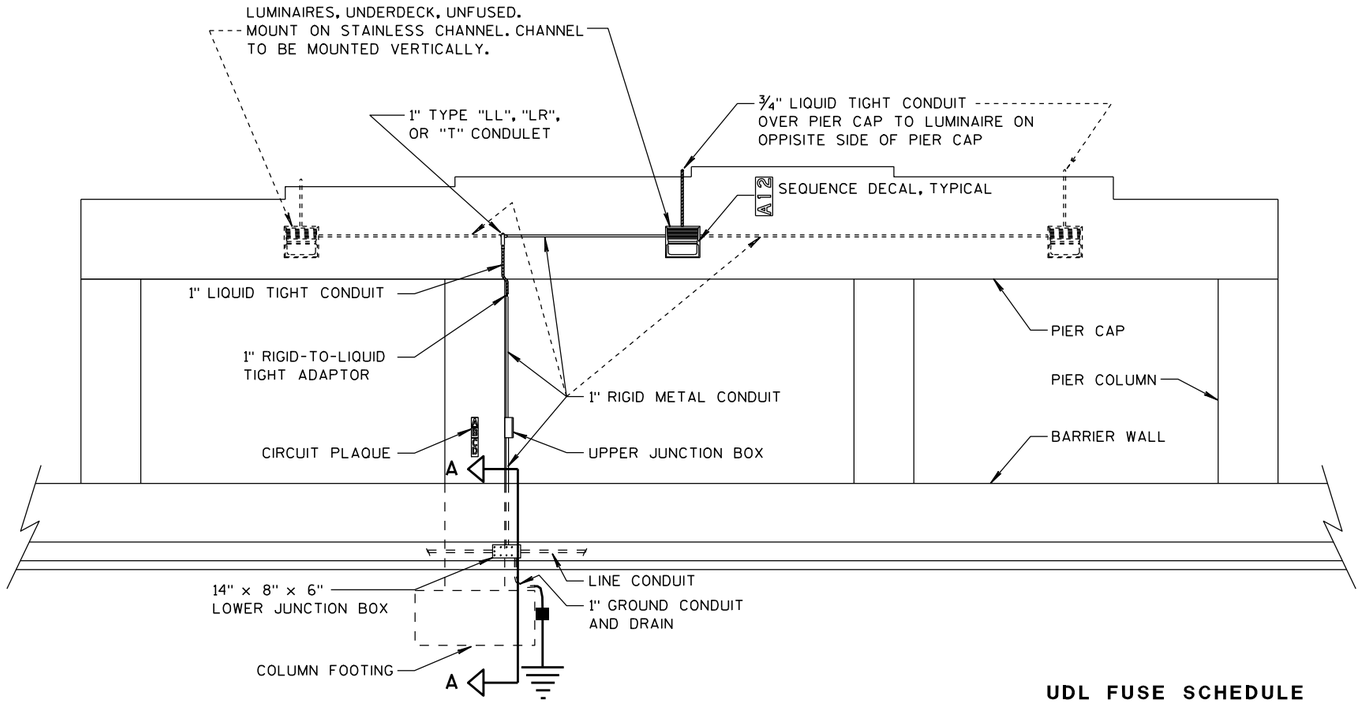
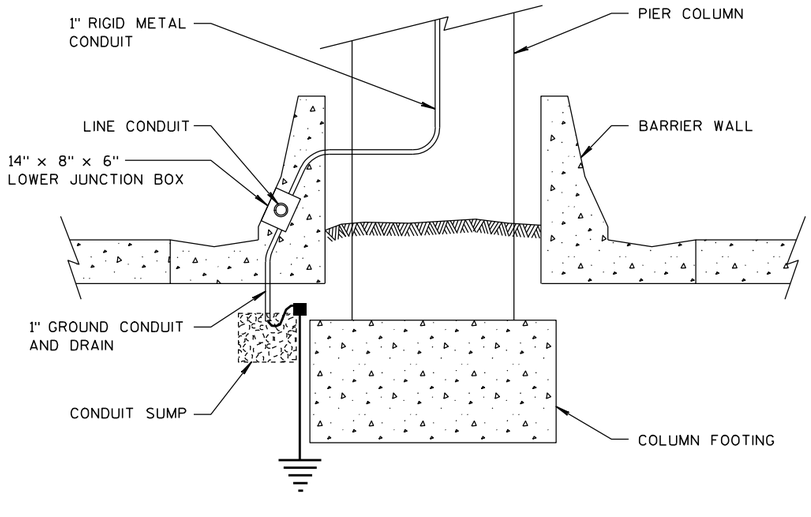
S.D.D. 10 A 2-2



TYPICAL UNDERDECK LIGHTING INSTALLATION



SECTION "A-A"

UDL FUSE SCHEDULE

LINE VOLTAGE ϕ-GROUND	TOP JUNCTION BOX FUSES
120VAC	5 A
208VAC	5 A
240VAC	5 A
480VAC	3 A

GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN IN THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING, SUBSTITUTING THE LOWER JUNCTION BOX FOR THE HANDHOLE SHOWN IN THAT DETAIL.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE LUG OF THE LOWER JUNCTION BOX TO THE SPLICE.

THE PLANS WILL SHOW WHICH CIRCUIT LEGS(S) ARE CONNECTED TO EACH INSTALLATION AND THE REQUIRED NUMBER OF LUMINAIRES.

THE UPPER JUNCTION BOX (FOR FUSE ASSEMBLIES) SHALL CONFORM TO THE APPLICABLE PROVISIONS OF SECTION 653.2.2 OF THE STANDARD SPECIFICATIONS; SHALL BE SUITABLE FOR SURFACE MOUNTING WITH EXTERNAL MOUNTING LUGS; AND SHALL HAVE A HINGED COVER, WING-NUT FASTENERS, AND PADLOCK HASP. ALL HARDWARE SHALL BE STAINLESS STEEL. FURNISH O-Z/GEDNEY YW-120603, SPRING CITY HC-12-06-04, CROUSE-HINDS WTB-120604, OR APPROVED EQUAL.

MEDIAN CONFIGURATIONS VARY; NOT ALL CASES CAN BE SHOWN IN THIS DETAIL.

WIRING FOR THE FIRST LUMINAIRE PAIR IS SHOWN IN SOLID LINES. WIRING FOR ADDITIONAL LUMINAIRE PAIRS, WHERE REQUIRED, IS SHOWN IN DOTTED LINES.

LEGEND

A,B,X,Y,Z	UNGROUNDED CIRCUIT CONDUCTORS
N	GROUNDED CIRCUIT CONDUCTORS
GND	EQUIPMENT GROUNDING CONDUCTOR
P	POLE (ELECTRICAL CIRCUIT)
ϕ	PHASE (ELECTRICAL CURRENT)
	HANDHOLE GROUND LUG
	UNFUSED LUMINAIRE
	SINGLE POLE (1P) FUSE ASSEMBLY
	EQUIPMENT GROUNDING ELECTRODE
	TERMINAL
	SPLICE
	CONDUCTOR
	EXOTHERMIC WELD

ELECTRICAL DETAILS
UNDERDECK LIGHTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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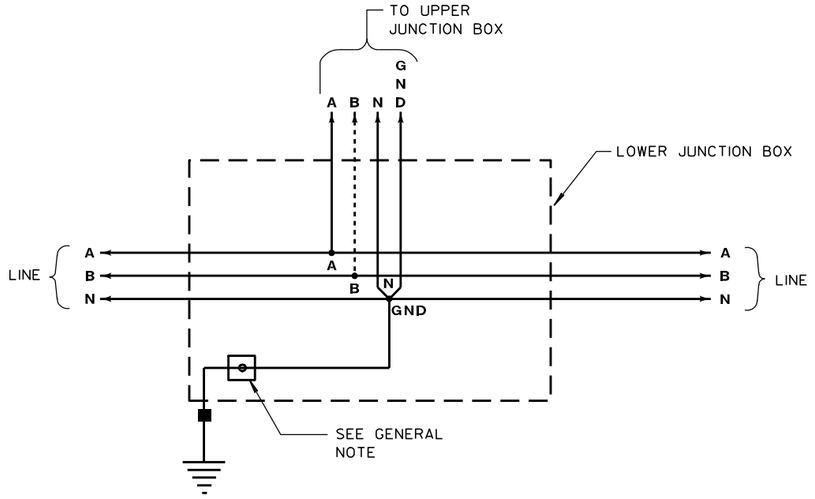
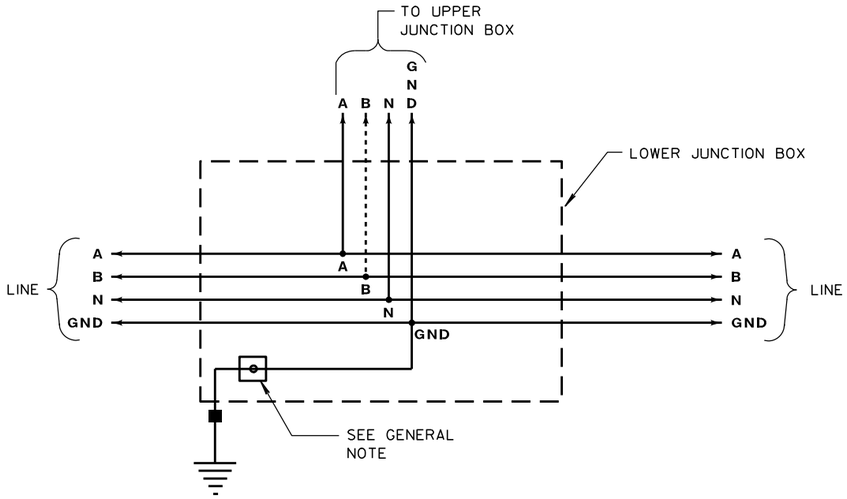
S.D.D. 10 A 15-3a



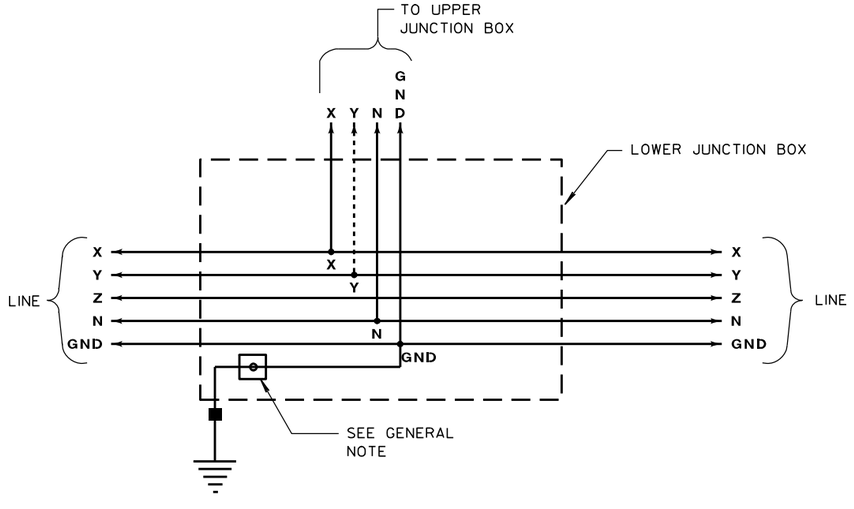
TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX

GROUNDED NEUTRAL SYSTEM
1-ϕ 240/480VAC OR 3 WIRE OR 480VAC 2 WIRE



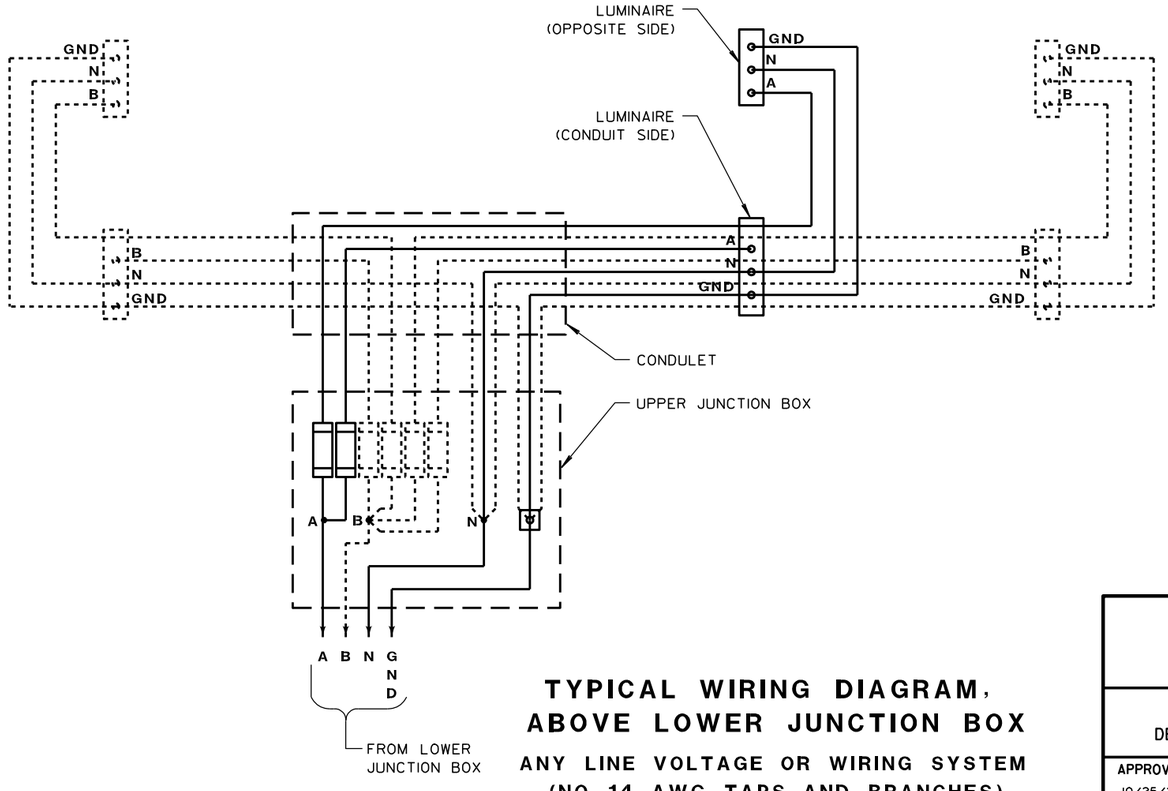
TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX

ISOLATED NEUTRAL SYSTEM
1-ϕ 120/240VAC OR 240/480VAC 3 WIRE



TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX

ISOLATED NEUTRAL SYSTEM
3-ϕ 208Y/120VAC OR 480Y/277VAC 4 WIRE



TYPICAL WIRING DIAGRAM, ABOVE LOWER JUNCTION BOX

ANY LINE VOLTAGE OR WIRING SYSTEM
(NO. 14 AWG TAPS AND BRANCHES)

ELECTRICAL DETAILS
UNDERDECK LIGHTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/25/2010
DATE

/S/ John Cochis
STATE ELECTRICAL ENGI 1471 HWYS

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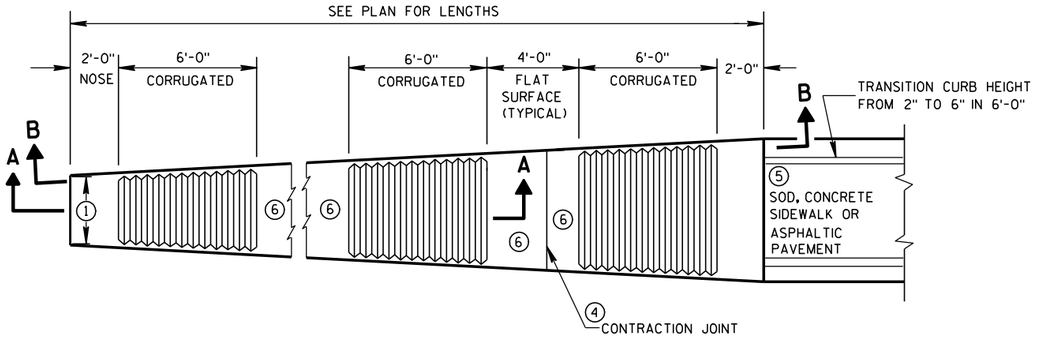
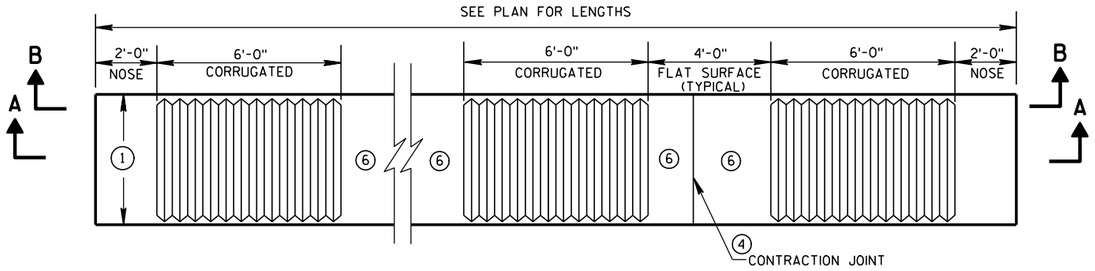
S.D.D. 10 A 15-3b



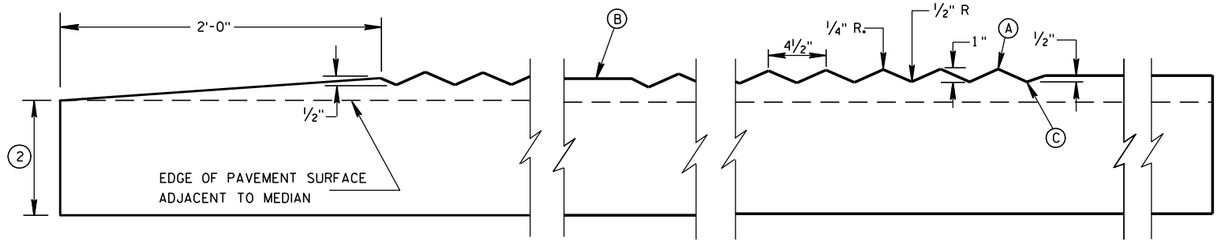
PLAN VIEW

VARIABLE WIDTH CONCRETE CORRUGATED MEDIAN



PLAN VIEW

UNIFORM WIDTH CONCRETE CORRUGATED MEDIAN



SECTION A-A

LONGITUDINAL SECTION

GENERAL NOTES

(1) SEE PLANS FOR CONSTANT OR VARIABLE WIDTH.

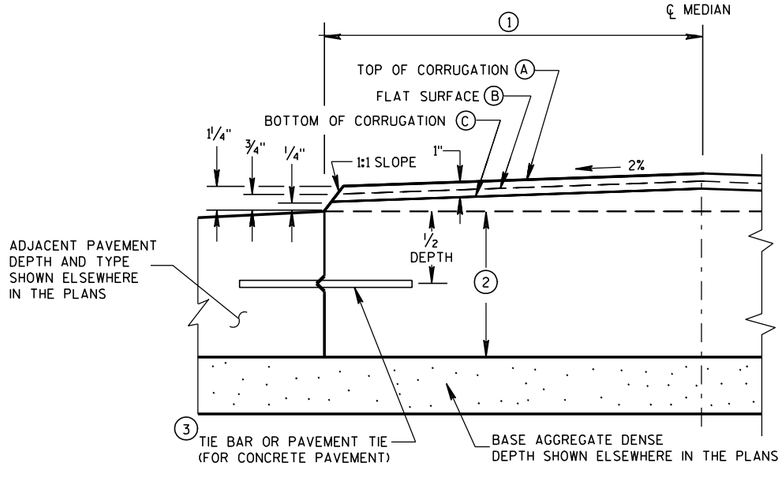
(2) THE DEPTH OF THE CONCRETE CORRUGATED MEDIAN SHALL BE 9-INCHES UNLESS SHOWN OTHERWISE IN THE PLAN.
ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN IN THE PLAN. TYPICAL OPTIONS ARE:
(1) NEW OR EXISTING CONCRETE PAVEMENT.
(2) ASPHALTIC CONCRETE OVER NEW OR EXISTING CONCRETE BASE COURSE, OR PAVEMENT.
(3) ASPHALTIC PAVEMENT OVER BASE AGGREGATE DENSE.

(3) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.
INSTALL TIE BARS TO MAINTAIN A MINIMUM OF 3-INCHES OF COVER BETWEEN THE TIE BAR AND THE CONCRETE SURFACE (BOTTOM AND TOP).
PAVEMENT TIES REQUIRED IN EXISTING CONCRETE PAVEMENT OR CONCRETE BASE COURSE, PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

(4) CONCRETE CORRUGATED MEDIAN CONTRACTION JOINTS SHALL BE CONSTRUCTED TO MATCH THE JOINTS IN ADJACENT CONCRETE PAVEMENT. WHERE ADJACENT PAVEMENT IS ASPHALT WITH BASE AGGREGATE DENSE. TRANSVERSE CONTRACTION JOINTS SHALL BE PROVIDED AT 20 FOOT INTERVALS.

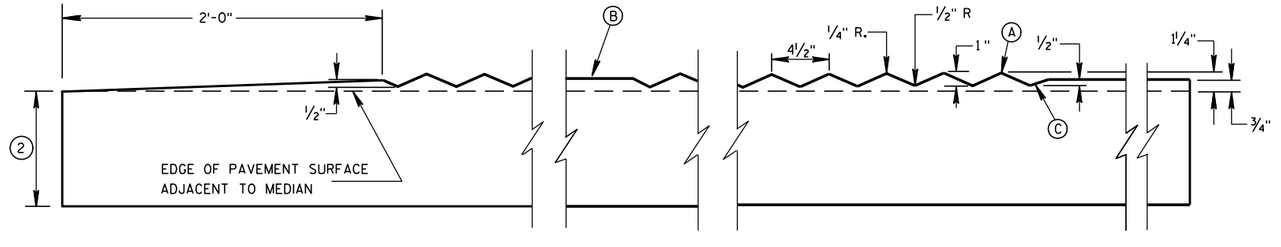
(5) SURFACE TYPE AND DETAILS ARE DEFINED ELSEWHERE IN THE PLAN.

(6) YELLOW MARKING ON FLAT SURFACE WHEN MEDIAN SEPARATES OPPOSING TRAFFIC.



HALF CROSS SECTION

(2) CONCRETE CORRUGATED MEDIAN AND ADJACENT PAVEMENT



SECTION B-B

LONGITUDINAL SECTION

CONCRETE CORRUGATED MEDIAN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/17/07
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

1472

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S.D.D. 11 B 1-5

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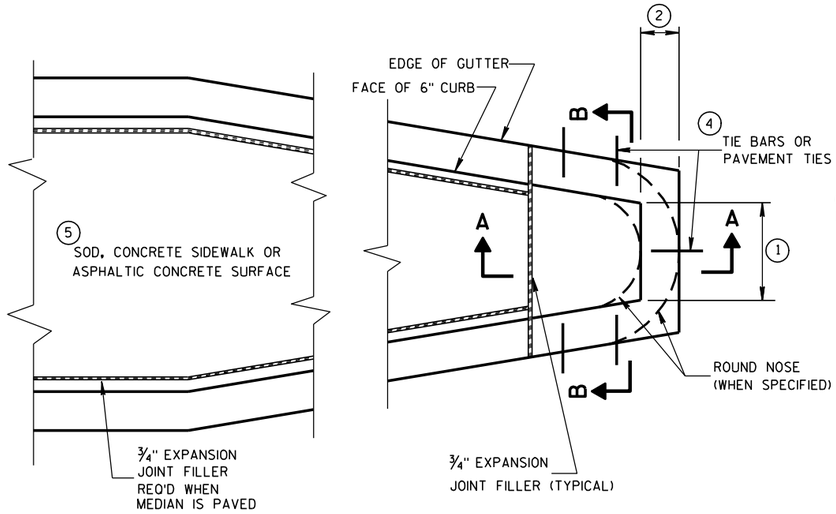
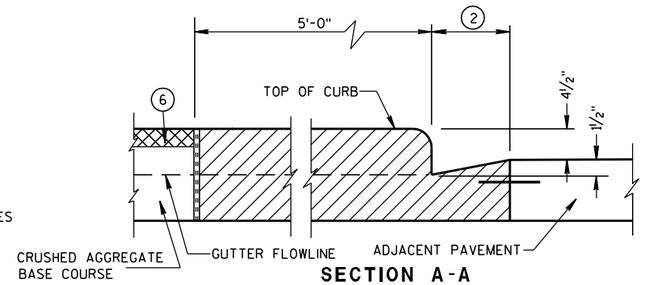
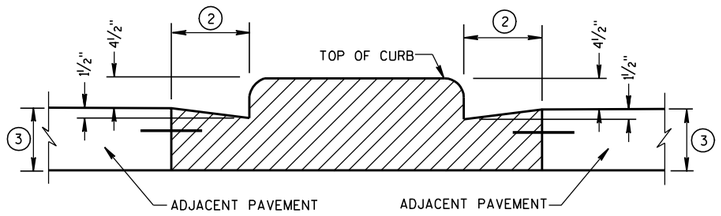
S.D.D. 11 B 1-5





SECTION A-A



SECTION B-B

CONCRETE MEDIAN BLUNT NOSE DETAIL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

(2) WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

(3) DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

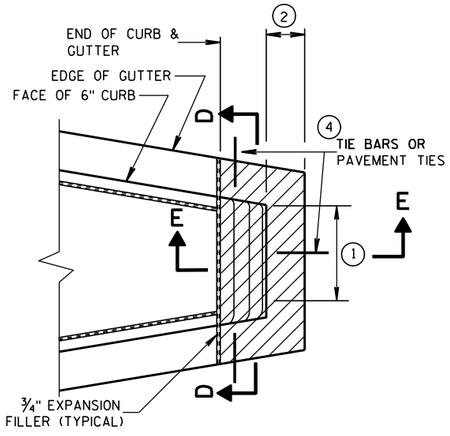
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

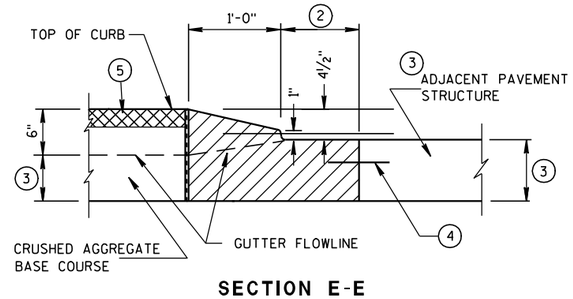
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

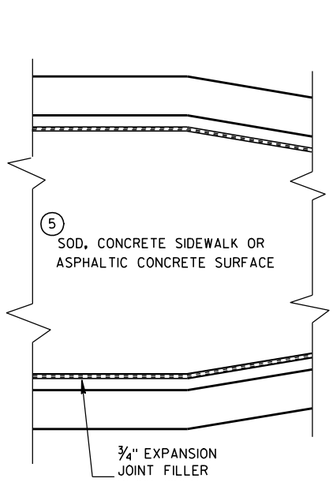
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

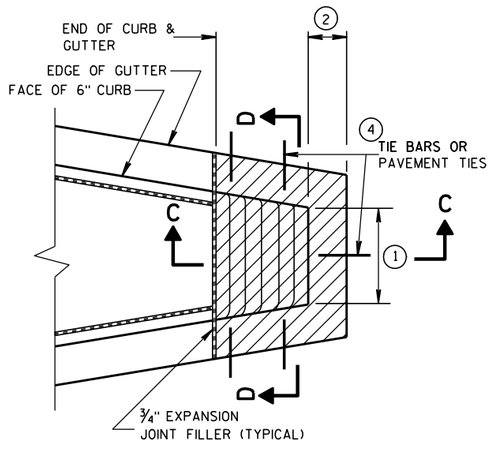




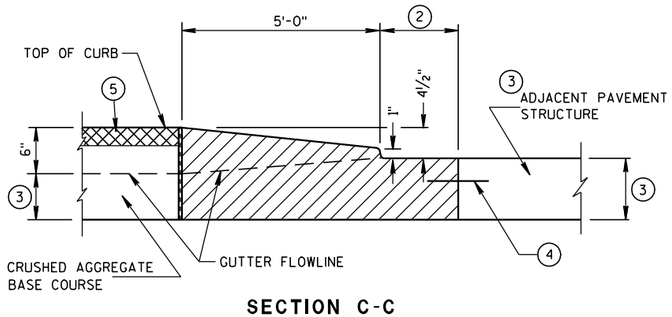
SECTION E-E

CONCRETE MEDIAN SLOPED NOSE TYPE 2

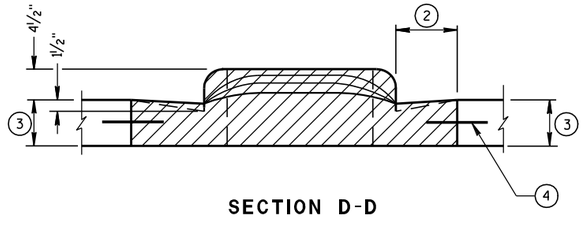




CONCRETE MEDIAN SLOPED NOSE TYPE 1



SECTION C-C



SECTION D-D

CONCRETE MEDIAN NOSE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 6/8/2006 DATE FHWA	/S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER 1473 NT

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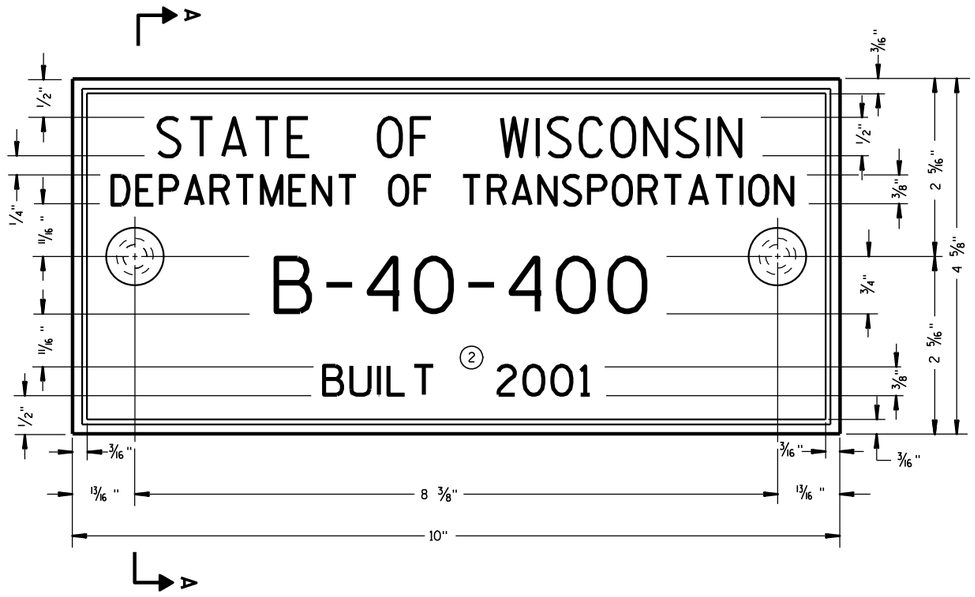


TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

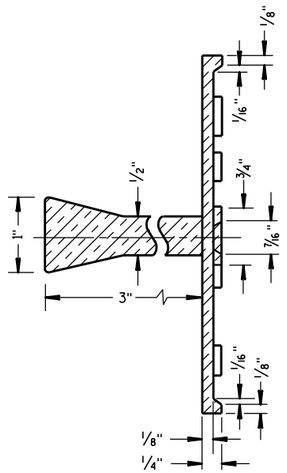
GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

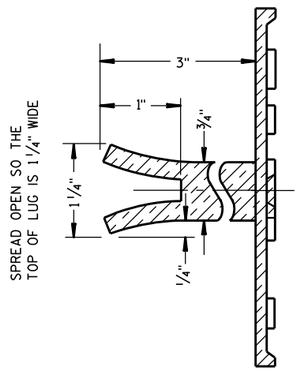
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

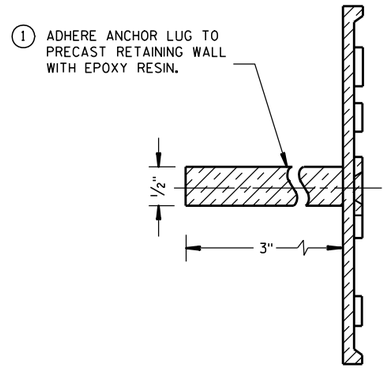
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

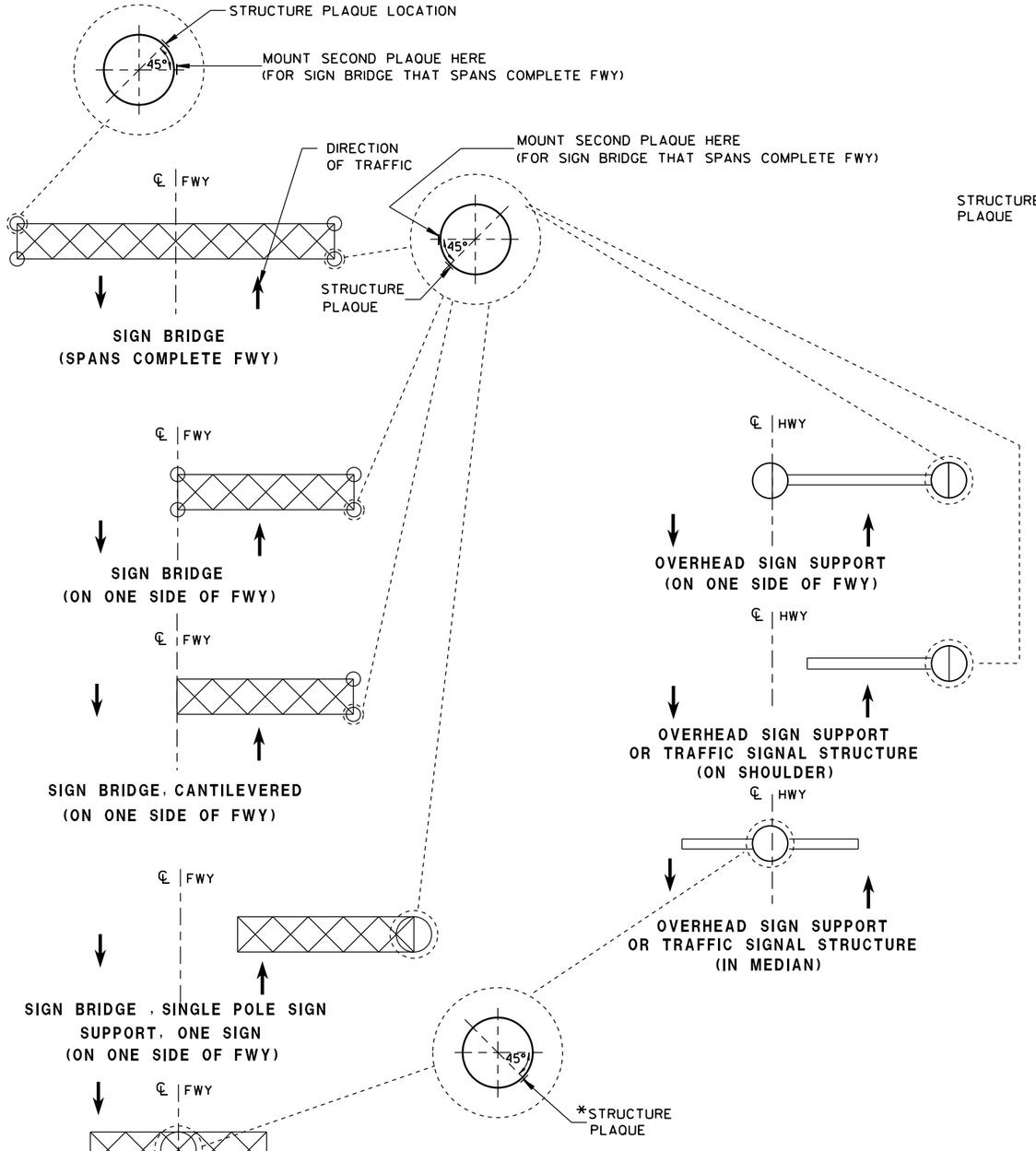
3/26/10
DATE

/S/ Scot Beck
CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA

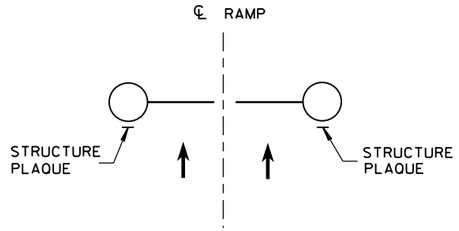
6

S.D.D. 12 A 3-10

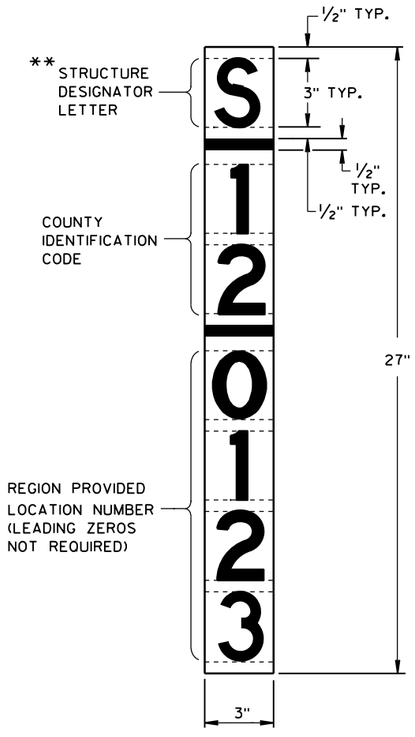


LOCATION OF RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT & TRAFFIC SIGNAL STRUCTURE PLAQUES

* WHEN SIGNS OR GATES FACE TRAFFIC IN ONE DIRECTION, THE PLAQUE SHALL FACE TRAFFIC IN THE SAME DIRECTION. WHEN SIGNS OR GATES ARE FACING TRAFFIC IN BOTH DIRECTIONS, THE PLAQUE SHALL FACE TRAFFIC IN THE CARDINAL DIRECTION.



RAMP GATE
(ACROSS FWY ON-RAMP)



** LETTER "G" UTILIZED FOR RAMP GATES. LETTER "S" UTILIZED FOR SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, AND TRAFFIC SIGNALS.

RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT AND TRAFFIC SIGNAL STRUCTURE PLAQUE FOR SIGN BRIDGES AND OVERHEAD SIGN SUPPORT WHICH ARE NOT STRUCTURE MOUNTED

GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN IN THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

IF THE PROPOSED SIGN BRIDGE OR OVERHEAD SIGN SUPPORT IS REPLACING AN EXISTING SIGN BRIDGE OR OVERHEAD SIGN SUPPORT, A NEW IDENTIFICATION PLAQUE WILL BE REQUIRED.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - 3 STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - 3 ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

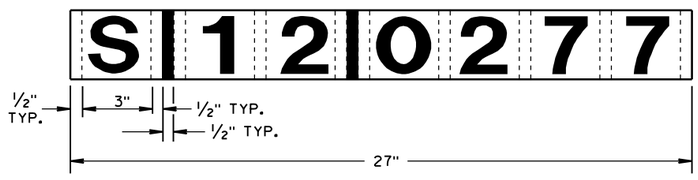
FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE

LINES - BLACK, ½" WIDE, SELF-ADHESIVE

CHARACTERS:- BLACK, SELF ADHESIVE, SERIES "D", SIZE AS SHOWN.

FOR SIGN BRIDGES, STRUCTURE MOUNTED, THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY AS SHOWN ON THE DRAWING. THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY TO THE BACK OF THE SIGN, BETWEEN THE ALUMINUM EXTRUSIONS, NEAR THE TOP LEFT HAND CORNER OF THE SIGN. THE BASE MATERIAL SHALL BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE ALUMINUM SURFACE. PRIOR TO ADHERING THE MATERIAL, THE ALUMINUM SURFACE SHALL BE SMOOTH, CLEAN AND DRY.

WHERE SIGN BRIDGE ILLUMINATION IS PROVIDED, THE STRUCTURE MUST ALSO HAVE A SIGN BRIDGE CIRCUIT PLAQUE AS SHOWN IN THE ELECTRICAL DETAILS.



IDENTIFICATION PLAQUE FOR SIGN BRIDGE, STRUCTURE MOUNTED

STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, & TRAFFIC SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/4/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

1475

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S.D.D. 12 A 4-3

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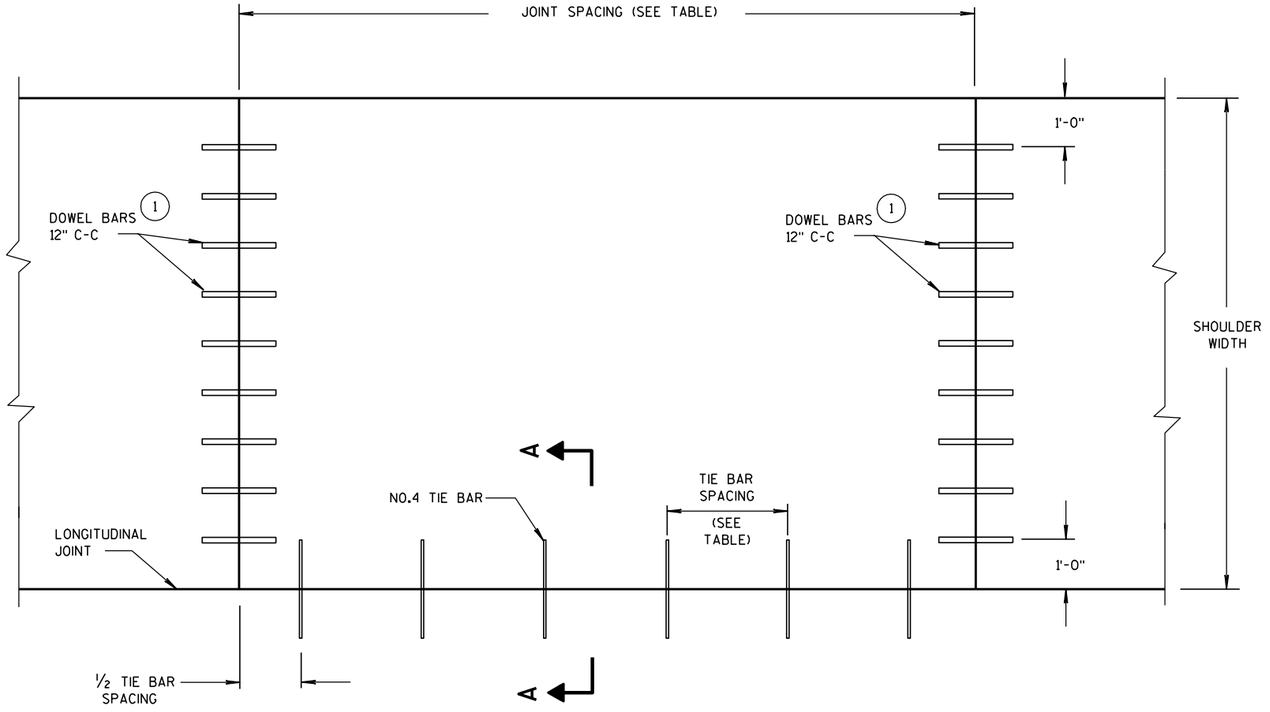
S.D.D. 12 A 4-3



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

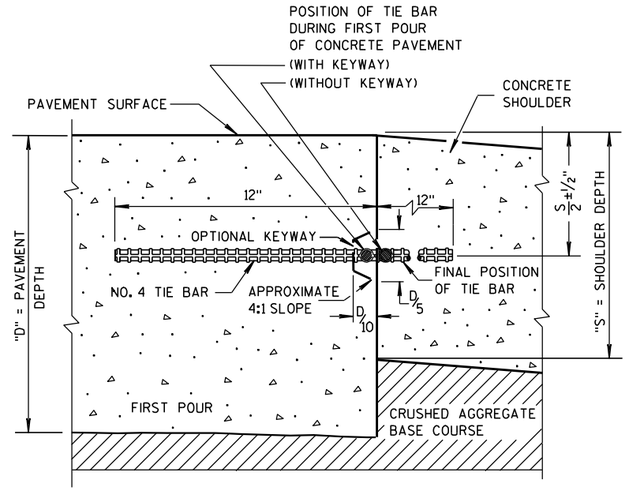
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

PAVEMENT TYPE OF TRAFFIC LANES	TIE BAR SPACING	SHOULDER JOINT SPACING
NON-REINFORCED	30"	MATCH JOINT SPACING OF ADJACENT TRAFFIC LANE
CONTINUOUSLY REINFORCED	30"	15' FOR 6' TO 10' WIDE SHOULDERS
CONTINUOUSLY REINFORCED	36"	12' FOR 3' WIDE SHOULDERS

(1)

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/15/2011 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & D 1476 ENGINEER
FHWA

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S.D.D. 13 A 3-5

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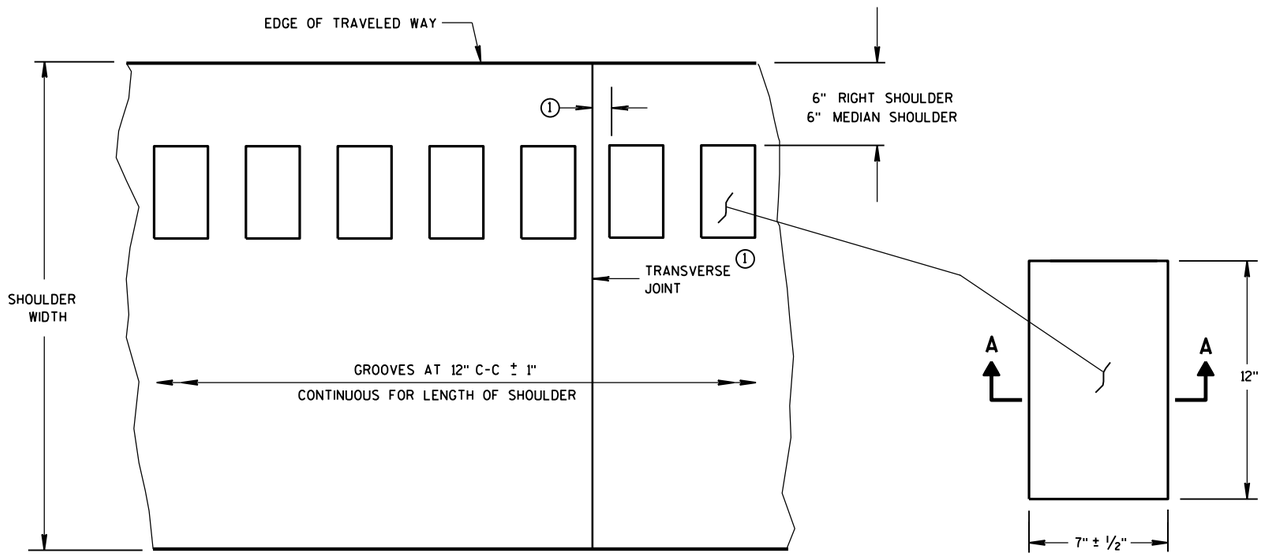
S.D.D. 13 A 3-5



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

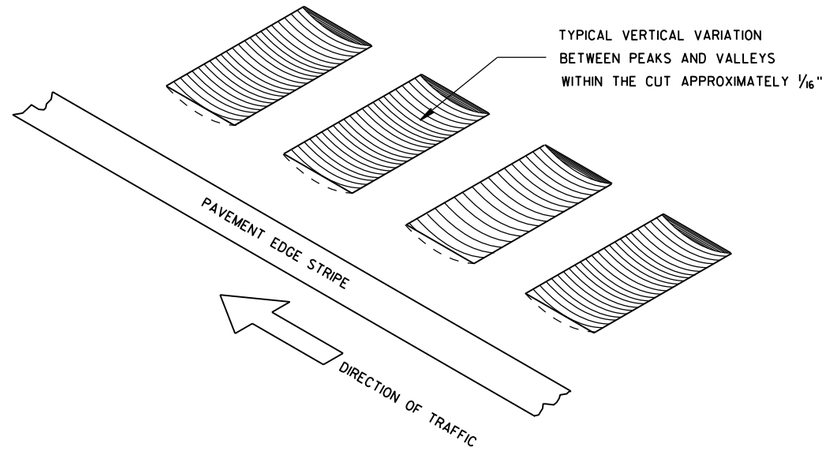
GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



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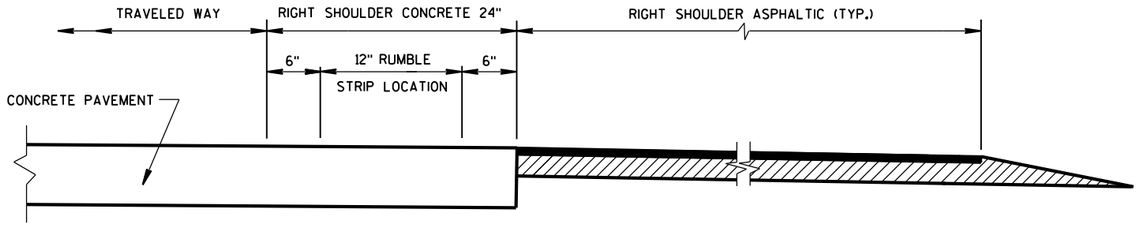
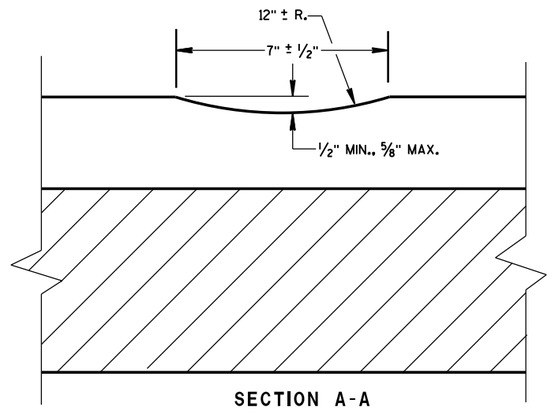
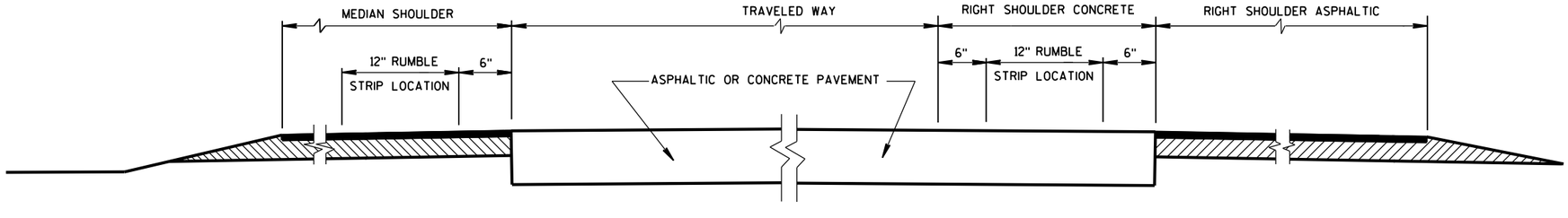


SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION A-A



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)

SHOULDER RUMBLE STRIP, MILLING

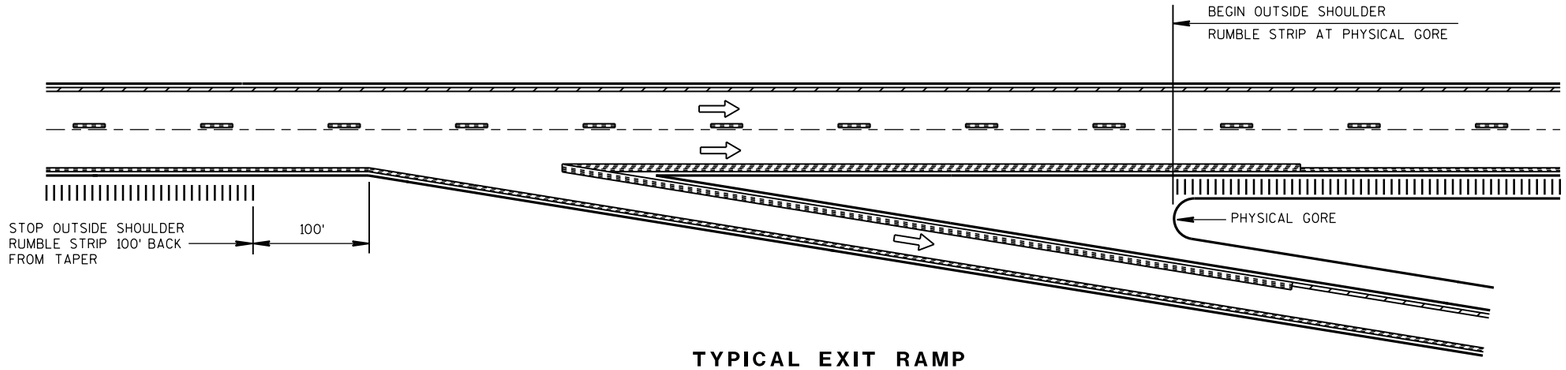
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI 1477

6

S.D.D. 13 A 5-5a

6

S.D.D. 13 A 5-5a



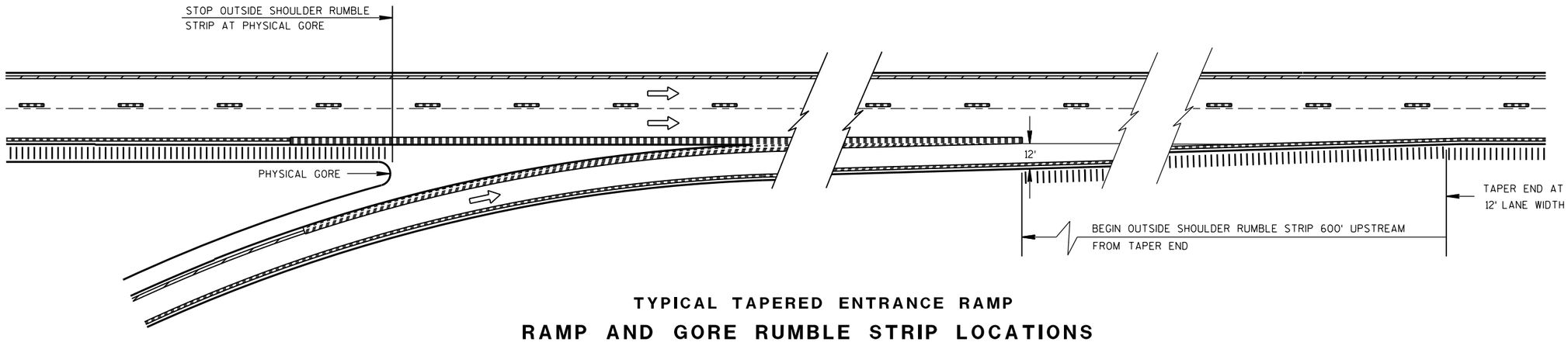
TYPICAL EXIT RAMP

NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

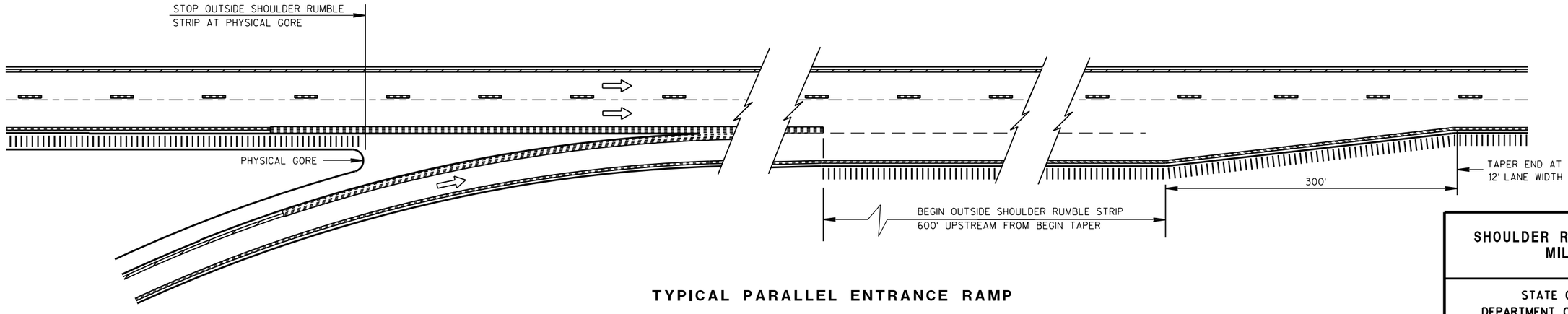
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/17/2012 — DATE
/S/ Jerry H. Zoga — ROADWAY STANDARDS ENGINEER
FHWA

1478

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S.D.D. 13 A 5-5b

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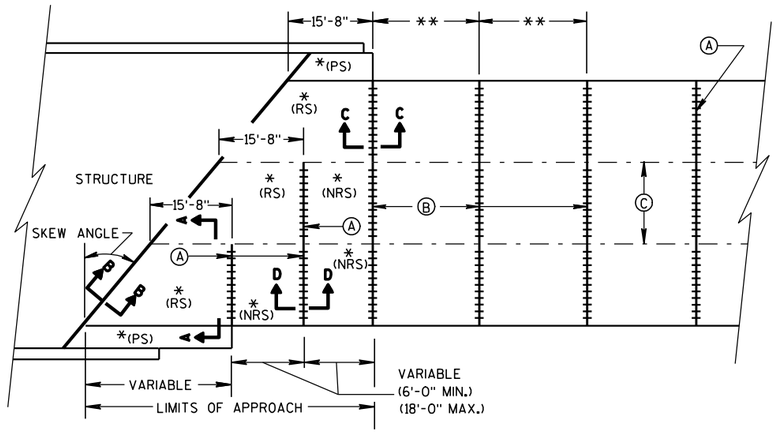
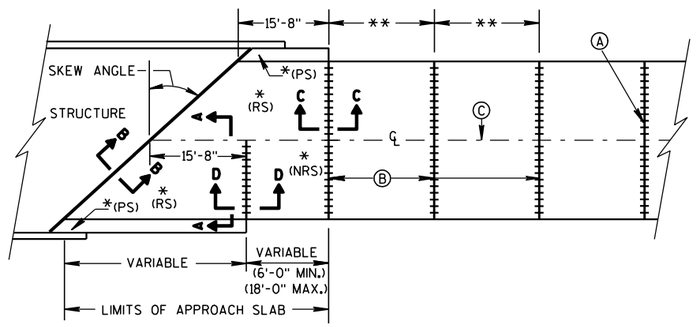
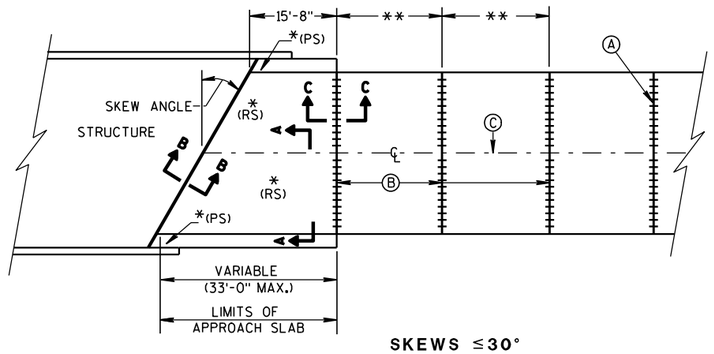
S.D.D. 13 A 5-5b



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >30°
(PAVEMENT WIDTH ≤30')



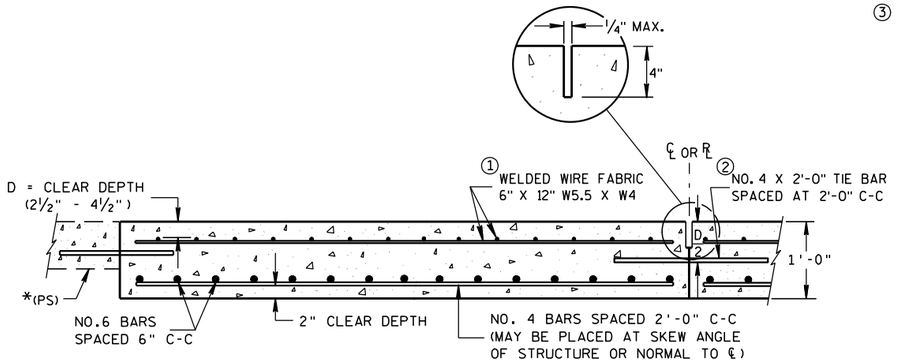
SKEWS ≤30°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

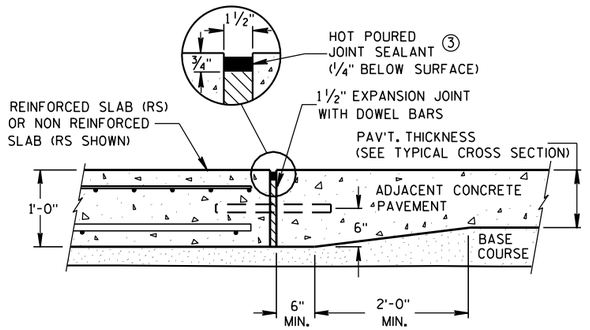
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

**STANDARD TRANSVERSE JOINT SPACING
(SEE SDD 13C4, SDD 13C11, & SDD 13C13)

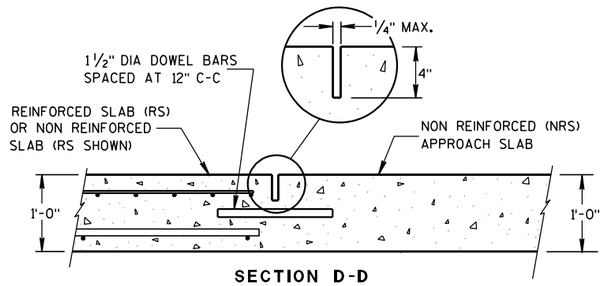
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
(B) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄
(C) STANDARD LONGITUDINAL JOINT AND TIE BARS.



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

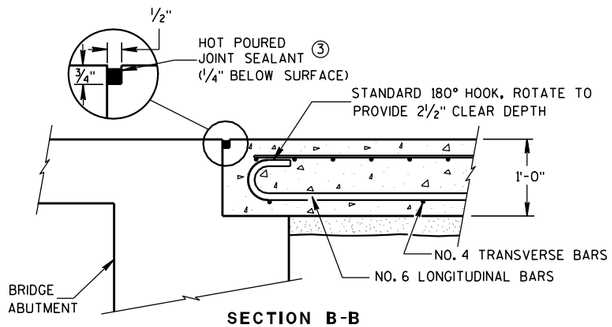
APPROACH SLABS ABUTTING AN HMA PAVEMENT OVER BASE COURSE DO NOT NEED TO BE DOWELED.

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

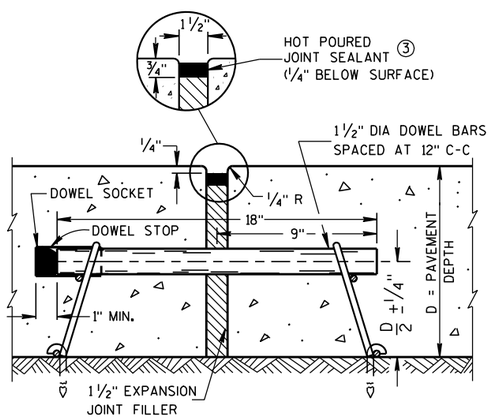
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

② THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

③ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT

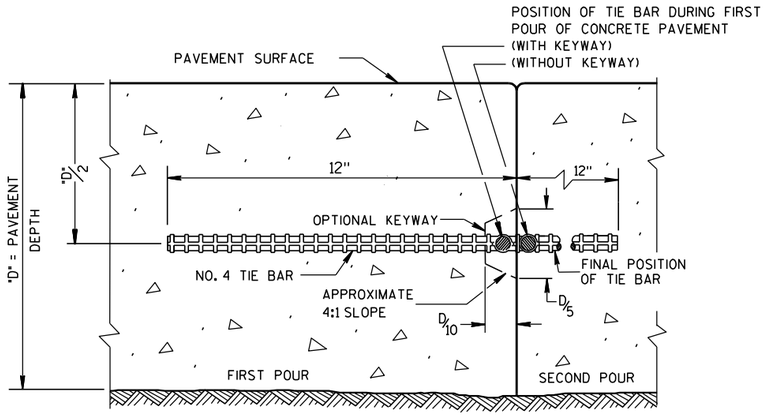


EXPANSION JOINT

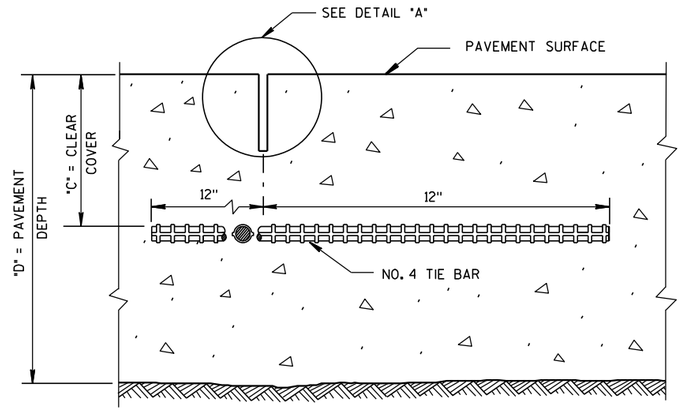
CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/11/2009
DATE
/S/ Deb Bischoff
PAVEMENT POLICY & DE 1479 NEER
FHWA



CONSTRUCTION JOINT



SAWED JOINT

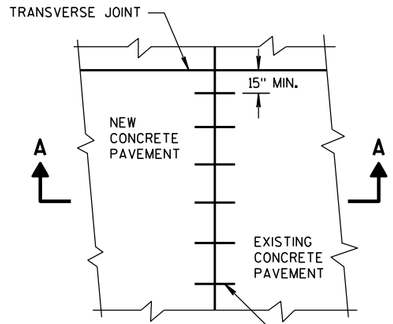
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

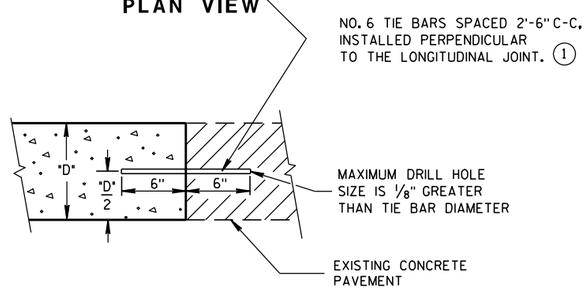
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

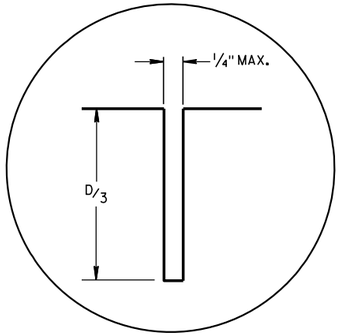
(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW

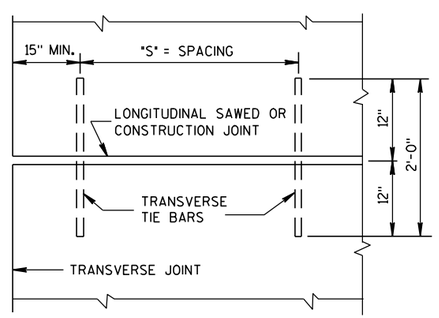


SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH	
		24' OR 26'	≥ 30'
6, 6 1/2"	3"±1/2"	48"	42"
7, 7 1/2"	3 1/4"±1"	45"	36"
8, 8 1/2"	3 3/4"±1"	39"	30"
9, 9 1/2"	4 1/4"±1"	33"	27"
10, 10 1/2"	4 3/4"±1"	30"	24"
11, 11 1/2"	5 1/4"±1"	27"	21"
12"	5 3/4"±1"	24"	21"



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10-5-2010
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DI 1480 INEER

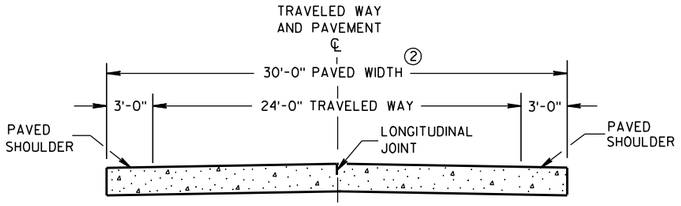
FHWA

6

S.D.D. 13 C 1-15

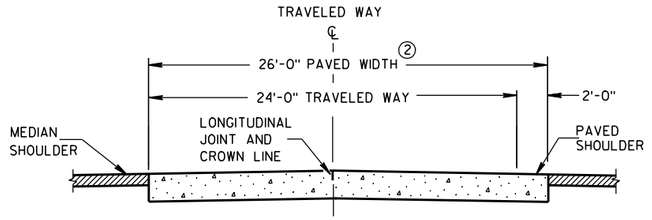
6

S.D.D. 13 C 1-15

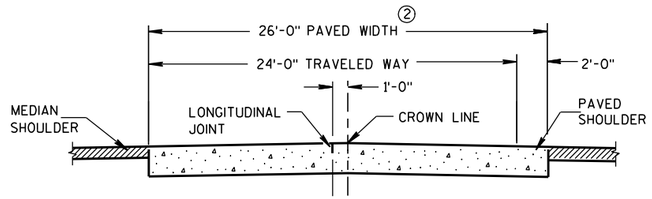


SECTION A-A ①

TWO-LANE TWO-WAY HIGHWAY



SECTION B-B



ALTERNATIVE SECTION B-B ①

DIVIDED HIGHWAY

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, CENTER THE DOWEL ASSEMBLY ACROSS THE LANES. LOCATE THE INNER AND OUTER MOST DOWEL BARS SO THAT THE CENTER OF THE BARS ARE A MINIMUM OF 6 INCHES AND A MAXIMUM OF 12 INCHES FROM THE LONGITUDINAL JOINT AND THE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

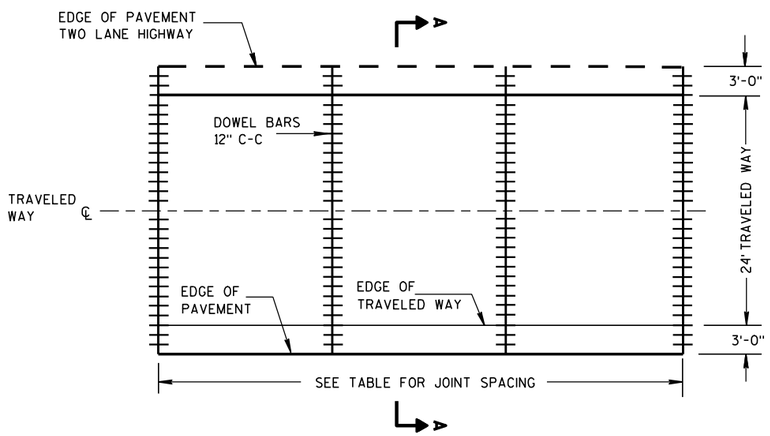
THE CONTRACTOR MAY INSERT TIE BARS THROUGH THE HEADER BOARD AFTER THE CONCRETE HAS BEEN PLACED.

① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

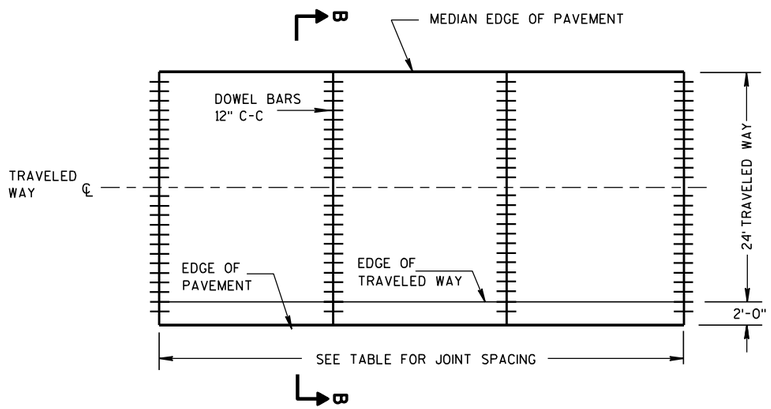
② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



CONTRACTION JOINT LAYOUT FOR TWO-LANE TWO-WAY HIGHWAY



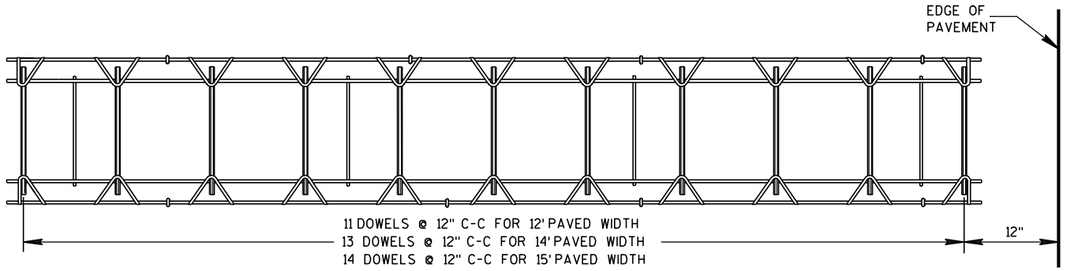
CONTRACTION JOINT LAYOUT FOR DIVIDED HIGHWAY

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 13 C 11-10a



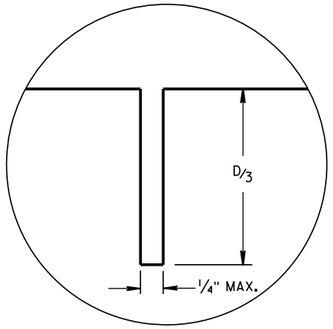
PLAN VIEW

⑤

SIDE VIEW

(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY ①



JOINT DETAIL

GENERAL NOTES

① THE ENGINEER MAY APPROVE THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. THE CONTRACTOR MAY USE MECHANICAL DOWEL BAR INSERTERS INSTEAD OF DOWEL ASSEMBLIES.

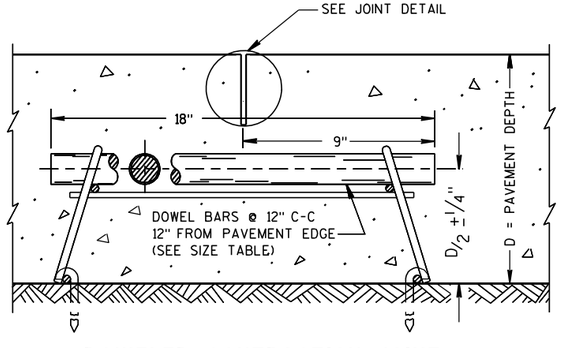
② ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY.

③ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

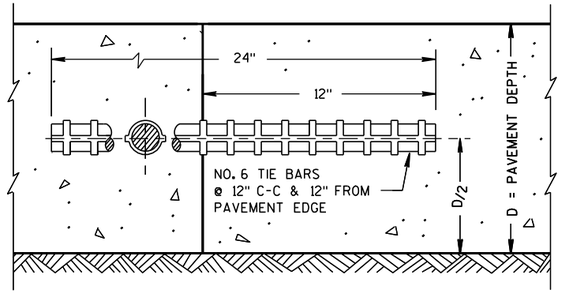
④ SPACE DOWEL BARS INSTALLED BY DRILLING 1'-3" ON CENTER. CENTER THE GROUPING OF DOWEL BARS INSIDE THE SLAB BASED ON ALL THE FOLLOWING SITUATIONS:

BETWEEN THE EDGES OF PAVEMENTS WITHOUT LONGITUDINAL JOINTS OR BETWEEN THE EDGE OF PAVEMENT AND NEAREST LONGITUDINAL JOINT OR BETWEEN TWO ADJACENT LONGITUDINAL JOINTS.

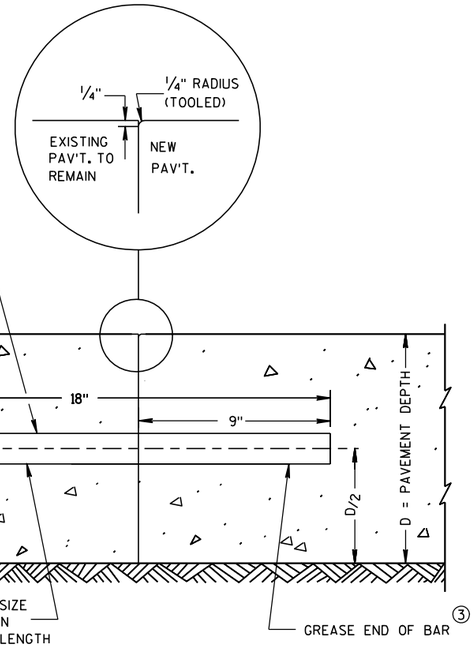
⑤ SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.



DOWELED CONTRACTION JOINT



CONSTRUCTION JOINT



TRANSVERSE CONTRACTION JOINTS ABUTTING EXISTING PAVEMENT

④ **DOWEL BAR DETAIL**

RIRAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/11/09
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DESIGNER

FHWA

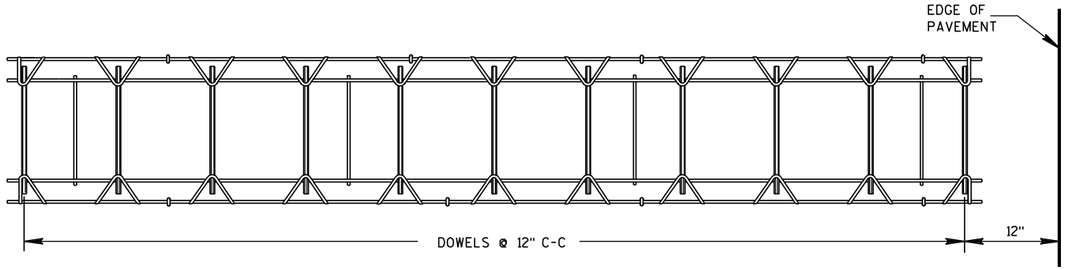
1482

6

S.D.D. 13 C 11-10b

6

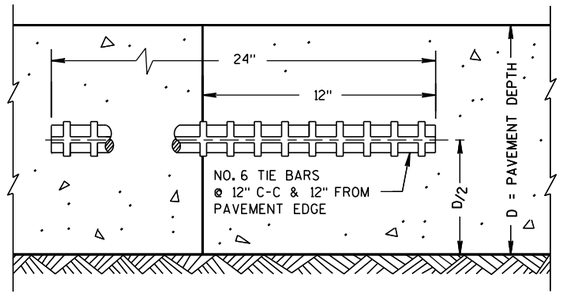
S.D.D. 13 C 11-10b



PLAN VIEW

SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



TRANSVERSE CONSTRUCTION JOINT

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, CENTER THE DOWEL ASSEMBLY ACROSS THE LANES. LOCATE THE INNER AND OUTER MOST DOWEL BARS SO THAT THE CENTER OF THE BARS ARE A MINIMUM OF 6 INCHES AND A MAXIMUM OF 12 INCHES FROM THE LONGITUDINAL JOINT AND THE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

THE CONTRACTOR MAY INSERT TIE BARS THROUGH THE HEADER BOARD AFTER THE CONCRETE HAS BEEN PLACED.

① THE ENGINEER MAY APPROVE THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. THE CONTRACTOR MAY USE MECHANICAL DOWEL BAR INSERTERS INSTEAD OF DOWEL ASSEMBLIES.

② ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY.

③ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

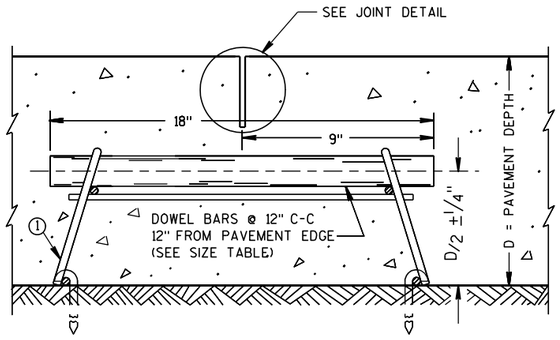
④ SPACE DOWEL BARS INSTALLED BY DRILLING 1'-3" ON CENTER. CENTER THE GROUPING OF DOWEL BARS INSIDE THE SLAB BASED ON ALL THE FOLLOWING SITUATIONS:

BETWEEN THE EDGES OF PAVEMENTS WITHOUT LONGITUDINAL JOINTS OR BETWEEN THE EDGE OF PAVEMENT AND NEAREST LONGITUDINAL JOINT OR BETWEEN TWO ADJACENT LONGITUDINAL JOINTS.

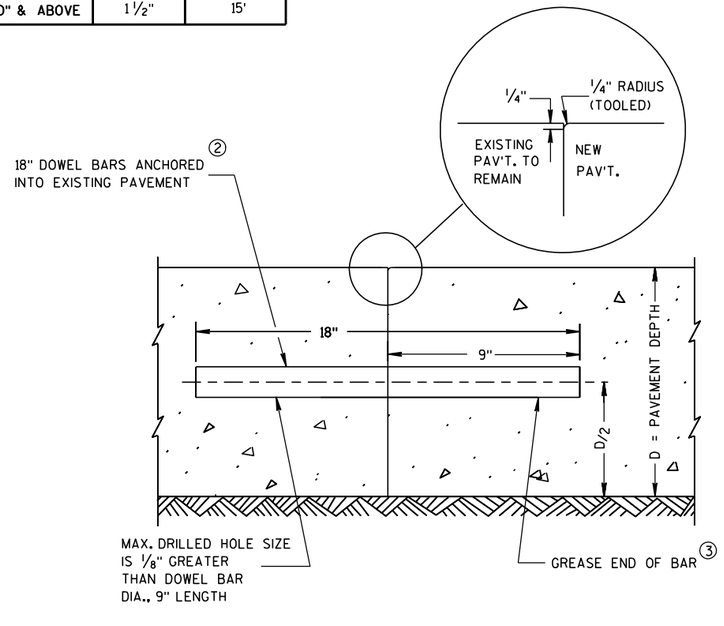
⑤ SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

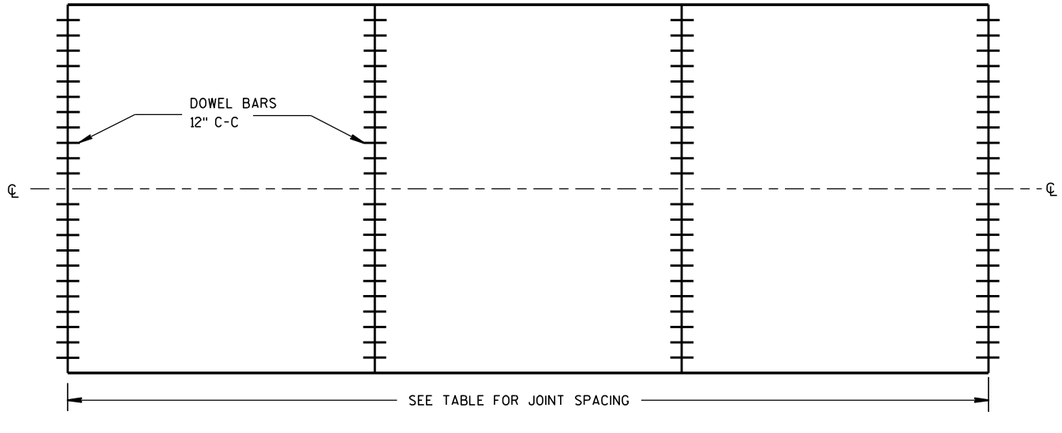


DOWELED CONTRACTION JOINT

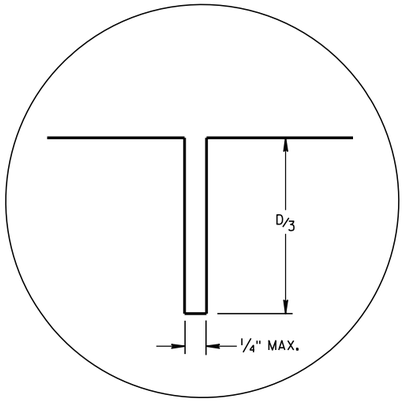


TRANSVERSE CONTRACTION JOINTS ABUTTING EXISTING PAVEMENT

④ DOWEL BAR DETAIL



CONTRACTION JOINT LOCATIONS



JOINT DETAIL

URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/11/2009 DATE
/S/ Deb Bischoff PAVEMENT POLICY & DESIGNER
1483
FHWA

6

S.D.D. 13 C 13-7

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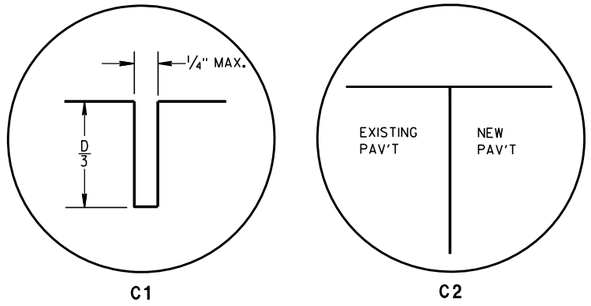
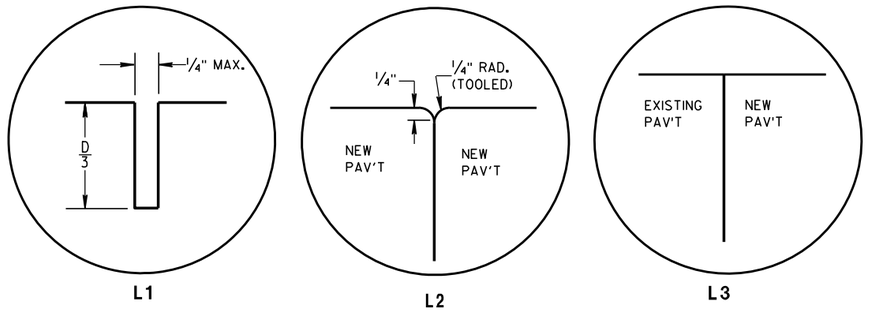
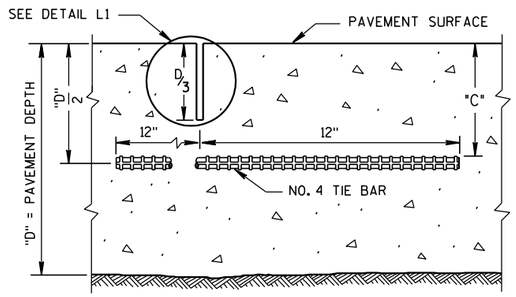
S.D.D. 13 C 13-7



TRANSVERSE JOINTS

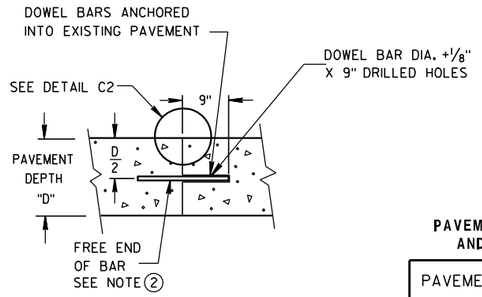


LONGITUDINAL JOINTS



SECTION C-C

SAWED JOINT



SECTION D-D

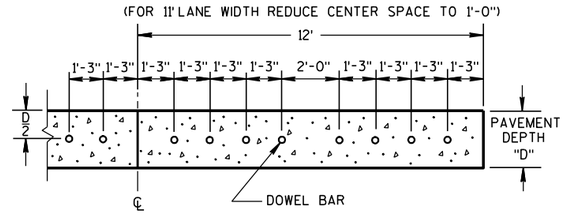
GENERAL NOTES

ANCHOR TIE BARS AND DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

(2) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.



SECTION E-E

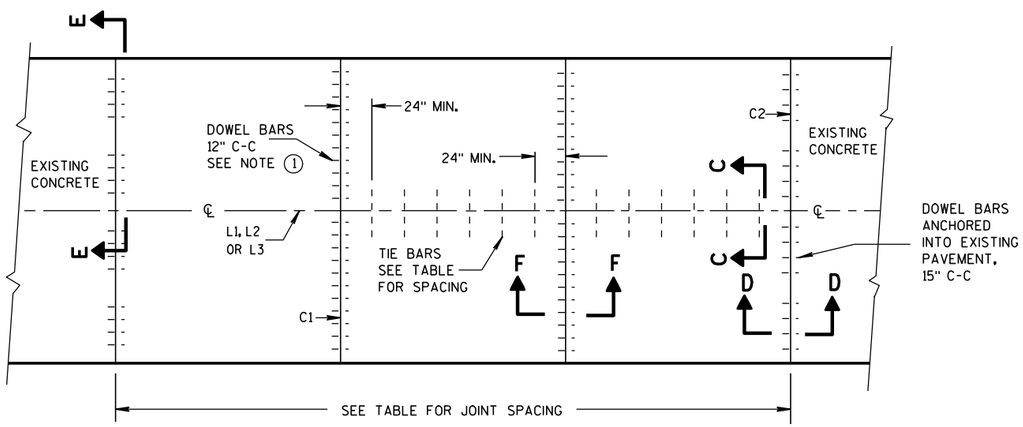
SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH "D"	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5½", 6, 6 ½"	NONE	12'
7, 7 ½"	1"	14'
8, 8 ½"	1 ¼"	15'
9, 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

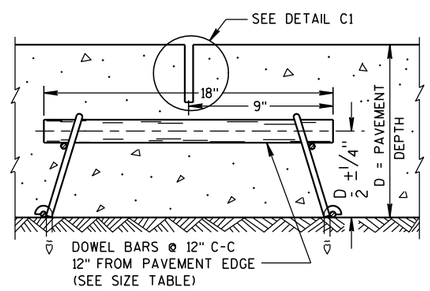
TIE BAR LOCATION TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING C-C	
		PAVEMENT WIDTH	
		24' OR 26'	≥ 30'
6, 6 ½"	3"±½"	48"	42"
7, 7 ½"	3 ¼"±1"	45"	36"
8, 8 ½"	3 ¾"±1"	39"	30"
9, 9 ½"	4 ¼"±1"	33"	27"
10, 10 ½"	4 ¾"±1"	30"	24"
11, 11 ½"	5 ¼"±1"	27"	21"
12"	5 ¾"±1"	24"	21"



PLAN VIEW

CONCRETE BASE CONTRACTION JOINT LOCATIONS



SECTION F-F

CONTRACTION JOINT

CONCRETE BASE

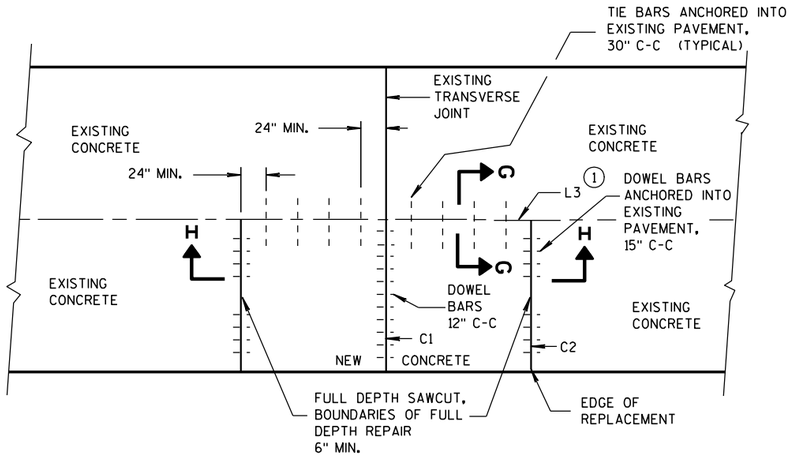
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 13 C 15-5a

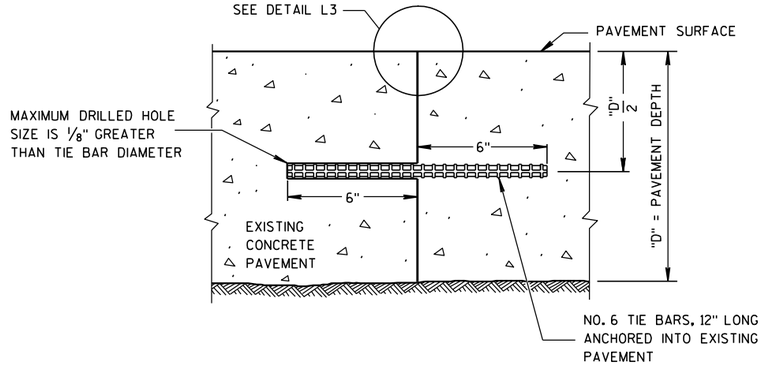
GENERAL NOTES

(1) USE AN ENGINEER-APPROVED BOND BREAKER AT THE LONGITUDINAL JOINT IN LIEU OF TIE BARS FOR SINGLE LANE CONCRETE BASE REPAIRS UP TO 15 FEET IN LENGTH.



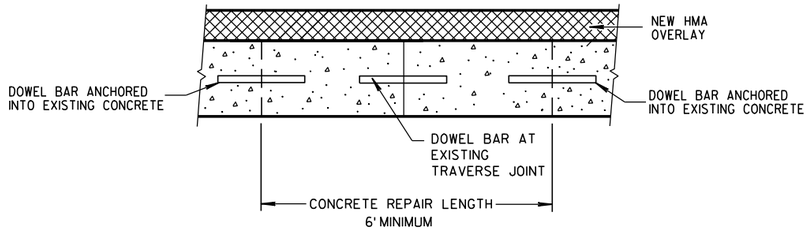
PLAN VIEW

SINGLE LANE CONCRETE BASE REPAIR



SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT



SECTION H-H

CONCRETE BASE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 12-11-2009 DATE FHWA	/S/ Deb Bischoff PAVEMENT POLICY & D 1485 INEER

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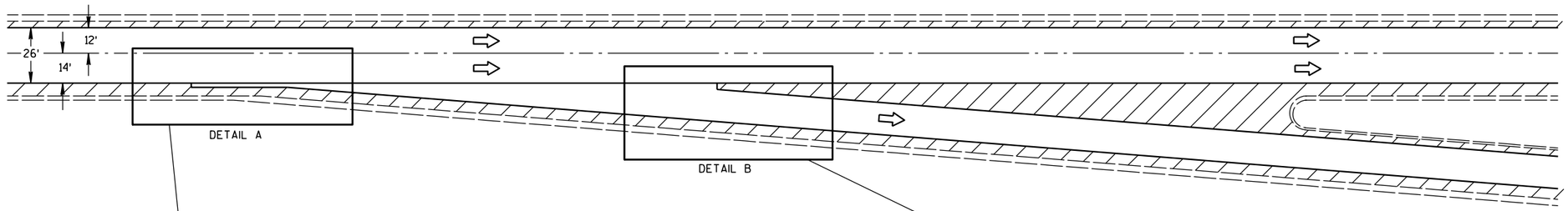
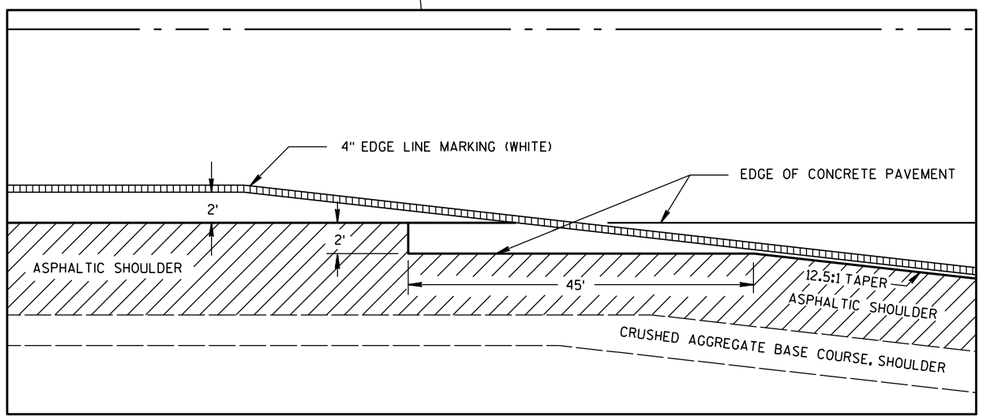
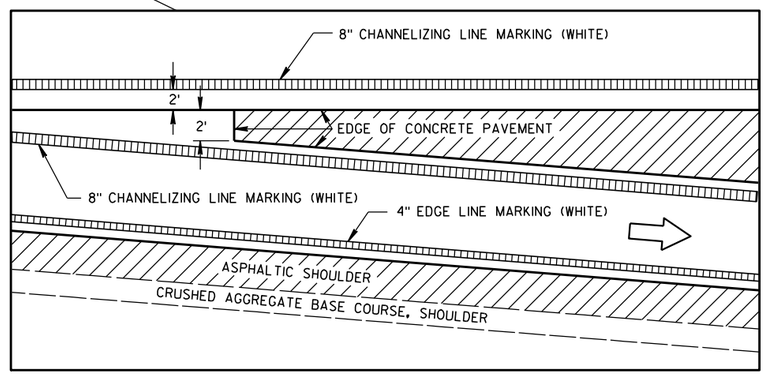
S.D.D. 13 C 15-5b



EXIT RAMP DETAIL



DETAIL A



DETAIL B

CONCRETE JOINT PAVING DETAILS

GENERAL NOTES

PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

SEE SDD 13 A 4-4c OR SDD 13 A 5-1b FOR RAMP AND GORE RUMBLE STRIP LOCATION.

CONCRETE JOINT DETAIL FOR EXIT RAMP TERMINI

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 13 C 17-1a

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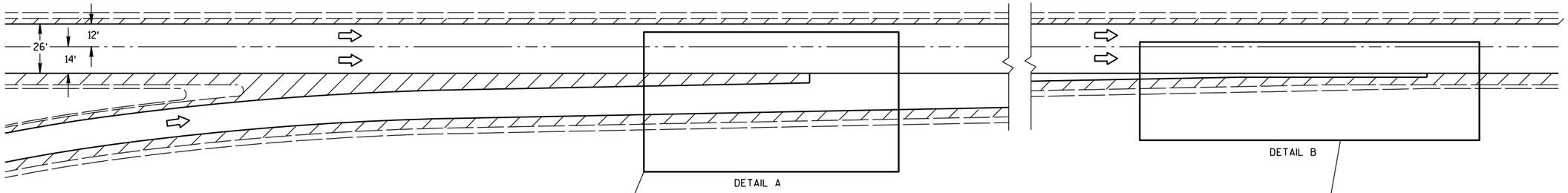
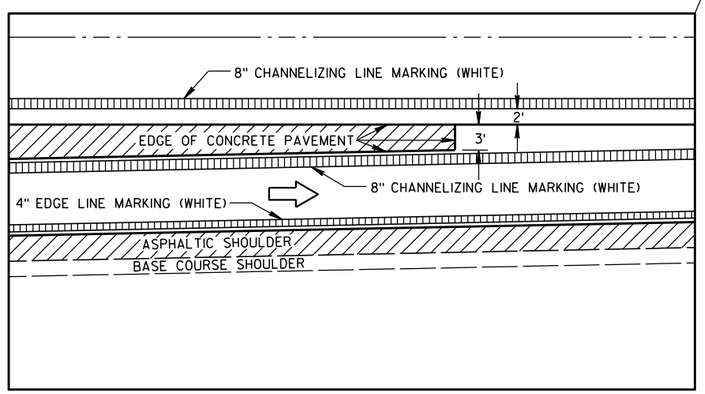
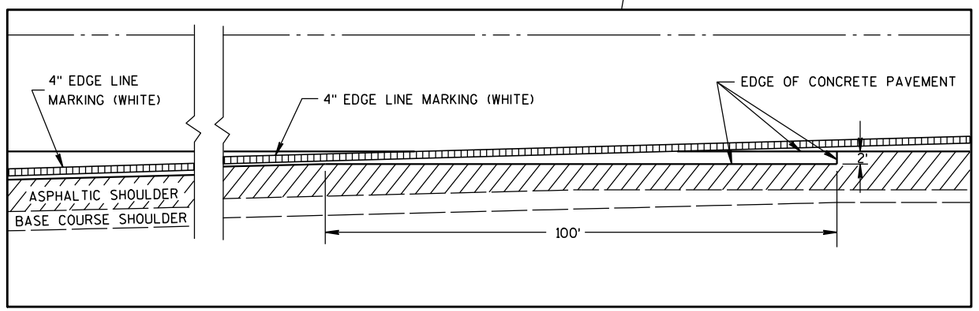
S.D.D. 13 C 17-1a



ENTRANCE RAMP DETAIL



DETAIL A



DETAIL B

CONCRETE JOINT PAVING DETAILS

GENERAL NOTES

PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

SEE SDD 13 A 4-4c OR SDD 13 A 5-1b FOR RAMP AND GORE RUMBLE STRIP LOCATION.

CONCRETE JOINT DETAIL FOR ENTRANCE RAMP TERMINI

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/27/98
DATE

/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

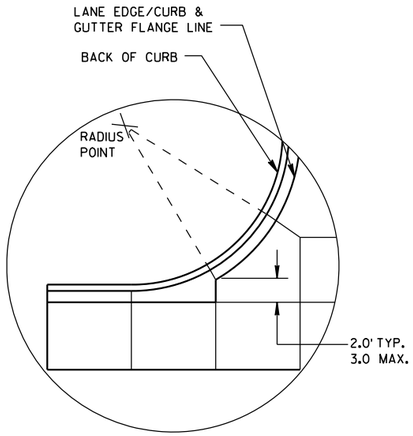
1487

6

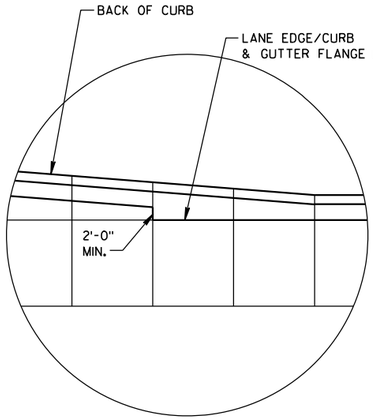
S.D.D. 13 C 17-1b

6

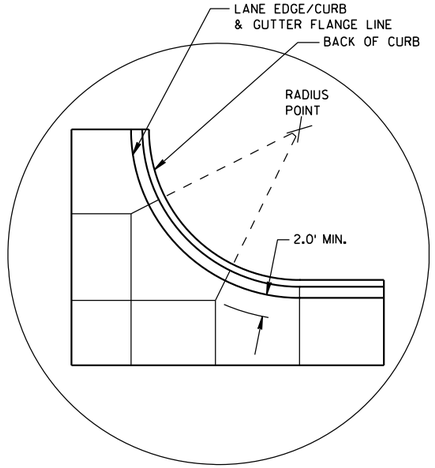
S.D.D. 13 C 17-1b



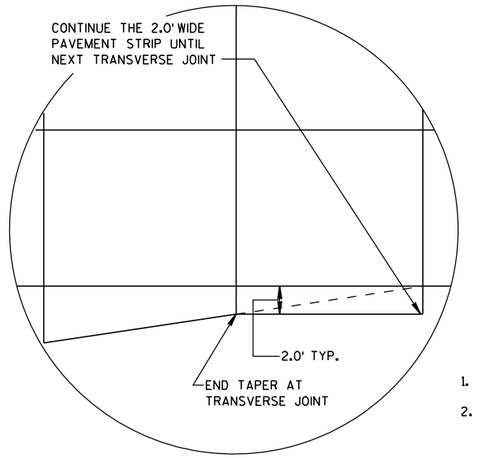
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

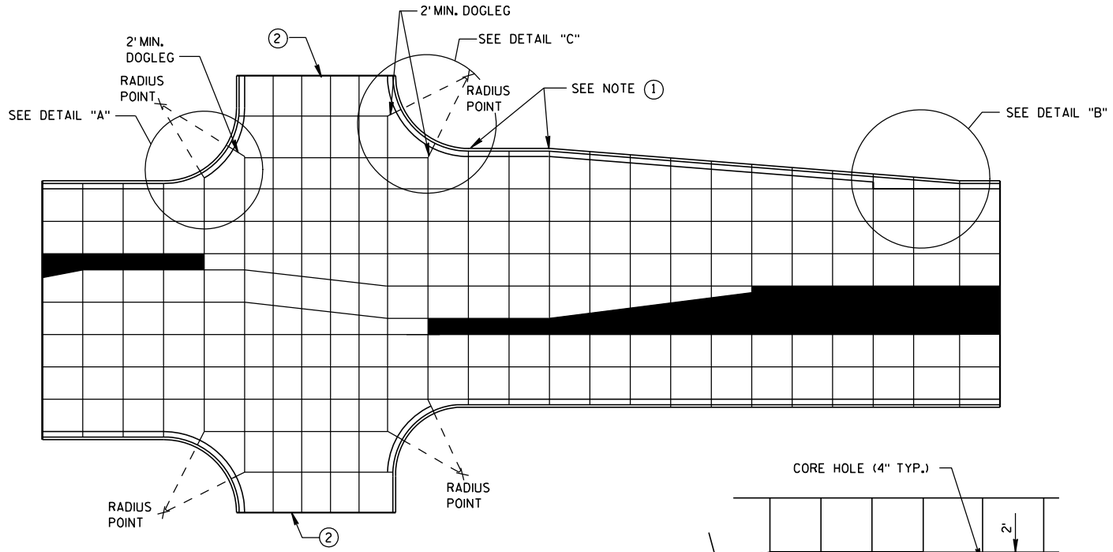
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

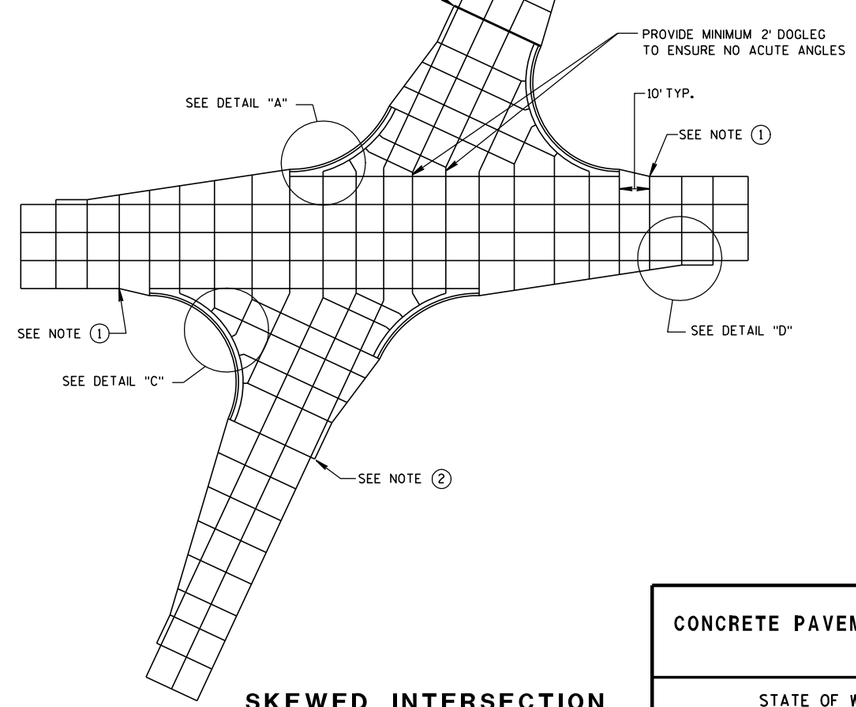
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



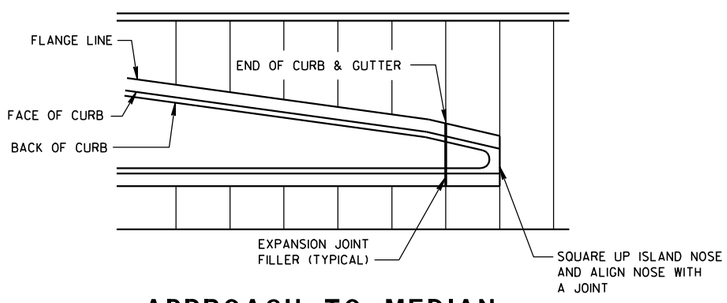
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

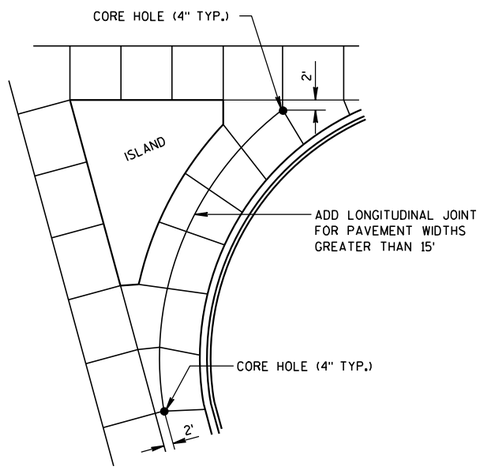
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

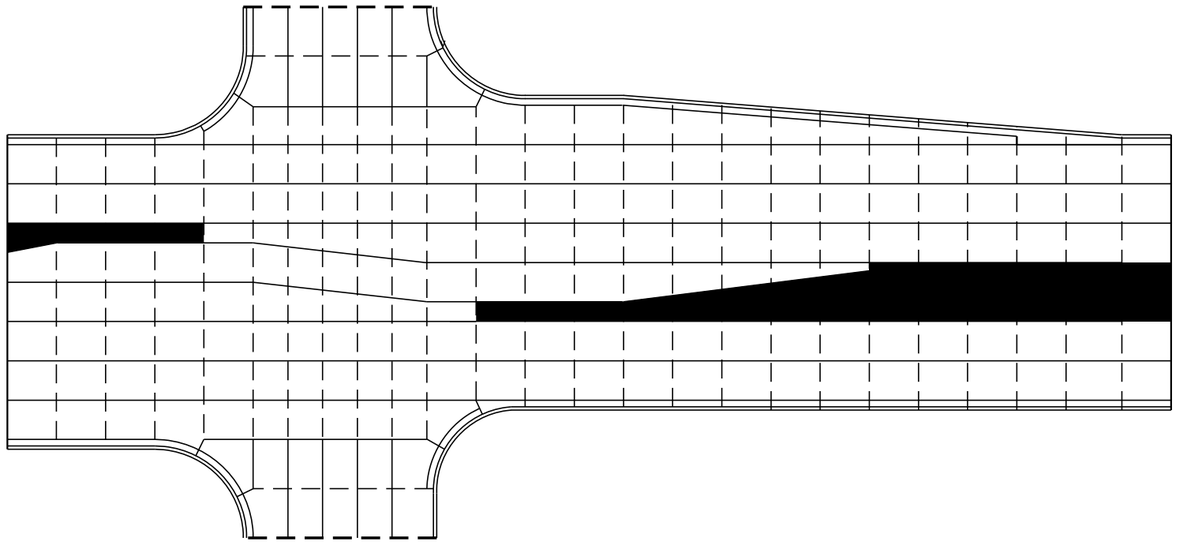
6
S.D.D. 13 C 18-1a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

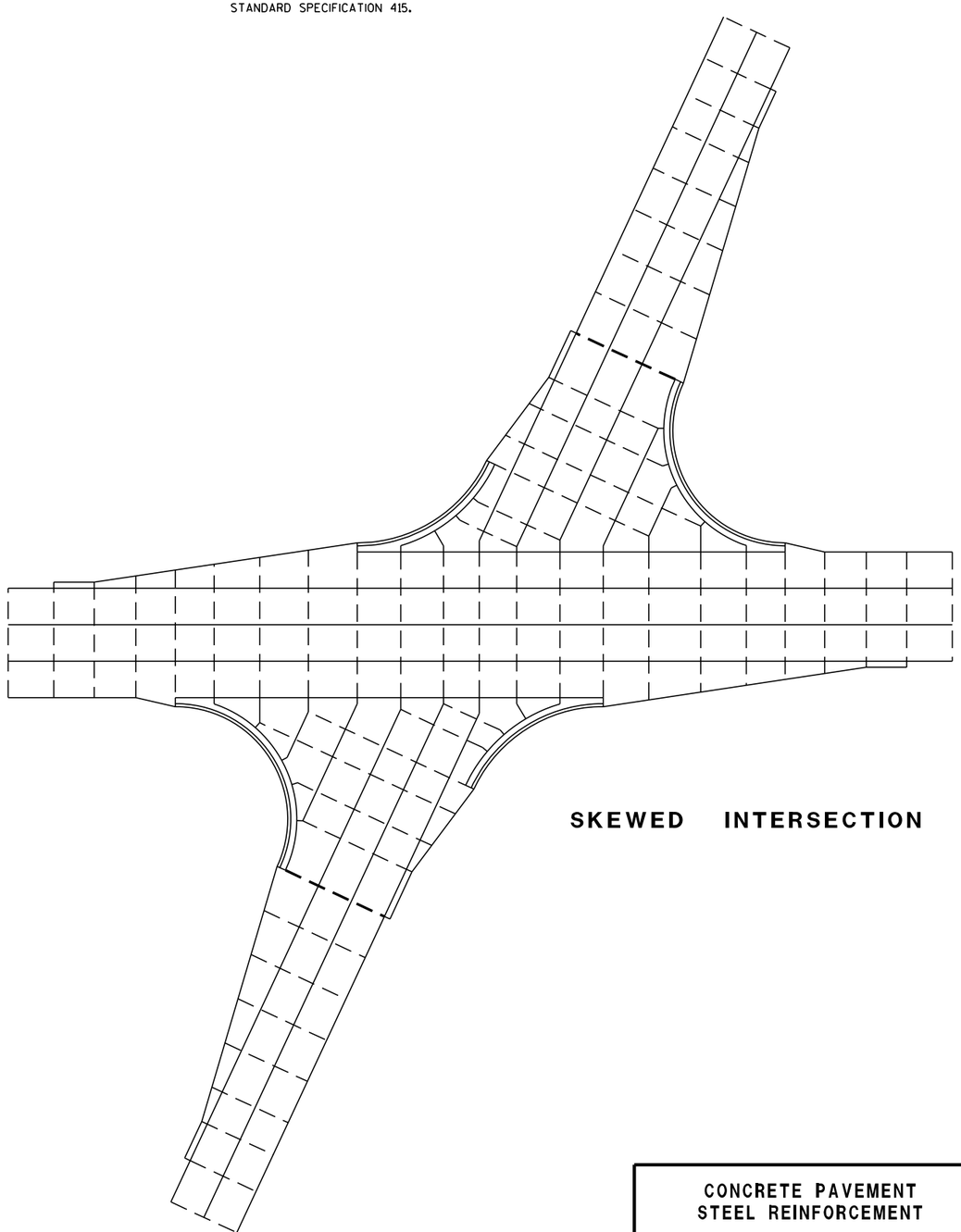
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

6

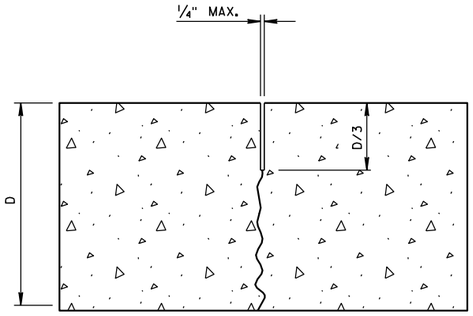
6

S.D.D. 13 C 18-1b

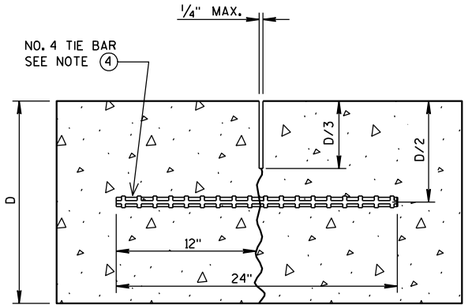
S.D.D. 13 C 18-1b

CONCRETE PAVEMENT
STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



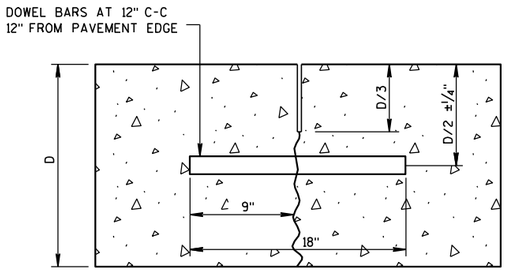
UNDOWELED-TRANSVERSE



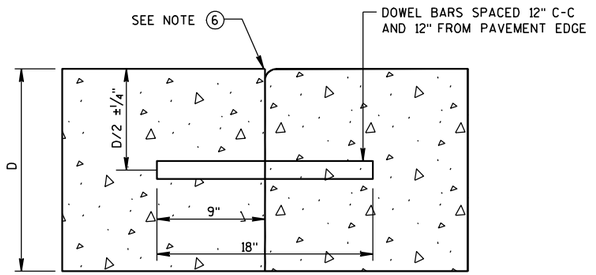
TIED LONGITUDINAL

GENERAL NOTES

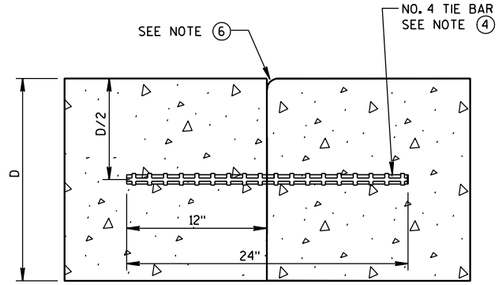
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C1.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.



DOWELED-TRANSVERSE



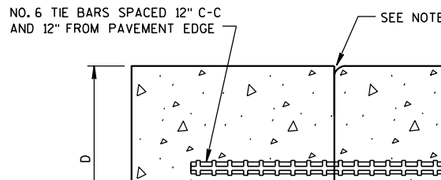
DOWELED TRANSVERSE



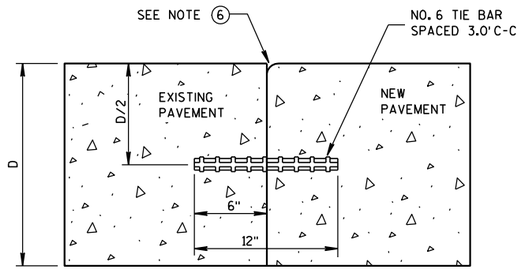
TIED LONGITUDINAL

CONTRACTION JOINTS

SEE NOTE (2)



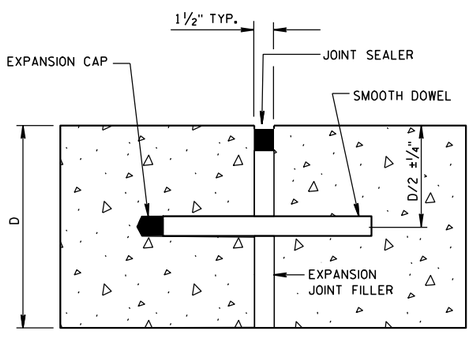
TIED TRANSVERSE
SEE NOTE (3)



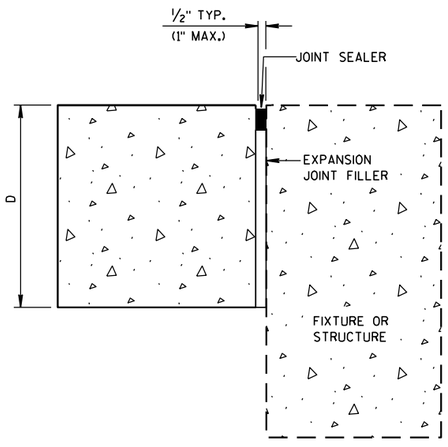
TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS

SEE NOTE (5)



DOWELED-TRANSVERSE
SEE NOTE (1)



UNTIED-LONGITUDINAL

EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

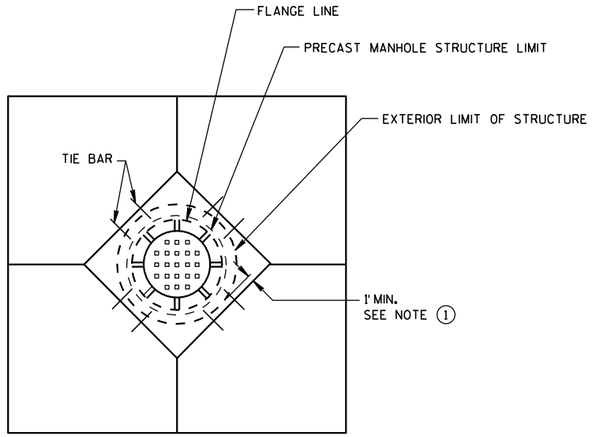
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

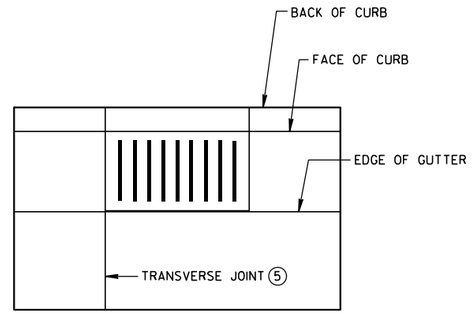
S.D.D. 13 C 18-1c

6

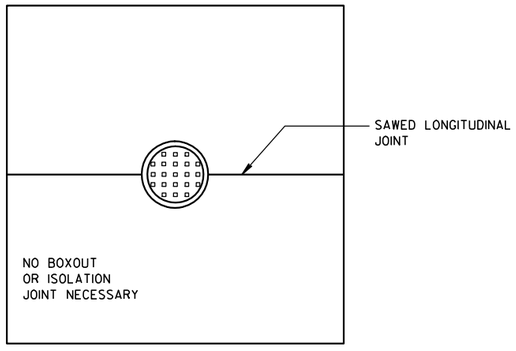
S.D.D. 13 C 18-1c



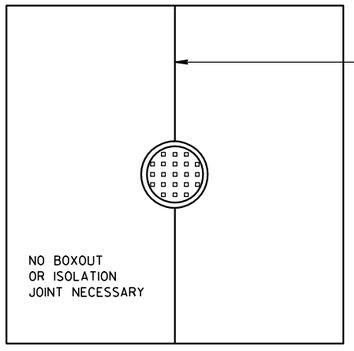
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



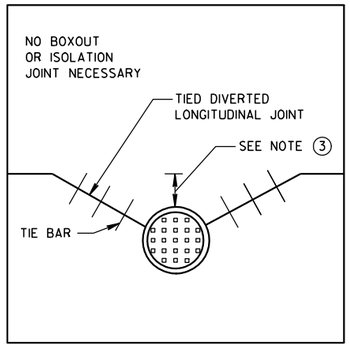
INLET WITH TRANSVERSE JOINT



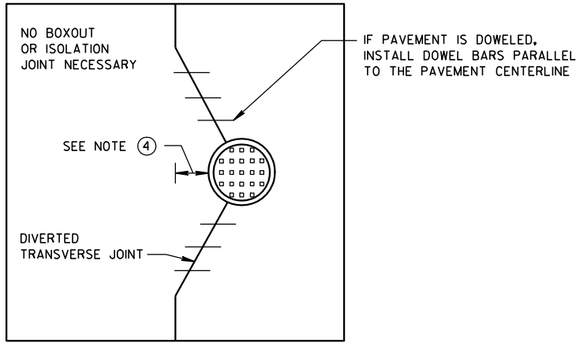
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

1. USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
2. ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
3. IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS GREATER THAN 2 FEET, DO NOT DIVERT JOINT AND SAW LONGITUDINAL JOINT AS NORMAL. IF DISTANCE IS 2 FEET OR LESS, DIVERT LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE.
4. IF DISTANCE FROM THE EDGE OF MANHOLE TO THE NEAREST TRANSVERSE JOINT IS GREATER THAN 4 FEET, REDIRECT JOINT TO INTERSECT MANHOLE. IF DISTANCE IS 4 FEET OR LESS, PLACE REBAR REINFORCEMENT AROUND MANHOLE.
5. ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-5-2010 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & D 1491 ENGINEER
FHWA

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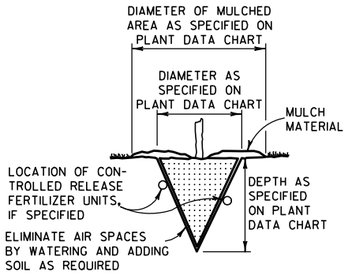
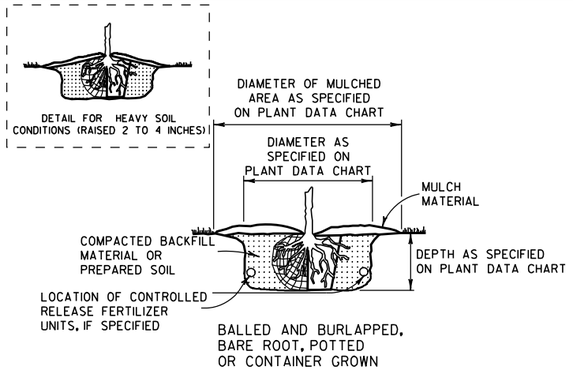
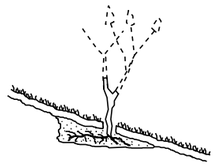
S.D.D. 13 C 18-1d



MACHINE MOVED

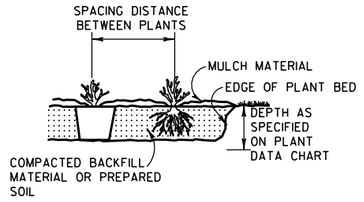


BALLED AND BURLAPPED, BARE ROOT, POTTED OR CONTAINER GROWN



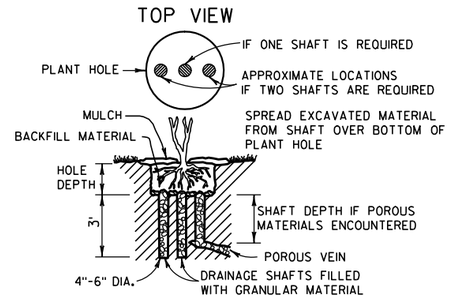
ACCOMMODATE ROOTS (SMOOTH AND STAGHORN SUMAC)

NOTE:
1) ENGINEER SHALL REQUIRE 3 SLITS IN POT TO SPEED DETERIORATION
2) METAL, PLASTIC OR OTHER NONDEGRADABLE POTS SHALL BE REMOVED PRIOR TO PLANTING



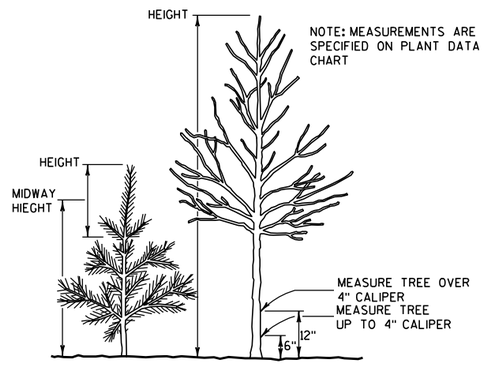
PREPARED BED (BARE ROOT AND POTTED)

PLANTING

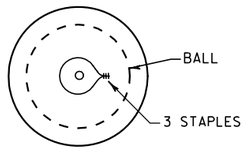


NOTE:
DRAINAGE SHAFT AS SPECIFIED ON PLANT DATA CHART

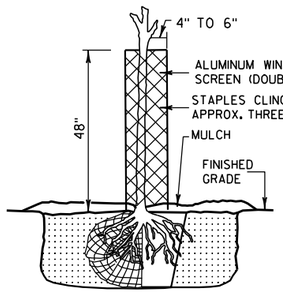
DRAINING



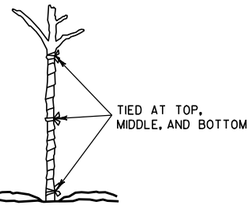
MEASURING



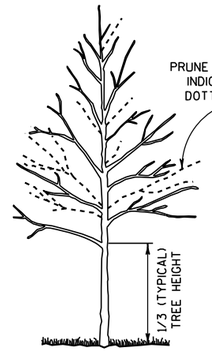
TOP VIEW



RODENT PROTECTION



WRAPPING



TALL DECIDUOUS TREES (ASH, MAPLE, LINDEN, OAK)

SINGLE STEMMED LOW DECIDUOUS TREES (CRABS AND OTHER SINGLE STEM TYPE)

MULTI-STEMMED LOW DECIDUOUS TREES OR LARGE SHRUBS (HAWTHORN, SERVICEBERRY)

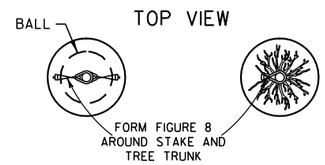
NOTE: WHEN PRUNING, PRESERVE CHARACTER AND SHAPE OF TREE. AVOID LEAVING STUBS - REMOVE BRANCH OR TWIG BACK TO THE NEAREST CROTCH
1) PRUNE TO REMOVE DEAD AND BROKEN BRANCHES
2) PRUNE TO REMOVE BRANCHES THAT TOUCH OR ARE TOO CLOSE TO OTHER BRANCHES

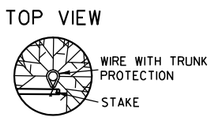
SHRUBS (GRAY DOGWOOD ARROWWOOD VIBURNUM)

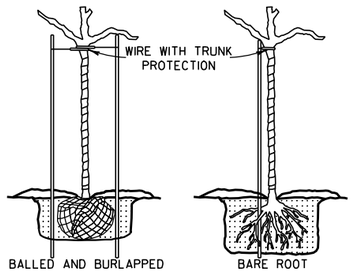
SUMAC

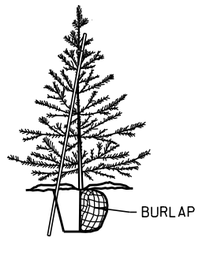
TREE TYPE EVERGREENS (PINE, SPRUCE, FIR) EVERGREENS USUALLY ARE NOT PRUNED

PRUNING



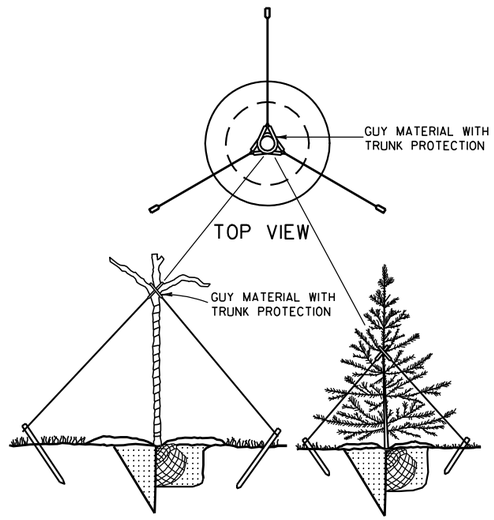






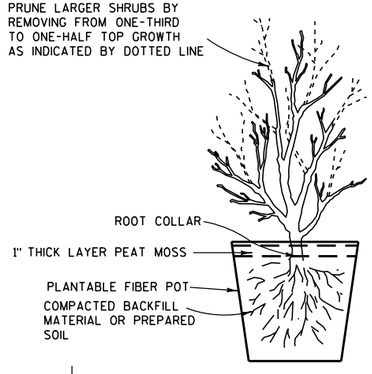
NOTE: BRACING STAKE
1) SHALL BE DRIVEN INTO THE GROUND AS CLOSE TO THE TREE AS POSSIBLE WITHOUT DAMAGING THE BRANCHES.
2) MAY BE DRIVEN AT SUCH AN ANGLE THAT IT DOES NOT PENETRATE THE BALL OR POT.
3) SHALL NOT PROTRUDE ABOVE THE TOP OF THE TREE; AND
4) SHALL HAVE A HOLE NEAR THE TOP TO HOLD THE WIRE IN PLACE.

BRACING



GUYING

PRUNE LARGER SHRUBS BY REMOVING FROM ONE-THIRD TO ONE-HALF TOP GROWTH AS INDICATED BY DOTTED LINE



POTTING

NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

BRACING, WRAPPING, GUYING, RODENT PROTECTION, FERTILIZER AND MULCH SHALL BE USED ONLY WHEN SPECIFIED ON THE PLANT DATA CHART (PART OF PLAN) OR SPECIAL PROVISIONS.

TREE PLANTING DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/11/94
DATE
/S/ Rory L. Rhinesmith
CHIEF METHODS DEVELOPMENT ENGINEER
FHWA

1492

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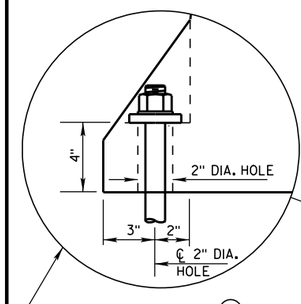
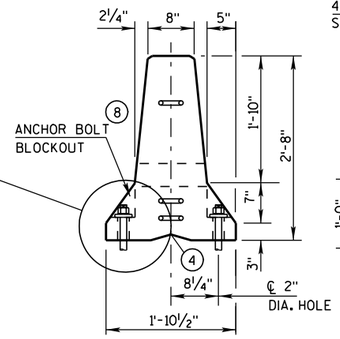
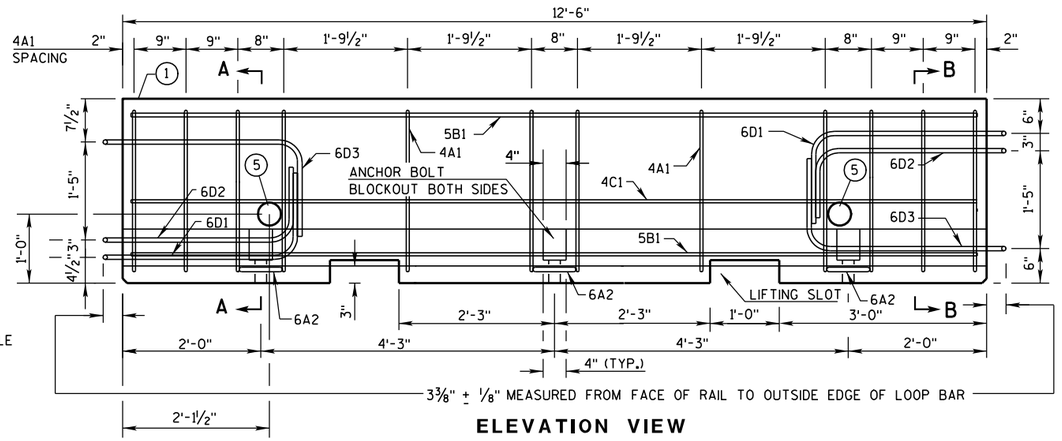
S.D.D. 14 A 2-1



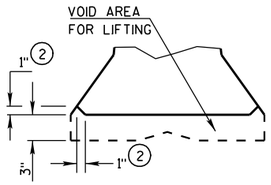
ANCHOR ON TRAFFIC SIDE (8) ONLY WHEN REQUIRED (SEE SHEET D FOR ADDITIONAL ANCHOR DETAIL)



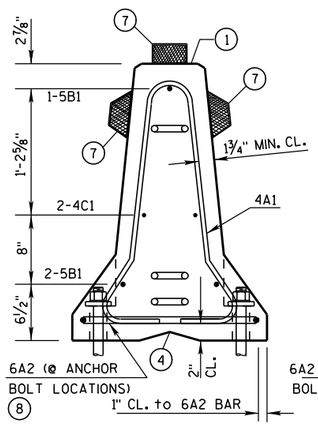
END VIEW



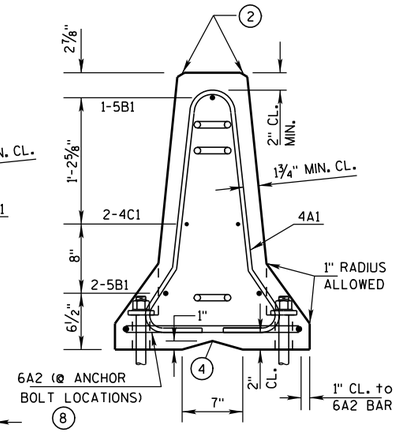
ELEVATION VIEW



DETAIL "B"
LIFTING SLOT DETAIL



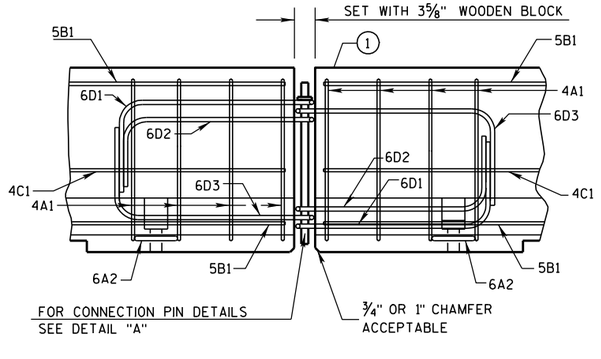
SECTION A-A
(STIRRUP PLACEMENT)



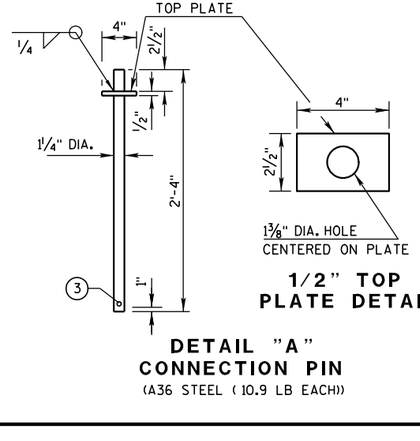
SECTION B-B
(STIRRUP PLACEMENT)

PLAN VIEW

DETAILS OF BARRIER SECTION

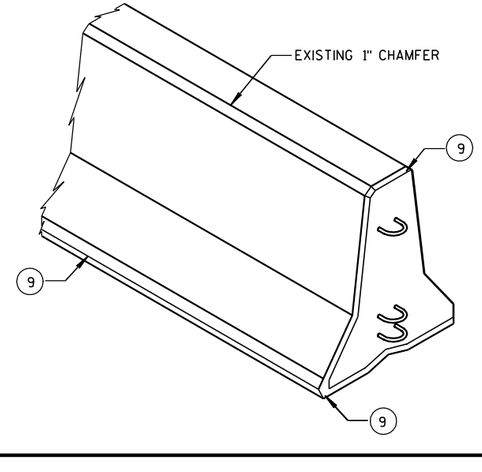


DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-13(a) THRU 14B7-13(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR EPOXY ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WICBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

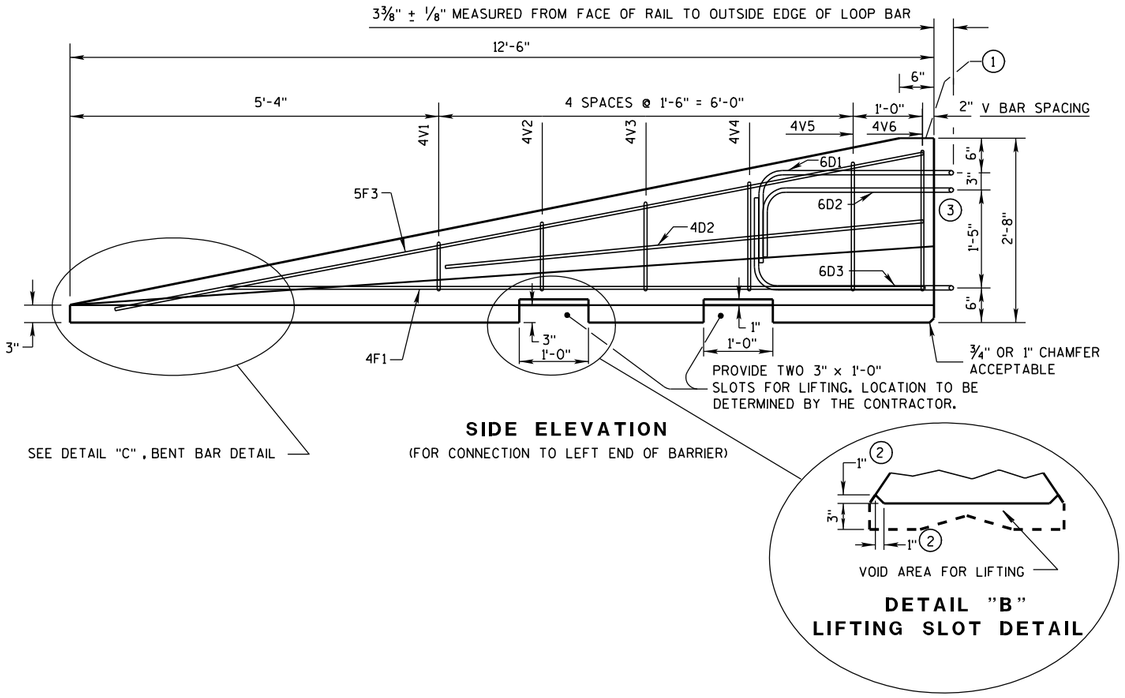
(8) SEE SHEET D FOR ANCHORING CRITERIA.

(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO.....

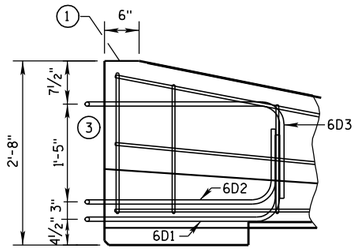
6
S.D.D. 14 B 7-13a



SIDE ELEVATION

(FOR CONNECTION TO LEFT END OF BARRIER)

DETAIL "B"
LIFTING SLOT DETAIL

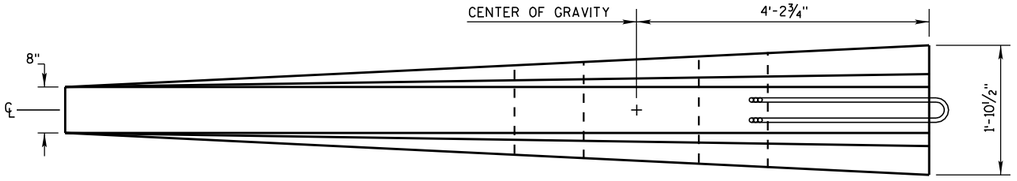


SIDE ELEVATION

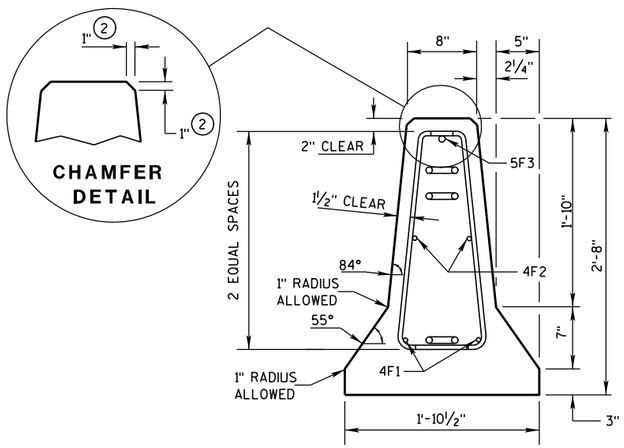
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

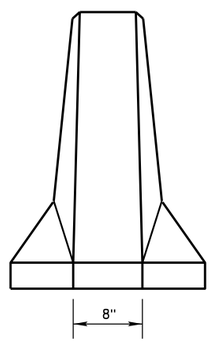
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



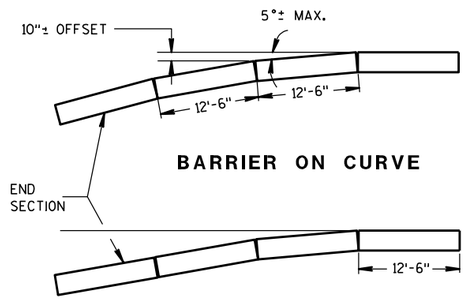
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 7-13b

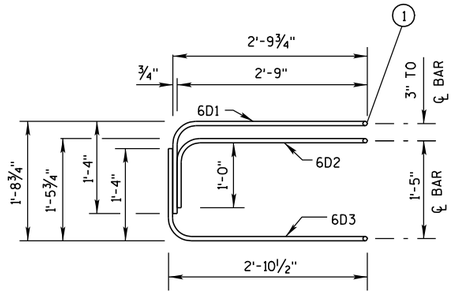
6

S.D.D. 14 B 7-13b

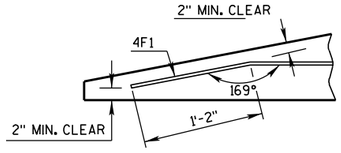
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

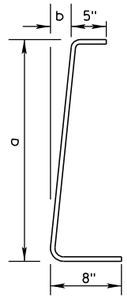
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

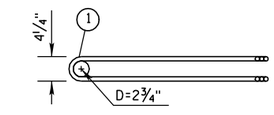
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

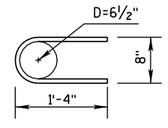
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

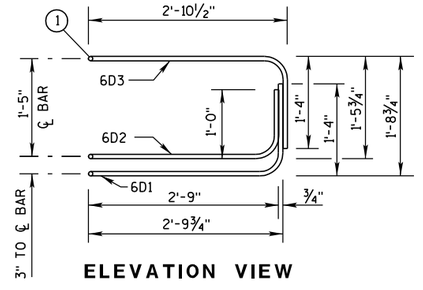
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



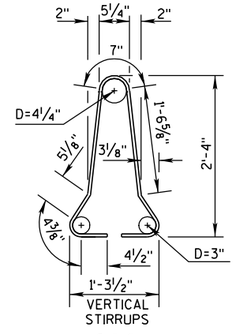
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



ELEVATION VIEW



4A1

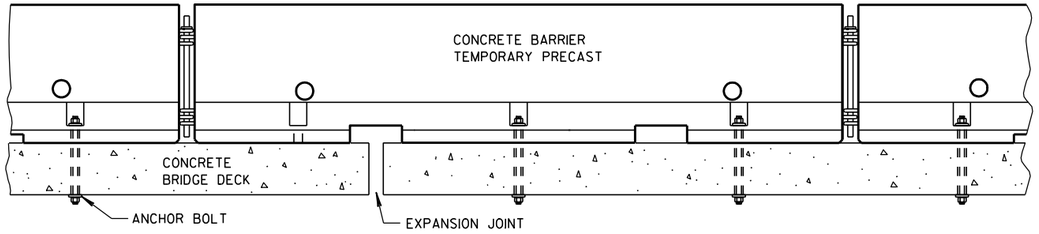
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

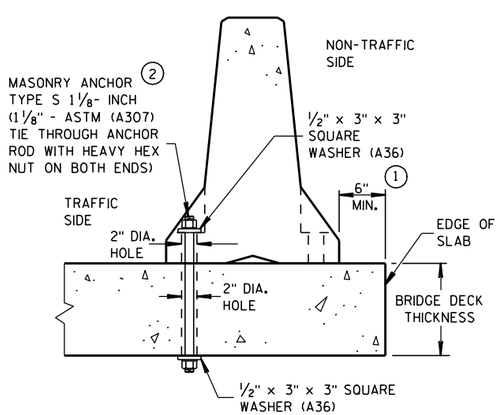
6

S.D.D. 14 B 7-13c



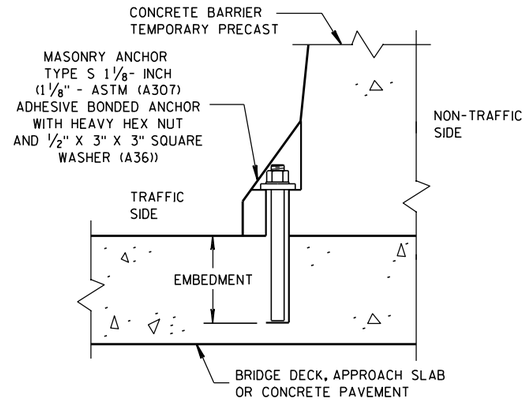
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR (2) INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

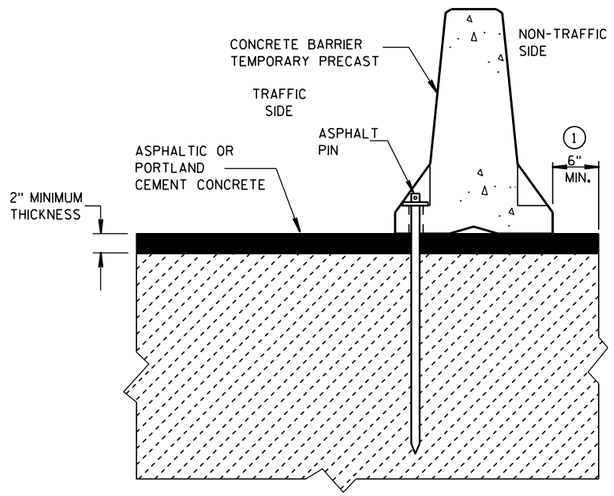
(1) CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

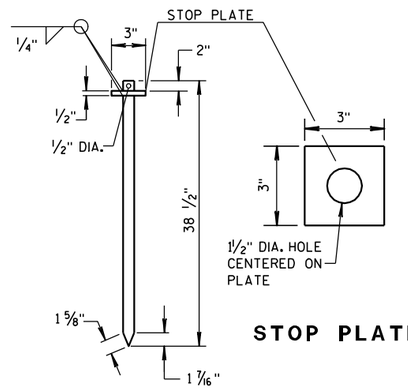
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT. IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

(2) ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALLANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.





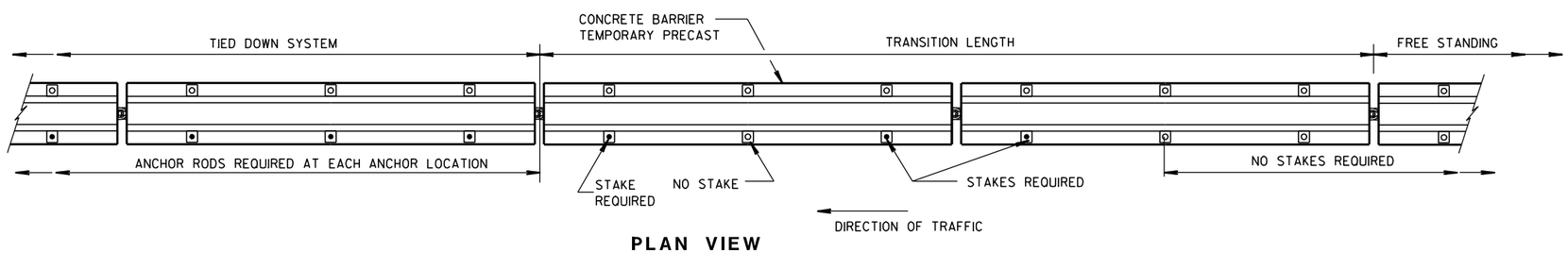
STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)

STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



PLAN VIEW

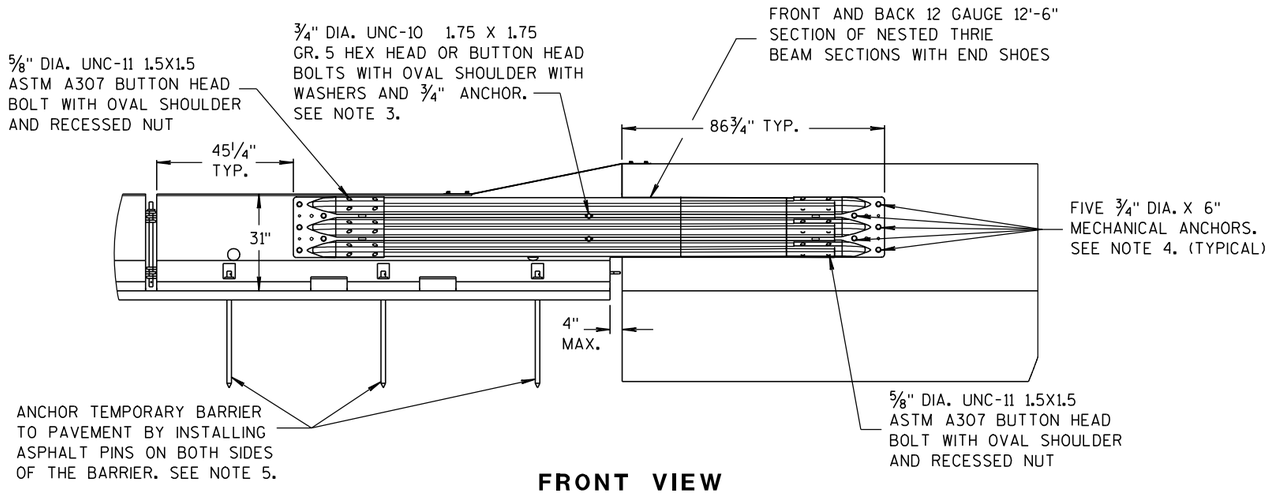
FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

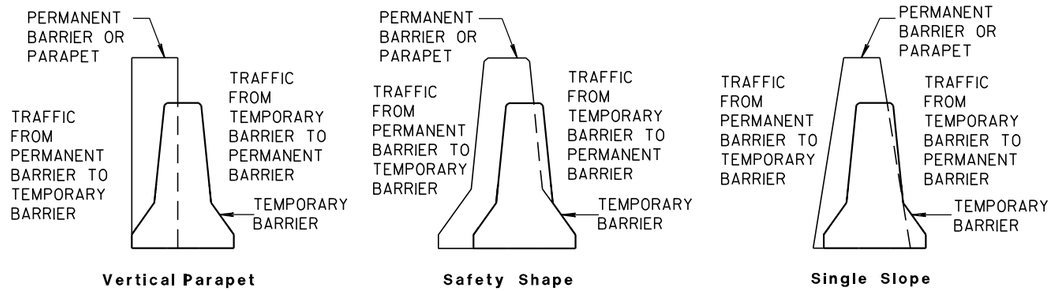
6
S.D.D. 14 B 7-13d

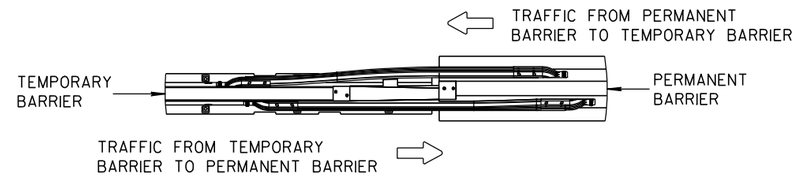


FRONT VIEW

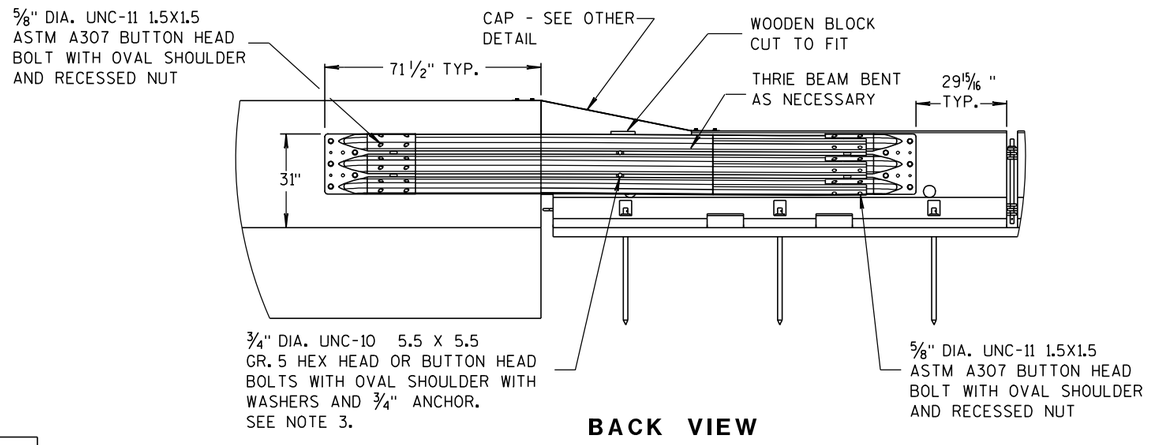
NOTES

1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.

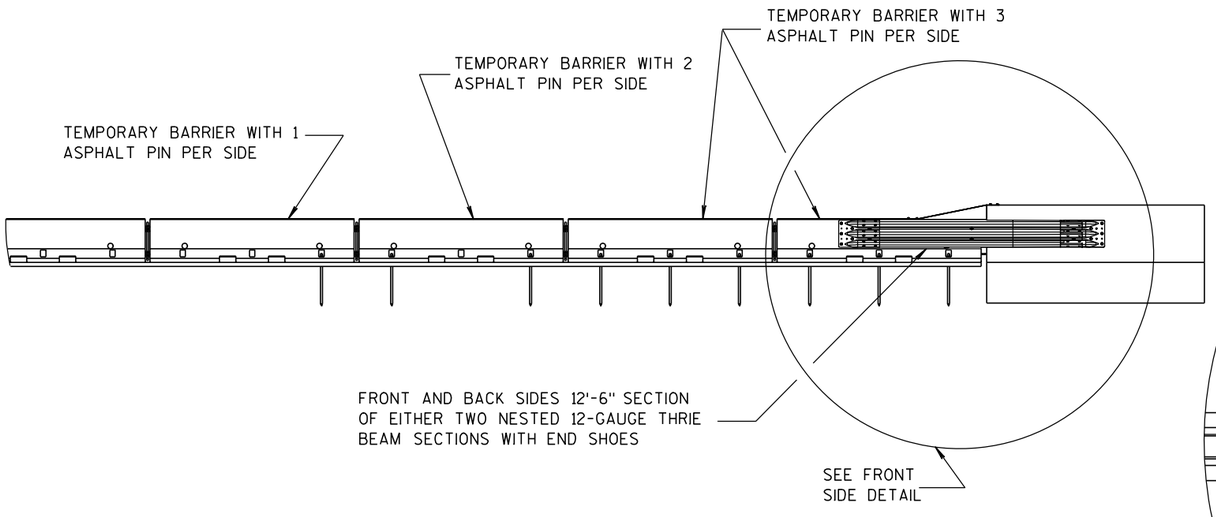




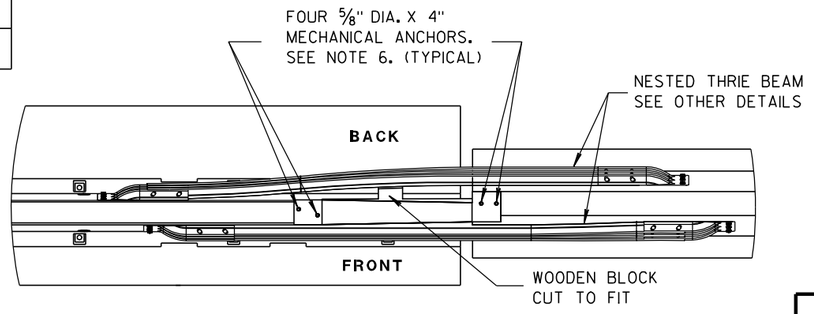
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



BACK VIEW



FRONT VIEW



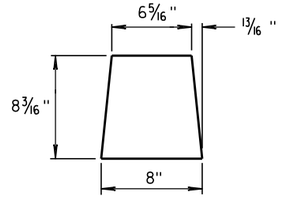
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

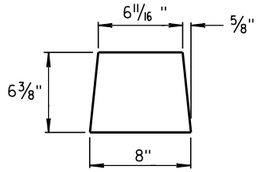
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

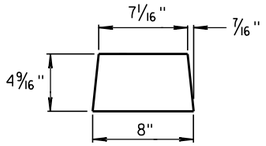
6
S.D.D. 14 B 7-13e



GUSSET 1



GUSSET 2



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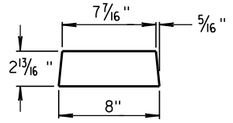
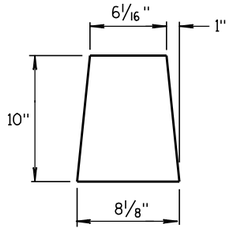
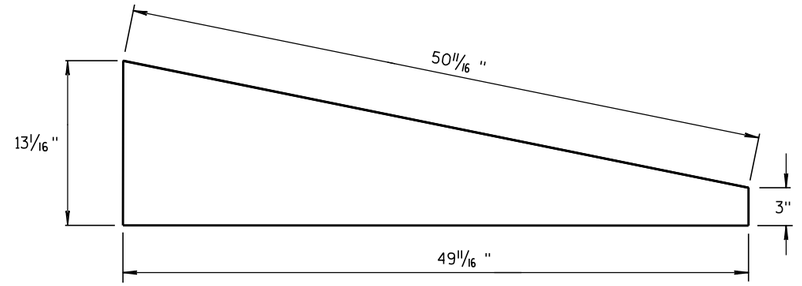


GUSSET 4

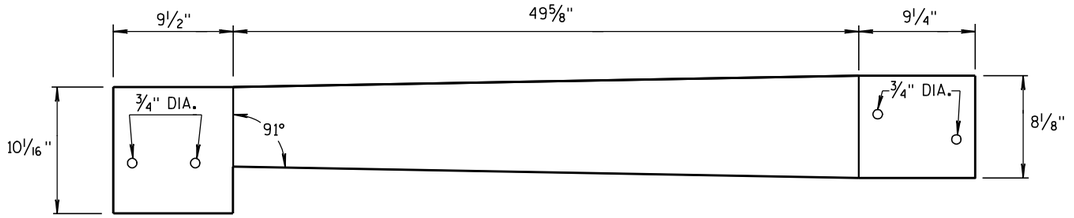
GUSSETS

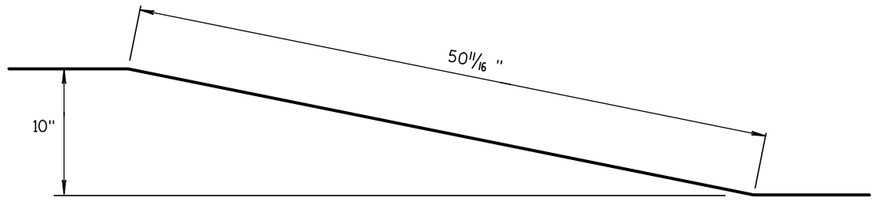


END PLATE

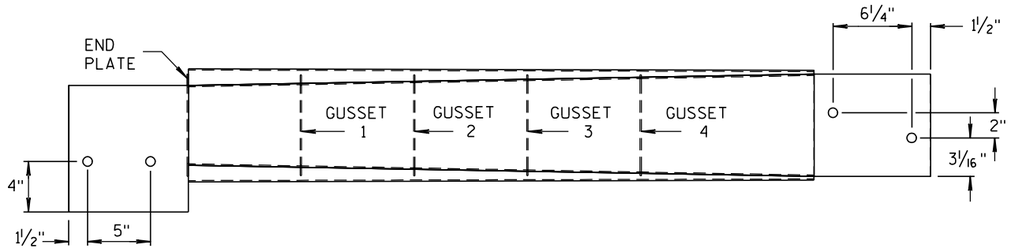


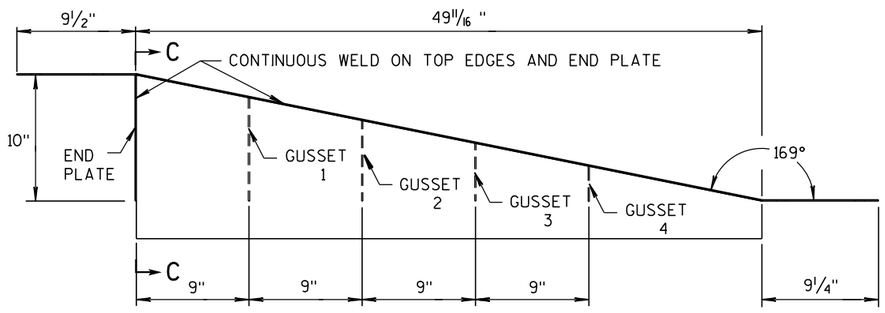
SIDE PLATE

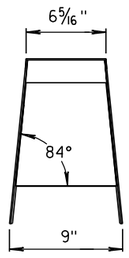




TOP PLATE







SECTION C-C

NOTES

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

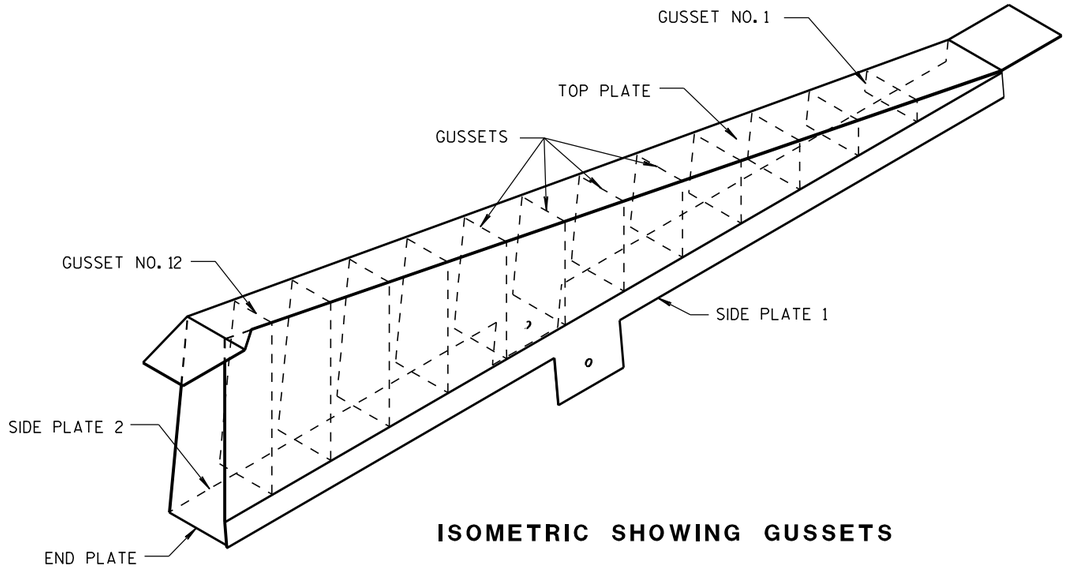
SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

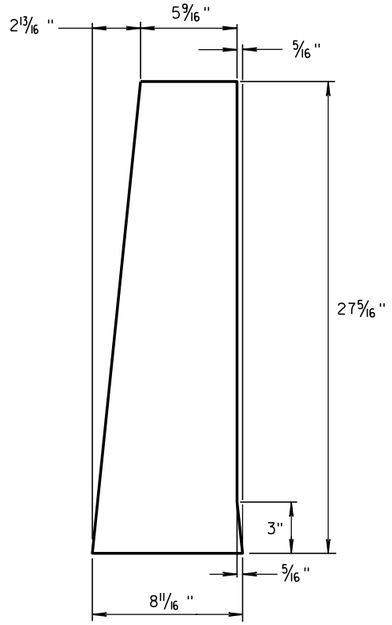
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 7-13f

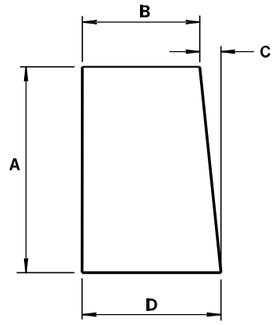


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



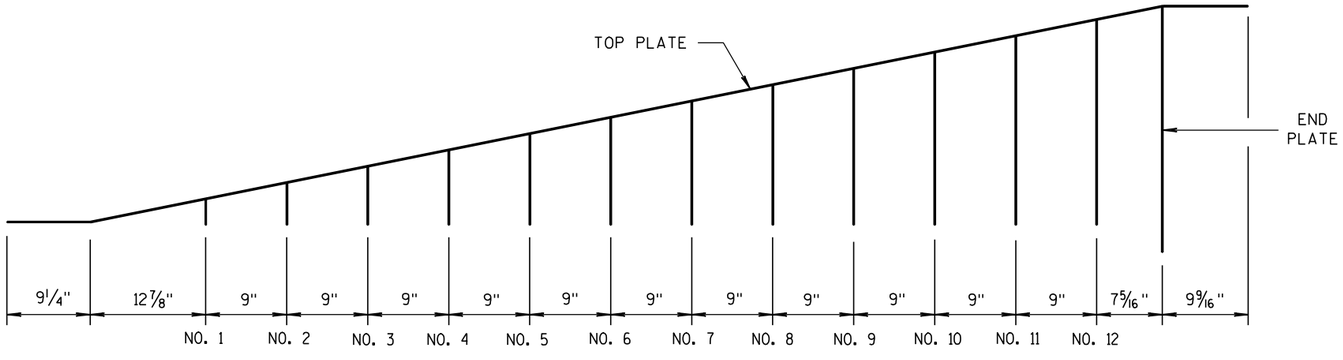
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 15/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



GUSSET LOCATION

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

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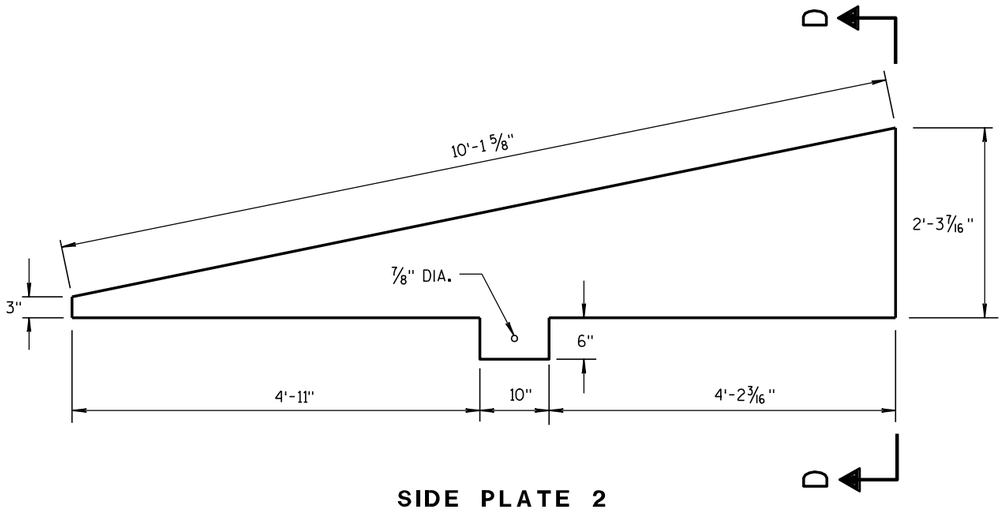
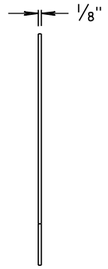
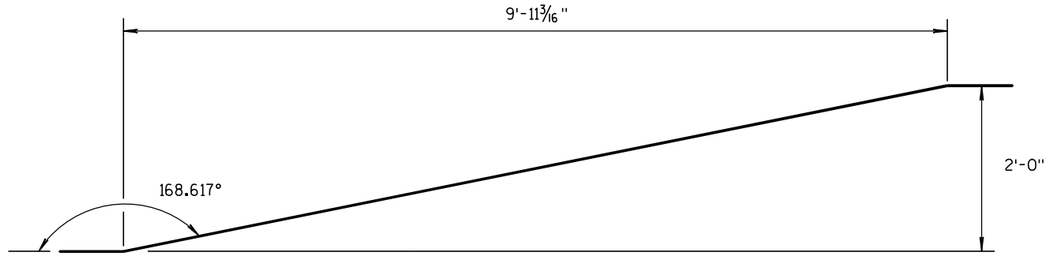
S.D.D. 14 B 7-13g



SIDE PLATE 2

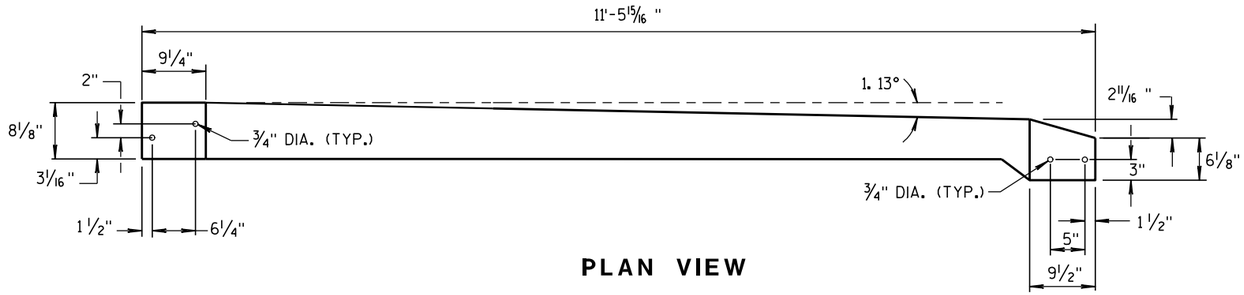


END VIEW



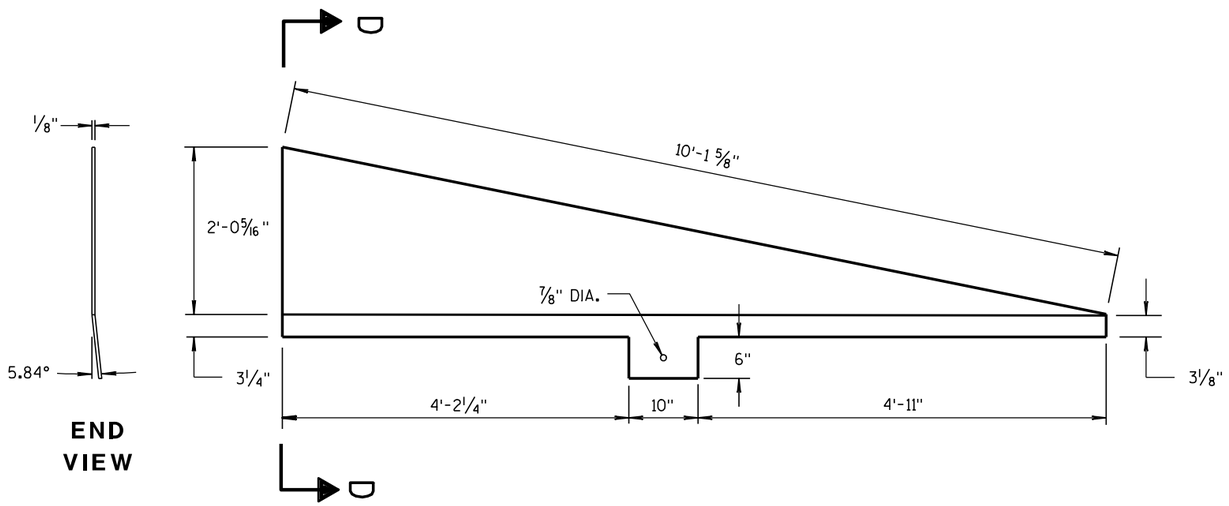
SIDE VIEW

TOP PLATE



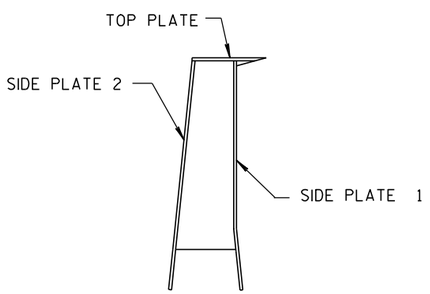
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

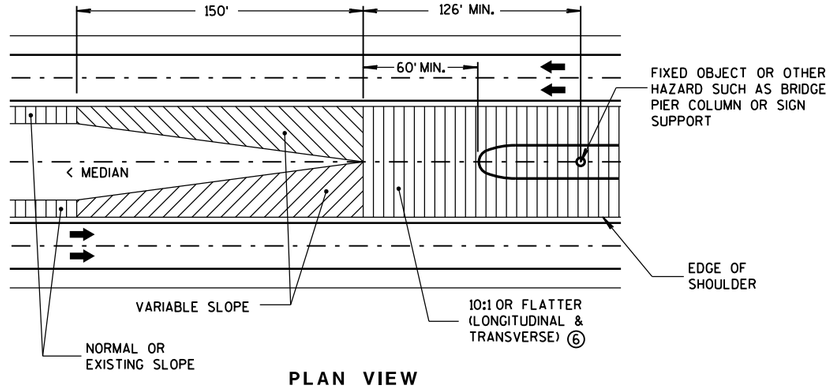
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
8/31/2012 DATE	/S/ Jerry H. ROADWAY STANDARD ENGINEER
FHWA	1500 ENT

6

S.D.D. 14 B 7-13h

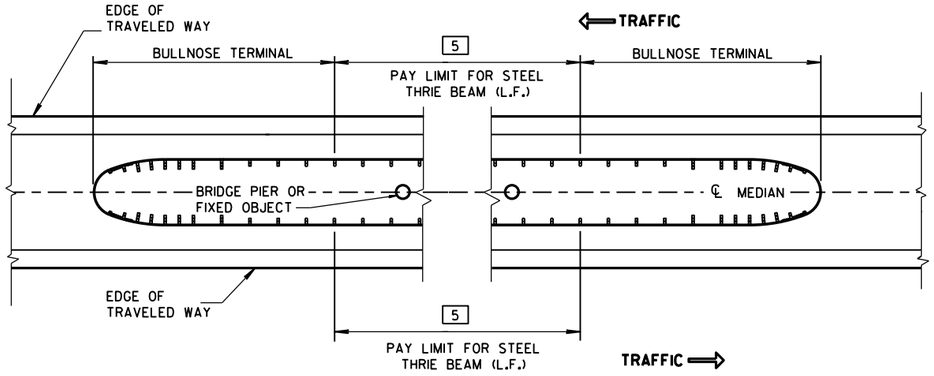
6

S.D.D. 14 B 7-13h

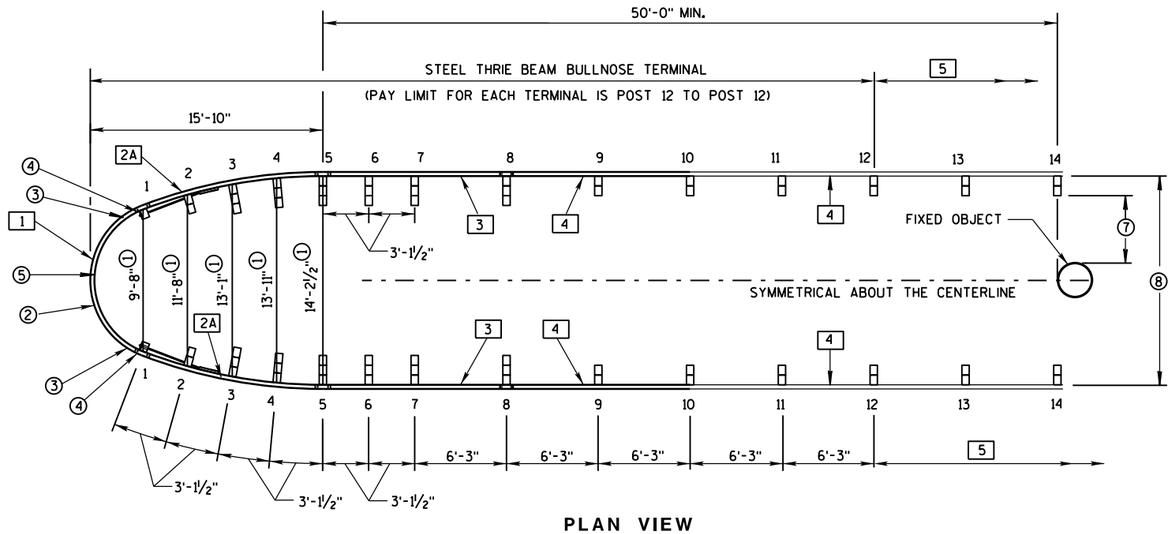


PLAN VIEW

GRADING AT BULLNOSE
(ALL INSTALLATIONS)

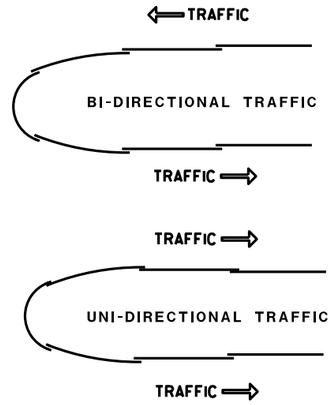


MEDIAN HAZARD PROTECTION PAY LIMITS



PLAN VIEW

TYPICAL BULLNOSE LAYOUT



LAPPING DETAIL
(ALL INSTALLATIONS)

GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

PUNCHING, DRILLING, CUTTING OR WELDING IS NOT PERMITTED ON ANY GALVANIZED THRIE BEAM ACCESSORY OR TERMINAL ACCESSORY.

OTHER ANCHOR CABLE ASSEMBLIES HAVING 40,000 LBS. MIN. BREAKING STRENGTH MAY BE USED.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

THE USE OF STEEL POSTS ON THE BULLNOSE IS NOT ALLOWED.

BOLTS AND ALL NECESSARY HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

ALL THRIE BEAM SHALL BE 12-GAUGE.

[1] SLOTTED THRIE BEAM RAIL NO. 1. (POST 1 TO POST 1)

[2A] SLOTTED THRIE BEAM RAIL NO. 2A. (POST 1 TO POST 5)

[3] SLOTTED THRIE BEAM RAIL NO. 3. (POST 5 TO POST 8)

[4] UNBENT STANDARD THRIE-BEAM RAIL NO.4. (POST 8 TO POST 10 & POST 10 TO POST 12)

[5] BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST OR BLOCK.

② U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.

③ NOSE CABLE W/SWAGGED END BUTTONS.

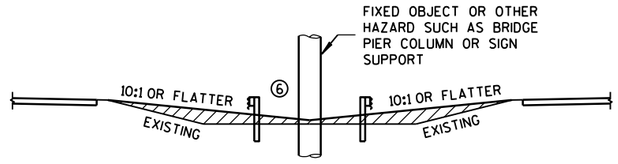
④ NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).

⑤ THE SLACK IN THE NOSE CABLES SHALL BE EVENLY DISTRIBUTED BETWEEN THE CABLE CLIP FASTENERS AND POST NO. 1 ON EITHER SIDE OF THE NOSE.

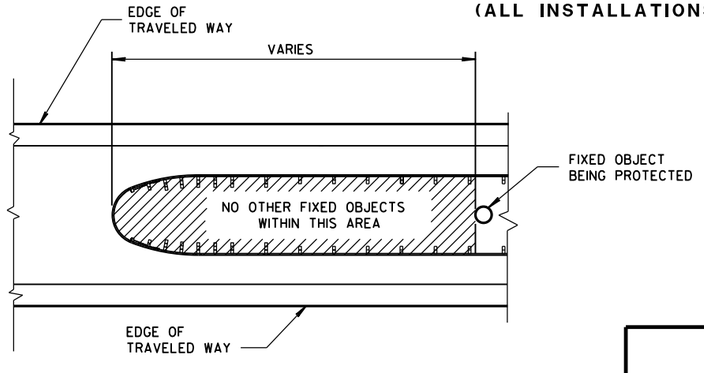
⑥ PROVIDE SUITABLE DRAINAGE WHEN MEDIAN GRADING IMPEDES NORMAL FLOW.

⑦ 2'-6" MINIMUM LATERAL DISTANCE BETWEEN BACK OF POST AND FACE OF FIXED OBJECT.

⑧ MAXIMUM WIDTH OF SYSTEM IS 14'-2½" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



MEDIAN GRADING SECTION
(ALL INSTALLATIONS)



HAZARD FREE AREA INSIDE BULLNOSE

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 1501

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S.D.D. 14 B 26-2a

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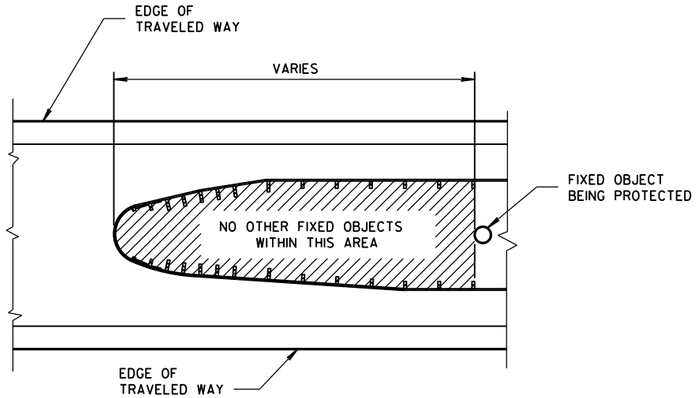
S.D.D. 14 B 26-2a



HAZARD FREE
AREA INSIDE BULLNOSE

GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

[1] SLOTTED THRIE BEAM RAIL NO. 1. (POST 1 TO POST 1)

[2A] SLOTTED THRIE BEAM RAIL NO. 2A, (POST 1 TO POST 5)

[2B] SLOTTED THRIE BEAM RAIL NO. 2B, (POST 1 TO POST 5)

[3] SLOTTED THRIE BEAM RAIL NO. 3. (POST 5 TO POST 8)

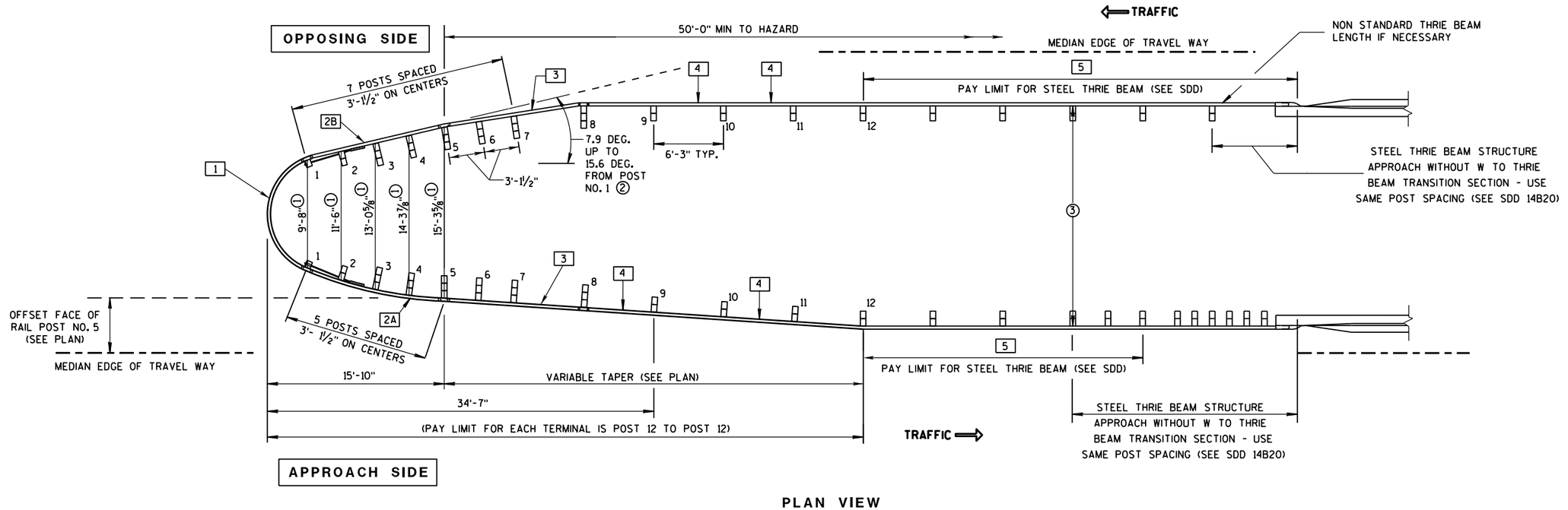
[4] UNBENT STANDARD THRIE-BEAM RAIL NO. 4, (POST 8 TO POST 10 & POST 10 TO POST 12)

[5] BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST.

② TAPER BEGINNING AT POST NO. 1 MUST CONTINUE TO POST NO. 5. PAST POST NO. 5 TAPER MAY END OR BE EXTENDED UP TO 15.6 DEGREES TO FIT VARIABLE MEDIAN WIDTHS. (SEE PLAN)

③ FOR MEDIANS WIDER THAN 14'-2½" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



PLAN VIEW

WIDENED BULLNOSE DESIGN

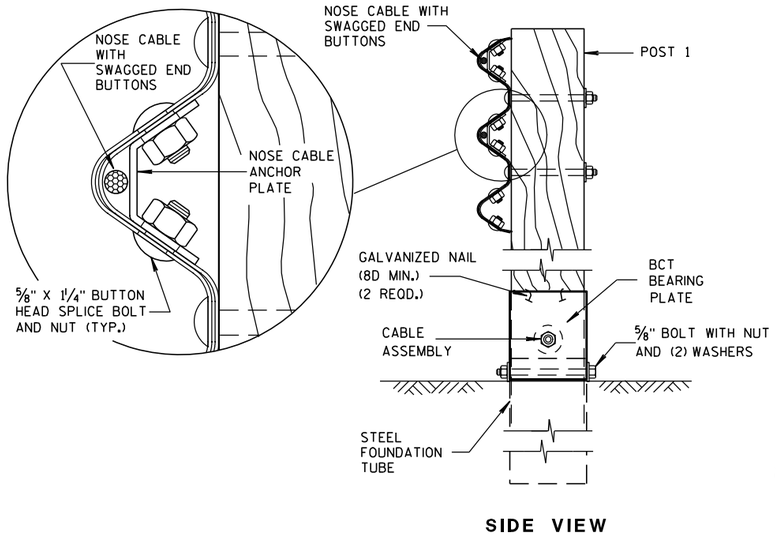
(INSTALLATION AT TWIN BRIDGES WITH BI-DIRECTIONAL TRAFFIC SHOWN)

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI 1502

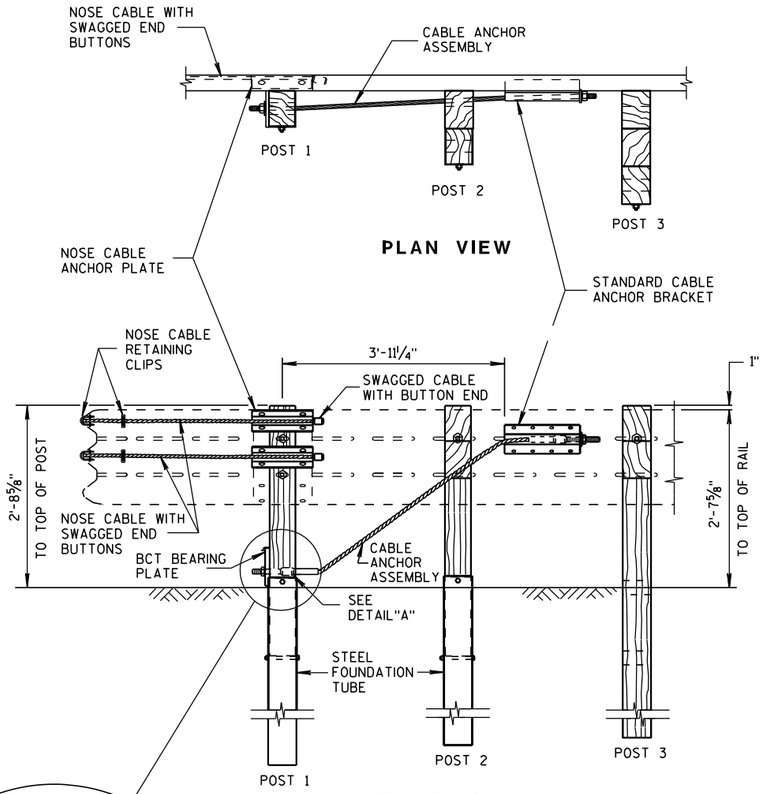
6

S.D.D. 14 B 26-2b



SIDE VIEW

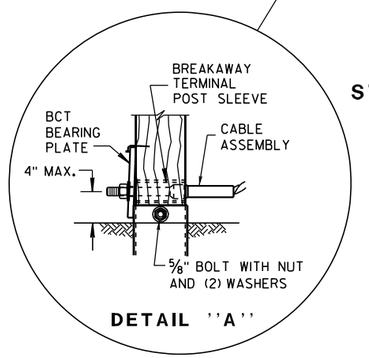
NOSE CABLE ASSEMBLY AT POST NO. 1



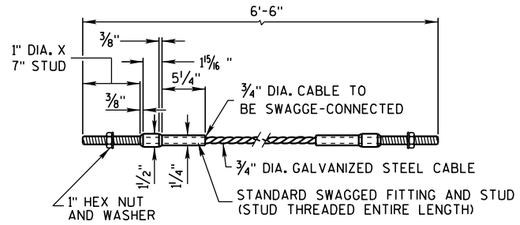
PLAN VIEW

FRONT VIEW

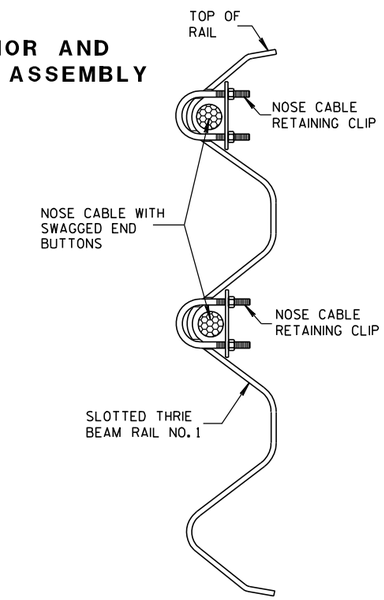
NOSE CABLE ANCHOR AND STANDARD BRACKET ASSEMBLY



DETAIL ''A''



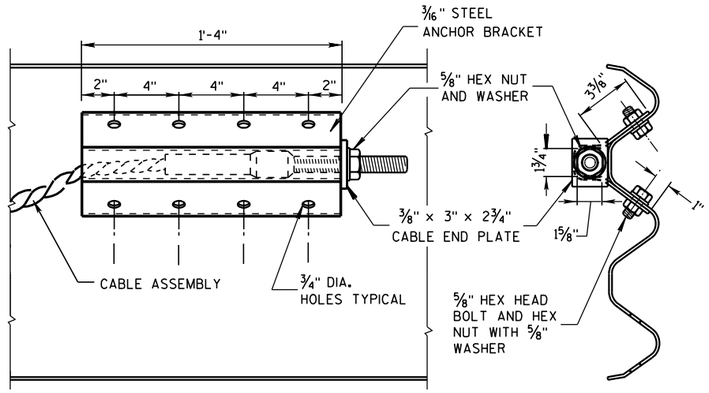
DETAILS OF CABLE ANCHOR ASSEMBLY



PLACEMENT OF NOSE CABLE RETAINING CLIP

GENERAL NOTES

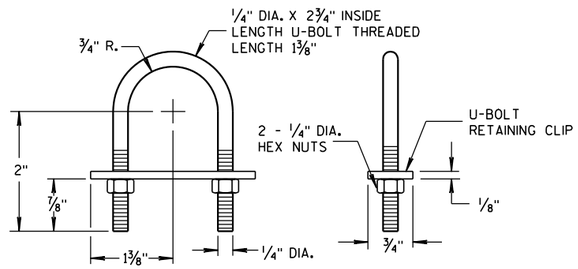
SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.



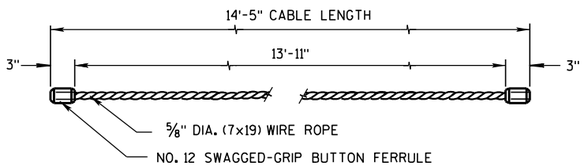
FRONT VIEW

END VIEW

DETAILS OF CABLE ANCHOR BRACKET

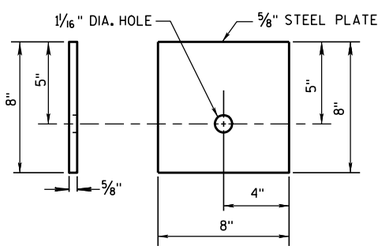


NOSE CABLE RETAINING CLIP

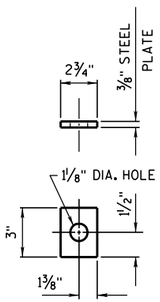


NOSE CABLE WITH SWAGGED END BUTTONS

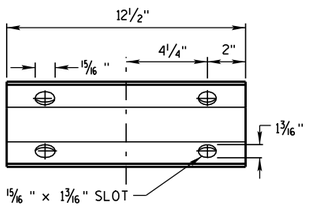
TO PULL OFF SWAGGED GRIP BUTTON FERRULE FROM WIRE ROPE REQUIRES A FORCE EQUAL TO 98% OF THE WIRE ROPE'S BREAKING STRENGHT.



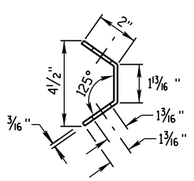
BCT BEARING PLATE



CABLE END PLATE



ELEVATION VIEW



END VIEW

NOSE CABLE ANCHOR PLATE

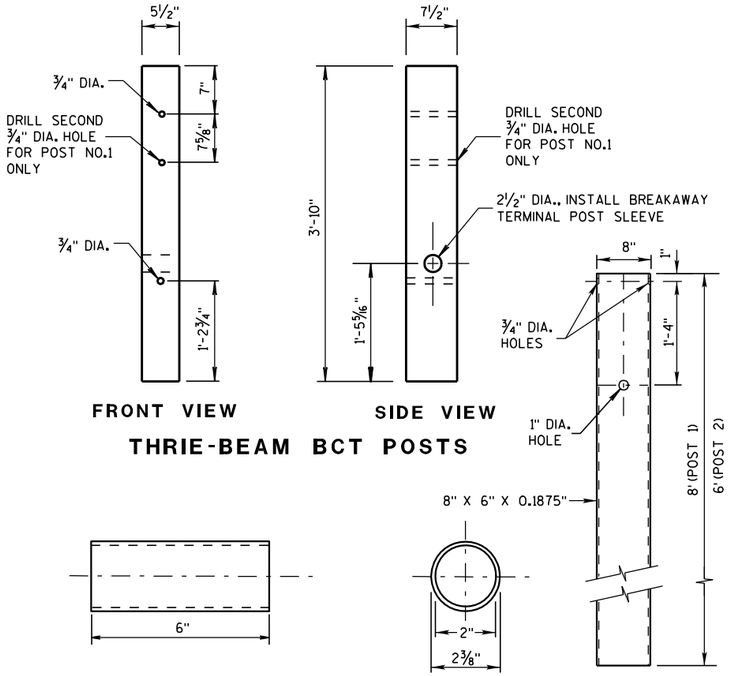
NOTE: 12 1/2" x 5 13/16" x 3/16" STEEL PLATE (A306)

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

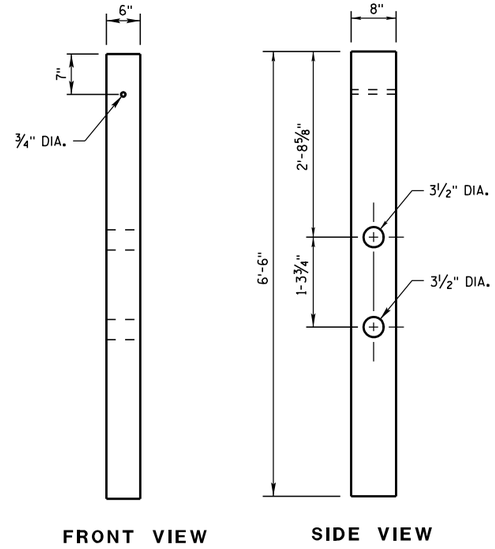
S.D.D. 14 B 26-2c



THRIE-BEAM BCT POSTS

BREAKAWAY TERMINAL POST SLEEVE

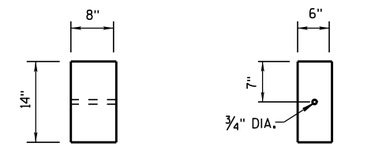
STEEL FOUNDATION TUBE



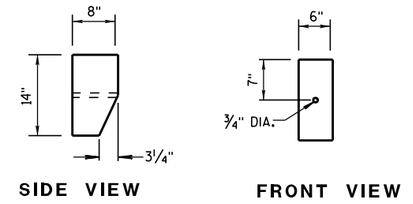
THRIE-BEAM CRT WOOD POSTS

GENERAL NOTES

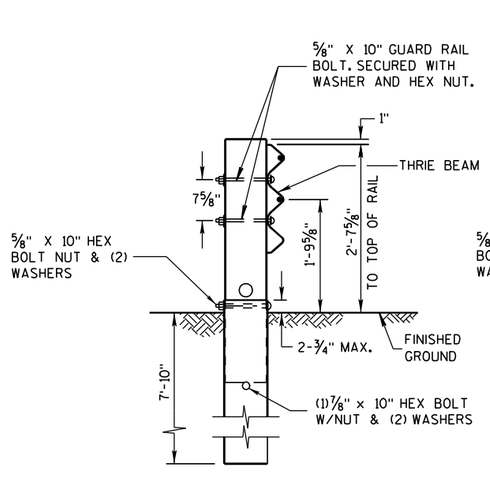
SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.



STANDARD WOOD BLOCK

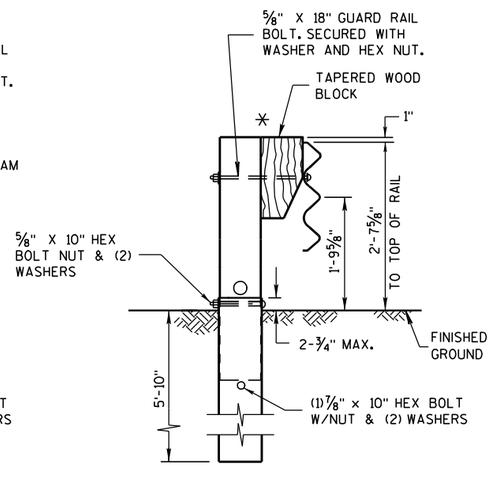


TAPERED WOOD BLOCK



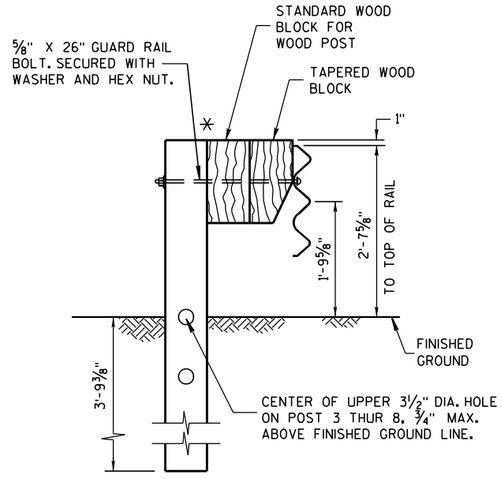
THRIE-BEAM BCT POST
(WITH 8'-0" FOUNDATION TUBE)

POST NO. 1



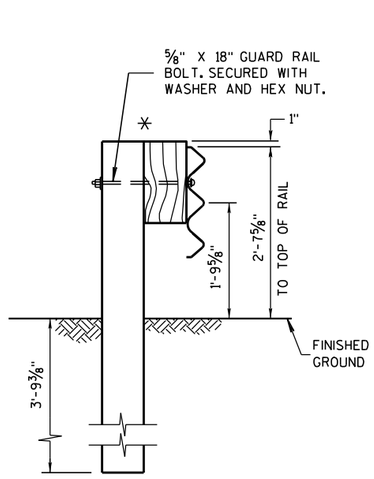
THRIE-BEAM BCT POST
(WITH 6'-0" FOUNDATION TUBE AND 1'-2" TAPERED BLOCK)

POST NO. 2



THRIE-BEAM CRT POST
(6'-6" LONG POST WITH 1'-2" BLOCK AND 1'-2" TAPERED BLOCK)

POST NO. 3,4,5,6,7, & 8



THRIE-BEAM POST
(6'-6" LONG POST WITH 1'-2" BLOCK)

POST NO. 9,10,11,& 12

(ALSO USE FOR STEEL THRIE BEAM BEYOND POST 12)

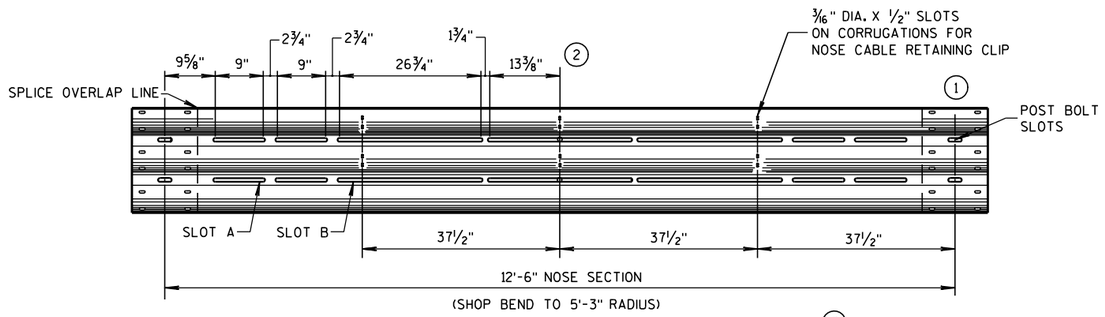
✳ IF NEEDED DUE TO AN UNDERGROUND OBSTACLE ADD 1 ADDITIONAL STANDARD BLOCKOUT TO POST.

STEEL THRIE BEAM BULLNOSE TERMINAL

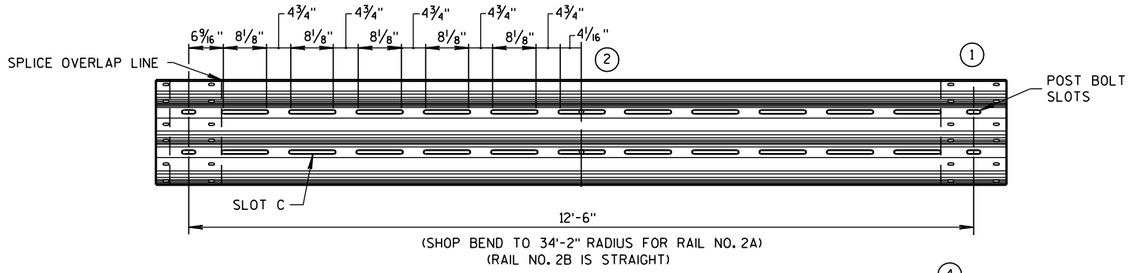
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

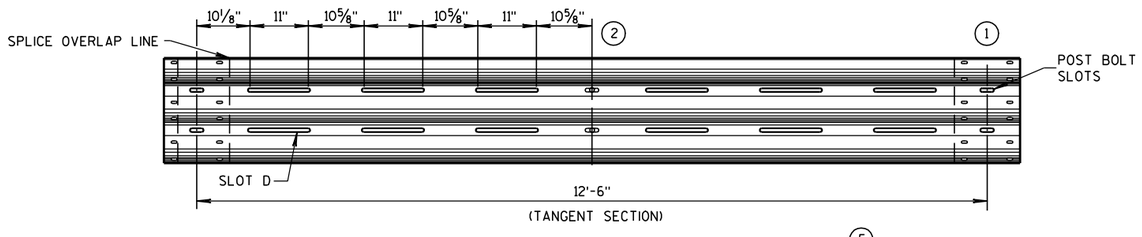
S.D.D. 14 B 26-2d



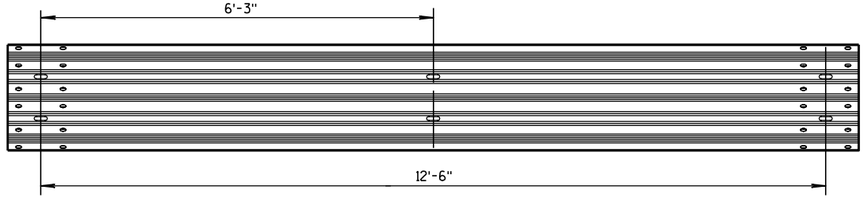
SLOTTED THRIE BEAM RAIL NO. 1 (3)



SLOTTED THRIE BEAM RAILS NO. 2A AND NO. 2B (4)



SLOTTED THRIE BEAM RAIL NO. 3 (5)



UNBENT STANDARD THRIE BEAM RAIL NO. 4 AND NO. 5

GENERAL NOTES

SEE STANADRD DETAIL DRAWINGS 14 B 26a-e.

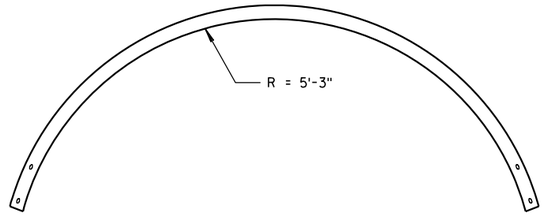
(1) SLOTTED THRIE BEAM RAIL DIMENSIONS SHOWN ARE BEFORE BENDING TO THE RADIUS SHOWN.

(2) SLOT SIZE AND SPACING SYMMETRIC.

(3) SLOTTED THRIE BEAM RAIL NO. 1, 12'-6", SHOP BEND TO R=5'-3".

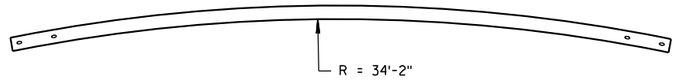
(4) SLOTTED THRIE BEAM RAIL NO. 2A, 12'-6", SHOP BEND TO R=34'-2".
SLOTTED THRIE BEAM RAIL NO. 2B, 12'-6", RAIL IS STRAIGHT.

(5) SLOTTED THRIE BEAM RAIL NO. 3, 12'-6", TANGENT.



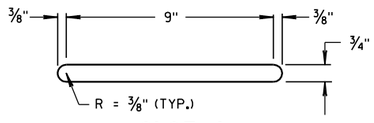
PLAN VIEW

SLOTTED THRIE BEAM RAIL NO. 1

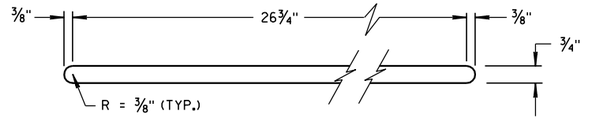


PLAN VIEW

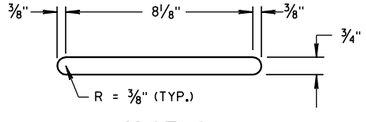
SLOTTED THRIE BEAM RAIL NO. 2A



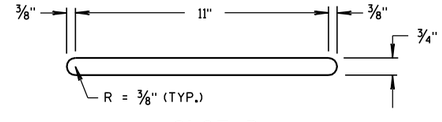
SLOT A



SLOT B



SLOT C



SLOT D

SLOT DETAILS

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9-16-2010
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS DEVELOPMENT ENGINEER

1505

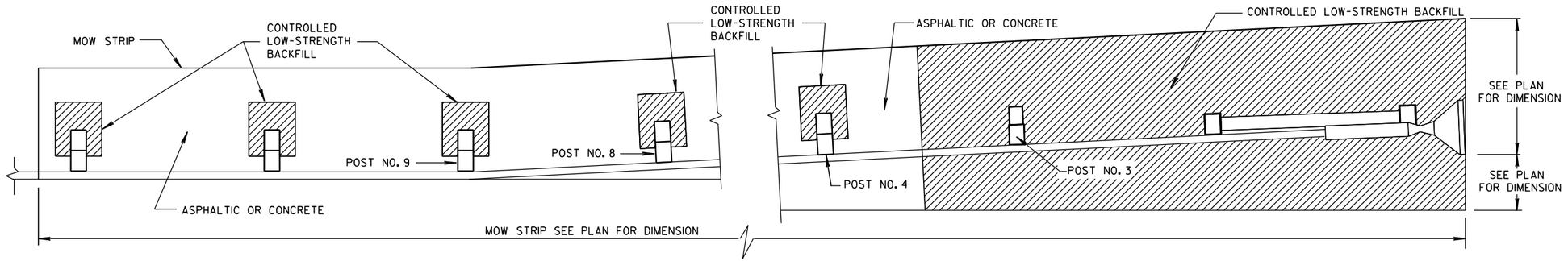
FHWA

6

S.D.D. 14 B 26-2e

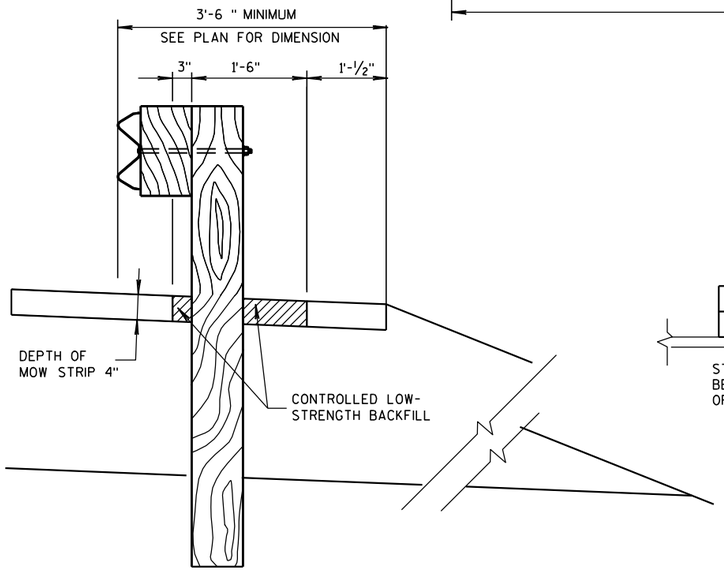
6

S.D.D. 14 B 26-2e

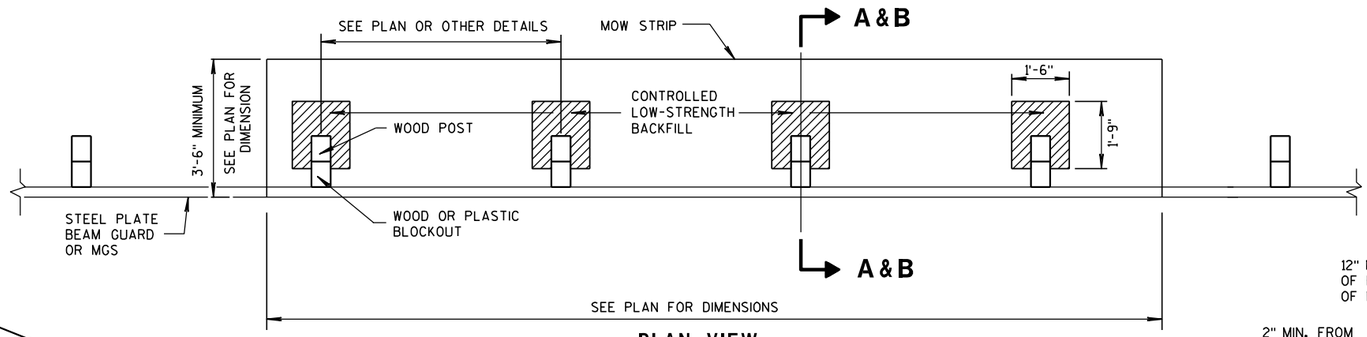


PLAN VIEW

MOW STRIP FOR STEEL PLATE BEAM GUARD ENERGY ABORBING TERMINAL

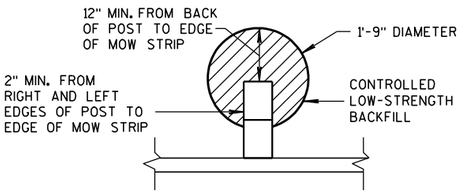


SECTION A-A

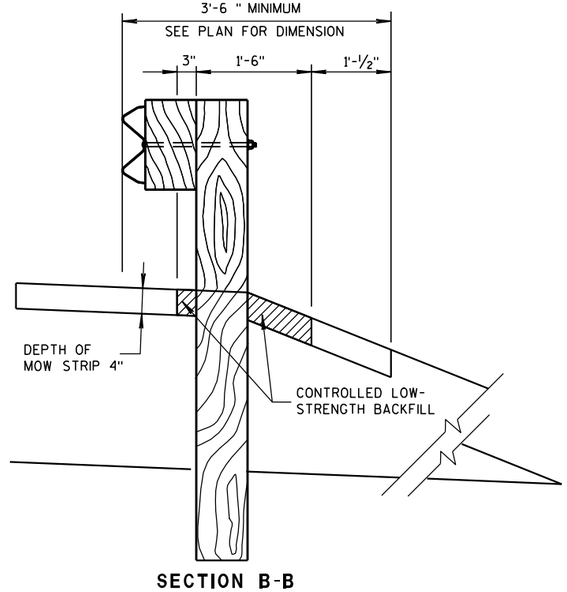


PLAN VIEW

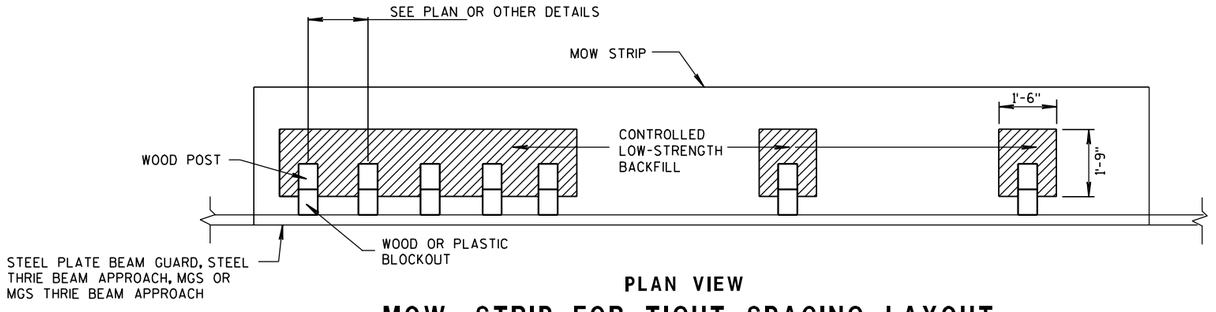
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



ALTERNATIVE HMA MOW STRIP DESIGN

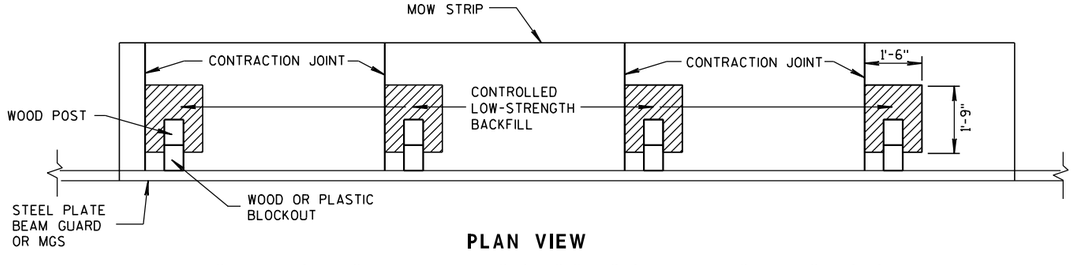


SECTION B-B



PLAN VIEW

MOW STRIP FOR TIGHT SPACING LAYOUT



PLAN VIEW

JOINT PLACEMENT FOR CONCRETE MOW STRIP

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

1/27/12
DATE

/S/ Jerry H. Zaas
ROADWAY STANDARDS 1506
ENGINEER

FHWA

6

S.D.D. 14 B 28-2

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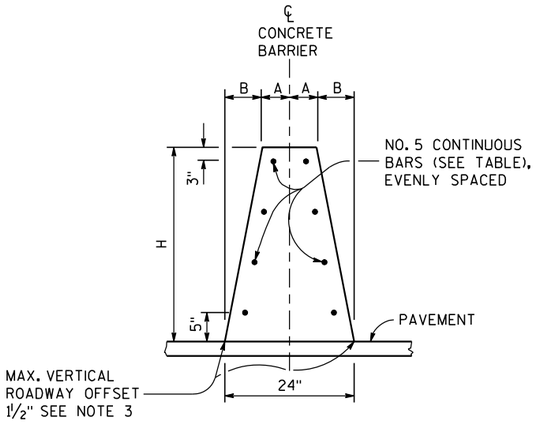
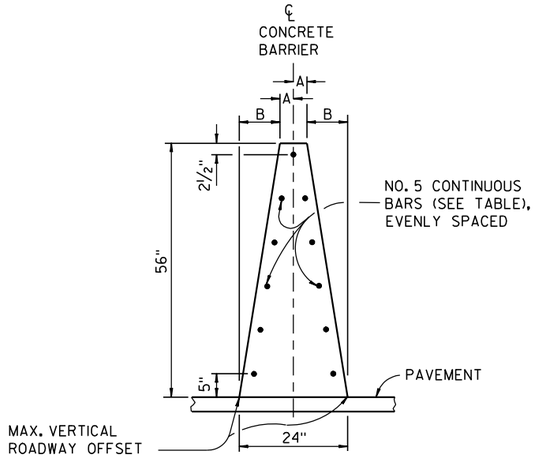
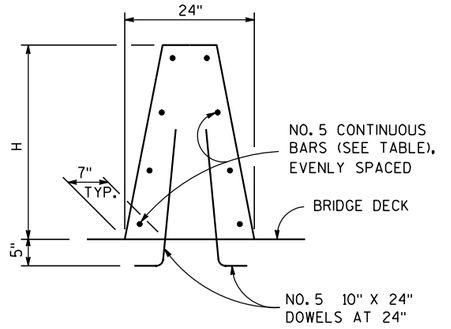
S.D.D. 14 B 28-2



32-INCH, 36-INCH OR 42-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S32, TYPE S36, AND TYPE S42)



56-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S56)



SINGLE SLOPE CONCRETE BARRIER ON BRIDGE

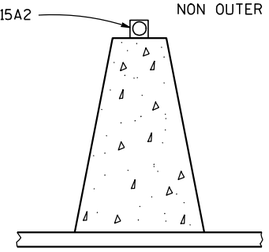
NON OUTER PARAPET APPLICATION

GENERAL NOTES

1. WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.
2. EXPANSION JOINTS IN CONCRETE BARRIER SHALL BE LOCATED AT ALL DECK, PAVEMENT AND PRINCIPAL WALL JOINTS. EXPANSION JOINT FILLER MATERIAL SHALL BE THE SAME SIZE AS JOINT OR ½" MINIMUM.
3. WHERE VERTICAL ROADWAY OFFSET IS GREATER THAN 1½", USE TYPE A
4. PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.
5. EXCEPT IN ANCHORS, VERTICAL REINFORCING STIRRUP NOT REQUIRED FOR ROADWAY OFFSETS LESS THAN 1'-0".
6. FOR TYPE S32, TYPE S36, TYPE S42, AND S56 MONOLITHIC FOOTING OR DOWELED FOOTING WITH 2-#8 x 8" @ 2'-0".
7. STAGGER LAPPING OF LONGITUDINAL STEEL. MINIMUM OVERLAP OF STEEL 2 FEET. BARS AT LAPS TO BE FIRMLY TIED OR CONNECTED.
8. 4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.
9. WHEN SWITCHING BETWEEN SLIP FORM AND CAST-IN-PLACE OPERATIONS, EXTEND LONGITUDINAL STEEL 3 FEET BEYOND SLIP-FORMING CUT OFF POINT. EXPOSED STEEL INTO NEXT POURS REINFORCEMENT. LAPS TO BE FIRMLY TIED.
10. USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.
11. 2" CLEAR COVER TYPICAL.
12. COLD-JOINTS MAY BE USED BETWEEN ANCHOR INSTALLATIONS. WHEN A COLD JOINT IS NEEDED, 3 FEET OF LAP OF LONGITUDINAL STEEL IS REQUIRED. LAPS TO BE FIRMLY TIED
13. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 NO ADDITIONAL VERTICAL STEEL NEEDED. IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A REQUIRES VERTICAL STEEL. SEE OTHER DETAIL
14. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 DEPTH OF FOOTING 10". IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A MATCH TOTAL HEIGHT OF SINGLE SLOPE BARRIER RETAINING WALL.
15. FOR ALL BARRIER TYPES SHOWN, ANCHOR IS REQUIRED AT CONCRETE BARRIER ENDS AND AT INTERRUPTIONS IN CONCRETE BARRIER. ANCHOR MAY BE AS SHOWN ON DRAWING OR DETAILS SHOWN ON S.D.D. 14B33. ANCHORS INCIDENTAL TO CBSS.

BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6¼	5¾	8
42	5¼	6¾	10
56	3	9	11

SEE STANDARD DETAIL DRAWING 15A2 FOR DELINEATOR DETAILS



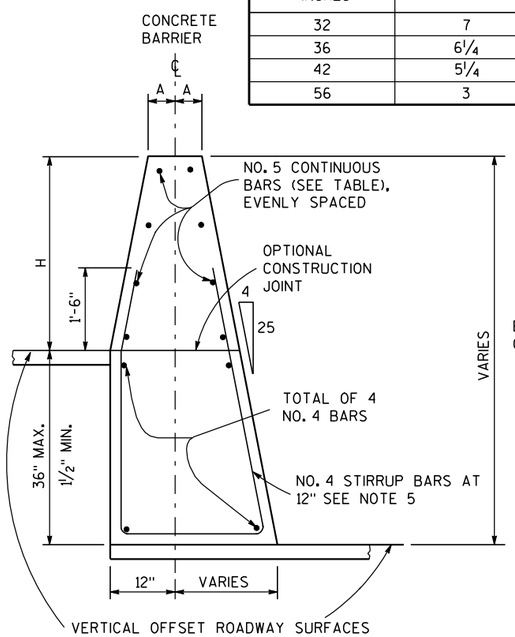
DELINEATION

DELINEATOR SPACING ON HORIZONTAL CURVES

RADIUS OF CURVE	APPROXIMATE SPACING ON CURVE
50 FEET	20 FEET
115 FEET	25 FEET
180 FEET	35 FEET
250 FEET	40 FEET
300 FEET	50 FEET
400 FEET	55 FEET
500 FEET	65 FEET
600 FEET	70 FEET
700 FEET	75 FEET
800 FEET	80 FEET
900 FEET	85 FEET
1000 FEET	90 FEET

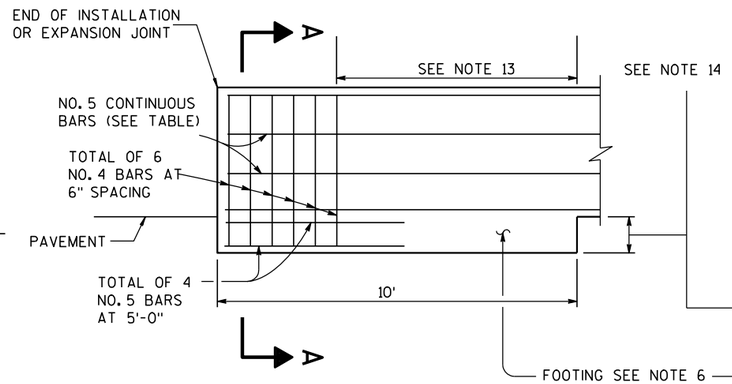
DELINEATOR SPACING ON RADIUS GREATER THAN 1000 FEET OR TANGENT SECTIONS

	LENGTH OF BARRIER	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2	



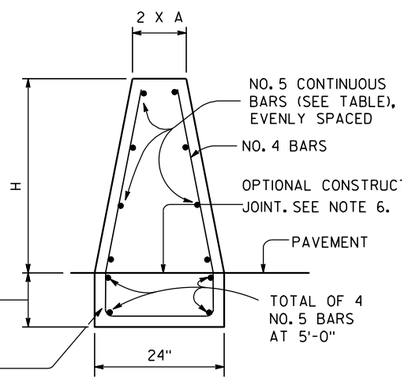
SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL (TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)

(BETWEEN ADJACENT ROADWAYS)



END ANCHOR SINGLE SLOPE CONCRETE BARRIER

AT CONSTRUCTION JOINT



SECTION A-A

CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

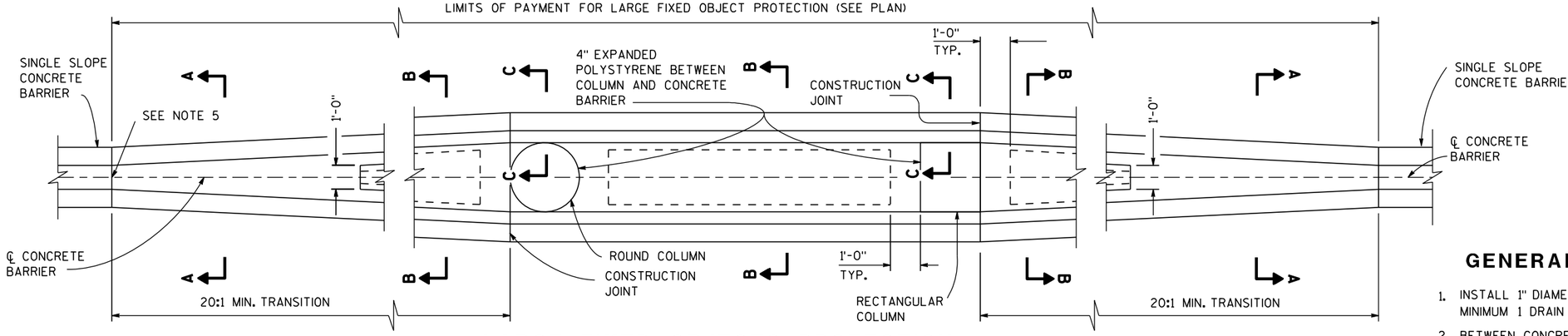
1507

6

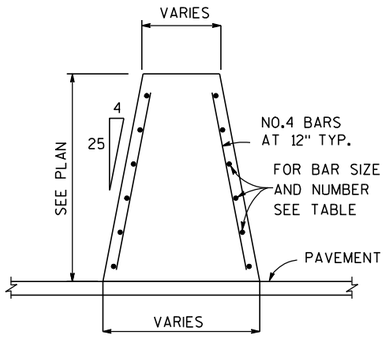
S.D.D. 14 B 32-1a

6

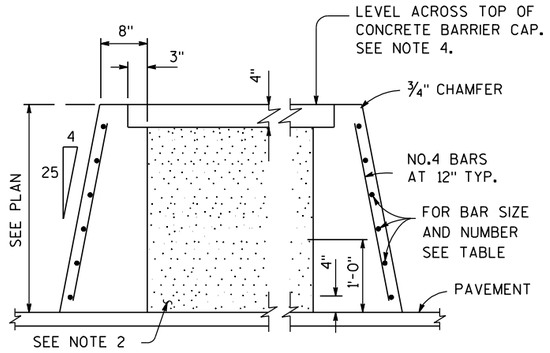
S.D.D. 14 B 32-1a



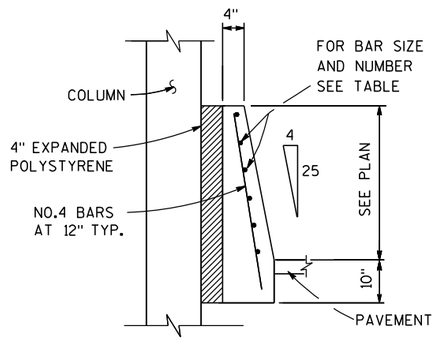
LARGE FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56



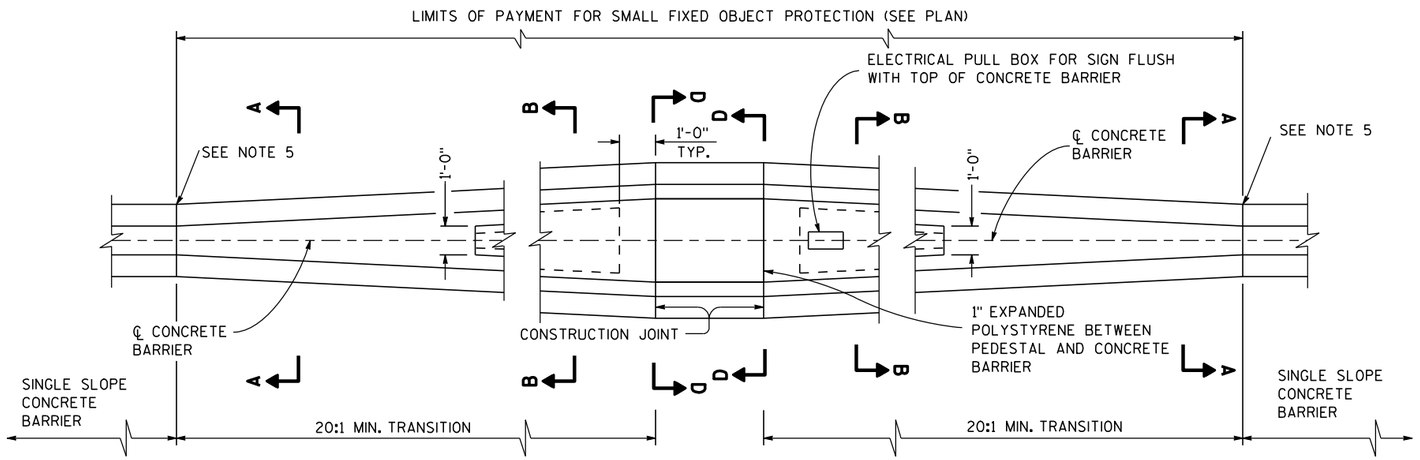
SECTION A-A



SECTION B-B



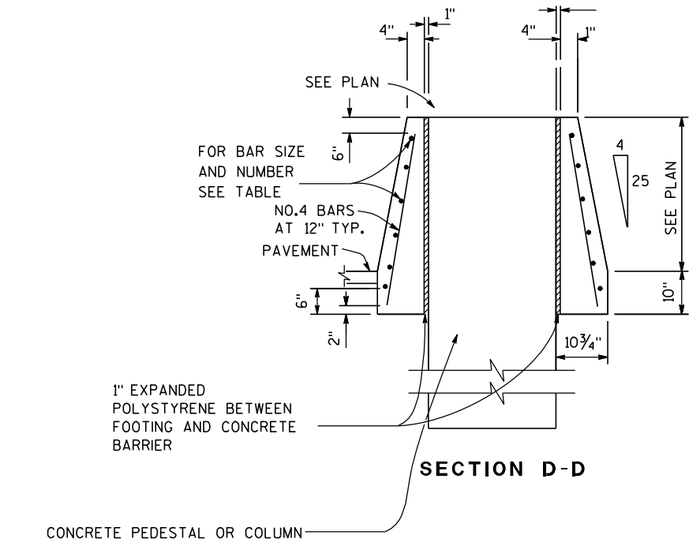
SECTION C-C



SMALL FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56

GENERAL NOTES

1. INSTALL 1" DIAMETER DRAIN PIPE EVERY 20' OF CROSS SECTION B-B. MINIMUM 1 DRAIN PER CAVITY.
2. BETWEEN CONCRETE BARRIER WALLS FILL WITH GRANULAR BACKFILL GRADE 2
3. REINFORCING STEEL SHALL EXTEND CONTINUOUS THROUGH CONSTRUCTION JOINTS.
4. ADJUST HEIGHT OF CONCRETE BARRIER WALL ON LOW SIDE OF OFFSET OR SUPERELEVATED ROADWAYS TO PROVIDE LEVEL GRADE ACROSS TOP OF CONCRETE CAP.
5. IF FIXED OBJECT PROTECTION IS INSTALLED FIRST, USE COLD JOINTS. IF CBSS PLACED FIRST, USE EXPANSION JOINT.



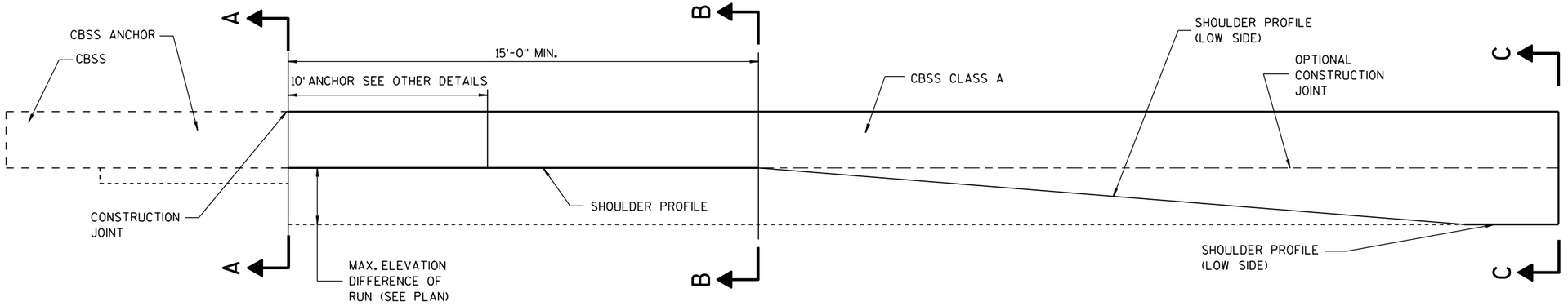
SECTION D-D

BARRIER HEIGHT H INCHES	BAR SIZE	NUMBER OF BARS EACH
32	4	6
36	4	6
42	5	6
56	5	9

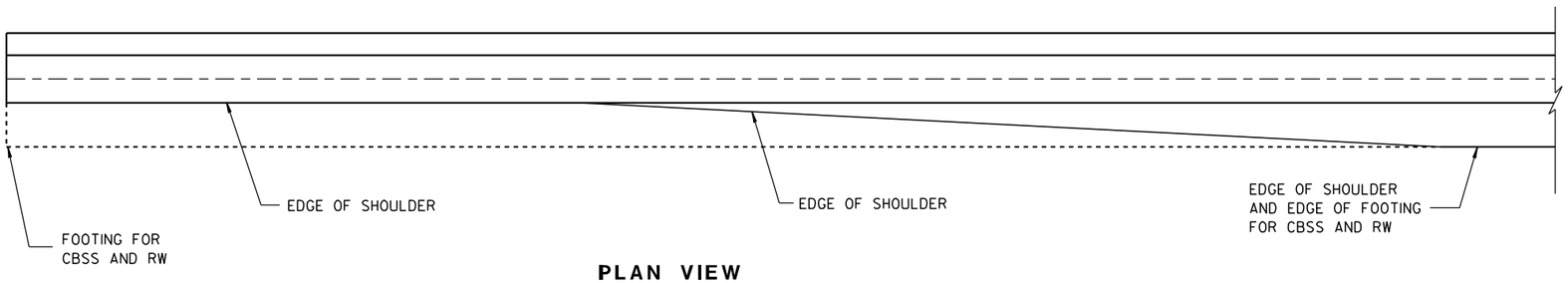
CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

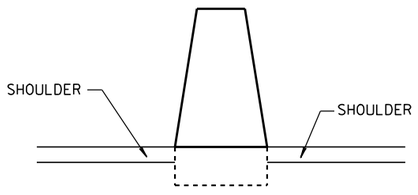
6
S.D.D. 14 B 32-1b



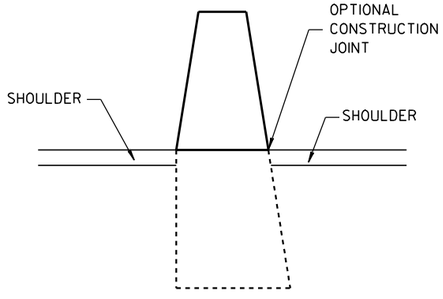
ELEVATION VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



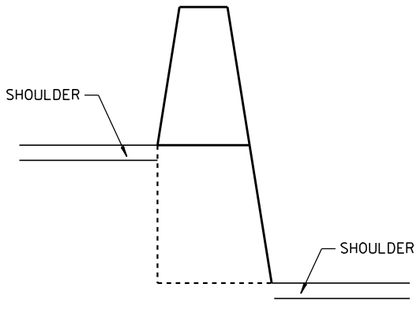
PLAN VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



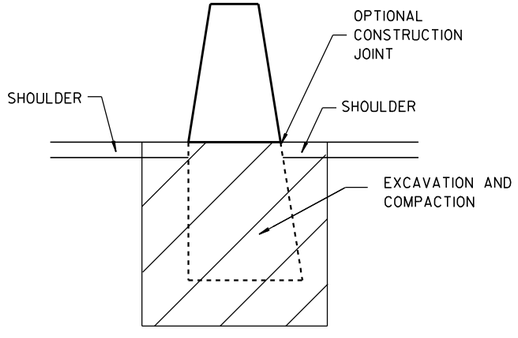
SECTION A-A



SECTION B-B



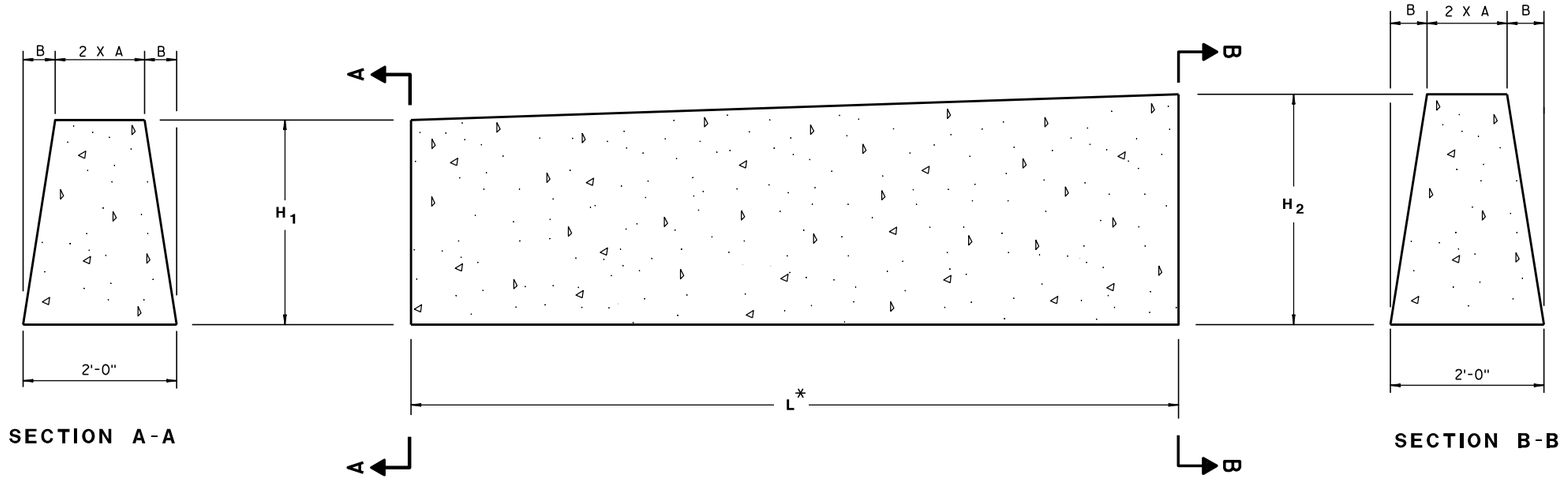
SECTION C-C



CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 32-1c



SECTION A-A

SECTION B-B

DOUBLE COLD JOINT HEIGHT TRANSITION

BARRIER DIMENSIONS

BARRIER HEIGHT INCHES	A INCHES	B INCHES
32	7	5
36	6 1/4	5 3/4
42	5 1/4	6 3/4
56	3	9

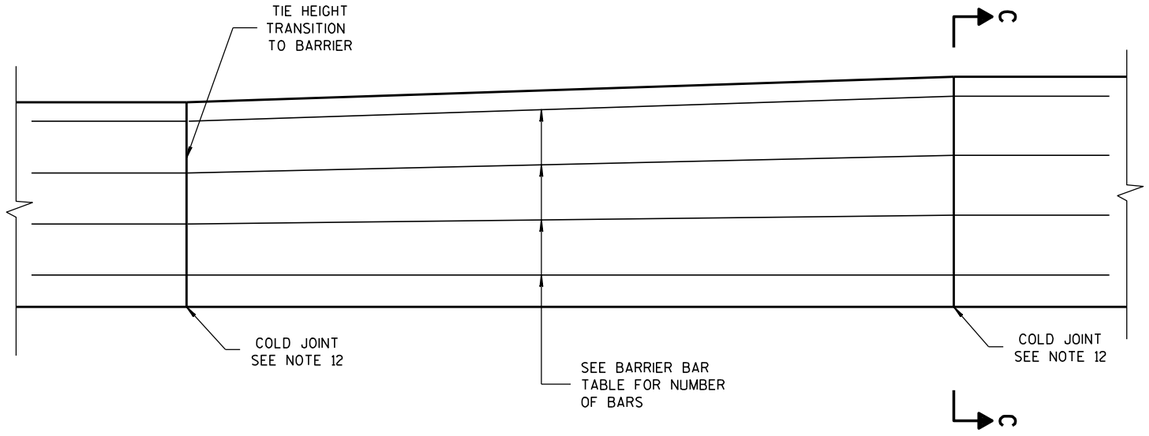
MULTIPLE HEIGHT TRANSITIONS MAY BE USED IN SEQUENCE TO GET TO APPROPRIATE HEIGHT.

USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.

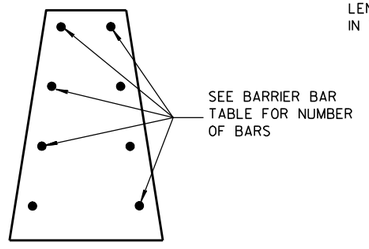
BARRIER BARS

H_1	H_2	L*	NUMBER OF NO. 5 BARS
32"	36"	10'-0"	8
36"	42"	10'-6"	10
42"	56"	24'-6"	11

* LENGTH OF DOUBLE COLD JOINT INCLUDED IN THE TOTAL LENGTH OF CBSS.



STEEL REINFORCEMENT DETAIL



SECTION C-C

CONCRETE BARRIER SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6-3-2010
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

1510 ENT

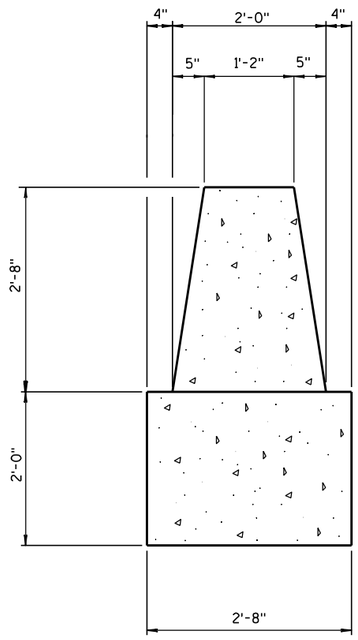
FHWA

6

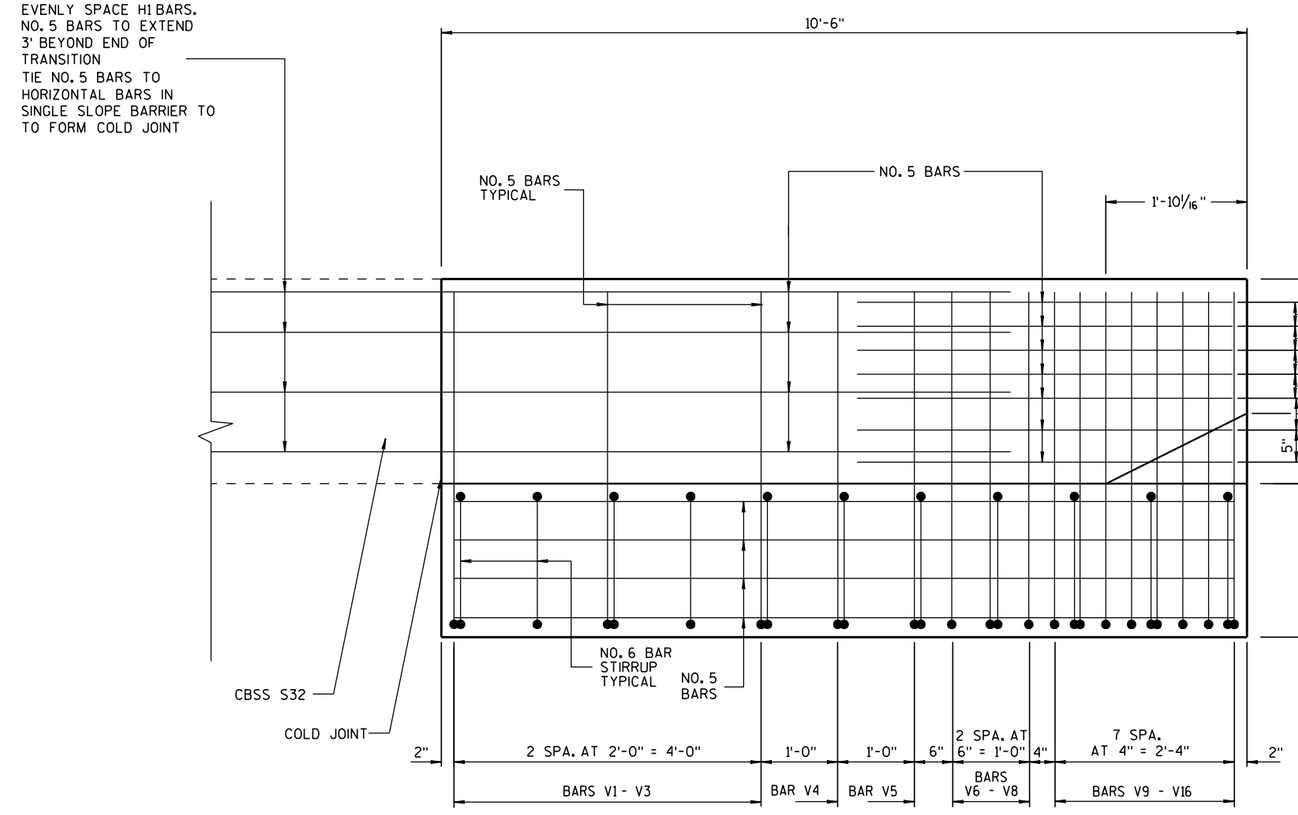
S.D.D. 14 B 32-1d

6

S.D.D. 14 B 32-1d

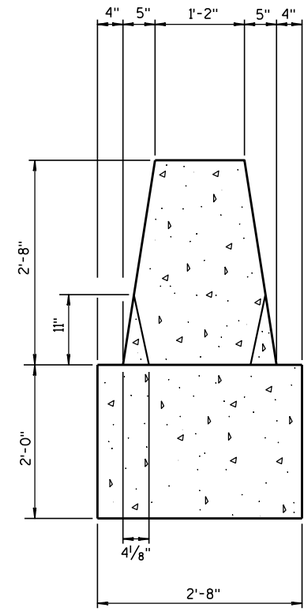


SECTION A-A

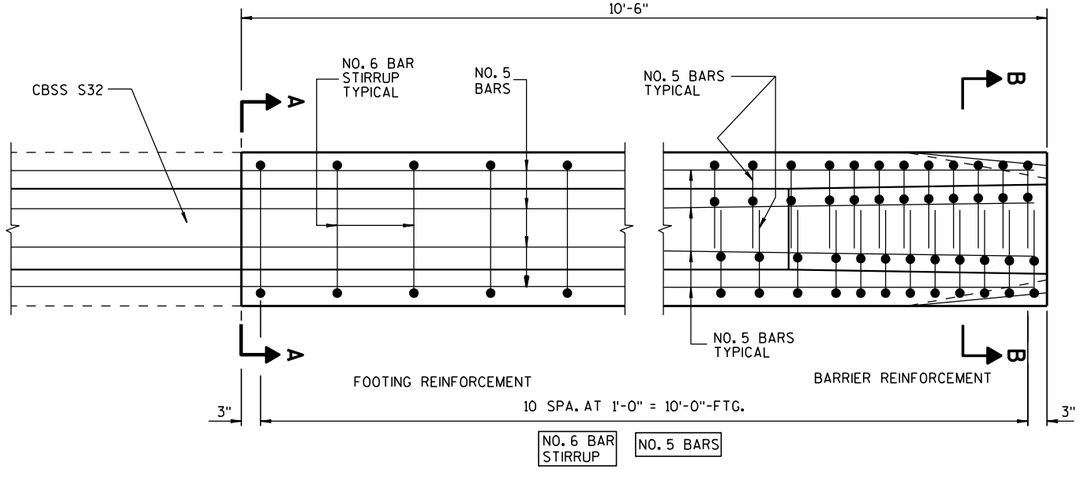


SEE SECTIONS (1) THRU (16)

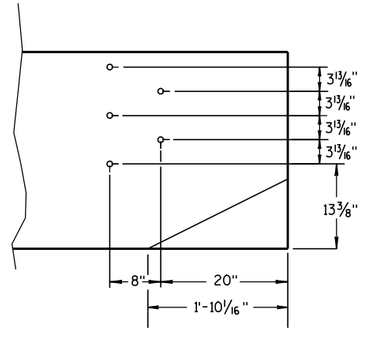
ELEVATION VIEW



SECTION B-B



PLAN VIEW



PVC PIPE LOCATIONS

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2' LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS SECTION 501.

USE 3/4" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

THRIE BEAM ANCHOR INCIDENTAL TO CONCRETE BARRIER ITEM.

INSTALL SCHEDULE 40 PVC PIPE 1" DIAMETER AT LOCATIONS INDICATED.

EXTEND PVC PIPE COMPLETELY THROUGH BARRIER.

CUT ENDS OF PVC PIPE FLUSH WITH FINISHED FACE of BARRIER.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

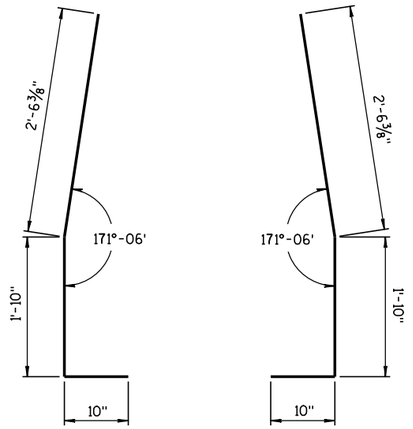
2" CLEAR COVER TYPICAL.

CONCRETE BARRIER
SINGLE SLOPE 32"
THRIE BEAM ANCHOR

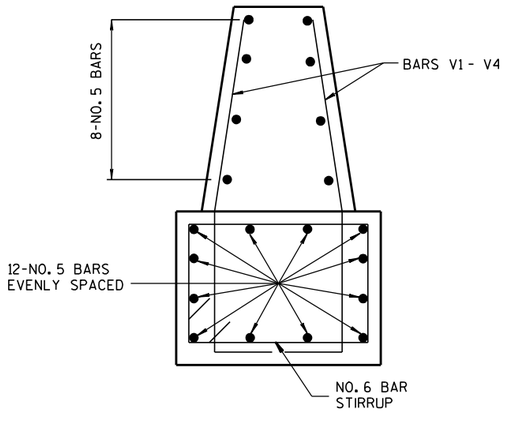
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

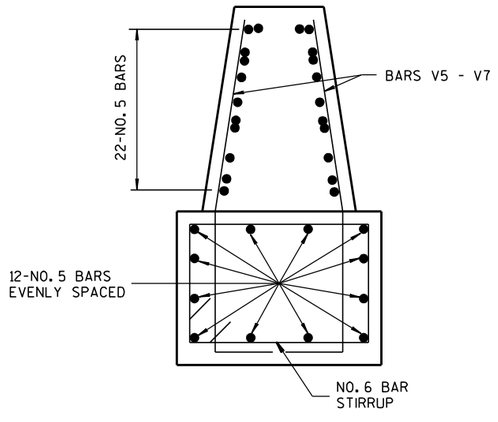
S.D.D. 14 B 33-1a



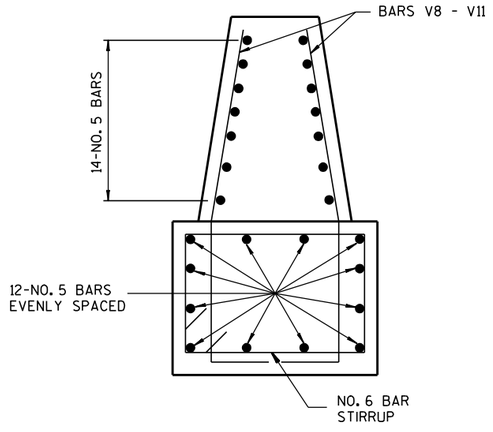
BAR BENDING DETAIL
FOR BARS V1 - V11



BAR DETAIL
SECTIONS 1 - 4



BAR DETAIL
SECTIONS 5 - 7



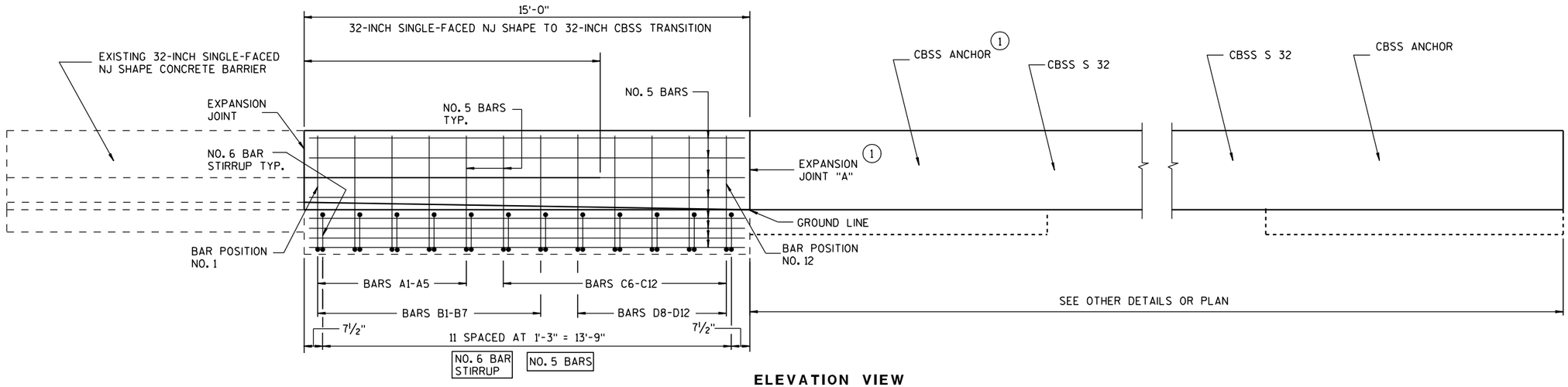
BAR DETAIL
SECTIONS 8 - 11

CONCRETE BARRIER
SINGLE SLOPE 32"
THRIE BEAM ANCHOR

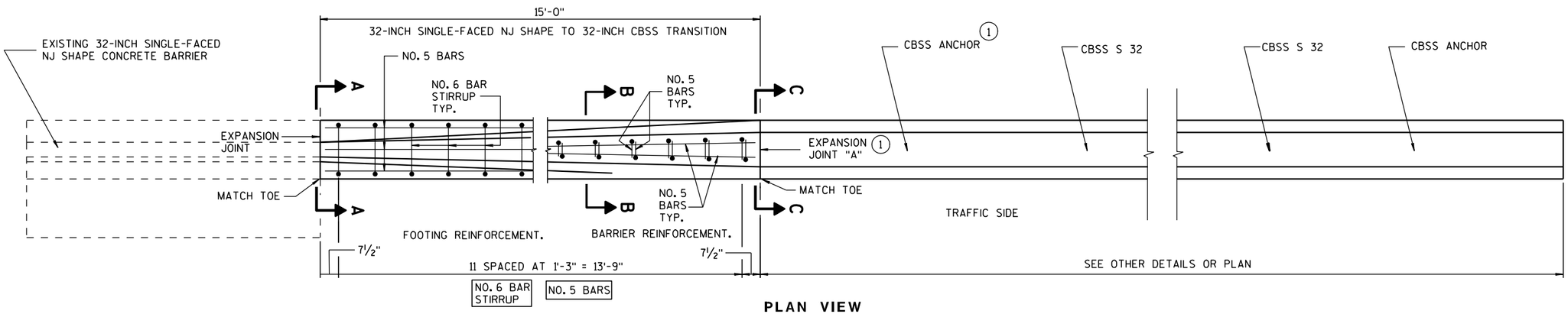
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

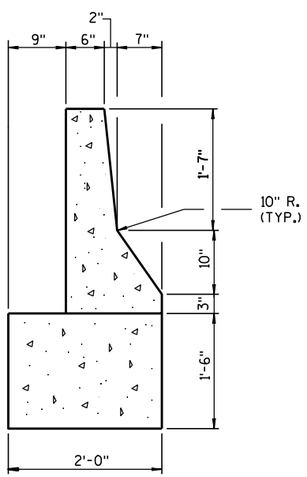
S.D.D. 14 B 33-1b



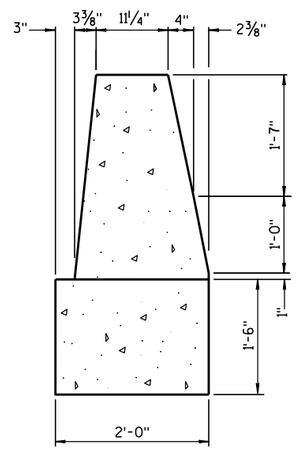
ELEVATION VIEW



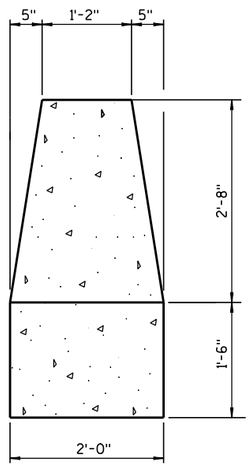
PLAN VIEW



SECTION A-A



SECTION B-B



SECTION C-C

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD -JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.

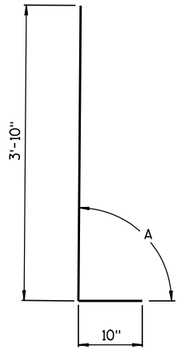
32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 32-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 35-1a

"A" BAR CHART
BAR POSITIONS NO.1 - NO.5

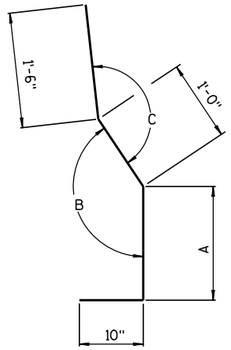
BAR	A
A1	90°
A2	89°-15'
A3	88°-50'
A4	88°-15'
A5	87°-50'



"A" BAR
BENDING DETAIL

"B" BAR CHART
BAR POSITIONS NO.1 - NO. 7

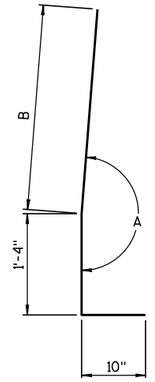
BAR	A	B	C
B1	1'-6"	146°-20'	152°-40'
B2	1'-6"	149°-25'	156°-35'
B3	1'-6"	152°-35'	160°-30'
B4	1'-5½"	155°-20'	163°-55'
B5	1'-5½"	158°-30'	167°-50'
B6	1'-5"	161°-45'	171°-50'
B7	1'-5"	164°-20'	175°-10'



"B" BAR
BENDING DETAIL

"C" BAR CHART
BAR POSITIONS NO. 6 - NO. 12

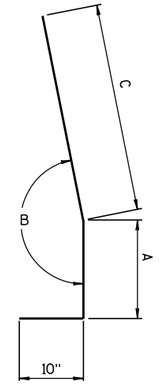
BAR	A	B
C6	176°	2'-6"
C7	175°-05'	2'-6"
C8	174°-25'	2'-6"
C9	173°-45'	2'-6¼"
C10	172°-50'	2'-6¼"
C11	172°-10'	2'-6½"
C12	171°-30'	2'-6½"



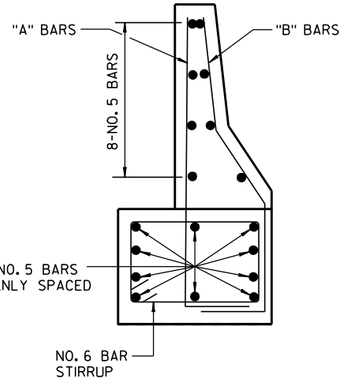
"C" BAR
BENDING DETAIL

"D" BAR CHART
BAR POSITIONS NO. 8 - NO. 12

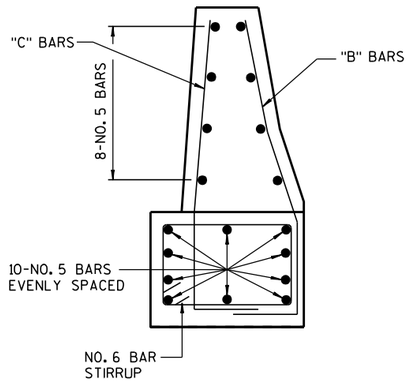
BAR	A	B	C
D8	1'-5"	168°-05'	2'-6"
D9	1'-5"	168°-50'	2'-6"
D10	1'-5"	169°-25'	2'-6"
D11	1'-4"	170°-10'	2'-6½"
D12	1'-4"	170°-50'	2'-6½"



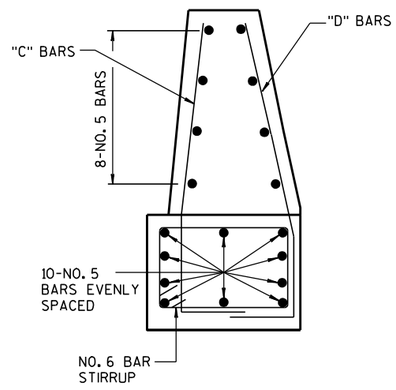
"D" BAR
BENDING DETAIL



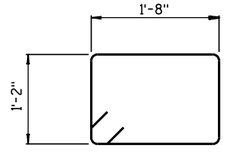
BAR DETAIL
BAR POSITIONS NO. 1 - NO. 5



BAR DETAIL
BAR POSITION NO. 6 - NO. 8



BAR DETAIL
BAR POSITIONS NO. 9 - NO. 12



STIRRUP BAR
BENDING DETAIL

32-INCH SINGLE-FACED NJ SHAPE
CONCRETE BARRIER TO 32-INCH SINGLE
SLOPE CONCRETE BARRIER TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6-3-2010
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

1514

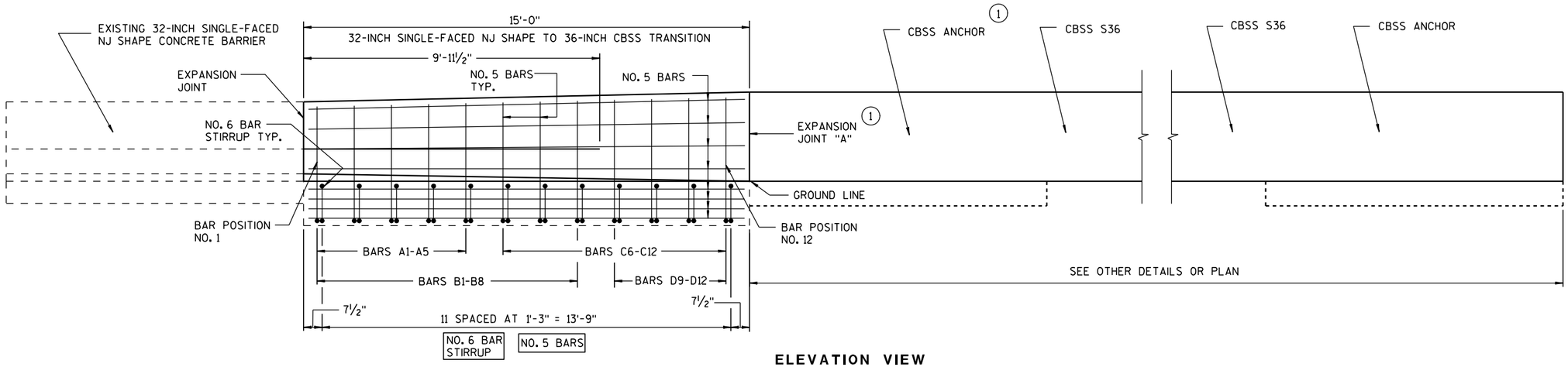
FHWA

6

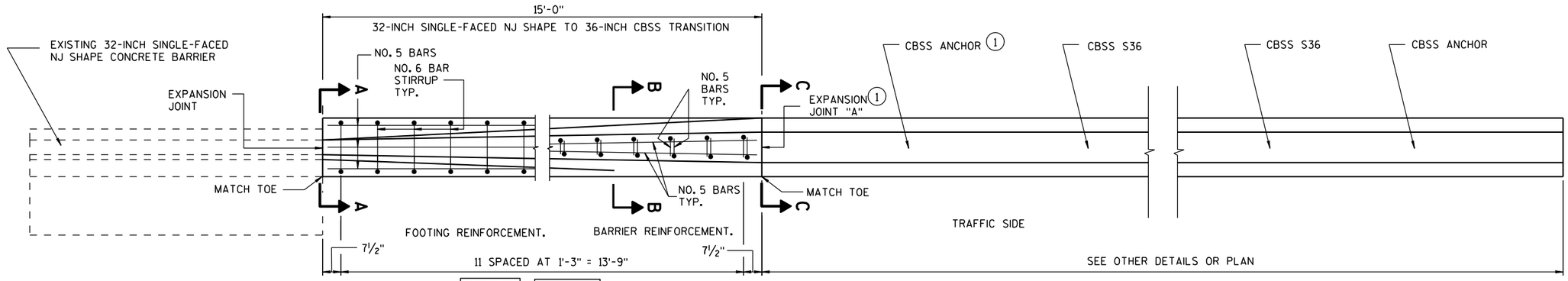
S.D.D. 14 B 35-1b

6

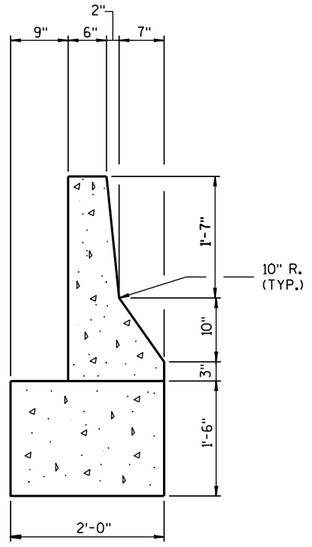
S.D.D. 14 B 35-1b



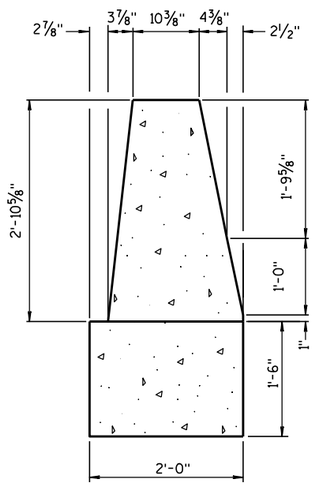
ELEVATION VIEW



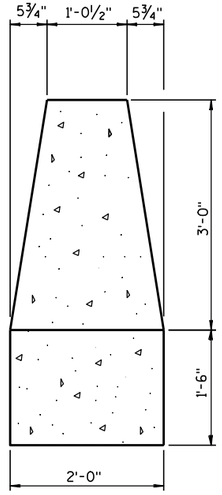
PLAN VIEW



SECTION A-A



SECTION B-B



SECTION C-C

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.

32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 36-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

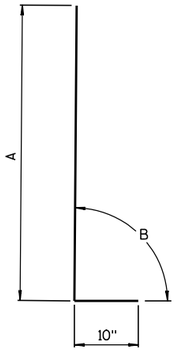
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

S.D.D. 14 B 35-1c

"A" BAR CHART
BAR POSITIONS NO.1 - NO.5

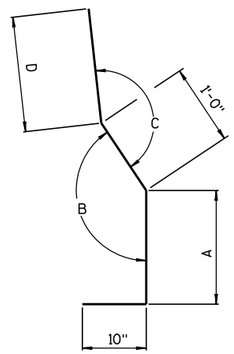
BAR	A	B
A1	3'-10"	89°-35'
A2	3'-10"	88°-40'
A3	3'-11"	87°-50'
A4	3'-11"	87°-10'
A5	3'-11½"	86°-15'



"A" BAR
BENDING DETAIL

"B" BAR CHART
BAR POSITIONS NO.1 - NO. 8

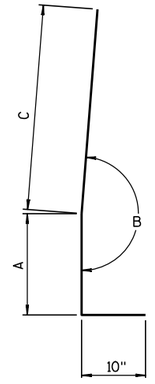
BAR	A	B	C	D
B1	1'-6"	146°-20'	152°-40'	1'-6"
B2	1'-6"	149°-25'	156°-45'	1'-6"
B3	1'-6"	152°-40'	160°-55'	1'-6½"
B4	1'-6"	155°-40'	164°-30'	1'-7"
B5	1'-5½"	158°-30'	167°-55'	1-'7"
B6	1'-5"	161°-45'	172°	1'-7½
B7	1'-5"	164°-25'	175°-05'	1'-8"
B8	1'-5"	167°-30'	179°	1'-8"



"B" BAR
BENDING DETAIL

"C" BAR CHART
BAR POSITIONS NO. 6 - NO. 12

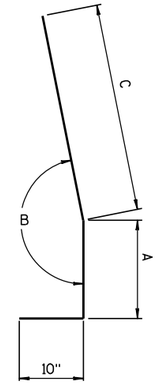
BAR	A	B	C
C6	1'-4"	175°-35'	2'-8"
C7	1'-4"	174°-45'	2'-8"
C8	1'-4"	174°	2'-8½"
C9	1'-4"	173°-15'	2'-9"
C10	1'-4"	172°-45'	2'-9½"
C11	1'-3½"	172°	2'-9½"
C12	1'-3½"	171°-15'	2'-10"



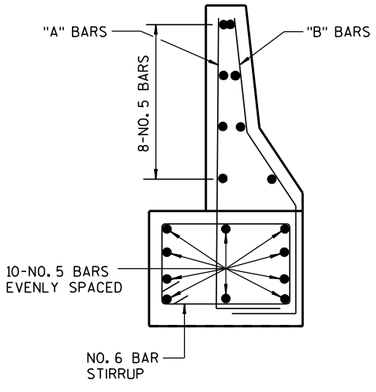
"C" BAR
BENDING DETAIL

"D" BAR CHART
BAR POSITIONS NO. 9 - NO. 12

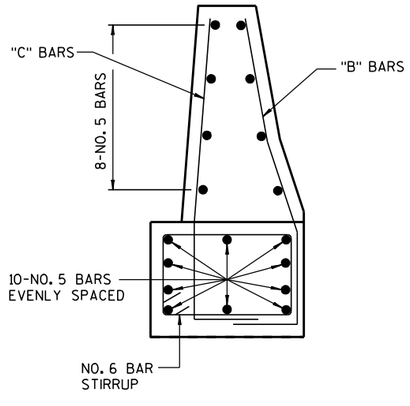
BAR	A	B	C
D9	1'-5"	168°-45'	2'-8½"
D10	1'-4½"	169°-30'	2'-9"
D11	1'-4"	170°-15'	2'-9½"
D12	1'-4"	170°-40'	2'-10"



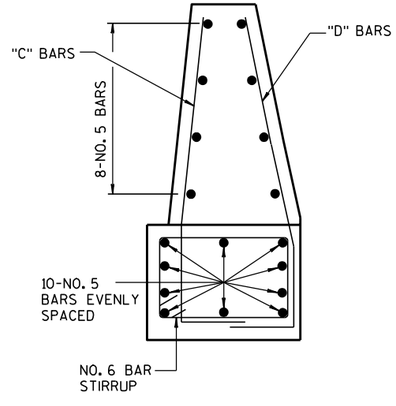
"D" BAR
BENDING DETAIL



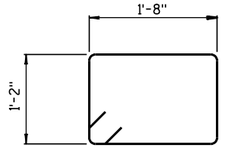
BAR DETAIL
BAR POSITIONS NO. 1 - NO. 5



BAR DETAIL
BAR POSITION NO. 6 - NO. 8



BAR DETAIL
BAR POSITIONS NO. 9 - NO. 12



STIRRUP BAR
BENDING DETAIL

32-INCH SINGLE-FACED NJ SHAPE
CONCRETE BARRIER TO 36-INCH SINGLE
SLOPE CONCRETE BARRIER TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

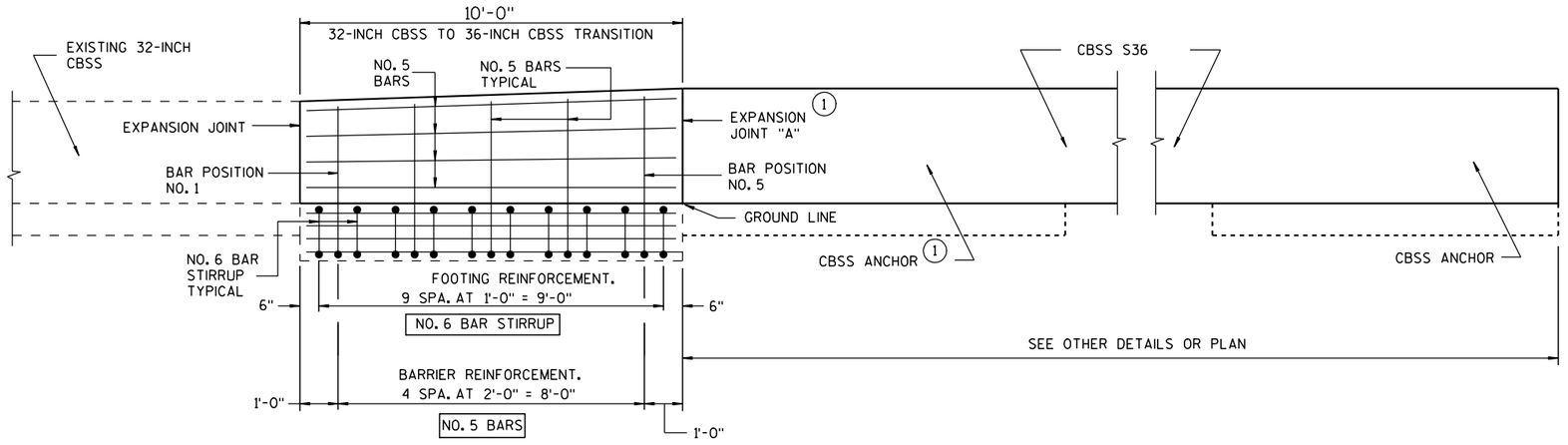
1516

6

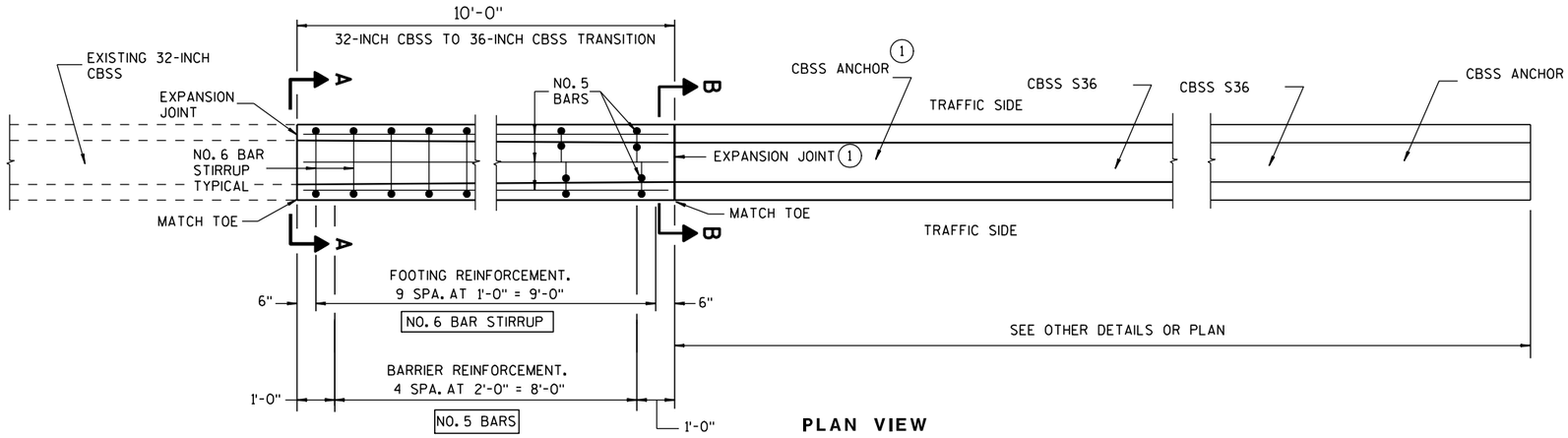
S.D.D. 14 B 35-1d

6

S.D.D. 14 B 35-1d



ELEVATION VIEW



PLAN VIEW

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

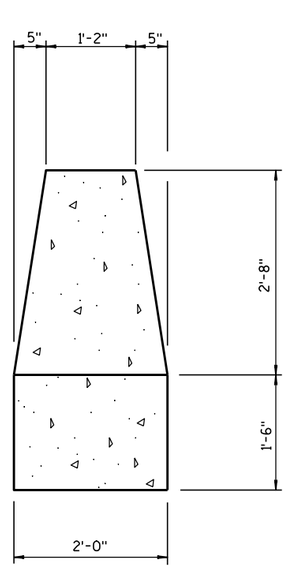
4000 PSICONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE 3/4" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

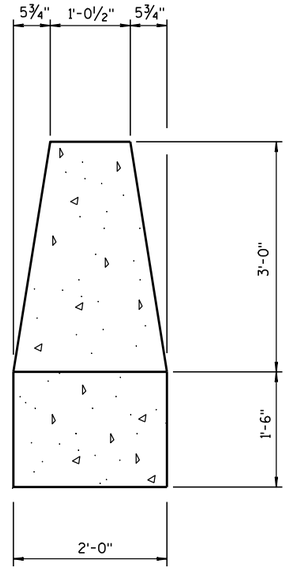
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

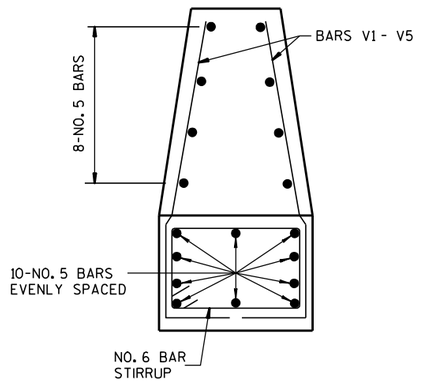
(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.



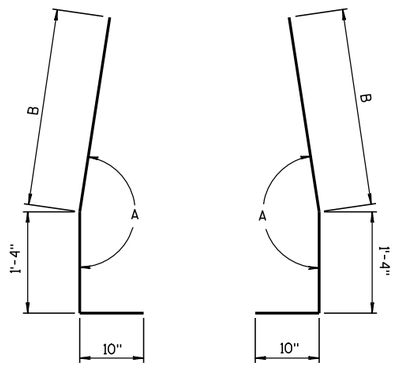
SECTION A-A



SECTION B-B



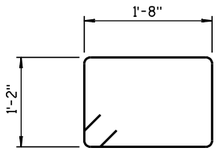
BAR DETAIL
BAR POSITION NO. 1 - NO. 5



BAR BENDING DETAIL
FOR BARS V1 - V5

BAR CHART
SECTIONS V1 - V5

BAR	A	B
V1	171°-10'	2'-6½"
V2	171°-05'	2'-8"
V3	170°-55'	2'-9"
V4	170°-40'	2'-9½"
V5	171°	2'-10"



STIRRUP BAR
BENDING DETAIL

32-INCH SINGLE SLOPE CONCRETE BARRIER TO 36-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS [illegible]
ENGINEER
FHWA

6

S.D.D. 14 B 39-1a

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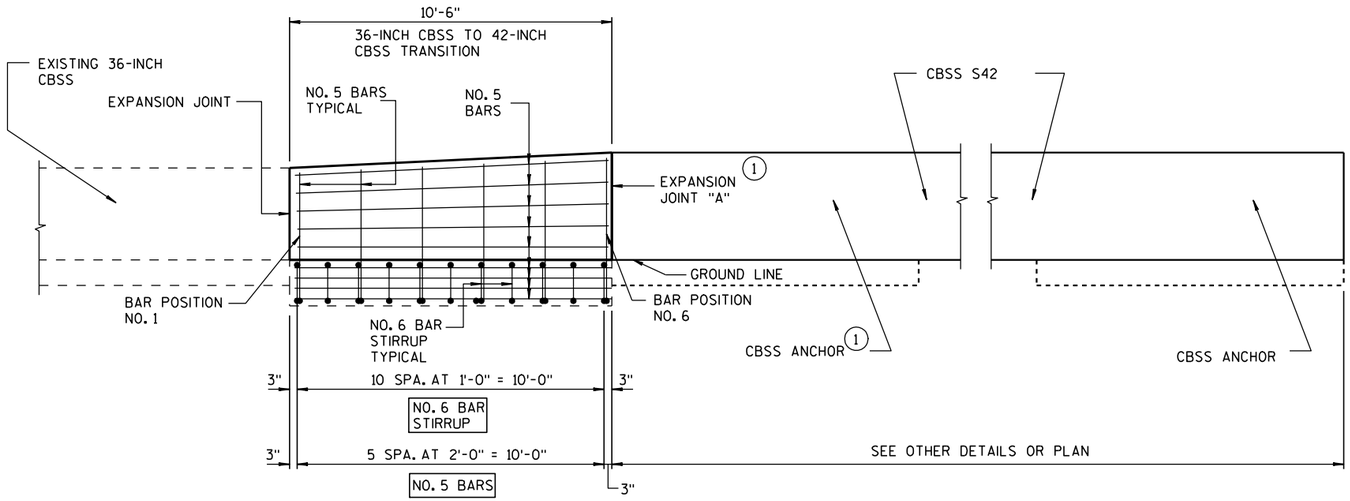
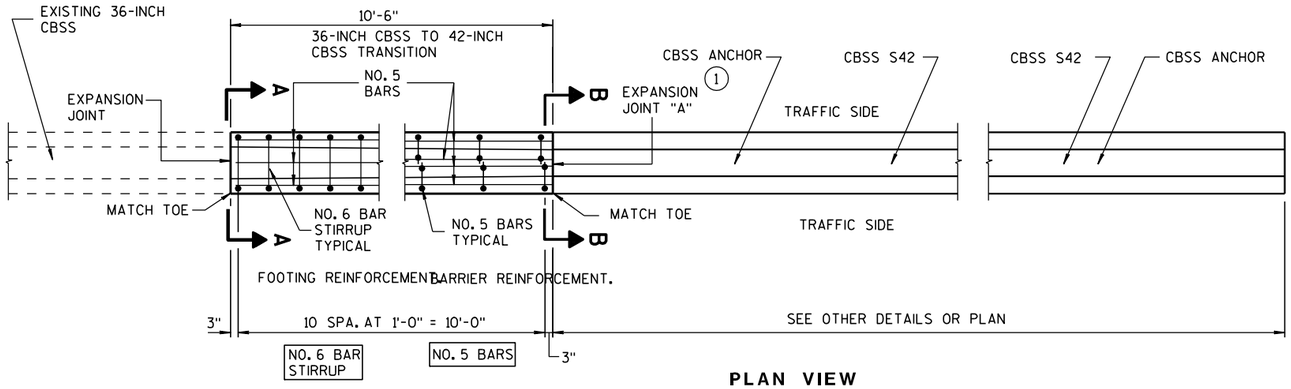
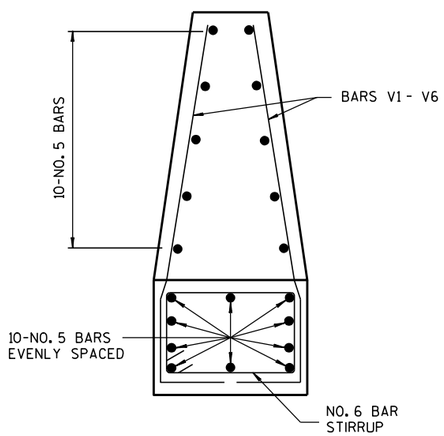
S.D.D. 14 B 39-1a



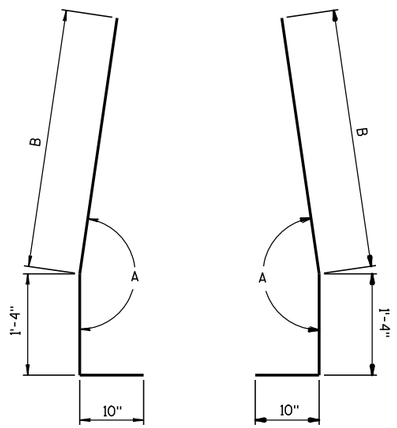
ELEVATION VIEW



PLAN VIEW



BAR DETAIL
BAR POSITION NO. 1 - NO. 6



BAR BENDING DETAIL
FOR BARS V1 - V6

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

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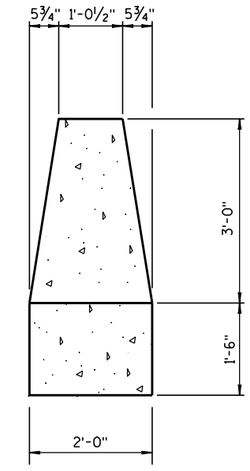
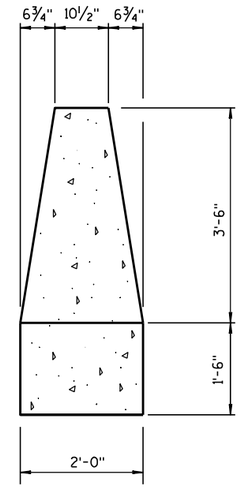


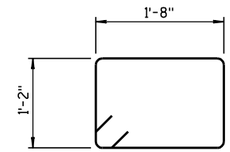
SECTION A-A



SECTION B-B

BAR CHART
SECTIONS V1 - V6

BAR	A	B
V1	170°-55'	2'-10½"
V2	171°-05'	3'-0"
V3	171°-20'	3'-1"
V4	171°-20'	3'-2"
V5	171°-35'	3'-3"
V6	171°-40'	3'-4½"



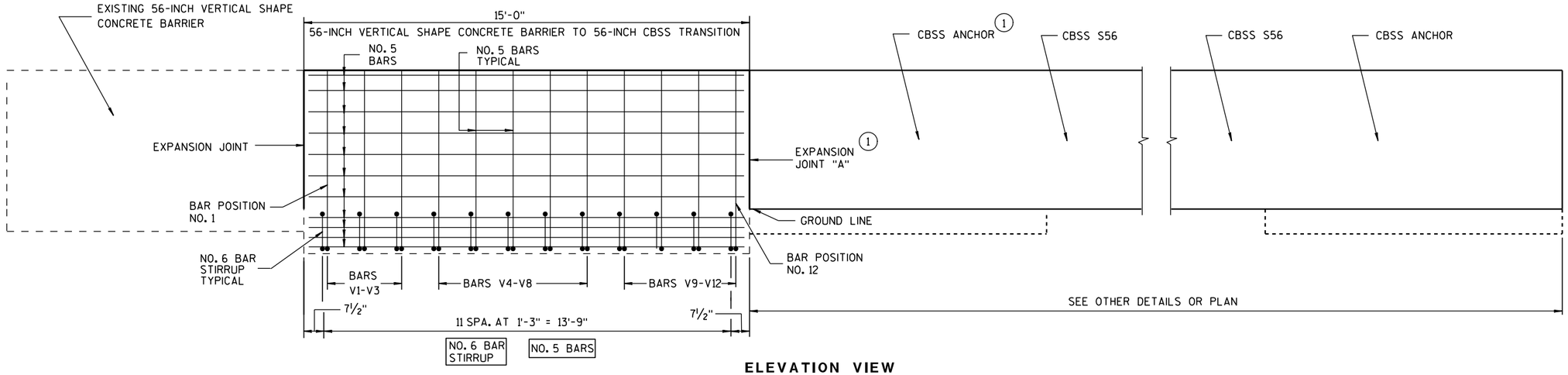
STIRRUP BAR
BENDING DETAIL

36-INCH SINGLE SLOPE CONCRETE BARRIER TO 42-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION

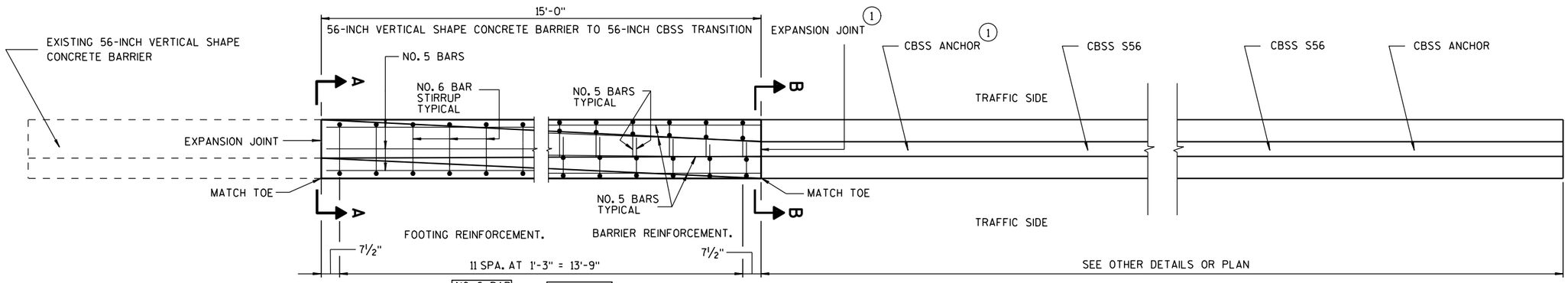
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010
DATE
/S/ Jerry H. Zoo
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

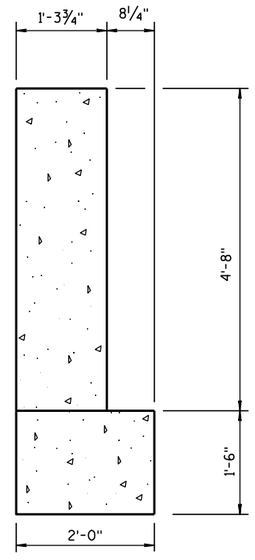
6
S.D.D. 14 B 39-1c



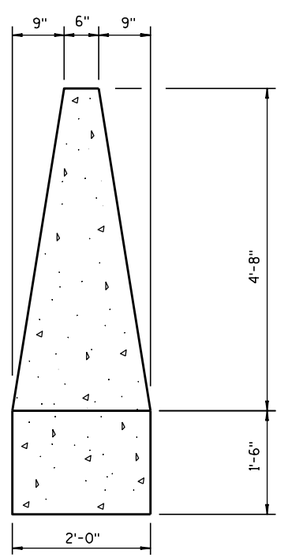
ELEVATION VIEW



PLAN VIEW



SECTION A-A



SECTION B-B

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.

56-INCH VERTICAL SHAPE CONCRETE BARRIER TO 56-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

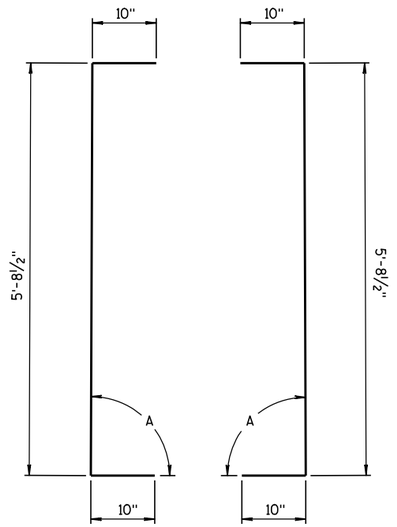
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 40-11

BAR CHART
BAR POSITIONS V1 - V3

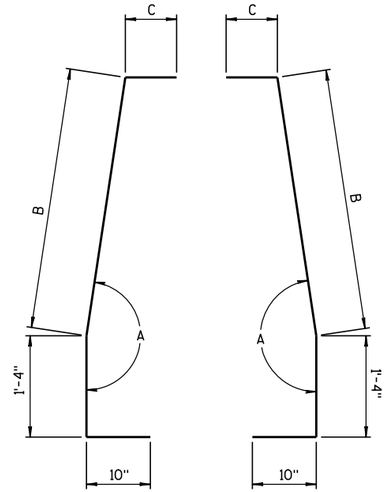
BAR	A
V1	89°-41'
V2	88°-55'
V3	88°-9'



BARS BENDING DETAIL FOR V1 - V3

BAR CHART
BAR POSITIONS V4 - V8

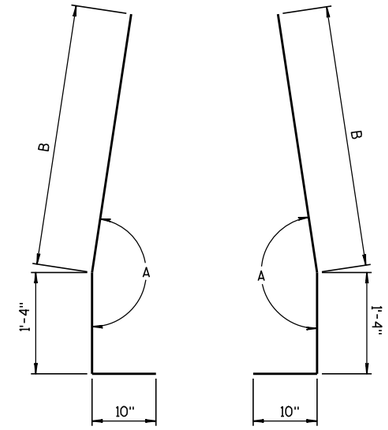
BAR	A	B	C
V4	177°-23'	4'-5¼"	8"
V5	176°-37'	4'-5¼"	8"
V6	175°-51'	4'-5⅜"	8"
V7	175°-5'	4'-5½"	6"
V8	174°-19'	4'-5½"	6"



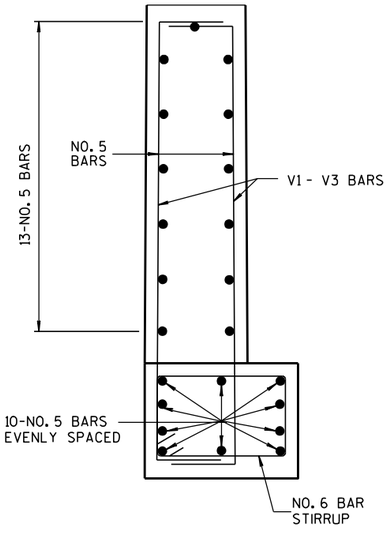
BARS BENDING DETAIL FOR V4 - V8

BAR CHART
BAR POSITIONS V9 - V12

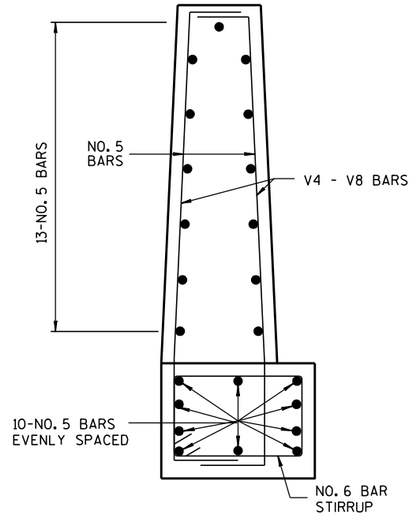
BAR	A	B
V9	173°-30'	4'-5½"
V10	172°-48'	4'-5⅝"
V11	172°-3'	4'-5¾"
V12	171°-18'	4'-5⅞"



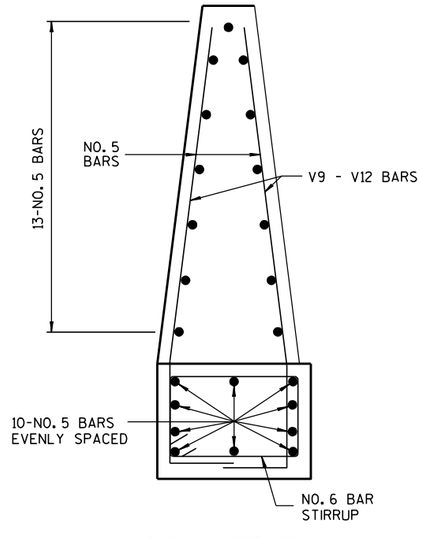
BARS BENDING DETAIL FOR V9 - V12



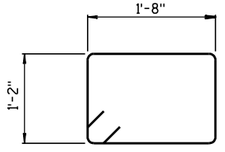
BAR DETAIL
BAR POSITION V1-V3



BAR DETAIL
BAR POSITION V4-V8



BAR DETAIL
BAR POSITION V9-V12



STIRRUP BAR
BENDING DETAIL

56-INCH VERTICAL SHAPE CONCRETE BARRIER TO 56-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010 DATE
/S/ Jerry H. Zogg ROADWAY STANDARDS ENGINEER
FHWA

1520 ENT

6

S.D.D. 14 B 40-1j

6

S.D.D. 14 B 40-1j

GENERAL NOTES

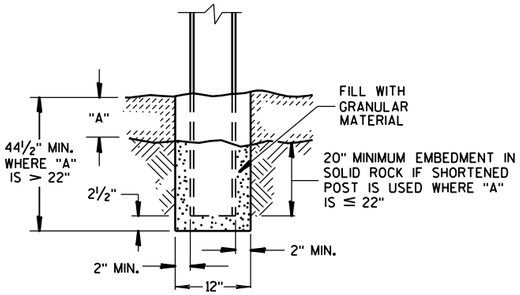
1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

2. USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

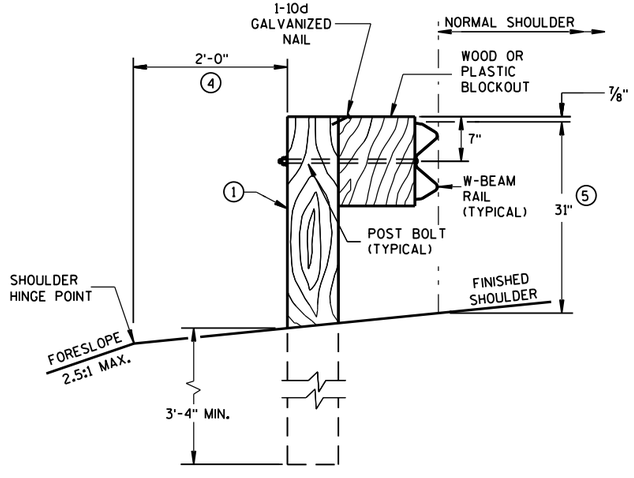
3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

4. WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

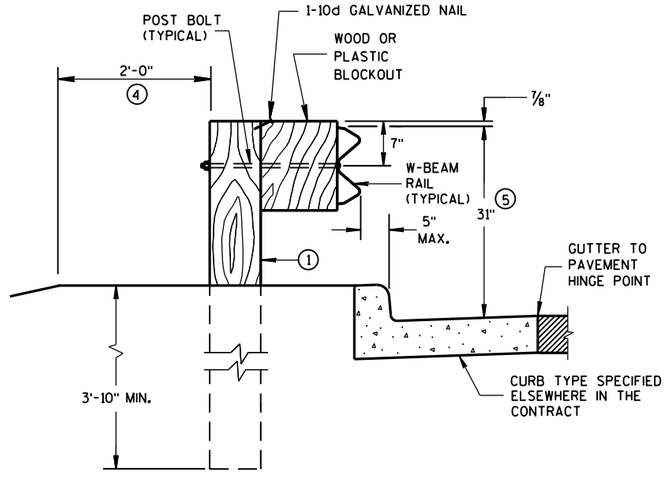


END VIEW
SETTING STEEL OR WOOD POST IN ROCK ③



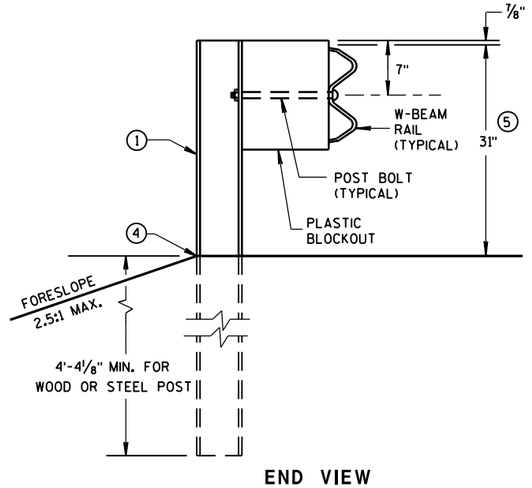
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



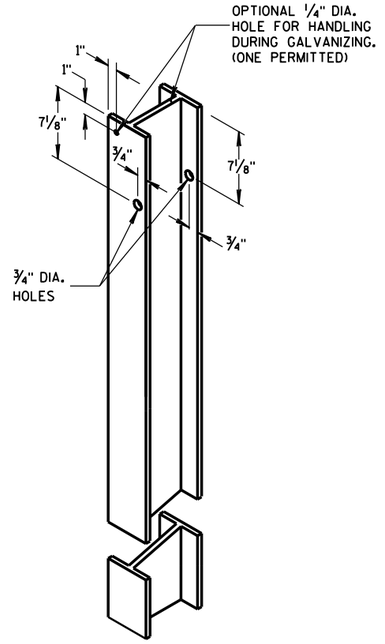
END VIEW

LOCATED ALONG A CURBED ROADWAY

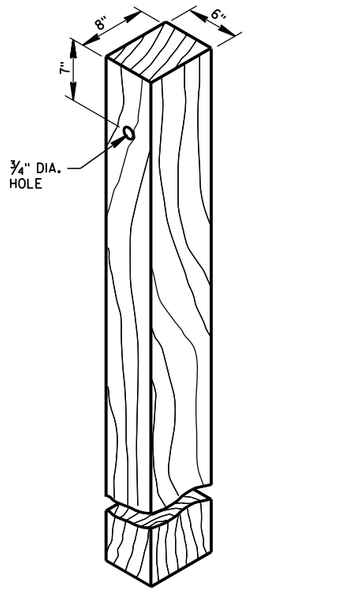


END VIEW

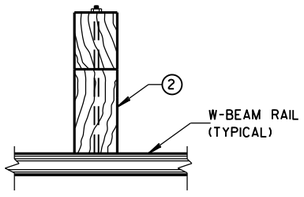
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



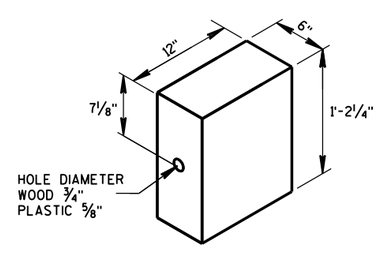
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



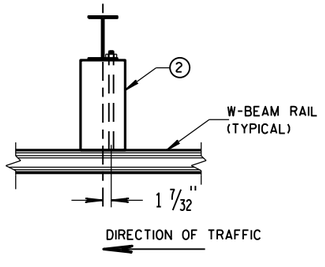
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②



PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

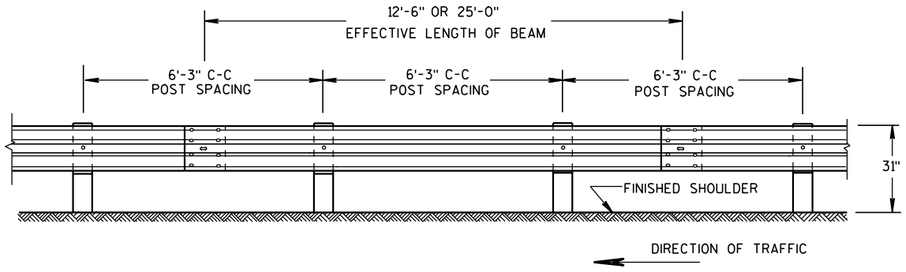
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI 1521

6

S.D.D. 14 B 42-2a

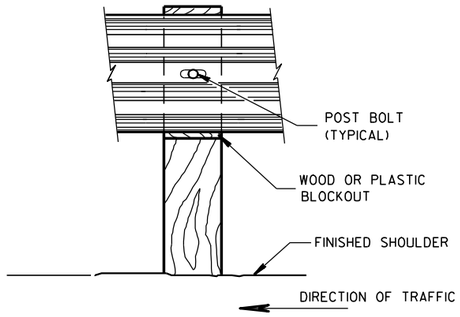
6

S.D.D. 14 B 42-2a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



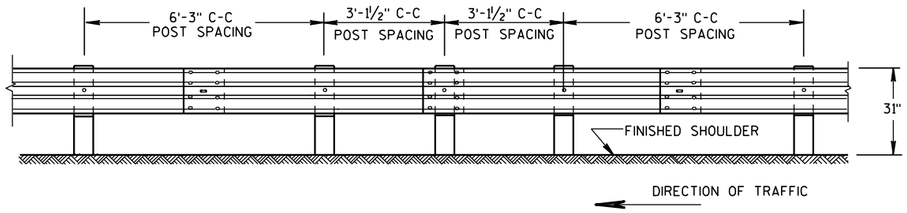
FRONT VIEW AT WOOD POST

GENERAL NOTES

1. PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
2. DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
3. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
4. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
5. 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

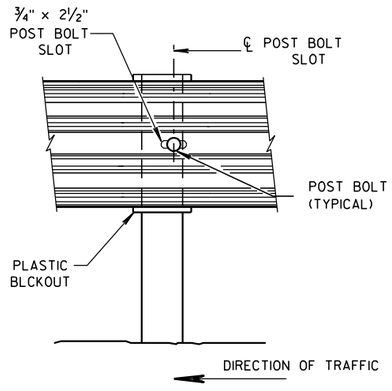
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

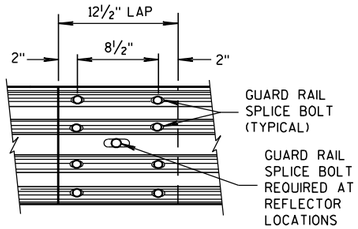


FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

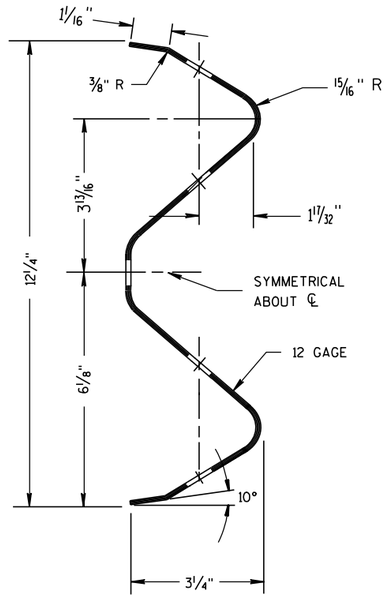


FRONT VIEW AT STEEL POST

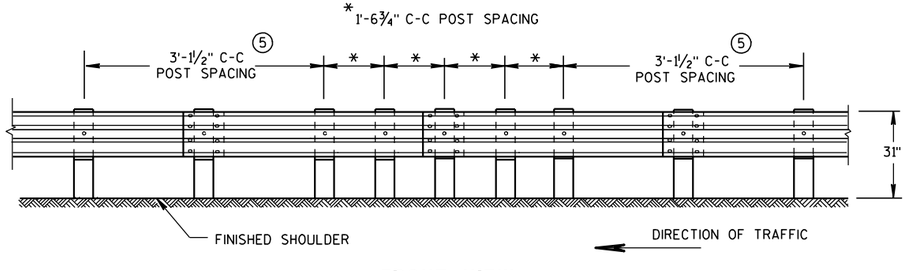


FRONT VIEW

MID-SPAN BEAM SPLICE

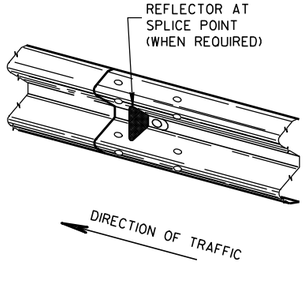


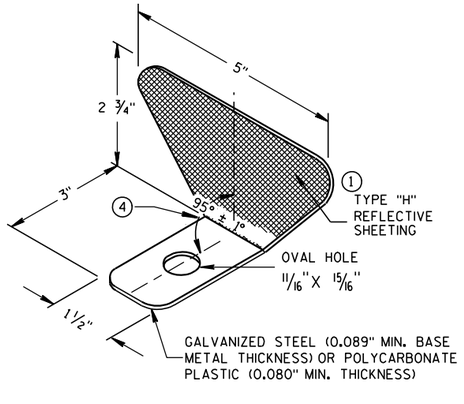
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ①

REFLECTOR SPACING ②

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 1 ③	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 ④	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

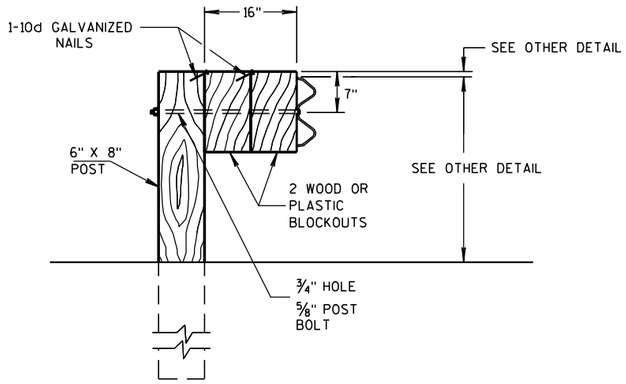
1522

6

S.D.D. 14 B 42-2b

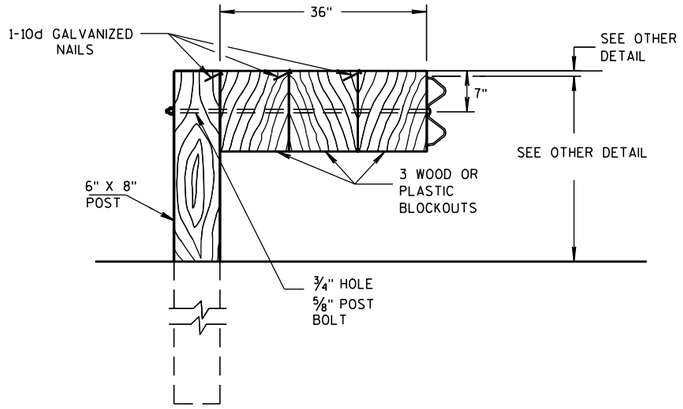
6

S.D.D. 14 B 42-2b



DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

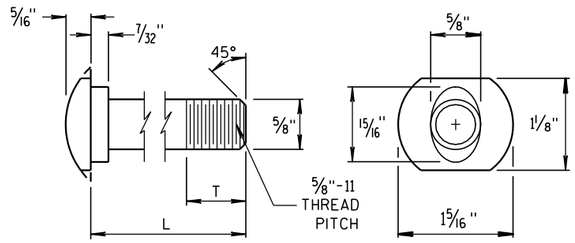


DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

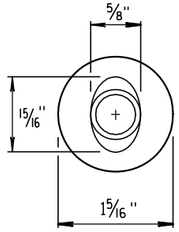
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

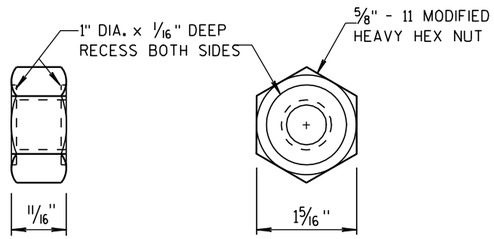


POST BOLT TABLE

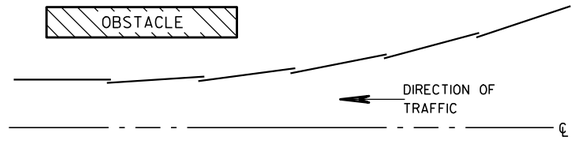
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

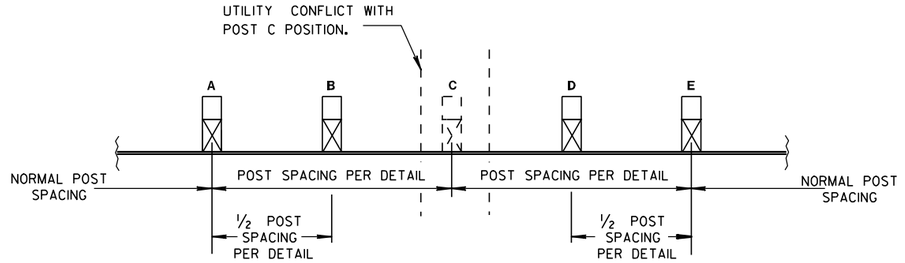


POST BOLT AND RECESS NUT

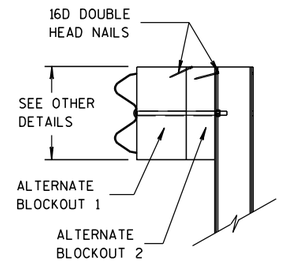


PLAN VIEW

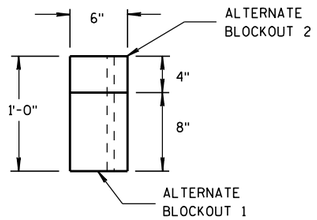
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/15/2011
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER 1523 ENT

FHWA

6

S.D.D. 14 B 42-2c

6

S.D.D. 14 B 42-2c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), THE HINGE POINT LINE (HPL),AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

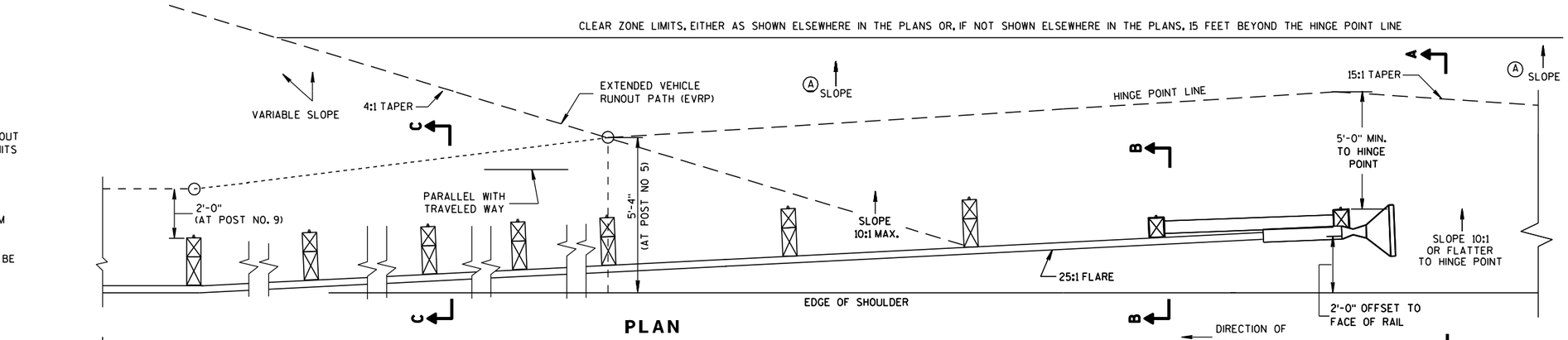
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

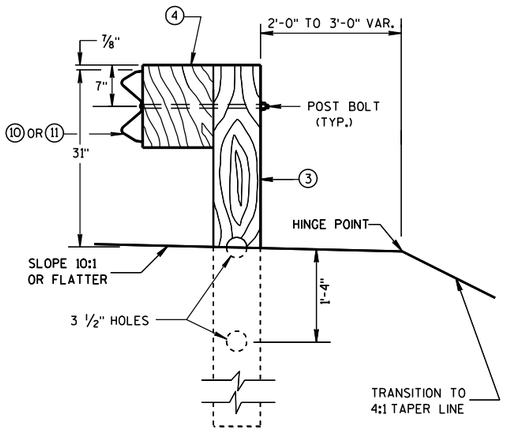
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

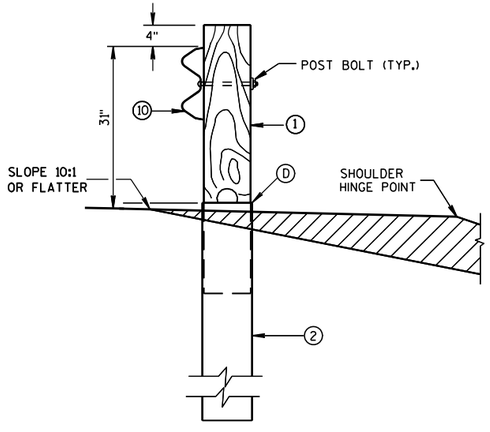
PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE (± ¾")

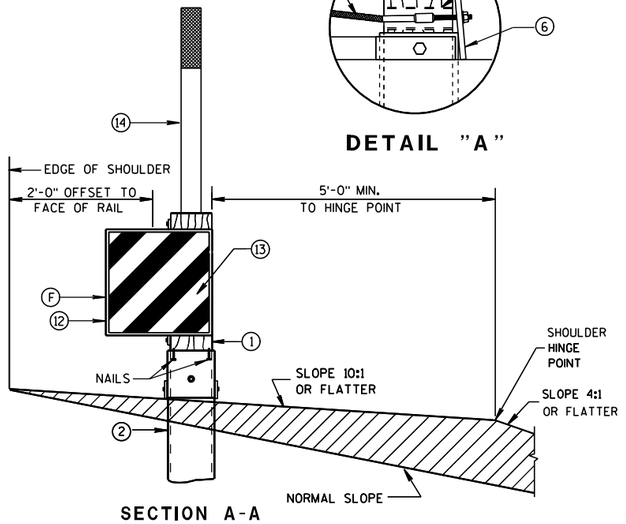




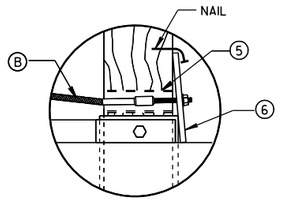
SECTION C-C
TYPICAL AT POST NOS. 3-9



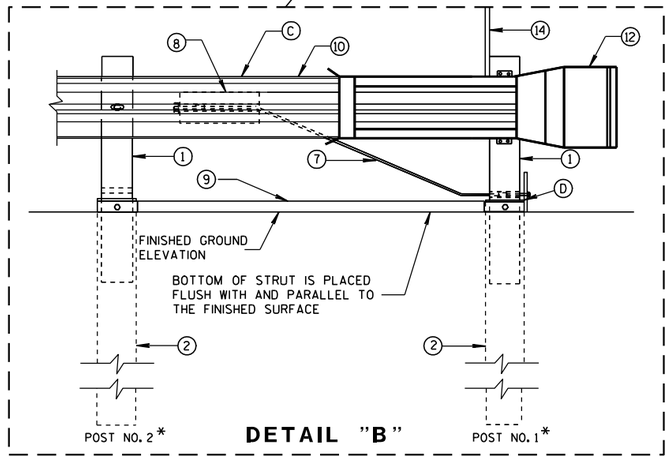
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



DETAIL "B"

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

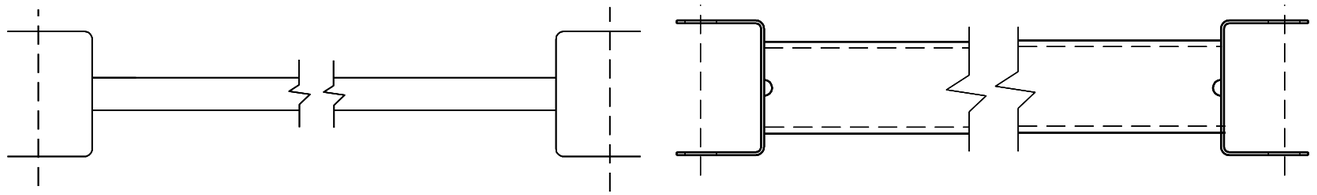
1524

6

S.D.D. 14 B 44-1a

6

S.D.D. 14 B 44-1a

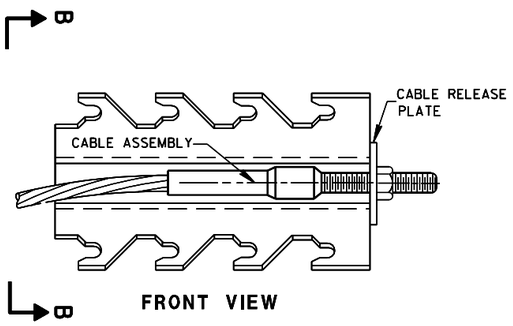


⑨ Ⓗ

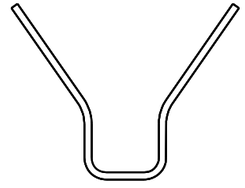
GENERIC GROUND STRUT

BILL OF MATERIALS

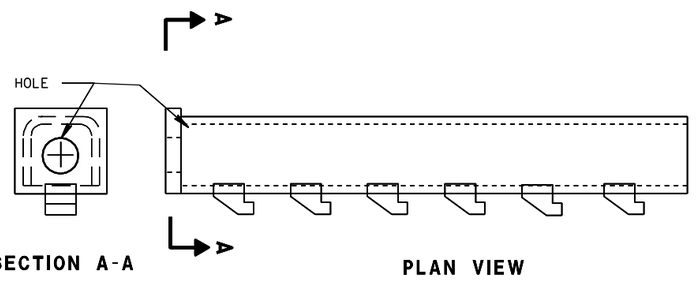
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	END SECTION EAT
⑬	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE H (ONLY THE SHEETING IS SUPPLIED BY THE MANUFACTURER)
⑭	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



FRONT VIEW



SECTION B-B

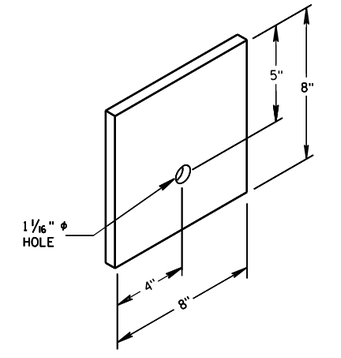


SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX

⑧ Ⓗ



BEARING PLATE

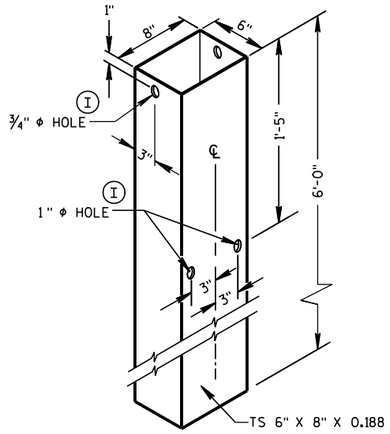
⑥

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

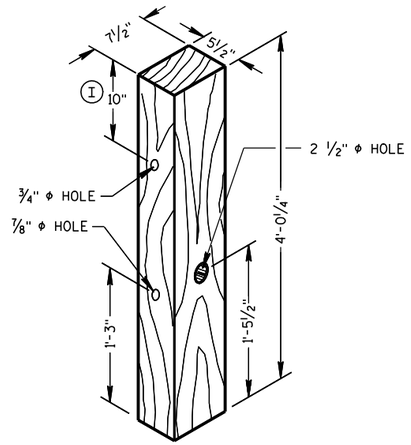
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 44-1b

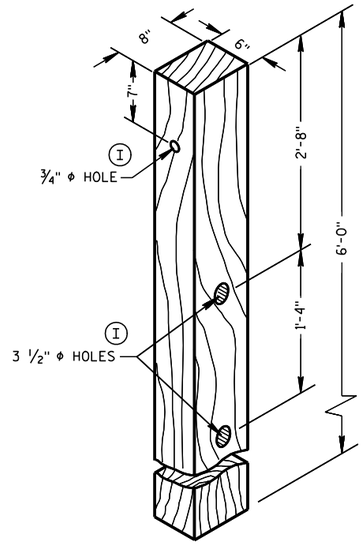


FOUNDATION TUBE (2)



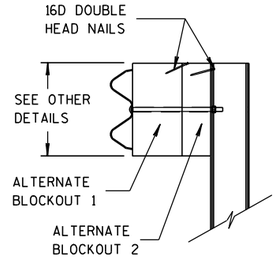
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

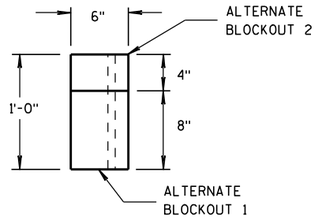


POSTS NUMBER 3-9

WOOD CRT POST (3)

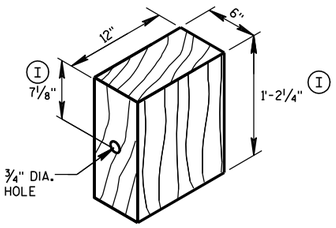


SIDE VIEW



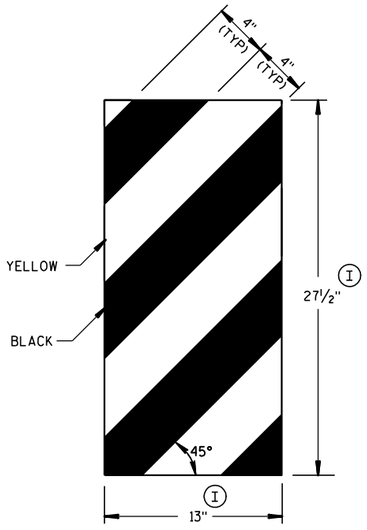
TOP VIEW

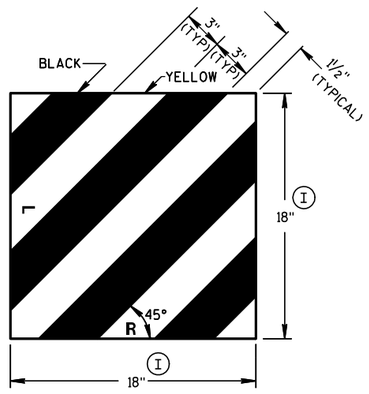
ALTERNATE WOOD BLOCKOUT DETAIL



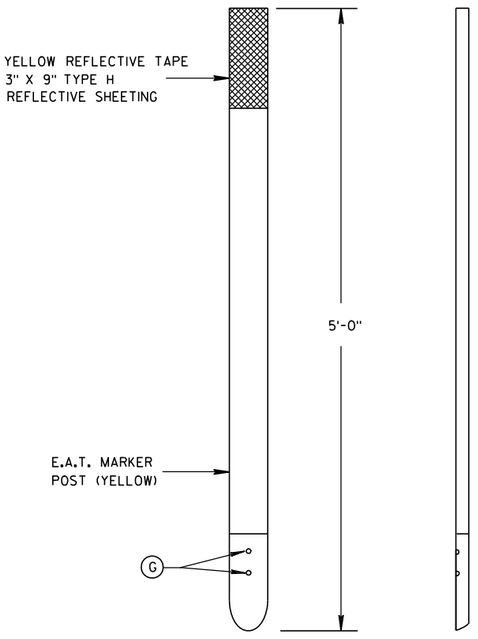
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





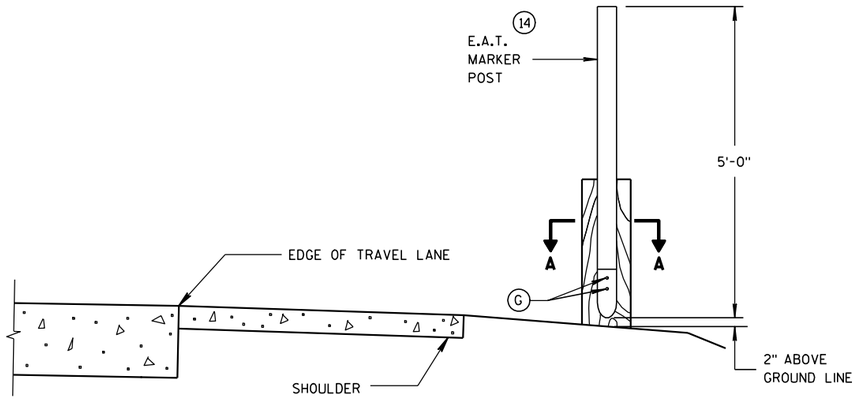
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

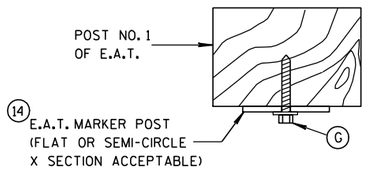
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

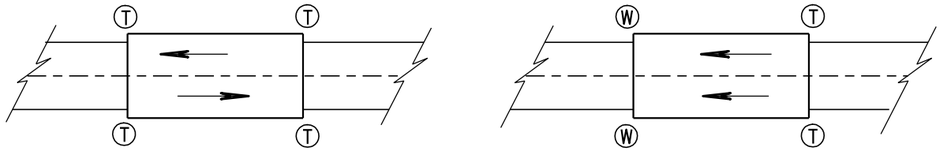
APPROVED
5/23/2011
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 14 B 44-1c

6

S.D.D. 14 B 44-1c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

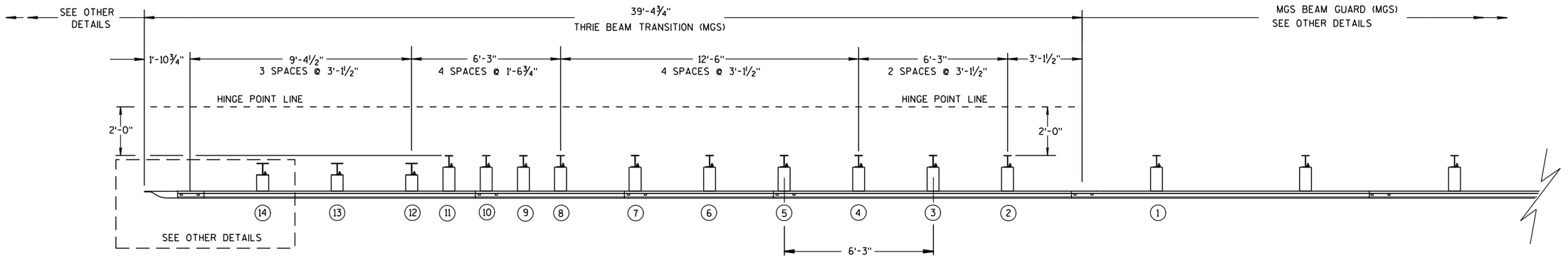
BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

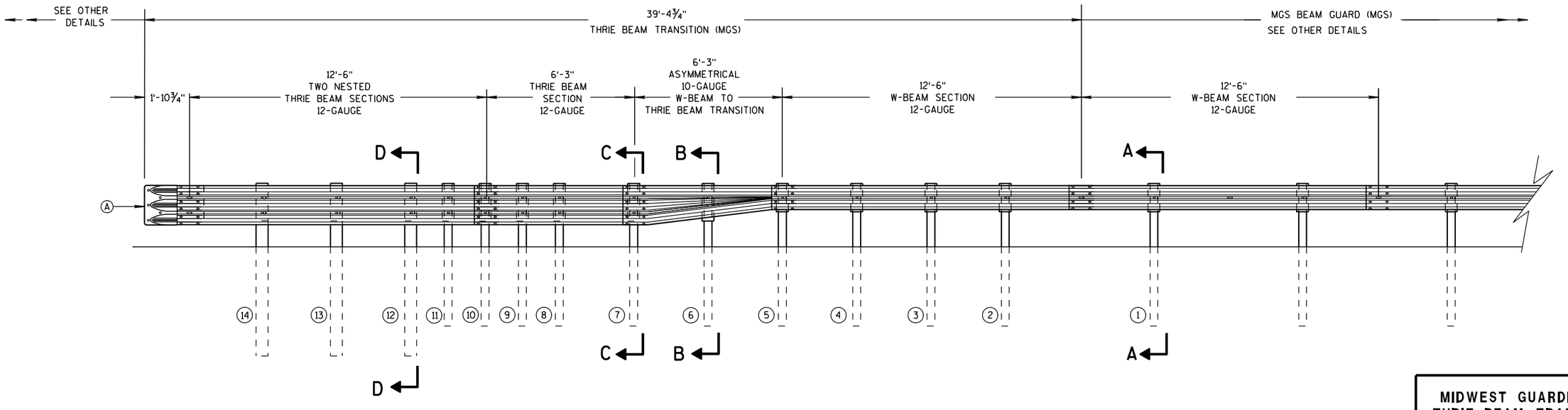
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

Ⓐ BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

1527

6

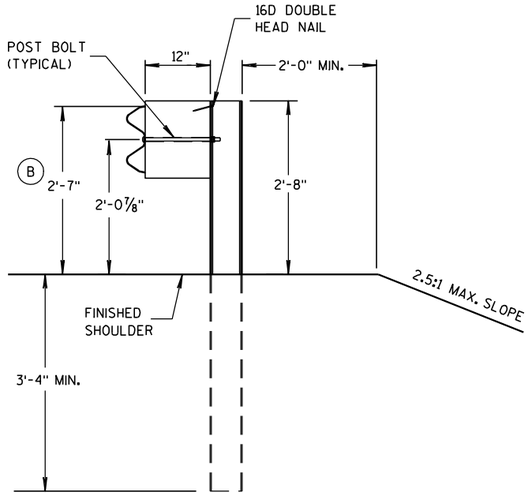
S.D.D. 14 B 45-3a

6

S.D.D. 14 B 45-3a

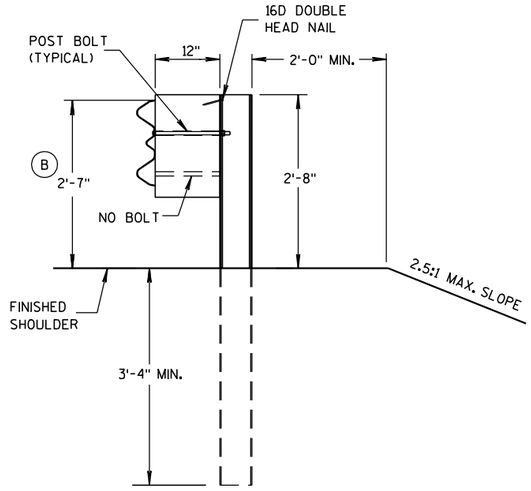
GENERAL NOTES

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



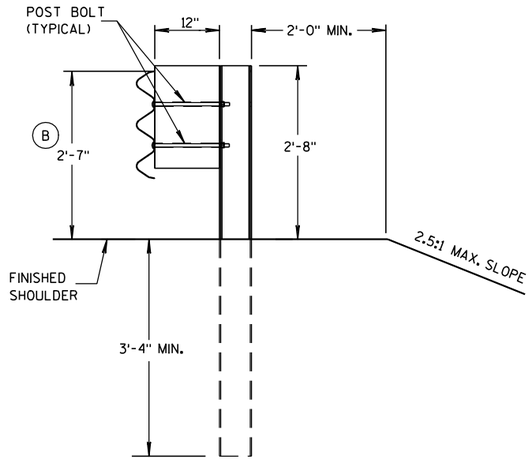
SECTION A-A

POSTS 1-5



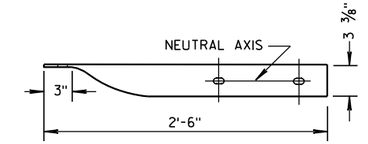
SECTION B-B

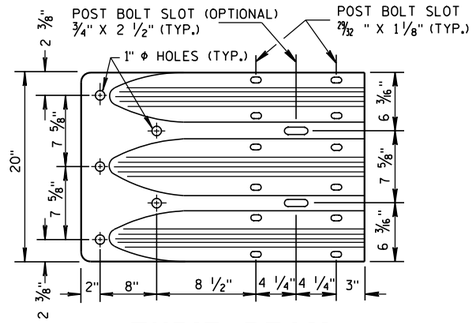
POST 6



SECTION C-C

POSTS 7-11





THRIE BEAM TERMINAL CONNECTOR

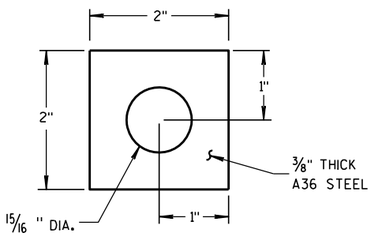
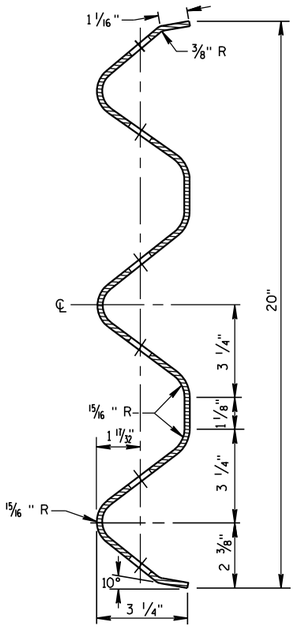
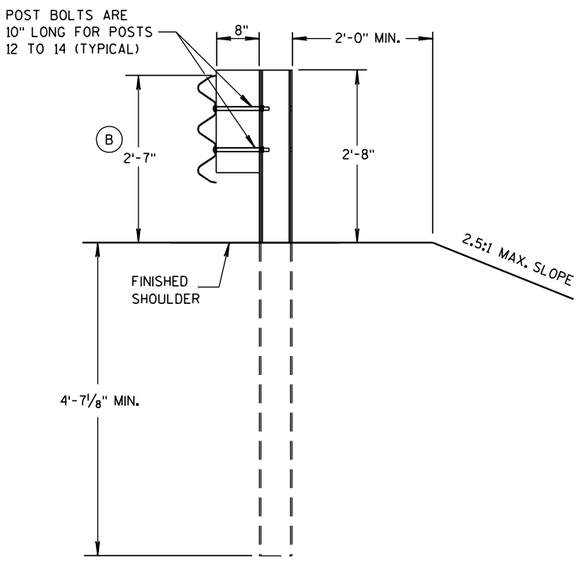


PLATE WASHER DETAIL

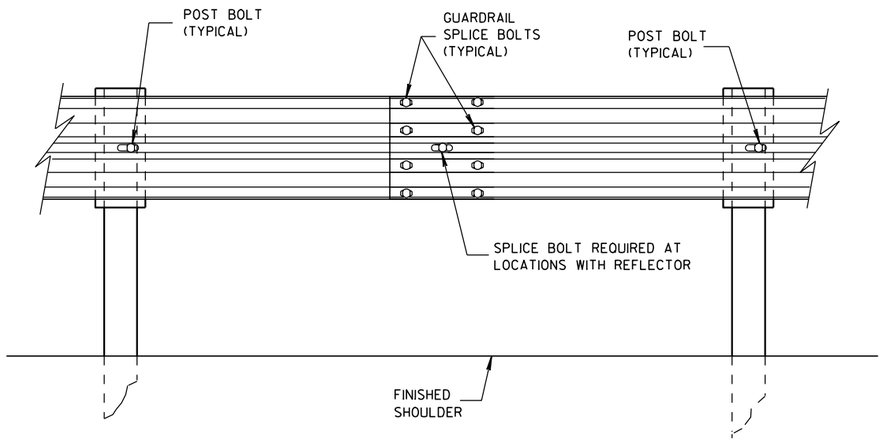


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-14

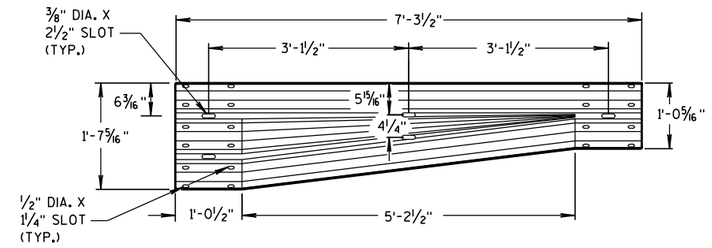


SPLICE DETAIL

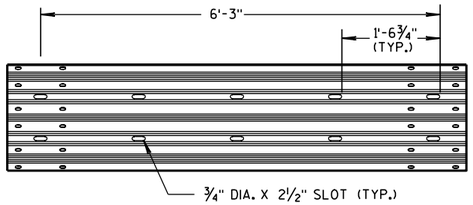
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

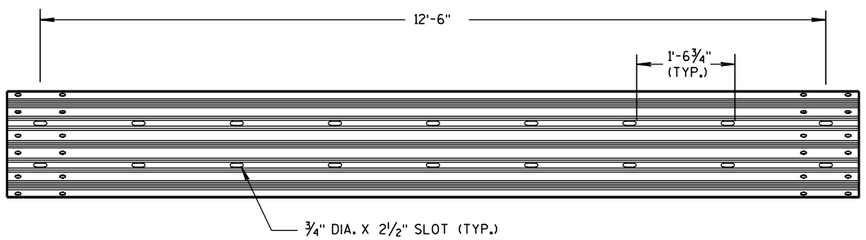
6
S.D.D. 14 B 45-3b



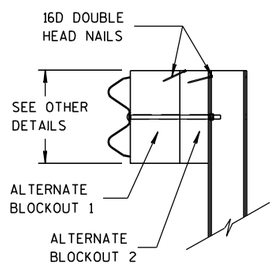
W-BEAM TO THRIE BEAM TRANSITION SECTION



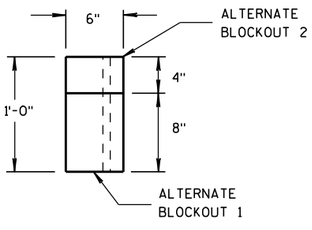
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

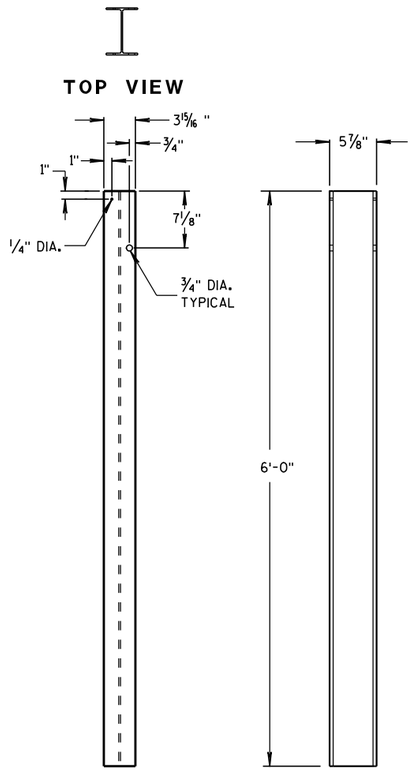


SIDE VIEW

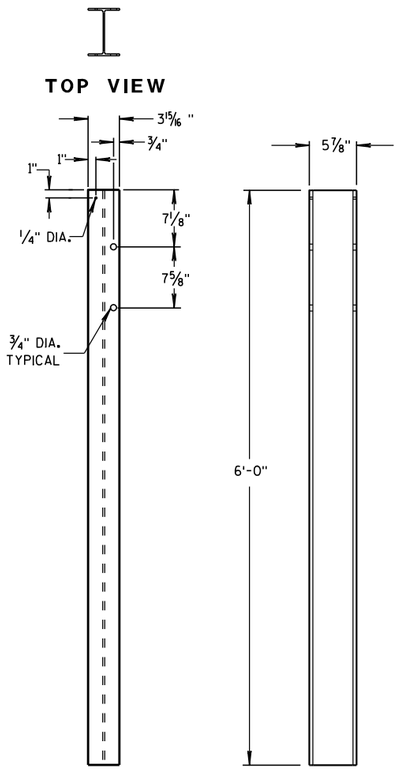


TOP VIEW

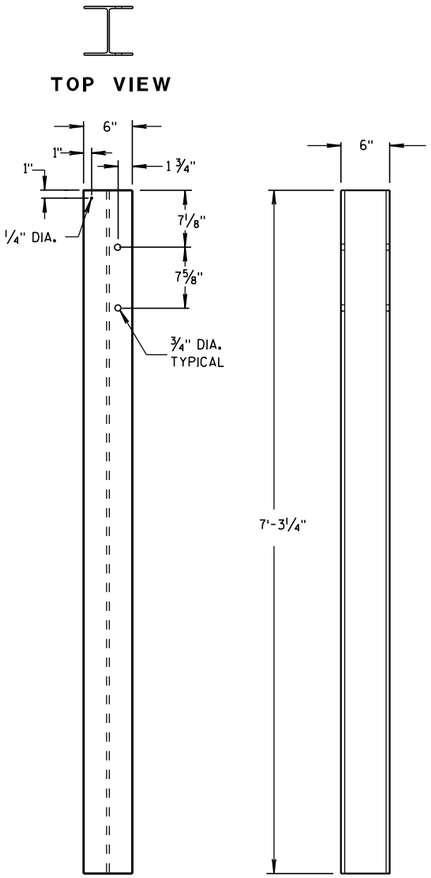
ALTERNATE WOOD BLOCKOUT DETAIL



STEEL POSTS 1-5

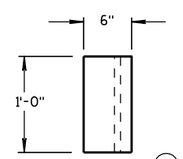


STEEL POSTS 6-11

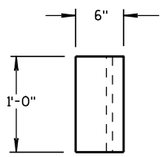


STEEL POSTS 12-14

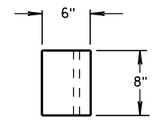
1 WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.



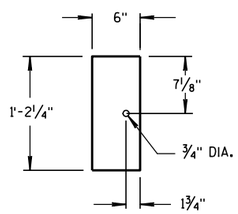
TOP VIEW (1)



TOP VIEW (1)

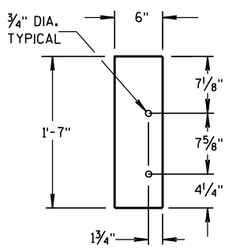


TOP VIEW



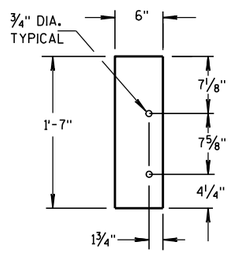
FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

BLOCKOUT POSTS 12-14

STEEL POST SIZES

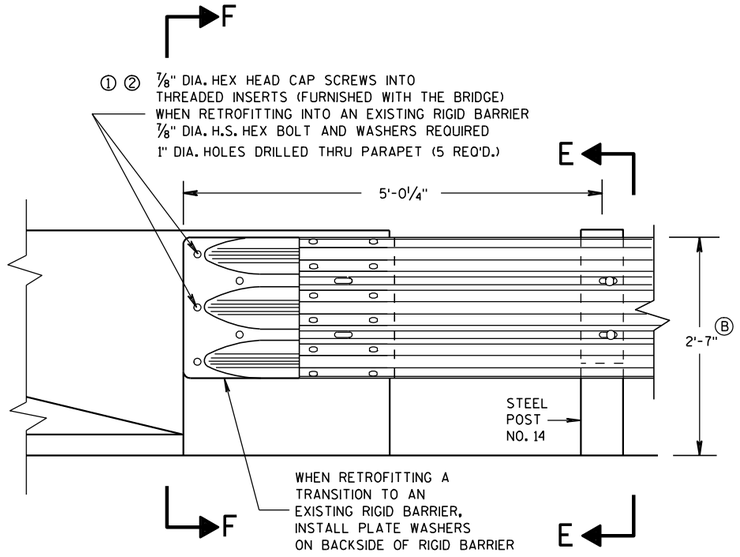
POST NUMBER	SECTION TYPE	LENGTH
1	W6x9	72"
2	W6x9	72"
3	W6x9	72"
4	W6x9	72"
5	W6x9	72"
6	W6x9	72"
7	W6x9	72"
8	W6x9	72"
9	W6x9	72"
10	W6x9	72"
11	W6x9	72"
12	W6x15	87 1/8"
13	W6x15	87 1/8"
14	W6x15	87 1/8"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

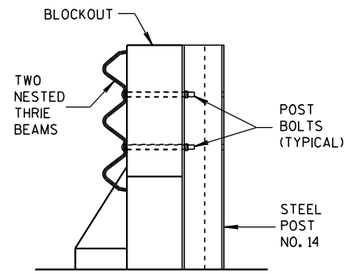
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 45-3c



FRONT VIEW



SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

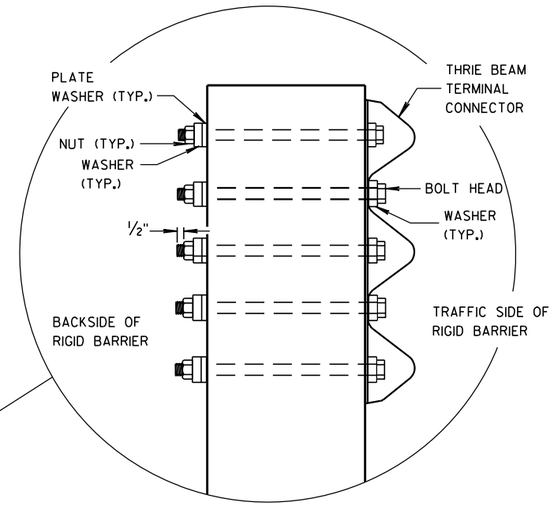
THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

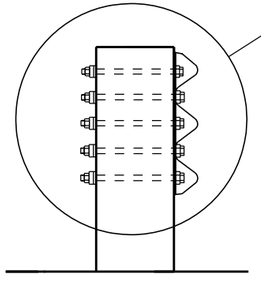
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

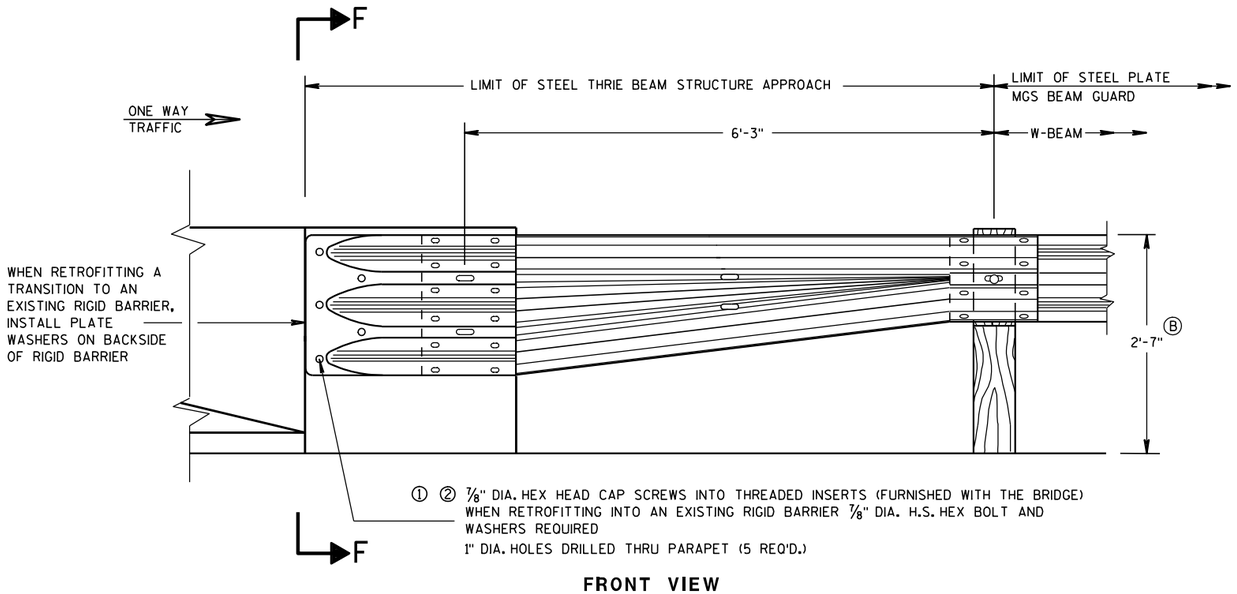
③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".





SECTION F-F



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS (1530) ENT
ENGINEER

FHWA

6

S.D.D. 14 B 45-3d

6

S.D.D. 14 B 45-3d

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

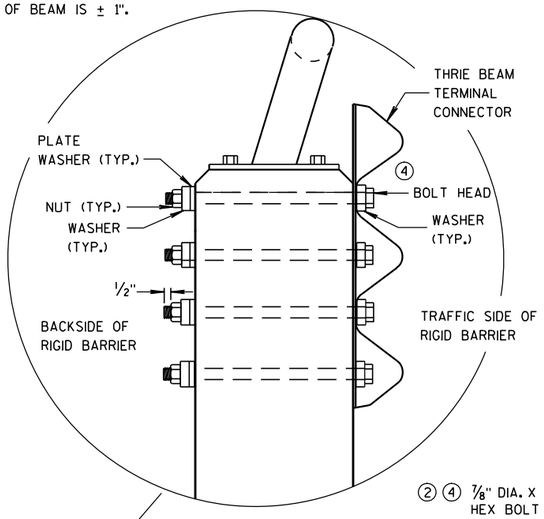
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

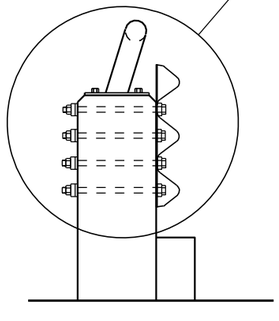
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2". BLOCK IS INCIDENTAL TO THE CONTRACT.

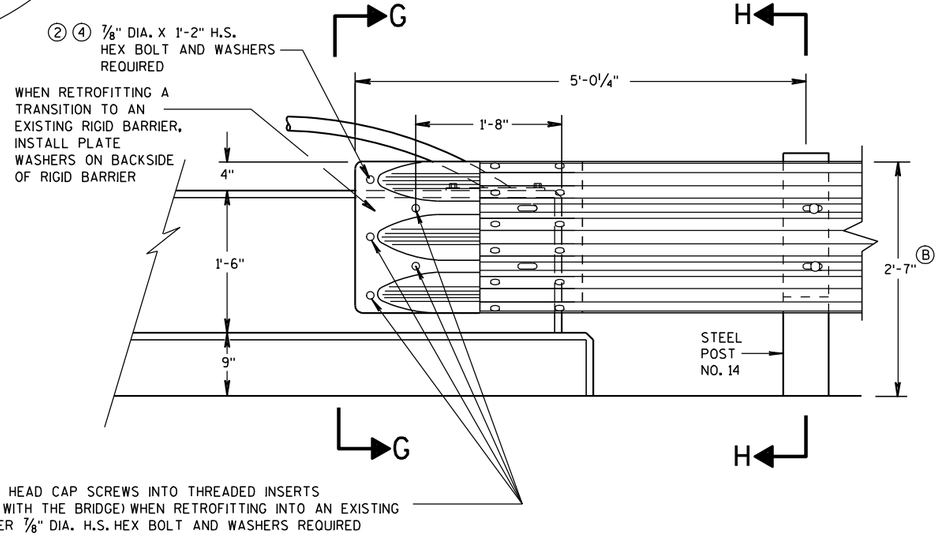
④ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

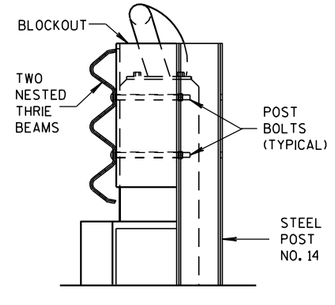




SECTION G-G

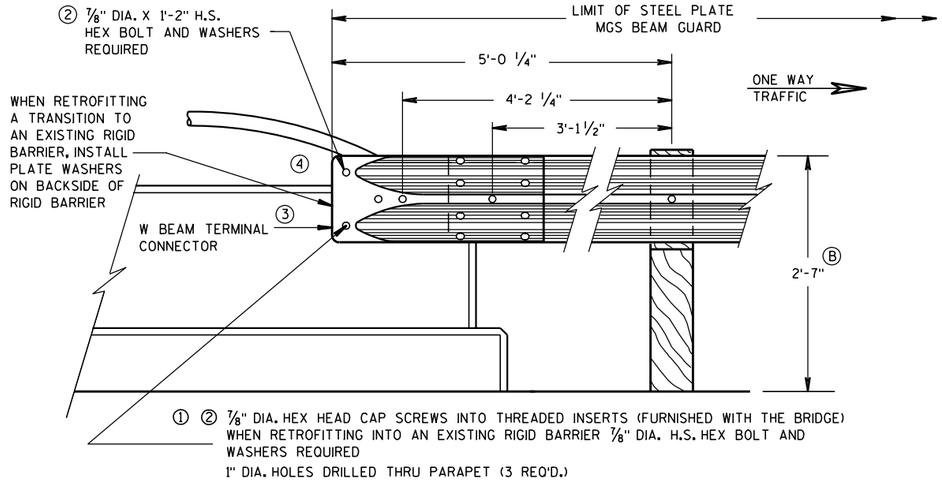


FRONT VIEW



SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8-31-2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

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S.D.D. 14 B 45-3e

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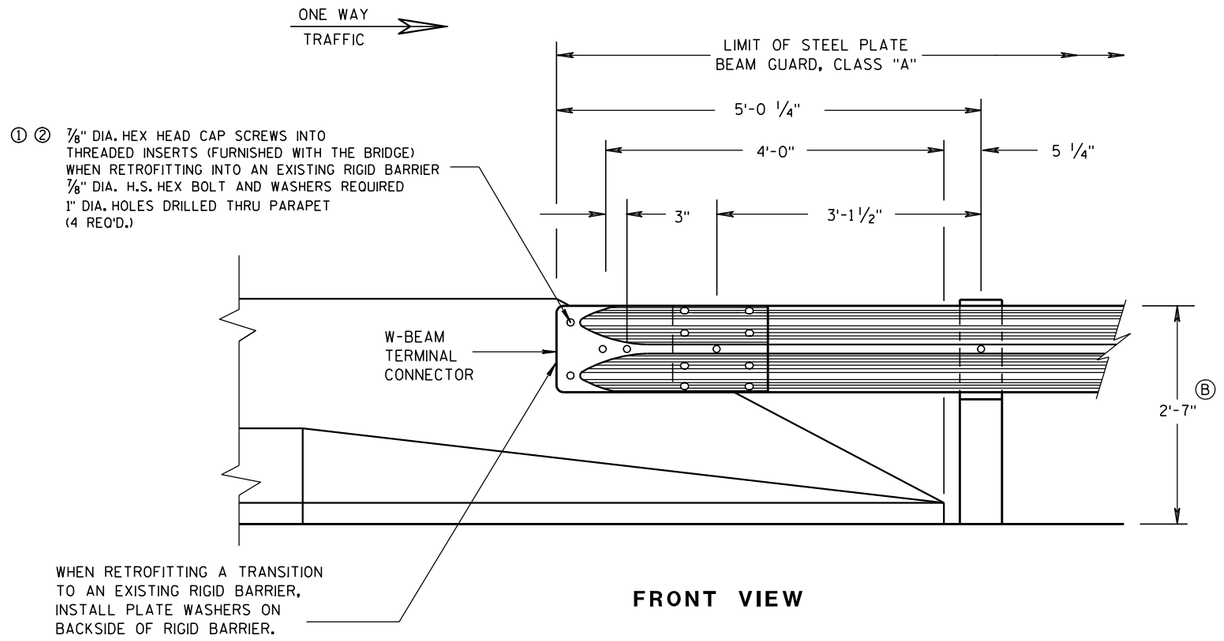
S.D.D. 14 B 45-3e



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

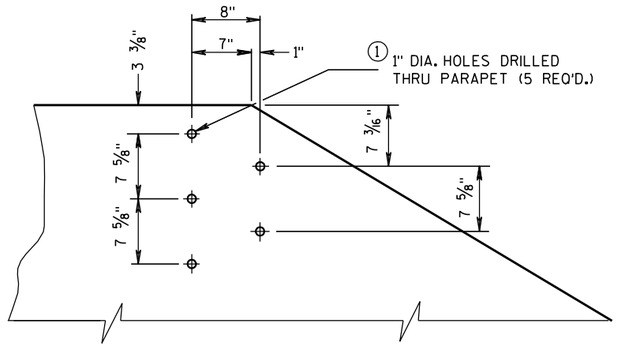
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

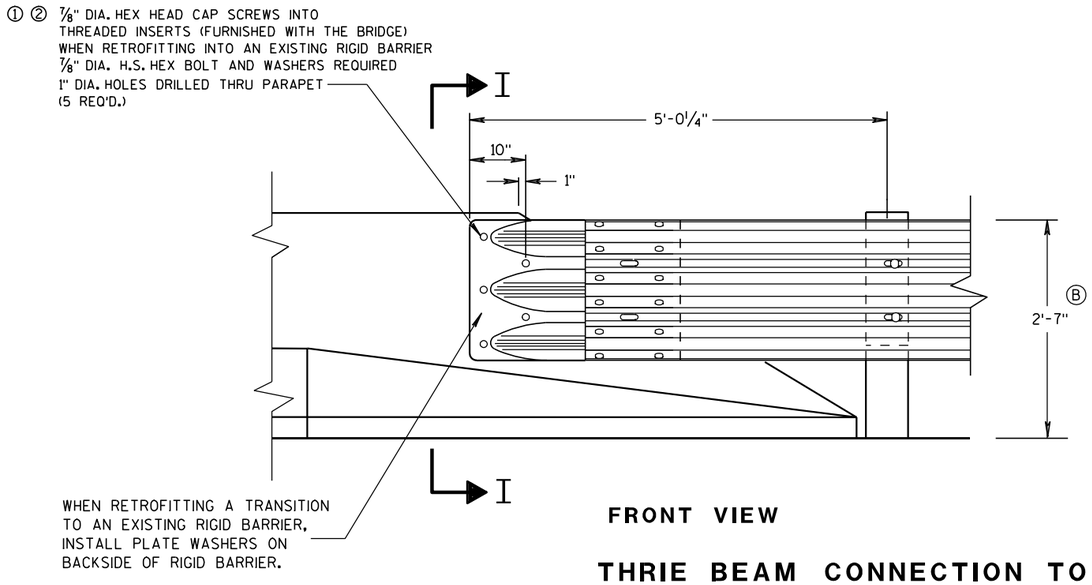
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

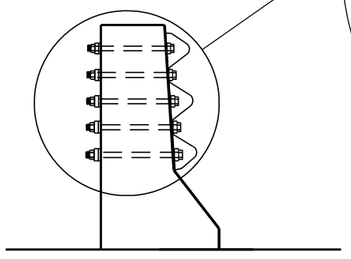
Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



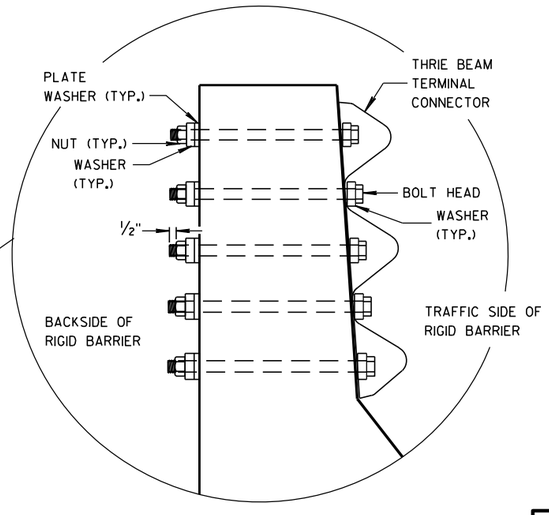
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER

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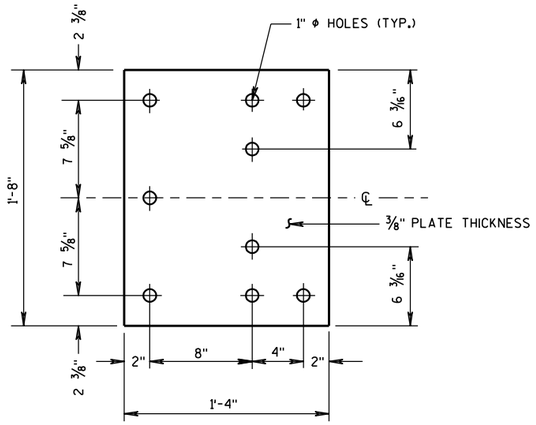
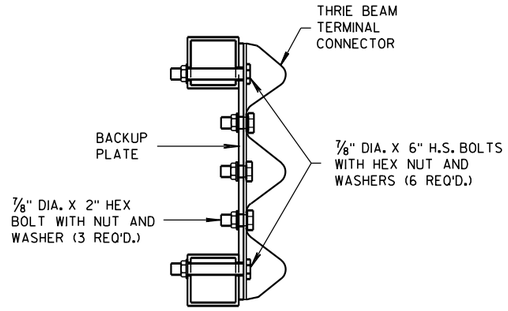
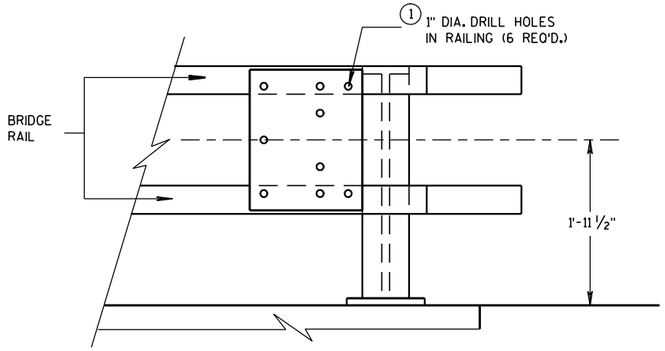


BACK-UP PLATE DETAIL



SECTION J-J

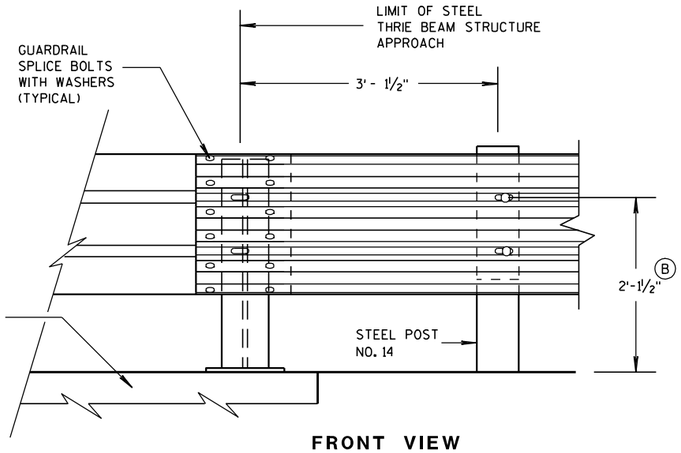


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

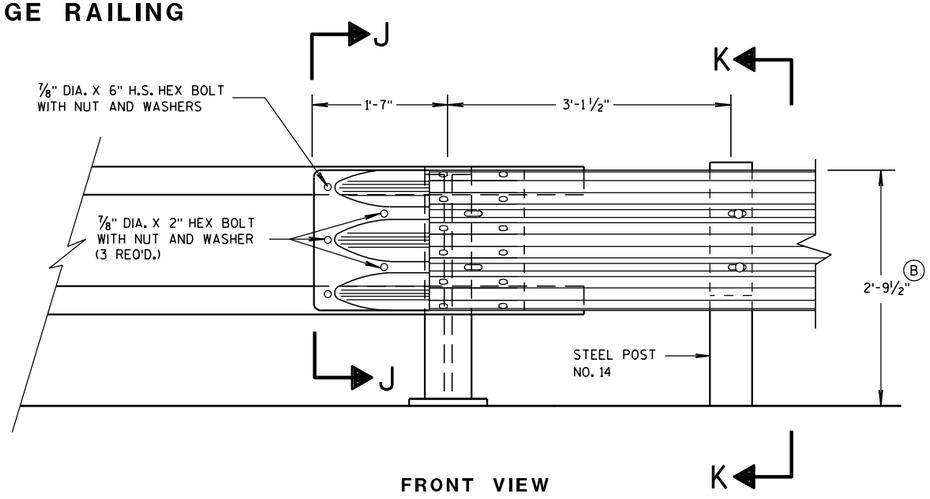
1. DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

B. TOLERANCE FOR TOP OF BEAM IS ± 1".

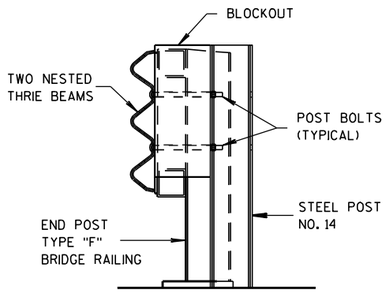


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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S.D.D. 14 B 45-3g

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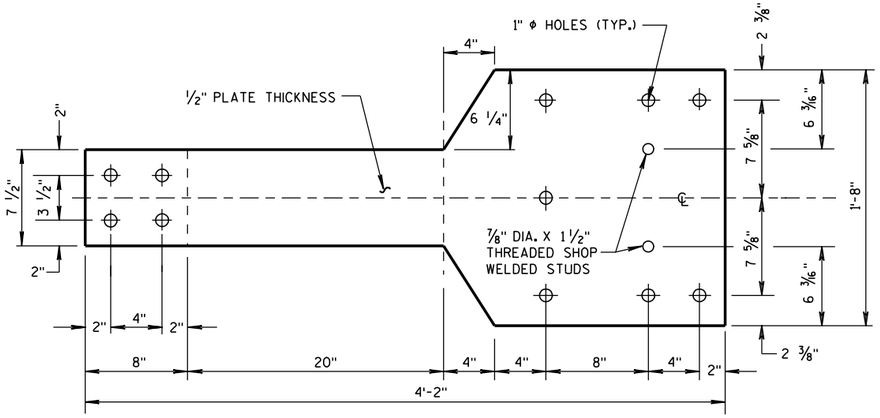
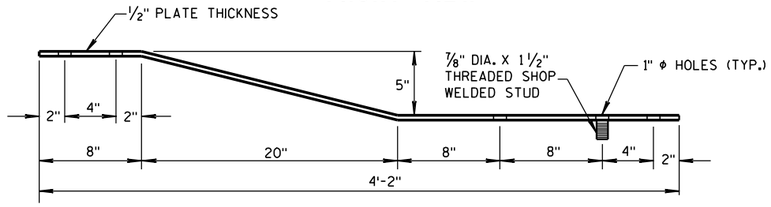
S.D.D. 14 B 45-3g

GENERAL NOTES

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

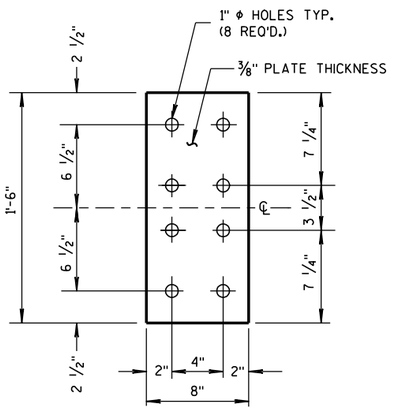


FRONT VIEW



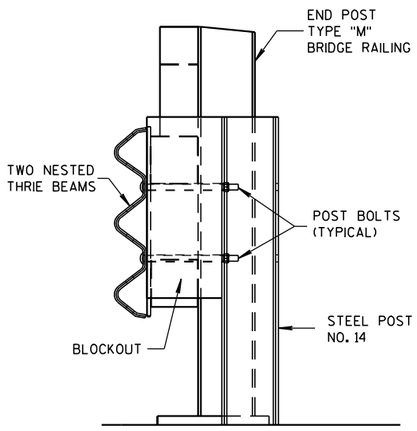
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

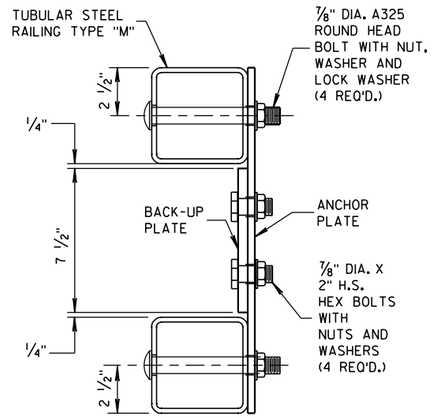


FRONT VIEW

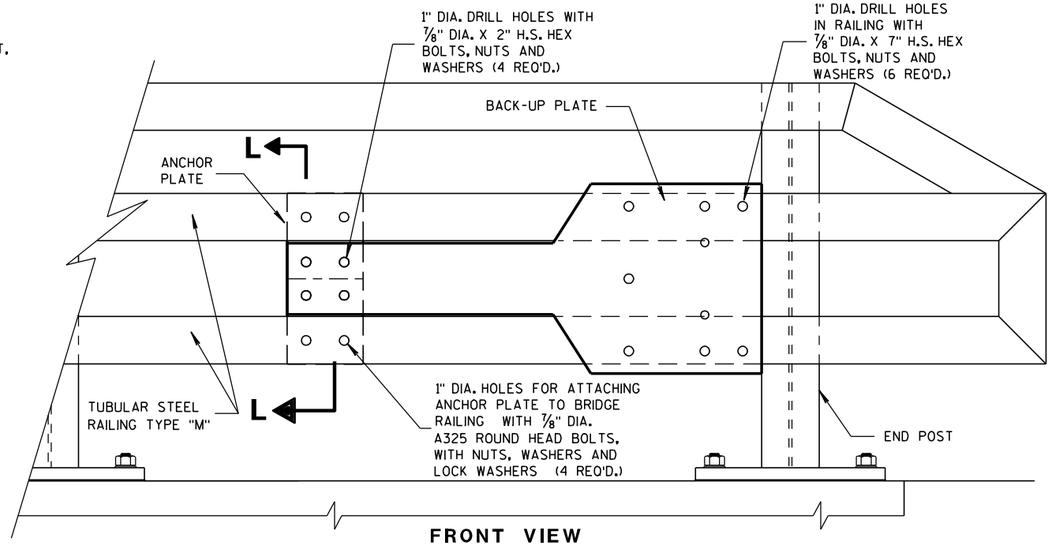
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

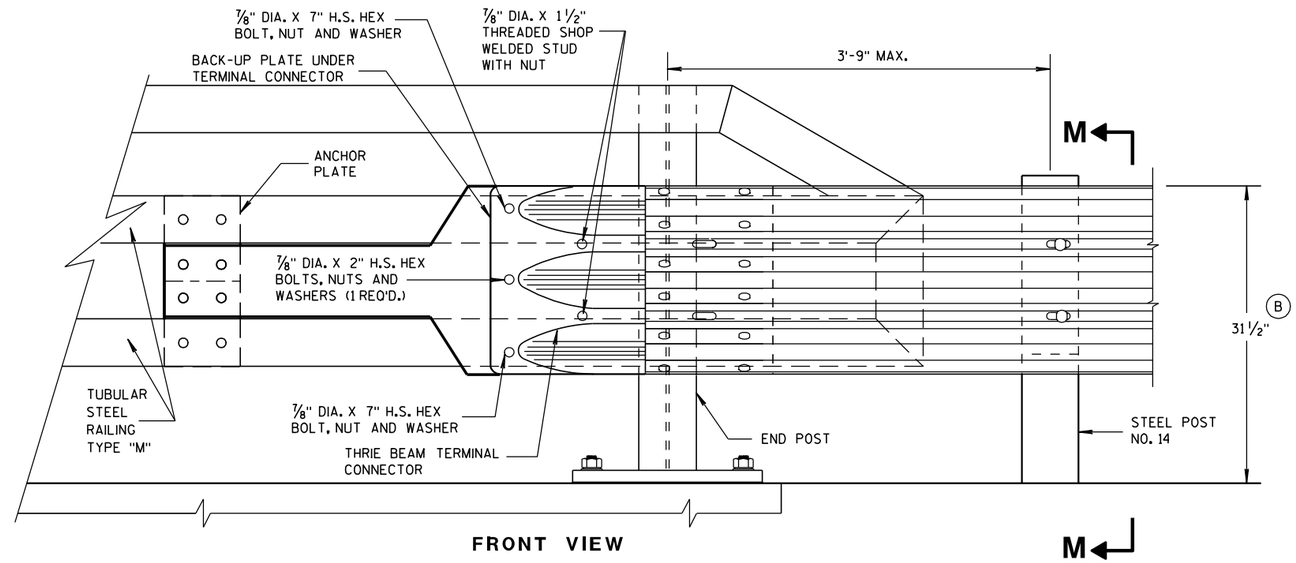


SECTION L-L

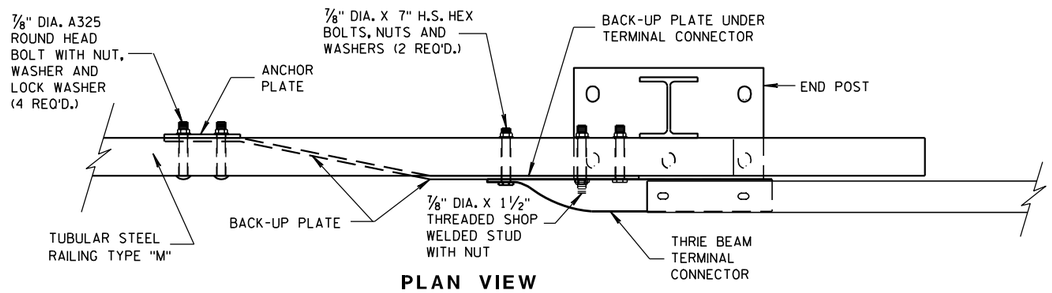


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-31-2012 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
1534 ENT
FHWA

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S.D.D. 14 B 45-3h

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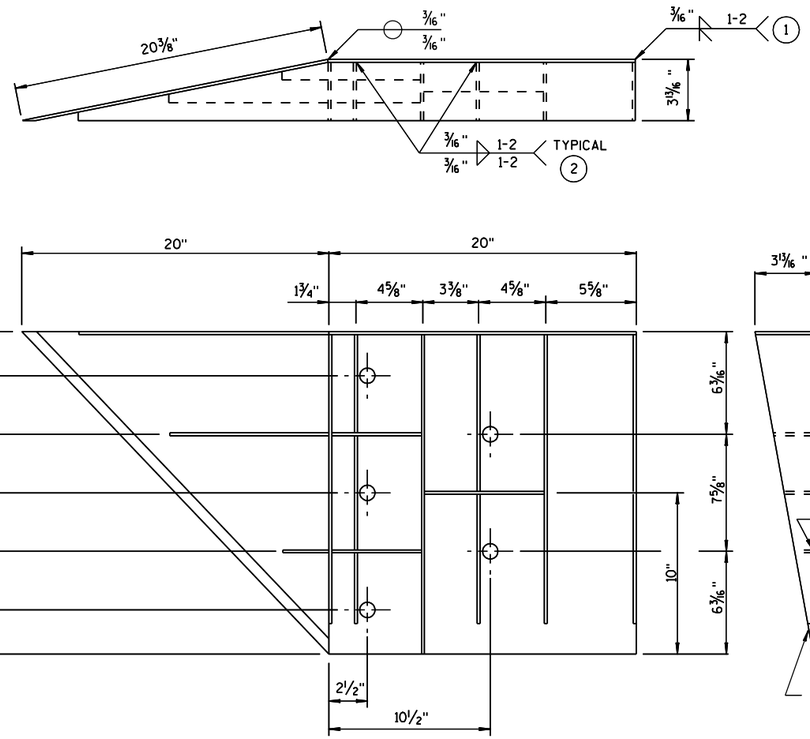
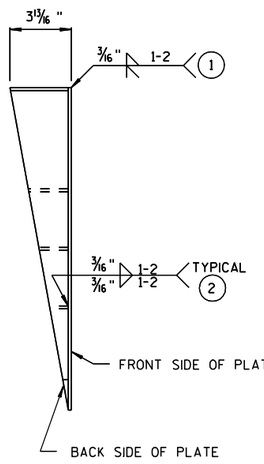
S.D.D. 14 B 45-3h





WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

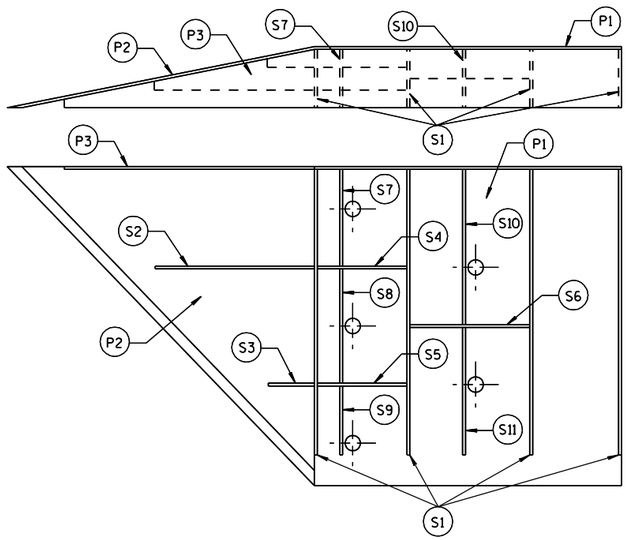


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(1) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(2) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
/S/ Jerry H ----
ROADWAY STANDARDS 1535 ENGINEER
FHWA

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S.D.D. 14 B 45-3i

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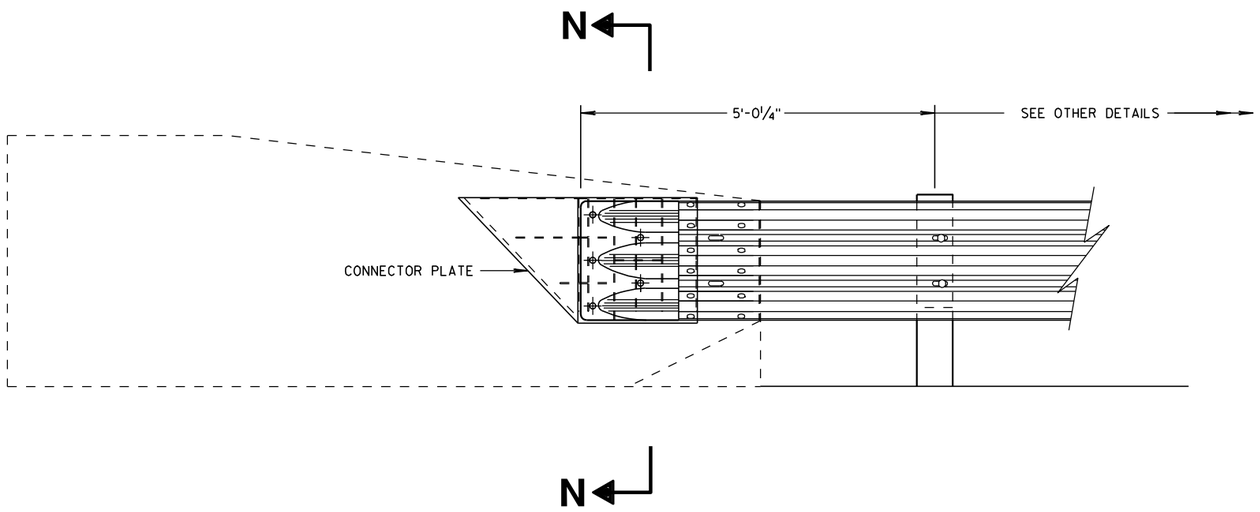
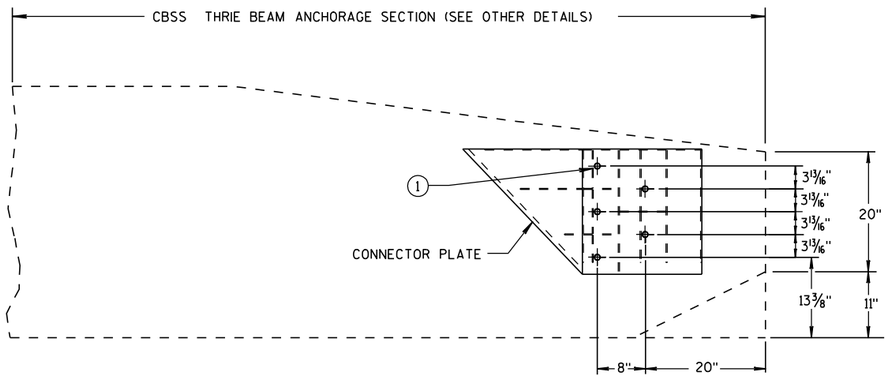
S.D.D. 14 B 45-3i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

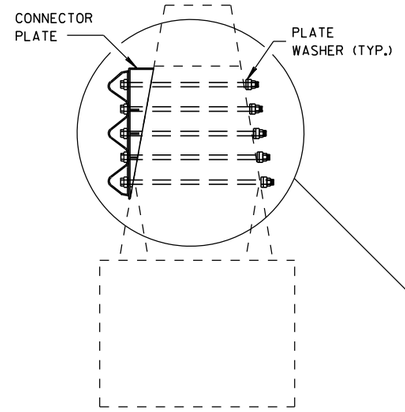


SINGLE SLOPE CONNECTION PLATE PLACEMENT

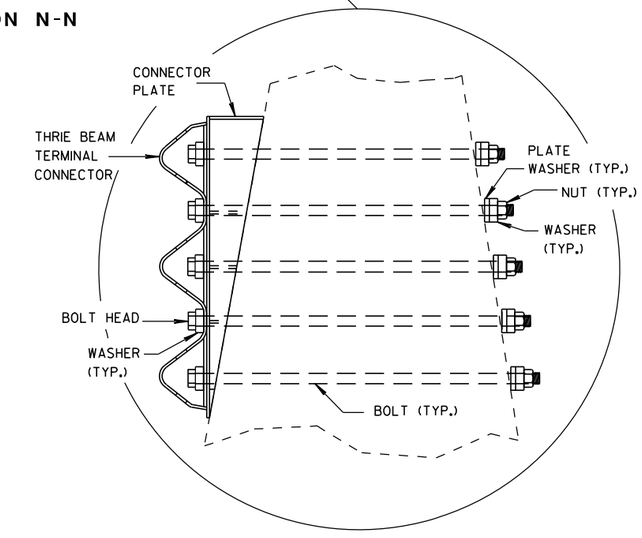
GENERAL NOTES

CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(1) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS [illegible]1536 [illegible]ENT
ENGINEER

FHWA

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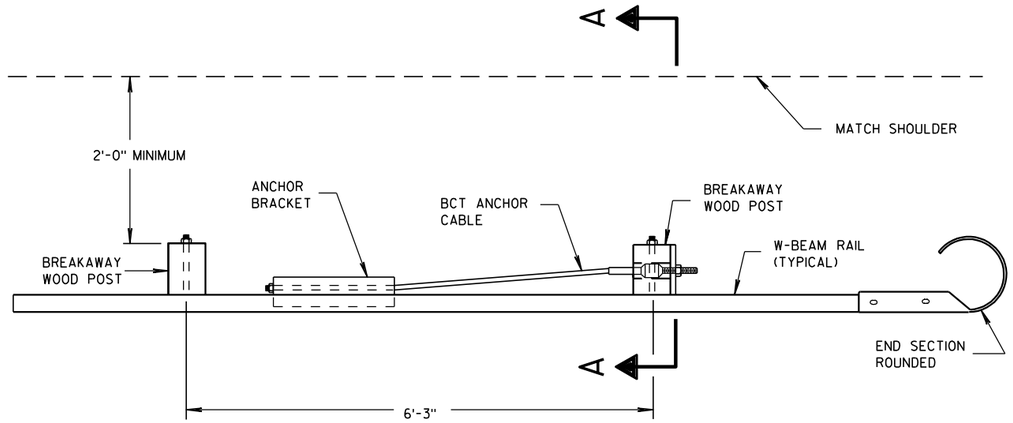
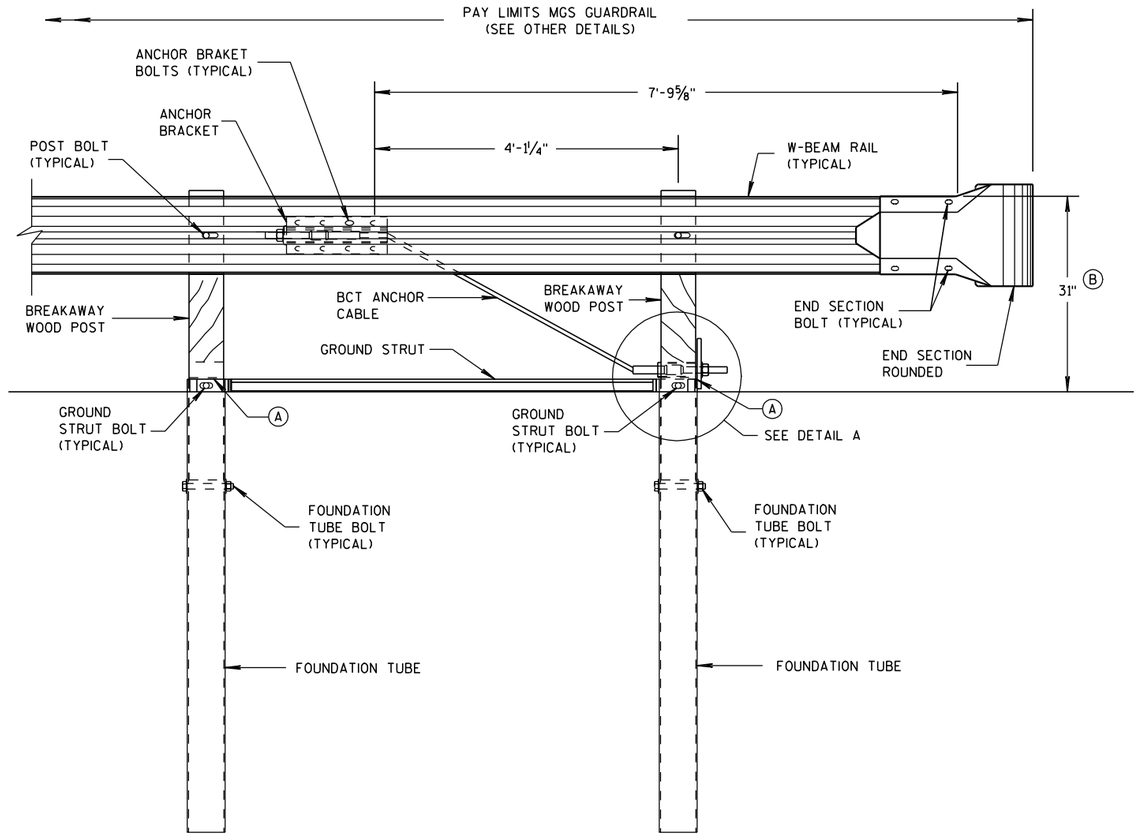
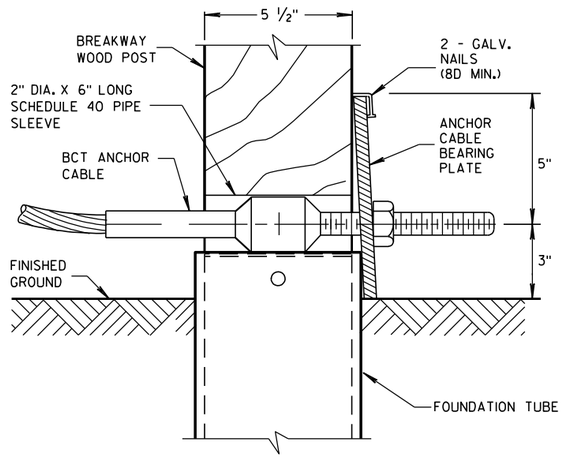


PLAN VIEW



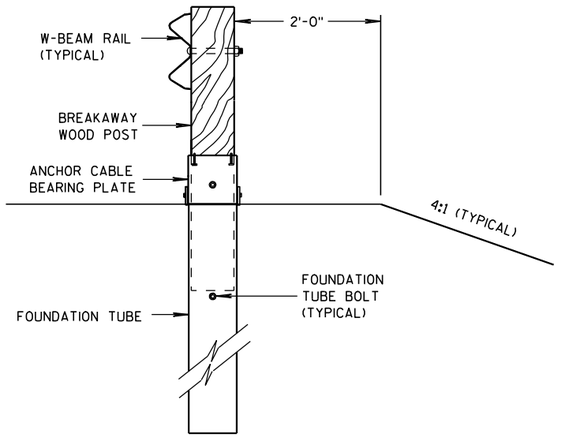
FRONT VIEW

END RAIL DETAIL



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.



SECTION A-A

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

POST BOLTS ARE A ⅝" DIAMETER X 10" LONG GUARDRAIL BOLT. A POST BOLT REQUIRES A ⅝" DIAMETER DH MODIFIED (RECESSED) HEAVY HEX NUT AND ⅝" DIAMETER FLAT WASHER.

FOUNDATION TUBE BOLTS ARE A ⅞" DIAMETER X 7½" LONG HEAVY HEX HEAD BOLT. A FOUNDATION TUBE BOLT REQUIRES A ⅞" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

GROUND STRUT BOLTS ARE A ⅝" DIAMETER X 10" LONG HEAVY HEX HEAD BOLT. A GROUND STRUT BOLT REQUIRES A ⅝" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

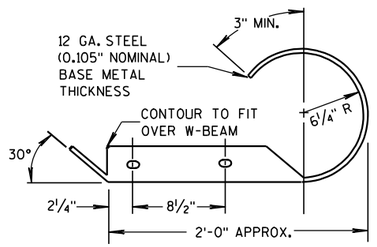
ANCHOR BRAKET BOLTS ARE A ⅝" DIAMETER X 1½" LONG HEAVY HEX HEAD BOLT. AN ANCHOR BRAKET BOLT REQUIRES A ⅝" DIAMETER DH HEAVY HEX NUT AND A FLAT WASHER.

END SECTION BOLTS ARE A ⅝" DIAMETER X 1½" HEAVY HEX HEAD BOLT. AN END SECTION BOLT REQUIRES ⅝" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

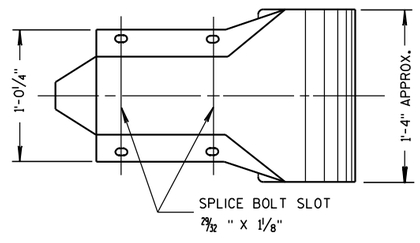
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".



PLAN VIEW



FRONT VIEW

W BEAM END SECTION ROUNDED

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

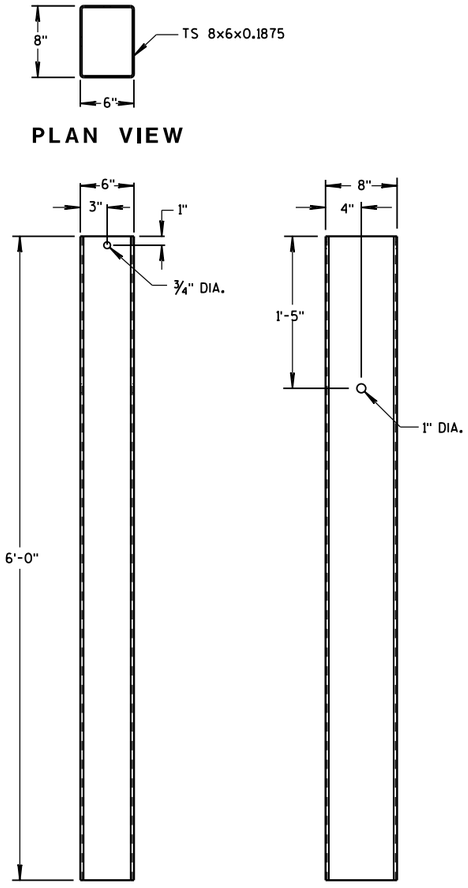
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

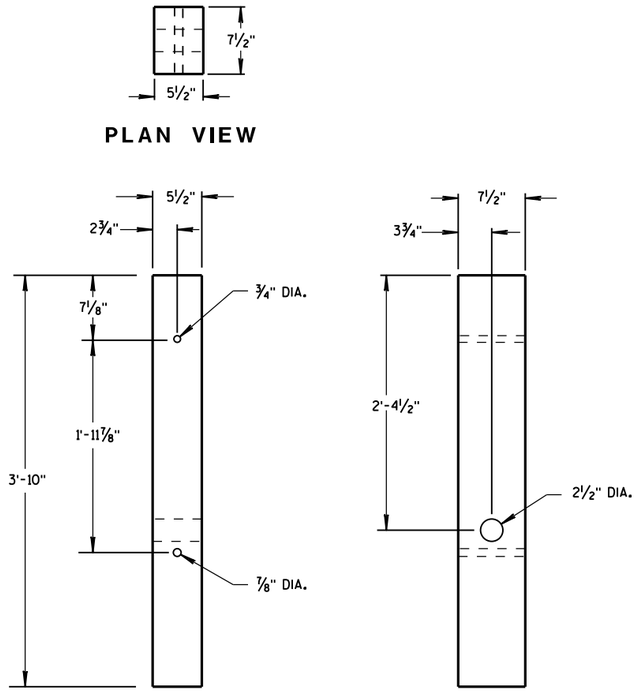
S.D.D. 14 B 47-1a

6

S.D.D. 14 B 47-1a



FOUNDATION TUBE

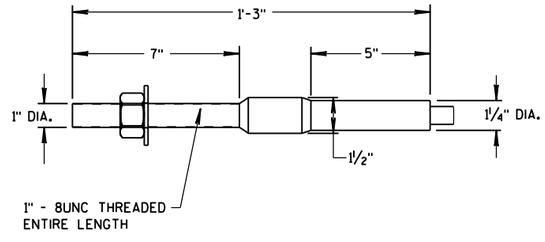


BREAKAWAY WOOD POST

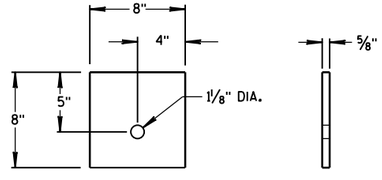
GENERAL NOTES

BCT ANCHOR CABLE IS A ⅜" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. THE END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. THE TREADED STUD SHOULD CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.

BCT ANCHOR CABLE



DETAIL B



ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

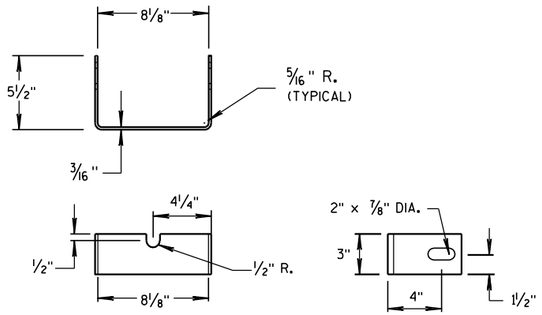
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI 1538

6

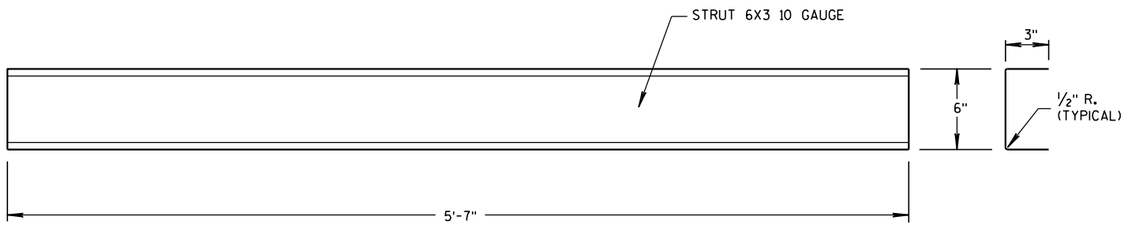
S.D.D. 14 B 47-1b

6

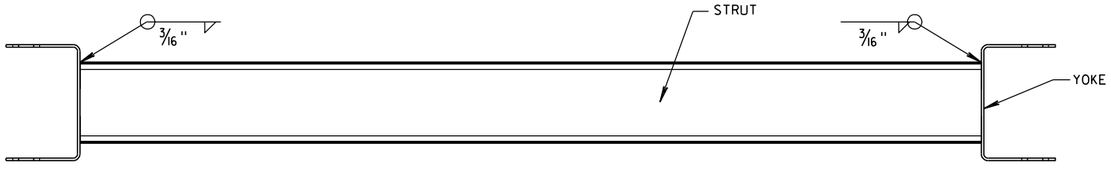
S.D.D. 14 B 47-1b



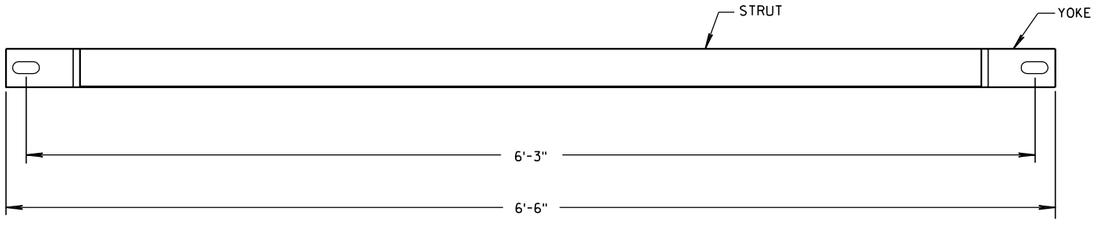
YOKE DETAIL



STRUT DETAIL

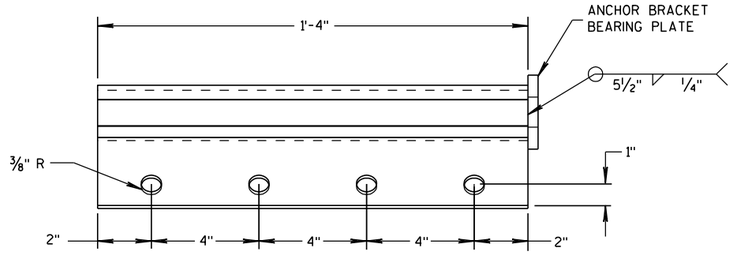


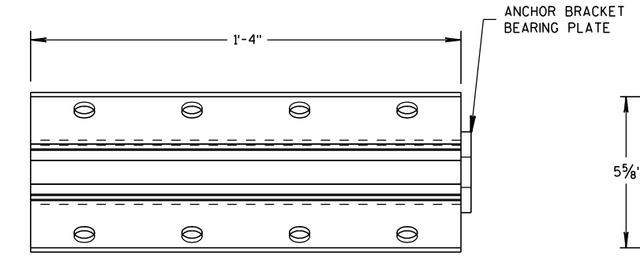
PLAN VIEW

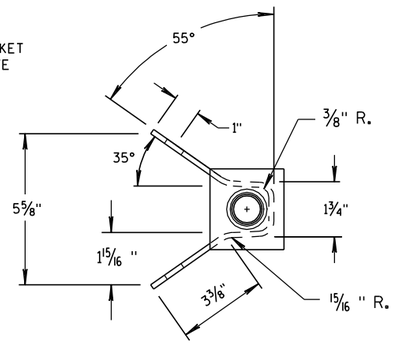


FRONT VIEW

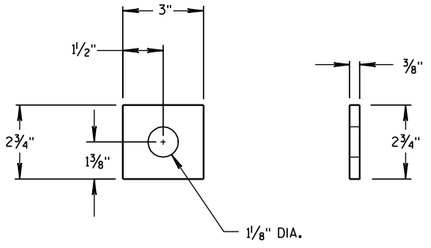
GROUND STRUT DETAIL







ANCHOR BRACKET



ANCHOR BRACKET BEARING PLATE

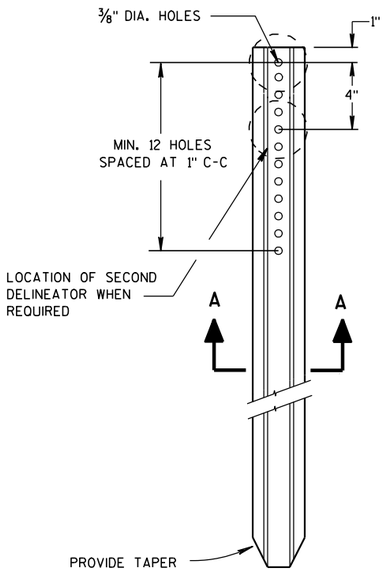
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
5/23/2011 DATE	/S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER
FHWA	1539 [illegible]

6

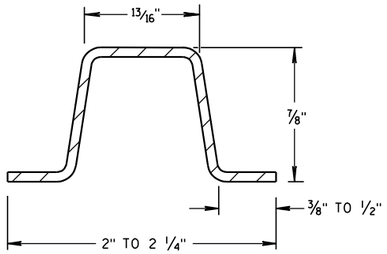
S.D.D. 14 B 47-1c

6

S.D.D. 14 B 47-1c

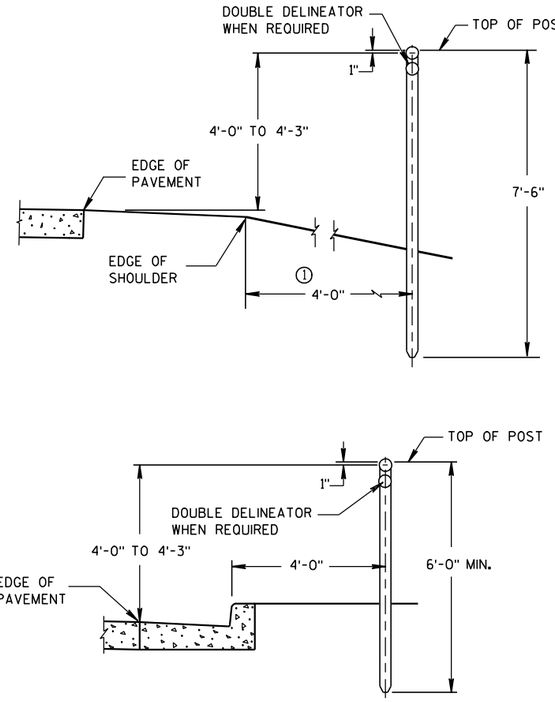


DELINEATOR POST



SECTION A-A

WEIGHT 1.12 LBS PER FT. ± 0.1 LB.

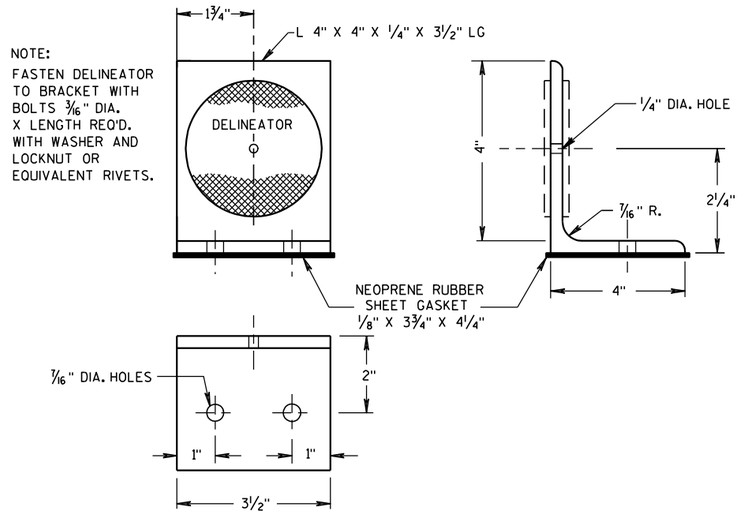


TYPICAL INSTALLATIONS OF DELINEATOR POSTS

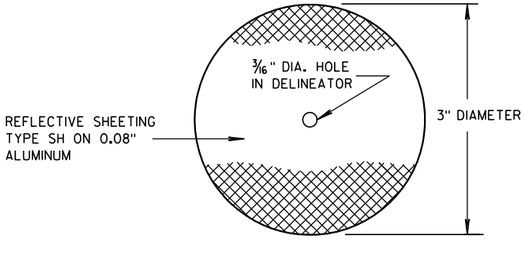
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

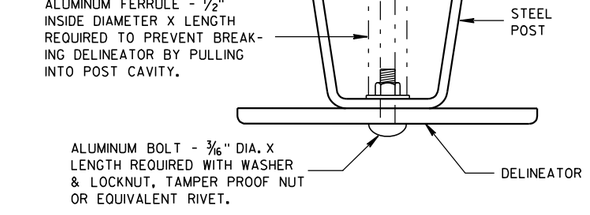
① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



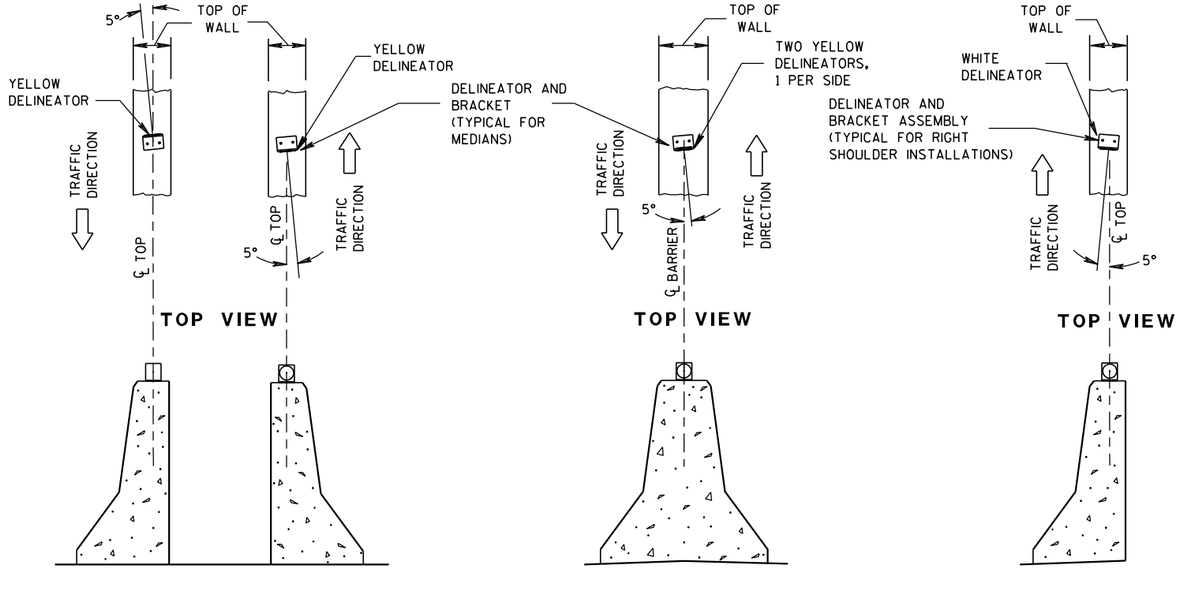
DELINEATOR BRACKET



DELINEATOR



MOUNTING DETAIL FOR DELINEATOR

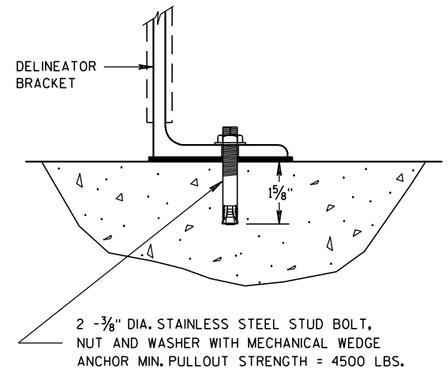


DOUBLE BARRIERS IN MEDIAN

MEDIAN BARRIER

BARRIER LOCATED TO RT. OF TRAFFIC FLOW

LOCATION AND AIMING DETAILS FOR DELINEATORS MOUNTED ON CONCRETE BARRIERS



DELINEATOR BRACKET MOUNTING DETAIL

DELINEATOR POST, DELINEATOR BRACKET AND DELINEATOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

1/25/2011
DATE

/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER

1540
DESIGN

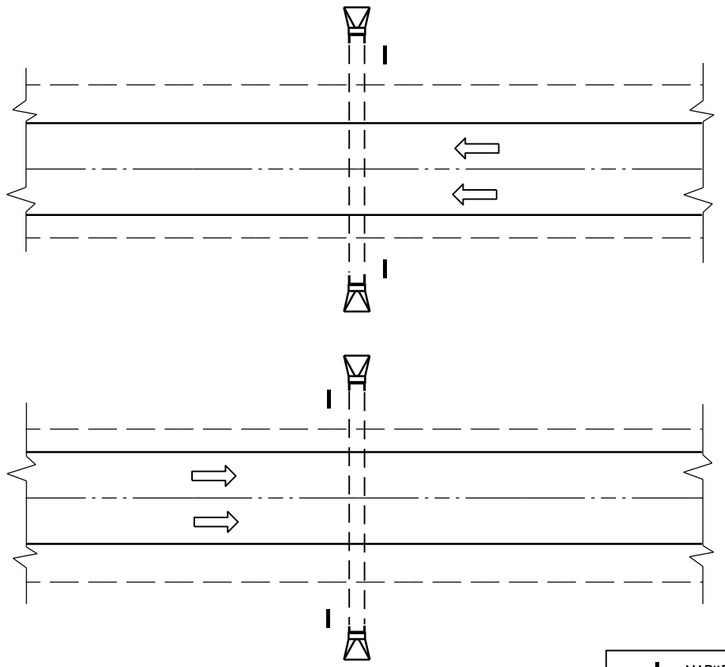
FHWA

6

S.D.D. 15 A 2-7

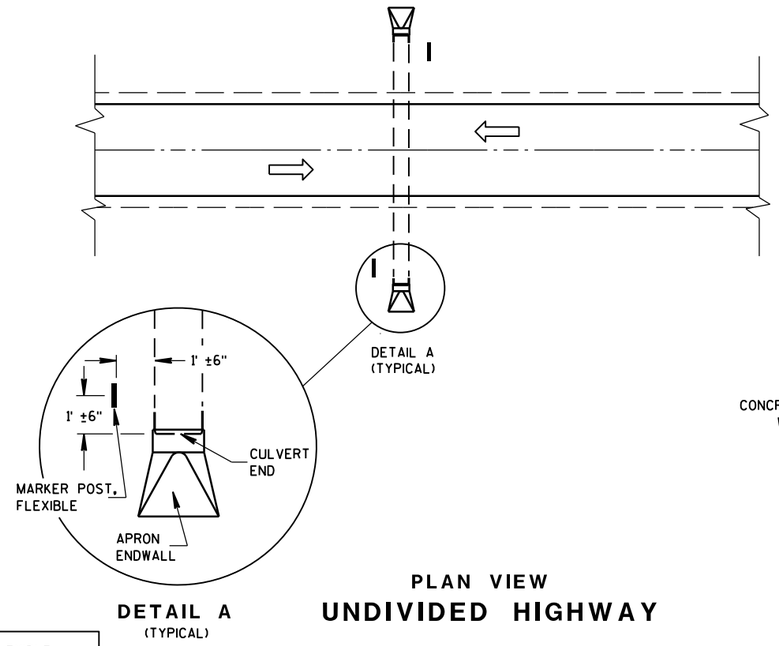
6

S.D.D. 15 A 2-7



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

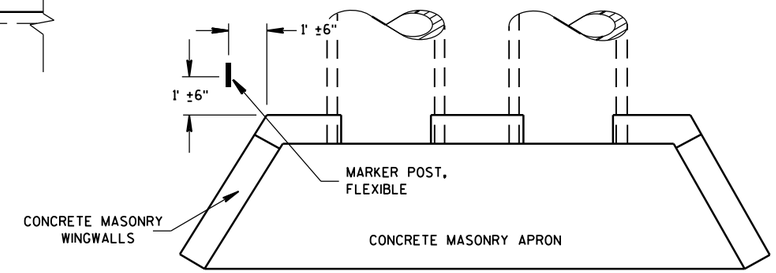
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

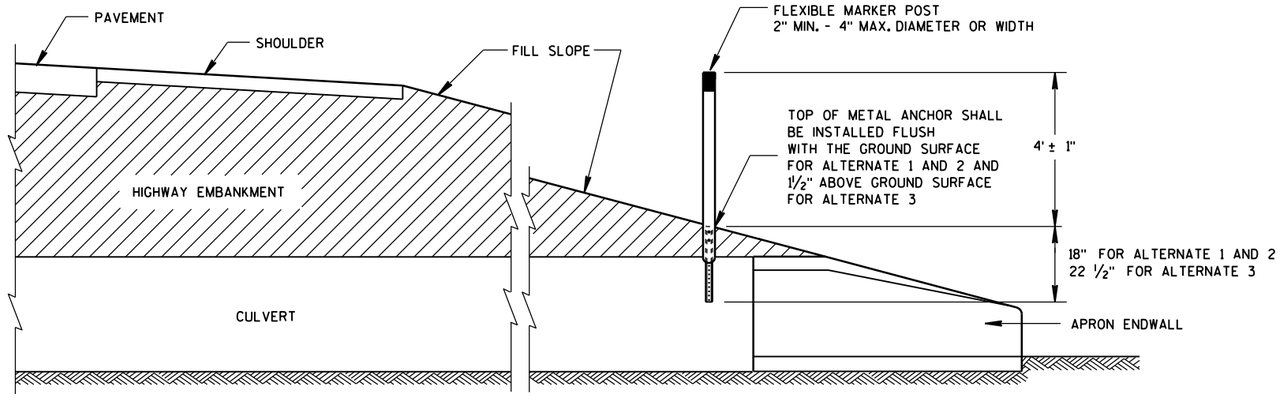
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

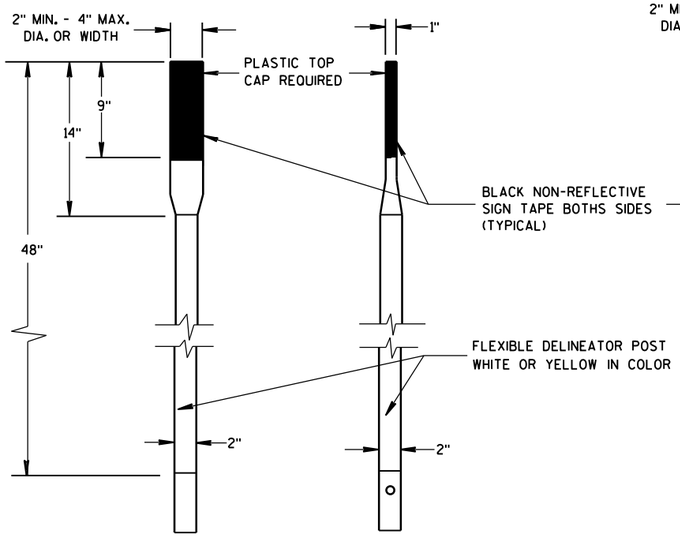
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI 1541

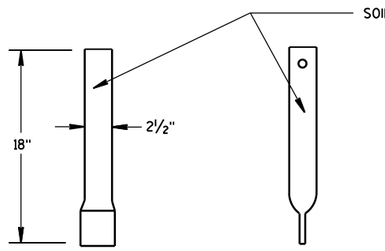
6

S.D.D. 15 A 3-2a

6

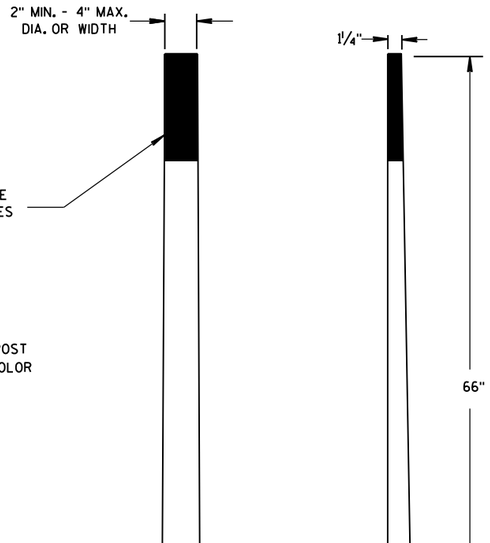
S.D.D. 15 A 3-2a





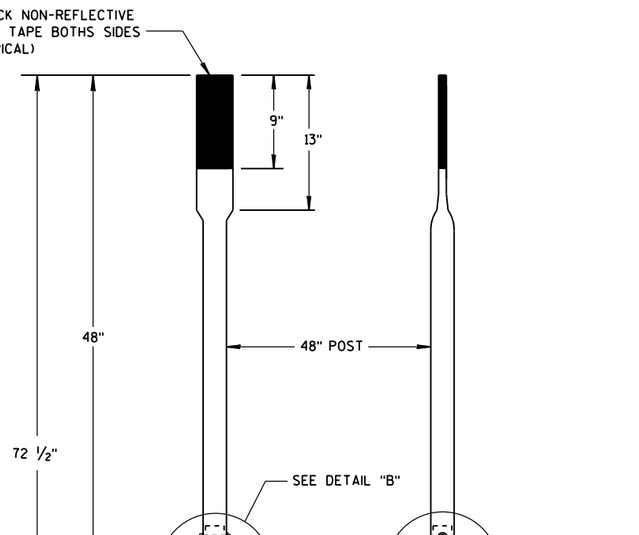
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

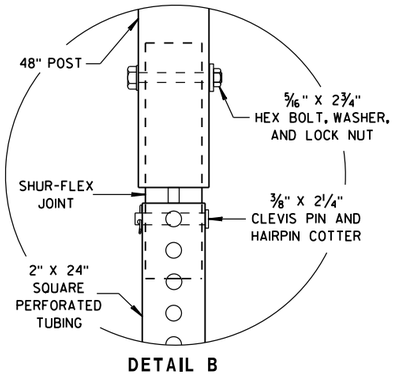
ALTERNATE 2



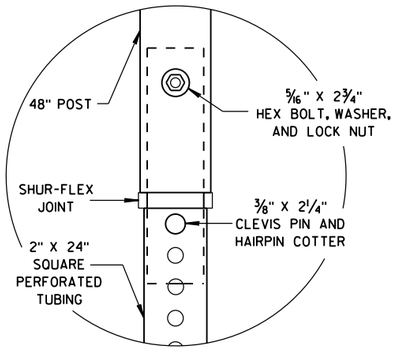
FRONT VIEW SIDE VIEW

ALTERNATE 3

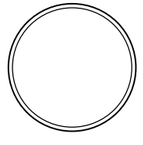
FLEXIBLE MARKER POSTS



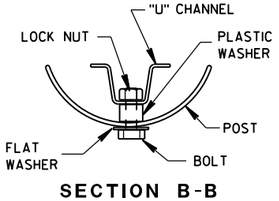
DETAIL B



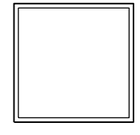
DETAIL C



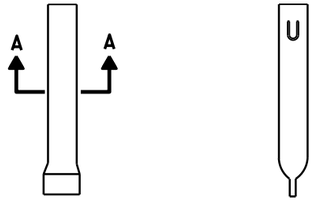
SECTION A-A



SECTION B-B

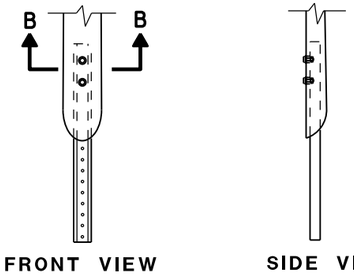


SECTION C-C



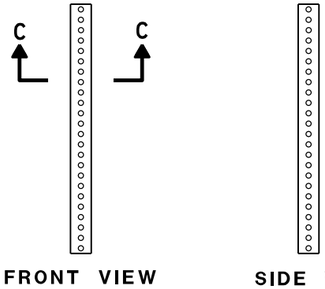
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

ALTERNATE 2



FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

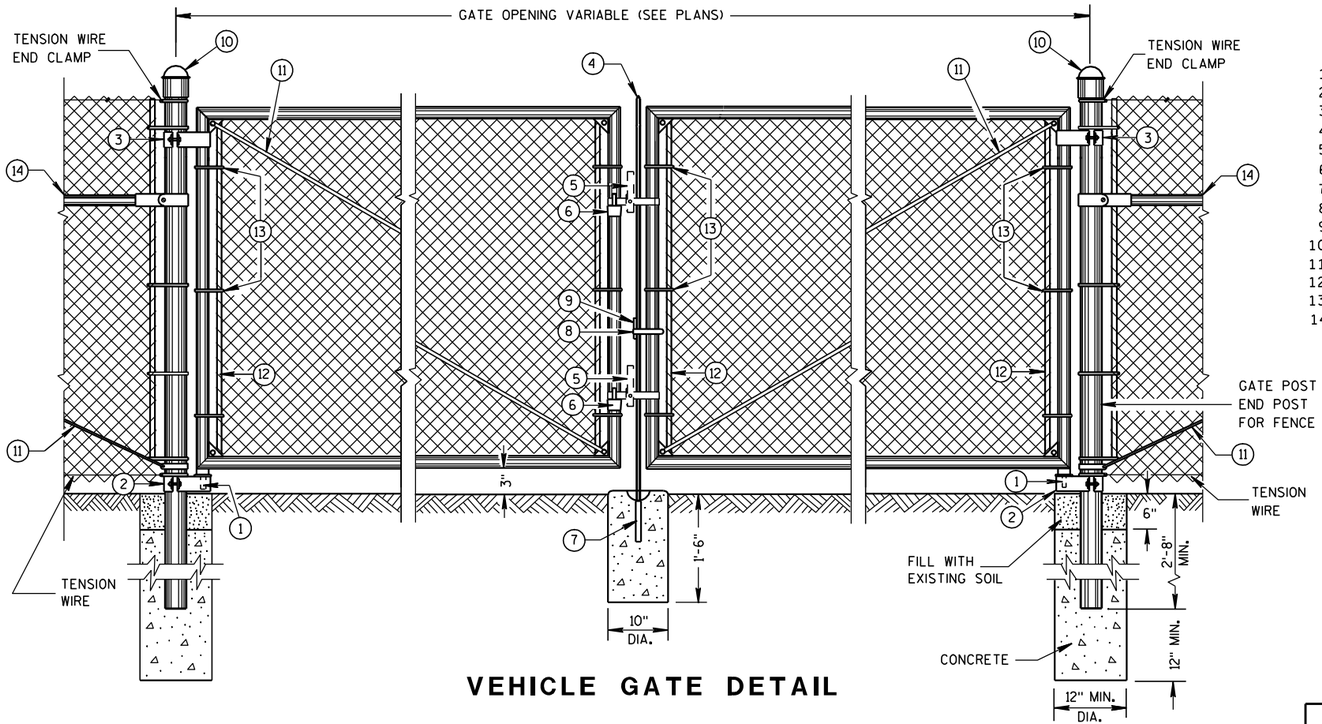
APPROVED
10/1/2012
DATE
/S/ Travis Feltes
STATE TRAFFIC ENGINEER
1542
IGN
FHWA

6

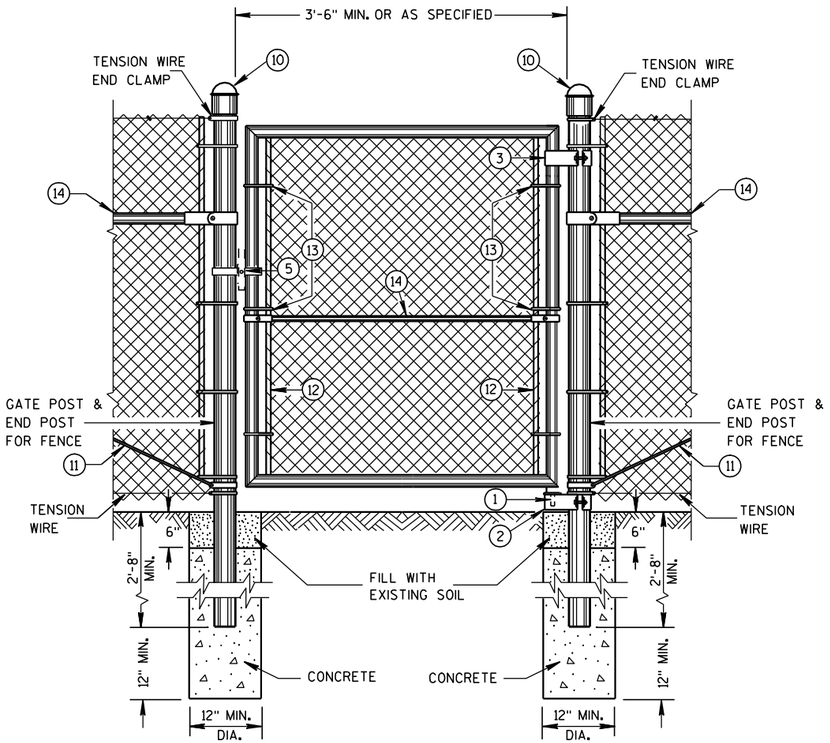
S.D.D. 15 A 3-2b

6

S.D.D. 15 A 3-2b



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

LEGEND

1. STRAIGHT PLUG
2. BOTTOM HINGE
3. TOP HINGE
4. PLUNGER ROD
5. FULCRUM LATCH
6. FORK CATCH *
7. PLUNGER ROD CATCH
8. LOCK KEEPER GUIDE
9. LOCK KEEPER
10. DOME TOPS
11. TRUSS RODS
12. TENSION BAR
13. TENSION BANDS
14. BRACE RAIL

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

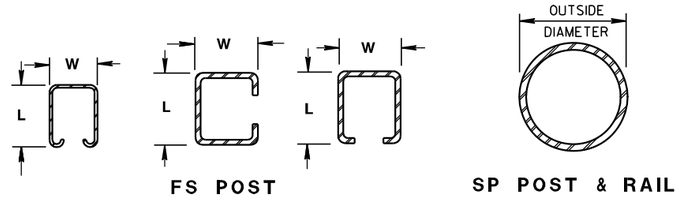
FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

FOR FABRIC HEIGHTS GREATER THAN 8 FEET, INSTALL INTERIOR HORIZONTAL BRACE RAILS TO LEAF GATE.

MAXIMUM SAG FOR OUTER GATE MEMBER SHALL NOT EXCEED THE GREATER OF 1% OF THE LEAF GATE WIDTH OR 2 INCHES.



FS POST

SP POST & RAIL

CROSS SECTIONS OF POSTS AND RAILS

SHAPE, SIZE AND WEIGHT REQUIREMENTS FOR FORMED STEEL FENCE POST

POST TYPE	LENGTH (L) INCH	WIDTH (W) INCH	WEIGHT LBS/FT
FS1	1.625	1.25	1.35
FS2†	1.875	1.625	1.850
FS2	1.875	1.625	2.400
FS3	2.250	1.700	2.780

SHAPE, SIZE AND WEIGHT REQUIREMENTS FOR ROUND STEEL FENCE POST

POST TYPE	OUTSIDE DIMENSION INCH	WALL THICKNESS INCH	WEIGHT LBS/FT
SP1	1.660	0.140	2.270
SP2	1.900	0.145	2.720
SP3	2.375	0.154	3.650
SP4	2.875	0.203	5.800
SP5	4.000	0.226	9.120
SP6	6.625	0.280	18.990
SP7	8.625	0.322	28.580

REQUIRED FENCE POST SIZES

USE	FABRIC HEIGHTS FEET	POST TYPE
TERMINAL POSTS **	LESS THAN OR EQUAL TO 6 FT.	SP3
	GREATER THAN OR EQUAL TO 6 FT.	SP4
LINE POSTS	LESS THAN OR EQUAL TO 6 FT.	SP2
	LESS THAN OR EQUAL TO 8 FT.	SP3
	GREATER THAN OR EQUAL TO 8 FT.	SP4
	LESS THAN OR EQUAL TO 8 FT.	FS2 OR FS2†
	GREATER THAN OR EQUAL TO 8 FT.	FS3

REQUIRED POST SIZE FOR GATES

USE	LEAF WIDTHS FEET	POST TYPE
GATES	LESS THAN OR EQUAL TO 6 FT.	SP4
	LESS THAN OR EQUAL TO 13 FT.	SP5
	LESS THAN OR EQUAL TO 18 FT.	SP6
	LESS THAN OR EQUAL TO 23 FT.	SP7

BRACE RAIL TYPES

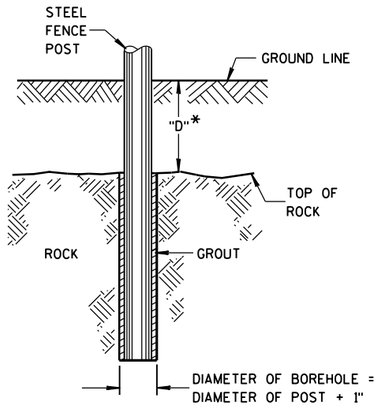
USE		TYPE
BRACE RAIL		SP1 OR FS1

** INCLUDES END, CORNER, ANGLE, INTERSECTION AND INTERMEDIATE BRACED POSTS

FENCE CHAIN LINK

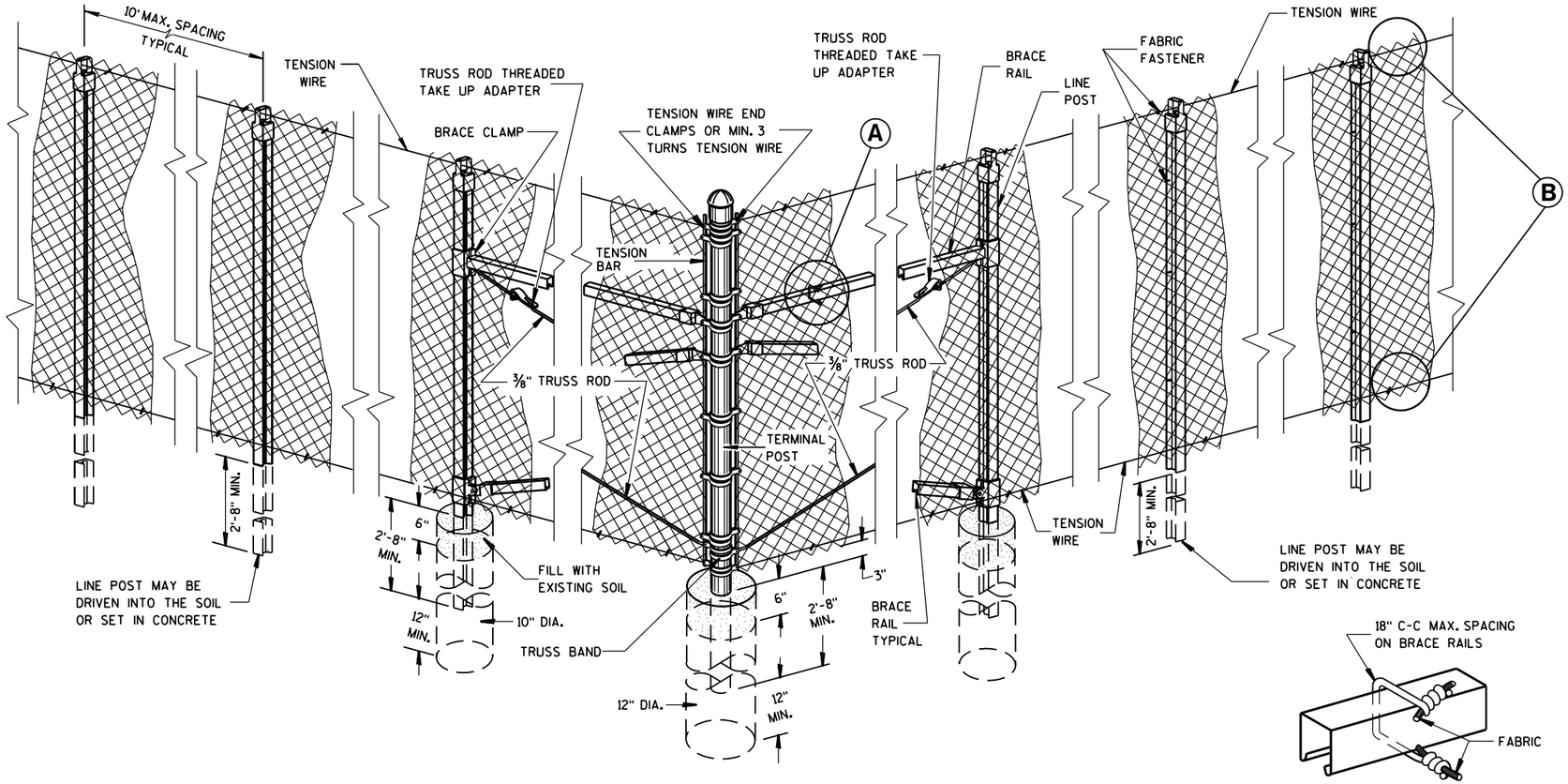
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 15 B 3-12a

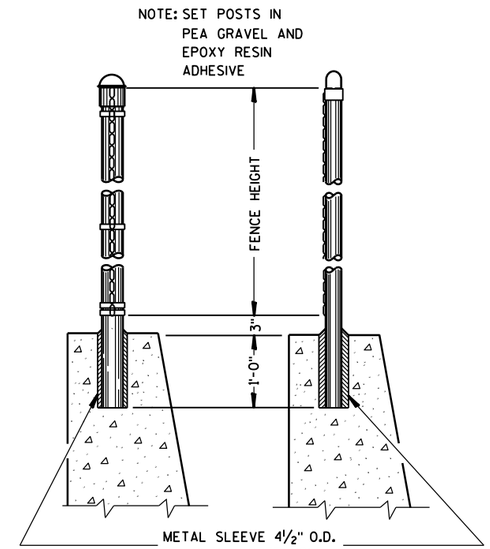


*IF "D" IS LESS THAN 2'-6", DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST

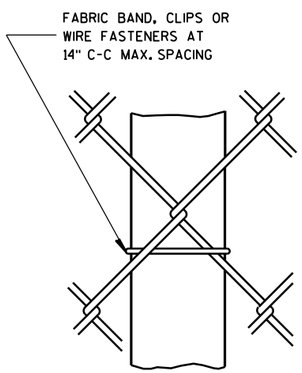


END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



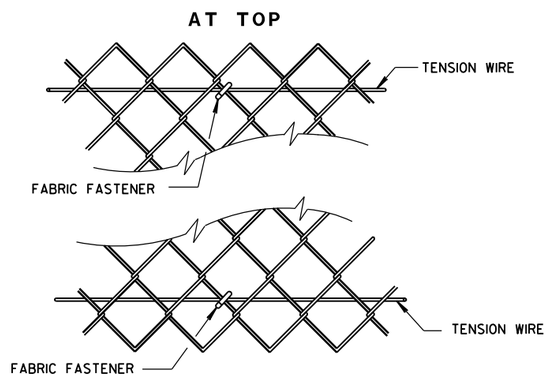
END POST & CORNER POST LINE POST

DETAILS OF FENCE ON WALL



LINE POST

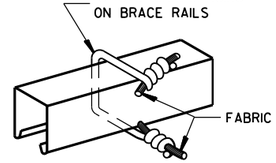
FABRIC FASTENER



AT BOTTOM

SELVAGES

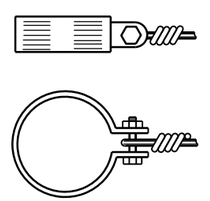
Ⓑ



BRACE RAIL

FABRIC FASTENER

Ⓐ



TENSION WIRE END CLAMP

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/19/2010 DATE
FHWA

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

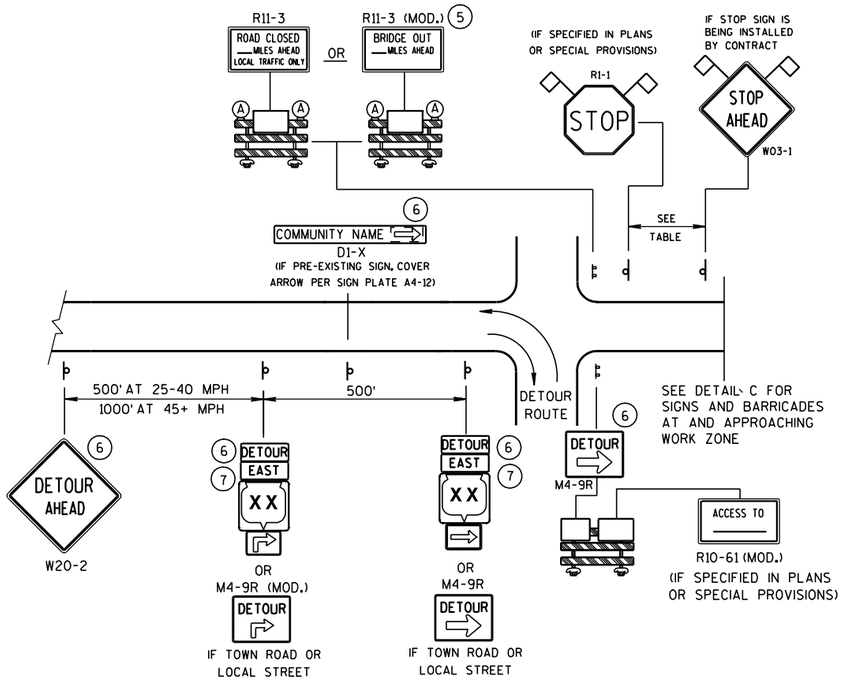
1544

6

S.D.D. 15 B 3-12b

6

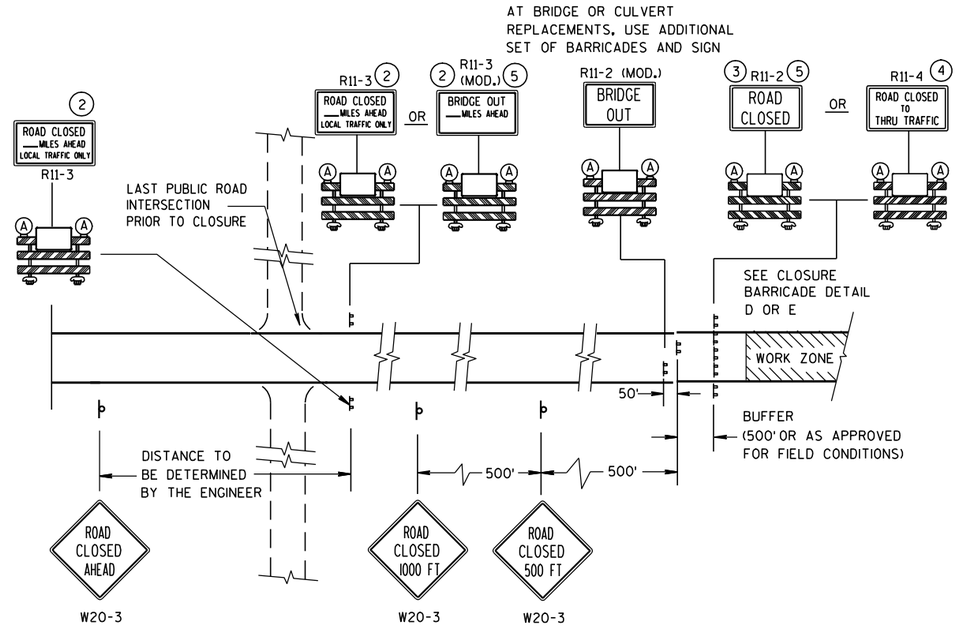
S.D.D. 15 B 3-12b



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

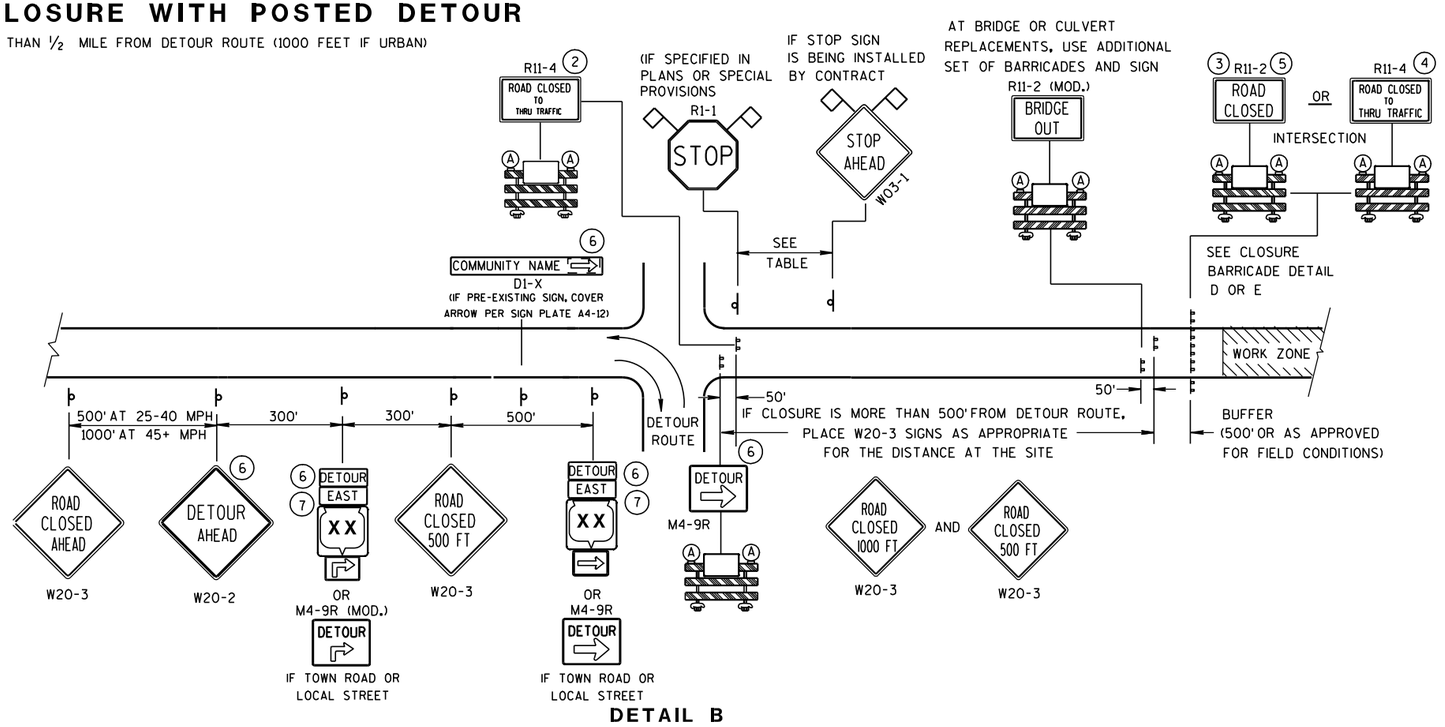


DETAIL C

MAINLINE CLOSURE, NO POSTED DETOUR

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-4b
FOR GENERAL NOTES
AND FOOTNOTES (1) THROUGH (7)



DETAIL B

MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

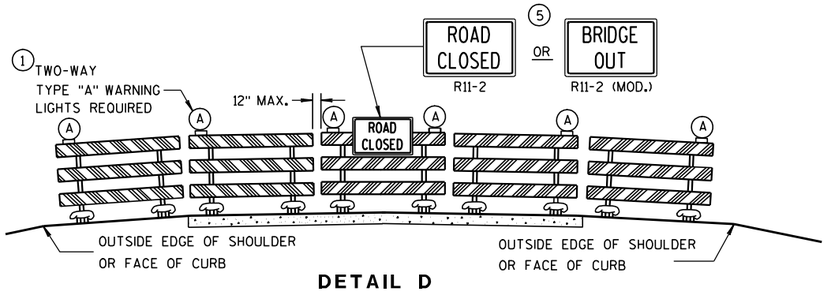
- POST MOUNTED SIGN
- TYPE III BARRICADES
- (A) TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- WORK ZONE
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1; M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

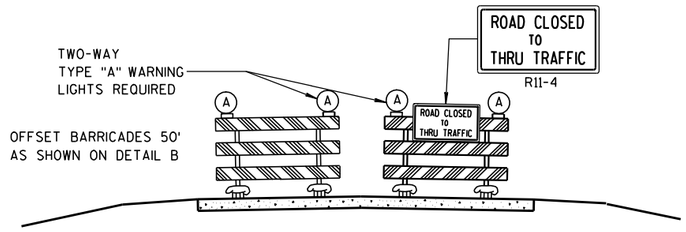
S.D.D. 15 C 2-4a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-4a FOR LEGEND

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, M4-9, R11-4 AND R10-61 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

THE REFLECTIVE SHEETING USED ON R11-2, R11-3, R11-4, R10-61 AND R1-1 SIGNS SHALL COMPLY WITH SUBSECTION 637.2.2.2 OF THE STANDARD SPECIFICATIONS.

"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X AND M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/16/03
DATE

/S/ Thomas N. N[illegible]
CHIEF SIGNS AND MAR 1546 INEER

FHWA

6

S.D.D. 15 C 2-4b

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

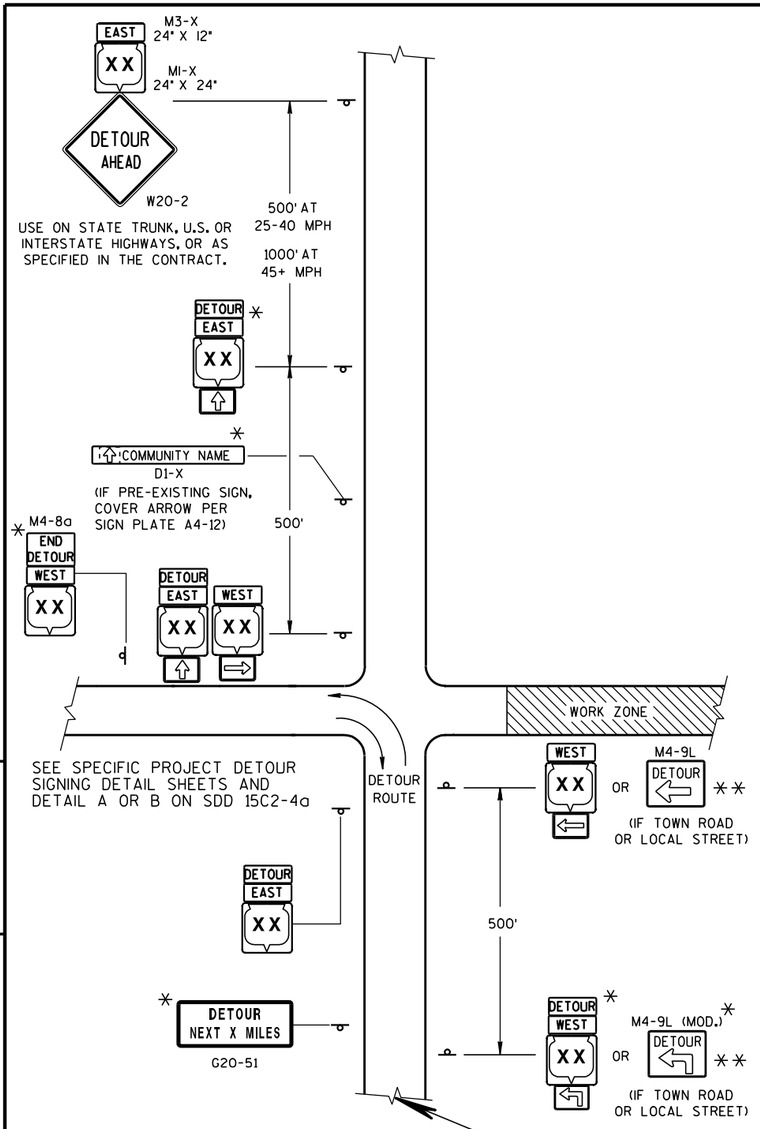
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

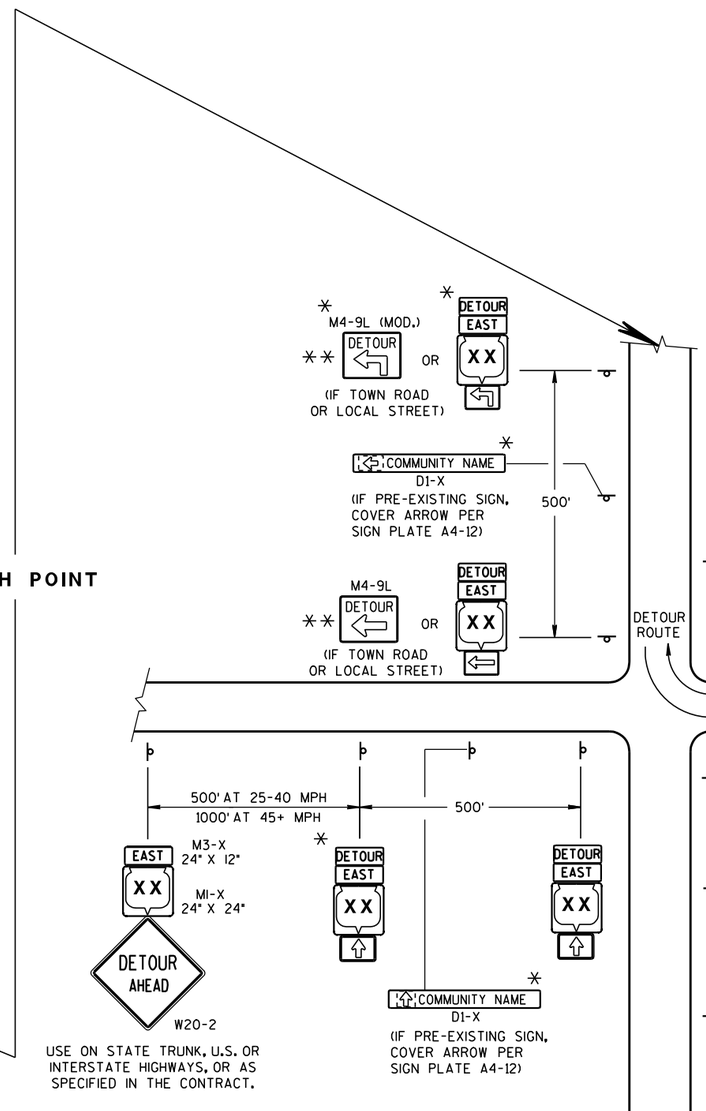
SIGN SIZES SHALL BE AS FOLLOWS:

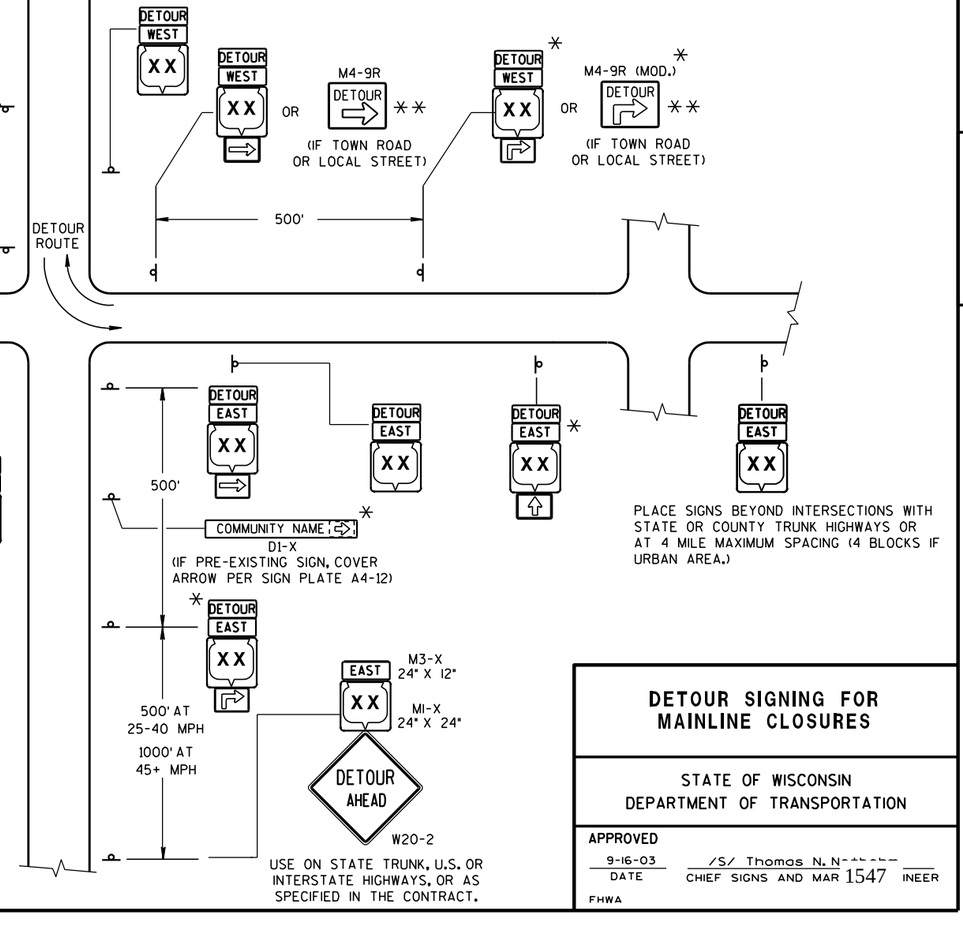
M3-X AND M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
M4-9 SHALL BE 30" X 24".
M4-8a SHALL BE 24" X 18".
G20-51 SHALL BE 60" X 24".
W20-2 SHALL BE 48" X 48".
D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.







LEGEND

- POST MOUNTED SIGN
- WORK ZONE
- DETOUR EAST — M4-8 / M3-X
- XX OR COUNTY XX OR XX — M1-4 / M1-5A / M1-6
- M05-1 OR M06-1 OR M06-1

DETAIL F

DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

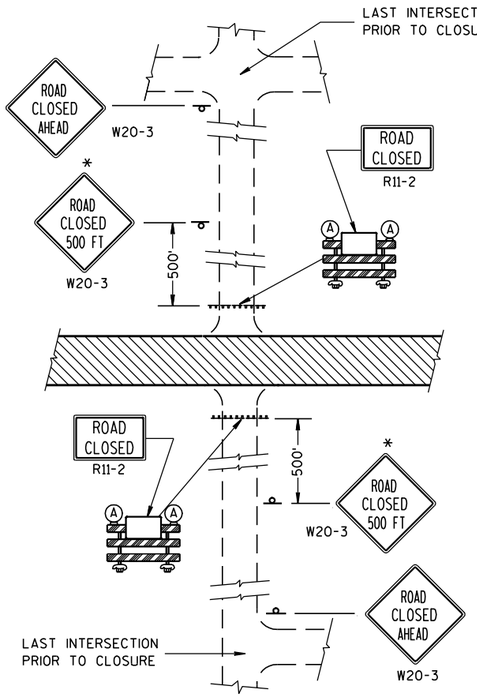
APPROVED
9-16-03 DATE
/S/ Thomas N. [illegible] 1547
CHIEF SIGNS AND MARKINGS ENGINEER
FHWA

6

S.D.D. 15 C 2-4c

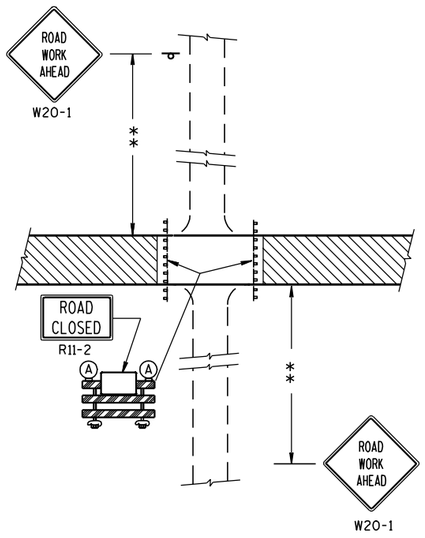
6

S.D.D. 15 C 2-4c



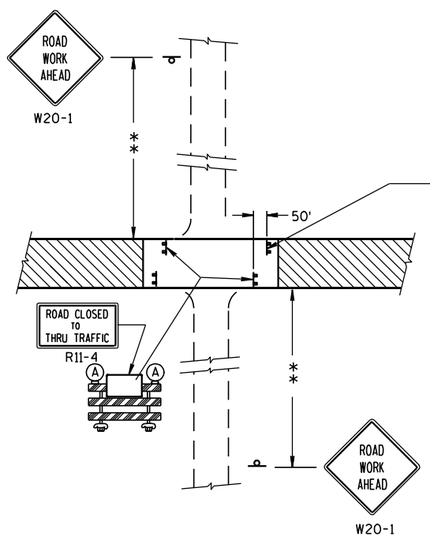
DETAIL 1

(NO ACCESS TO PROJECT)



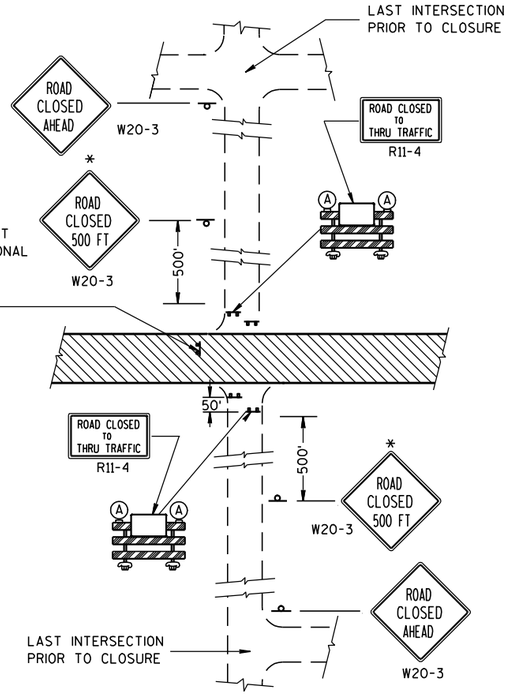
DETAIL 2

(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).



DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3 AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

THE REFLECTIVE SHEETING USED ON R11-2, R11-3 AND R11-4 SIGNS SHALL COMPLY WITH SUBSECTION 637.2.2.2 OF THE STANDARD SPECIFICATIONS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

- POST MOUNTED WARNING SIGN
- TYPE III BARRICADES
- (A) TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9-16-03
DATE

/S/ Thomas N. N[illegible]
CHIEF SIGNS AND MAR 1548 INEER

FHWA

6

S.D.D. 15 C 3-1

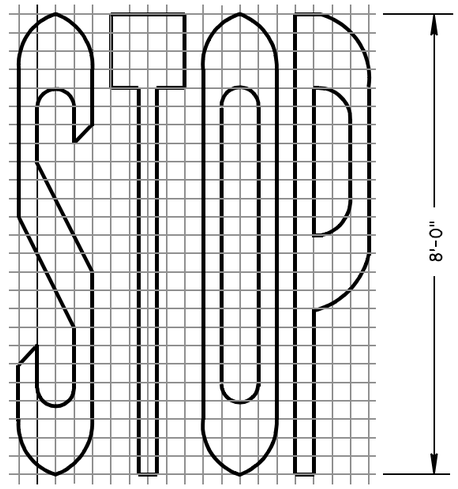
6

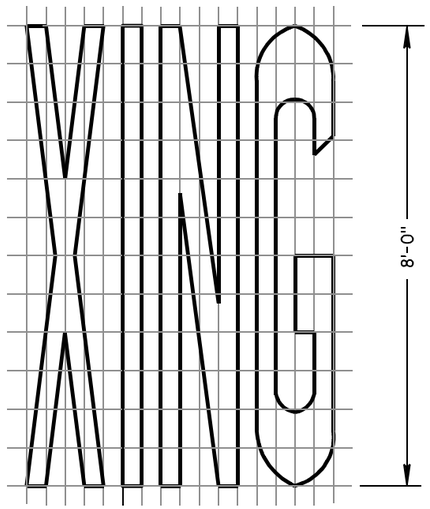
S.D.D. 15 C 3-1

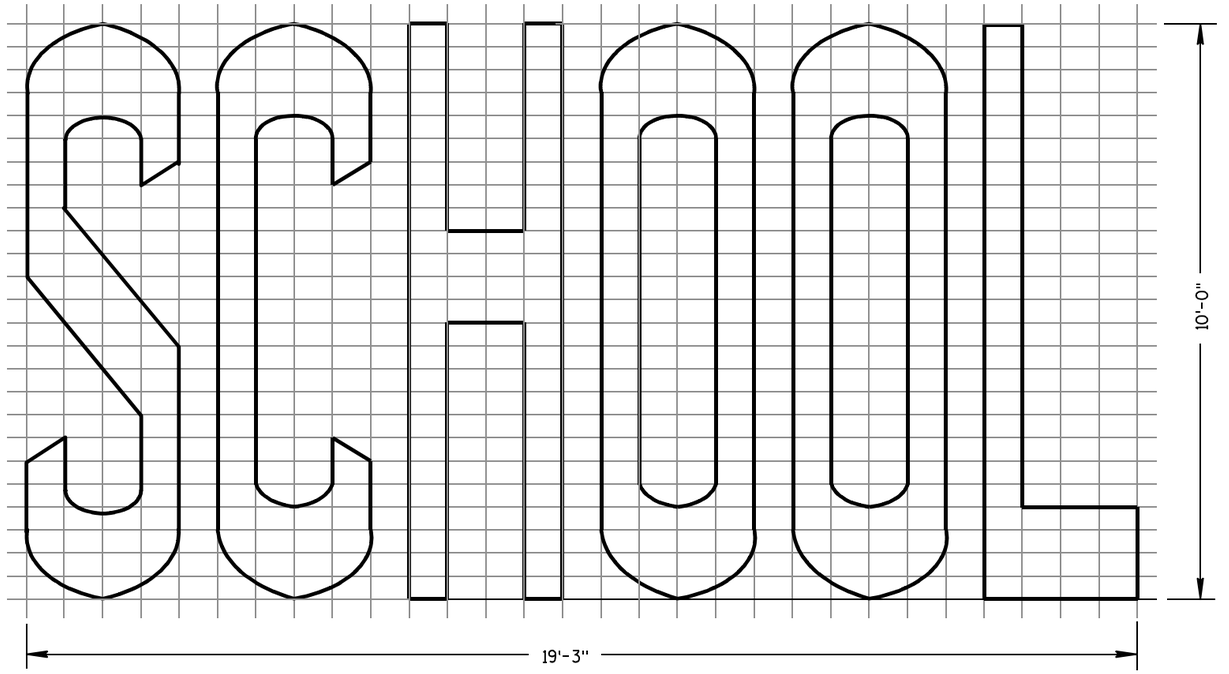
GENERAL NOTES

DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

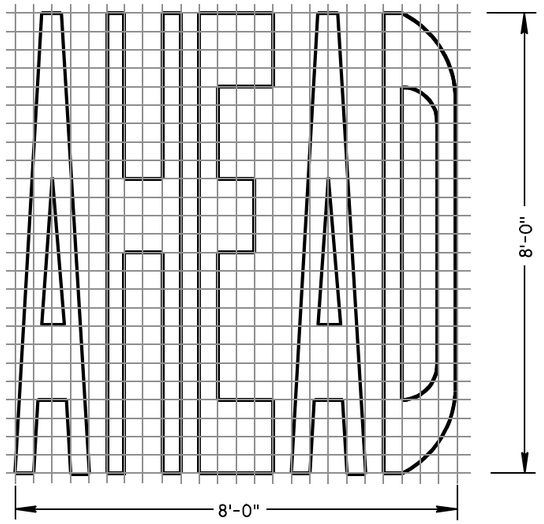
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

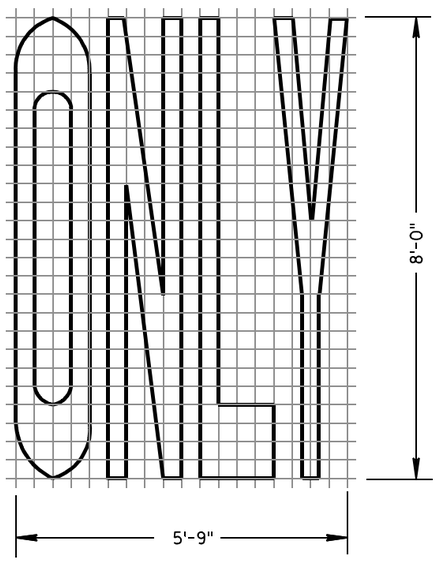


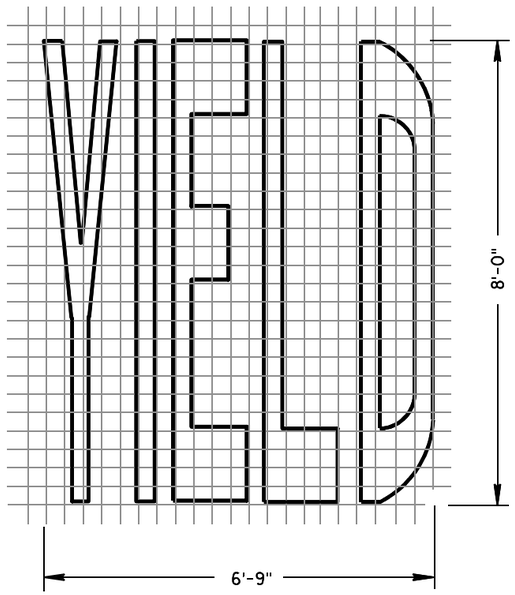


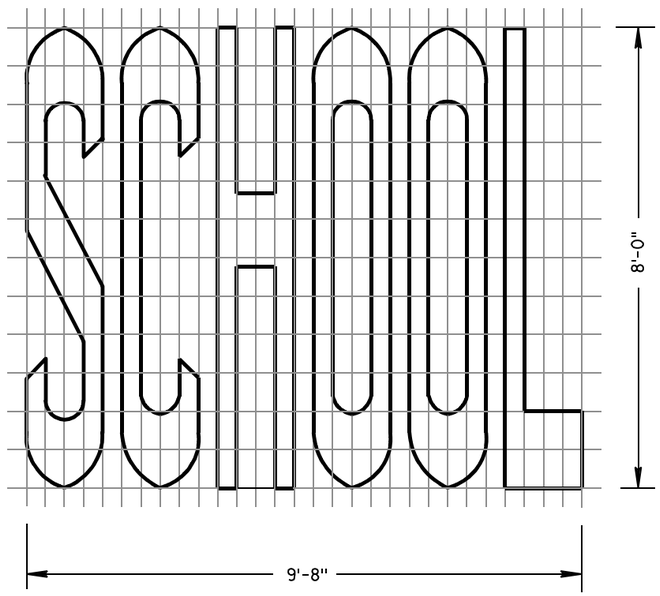


TWO-LANE









SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-1-11 DATE — /S/ Thomas N. Nothdurft STATE TRAFFIC ENGINEER

FHWA

1549 IGN

6

S.D.D. 15 C 7-12b

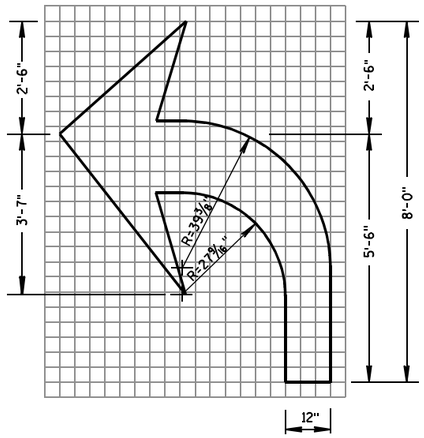
6

S.D.D. 15 C 7-12b

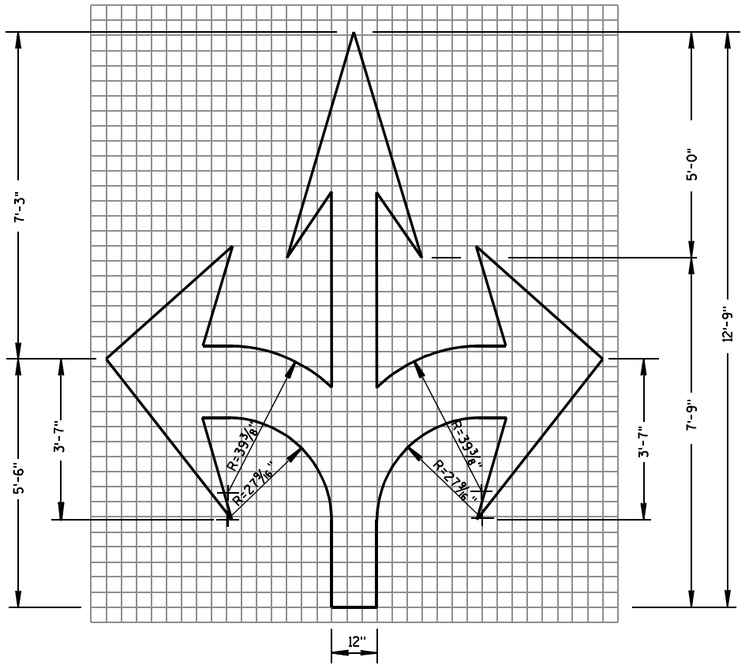
GENERAL NOTES

DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



TYPE 2



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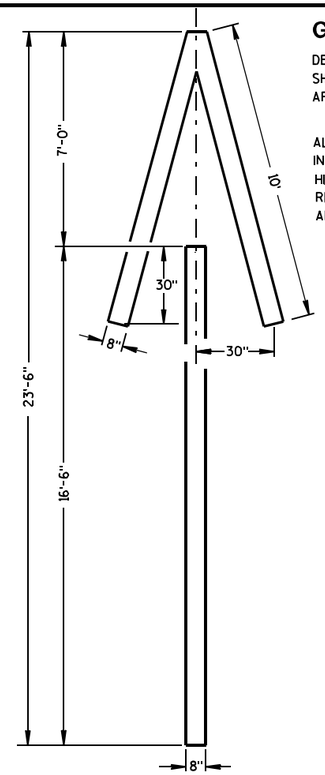

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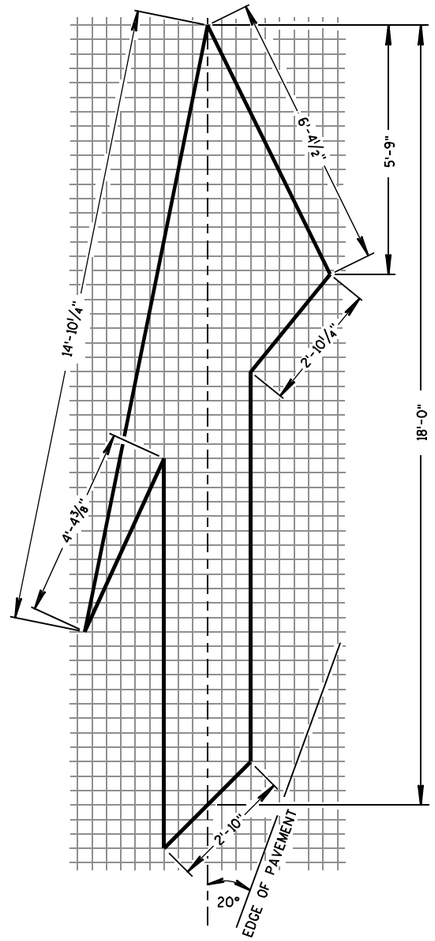
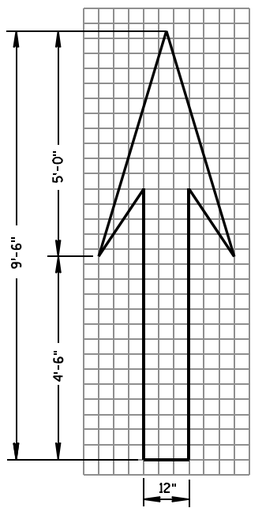
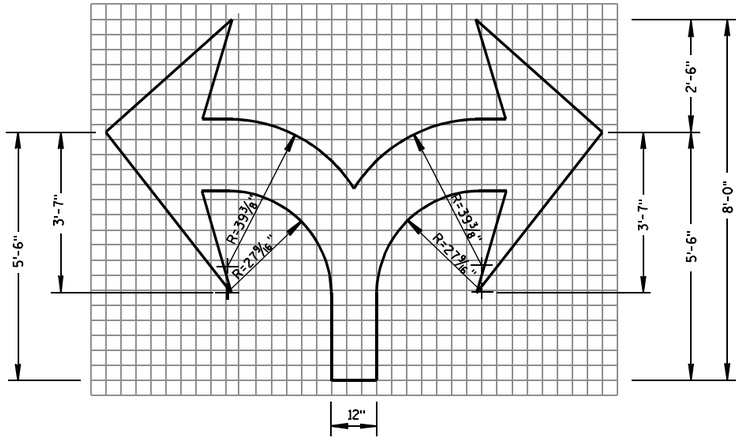


TYPE 5 LANE DROP ARROW



TYPE 1



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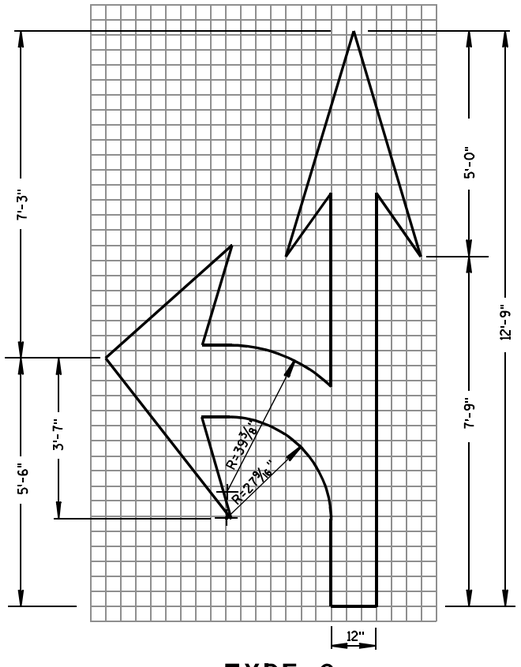


TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 — DATE

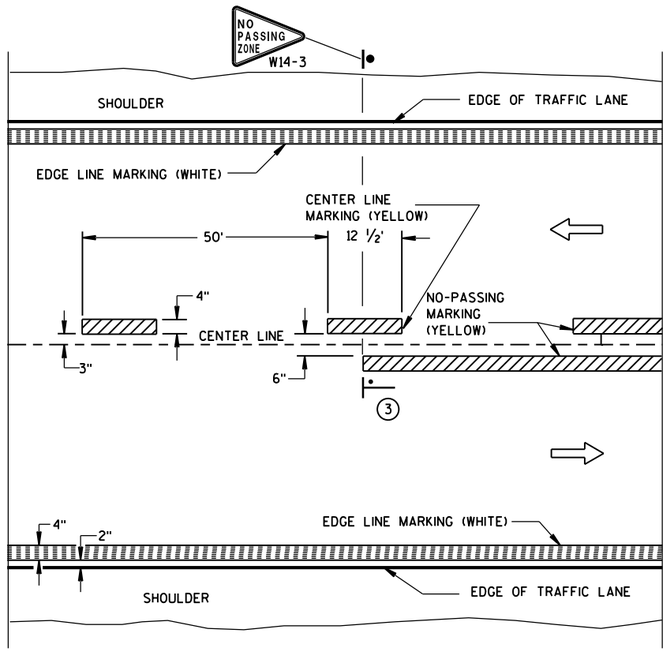
/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER

1550

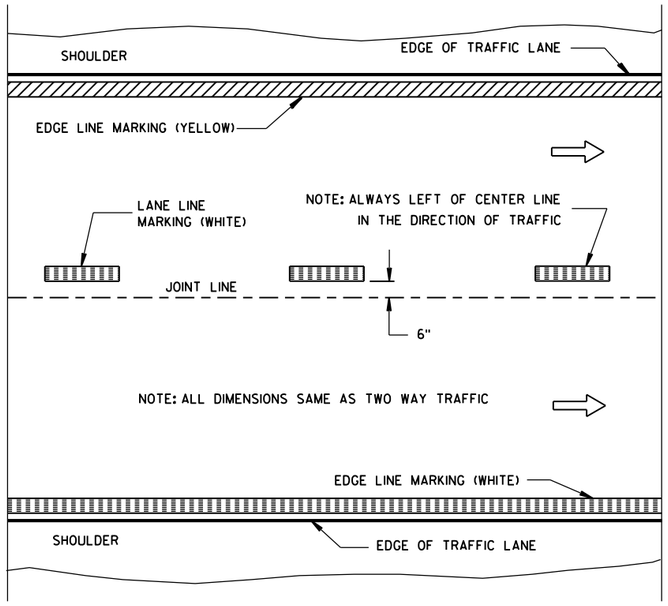
FHWA

6

S.D.D. 15 C 7-12c

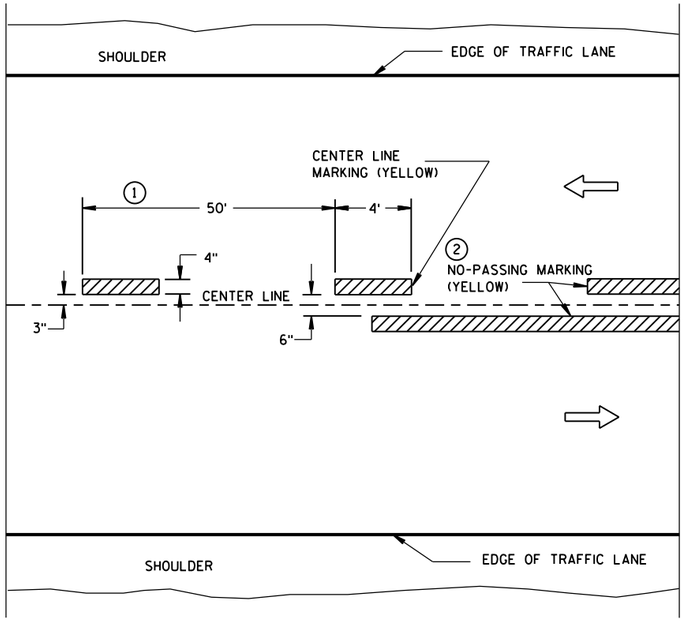


TWO WAY TRAFFIC

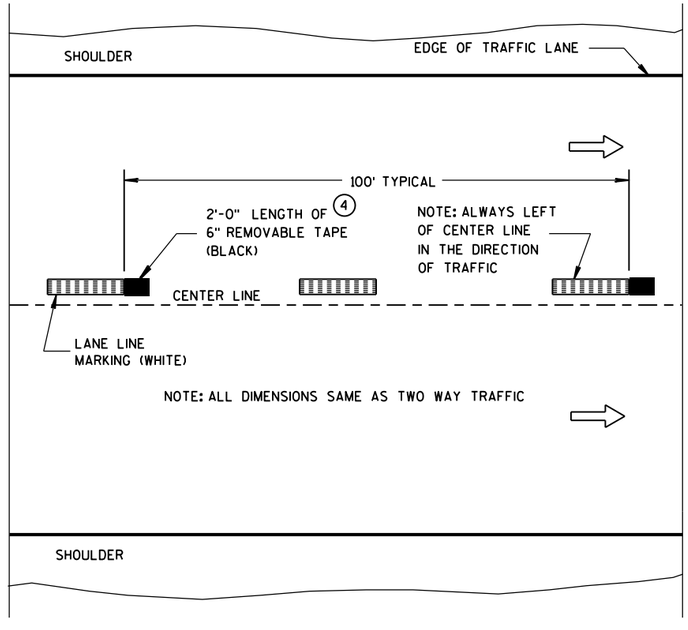


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

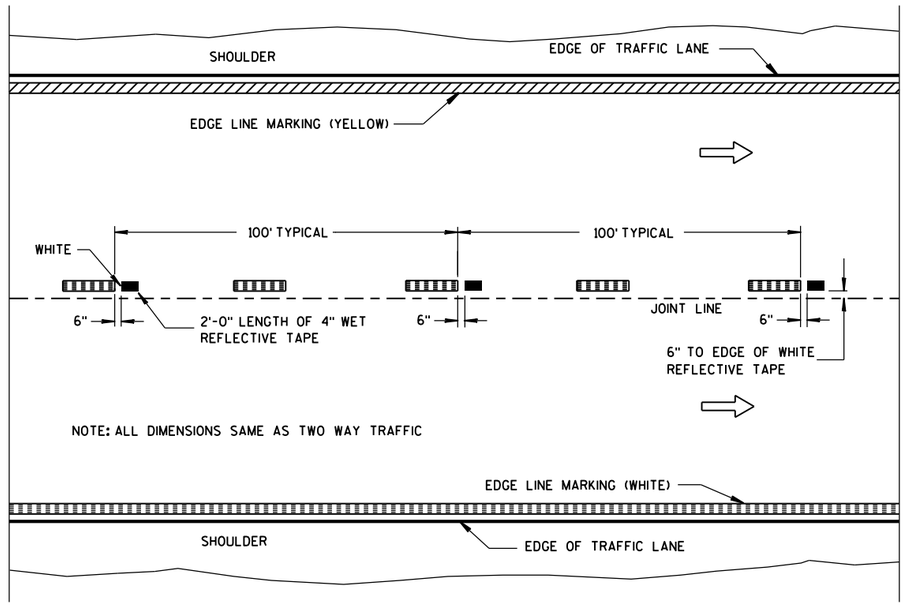
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

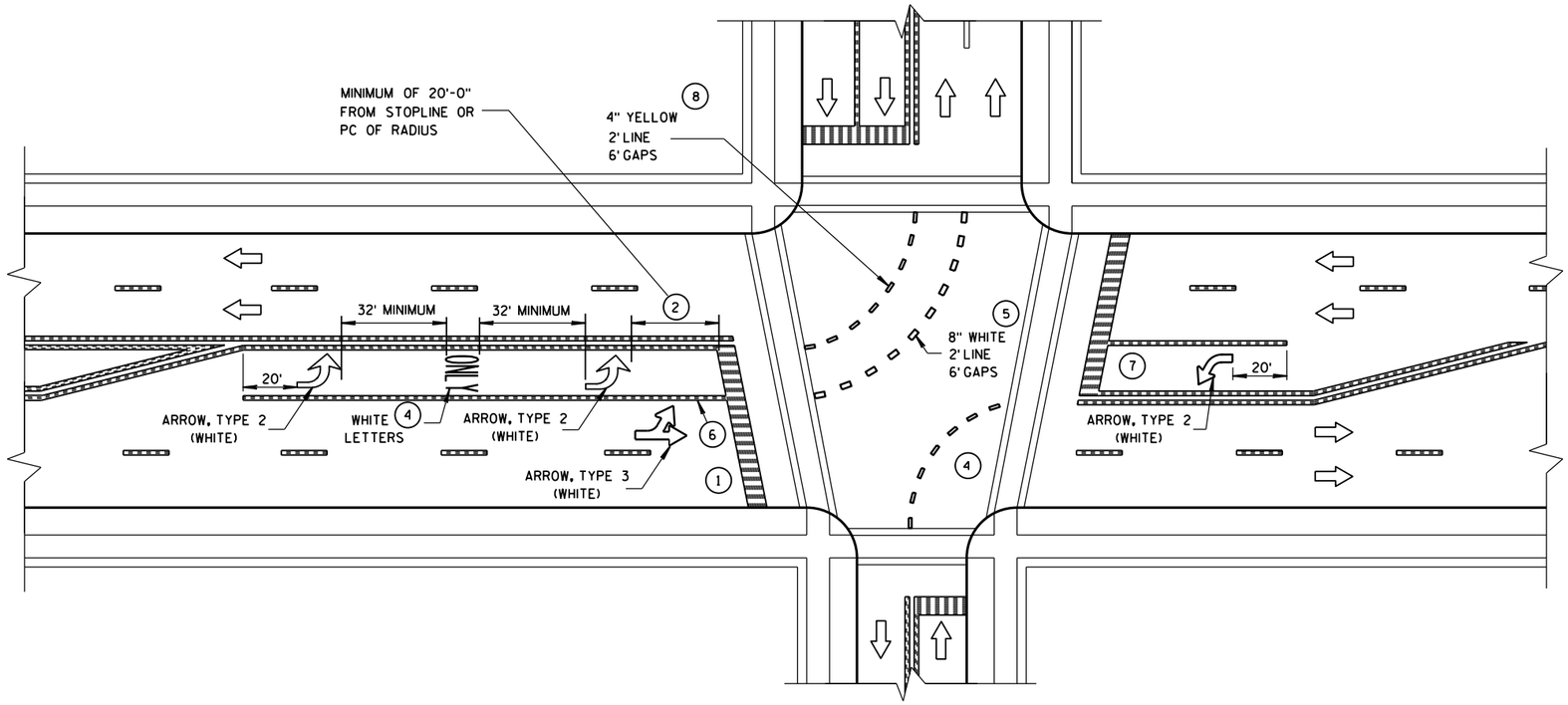
APPROVED
10-1-2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
1551 — SIGN
FHWA

6

S.D.D. 15 C 8-15a

6

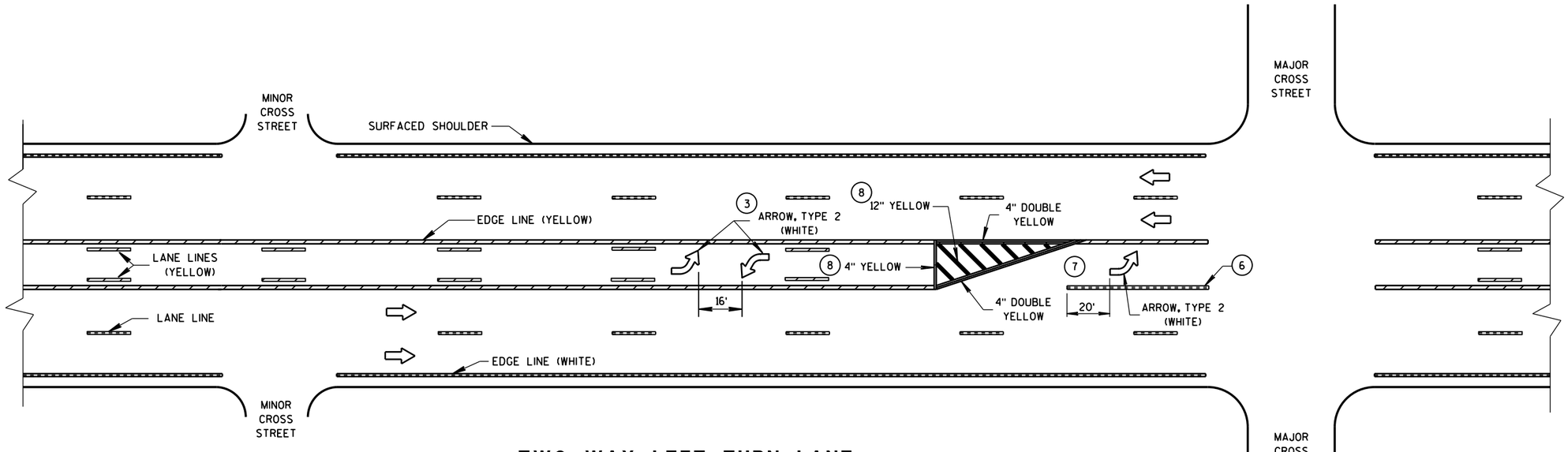
S.D.D. 15 C 8-15a



GENERAL NOTES

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400' OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA ARROW AND ONLY PER 160' OR WHEN ON A CURVE.
5. 8" WHITE WITH 2'LINE 6'GAPS FOR DUAL TURN LANE.
6. 8" WHITE
7. ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108'.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TWO WAY LEFT TURN LANE

PAVEMENT MARKING (LEFT TURN LANE)

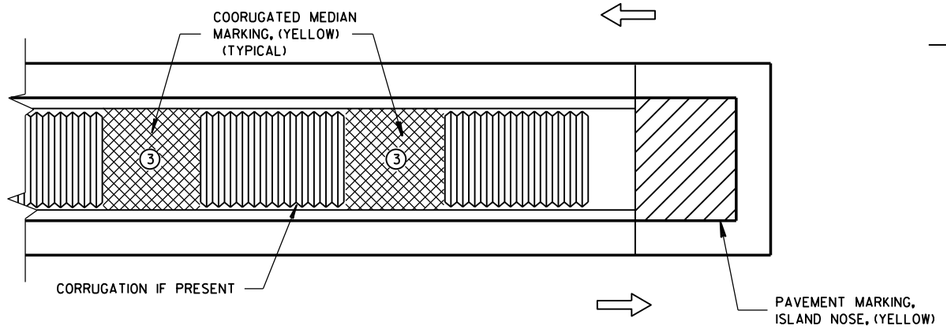
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI 1552

6

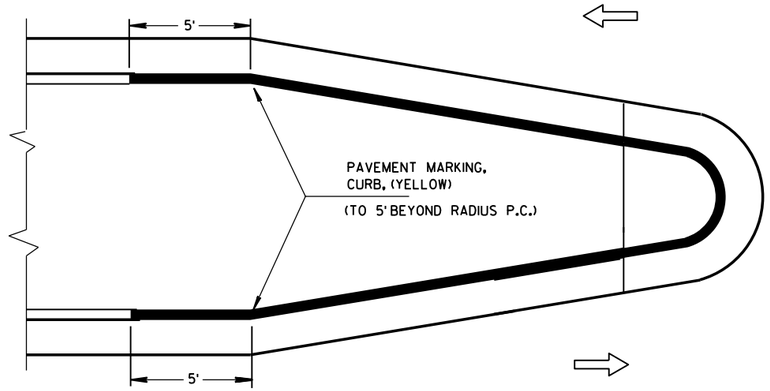
S.D.D. 15 C 8-15e

6

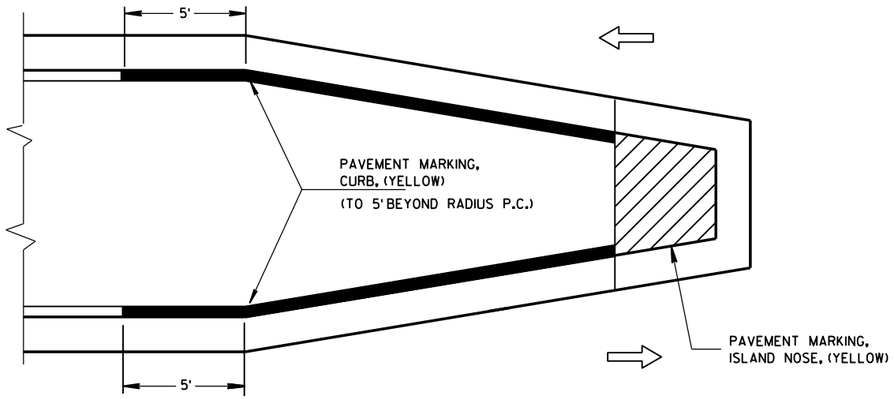
S.D.D. 15 C 8-15e



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

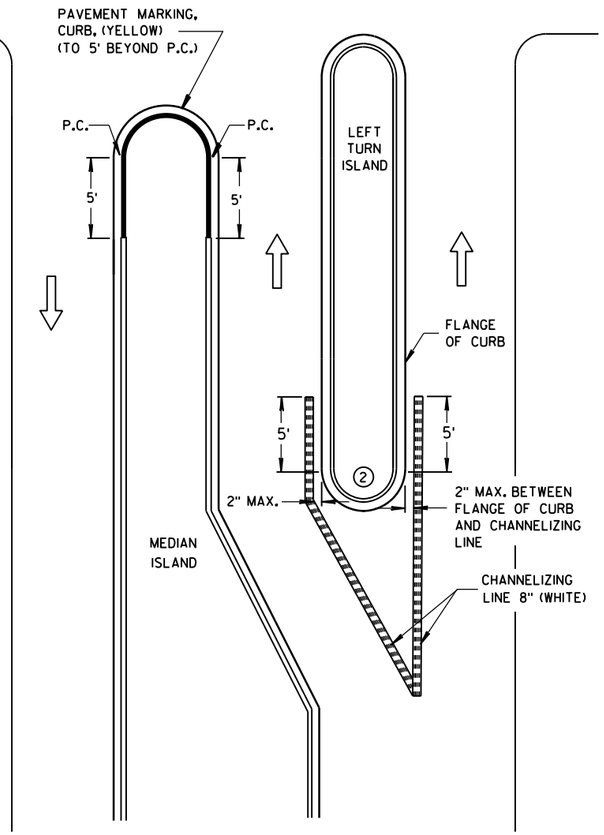


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

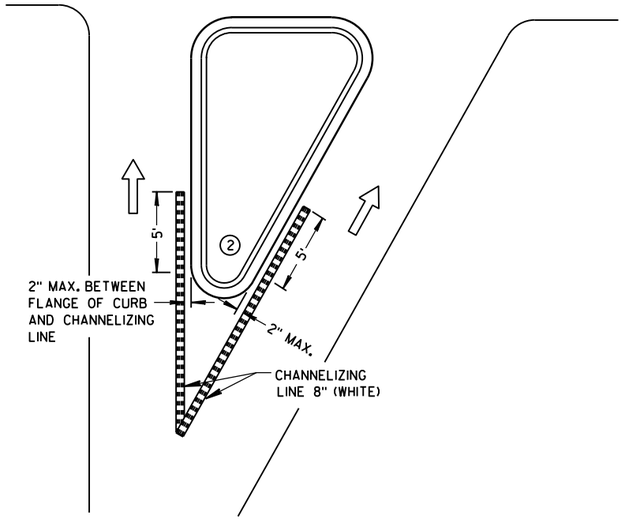
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS



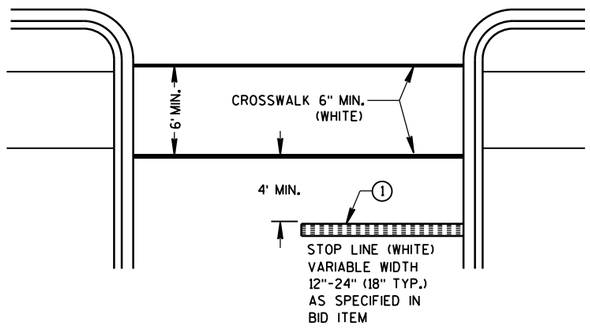
LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

1. STOP LINE IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.
3. WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND



STOP LINE AND CROSSWALK

LEGEND

- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING
(ISLANDS, STOP LINE &
CROSS WALK)

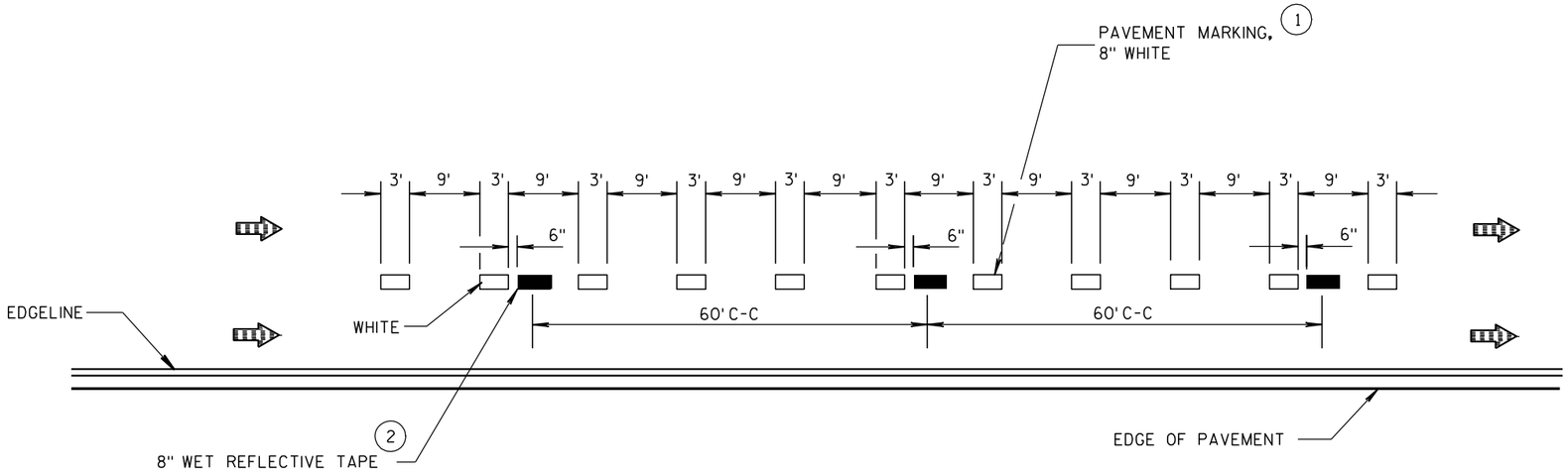
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI 1553

6

S.D.D. 15 C 8-15f

6

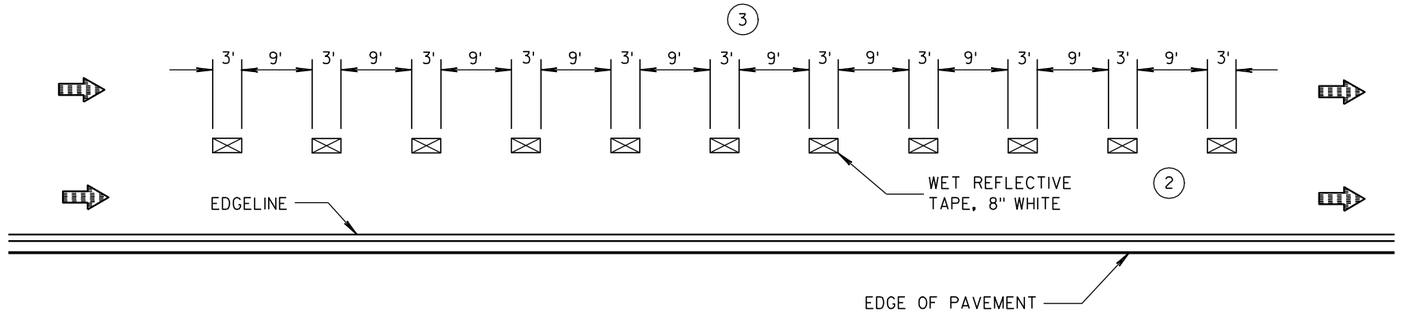
S.D.D. 15 C 8-15f



SPRAYED OR NON WET REFLECTIVE DROP LANE
LINE SUPPLEMENTED BY WET REFLECTIVE TAPE SEGMENT

GENERAL NOTES

1. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE. RETRACE EXISTING 4" MARKING WITH 8" MARKING.
2. REPLACE SAME 4" WET REFLECTIVE TAPE WHERE EXISTING 4" TAPE IS IN PLACE.
3. 3' LINE 9' GAP, EXCEPT REPLACE THE EXISTING LINE - GAP PATTERN AND WIDTH OF TAPE WHERE EXISTING TAPE IS IN PLACE.



DROP LANE DETAIL FOR
NEW WET REFLECTIVE TAPE INSTALLATIONS

LEGEND

- 2.0' LENGTH OF WET REFLECTIVE TAPE
- 3.0' LENGTH OF WET REFLECTIVE TAPE
- DROP LANE MARKING SPRAYED OR NON WET REFLECTIVE TAPE
- DIRECTION OF TRAFFIC

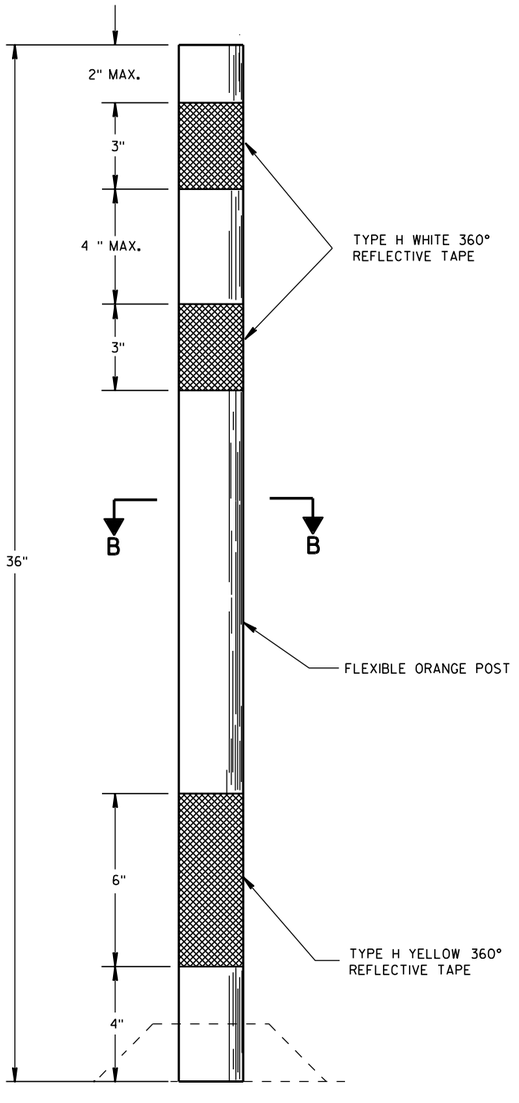
PAVEMENT MARKINGS FOR DROP LANES FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

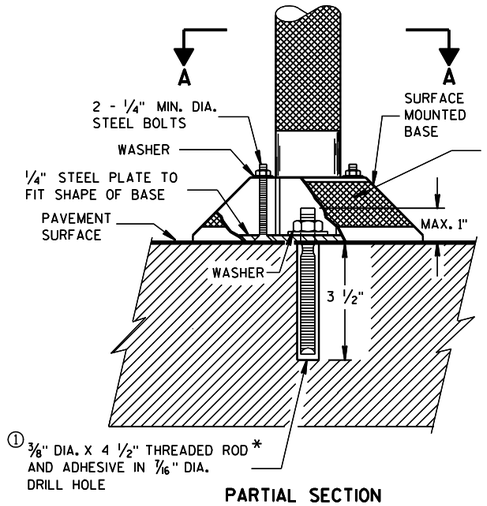
APPROVED
5/13/10 DATE
/S/ Thomas N. Nothohm
STATE TRAFFIC ENGINEER 1554 DESIGN
FHWA

6

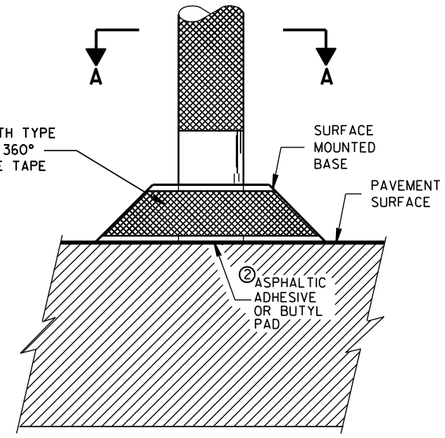
S.D.D. 15 C 10-10



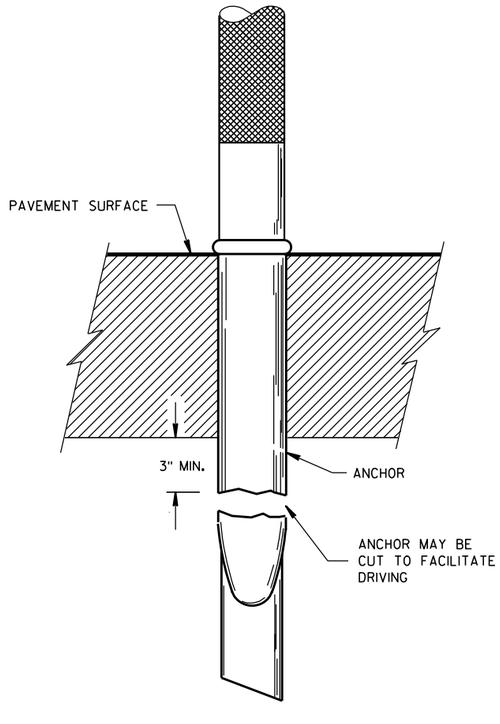
FLEXIBLE TUBULAR MARKER POST

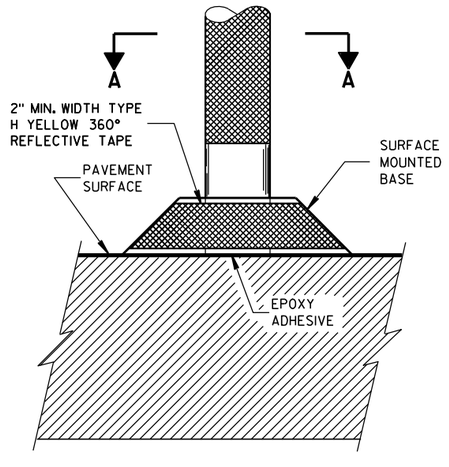


PARTIAL SECTION TO SHOW BOLTS



POST BASES ON NEW OR EXISTING PAVEMENT





POST ANCHOR AND BASE ON PAVEMENT WHICH WILL BE REMOVED

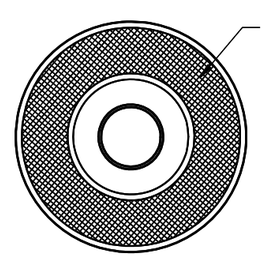
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

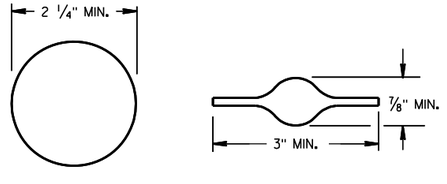
① THREADED ROD SHALL BE MACHINED DOWN TO 0.280 INCH DIA. 1 1/4 INCHES FROM THE TOP.

② THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.



SECTION A-A

SURFACE MOUNTED BASE



SECTION B-B

ALTERNATIVE SHAPES

FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2/17/94 DATE

/S/ Chester J. [illegible] DIRECTOR, OFFICE O 1555

FHWA

6

S.D.D. 15 C 11-5

6

S.D.D. 15 C 11-5

TWO-LANE ROADWAY

SYMBOLS

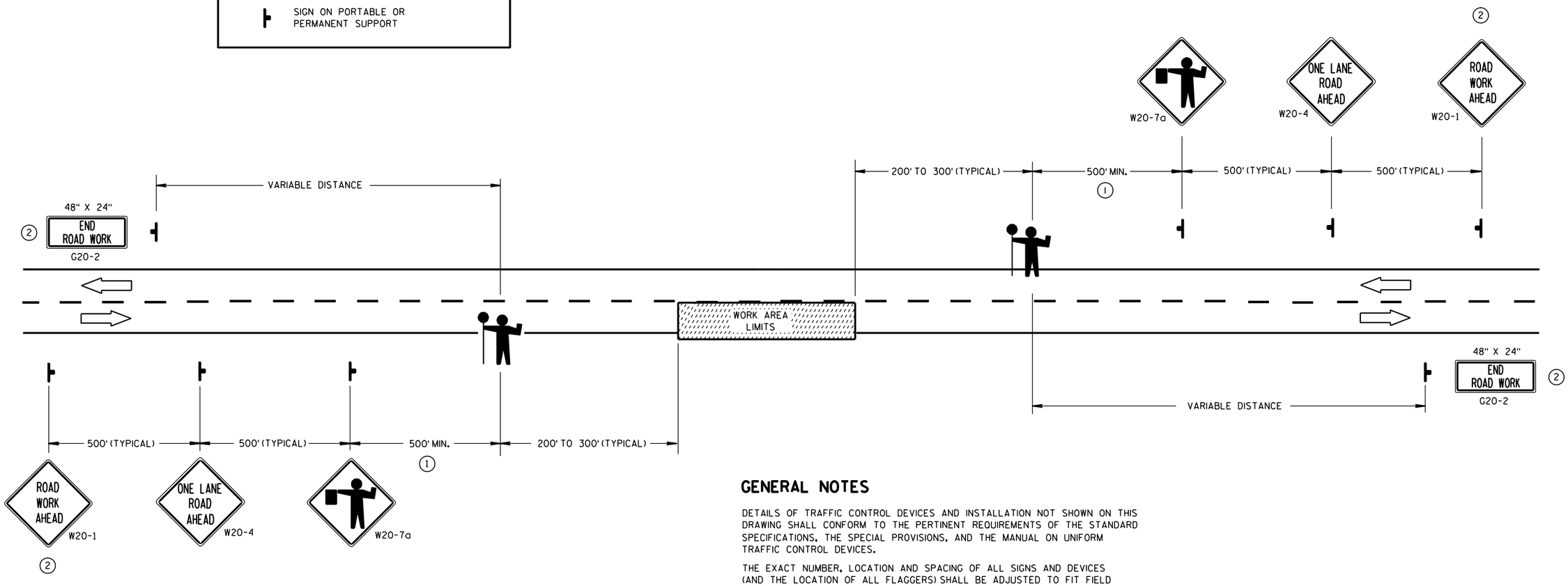
WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN ON PORTABLE OR PERMANENT SUPPORT

W3-4

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



1. FOR A MOVING WORK OPERATION, SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

2. SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES (AND THE LOCATION OF ALL FLAGGERS) SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, THE "FLAGGER AHEAD", THE "ROAD WORK AHEAD" AND THE ONE LANE ROAD AHEAD" SIGNS SHALL BE COVERED OR REMOVED AND THE HIGHWAY RESTORED TO NORMAL OPERATION.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/5/06 — DATE

/S/ Thomas N. Nathaam — STATE TRAFFIC ENGINEER 1556

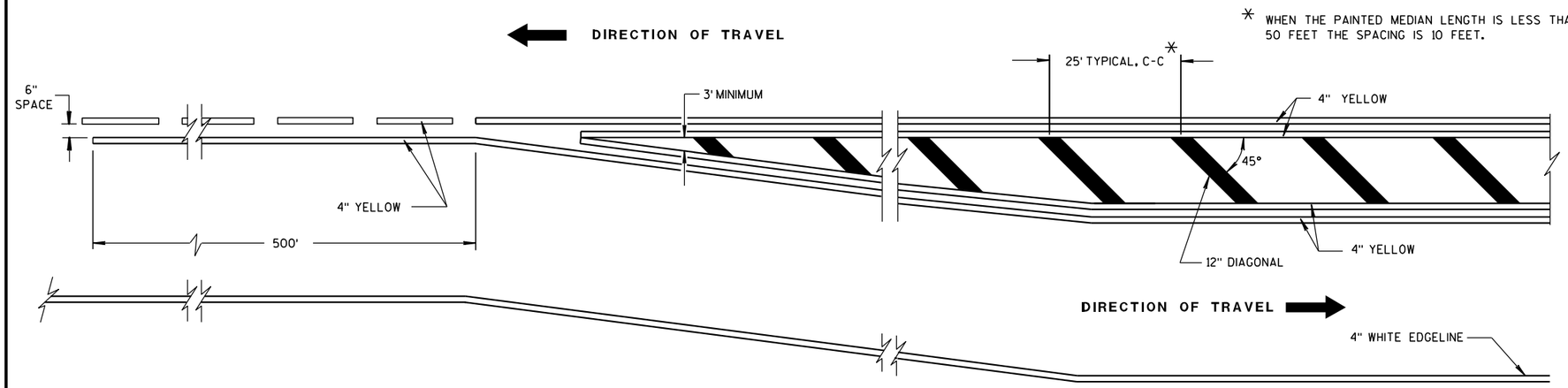
FHWA

6

S.D.D. 15 C 12-3

6

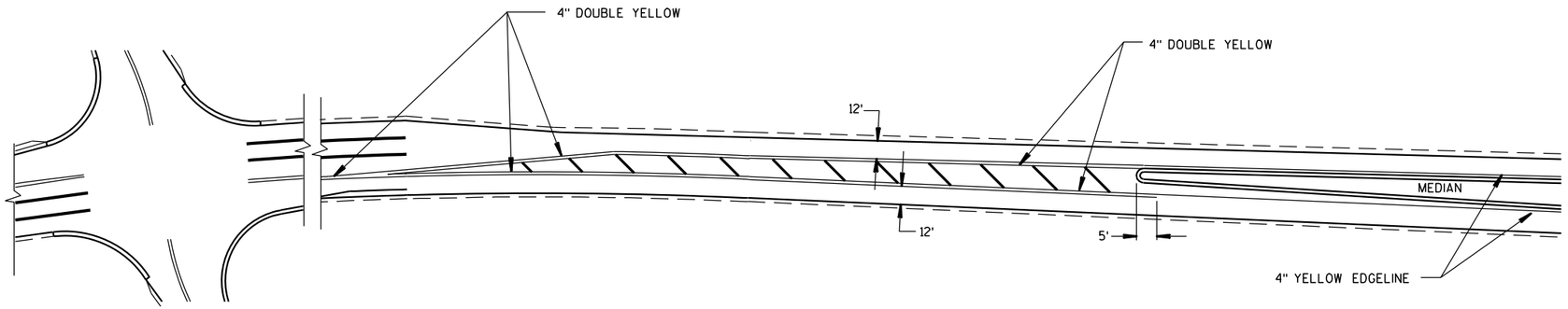
S.D.D. 15 C 12-3



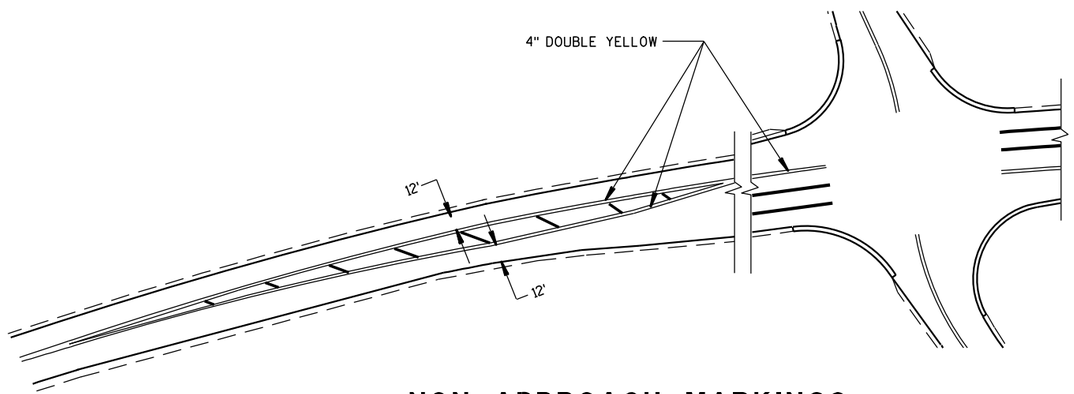
MEDIAN ISLAND DETAIL

GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

MEDIAN ISLAND MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2-5-09 DATE	/S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER 1557 IGN
FHWA	

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S.D.D. 15 C 18-3

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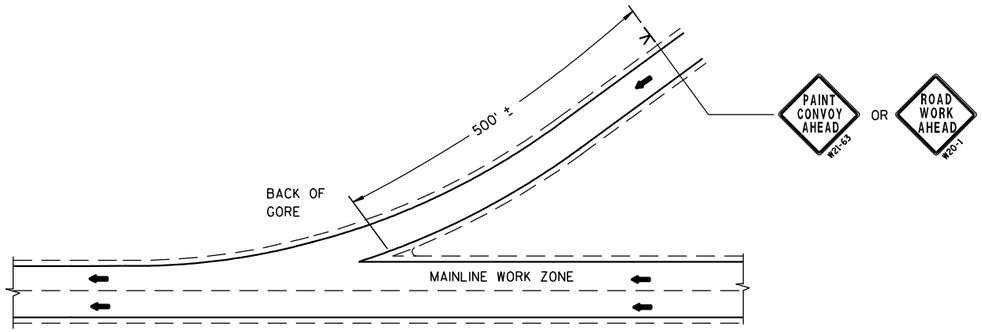
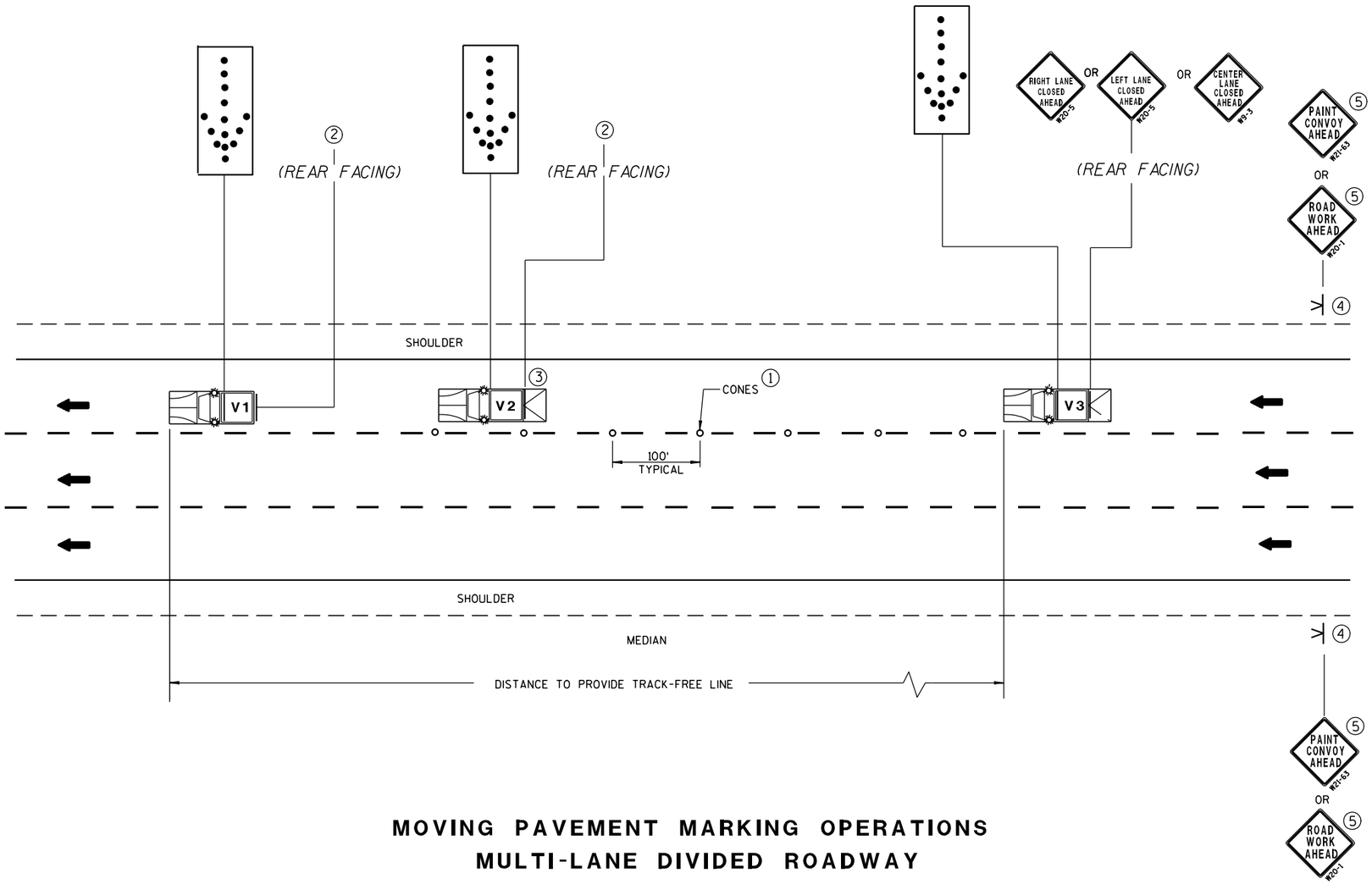
S.D.D. 15 C 18-3





MOVING PAVEMENT MARKING OPERATIONS
MULTI-LANE DIVIDED ROADWAY

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

FOR EDGELINE MARKING OR IF CONES ARE NOT USED, POSITION THE REARMOST SHADOW VEHICLE ON THE SHOULDER AS SHOWN IN THE MUTCD IF THE SHOULDER HAS ADEQUATE WIDTH. USE DOUBLE ARROWS WHEN CONVOY IS IN CENTER LANE ONLY.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

THIS DRAWING SHALL BE USED FOR EDGELINE OR LANELINE MARKING FOR MULTILANE DIVIDED ROADWAYS.

(1) CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

(2) USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT ↙ W21-64 OR WET PAINT ↘ W21-64

(3) OPTIONAL TRUCK-MOUNTED ATTENUATOR.

(4) SIGNS SHALL BE REPEATED AFTER EVERY ON RAMP OR EVERY THREE MILES.

(5) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

LEGEND

V1	LEAD VEHICLE
V2	SHADOW VEHICLE
V3	TRAIL VEHICLE WITH TMA
TMA	TRUCK-MOUNTED ATTENUATOR
	SIGN ON PORTABLE SUPPORT
	DIRECTION OF TRAVEL
	CONES
	FLASHING ARROW PANEL (MERGE)

MOVING PAVEMENT MARKING OPERATION
MULTI-LANE DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/6/2011 DATE

/S/ Thomas N. Nothohm
STATE TRAFFIC ENGINEER 1558 SIGN

FHWA

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S.D.D. 15 C 19-1c

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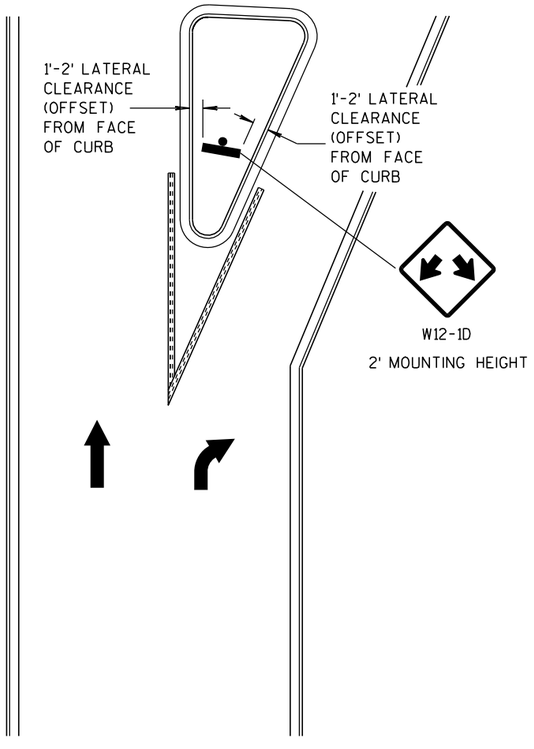
S.D.D. 15 C 19-1c

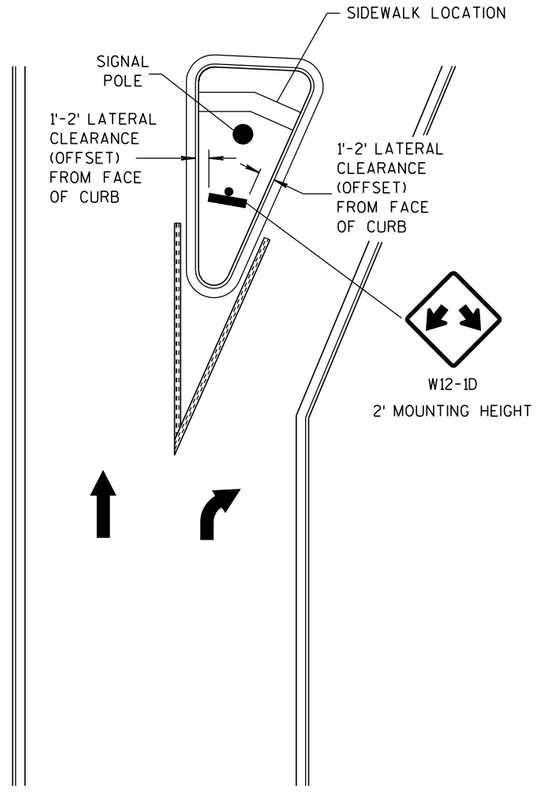
GENERAL NOTE

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

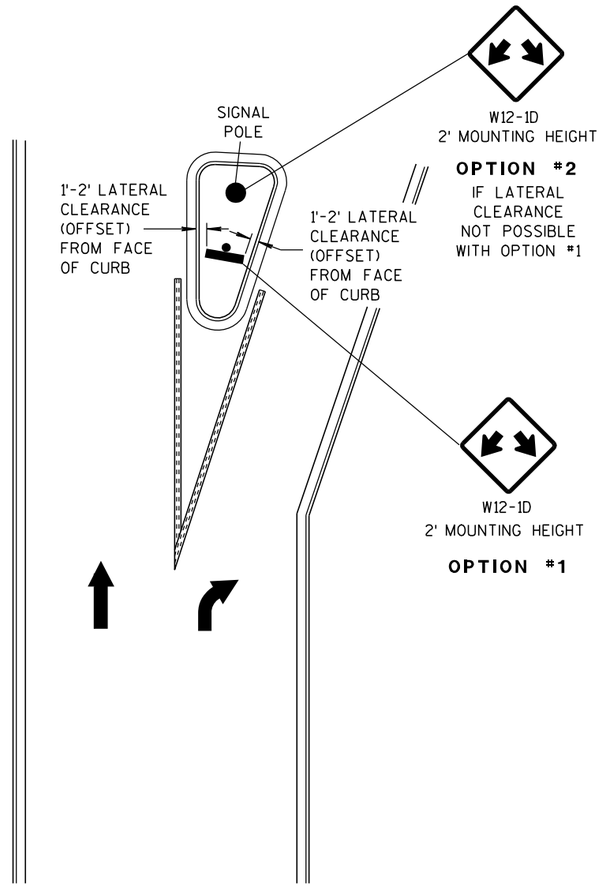
SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.



LARGE RIGHT TURN ISLAND



LARGE RIGHT TURN ISLAND
WITH SIGNAL POLE



SMALL RIGHT TURN ISLAND

DOUBLE ARROW WARNING SIGN PLACEMENT

DOUBLE ARROW WARNING SIGN PLACEMENT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
10-22-08 DATE	/S/ Thomas N. Nothdurft STATE TRAFFIC ENGINEER 1559 IGN
FHWA	

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S.D.D. 15 C 27-1

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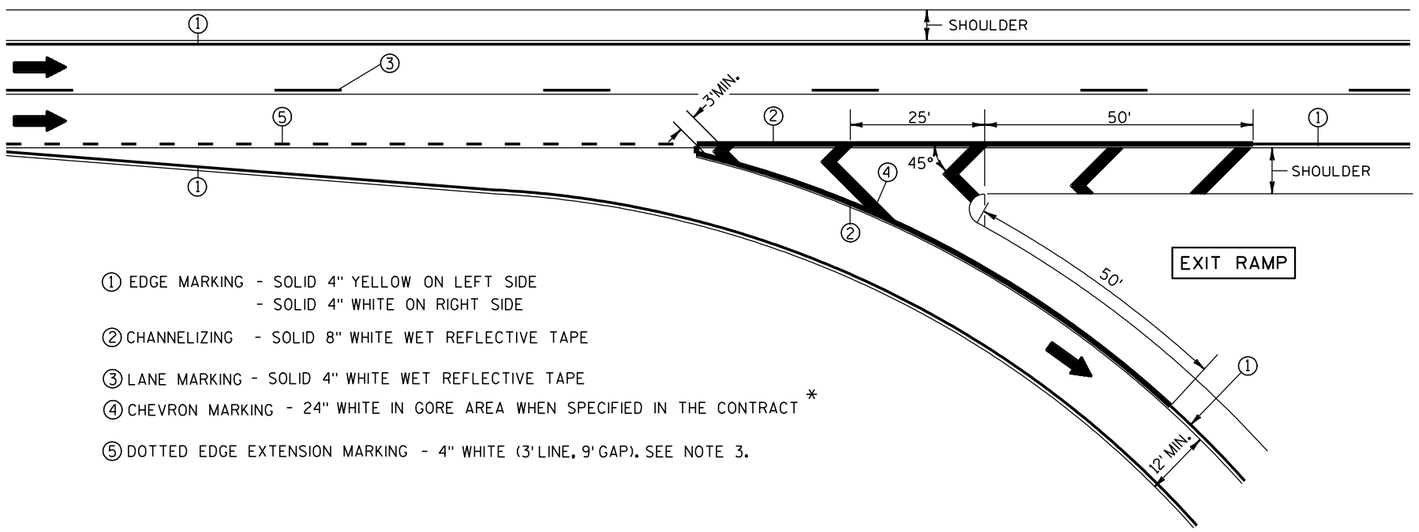
S.D.D. 15 C 27-1



① EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE

② CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE

③ LANE MARKING - SOLID 4" WHITE WET REFLECTIVE TAPE

④ CHEVRON MARKING - 24" WHITE IN GORE AREA WHEN SPECIFIED IN THE CONTRACT *

⑤ DOTTED EDGE EXTENSION MARKING - 4" WHITE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

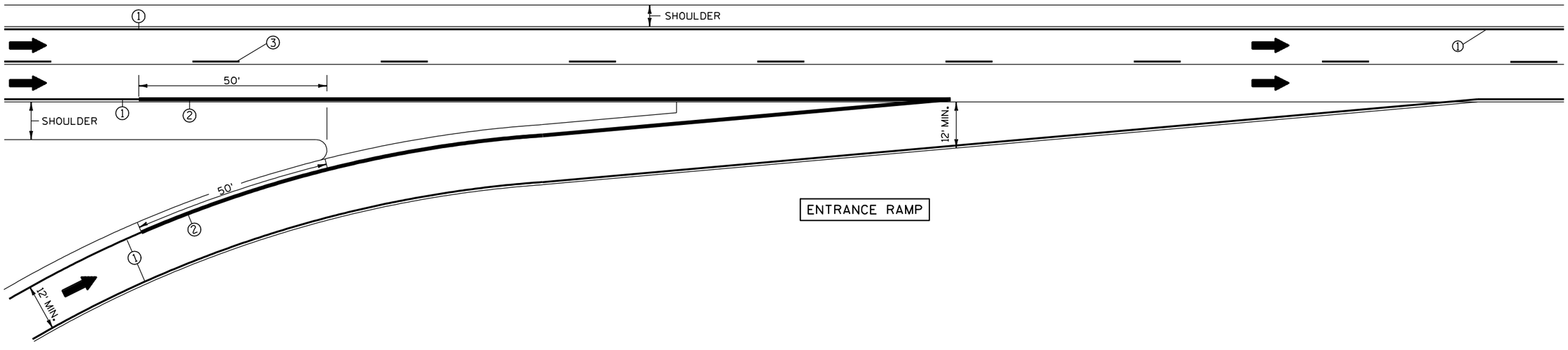
1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.

3. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

4. RETRACE EXISTING DIAGONAL MARKINGS.

* REFER TO DESIGN NOTES.



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S.D.D. 15 C 31-1a

PAVEMENT MARKING
(RAMPS AND GORES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 15 C 31-1a

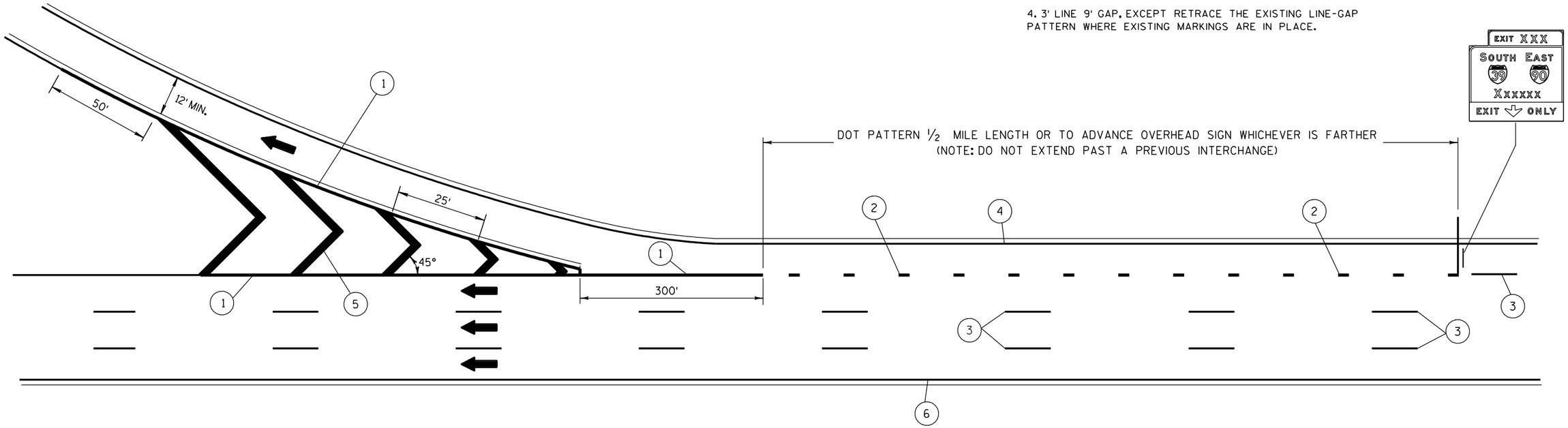
NOTES:

1. SEE STANDARD DETAIL DRAWING 15 C 10 FOR SPRAYED OR NON WET REFLECTIVE LINE SEGMENTS.

2. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

3. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.

4. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.



1. CHANNELIZING - SOLID 8" WHITE WET RELECTIVE TAPE
2. 3' LINE, 9' GAP SOLID 8" WHITE WET REFLECTIVE TAPE. SEE NOTE 4.
3. SOLID 4" WHITE WET REFLECTIVE TAPE
4. 4" WHITE EDGELINE
5. CHEVRON MARKING - 24" WHITE WHEN SPECIFIED IN THE CONTRACT
6. 4" YELLOW EDGELINE

LANE DROP
PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 15 C 31-1b

6

S.D.D. 15 C 31-1b

NOTES:

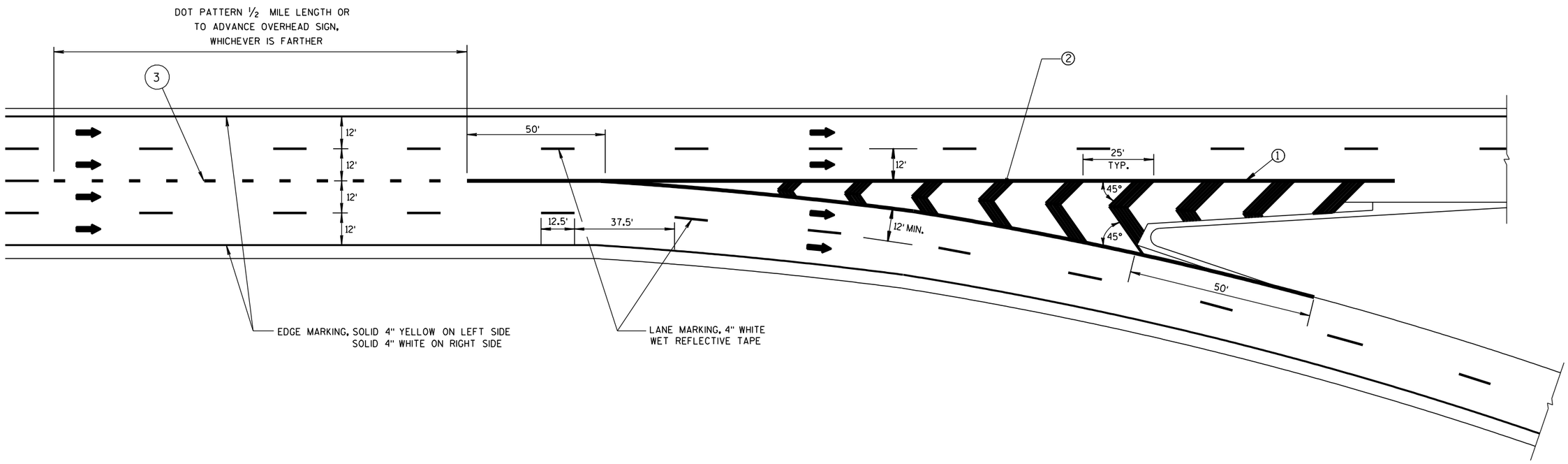
1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.

① CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE.

② CHEVRON MARKING - 24" WHITE WHEN SPECIFIED IN THE CONTRACT.

③ 3' LINE, 9' GAP SOLID 8" WHITE WET REFLECTIVE TAPE.



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S.D.D. 15 C 31-1c

S.D.D. 15 C 31-1c

PAVEMENT MARKING
MAJOR SPLIT
FREEWAY TO FREEWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

- POST WITH ATTACHED SIGN
- DRUM WITH WARNING LIGHT (TYPE C)
- DRUM
- ARROW BOARD
- REMOVING PAVEMENT MARKING
- TEMPORARY PRECAST CONCRETE BARRIER
- DIRECTION OF TRAFFIC
- WORK ZONE

GENERAL NOTES :

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

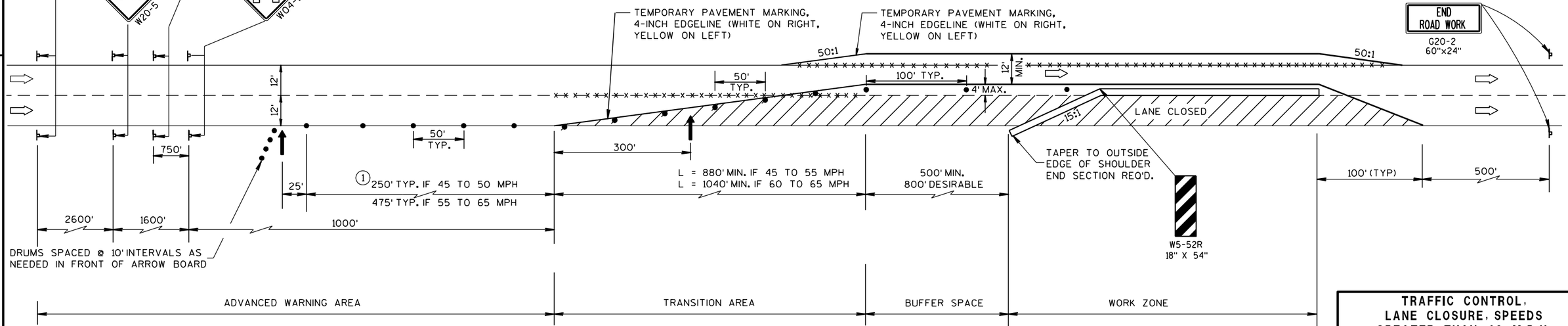
FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

NO EQUIPMENT OR MATERIAL SHALL BE LOCATED WITHIN THE WORK ZONE OTHER THAN BEHIND THE PRECAST CONCRETE BARRIER.



TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-94
DATE

/S/ Chester J. [illegible]
DIRECTOR, OFFICE OF 1563 IC

FHWA

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S.D.D. 15 D 3-1

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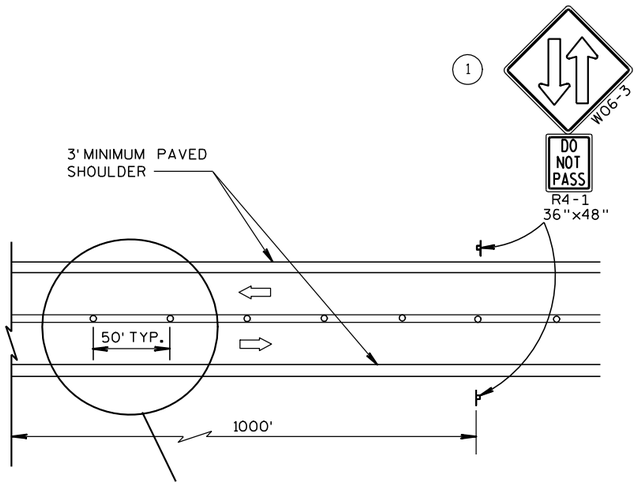
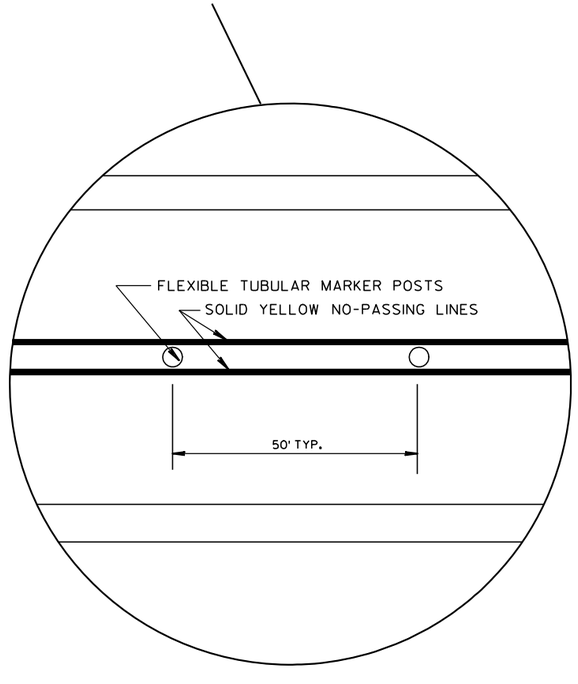
S.D.D. 15 D 3-1



TWO LANE, TWO WAY OPERATION



LEGEND

- POST WITH ATTACHED SIGN
- FLEXIBLE TUBULAR MARKER AND BASE
- DIRECTION OF TRAFFIC

GENERAL NOTES :

ALL SIGNS ARE 48"x48" UNLESS OTHERS NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

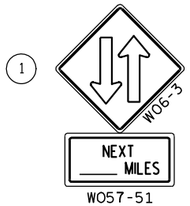
THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

A SINGLE ROW OF FLEXIBLE TUBULAR MARKERS ON CENTERLINE EXTEND FOR THE ENTIRE LENGTH OF TWO-WAY TRAFFIC @ 50' SPACING.

COVER EXISTING CENTERLINE STRIPE WITH TEMPORARY PAVEMENT MARKING, 4-INCH DOUBLE YELLOW.

R2-1
48"x60"
(BLACK AND WHITE)

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD **BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY** 2 OR 3 MILES.



W057-51
48"x24"

R4-1
36"x48"

THE W06-3 WITH THE W057-51 SHALL BE LOCATED 200' BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP AND/OR 500' BEYOND ANY SIDEROAD. THE W06-3 WITH THE R4-1 SHALL BE LOCATED 1000' BEYOND THE W06-3 AND THE W057-51 AND THE SIGNS SHALL BE ALTERNATED WITH ONE MILE INTERVALS BETWEEN W06-3 SIGNS.

TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12-4-95
DATE

/S/ Chester J. [illegible]
DIRECTOR, OFFICE OF 1564

FHWA

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S.D.D. 15 D 6-2

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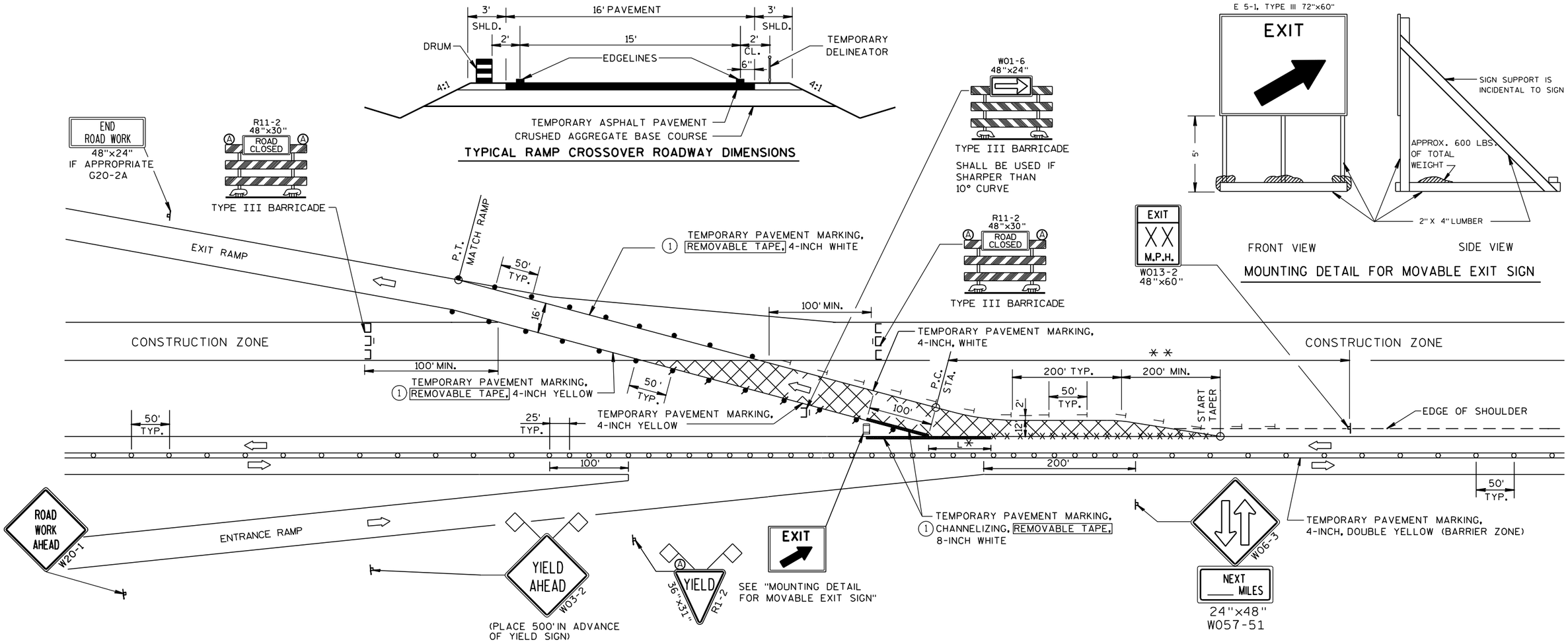

LEGEND

- 8' TYPE III BARRICADE WITHOUT/WITH ATTACHED SIGN
- POST WITH ATTACHED SIGN
- DRUM WITH WARNING LIGHT (TYPE C)
- DRUM
- TEMPORARY DELINEATOR - WHITE (STEEL POST W/SINGLE DELINEATOR)
- (A) WARNING LIGHT, TYPE A
- TEMPORARY CROSSOVER ASPHALTIC PAVEMENT
- REMOVING PAVEMENT MARKINGS
- FLEXIBLE TUBULAR MARKER POST AND BASE
- FLAGS, 12" X 12", RED
- DIRECTION OF TRAFFIC

GENERAL NOTES :

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

(1) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE SHALL BE USED WHEN CROSSING PERMANENT ROADWAY SURFACES THAT WILL REMAIN AFTER USE OF CROSSOVER. OTHERWISE TEMPORARY PAVEMENT MARKING MAY BE USED.

TRAFFIC CONTROL FOR RAMP CROSSOVERS ARE TYPICAL FOR ALL CONSTRUCTION PHASES.

* LENGTH L SHALL BE REQUIRED WHEN TANGENT LENGTH OF EXIT RAMP PARALLEL TO MAINLINE EXCEEDS 300'. LENGTH SHALL BE EQUAL TO THE EXIT RAMP TANGENT LENGTH MINUS 300' OR AS APPROVED BY THE ENGINEER AND SHALL CHANGE TO ACCOMODATE PAVING GAPS.

** ADJUST EXIT RAMP SPEED AS NEEDED IN THE FIELD. DISTANCE TO SIGN LOCATION SHALL ALSO BE PLACED ACCORDING TO TABLE.

WORK ALONG EDGES OF RAMP SHALL MAINTAIN A 10 FOOT AREA CLEAR OF PHYSICAL OBSTRUCTIONS SUCH AS DROP OFFS FROM PAVEMENT REMOVAL OR BROKEN CONCRETE CHUNKS DURING PAVEMENT REMOVAL. THESE AREAS SHALL BE LEVELED WITH TEMPORARY FILL TO PROTECT THE TRAVELING PUBLIC WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE CROSSOVER.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

** TABLE FOR ADVANCE WARNING SIGN PLACEMENT DISTANCE

POSTED SPEED MPH	DESIRED SPEED AT CONDITION (MPH)				
	10	20	30	40	50
45	350	300	250		
50	425	400	325	225	
55	500	475	400	300	
60	575	550	500	400	300
65	650	625	575	500	375

TRAFFIC CONTROL, TEMPORARY EXIT RAMP CROSSOVER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12-4-95 DATE
/S/ Chester J. [illegible] DIRECTOR, OFFICE O 1565 C
FHWA

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S.D.D. 15 D 7-3

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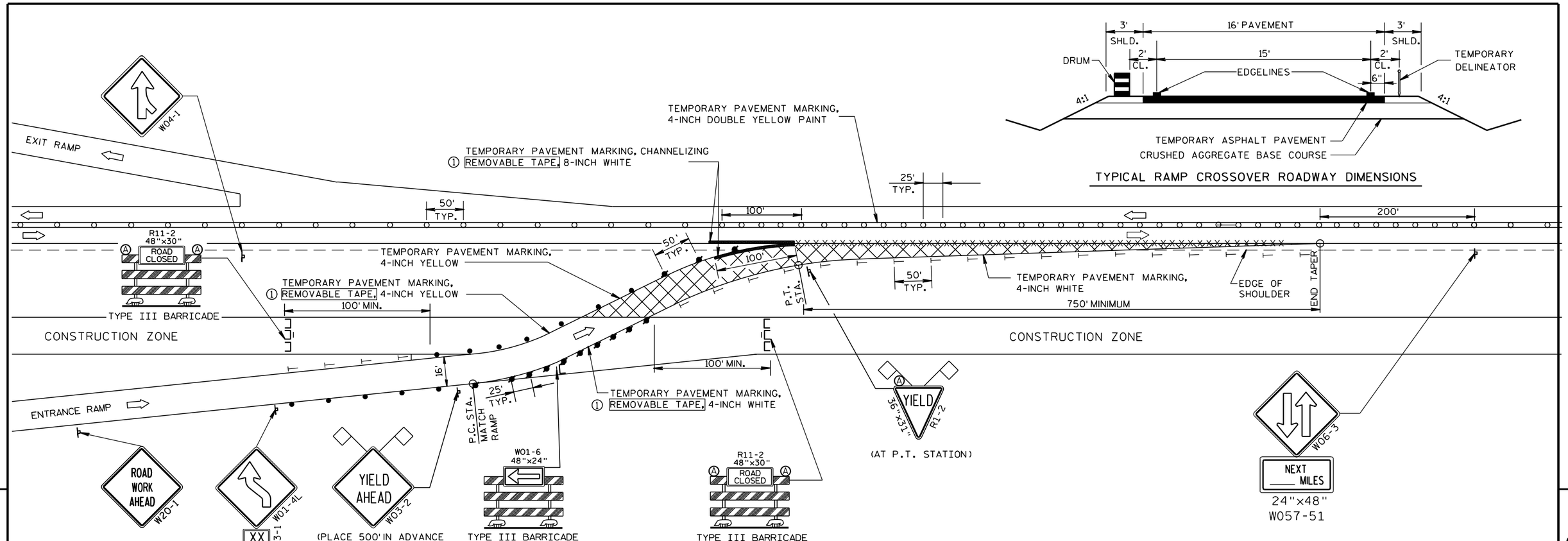
S.D.D. 15 D 7-3



TYPICAL RAMP CROSSOVER ROADWAY DIMENSIONS

LEGEND

- ⊏/I⊏ 8' TYPE III BARRICADE WITHOUT/WITH ATTACHED SIGN
- POST WITH ATTACHED SIGN
- DRUM WITH WARNING LIGHT (TYPE C)
- DRUM
- TEMPORARY DELINEATOR (STEEL POST W/SINGLE DELINEATOR) COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE RESPECTIVE EDGELINE MARKING
- Ⓐ WARNING LIGHT, TYPE A (SAME COLOR AS SIGN IT SUPPLEMENTS)
- TEMPORARY CROSSOVER ASPHALTIC PAVEMENT
- ~~~~ REMOVING PAVEMENT MARKINGS
- o FLEXIBLE TUBULAR MARKER POST AND BASE
- FLAGS, 12" X 12", RED
- DIRECTION OF TRAFFIC

GENERAL NOTES :

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

① TEMPORARY PAVEMENT MARKING REMOVABLE, TAPE SHALL BE USED WHEN CROSSING PERMANENT ROADWAY SURFACES THAT WILL REMAIN AFTER USE OF CROSSOVER.

TRAFFIC CONTROL FOR RAMP CROSSOVERS ARE TYPICAL FOR ALL CONSTRUCTION PHASES.

WORK ALONG EDGES OF RAMP SHALL MAINTAIN A 10 FOOT AREA CLEAR OF PHYSICAL OBSTRUCTIONS SUCH AS DROP OFFS FROM PAVEMENT REMOVAL OR BROKEN CONCRETE CHUNKS DURING PAVEMENT REMOVAL. THESE AREAS SHALL BE LEVELED WITH TEMPORARY FILL TO PROTECT THE TRAVELING PUBLIC WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE CROSSOVER.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

TRAFFIC CONTROL, TEMPORARY ENTRANCE RAMP CROSSOVER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12-4-95 DATE

/S/ Chester J. [illegible] DIRECTOR, OFFICE OF 1566 IC

FHWA

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S.D.D. 15 D 8-3

6

S.D.D. 15 D 8-3

LEGEND

- POST WITH ATTACHED SIGN
- POST WITH ATTACHED SIGN IN DRUM
- DRUM WITH WARNING LIGHT (TYPE C)
- DRUM
- ARROW BOARD
- 8' TYPE III BARRICADE
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC

GENERAL NOTES :

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

(1) CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

GENERAL NOTES CONTINUED:

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

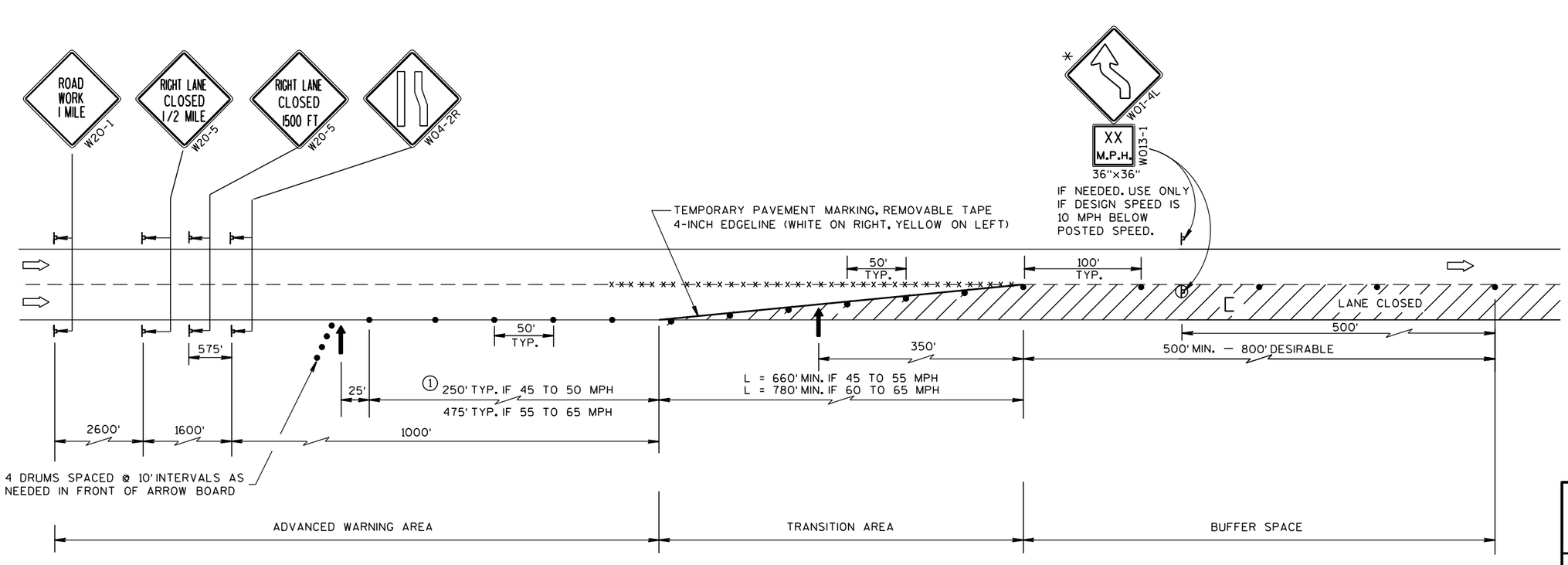
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

IF LANE CLOSURE IS MORE THAN 1 MILE, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1/4 MILE ACROSS THE CLOSED LANE TO HELP ENFORCE THE DRUM LINE.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

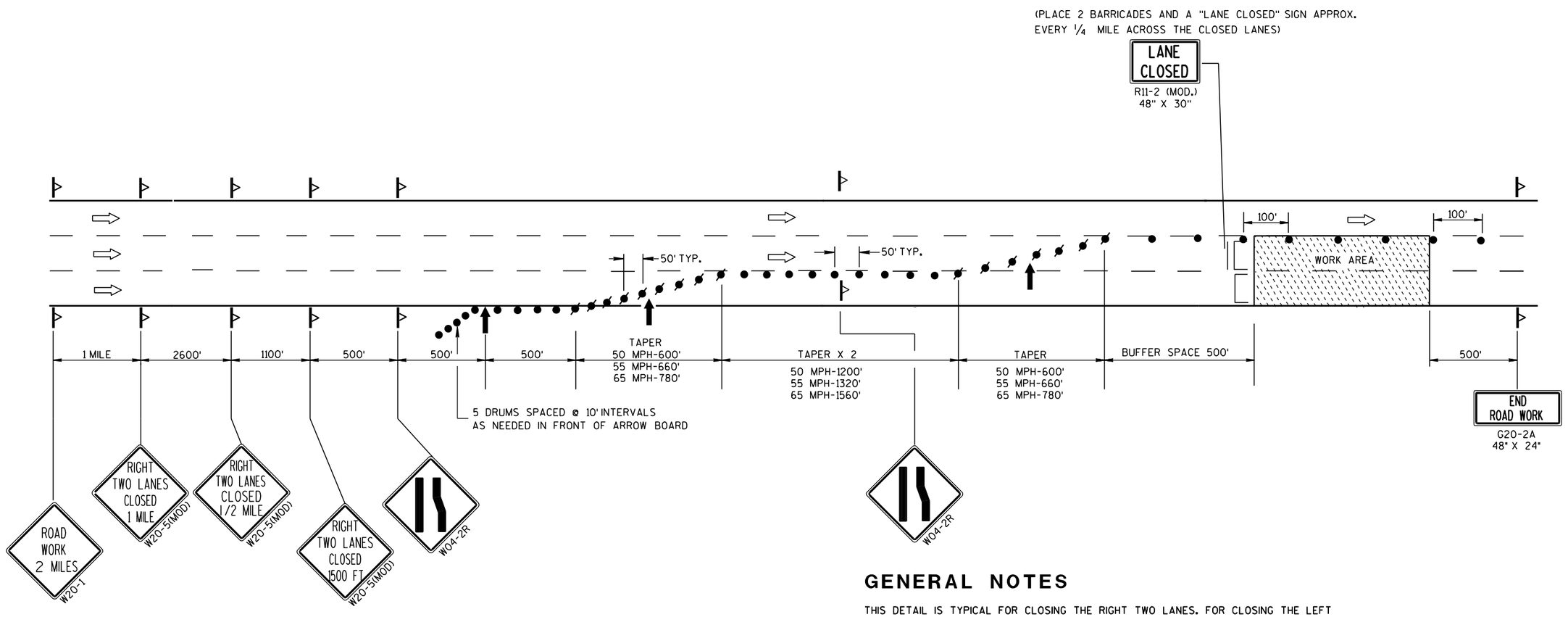
APPROVED
8-7-95
DATE
/S/ Chester J. [illegible]
DIRECTOR, OFFICE O 1567 C
FHWA

6

S.D.D. 15 D 12-2

6

S.D.D. 15 D 12-2



LEGEND

- DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY BURN)
- SIGN ON POST OR PORTABLE SUPPORT
- FLASHING ARROW BOARD
- TYPE III BARRICADE (8' EQUIVALENT) WITH/WITHOUT SIGN
- DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT TWO LANES. FOR CLOSING THE LEFT TWO LANES, REVERSE THE TRAFFIC CONTROL.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

WHEN A RAMP OR SIDE ROAD INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/23/2000
DATE

/S/ Chester J. [illegible]
CHIEF SIGNS AND MAR 1568 INEER

FHWA

6

S.D.D. 15 D 14-1

6

S.D.D. 15 D 14-1

SYMBOLS

IC/C	TYPE III BARRICADE (8' EQUIVALENT) WITH/WITHOUT SIGN
•	DRUM
⊢	POST MOUNTED SIGN
(A)	WARNING LIGHT, TYPE A (FLASHING)
⇨	DIRECTION OF TRAFFIC

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

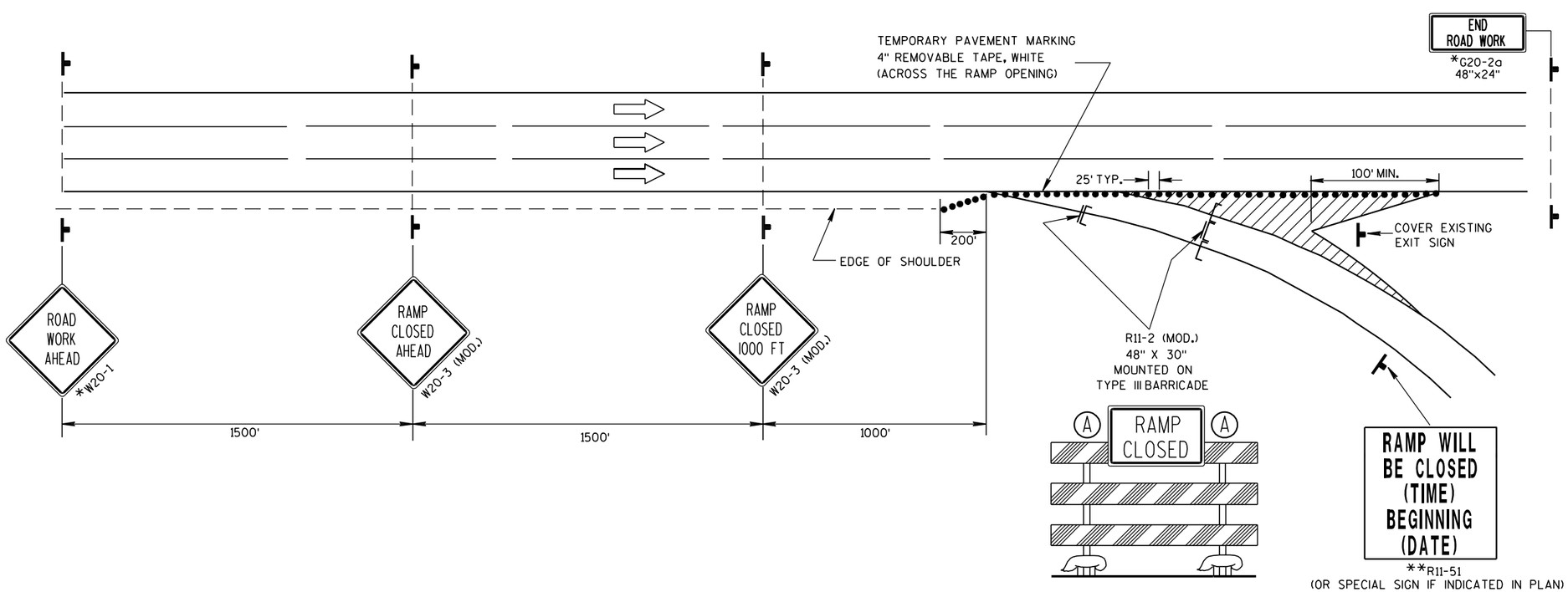
PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROPOFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN THE WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12-HOUR DURATION.

*W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

**USE THE "RAMP WILL BE CLOSED" SIGN IF INDICATED IN MISCELLANEOUS QUANTITIES. PLACE 10 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.



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S.D.D. 15 D 16-1

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S.D.D. 15 D 16-1

TRAFFIC CONTROL, EXIT RAMP CLOSURE

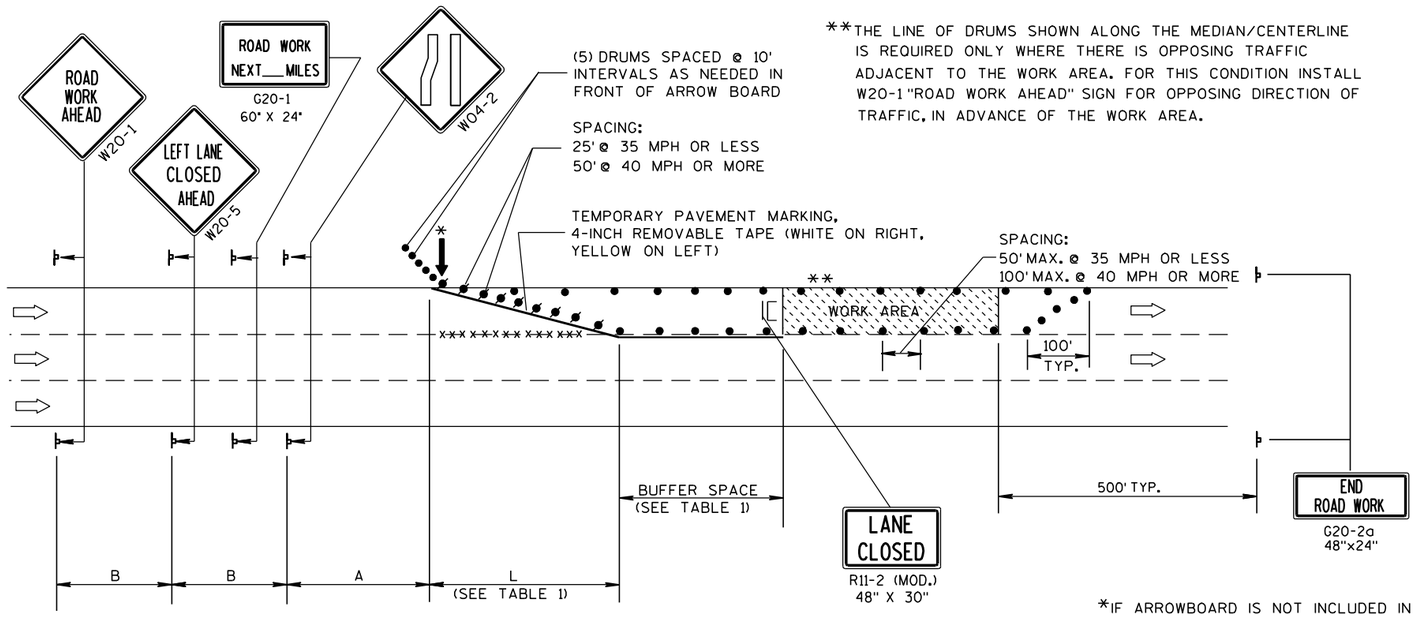
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/23/2000
DATE

/S/ Chester J. [illegible]
CHIEF SIGNS AND MAR 1569 INEER

FHWA



**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

W01-6
48"x24"

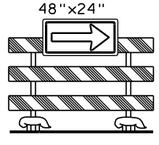


TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

- DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY-BURN)
- POST MOUNTED SIGN
- ARROW BOARD
- TYPE III BARRICADE (8' EQUIVALENT) AND WARNING LIGHTS, TYPE A (FLASHING) WITH/WITHOUT SIGN
- DIRECTION OF TRAFFIC FLOW
- xxxx REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W20-1, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/23/00
DATE

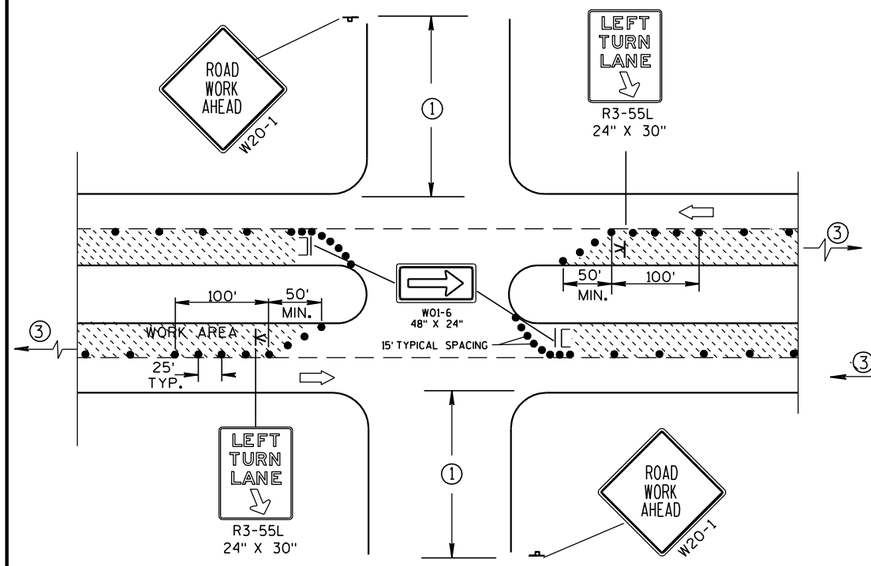
/S/ Chester J. [illegible]
CHIEF SIGNS AND MARKINGS ENGINEER

FHWA

1570

6

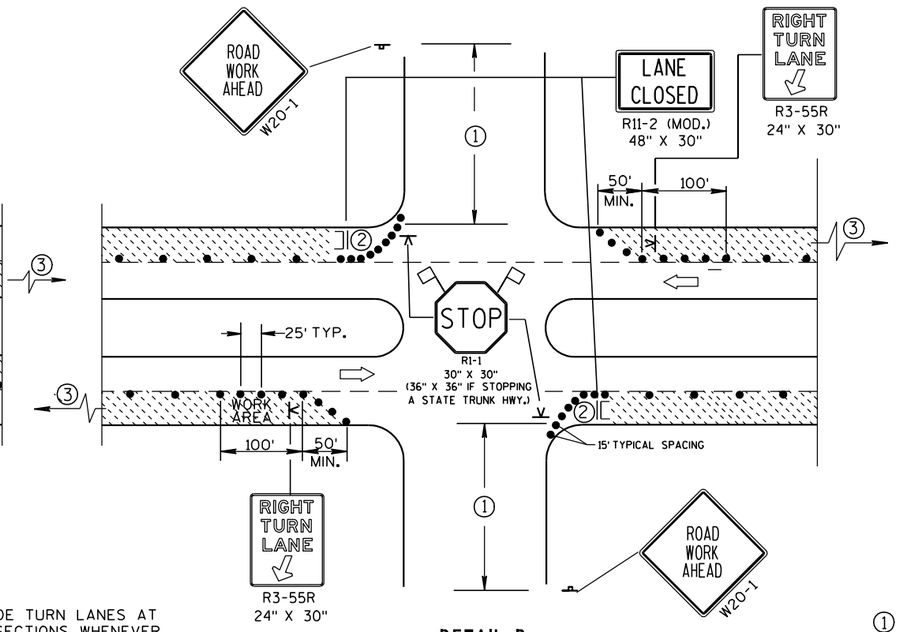
S.D.D. 15 D 20-1



DETAIL A

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



DETAIL B

FOR RIGHT LANE CLOSURE AT INTERSECTION

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

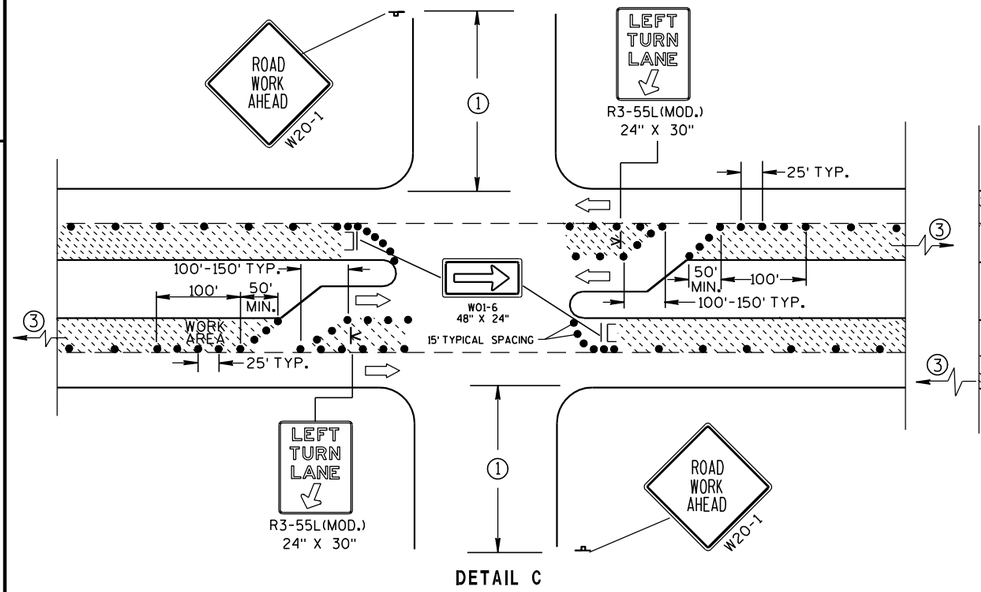
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

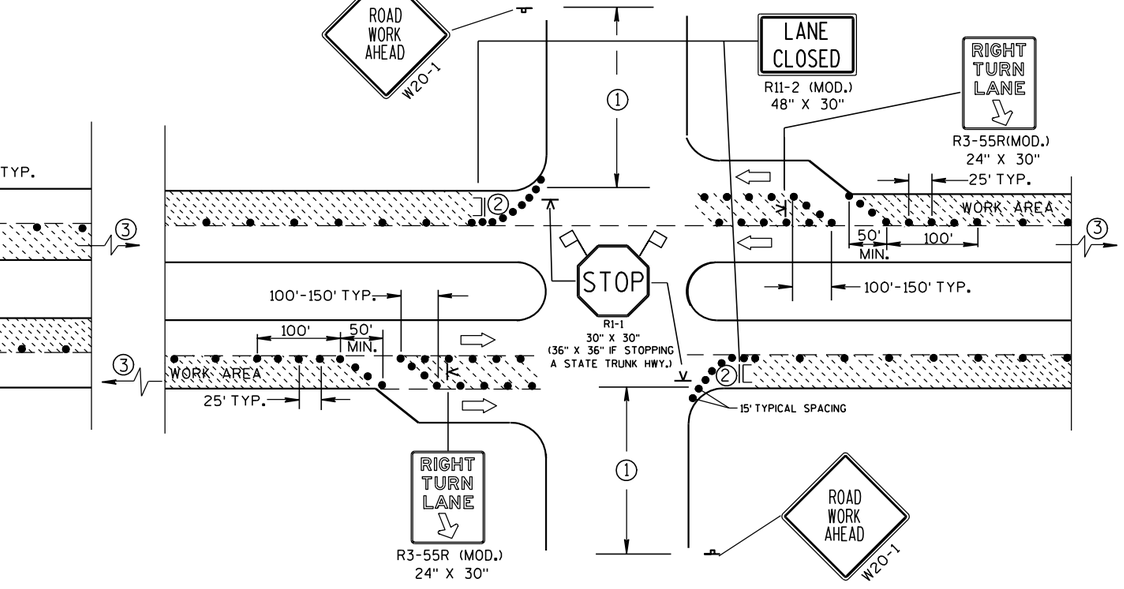
② ALSO USE BARRICADE AND 15' TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



DETAIL C

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- DRUM
- POST MOUNTED SIGN
- SIGN ON PORTABLE SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE (8' EQUIVALENT) AND WARNING LIGHT, TYPE A (FLASHING) WITH SIGN
- DIRECTION OF TRAFFIC FLOW
- FLAGS, 16" X 16" MIN., ORANGE

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/23/00
DATE

/S/ Chester J. Spang
CHIEF SIGNS AND MARKINGS ENGINEER

FHWA

6
S.D.D. 15 D 21-1

SYMBOLS

- TRAFFIC CONTROL DRUM
- POST MOUNTED SIGN
- DIRECTION OF TRAFFIC FLOW
- ARROW BOARD IN CAUTION MODE

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

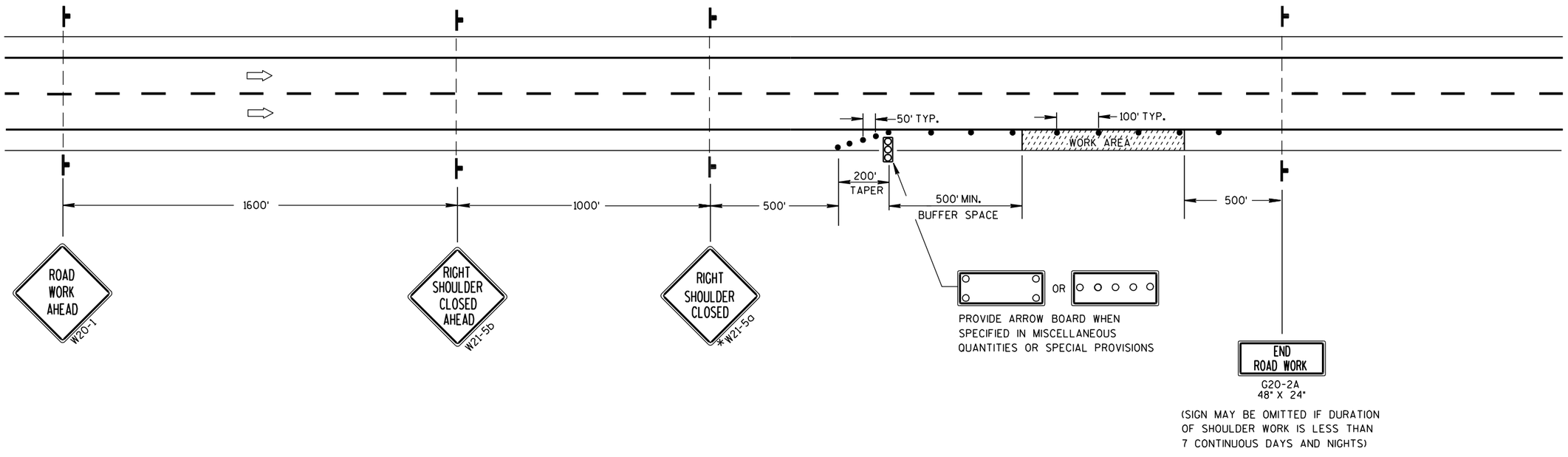
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

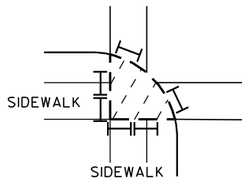
APPROVED

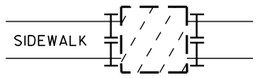
5/23/00
DATE

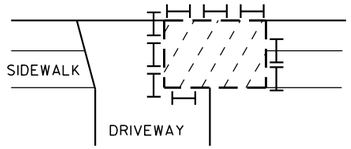
/S/ Chester J Sapa
CHIEF SIGNS AND MAR 1572 INEER

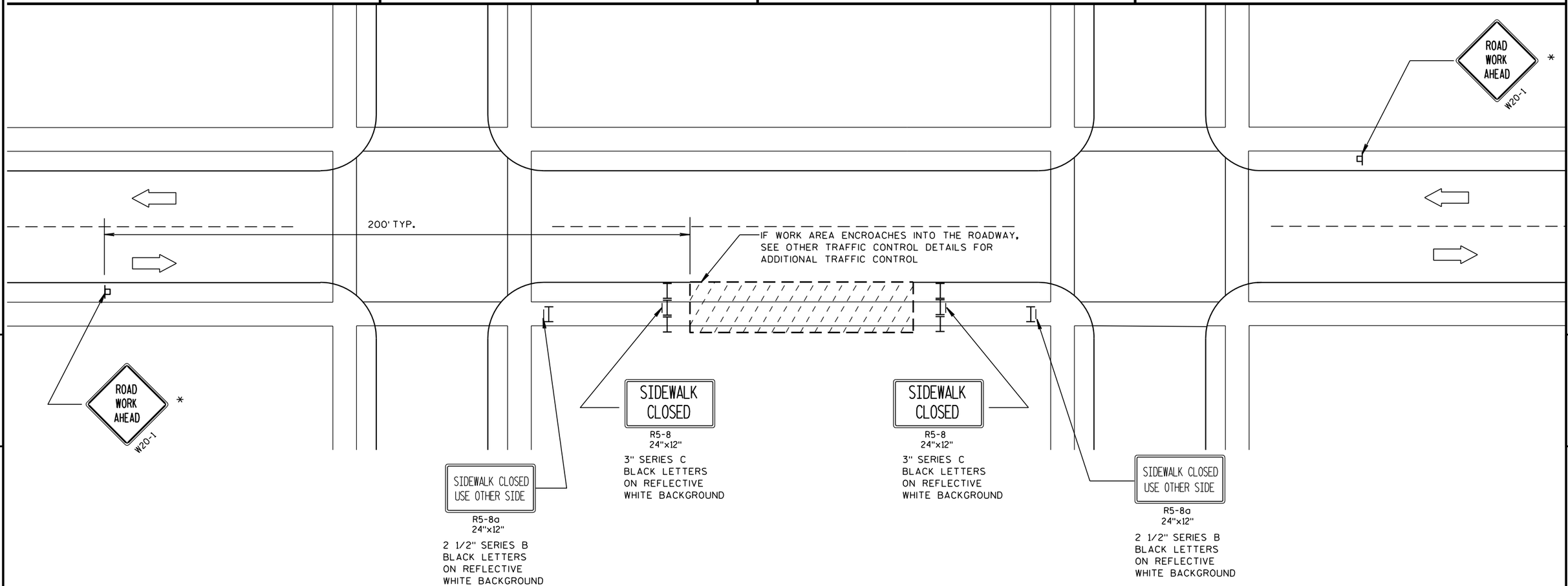
FHWA

WARNING OF LOCALIZED SIDEWALK WORK AREAS









LEGEND

- POST MOUNTED SIGN
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC FLOW

GENERAL NOTES :

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS, IF APPROVED BY DISTRICT TRAFFIC UNIT.

THE EXACT LOCATION AND PLACEMENT OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

* "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

WARNING SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

TRAFFIC CONTROL, SIDEWALK CLOSURE

TRAFFIC CONTROL, SIDEWALK CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/23/2000
DATE

/S/ Chester J. [illegible]
CHIEF SIGNS AND MARK 1573 [illegible]NEER

FHWA

6

S.D.D. 15 D 30-1

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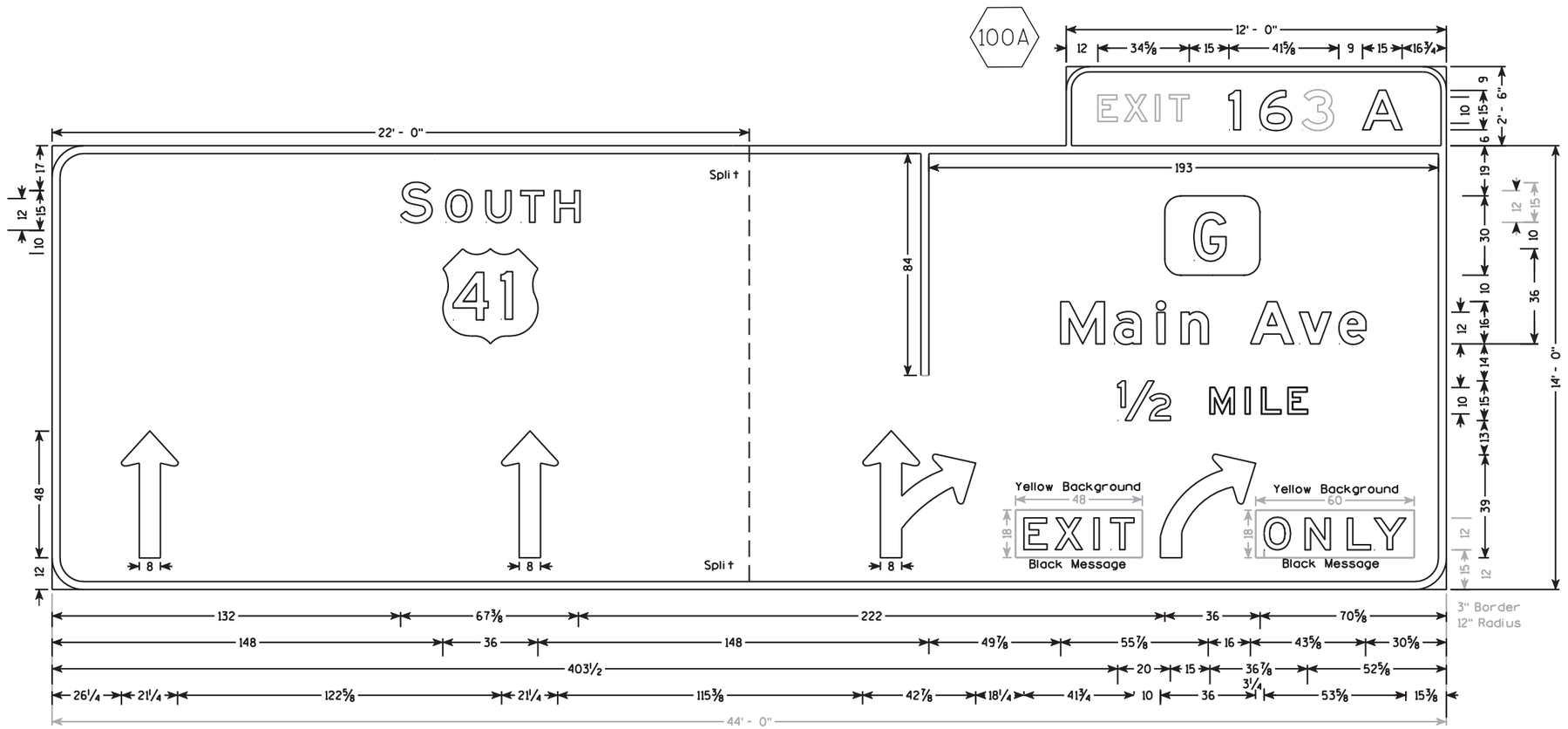
S.D.D. 15 D 30-1

NOTES

1. All Signs are TYPE I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green see Note 4
   Message - White see Note 4
3. Message Series - E Modified except all CAP Words are Series E
4. LEFT & ONLY plaques are Yellow background with Black Message



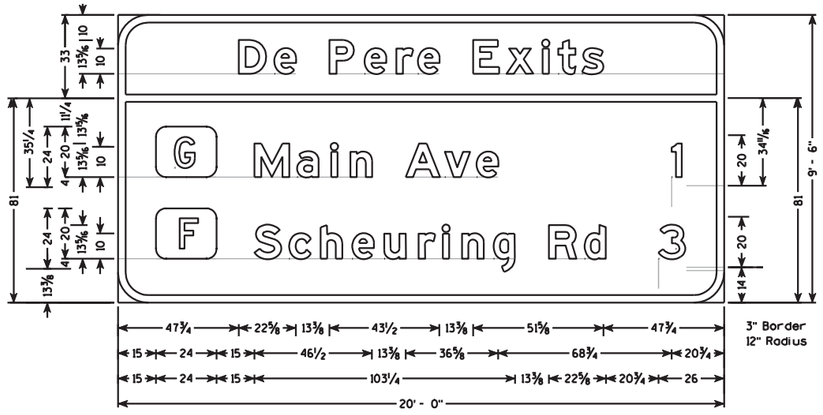
PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PERMANENT SIGNING	SHEET NO:	E

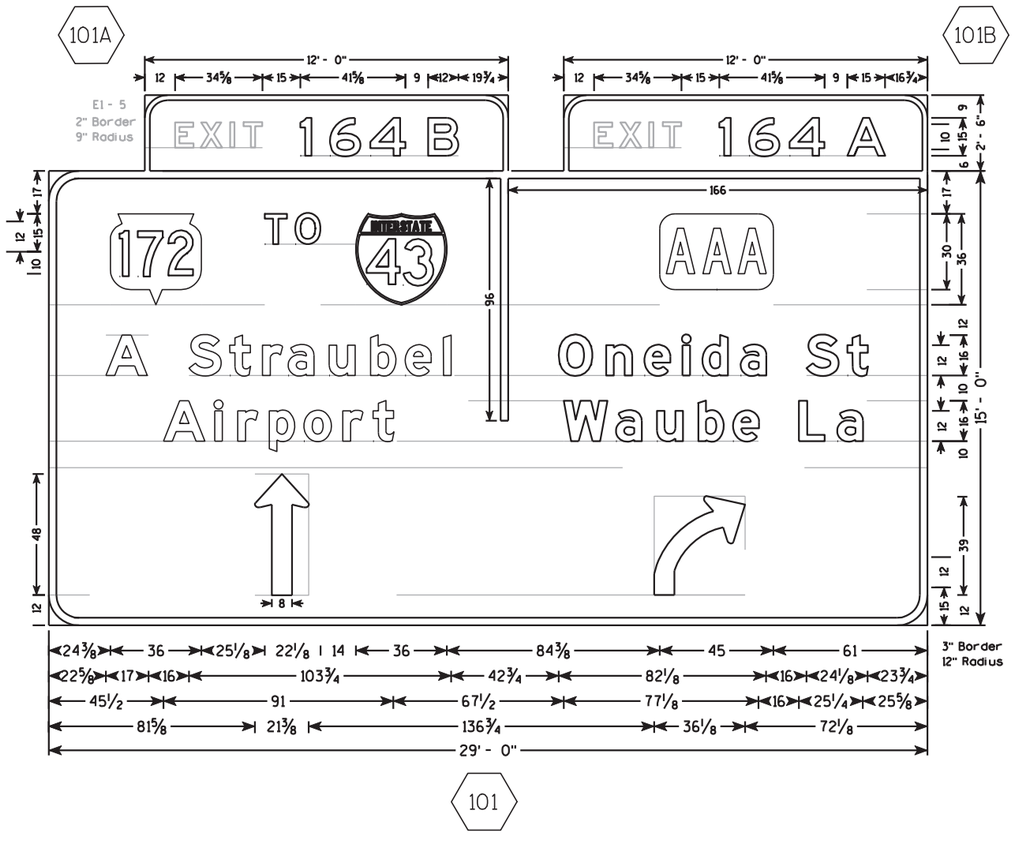
FILE NAME : N:\spo\traffic\SIGNING\Projects\USH 41 Brown County\1133-09-71 Glory - Morris Ave\070101_sd.dgn PLOT DATE : 29-JAN-2013 11:31 PLOT BY : dotj1f PLOT NAME : PLOT SCALE :

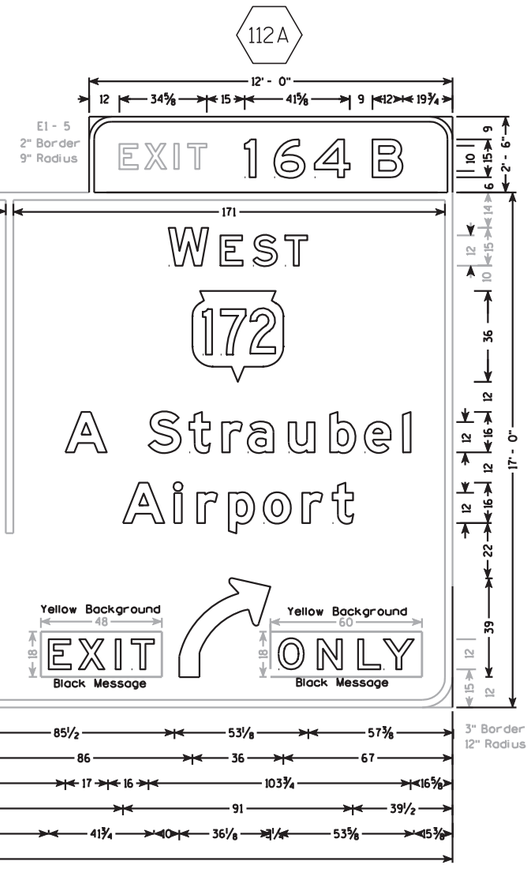
WISDOT/CADDS SHEET 1574

NOTES

1. All Signs are TYPE I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green see Note 4
   Message - White see Note 4
3. Message Series - E Modified except all CAP Words are Series E
4. LEFT & ONLY plaques are Yellow background with Black Message

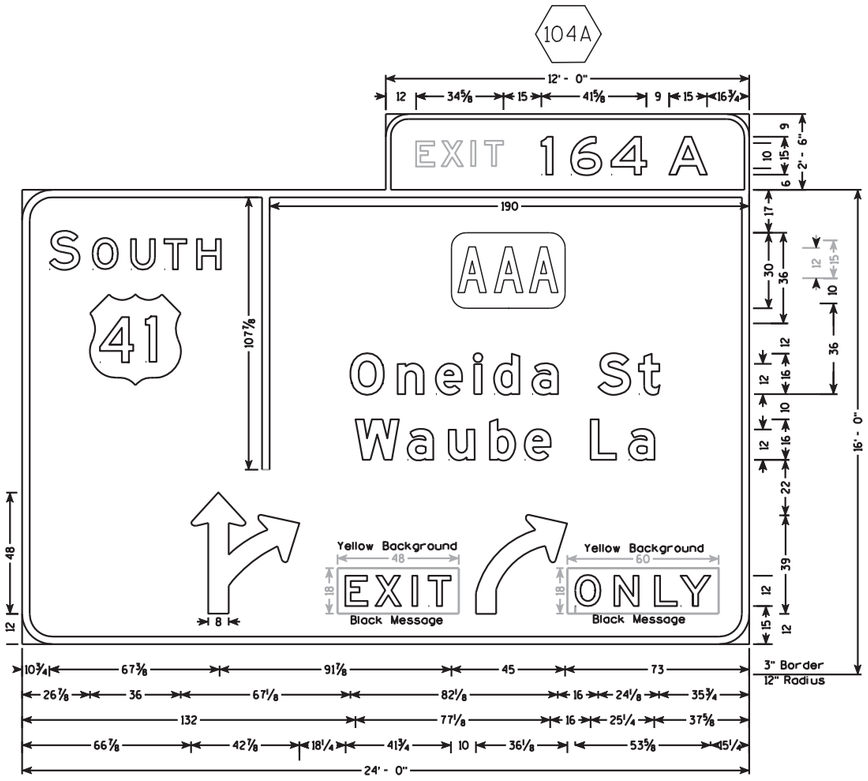


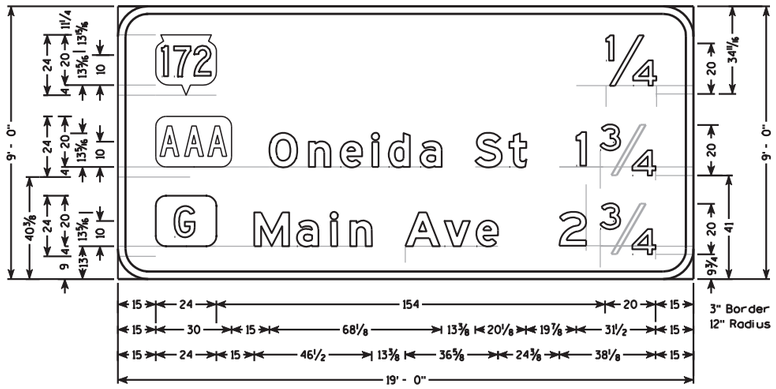


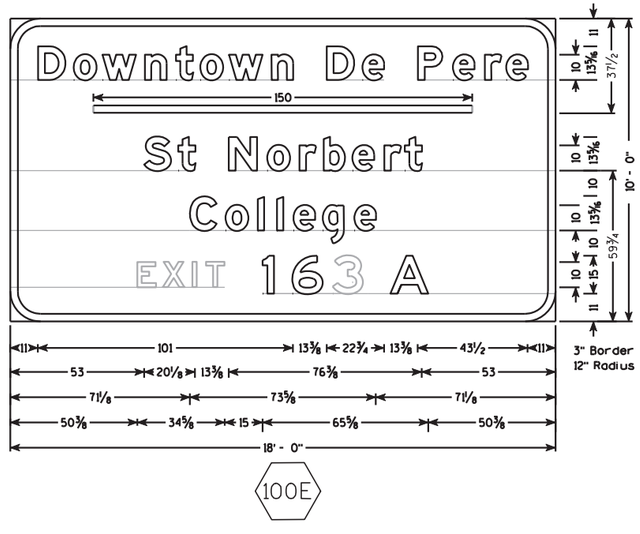


NOTES

1. All Signs are TYPE I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green see Note 4
   Message - White see Note 4
3. Message Series - E Modified except all CAP Words are Series E
4. LEFT & ONLY plaques are Yellow background with Black Message







PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PERMANENT SIGNING	SHEET NO: 1576	E

FILE NAME : N:\spo\traffic\SIGNING\Projects\USH 41 Brown County\1133-09-71 Glory - Morris Ave\070103_sd.dgn PLOT DATE : 29-JAN-2013 11:31 PLOT BY : dotjlf PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 42

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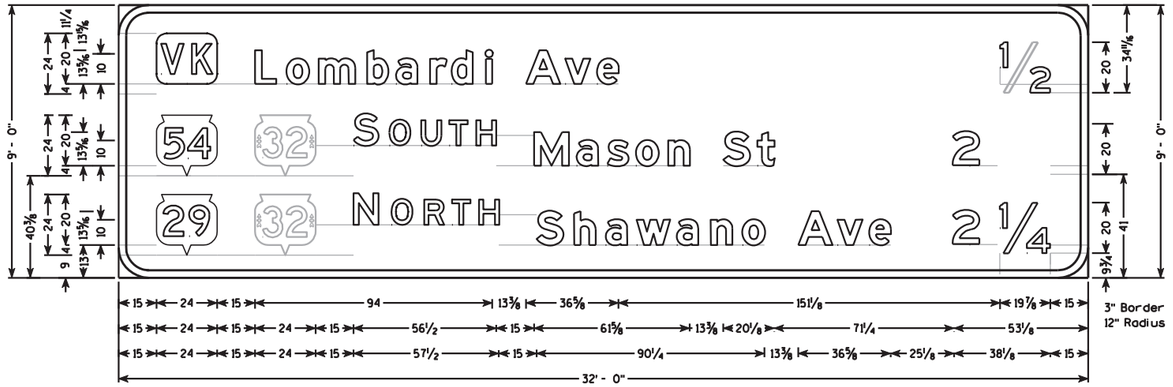
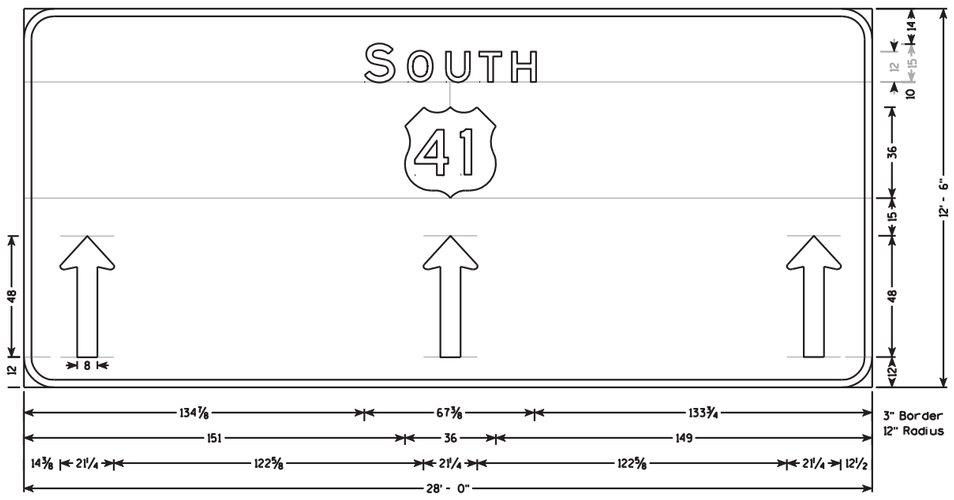
NOTES

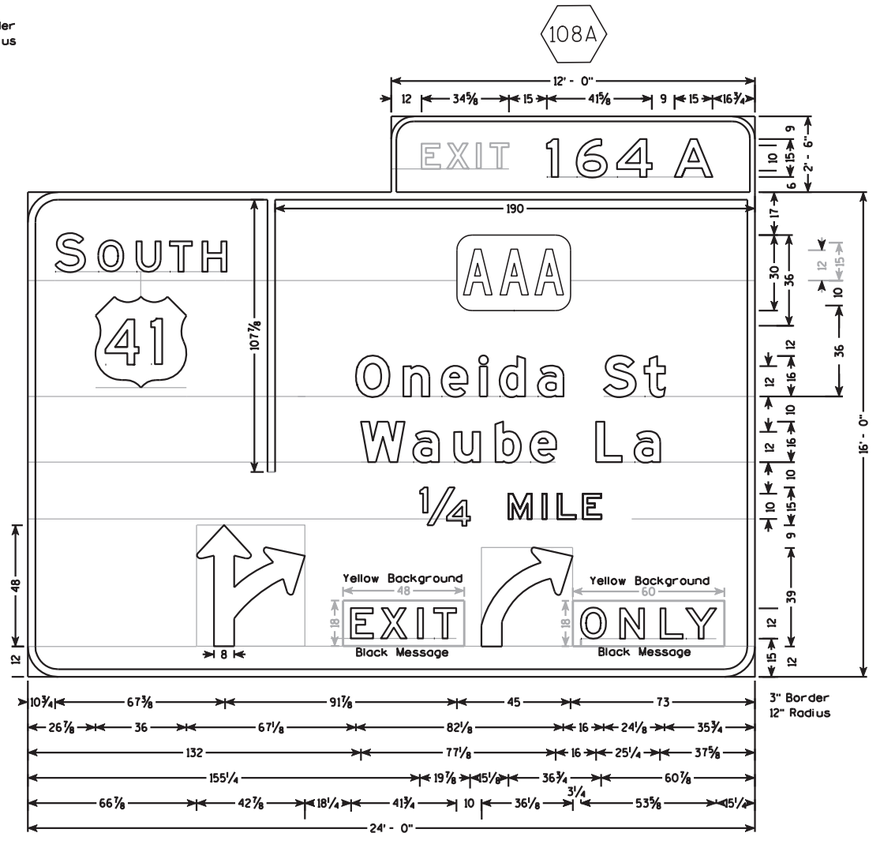
1. All Signs are TYPE I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green see Note 4
   Message - White see Note 4
3. Message Series - E Modified except all CAP Words are Series E
4. LEFT & ONLY plaques are Yellow background with Black Message



115



103 107 111



108

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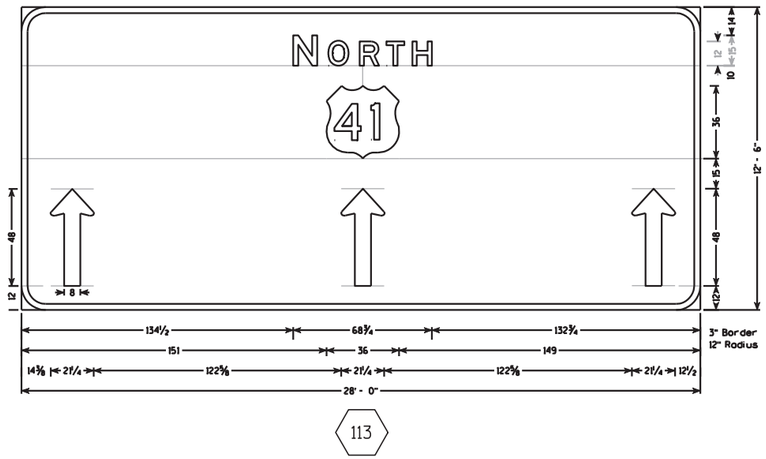
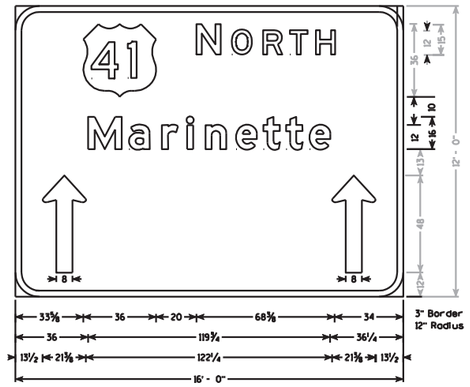


113

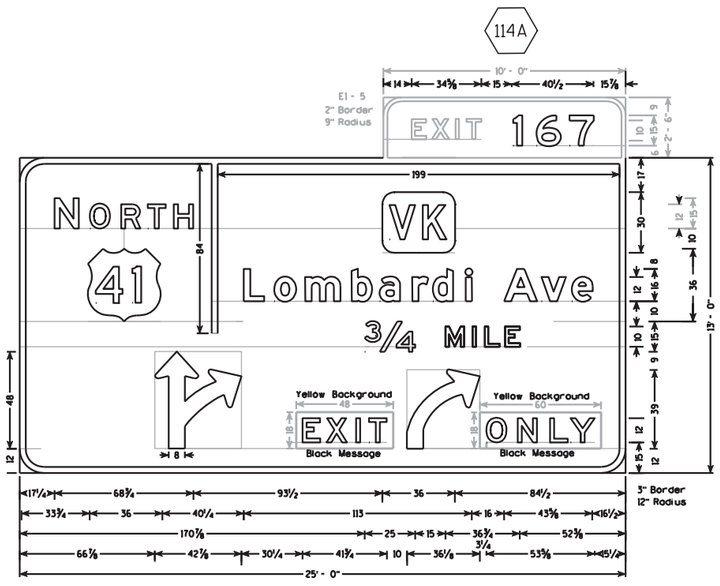


117A

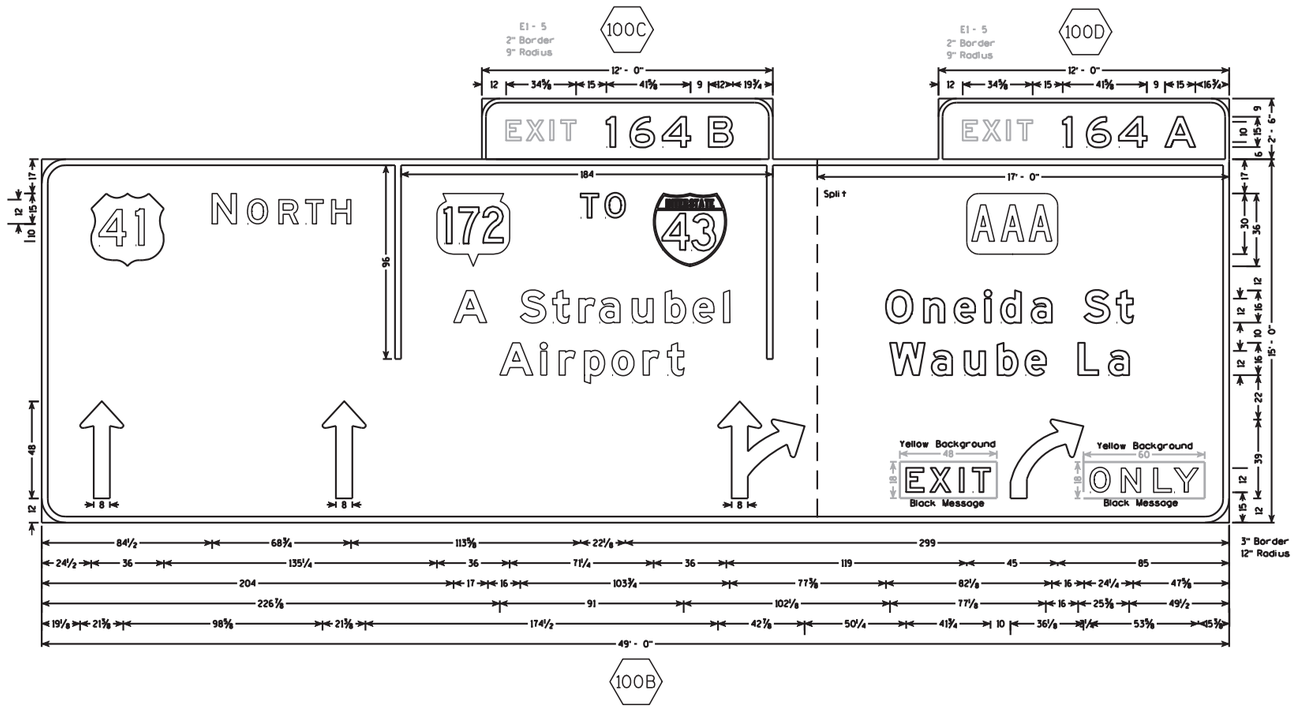
NOTES

1. All Signs are TYPE I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green see Note 4
   Message - White see Note 4
3. Message Series - E Modified except all CAP Words are Series E
4. LEFT & ONLY plaques are Yellow background with Black Message

114A



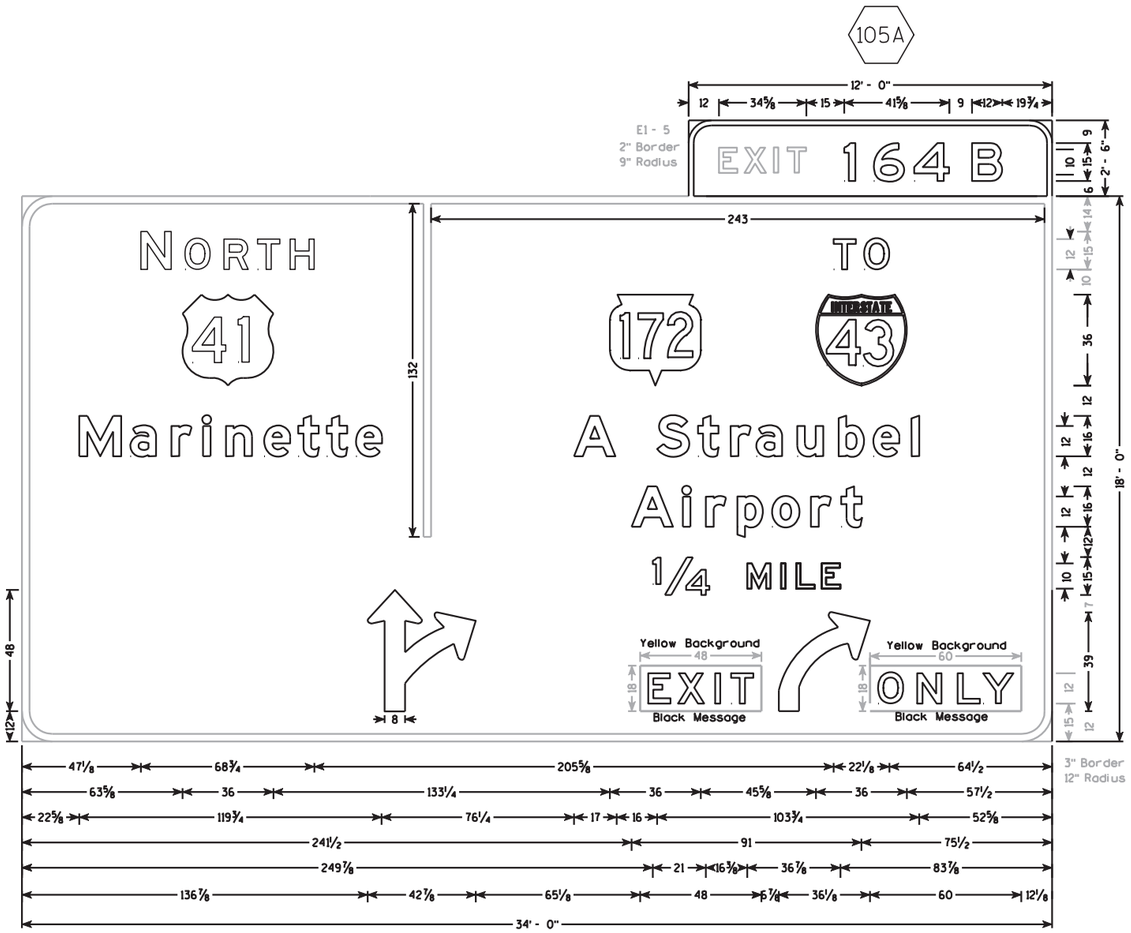
114

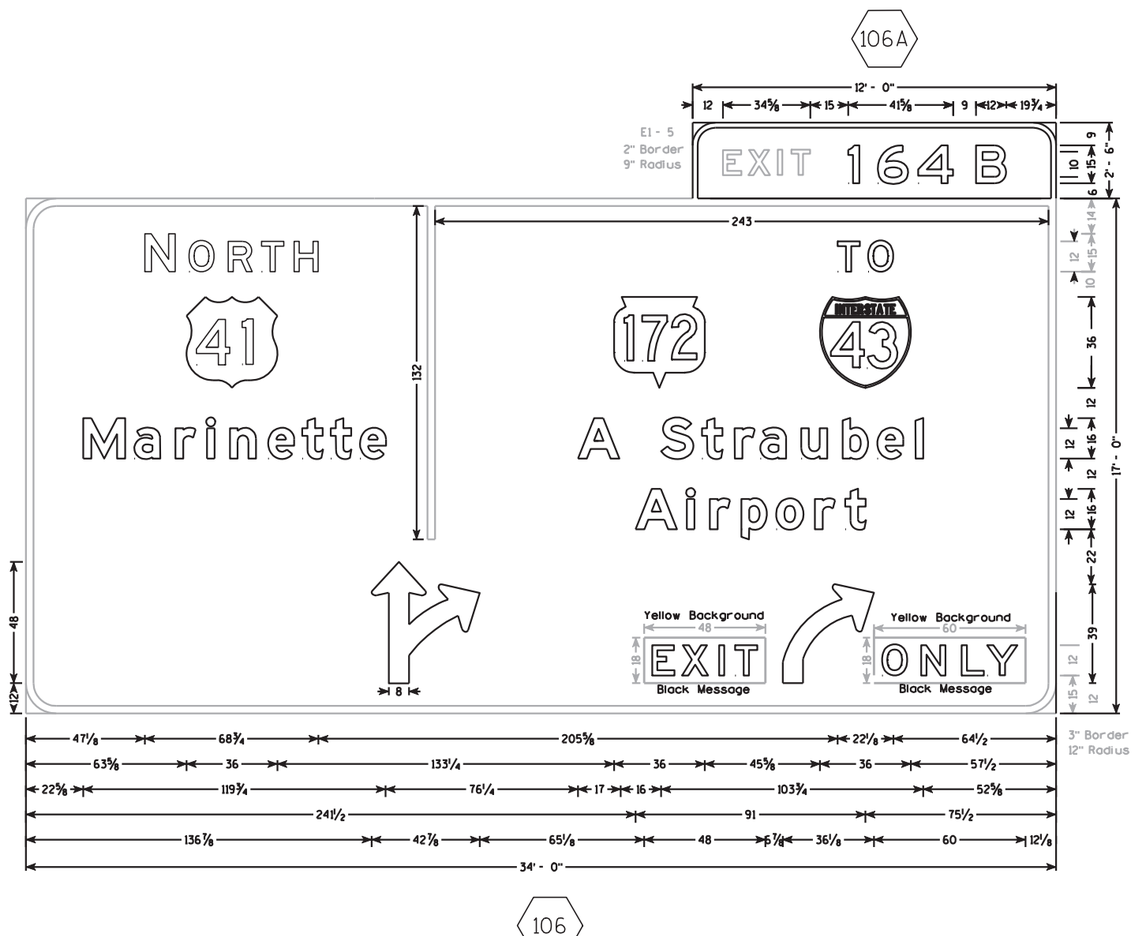


100B

NOTES

1. All Signs are TYPE I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green see Note 4
   Message - White see Note 4
3. Message Series - E Modified except all CAP Words are Series E
4. LEFT & ONLY plaques are Yellow background with Black Message





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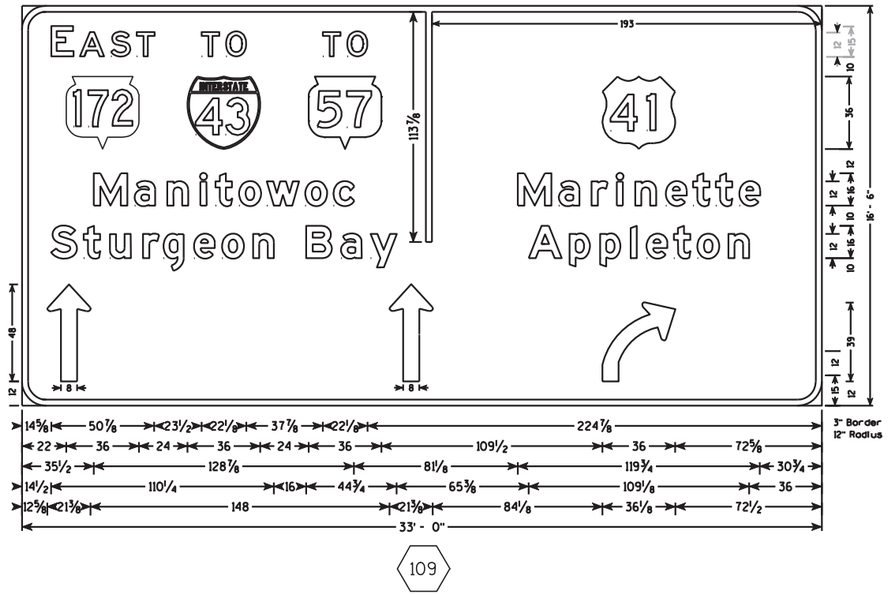
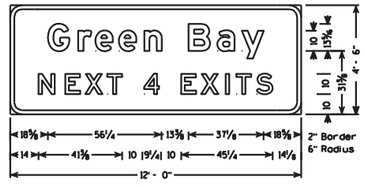
PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PERMANENT SIGNING	SHEET NO: 1579	E



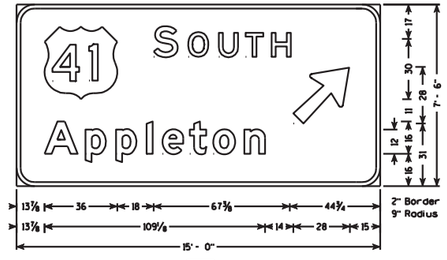
109



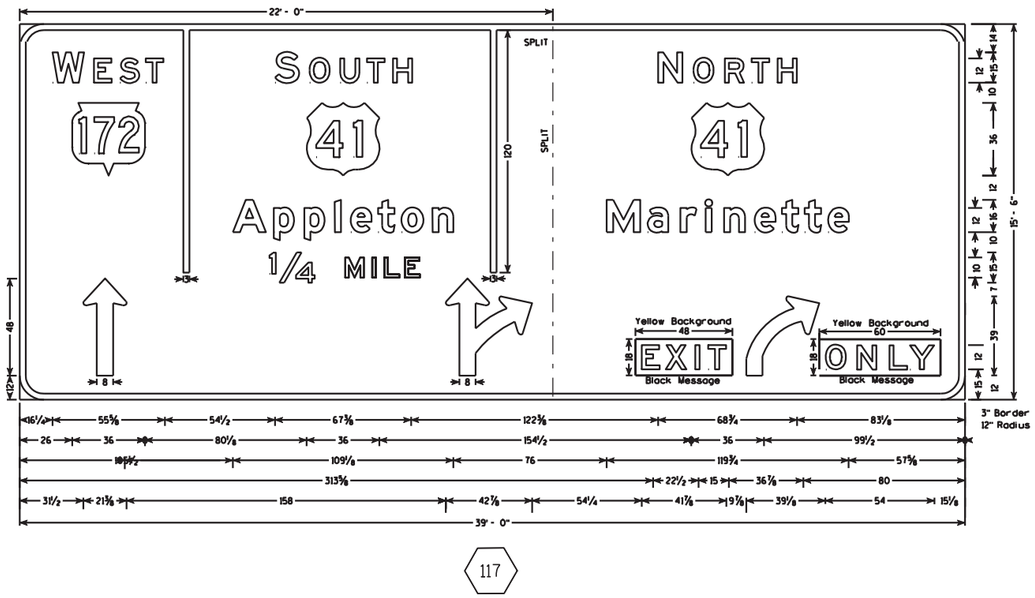
102
A

NOTES

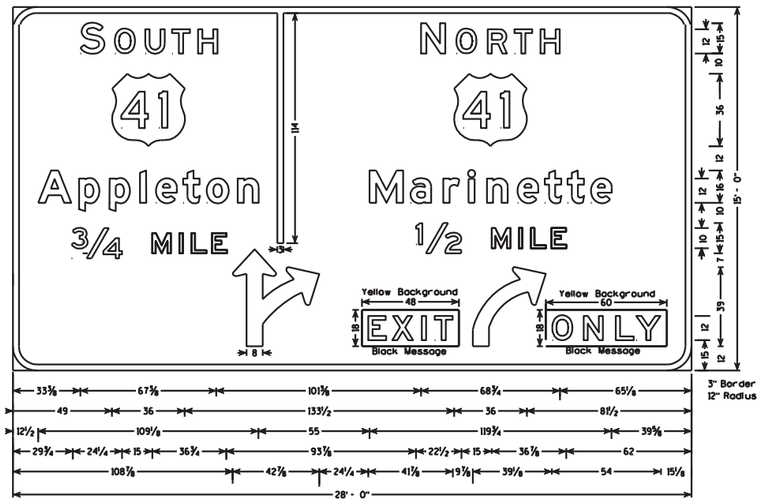
1. All Signs are TYPE I- Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green see Note 4
   Message - White see Note 4
3. Message Series - E Modified except all CAP Words are Series E
4. EXIT & ONLY plaques are Yellow background with Black Message



118



117



110

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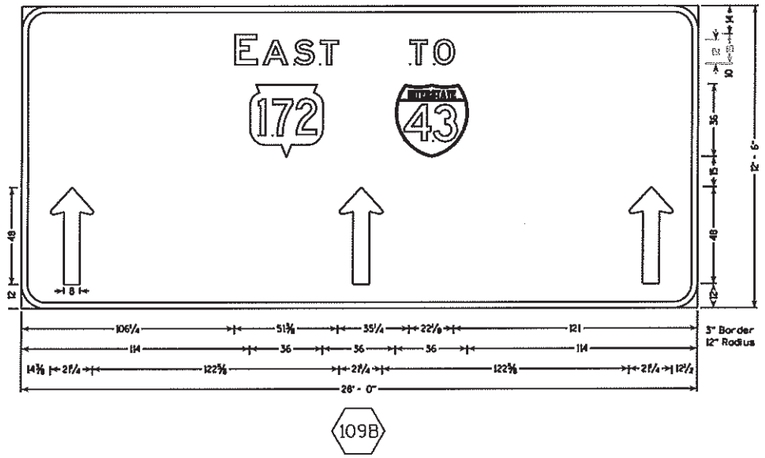
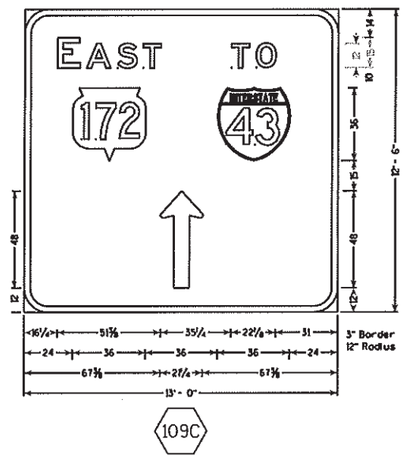
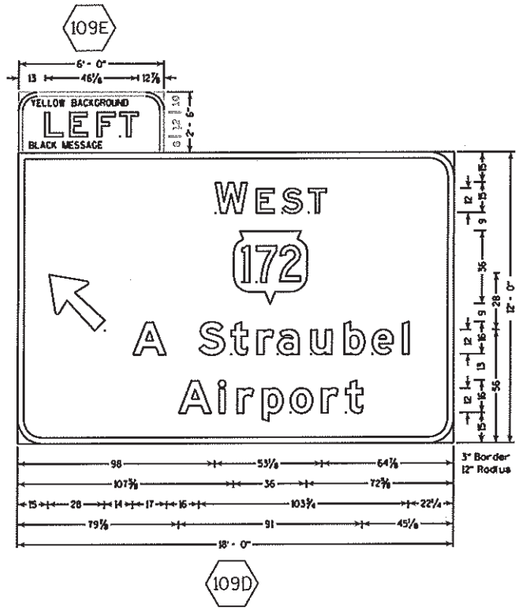
PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PERMANENT SIGNING	SHEET NO: 1580	E

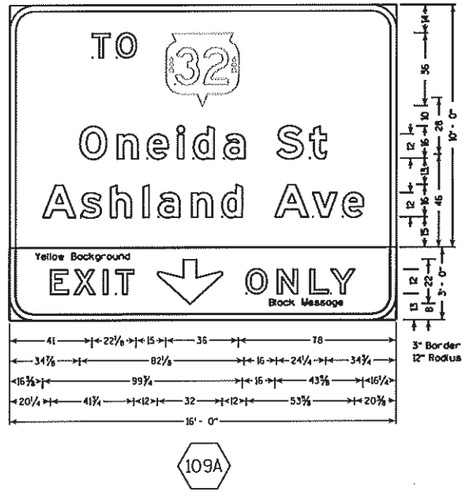


NOTES

1. All Signs are TYPE I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green see Note 4
   Message - White see Note 4
3. Message Series - E Modified except all CAP Words are Series E
4. EXIT & ONLY plaques are Yellow background with Black Message







PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PERMANENT SIGNING	SHEET NO: 1581	E

FILE NAME : N:\spo\traffic\SIGNING\Projects\USH 41 Brown County\1133-09-71 Glory - Morris Ave\070108_sd.dgn PLOT DATE : 14-FEB-2013 08:09 PLOT BY : dotj1f PLOT NAME : PLOT SCALE : 75:1

WISDOT/CADDS SHEET 42

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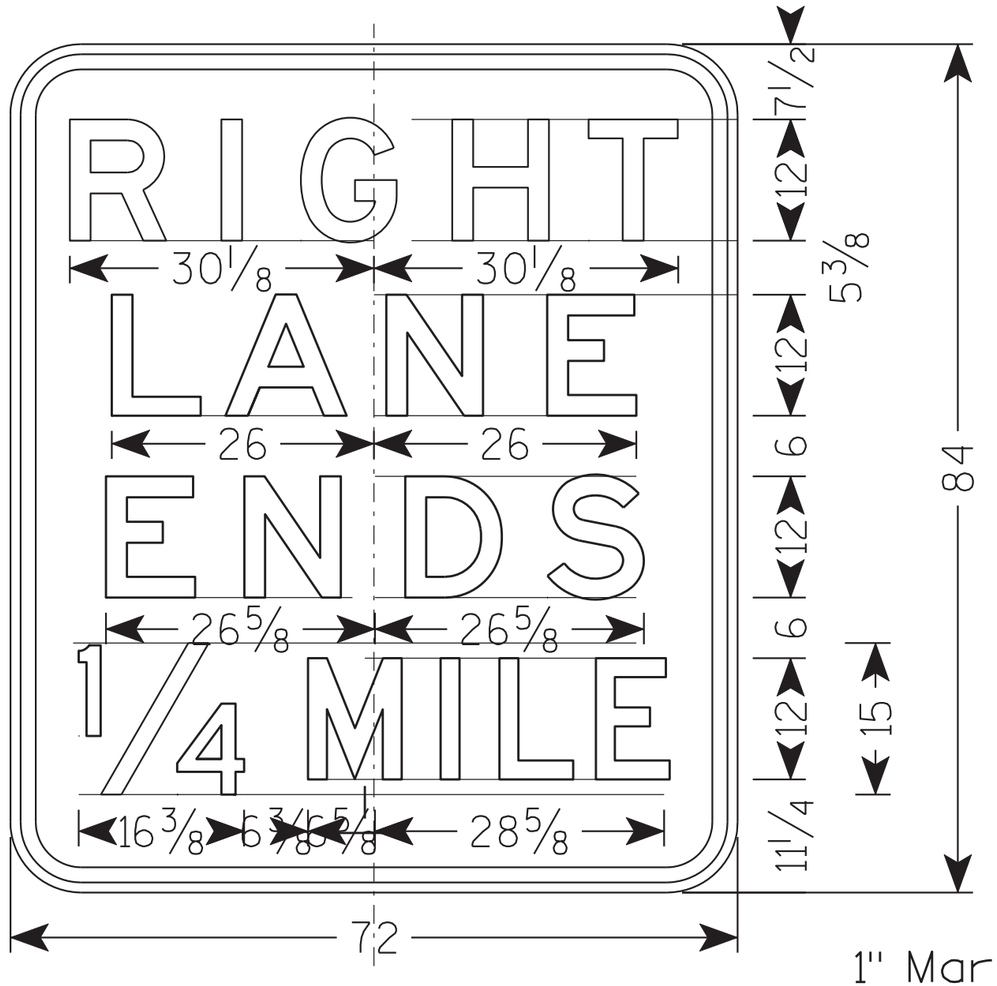

1" Margin
1 1/2" Border
6" Radius

19A

NOTES

1. Sign is Type II- Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background -Yellow
   Message - Black non-reflective
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series E, Line 3 is Series D.
6. Substitute appropriate numerals and optically adjust spacing to give proper balance.

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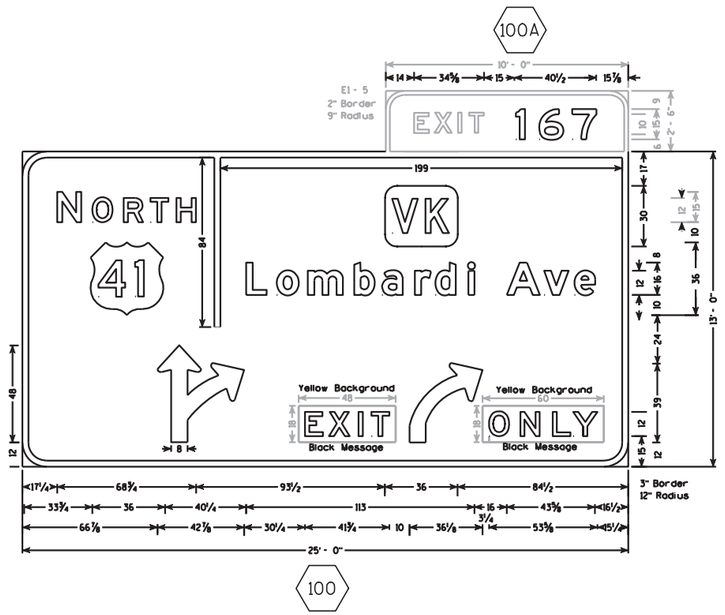
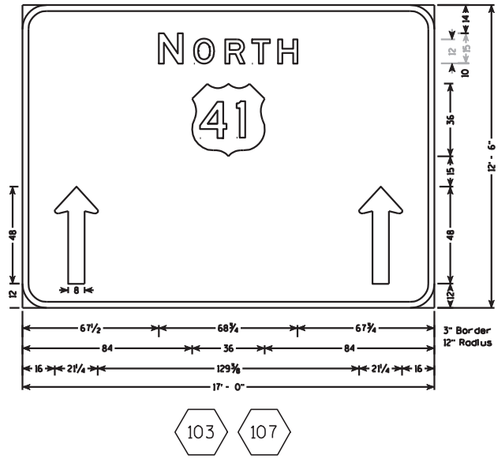
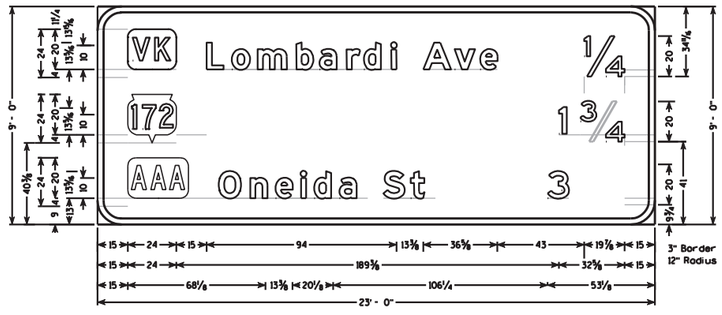
PROJECT NO: 1133-09-71	HWY: USH 41	COUNTY: BROWN	PERMANENT SIGNING	SHEET NO: 1582	E

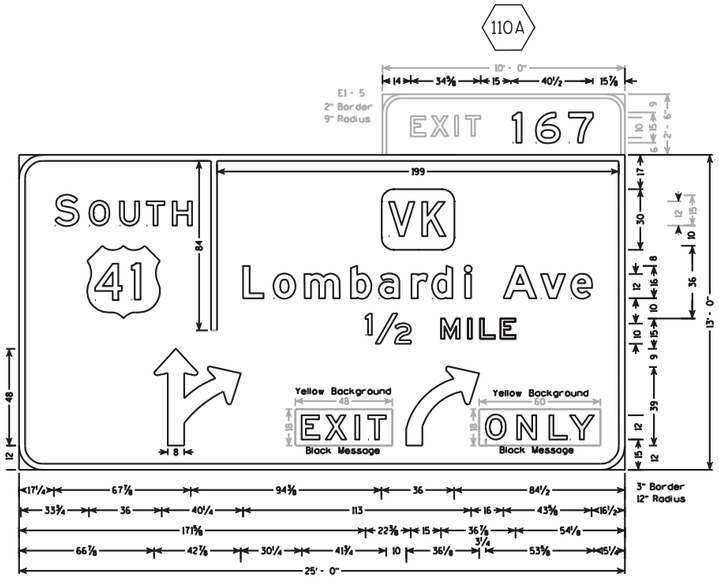
NOTES

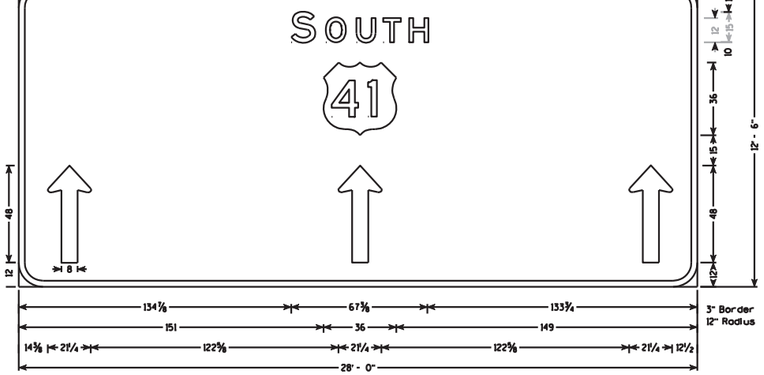
1. All Signs are TYPE I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green see Note 4
   Message - White see Note 4
3. Message Series - E Modified except all CAP Words are Series E
4. EXIT & ONLY plaques are Yellow background with Black Message

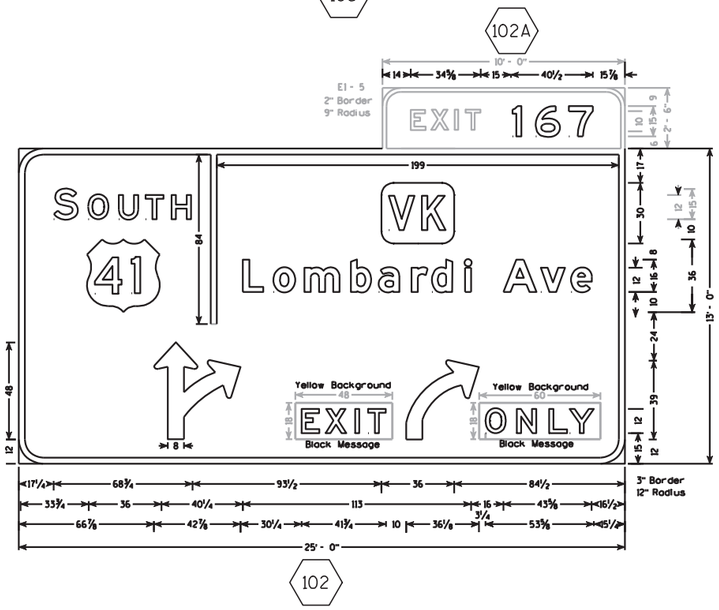


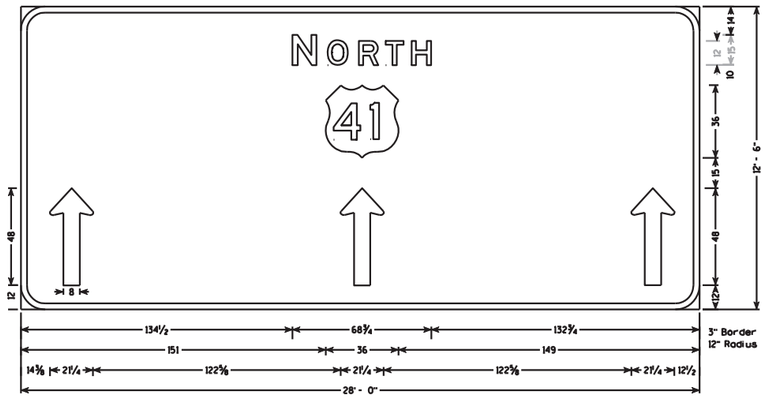












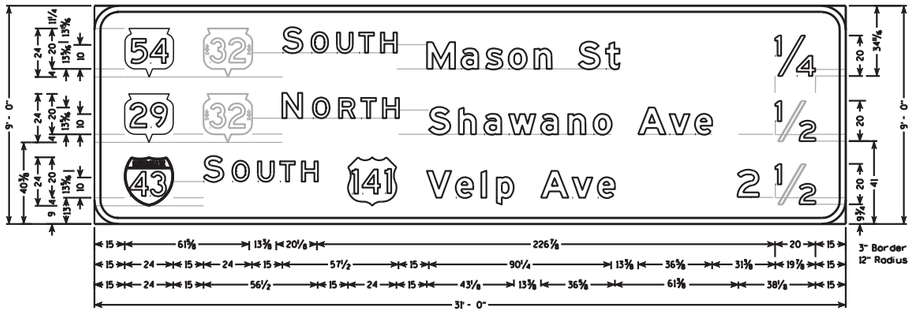
PROJECT NO: 1133-03-77	HWY: USH 41	COUNTY: BROWN	PERMANENT SIGNING	SHEET NO: 1583	E

FILE NAME : N:\spo\traffic\SIGNING\Projects\USH 41 Brown County\1133-03-77 Morris to 9th\070101_sd.dgn PLOT DATE : 28-JAN-2013 17:07 PLOT BY : dotjlf PLOT NAME : PLOT SCALE : 75:1

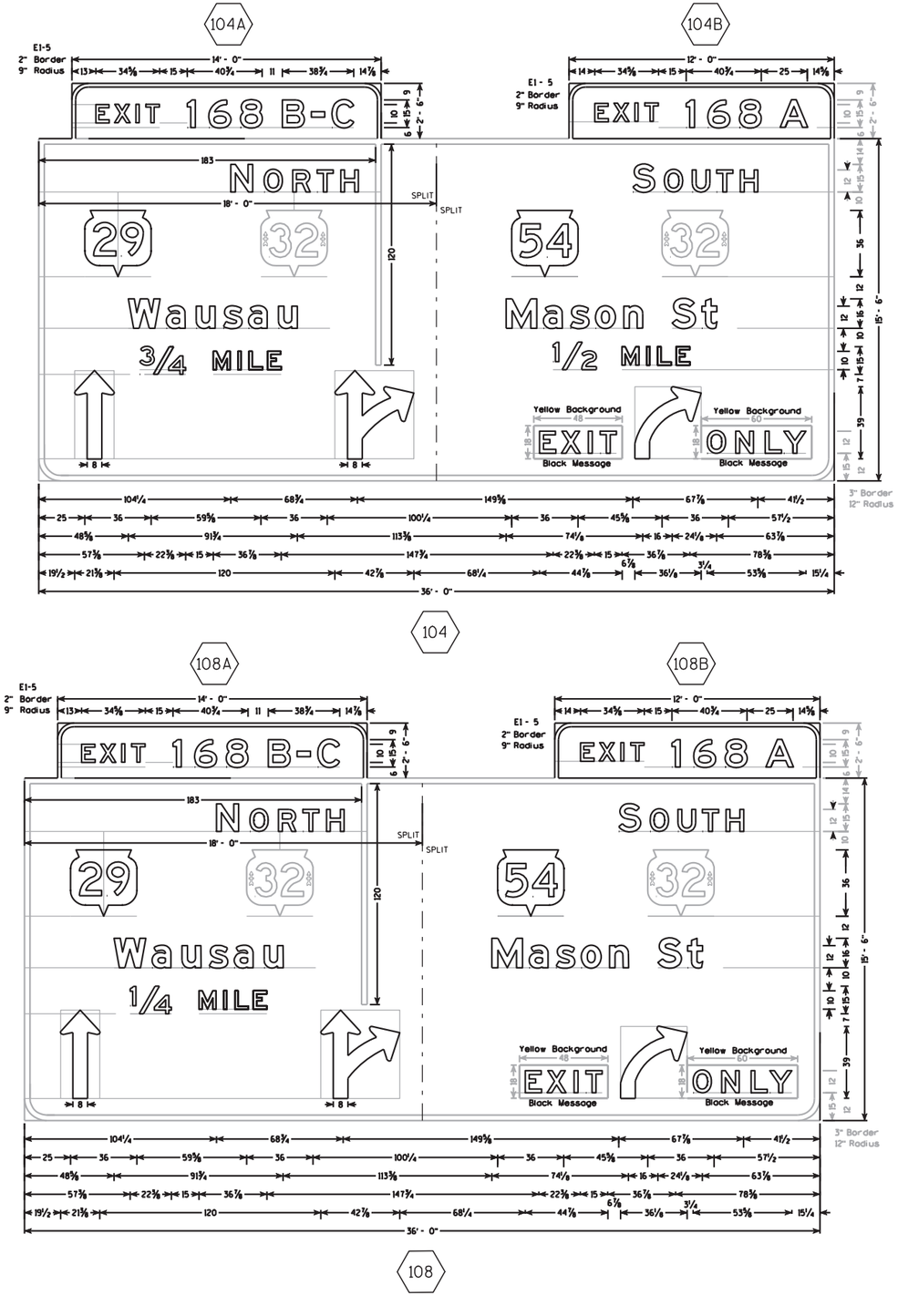
WISDOT/CADDS SHEET 42

NOTES

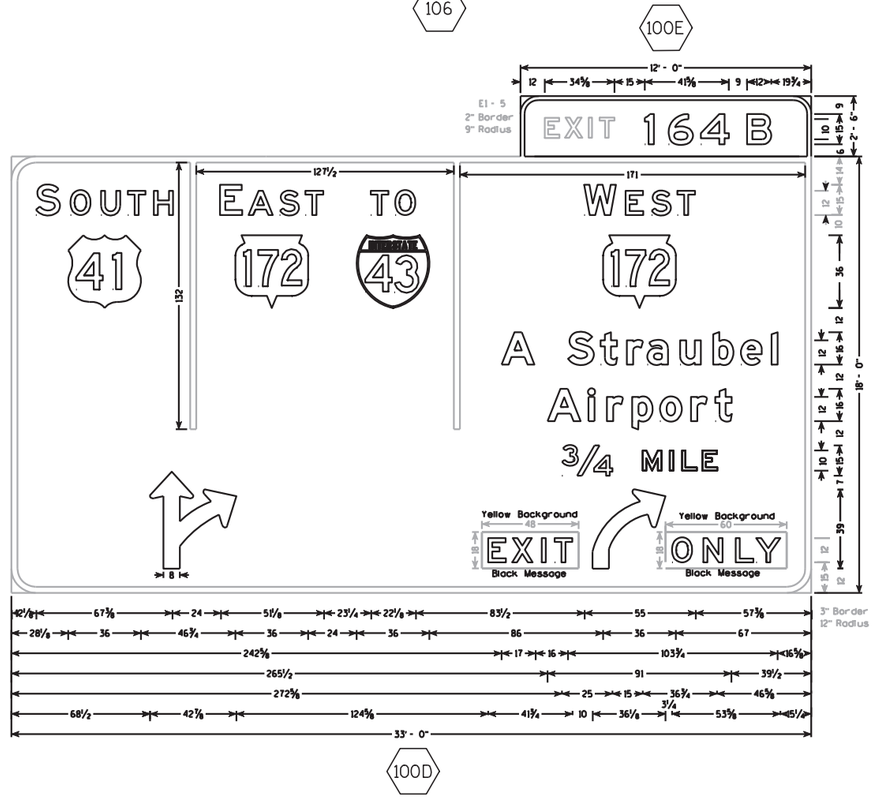
1. All Signs are TYPE I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green see Note 4
   Message - White see Note 4
3. Message Series - E Modified except all CAP Words are Series E
4. EXIT & ONLY plaques are Yellow background with Black Message



106



100E



100D

PROJECT NO: 1133-03-77	HWY: USH 41	COUNTY: BROWN	PERMANENT SIGNING	SHEET NO: 1584	E

FILE NAME : N:\spo\traffic\SIGNING\Projects\USH 41 Brown County\1133-03-77 Morris to 9th\070102_sd.dgn PLOT DATE : 28-JAN-2013 17:07 PLOT BY : dotjlf PLOT NAME : PLOT SCALE : 75:1

WISDOT/CADDS SHEET 42

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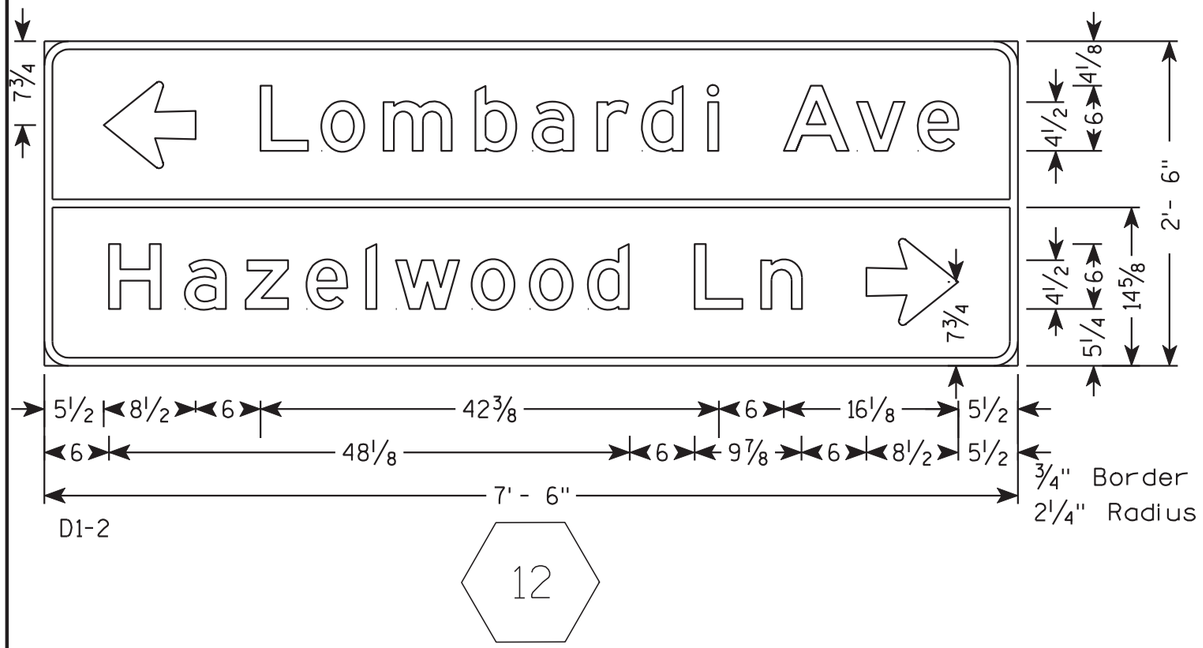
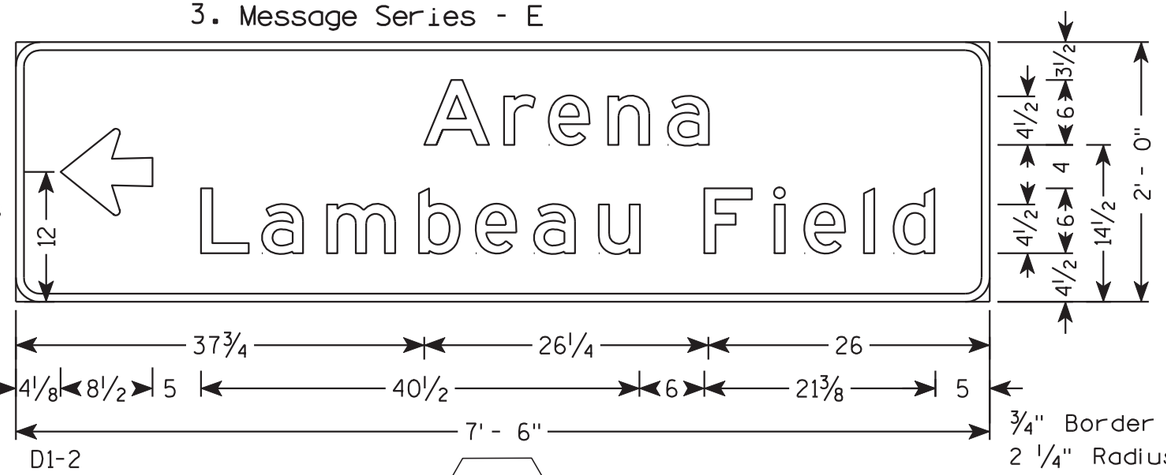
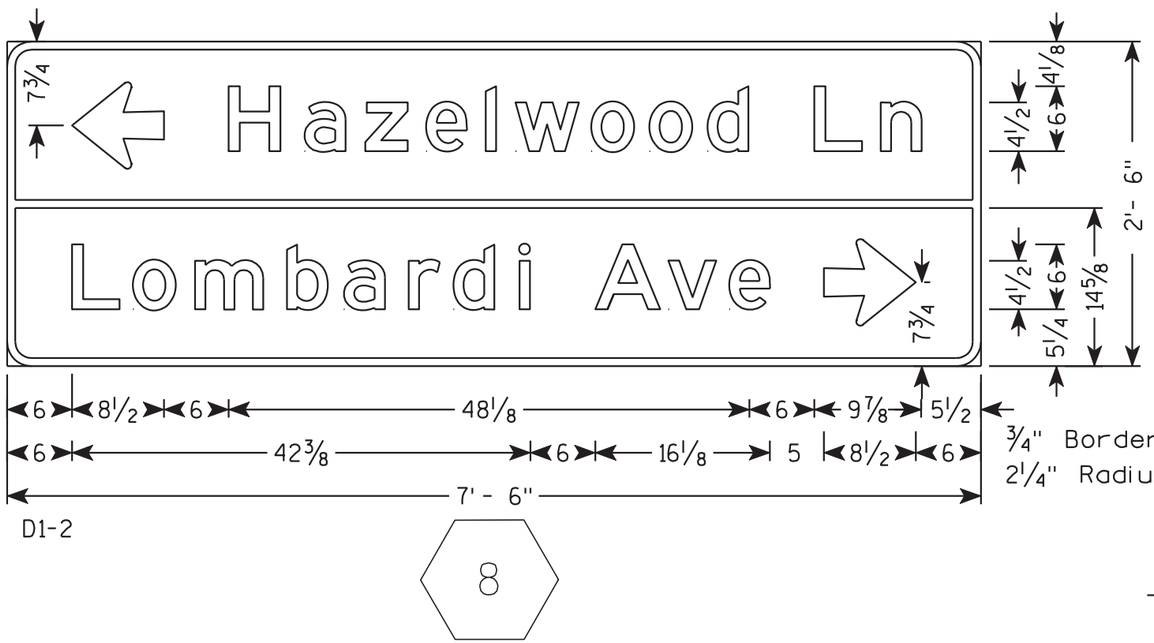
7

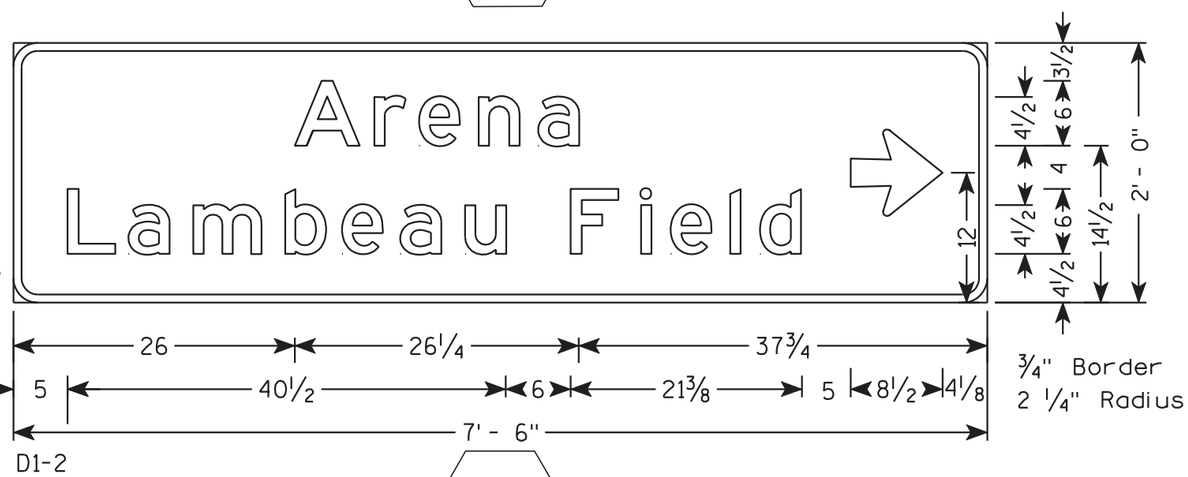
NOTES

1. All Sign Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E









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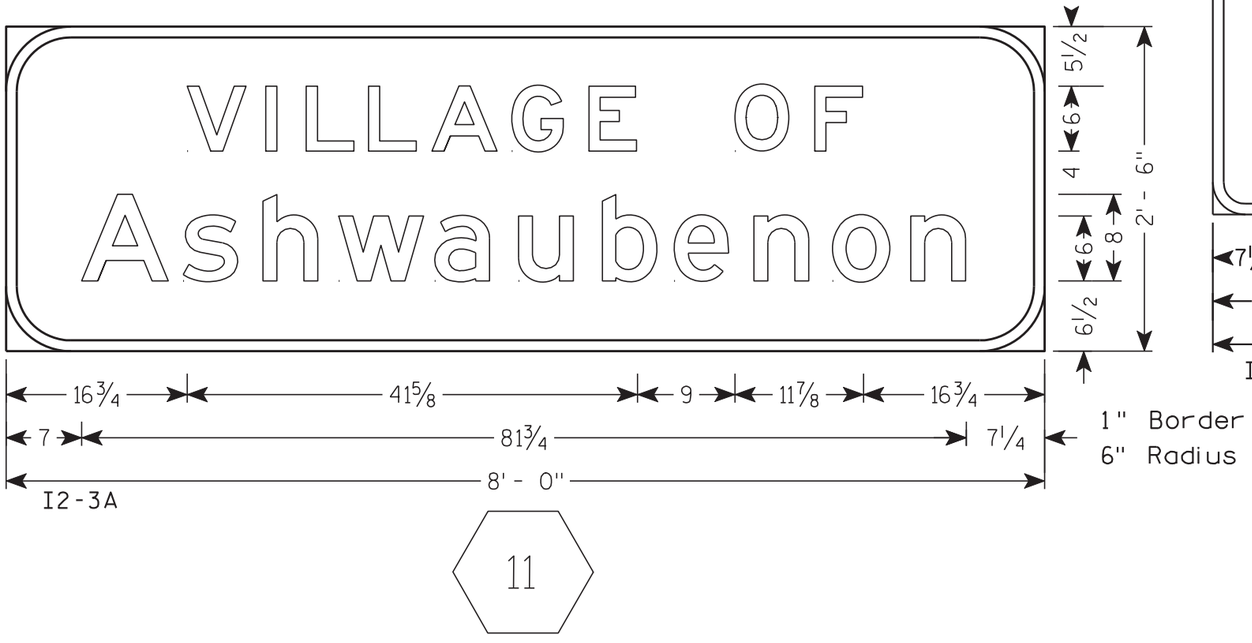
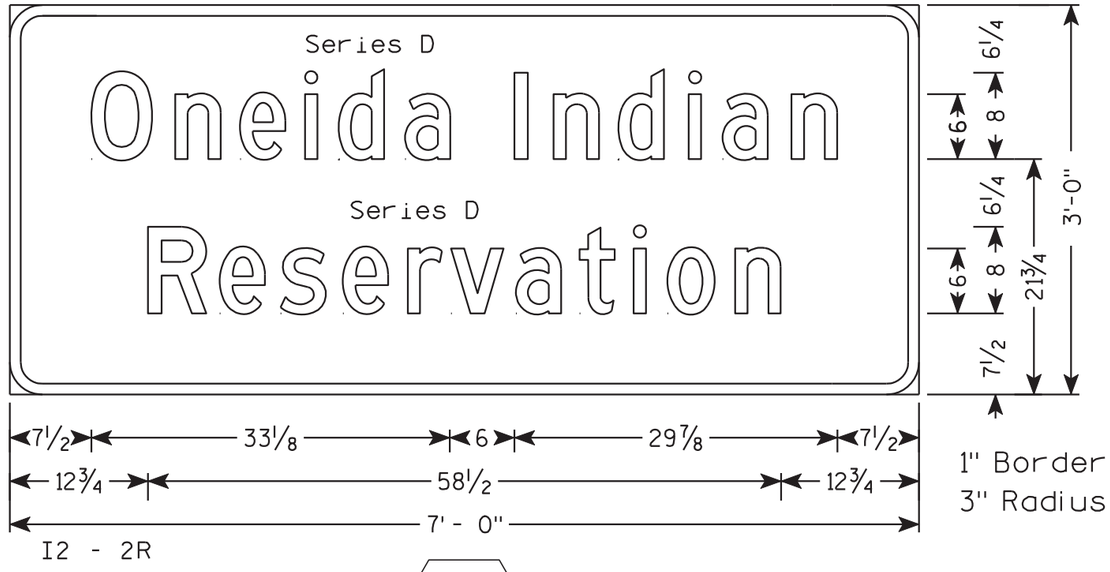
PROJECT NO: 1133-03-77	HWY: USH 41	COUNTY: BROWN	PERMANENT SIGNING	SHEET NO: 1585	E

NOTES

1. All SignsType II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E except as noted





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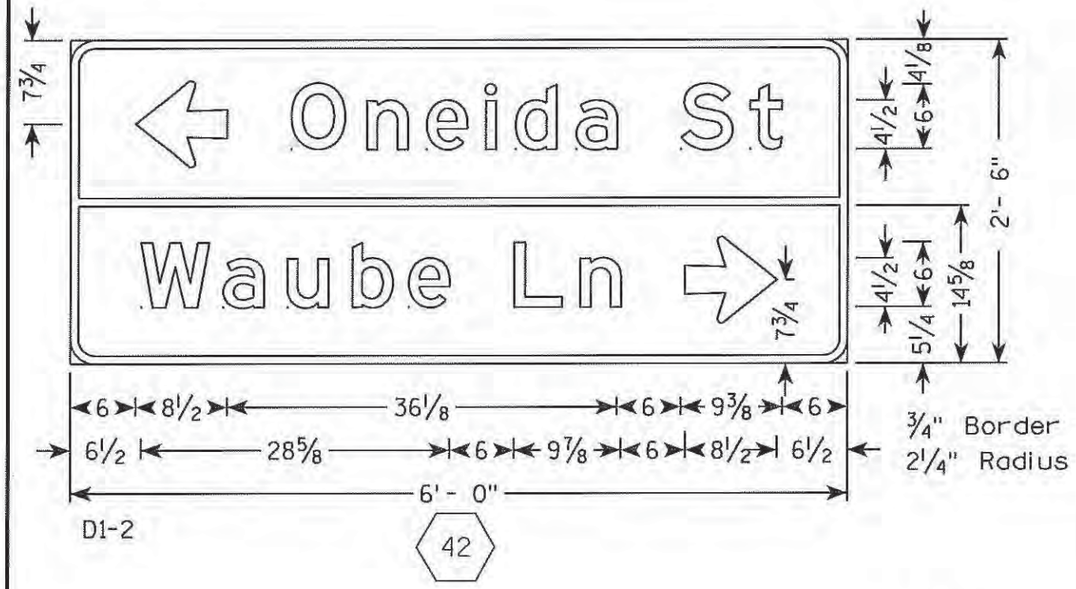
PROJECT NO: 1133-03-77	HWY: USH 41	COUNTY: BROWN	PERMANENT SIGNING	SHEET NO: 1586	E

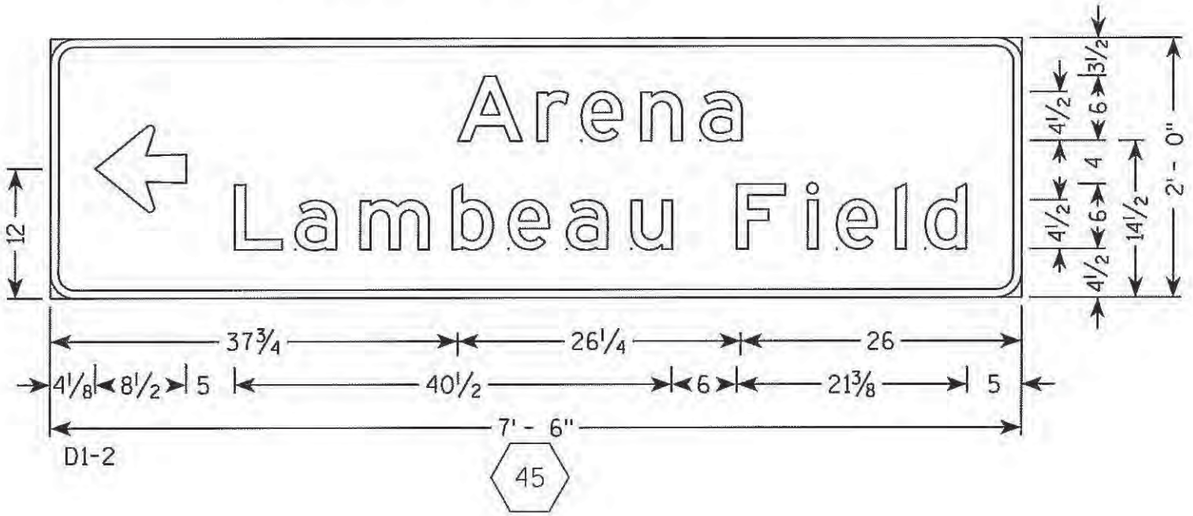
FILE NAME : N:\spo\traffic\SIGNING\Projects\USH 41 Brown County\1133-03-77 Morris to 9th\3053A612.dgn PLOT DATE : 28-JAN-2013 17:07 PLOT BY : dotjlf PLOT NAME : PLOT SCALE : 14:1

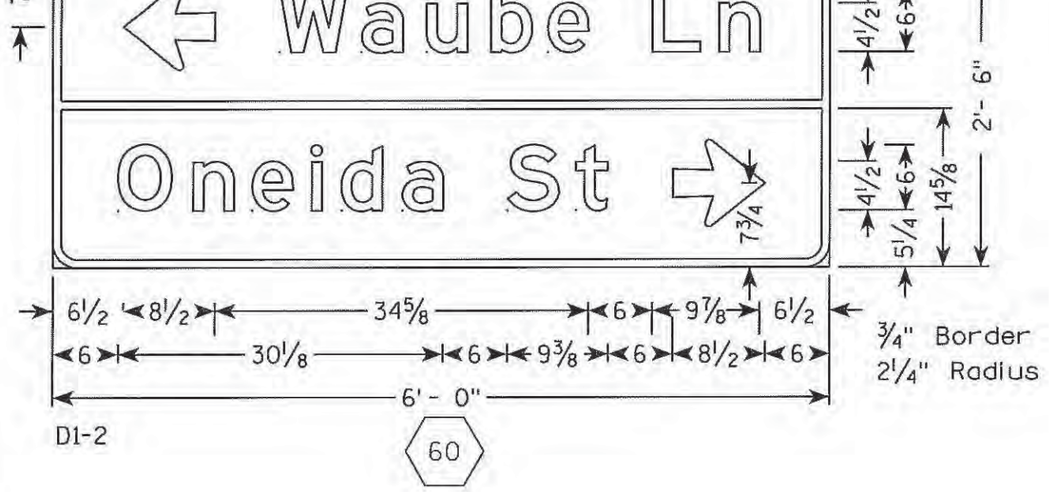
WISDOT/CADDS SHEET 42

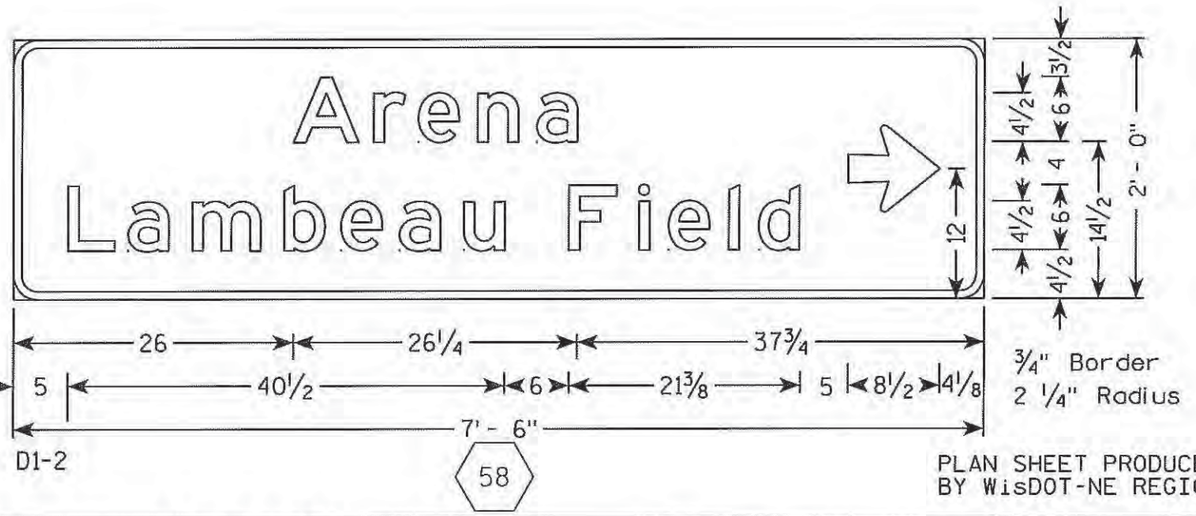
NOTES

1. All Sign Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E









PLAN SHEET PRODUCED BY WisDOT-NE REGION

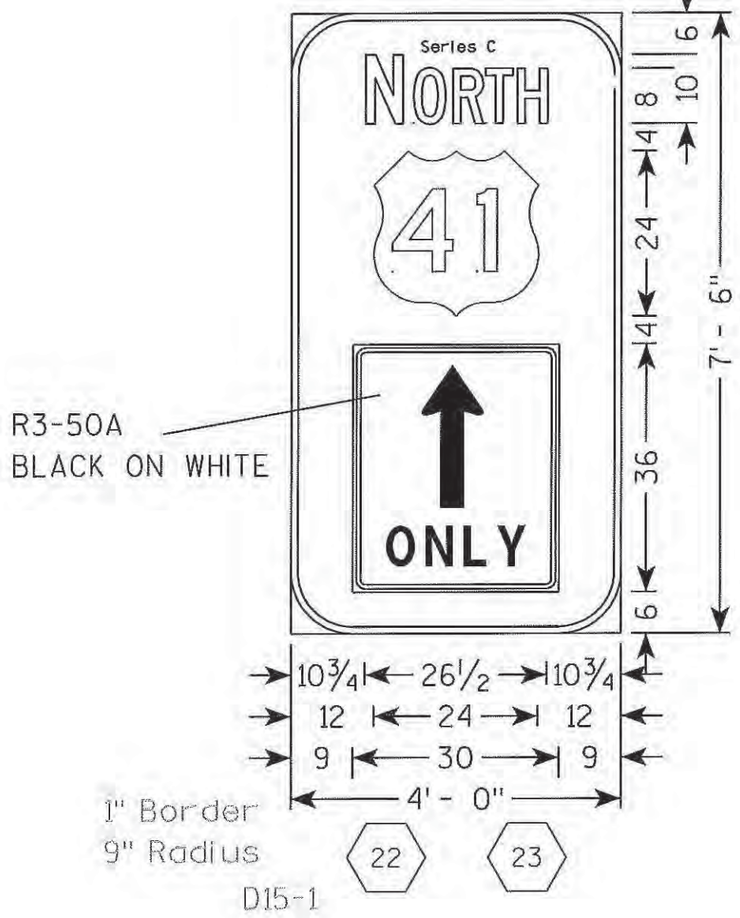
PROJECT NO: 1133-09-76	HWY: USH 41	COUNTY: BROWN	SIGN DETAILS	SHEET NO: 1587 E

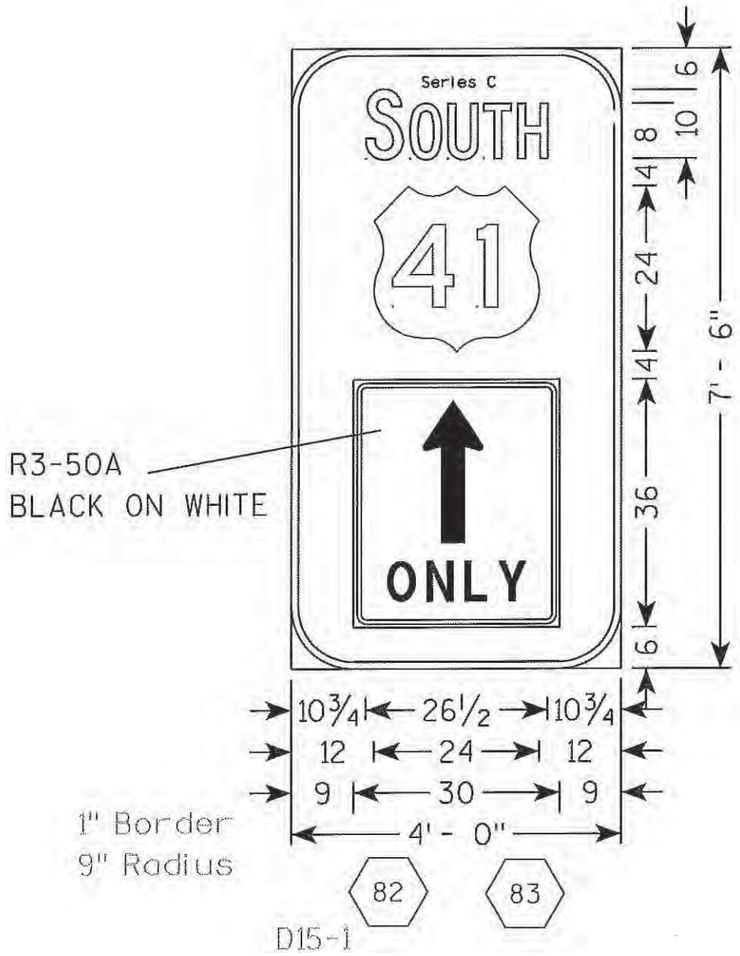
FILE NAME : N:\spo\traffic\SIGNING\Projects\USH 41 Brown County\1133-09-76 Oneida St. Interchange\070101_sd.dgn PLOT DATE : 11-DEC-2012 15:59 PLOT BY : dotjlf PLOT NAME : PLOT SCALE : 14:1

WISDOT/CADDS SHEET 42

NOTES

1. All Sign Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E except as NOTED



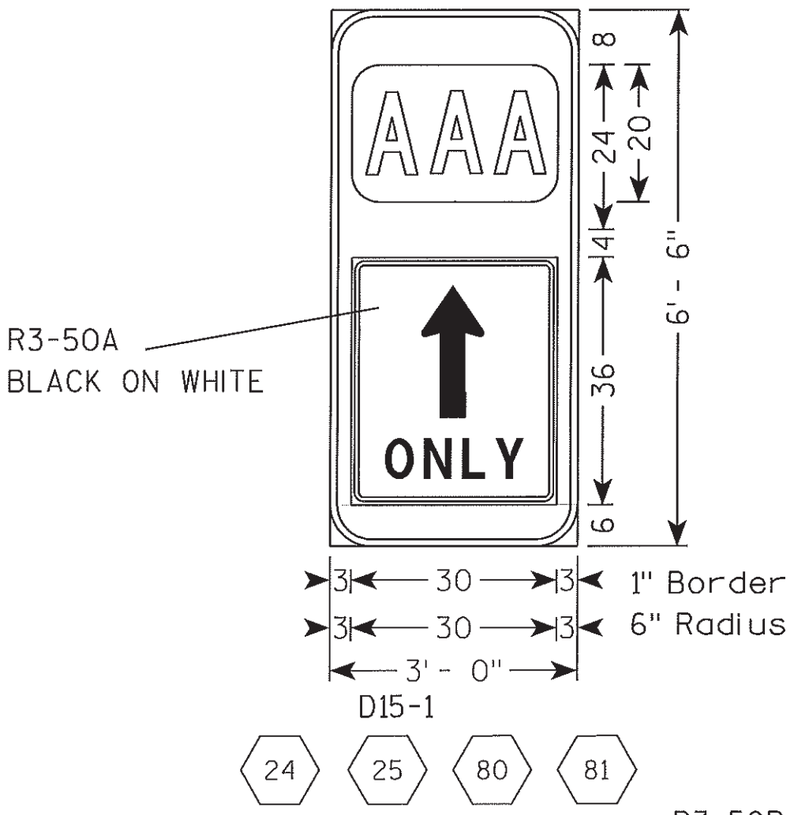


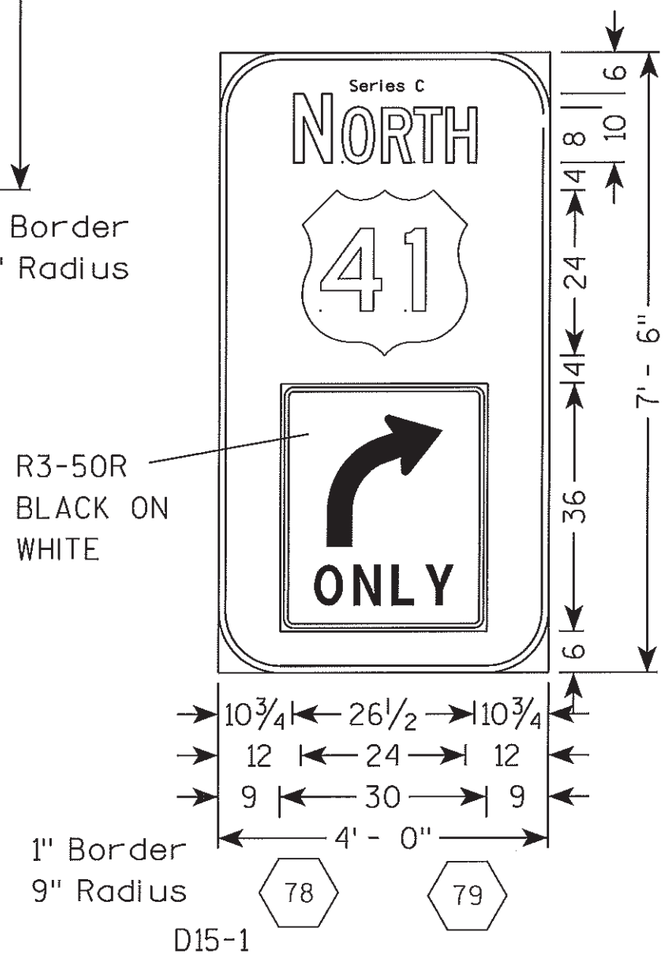
PLAN SHEET PRODUCED BY WisDOT-NE REGION

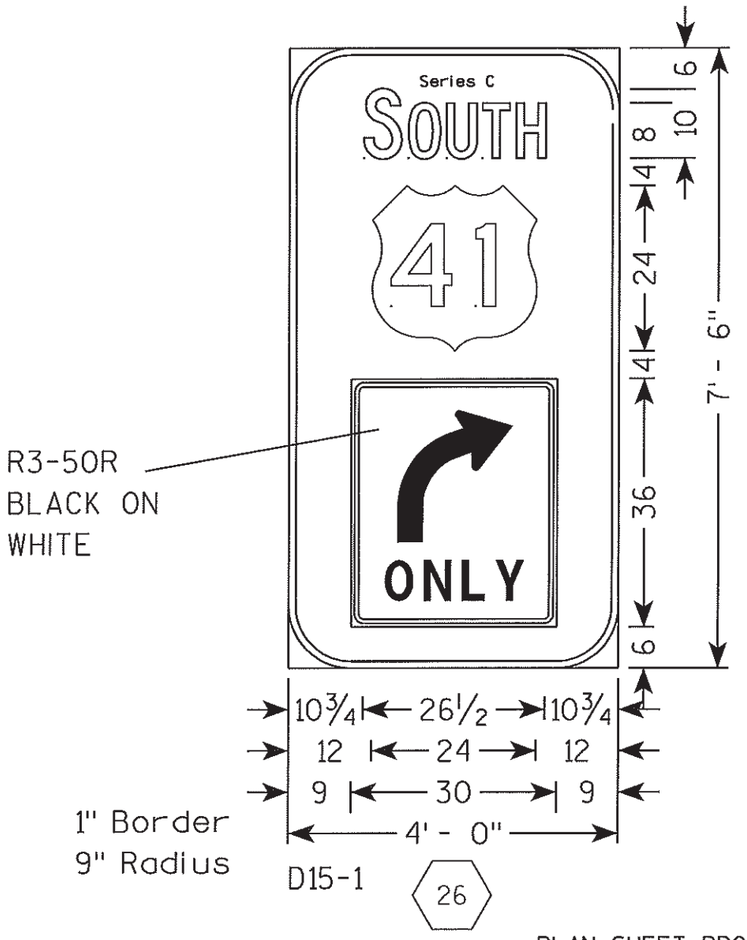
PROJECT NO: 1133-09-76	HWY: USH 41	COUNTY: BROWN	SIGN DETAILS	SHEET NO: 1588 E

NOTES

1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E except as NOTED







PLAN SHEET PRODUCED BY WisDOT-NE REGION

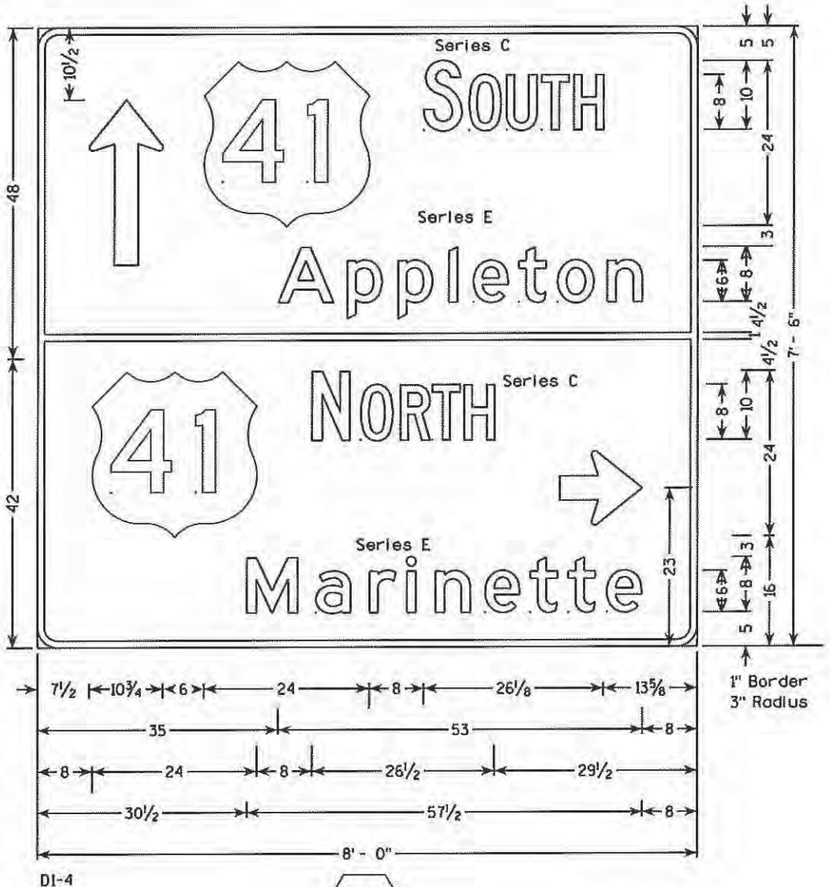
PROJECT NO: 1133-09-76	HWY: USH 41	COUNTY: BROWN	SIGN DETAILS	SHEET NO: 1589 E

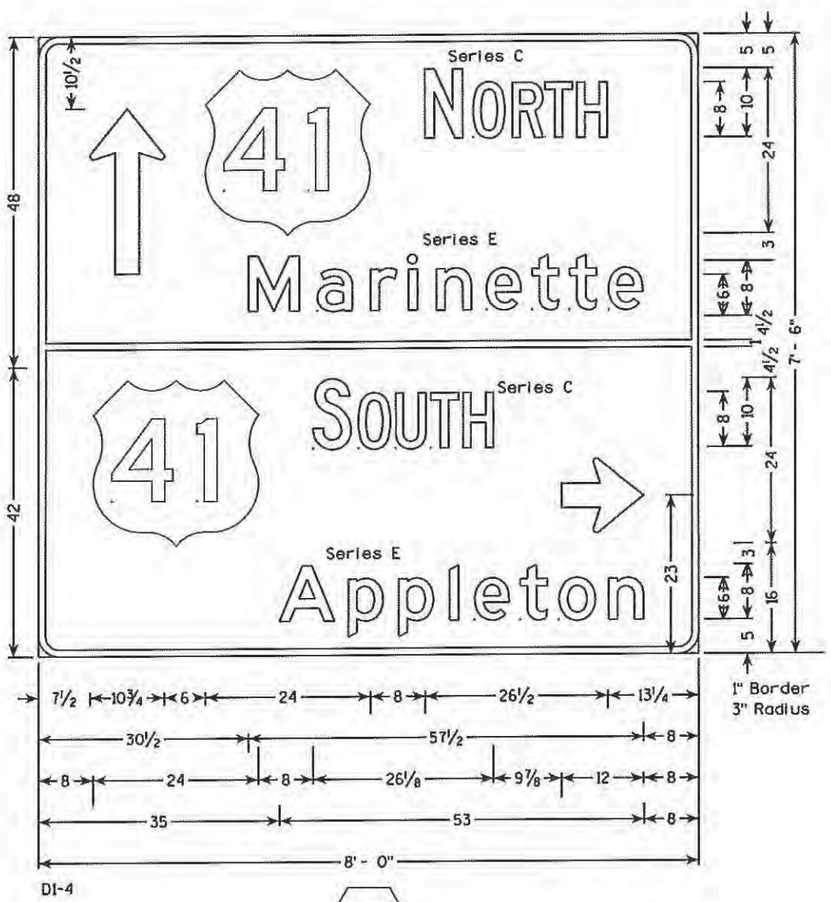
2

2

NOTES

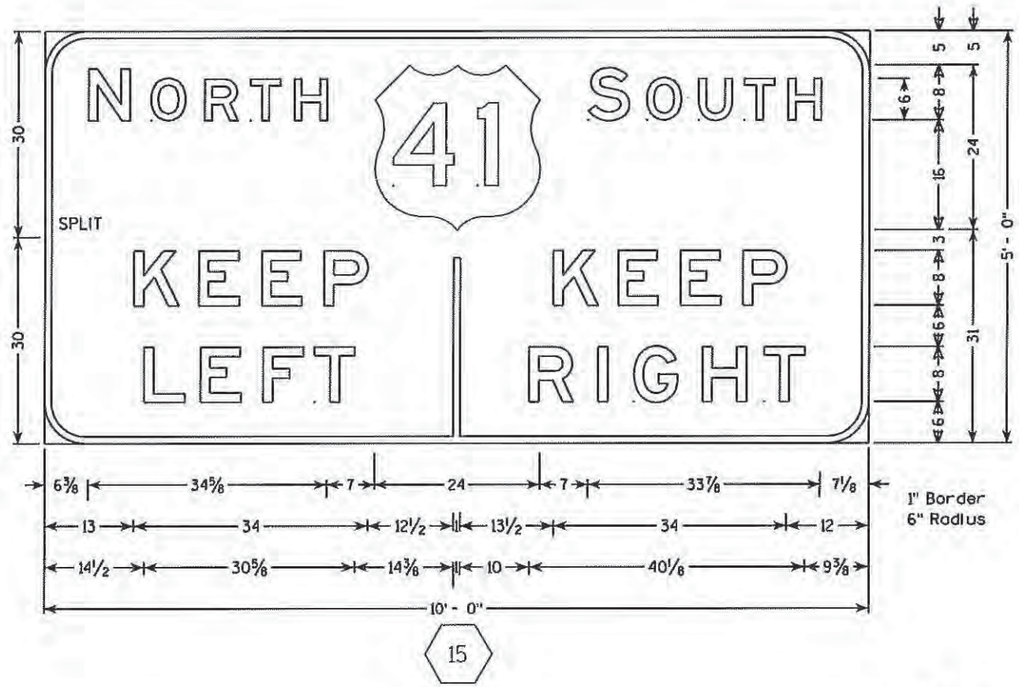
1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E except as NOTED



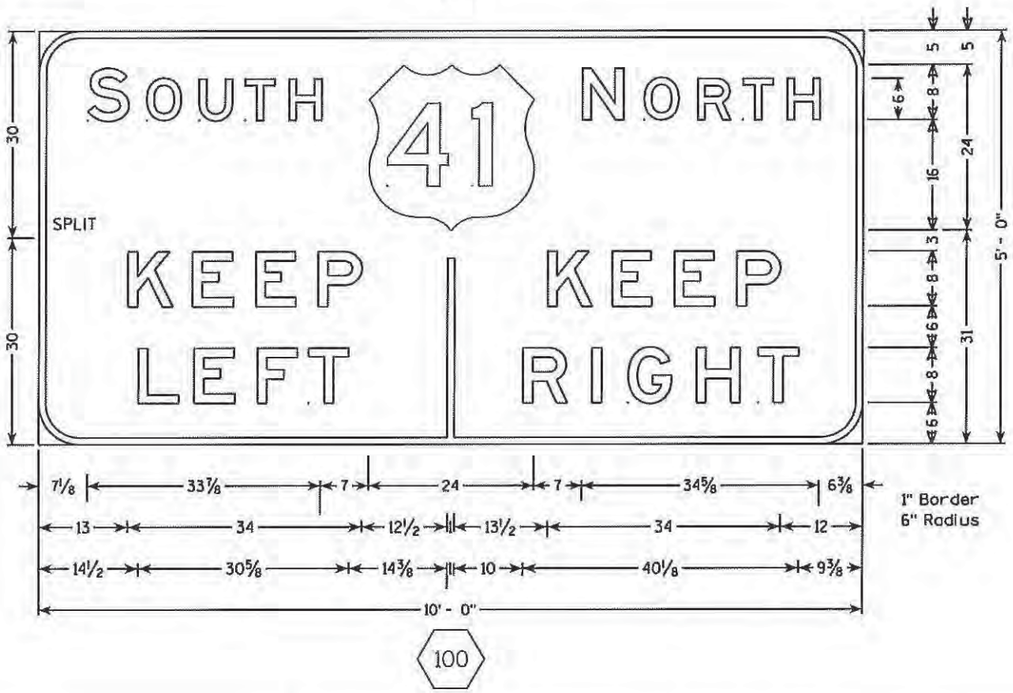


PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1133-09-76	HWY: USH 41	COUNTY: BROWN	SIGN DETAILS	SHEET 1590	E



15



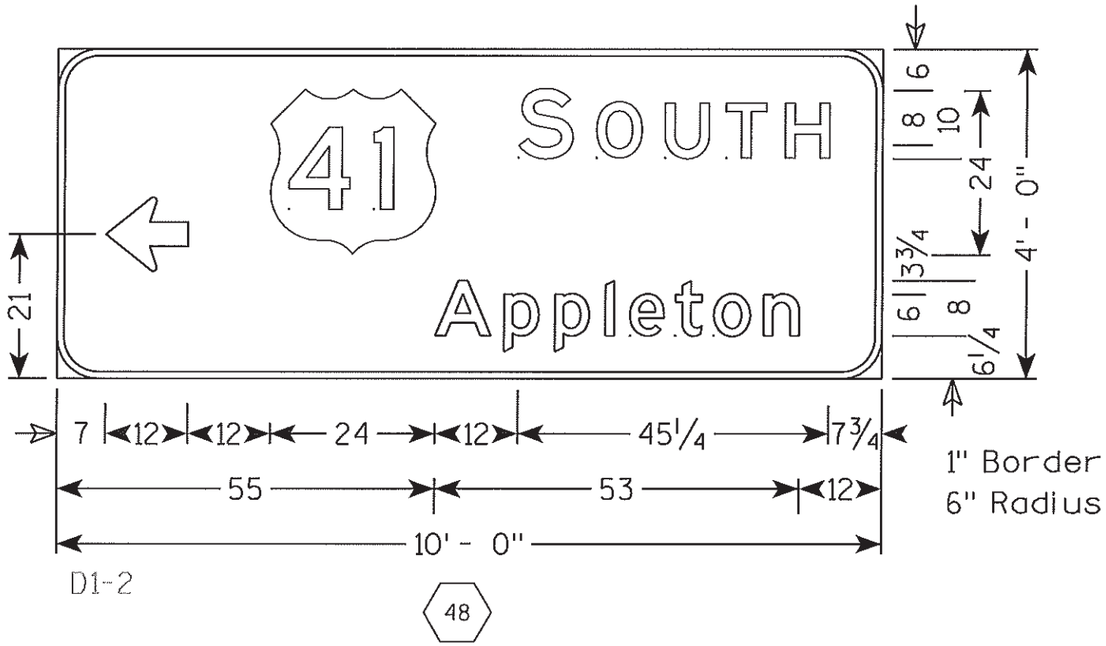
100

NOTES

1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E except as NOTED

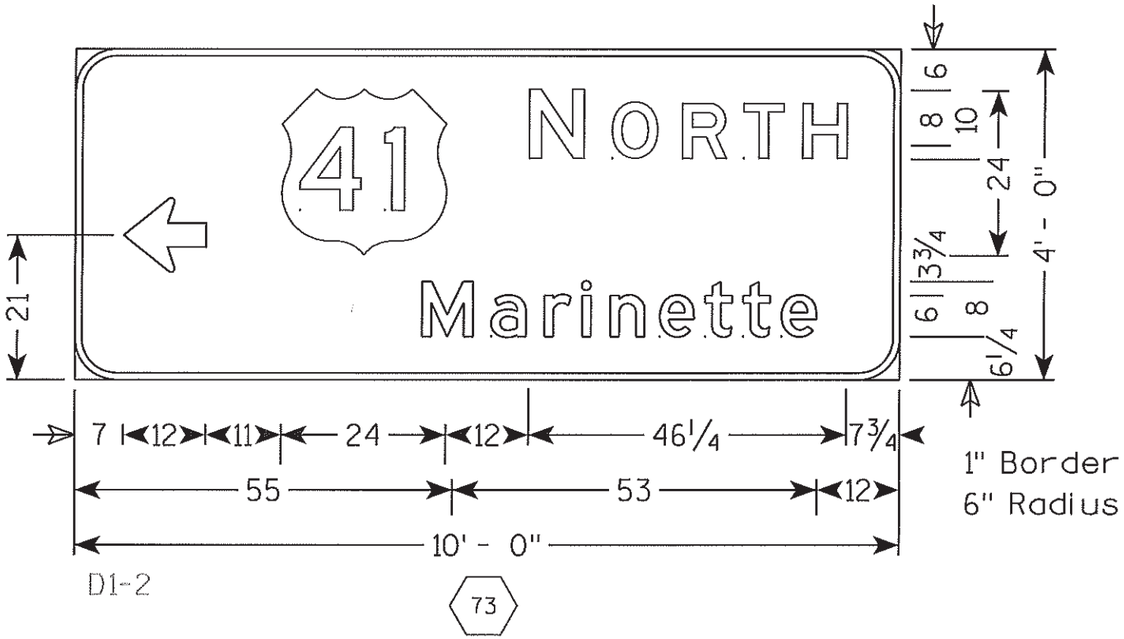
PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO:1133-09-76	HWY: USH 41	COUNTY: BROWN	SIGN DETAILS	SHEET 1591 E



NOTES

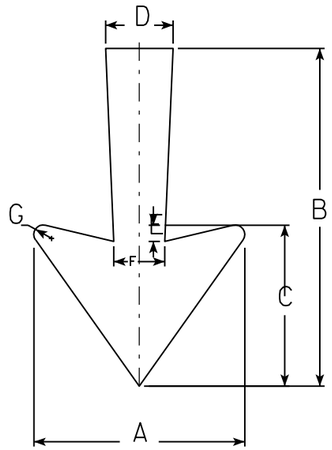
1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E



PLAN SHEET PRODUCED
BY WisDOT-NE REGION

PROJECT NO:1133-09-76	HWY: USH 41	COUNTY: BROWN	SIGN DETAILS	SHEET 1592 E

FILE NAME : N:\spo\traffic\SIGNING\Projects\USH 41 Brown County\1133-09-76 Oneida St. Interchange\070107_sd.dgn PLOT DATE : 11-DEC-2012 16:31 PLOT BY : dotjlf PLOT NAME : PLOT SCALE : 22:1
WISDOT/CADDS SHEET 42



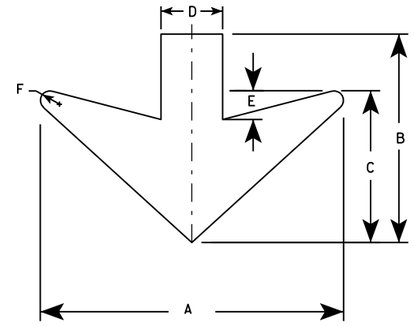
Type "A" & "B"

Type "A"

Copy Size	A	B	C	D	E	F	G
13.33 u.c. 10", 12" Caps	18 1/4	29 1/4	14	6	1 1/2	4 1/2	3/4
16" U. C.	22 1/4	35 5/8	17	7 1/8	1 3/4	5 3/8	1

Type "B"

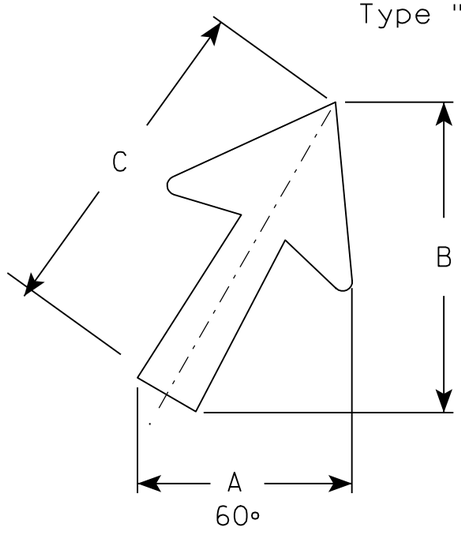
Copy Size	A	B	C	D	E	F	G
10" Caps	14 1/4	17 1/4	9 7/8	4 1/2	1 3/8	3 3/8	3/4
13.33 u.c. 12" Caps	17 1/2	20 1/4	11 3/4	5 5/8	1 1/2	4 3/8	7/8
16" U. C.	21 7/8	25	14 1/4	6 3/4	1 3/4	5	1



Type "C"

Type "C"

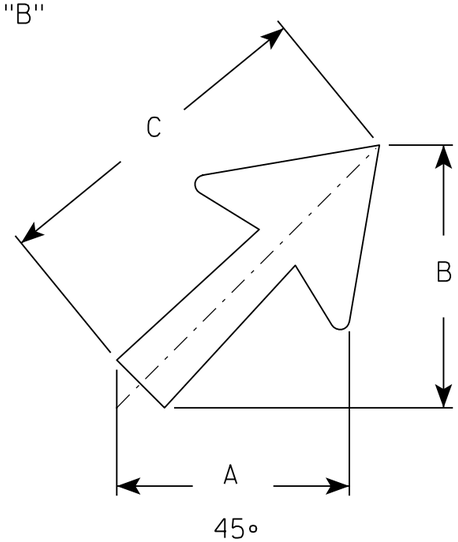
Copy Size	A	B	C	D	E	F
Overhead	32	22	16	6 1/2	3	1
Minimum	24	16	12 1/4	5	1 5/8	3/4



60°

Type "A"

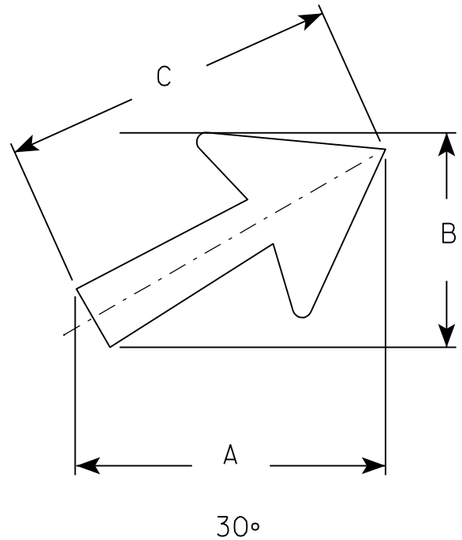
Angle	Arrow Size	A	B	C
60°	10.67" - 13" U.C. 10"- 12" Caps	18 1/2	27	29 1/4
	15" Caps - 16" U.C.	22 5/8	32 3/4	35 5/8
45°	10.67" - 13" U.C. 10"- 12" Caps	23	23	29 1/4
	15" Caps - 16" U.C.	28	28	35 5/8
30°	10.67" - 13" U.C. 10"- 12" Caps	27	18 1/2	29 1/4
	15" Caps - 16" U.C.	32 3/4	22 5/8	35 5/8



45°

Type "B"

Angle	Arrow Size	A	B	C
60°	8" - 10" Caps, 10.67 U.C.	12 1/2	16 1/8	17 1/4
	12" Caps - 13" U.C.	15 1/2	19	20 1/4
	15" Caps - 16" U.C.	19 1/8	23 1/2	25
45°	8" - 10" Caps, 10.67 U.C.	14	14	17 1/4
	12" Caps - 13" U.C.	16 5/8	16 5/8	20 1/4
	15" Caps - 16" U.C.	20 3/8	20 3/8	25
30°	8" - 10" Caps, 10.67 U.C.	16 1/8	12 1/2	17 1/4
	12" Caps - 13" U.C.	19	15 1/2	20 1/4
	15" Caps - 16" U.C.	23 1/2	19 1/8	25



30°

NOTES

1. Arrows to be of same material as other message units on each sign.
2. Taper should be held constant for longer or shorter shaft lengths on Type "A" & "B" arrows.

STANDARD ARROWS
FOR LARGE GUIDE SIGNS

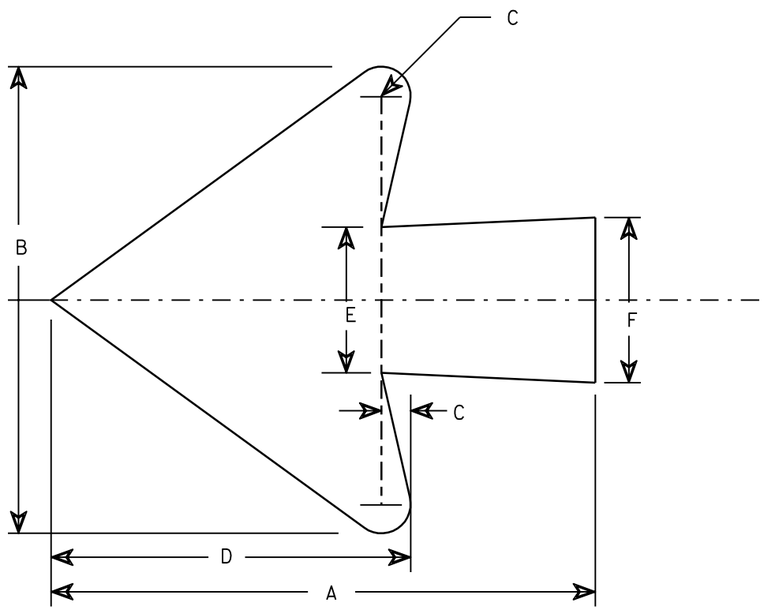
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

DATE 10/8/82 PLATE NO. A1-1.4

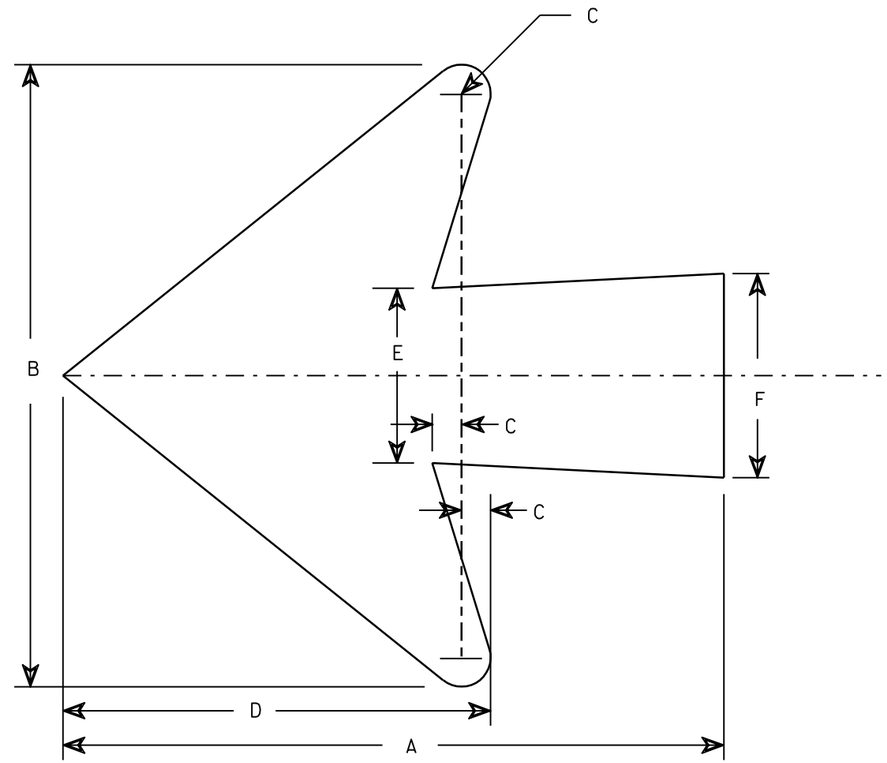
PROJECT NO:

SHEET NO: 1593 E



Lower Case Copy Size	A Right or Left	A * 2 Town	A * 3 Town	B	C	D	E	F
3¾ Series C	7	11	18	6	⅜	4⅝	1⅞	2⅛

* Indicates Ahead and Tilt for 2 & 3 Town applications.



Lower Case Copy Size	A Right or Left	A * 2 Town	A * 3 Town	B	C	D	E	F
4½ Series D&E	8½	11	18	8	⅜	5½	2¼	2⅝
6 Series D&E	12	18	24	10¾	½	7⅜	3¼	3½
8 Series E	15½	24	30	14¼	¾	9¾	4¼	4½

* Indicates Ahead and Tilt for 2 & 3 Town applications.

STANDARD ARROWS FOR D1 GUIDE SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

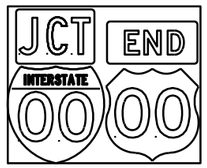
DATE 8/10/92 PLATE NO. A1-2.3

PROJECT NO:

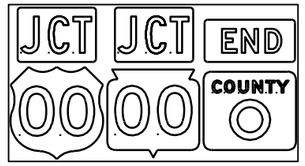
SHEET NO: 1594 E

TYPICAL ASSEMBLIES

J1-1

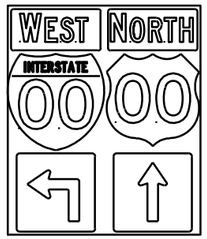


J1-2

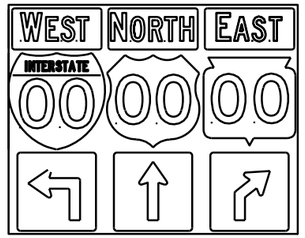


J1-3

J2-1



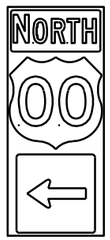
J2-2



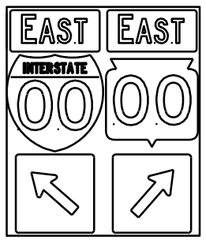
J2-3

JV

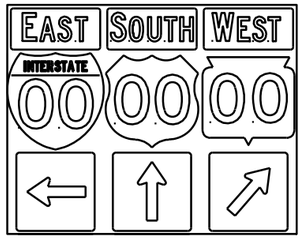
(Typical Vertical J-Assembly
See Note 10 and 11)



J3-1

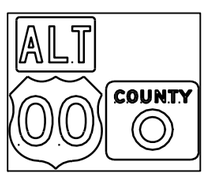


J3-2

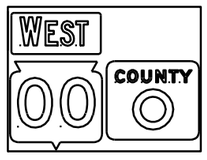


J3-3

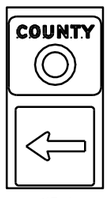
J4-1



J4-2



J4-2



J13-1

J12-1

J32-1

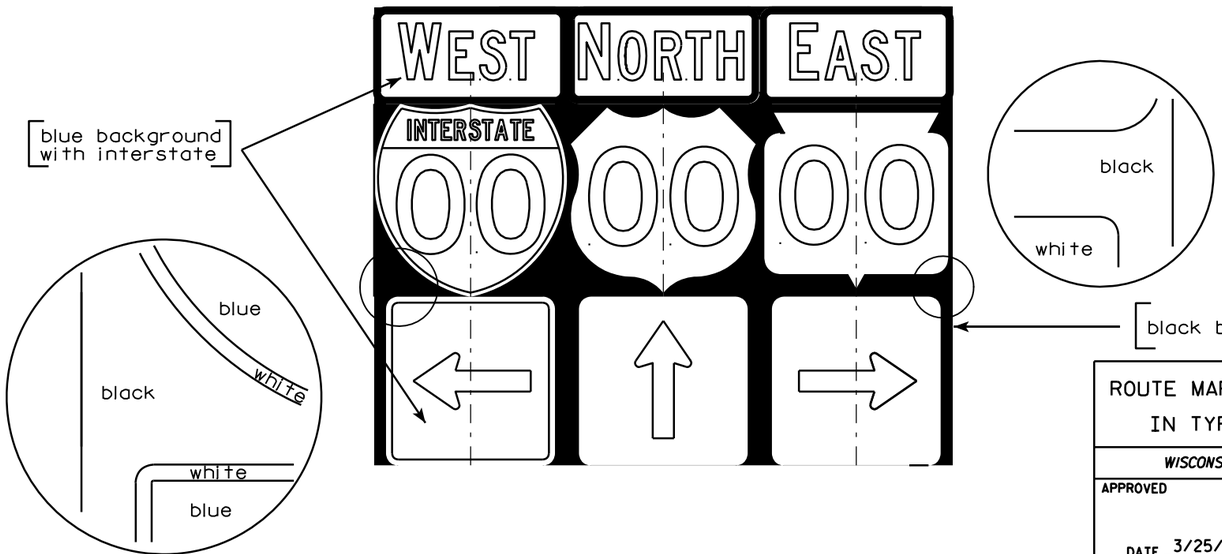
J33-1

J23-1

J22-1

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of interstate and non interstate shields, arrows and cardinals shall be white on blue.



ROUTE MARKERS & COMPONENTS IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/25/13 PLATE NO. A2-1S.7

PROJECT NO:

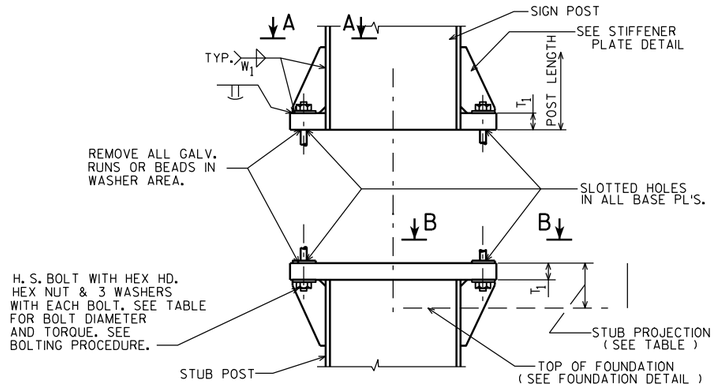
SHEET NO: 1595 E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN PLOT DATE : 25-MAR-2013 11:33 PLOT BY : mscsja PLOT NAME :

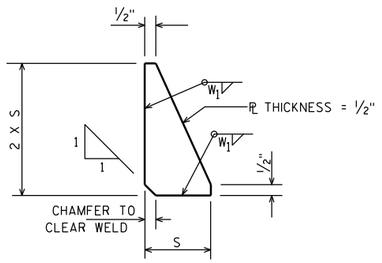
WISDOT/CADDS SHEET 42

7

7

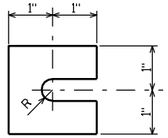


SIGN POST AND STUB POST ELEVATION



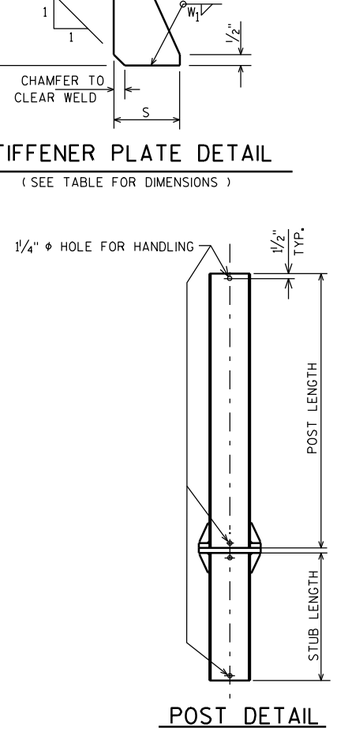
STIFFENER PLATE DETAIL

(SEE TABLE FOR DIMENSIONS)



FURNISH 2 @ .012" ± THICK AND 2 @ .032" ± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO A.S.T.M.- B36.

SHIM DETAIL



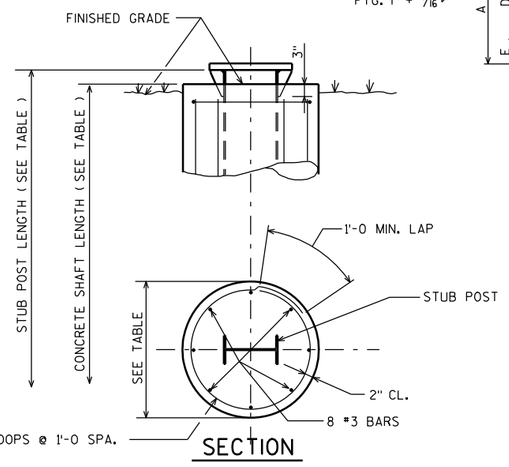
POST DETAIL

	QUANTITIES FOR 1 FOOTING	
	CONC. MASONRY C.Y.	REINF. STEEL LBS.
A	0.6	34
B	0.8	49
C	0.9	50
D	0.9	56
E	1.0	62

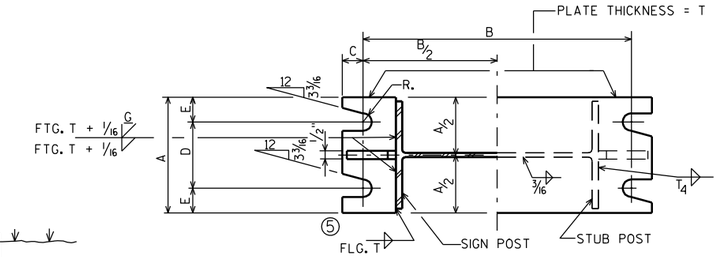
⑦

REINF.	TYPE	#3	#4
	A	8 @ 4'-5	5 @ 6'-3
	B	8 @ 6'-5	7 @ 6'-3
	C	8 @ 6'-11	7 @ 6'-3
	D	8 @ 7'-5	8 @ 6'-3
	E	8 @ 7'-11	9 @ 6'-3

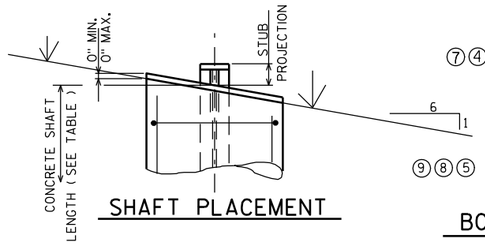
⑦



SECTION

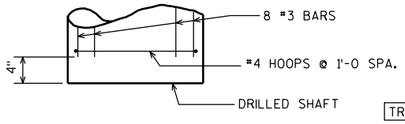


SECTION A-A SECTION B-B

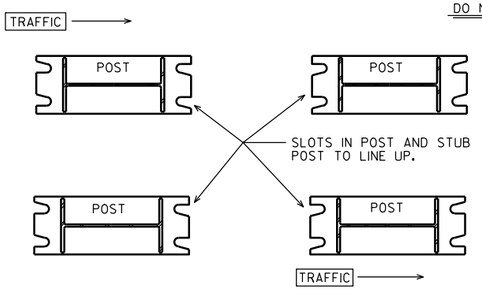


⑦④ ⑨⑧⑤

SHAFT PLACEMENT



FOUNDATION DETAIL



POST SLOT ORIENTATION ⑦

DESIGN DATA

WIND PRESSURE = 75 M.P.H.
WIND COMPONENTS - NORMAL = 1.0 TRANSVERSE = 0.0
ICE LOAD = 3 P.S.F.

GROUP LOADS	PERCENT OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD & WIND	140
3. DEAD, ICE & 1/2 WIND△	140 △25 P.S.F. MIN.

ALLOWABLE SOIL PRESSURE = 1½T / SQ. FT.
WIND LOAD WAS APPLIED TO THE AREA OF THE SIGN AND TO THE SUPPORTING MEMBERS.
ICE LOAD WAS APPLIED TO ONE FACE OF THE SIGN AND AROUND THE SURFACE OF THE SUPPORTING MEMBERS.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
DESIGN CONFORMS WITH A.A.S.H.T.O. SPECIFICATIONS 1985.
ALL POSTS, POST STUBS & ATTACHMENTS SHALL BE A.S.T.M. A709 GRADE 50.
⑨ THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.
H.S. BOLTS, WASHERS & NUTS SHALL BE A325 GALVANIZED WHEN POSTS, POST STUBS AND ATTACHMENTS ARE A709 GRADE 50 AND GALVANIZED.

BOLTING PROCEDURE - BASE CONNECTION

1. ASSEMBLE SIGN POST TO STUB POST WITH BOLTS AND ONE OF THE FLAT WASHERS ON EACH BOLT BETW. PLATES.
2. SHIM AS REQ'D. TO PLUMB POST.
3. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH 12" OR 15" WRENCH TO BED WASHERS & SHIMS AND TO CLEAN BOLT THREADS, THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE. (SEE TABLE)
4. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NOTE:
TIGHTEN THE HIGH STRENGTH BOLTS TO THE TORQUE SHOWN. DO NOT OVERTIGHTEN.

	TYPE	DIMENSION / POST SIZE	BASE CONNECTION DATA TABLE: BOLT SIZE & TORQUE	A	B	C	D	E	T_1	T_4	W_1	R	S	FOUNDATION DATA: STUB LENGTH	STUB PROJECTION	SHAFT DIAMETER	SHAFT LENGTH	② K
④	A	W10"X12.0 #/FT.	3/4" ϕ @ 75#-FT.	5 1/4"	1'-0 3/8	7/8"	3 1/2"	7/8"	1"	3/16"	5/16"	13/32 "	2 1/8"	3'-6	3"	2'-0 ϕ	5'-0	76.0# ④
④	B	W12"X16.0 #/FT.	7/8" ϕ @ 85#-FT.	5 1/2"	1'-4 1/4	1"	3 1/2"	1"	1 1/4"	1/4"	5/16"	15/32 "	3"	5'-6	3"	2'-0 ϕ	7'-0	146.5# ④
	C	W12"X19.0 #/FT.	7/8" ϕ @ 85#-FT.	5 1/2"	1'-4 1/4	1"	3 1/2"	1"	1 1/2"	5/16"	5/16"	15/32 "	3"	6'-0	3"	2'-0 ϕ	7'-6	182.1#
	D	W12"X22.0 #/FT.	7/8" ϕ @ 85#-FT.	5 1/2"	1'-4 1/4	1"	3 1/2"	1"	1 1/2"	3/8"	5/16"	15/32 "	3"	6'-6	3"	2'-0 ϕ	8'-0	210.5#
③	E	W12"X26.0 #/FT.	1" ϕ @ 90#-FT.	7"	1'-4 1/4	1 1/4"	4"	1 1/2"	1 1/2"	3/8"	5/16"	17/32 "	3"	7'-0	3"	2'-0 ϕ	8'-6	293.0# ③

① ⑥ ①

STRUCTURAL CARBON STEEL PAY WTS. (1 POST) = K+ (POST LENGTH X POST WT.)
" K " INCLUDES STUB, BASE PLATES, STIFFS., BOLTS, AND WASHERS.

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer
DATE 4/26/11 PLATE NO. A3-1.13

NO.	DATE	REVISION
⑨	4-26-11	REMOVE NON-GALVANIZED
⑧	10-30-96	NOT GALVANIZED/GALVANIZED
⑦	10-30-92	QUANT., A588 EXCEPT., ADD SLOT VIEW
⑥	8-24-87	BASE CONN. WELD
⑤	10-13-81	BASE CONN. WELD & FUSE PL WASHERS
④	10-19-79	POST A & B, A572 GR. 50, & K
②	11-28-78	"K" ③ 4-23-79 TYPE "E"
①	5-4-78	T_1 , T_2 & W_1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

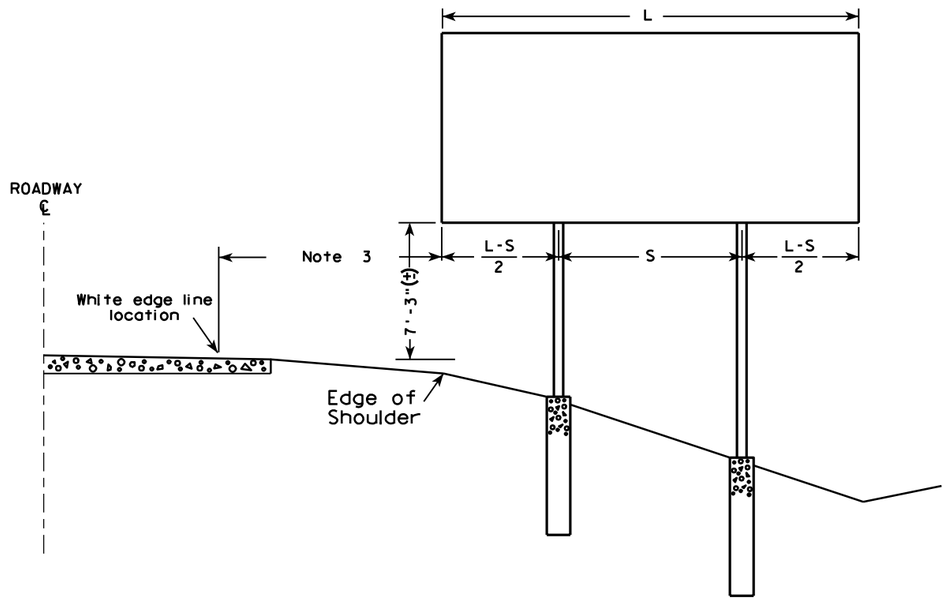
TYPE A, B, C, D, & E

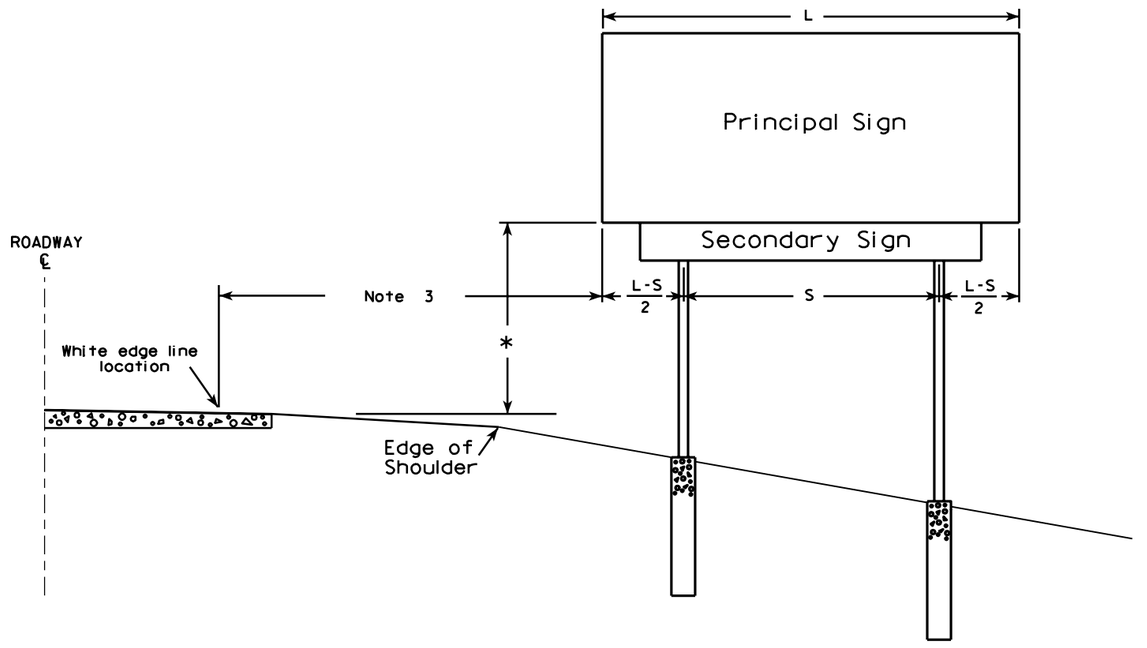
CONST. SPEC. 2011	DRAWN BY JPH	PLANS CK'D.

FTG. & SIGN SUPPORT DETAILS GROUND MOUNT BREAK-AWAY SIGNS

SHEET

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 1596 | E





GENERAL NOTES

1. For a 2 post installation, S equals 3L/5, but shall not be less than 9 ft.
2. For a 3 post installation, S equals 5L/7, but shall not be less than 18 ft., and the space between any two posts shall not be less than 9 ft.
3. Unless noted in the plan, the sign offset distance shall be a minimum of 17'-6", desirable 30'-0".
4. The (±) tolerance shown on this sheet is 3 in.
5. The vertical sign height clearance detailed is measured from the bottom of the sign to the near edge of pavement.
6. Post lengths shown in the miscellaneous quantities are estimated lengths. The contractor shall verify post lengths at the time of final grading.
7. Refer to the Traffic Guidelines Manual for further guidance on minimum vertical clearance requirements.

* Clearance is 8'-3"(±) when the secondary sign is 3 ft. or less in height. For secondary signs larger than 3 ft., the clearance to the bottom of the secondary sign shall be 5'-3"(±).

7

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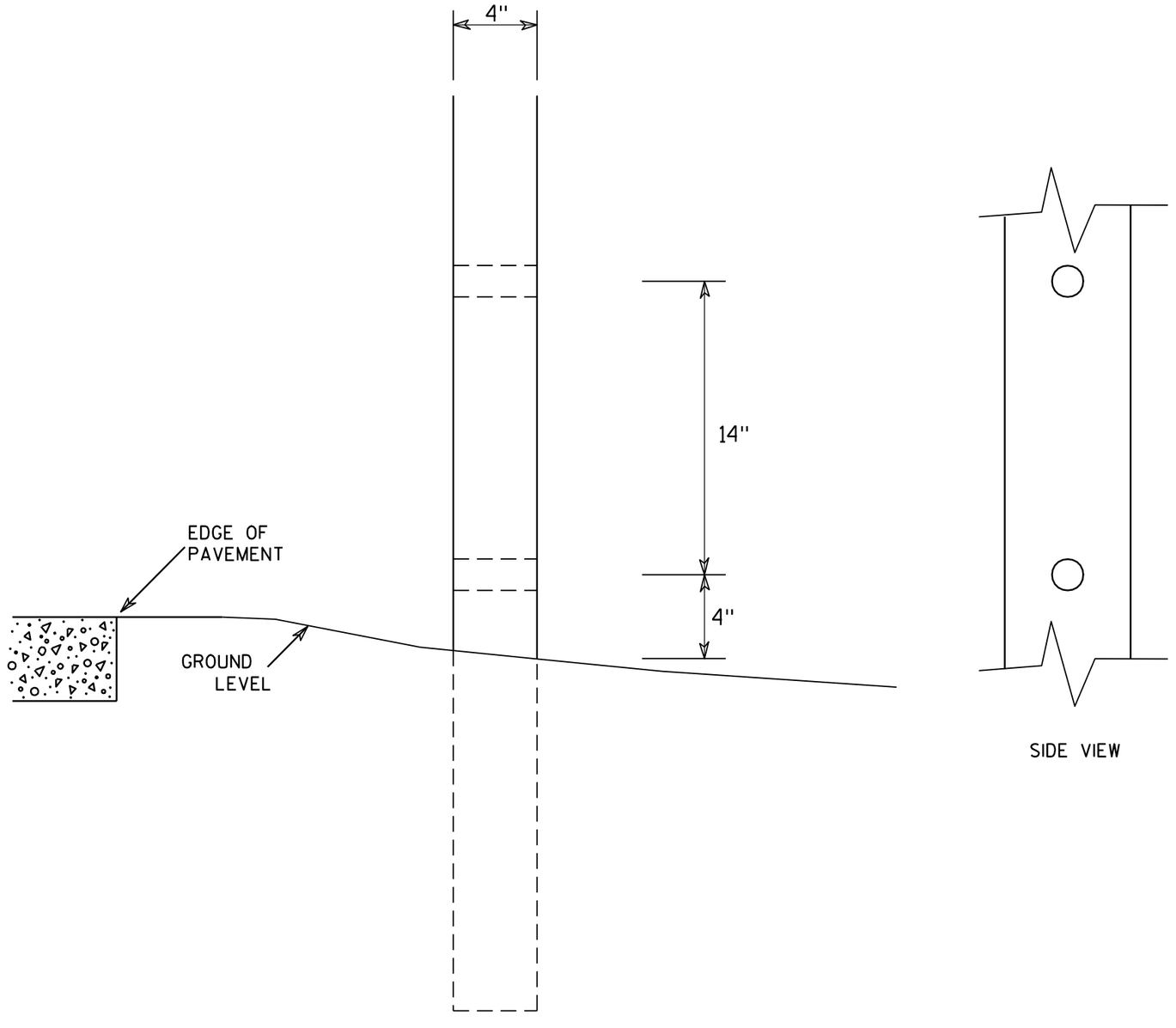
TYPICAL INSTALLATION OF TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/02/08 PLATE NO. A4-1.9

PROJECT NO:				SHEET NO: 1597	E



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

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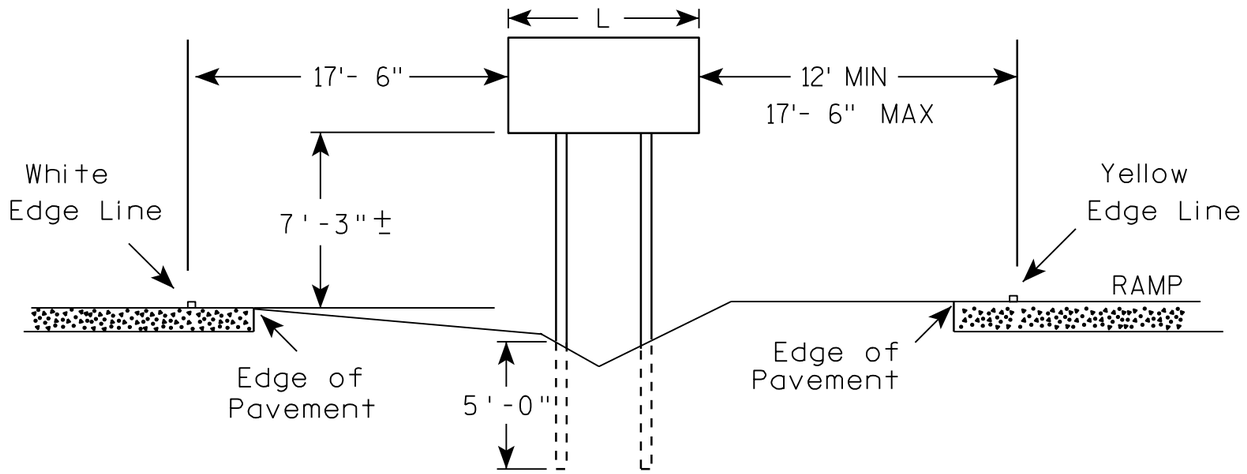
4 X 6 WOOD POST MODIFICATIONS

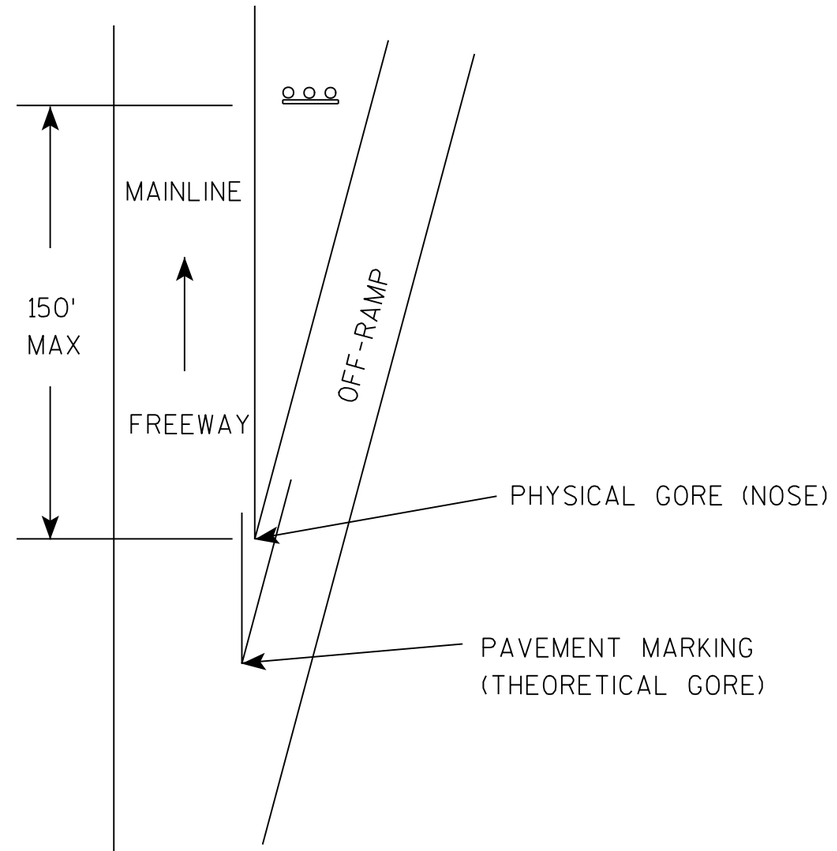
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1598	E





GENERAL NOTES

1. The 150 foot distance from the physical gore (where pavement ends) will normally provide the offsets as shown.
2. If roadway geometrics permit, the sign may be closer than the 150 foot distance as long as the offsets are maintained.
3. At no time shall the location be greater than 150 feet. If the normal offsets cannot be maintained, they can be reduced to 6 feet from the edge of the paved shoulder (both freeway and ramp).
4. The offset from edge of sign to the yellow edge line on the ramp is shown as a minimum of 12 feet and a maximum of 17 feet, 6 inches. Preference is adhering to the maximum rather than the minimum dimension.
5. When L is equal to or exceeds 9 feet, use 3 posts as per A4-4.
6. The (∓) tolerance for the mounting height is 3 inches.

7

7

TYPICAL INSTALLATION
OF TYPE II SIGNS ON
WOOD POSTS IN GORE

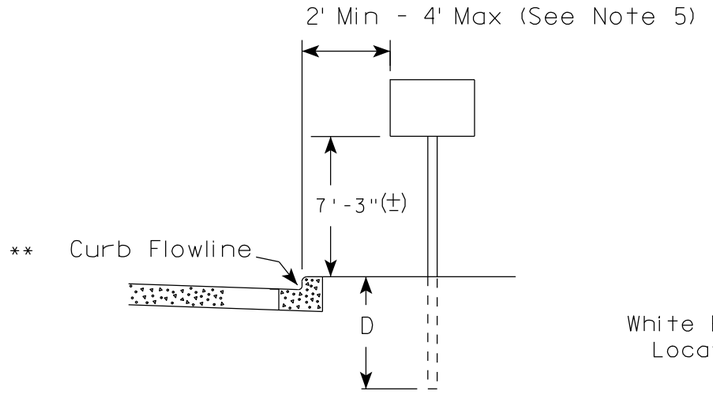
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

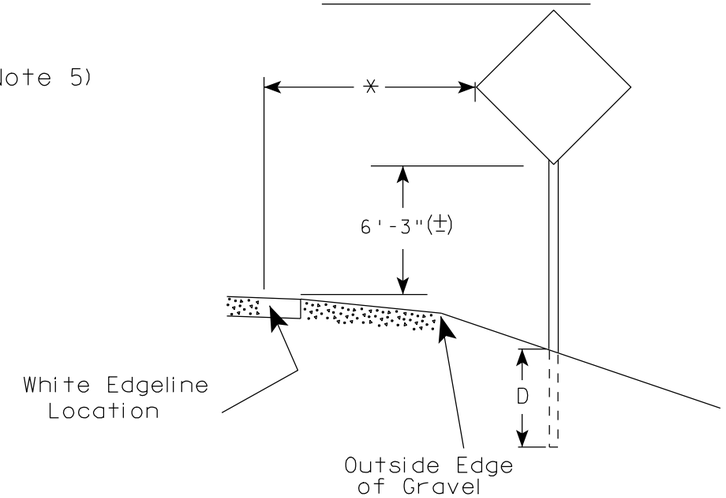
DATE 4/4/00 PLATE NO. A4-2.2

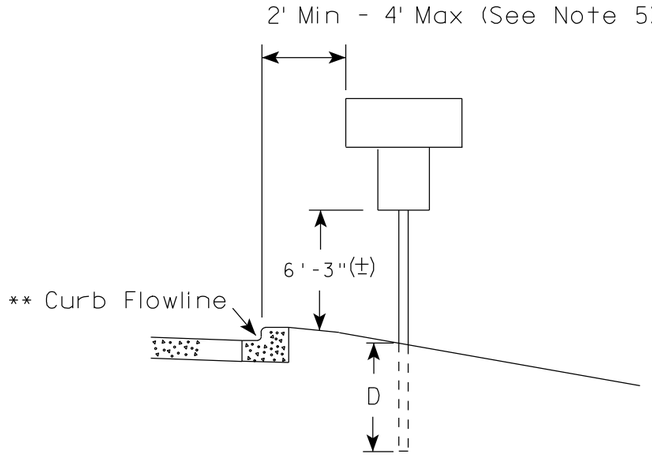
PROJECT NO:				SHEET NO: 1599	E

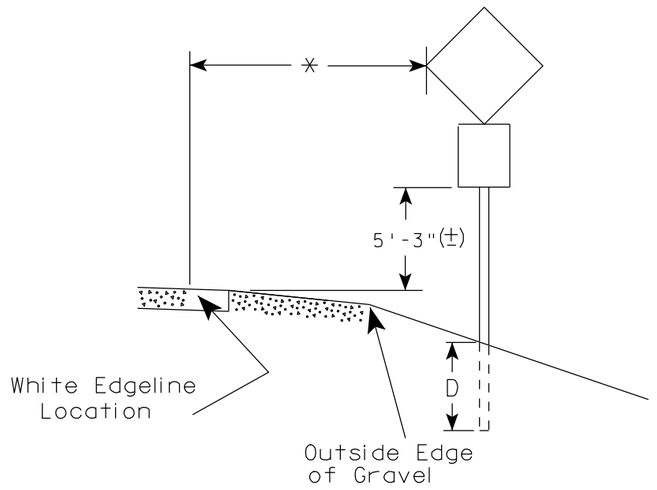
URBAN AREA



RURAL AREA (See Note 2)







** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

GENERAL NOTES

1. Signs wider than 4 feet or larger than 20 sq. ft. shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

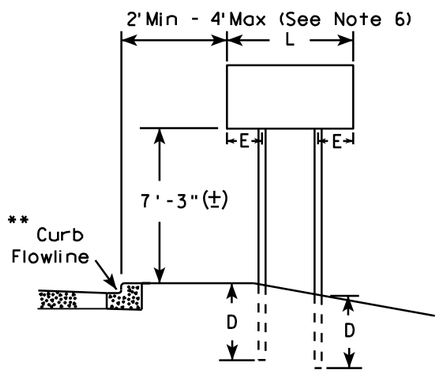
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

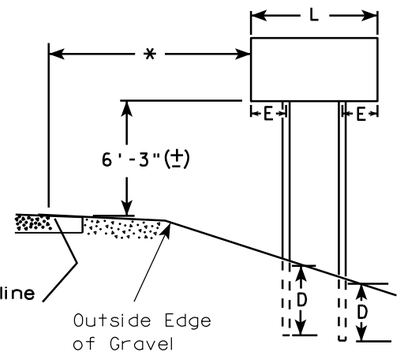
DATE 9/21/2011 PLATE NO. A4-3.16

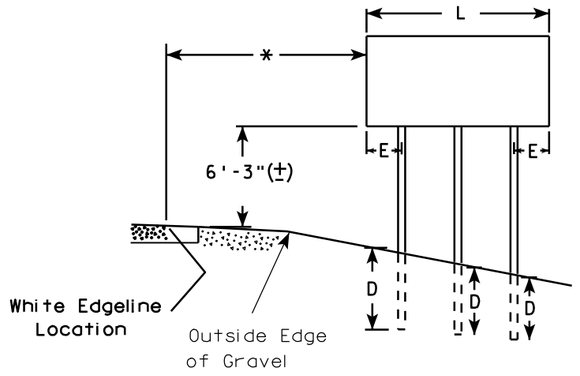
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1600	E

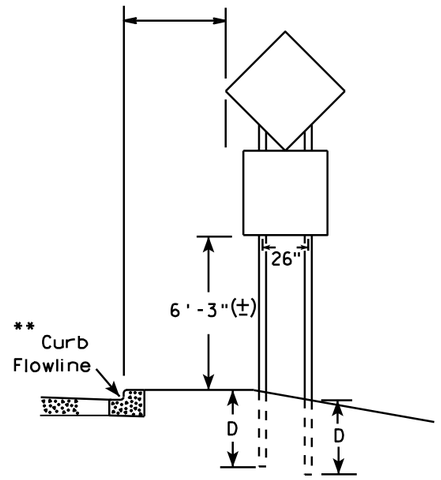
URBAN AREA



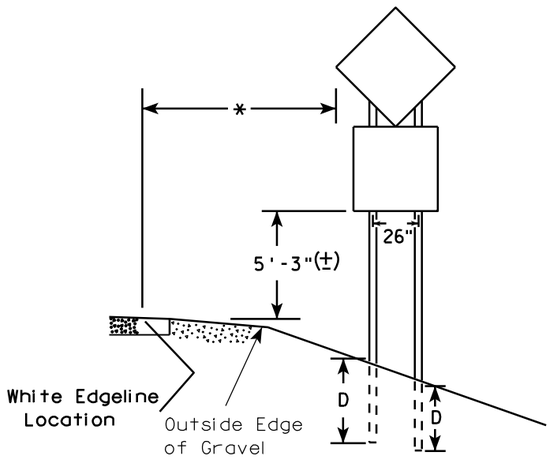
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

***	SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
	L	E
	Greater than 48" Less than 60"	12"
	60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

GENERAL NOTES

1. For multiple post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4"-3" (±).

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width or 20 S.F. or less in area.

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

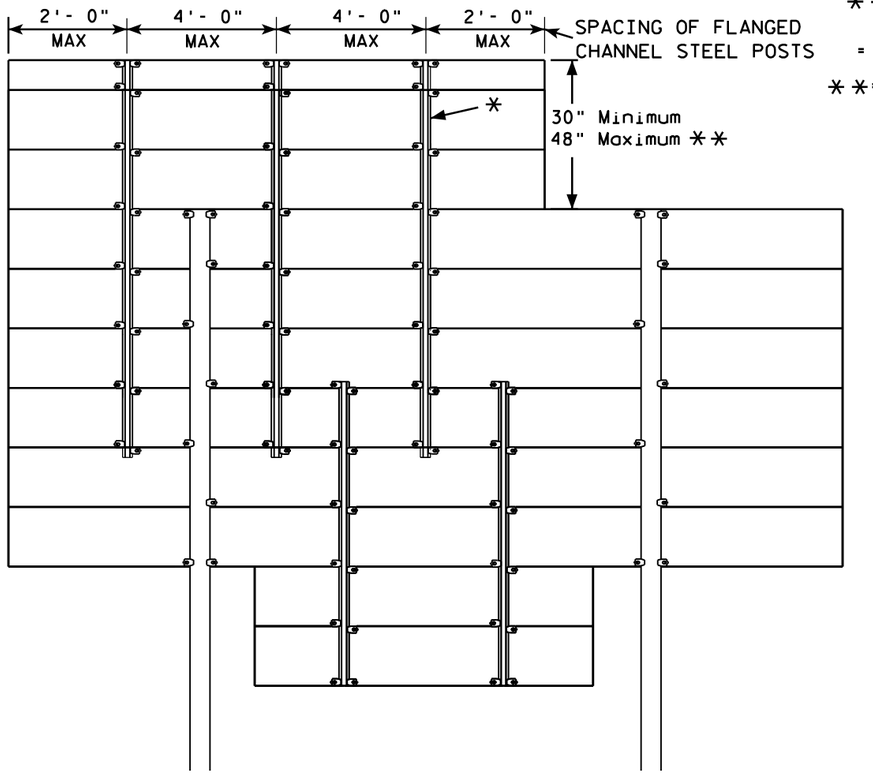
DATE 9/21/2011 PLATE NO. A4-4.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1601	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\A44.DGN PLOT DATE : 21-SEP-2011 13:36 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 109.249131:1.000000

WISDOT/CADDS SHEET 42

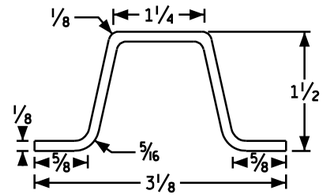
GROUND MOUNTED SIGN



*=2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

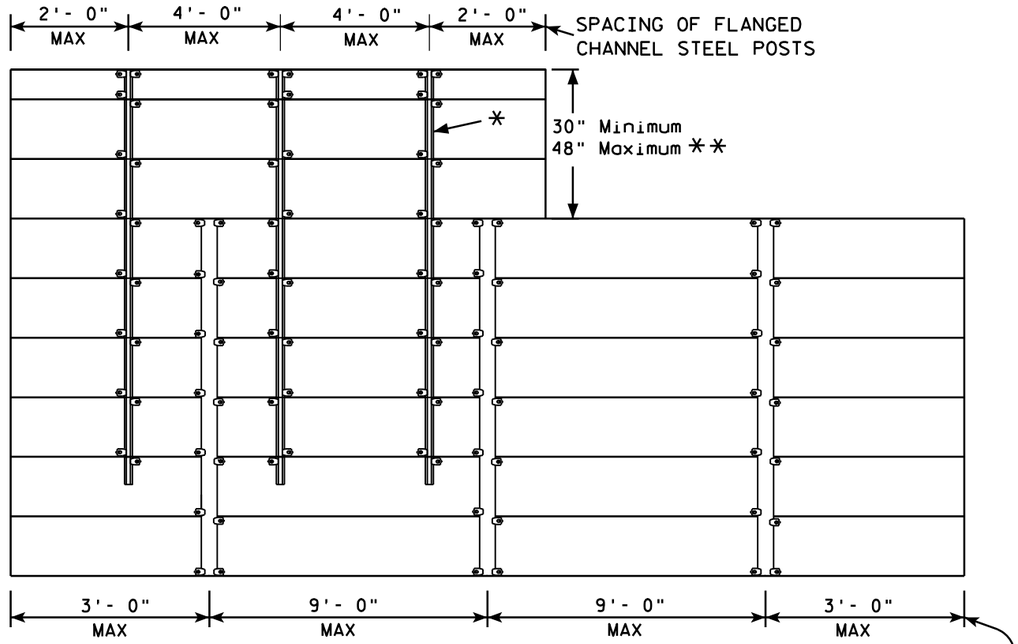
**=FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

FLANGE CHANNEL DETAIL



NOT TO SCALE

SIGN BRIDGE MOUNTED SIGN



GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

   PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
   PANEL LENGTH 9'- 0" - 12'- 0" = 3 CHANNELS
   PANEL LENGTH 13'- 0" OR MORE = 4 CHANNELS

   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)

ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

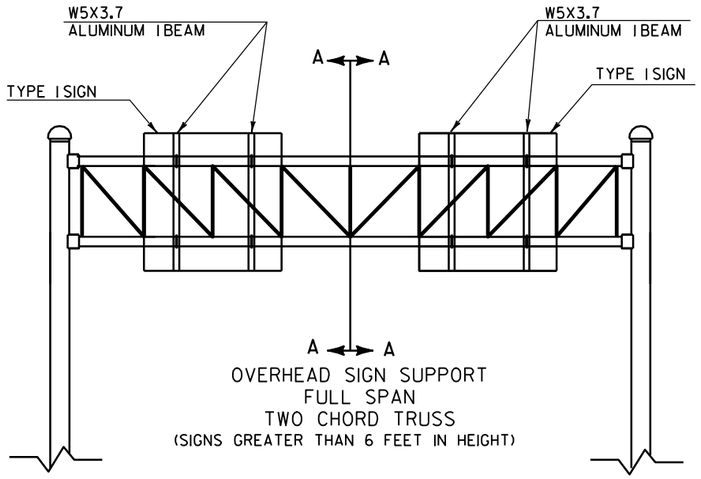
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. A4-6.11

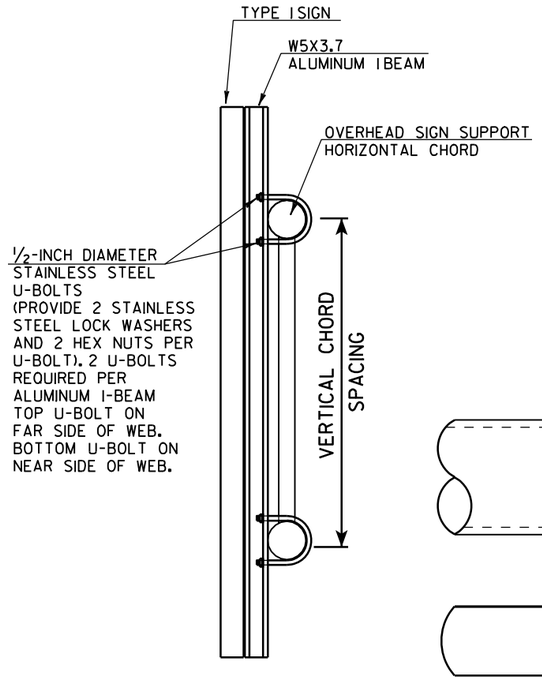
7

7

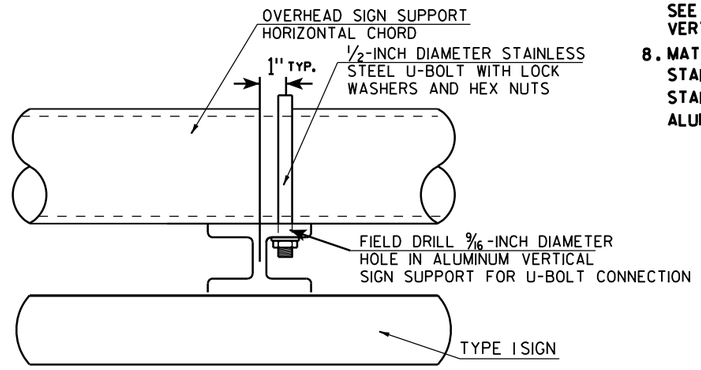
PROJECT NO: | SHEET NO: 1602 | E



OVERHEAD SIGN SUPPORT
FULL SPAN
TWO CHORD TRUSS
(SIGNS GREATER THAN 6 FEET IN HEIGHT)



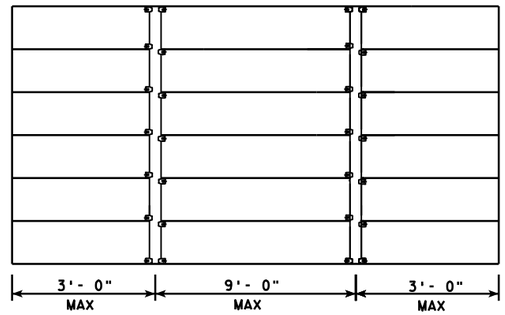
CUT SECTION A-A



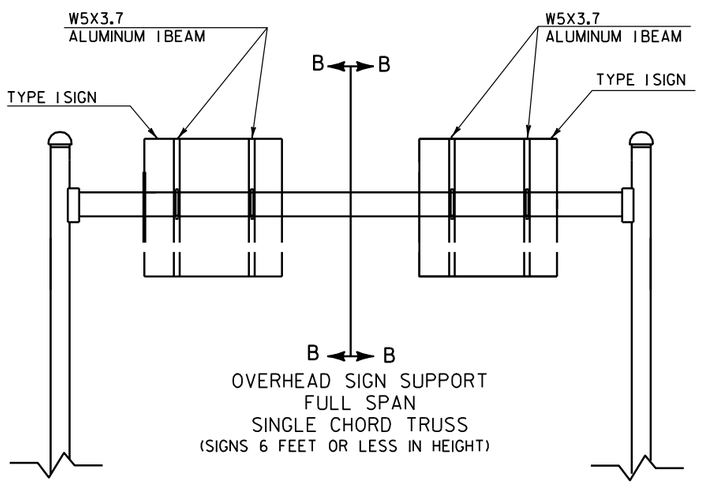
TYPICAL SIGN CONNECTION FOR
TWO CHORD TRUSS
PLAN VIEW

GENERAL NOTES

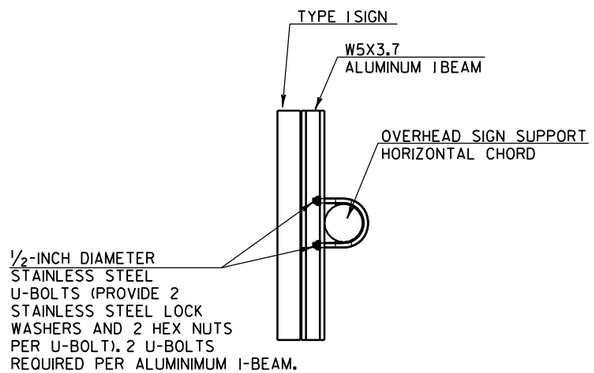
1. USE STAINLESS STEEL U-BOLTS, WASHERS, AND NUTS.
2. USE CLIPS ON EVERY EXTRUDED PANEL JOINT PER SIGN PLATE A4-6.
3. USE ALUMINUM VERTICAL SIGN SUPPORT BEAMS HAVING A 5 INCH BEAM DEPTH AND WEIGHT OF 3.7 LBS PER FOOT.
4. U-BOLTS SHALL BE STAINLESS STEEL AND MANUFACTURED TO THE PROPER SIZE TO FIT THE CHORDS OF THE OVERHEAD SIGN STRUCTURE.
5. DIAMETER OF U-BOLTS SHALL BE AS SHOWN.
6. THE LENGTH OF THE ALUMINUM VERTICAL SIGN SUPPORT BEAMS SHALL BE THE SAME AS THE HEIGHT OF THE SIGN THEY ARE SUPPORTING. BEAM LENGTHS MAY BE LONGER FOR PROPER ATTACHMENT TO CHORDS.
7. MINIMUM NUMBER OF BRACKETS PER SIGN IS TWO. SEE DETAIL BELOW FOR SPACING OF ALUMINUM VERTICAL SIGN SUPPORTS
8. MATERIAL NOTES:
   STAINLESS STEEL U-BOLTS AND LOCKWASHERS ASTM 304.
   STAINLESS STEEL HEX NUTS ASTM A276.
   ALUMINUM I-BEAMS ARE 6061-T6.



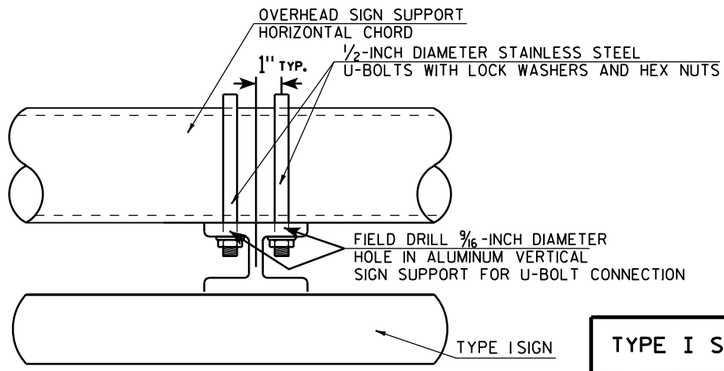
SPACING OF W5X3.7 ALUMINUM
VERTICAL SIGN SUPPORT



OVERHEAD SIGN SUPPORT
FULL SPAN
SINGLE CHORD TRUSS
(SIGNS 6 FEET OR LESS IN HEIGHT)



CUT SECTION B-B



TYPICAL SIGN CONNECTION FOR
SINGLE CHORD TRUSS
PLAN VIEW

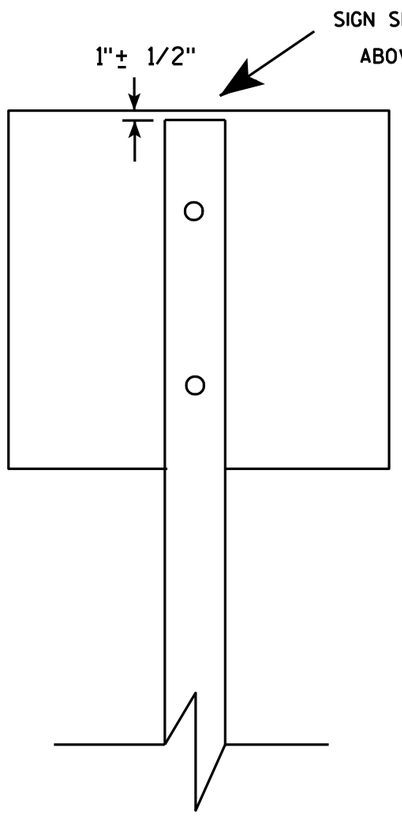
TYPE I SIGN CONNECTION TO OVERHEAD SIGN SUPPORT

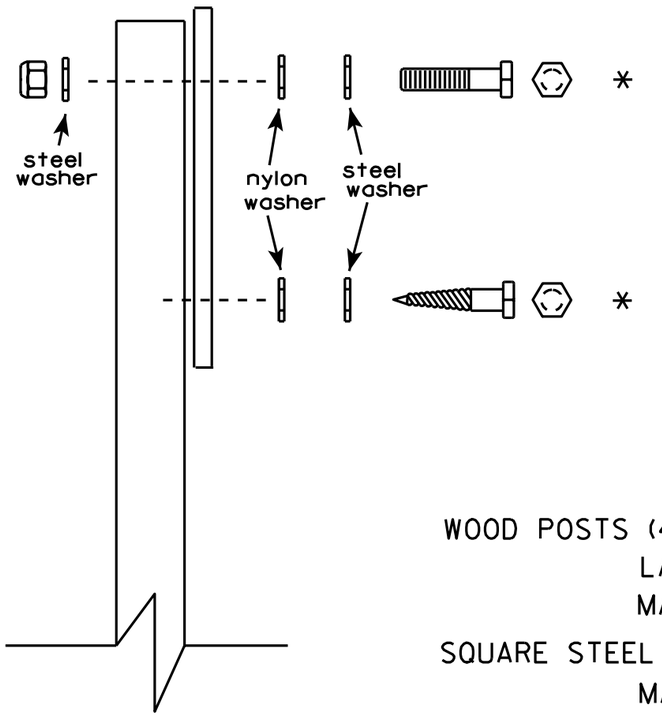
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 11/12/12 PLATE NO. A4-7.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1603	E





Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

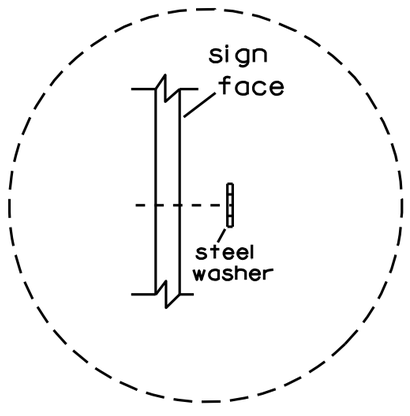
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7

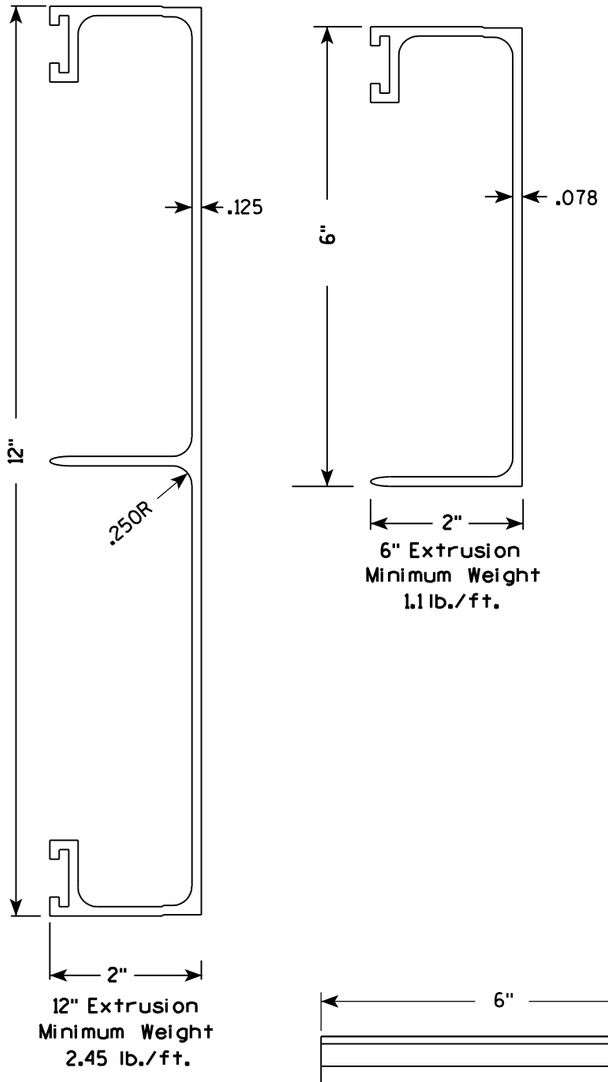
7

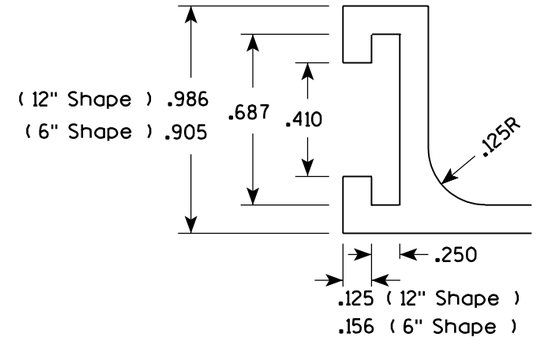
7

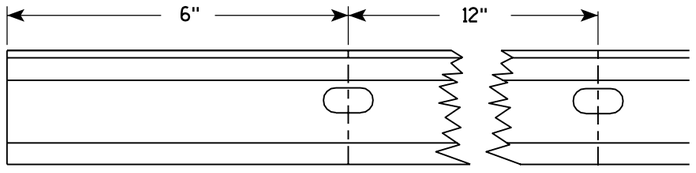
PROJECT NO:

SHEET NO: 1604 E

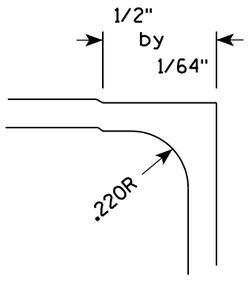
Extruded Shape







Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

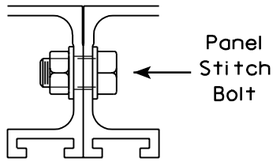


Hardware

STITCH BOLT, WASHER & NUT

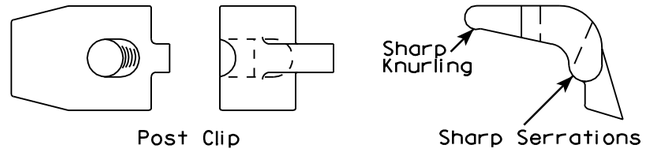
The hardware includes:

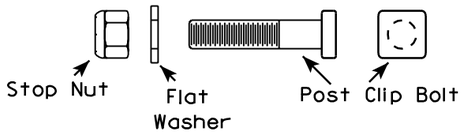
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



POST CLIP, POST CLIP BOLT, WASHER & NUT

Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.





NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.

ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

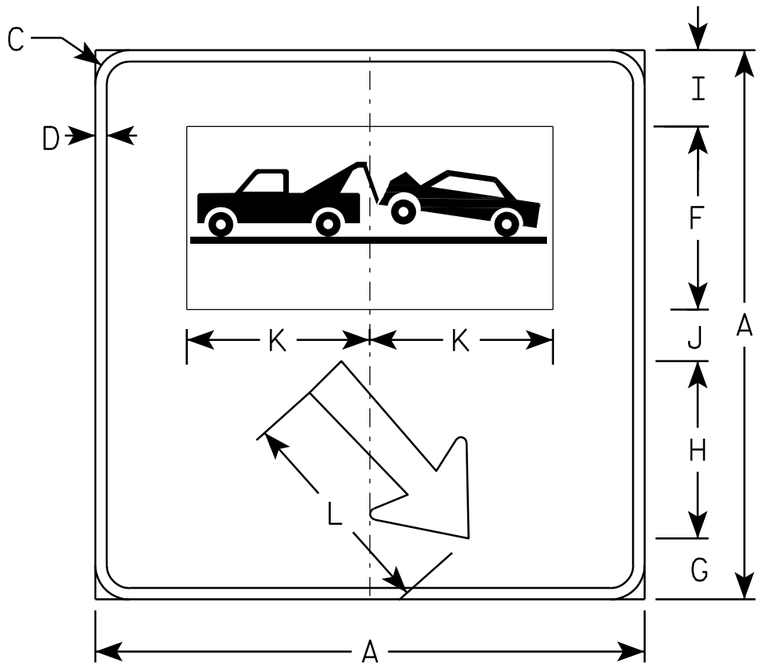
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

DATE 11/18/99 PLATE NO. A5-2.9

PROJECT NO:

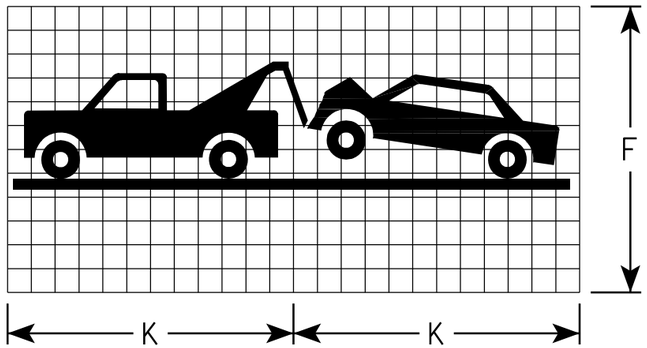
SHEET NO: 1605 E



D4-56R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - BLUE
   Message - WHITE
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. D4-56L is same as D4-56R except arrow is reversed.
6. Arrow is from A1-2 Lower Case 4½ Series D & E, with a modified length.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	36		2 1/4	3/4		12	4	11 5/8	5	3 3/8	12	14															9.0
3																											
4																											
5																											

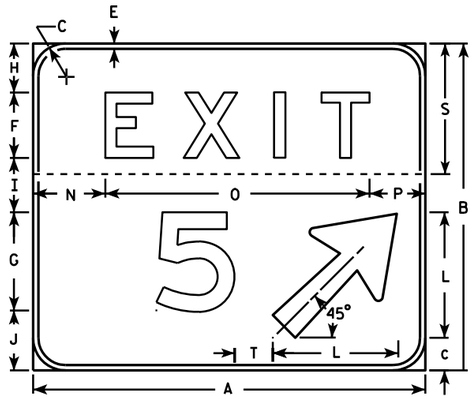
STANDARD SIGN
D4-56 L & R

WISCONSIN DEPT OF TRANSPORTATION

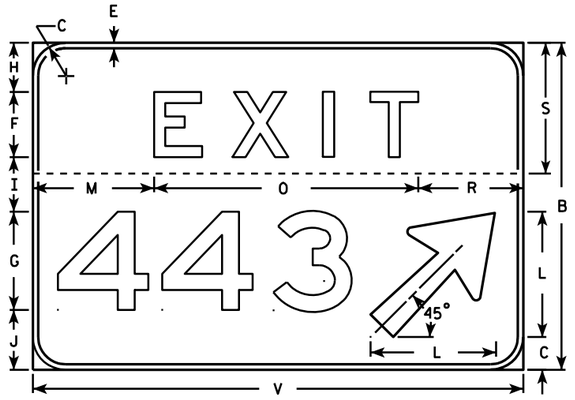
APPROVED Matthew R Rauch
for State Traffic Engineer

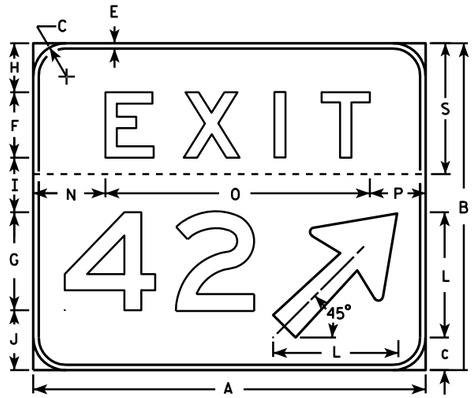
DATE 4/14/2011 PLATE NO. D4-56.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1606	E



NOTE: T diminision shall be measured from the back of the number to the front of the arrow





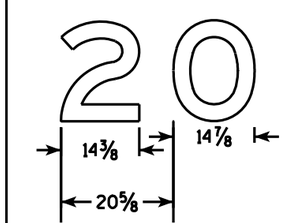
NOTES

1. Sign is Type II - Type H reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White (Type H reflective)
3. Message Series - E
4. Corners may be square or rounded but the border shall be rounded as shown.
5. Base material for this sign shall be plywood and shall be split into two seperate pieces as shown on each detail by the dashed line (----------).
6. Arrow is Type "A" from sign plate A1-1.
7. Substitute appropriate message, space per the table and adjust placement on sign to achieve proper balance.
8. As per the Standard Spec's, these signs shall not have a vertical joint.

SPACING CHART FOR 18" NUMERALS

NUMBERS	WIDTH	0	1	2	3	4	5	6	7	8	9	A	B	C
0	14 7/8	21 5/8	21 5/8	21 1/4	20 3/8	21 1/4	21 1/4	21 5/8	19 7/8	22 1/8	21 5/8			
1	5 7/8	14	14	14	13 1/8	12 1/8	14	14	12 1/4	14	14			
2	14 3/8	20 5/8	21 1/8	20 5/8	19 3/4	20 1/4	20 5/8	20 5/8	18 7/8	21 1/8	20 5/8			
3	14 3/8	20 3/4	21 1/8	20 3/4	20 1/4	19 3/4	20 3/4	20 3/4	19 3/8	21 1/8	20 3/4			
4	16 5/8	22 7/8	22	22 1/2	21 5/8	21 5/8	22 7/8	22 7/8	20 5/8	23 3/8	22 7/8			
5	14 1/4	20 5/8	20 5/8	20 1/8	18 3/4	18 3/4	20 5/8	20 5/8	18 3/8	20 5/8	20 5/8			
6	14 1/2	21 1/4	20 3/4	20 3/4	19 7/8	19 1/2	20 3/8	20 3/4	19	20 3/4	20 3/8			
7	14 3/8	19 3/4	19 3/4	20 1/4	19 3/4	17	19 3/4	20 5/8	18 7/8	20 5/8	19 3/4			
8	14 1/4	21 1/2	21 1/2	20 5/8	19 1/4	19 3/4	20 5/8	21 1/2	19 5/8	21 1/2	20 5/8			
9	14 1/2	21 1/4	21 1/4	20 7/8	20	20 7/8	20 7/8	21 1/4	19 1/2	21 3/4	21 1/4			
A	18	19 3/4	19 3/4	20 1/4	19 3/4	17	19 3/4	20 5/8	18 7/8	20 5/8	19 3/4	21 5/8	23 7/8	23
B	14 1/4	21 1/2	21 1/2	20 5/8	19 1/4	19 3/4	20 5/8	21 1/2	19 5/8	21 1/2	20 5/8	19 1/2	22 3/8	21 1/2
C	14 1/4	21 1/4	21 1/4	20 7/8	20	20 7/8	20 7/8	21 1/4	19 1/2	21 3/4	21 1/4	18 3/8	21	19 3/4

EXAMPLE FOR USING SPACING CHART



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
2																										
3																										
4																										
5	72	60	6		1	12	18	9	10	11	8 7/8	23	22 1/4	13 1/4	48 1/2	10 1/4		19 1/4	24	7		90		96	7 1/2	

1-2 Digit Bid Area	3 Digit Bid Area
Sq. Ft.	
30	37.5

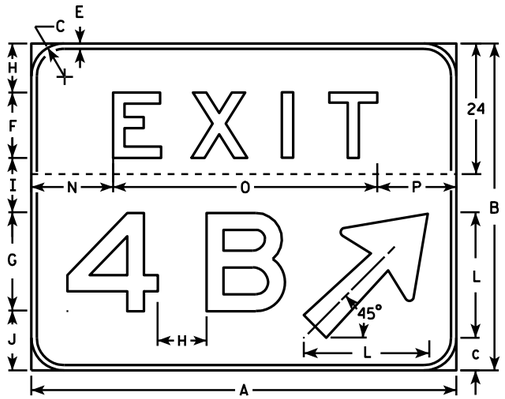
STANDARD SIGN E5-1A

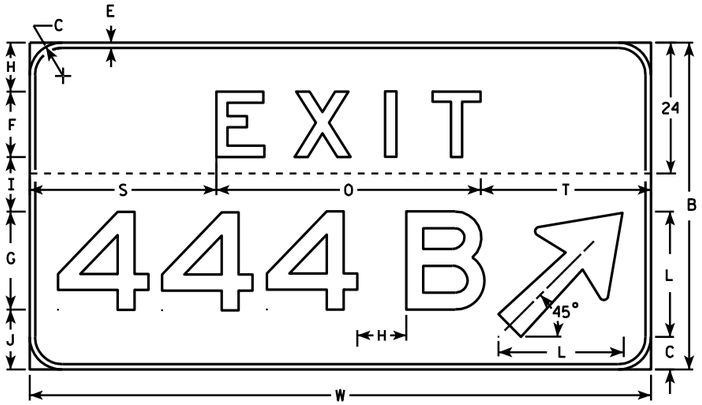
WISCONSIN DEPT OF TRANSPORTATION

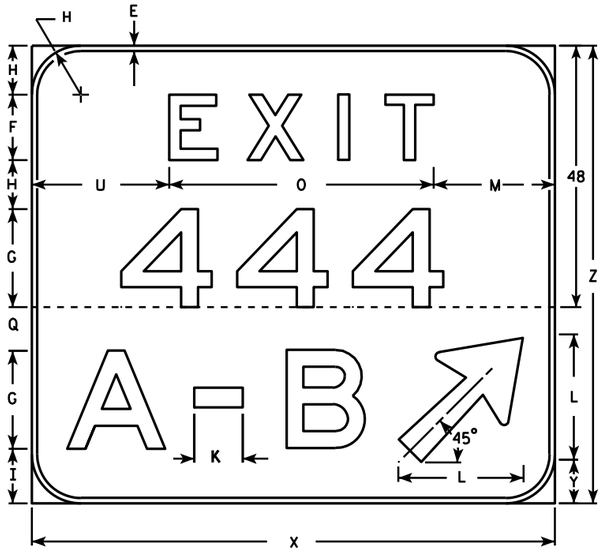
APPROVED Matthew R Rauch for State Traffic Engineer

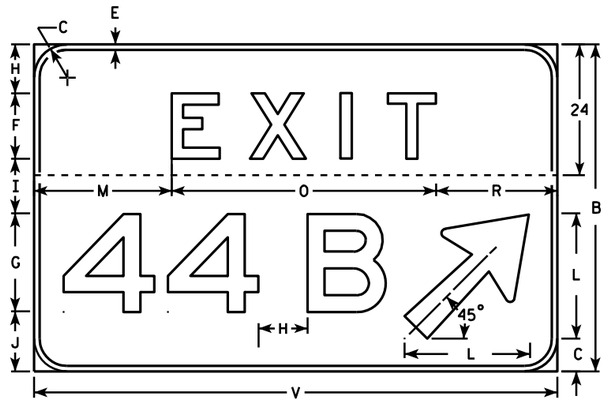
DATE 5/11/10 PLATE NO. E5-1A.12

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 1607 | E

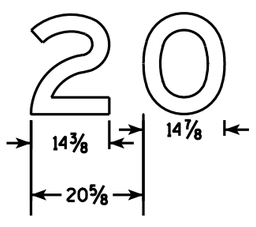








EXAMPLE FOR USING SPACING CHART



NOTES

1. Sign is Type II - Type H reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White (Type H reflective)
3. Message Series - E
4. Corners may be square or rounded but the border shall be rounded as shown.
5. Base material for this sign shall be plywood and shall be split into two seperate pieces as shown on each detail by the dashed line (----------).
6. Arrow is Type "A" from sign plate A1-1.
7. Substitute appropriate message, space per the table and adjust placement on sign to achieve proper balance.
8. When two letters are hyphenated, the distance between them should be equal to two letter heights and the hyphen is spaced optically between them.
9. As per the Standard Spec's, these signs shall not have a vertical joint.

SPACING CHART FOR 18" NUMERALS

NUMBERS	WIDTH	0	1	2	3	4	5	6	7	8	9	A	B	C
0	14 7/8	21 5/8	21 5/8	21 1/4	20 3/8	21 1/4	21 1/4	21 5/8	19 7/8	22 1/8	21 5/8	19 7/8	22 1/8	22 1/8
1	5 7/8	14	14	14	13 1/8	12 1/8	14	14	12 1/4	14	14	9 7/8	14	14
2	14 3/8	20 5/8	21 1/8	20 5/8	19 3/4	20 1/4	20 5/8	20 5/8	18 7/8	21 1/8	20 5/8	20 1/4	21 1/8	21 1/8
3	14 3/8	20 3/4	21 1/8	20 3/4	20 1/4	19 3/4	20 3/4	20 3/4	19 3/8	21 1/8	20 3/4	20 1/4	21 1/8	21 1/8
4	16 5/8	22 7/8	22	22 1/2	21 5/8	21 5/8	22 7/8	22 7/8	20 5/8	23 3/8	22 7/8	22 1/2	25 1/2	23 3/8
5	14 1/4	20 5/8	20 5/8	20 1/8	18 3/4	18 3/4	20 5/8	20 5/8	18 3/8	20 5/8	20 5/8	19 1/4	20 5/8	20 5/8
6	14 1/2	21 1/4	20 3/4	20 3/4	19 7/8	19 1/2	20 3/8	20 3/4	19	20 3/4	20 3/8	18	20 3/4	20 3/4
7	14 3/8	19 3/4	19 3/4	20 1/4	19 3/4	17	19 3/4	20 5/8	18 7/8	20 5/8	19 3/4	20 1/4	20 5/8	20 5/8
8	14 1/4	21 1/2	21 1/2	20 5/8	19 1/4	19 3/4	20 5/8	21 1/2	19 5/8	21 1/2	20 5/8	19 1/4	21 1/2	21 1/2
9	14 1/2	21 1/4	21 1/4	20 7/8	20	20 7/8	20 7/8	21 1/4	19 1/2	21 3/4	21 1/4	18	21 3/4	21 3/4
A	18	19 3/4	19 3/4	20 1/4	19 3/4	17	19 3/4	20 5/8	18 7/8	20 5/8	19 3/4	21 5/8	23 7/8	23
B	14 1/4	21 1/2	21 1/2	20 5/8	19 1/4	19 3/4	20 5/8	21 1/2	19 5/8	21 1/2	20 5/8	19 1/2	22 3/8	21 1/2
C	14 1/4	21 1/4	21 1/4	20 7/8	20	20 7/8	20 7/8	21 1/4	19 1/2	21 3/4	21 1/4	18 3/8	21	19 3/4

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
2																										
3																										
4																										
5	78	60	6		1	12	18	9	10	11	8 7/8	23	25 1/4	15	48 1/2	14 1/2	8	22 1/4	34 1/4	31 1/4	25 1/4	96	114	96	7 1/2	84

2 Digit Bid Area	3 Digit Bid Area	4 Digit Bid Area	5 Digit Bid Area
Sq. Ft.			
32.5	40.0	47.5	56.0

STANDARD SIGN
E5-1B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 6/8/10 PLATE NO. E5-1B.12

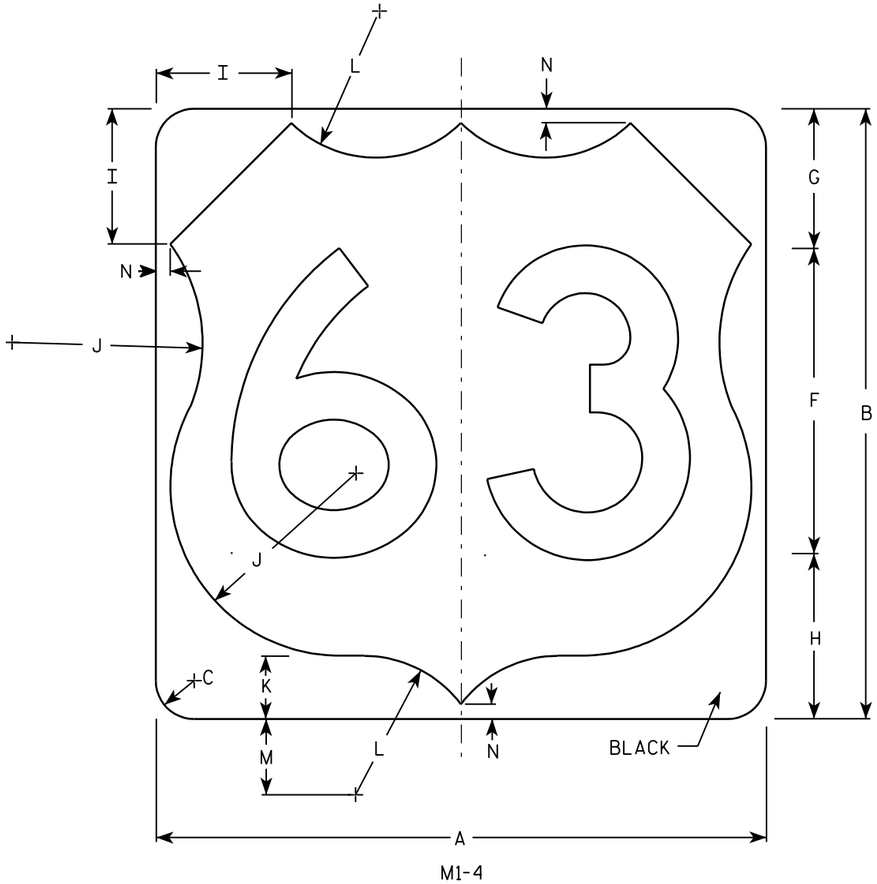
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 1608 | E

7

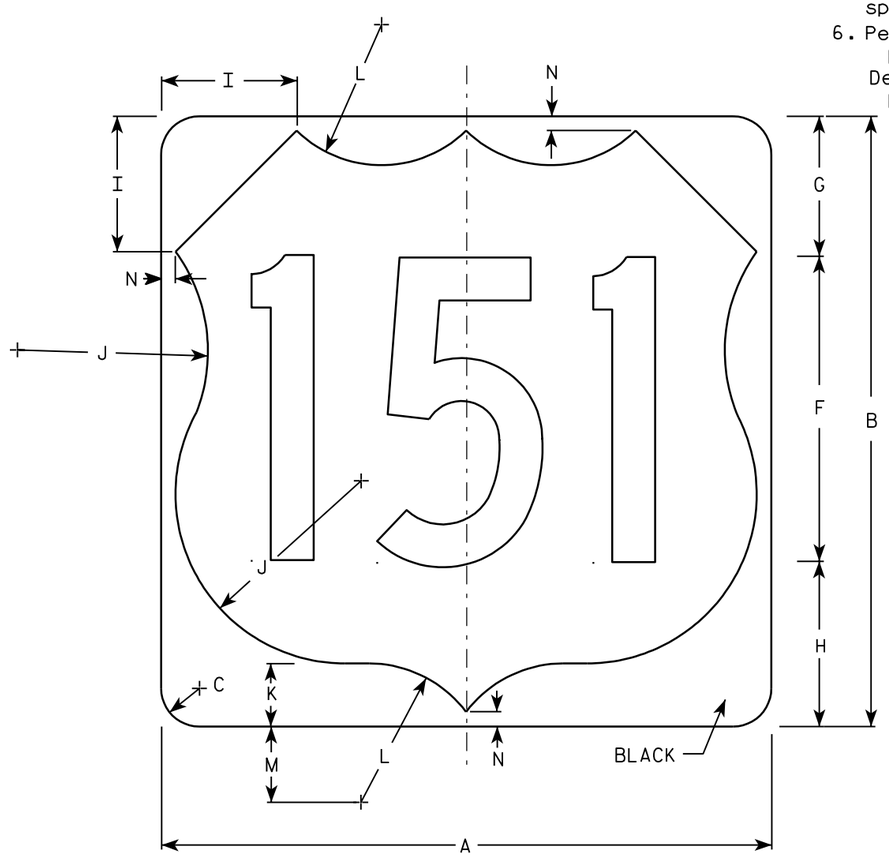
FILE NAME : C:\Users\PROJECTS\tr_stdplate\E51B.DGN PLOT DATE : 08-JUN-2010 12:42 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 27.808870:1.000000
WISDOT/CADDS SHEET 42

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and adjust spacing as per Plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or other temporary signs
   Background - Reflective



M1-4



M1-4

Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0	.36
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81

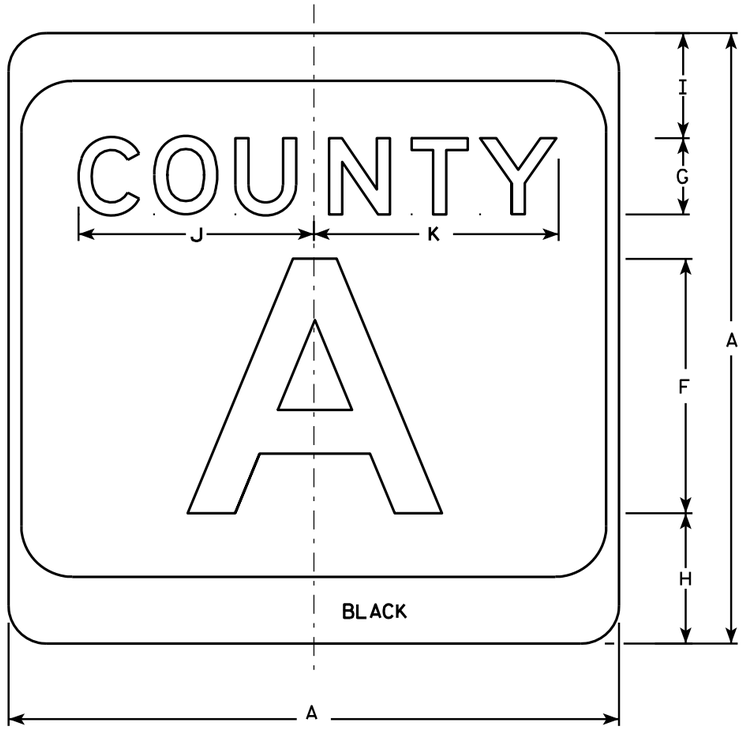
USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

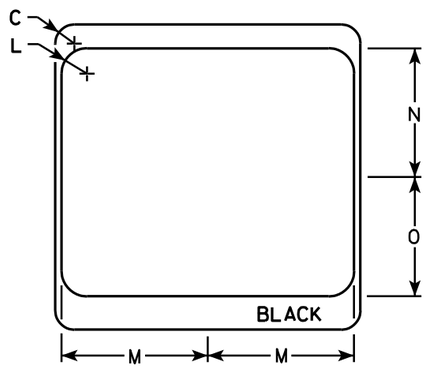
APPROVED Matthew R Rauch
for State Traffic Engineer

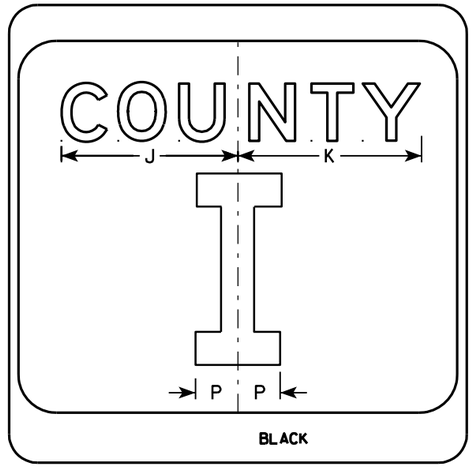
DATE 08/25/05 PLATE NO. M1-4.9

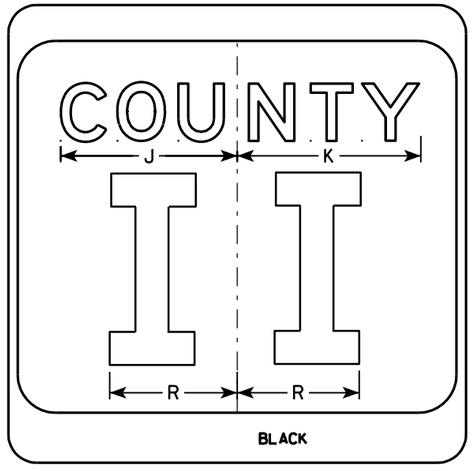
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 1609 | E



M1-5A







NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 7
   Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

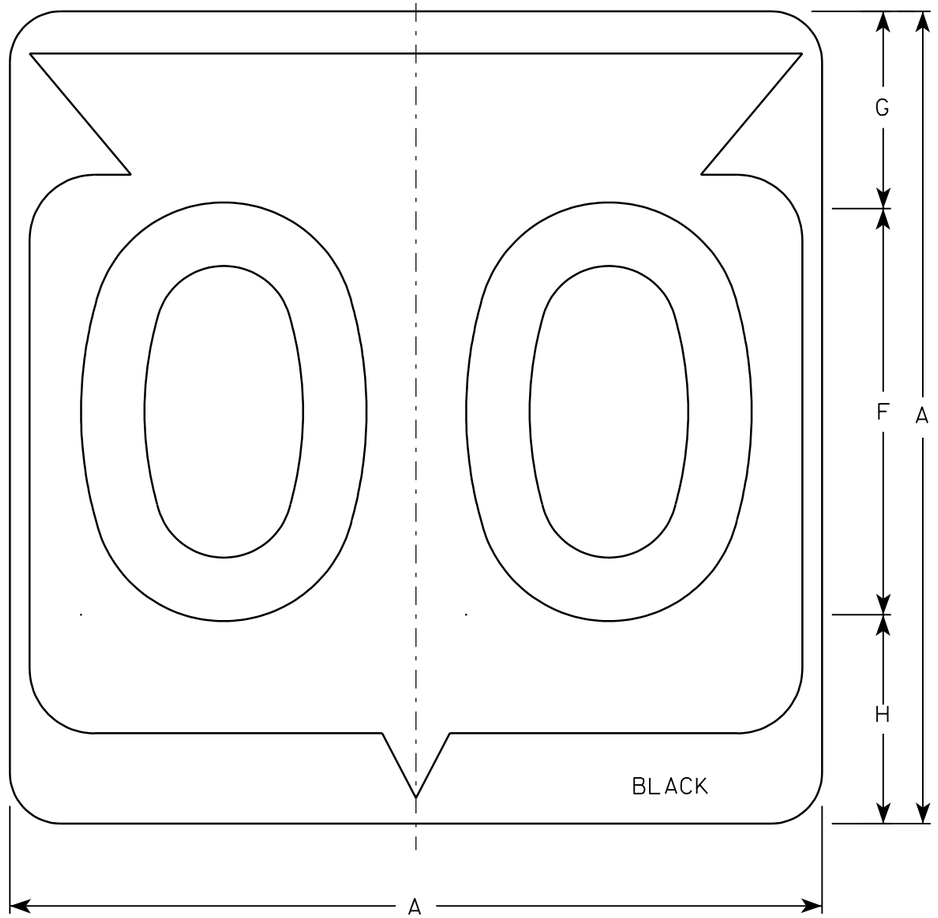
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1610	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\M15A.DGN PLOT DATE : 29-SEP-2011 11:25 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.959043:1.000000

WISDOT/CADDS SHEET 42

7

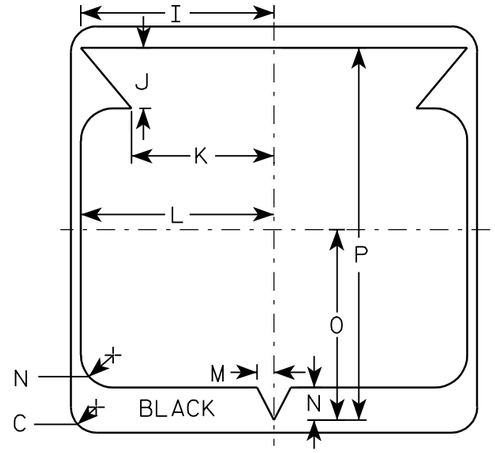
7



M1-6

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective



Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

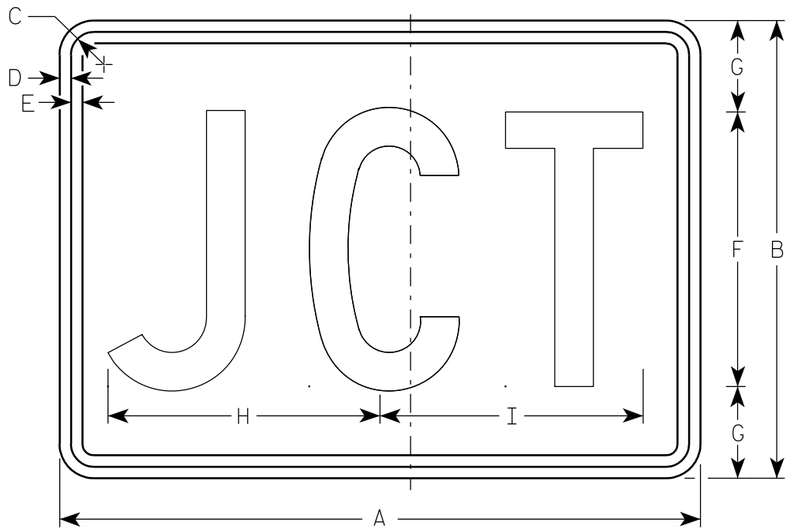
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

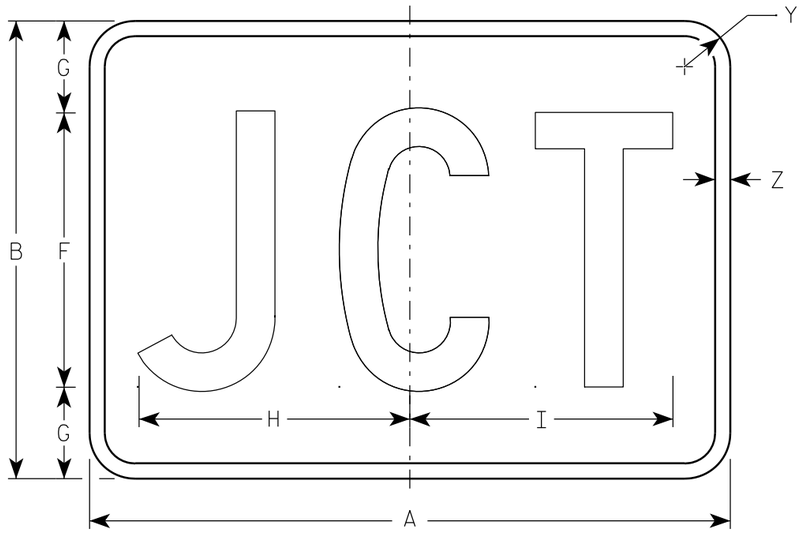
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1611	E



M2-1
MK2-1
MM2-1
MR2-1



MB2-1
MG2-1
MN2-1

NOTES

1. Sign is Type II - See Note 5 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M2-1 Background - White - Type H Reflective
   (Detour or temporary Signs - Reflective)
   Message - Black
   MB2-1 Background - Blue
   Message - White - Type H Reflective
   (Detour or temporary Signs - Reflective)
   MG2-1 Background - Green
   Message - White - Type H Reflective
   MK2-1 Background - Green
   Message - White - Type H Reflective
   MM2-1 Background - White - Type H Reflective
   Message - Green
   MN2-1 Background - Brown
   Message - White - Type H Reflective
   MR2-1 Background - Brown
   Message - Yellow - Type H Reflective

Metric equivalent for this sign is:

SIZE	
1	
2	525 mm X 375 mm
3	750 mm X 525 mm
4	750 mm X 525 mm
5	750 mm X 525 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20	0.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40	0.20
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40	0.20
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40	0.20

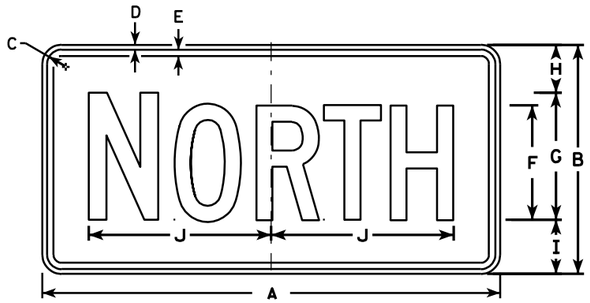
STANDARD SIGN
M2-1

WISCONSIN DEPT OF TRANSPORTATION

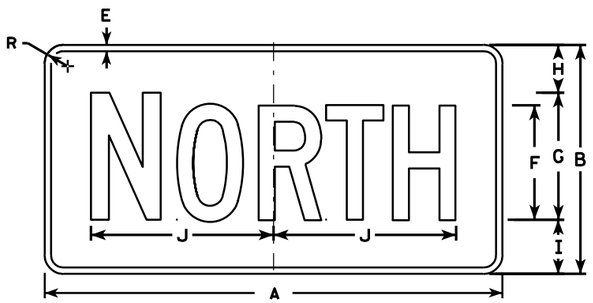
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/10 PLATE NO. M2-1.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1612	E

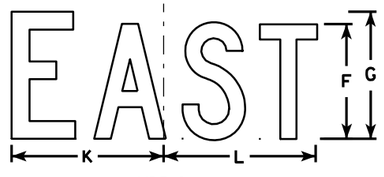


M3-1
MK3-1
MO3-1



MB3-1
MG3-1
MM3-1
MN3-1

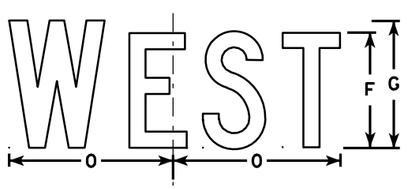
M3-2
MK3-2
MO3-2



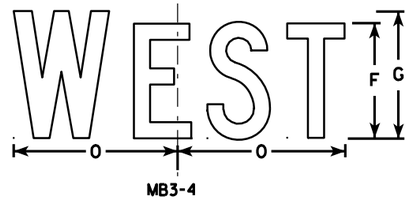
MB3-2
MG3-2
MM3-2
MN3-2

M3-3
MK3-3
MO3-3

MB3-3
MG3-3
MM3-3
MN3-3



M3-4
MK3-4
MO3-4



MB3-4
MG3-4
MM3-4
MN3-4

NOTES

1. All Signs Type II - See Note 5 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White - Type H Reflective
   (Detour or temporary signs - Reflective)
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White - Type H Reflective
   (Detour or temporary signs - Reflective)
   MG3-1 thru MG3-4 Background - Green
   Message - White - Type H Reflective
   MK3-1 thru MK3-4 Background - Green
   Message - White - Type H Reflective
   MM3-1 thru MM3-4 Background - White - Type H Reflective
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White - Type H Reflective
   M03-1 thru M03-4 Background - Orange - Reflective
   Message - Black
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

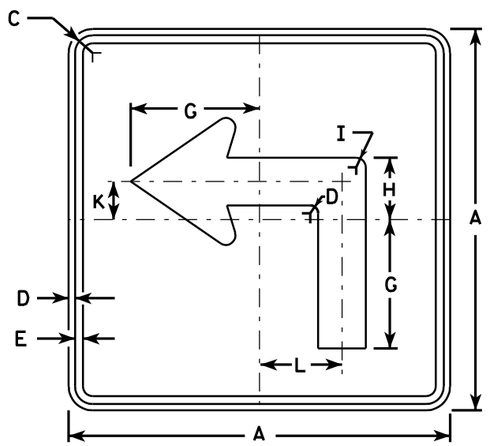
STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

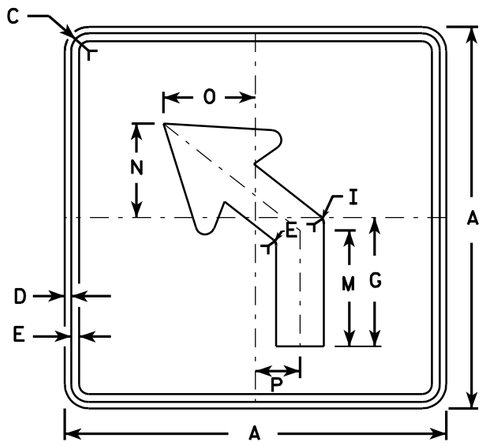
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 11/10/10 PLATE NO. M3-1.12

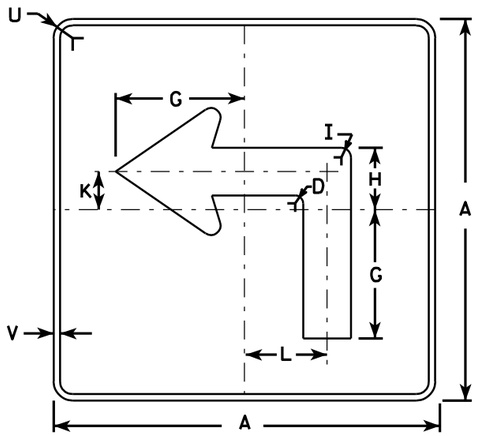
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1613	E



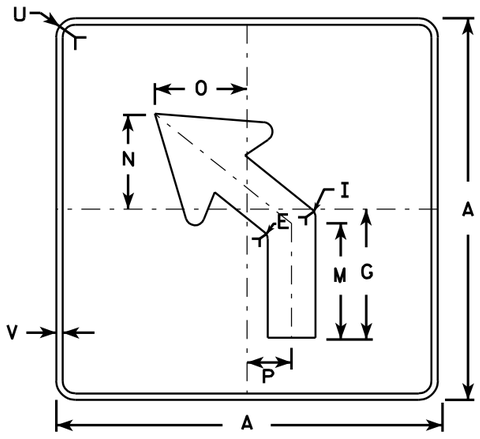
M5-1L
MK5-1L
MM5-1L
MO5-1L
MR5-1L



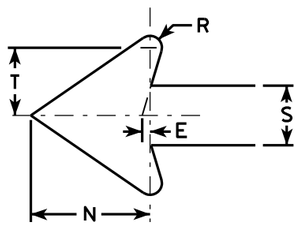
M5-2L
MK5-2L
MM5-2L
MO5-2L
MR5-2L



MB5-1L
MG5-1L
MN5-1L



MB5-2L
MG5-2L
MN5-2L



NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White - Type H Reflective (Detour or temporary Signs - Reflective) Message - Black
   MB5-1 and MB5-2 Background - Blue Message - White - Type H Reflective (Detour or temporary Signs - Reflective)
   MG5-1 and MG5-2 Background - Green Message - White - Type H Reflective
   MK5-1 and MK5-2 Background - Green Message - White Type H Reflective
   MM5-1 and MM5-2 Background - White - Type H Reflective Message - Green
   MN5-1 and MN5-2 Background - Brown Message - White - Type H Reflective
   MO5-1 and MO5-2 Background - Orange - Reflective Message - Black
   MR5-1 and MR5-2 Background - Brown Message - Yellow - Type H Reflective
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

Metric equivalent for this sign is:

SIZE	
1	
2	525 mm X 525 mm
3	750 mm X 750 mm
4	750 mm X 750 mm
5	750 mm X 750 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m²
1																												
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06	0.28
3	30		1 3/8	1/2	5/8		10 1/8	4 1/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25	0.56
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25	0.56
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25	0.56

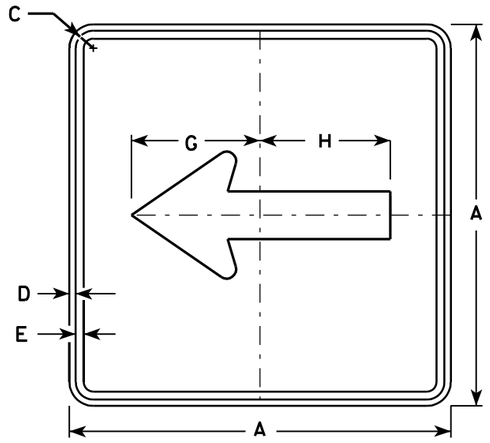
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

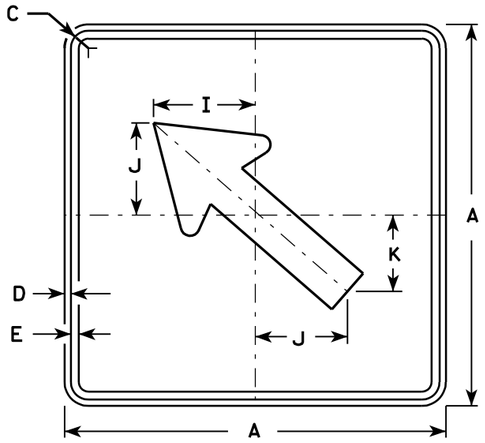
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/10 PLATE NO. M5-1.11

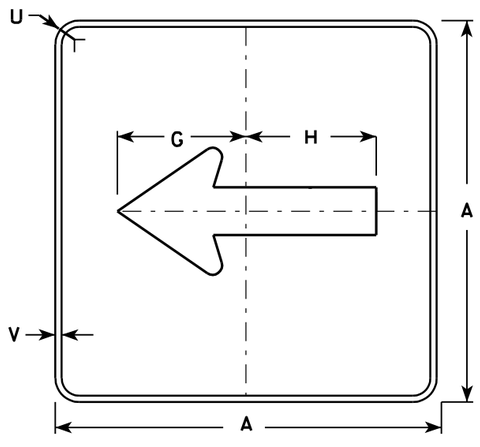
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1614	E



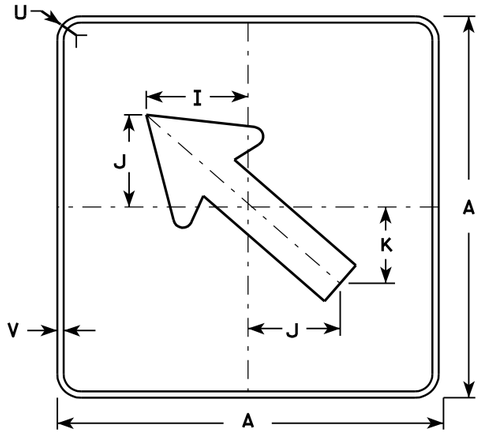
M6-1
MK6-1
MM6-1
MO6-1
MR6-1



M6-2
MK6-2
MM6-2
MO6-2
MR6-2



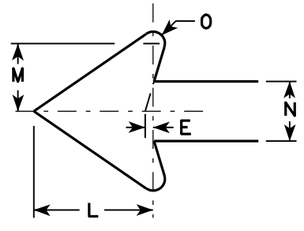
MB6-1
MG6-1
MN6-1



MB6-2
MG6-2
MN6-2

NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White - Type H Reflective
   (Detour or temporary Signs - Reflective)
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White - Type H Reflective
   (Detour or temporary Signs - Reflective)
   MG6-1 and MG6-2 Background - Green
   Message - White - Type H Reflective
   MK6-1 and MK6-2 Background - Green
   Message - White - Type H Reflective
   MM6-1 and MM6-2 Background - White - Type H Reflective
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White - Type H Reflective
   MO6-1 and MO6-2 Background - Orange - Reflective
   Message - Black
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow - Type H Reflective



Metric equivalent for this sign is:

SIZE	
1	
2	525 mm X 525 mm
3	750 mm X 750 mm
4	750 mm X 750 mm
5	750 mm X 750 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06	0.28
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56

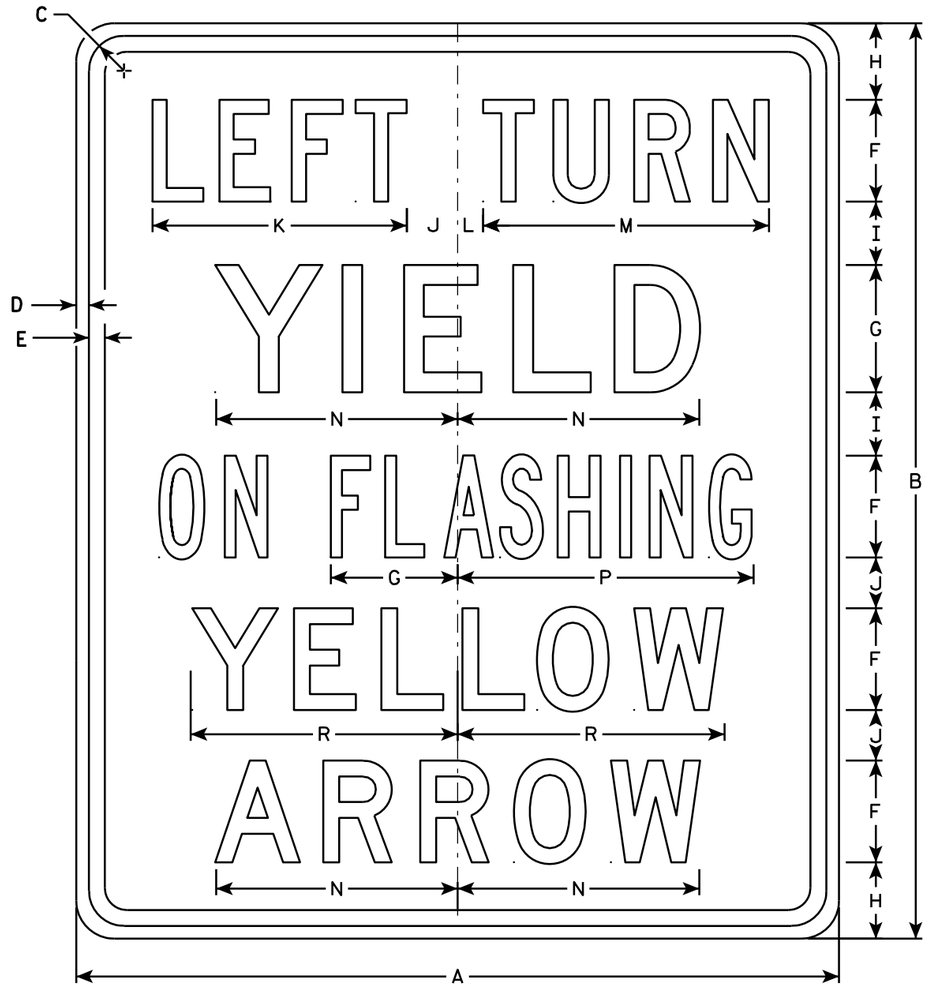
STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/10 PLATE NO. M6-1.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1615	E



R10-50

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series C.
   Lines 2, 4 and 5 are Series D.
   Line 3 is Series B.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	4	5	3	2 1/2	2	10	1	11 1/4	9 1/2	4 1/4	11 5/8		10 1/2									7.5
2M	30	36	1 3/8	1/2	5/8	4	5	3	2 1/2	2	10	1	11 1/4	9 1/2	4 1/4	11 5/8		10 1/2									7.5
3																											
4																											
5																											

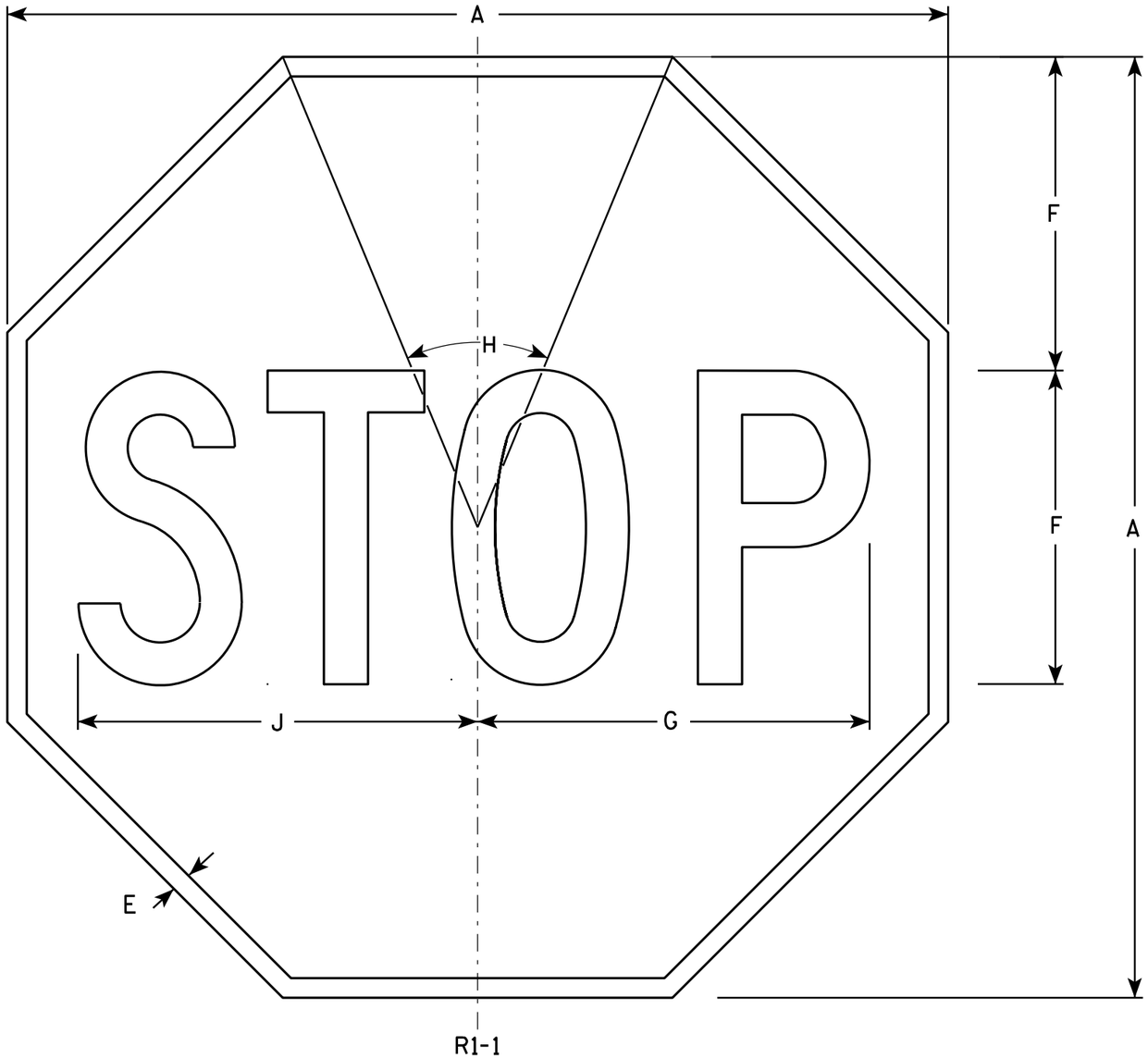
STANDARD SIGN
R10-50

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/21/10 PLATE NO. R10-50.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1616	E



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

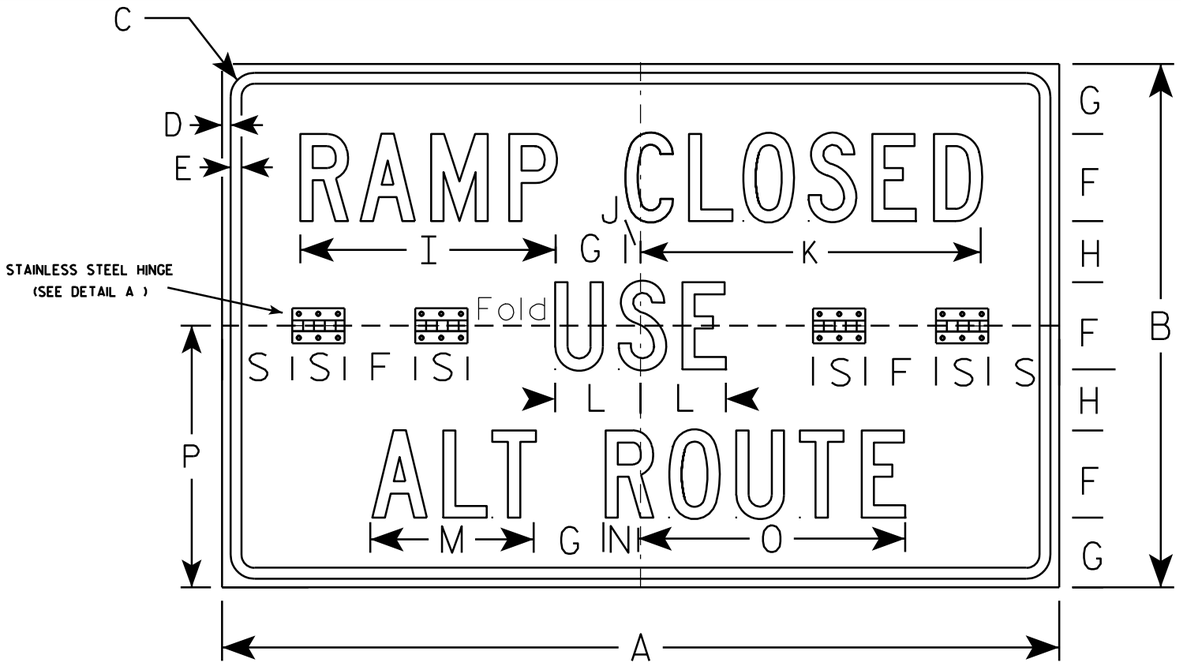
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

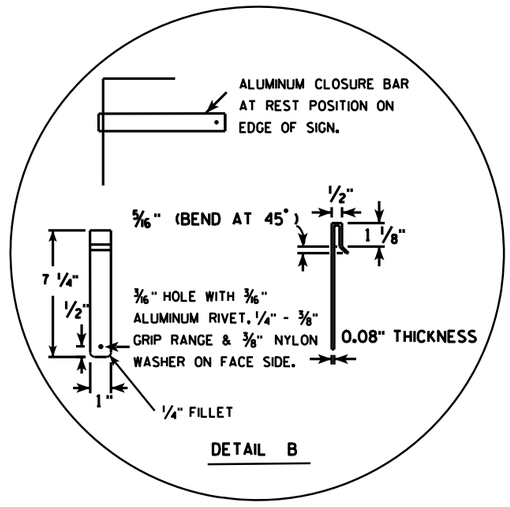
DATE 12/03/10 PLATE NO. R1-1.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1617	E



R11-54F

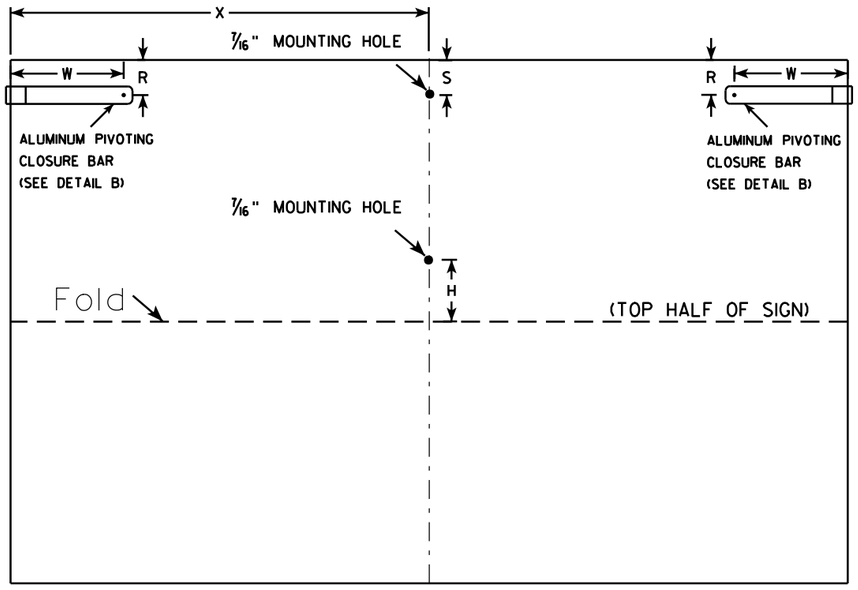
DETAIL A



DETAIL B

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - WHITE
   Message - BLACK
3. Message Series - C
4. Sign Base Material shall be aluminum corners and borders shall be rounded.
5. All hardware used on the folding sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.



(BACK VIEW)

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	5	4	3 1/2	14 5/8	7/8	19 1/2	4 7/8	9 3/8	2	15 1/4	15		2	3	2 5/8	1 1/4	11/16	6 1/2	24			10.0
2M	48	30	1 3/8	1/2	5/8	5	4	3 1/2	14 5/8	7/8	19 1/2	4 7/8	9 3/8	2	15 1/4	15		2	3	2 5/8	1 1/4	11/16	6 1/2	24			10.0
3																											
4																											
5																											

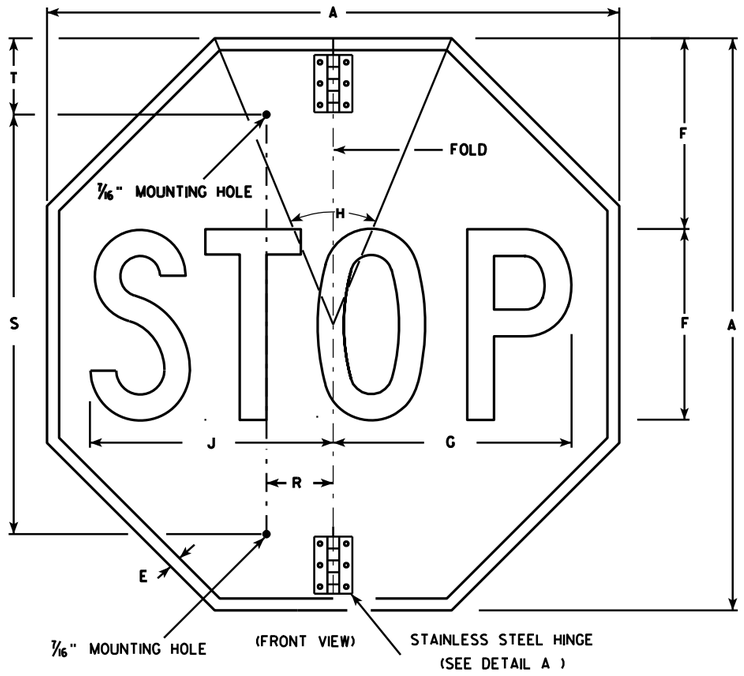
STANDARD SIGN
R11-54F

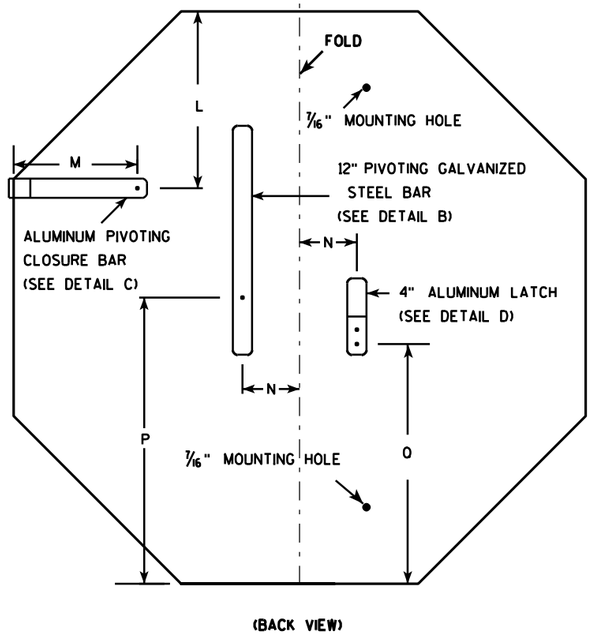
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-54F.2

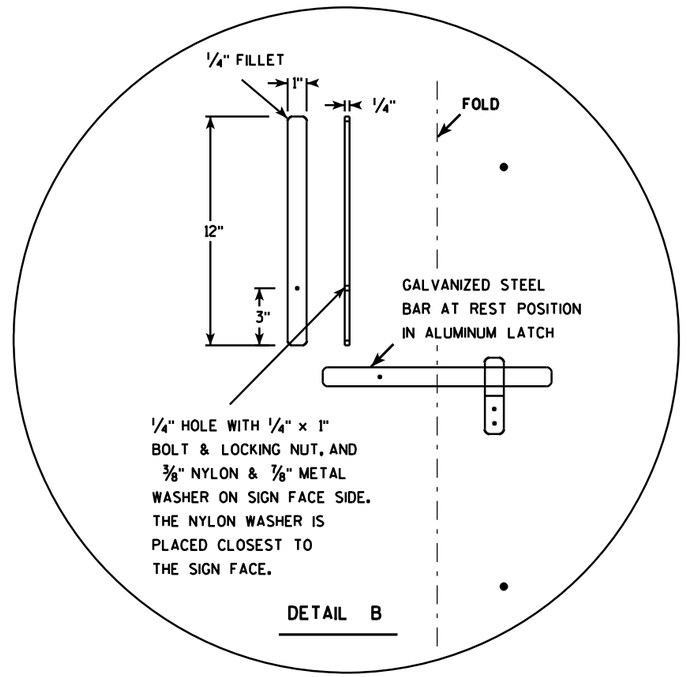
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1618	E

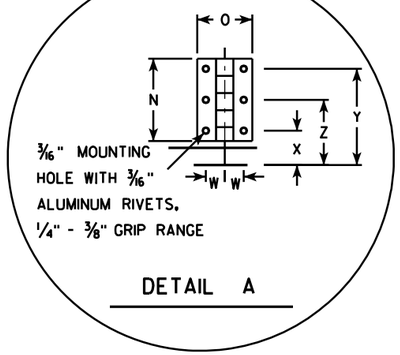


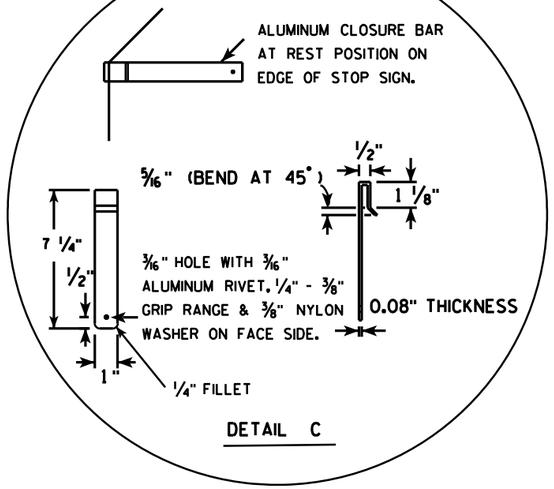


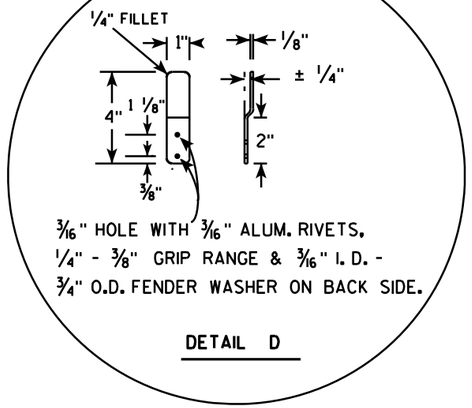
NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.









SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5			11/16	1 1/4	3 1/2	2 3/8	5.18
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

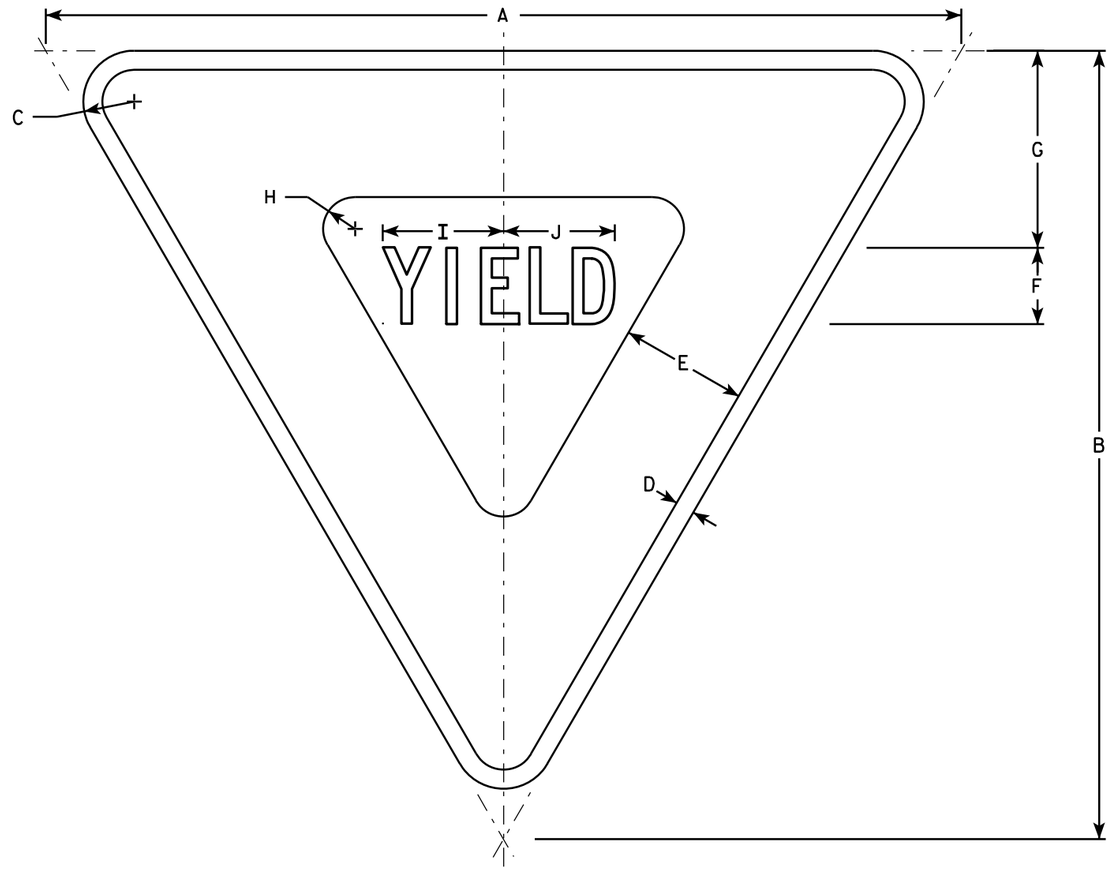
STANDARD SIGN
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1619	E



R1-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The border strip and word message are reflectorized red.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6	24	21	1 1/2	3/8	3	2	4 3/4	7/8	3 1/4	3																	1.75
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

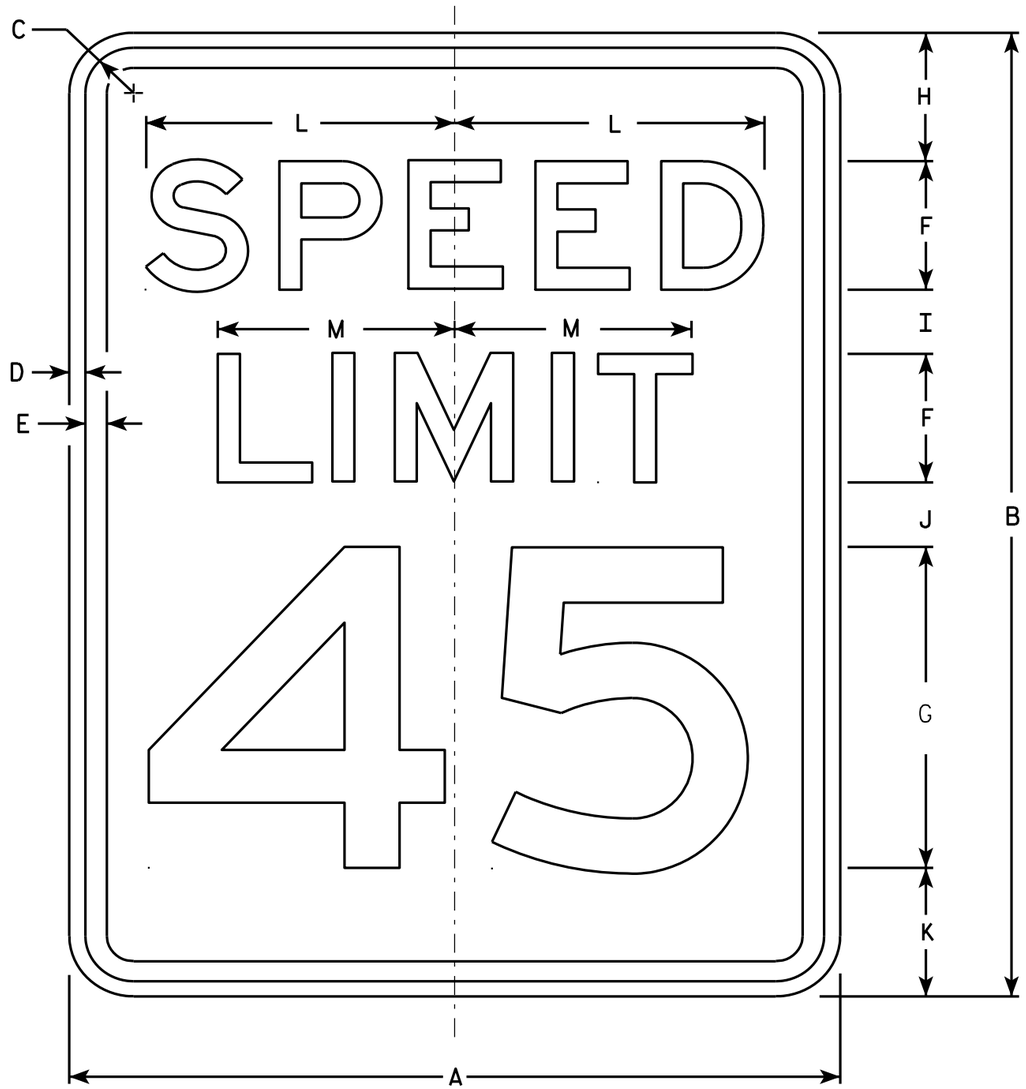
STANDARD SIGN
R1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/02/10 PLATE NO. R1-2.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 1620 | E



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN
R2-1

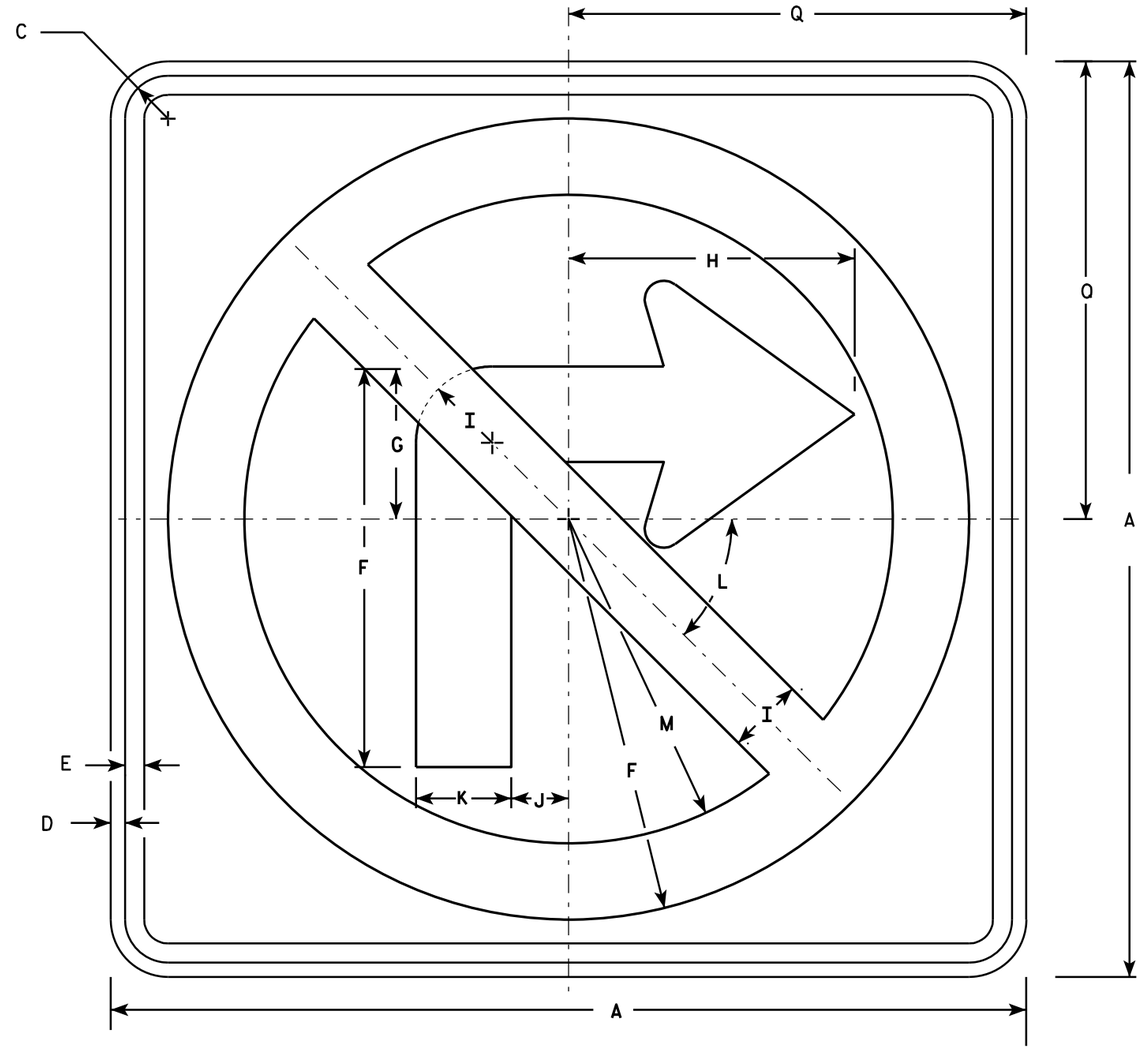
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 1621 | E

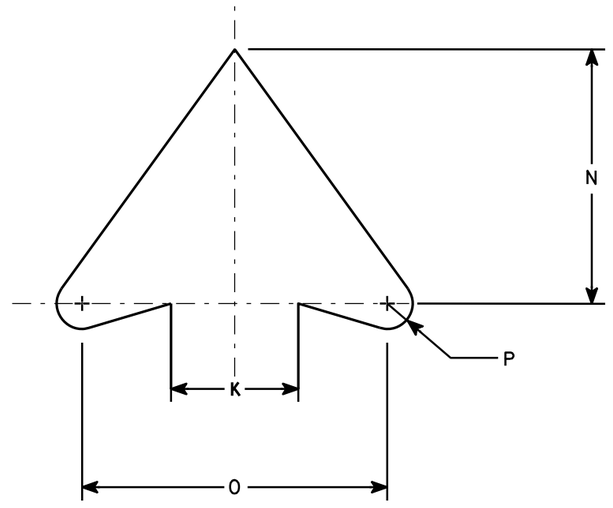
FILE NAME : C:\Users\PROJECTS\tr_stdplate\R21.DGN PLOT DATE : 28-MAY-2010 08:32 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 4.717577:1.000000
WISDOT/CADDS SHEET 42



R3-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45	8 1/2	5	6	1/2	12										4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2	12										4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

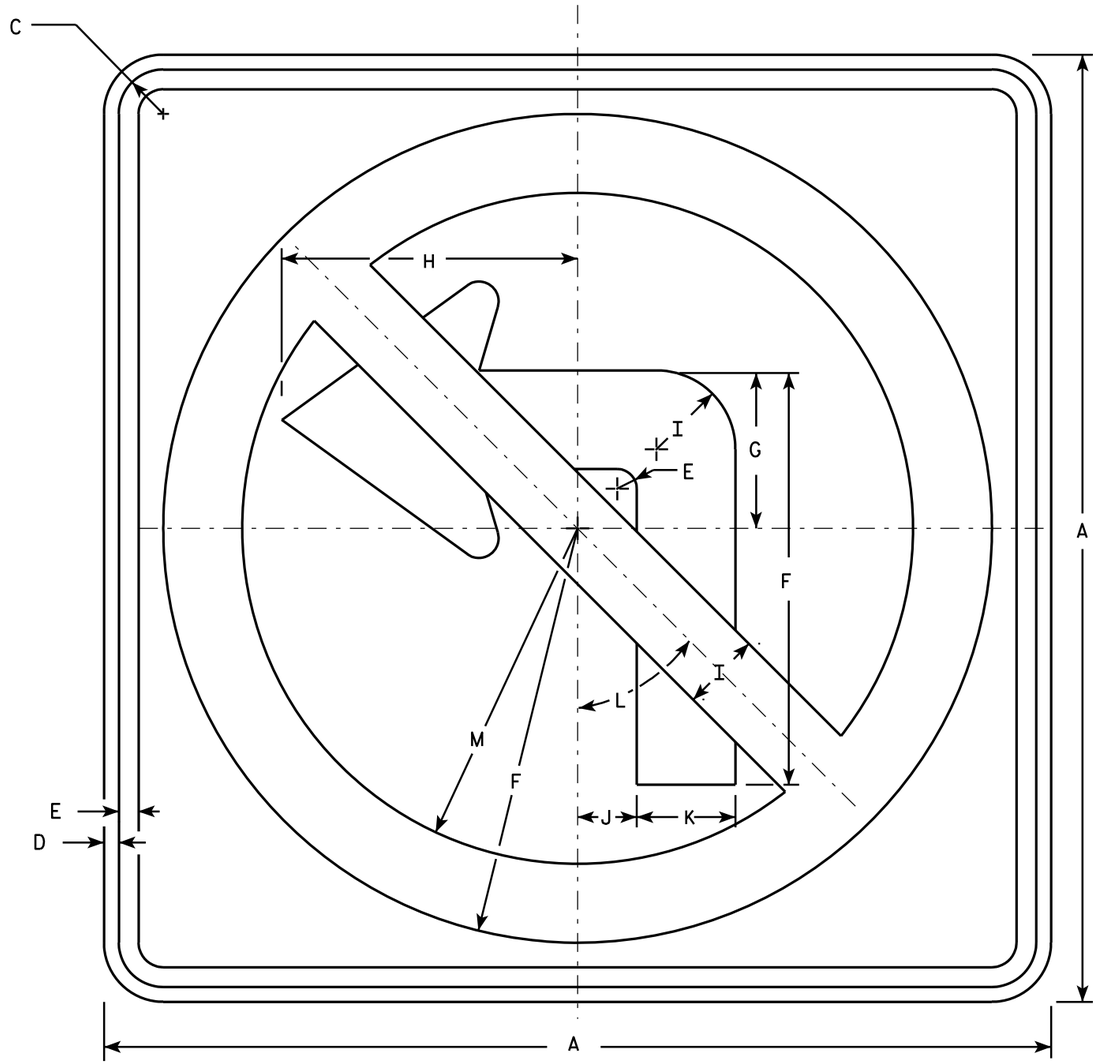
STANDARD SIGN
R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-1.5

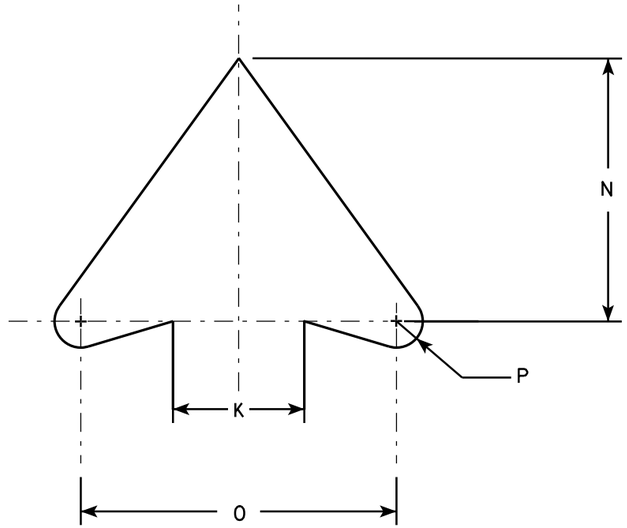
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1622	E



R3-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

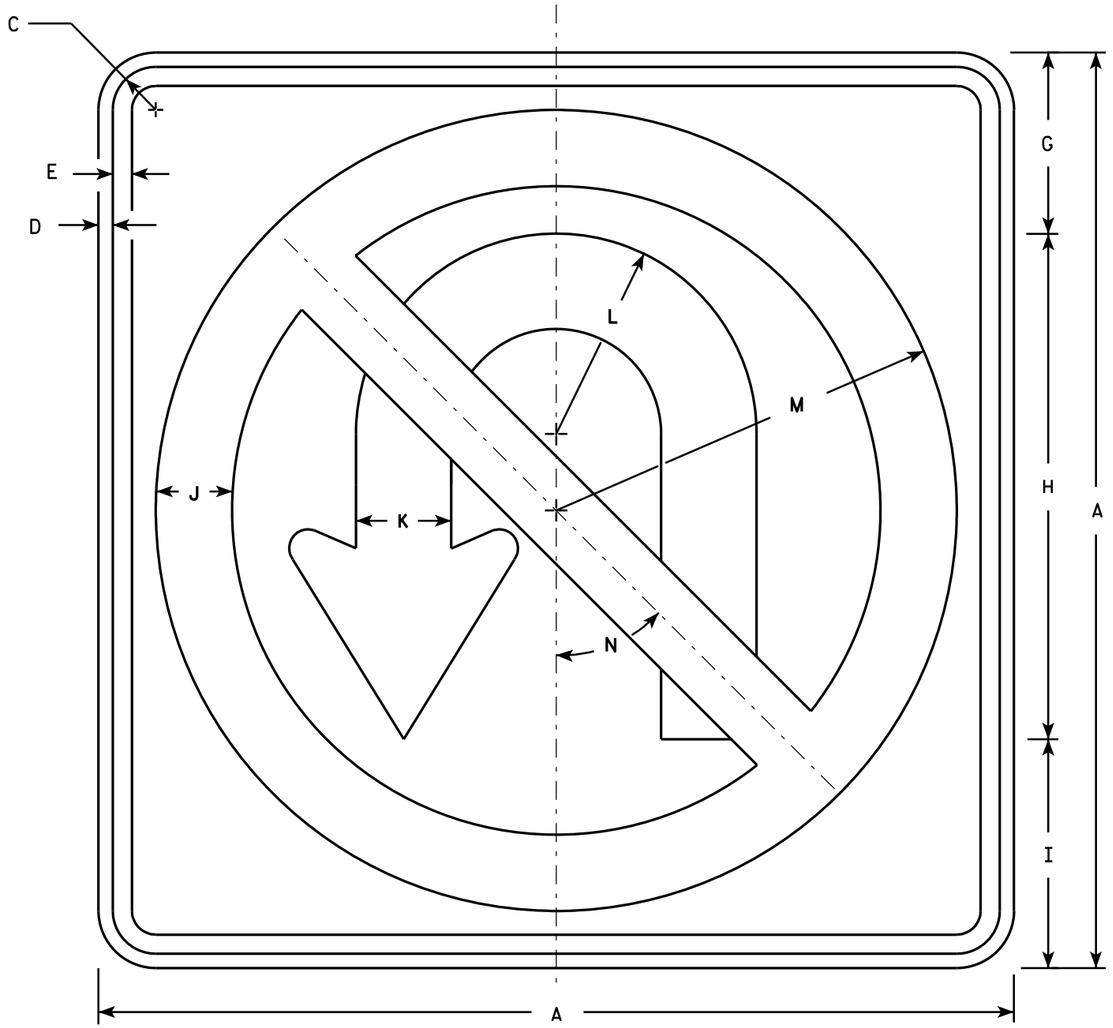
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

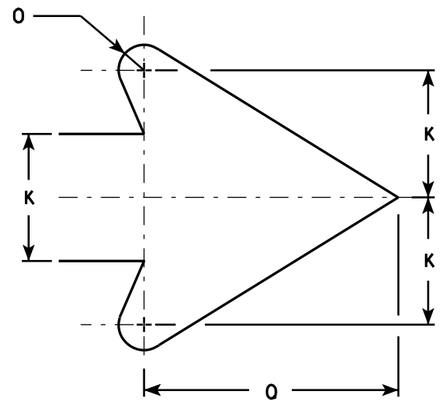
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1623	E



R3-4

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	3/8	1/2		4 3/4	13 1/4	6	2	2 1/2	5 1/4	10 1/2	45°	1/2		5										4.0
2M	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
3	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
4	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
5	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0

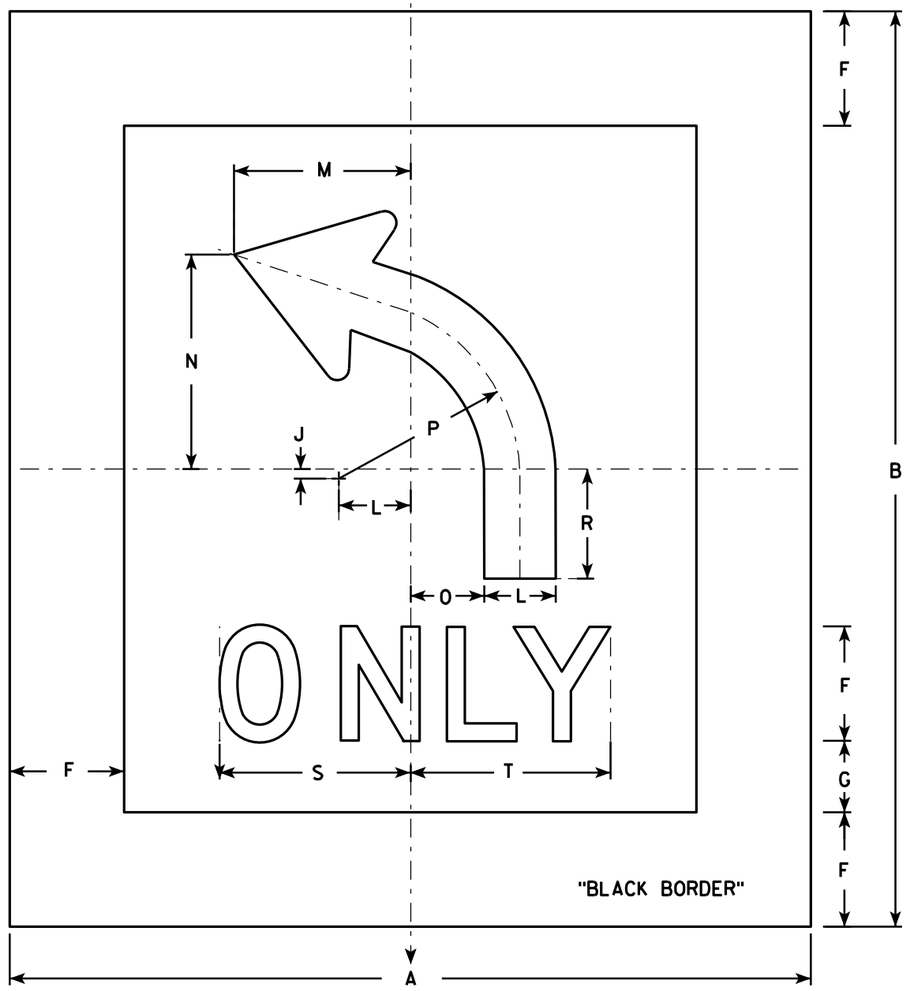
STANDARD SIGN
R3-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-4.11

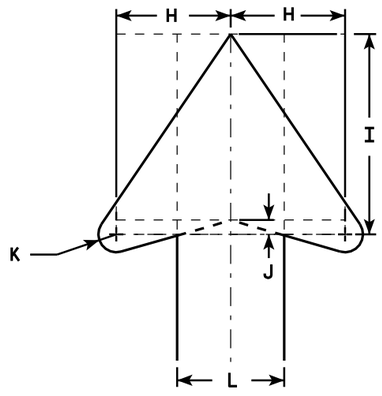
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1624	E



R3-5L

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood. When base material is metal, the corners shall be rounded.
5. R3-5R is the same as R3-5L except curved portion of arrow points right.
6. The 6" border is non-reflective black.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	42	48				6	3 3/4	4	7	1/2	5/8	3 3/4	9 1/4	11 1/4	3 7/8	9 1/2		5 3/4	10	10 1/2							1.26
2M	42	48				6	3 3/4	4	7	1/2	5/8	3 3/4	9 1/4	11 1/4	3 7/8	9 1/2		5 3/4	10	10 1/2							1.26
3																											
4																											
5																											

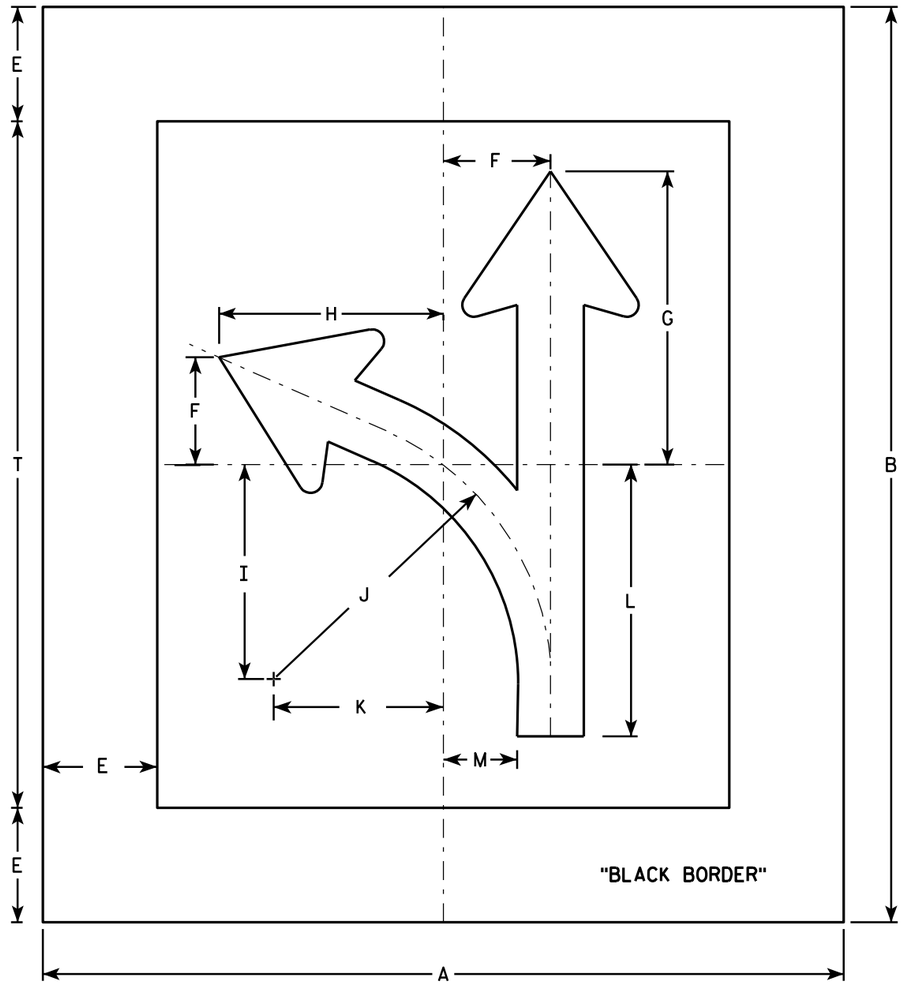
STANDARD SIGN
R3-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/24/11 PLATE NO. R3-5.6

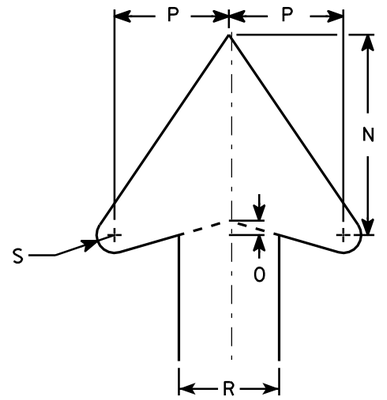
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 1625 | E



R3-6L

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Corners may be square or rounded when base material is plywood. When base material is metal, the corners shall be rounded.
4. R3-6R is the same as R3-6L except curved portion of arrow points right.
5. The 6" border is non-reflective black.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	42	48			6	5 5/8	15 3/8	11 3/4	11 1/4	14 1/2	8 7/8	14 1/4	3 7/8	7	1/2	4		3 1/2	5/8	36							14.0
2M	42	48			6	5 5/8	15 3/8	11 3/4	11 1/4	14 1/2	8 7/8	14 1/4	3 7/8	7	1/2	4		3 1/2	5/8	36							14.0
3																											
4																											
5																											

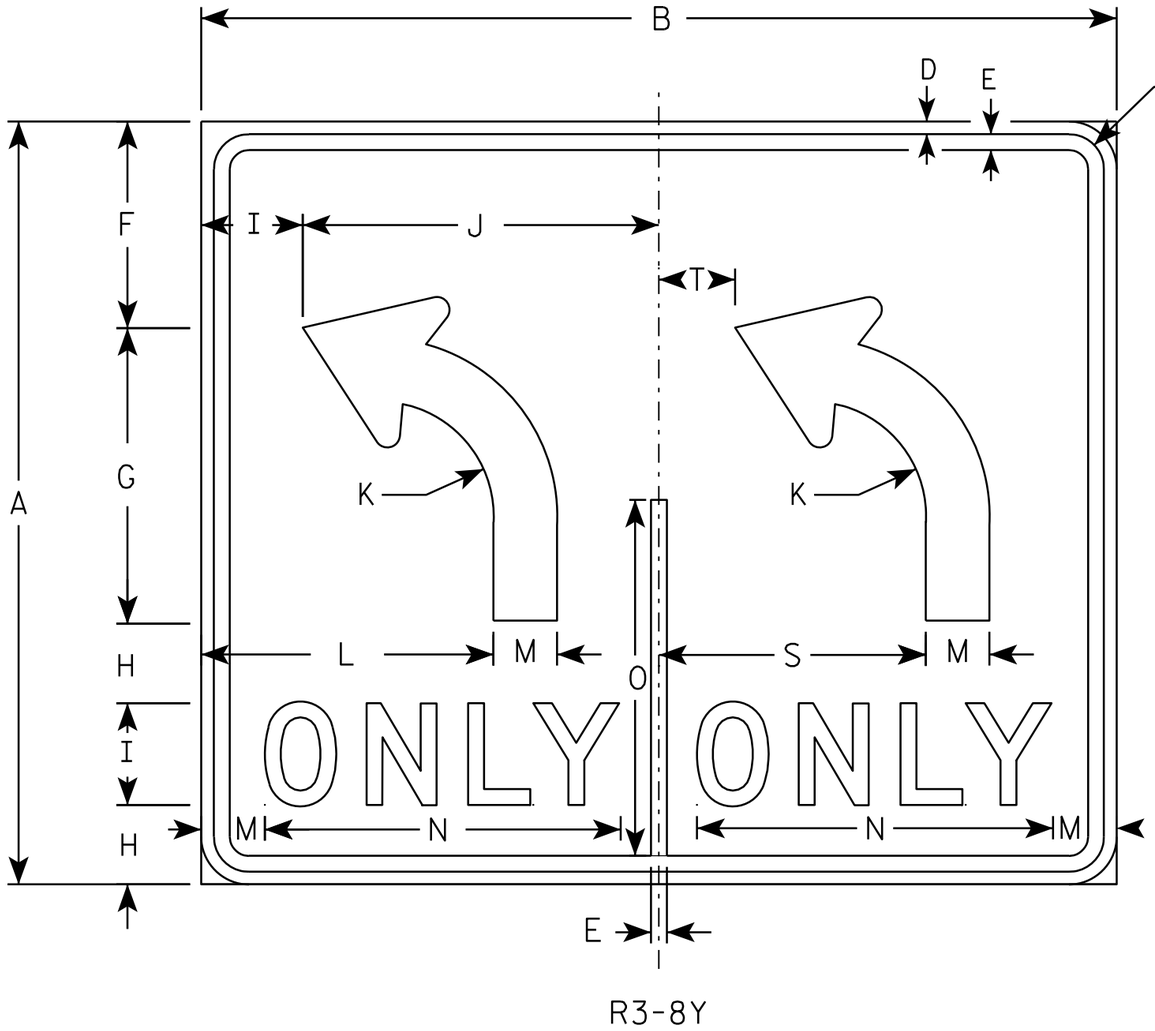
STANDARD SIGN
R3-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/17/2011 PLATE NO. R3-6.5

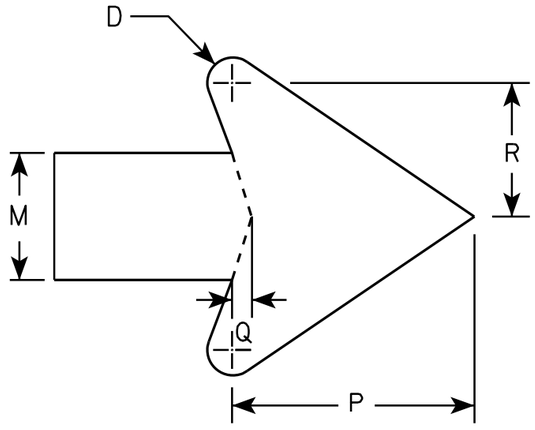
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 1626 | E



R3-8Y

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - WHITE
   Message - BLACK
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	14	4 1/2	11 1/2	2 1/2	14	14	4 3/4	3/8	2 5/8	10 1/2	3							7.5
2M	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	14	4 1/2	11 1/2	2 1/2	14	14	4 3/4	3/8	2 5/8	10 1/2	3							7.5
3																											
4	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	21	7 1/4	17 1/4	3 3/4	20 5/8	22 3/8	7 1/8	5/8	4	15 3/4	4 1/2							18.0
5	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	21	7 1/4	17 1/4	3 3/4	20 5/8	22 3/8	7 1/8	5/8	4	15 3/4	4 1/2							18.0

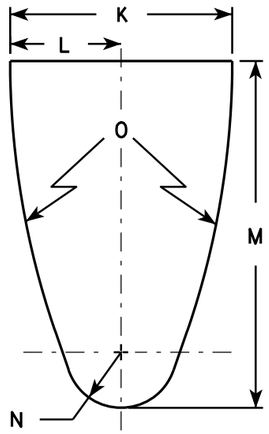
STANDARD SIGN
R3-8Y

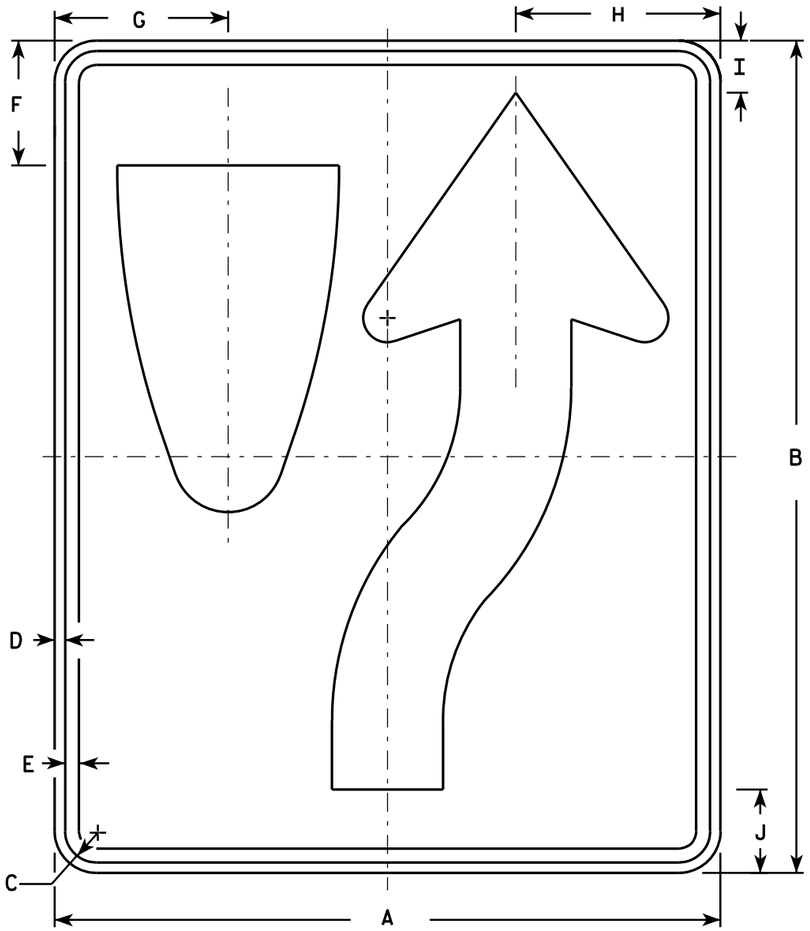
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-8Y.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 1627 | E

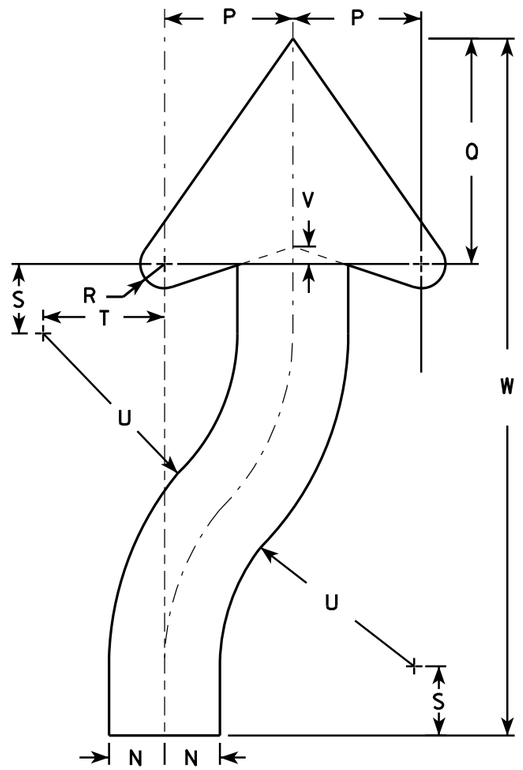




R4-7

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:
   Background - White
   Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

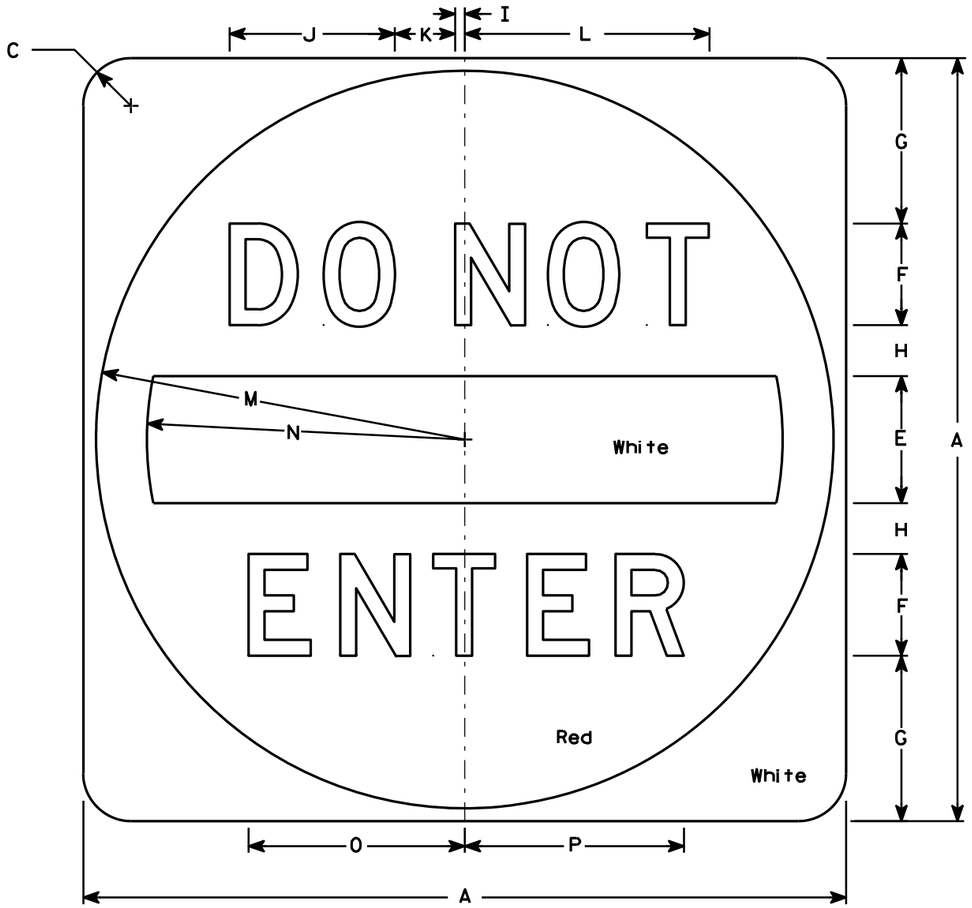
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1628	E



R5-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See detail
   Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but when base material is metal, the cornors shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 7/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 5/8	14 1/2	12 1/2	8 1/2	8 5/8											6.26
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 7/8											16.0

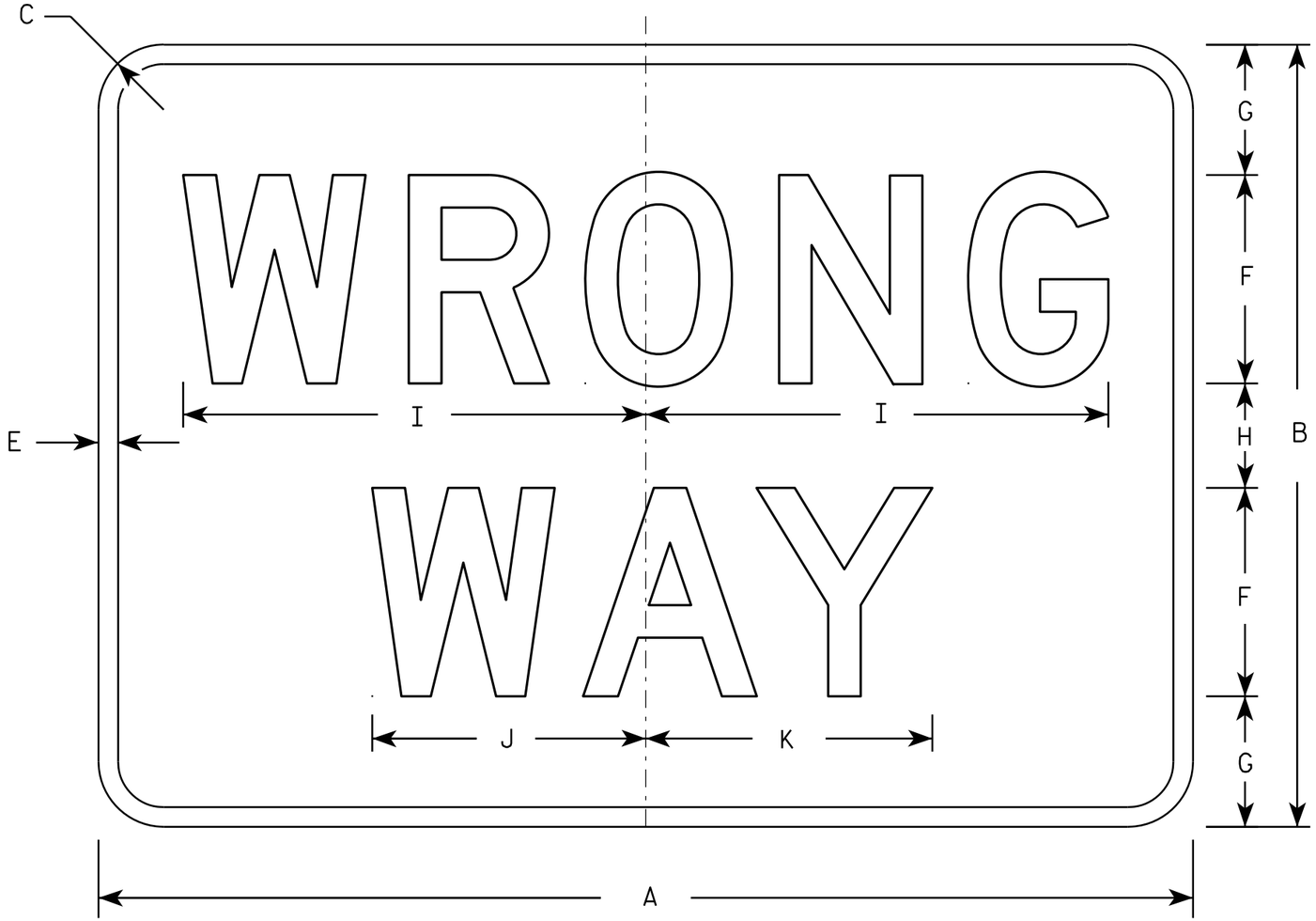
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 1629 E



R5-1A

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1630	E

R5-57

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - Lines 1, 2, and 5 are Series C.
   Lines 3 and 4 are Series B.
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S																											
2M																											
3																											
4	36		1 5/8	5/8	3/4	4	3	2	3 1/2	14 1/4	14 7/8	11	11 1/2	4 3/4	1 3/4	9		1 3/8	10	11	2 1/2	1 3/4	15 1/2	13	13 5/8		9.0
5	36		1 5/8	5/8	3/4	4	3	2	3 1/2	14 1/4	14 7/8	11	11 1/2	4 3/4	1 3/4	9		1 3/8	10	11	2 1/2	1 3/4	15 1/2	13	13 5/8		9.0

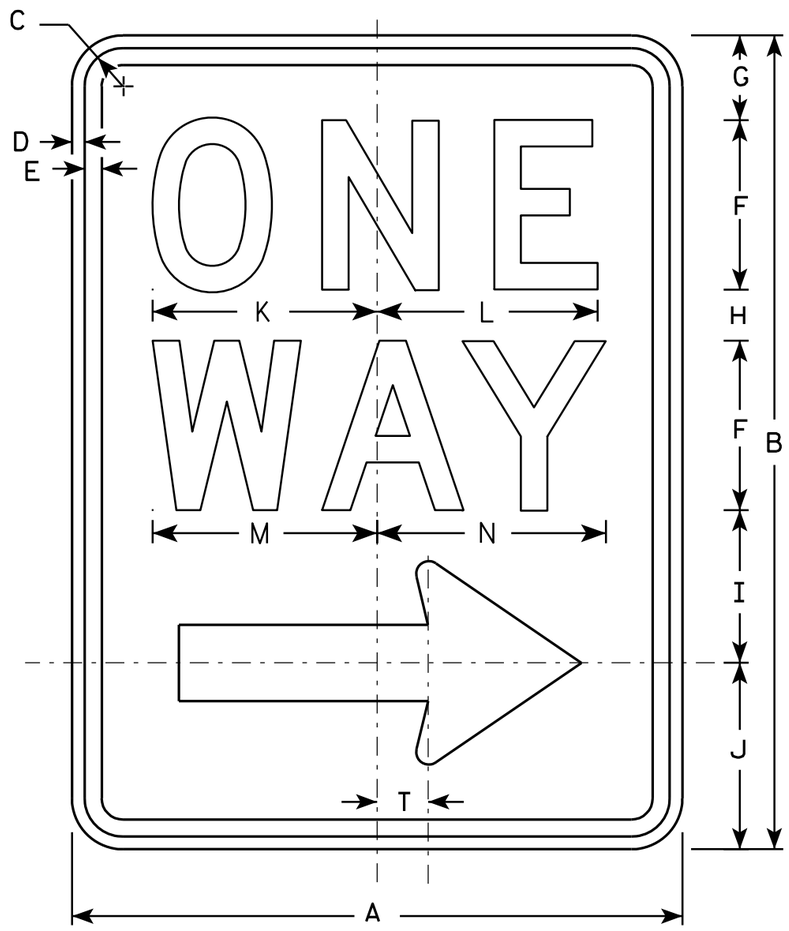
STANDARD SIGN
R5-57

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R5-57.10

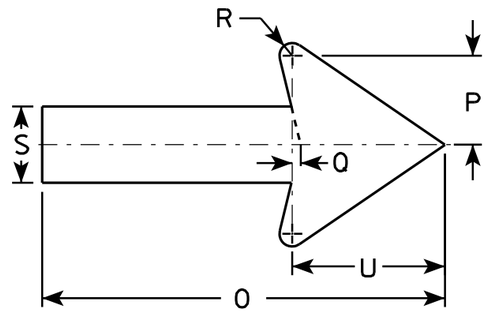
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1631	E



R6-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

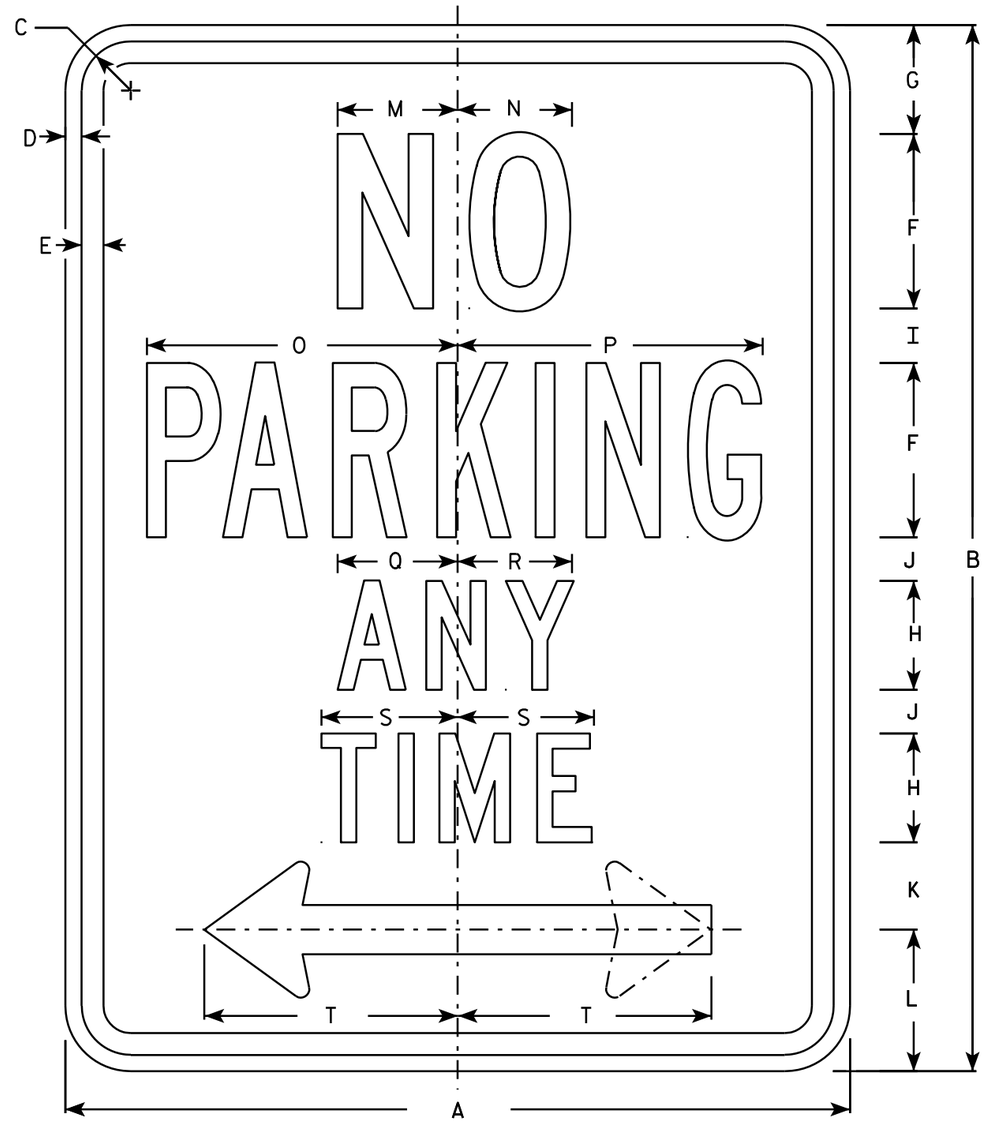
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

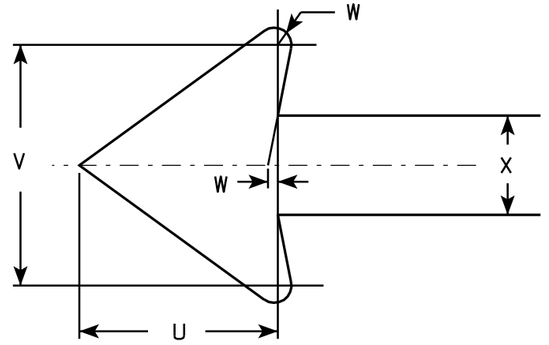
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1632	E



R7-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)
   R7-1L (left arrow)
   R7-1R (right arrow)



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

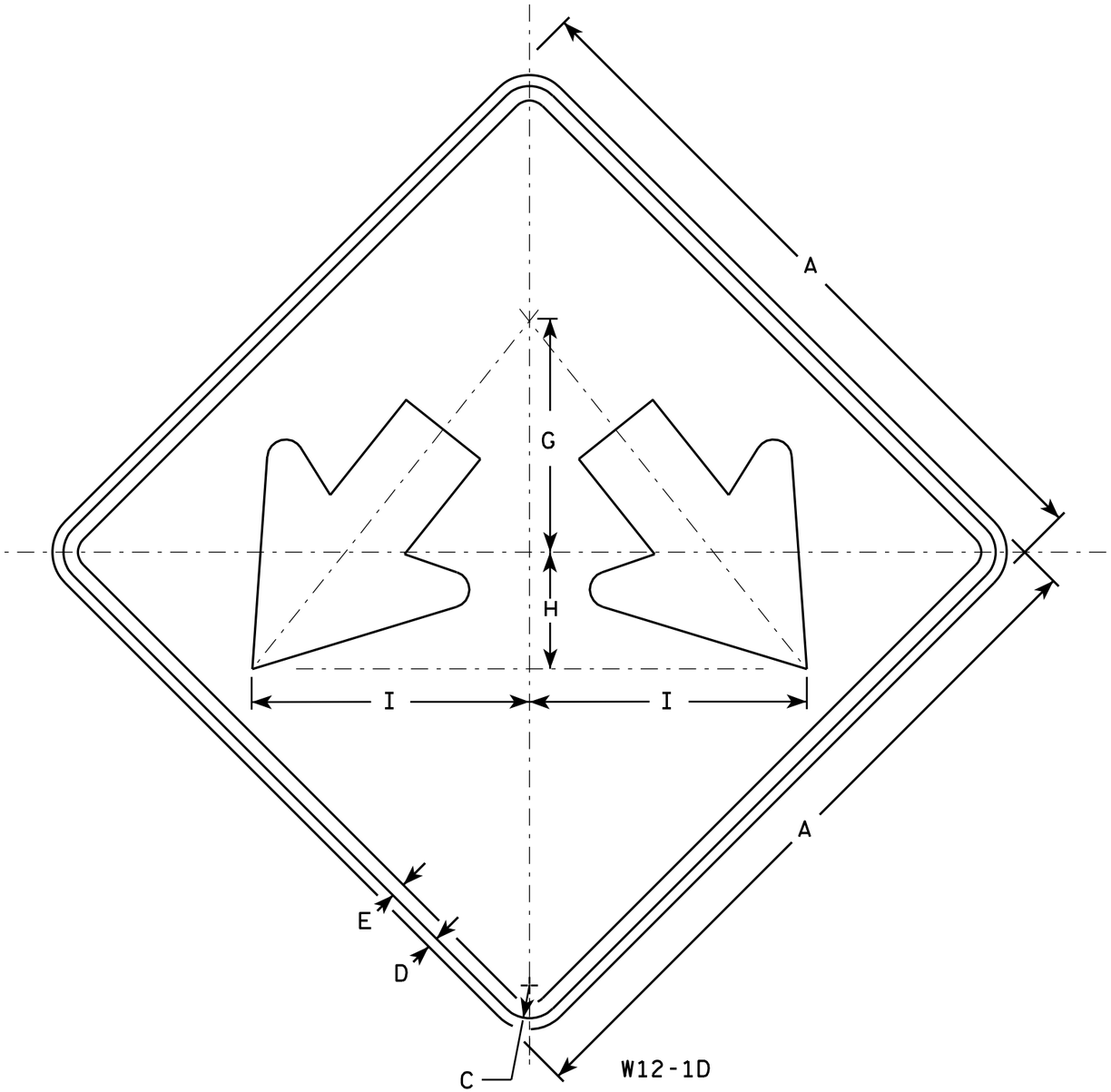
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-1.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1633	E

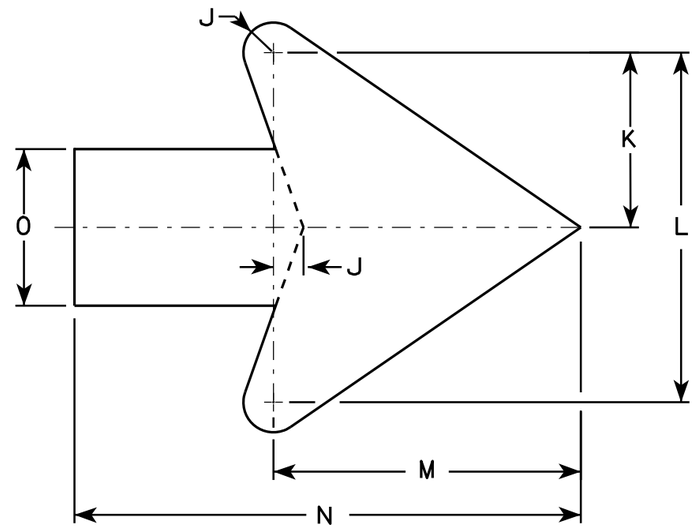
FILE NAME : C:\Users\PROJECTS\tr_stdplate\R71.DGN PLOT DATE : 31-MAR-2011 09:20 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 3.476110:1.000000

WISDOT/CADDS SHEET 42



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	48		2 1/4	3/4	1		16	8	19	1 1/4	7 1/4	14 1/2	12 3/4	21	6 1/4												16.0

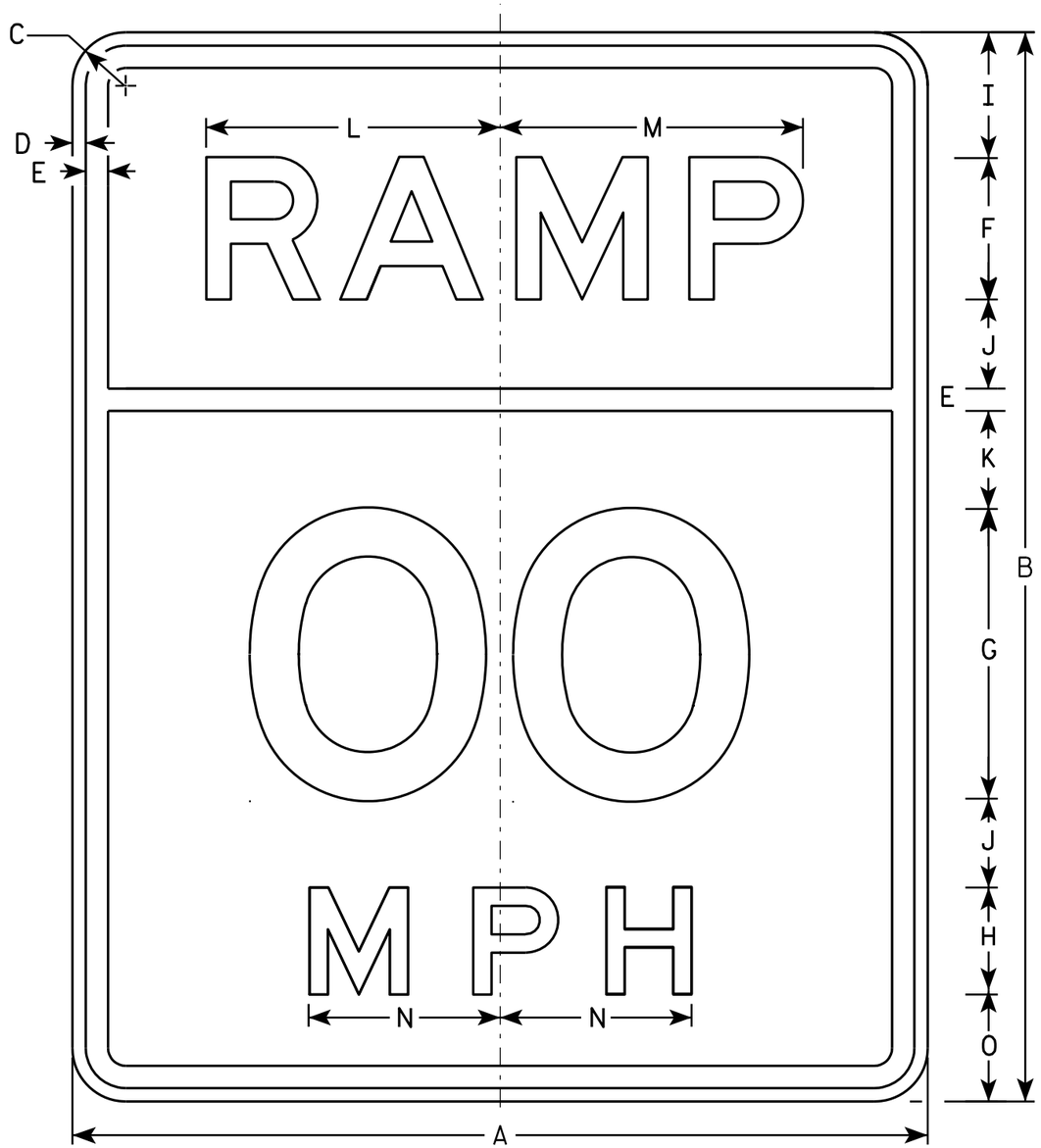
STANDARD SIGN
W12-1D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W12-1D.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1634	E



W13-3

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	30	1 1/8	3/8	5/8	4	8	3	3 1/2	2 1/2	2 7/8	8 1/4	8 1/2	5 3/8	3												5.0
2S	24	30	1 1/8	3/8	5/8	4	8	3	3 1/2	2 1/2	2 7/8	8 1/4	8 1/2	5 3/8	3												5.0
2M	24	30	1 1/8	3/8	5/8	4	8	3	3 1/2	2 1/2	2 7/8	8 1/4	8 1/2	5 3/8	3												5.0
3																											
4	36	48	1 5/8	5/8	7/8	6	12	4	6	4 1/8	5 1/8	13 1/2	13 5/8	7 1/8	6												12.0
5	48	60	2 1/4	3/4	1 1/4	8	16	6	7	5	5 3/4	16 1/2	17	10 5/8	6												20.0

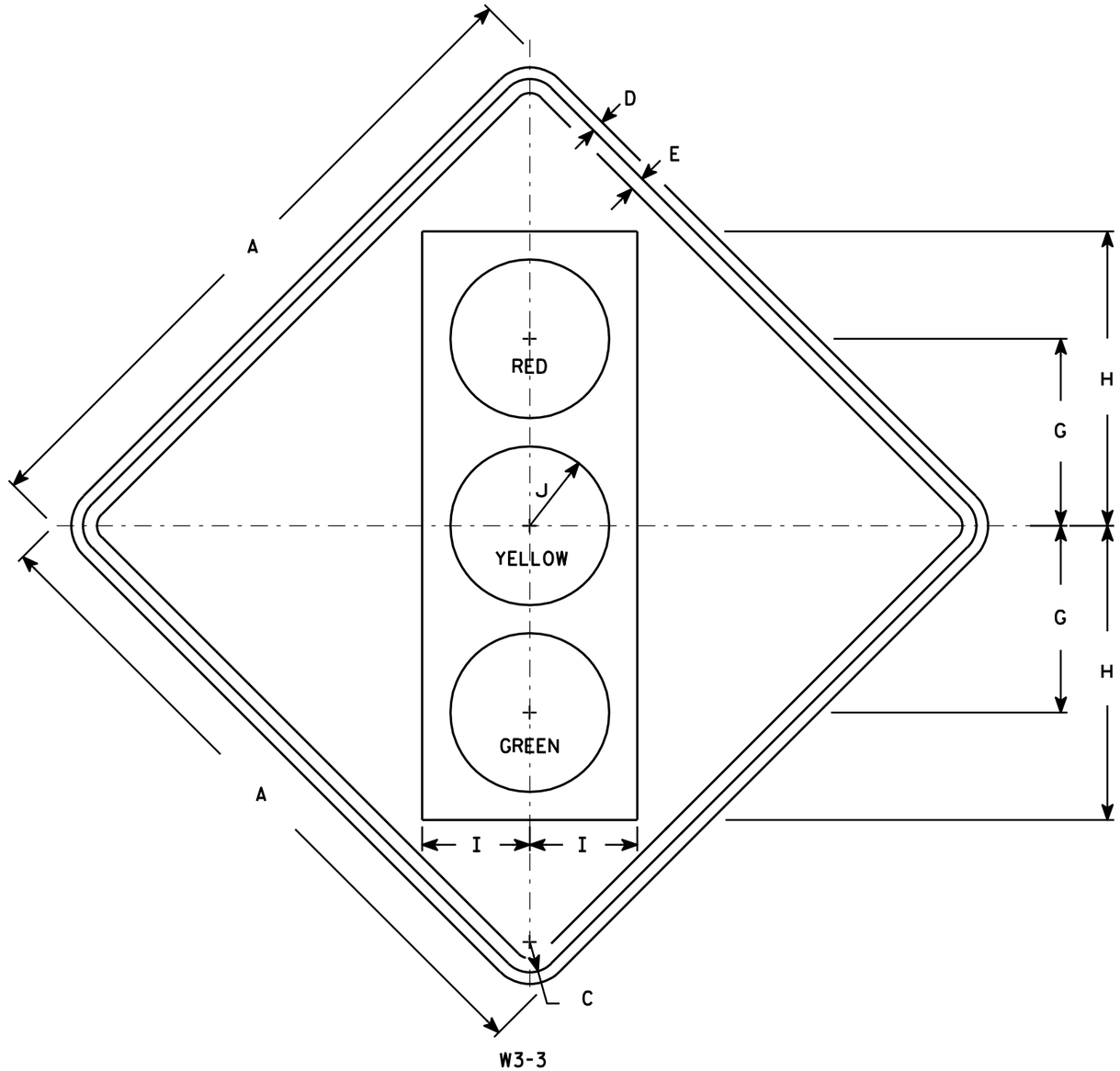
STANDARD SIGN
W13-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-3.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 1635 | E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Symbol and border are non-reflective black.
   Top circle - Type H Reflectorized Red
   Center circle - Same as background
   Bottom circle - Type H Reflectorized Green

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		8 3/4	13 3/4	5	3 3/4																	6.25
2S	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2M	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
3	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

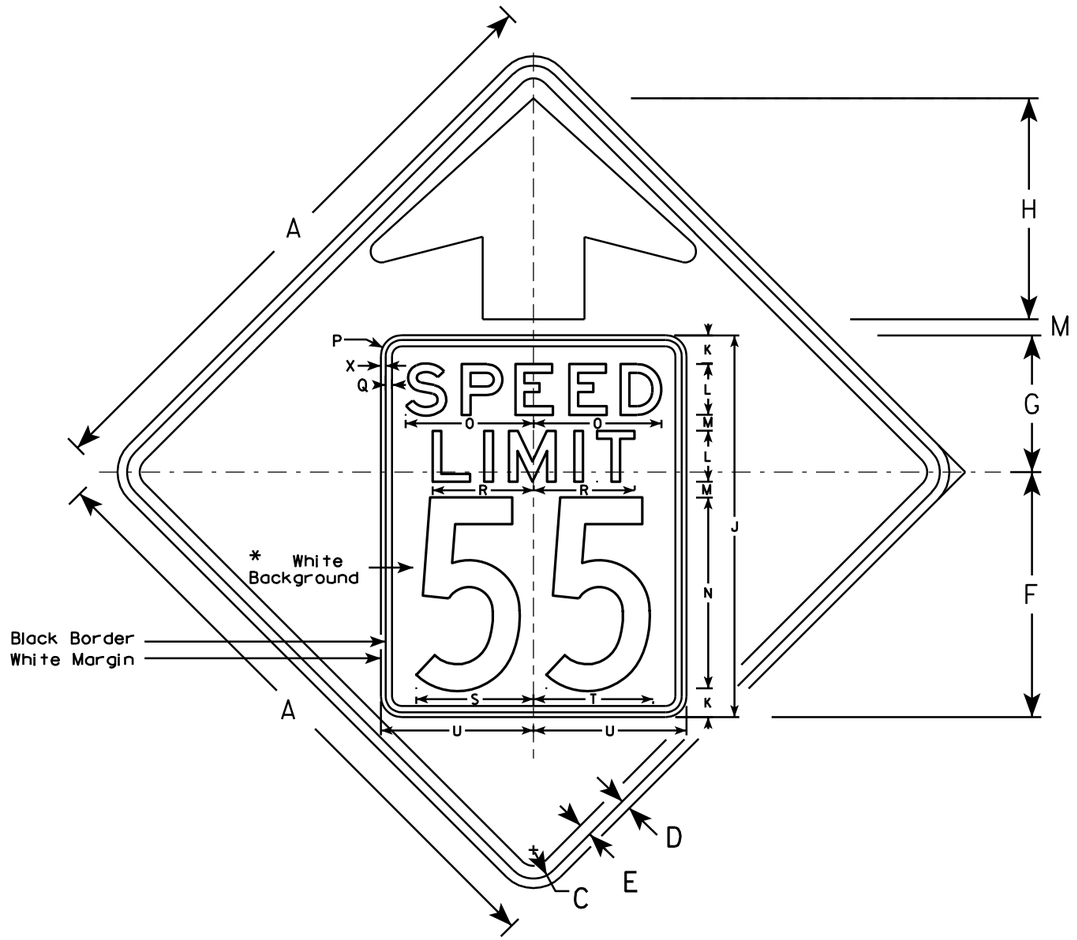
STANDARD SIGN
W3-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-3.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 1636 | E

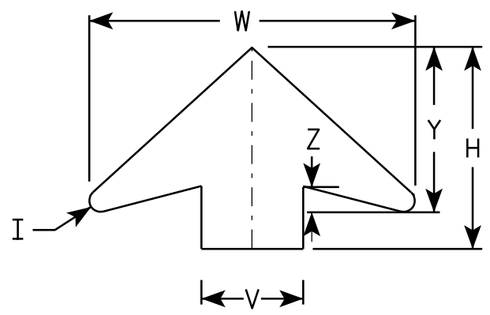


W3-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
   Background - YELLOW*
   Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2M	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
3	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W3-5

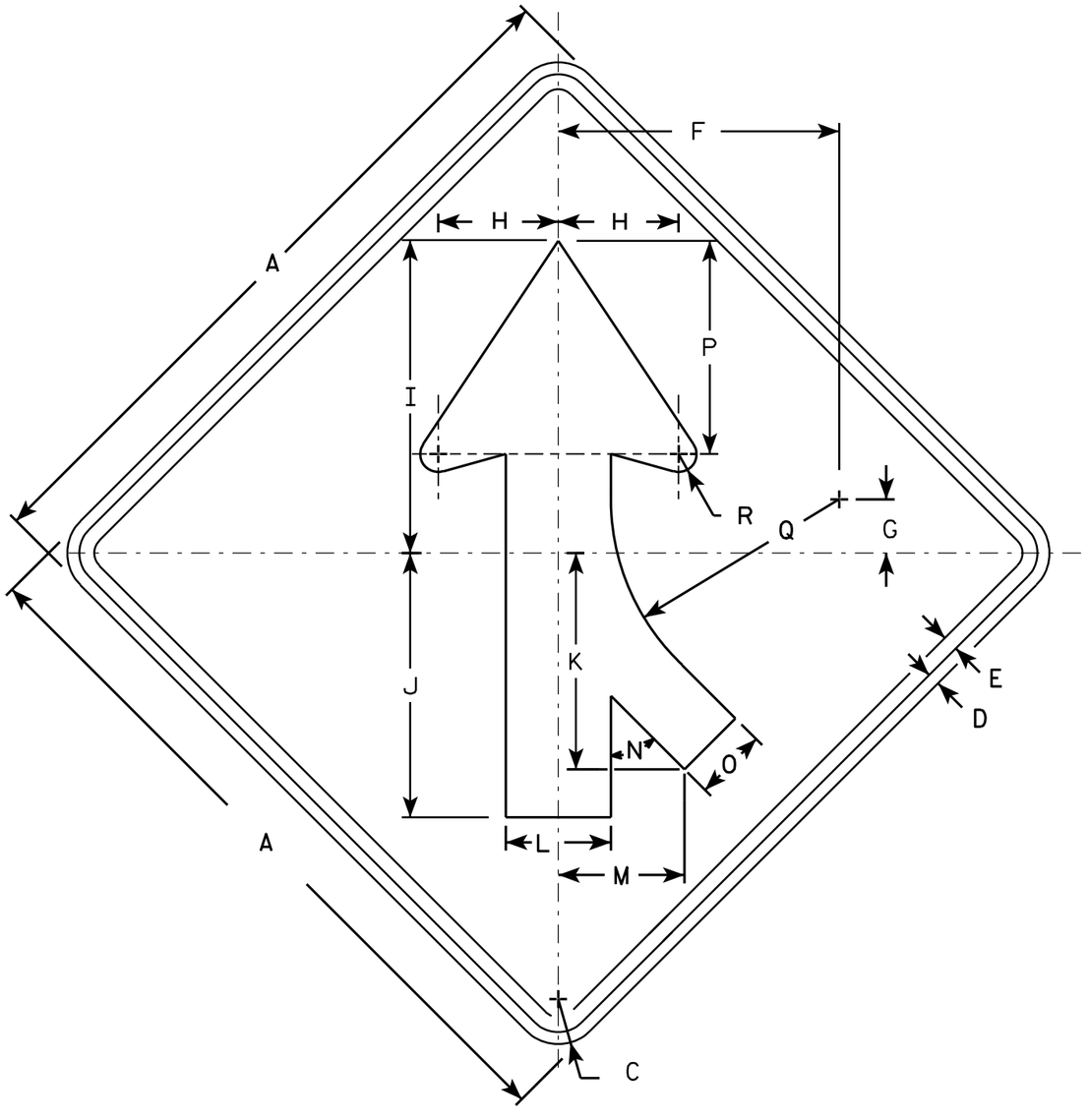
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W3-5.5

PROJECT NO:

SHEET NO: 1637 E



W4-1 R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W4-1L is the same as W4-1R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	11 5/8	2 1/2	5	13	11	9	4 3/8	5 1/4	45°	3	8 7/8	9 1/2	3/4									6.25
2S	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2M	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
3	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
4	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

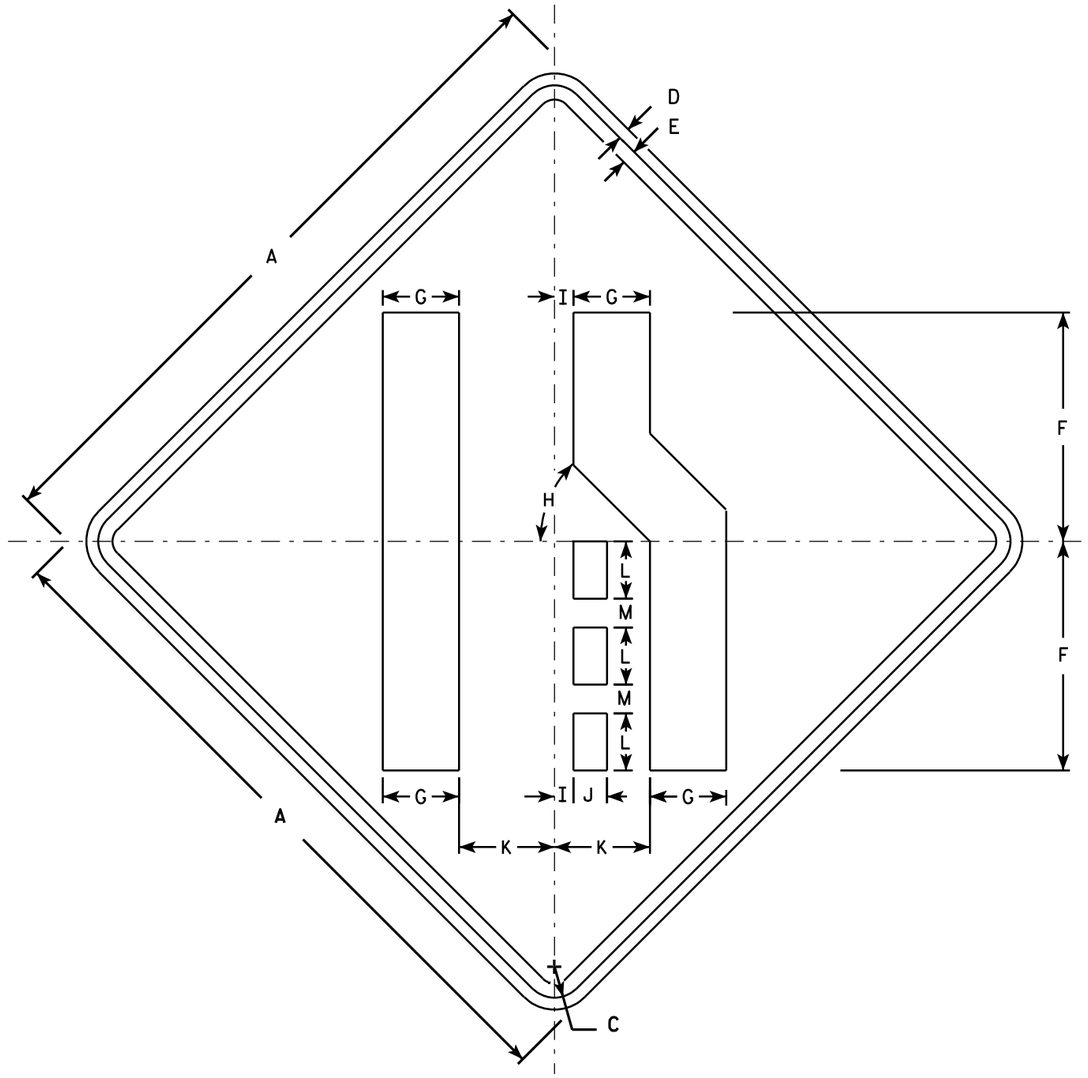
STANDARD SIGN
W4-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rausch for State Traffic Engineer

DATE 03/12/13 PLATE NO. W4-1.14

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1638	E



W4-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W4-2L is the same as W4-2R except the symbol is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	10	3 3/8	45°	7/8	1 1/2	4 1/4	2 1/2	1 1/4														6.25
2S	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2M	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
3	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN
W4-2

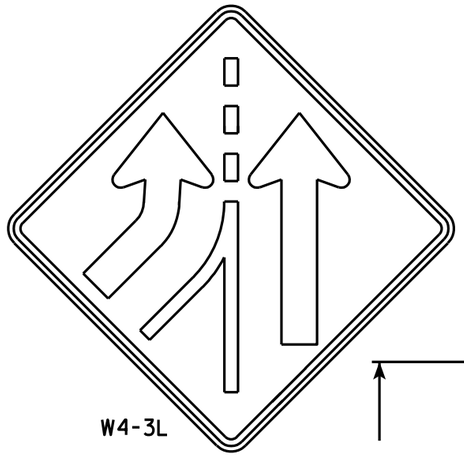
WISCONSIN DEPT OF TRANSPORTATION

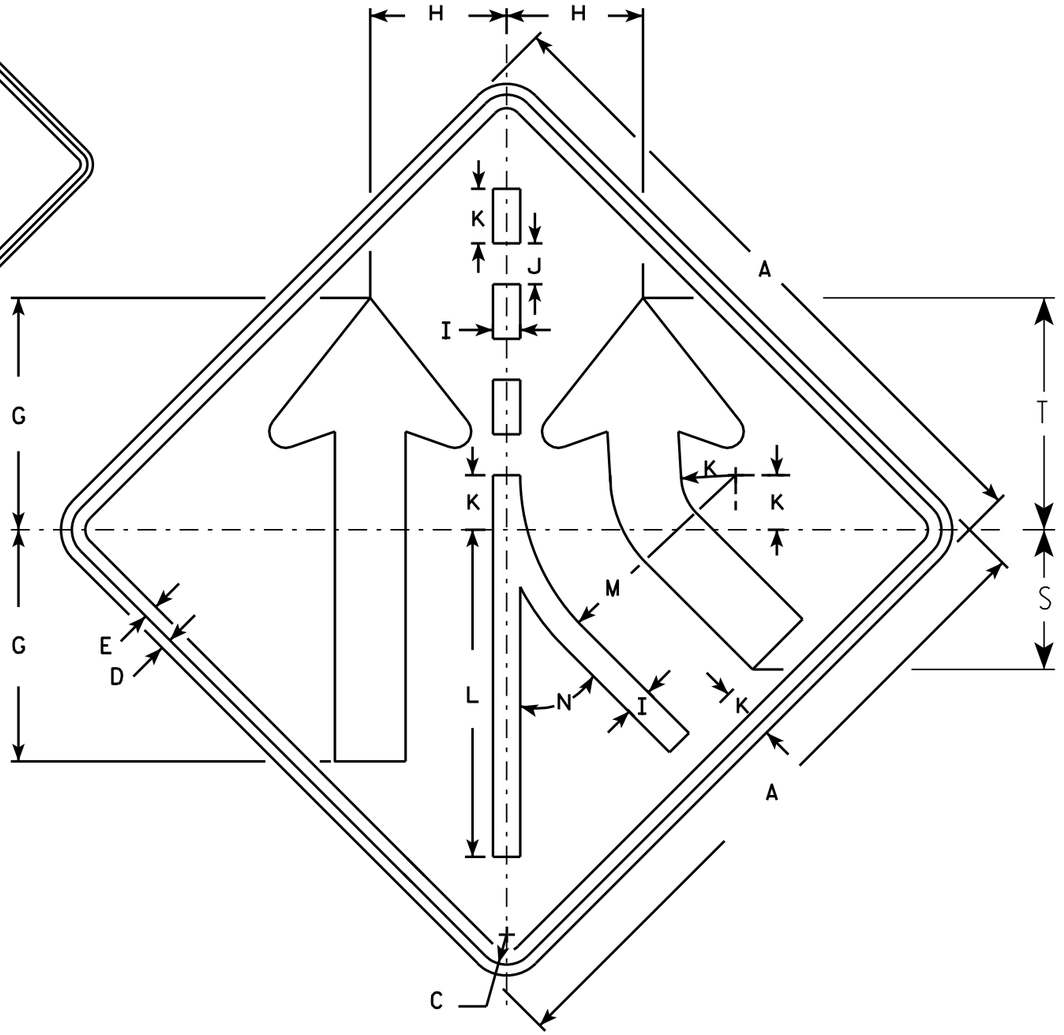
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/12/13 PLATE NO. W4-2.14

PROJECT NO:

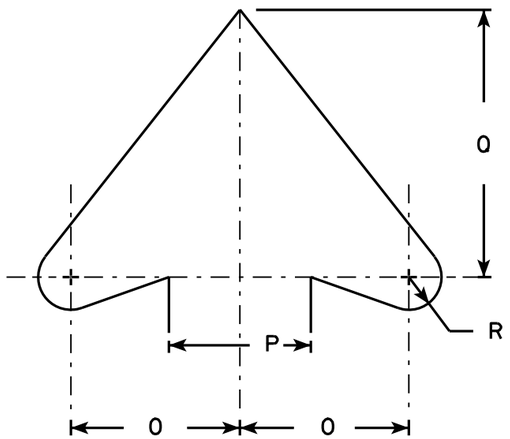
SHEET NO: 1639 E





NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W4-3 L is the same as W4-3 R except the arrow is reversed along the vertical centerline.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		10 5/8	6 1/4	1 1/4	1 7/8	2 1/2	15	9 7/8	45°	3 7/8	3 1/4	6 1/8	3/4	6 3/8	10 5/8							6.25
2S	36		1 5/8	5/8	3/4		12 3/4	7 1/2	1 1/2	2 1/4	3	18	11 7/8	45°	4 5/8	4	7 3/8	7/8	7 3/4	12 3/4							9.0
2M	36		1 5/8	5/8	3/4		12 3/4	7 1/2	1 1/2	2 1/4	3	18	11 7/8	45°	4 5/8	4	7 3/8	7/8	7 3/4	12 3/4							9.0
3																											
4	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0
5	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0

STANDARD SIGN
W4-3

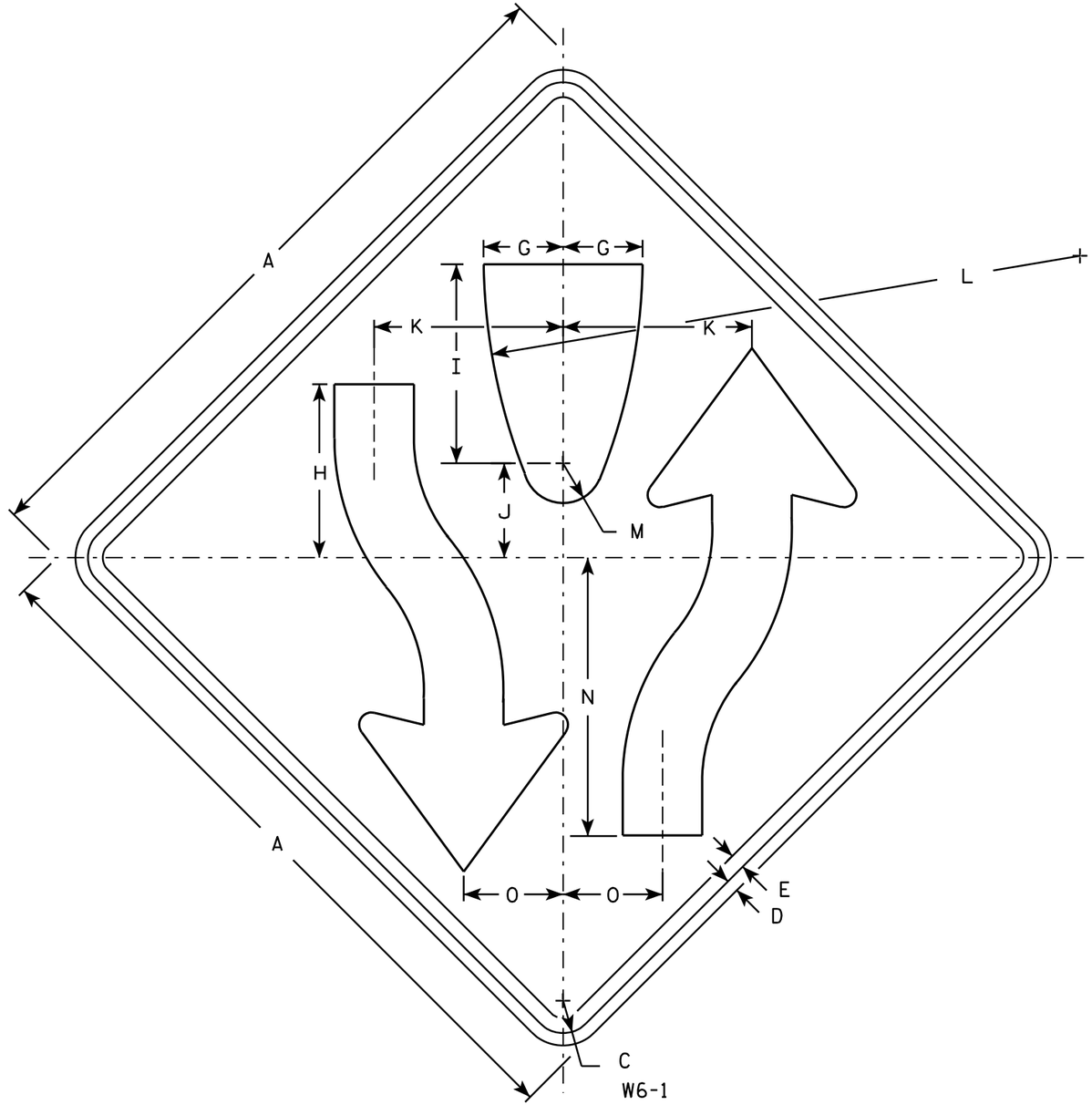
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 03/12/13 PLATE NO. W4-3.8

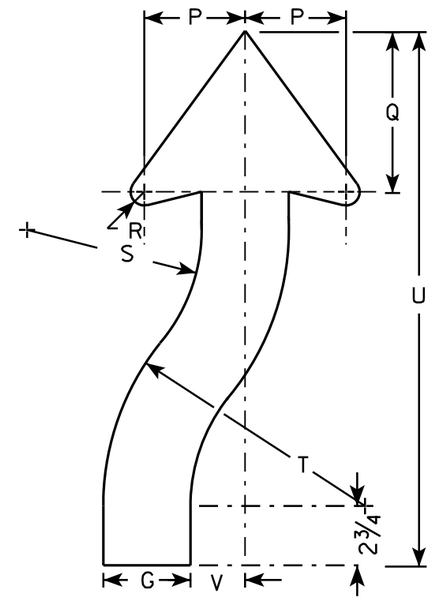
PROJECT NO:

SHEET NO: 1640 E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W6-2 same as W6-1 but is rotated 180° when mounted.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		3 1/4	8	8 1/4	4 1/8	7 7/8	25	1 3/4	11 5/8	4 1/8	3 7/8	6 3/4	5/8	6 5/8	9 7/8	21 5/8	2					6.25
2S	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
2M	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
3																											
4	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
5	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0

STANDARD SIGN
W6-1 & W6-2

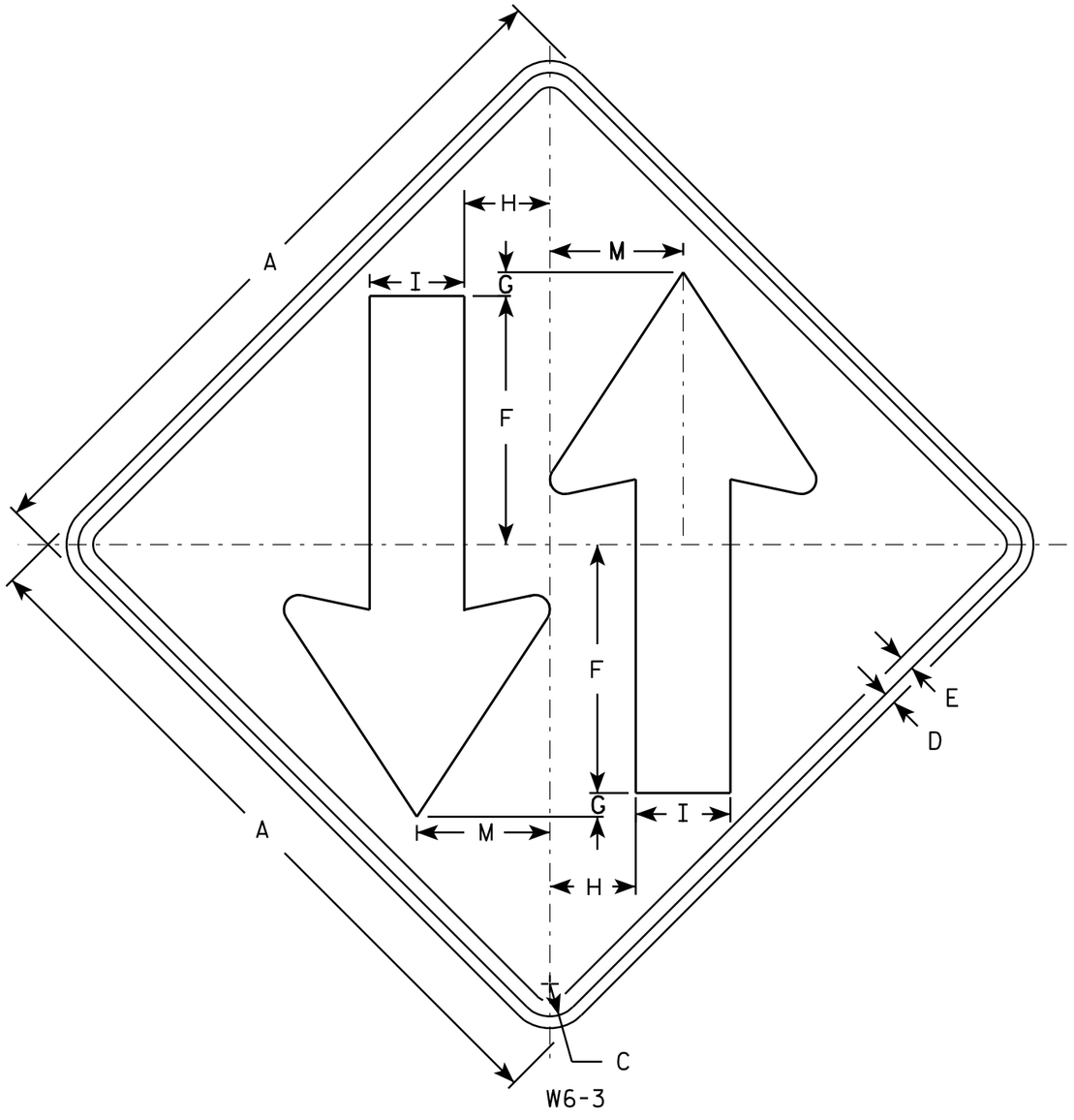
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W6-1.14

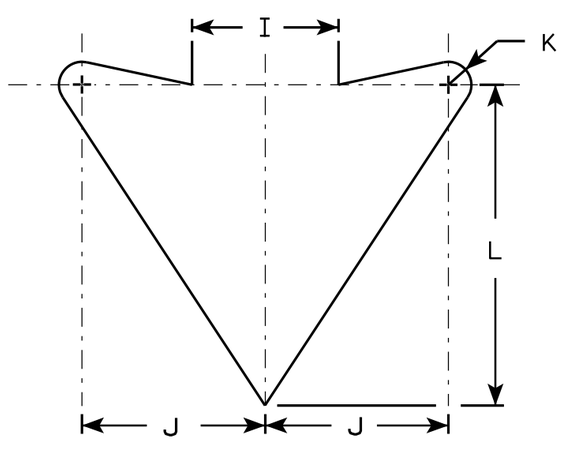
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1641	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W61.DGN PLOT DATE : 12-MAR-2013 14:02 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 6.946657:1.000000
WISDOT/CADDS SHEET 42



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	10 1/2	1	3 5/8	4	5	5/8	8 3/4	5 5/8														6.25
2S	36		1 5/8	5/8	3/4	12	1	4 1/4	5	6	3/4	10 1/2	6 3/4														9.0
2M	36		1 5/8	5/8	3/4	12	1	4 1/4	5	6	3/4	10 1/2	6 3/4														9.0
3																											
4	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
5	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0

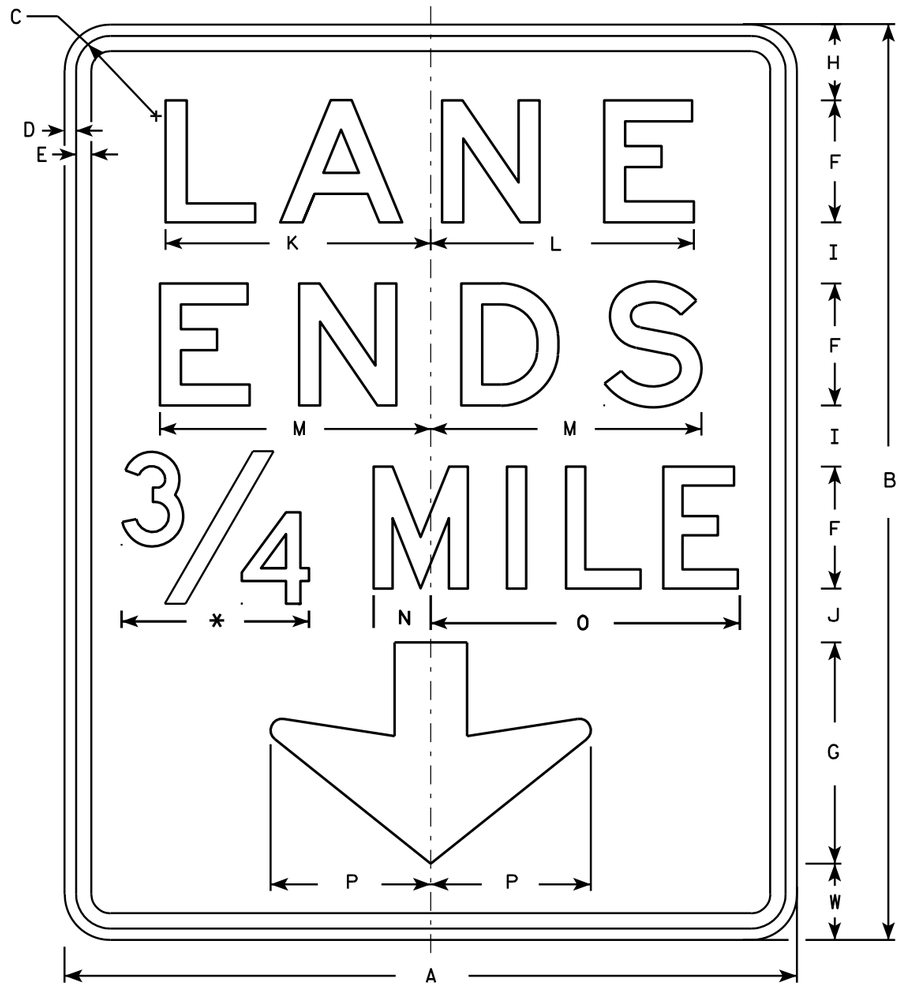
STANDARD SIGN
W6-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W6-3.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 1642	E

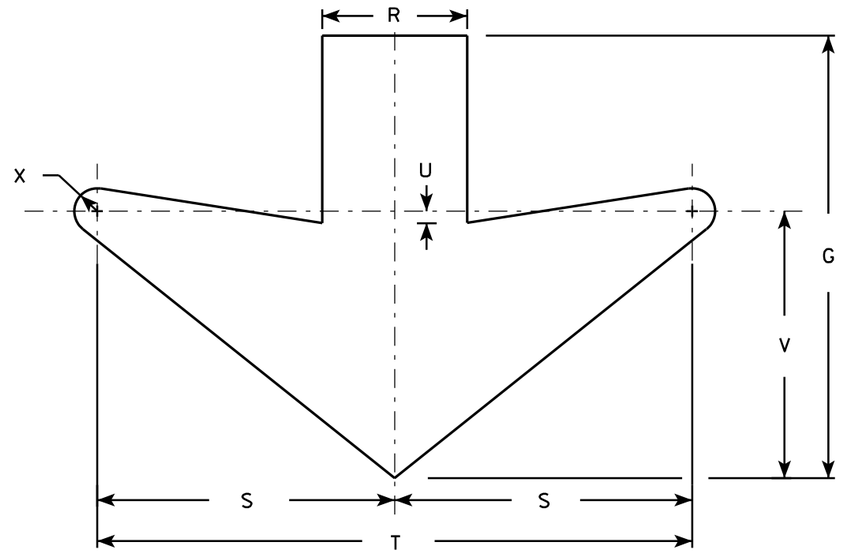


W9-63

* See Note 6

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background -Yellow
   Message - Black non-reflective
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series E, Line 3 is Series D.
6. Substitute appropriate numerals and optically adjust spacing to give proper balance.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	48	60	2 1/4	3/4	1	8	14 1/2	5	4	3 1/2	17 3/8	17 1/4	17 3/4	3 3/4	20 1/4	10 1/2		4 3/4	9 3/4	19 1/2	3/4	8 3/4	5	3/4			20.0
2S	48	60	2 1/4	3/4	1	8	14 1/2	5	4	3 1/2	17 3/8	17 1/4	17 3/4	3 3/4	20 1/4	10 1/2		4 3/4	9 3/4	19 1/2	3/4	8 3/4	5	3/4			20.0
2M	48	60	2 1/4	3/4	1	8	14 1/2	5	4	3 1/2	17 3/8	17 1/4	17 3/4	3 3/4	20 1/4	10 1/2		4 3/4	9 3/4	19 1/2	3/4	8 3/4	5	3/4			20.0
3																											
4	72	90	6	1	1 1/2	12	22	8	6	5	26 1/8	26 1/8	26 5/8	5 5/8	30 3/8	16		6 1/2	15	30	2	15	7	1			45.0
5	72	90	6	1	1 1/2	12	22	8	6	5	26 1/8	26 1/8	26 5/8	5 5/8	30 3/8	16		6 1/2	15	30	2	15	7	1			45.0

STANDARD SIGN
W9-63

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W9-63.4

PROJECT NO:

SHEET NO: 1643 E

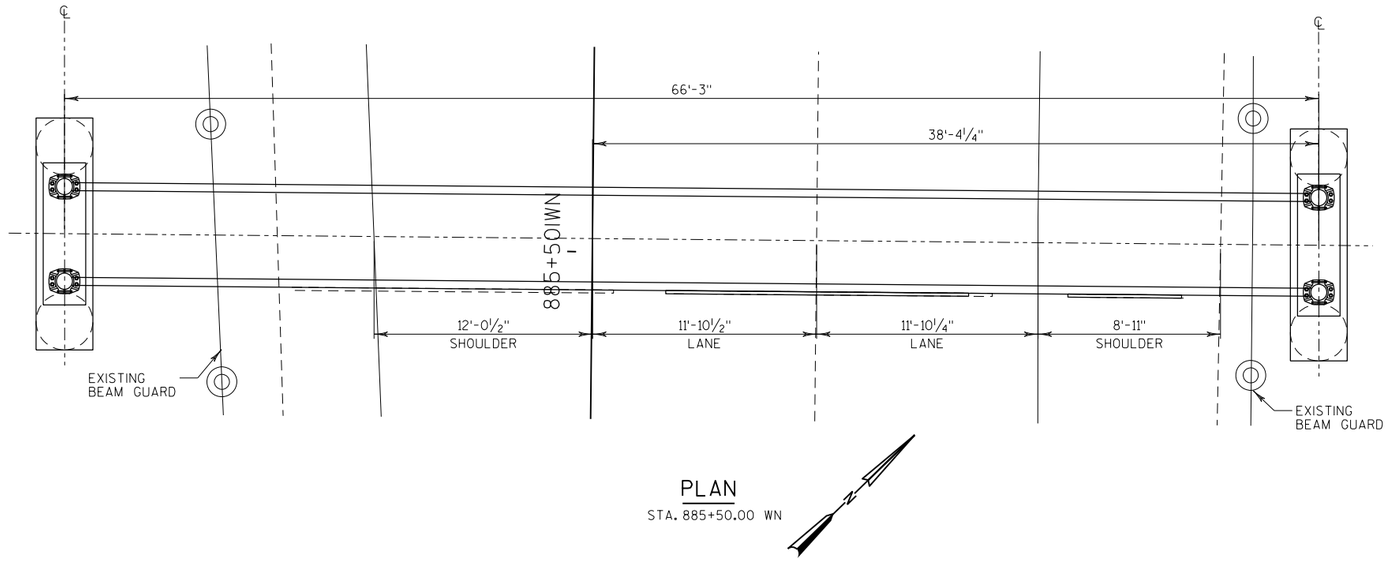
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W963.DGN PLOT DATE : 07-JUN-2010 09:57 PLOT BY : ditjph

WISDOT/CADDS SHEET 42

7

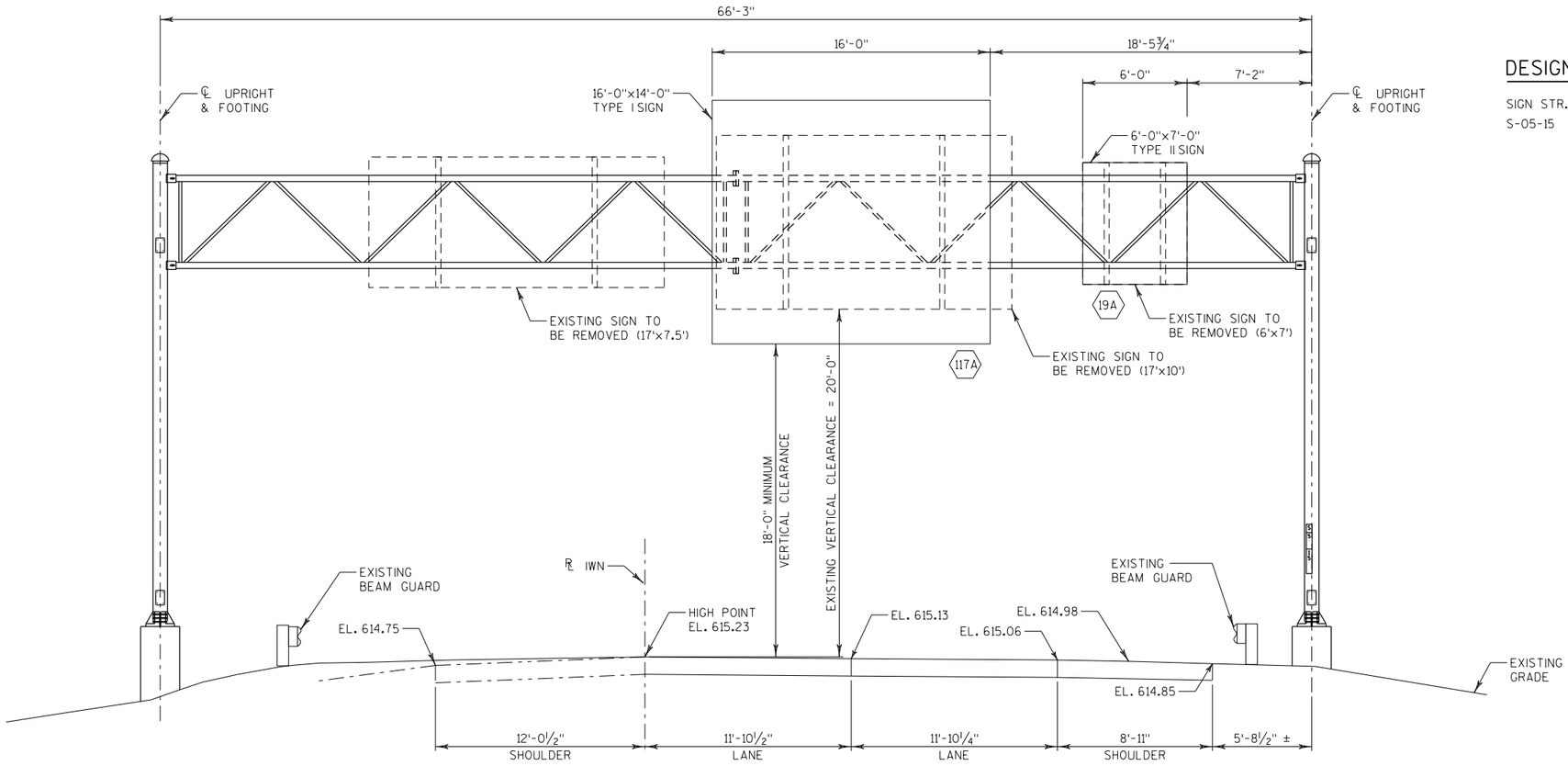
7

STATE PROJECT NUMBER
1133-09-71



PLAN

STA. 885+50.00 WN



ELEVATION

EXISTING 4-CHORD SIGN BRIDGE
S-05-15
(LOOKING WEST AT FRONT FACE OF SIGN)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

(##) - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

CENTER SIGN VERTICALLY ON CHORD/TRUSS.

CENTER TYPE I SIGNS OVER THEIR RESPECTIVE LANES.

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF EXISTING SIGN REMOVAL. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN CENTER TO CENTER OF CHORDS AND SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS.

DESIGN DATA

SIGN STR.	ORIGINAL SIGN AREA	EXISTING SIGN AREA	NEW SIGN AREA	MAX. SIGN DEPTH
S-05-15	288 SF	339.5 SF	266 SF	14'-0"

LIST OF DRAWINGS

1. SIGN BRIDGE LAYOUT

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
WILLIAM DREHER (608) 266-8949
CONSULTANT:
JEFFREY S. ROSNER (920) 592-9440

NO.	DATE	REVISION	BY

PRELIMINARY PLANS PREPARED BY: GRÄEF
1150 Springhurst Drive, Suite 201
Green Bay, WI 54304
920-592-9440
920-592-9445 fax
www.graef-usa.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ _____
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-15

STH 172 WB

COUNTY	CITY
BROWN	ASHWAUBENON

DESIGN SPEC.	LOAD
LATEST AASHTO STD. SPEC. AND INTERIM	90 MPH 3 SEC. SP

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
SAC	JSR	AMZ	JSR

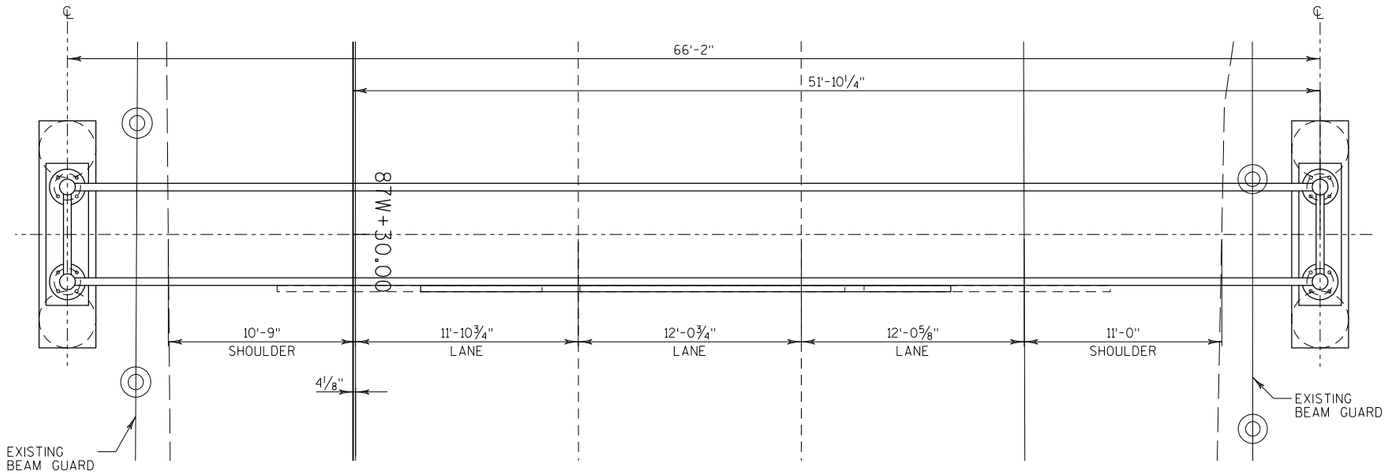
SIGN BRIDGE LAYOUT

SHEET 1 OF 1
1644

8

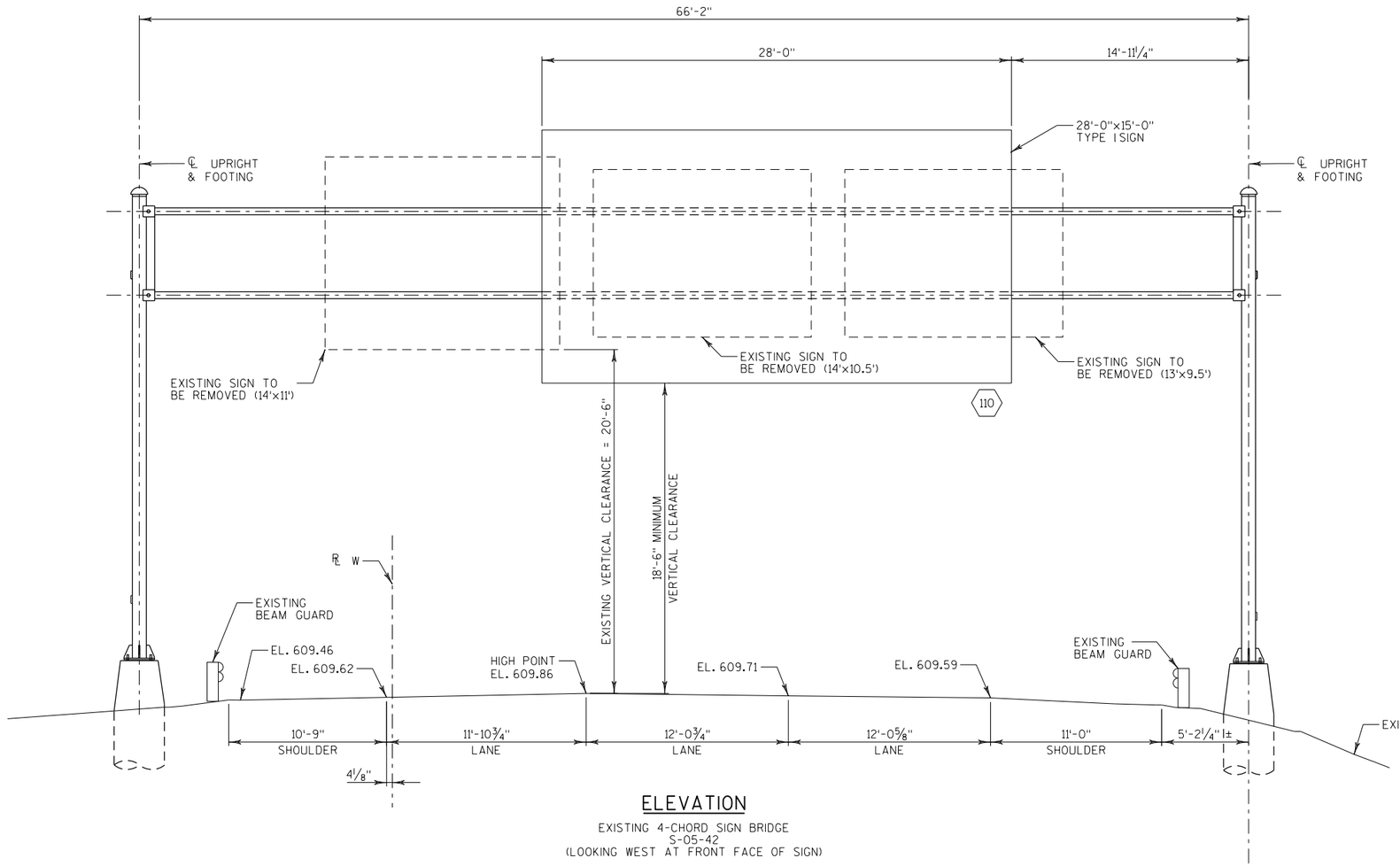
8

STATE PROJECT NUMBER
1133-09-71



PLAN

STA. 87+30.00 W



ELEVATION

EXISTING 4-CHORD SIGN BRIDGE
S-05-42
(LOOKING WEST AT FRONT FACE OF SIGN)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

⟨##⟩ - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

CENTER SIGN VERTICALLY ON CHORD/TRUSS.

CENTER TYPE I SIGNS OVER THEIR RESPECTIVE LANES.

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF EXISTING SIGN REMOVAL. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN CENTER TO CENTER OF CHORDS AND SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS.

DESIGN DATA

SIGN STR.	ORIGINAL SIGN AREA	EXISTING SIGN AREA	NEW SIGN AREA	MAX. SIGN DEPTH
S-05-42	421 SF	424.5 SF	420 SF	15'-0"

LIST OF DRAWINGS

1. SIGN BRIDGE LAYOUT

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
WILLIAM DREHER (608) 266-8949
CONSULTANT:
JEFFREY S. ROSNER (920) 592-9440

NO.	DATE	REVISION	BY

PRELIMINARY PLANS PREPARED BY: GRAEF

1150 Springhurst Drive, Suite 201
Green Bay, WI 54304
920-592-9440
920-592-9445 fax
www.graef-usa.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ _____
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-42

STH 172 WB

COUNTY	CITY
BROWN	ASHWAUBENON

DESIGN SPEC.	LOAD
LATEST AASHTO STD. SPEC. AND INTERIM	90 MPH 3 SEC. SP

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
SAC	JSR	AMZ	JSR

SIGN BRIDGE LAYOUT

SHEET 1 OF 1

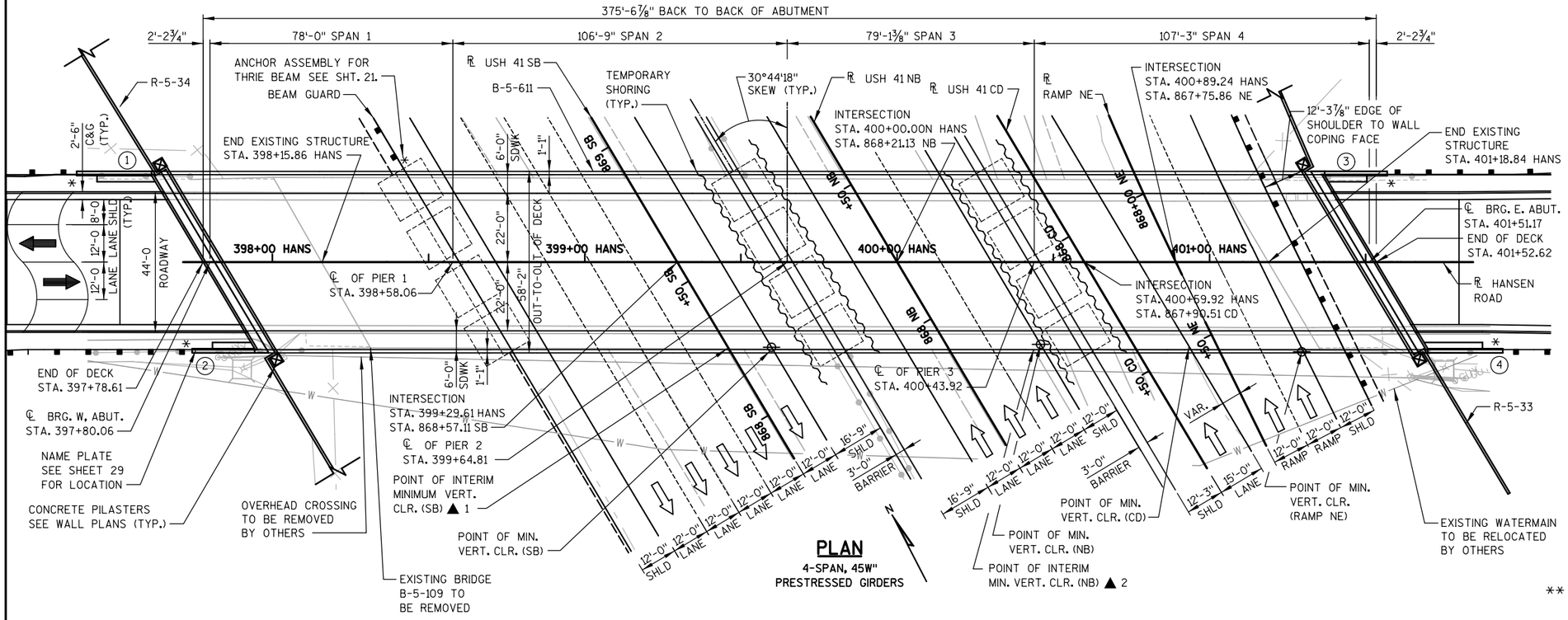
1645

8

8

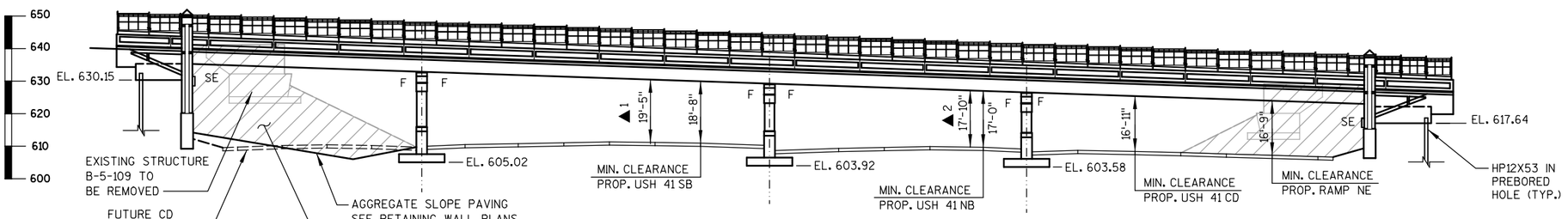
STATE PROJECT NUMBER

1133-09-74



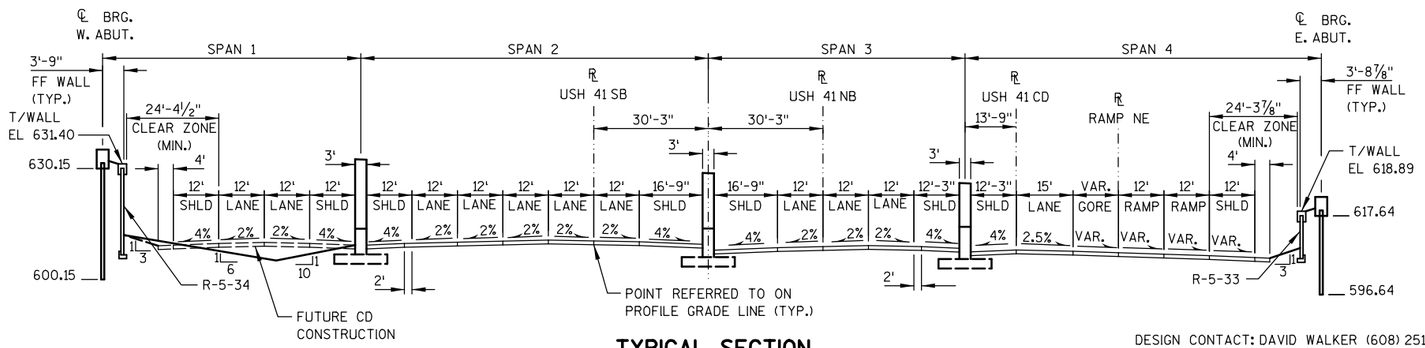
PLAN

4-SPAN, 45W" PRESTRESSED GIRDERS



ELEVATION

PARALLEL TO HANSEN ROAD
(LOOKING NORTH)



TYPICAL SECTION

NORMAL TO USH 41
(LOOKING NORTH)

DESIGN DATA

STRUCTURE IS DESIGNED FOR A 1 1/2-INCH WEARING SURFACE, PLACED AT INITIAL CONSTRUCTION, INTEGRAL WITH THE DECK. THE DESIGN DOES NOT PROVIDE FOR ADDITIONAL LOADS DUE TO A FUTURE WEARING SURFACE.

LIVE LOAD:

DESIGN LOADING	HL-93
INVENTORY RATING FACTOR	RF = 1.06
OPERATING RATING FACTOR	RF = 1.37
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	250 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE (HPC)	f'c = 4.0 ksi
CONCRETE SUBSTRUCTURE (HPC)	f'c = 4.0 ksi
PRESTRESSED CONCRETE HIGH STRENGTH BAR	f'c = 8.0 ksi
STEEL REINFORCEMENT	fy = 60 ksi
0.6" ϕ LOW RELAXATION STRANDS	fy = 270 ksi

TRAFFIC DATA:

HANSEN ROAD	USH 41
A.D.T. (2015): 9,900	A.D.T. (2015): 42,600 (NB), 41,500 (SB)
A.D.T. (2035): 16,200	A.D.T. (2035): 20,600 (NB), 51,300 (SB)
DESIGN SPEED: 40 MPH	DESIGN SPEED: 70 MPH

RAMP NE	USH 41 CD NB
A.D.T. (2035): 17,800	A.D.T. (2035): 14,200 (NB)
DESIGN SPEED: 55 MPH	DESIGN SPEED: 60 MPH

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON HP12X53 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE BY SEATING THE PILE IN THE VERY HARD SILT LAYER AND/OR THE VERY HARD CLAY LAYER. ESTIMATED PILE LENGTHS: WEST ABUTMENT = 32', EAST ABUTMENT = 23'.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 FOR THE SEATED PILE.

PIERS TO BE SUPPORTED ON SPREAD FOOTINGS. THE REQUIRED NOMINAL BEARING RESISTANCE OF THE NATIVE SOIL AT THE BOTTOM OF FOOTING ELEVATION FOR PIERS 1, 2, AND 3 IS 13,300 PSF. THE NOMINAL BEARING CAPACITY MUST BE VERIFIED BY ENGINEER PRIOR TO CONSTRUCTION OF THE PIER FOOTINGS.

THE FACTORED NET BEARING RESISTANCE OF THE NATIVE SOIL AT PIERS 1, 2 AND 3 USED FOR DESIGN IS THE REQUIRED NOMINAL BEARING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.45. FACTORED NET BEARING RESISTANCE = 6,000 PSF.

LEGEND

(#) INDICATES WING NUMBER

* ANCHOR ASSEMBLY FOR THRIE BEAM SEE SHEETS 21 AND 29 FOR LOCATION AND DETAILS.

WISCONSIN
BRETT M. OFTEDAHL
E-41123
MADISON
WI
PROFESSIONAL ENGINEER
1/30/13

INTERIM VERTICAL CLEARANCE

INTERIM CLEARANCES ARE CALCULATED TO THE EXISTING USH 41 PROFILE AND ALIGNMENT
▲1 = 19'-5" AT EAST EDGE OF SB LANE USH 41 SB
▲2 = 17'-10" AT EAST EDGE OF NB LANE / EDGE OF GORE USH 41 NB

DESIGN CONTACT: DAVID WALKER (608) 251-4843
BRIDGE OFFICE CONTACT: WILLIAM DREHER (608) 266-8489
NE REGION CONTACT: KURT PETERS (920) 492-2213

NO.	DATE	REVISION	BY

STRAND ASSOCIATES®
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608)-251-4843
(608) 251-8655 FAX
WWW.STRAND.COM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR — CHIEF STRUCTURES DESIGN ENGINEER — 02/13/13 DATE

STRUCTURE B-5-611

HANSEN RD. OVER USH 41

COUNTY: BROWN
~~TOWN/CITY~~/VILLAGE: ASHWAUBENON

DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
BMO	DDR	AJW	DJW

GENERAL PLAN

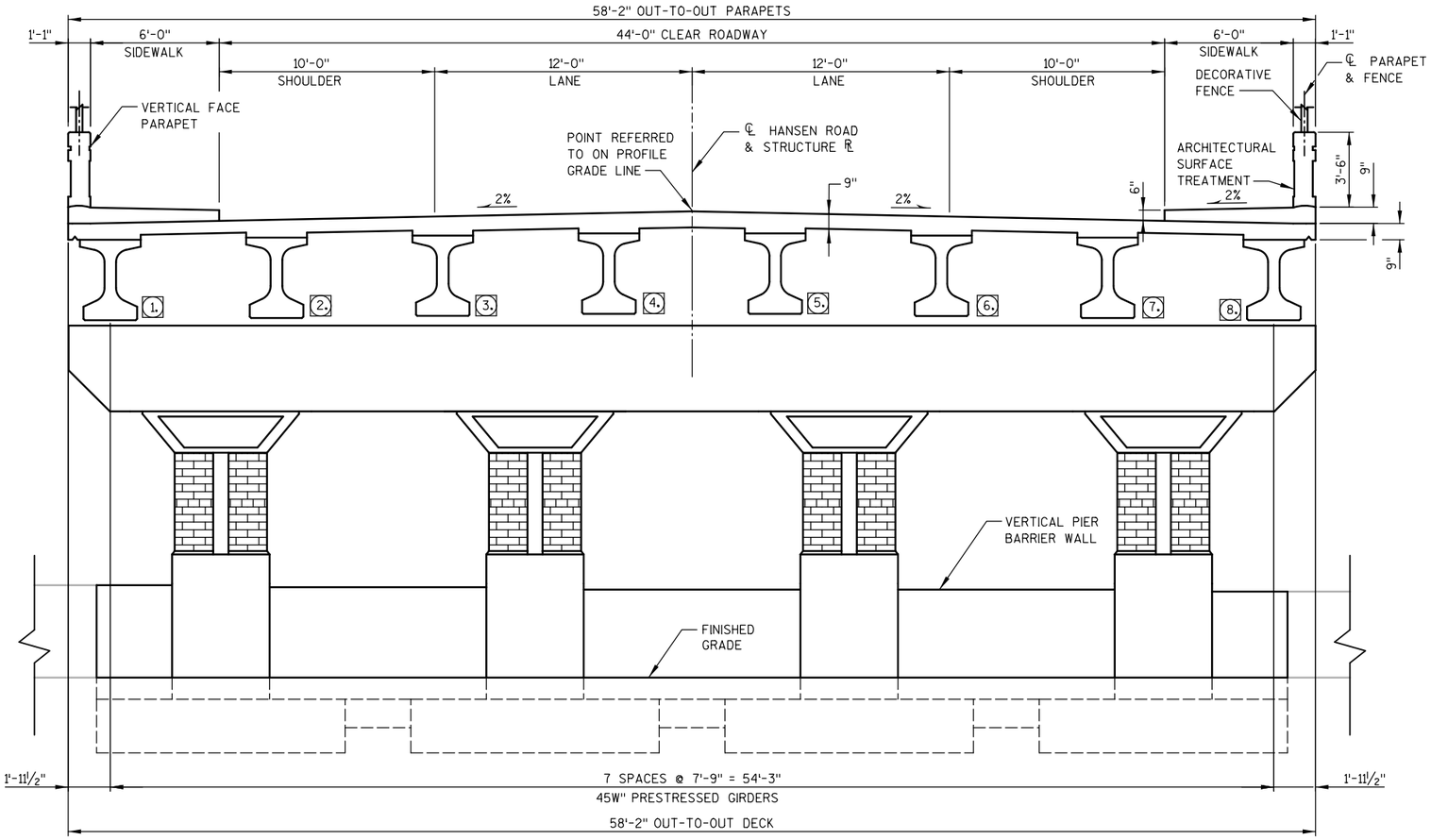
SHEET 1 OF 35
1646

8

8

STATE PROJECT NUMBER

1133-09-74



BRIDGE CROSS-SECTION - HANSEN ROAD

(LOOKING EAST)

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & GENERAL NOTES
3. QUANTITIES & PROFILE GRADE LINES
4. SUBSURFACE EXPLORATION
5. WEST ABUTMENT PLAN
6. WEST ABUTMENT DETAILS
7. WEST ABUTMENT WING 1 DETAILS
8. WEST ABUTMENT WING 2 DETAILS
9. EAST ABUTMENT PLAN
10. EAST ABUTMENT DETAILS
11. EAST ABUTMENT WING 3 DETAILS
12. EAST ABUTMENT WING 4 DETAILS
13. ABUTMENT DETAILS
14. PIER 1 PLAN & ELEVATION
15. PIER 1 DETAILS
16. PIER 2 PLAN & ELEVATION
17. PIER 2 DETAILS
18. PIER 3 PLAN & ELEVATION
19. PIER 3 DETAILS
20. TYPICAL PIER DETAILS
21. PIER BARRIER WALL
22. 45W" PRESTRESSED GIRDER
23. 45W" PRESTRESSED GIRDER DETAILS
24. STEEL DIAPHRAGM
25. SUPERSTRUCTURE PLAN
26. SUPERSTRUCTURE CROSS SECTION
27. SUPERSTRUCTURE DETAILS-1
28. SUPERSTRUCTURE REINFORCING
29. SUPERSTRUCTURE DETAILS-2
30. VERTICAL FACE PARAPET
31. AESTHETIC DETAILS
32. PARAPET & FENCE LAYOUT
33. DECORATIVE FENCE DETAILS-1
34. DECORATIVE FENCE DETAILS-2
35. DECORATIVE FENCE DETAILS-3

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED. THE TOP LAYER OF BAR STEEL REINFORCEMENT IN THE DECK SHALL BE PLACED WITH 3½" CLEAR COVER.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153, TYPE I, II, OR III OR M213.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

THE FILL IN FRONT OF THE ABUTMENT SHALL BE COVERED WITH CONCRETE SLOPE PAVING. DETAILS AND QUANTITIES ARE INCLUDED WITH THE RETAINING WALL PLANS.

AT THE BACK OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

PLACE ARCHITECTURAL SURFACE TREATMENT ON THE INSIDE AND OUTSIDE FACES OF THE PARAPET. SEE SHEET 30 FOR DETAILS.

IN ACCORDANCE WITH THE SPECIAL PROVISIONS, "STAINING CONCRETE" IS REQUIRED FOR BRICK SURFACES PRIOR TO "STAINING CONCRETE BRICK".

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE ROADWAY DECK, SIDEWALKS, TOP OF THE PARAPETS, AND TOP OF PIER BARRIER WALL. DO NOT SEAL SURFACES WHERE THE PLANS OR SPECIAL PROVISIONS REQUIRE STAINING OR OTHER TREATMENT.

THE EXISTING STRUCTURE B-5-109, A TWO-SPAN STEEL PLATE GIRDER BRIDGE WITH AN OVERALL WIDTH OF 56'-1" AND AN OVERALL LENGTH OF 305'-4", IS TO BE REMOVED.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEET.

LEGEND

(8) INDICATES GIRDER NUMBER.

BENCHMARKS

NO.	DESCRIPTION	ELEV.
740	CHISELED SQUARE ON SW CORNER OF PARPET WALL ON HANSEN ROAD OVER USH 41, STRUCTURE B-5-109	642.27
524	CHISELED "X" ON HYDRANT BURY BOLT IN THE NORTHWEST QUADRANT OF GRIFFITHS LN. & ALLIED ST. 30' WEST OF CENTERLINE OF ALLIED ST. & 60' NORTH OF THE CENTERLINE OF GRIFFITHS LN.	615.04
525	CHISELED "X" HYDRANT BURY BOLT ON A DEAD END CUL-DE-SAC OF SPRINGHURST DR., 55' FROM A MANHOLE COVER TO FIRE HYDRANT AT THE EAST END OF THE ROUND-A-BOUT.	648.93
548	CHISELED "X" ON HYDRANT BURY BOLT ON A HYDRANT 30' NORTH OF VERNON RD. AND 225' EAST OF HANSON RD., ON THE WESTERLY SIDE OF VERNON.	619.77

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

CROSS SECTION & GENERAL NOTES

SHEET 2 OF 35
1647

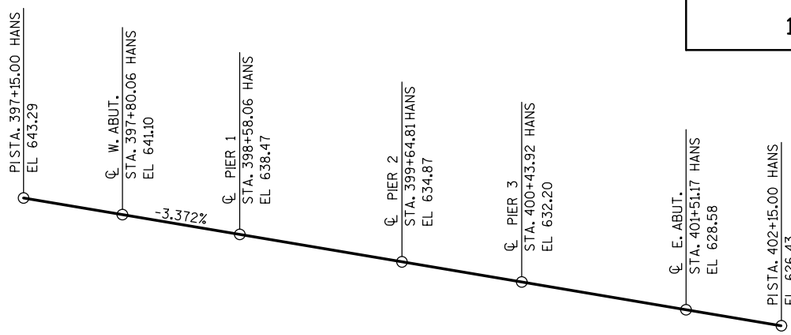
8

8

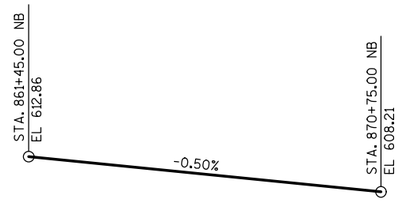
STATE PROJECT NUMBER
1133-09-74

TOTAL ESTIMATED QUANTITIES

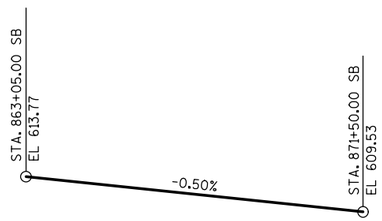
BID ITEM NUMBER	BID ITEMS	UNIT	WEST ABUT.	PIER 1	PIER 2	PIER 3	EAST ABUT.	SUPER.	TOTALS
203.0200.700	REMOVING OLD STRUCTURE STATION 399+65	L.S.	--	--	--	--	--	--	1
203.0225.S.700	DEBRIS CONTAINMENT STRUCTURE B-5-109	L.S.	--	--	--	--	--	--	1
206.1000.700	EXCAVATION FOR STRUCTURES BRIDGES B-5-611	L.S.	--	--	--	--	--	--	1
206.6000.S	TEMPORARY SHORING	S.F.	--	--	970	900	--	--	1870
210.0100	BACKFILL STRUCTURE	C.Y.	313	209	414	348	313	--	1597
502.3200	PROTECTIVE SURFACE TREATMENT	S.Y.	6	16	16	16	6	2188	2248
502.6110	MASONRY ANCHORS TYPE S ¾-INCH	EACH	4	--	--	--	4	--	8
503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH	L.F.	--	--	--	--	--	2971	2971
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	L.B.	6050	6120	6120	6120	5850	--	30260
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	L.B.	4790	25190	24000	22420	3620	199400	278400
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	8	16	16	16	8	--	64
506.4000.700	STEEL DIAPHRAGMS B-5-611	EACH	--	--	--	--	--	42	42
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	S.Y.	19	--	--	--	19	--	38
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	L.F.	114	--	--	--	116	--	230
550.1120	PILING STEEL HP 12-INCH X 53 LB	L.F.	352	--	--	--	299	--	651
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	L.F.	95	--	--	--	95	--	190
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	1	--	--	2	--	5
SPV.0035.700	HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES	C.Y.	87	203	208	200	85	1055	1838
SPV.0090.500	FENCE DECORATIVE BRIDGE	L.F.	--	--	--	--	--	750	750
SPV.0090.501	FENCE DECORATIVE WING	L.F.	44	--	--	--	44	--	88
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	S.F.	235	600	360	267	244	2389	4095
SPV.0165.501	STAINING CONCRETE	S.F.	670	1938	2019	1978	787	10979	18371
SPV.0165.502	STAINING CONCRETE BRICK	S.F.	235	600	360	267	244	2389	4095
SPV.0165.700	LONGITUDINAL GROOVING BRIDGE DECK	S.F.	--	--	--	--	--	16450	16450
	NON-BID ITEMS								
	FILLER	SIZE	--	--	--	--	--	--	½", ¾", 1"
	PLASTIC OR ZINC PLATE	SIZE	--	--	--	--	--	--	⅛"



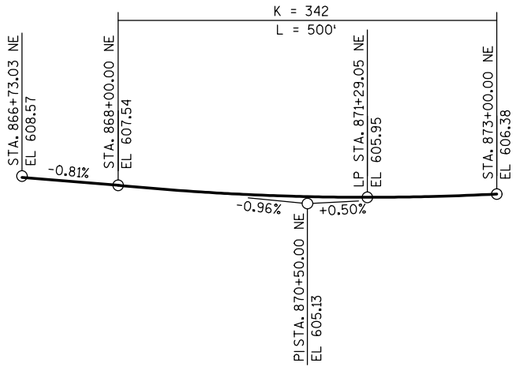
PROFILE GRADE LINE - HANSEN ROAD



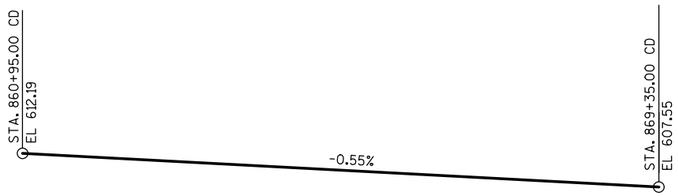
PROFILE GRADE LINE - USH 41 NB



PROFILE GRADE LINE - USH 41 SB



PROFILE GRADE LINE - RAMP NE



PROFILE GRADE LINE - USH 41 CD

8

8

NO.	DATE	REVISION	BY

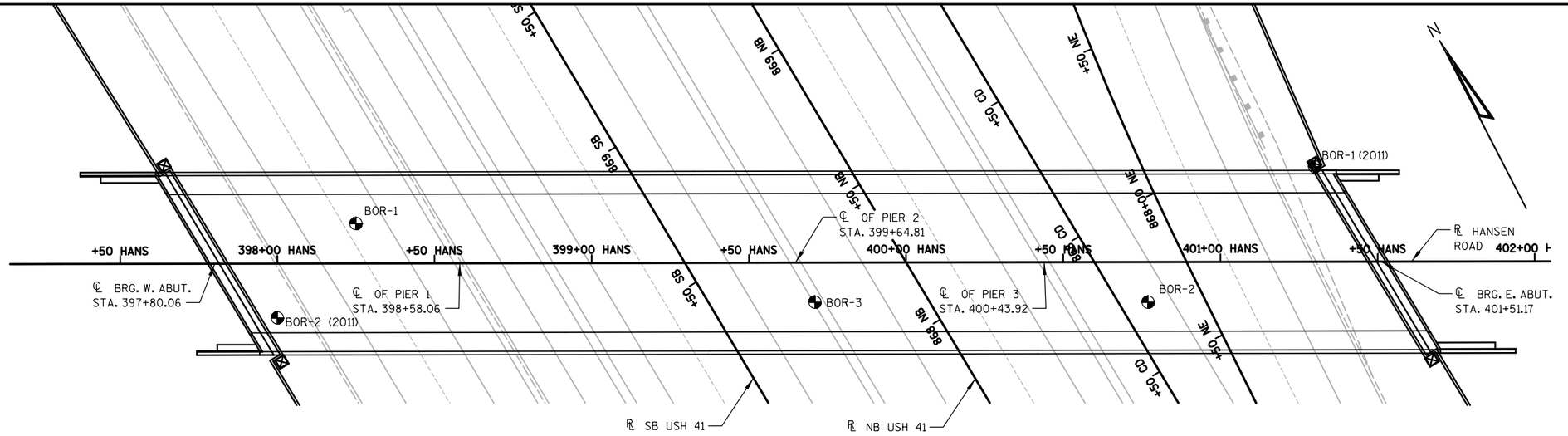
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

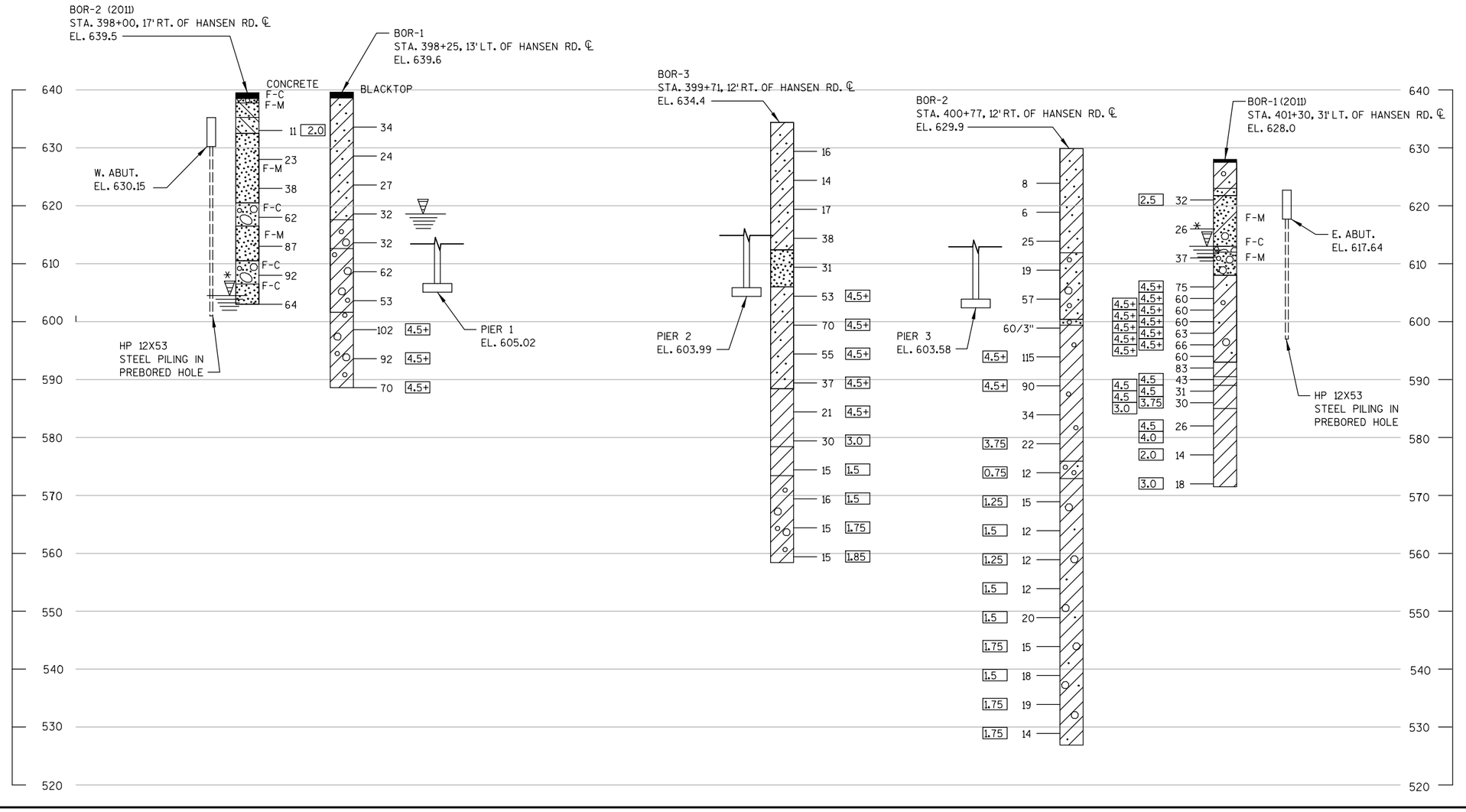
STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

QUANTITIES & PROFILE GRADE LINES

SHEET 3 OF 35
1648





STATE PROJECT NUMBER

1133-09-74

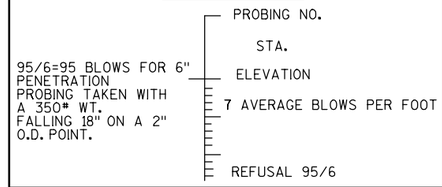
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

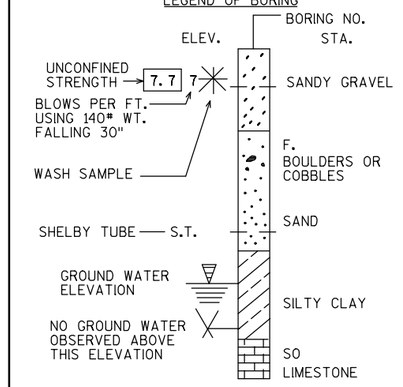
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE, SAND, PEAT, LIMESTONE, GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

SUBSURFACE EXPLORATION

SHEET 4 OF 35
1649

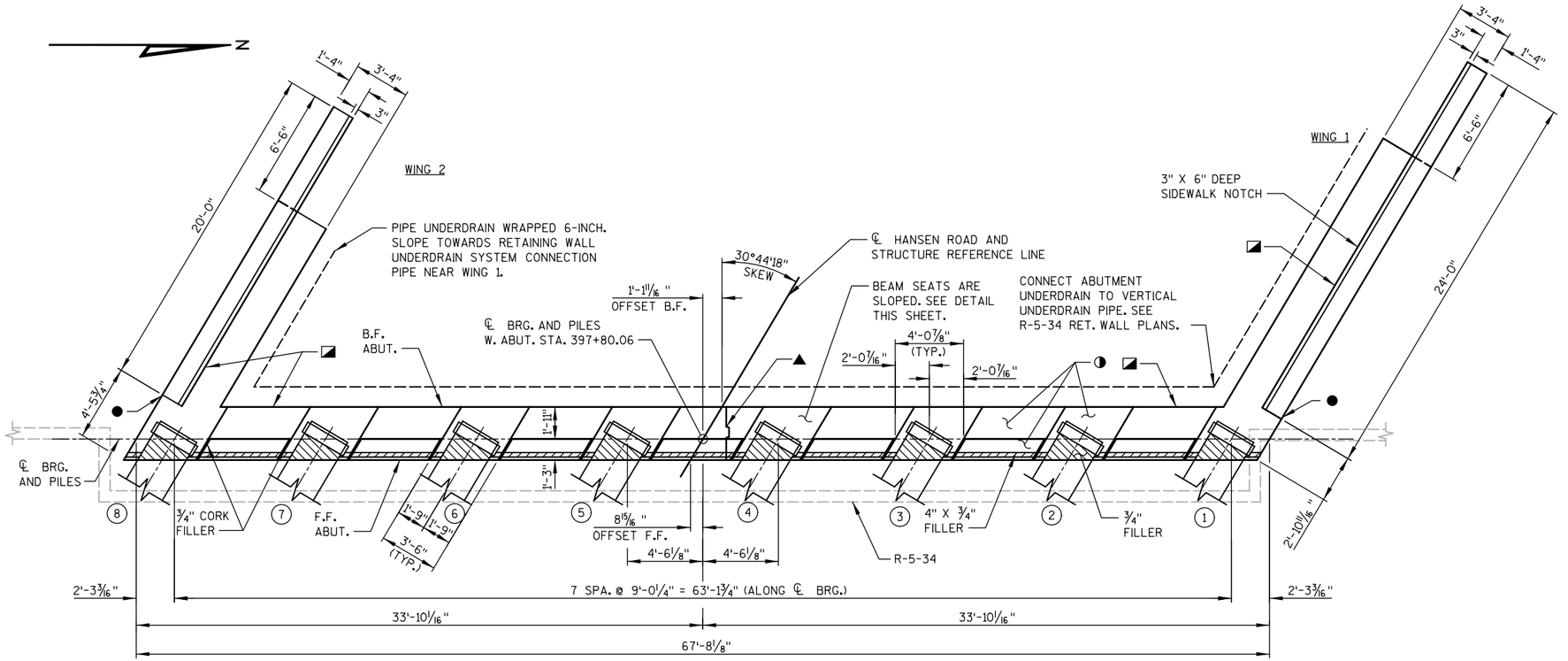
FILE=
SCALE =

8

8

STATE PROJECT NUMBER

1133-09-74



PLAN

NOTES

- ◑ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ◪ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ▲ VERTICAL CONSTRUCTION JOINT KEYWAY FORMED BY BEVELED 2x8. PROVIDE ¾" V-GROOVE AT F.F. RUN BAR STEEL THRU JOINT. SEAL JOINT WITH 18" RUBBERIZED MEMBRANE WATERPROOFING (B.F.). SEE ABUTMENT DETAILS SHEET FOR ALTERNATE CONSTRUCTION JOINT DETAIL.
- ● ½" FILLER TO EXTEND FROM ABUTMENT SEAT TO TOP OF PARAPET. FILLER INCLUDED IN WING LENGTH.
- (#) INDICATES GIRDER NUMBER.

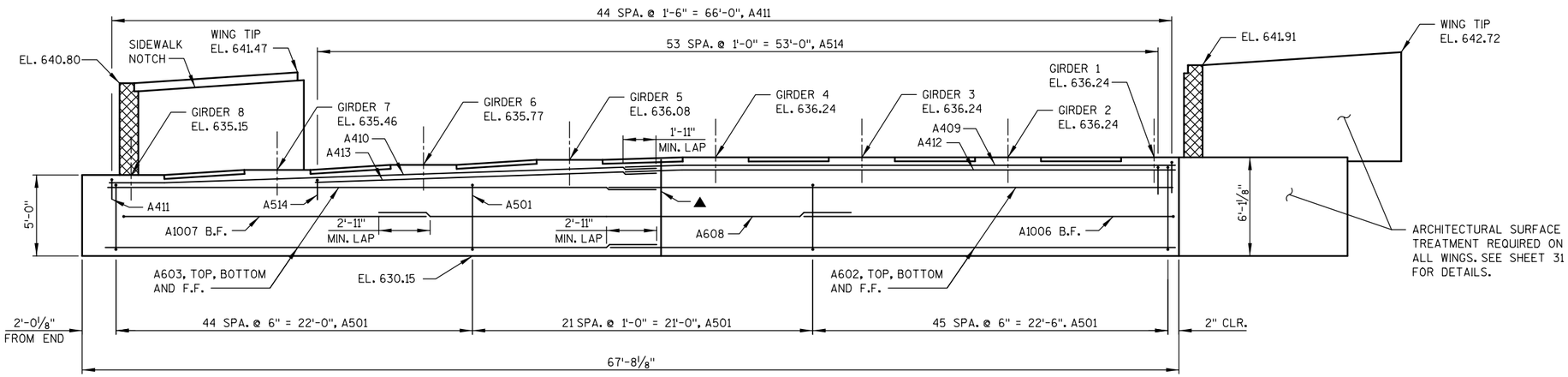
ADJUST A501 BARS TO AVOID INTERFERENCE WITH PILES.

SEE ABUTMENT AND WING DETAIL SHEETS FOR REINFORCING DETAILS.

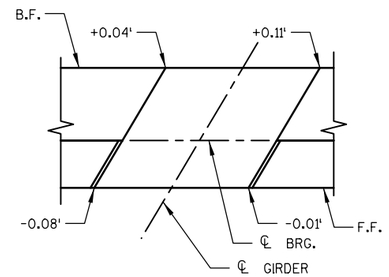
ABUTMENTS TO BE SUPPORTED ON HP 12X53 STEEL PILING GROUTED IN PLACE IN PREBORED HOLES. ESTIMATED PILE LENGTH IS 32 FEET. PRE-BORING FOR PILES SHALL OCCUR AFTER EXCAVATION FOR RETAINING WALL IS COMPLETED.

SEE ABUTMENT DETAILS SHEET FOR ABUTMENT FALL PROTECTION DETAIL.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).



ELEVATION
(LOOKING WEST)



SLOPING BEAM SEAT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

WEST ABUTMENT PLAN

SHEET 5 OF 35

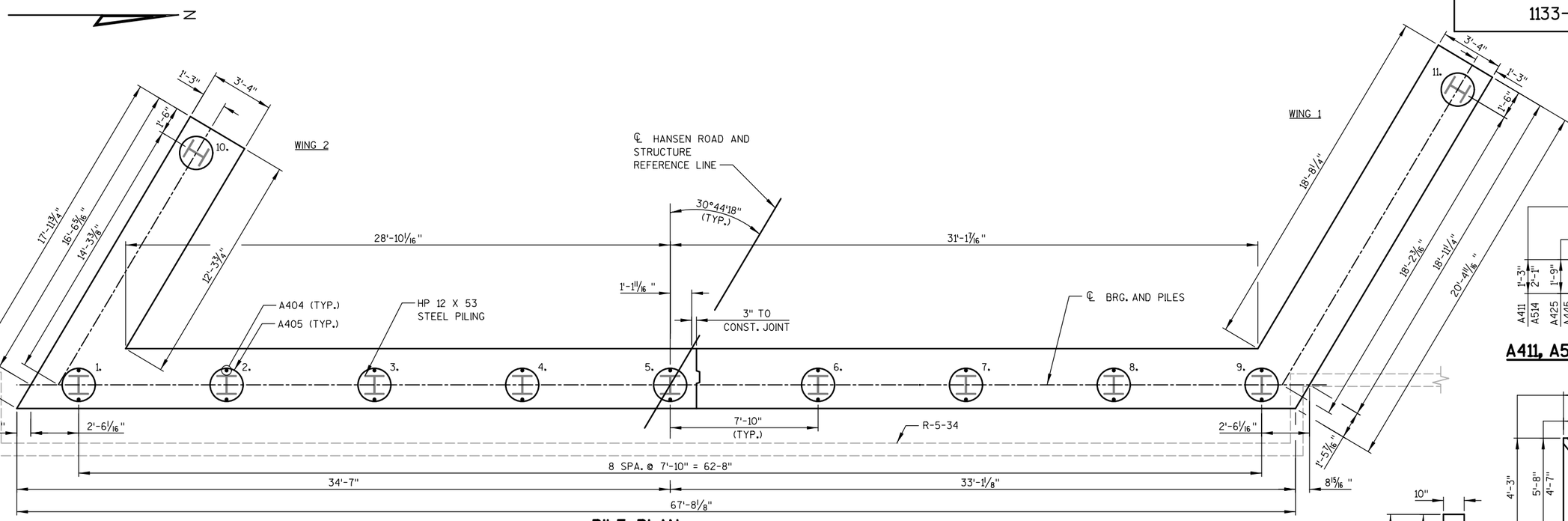
1650

8

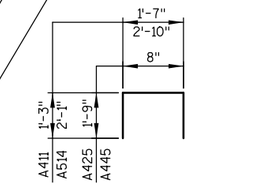
8

STATE PROJECT NUMBER

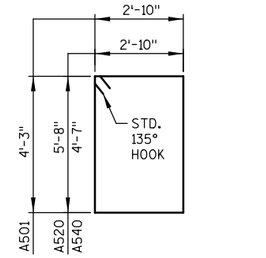
1133-09-74



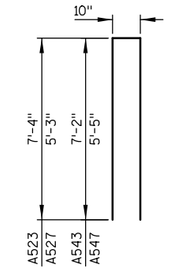
PILE PLAN



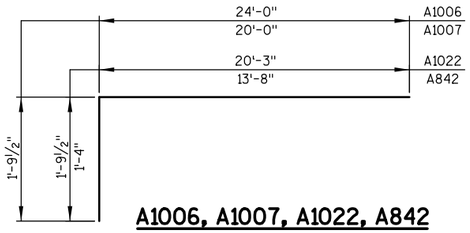
A411, A514, A425, A445



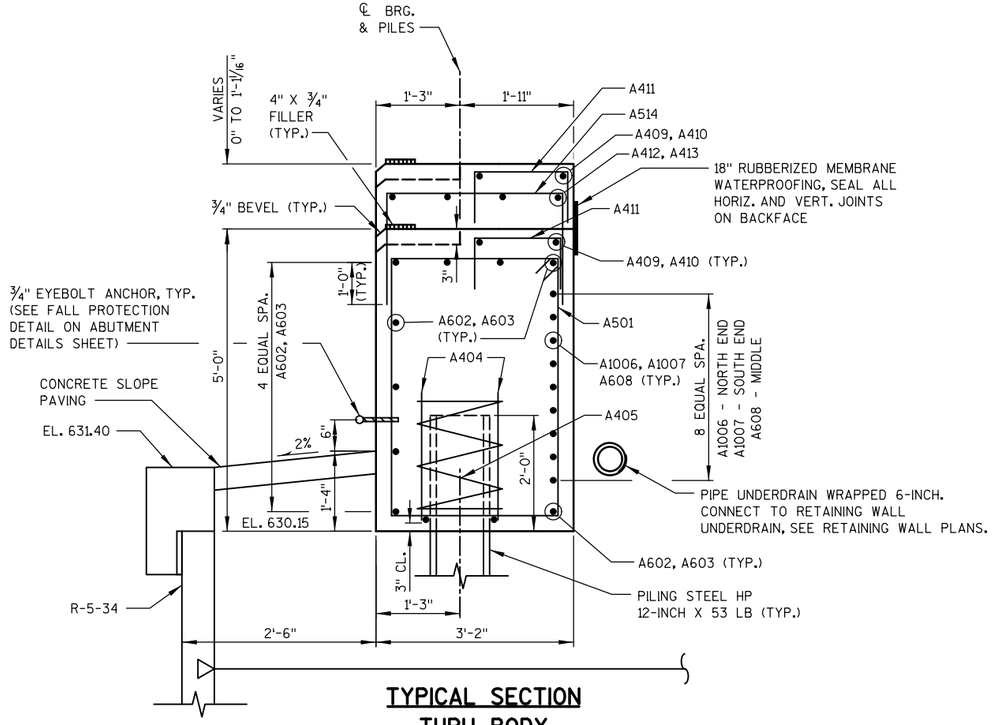
A501, A520, A540



A523, A527, A543, A547



A1006, A1007, A1022, A842

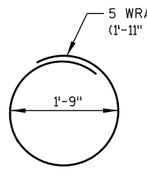


TYPICAL SECTION THRU BODY

WEST ABUTMENT BILL OF BARS

COATED: 3,770 LBS
UNCOATED: 6,050 LBS

MARK	NO.	LENGTH	BENT	COAT	LOCATION
A501	111	14'-9	X		BODY - STIRRUPS - VERT.
A602	11	36'-8			BODY - HORIZ.
A603	11	33'-5			BODY - HORIZ.
A404	22	2'-3			BODY - PILES - VERT.
A405	11	28'-0	X		BODY - PILES - VERT.
A1006	9	25'-6	X		BODY - NORTH END - HORIZ.
A1007	9	21'-6	X		BODY - SOUTH END - HORIZ.
A608	9	27'-11			BODY - HORIZ.
A409	2	35'-8			BODY - TOP - HORIZ.
A410	2	33'-5			BODY - TOP - HORIZ.
A411	45	3'-11	X		BODY - TOP - VERT.
A412	4	35'-8			BODY - TOP - HORIZ.
A413	4	20'-4			BODY - TOP - HORIZ.
A514	54	6'-9	X		BODY - TOP - VERT.
A520	18	17'-7	X	X	WING 1 - STIRRUPS - VERT.
A521	7	19'-11		X	WING 1 - HORIZ.
A1022	9	21'-9	X	X	WING 1 - HORIZ.
A523	23	15'-3	X	X	WING 1 - VERT.
A424	14	23'-7		X	WING 1 - HORIZ.
A425	33	4'-0	X	X	WING 1 - TOP - VERT.
A626	2	23'-7		X	WING 1 - TOP - HORIZ.
A527	10	11'-1	X	X	WING 1 - VERT.
A1028	2	20'-2		X	WING 1 - HORIZ.
A540	13	15'-5	X	X	WING 2 - STIRRUPS - VERT.
A541	6	17'-6		X	WING 2 - HORIZ.
A842	8	14'-10	X	X	WING 2 - HORIZ.
A543	18	14'-11	X	X	WING 2 - VERT.
A444	13	19'-7		X	WING 2 - HORIZ.
A445	27	4'-0	X	X	WING 2 - TOP - VERT.
A646	2	19'-7		X	WING 2 - TOP - HORIZ.
A547	9	11'-5	X	X	WING 2 - VERT.
A848	2	15'-7		X	WING 2 - HORIZ.
A449	2	7'-9		X	WING 2 - BOTTOM - HORIZ.



A405

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

WEST ABUTMENT DETAILS

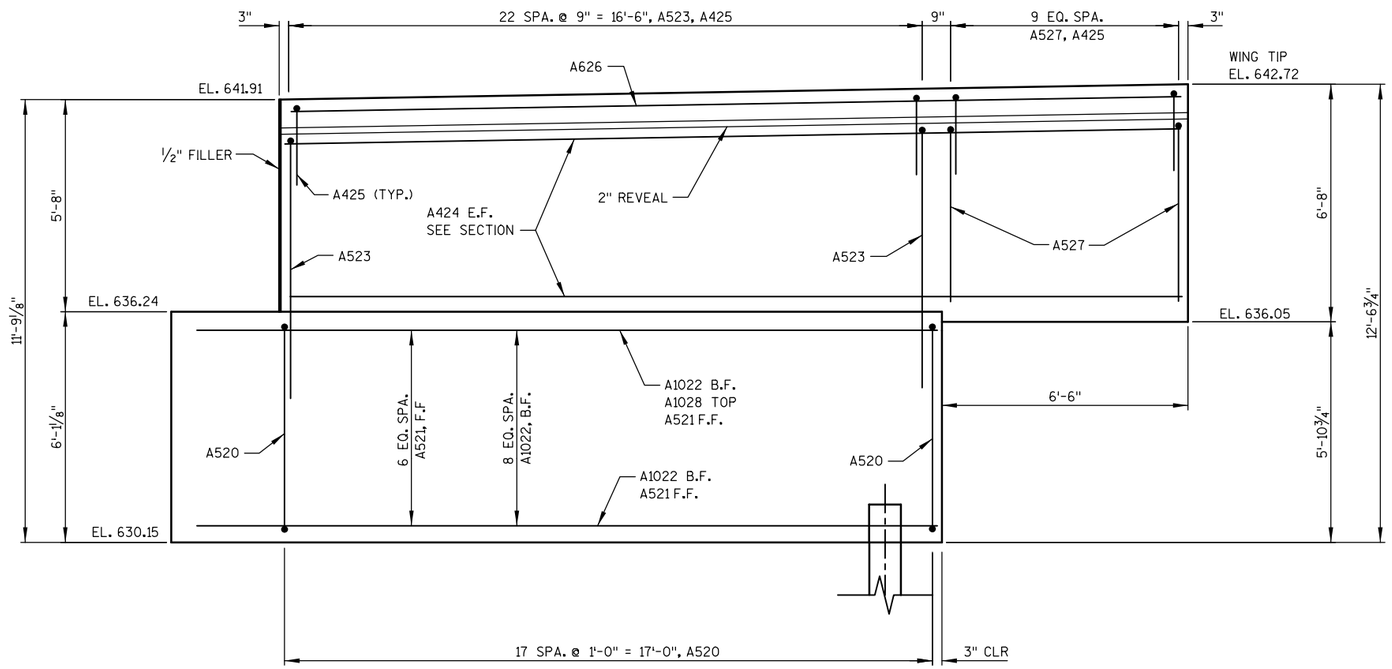
SHEET 6 OF 35
1651

8

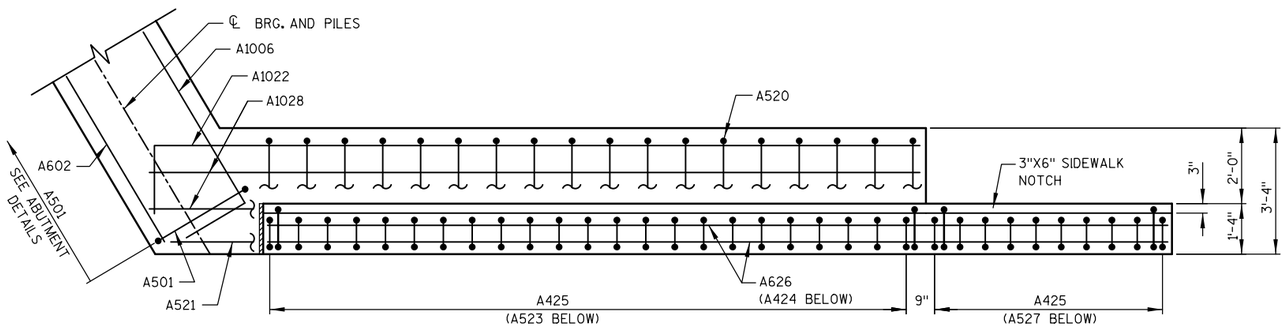
8

STATE PROJECT NUMBER

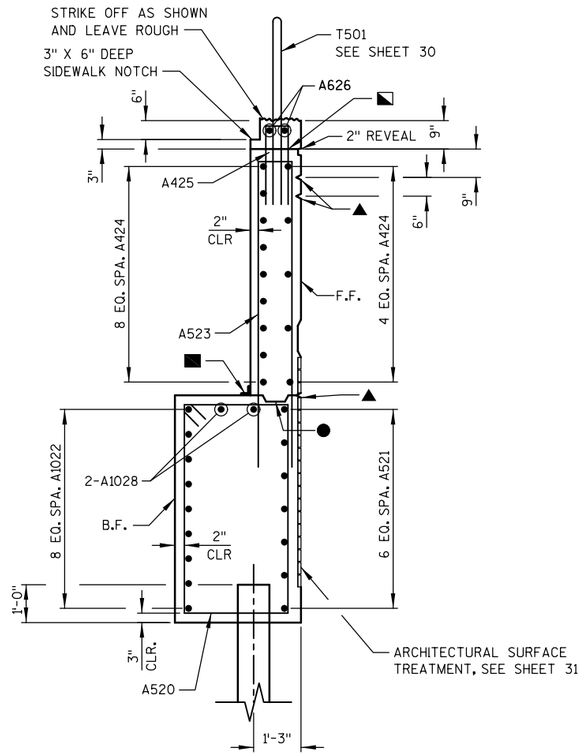
1133-09-74



ELEVATION
(WING 1)



WING PLAN
(WING 1)



WING WITH PILE SECTION
(WING 1)

LEGEND

- ▲ 3/4" V-GROOVE ON F.F. OF WINGWALL.
- ● OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY WITH 18" RUBBERIZED MEMBRANE ON BACKFACE.
- ◪ CONSTRUCTION JOINT, LEAVE ROUGH, POUR CONCRETE ABOVE THIS JOINT AFTER DECK IS IN PLACE.
- ■ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

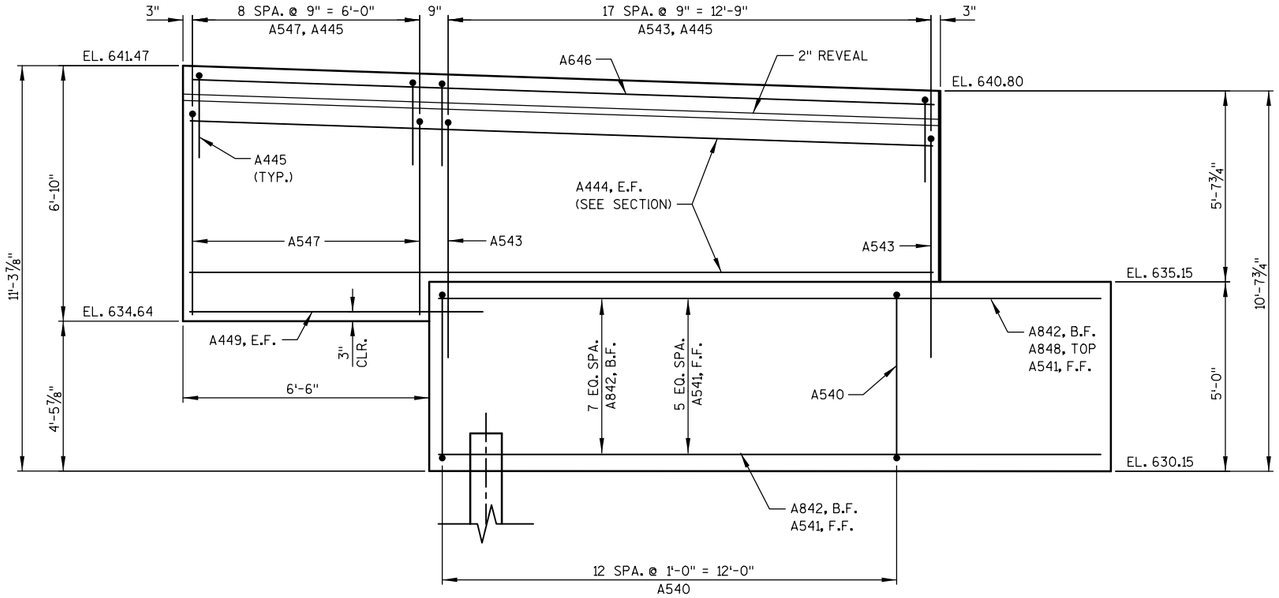
DRAWN BY AJW | PLANS CK'D. DJW

WEST ABUTMENT
WING 1 DETAILS

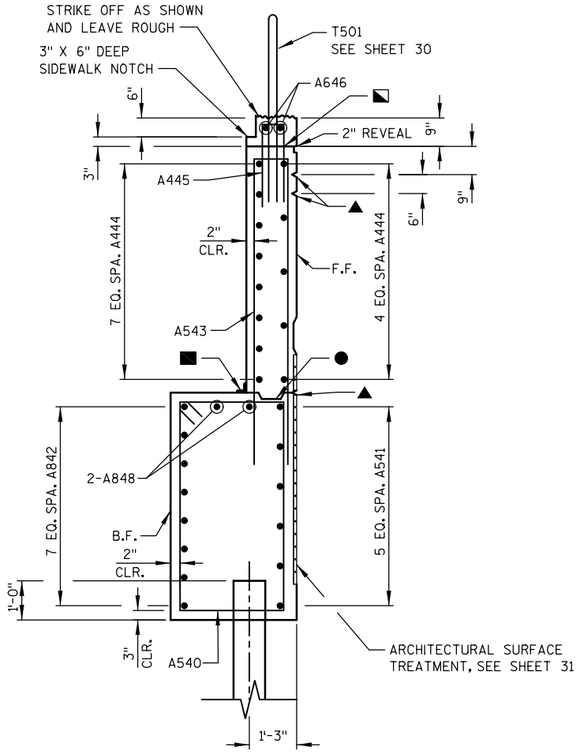
SHEET 7 OF 35
1652

STATE PROJECT NUMBER

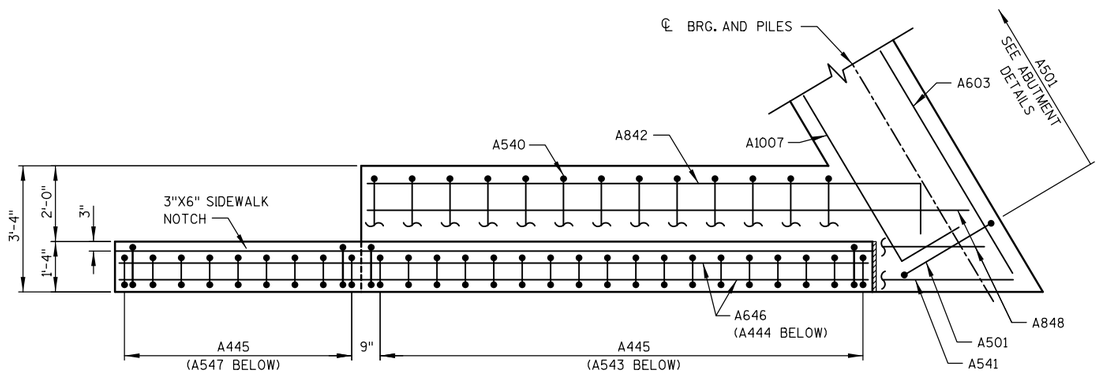
1133-09-74



ELEVATION
(WING 2)



WING WITH PILE SECTION
(WING 2)



WING PLAN
(WING 2)

LEGEND

- ▲ 3/4" V-GROOVE ON F.F. OF WINGWALL.
- ● OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY WITH 18" RUBBERIZED MEMBRANE ON BACKFACE.
- ◪ CONSTRUCTION JOINT, LEAVE ROUGH, POUR CONCRETE ABOVE THIS JOINT AFTER DECK IS IN PLACE.
- ■ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

WEST ABUTMENT
WING 2 DETAILS

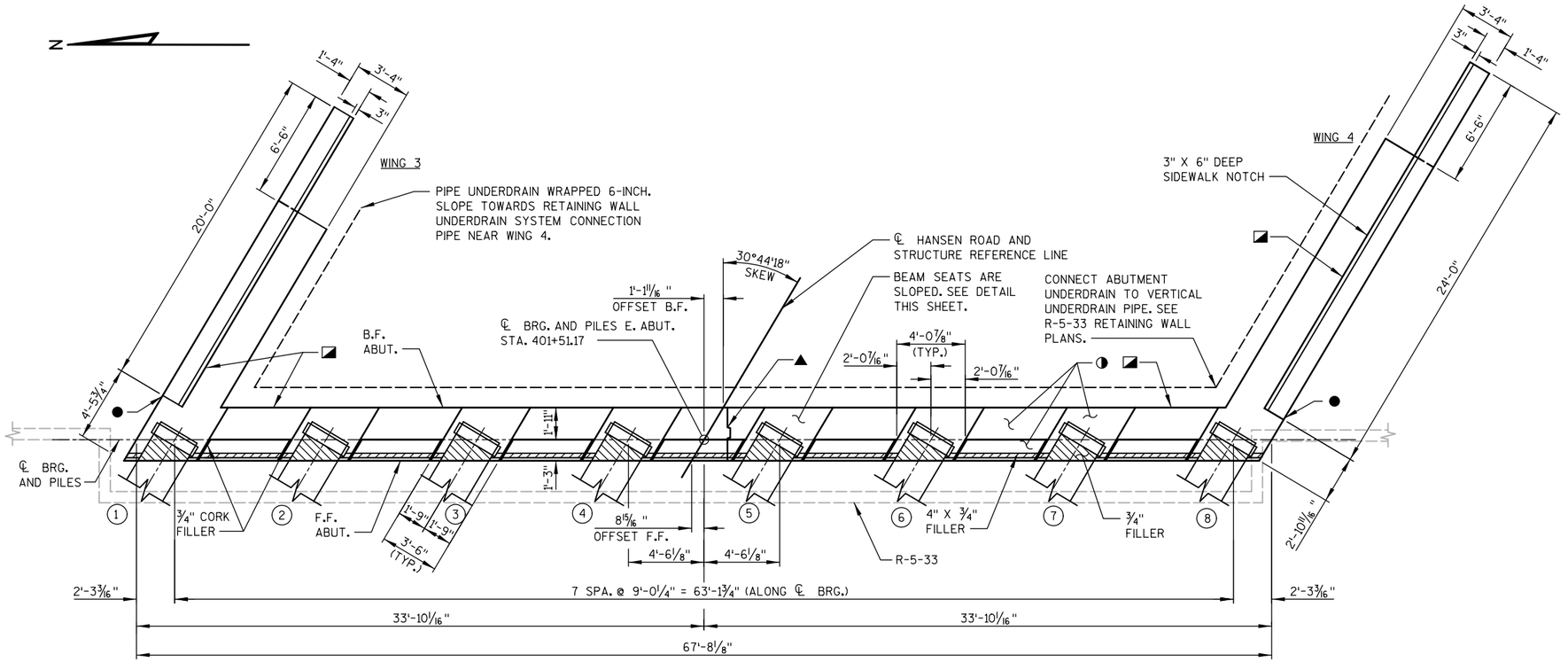
SHEET 8 OF 35
1653

8

8

STATE PROJECT NUMBER

1133-09-74



PLAN

NOTES

- ◑ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ◪ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ▲ VERTICAL CONSTRUCTION JOINT KEYWAY FORMED BY BEVELED 2x8. PROVIDE 3/4" V-GROOVE AT F.F. RUN BAR STEEL THRU JOINT. SEAL JOINT WITH 18" RUBBERIZED MEMBRANE WATERPROOFING (B.F.). SEE ABUTMENT DETAILS SHEET FOR ALTERNATE CONSTRUCTION JOINT DETAIL.
- ● 1/2" FILLER TO EXTEND FROM ABUTMENT SEAT TO TOP OF PARAPET. FILLER INCLUDED IN WING LENGTH.
- (#) INDICATES GIRDER NUMBER.

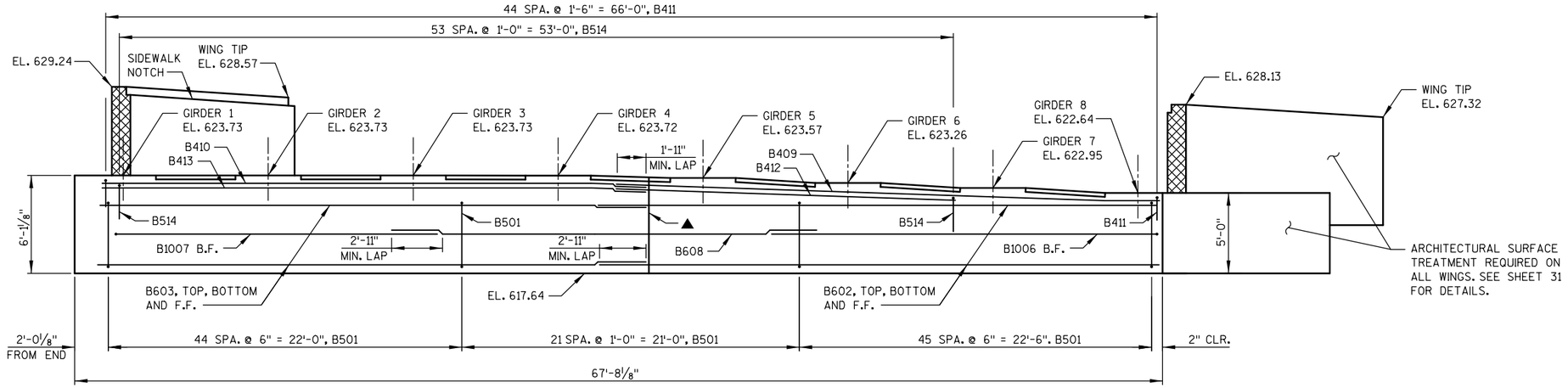
ADJUST B501 BARS TO AVOID INTERFERENCE WITH PILES.

SEE ABUTMENT AND WING DETAIL SHEETS FOR REINFORCING DETAILS.

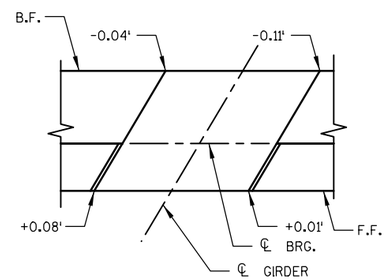
ABUTMENTS TO BE SUPPORTED ON HP 12X53 STEEL PILING GROUTED IN PLACE IN PREBORED HOLES. ESTIMATED PILE LENGTH IS 23 FEET. PREBORING FOR PILES SHALL OCCUR AFTER EXCAVATION FOR RETAINING WALL IS COMPLETED.

SEE ABUTMENT DETAILS SHEET FOR ABUTMENT FALL PROTECTION DETAIL.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).



ELEVATION



SLOPING BEAM SEAT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

EAST ABUTMENT PLAN

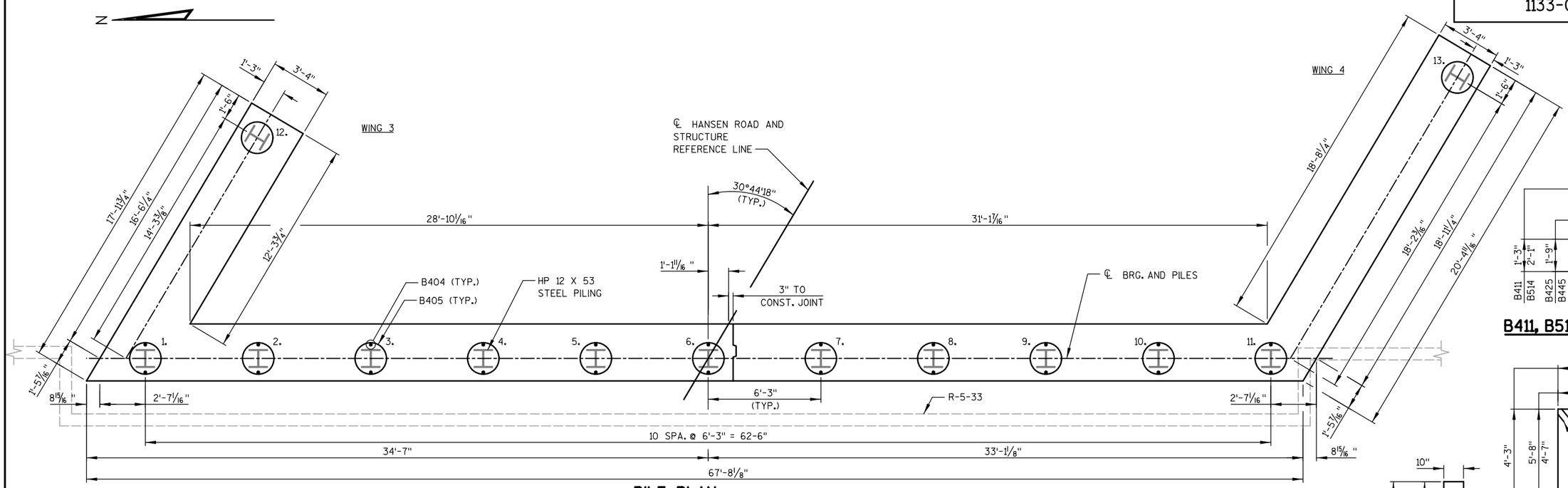
SHEET 9 OF 35

1654

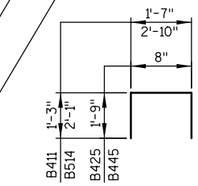
8

8

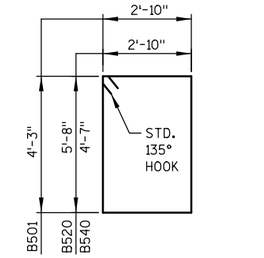
STATE PROJECT NUMBER
1133-09-74



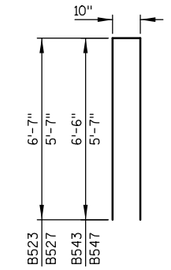
PILE PLAN



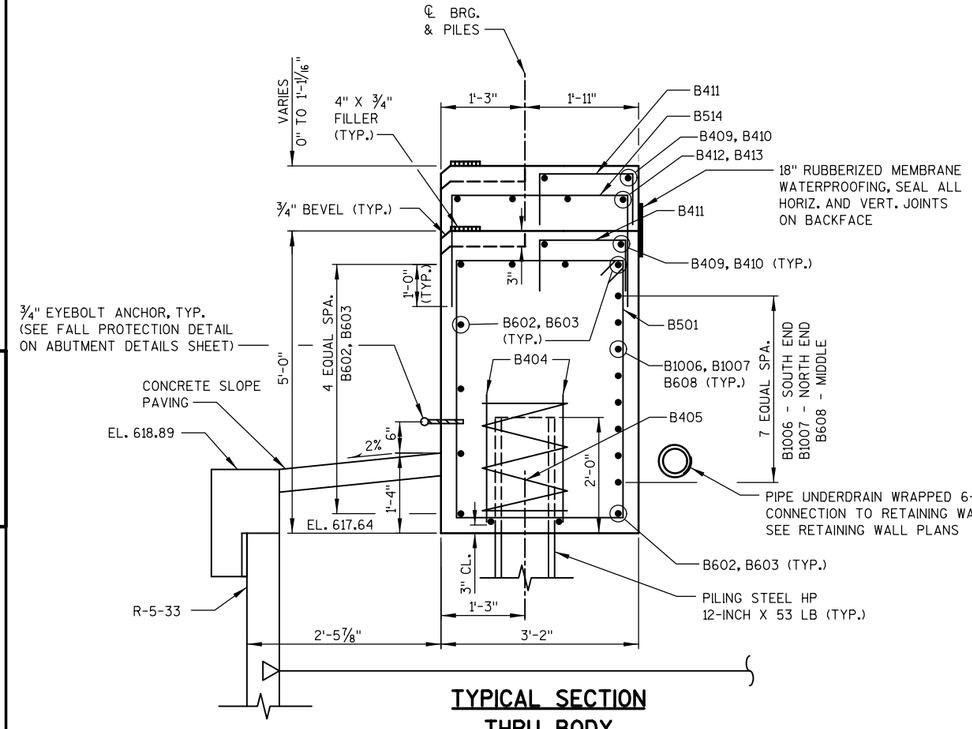
B411, B514, B425, B445



B501, B520, B540



B523, B527, B543, B547

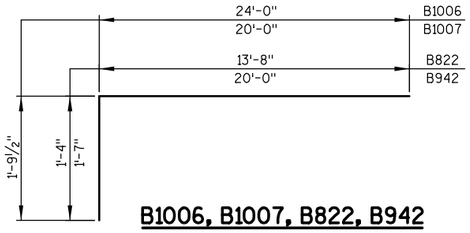


TYPICAL SECTION THRU BODY

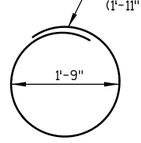
EAST ABUTMENT BILL OF BARS

COATED: 3,620 LBS
UNCOATED: 5,850 LBS

MARK	NO.	LENGTH	BENT	COAT	LOCATION
B501	111	14'-9	X		BODY - STIRRUPS - VERT.
B602	11	36'-8			BODY - HORIZ.
B603	11	33'-5			BODY - HORIZ.
B404	26	2'-3			BODY - PILES - VERT.
B405	13	28'-0	X		BODY - PILES - VERT.
B1006	8	25'-6	X		BODY - SOUTH END - HORIZ.
B1007	8	21'-6	X		BODY - NORTH END - HORIZ.
B608	8	27'-11			BODY - HORIZ.
B409	2	35'-8			BODY - TOP - HORIZ.
B410	2	33'-5			BODY - TOP - HORIZ.
B411	45	3'-11	X		BODY - TOP - VERT.
B412	4	22'-7			BODY - TOP - HORIZ.
B413	4	33'-5			BODY - TOP - HORIZ.
B514	54	6'-9	X		BODY - TOP - VERT.
B520	13	17'-7	X	X	WING 3 - STIRRUPS - VERT.
B521	7	17'-7		X	WING 3 - HORIZ.
B922	8	14'-10	X	X	WING 3 - HORIZ.
B523	18	13'-9	X	X	WING 3 - VERT.
B424	13	19'-7		X	WING 3 - HORIZ.
B425	27	4'-0	X	X	WING 3 - TOP - VERT.
B626	2	19'-7		X	WING 3 - TOP - HORIZ.
B527	9	11'-9	X	X	WING 3 - VERT.
B928	2	15'-7		X	WING 3 - HORIZ.
B429	5	7'-9		X	WING 3 - HORIZ.
B540	18	15'-5	X	X	WING 4 - STIRRUPS - VERT.
B541	6	20'-0		X	WING 4 - HORIZ.
B942	9	21'-4	X	X	WING 4 - HORIZ.
B543	23	13'-7	X	X	WING 4 - VERT.
B444	13	23'-7		X	WING 4 - HORIZ.
B445	33	4'-0	X	X	WING 4 - TOP - VERT.
B646	2	23'-7		X	WING 4 - TOP - HORIZ.
B547	10	11'-9	X	X	WING 4 - VERT.
B948	2	20'-0		X	WING 4 - HORIZ.
B449	5	7'-9		X	WING 4 - HORIZ.



B1006, B1007, B822, B942



B405

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

EAST ABUTMENT DETAILS

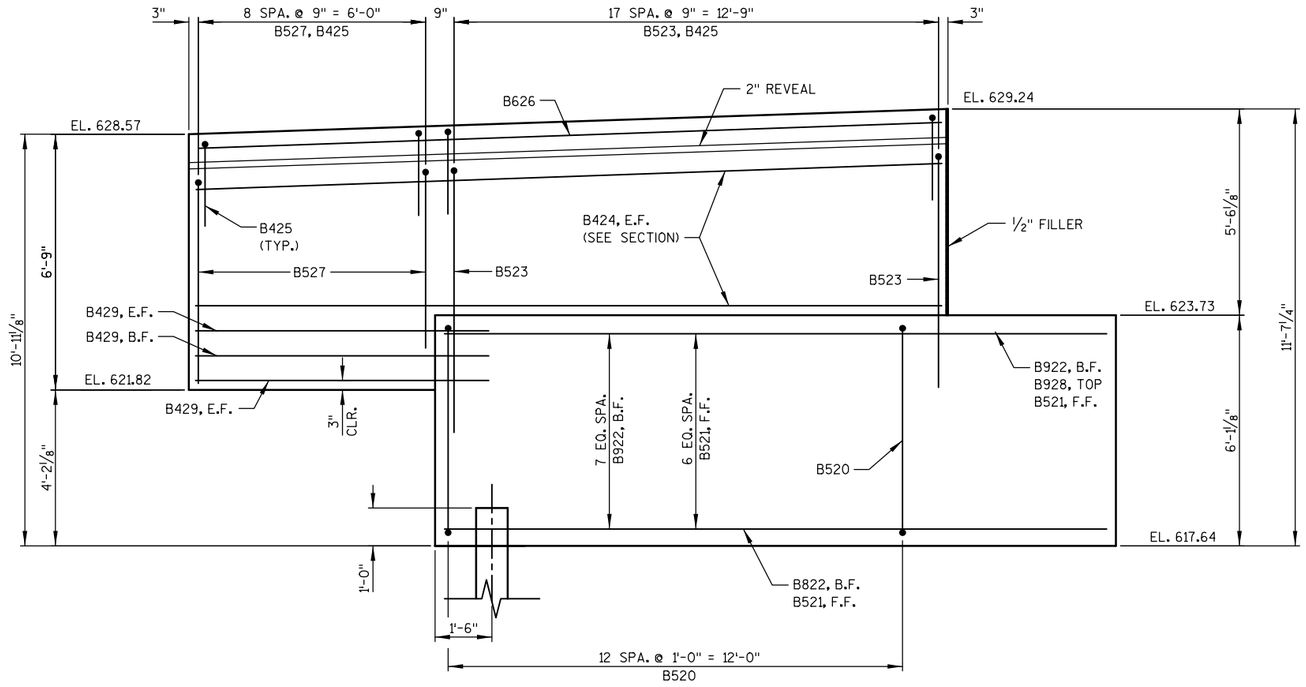
SHEET 10 OF 35
1655

8

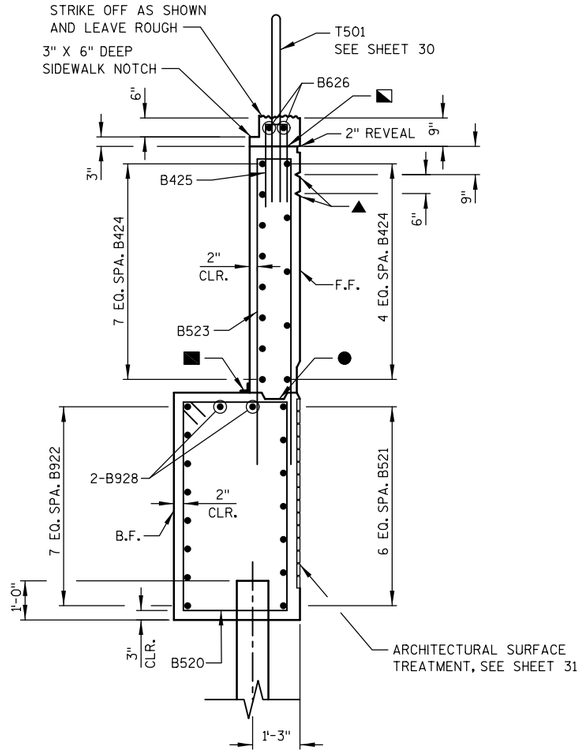
8

STATE PROJECT NUMBER

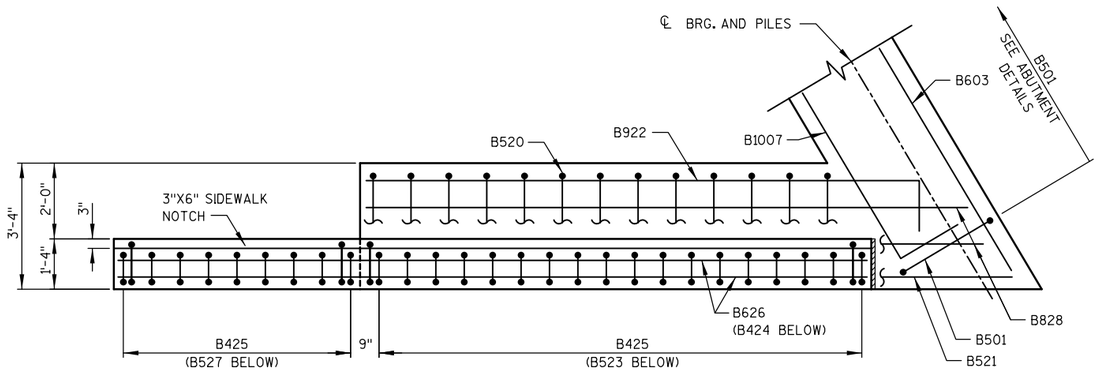
1133-09-74



ELEVATION
(WING 3)



WING WITH PILE SECTION
(WING 3)



WING PLAN
(WING 3)

LEGEND

- ▲ 3/4" V-GROOVE ON F.F. OF WINGWALL.
- ● OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY WITH 18" RUBBERIZED MEMBRANE ON BACKFACE.
- ◪ CONSTRUCTION JOINT, LEAVE ROUGH, POUR CONCRETE ABOVE THIS JOINT AFTER DECK IS IN PLACE.
- ■ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

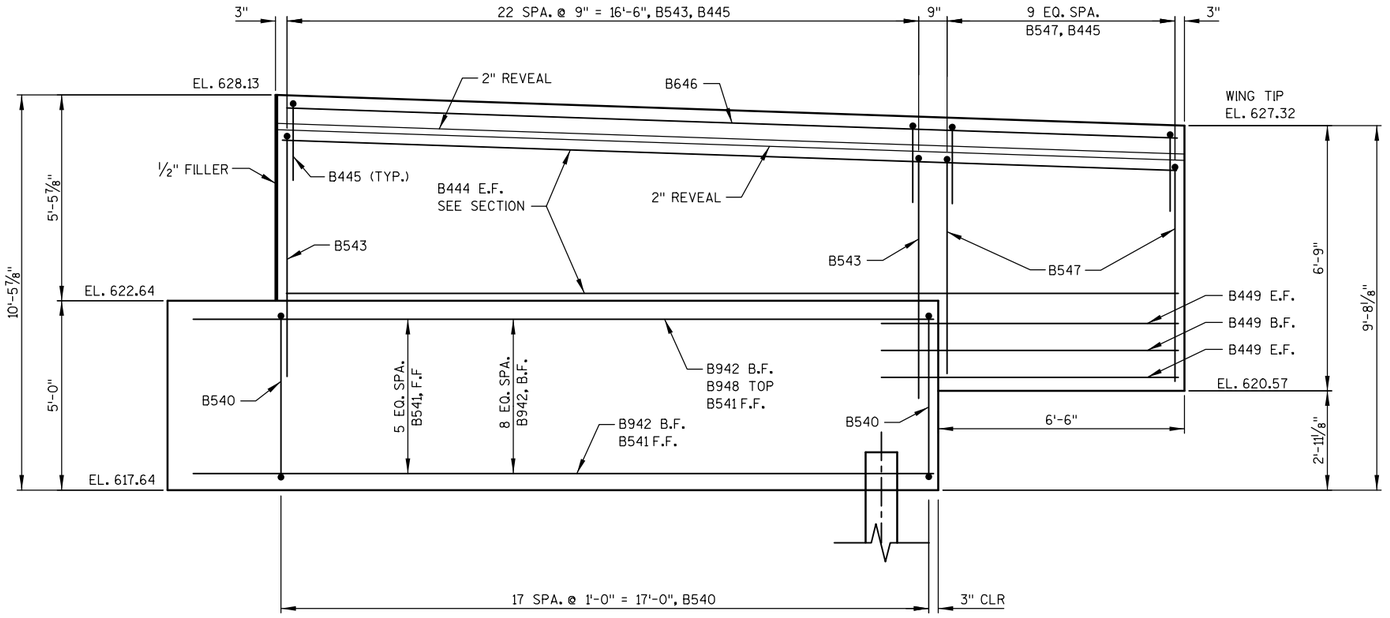
EAST ABUTMENT
WING 3 DETAILS

SHEET 11 OF 35
1656

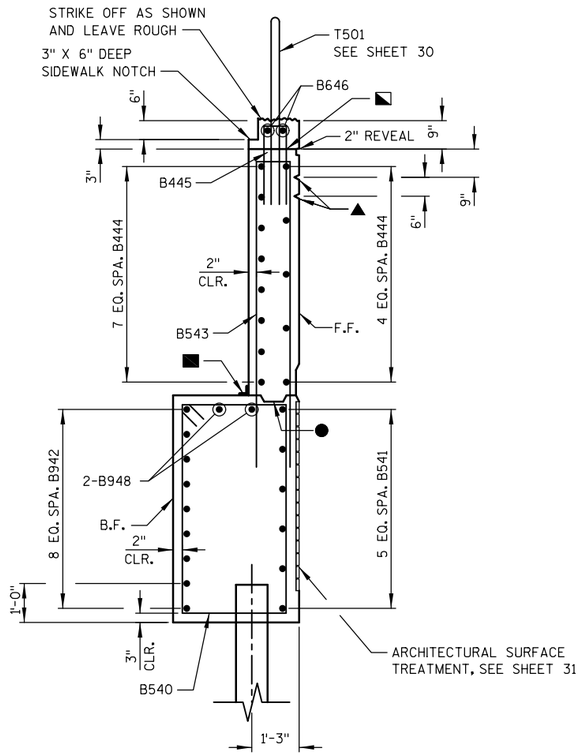
8

8

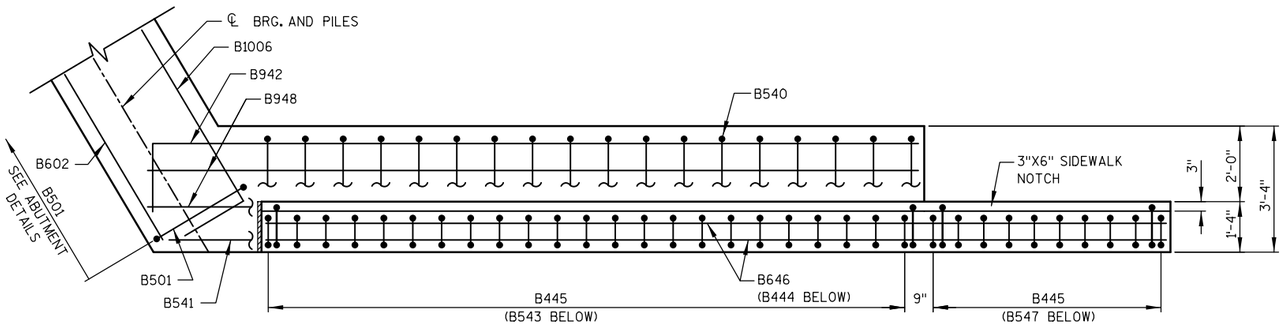
STATE PROJECT NUMBER
1133-09-74



ELEVATION
(WING 4)



WING WITH PILE SECTION
(WING 4)



WING PLAN
(WING 4)

LEGEND

- ▲ 3/4" V-GROOVE ON F.F. OF WINGWALL.
- ● OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY WITH 18" RUBBERIZED MEMBRANE ON BACKFACE.
- ◪ CONSTRUCTION JOINT, LEAVE ROUGH, POUR CONCRETE ABOVE THIS JOINT AFTER DECK IS IN PLACE.
- ■ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

EAST ABUTMENT
WING 4 DETAILS

SHEET 12 OF 35
1657

8

8

STATE PROJECT NUMBER
1133-09-74

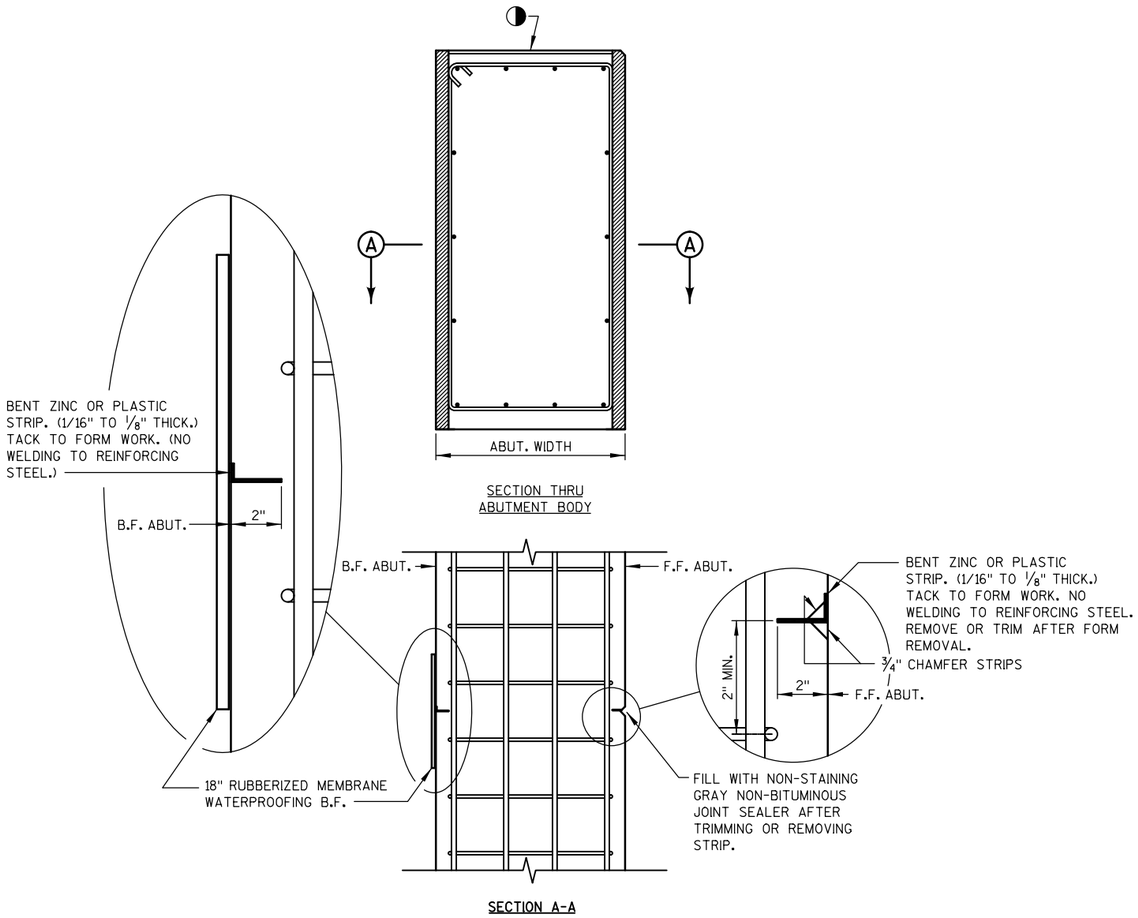
NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

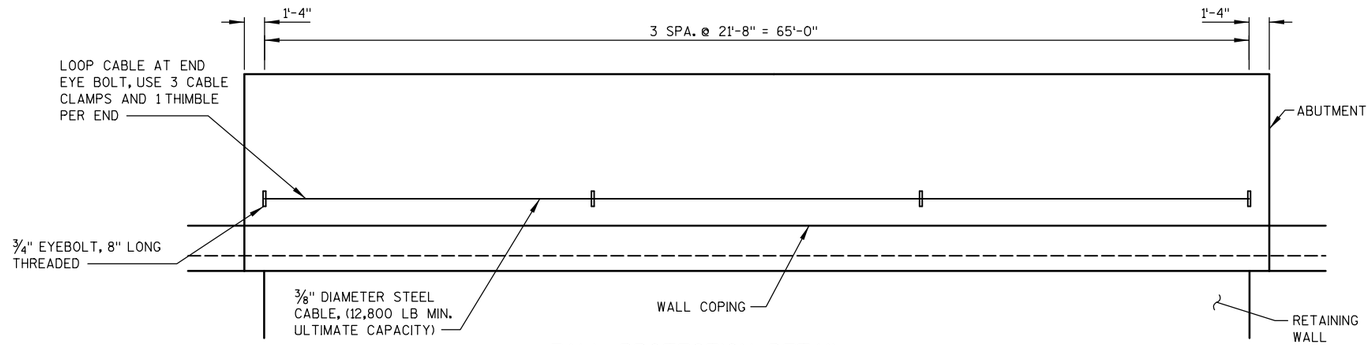
◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY ½" DEEP.



SECTION THRU ABUTMENT BODY

SECTION A-A

ALTERNATE CONSTRUCTION JOINT AT ABUTMENT



FALL PROTECTION DETAIL ◐

(ABUTMENT F.F. ELEVATION VIEW)

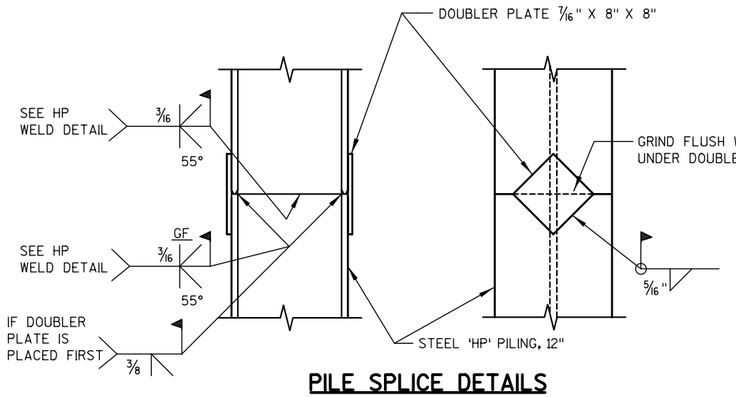
◐ NOTES:

ALL LABOR AND MATERIAL (EYE BOLTS, CABLE, AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S ¾-INCH"

ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.

USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.

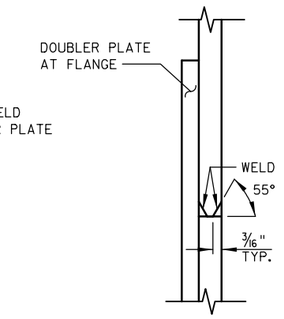
MASONRY ANCHORS TYPE S 3/4-INCH. MINIMUM ULTIMATE PULLOUT CAPACITY OF 26 KIPS. FOR ADHESIVE ANCHORS, EMBED A MINIMUM OF 7" IN CONCRETE.



PILE SPLICE DETAILS

PILE SPLICE NOTES

PILES PLACED IN PREBORED HOLES DO NOT REQUIRE DRIVING



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

ABUTMENT DETAILS

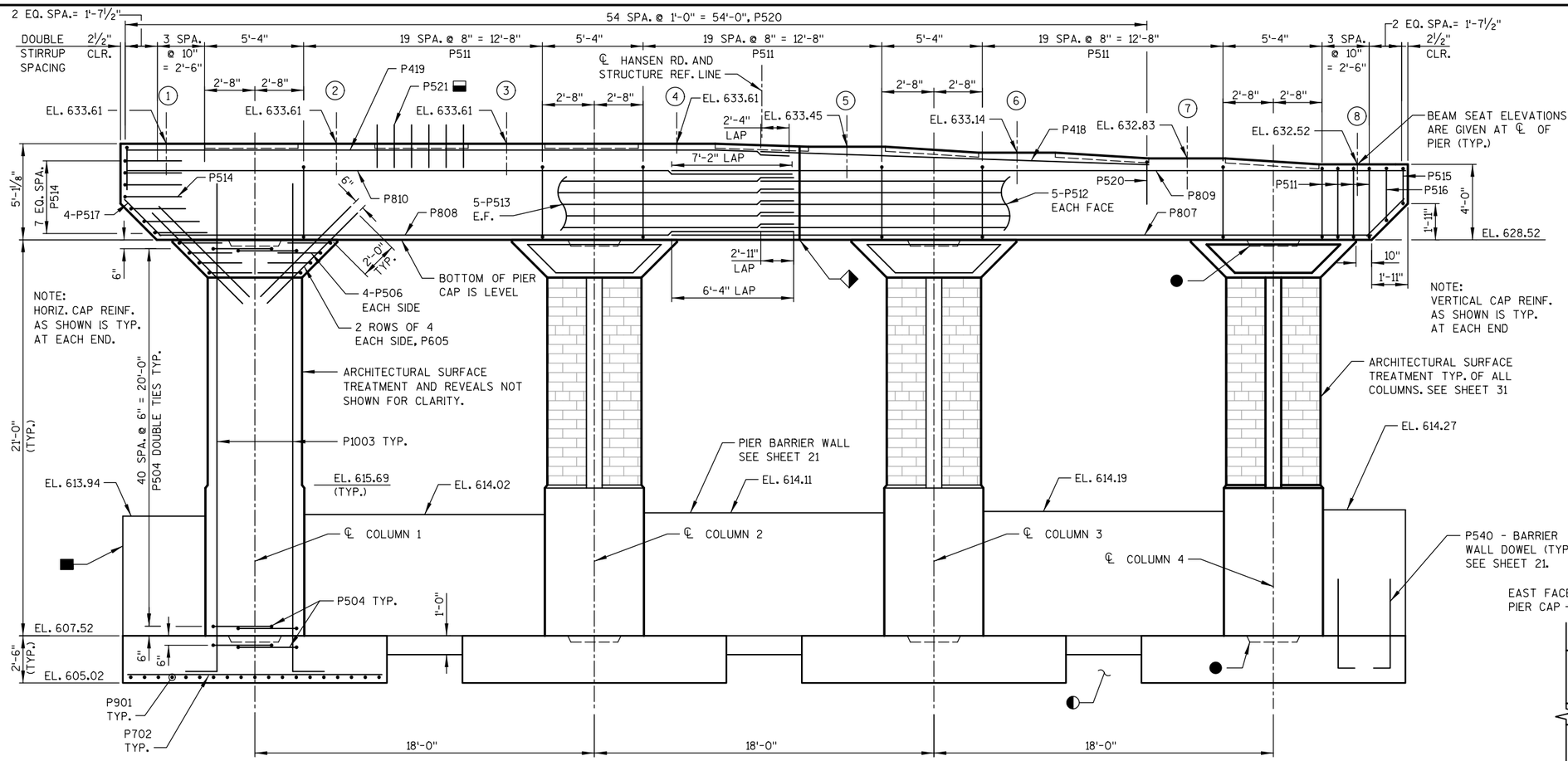
SHEET 13 OF 35
1658

8

8

STATE PROJECT NUMBER

1133-09-74



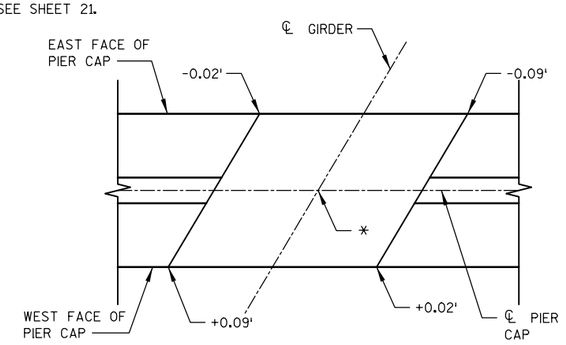
ELEVATION
(LOOKING EAST)

NOTES

- ▲ 2" × 6" BEVELED KEYWAY BETWEEN BEAM SEATS.
- ◪ ¾" X 4" PREFORMED FILLER.
- ▬ P521 BARS @ 1'-0" CENTERS BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED 1'-0" INTO CONCRETE.
- ● 1'-3" X 2'-6" X 4" DEEP CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY. TYP. FOR ALL COLUMNS AND FOOTINGS.
- ▽ ELASTOMERIC BEARING PADS SHALL BE CLIPPED AS REQUIRED TO MAINTAIN 3" CLEAR. SEE SHEET 27 FOR DETAILS.
- ◐ BACKFILL STRUCTURE REQUIRED AT PIER AND BARRIER WALL EXCAVATION (TYP.).
- ◆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2X8.

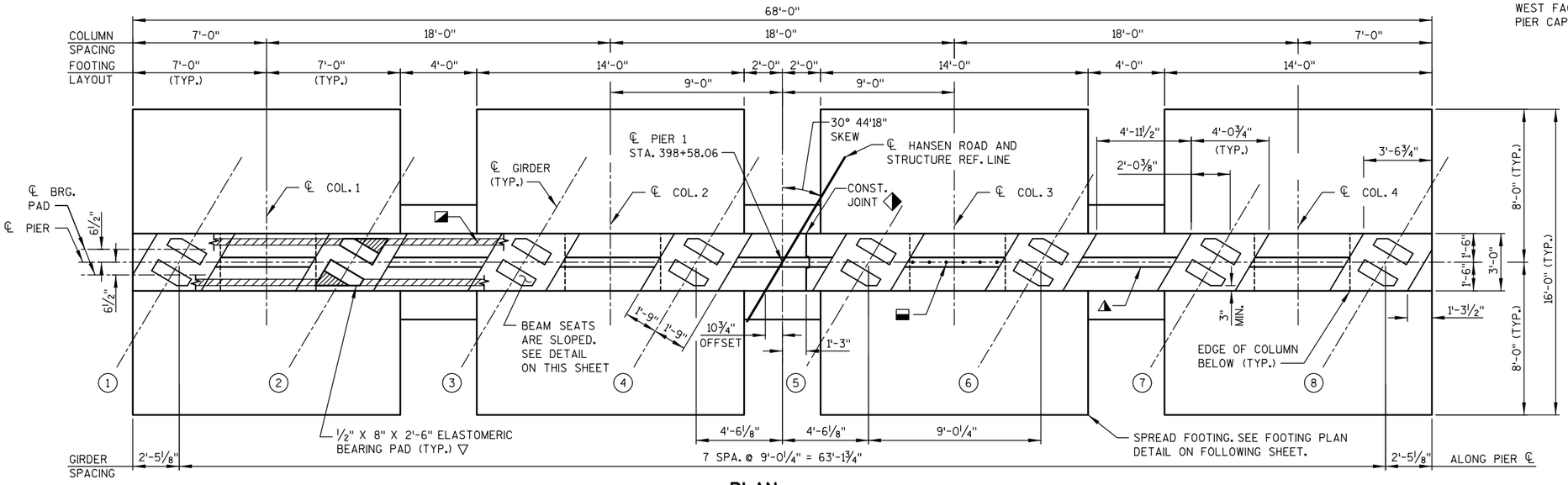
SEE SHEETS 20 AND 31 FOR ADDITIONAL DETAILS ON PIER COLUMN GEOMETRY AND AESTHETIC DETAILS.

- ■ ANCHOR ASSEMBLY FOR THRIE BEAM. SEE SHEETS 21 & 29 FOR DETAILS.



* LOCATION OF BEAM SEAT ELEVATION GIVEN IN PLANS.

SLOPED GIRDER SEAT DETAIL



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

PIER 1 PLAN & ELEVATION

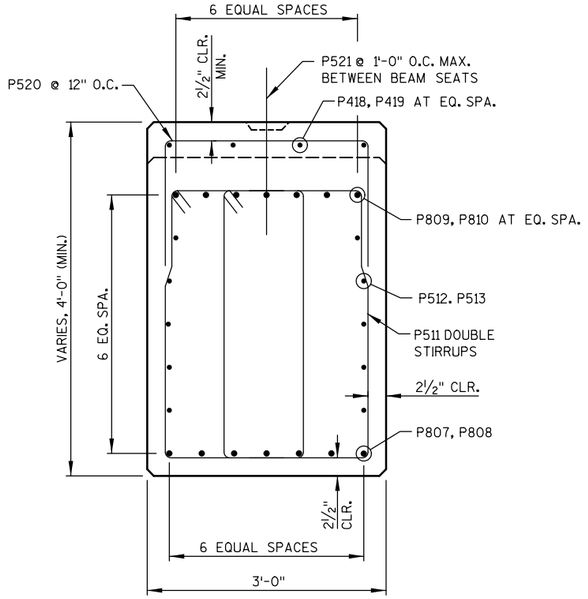
SHEET 14 OF 35
1659

8

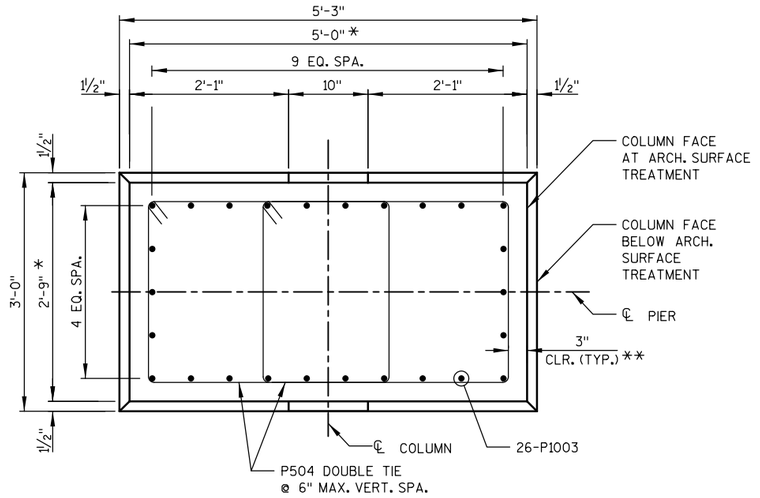
8

STATE PROJECT NUMBER

1133-09-74



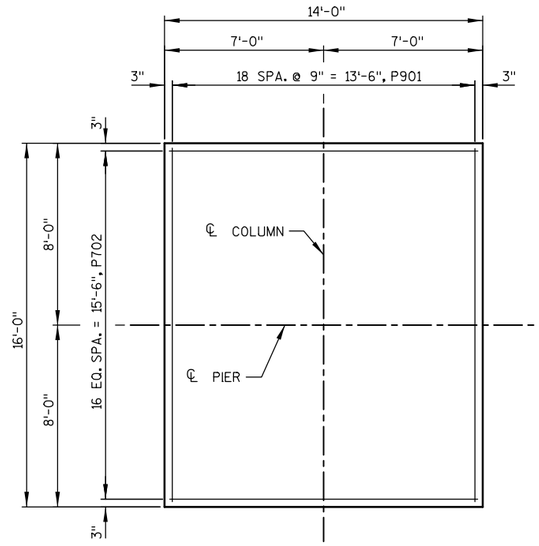
TYPICAL PIER CAP SECTION



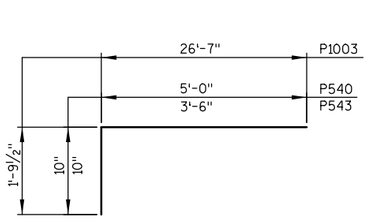
PIER COLUMN SECTION A-A

* DIMENSION IS TO OUTER FACE OF ARCHITECTURAL SURFACE TREATMENT.

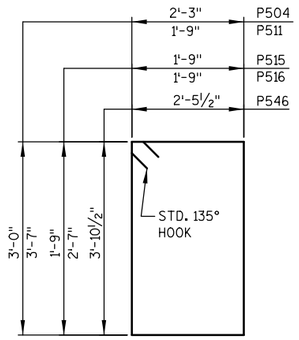
** 3" CLEAR DIST. IS FROM OUTER FACE (2½" CLEAR FROM ARCH. SURFACE TREATMENT RELIEF).



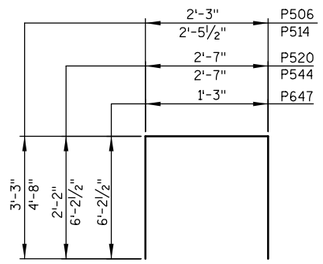
FOOTING PLAN



P1003, P540, P543



P504, P511, P515, P516, P546



P506, P514, P520, P544, P647

PIER 1 BILL OF BARS

COATED: 25,190 LBS.
UNCOATED: 6,120 LBS.

MARK	NO.	LENGTH	BENT	COAT	LOCATION
P901	76	15'-8			FOOTINGS - LONG. - HORIZ.
P702	68	13'-8			FOOTINGS - TRANS. - HORIZ.
P1003	104	28'-1	X	X	COLUMNS - VERT.
P504	336	11'-1	X	X	COLUMNS - TIE BARS - HORIZ.
P605	64	7'-0		X	COLUMNS - TOP - DIAGONAL
P506	32	8'-6	X	X	COLUMNS - TOP - HORIZ.
P807	7	37'-2		X	PIER CAP - BOTTOM - HORIZ.
P808	7	33'-0		X	PIER CAP - BOTTOM - HORIZ.
P809	7	40'-0		X	PIER CAP - TOP - HORIZ.
P810	7	34'-10		X	PIER CAP - TOP - HORIZ.
P511	136	11'-3	X	X	PIER CAP - STIRRUPS - VERT.
P512	10	33'-9		X	PIER CAP - SIDES - HORIZ.
P513	10	32'-11		X	PIER CAP - SIDES - HORIZ.
P514	16	11'-7	X	X	PIER CAP - ENDS - HORIZ.
P515	4	7'-7	X	X	PIER CAP - ENDS - STIRRUPS - VERT.
P516	4	9'-3	X	X	PIER CAP - ENDS - STIRRUPS - VERT.
P517	8	2'-8		X	PIER CAP - ENDS - DIAGONAL
P418	4	21'-9		X	PIER CAP - TOP - HORIZ.
P419	4	34'-10		X	PIER CAP - TOP - HORIZ.
P520	55	6'-8	X	X	PIER CAP - TOP - VERT.
P521	42	2'-0		X	PIER CAP - TOP - DOWELS - VERT.
P540	36	5'-9	X	X	FOOTINGS - 1 & 4 - BARRIER WALL - VERT.
P541	15	5'-8			BARRIER WALL - FOOTING - TRANS. - HORIZ.
P542	21	3'-6			BARRIER WALL - FOOTING - LONG. - HORIZ.
P543	30	4'-3	X	X	BARRIER WALL - FOOTING - DOWEL - VERT.
P544	55	14'-9	X	X	BARRIER WALL - VERT.
P545	16	12'-2		X	BARRIER WALL - HORIZ.
P546	14	13'-3	X	X	BARRIER WALL - ENDS - HORIZ.
P647	12	13'-4	X	X	BARRIER WALL - ENDS - VERT.
P548	6	6'-2		X	BARRIER WALL - ENDS - VERT.
✳	48	2'-6		X	DOWEL BARS @ BARRIER WALL - HORIZ.

NOTE: THE FIRST ONE OR TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. DIMENSIONS FOR BENDING ARE OUT TO OUT OF BAR.

✳ PLACE 2'-6" LONG, 1" DIA. SMOOTH DOWEL BAR BETWEEN BARRIER WALL AND COLUMN. USE DEBONDER ON EXTENSION INTO COLUMN. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. COST OF ITEMS ARE TO BE INCLUDED IN BID ITEM "HPC MASONRY STRUCTURES".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

PIER 1 DETAILS

SHEET 15 OF 35

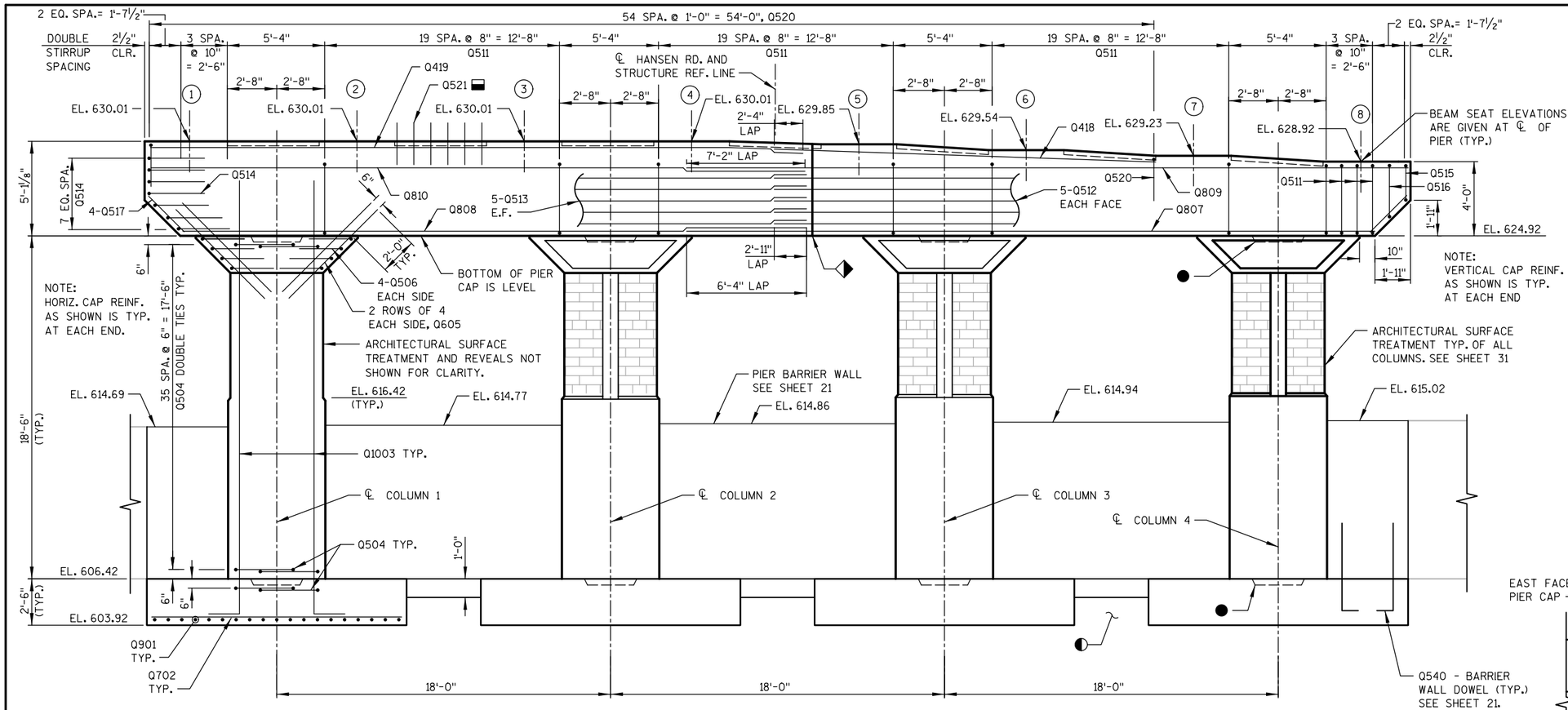
1660

8

8

STATE PROJECT NUMBER

1133-09-74

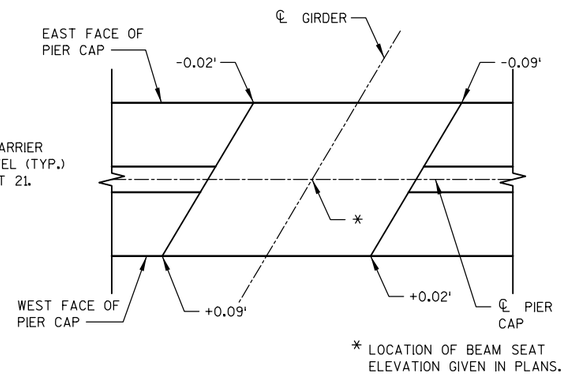


ELEVATION
(LOOKING EAST)

NOTES

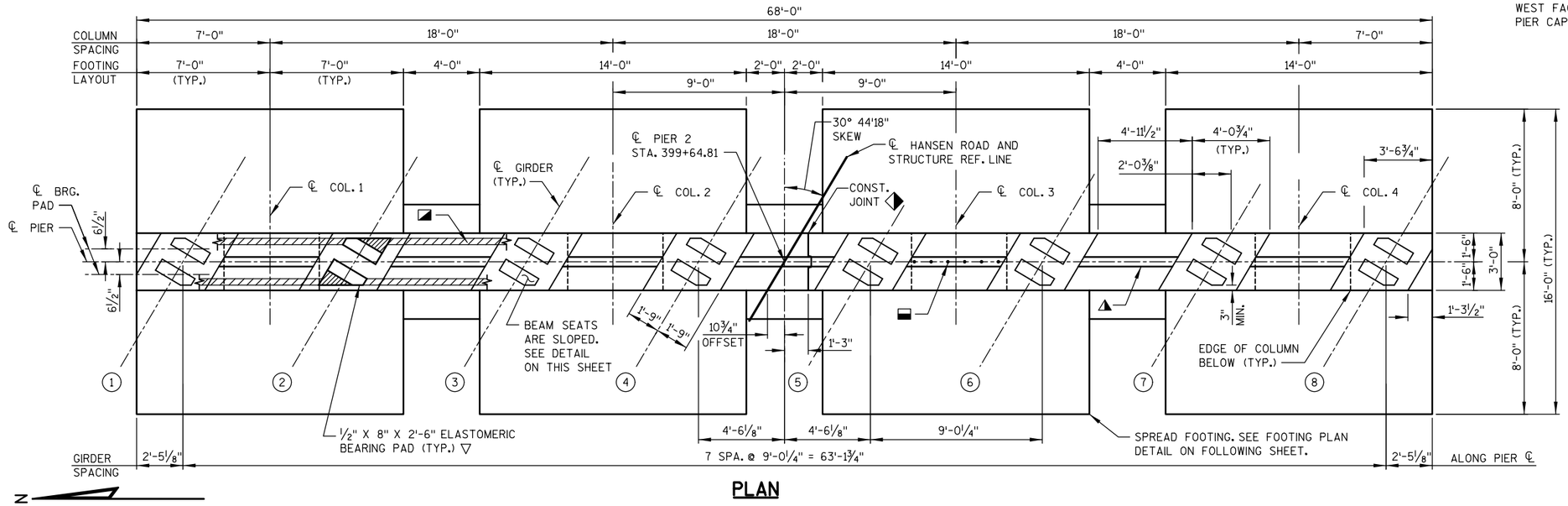
- 2" × 6" BEVELED KEYWAY BETWEEN BEAM SEATS.
- ¾" X 4" PREFORMED FILLER.
- P521 BARS @ 1'-0" CENTERS BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED 1'-0" INTO CONCRETE.
- 1'-3" X 2'-6" X 4" DEEP CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY. TYP. FOR ALL COLUMNS AND FOOTINGS.
- ELASTOMERIC BEARING PADS SHALL BE CLIPPED AS REQUIRED TO MAINTAIN 3" CLEAR. SEE SHEET 27 FOR DETAILS.
- BACKFILL STRUCTURE REQUIRED AT PIER AND BARRIER WALL EXCAVATION (TYP.).
- KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2X8.

SEE SHEETS 20 AND 31 FOR ADDITIONAL DETAILS ON PIER COLUMN GEOMETRY AND AESTHETIC DETAILS.



* LOCATION OF BEAM SEAT ELEVATION GIVEN IN PLANS.

SLOPED GIRDER SEAT DETAIL



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

PIER 2 PLAN & ELEVATION

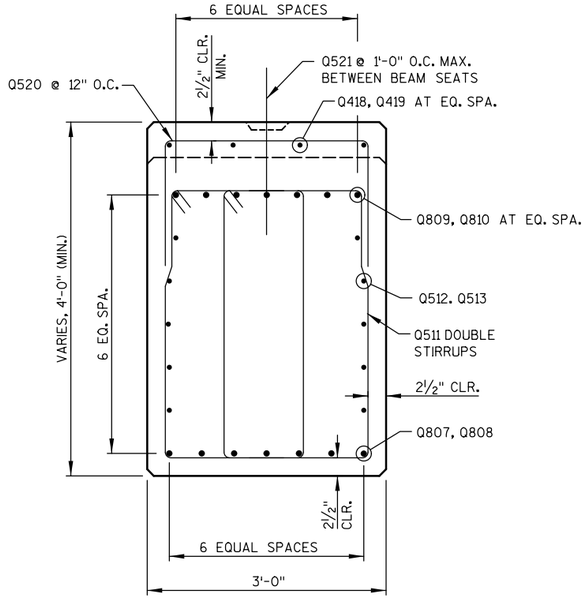
SHEET 16 OF 35
1661

8

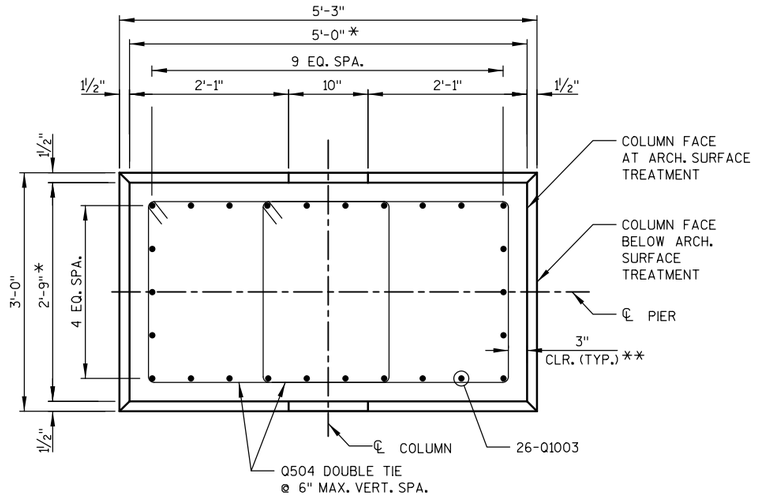
8

STATE PROJECT NUMBER

1133-09-74



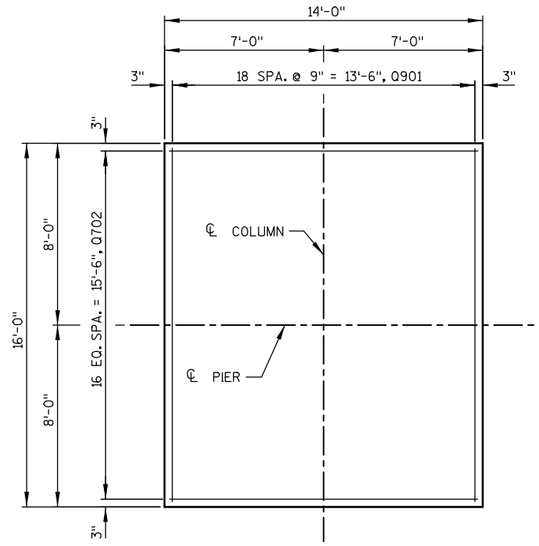
TYPICAL PIER CAP SECTION



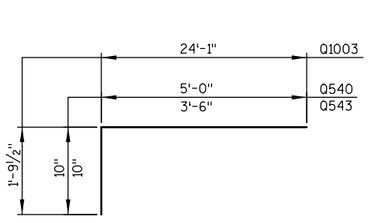
PIER COLUMN SECTION A-A

* DIMENSION IS TO OUTER FACE OF ARCHITECTURAL SURFACE TREATMENT.

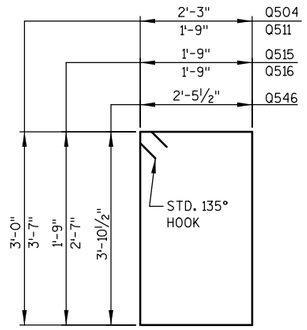
** 3" CLEAR DIST. IS FROM OUTER FACE (2½" CLEAR FROM ARCH. SURFACE TREATMENT RELIEF).



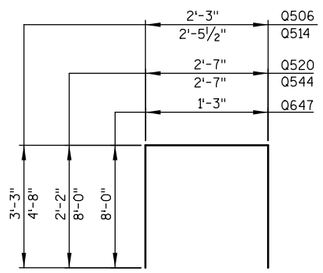
FOOTING PLAN



Q1003, Q540, Q543



Q504, Q511, Q515, Q516, Q546



Q506, Q514, Q520, Q544, Q647

PIER 2
BILL OF BARS

COATED: 24,000 LBS.
UNCOATED: 6,120 LBS.

MARK	NO.	LENGTH	BENT	COAT	LOCATION
Q901	76	15'-8			FOOTINGS - LONG. - HORIZ.
Q702	68	13'-8			FOOTINGS - TRANS. - HORIZ.
Q1003	104	25'-7	X	X	COLUMNS - VERT.
Q504	296	11'-1	X	X	COLUMNS - TIE BARS - HORIZ.
Q605	64	7'-0		X	COLUMNS - TOP - DIAGONAL
Q506	32	8'-6	X	X	COLUMNS - TOP - HORIZ.
Q807	7	37'-2		X	PIER CAP - BOTTOM - HORIZ.
Q808	7	33'-0		X	PIER CAP - BOTTOM - HORIZ.
Q809	7	40'-0		X	PIER CAP - TOP - HORIZ.
Q810	7	34'-10		X	PIER CAP - TOP - HORIZ.
Q511	136	11'-3	X	X	PIER CAP - STIRRUPS - VERT.
Q512	10	33'-9		X	PIER CAP - SIDES - HORIZ.
Q513	10	32'-11		X	PIER CAP - SIDES - HORIZ.
Q514	16	11'-7	X	X	PIER CAP - ENDS - HORIZ.
Q515	4	7'-7	X	X	PIER CAP - ENDS - STIRRUPS - VERT.
Q516	4	9'-3	X	X	PIER CAP - ENDS - STIRRUPS - VERT.
Q517	8	2'-8		X	PIER CAP - ENDS - DIAGONAL
Q418	4	21'-9		X	PIER CAP - TOP - HORIZ.
Q419	4	34'-10		X	PIER CAP - TOP - HORIZ.
Q520	55	6'-8	X	X	PIER CAP - TOP - VERT.
Q521	42	2'-0		X	PIER CAP - TOP - DOWELS - VERT.
Q540	36	5'-9	X	X	FOOTINGS - 1 & 4 - BARRIER WALL - VERT.
Q541	15	5'-8			BARRIER WALL - FOOTING - TRANS. - HORIZ.
Q542	21	3'-6			BARRIER WALL - FOOTING - LONG. - HORIZ.
Q543	30	4'-3	X	X	BARRIER WALL - FOOTING - DOWEL - VERT.
Q544	55	18'-4	X	X	BARRIER WALL - VERT.
Q545	20	12'-2		X	BARRIER WALL - HORIZ.
Q546	18	13'-3	X	X	BARRIER WALL - ENDS - HORIZ.
Q647	12	16'-11	X	X	BARRIER WALL - ENDS - VERT.
Q548	6	8'-0		X	BARRIER WALL - ENDS - VERT.
✳	64	2'-6		X	DOWEL BARS @ BARRIER WALL - HORIZ.

NOTE: THE FIRST ONE OR TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. DIMENSIONS FOR BENDING ARE OUT TO OUT OF BAR.

✳ PLACE 2'-6" LONG, 1" DIA. SMOOTH DOWEL BAR BETWEEN BARRIER WALL AND COLUMN. USE DEBONDER ON EXTENSION INTO COLUMN. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. COST OF ITEMS ARE TO BE INCLUDED IN BID ITEM "HPC MASONRY STRUCTURES".

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

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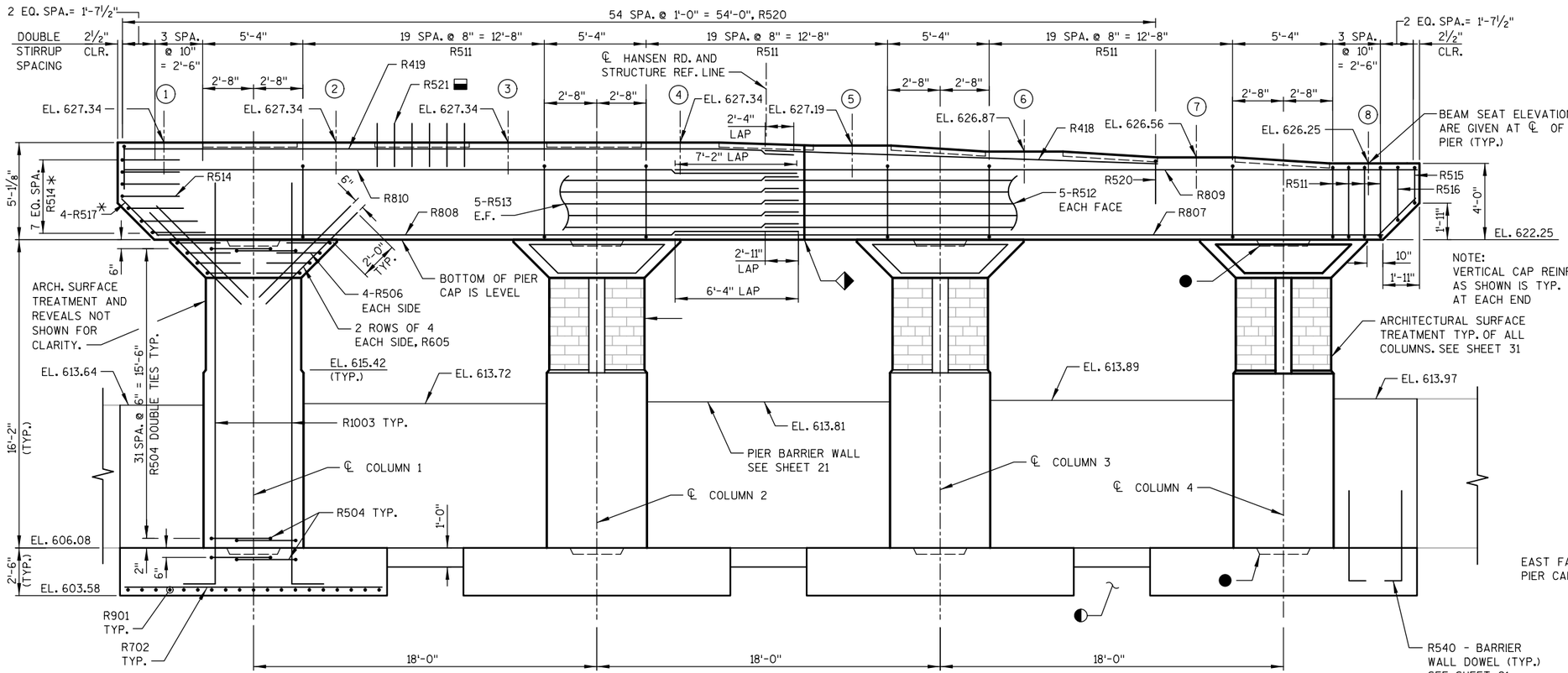
PIER 2 DETAILS 1662

SHEET 17 OF 35

STATE PROJECT NUMBER

1133-09-74



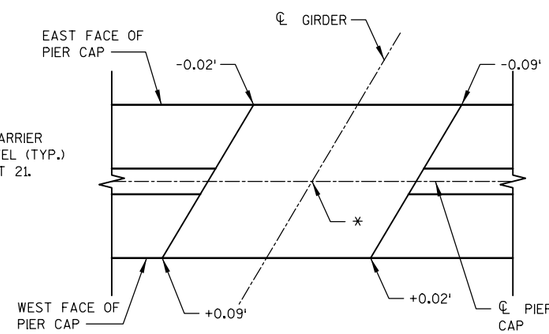
✳ NOTE:
HORIZ. CAP REINF.
AS SHOWN IS TYP.
AT EACH END.

ELEVATION
(LOOKING EAST)

NOTES

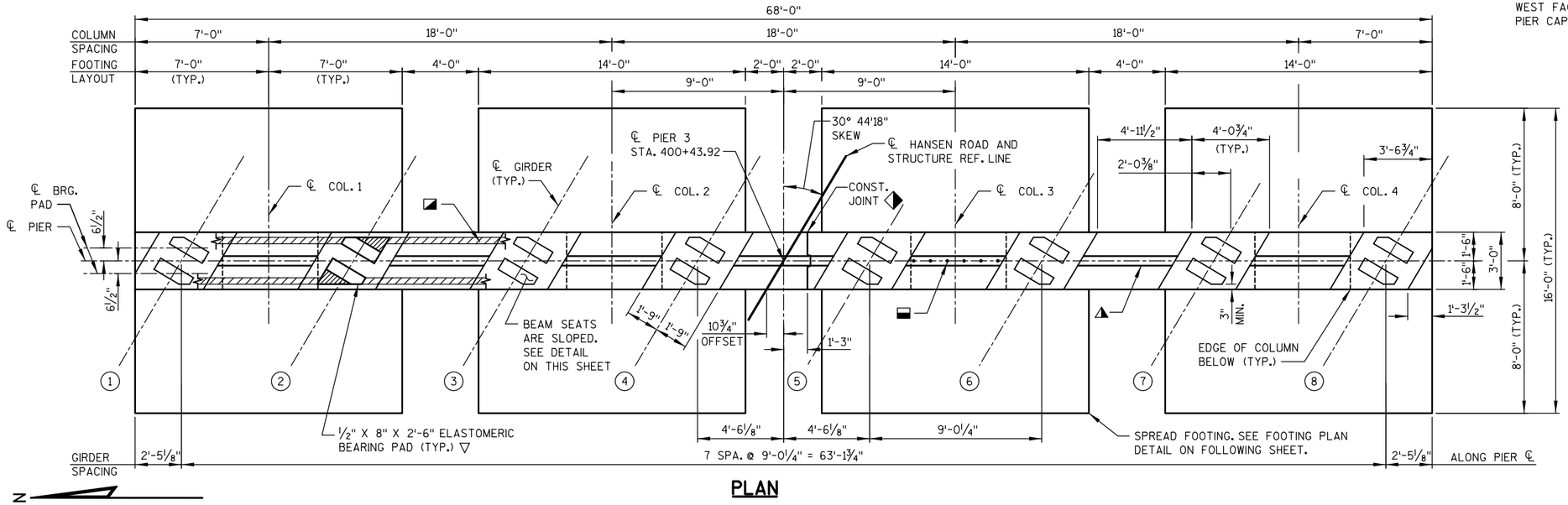
- ◭ 2" × 6" BEVELED KEYWAY BETWEEN BEAM SEATS.
- ◪ ¾" X 4" PREFORMED FILLER.
- ▬ P521 BARS @ 1'-0" CENTERS BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED 1'-0" INTO CONCRETE.
- ● 1'-3" X 2'-6" X 4" DEEP CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY. TYP. FOR ALL COLUMNS AND FOOTINGS.
- ▽ ELASTOMERIC BEARING PADS SHALL BE CLIPPED AS REQUIRED TO MAINTAIN 3" CLEAR. SEE SHEET 27 FOR DETAILS.
- ◐ BACKFILL STRUCTURE REQUIRED AT PIER AND BARRIER WALL EXCAVATION (TYP.).
- ◆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2X8.

SEE SHEETS 20 AND 31 FOR ADDITIONAL DETAILS ON PIER COLUMN GEOMETRY AND AESTHETIC DETAILS.



✳ LOCATION OF BEAM SEAT ELEVATION GIVEN IN PLANS.

SLOPED GIRDER SEAT DETAIL



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

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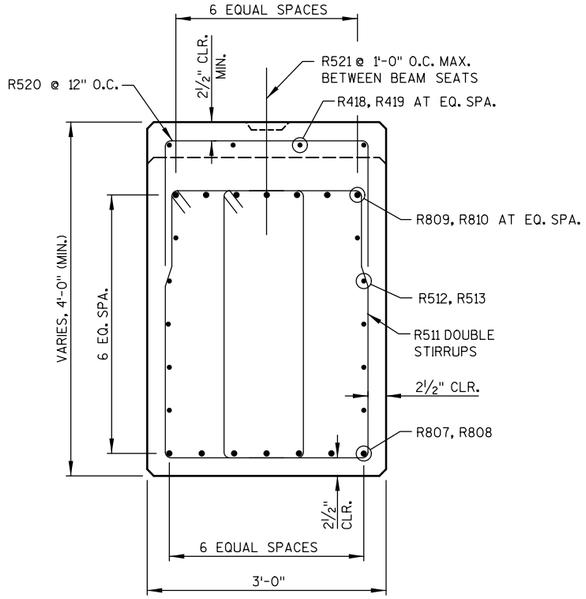
PIER 3 PLAN & ELEVATION

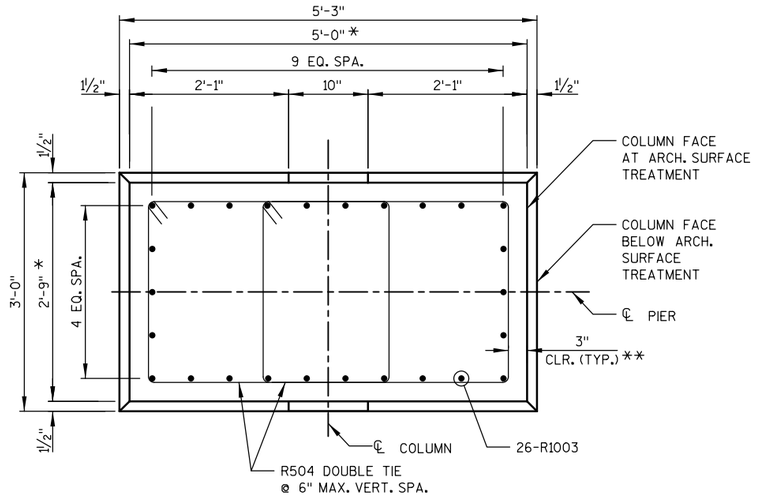
SHEET 18 OF 35
1663

8

8



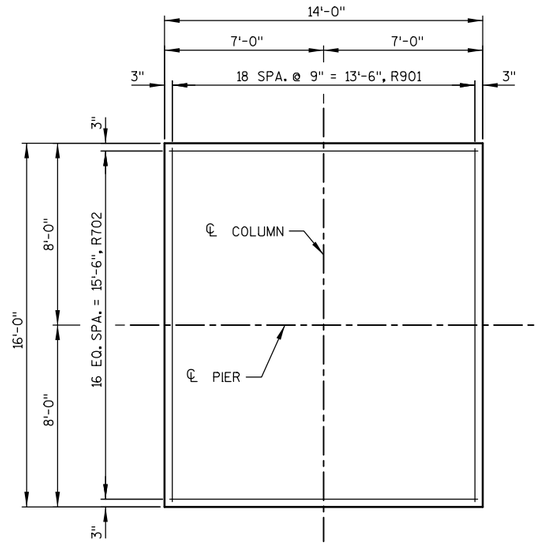
TYPICAL PIER CAP SECTION



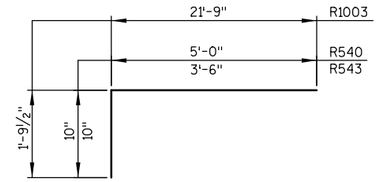
PIER COLUMN SECTION A-A

* DIMENSION IS TO OUTER FACE OF ARCHITECTURAL SURFACE TREATMENT.

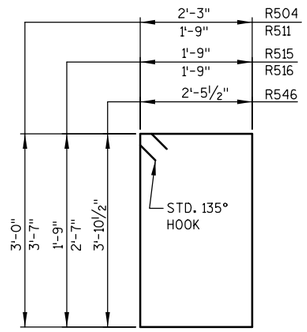
** 3" CLEAR DIST. IS FROM OUTER FACE (2½" CLEAR FROM ARCH. SURFACE TREATMENT RELIEF).



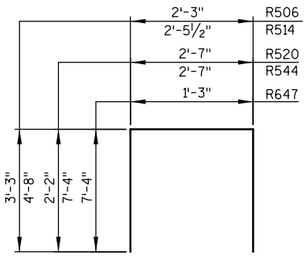
FOOTING PLAN



R1003, R540, R543



R504, R511, R515, R516, R546



R506, R514, R520, R544, R647

PIER 3 BILL OF BARS

COATED: 22,420 LBS.
UNCOATED: 6,120 LBS.

MARK	NO.	LENGTH	BENT	COAT	LOCATION
R901	76	15'-8			FOOTINGS - LONG. - HORIZ.
R702	68	13'-8			FOOTINGS - TRANS. - HORIZ.
R1003	104	23'-3	X	X	COLUMNS - VERT.
R504	264	11'-1	X	X	COLUMNS - TIE BARS - HORIZ.
R605	64	7'-0		X	COLUMNS - TOP - DIAGONAL
R506	32	8'-6	X	X	COLUMNS - TOP - HORIZ.
R807	7	37'-2		X	PIER CAP - BOTTOM - HORIZ.
R808	7	33'-0		X	PIER CAP - BOTTOM - HORIZ.
R809	7	40'-0		X	PIER CAP - TOP - HORIZ.
R810	7	34'-10		X	PIER CAP - TOP - HORIZ.
R511	136	11'-3	X	X	PIER CAP - STIRRUPS - VERT.
R512	10	33'-9		X	PIER CAP - SIDES - HORIZ.
R513	10	32'-11		X	PIER CAP - SIDES - HORIZ.
R514	16	11'-7	X	X	PIER CAP - ENDS - HORIZ.
R515	4	7'-7	X	X	PIER CAP - ENDS - STIRRUPS - VERT.
R516	4	9'-3	X	X	PIER CAP - ENDS - STIRRUPS - VERT.
R517	8	2'-8		X	PIER CAP - ENDS - DIAGONAL
R418	4	21'-9		X	PIER CAP - TOP - HORIZ.
R419	4	34'-10		X	PIER CAP - TOP - HORIZ.
R520	55	6'-8	X	X	PIER CAP - TOP - VERT.
R521	42	2'-0		X	PIER CAP - TOP - DOWELS - VERT.
R540	36	5'-9	X	X	FOOTINGS - 1 & 4 - BARRIER WALL - VERT.
R541	15	5'-8			BARRIER WALL - FOOTING - TRANS. - HORIZ.
R542	21	3'-6			BARRIER WALL - FOOTING - LONG. - HORIZ.
R543	30	4'-3	X	X	BARRIER WALL - FOOTING - DOWEL - VERT.
R544	55	17'-0	X	X	BARRIER WALL - VERT.
R545	18	12'-2		X	BARRIER WALL - HORIZ.
R546	16	13'-3	X	X	BARRIER WALL - ENDS - HORIZ.
R647	12	15'-7	X	X	BARRIER WALL - ENDS - VERT.
R548	6	7'-3		X	BARRIER WALL - ENDS - VERT.
✳	56	2'-6		X	DOWEL BARS @ BARRIER WALL - HORIZ.

NOTE: THE FIRST ONE OR TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. DIMENSIONS FOR BENDING ARE OUT TO OUT OF BAR.

✳ PLACE 2'-6" LONG, 1" DIA. SMOOTH DOWEL BAR BETWEEN BARRIER WALL AND COLUMN. USE DEBONDER ON EXTENSION INTO COLUMN. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. COST OF ITEMS ARE TO BE INCLUDED IN BID ITEM "HPC MASONRY STRUCTURES".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

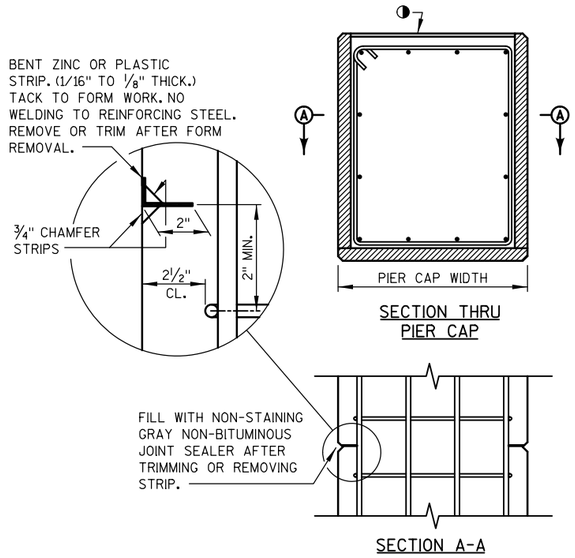
PIER 3 DETAILS

SHEET 19 OF 35
1664

8

8

STATE PROJECT NUMBER
1133-09-74



SECTION THRU PIER CAP

SECTION A-A

ALTERNATE CONSTRUCTION JOINT AT PIER CAP

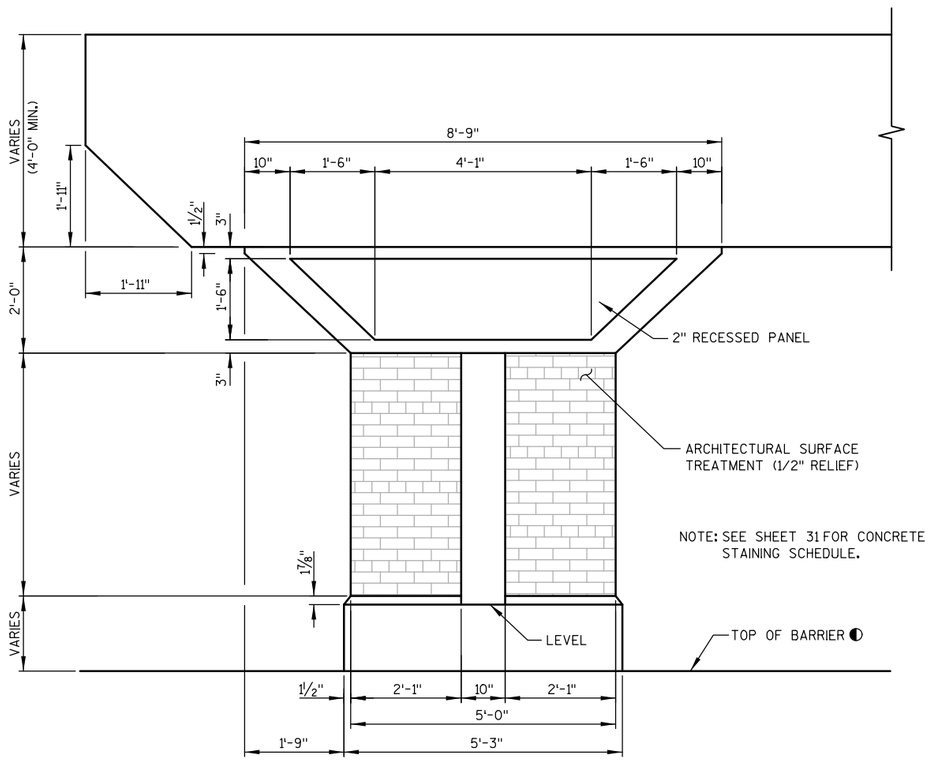
NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

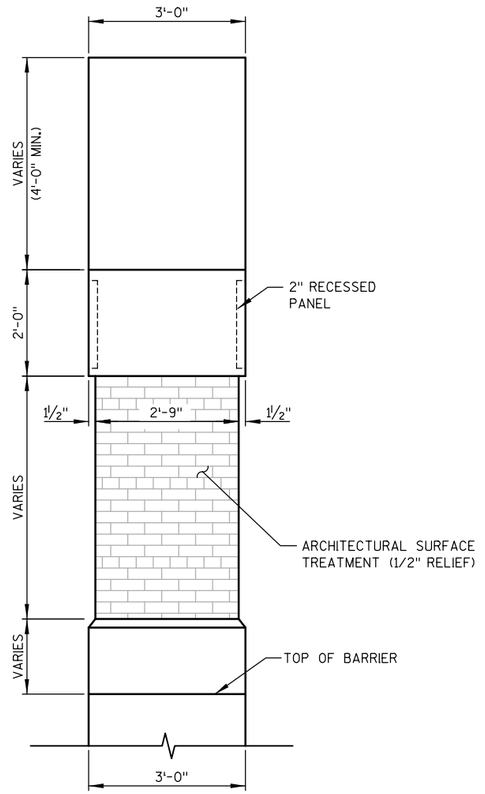
CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.



NOTE: SEE SHEET 31 FOR CONCRETE STAINING SCHEDULE.

PIER ELEVATION



PIER END ELEVATION

NOTES

◑ SEE PIER PLAN AND ELEVATION SHEET FOR TOP OF BARRIER ELEVATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

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TYPICAL PIER DETAILS

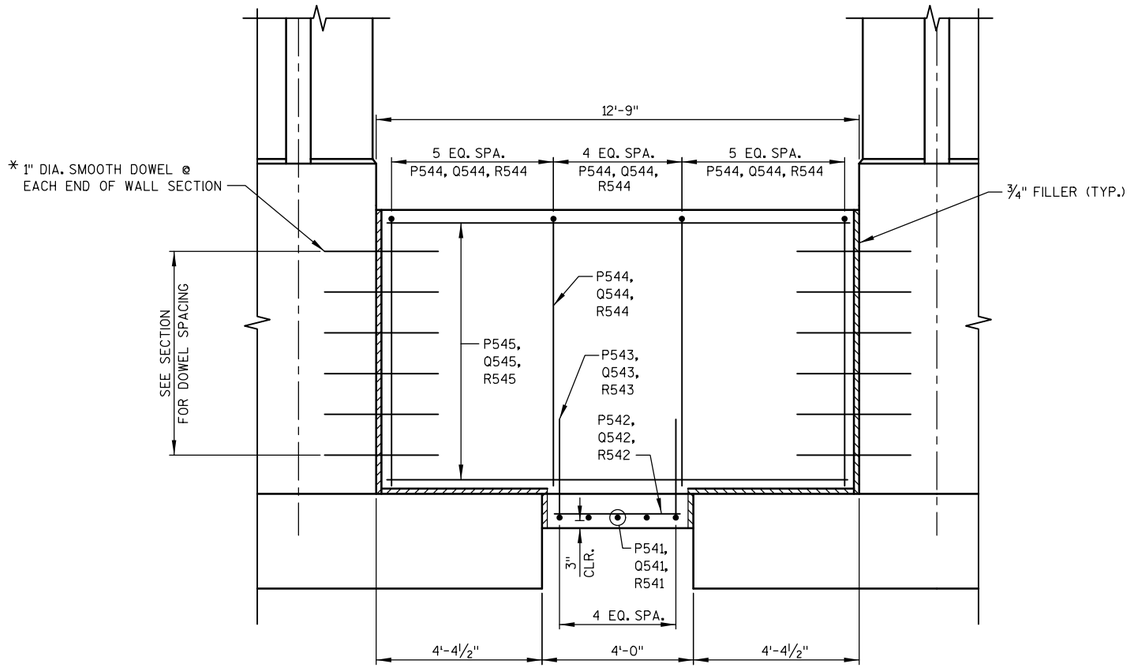
SHEET 20 OF 35
1665

8

8

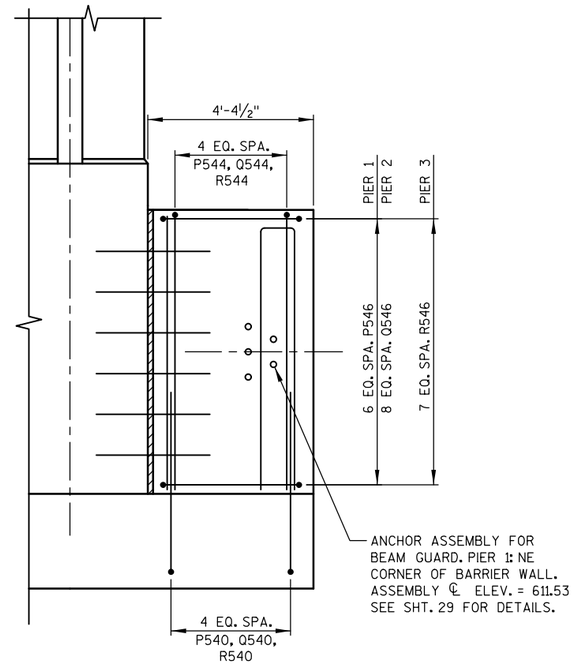
STATE PROJECT NUMBER

1133-09-74



TYPICAL INTERIOR BARRIER WALL ELEVATION

(PANELS B, C, D SEE TYPICAL ELEVATION BELOW)



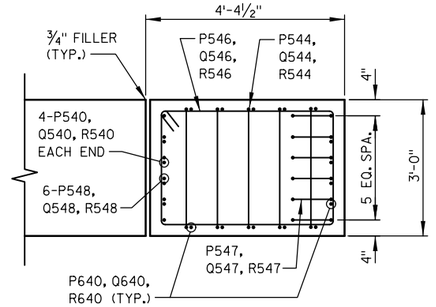
TYPICAL EXTERIOR BARRIER WALL ELEVATION

(PANEL E SHOWN, PANEL A SIMILAR)

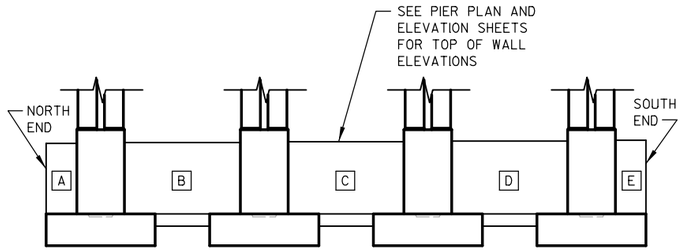
NOTES

STAIN SIDES OF BARRIER WALL AS NOTED ON SHEET 31. STAIN SHALL EXTEND 1' BELOW FINISHED GRADE. PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO TOP OF BARRIER WALL. REINFORCEMENT SHOWN ON THIS SHEET IS INCLUDED IN BILL OF BARS FOR THE ASSOCIATED PIER. SEE SHEET 15, 17, 19 FOR REINFORCING DETAILS.

* PLACE 2'-6" LONG, 1" DIA. SMOOTH DOWEL BAR BETWEEN BARRIER WALL AND COLUMN. USE DEBONDER ON EXTENSION INTO COLUMN. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. COST OF ITEMS ARE TO BE INCLUDED IN BID ITEM "HPC MASONRY STRUCTURES".

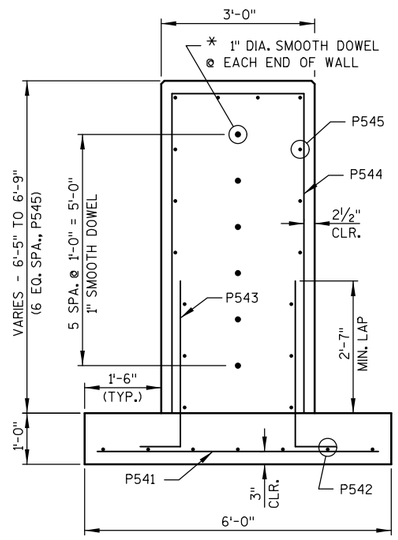


END SECTION PLAN

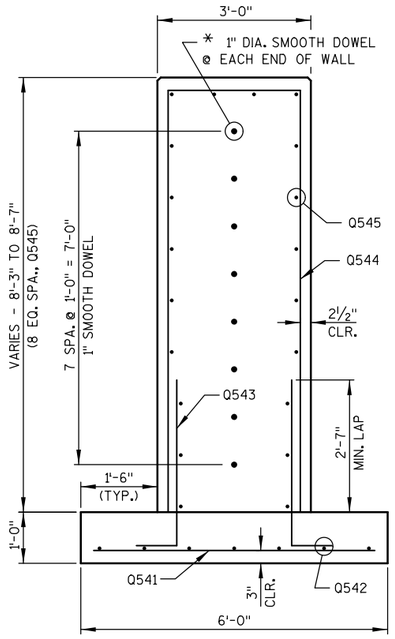


TYPICAL PIER BARRIER WALL ELEVATION

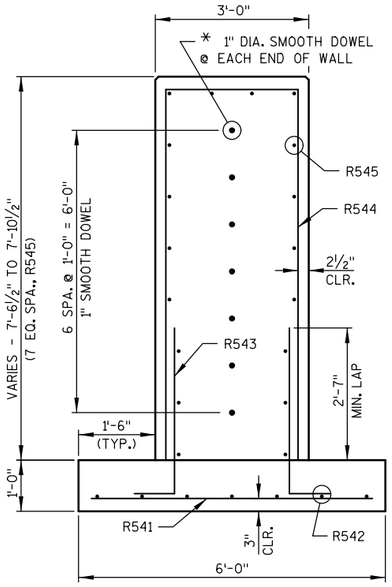
(LOOKING EAST)



TYPICAL BARRIER WALL SECTION - PIER 1



TYPICAL BARRIER WALL SECTION - PIER 2



TYPICAL BARRIER WALL SECTION - PIER 3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

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PIER BARRIER WALL

SHEET 21 OF 35

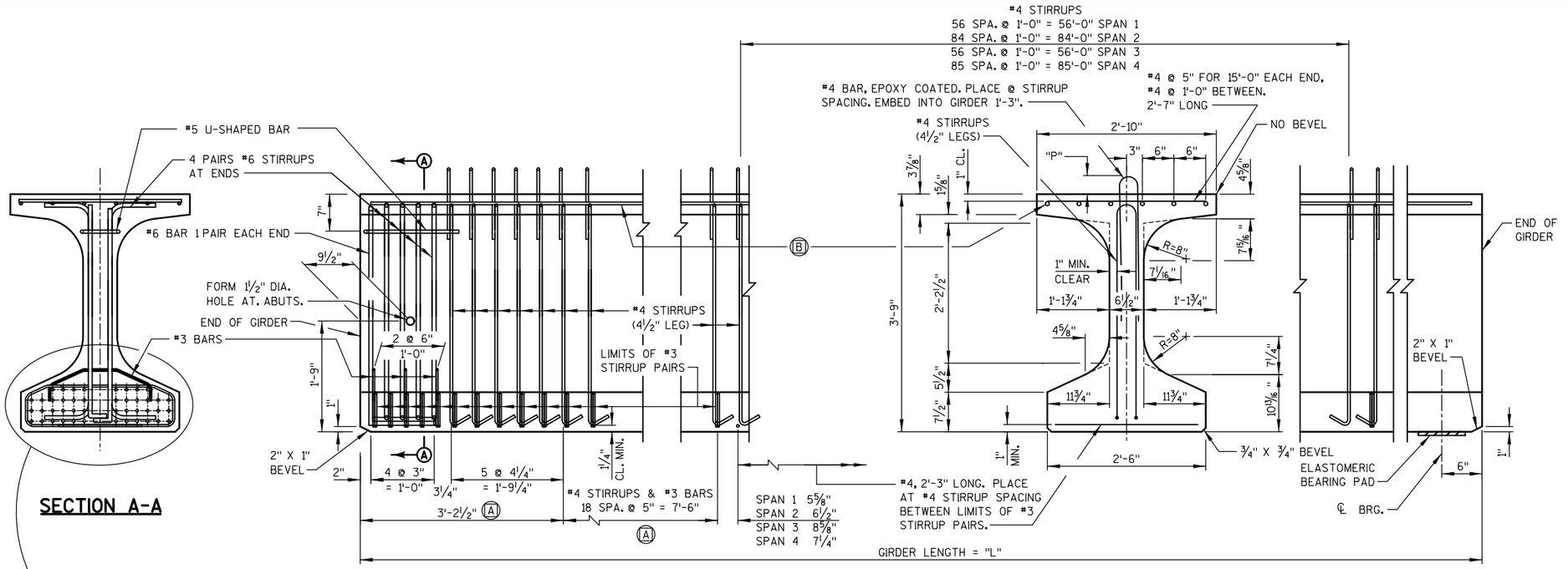
1666

8

8

STATE PROJECT NUMBER

1133-09-74

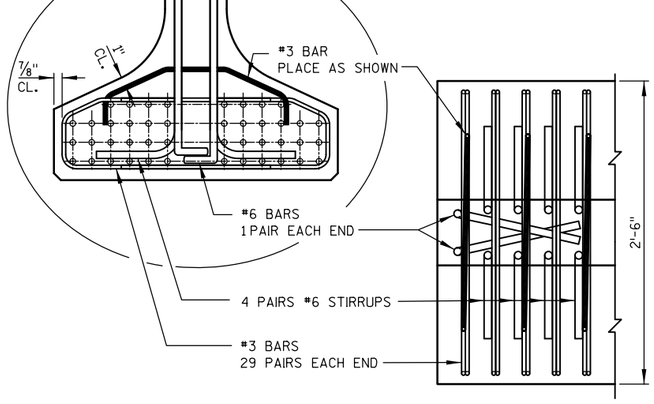


SECTION A-A

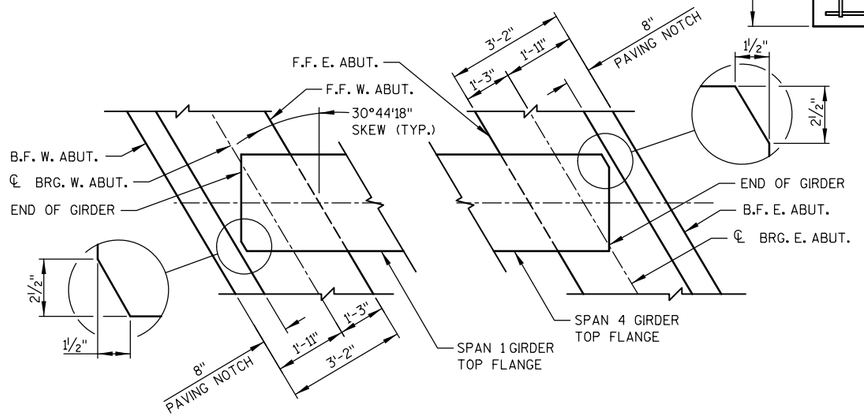
SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END.

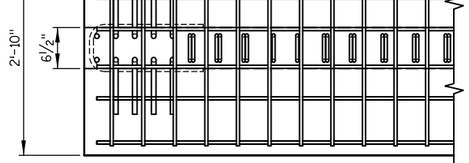
Ⓑ SPAN 1, 3: 6 #5 BARS, FULL LENGTH, MIN. LAP = 2'-5"
SPAN 2, 4: 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"



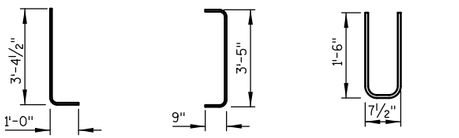
BOTTOM FLANGE



TOP FLANGE FORM-OUT REQUIREMENTS



TOP FLANGE



GIRDER NOTES

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

PRESTRESSING STRANDS SHALL BE 0.6"Φ - 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER.

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, THE FOLLOWING OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT CHIEF, (608) 266-5161.

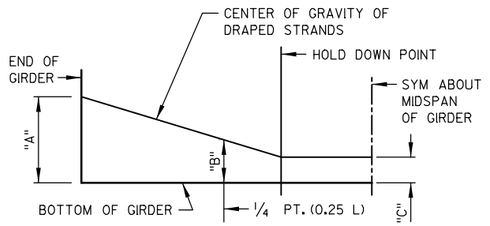
FORM-OUT CORNER OF TOP FLANGE AT ABUTMENTS TO MEET CLEARANCE REQUIREMENTS. SEE DETAIL THIS SHEET.

*MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (P.S.I.)	"P" (IN.) 1ST 1/3 OF GIRDER	"P" (IN.) MID 1/3 OF GIRDER	"P" (IN.) END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	ALL	78'-4½"	0.2	0.5	0.7	0.8	0.9	0.8	0.7	0.5	0.2	8000	8	8	8	0.60							18	6800
2	ALL	106'-6"	0.8	1.5	2.1	2.5	2.6	2.5	2.1	1.5	0.8	8000	8	8	8	0.60	32	6800	40.0	13.75	16.75	5.0		
3	ALL	78'-10⅜"	0.2	0.5	0.7	0.8	0.9	0.8	0.7	0.5	0.2	8000	8	8	8	0.60							18	6800
4	ALL	107'-7½"	0.8	1.6	2.2	2.6	2.8	2.6	2.2	1.6	0.8	8000	8	8	8	0.60	36	6800	40.0	13.75	16.75	5.0		

DRAPED STRAND PROFILE



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

45W" PRESTRESSED GIRDER

SHEET 22 OF 35
1667

8

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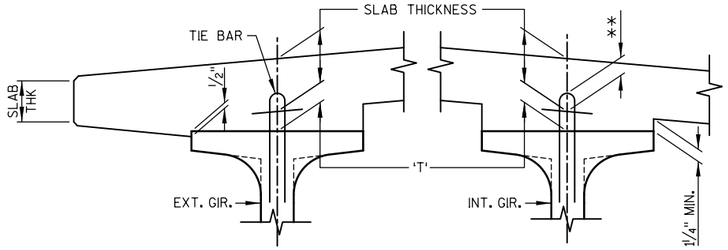
STATE PROJECT NUMBER

1133-09-74



SLAB HAUNCH DETAIL

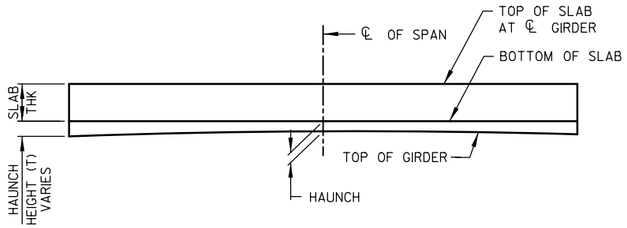
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
\- TOP OF GIRDER ELEVATION
\+ DEAD LOAD DEFLECTION
\- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3½" WAS USED IN THE QUANTITY "HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES".



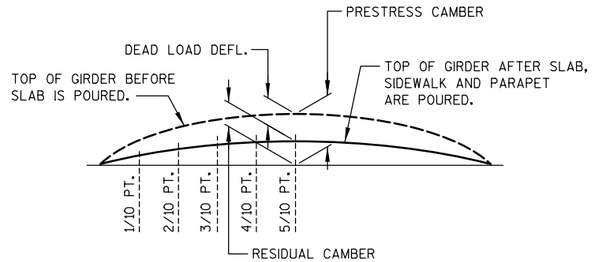
ELEVATION

* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

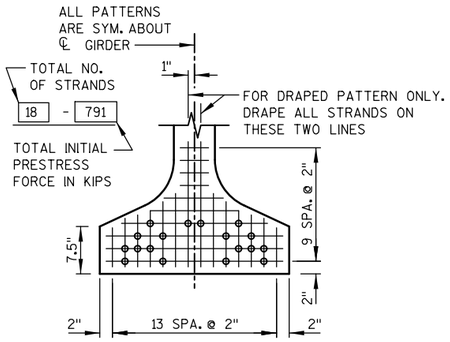
SPAN	CAMBER (IN.) *
1	1.08
2	3.04
3	1.09
4	3.72

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

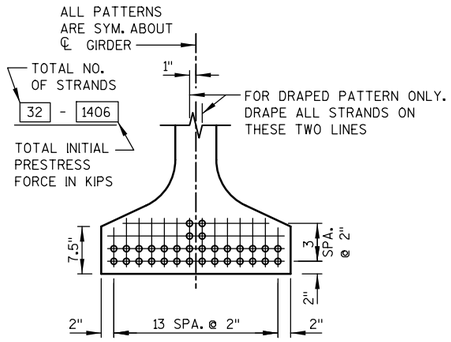


CAMBER AND DEFLECTION DIAGRAM



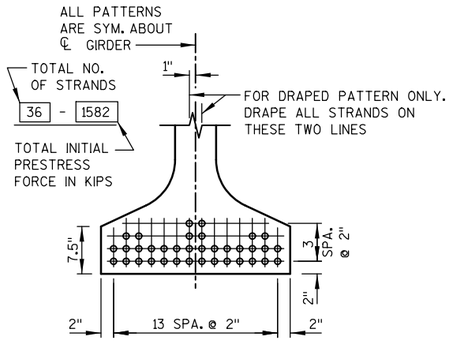
TYP. STRAND PATTERN

(SPANS 1& 3)



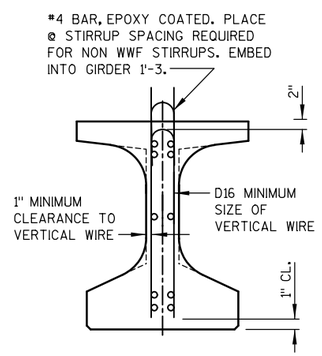
TYP. STRAND PATTERN

(SPAN 2)



TYP. STRAND PATTERN

(SPAN 4)



SECTION THRU GIRDER

SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

45W" PRESTRESSED GIRDER DETAILS

SHEET 23 OF 35
1668

STATE PROJECT NUMBER

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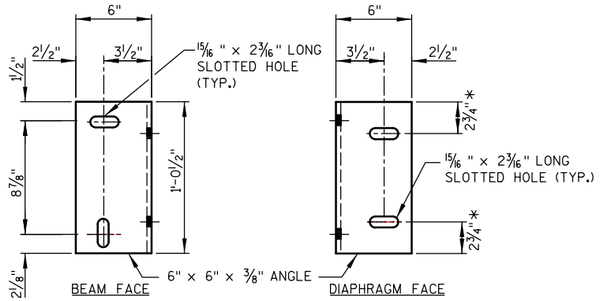
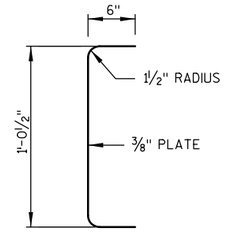
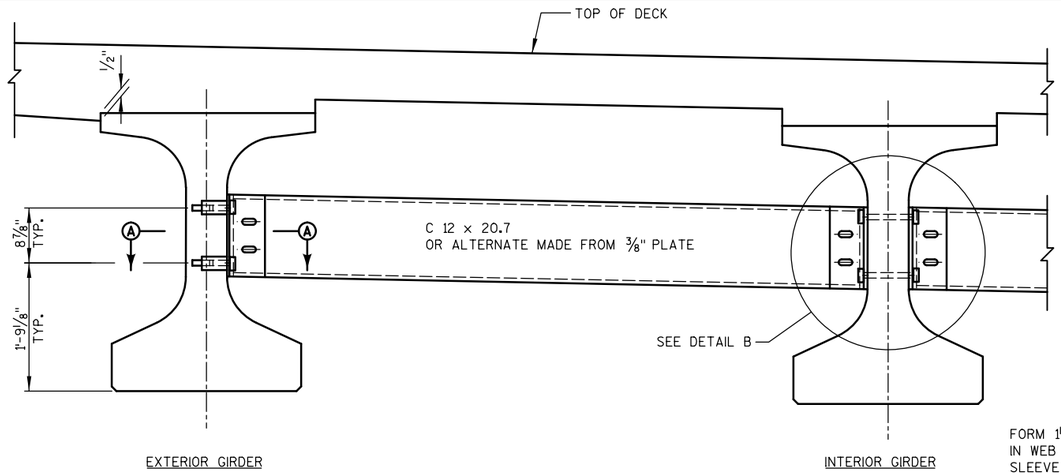


DIAPHRAGM SUPPORT

* 2½" FOR ALTERNATE PLATE DIAPHRAGM



SECTION THRU ALTERNATE DIAPHRAGM



PART TRANSVERSE SECTION AT DIAPHRAGM

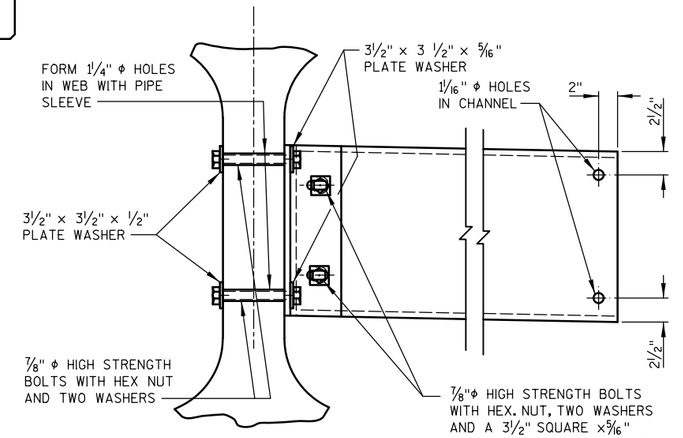
NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-5-611", EACH.

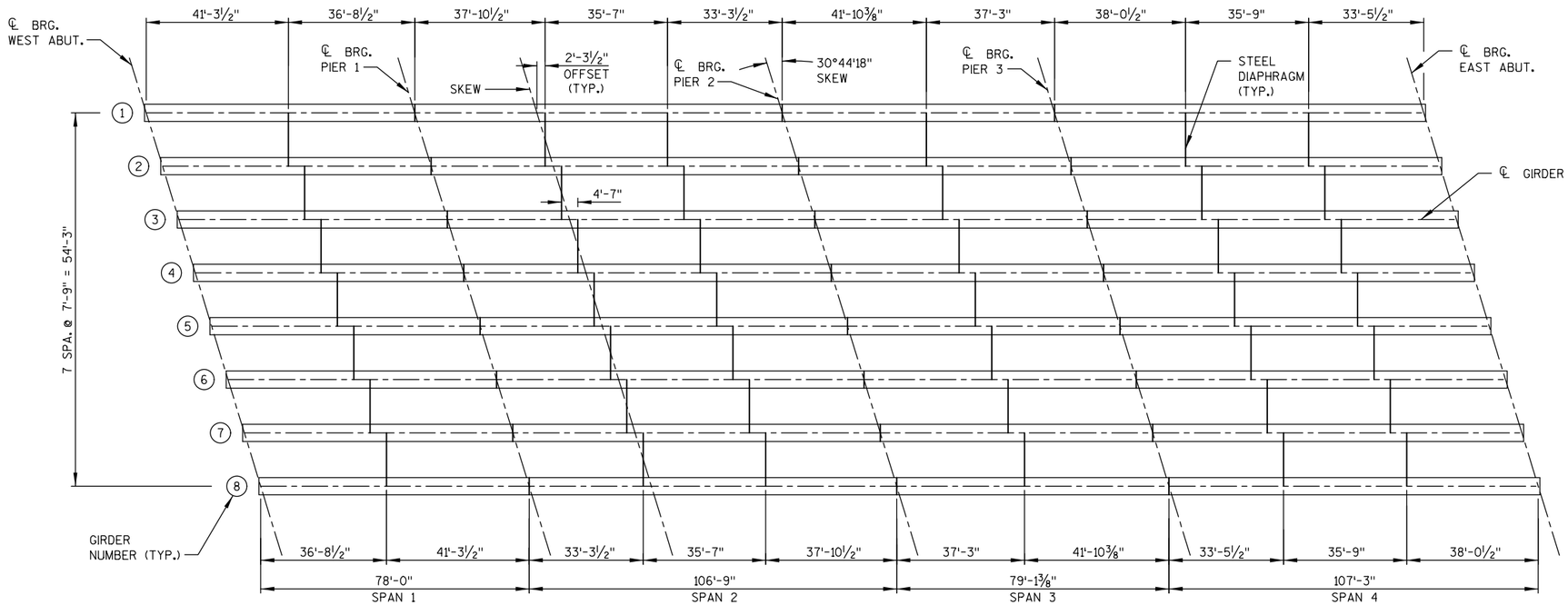
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.



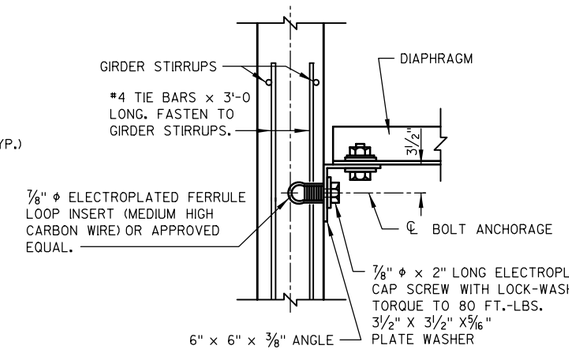
(FOR STAGGERED DIAPHRAGM)



FRAMING PLAN

(SHOWING STEEL DIAPHRAGM LAYOUT)

DETAIL B



SECT. A-A

(FOR EXTERIOR ATTACHMENT)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

STEEL DIAPHRAGM

SHEET 24 OF 35
1669

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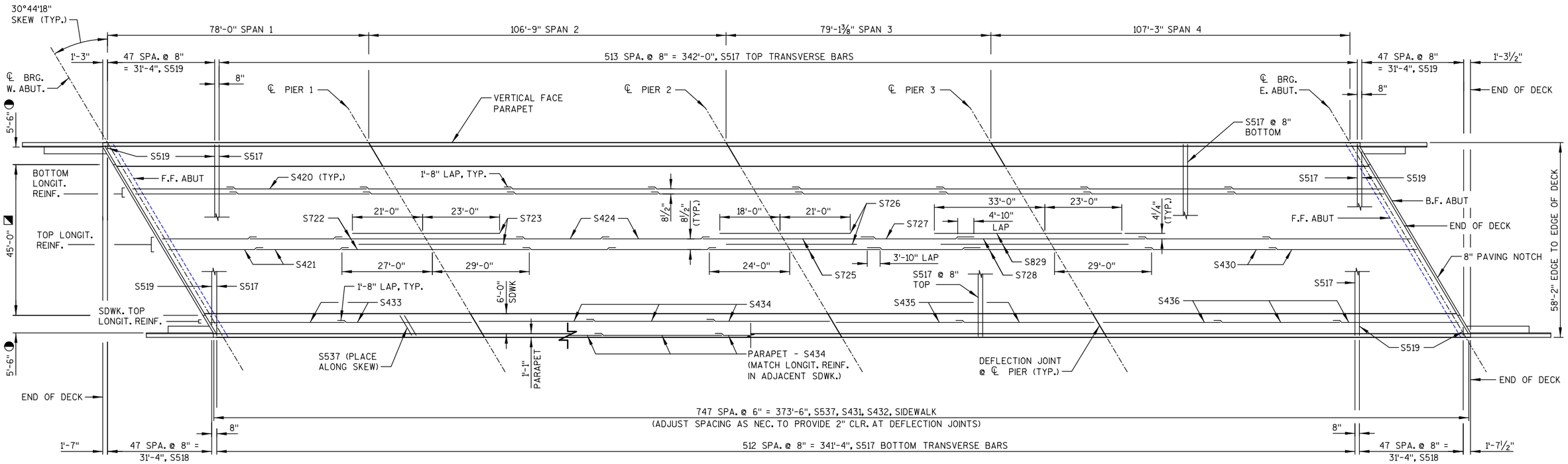
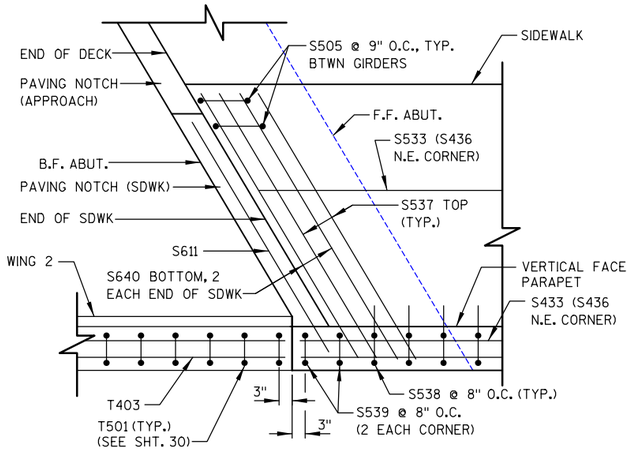
STATE PROJECT NUMBER

1133-09-74

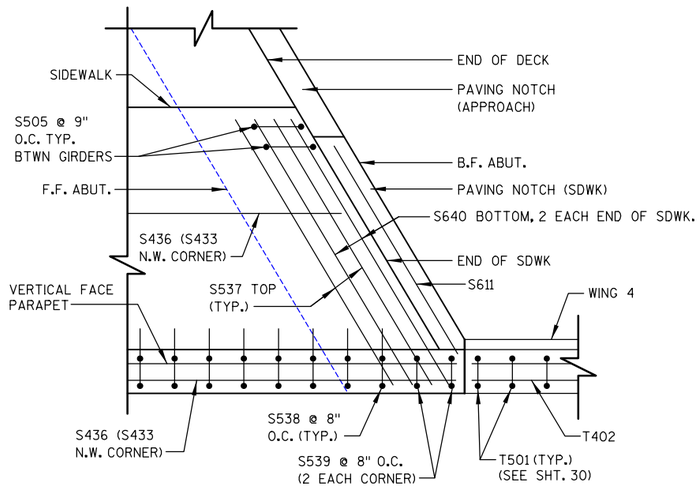


PLAN



SOUTHWEST CORNER DETAIL

(NORTHEAST CORNER SIMILAR)



SOUTHEAST CORNER DETAIL

(NORTHWEST CORNER SIMILAR)

LEGEND

◑ LIMITS OF 8" WIDE X 6" MIN. DEEP SIDEWALK PAVING NOTCH (TYP. BOTH ENDS OF DECK).

◪ LIMITS OF 8" WIDE X 1'-0" DEEP PAVING NOTCH (TYP. AT BOTH ENDS OF DECK).

NOTES:

LONGITUDINAL REINFORCING BARS IN PARAPET SHALL MATCH THE LONGITUDINAL REINFORCING BARS IN THE ADJACENT SIDEWALK.

SEE SHEET 28 FOR REINFORCING DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE PLAN

SHEET 25 OF 35

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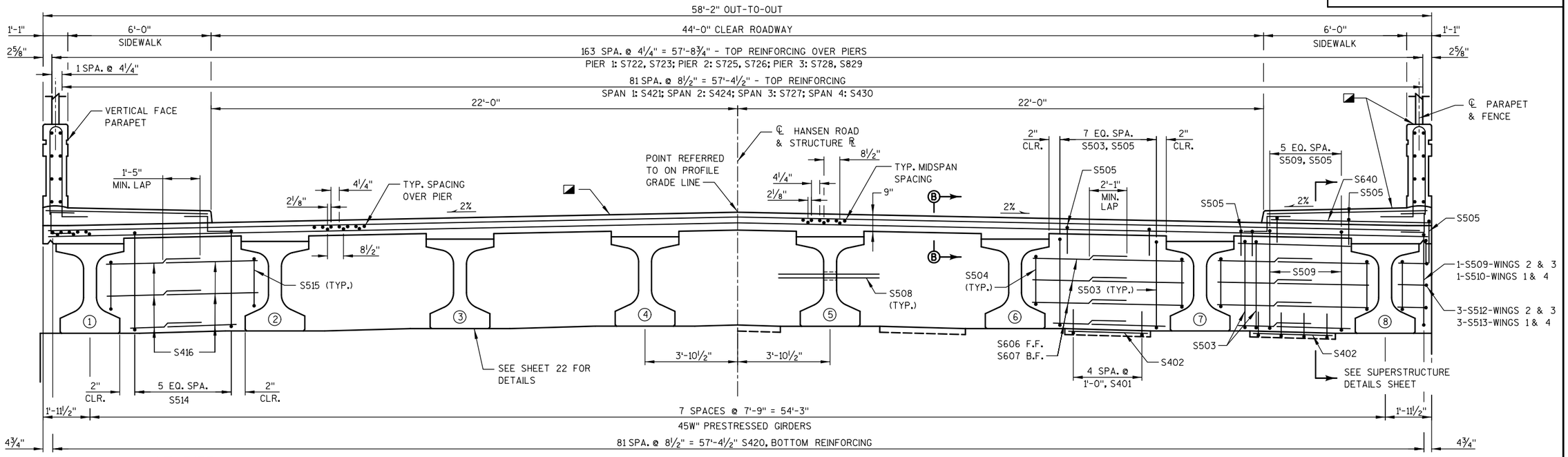
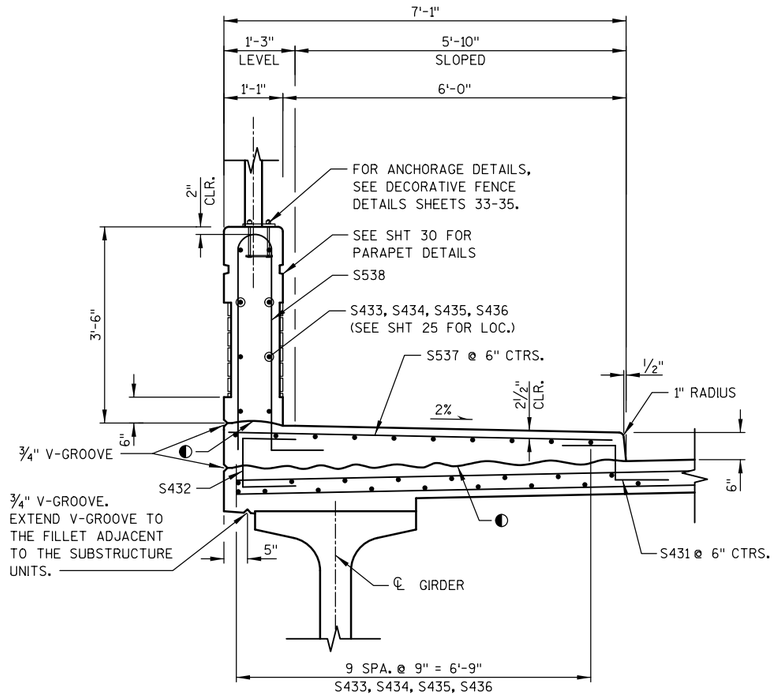
STATE PROJECT NUMBER

1133-09-74



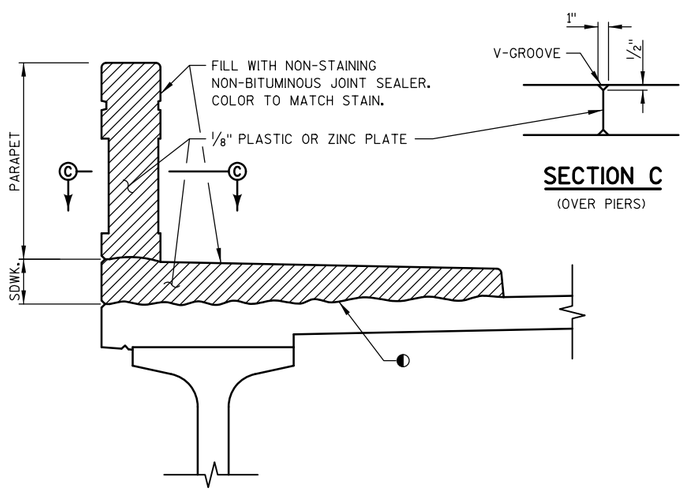
AT PIER



SIDEWALK AND PARAPET DETAIL

CROSS SECTION THRU SUPERSTRUCTURE

(LOOKING EAST)



SECTION C

(OVER PIERS)

DEFLECTION JOINT DETAIL

NOTES:

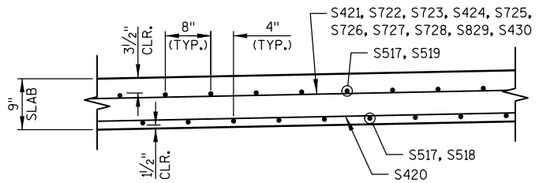
WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF ⅛" ZINC OR PLASTIC PLATE CUT AS SHOWN IN THE "DEFLECTION JOINT DETAIL". IF CONSTRUCTION JOINTS IN PARAPETS ARE USED AT THE DEFLECTION JOINTS, ONE SIDE OF JOINT SHALL BE COATED WITH AN APPROVED LIQUID BOND BREAKER AND PLATE SEPARATORS MAY BE OMITTED.

AT ABUTMENT

LEGEND

◐ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH. FOR DECK POUR, MATCH BRIDGE CROSS SLOPE.

◪ COAT WITH "PROTECTIVE SURFACE TREATMENT" PER THE STANDARD SPECIFICATIONS.



SECTION B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE CROSS SECTION

SHEET 26 OF 35
1671

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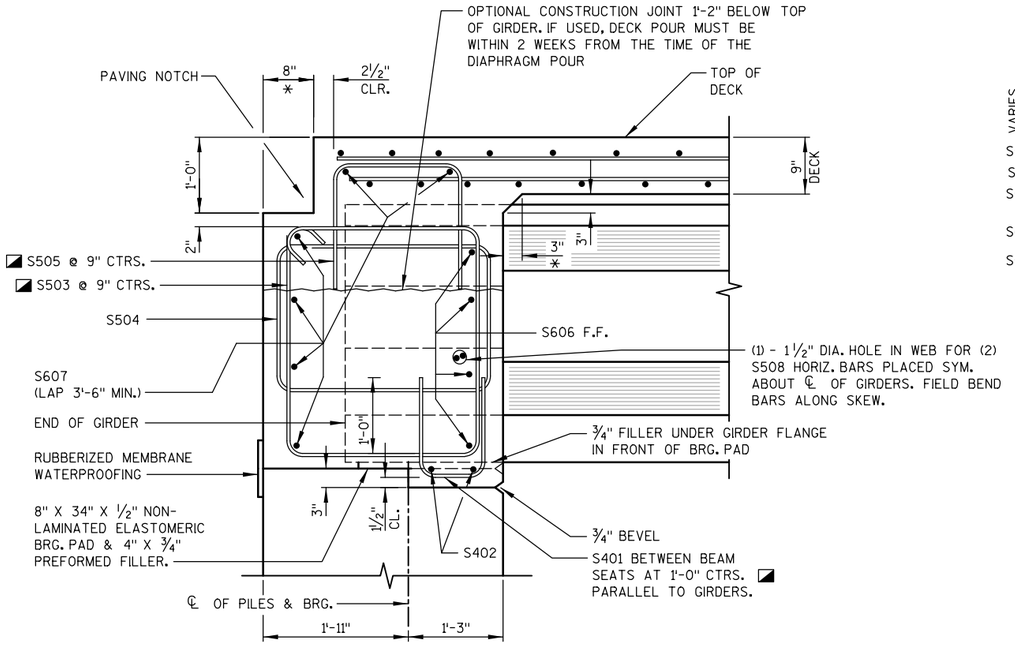
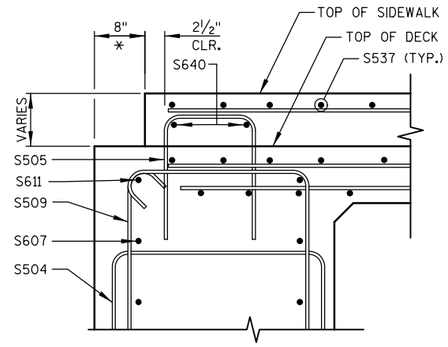
STATE PROJECT NUMBER

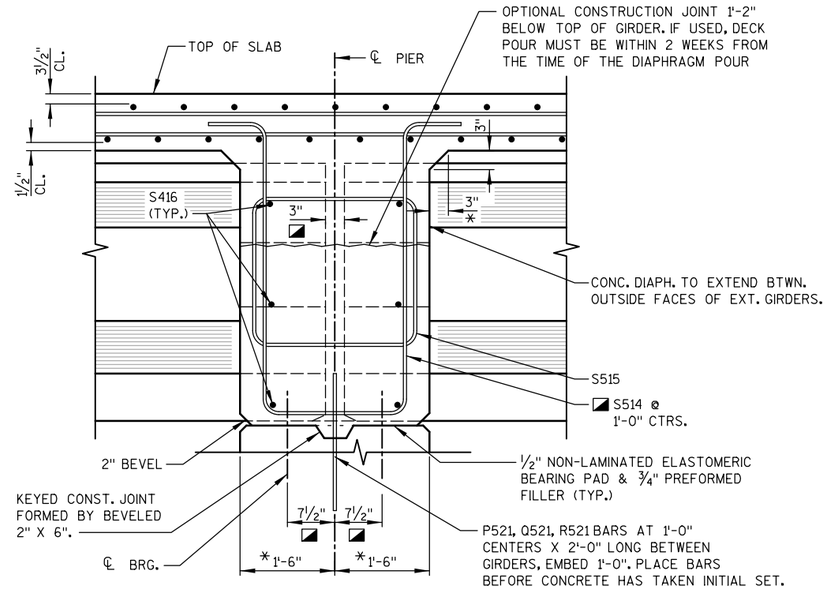
1133-09-74



PRESTRESSED GIRDER WITH SEMI-EXPANSION SEAT AT ABUTMENT



ABUTMENT DIAPHRAGM AT SIDEWALK PAVING NOTCH



DIAPHRAGM AT PIER

LEGEND

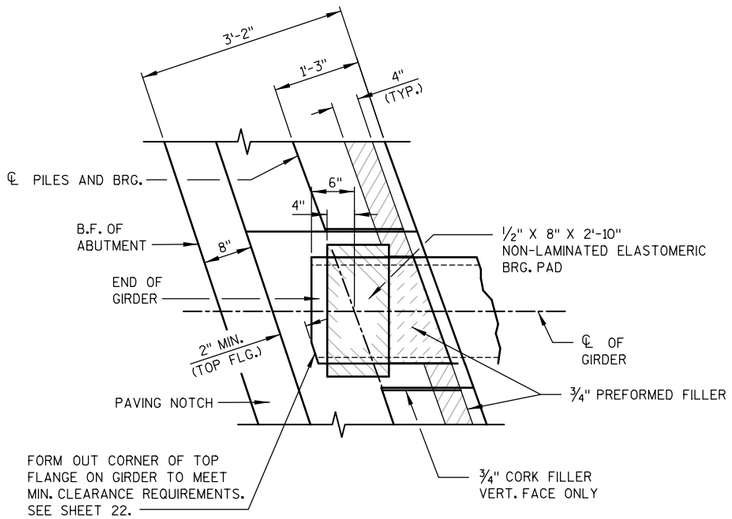
* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

◪ DIMENSION IS TAKEN PARALLEL TO GIRDER.

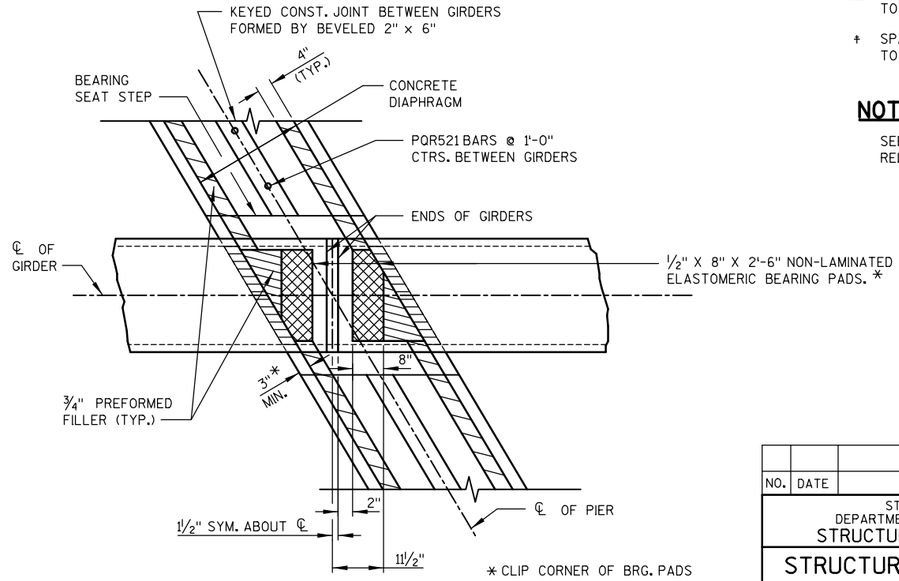
‡ SPACING PERPENDICULAR TO ℄ GIRDERS

NOTES

SEE SHEET 28 FOR REINFORCING DETAILS



BEARING PAD AT ABUTMENT



* CLIP CORNER OF BRG. PADS AS REQUIRED FOR CLEARANCE

BEARING PAD AT PIER

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE DETAILS-1

SHEET 27 OF 35
1672

STATE PROJECT NUMBER

1133-09-74

SUPERSTRUCTURE
BILL OF BARS

COATED: 199,400 LBS.

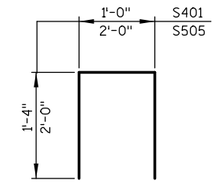
MARK	NO.	LENGTH	BENT	COAT	LOCATION
S401	70	3'-6	X	X	ABUT. DIAPH. - VERT. - BTWN BEAM SEATS
S402	28	4'-7		X	ABUT. DIAPH. - HORIZ. - BTWN BEAM SEATS
S503	88	14'-1	X	X	ABUT. DIAPH. - VERT. - STIRRUPS
S504	32	11'-5	X	X	ABUT. DIAPH. - VERT. - STIRRUPS
S505	116	5'-9	X	X	ABUT. DIAPH. - VERT.
S606	112	5'-1		X	ABUT. DIAPH. - FF - HORIZ.
S607	24	35'-4		X	ABUT. DIAPH. - HORIZ.
S508	32	6'-0		X	ABUT. DIAPH. - HORIZ. - GIRDER ENDS
S509	26	15'-9	X	X	ABUT. DIAPH. - VERT. - STIRRUPS AT SDWK NOTCH
S510	2	14'-3	X	X	ABUT. DIAPH. - VERT. - STIRRUPS AT ENDS
S611	4	6'-3		X	ABUT. DIAPH. - HORIZ. - AT SDWK NOTCH
S512	6	5'-5	X	X	ABUT. DIAPH. - ENDS AT WINGS 1&4 - HORIZ.
S513	6	4'-8	X	X	ABUT. DIAPH. - ENDS AT WINGS 2&3 - HORIZ.
S514	126	12'-0	X	X	PIER DIAPH. - STIRRUP - VERT.
S515	42	9'-9	X	X	PIER DIAPH. - STIRRUP - VERT.
S416	252	4'-9		X	PIER DIAPH. - HORIZ.
S517	1027	57'-10		X	DECK - TRANS. - TOP & BOTTOM
▲ S518	96	28'-6		X	DECK - TRANS. - BOTTOM (SERIES)
▲ S519	96	27'-11		X	DECK - TRANS. - TOP (SERIES)
S420	747	43'-0		X	DECK - LONGIT. - BOTOTM
S421	164	27'-0		X	DECK - LONGIT. - TOP - SPAN 1
S722	82	56'-0		X	DECK - LONGIT. - TOP - OVER PIER 1
S723	82	44'-0		X	DECK - LONGIT. - TOP - OVER PIER 1
S424	164	29'-5		X	DECK - LONGIT. - TOP - SPAN 2
S725	82	49'-0		X	DECK - LONGIT. - TOP - OVER PIER 2
S726	82	39'-0		X	DECK - LONGIT. - TOP - OVER PIER 2
S727	82	33'-10		X	DECK - LONGIT. - TOP - SPAN 3
S728	82	54'-0		X	DECK - LONGIT. - TOP - OVER PIER 3
S829	82	56'-0		X	DECK - LONGIT. - TOP - OVER PIER 3
S430	164	41'-6		X	DECK - LONGIT. - TOP - SPAN 4
S431	1496	2'-7	X	X	DECK & SDWK - VERT.
S432	1496	2'-10	X	X	DECK & SDWK - VERT.
S433	40	40'-9		X	SDWK & PARAPET - LONGIT. - SPAN 1
S434	60	36'-7		X	SDWK & PARAPET - LONGIT. - SPAN 2
S435	40	40'-3		X	SDWK & PARAPET - LONGIT. - SPAN 3
S436	60	37'-6		X	SDWK & PARAPET - LONGIT. - SPAN 4
S537	1496	7'-10		X	SDWK - TRANS.
S538	1112	8'-6	X	X	SDWK & PARAPET - VERT.
S539	8	11'-1	X	X	SDWK & PARAPET - VERT. - EACH END
S640	8	7'-9		X	SDWK - TRANS. - BOTTOM - EACH END

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

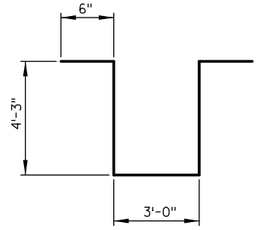
BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY

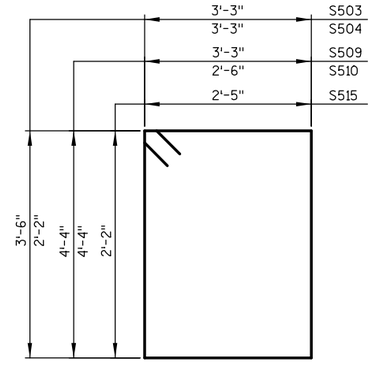
MARK	NO. REQUIRED	LENGTH
S518	2 SERIES OF 48	2'-2" TO 54'-10"
S519	2 SERIES OF 48	1'-7" TO 54'-3"



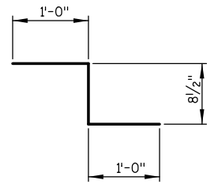
S401, S505



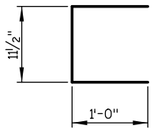
S514



S503, S504, S509, S510, S515



S431



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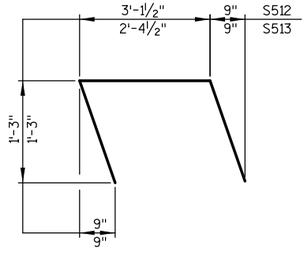
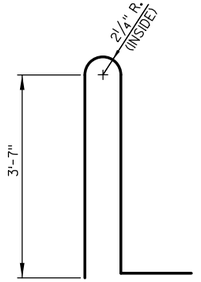
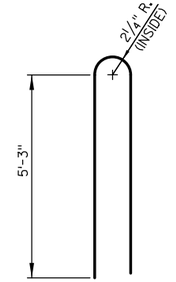


S512, S513



S538



S539

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE REINFORCING

SHEET 28 OF 35

1673

8

8

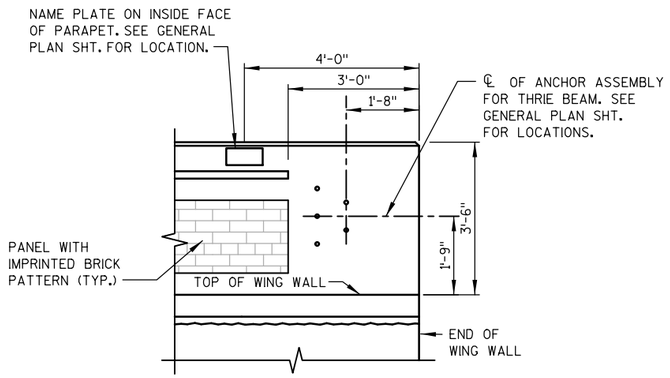
STATE PROJECT NUMBER

1133-09-74

TOP OF DECK ELEVATIONS AT ℄ GIRDER

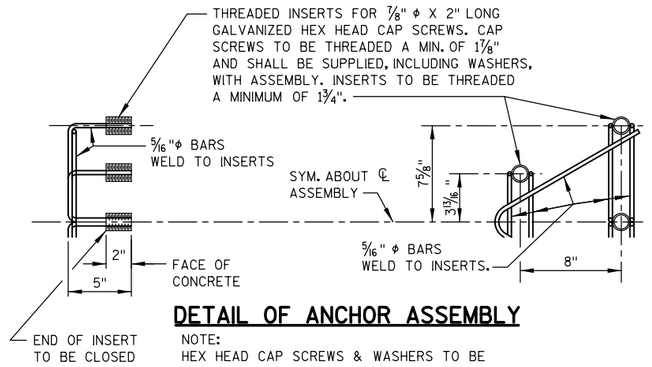
LOCATION	N. EDGE OF DECK 29'-1" LT		GIRDER NUMBER 1 27' - 1 1/2" LT		2 19' - 4 1/2" LT		3 11' - 7 1/2" LT		4 3' - 10 1/2" LT		CROWN CL		5 3' - 10 1/2" RT		6 11' - 7 1/2" RT		7 19' - 4 1/2" RT		8 27' - 1 1/2" RT		S. EDGE OF DECK 29'-1 RT	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
CL BRG WEST	397+62.77	641.10	397+63.93	641.10	397+68.54	641.10	397+73.15	641.10	397+77.76	641.10	397+80.06	641.10	397+82.36	640.94	397+86.97	640.63	397+91.58	640.32	397+96.19	640.01	397+97.35	639.93
0.1 L POINT	397+70.57	640.83	397+71.73	640.83	397+76.34	640.83	397+80.95	640.83	397+85.56	640.83	397+87.86	640.83	397+90.16	640.68	397+94.77	640.37	397+99.38	640.06	398+03.99	639.75	398+05.15	639.67
0.2 L POINT	397+78.37	640.57	397+79.53	640.57	397+84.14	640.57	397+88.75	640.57	397+93.36	640.57	397+95.66	640.57	397+97.96	640.41	398+02.57	640.10	398+07.18	639.79	398+11.79	639.48	398+12.95	639.41
0.3 L POINT	397+86.17	640.31	397+87.33	640.31	397+91.94	640.31	397+96.55	640.31	398+01.16	640.31	398+03.46	640.31	398+05.76	640.15	398+10.37	639.84	398+14.98	639.53	398+19.59	639.22	398+20.75	639.14
0.4 L POINT	397+93.97	640.05	397+95.13	640.05	397+99.74	640.05	398+04.35	640.04	398+08.96	640.04	398+11.26	640.04	398+13.56	639.89	398+18.17	639.58	398+22.78	639.27	398+27.39	638.96	398+28.55	638.88
0.5 L POINT	398+01.77	639.78	398+02.93	639.78	398+07.54	639.78	398+12.15	639.78	398+16.76	639.78	398+19.06	639.78	398+21.36	639.63	398+25.97	639.32	398+30.58	639.01	398+35.19	638.69	398+36.35	638.62
0.6 L POINT	398+09.57	639.52	398+10.73	639.52	398+15.34	639.52	398+19.95	639.52	398+24.56	639.52	398+26.86	639.52	398+29.16	639.36	398+33.77	639.05	398+38.38	638.74	398+42.99	638.43	398+44.15	638.35
0.7 L POINT	398+17.37	639.26	398+18.53	639.26	398+23.14	639.26	398+27.75	639.26	398+32.36	639.26	398+34.66	639.26	398+36.96	639.10	398+41.57	638.79	398+46.18	638.48	398+50.79	638.17	398+51.95	638.09
0.8 L POINT	398+25.17	638.99	398+26.33	638.99	398+30.94	638.99	398+35.55	638.99	398+40.16	638.99	398+42.46	638.99	398+44.76	638.84	398+49.37	638.53	398+53.98	638.22	398+58.59	637.91	398+59.75	637.83
0.9 L POINT	398+32.97	638.73	398+34.13	638.73	398+38.74	638.73	398+43.35	638.73	398+47.96	638.73	398+50.26	638.73	398+52.56	638.57	398+57.17	638.26	398+61.78	637.95	398+66.39	637.64	398+67.55	637.56
CL PIER 1	398+40.77	638.47	398+41.93	638.47	398+46.54	638.47	398+51.15	638.47	398+55.76	638.47	398+58.06	638.47	398+60.36	638.31	398+64.97	638.00	398+69.58	637.69	398+74.19	637.38	398+75.35	637.30
0.1 L POINT	398+51.44	638.11	398+52.60	638.11	398+57.21	638.11	398+61.82	638.11	398+66.43	638.11	398+68.74	638.11	398+71.04	637.95	398+75.65	637.64	398+80.26	637.33	398+84.87	637.02	398+86.03	636.94
0.2 L POINT	398+62.12	637.75	398+63.28	637.75	398+67.89	637.75	398+72.50	637.75	398+77.11	637.75	398+79.41	637.75	398+81.71	637.59	398+86.32	637.28	398+90.93	636.97	398+95.54	636.66	398+96.70	636.58
0.3 L POINT	398+72.79	637.39	398+73.95	637.39	398+78.56	637.39	398+83.17	637.39	398+87.78	637.39	398+90.09	637.39	398+92.39	637.23	398+97.00	636.92	399+01.61	636.61	399+06.22	636.30	399+07.38	636.22
0.4 L POINT	398+83.47	637.03	398+84.63	637.03	398+89.24	637.03	398+93.85	637.03	398+98.46	637.03	399+00.76	637.03	399+03.06	636.87	399+07.67	636.56	399+12.28	636.25	399+16.89	635.94	399+18.05	635.86
0.5 L POINT	398+94.14	636.67	398+95.30	636.67	398+99.91	636.67	399+04.52	636.67	399+09.13	636.67	399+11.44	636.67	399+13.74	636.51	399+18.35	636.20	399+22.96	635.89	399+27.57	635.58	399+28.73	635.50
0.6 L POINT	399+04.82	636.31	399+05.98	636.31	399+10.59	636.31	399+15.20	636.31	399+19.81	636.31	399+22.11	636.31	399+24.41	636.15	399+29.02	635.84	399+33.63	635.53	399+38.24	635.22	399+39.40	635.14
0.7 L POINT	399+15.49	635.95	399+16.65	635.95	399+21.26	635.95	399+25.87	635.95	399+30.48	635.95	399+32.79	635.95	399+35.09	635.79	399+39.70	635.48	399+44.31	635.17	399+48.92	634.86	399+50.08	634.78
0.8 L POINT	399+26.17	635.59	399+27.33	635.59	399+31.94	635.59	399+36.55	635.59	399+41.16	635.59	399+43.46	635.59	399+45.76	635.43	399+50.37	635.12	399+54.98	634.81	399+59.59	634.50	399+60.75	634.42
0.9 L POINT	399+36.84	635.23	399+38.00	635.23	399+42.61	635.23	399+47.22	635.23	399+51.83	635.23	399+54.14	635.23	399+56.44	635.07	399+61.05	634.76	399+65.66	634.45	399+70.27	634.14	399+71.43	634.06
CL PIER 2	399+47.52	634.87	399+48.68	634.87	399+53.29	634.87	399+57.90	634.87	399+62.51	634.87	399+64.81	634.87	399+67.11	634.71	399+71.72	634.40	399+76.33	634.09	399+80.94	633.78	399+82.10	633.70
0.1 L POINT	399+55.43	634.60	399+56.59	634.60	399+61.20	634.60	399+65.81	634.60	399+70.42	634.60	399+72.72	634.60	399+75.03	634.44	399+79.63	634.13	399+84.24	633.82	399+88.85	633.51	399+90.02	633.43
0.2 L POINT	399+63.34	634.33	399+64.50	634.33	399+69.11	634.33	399+73.72	634.33	399+78.33	634.33	399+80.63	634.33	399+82.94	634.18	399+87.54	633.87	399+92.15	633.56	399+96.76	633.25	399+97.93	633.17
0.3 L POINT	399+71.25	634.07	399+72.41	634.07	399+77.02	634.07	399+81.63	634.07	399+86.24	634.07	399+88.54	634.07	399+90.85	633.91	399+95.46	633.60	400+00.06	633.29	400+04.67	632.98	400+05.84	632.90
0.4 L POINT	399+79.16	633.80	399+80.32	633.80	399+84.93	633.80	399+89.54	633.80	399+94.15	633.80	399+96.45	633.80	399+98.76	633.64	400+03.37	633.33	400+07.98	633.02	400+12.58	632.71	400+13.75	632.63
0.5 L POINT	399+87.07	633.53	399+88.23	633.53	399+92.84	633.53	399+97.45	633.53	400+02.06	633.53	400+04.37	633.53	400+06.67	633.38	400+11.28	633.07	400+15.89	632.76	400+20.50	632.45	400+21.66	632.37
0.6 L POINT	399+94.98	633.27	399+96.14	633.27	400+00.75	633.27	400+05.36	633.27	400+09.97	633.27	400+12.28	633.27	400+14.58	633.11	400+19.19	632.80	400+23.80	632.49	400+28.41	632.18	400+29.57	632.10
0.7 L POINT	400+02.89	633.00	400+04.05	633.00	400+08.67	633.00	400+13.27	633.00	400+17.88	633.00	400+20.19	633.00	400+22.49	632.84	400+27.10	632.53	400+31.71	632.22	400+36.32	631.91	400+37.48	631.83
0.8 L POINT	400+10.80	632.73	400+11.96	632.73	400+16.58	632.73	400+21.19	632.73	400+25.79	632.73	400+28.10	632.73	400+30.40	632.58	400+35.01	632.27	400+39.62	631.96	400+44.23	631.65	400+45.39	631.57
0.9 L POINT	400+18.71	632.47	400+19.88	632.47	400+24.49	632.47	400+29.10	632.47	400+33.70	632.47	400+36.01	632.47	400+38.31	632.31	400+42.92	632.00	400+47.53	631.69	400+52.14	631.38	400+53.30	631.30
CL PIER 3	400+26.63	632.20	400+27.79	632.20	400+32.40	632.20	400+37.01	632.20	400+41.62	632.20	400+43.92	632.20	400+46.22	632.04	400+50.83	631.73	400+55.44	631.42	400+60.05	631.11	400+61.21	631.03
0.1 L POINT	400+37.35	631.84	400+38.51	631.84	400+43.12	631.84	400+47.73	631.84	400+52.34	631.84	400+54.65	631.84	400+56.95	631.68	400+61.56	631.37	400+66.17	631.06	400+70.78	630.75	400+71.94	630.67
0.2 L POINT	400+48.08	631.48	400+49.24	631.48	400+53.85	631.48	400+58.46	631.48	400+63.07	631.48	400+65.37	631.48	400+67.67	631.32	400+72.28	631.01	400+76.89	630.70	400+81.50	630.39	400+82.66	630.31
0.3 L POINT	400+58.80	631.12	400+59.96	631.12	400+64.57	631.11	400+69.18	631.11	400+73.79	631.11	400+76.10	631.11	400+78.40	630.96	400+83.01	630.65	400+87.62	630.34	400+92.23	630.03	400+93.39	629.95
0.4 L POINT	400+69.53	630.75	400+70.69	630.75	400+75.30	630.75	400+79.91	630.75	400+84.52	630.75	400+86.82	630.75	400+89.12	630.60	400+93.73	630.29	400+98.34	629.98	401+02.95	629.67	401+04.11	629.59
0.5 L POINT	400+80.25	630.39	400+81.41	630.39	400+86.02	630.39	400+90.63	630.39	400+95.24	630.39	400+97.55	630.39	400+99.85	630.24	401+04.46	629.92	401+09.07	629.61	401+13.68	629.30	401+14.84	629.23
0.6 L POINT	400+90.98	630.03	400+92.14	630.03	400+96.75	630.03	401+01.36	630.03	401+05.97	630.03	401+08.27	630.03	401+10.57	629.87	401+15.18	629.56	401+19.79	629.25	401+24.40	628.94	401+25.56	628.86
0.7 L POINT	401+01.70	629.67	401+02.86	629.67	401+07.47	629.67	401+12.08	629.67	401+16.69	629.67	401+19.00	629.67	401+21.30	629.51	401+25.91	629.20	401+30.52	628.89	401+35.13	628.58	401+36.29	628.50
0.8 L POINT	401+12.43	629.31	401+13.59	629.31	401+18.20	629.31	401+22.81	629.31	401+27.42	629.31	401+29.72	629.31	401+32.02	629.15	401+36.63	628.84	401+41.24	628.53	401+45.85	628.22	401+47.01	628.14
0.9 L POINT	401+23.15	628.95	401+24.31	628.95	401+28.92	628.95	401+33.53	628.94	401+38.14	628.94	401+40.45	628.94	401+42.75	628.79	401+47.36	628.48	401+51.97	628.17	401+56.58	627.86	401+57.74	627.78
CL BRG EAST	401+33.88	628.58	401+35.04	628.58	401+39.65	628.58	401+44.26	628.58	401+48.87	628.58	401+51.17	628.58	401+53.47	628.43	401+58.08	628.12	401+62.69	627.81	401+67.30	627.50	401+68.46	627.42

ELEVATIONS IN TABLE ARE FINISHED GRADE (TOP OF DECK) ELEVATIONS.



INSIDE ELEVATION AT WING WALL

TYP. AT ALL WINGS EXCEPT AS NOTED



DETAIL OF ANCHOR ASSEMBLY

NOTE:
HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY BID ITEM SHALL BE "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

REQUIRED AT END OF EACH WING AND AT NORTH END OF PIER 1 BARRIER WALL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE DETAILS-2

SHEET 29 OF 35

1674

8

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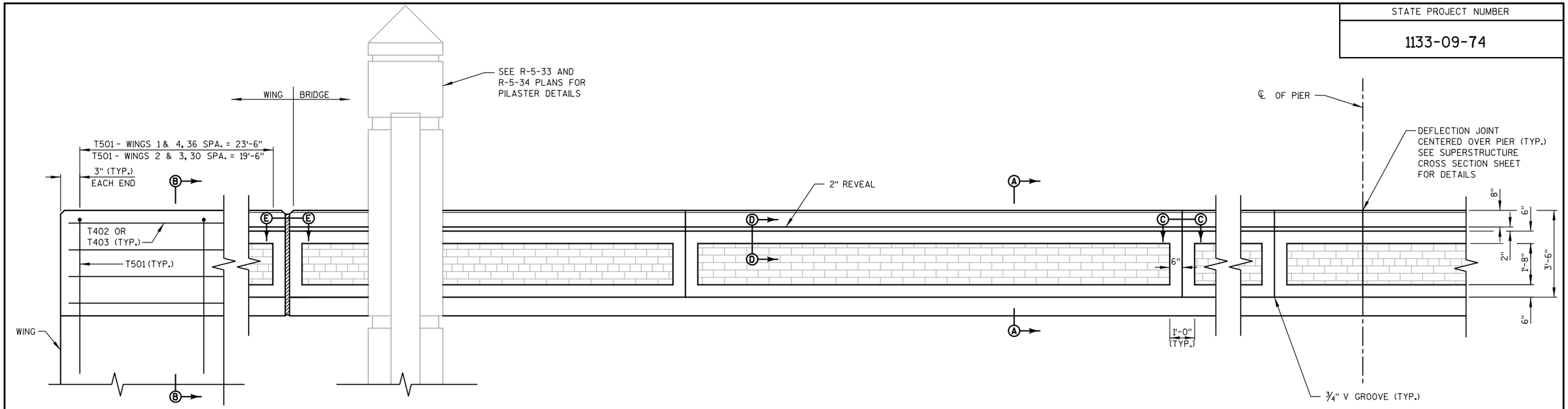
STATE PROJECT NUMBER
1133-09-74

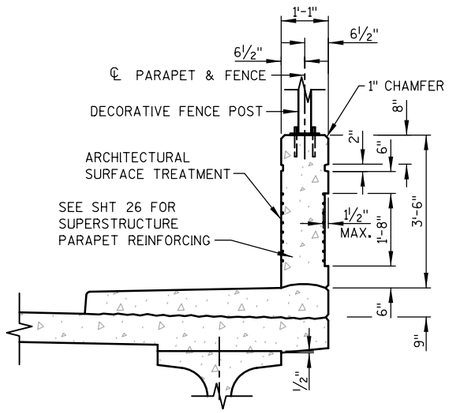


NOTES

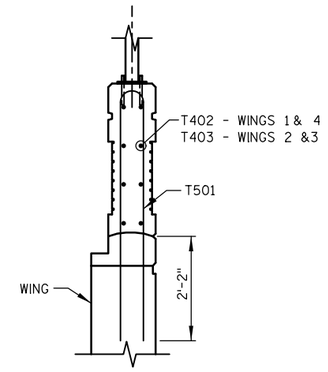
SEE SHEET 31 FOR STAINING SCHEDULE AND NOTES.

OUTSIDE ELEVATION OF 42" PARAPET

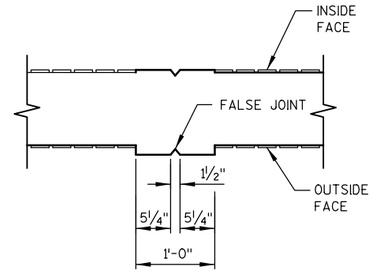
NOTE: FENCE NOT SHOWN. SEE PARAPET AND FENCE LAYOUT SHEET.



SECTION A-A

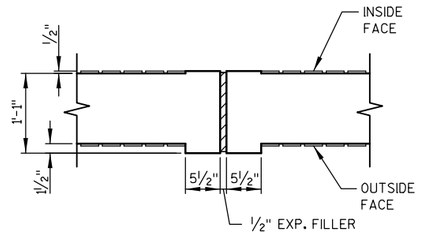


SECTION B-B

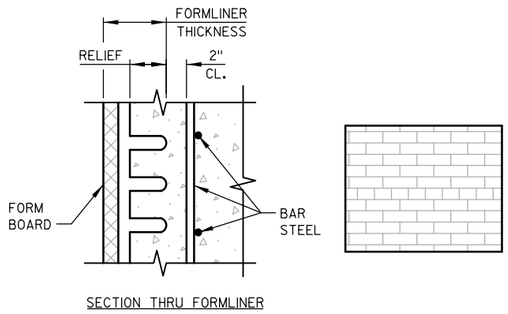


SECTION C-C

(TYPICAL LOCATION)



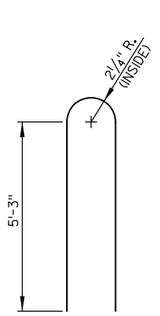
SECTION E-E (EXPANSION JOINT)



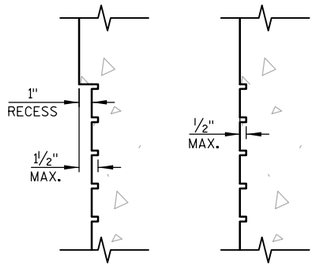
SECTION THRU FORMLINER

ARCHITECTURAL SURFACE TREATMENT RECTANGULAR BRICK

SIZE = 2¼" TO 2⅜" X 7⅝" TO 8"
MAX. RELIEF = ½"

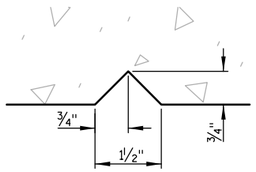


T501

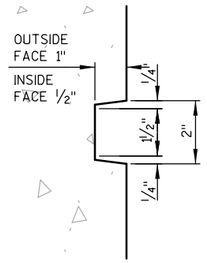


OUTSIDE FACE INSIDE FACE

SECTION AT IMPRINTED BRICK PATTERN



¾" V GROOVE



SECTION D-D

2" X 1" REVEAL

WING WALL PARAPET BILL OF BARS

W. ABUT. COATED: 1,020 LBS.
E. ABUT. COATED: 1,020 LBS.

MARK	W. ABUT.	E. ABUT.	LENGTH	BENT	COAT	LOCATION
T501	68	68	11'-1	X	X	ABUT. PARAPET - VERT.
T402	8	8	23'-6		X	ABUT. PARAPET - WING 1 & 4 - HORIZ.
T403	8	8	19'-6		X	ABUT. PARAPET - WING 2 & 3 - HORIZ.

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STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

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VERTICAL FACE PARAPET

SHEET 30 OF 35
1675

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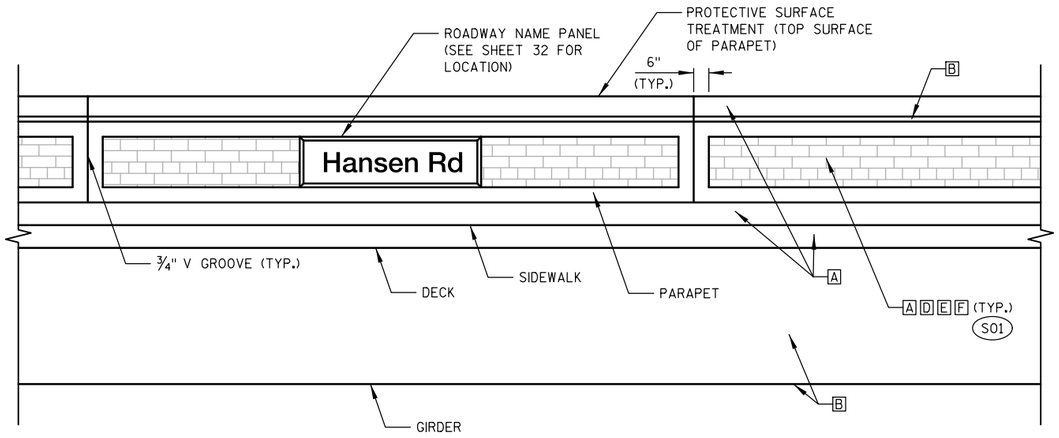
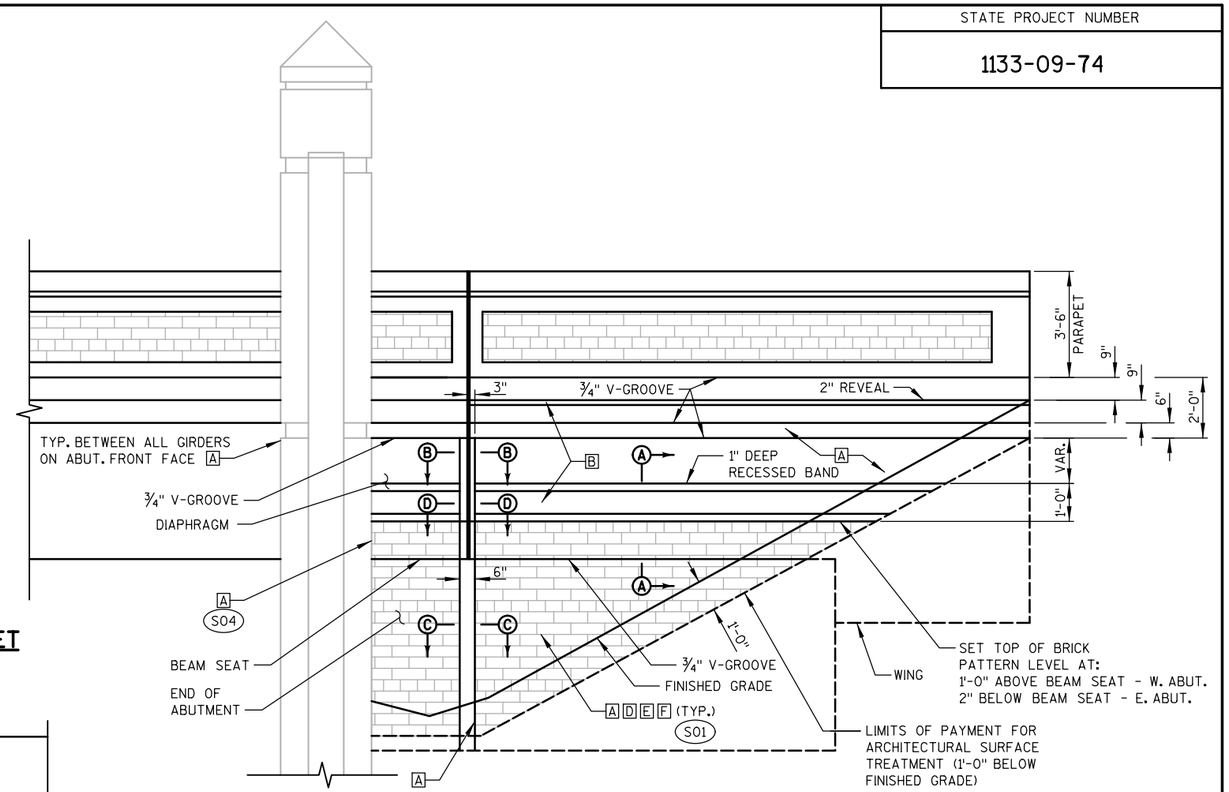


OUTSIDE ELEVATION OF PARAPET

(STAIN INSIDE FACE TO MATCH OUTSIDE)



NOTES

STAIN TO 1'-0" BELOW FINISHED GRADE.

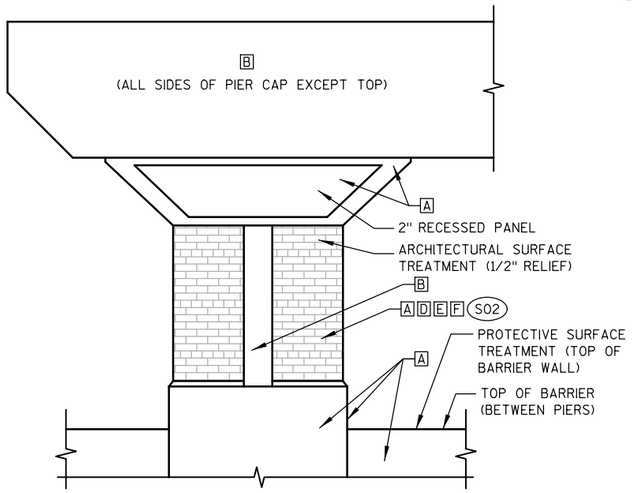
(S01) STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

(S02) THE COST OF BRICK PATTERN FORMLINER TREATMENT IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT." SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

(S03) LETTERING SHALL BE HELVETICA. 8" UPPER CASE AND 6" LOWER CASE.

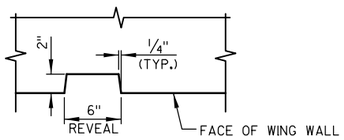
LETTERING IS ONLY ON OUTSIDE FACE OF PARAPET.

(S04) STAIN FRONT FACE OF ABUTMENTS AND END DIAPHRAGMS FROM 1-FOOT BELOW GRADE TO UNDERSIDE OF DECK, INCLUDING END DIAPHRAGM FACE BETWEEN GIRDERS.



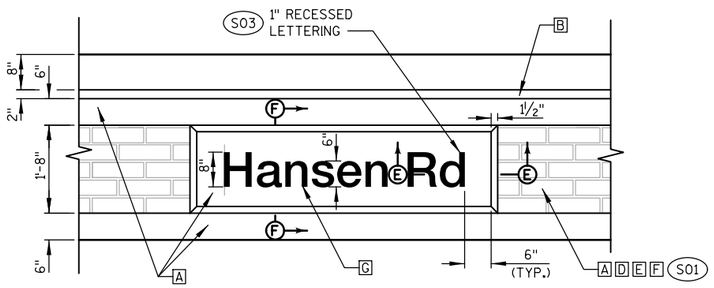
PIER ELEVATION

SECTION A-A



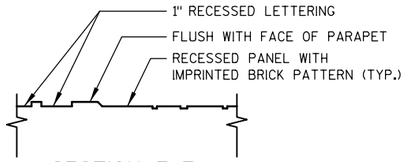
SECTION B-B

(ABOVE BEAM SEAT)

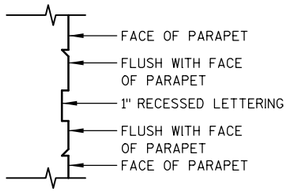


INDENTED TEXT

EXTERIOR FACE OF PARAPET ONLY



SECTION E-E

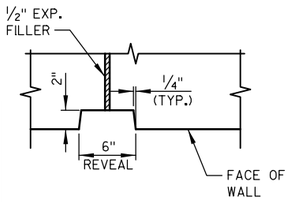


SECTION F-F

CONCRETE STAINING SCHEDULE

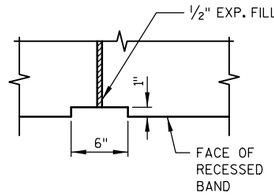
MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, BARRIER WALLS
B	ACCENT COLOR #1	REVEALS, BOTTOM AND OUTSIDE OF EXTERIOR GIRDERS, PIER CAP
C	ACCENT COLOR #2	NOT USED
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	LETTERING AT ROADWAY NAME

SEE SPECIAL PROVISIONS FOR STAIN COLORS.



SECTION C-C

(BELOW BEAM SEAT)



SECTION D-D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

AESTHETIC DETAILS

SHEET 31 OF 35

1676

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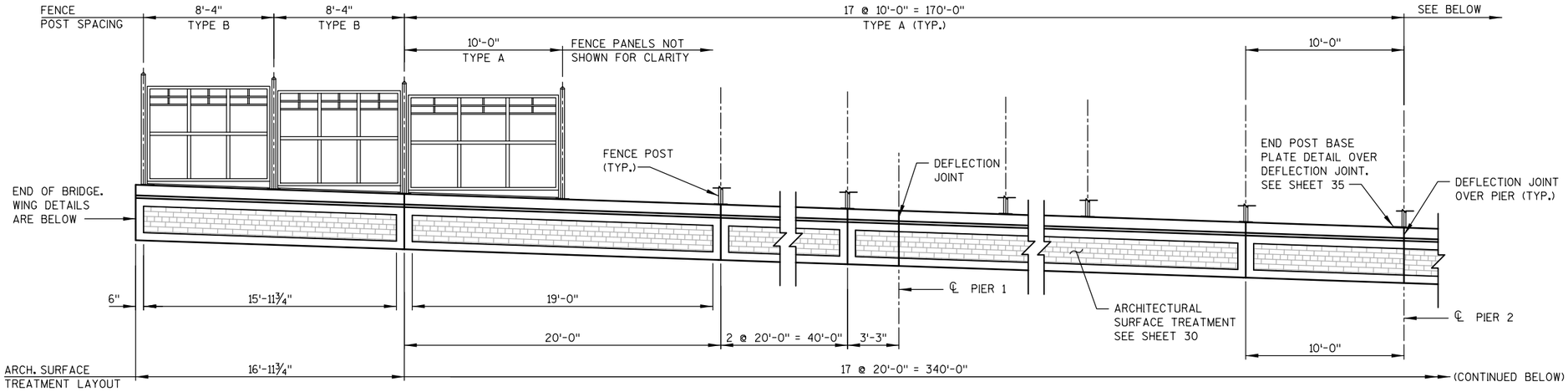
NOTES

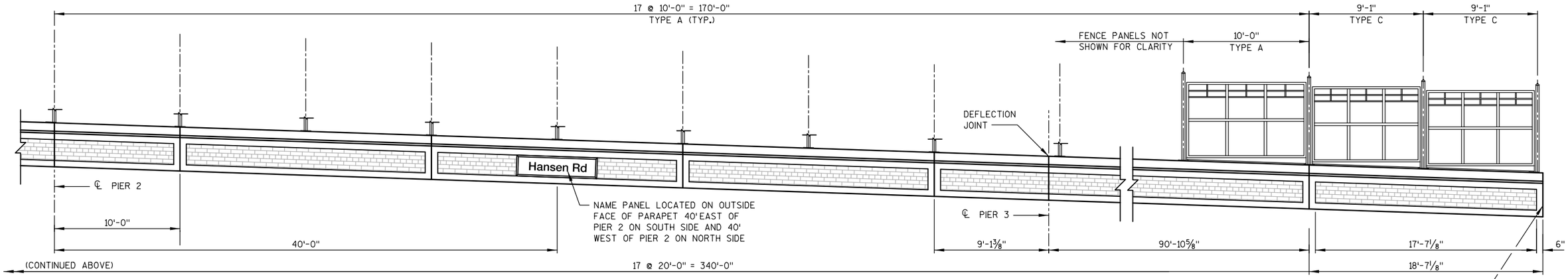
SEE SHEETS 33-35 FOR DECORATIVE FENCE DETAILS.

SEE SHEET 30 FOR VERTICAL FACE PARAPET DETAILS.

SEE SHEET 31 FOR AESTHETIC DETAILS AND CONCRETE STAINING SCHEDULE.

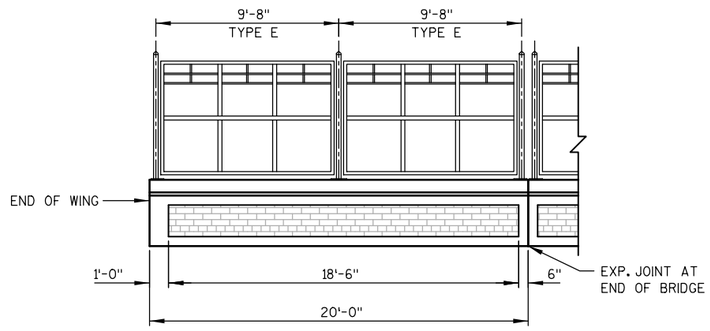
OUTSIDE ELEVATION OF NORTH PARAPET IS SIMILAR EXCEPT THE DIMENSIONS WOULD BE MIRRORED.





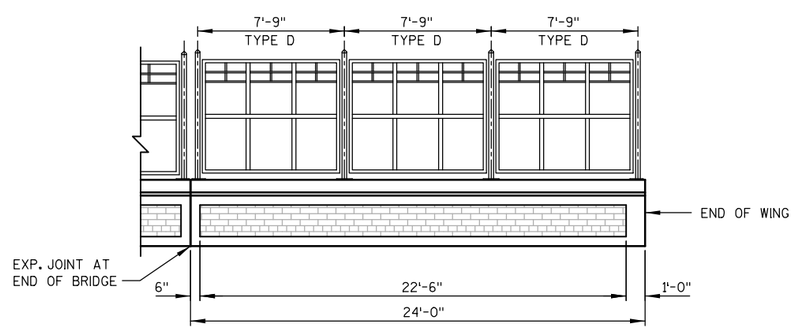
PARTIAL PARAPET ELEVATION

(FACING NORTH)



20' WING

(WINGS 2 & 3)



24' WING

(WINGS 1 & 4)

WING PARAPET / FENCE ELEVATION

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
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STRUCTURE B-5-611

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PARAPET AND FENCE LAYOUT

SHEET 32 OF 35

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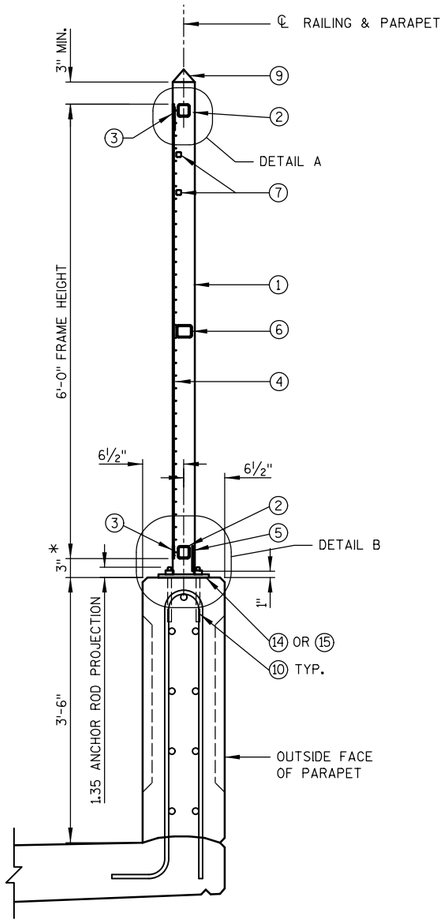
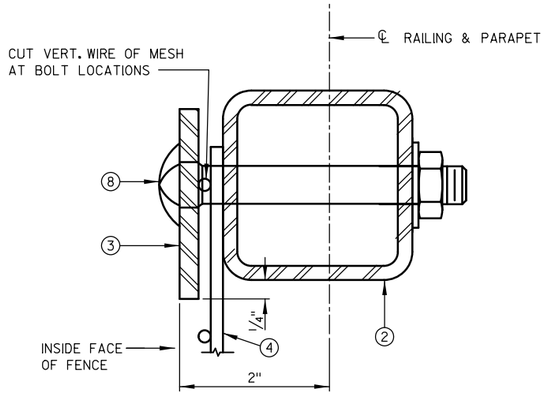
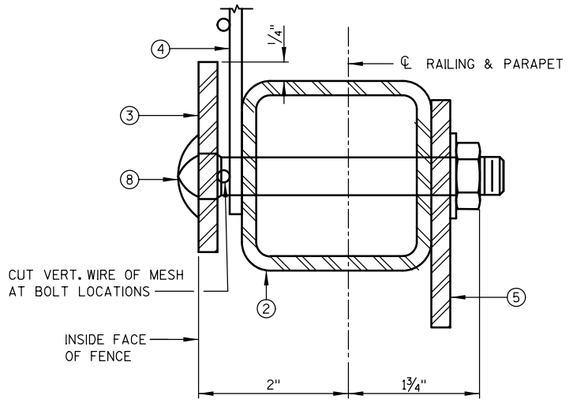


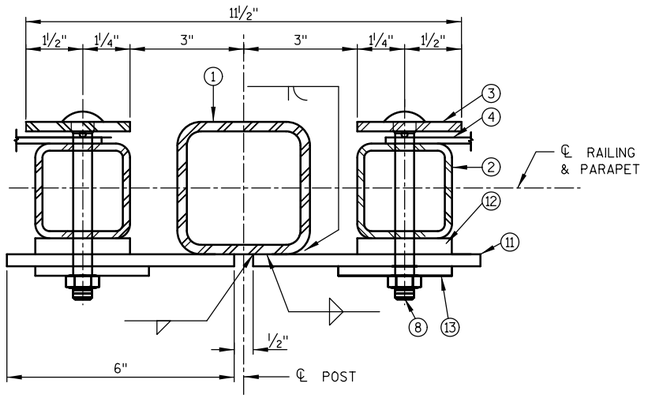
SECTION A-A



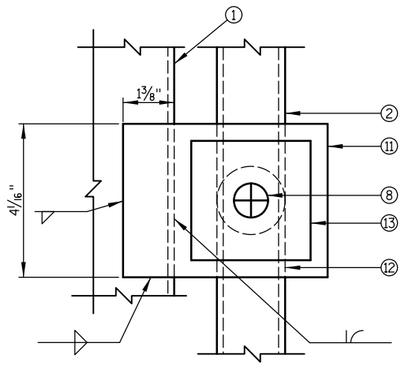
DETAIL A



DETAIL B



SECTION B-B

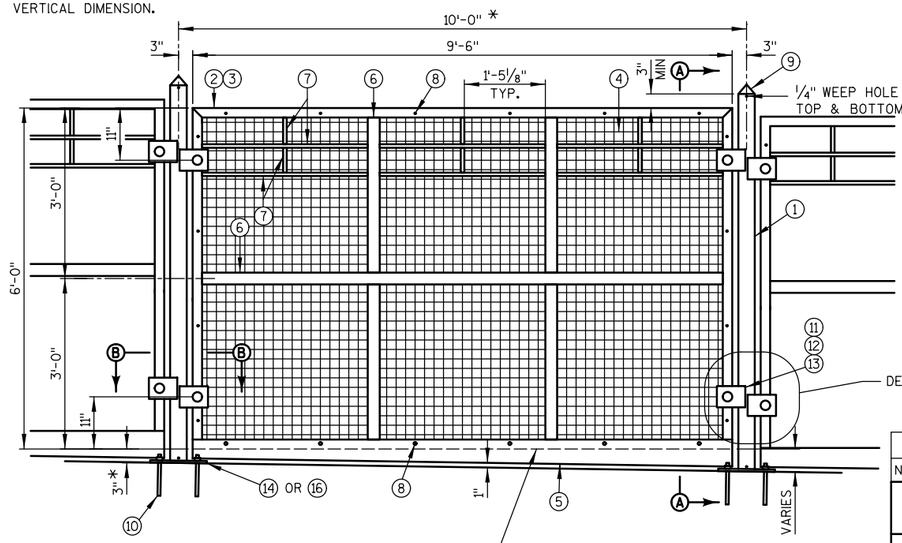


DETAIL C

LEGEND

1. HSS 3½" X 3½" X 3/16" POST WITH ¼" DIA. VENT HOLES TOP & BOTTOM ON OUTSIDE FACE. RESIZE AS NECESSARY FOR GALVANIZING PROCESS. WELD TO NO.9 & BASE PLATE, TYP.
2. HSS 2½" X 2½" X 3/16". WELD TO NO. 6 & 7.
3. PL 2¾" X ¼" WELDED FRAME. WELD TO NO. 4. BOLT TO NO. 2 WITH NO. 8 AFTER PAINTING.
4. STEEL MESH 2" X 2" X 0.162 (8 GA.). PLACE VERTICAL WIRES ON INSIDE FACE OF PARAPET. WELD TO NO. 3.
5. PL ¼" X WIDTH VARIES. PROVIDE SHORT SLOTTED VERT. HOLES FOR NO. 8.
6. HSS 2½" X 2½" X 3/16". WELD TO NO. 2, 6 & 7.
7. ¾" X ¾" BAR. WELD TO NO. 2, 6 & 7.
8. ½" DIA. CARRIAGE BOLT, WASHER AND NUT. PROVIDE ⅝" X ⅝" SQUARE HOLE IN NO. 3 & NO. 2 OF PANEL TYPE G ONLY FOR SQUARE PORTION OF THE BOLT HEAD.
9. 3½" X 3½" PYRAMIDAL CAP. WELD TO NO. 1.
10. ⅝" DIA. CONCRETE MASONRY ANCHOR TYPE S EPOXY, 7" MINIMUM EMBEDMENT WITH A MINIMUM PULLOUT OF 20 KIPS.
11. PL ⅝" X 4½" X 0'-6" CONNECTION WITH 2" DIA. HOLES FOR NO. 8. USE NO. 12 TO COVER 2" DIA. ADJUSTMENT HOLES. USE STANDARD HOLES ON CANTILEVERED FENCE PANEL AT ABUTMENTS.
12. PL ⅜" X 2½" X 4½".
13. PL WASHER ¼" X 3½" X 3½".
14. PL ½" X 8" X 10" BASE PLATE. WELD TO NO. 1.
15. PL ½" X 8" X 1'-0" BASE PLATE. WELD TO NO. 1.
16. ½" DIA. BOLT, WASHER & NUT. TACK WELD NUT TO NO. 2.

* THE DIMENSION BETWEEN THE BOTTOM OF THE WELDED FRAME AND THE TOP OF THE PARAPET VARIES DUE TO THE VERTICAL PROFILE OF THE STRUCTURE. SET THIS DIMENSION TO 3" ADJACENT TO THE POST WHERE NO. 5 HAS THE SMALLEST VERTICAL DIMENSION.



OUTSIDE ELEVATION OF PANEL TYPE "A"

NOTES

THE BID ITEM SHALL BE "FENCE DECORATIVE BRIDGE" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

FOR ELEVATIONS OF SPECIAL FENCE PANELS, SEE SHEET XX.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

STRUCTURAL TUBING SHALL BE A.S.T.M. A500, GRADE B. ROLLED SHAPES, PLATES, BARS AND SHIMS SHALL BE A.S.T.M. A709, GRADE 36.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE POST VERTICAL.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE A.S.T.M. A307 AND SHALL BE GALVANIZED.

STANDARD WASHERS SHALL BE USED TO SHIM BASE PLATES IF REQUIRED. ALL WASHERS SHALL BE GALVANIZED.

THE STEEL MESH SHALL BE TACK WELDED TO THE 2¼" X ¼" WELDED FRAME. THE MESH SHALL BE STRETCHED TO REMOVE SLACK.

VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

PRIOR TO FABRICATION, STEEL SHALL BE BLAST CLEANED PER SSPC-SP 6 AND GALVANIZED ACCORDING TO ASTM A 123. REPAIR ZINC COATING DAMAGED DURING FABRICATION AS SPECIFIED IN 635.3.4.

ALL WELDS SHALL BE PREQUALIFIED ACCORDING TO THE STRUCTURAL WELDING CODE STEEL (AWS D1.1). THE MINIMUM SIZE OF FILLET WELDS IS 3/16".

COAT THE RAILING WITH AN EPOXY PAINT SYSTEM. TOUCH UP DAMAGED PORTIONS OF PAINT AFTER PANEL ERECTION. SEE SPECIAL PROVISIONS FOR REQUIREMENTS.

* SEE SHEET 35 FOR TYP. DIMENSIONS AND DETAILS OF PANEL TYPE A

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STRUCTURE B-5-611

DRAWN BY AJW | PLANS CK'D. DJW

DECORATIVE FENCE DETAILS-1

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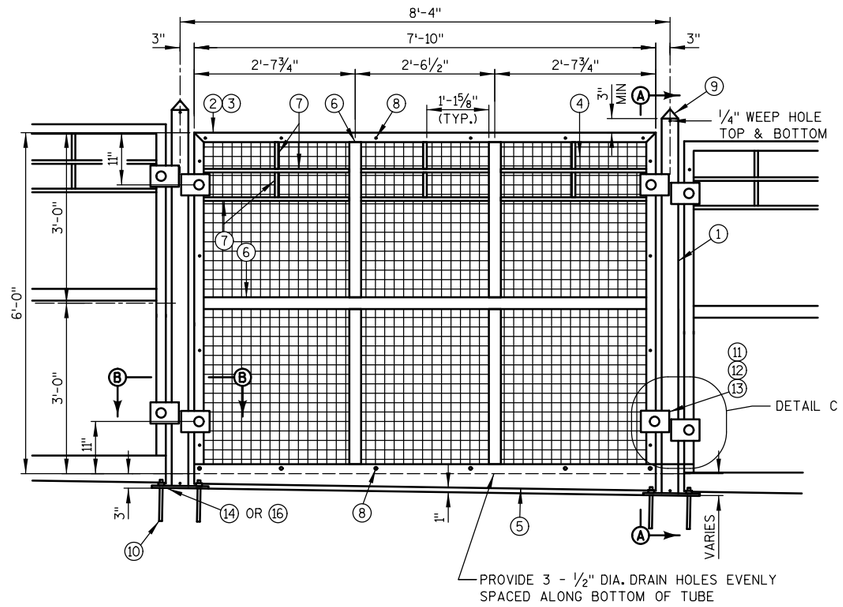
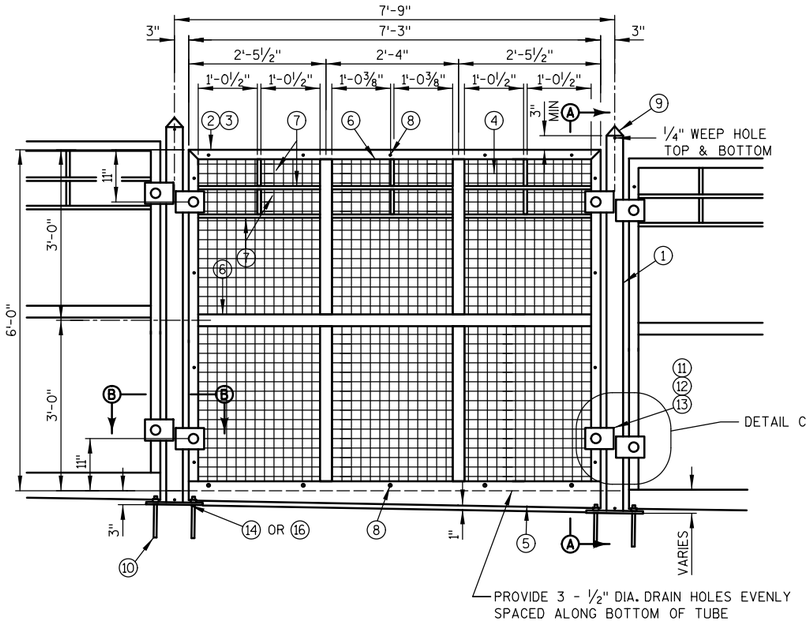
STATE PROJECT NUMBER

1133-09-74



OUTSIDE ELEVATION OF PANEL TYPE "B"



OUTSIDE ELEVATION OF PANEL TYPE "D"

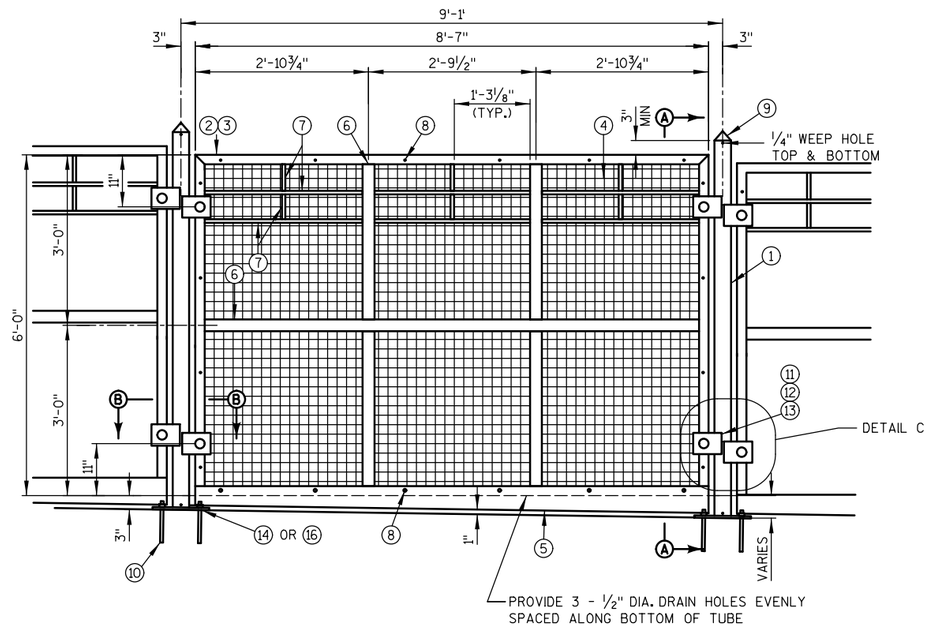
(WINGS 1 AND 4)

NOTES

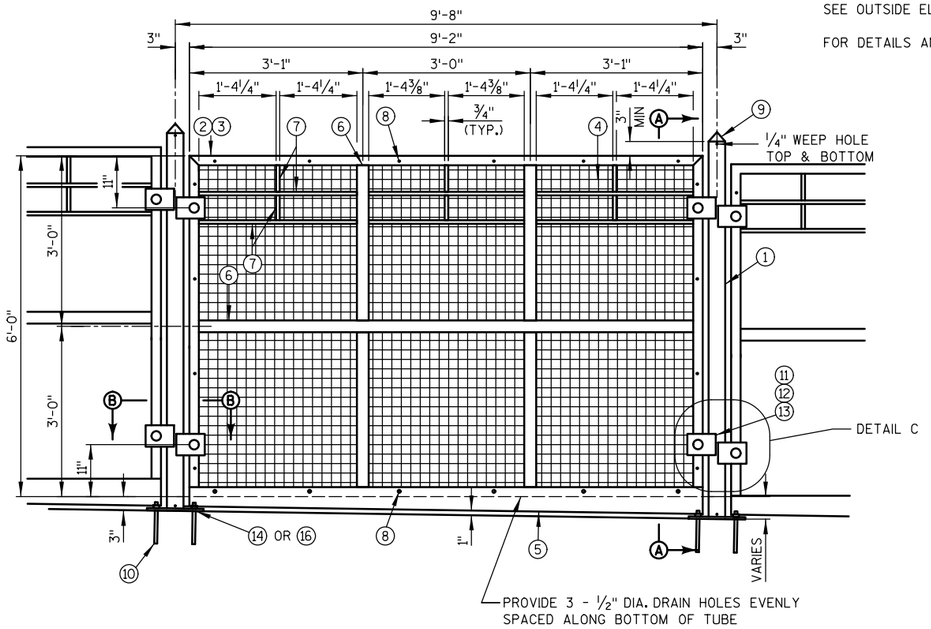
FOR NOTES AND LEGEND SEE SHEET 33, DECORATIVE FENCE DETAILS-1.

FOR TYPICAL MATERIALS, MEMBER SIZES WELDING AND BOLTING DETAILS, SEE OUTSIDE ELEVATION OF TYPICAL FENCE PANEL "A" ON SHEET 35.

FOR DETAILS AND SECTIONS REFER TO SHEETS 33 AND 35.



OUTSIDE ELEVATION OF PANEL TYPE "C"



OUTSIDE ELEVATION OF PANEL TYPE "E"

(WINGS 2 AND 3)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

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DECORATIVE FENCE DETAILS-2

SHEET 34 OF 35

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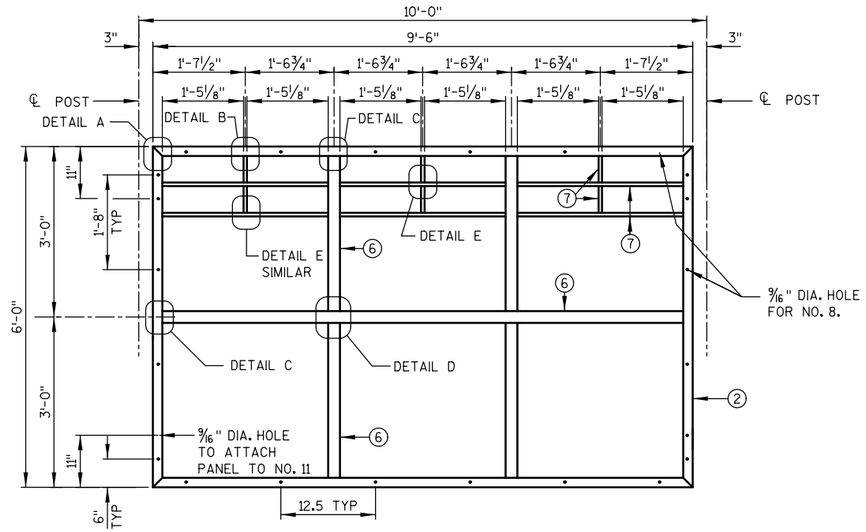
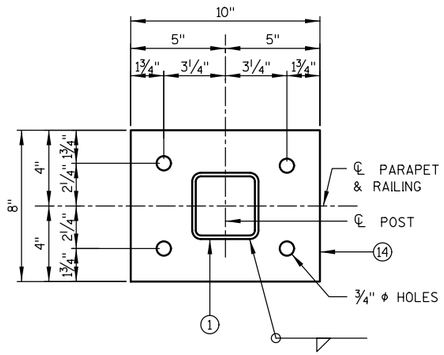
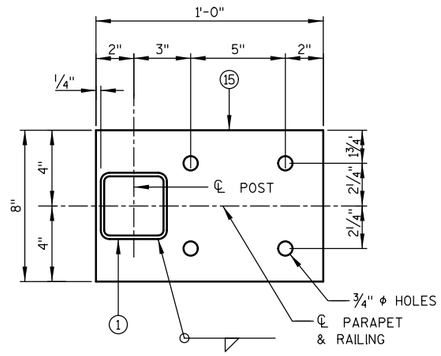


DECORATIVE FENCE BRIDGE PANEL

TYPICAL 10' PANEL SHOWN

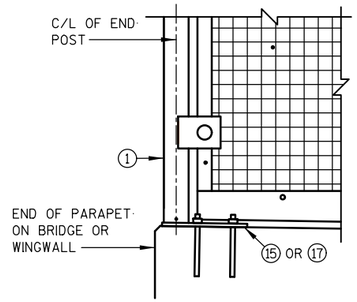


BASE PLATE



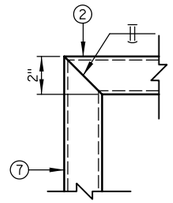
END BASE PLATE

VERTICAL FACE PARAPET BASE PLATE DETAILS

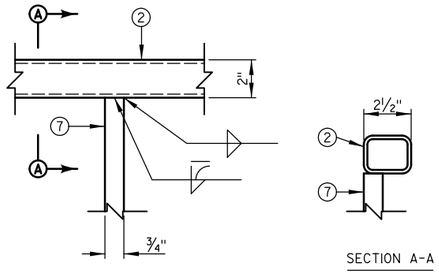


END POST DETAIL

(SEE PLAN FOR LOCATIONS)

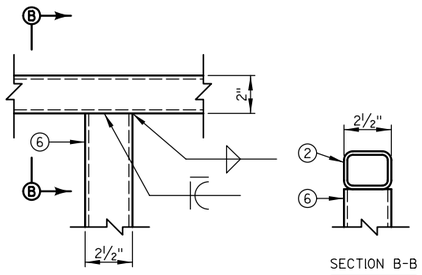


DETAIL A



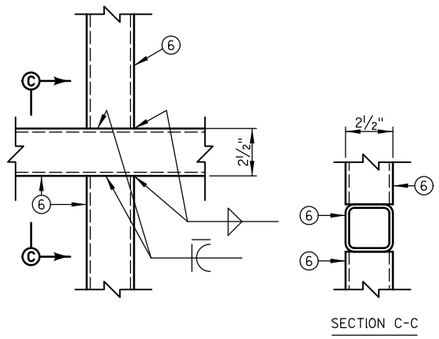
SECTION A-A

DETAIL B



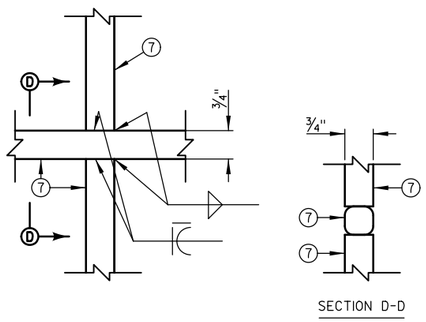
SECTION B-B

DETAIL C



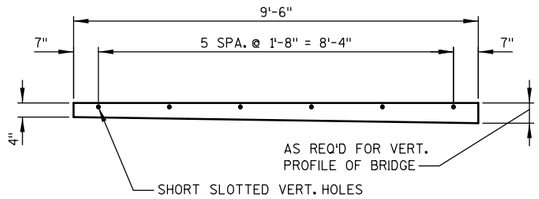
SECTION C-C

DETAIL D



SECTION D-D

DETAIL E



¼" PLATE (NO. 5)

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-611

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DECORATIVE FENCE DETAILS-3

SHEET 35 OF 35

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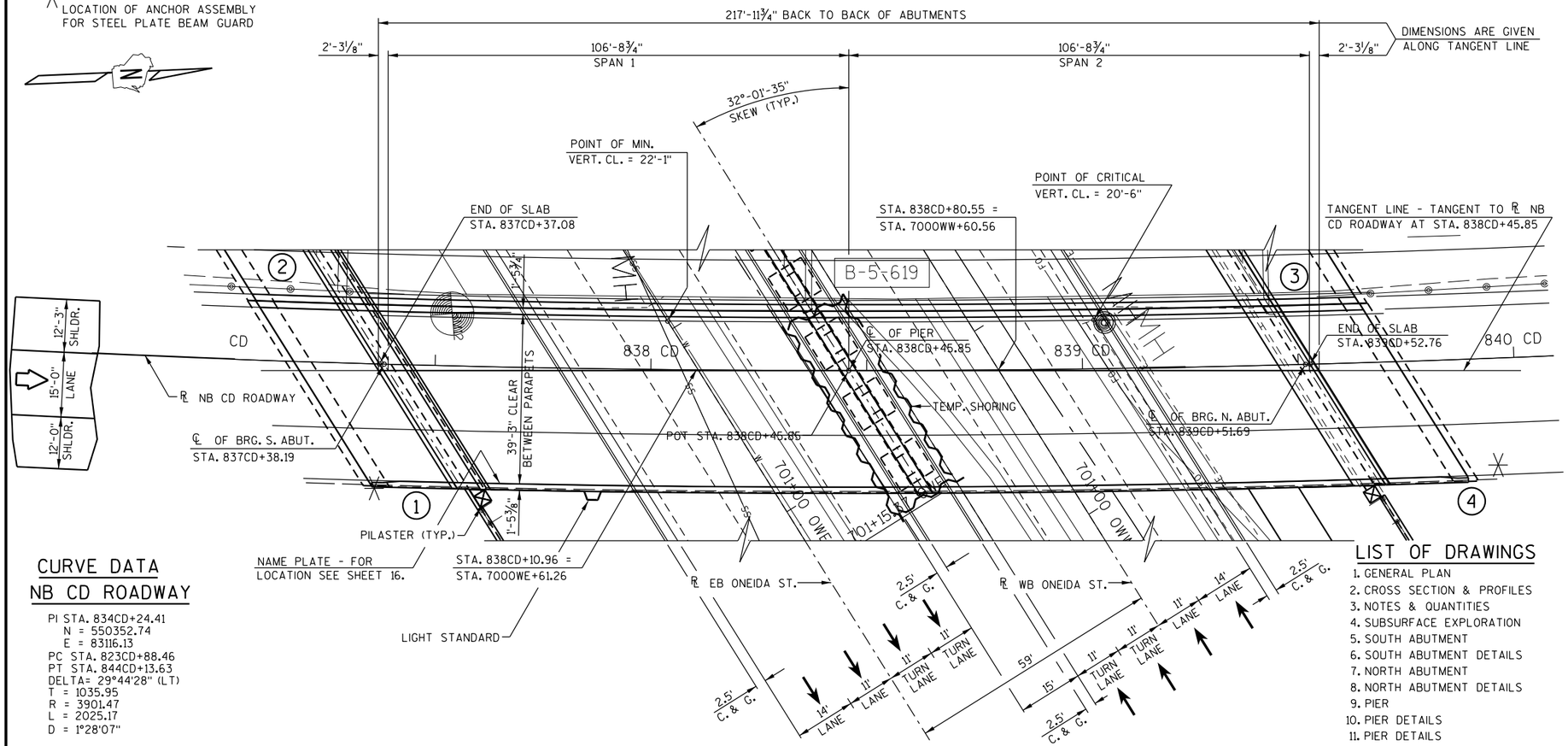
STATE PROJECT NUMBER

1133-09-71

X INDICATES CORNER NUMBER

LOCATION OF ANCHOR ASSEMBLY FOR STEEL PLATE BEAM GUARD



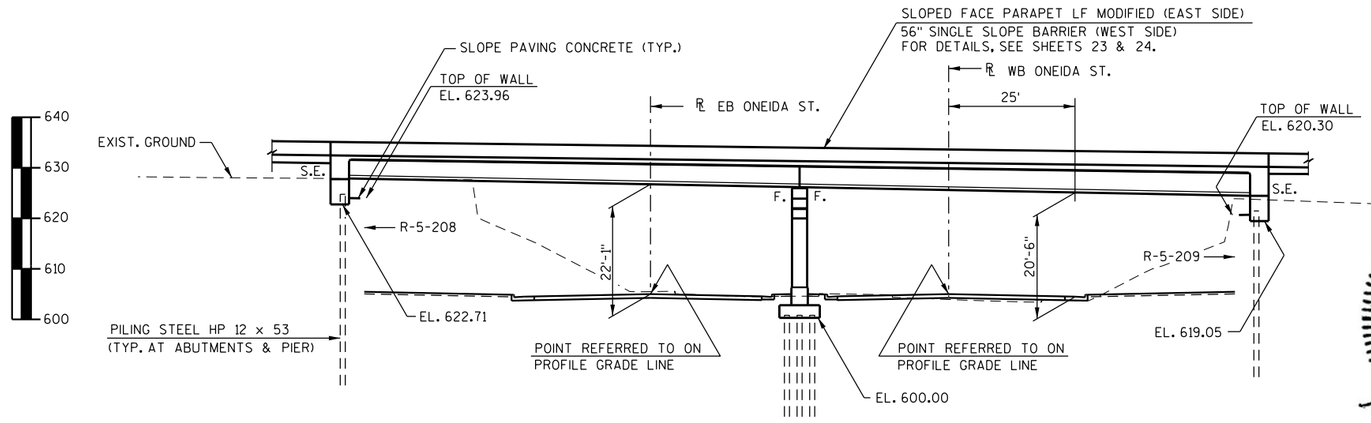
CURVE DATA
NB CD ROADWAY

PI STA. 834CD+24.41
N = 550352.74
E = 83116.13
PC STA. 823CD+88.46
PT STA. 844CD+13.63
DELTA= 29°44'28" (LT)
T = 1035.95
R = 3901.47
L = 2025.17
D = 1°28'07"

BENCH MARK TABLE

NO.	STATION	OFFSET	DESCRIPTION	ELEVATION
41014			DISK ON SE CORNER OF PARAPET WALL OF NB USH 41 OVER ONEIDA STREET *B-5-136-73	630.50

PLAN - B-5-612
(2 SPAN - 45W" PRESTRESSED GIRDERS)



ELEVATION
(NORMAL TO ONEIDA STREET)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR (RF): 1.01
OPERATIONAL RATING FACTOR (RF): 1.73
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 250 KIPS

STRUCTURE IS DESIGNED FOR A 1½" SACRIFICIAL WEARING SURFACE, PLACED AT INITIAL CONSTRUCTION INTEGRAL WITH THE DECK. NO ALLOWANCE HAS BEEN MADE FOR A FUTURE WEARING SURFACE LOAD.

ULTIMATE DESIGN STRESSES:

HPC MASONRY STRUCTURES — f'_c = 4,000 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 — f_y = 60,000 P.S.I.
45W" PRESTRESSED GIRDERS - CONCRETE MASONRY — f'_c = 8,000 P.S.I.
STRANDS - 0.6" DIA. WITH AN ULTIMATE TENSILE STRENGTH OF — 270,000 P.S.I.

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 85'-0" LONG AT EACH ABUTMENT.

PIER TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 70'-0" LONG.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC DATA:

NB CD ROADWAY	ONEIDA STREET
A.D.T. (2015) = 13,300	A.D.T. (2015) = 24,900
A.D.T. (2035) = 17,800	A.D.T. (2035) = 30,000
DESIGN SPEED = 70 M.P.H.	DESIGN SPEED = 40 M.P.H.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & PROFILES
3. NOTES & QUANTITIES
4. SUBSURFACE EXPLORATION
5. SOUTH ABUTMENT
6. SOUTH ABUTMENT DETAILS
7. NORTH ABUTMENT
8. NORTH ABUTMENT DETAILS
9. PIER
10. PIER DETAILS
11. PIER DETAILS
12. 45W" PRESTRESSED GIRDER DETAILS
13. 45W" PRESTRESSED GIRDER DETAILS
14. INTERMEDIATE STEEL DIAPHRAGMS
15. SUPERSTRUCTURE
16. SUPERSTRUCTURE
17. SUPERSTRUCTURE
18. SUPERSTRUCTURE
19. SUPERSTRUCTURE
20. SUPERSTRUCTURE
21. APPROACH APRON DETAILS
22. APPROACH APRON DETAILS
23. SLOPED FACE PARAPET LF (MODIFIED)
24. 56" SINGLE SLOPE MEDIAN BARRIER DETAILS
25. 56" SINGLE SLOPE MEDIAN BARRIER DETAILS
26. AESTHETIC DETAILS
27. AESTHETIC DETAILS
28. FALL PROTECTION
29. LIGHT STANDARD DETAILS

WISCONSIN
THOMAS J. ROMENESKO
E-26318
MADISON
WI
PROFESSIONAL ENGINEER
1/28/13

ROMENESKO ENGINEERING, INC.
CONTACT: TOM ROMENESKO, P.E.
7325 CEDAR CREST DRIVE
SAUK CITY, WI 53583
(608) 644-1502

BRIDGE OFFICE CONTACT:
WILLIAM DREHER, P.E.
(608) 266-8489

NO.	DATE	REVISION	BY

Original Plans Prepared By
ROMENESKO ENGINEERING, INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR 02/13/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-5-612

NB CD ROADWAY OVER ONEIDA STREET

COUNTY	TOWN/CITY/~~VILLAGE~~
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
TR	VR	TAW	TR

GENERAL PLAN

SHEET 1 OF 29
1681

I.D. 1133-09-00

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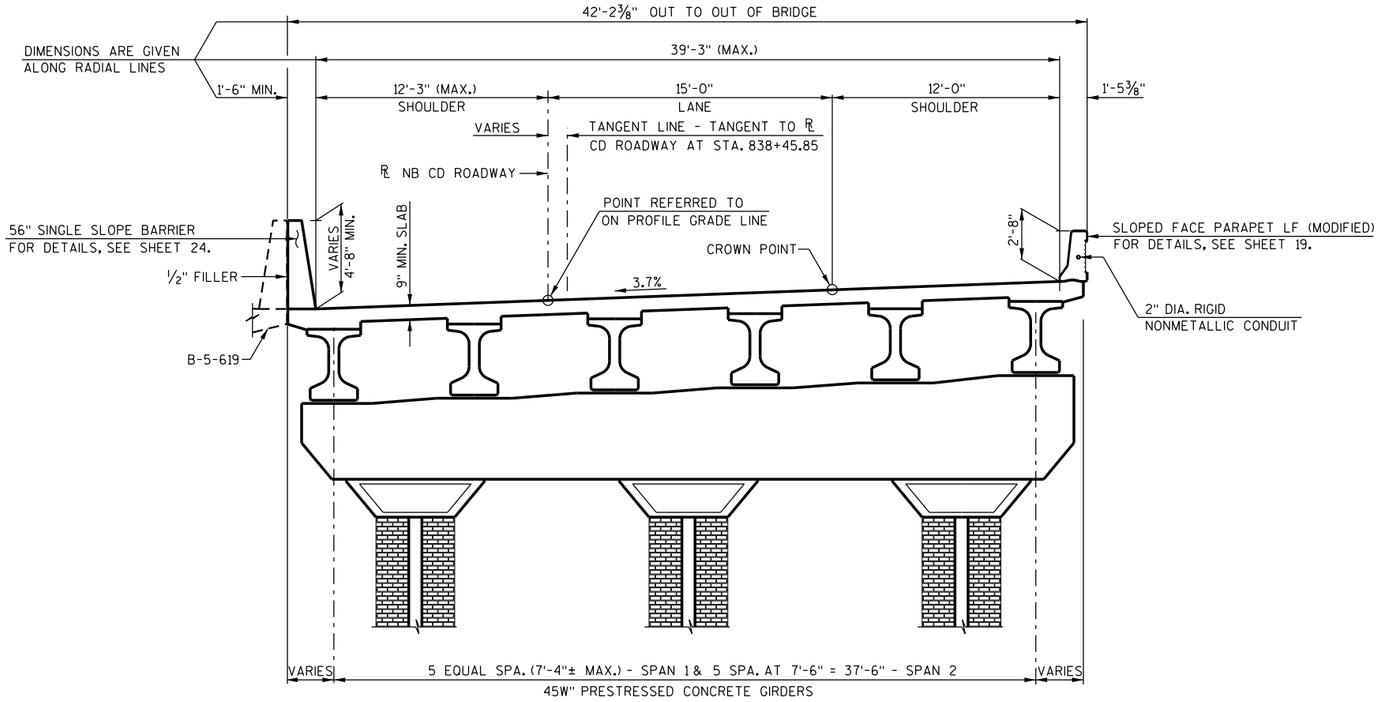
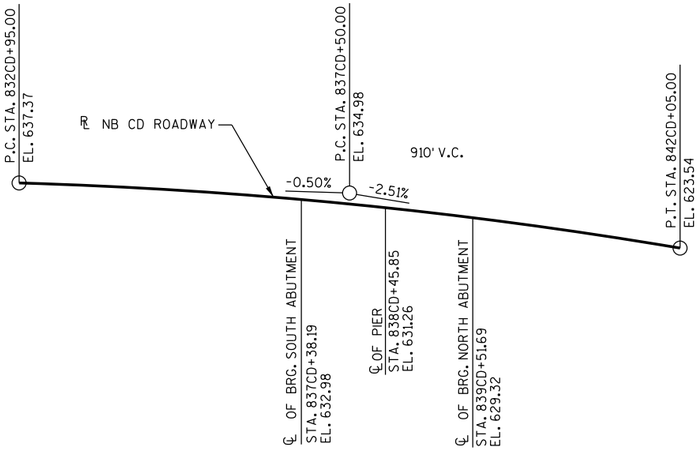
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-612\01.genplan.v8.b-5-612.dgn
PLOT DATE : 1/28/2013

STATE PROJECT NUMBER
1133-09-71

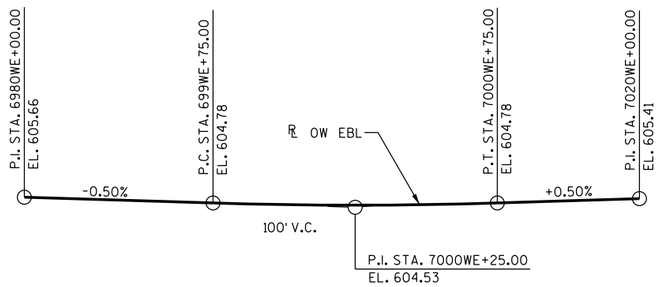


CROSS SECTION THRU ROADWAY

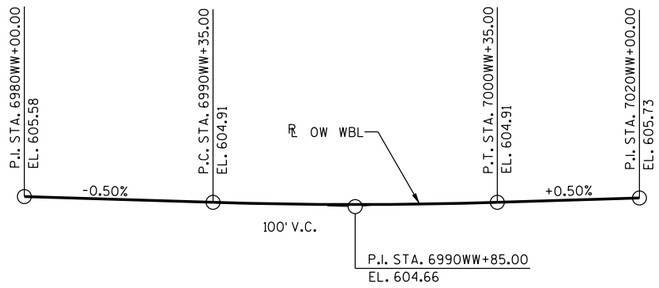
(LOOKING NORTH)



PROFILE GRADE LINE, NB CD ROADWAY



PROFILE GRADE LINE, EBL ONEIDA ST./WAUBE LANE



PROFILE GRADE LINE, WBL ONEIDA ST./WAUBE LANE

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-612\02_sect_and_profiles_b-5-612.dgn
PLOT DATE : 1/28/2013

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

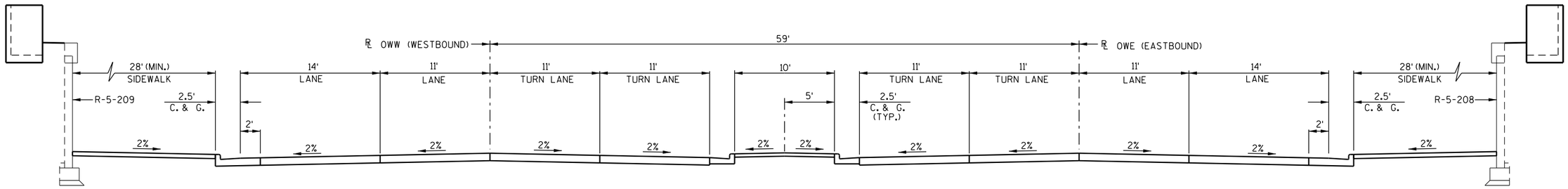
STRUCTURE B-5-612

DRAWN BY TAW | PLANS CK'D. TR

CROSS SECTION & PROFILES

SHEET 2 OF 29
1682

STATE PROJECT NUMBER
1133-09-71



TYPICAL SECTION THRU ONEIDA STREET/WAUBE LANE (AT STRUCTURE)

(LOOKING EAST)

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	SOUTH ABUTMENT	PIER	NORTH ABUTMENT	SUPER.	APPROACH APRON	TOTAL
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-5-612	LS	———	———	———	———	———	1
206.6010.S	TEMPORARY SHORING	SF	———	610	———	———	———	610
210.0100	BACKFILL STRUCTURE	CY	170	80	170	———	———	420
502.3200	PROTECTIVE SURFACE TREATMENT	SY	———	———	———	1,169	217	1,386
502.6110	MASONRY ANCHORS TYPE S 3/4-INCH	EACH	4	———	4	———	———	8
503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH	LF	———	———	———	1,285	———	1,285
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	2,740	1,520	2,660	———	———	6,920
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	———	19,440	———	70,550	24,970	114,960
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	6	12	6	———	———	24
506.4000	STEEL DIAPHRAGMS B-5-612	EACH	———	———	———	20	———	20
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	9	———	9	———	———	18
550.1120	PILING STEEL HP 12-INCH x 53 LB	LF	765	1,890	765	———	———	3,420
604.0400	SLOPE PAVING CONCRETE	SY	12	———	12	———	———	24
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80	———	80	———	240	400
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EA	1	———	1	———	———	2
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	———	———	———	10	40	50
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	———	———	———	210	———	210
653.0222	JUNCTION BOXES 18x12x6-INCH	EACH	———	———	———	1	———	1
657.6005.S	ANCHOR ASSEMBLIES FOR LIGHT POLES ON STRUCTURES	EACH	———	———	———	1	———	1
SPV.0035.700	HPC MASONRY STRUCTURES	CY	34	87	33	429	124	707
SPV.0085.700	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	———	———	———	1,430	———	1,430
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	———	327	———	341	62	730
SPV.0165.501	STAINING CONCRETE	SF	365	863	355	3,223	50	4,856
SPV.0165.502	STAINING CONCRETE BRICK	SF	———	327	———	341	62	730
SPV.0165.700	LONGITUDINAL GROOVING BRIDGE DECK	SF	———	———	———	7,813	1,450	9,263
	NON - BID ITEMS							
	FILLER	SIZE	———	———	———	———		1/2" & 3/4"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE. THE TOP LAYER OF BAR STEEL IN THE DECK SHALL BE PLACED WITH 3½" CLEAR COVER.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M153, TYPES I, II OR III OR M213.

THE AREA OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING CONCRETE, TO THE LIMITS SHOWN ON SHEET 1, ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER.

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

FILL/EXCAVATE TO BOTTOM OF ABUTMENT/PIER ELEVATION BEFORE DRIVING PILING.

AT THE BACKFACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE, SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.

THE FINISHED GRADED SECTION SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE EXISTING GROUND LINE SHALL BE THE UPPER LIMITS OF EXCAVATION AT THE PIER.

THE ELASTOMERIC BEARING PADS NON-LAMINATED NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE SUPERSTRUCTURE SHEET.

ALL STATIONS AND ALL ELEVATIONS ARE IN FEET.

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF THE DECK, TOP OF APPROACH APRONS, INSIDE FACE OF PARAPETS AND TOP OF PARAPETS ON BOTH THE DECK AND APPROACH APRONS.

THE STRUCTURE SHALL BE PAINTED IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND THE STAINING DETAILS PROVIDED IN THIS PLAN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

DRAWN BY TAW | PLANS CK'D. TR

QUANTITIES & NOTES

SHEET 3 OF 29
1683

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-612\03_quants.notes.b-5-612.dgn
PLOT DATE : 1/28/2013

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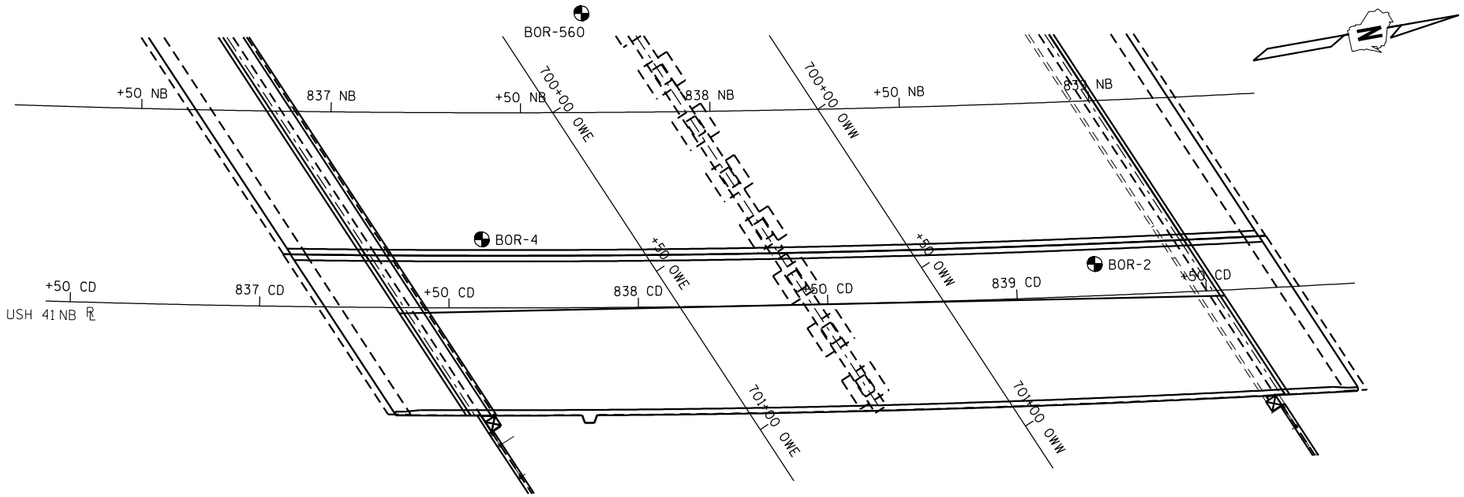
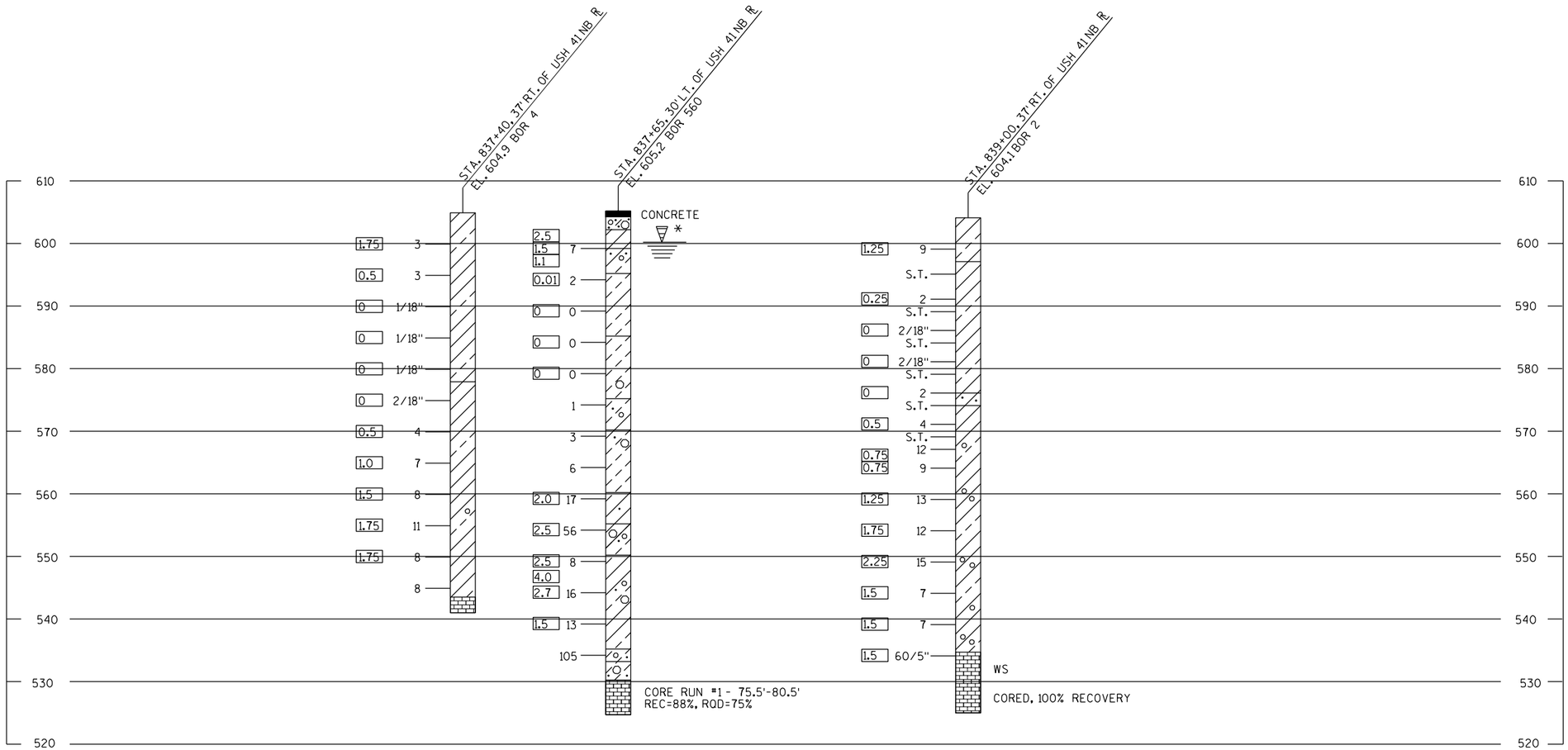
USH 41 OVER ONEIDA STREET (CTH AAA)
DEPERE - SUAMICO





BORINGS 2 AND 4 WERE DERIVED FROM THE EXISTING 1974 STRUCTURE PLAN SHEETS, B-5-136.

* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

STATE PROJECT NUMBER

1133-09-71

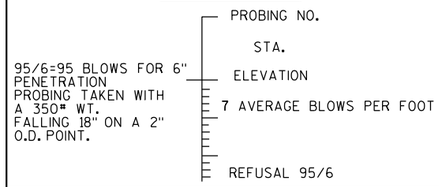
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

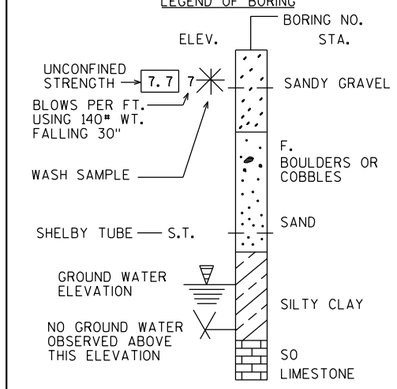
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

DRAWN BY PR | PLANS CK'D.

SUBSURFACE EXPLORATION

SHEET 4 OF 29
1684

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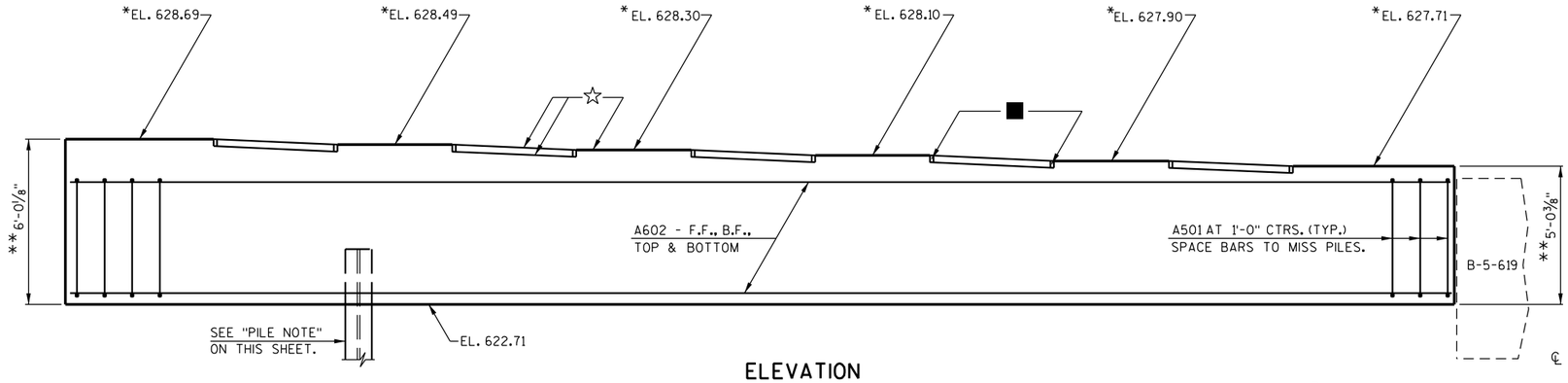
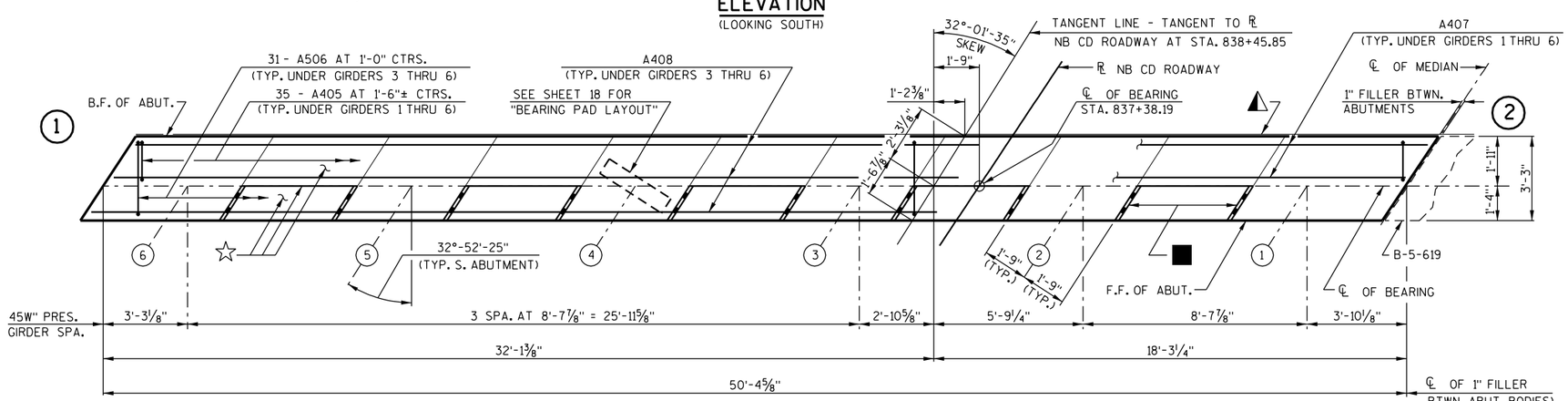
SCALE =

STATE PROJECT NUMBER

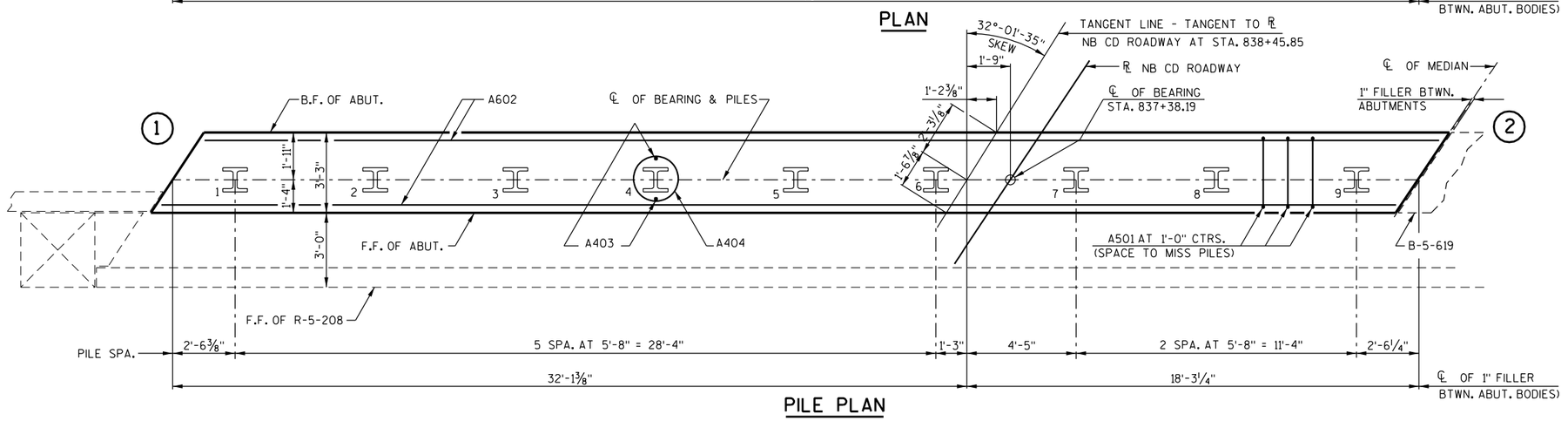
1133-09-71



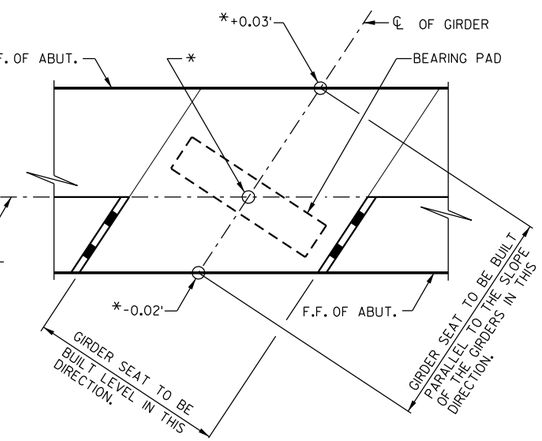
ELEVATION
(LOOKING SOUTH)



PLAN



PILE PLAN



GIRDER SEAT DETAIL

LEGEND

* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.

** DIMENSIONS ARE GIVEN AT THE B.F. OF ABUTMENT.

◭ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

■ ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

☆ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

(X) INDICATES CORNER NUMBER

NOTES: SEE "PLAN" VIEW AND "TYPICAL SECTION THRU BODY" ON SHEET 6 FOR ADDITIONAL BAR STEEL REINFORCEMENT DETAILS AT GIRDER SEATS.

FOR "TYPICAL SECTION THRU BODY", SEE SHEET 6.

LAP A407 BARS 1'-11" MIN.

PILE NOTE

SOUTH ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 85'LONG. FOR PILE SPLICE DETAILS, SEE SHEET 6.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

DRAWN BY TAW | PLANS CK'D. TR

SOUTH ABUTMENT

SHEET 5 OF 29
1685

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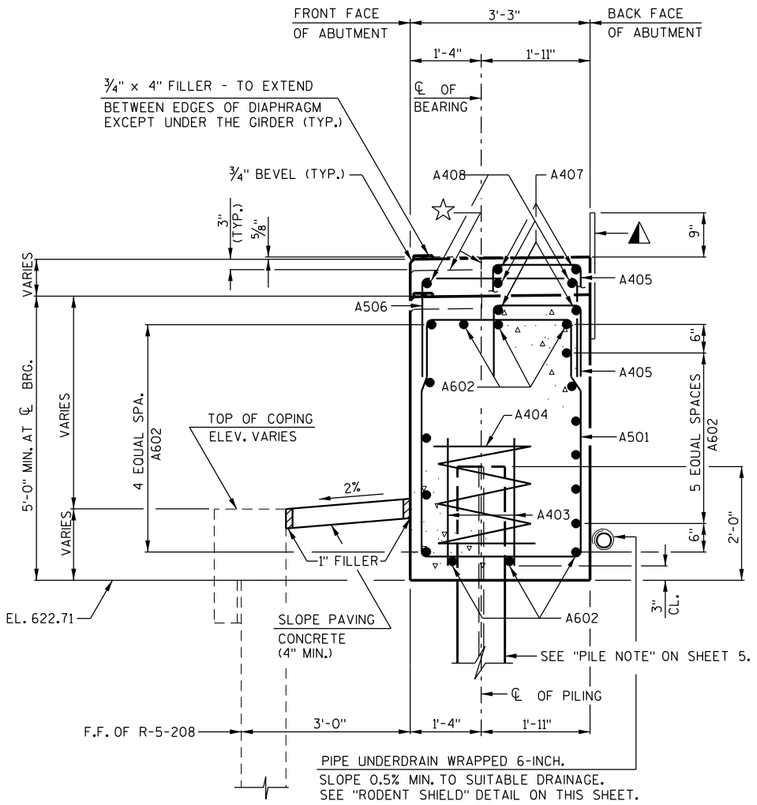
FILE NAME : P:\134 USH 41 Bridges 1133-09-00\structures\B-5-612\05.sabut1.b-5-612.dgn
PLOT DATE : 10/22/2012

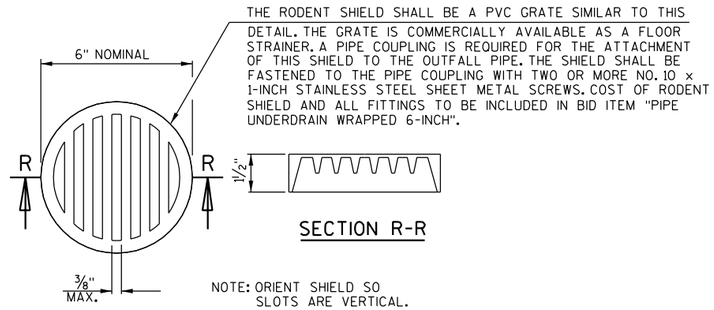
STATE PROJECT NUMBER

1133-09-71



TYPICAL SECTION THRU BODY

(LOOKING EAST)



THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

SECTION R-R

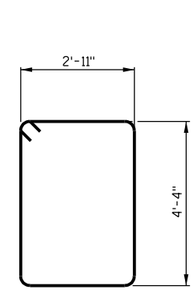
NOTE: ORIENT SHIELD SO SLOTS ARE VERTICAL.

RODENT SHIELD

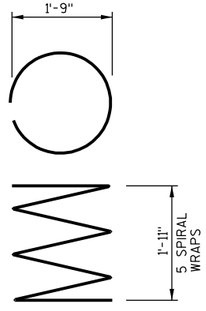
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

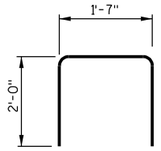
MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 2,740 LBS.
A501	51	15-1	X		BODY - STIRRUPS	VERT.
A602	17	49-11			BODY - TOP, BOTTOM, F.F. & B.F.	HORIZ.
A403	18	2-3			BODY - AT PILES - 2 PER PILE	VERT.
A404	9	28-0	X		BODY - AT PILES - 1 PER PILE - SPIRAL WRAP	VERT.
A405	35	5-5	X		BODY - TOP - AT GIRDERS 1 THRU 6	VERT.
A506	31	6-2	X		BODY - TOP - AT GIRDERS 3 THRU 6	VERT.
A407	4	25-11			BODY - TOP - AT GIRDERS 1 THRU 6	HORIZ.
A408	3	32-8			BODY - TOP - AT GIRDERS 3 THRU 6	HORIZ.



A501



A404



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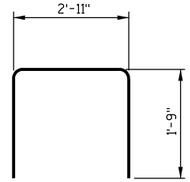
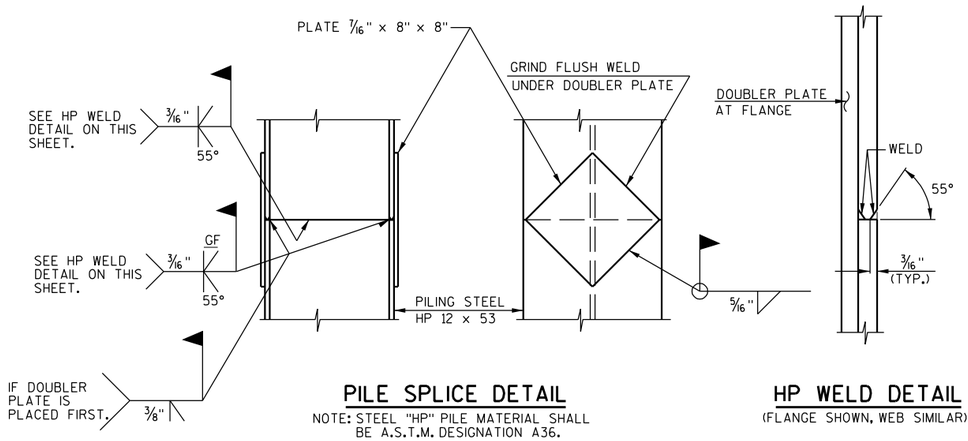


A506

LEGEND

☆ ◭ FOR SYMBOL DESCRIPTIONS, SEE SHEET 5.



PILE SPLICE DETAIL

NOTE: STEEL "HP" PILE MATERIAL SHALL BE A.S.T.M. DESIGNATION A36.

HP WELD DETAIL

(FLANGE SHOWN, WEB SIMILAR)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

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SOUTH ABUTMENT DETAILS

SHEET 6 OF 29

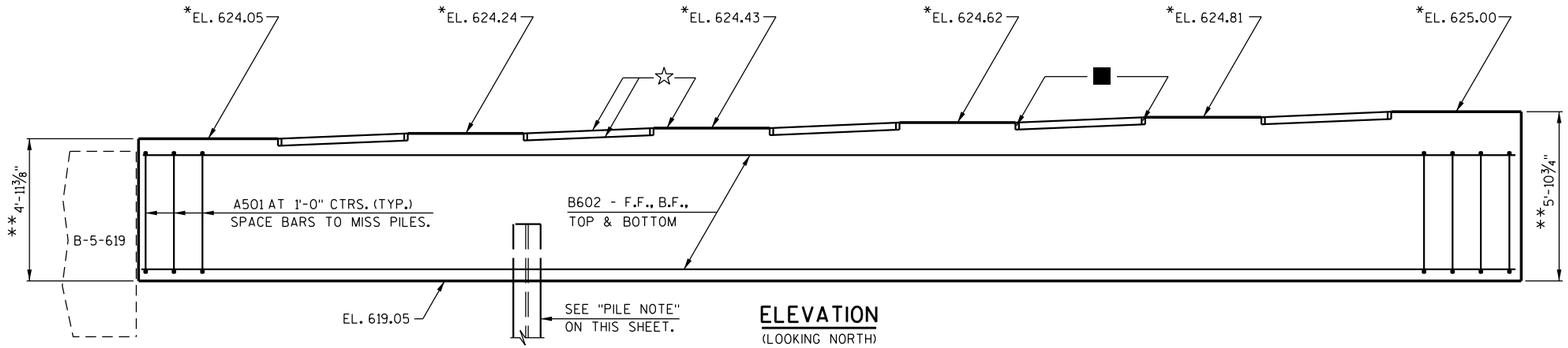
1686

8

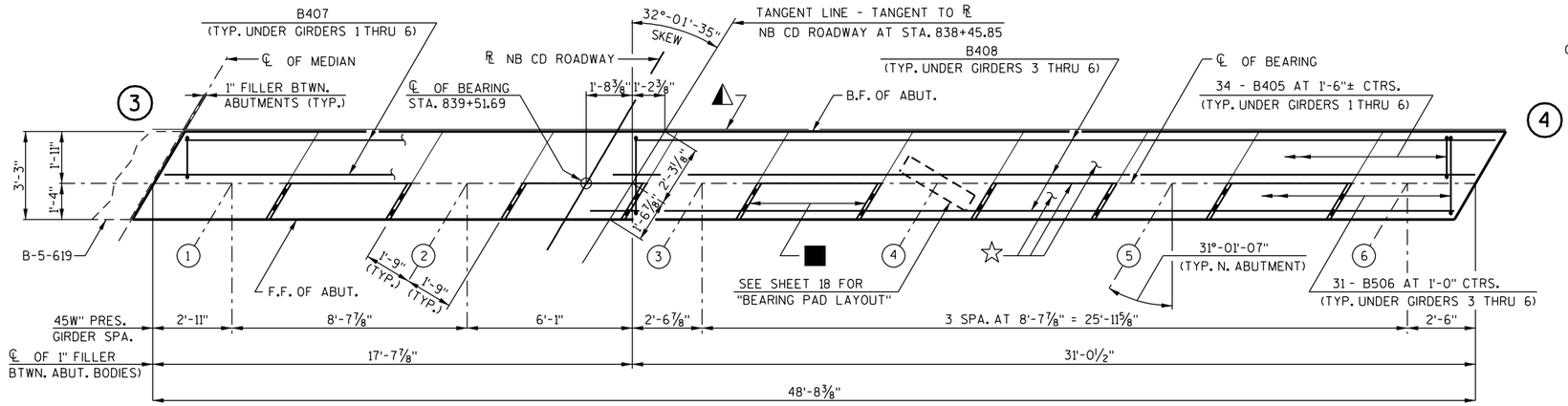
8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-612\06_sabutdet_b-5-612.dgn
PLOT DATE : 10/22/2012

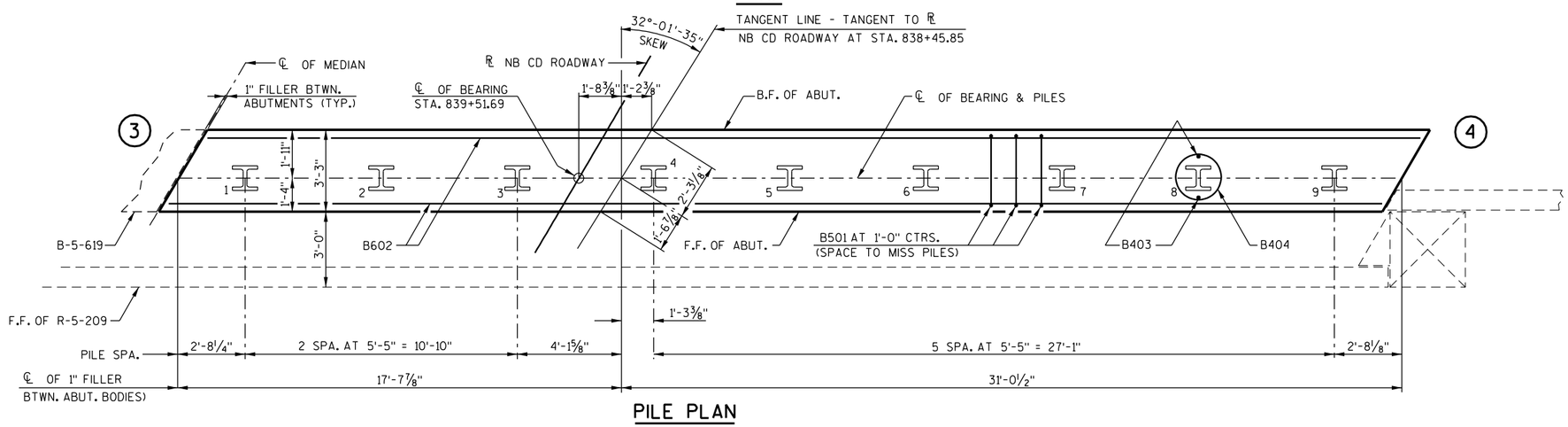
STATE PROJECT NUMBER
1133-09-71



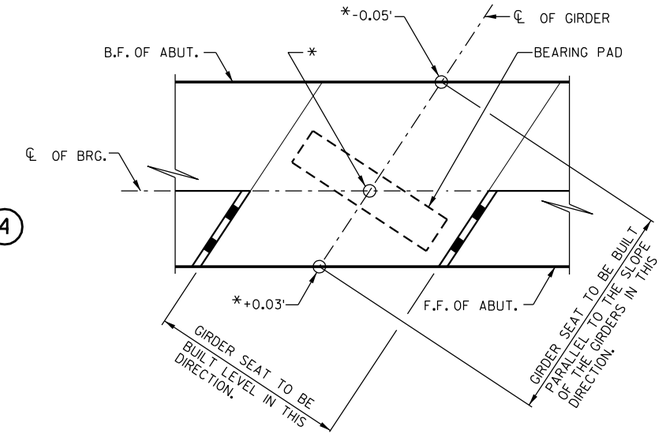
ELEVATION
(LOOKING NORTH)



PLAN



PILE PLAN



GIRDER SEAT DETAIL

LEGEND

* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.

** DIMENSIONS ARE GIVEN AT THE B.F. OF ABUTMENT.

◭ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

■ ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

☆ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

(X) INDICATES CORNER NUMBER

NOTES: SEE "PLAN" VIEW AND "TYPICAL SECTION THRU BODY" ON SHEET 8 FOR ADDITIONAL BAR STEEL REINFORCEMENT DETAILS AT GIRDER SEATS.

FOR "TYPICAL SECTION THRU BODY", SEE SHEET 8.

LAP B407 BARS 1'-11" MIN.

PILE NOTE

NORTH ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 85'LONG. FOR PILE SPLICE DETAILS, SEE SHEET 6.

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STRUCTURE B-5-612

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NORTH ABUTMENT

SHEET 7 OF 29
1687

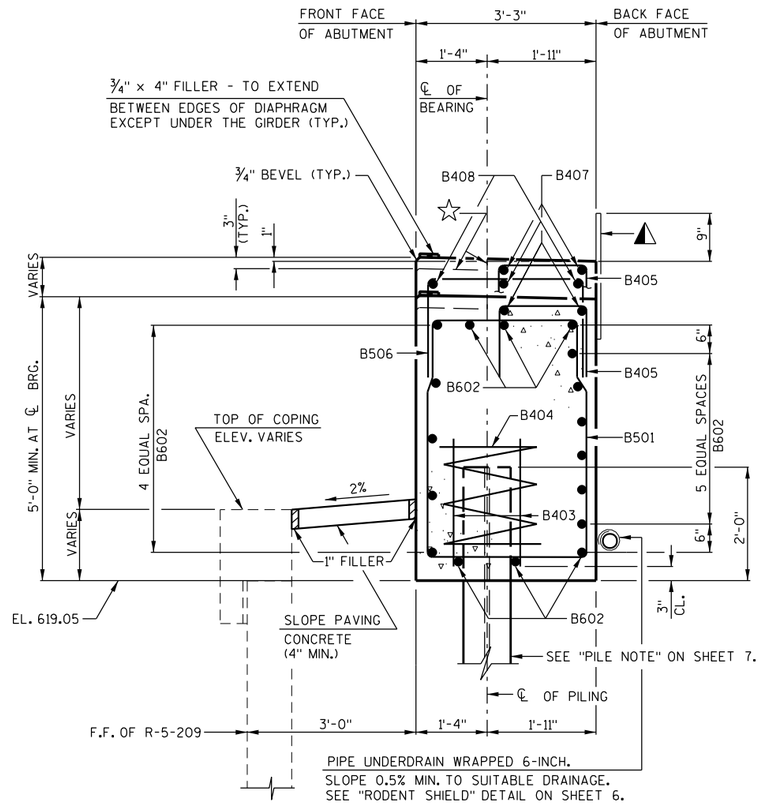
8

8

FILE NAME : P:\1134 USH 41 Bridges (1133-09-00)\structures\B-5-612\07_notpot1_b-5-612.dgn
PLOT DATE : 10/22/2012

STATE PROJECT NUMBER

1133-09-71



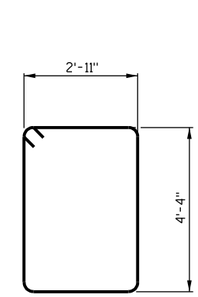
TYPICAL SECTION THRU BODY

(LOOKING WEST)

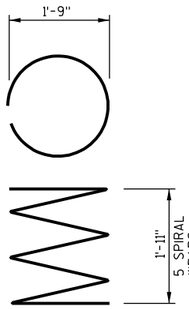
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 2,660 LBS.
B501	49	15-1	X		BODY - STIRRUPS	VERT.
B602	17	48-3			BODY - TOP, BOTTOM, F.F. & B.F.	HORIZ.
B403	18	2-3			BODY - AT PILES - 2 PER PILE	VERT.
B404	9	28-0	X		BODY - AT PILES - 1 PER PILE - SPIRAL WRAP	VERT.
B405	34	5-5	X		BODY - TOP - AT GIRDERS 1 THRU 6	VERT.
B506	31	6-2	X		BODY - TOP - AT GIRDERS 3 THRU 6	VERT.
B407	4	25-1			BODY - TOP - AT GIRDERS 1 THRU 6	HORIZ.
B408	3	31-9			BODY - TOP - AT GIRDERS 3 THRU 6	HORIZ.



B501



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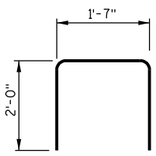

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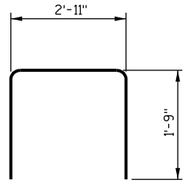

B506

LEGEND

☆ ◭ FOR SYMBOL DESCRIPTIONS, SEE SHEET 7.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

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NORTH ABUTMENT DETAILS

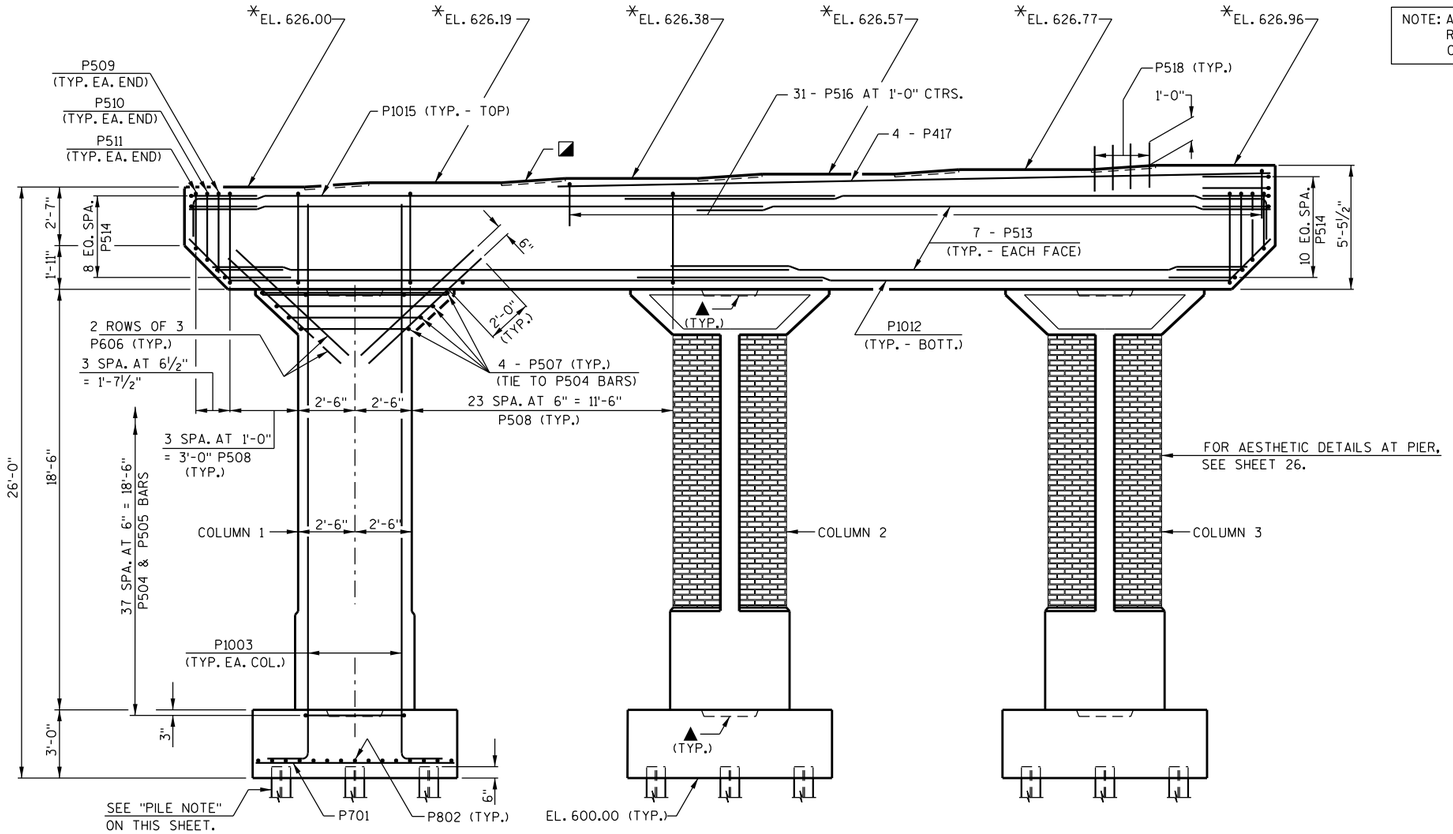
SHEET 8 OF 29
1688

8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-612\08.rodunderdet.b-5-612.dgn
PLOT DATE : 10/22/2012

NOTE: ARCHITECTURAL SURFACE TREATMENT AND REVEALS NOT SHOWN FOR CLARITY AT COLUMN 1. FOR COLUMN DETAILS, SEE SHEET 10.



ELEVATION
(LOOKING NORTH)

NOTES: P518 BARS MAY BE PLACED AFTER CONCRETE IS POURS, BUT BEFORE INTIAL SET HAS TAKEN PLACE.

SEE SHEET 11 FOR CAP AND FOOTING DETAILS.

LAP NO. 5 BARS 2'-11" MIN. IN PIER CAP.

LAP NO. 10 BARS 8'-2" MIN. AT BOTTOM OF PIER CAP.

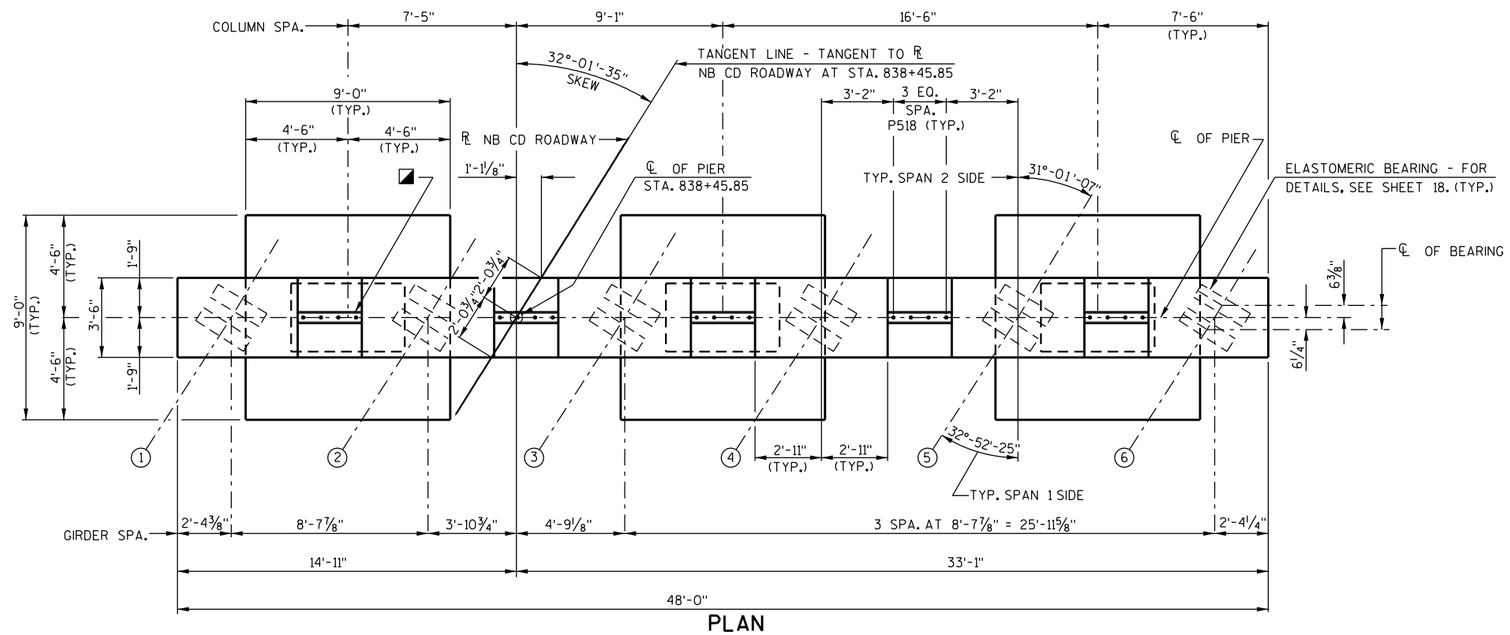
LAP NO. 10 BARS 9'-2" MIN. AT TOP OF PIER CAP.

LEGEND

- ✳ ELEVATIONS & DIMENSIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF PIER.
- ▲ CONSTRUCTION JOINT FORMED BY BEVELED 4" x 1'-3" x 2'-6" KEYWAY.
- ◪ KEYED, CONST. JOINT FORMED BY BEVELED 2" x 6".
- ● KEYED, CONST. JOINT FORMED BY A BEVELED 2" x 8"

PILE NOTE

PIER TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 70' LONG. FOR PILE LAYOUT DETAILS, SEE SHEET 11. FOR PILE SPLICE DETAILS, SEE SHEET 6.



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

DRAWN BY TAW | PLANS CK'D. TR

PIER

SHEET 9 OF 29
1689

FILE NAME : P:\134 USH 41 Bridges \1133-09-00\Structures\B-5-612\09_piera_b-5-612.dgn
PLOT DATE : 10/22/2012

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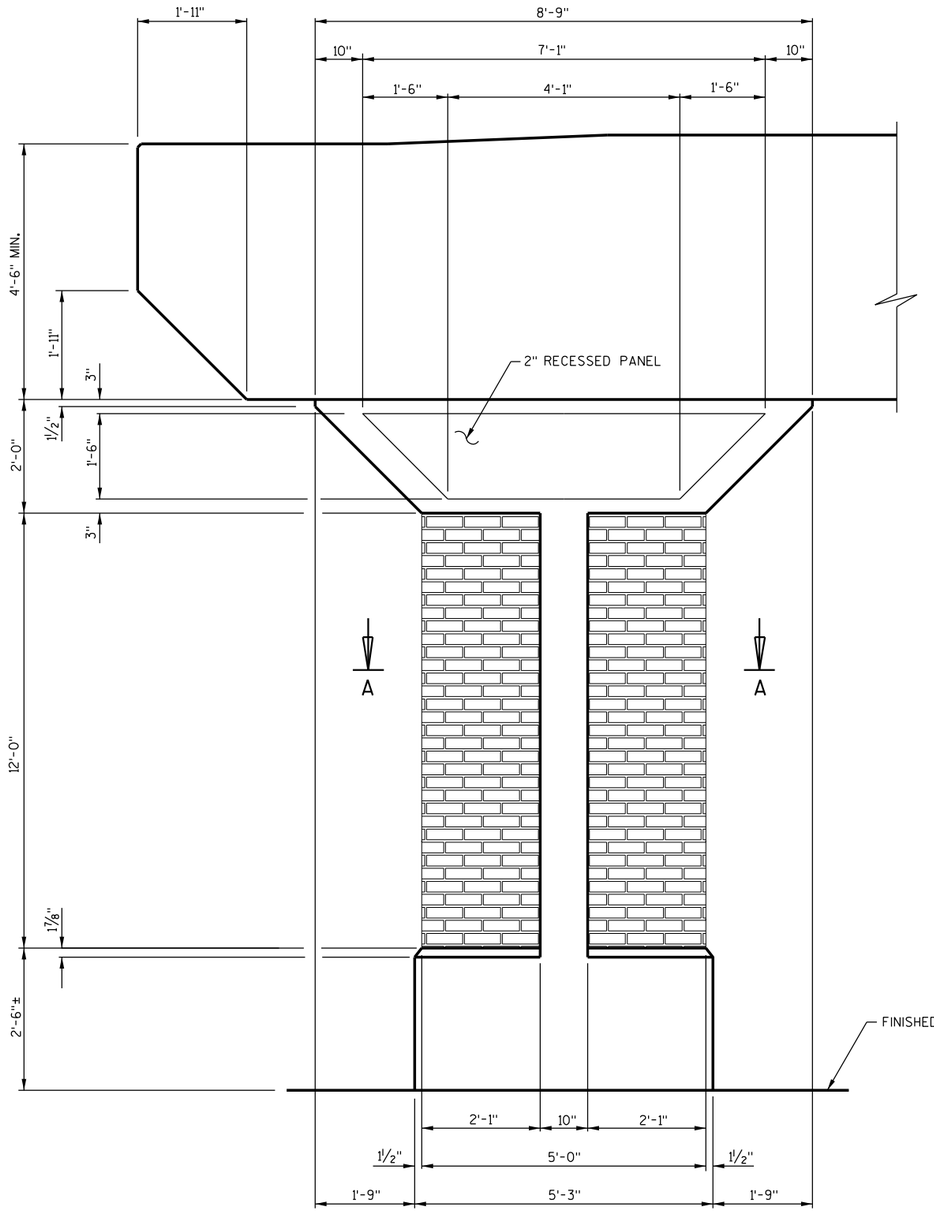
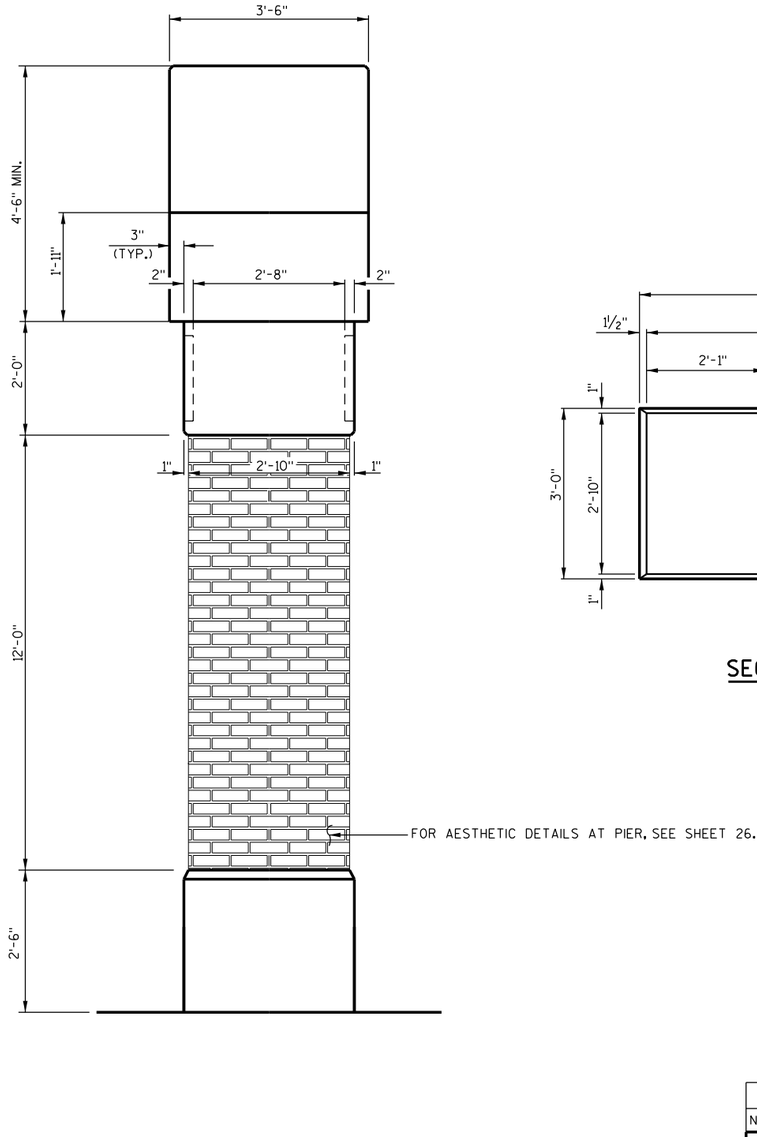
STATE PROJECT NUMBER

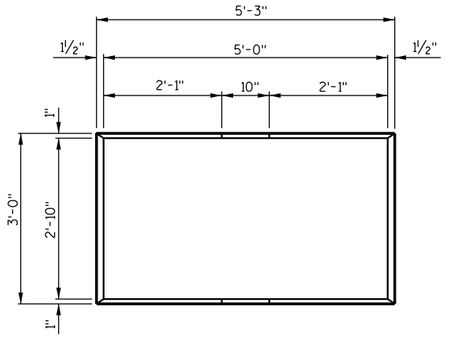
1133-09-71



PIER ELEVATION VIEW



PIER END VIEW



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

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PIER DETAILS

SHEET 10 OF 29
1690

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-612\10_pierb_b-5-612.dgn
PLOT DATE : 10/22/2012

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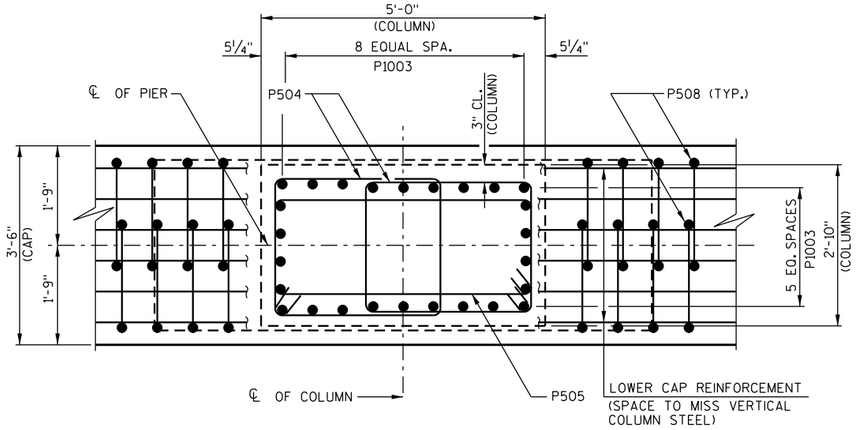
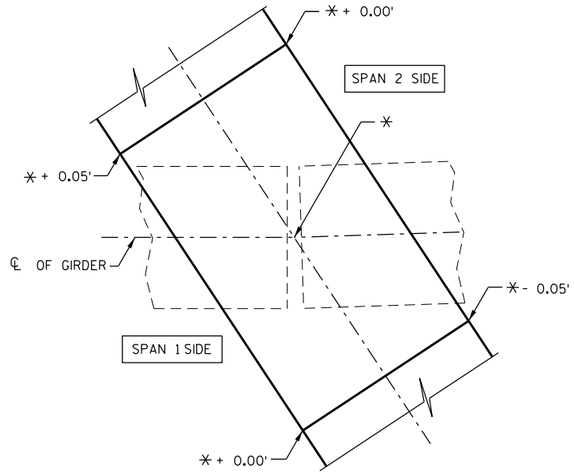


SECTION THRU COLUMN

(SECTION TAKEN AT BOTTOM OF PIER CAP, LOOKING UP)



SLOPING BEAM SEAT DETAIL

LEGEND

✳ ◪ FOR SYMBOL DESCRIPTIONS, SEE SHEET 9.

BILL OF BARS

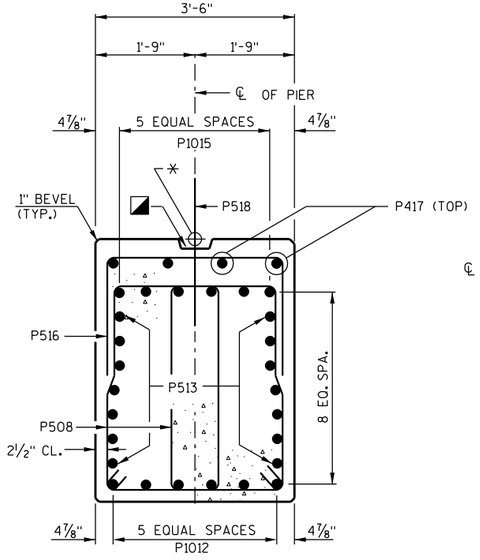
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	
NON-COATED BARS						TOTAL WEIGHT = 1,520 LBS.
P701	27	8-8			FOOTINGS	HORIZ.
P802	45	8-8			FOOTINGS	HORIZ.
EPOXY COATED BARS						TOTAL WEIGHT = 19,440 LBS.
P1003	78	26-0	X		PIER COLUMNS & FOOTINGS	VERT.
P504	228	11-3	X		PIER COLUMNS - STIRRUPS	HORIZ.
P505	114	12-7	X		PIER COLUMNS - STIRRUPS	HORIZ.
P606	36	7-0			PIER COLUMNS - TOP	VERT.
P507	12	18-4	X	✳	PIER COLUMNS - TOP	HORIZ.
P508	112	12-11	X		PIER CAP - STIRRUPS	VERT.
P509	4	11-9	X		PIER CAP - STIRRUPS - ENDS	VERT.
P510	4	10-7	X		PIER CAP - STIRRUPS - ENDS	VERT.
P511	4	9-5	X		PIER CAP - STIRRUPS - ENDS	VERT.
P1012	12	28-7	X		PIER CAP - BOTTOM	HORIZ.
P513	28	25-3			PIER CAP - SIDES	HORIZ.
P514	20	8-8	X		PIER CAP - ENDS	HORIZ.
P1015	12	29-11	X		PIER CAP - TOP	HORIZ.
P516	31	6-10	X		PIER CAP - UNDER GIRDERS 3 THRU 6	VERT.
P417	4	31-4			PIER CAP - UNDER GIRDERS 3 THRU 6	HORIZ.
P518	20	2-0			PIER CAP - DOWELS	VERT.

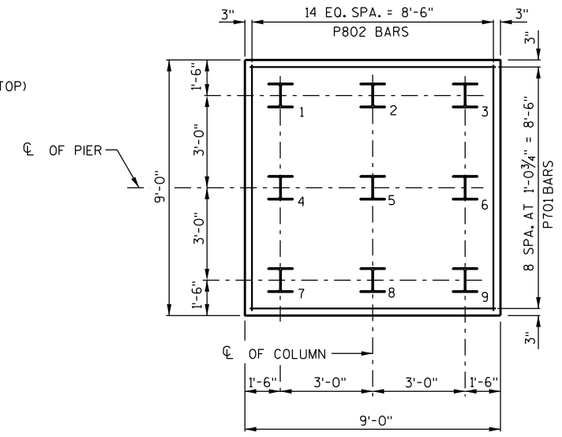
✳ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATION. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

MARK	NO. REQ'D.	LENGTH
P507	3 SERIES OF 4	15'-1" TO 21'-7"

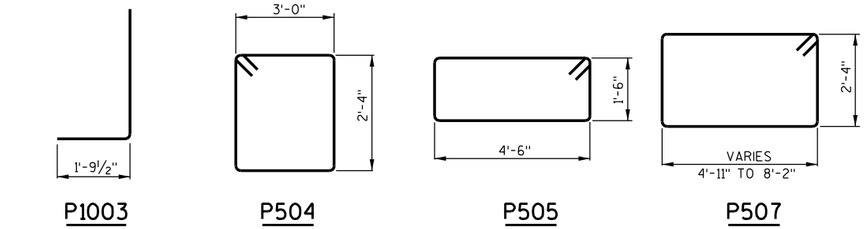


SECTION THRU PIER CAP



FOOTING PLAN

MARK	"A"	"B"
P508	2'-1"	4'-1"
P509	2'-1"	3'-6"
P510	2'-1"	2'-11"
P511	2'-1"	2'-4"



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

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PIER DETAILS

SHEET 11 OF 29
1691

STATE PROJECT NUMBER
1133-09-71

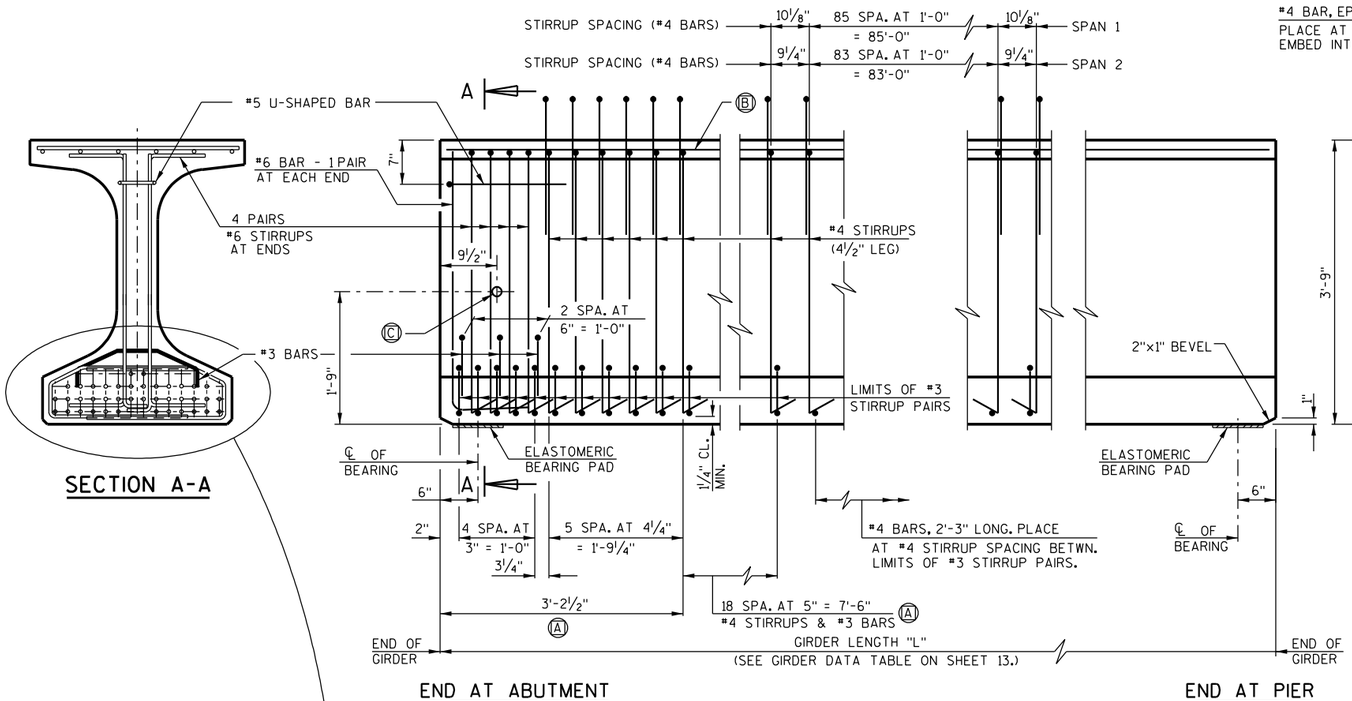
8

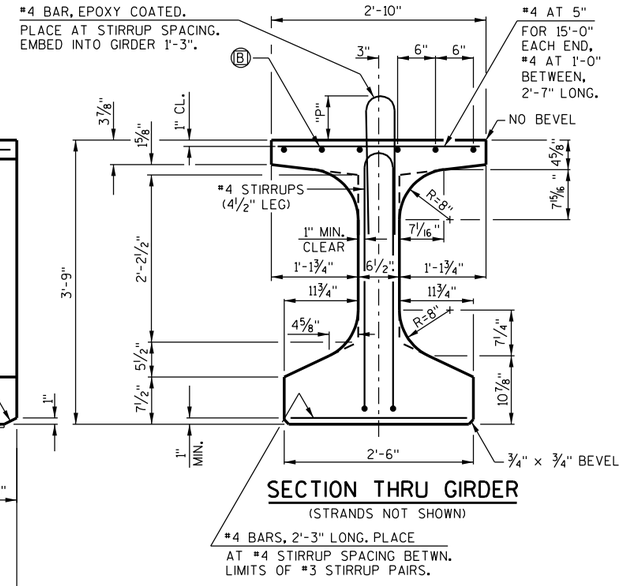
8

FILE NAME : P:\134 USH 41 Bridges 1133-09-00\Structures\B-5-612\11.pierc_b-5-612.dgn
PLOT DATE : 10/22/2012

STATE PROJECT NUMBER

1133-09-71





NOTES: FOR GIRDER DATA AND STRAND PATTERN DETAILS, SEE SHEET 13.

FOR DIMENSION "P", SEE GIRDER DATA TABLE ON SHEET 13.

GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, ONE OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE 0.6" DIA.-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

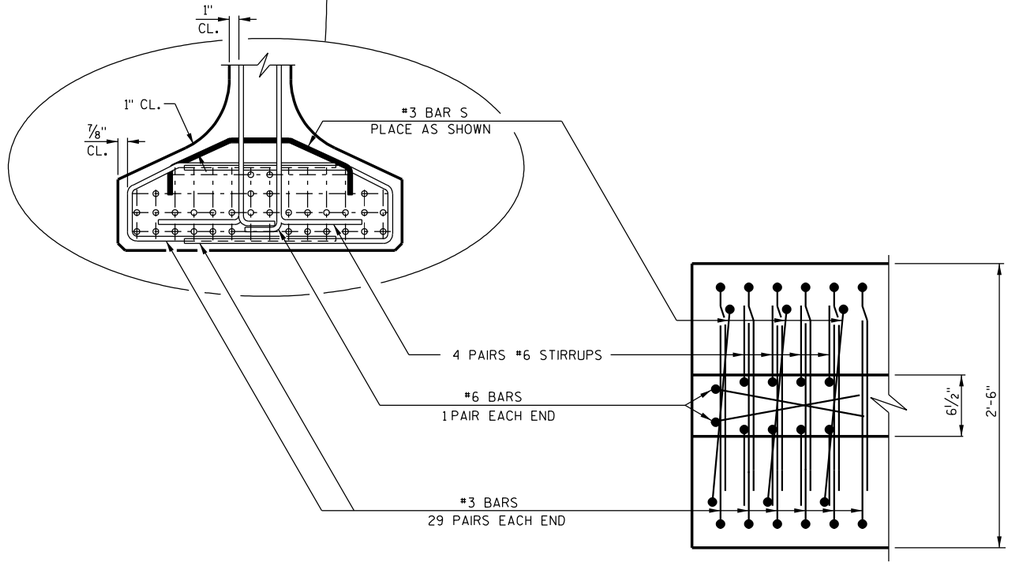
FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "INTERMEDIATE STEEL DIAPHRAGM" SHEET.

SIDE VIEW & TYP. SECTION IN SPAN

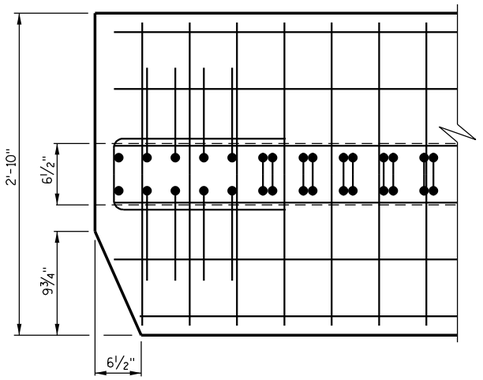
Ⓐ DETAIL TYPICAL EACH END

Ⓑ 6 - #4 BARS FULL LENGTH, MIN. LAP = 1'-11".

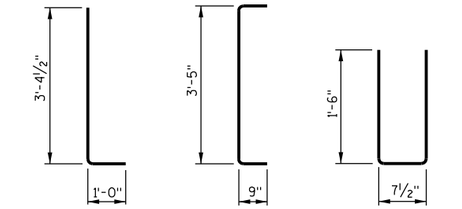
Ⓒ 1½" DIA. HOLE IN WEB FOR 2 - S515 BARS.

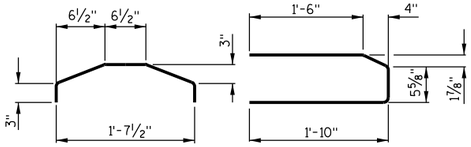


BOTTOM FLANGE
(TYP. EACH END)



TOP FLANGE
(SOUTH END OF SPAN 1 SHOWN, NORTH END OF SPAN 2 SIMILAR)





NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

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45W" PRESTRESSED GIRDER DETAILS

SHEET 12 OF 29
1692

8

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FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-612\12.45Wdgn1.0-5-612.dgn
PLOT DATE : 10/22/2012

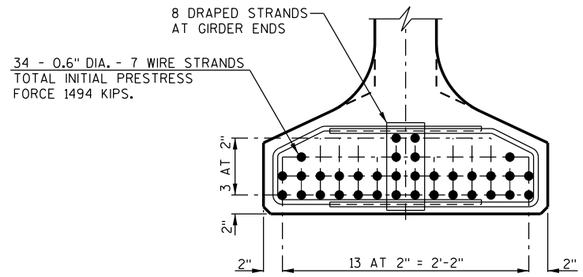
STATE PROJECT NUMBER

1133-09-71

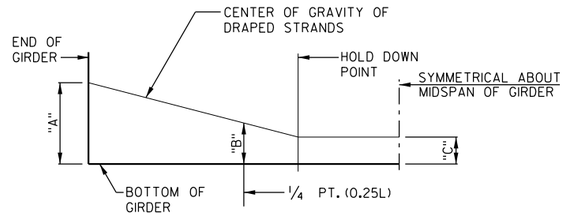
GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1st 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1 - 6	108'-1 1/4"	7/8"	1 5/8"	2 1/4"	2 5/8"	2 3/4"	2 5/8"	2 1/4"	1 5/8"	7/8"	8000	8"	7"	8"	0.60	34	6800	40"	13 3/4"	16 3/4"	5"		
2	1 - 6	105'-11 1/2"	3/4"	1 5/8"	2 1/8"	2 1/2"	2 5/8"	2 1/2"	2 1/8"	1 5/8"	3/4"	8000	8"	7"	8"	0.60	34	6800	40"	13 3/4"	16 3/4"	5"		

* MINIMUM CYLINDER STRENGTH OF CONCRETE AT THE TIME OF TRANSFER OF PRESTRESS FORCE.



DRAPED STRAND PATTERN - SPANS 1& 2



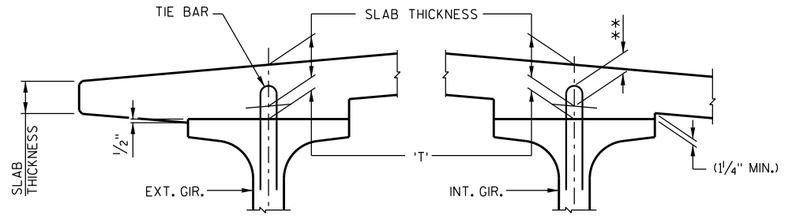
LOCATION OF DRAPED STRANDS

THEORETICAL CAMBER

SPAN	CAMBER (IN.) ***
1	3 1/2"
2	3 5/8"

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T'. USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

*** THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.



SLAB HAUNCH DETAIL

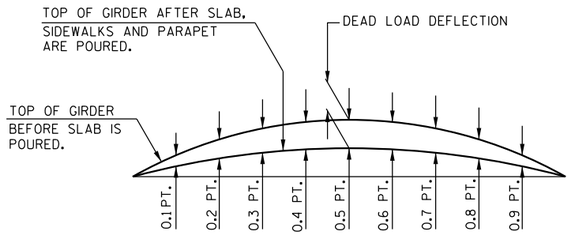
IF 1 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
\- TOP OF GIRDER ELEVATION
\+ DEAD LOAD DEFLECTION
\- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DEAD LOAD DEFLECTION DIAGRAM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

DRAWN BY TAW | PLANS CK'D. TR

45W" PRESTRESSED GIRDER DETAILS

SHEET 13 OF 29
1693

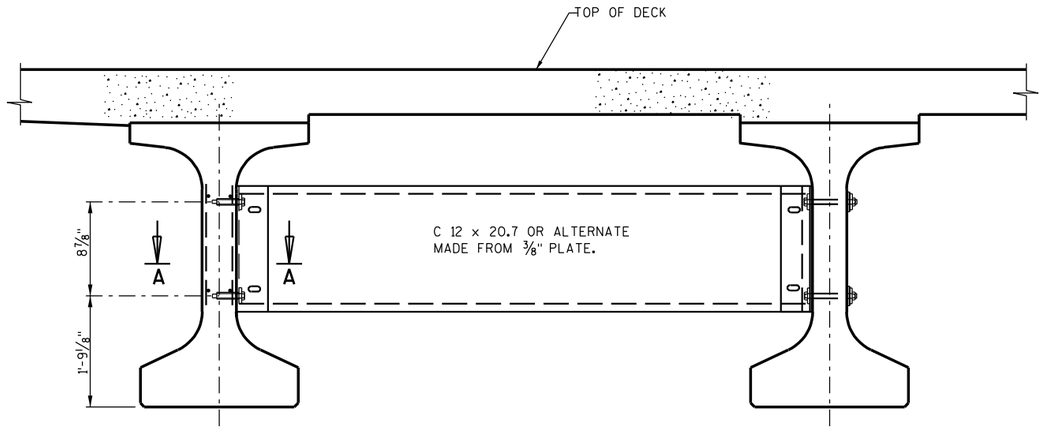
8

8

FILE NAME : P:\134 (DSH 41 Bridges (1133-09-00)\Structures\B-5-612\13_45Wdgr2_b-5-612.dgn
PLOT DATE : 11/6/2012

STATE PROJECT NUMBER

1133-09-71



EXTERIOR GIRDER

INTERIOR GIRDER

PART TRANSVERSE SECTION AT DIAPHRAGM

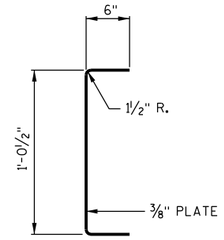
GENERAL NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-5-612", EACH.

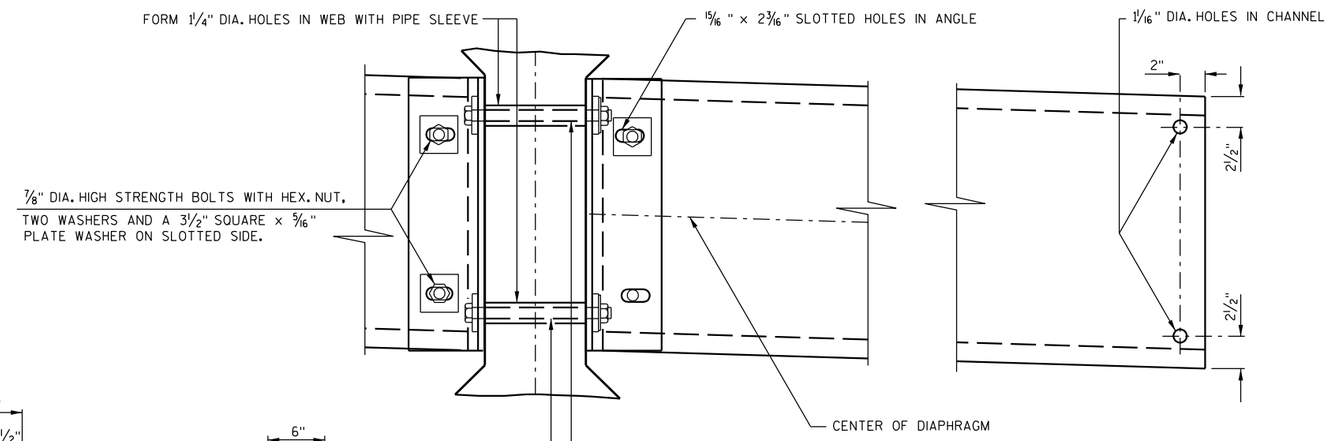
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS, SLEEVES AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

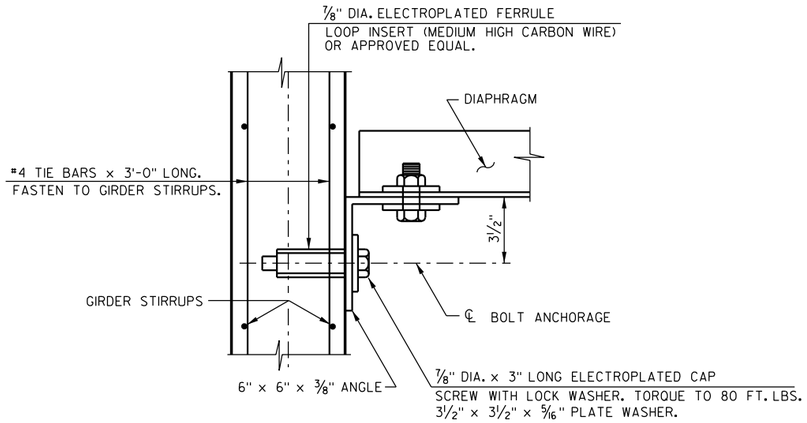


SECTION THRU ALTERNATE DIAPHRAGM



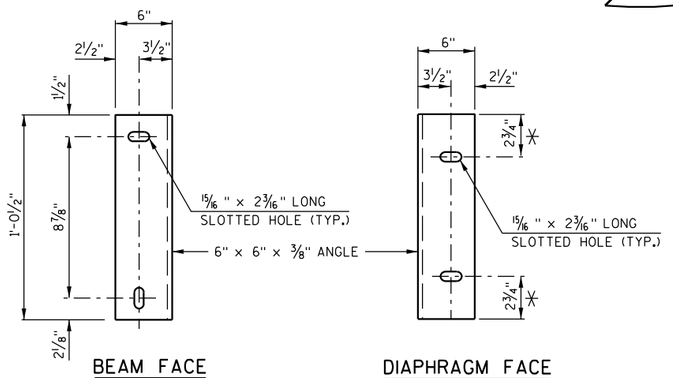
DETAIL B

(FOR CONTINUOUS LINE OF DIAPHRAGMS)



SECTION A-A

(FOR EXTERIOR ATTACHMENT)



DIAPHRAGM SUPPORT

* DIMENSION = 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM.

NOTE: BEND DIAPHRAGM SUPPORT ANGLE/PLATE AS NECESSARY SO THE ANGLE/PLATE IS FLUSH WITH BEAM FACE & DIAPHRAGM FACE. SEE ABUTMENT SHEETS FOR GIRDER ANGLE DIMENSIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

DRAWN BY TAW | PLANS CK'D. TR

INTERMEDIATE STEEL DIAPHRAGMS

SHEET 14 OF 29

1694

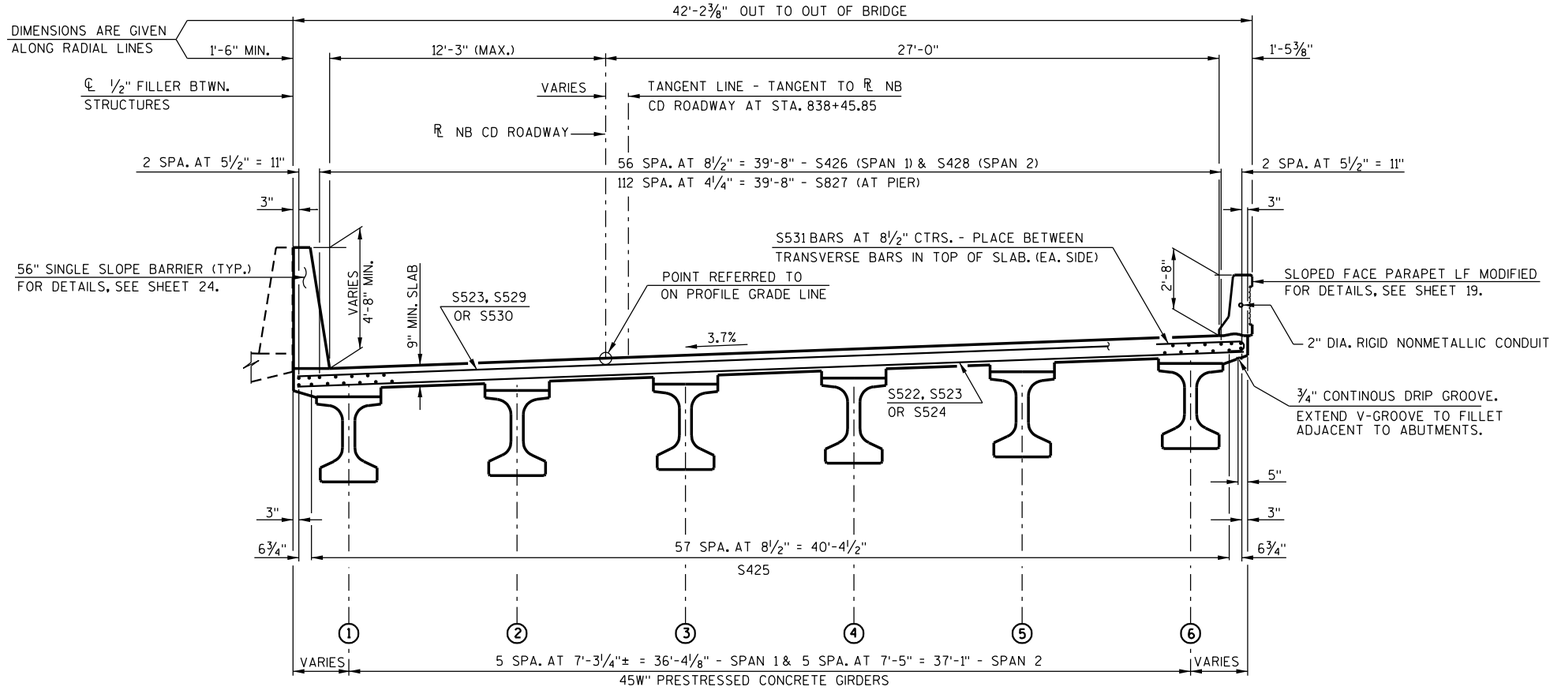
8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\Structures\B-5-612\14_steeldiaph_b-5-612.dgn
PLOT DATE : 10/22/2012

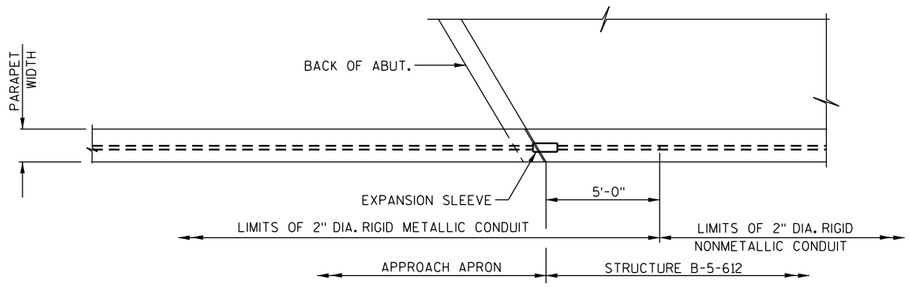
STATE PROJECT NUMBER

1133-09-71



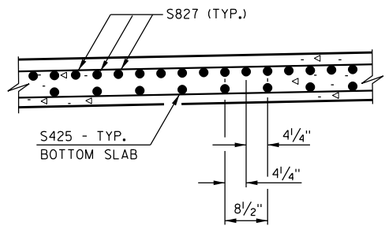
CROSS SECTION THRU ROADWAY

(LOOKING NORTH)



PART PLAN - SUPERSTRUCTURE

(SHOWING CONDUIT LIMITS IN EAST SIDE PARAPET. SOUTH END OF DECK SHOWN, NORTH END SIMILAR.)



CROSS SECTION THRU SLAB - AT PIER

(LOOKING NORTH)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 15 OF 29
1695

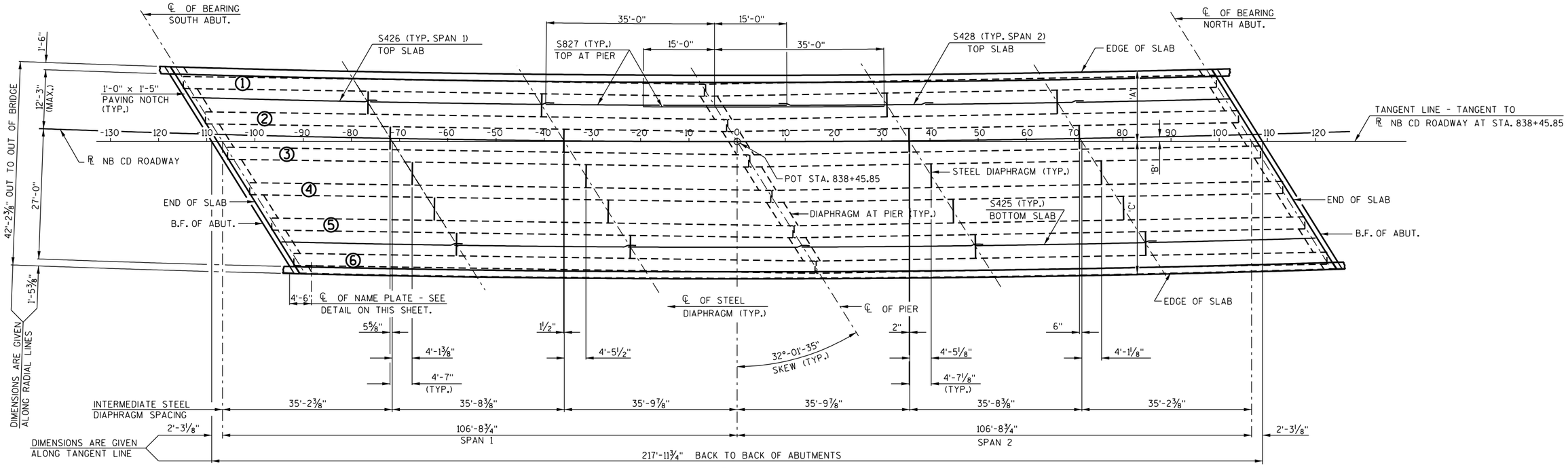
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-612\15_superl_b-5-612.dgn
PLOT DATE : 10/22/2012

8

8

STATE PROJECT NUMBER

1133-09-71



PLAN

OFFSET TABLE

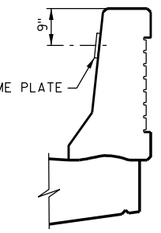
DISTANCE	-110	-100	-90	-80	-70	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60	70	80	90	100	110	120
OFFSET 'A'	15'-3⅝"	15'-0⅜"	14'-9½"	14'-6⅞"	14'-4½"	14'-2½"	14'-0⅞"	13'-11½"	13'-10⅜"	13'-9⅝"	13'-9⅛"	13'-9"	13'-9⅛"	13'-9⅝"	13'-10⅜"	13'-11½"	14'-0⅞"	14'-2½"	14'-4½"	14'-6⅞"	14'-9½"	15'-0⅜"	---	---
OFFSET 'B'	1'-6⅝"	1'-3⅜"	1'-0⅜"	9⅞"	7½"	5½"	3⅞"	2½"	1⅜"	⅝"	⅛"	0"	⅛"	⅝"	1⅜"	2½"	3⅞"	5½"	7½"	9⅞"	1'-0⅜"	1'-3⅜"	---	---
OFFSET 'C'	---	---	27'-2⅝"	27'-5¼"	27'-7½"	27'-8½"	27'-11⅛"	28'-0½"	28'-1⅝"	28'-2⅜"	28'-2⅞"	28'-3"	28'-2⅞"	28'-2⅜"	28'-1⅝"	28'-0½"	27'-11⅛"	27'-8½"	27'-7½"	27'-5¼"	27'-2⅝"	26'-11¾"	26'-8½"	26'-5"

TOP OF DECK ELEVATIONS

	℄ OF BRG. S. ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF BRG. N. ABUT.
W. EOD	632.50	632.34	632.18	632.01	631.84	631.67	631.50	631.33	631.15	630.97	630.79	630.61	630.42	630.24	630.05	629.85	629.66	629.46	629.26	629.06	628.86
GIRDER 1	632.58	632.42	632.25	632.08	631.92	631.75	631.57	631.40	631.22	631.05	630.87	630.68	630.49	630.30	630.11	629.91	629.72	629.52	629.32	629.12	628.92
GIRDER 2	632.78	632.61	632.45	632.28	632.11	631.94	631.77	631.59	631.42	631.24	631.06	630.87	630.68	630.49	630.30	630.11	629.91	629.71	629.51	629.31	629.11
GIRDER 3	632.97	632.81	632.64	632.47	632.30	632.13	631.96	631.79	631.61	631.43	631.26	631.07	630.88	630.68	630.49	630.30	630.10	629.90	629.70	629.50	629.30
GIRDER 4	633.17	633.00	632.84	632.67	632.50	632.33	632.15	631.98	631.80	631.63	631.45	631.26	631.07	630.88	630.68	630.49	630.29	630.09	629.90	629.70	629.49
GIRDER 5	633.37	633.20	633.03	632.86	632.69	632.52	632.35	632.17	632.00	631.82	631.64	631.45	631.26	631.07	630.87	630.68	630.48	630.29	630.09	629.89	629.68
GIRDER 6	633.56	633.40	633.23	633.06	632.89	632.72	632.54	632.37	632.19	632.01	631.83	631.64	631.45	631.26	631.07	630.87	630.67	630.48	630.28	630.08	629.87
E. EOD	633.64	633.47	633.31	633.14	632.97	632.79	632.62	632.44	632.26	632.08	631.89	631.71	631.52	631.33	631.14	630.94	630.74	630.54	630.34	630.14	629.93

NOTES

1. THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS.
2. THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.
3. LAP NO. 6 BARS 3'-6" MIN. AT BACK OF ABUTMENT DIAPHRAGMS.
4. LAP LONGITUDINAL NO. 5 BARS IN 56" SINGLE SLOPE MEDIAN BARRIER 2'-11" MIN.
5. LAP LONGITUDINAL NO. 5 BARS IN SLOPED FACE PARAPET (MODIFIED) 1'-9" MIN.
6. LAP NO. 4 BARS 1'-8" MIN. IN SLAB.
7. TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED PERPENDICULAR TO THE TANGENT LINE. FOR DETAILS, SEE SHEET 17.
8. EDGE OF DECK (EOD) ELEVATIONS ARE CALCULATED ASSUMING CROSS SLOPE CONTINUES TO EDGE.
9. PLACE LONGITUDINAL BAR STEEL REINFORCEMENT CONCENTRIC TO ℄ NB CD ROADWAY.



NAME PLATE DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 16 OF 29
1696

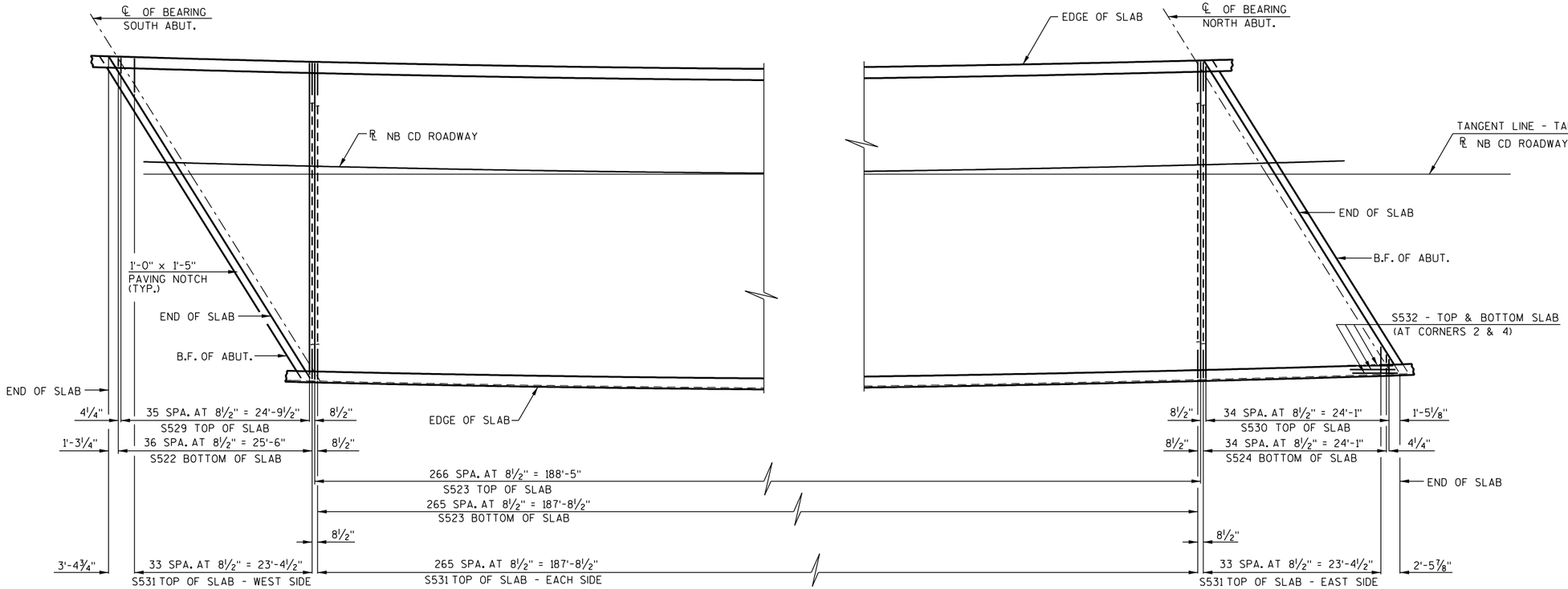
8

8

FILE NAME : P:\134 USH 41 Bridges \1133-09-00\Structures\B-5-612\16_super2_b-5-612.dgn
PLOT DATE : 10/22/2012

STATE PROJECT NUMBER

1133-09-71



PART PLAN

(SHOWING TOP & BOTTOM SLAB TRANSVERSE BAR STEEL REINFORCEMENT)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 17 OF 29
1697

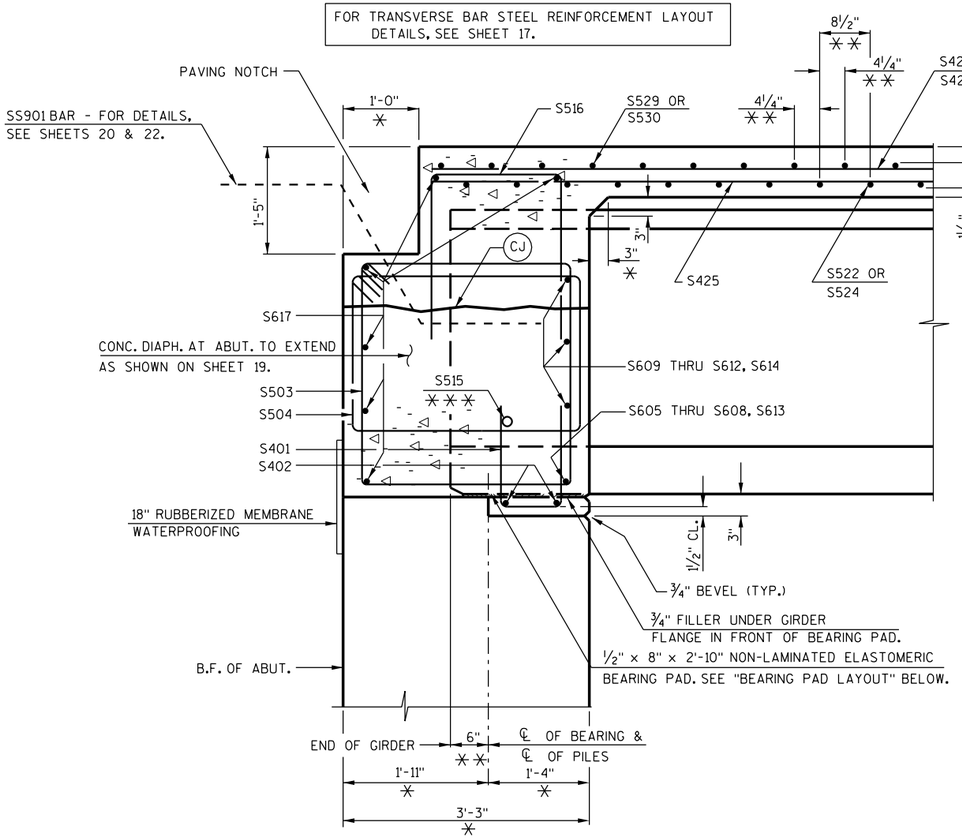
8

8

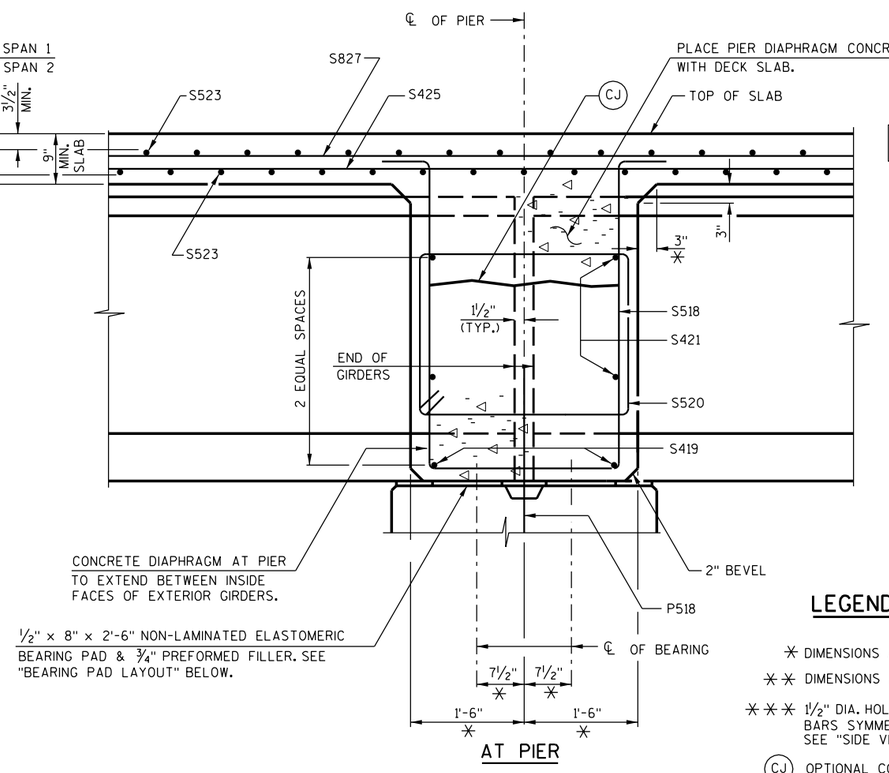
FILE NAME : P:\134 (DSH 41 Bridges I1133-09-00)\structures\B-5-612\17_super3_b-5-612.dgn
PLOT DATE : 10/22/2012

STATE PROJECT NUMBER
1133-09-71

FOR TRANSVERSE BAR STEEL REINFORCEMENT LAYOUT DETAILS, SEE SHEET 17.



AT ABUTMENTS



AT PIER

NOTE: PLACE S531 BARS BETWEEN TRANSVERSE BARS IN TOP OF SLAB. (TYP. EA. SIDE)

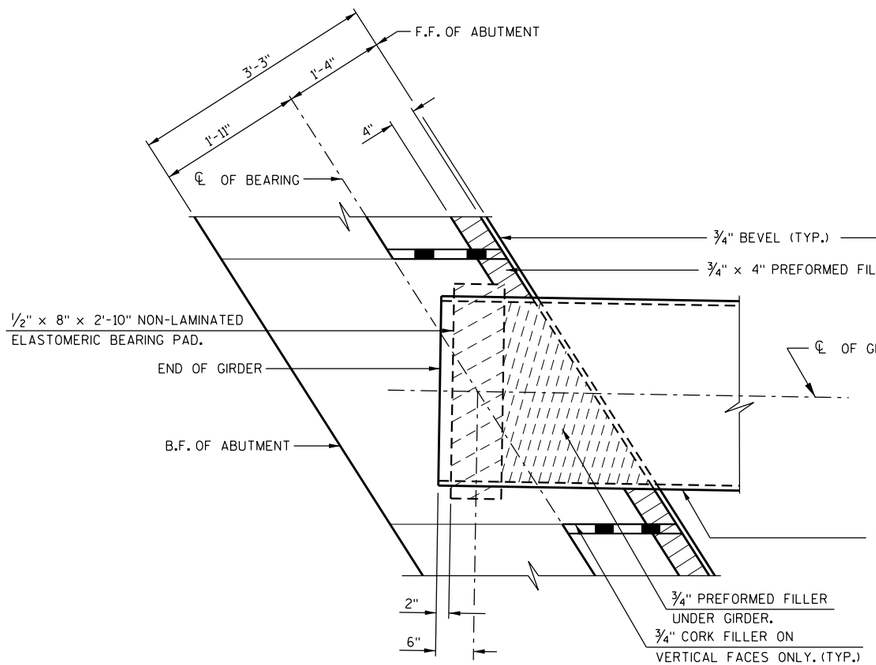
LEGEND

- ✳ DIMENSIONS ARE GIVEN NORMAL TO ℄ OF SUBSTRUCTURE UNITS.
- ✳✳ DIMENSIONS ARE GIVEN PARALLEL TO THE GIRDER ℄.
- ✳✳✳ 1½" DIA. HOLE IN WEB FOR S515 BARS. PLACE TWO S515 BARS SYMMETRICAL ABOUT THE ℄ OF EACH GIRDER. SEE "SIDE VIEW" ON SHEET 12 FOR DETAILS.
- (CJ) OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

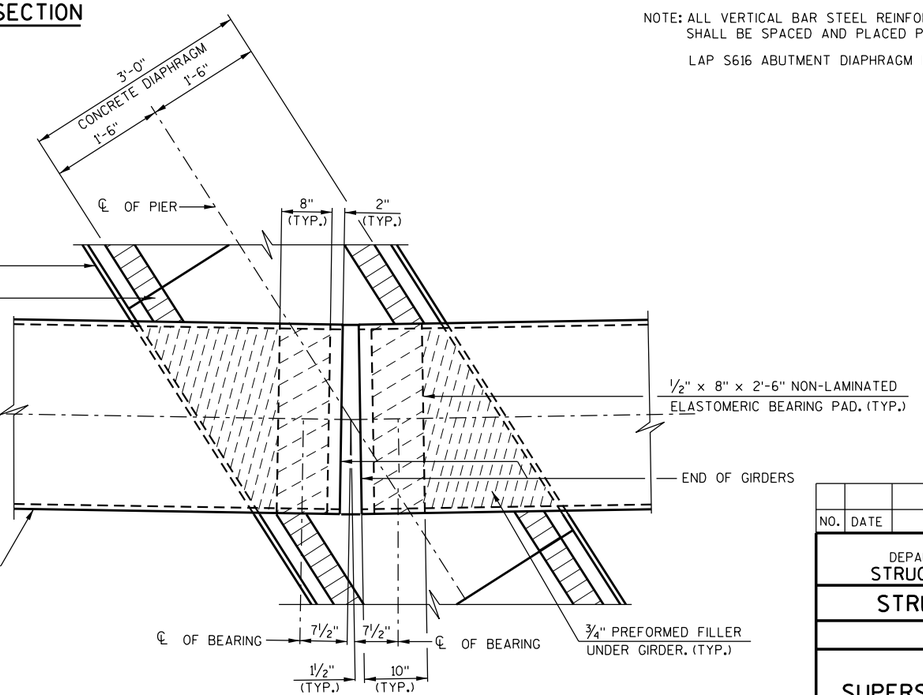
NOTE: ALL VERTICAL BAR STEEL REINFORCEMENT IN CONCRETE DIAPHRAGMS SHALL BE SPACED AND PLACED PARALLEL TO GIRDERS.

LAP S616 ABUTMENT DIAPHRAGM BARS 3'-6" MIN.

PART LONGITUDINAL SECTION



AT ABUTMENTS



AT PIER

BEARING PAD LAYOUT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 18 OF 29
1698

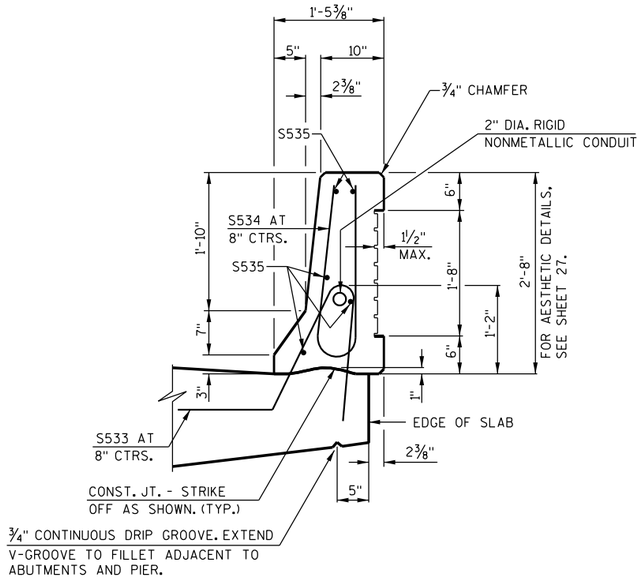
8

8

FILE NAME : P:\134 USH 41 Bridges \1133-09-00\Structures\B-5-612\18_super4_b-5-612.dgn
PLOT DATE : 10/22/2012

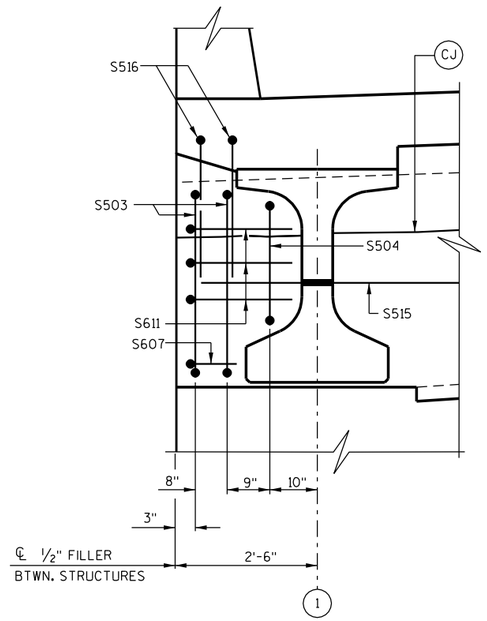
STATE PROJECT NUMBER

1133-09-71



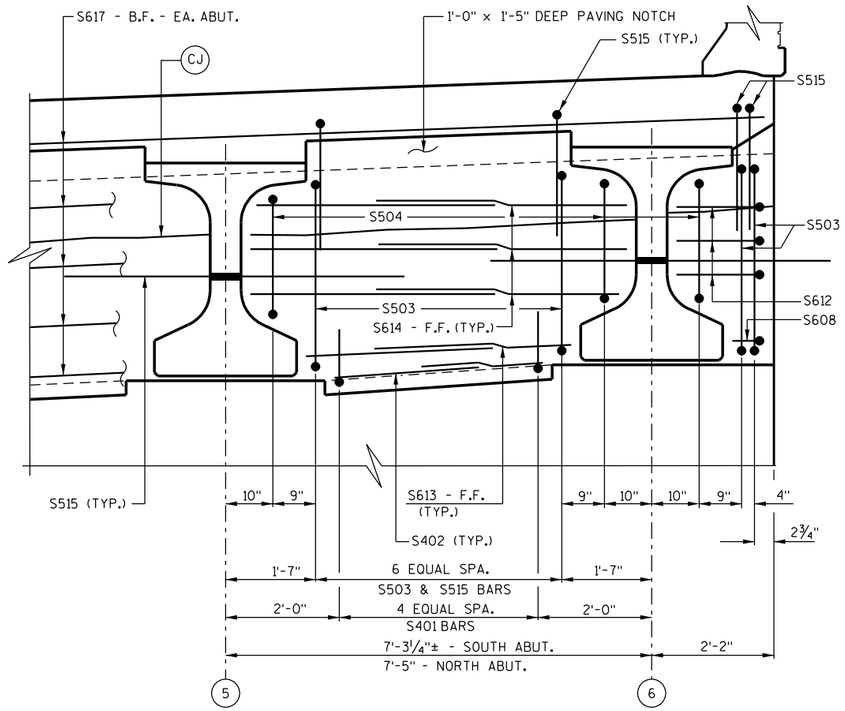
SECTION THRU SLOPED FACE PARAPET LF (MODIFIED) - EAST SIDE ONLY

(LOOKING NORTH)



ABUTMENT DIAPHRAGM - CORNER 3

(LOOKING NORTH AT NORTH ABUT.)

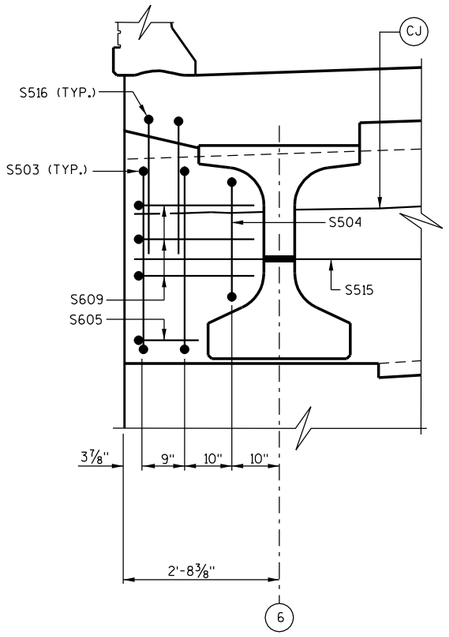


AT CORNER 4

ABUTMENT DIAPHRAGM DETAILS

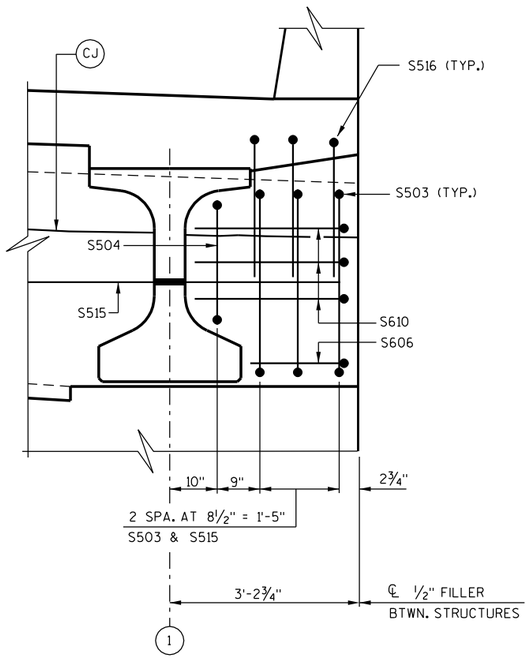
(LOOKING NORTH AT NORTH ABUT., SOUTH ABUT. SIMILAR)

NOTES: LAP NO. 4 BARS 1'-0" MIN. AT F.F. OF ABUTMENT DIAPHRAGM.
LAP NO. 6 BARS 2'-1" MIN. AT F.F. OF ABUTMENT DIAPHRAGM.
LAP NO. 6 BARS 3'-6" MIN. AT B.F. OF ABUTMENT DIAPHRAGM.



ABUTMENT DIAPHRAGM - CORNER 1

(LOOKING SOUTH AT SOUTH ABUT.)



ABUTMENT DIAPHRAGM - CORNER 2

(LOOKING SOUTH AT SOUTH ABUT.)

LEGEND

(CJ) OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 19 OF 29
1699

FILE NAME : P:\134 USH 41 Bridges 11133-09-00\structures\B-5-612\19.super5_b-5-612.dgn
PLOT DATE : 10/22/2012

8

8

STATE PROJECT NUMBER

1133-09-71

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT IN THIS BILL SHALL BE EPOXY COATED.

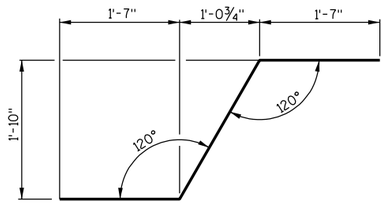
MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 70,190 LBS.
S401	50	3-8	X		ABUTMENT DIAPHRAGM - BOTTOM	VERT.
S402	40	2-8			ABUTMENT DIAPHRAGM - BOTTOM	HORIZ.
S503	79	13-7	X		ABUTMENT DIAPHRAGM - STIRRUPS	VERT.
S504	24	11-9	X		ABUTMENT DIAPHRAGM - STIRRUPS	VERT.
S605	1	5-7	X		ABUTMENT DIAPHRAGM - END - CORNER 1	HORIZ.
S606	1	6-9	X		ABUTMENT DIAPHRAGM - END - CORNER 2	HORIZ.
S607	1	4-10	X		ABUTMENT DIAPHRAGM - END - CORNER 3	HORIZ.
S608	1	4-2	X		ABUTMENT DIAPHRAGM - END - CORNER 4	HORIZ.
S609	3	7-11	X		ABUTMENT DIAPHRAGM - END - CORNER 1	HORIZ.
S610	3	8-11	X		ABUTMENT DIAPHRAGM - END - CORNER 2	HORIZ.
S611	3	7-0	X		ABUTMENT DIAPHRAGM - END - CORNER 3	HORIZ.
S612	3	6-4	X		ABUTMENT DIAPHRAGM - END - CORNER 4	HORIZ.
S613	20	3-10			ABUTMENT DIAPHRAGM - F.F, - BTWN. GIRDERS	HORIZ.
S614	60	4-5			ABUTMENT DIAPHRAGM - F.F, - BTWN. GIRDERS	HORIZ.
S515	24	6-0			ABUTMENT DIAPHRAGM - AT GIRDER HOLES	HORIZ.
S516	79	6-6	X		ABUTMENT DIAPHRAGM - TOP	VERT.
S617	24	26-10			ABUTMENT DIAPHRAGM - B.F.	HORIZ.
S518	25	12-11	X		PIER DIAPHRAGM	VERT.
S419	10	5-6			PIER DIAPHRAGM - BETWEEN GIRDERS	HORIZ.
S520	10	11-1	X		PIER DIAPHRAGM - BETWEEN GIRDERS	VERT.
S421	20	7-8			PIER DIAPHRAGM - BETWEEN GIRDERS	HORIZ.
S522	37	21-7		✳	SLAB - BOTTOM	TRANS.
S523	533	41-8			SLAB - TOP & BOTTOM	TRANS.
S524	35	22-0		✳	SLAB - BOTTOM	TRANS.
S425	360	37-7			SLAB - BOTTOM	LONGIT.
S426	122	38-4			SLAB - TOP - SPAN 1	LONGIT.
S827	117	50-0			SLAB - TOP - AT PIER	TRANS.
S428	183	32-11			SLAB - TOP - SPAN 2	TRANS.
S529	36	21-6		✳	SLAB - TOP	TRANS.
S530	35	21-5		✳	SLAB - TOP	TRANS.
S531	600	5-1	X		SLAB - TOP - AT EDGE OF SLAB	TRANS.
S532	12	6-0			SLAB - TOP & BOTTOM - CORNERS 2 & 4	LONGIT.
S533	323	4-2	X		PARAPET - EAST SIDE	VERT.
S534	323	4-10	X		PARAPET - EAST SIDE	VERT.
S535	30	37-3			PARAPET - EAST SIDE	LONGIT.

✳ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATION. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

STAINLESS STEEL BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

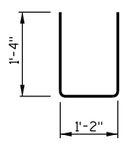
MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 1,430 LBS.
SS901	84	5-0	X		APPROACH APRON AT BRIDGE PAVING NOTCH	LONGIT.



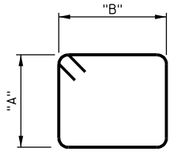
SS901

BAR SERIES TABLE

MARK	NO. REQ'D.	LENGTH
S522	1 SERIES OF 37	1'-6" TO 41'-7"
S524	1 SERIES OF 35	2'-5" TO 41'-7"
S529	1 SERIES OF 36	2'-0" TO 41'-0"
S530	1 SERIES OF 35	1'-10" TO 41'-0"

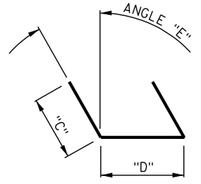


S401



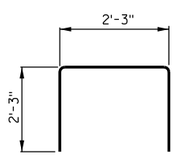
MARK	DIM. "A"	DIM. "B"
S503	3'-1"	3'-5"
S504	2'-2"	3'-5"
S520	2'-2"	3'-1"

S503, S504 & S520

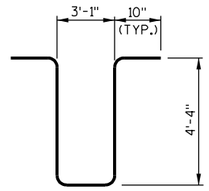


MARK	DIM. "C"	DIM. "D"	ANGLE "E"
S605	1'-4"	3'-3"	33°-20'-28"
S606	1'-11"	3'-3"	33°-44'-45"
S607	1'-0"	3'-2"	30°-35'-05"
S608	8"	3'-2"	30°-13'-36"
S609	2'-6"	3'-3"	33°-20'-28"
S610	3'-0"	3'-3"	33°-44'-45"
S611	2'-1"	3'-2"	30°-35'-05"
S612	1'-9"	3'-2"	30°-13'-36"

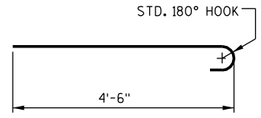
S605 THRU S612



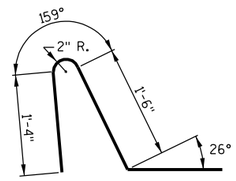
S516



S518



S531



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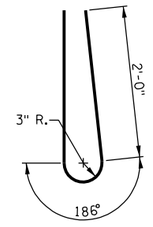
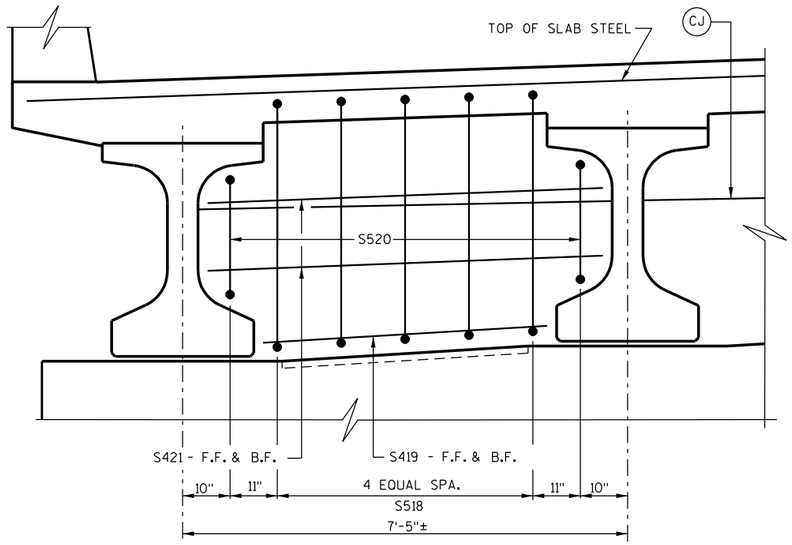


S534



PIER DIAPHRAGM DETAILS
(LOOKING NORTH)

LEGEND

(CJ) OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 20 OF 29
1700

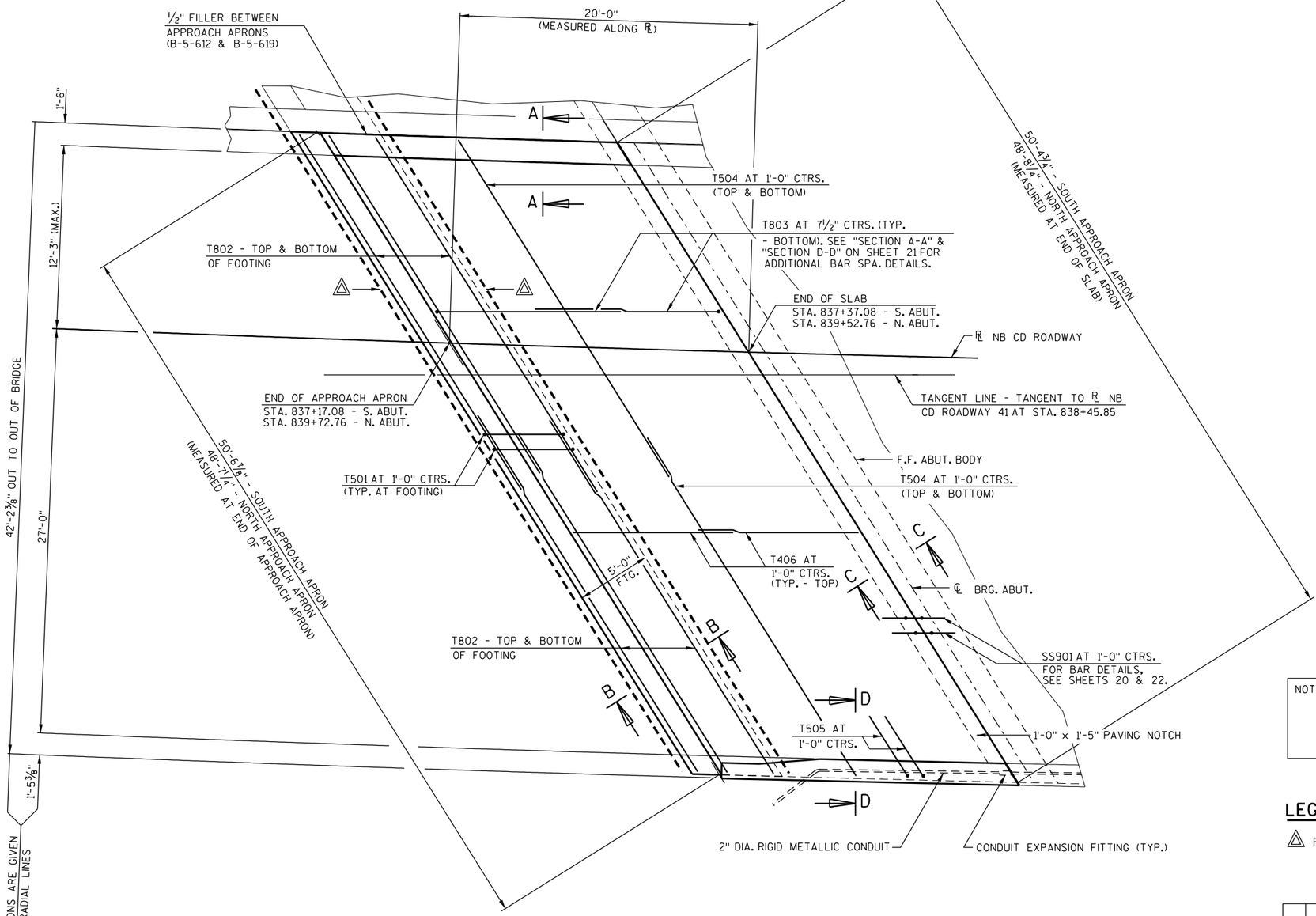
8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-612\20_superb_b-5-612.dgn
PLOT DATE : 10/22/2012

STATE PROJECT NUMBER

1133-09-71



APPROACH APRON PART PLAN

(SOUTH APPROACH APRON SHOWN, NORTH APPROACH APRON SIMILAR UNLESS NOTED OTHERWISE)

NOTES: LAP NO. 4 BARS 2'-4" MIN.
LAP NO. 5 BARS 2'-11" MIN.
LAP NO. 8 BARS 5'-9" MIN.
PLACE LONGITUDINAL BARS CONCENTRIC TO ℄ NB CD ROADWAY.

LEGEND

△ FOR SYMBOL DESCRIPTION, SEE SHEET 22.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

DRAWN BY TAW | PLANS CK'D. TR

APPROACH APRON DETAILS

SHEET 21 OF 29
1701

8

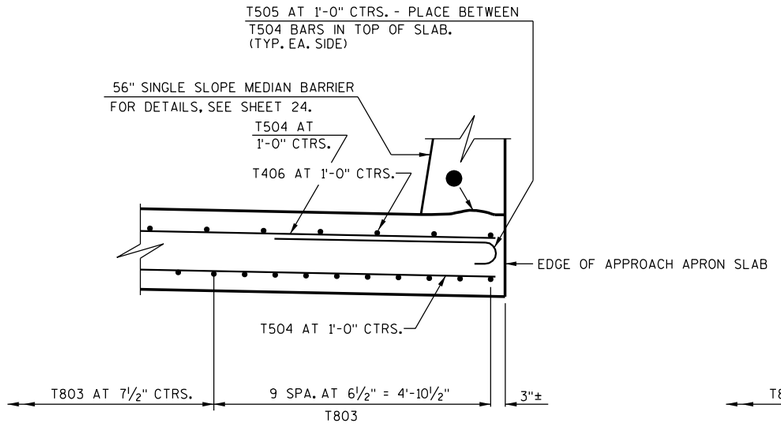
8

FILE NAME : P:\134 USH 41 Bridges 11133-09-00\structures\B-5-612\21_appron1_b-5-612.dgn
PLOT DATE : 10/22/2012

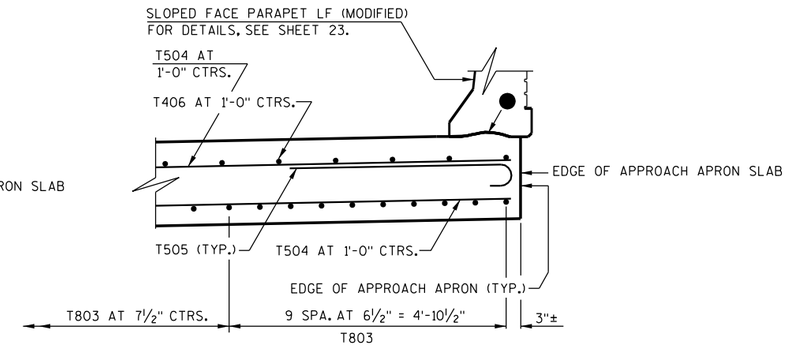
STATE PROJECT NUMBER
1133-09-71

LEGEND

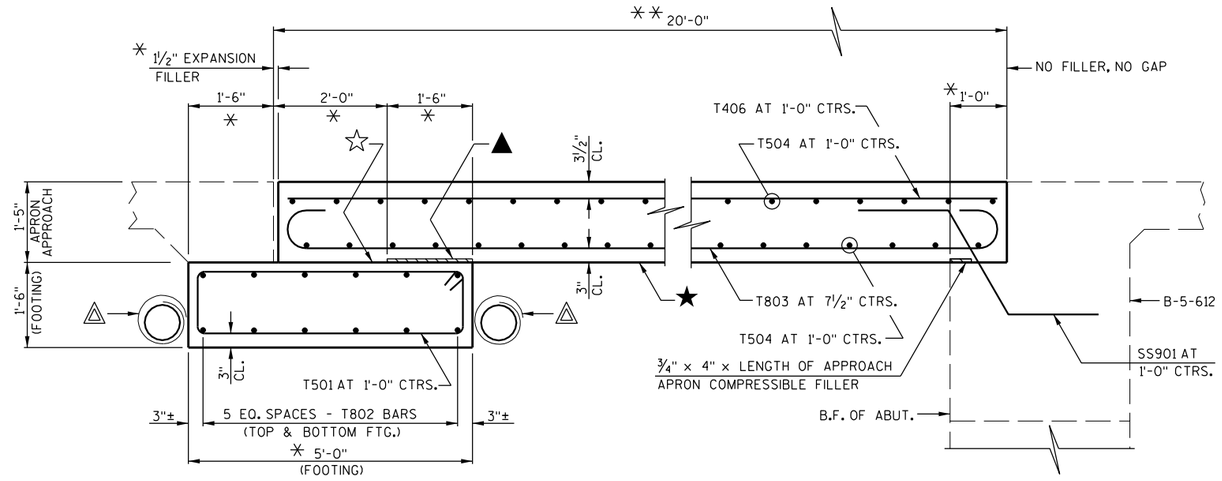
- ✳ DIMENSIONS ARE GIVEN NORMAL ℄ SUBSTRUCTURE.
- ✳✳ DIMENSIONS ARE GIVEN ALONG ℞ NB CD ROADWAY.
- ☆ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE LENGTH OF FOOTING. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ★ PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE LENGTH OF SUBGRADE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ▲ ¾" × 1'-6" × LENGTH OF FOOTING COMPRESSIBLE FILLER.
- ⧋ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD TO END OF PIPE. SEE "RODENT SHIELD" DETAIL ON THIS SHEET.
- ● CONST. JT. - STRIKE OFF AS SHOWN.



SECTION A-A



SECTION D-D

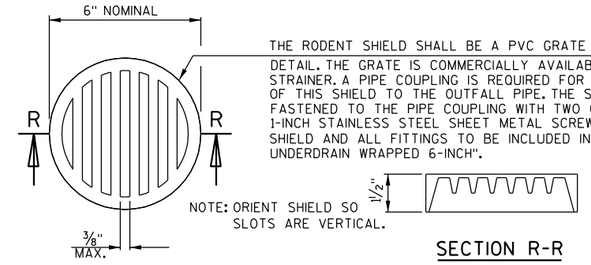


SECTION B-B

SECTION C-C

LONGITUDINAL SECTION AT APPROACH APRON

(SECTION SHOWN AT SOUTH APPROACH APRON, NORTH APPROACH APRON SIMILAR)



THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 × 1-INCH STAINLESS STEEL SHEET METAL SCREWS. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

NOTE: ORIENT SHIELD SO SLOTS ARE VERTICAL.

SECTION R-R

RODENT SHIELD

NOTES: BAR STEEL REINFORCEMENT FOR THE APPROACH APRONS AND THE 56" SINGLE SLOPE CONCRETE BARRIER LOCATED ON THE WEST SIDE OF THE APPROACH APRONS AND THE WEST SIDE OF THE DECK FOR B-5-612 IS INCLUDED IN THE BILL OF BARS ON SHEET 25.

FOR BAR STEEL REINFORCEMENT AND DETAILS FOR THE SLOPED FACE PARAPET LF (MODIFIED) LOCATED ON THE EAST SIDE OF THE APPROACH APRONS, SEE SHEET 23.

PLACE LONGITUDINAL BAR STEEL REINFORCEMENT CONCENTRIC TO ℞ NB CD ROADWAY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

DRAWN BY TAW | PLANS CK'D. TR

APPROACH APRON DETAILS

SHEET 22 OF 29
1702

FILE NAME : P:\134 USH 41 Bridges 11133-09-00\Structures\B-5-612\22.approach.dgn
PLOT DATE : 10/22/2012

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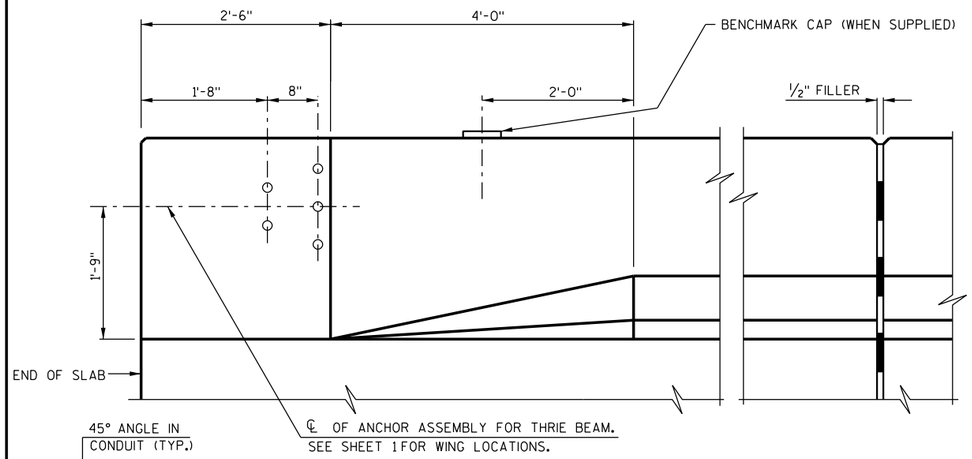
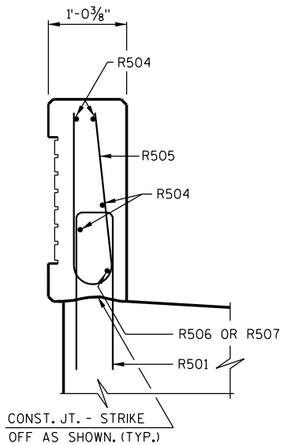
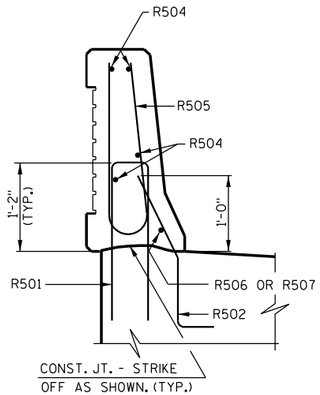
STATE PROJECT NUMBER

1133-09-71





SECTION A-A

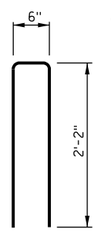


SECTION B-B

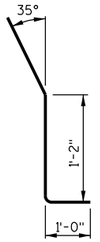
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL REINFORCEMENT BARS IN THIS BILL SHALL BE EPOXY COATED.

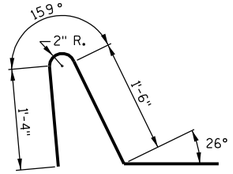
MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 920 LBS.
R501	28	4-7	X		PARAPET - CORNERS 1 & 4	VERT.
R502	16	3-1	X		PARAPET - CORNERS 1 & 4	VERT.
R503	40	4-2	X		PARAPET - CORNERS 1 & 4	VERT.
R504	16	10-6			PARAPET - CORNERS 1 & 4	HORIZ.
R505	68	4-10	X		PARAPET - CORNERS 1 & 4	VERT.
R506	1	18-8	X		PARAPET - CORNER 1	HORIZ.
R507	1	19-6	X		PARAPET - CORNER 4	HORIZ.



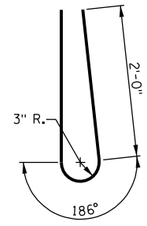
R501



R502



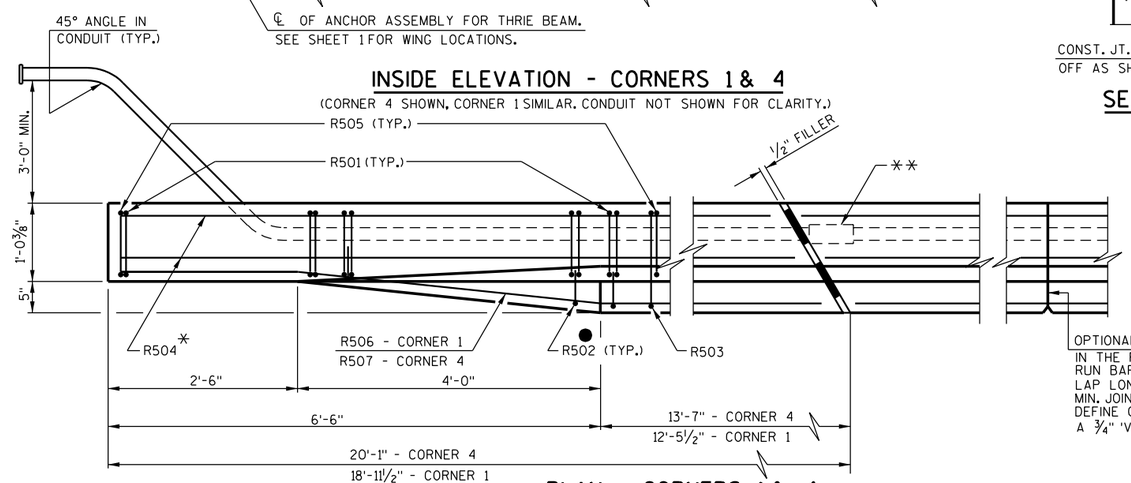
R503



R505

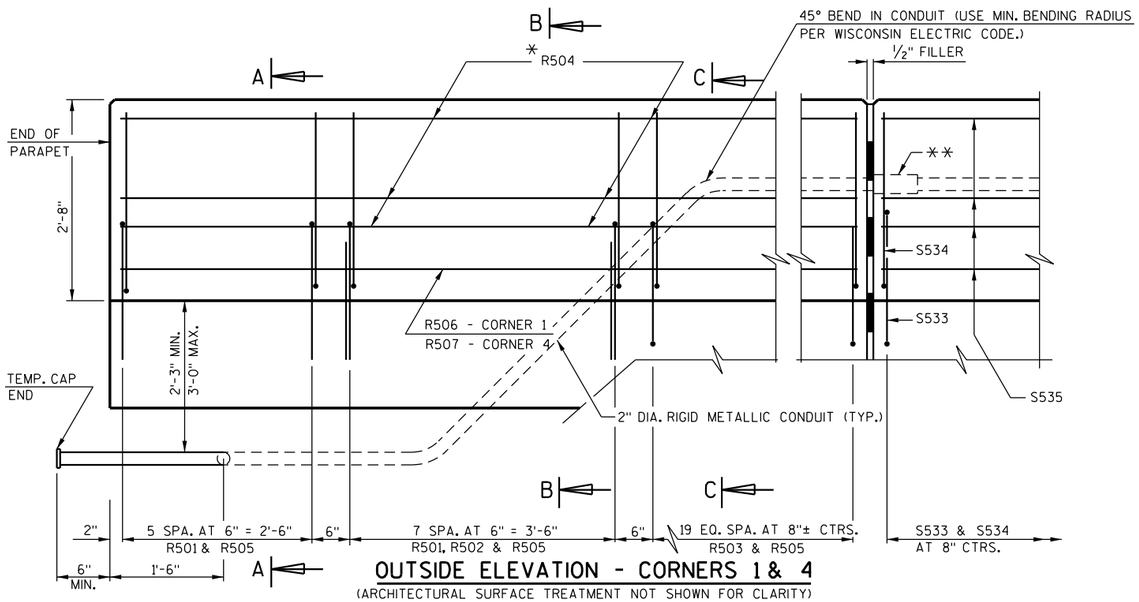
INSIDE ELEVATION - CORNERS 1 & 4

(CORNER 4 SHOWN, CORNER 1 SIMILAR. CONDUIT NOT SHOWN FOR CLARITY.)



PLAN - CORNERS 1 & 4

(CORNER 4 SHOWN, CORNER 1 SIMILAR.)



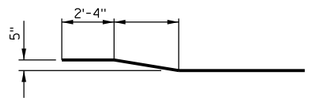
OUTSIDE ELEVATION - CORNERS 1 & 4

(ARCHITECTURAL SURFACE TREATMENT NOT SHOWN FOR CLARITY)

LEGEND

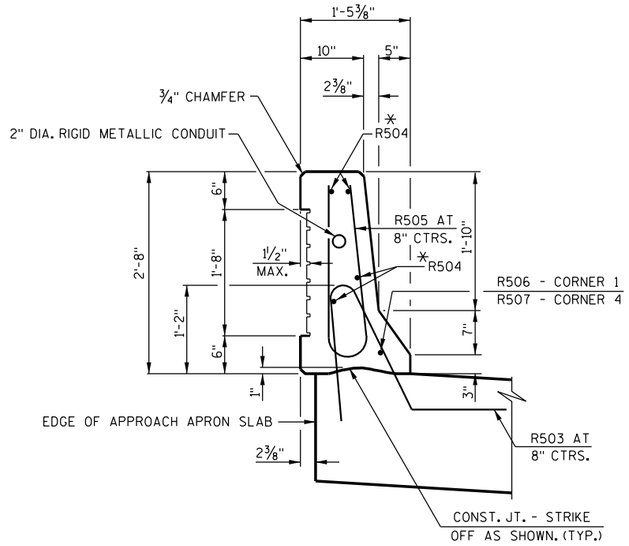
- ● R502 BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INTIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R502 BARS CORRECTLY ALONG TANSITION OF PARAPET.
- * LAP R504 BARS 1'-9" MIN.
- ** EXPANSION FITTING - USE AN APPROVED EXPANSION FITTING AT EACH SEMI-EXPANSION JOINT.

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0" DEFINE CONST. JOINT WITH A ¾" 'V' GROOVE.



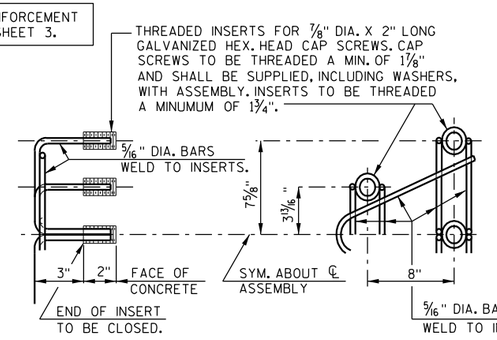
R506 & R507

NOTE: QUANTITIES OF CONCRETE MASONRY AND BAR STEEL REINFORCEMENT ARE INCLUDED IN THE APPROACH APRON QUANTITIES ON SHEET 3.



SECTION C-C

(LOOKING SOUTH AT PARAPET ON APPROACH APRON, EAST SIDE ONLY)



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX. HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE PAID FOR BY BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

DRAWN BY TAW | PLANS CK'D. TR

SLOPED FACE PARAPET LF (MODIFIED)

SHEET 23 OF 29
1703

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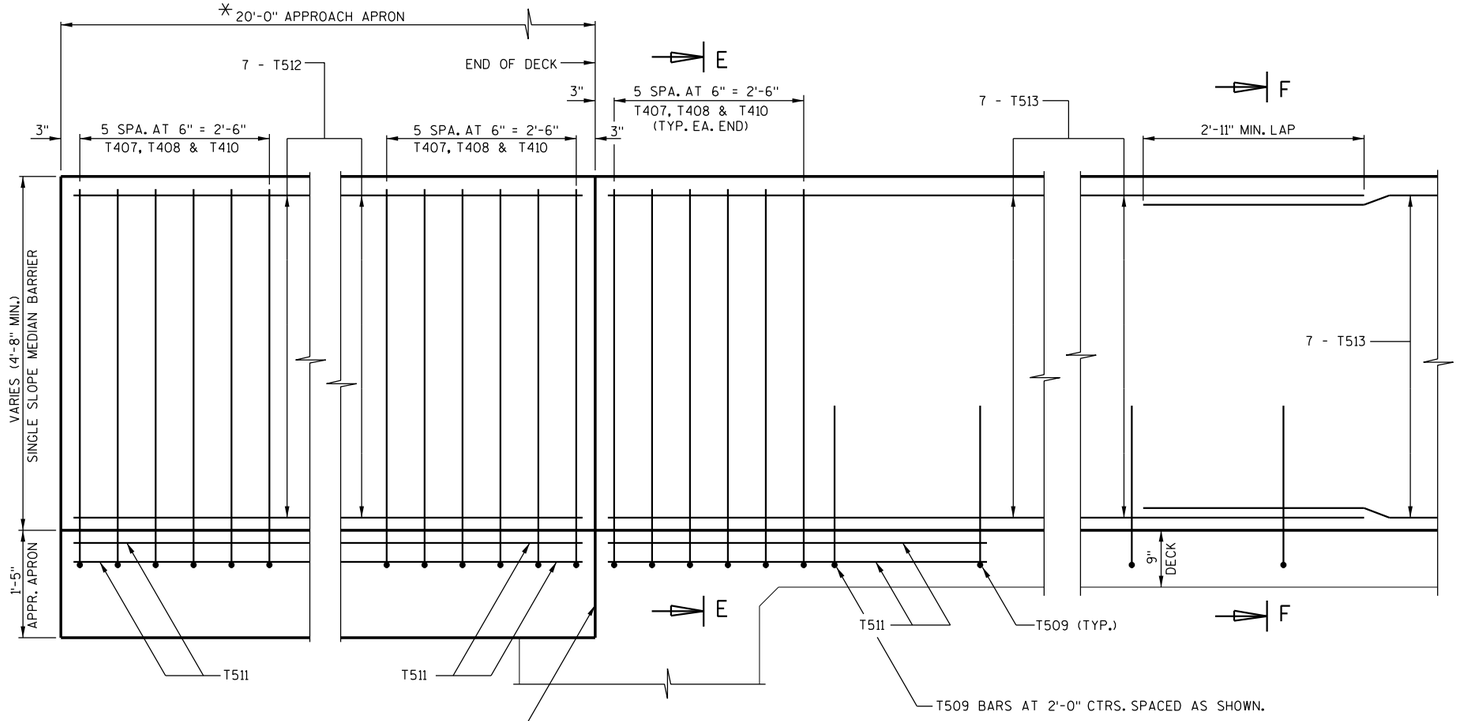
FILE NAME : P:\134 USH 41 Bridges 11133-09-00\structures\B-5-612\23_parapet_1f_b-5-612.dgn
PLOT DATE : 10/22/2012

STATE PROJECT NUMBER
1133-09-71



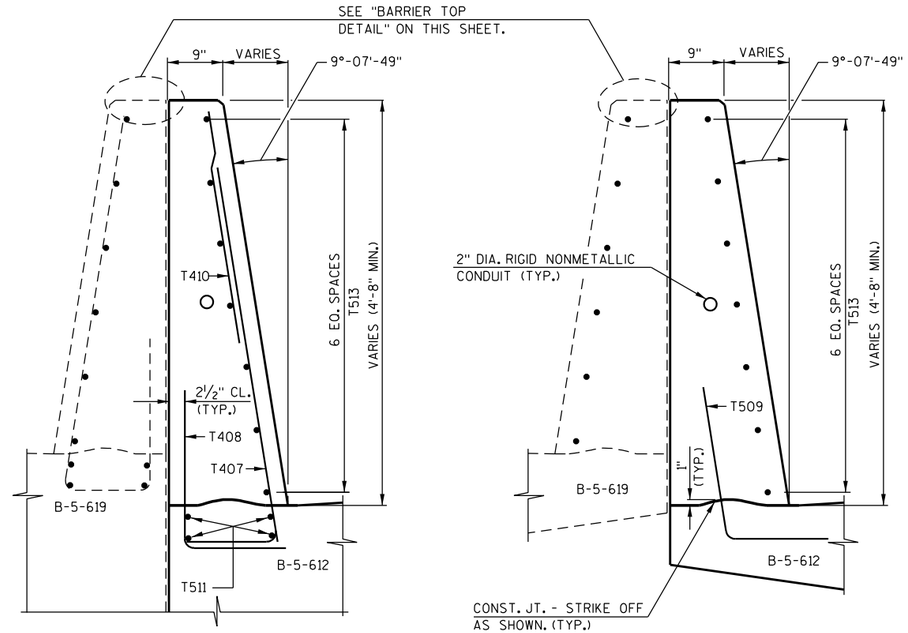
PART ELEVATION

(SOUTH END SHOWN, NORTH END SIMILAR)

LEGEND

✳ DIMENSIONS ARE GIVEN PARALLEL TO ℄ NB CD ROADWAY

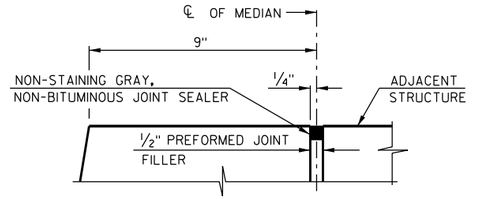
NOTE: OPTIONAL CONSTRUCTION JOINTS
IN THE CONCRETE BARRIER MAY BE USED.
RUN BAR REINF. THRU THE JOINT.
LAP LONGIT. BARS A MIN. OF 2'-11".
MIN. JOINT SPACING OF 80'-0"
DEFINE CONST. JOINT WITH A ¾" 'V' GROOVE.



SECTION E-E

(TYPICAL AT ENDS OF BARRIER)

SECTION F-F



BARRIER TOP DETAIL

LOOKING NORTH - WEST EDGE OF DECK

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

DRAWN BY TAW | PLANS CK'D. TR

56" SINGLE SLOPE MEDIAN BARRIER DETAILS

SHEET 24 OF 29
1704

8

8

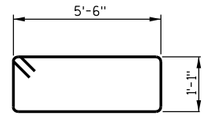
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-612\24.barrier_apron1_b-5-612.dgn
PLOT DATE : 11/21/2012

STATE PROJECT NUMBER
1133-09-71

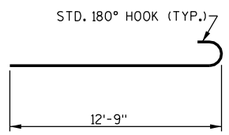
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT IN THIS BILL SHALL BE EPOXY COATED.

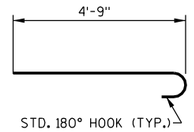
MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 24,050 LBS.
T501	86	13-9	X		APPROACH APRON - FOOTING	VERT.
T802	48	28-0			APPROACH APRON - FOOTING	TRANS.
T803	284	13-8	X		APPROACH APRON - SLAB - BOTTOM	LONGIT.
T504	168	26-7			APPROACH APRON - SLAB - TOP & BOTTOM	TRANS.
T505	80	5-4	X		APPROACH APRON - SLAB - TOP	TRANS.
T406	172	10-11			APPROACH APRON - SLAB - TOP	LONGIT.
T407	36	6-3	X		MEDIAN BARRIER - AT APPR. APRON & DECK	VERT.
T408	36	3-3	X		MEDIAN BARRIER - AT APPR. APRON & DECK	VERT.
T509	120	3-3	X		MEDIAN BARRIER - AT DECK	VERT.
T410	36	3-1			MEDIAN BARRIER - AT APPR. APRON & DECK	VERT.
T511	24	5-0			MEDIAN BARRIER - AT APPR. APRON & DECK	LONGIT.
T512	14	19-4			MEDIAN BARRIER - AT APPR. APRON	LONGIT.
T513	49	33-4			MEDIAN BARRIER - AT DECK	LONGIT.



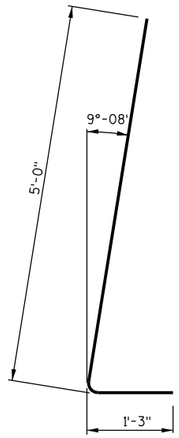
T501



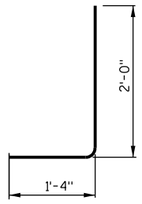
T803



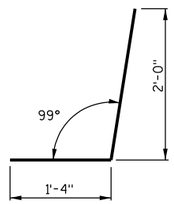
T505



T407



T408



T509

FILE NAME : P:\1134 USH 41 Bridges (1133-09-00)\structures\B-5-612\25_barrier_apron2_b-5-612.dgn
PLOT DATE : 10/22/2012

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

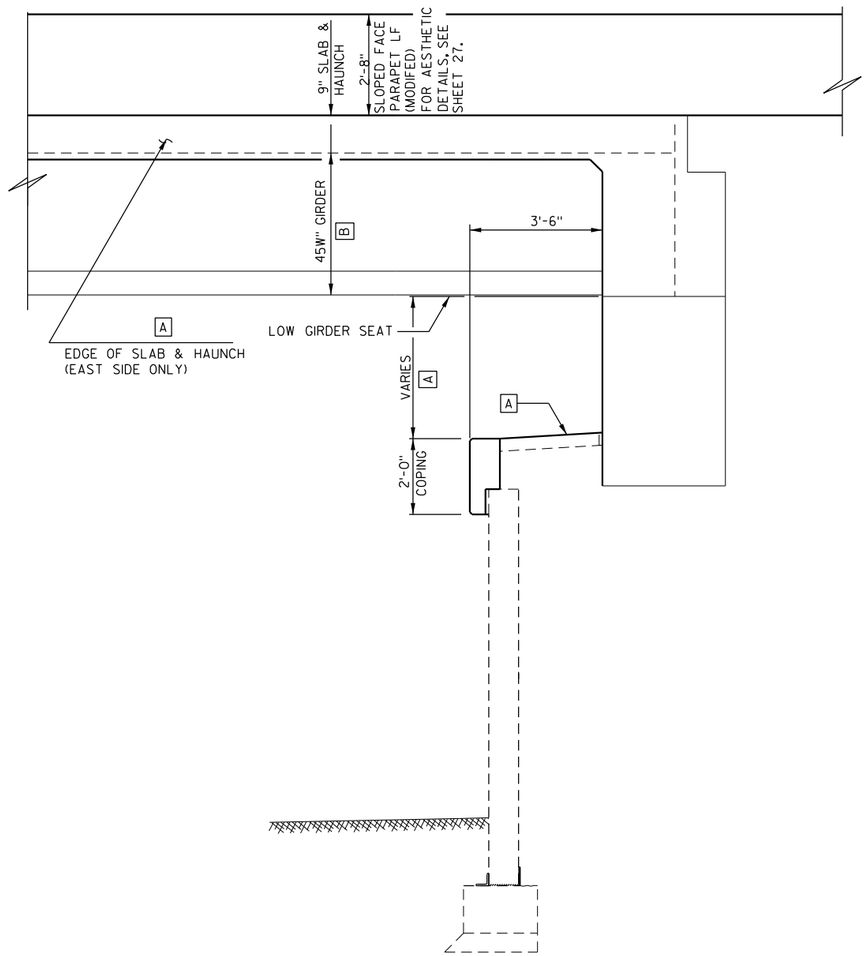
DRAWN BY	TAW	PLANS CK'D.	TR

56" SINGLE SLOPE MEDIAN BARRIER DETAILS

SHEET 25 OF 29
1705

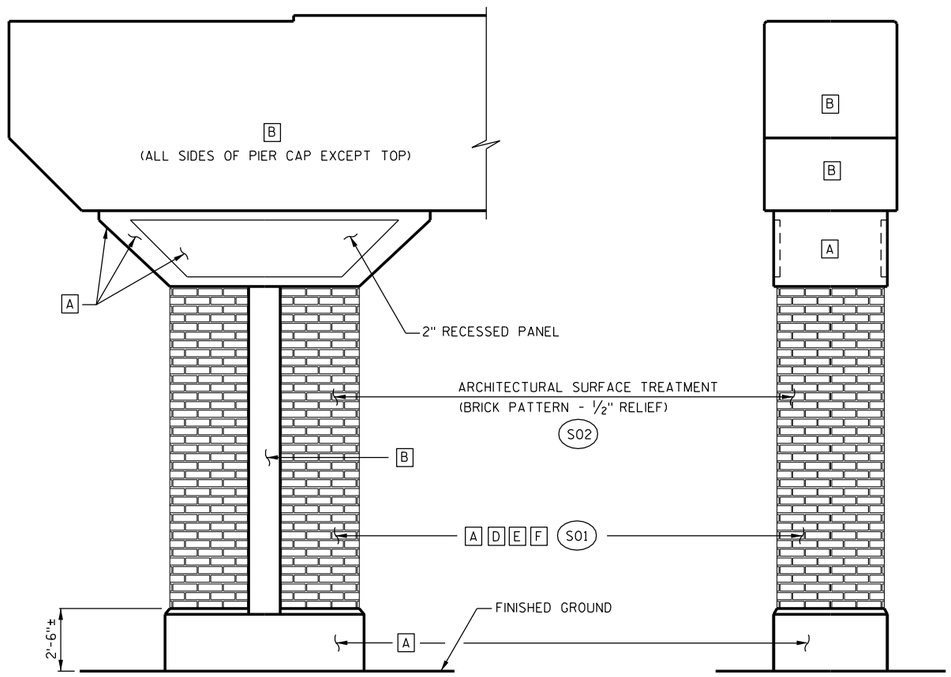
STATE PROJECT NUMBER

1133-09-71



PART ELEVATION - B-5-612

(LOOKING WEST AT NORTH ABUTMENT)



PART ELEVATION AT PIER

NOTE: SEE PIER DETAIL SHEETS FOR ALL LAYOUT DIMENSIONS.

PIER END VIEW

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	LETTERING AT ROADWAY NAME

NOTE: SEE SPECIAL PROVISIONS FOR STAIN COLORS.

NOTES

(S01) STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

(S02) THE COST OF BRICK PATTERN FORMLINER TREATMENT IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT". SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

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AESTHETIC DETAILS

SHEET 26 OF 29

1706

8

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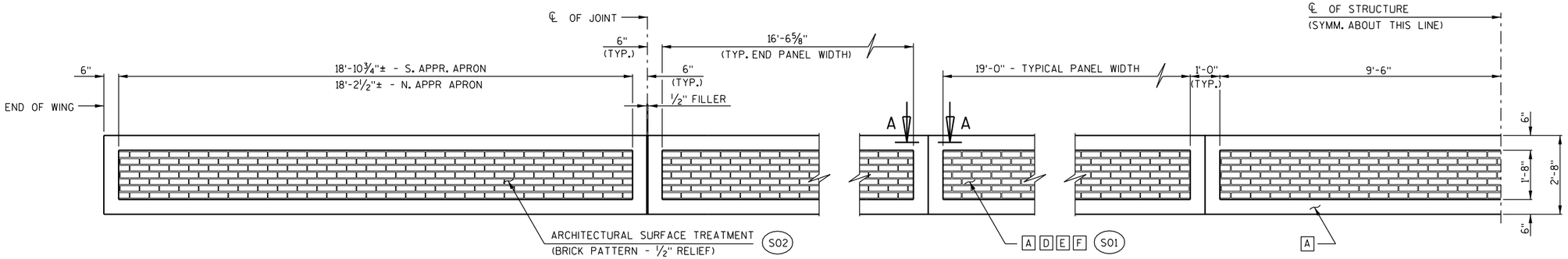
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-612\26_aesthetics1_b-5-612.dgn
PLOT DATE : 10/22/2012

STATE PROJECT NUMBER
1133-09-71

NOTE: HORIZONTAL DIMENSIONS ARE MEASURED ALONG THE CURVED OUTSIDE FACE OF PARAPET.

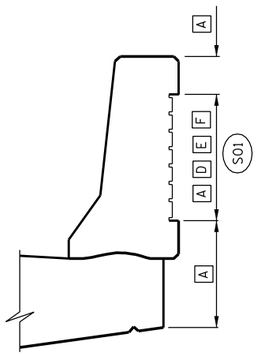


PARAPET ON APPROACH APRON

(PARAPET ON SOUTH APPROACH APRON SHOWN, NORTH APPROACH APRON PARAPET SIMILAR)

PARAPET ON BRIDGE DECK

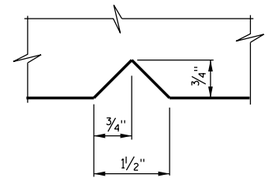
PART ELEVATION AT PARAPET



AT BRIDGE DECK

SLOPED FACE PARAPET LF (MODIFIED)

(EAST SIDE ONLY - LOOKING NORTH)



SECTION A-A

(¾" 'V' GROOVE)

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	LETTERING AT ROADWAY NAME

NOTE: SEE SPECIAL PROVISIONS FOR STAIN COLORS.

NOTES

(S01) STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

(S02) THE COST OF BRICK PATTERN FORMLINER TREATMENT IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT". SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-612\27.aesthetics2_b-5-612.dgn
PLOT DATE : 10/22/2012

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

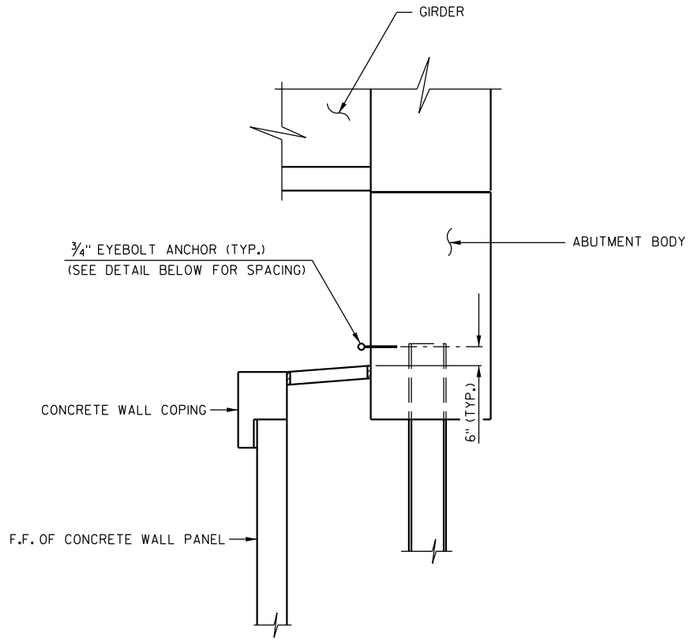
STRUCTURE B-5-612

DRAWN BY TAW | PLANS CK'D. TR

AESTHETIC DETAILS

SHEET 27 OF 29
1707

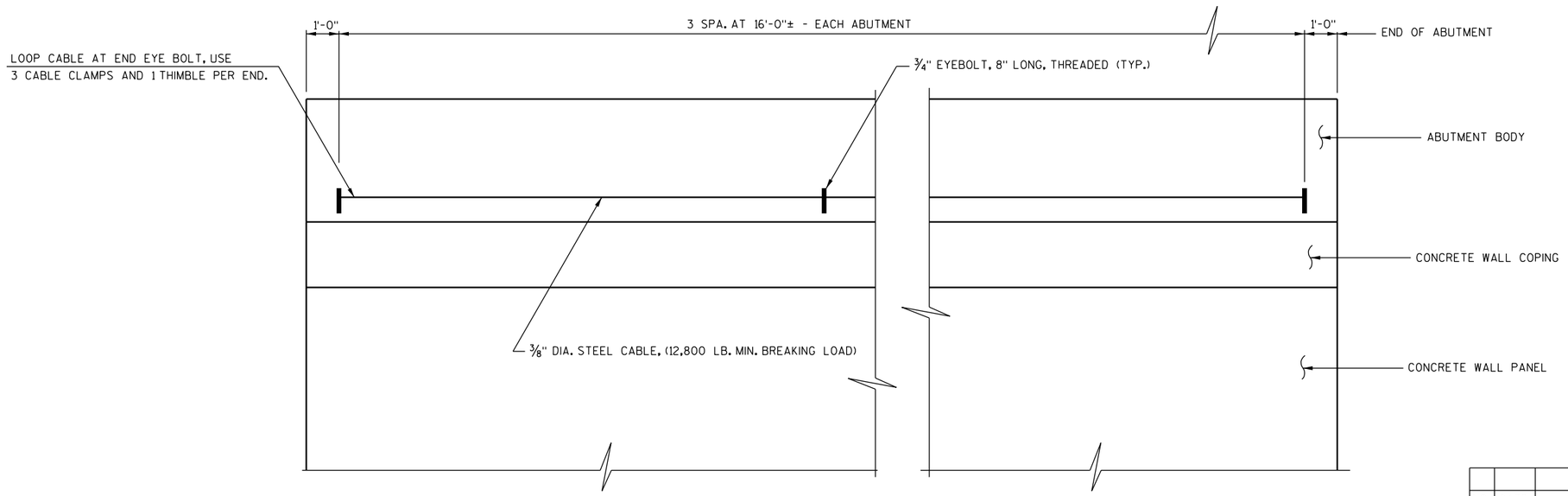
STATE PROJECT NUMBER
1133-09-71



TYPICAL SECTION THRU ABUTMENT BODY

NOTES

1. ALL LABOR AND MATERIAL (EYEBOLTS, CABLE AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4-INCH".
2. ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.
3. USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.
4. MASONRY ANCHORS TYPE S 3/4-INCH, MIN. PULLOUT CAPACITY OF 26 KIPS FOR ADHESIVE ANCHORS EMBEDDED A MIN. OF 7" IN CONCRETE.



PART FRONT VIEW OF ABUTMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

DRAWN BY TAW | PLANS CK'D. TR

FALL PROTECTION

SHEET 28 OF 29
1708

8

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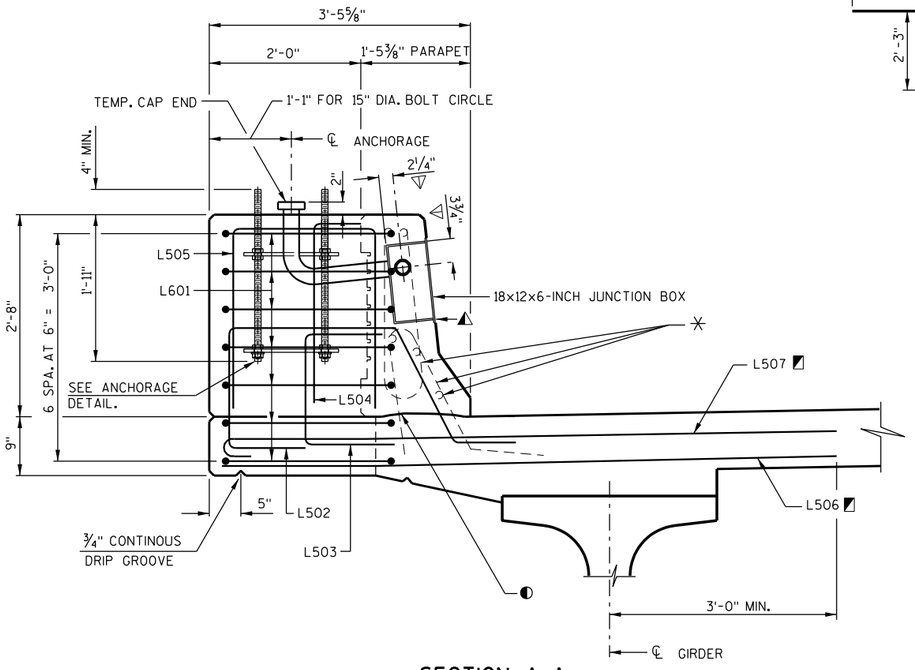
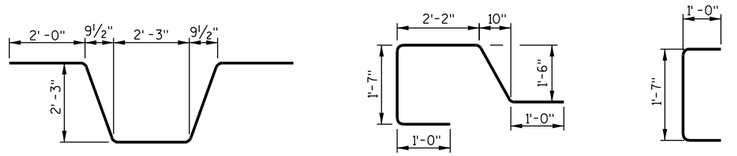
FILE NAME : P:\134 USH 41 Bridges 11133-09-00\structures\B-5-612\28.fall protection.dgn
PLOT DATE : 10/22/2012



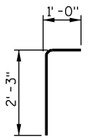
SECTION A-A



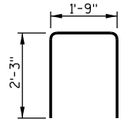
L601

L502

L503



L504



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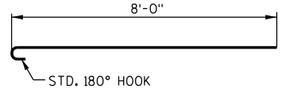


L507

STATE PROJECT NUMBER

1133-09-71

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL REINFORCEMENT BARS IN THIS BILL SHALL BE EPOXY COATED.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 360 LBS.
L601	7	10-7	X		LIGHT STANDARD BASE	HORIZ.
L502	4	7-0	X		LIGHT STANDARD BASE	VERT.
L503	2	3-5	X		LIGHT STANDARD BASE	VERT.
L504	2	3-2	X		LIGHT STANDARD BASE	VERT.
L505	4	6-0	X		LIGHT STANDARD BASE	VERT.
L506	10	8-0			LIGHT STANDARD BASE	TRANS.
L507	10	8-7	X		LIGHT STANDARD BASE	TRANS.

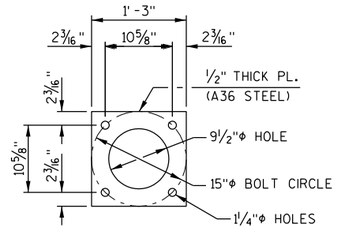
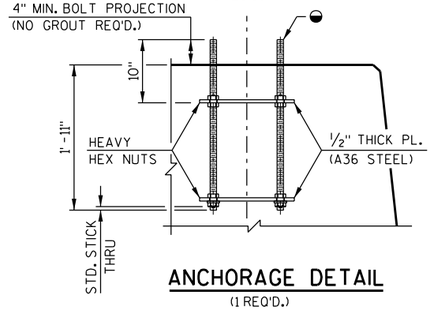


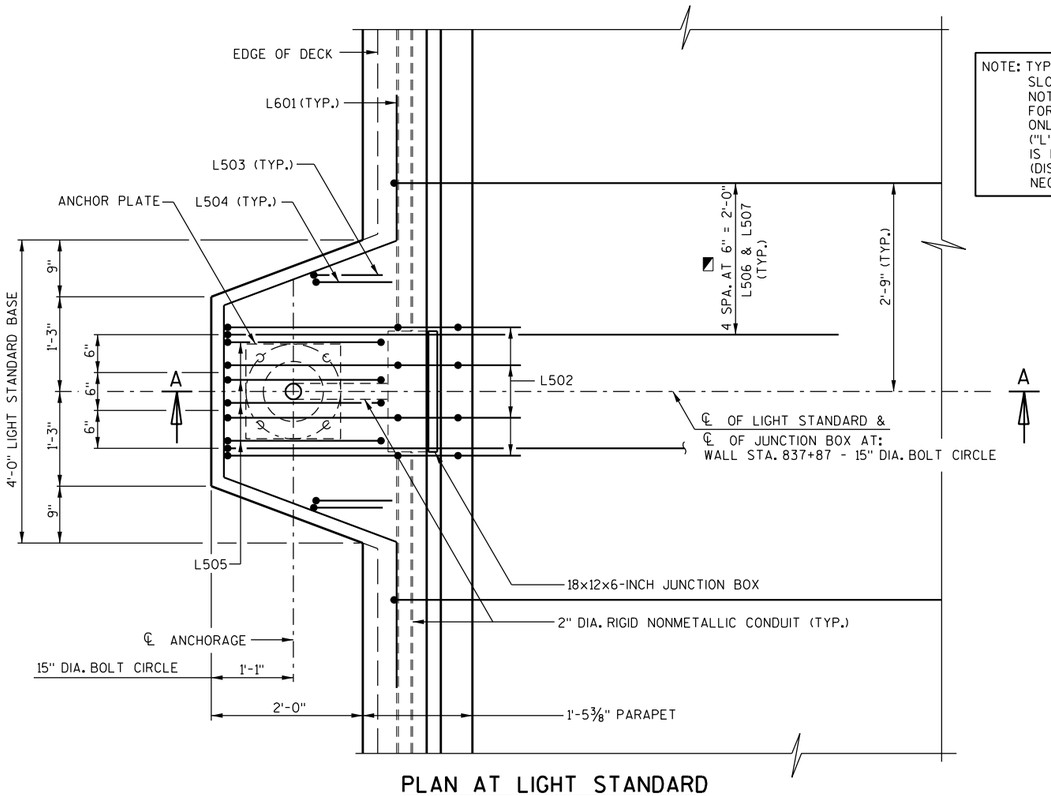
PLATE DETAIL

(1 REQ'D.)



ANCHORAGE DETAIL

(1 REQ'D.)



PLAN AT LIGHT STANDARD

NOTE: TYPICAL BAR STEEL REINFORCEMENT FOR SLOPED FACE PARAPET & BRIDGE DECK NOT SHOWN FOR CLARITY IN PLAN VIEW. FOR DETAILS, SEE SHEETS ONLY ADDITIONAL BAR STEEL REQUIRED ("L" BAR MARK) FOR THE LIGHT STANDARD IS DETAILED IN THE PLAN VIEW. (DISPLACE "S" BAR MARK BARS AS NECESSARY TO CLEAR JUNCTION BOX.)

LEGEND

◐ CONSTR. JT. STRIKE OFF AS SHOWN

◭ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.

▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.

◒ 1"φ THREADED ANCHOR BOLTS ASTM A449 OR AASHTO M 314-90 GR 55. HOT DIP ASTM A153, CLASS C, UPPER 8" OF BOLT INCLUDING NUTS & WASHERS. PROVIDE ENLARGED THREAD ON NUTS FOR PROPER FIT AFTER GALVANIZING. PROVIDE DOUBLE FLAT WASHERS & NUTS.

✳ TYPICAL BAR STEEL REINFORCEMENT IN SLOPED FACE PARAPET. FOR DETAILS, SEE SHEET 19. (ALL BAR STEEL REINFORCEMENT SHOWN FOR THE LIGHT STD. IS IN ADDITION TO THE BAR STEEL REINFORCEMENT SHOWN ON SHEET 19. DISPLACE BAR STEEL AS NECESSARY TO CLEAR THE JUNCTION BOX BY 2" MIN.)

◩ THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN BRIDGE DECK.

NOTES

BID ITEMS SHALL BE:
"ANCHOR ASSEMBLIES FOR LIGHT POLES ON STRUCTURES", EACH.
"JUNCTION BOXES 18X12X6-INCH", EACH.
"CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

EXPANSION FITTING REQUIRED AT EACH EXPANSION JOINT IN PARAPET. EXPANSION FITTINGS TO BE INCIDENTAL TO BID ITEM "CONDUIT RIGID METALLIC 2-INCH". (APPROX. 10 FITTINGS REQUIRED)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-612

DRAWN BY TAW | PLANS CK'D. TR

LIGHT STANDARD DETAILS

SHEET 29 OF 29
1709

FILE NAME : P:\134 USH 41 Bridges \1133-09-00\structures\B-5-612\29_light_std.dgn
PLOT DATE : 10/22/2012

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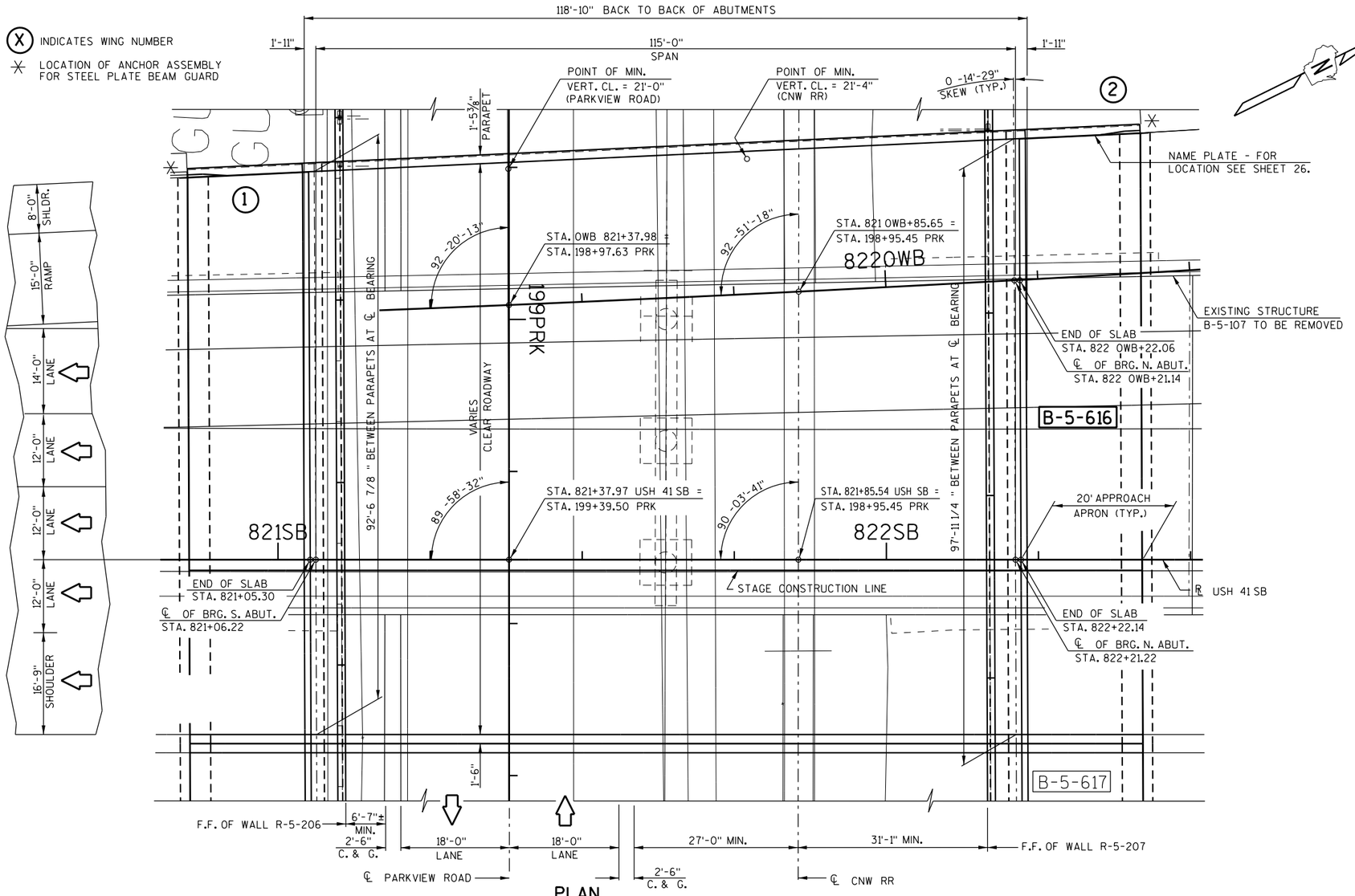
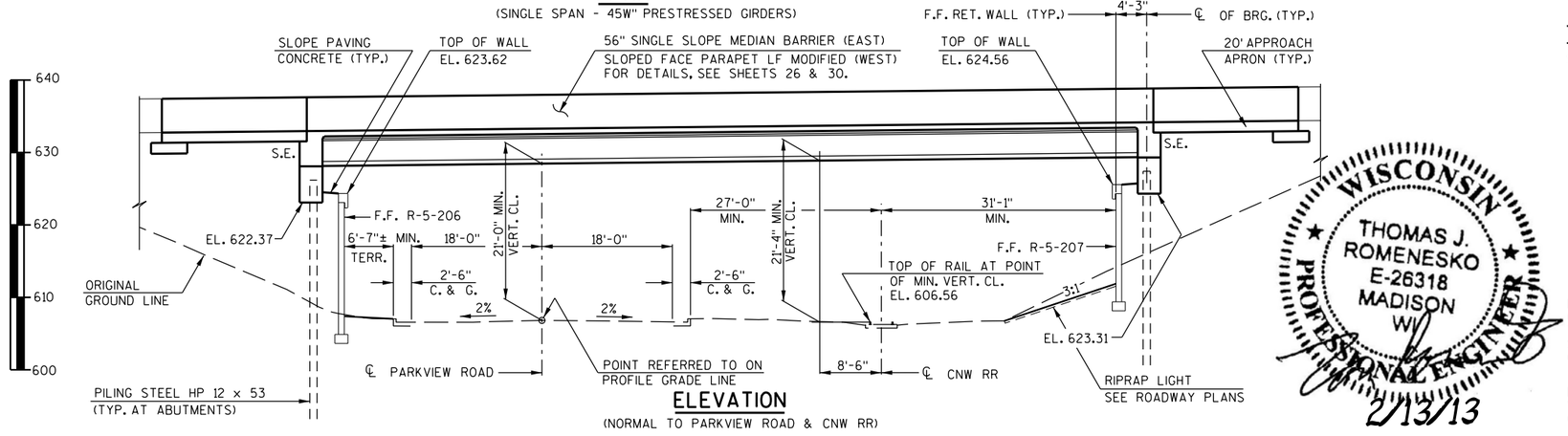
STATE PROJECT NUMBER
1133-09-71



PLAN
(SINGLE SPAN - 45W" PRESTRESSED GIRDERS)



ELEVATION
(NORMAL TO PARKVIEW ROAD & CNW RR)

DESIGN DATA

LIVELOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR (RF): 1.58
OPERATIONAL RATING FACTOR (RF): 2.05
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 250 KIPS

STRUCTURE IS DESIGNED FOR A 1½" SACRIFICIAL WEARING SURFACE, PLACED AT INITIAL CONSTRUCTION INTEGRAL WITH THE DECK. NO ALLOWANCE HAS BEEN MADE FOR A FUTURE WEARING SURFACE LOAD.

ULTIMATE DESIGN STRESSES:

HPC MASONRY STRUCTURES — f'_c = 4,000 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 (INCLUDES STAINLESS STEEL BAR STEEL REINFORCEMENT) — f_y = 60,000 P.S.I.
45W" PRESTRESSED GIRDERS - CONCRETE MASONRY — f'_c = 8,000 P.S.I.
STRANDS - 0.6" DIA. WITH AN ULTIMATE TENSILE STRENGTH OF — 270,000 P.S.I.
ALLOWABLE SOIL BEARING PRESSURE FOR APPROACH APRON — 2,000 P.S.F.

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 90' LONG AT EACH ABUTMENT.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. CONSTRUCTION STAGING
5. CONSTRUCTION STAGING
6. SOUTH ABUTMENT
7. SOUTH ABUTMENT
8. SOUTH ABUTMENT
9. SOUTH ABUTMENT
10. WING 1
11. SOUTH ABUTMENT DETAILS
12. NORTH ABUTMENT
13. NORTH ABUTMENT
14. NORTH ABUTMENT
15. NORTH ABUTMENT
16. WING 2
17. NORTH ABUTMENT DETAILS
18. ALTERNATE CONSTRUCTION JOINT
19. 45W" PRESTRESSED GIRDER DETAILS
20. 45W" PRESTRESSED GIRDER DETAILS
21. INTERMEDIATE STEEL DIAPHRAGMS
22. SUPERSTRUCTURE
23. SUPERSTRUCTURE
24. SUPERSTRUCTURE
25. SUPERSTRUCTURE
26. SLOPED FACE PARAPET LF (MODIFIED)
27. SOUTH APPROACH APRON DETAILS
28. NORTH APPROACH APRON DETAILS
29. APPROACH APRON DETAILS
30. 56" SINGLE SLOPE MEDIAN BARRIER DETAILS
31. 56" SINGLE SLOPE MEDIAN BARRIER DETAILS
32. FALL PROTECTION
33. AESTHETIC DETAILS

TRAFFIC DATA:

SBL USH 41
A.D.T. (2015) = 16,000
A.D.T. (2035) = 20,600
DESIGN SPEED = 70 M.P.H.

PARKVIEW ROAD
A.D.T. (2015) = 4,500
A.D.T. (2035) = 5,600
DESIGN SPEED = 35 M.P.H.

ROMENESKO ENGINEERING, INC.
CONTACT: TOM ROMENESKO, P.E.
7325 CEDAR CREST DRIVE
SAUK CITY, WI 53583
(608) 644-1502

BRIDGE OFFICE CONTACT:
WILLIAM DREHER, P.E.
(608) 266-8489

WISCONSIN
THOMAS J. ROMENESKO
E-26318
MADISON
WI
PROFESSIONAL ENGINEER
2/13/13

NO.	DATE	REVISION	BY

Original Plans Prepared By
ROMENESKO ENGINEERING, INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher — CHIEF STRUCTURES DESIGN ENGINEER — DATE 2/14/13

STRUCTURE B-5-616

USH 41 SB OVER PARKVIEW ROAD & CNW RR

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	TR	DESIGN CK'D.	VR	DRAWN BY	TAW	PLANS CK'D.	TR

GENERAL PLAN

SHEET 1 OF 33
1710

I.D. 1133-09-00 DATE : 2/13/2013

FILE NAME : P:\134 USH 41\Bridges 1133-09-00\structures\8-5-616\01_genplan_v8.b-5-616.dgn
PLOT DATE : 2/13/2013

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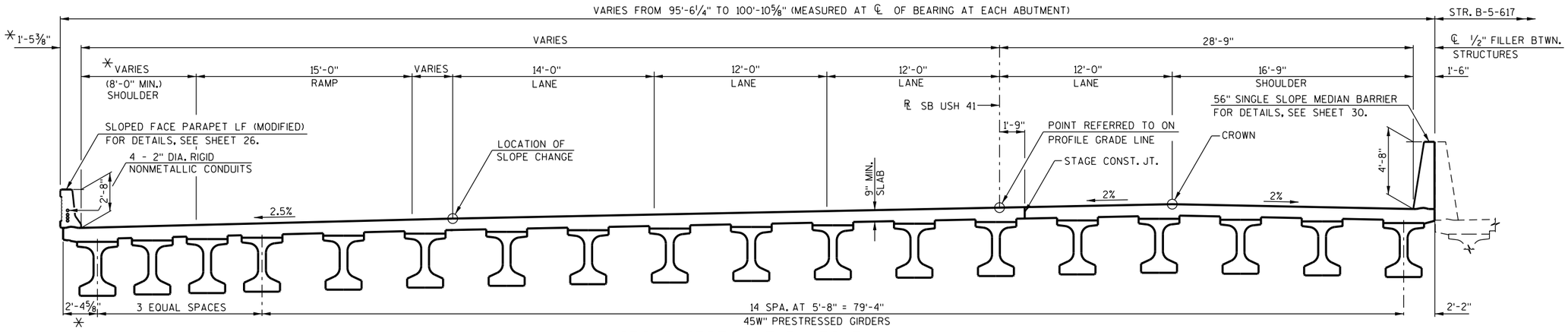
STATE PROJECT NUMBER

1133-09-71



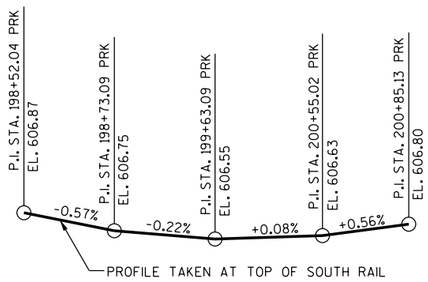
✳DIMENSIONS ARE PARALLEL TO THE WEST EDGE OF DECK.

CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

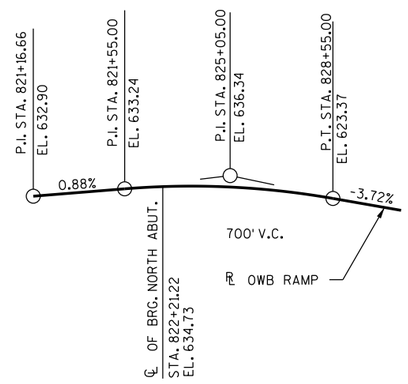
BENCH MARK TABLE

NO.	STATION	OFFSET	DESCRIPTION	ELEVATION
11	820+64.53 NB	45.24' RT	DISK ON SE CORNER OF PARAPET WALL OF NB USH 41 OVER PARKVIEW, STR. B-05-114-73	635.67

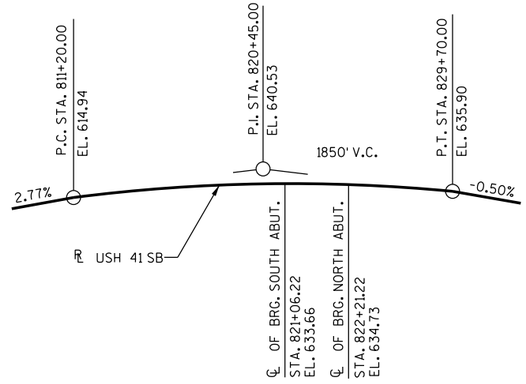


PROFILE GRADE LINE, CNW RR

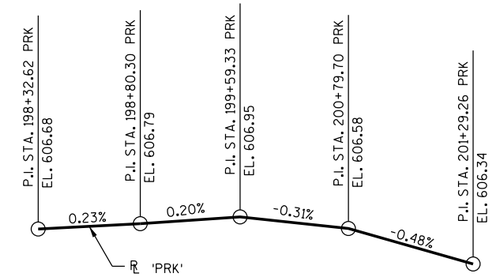
(STATIONING BASED ON PARKVIEW ROAD REFERENCE LINE)



PROFILE GRADE LINE, OWB RAMP



PROFILE GRADE LINE, USH 41 SB



PROFILE GRADE LINE, PARKVIEW ROAD

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	SOUTH ABUTMENT	NORTH ABUTMENT	SUPER.	APPROACH APRON	TOTAL
203.0200	REMOVING OLD STRUCTURE STA. 821+55.61 SB	LS	———	———	———	———	1
203.0225.S	DEBRIS CONTAINMENT STRUCTURE B-5-107	LS	———	———	———	———	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-5-616	LS	———	———	———	———	1
210.0100	BACKFILL STRUCTURE	CY	310	320	———	———	630
502.3200	PROTECTIVE SURFACE TREATMENT	SY	———	———	1,353	464	1,817
502.6110	MASONRY ANCHORS TYPE S 3/4-INCH	EA	5	5	———	———	10
503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH	LF	———	———	2,088	———	2,088
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	6,430	6,870	———	———	13,290
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1,440	1,440	61,630	41,520	106,030
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	18	18	———	———	36
506.4000	STEEL DIAPHRAGMS B-5-616	EACH	———	———	34	———	34
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	21	21	3	———	45
550.1120	PILING STEEL HP 12-INCH x 53 LB	LF	1,800	1,800	———	———	3,600
604.0400	SLOPE PAVING CONCRETE	SY	24	26	———	———	50
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	120	125	———	490	735
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	1	1	———	———	2
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	———	———	40	160	200
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	———	———	440	———	440
SPV.0035.700	HPC MASONRY STRUCTURES	CY	82	86	496	264	928
SPV.0085.700	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	———	———	3,370	———	3,370
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	30	30	187	———	247
SPV.0165.501	STAINING CONCRETE	SF	787	894	2,263		3,944
SPV.0165.502	STAINING CONCRETE BRICK	SF	30	30	187	———	247
SPV.0165.700	LONGITUDINAL GROOVING BRIDGE DECK	SF	———	———	10,779	3,691	14,470
	NON - BID ITEMS						
	FILLER	SIZE	———	———	———		½" & ¾"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

THE TOP LAYER OF BAR STEEL REINFORCEMENT IN THE DECK SHALL BE PLACED WITH 3½" OF CLEAR COVER.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M153, TYPES I, II OR III OR M213.

THE AREA OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING CONCRETE, TO THE LIMITS SHOWN ON SHEET 1, ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER.

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

FILL/EXCAVATE TO BOTTOM OF ABUTMENT/PIER ELEVATION BEFORE DRIVING PILING. AT THE BACKFACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE, SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.

THE FINISHED GRADED SECTION SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE ELASTOMERIC BEARING PADS NON-LAMINATED NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE HAUNCH SHOWN ON THE PRESRESSED GIRDER DETAILS SHEET.

ALL STATIONS AND ALL ELEVATIONS ARE IN FEET.

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF THE DECK AND APPROACH APRONS, INSIDE FACE OF PARAPETS, AND TOP OF PARAPETS.

THE STRUCTURE SHALL BE PAINTED IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND THE STAINING DETAILS PROVIDED IN THIS PLAN.

THE PROPOSED GRADE SEPARATION PROJECT SHALL NOT INCREASE THE QUANTITY AND/OR CHARACTRERISTICS OF THE FLOW IN THE RAILROAD'S EXISTING DITCHES AND/OR DRAINAGE STRUCTURES.

THE EXISTING STRUCTURE, B-05-107, IS A TWO SPAN STEEL DECK GIRDER BRIDGE WITH AN OVERALL WIDTH OF 53'-6" TO 57'-2" AND AN OVERALL LENGTH OF 190'-4" AND IS TO BE REMOVED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

CROSS SECTION & QUANTITIES

SHEET 2 OF 33
1711

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\02_section_profiles_b-5-616.dgn
PLOT DATE : 2/7/2013

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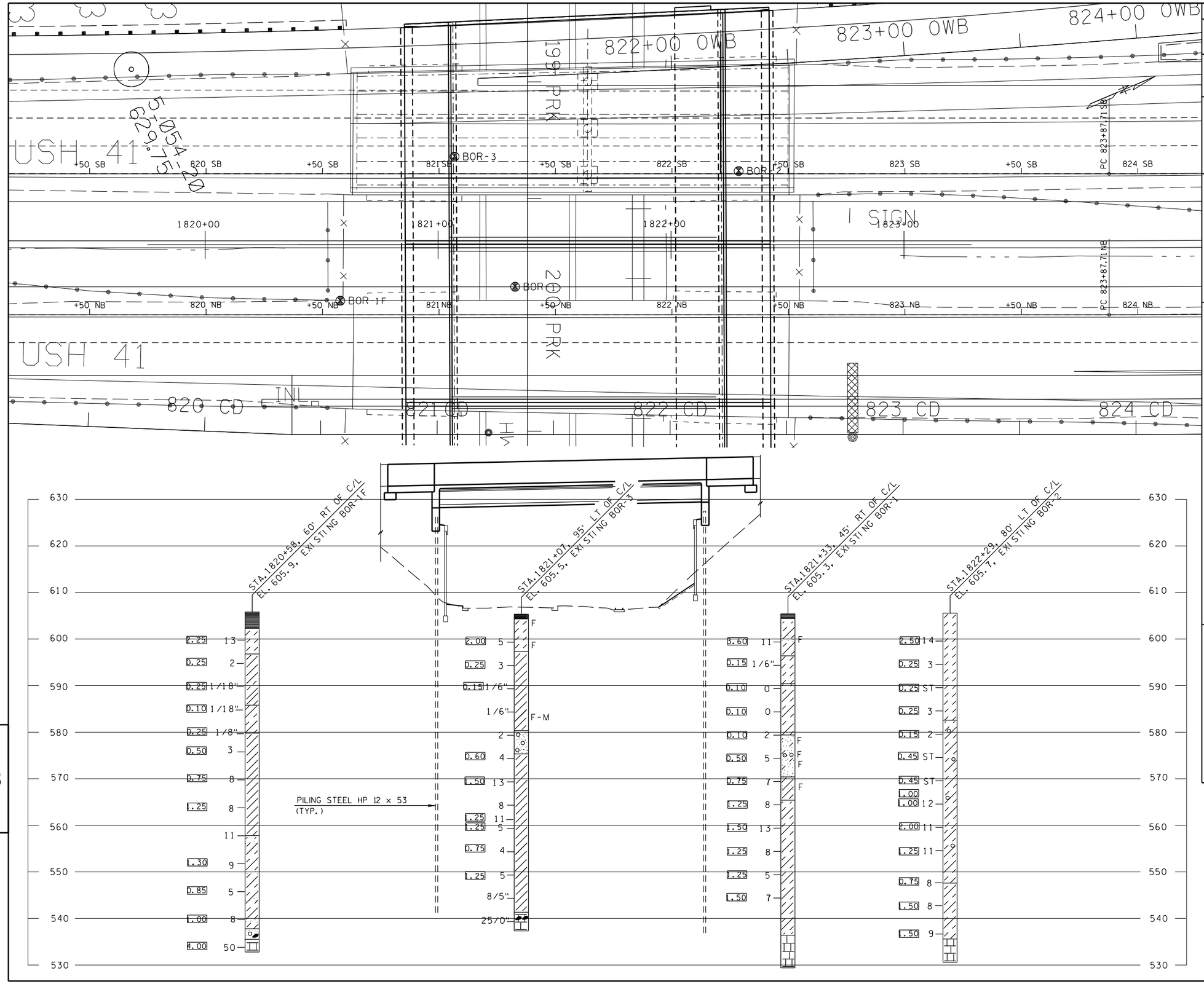

STATE PROJECT NUMBER

1133-09-71

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL SILT SANDSTONE
SAND PEAT LIMESTONE
GRAVEL CLAY IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
ELEV.
STA.
UNCONFINED STRENGTH → 7.7 7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY L H PLANS CK'D.

SUBSURFACE EXPLORATION

SHEET 3 OF 33
1712

SCALE =

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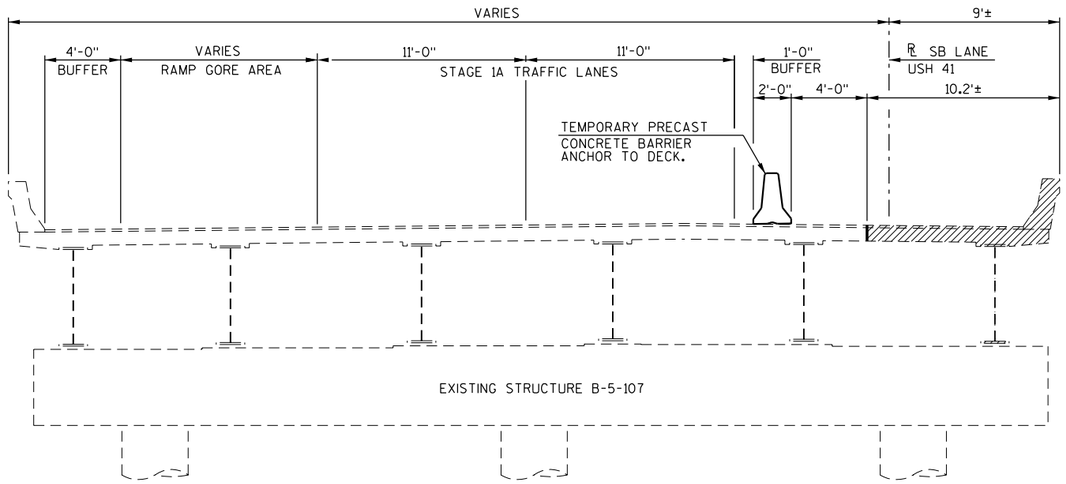
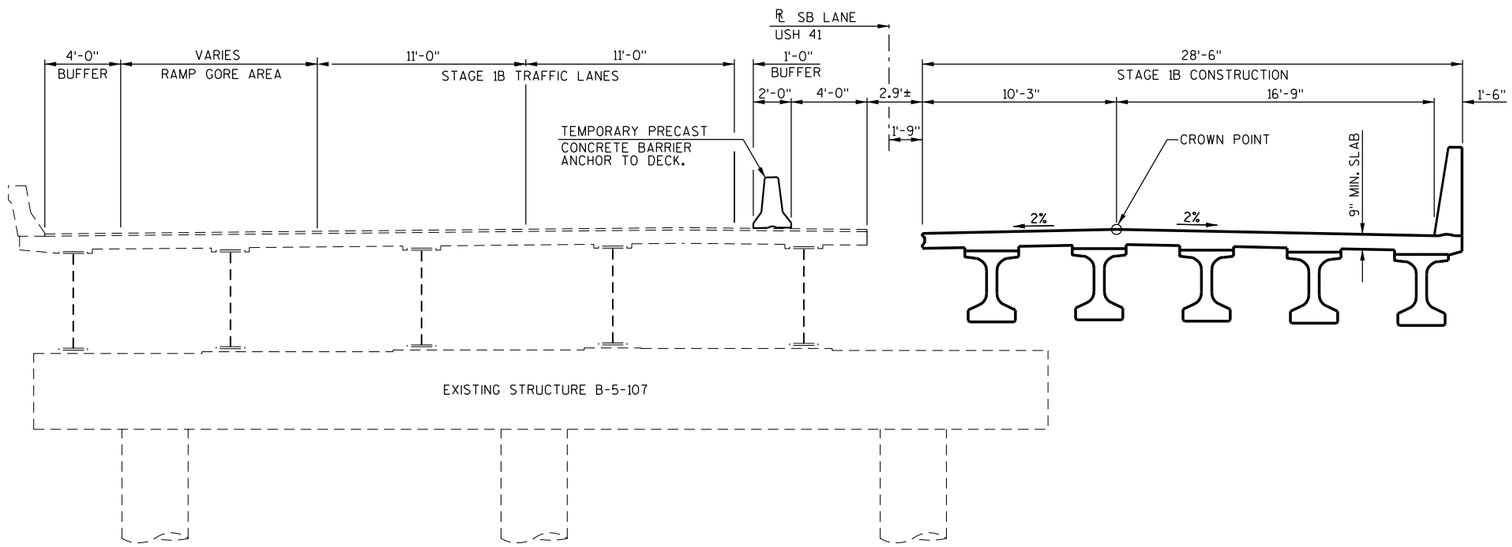
STATE PROJECT NUMBER

1133-09-71



STAGE 1A - REMOVAL

(LOOKING NORTH)



STAGE 1B - CONSTRUCTION

(LOOKING NORTH)

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PLOT DATE : 11/21/2012

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

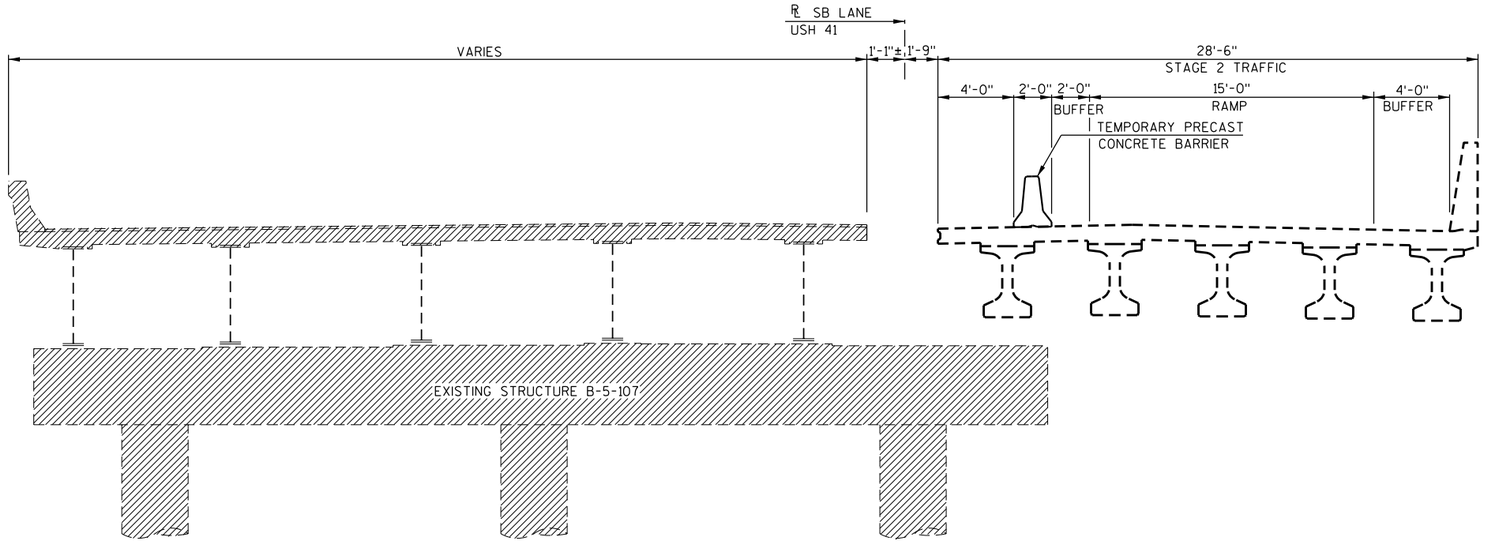
DRAWN BY TAW | PLANS CK'D. TR

CONSTRUCTION STAGING

SHEET 4 OF 33
1713

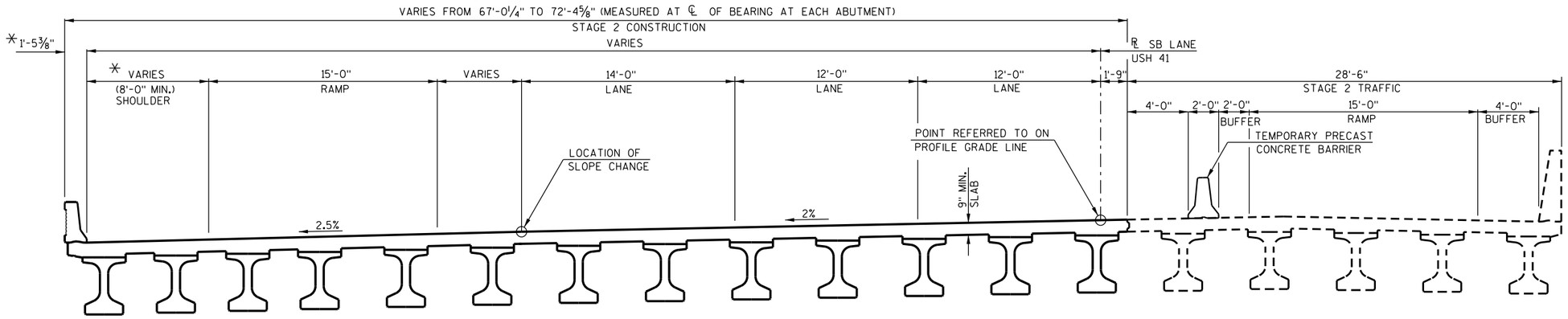
STATE PROJECT NUMBER

1133-09-71



STAGE 2 - REMOVAL

(LOOKING NORTH)



✳DIMENSIONS ARE PARALLEL TO THE WEST EDGE OF DECK.

STAGE 2 - CONSTRUCTION

(LOOKING NORTH)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

CONSTRUCTION STAGING

SHEET 5 OF 33
1714

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\05_stgdrng_b-5-616.dgn
PLOT DATE : 2/7/2013

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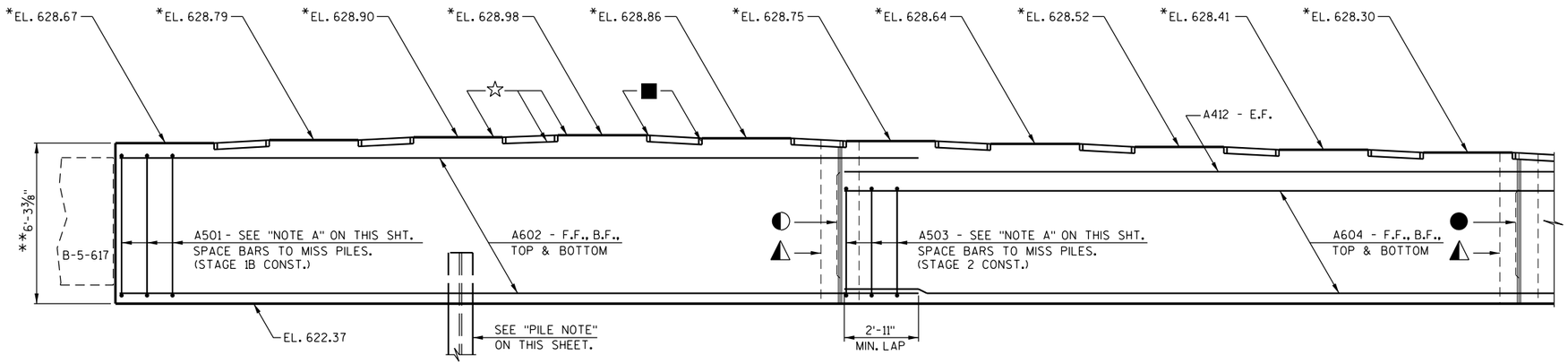
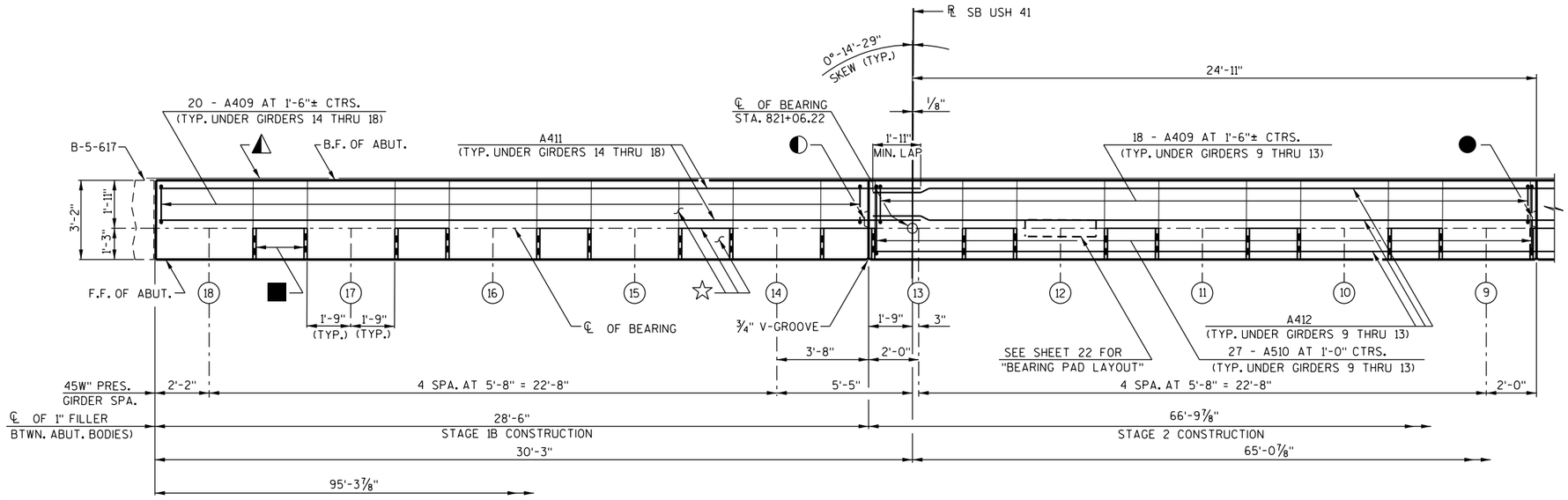
STATE PROJECT NUMBER
1133-09-71



ELEVATION
(LOOKING SOUTH)



PLAN

LEGEND

* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.

** DIMENSIONS AND ELEVATIONS ARE GIVEN AT THE B.F. OF ABUTMENT. FOR WING DETAILS AND ELEVATIONS, SEE SHEET 10.

18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

KEYED CONST. JOINT FORMED BY A BEVELED 2" x 8".

KEYED STAGE CONST. JOINT FORMED BY A BEVELED 2" x 8".

(X) INDICATES WING NUMBER

NOTES: SEE "PLAN" VIEW AND "TYPICAL SECTION THRU BODY" ON SHEET 9 FOR ADDITIONAL BAR STEEL REINFORCEMENT DETAILS AT GIRDER SEATS.
FOR "TYPICAL SECTION THRU BODY", SEE SHEET 9.

PILE NOTE

SOUTH ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 90'LONG. FOR PILE SPLICE DETAILS, SEE SHEET 11. FOR PILE LAYOUT DETAILS, SEE SHEET 8.

NOTE A

A501 BARS SHALL BE SPACED AT 1'-0" CTRS. (STAGE 1B CONST.)
A503 BARS SHALL BE SPACED AT 9" CTRS. IN THE OUTSIDE THIRD OF THE BODY NEAR WING 2 AND AT 1'-0" CTRS. IN THE REST OF THE BODY. (STAGE 2 CONST.) SPACE BARS TO MISS PILES.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

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SOUTH ABUTMENT

SHEET 6 OF 33
1715

8

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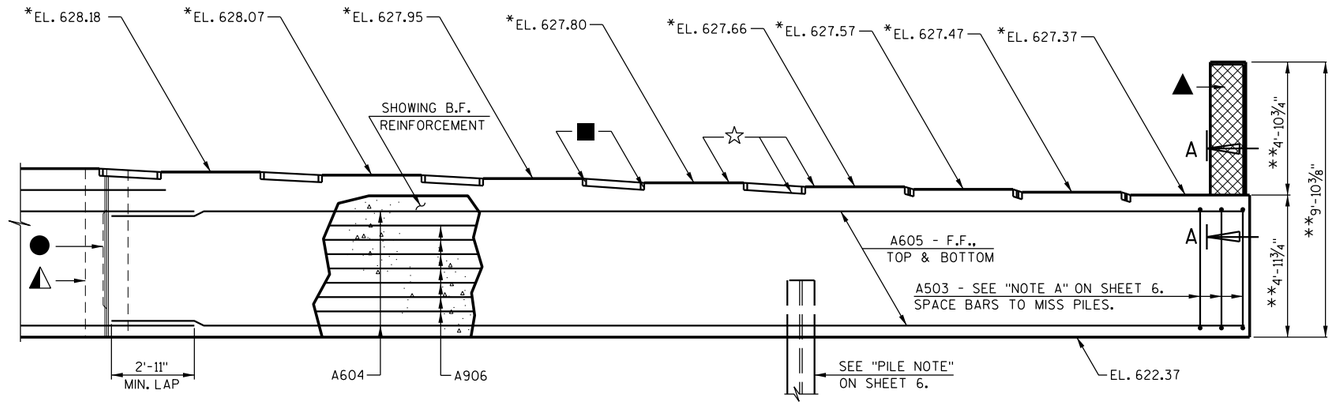
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\06.sdbu1.b-5-616.dgn
PLOT DATE : 2/7/2013

STATE PROJECT NUMBER
1133-09-71



ELEVATION
(LOOKING SOUTH)

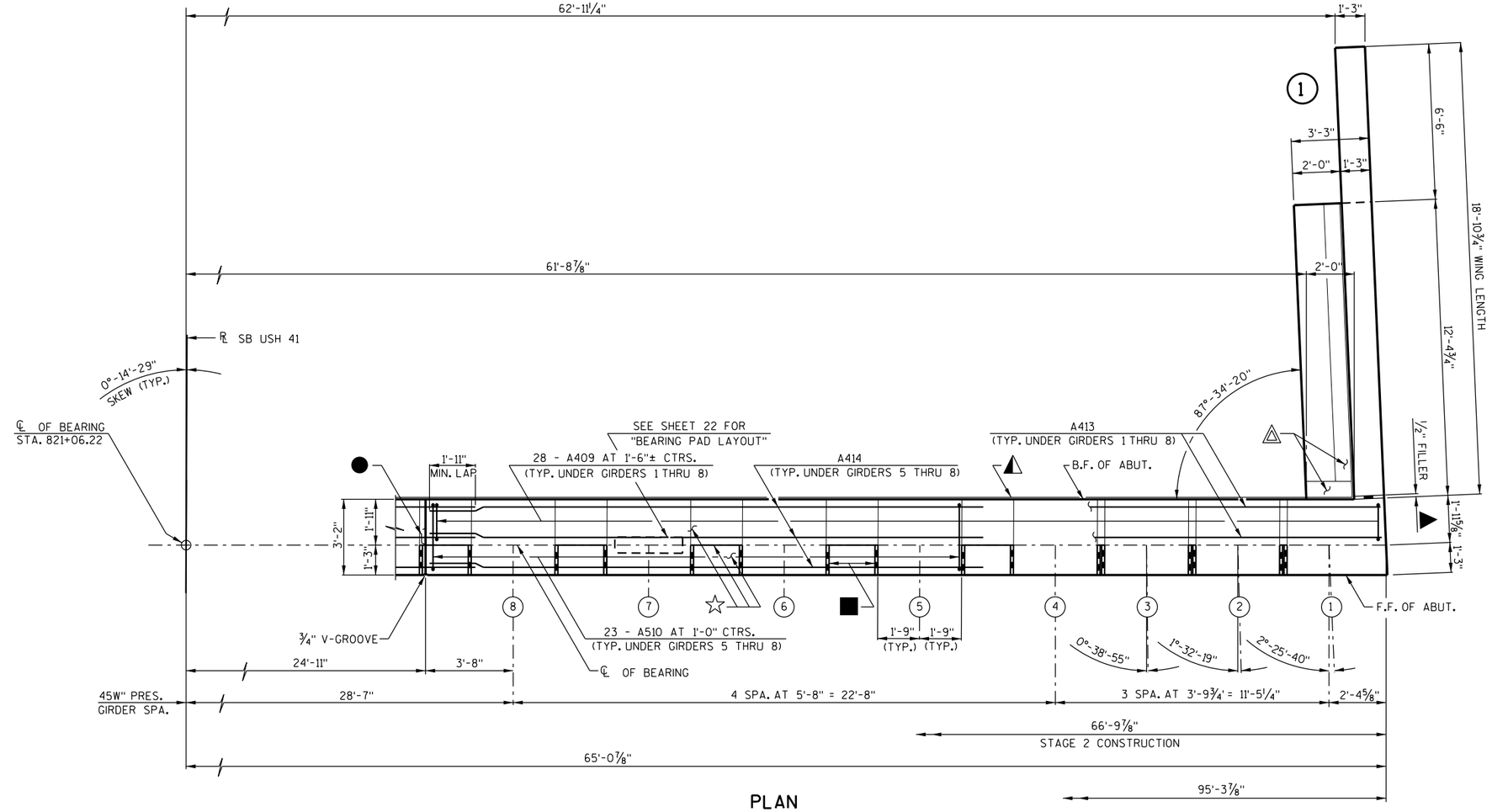
LEGEND

* ▲ ** ■ ☆ ● Ⓧ FOR SYMBOL DESCRIPTIONS, SEE SHEET 6.

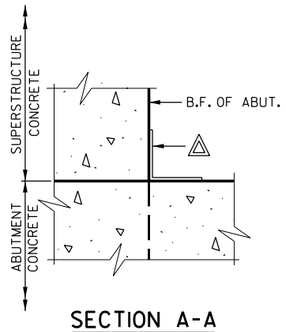
▲ ½" FILLER TO EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

△ PLACE BOTTOM HALF OF RUBBERIZED MEMBRANE WATERPROOFING HORIZONTAL IN THIS AREA. SEE SECTION A-A ON THIS SHEET.

NOTES: SEE "PLAN" VIEW AND "TYPICAL SECTION THRU BODY" ON SHEET 9 FOR ADDITIONAL BAR STEEL REINFORCEMENT DETAILS AT GIRDER SEATS.
FOR "TYPICAL SECTION THRU BODY", SEE SHEET 9.



PLAN



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

SOUTH ABUTMENT

SHEET 7 OF 33
1716

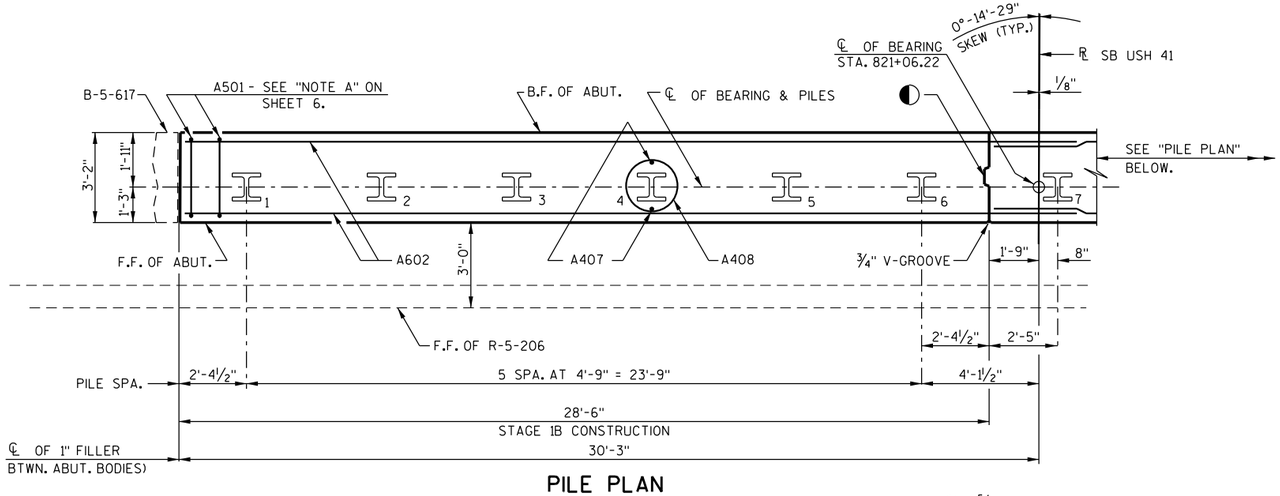
8

8

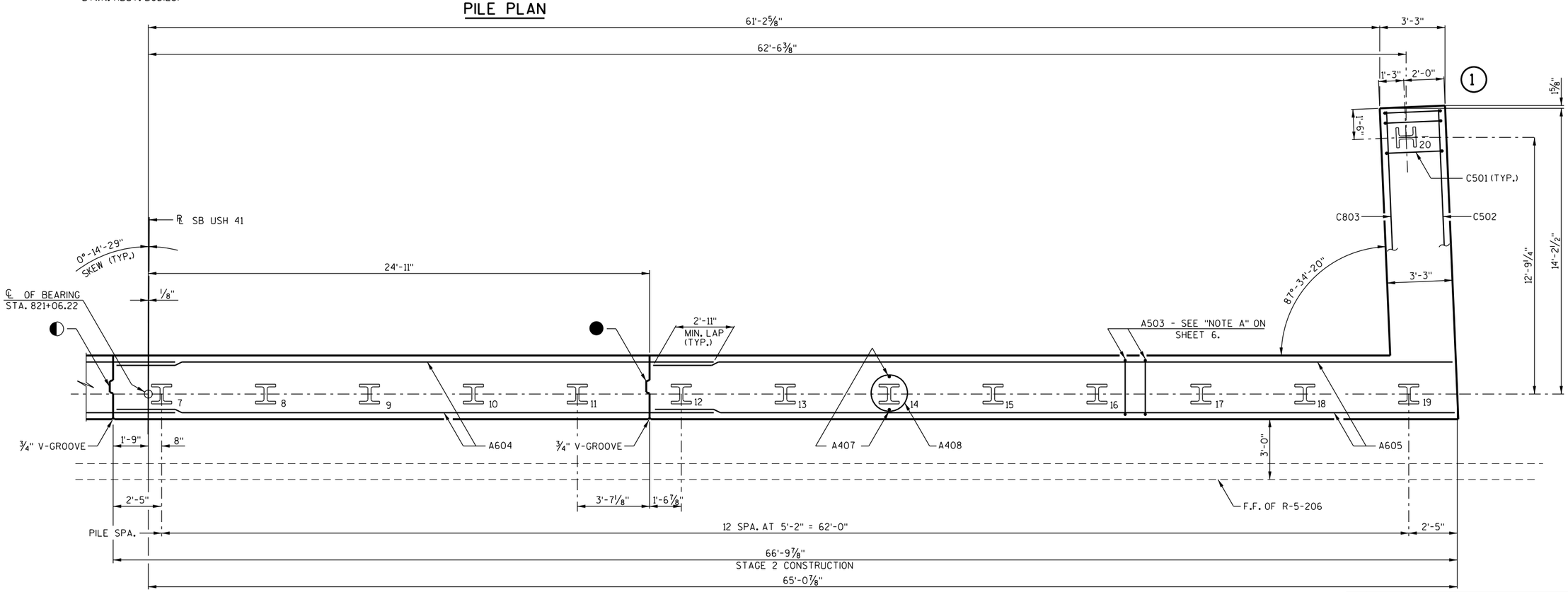
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\07_sabut2_b-5-616.dgn
PLOT DATE : 2/7/2013

STATE PROJECT NUMBER

1133-09-71



PILE PLAN



PILE PLAN

LEGEND

- ● KEYED CONST. JOINT FORMED BY A BEVELED 2" x 8".
- ◐ KEYED STAGE CONST. JOINT FORMED BY A BEVELED 2" x 8".
- (X) INDICATES WING NUMBER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

SOUTH ABUTMENT

SHEET 8 OF 33
1717

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\08_sdbut3.b-5-616.dgn
PLOT DATE : 2/7/2013

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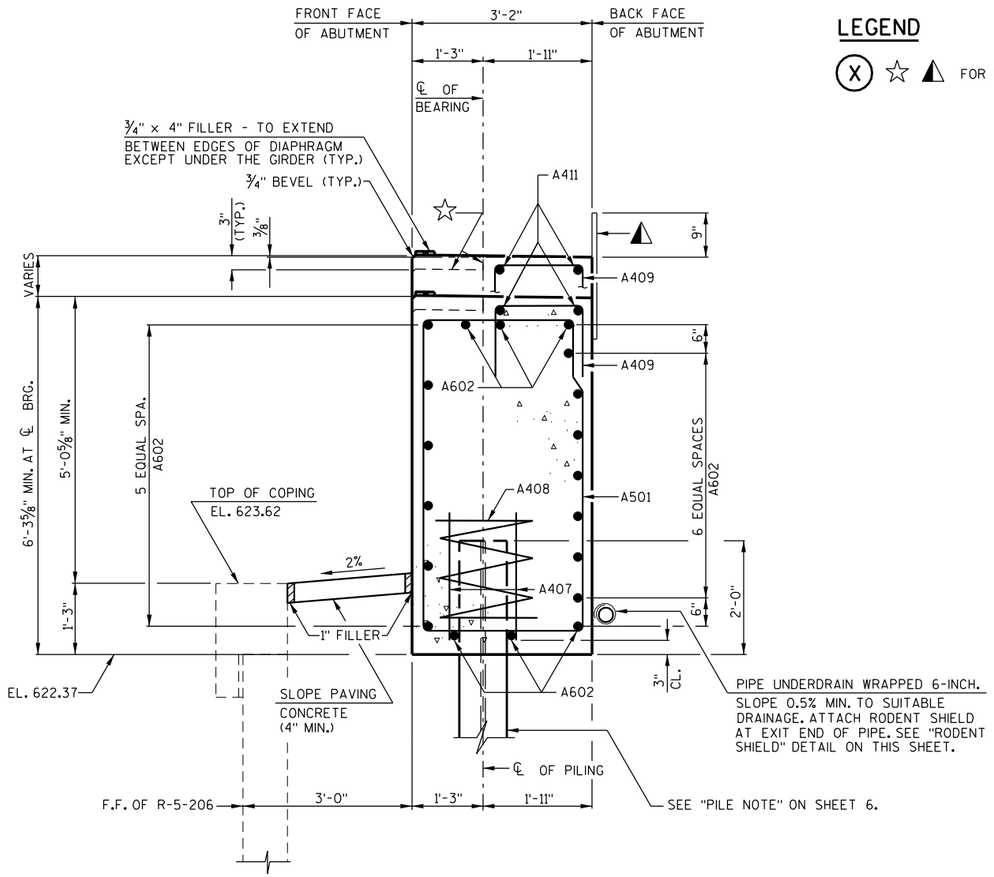
STATE PROJECT NUMBER

1133-09-71

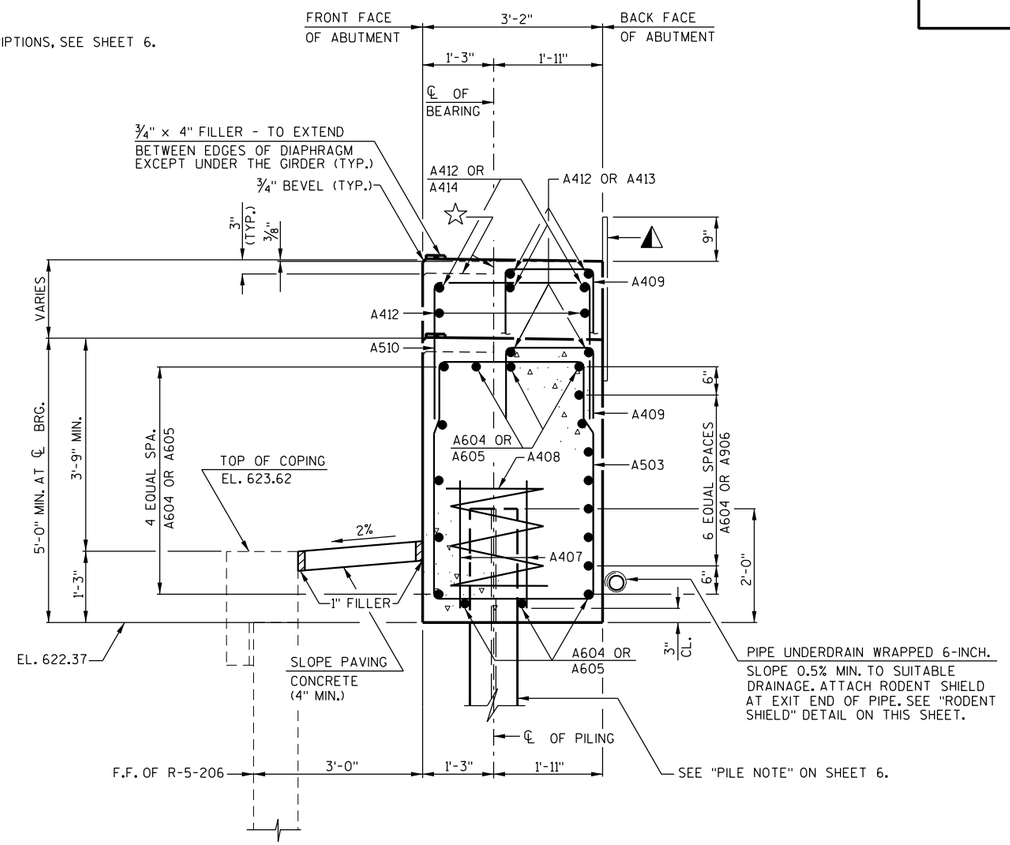
LEGEND

(X) ☆ ◭ FOR SYMBOL DESCRIPTIONS, SEE SHEET 6.



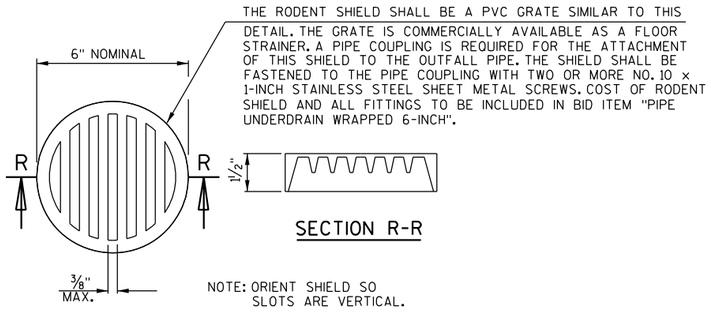
TYPICAL SECTION THRU BODY - STAGE 1B CONST.

(LOOKING EAST)

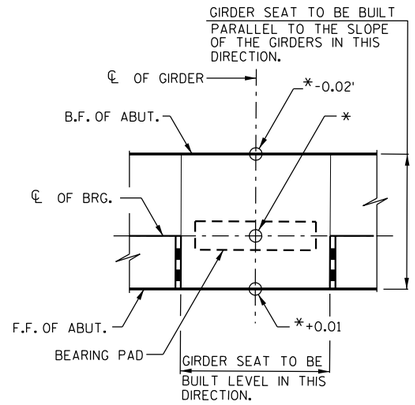


TYPICAL SECTION THRU BODY - STAGE 2 CONST.

(LOOKING EAST)



RODENT SHIELD



GIRDER SEAT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

SOUTH ABUTMENT

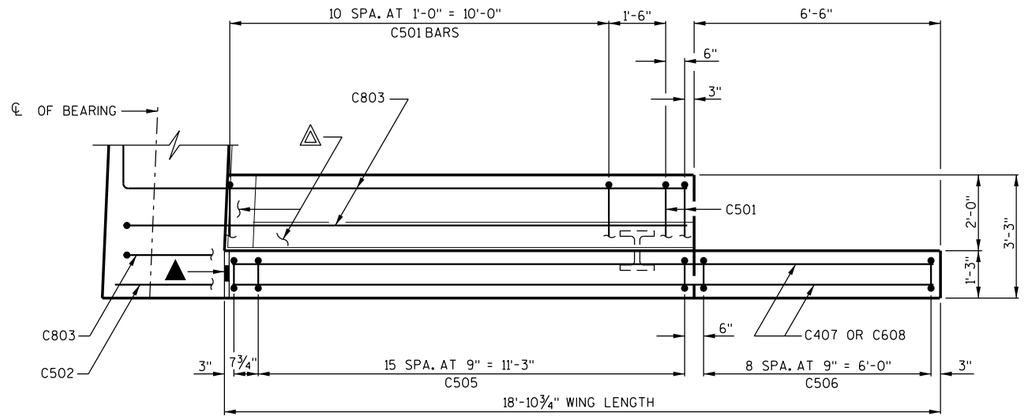
SHEET 9 OF 33
1718

8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\09_sabut1_b-5-616.dgn
PLOT DATE : 10/24/2012

STATE PROJECT NUMBER
1133-09-71



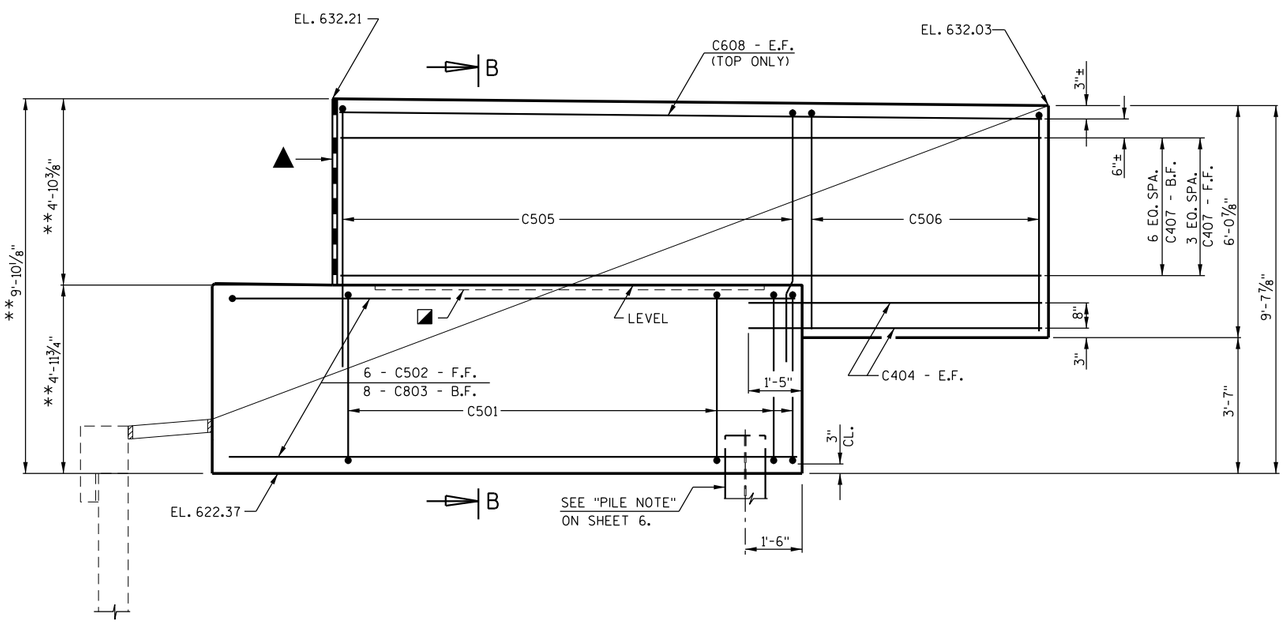
PLAN - WING 1

LEGEND

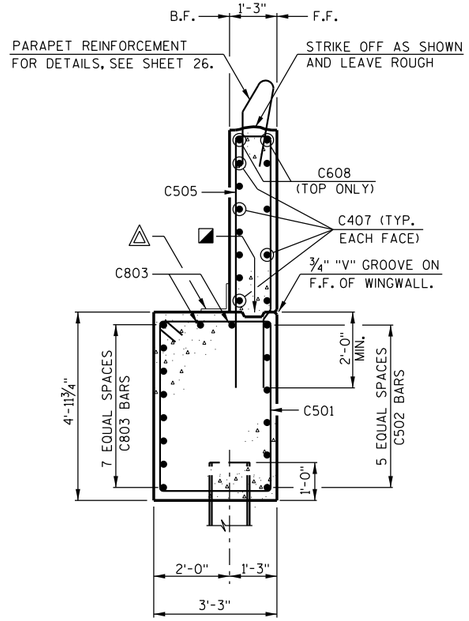
** DIMENSIONS AND ELEVATIONS ARE GIVEN AT THE B.F. OF ABUTMENT.

OPTIONAL CONST. JOINT FORMED BY BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE.

▲ △ FOR SYMBOL DESCRIPTIONS, SEE SHEET 7.



ELEVATION - WING 1



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

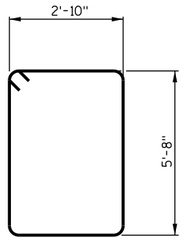
WING 1

SHEET 10 OF 33
1719

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\10_wing1_b-5-616.dgn
PLOT DATE : 2/7/2013

8

8



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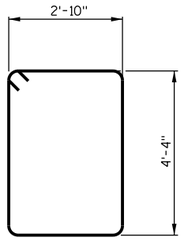
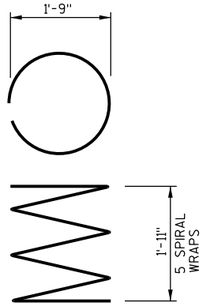


A503

A906



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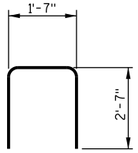

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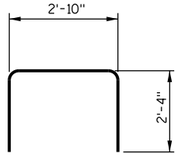

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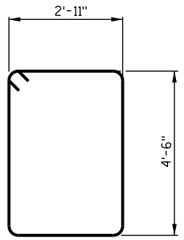

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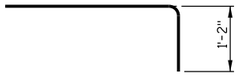

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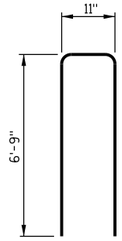

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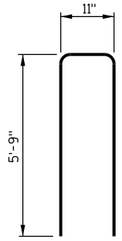

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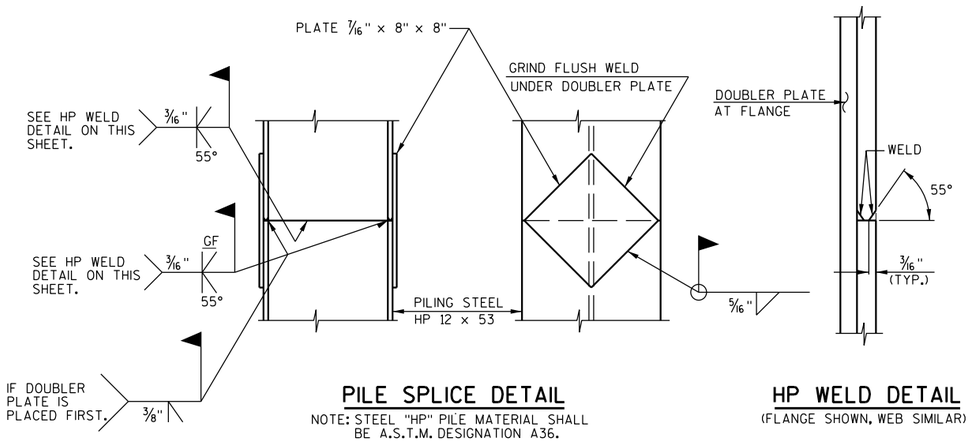


PILE SPLICE DETAIL

NOTE: STEEL "HP" PILE MATERIAL SHALL BE A.S.T.M. DESIGNATION A36.

HP WELD DETAIL

(FLANGE SHOWN, WEB SIMILAR)

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D. STAGE 1B	NO. REQ'D. STAGE 2	LENGTH	BENT	BAR SERIES	LOCATION	
NON-COATED BARS							TOTAL WEIGHT = 6,430 LBS.
A501	29	-----	17-7	X		BODY - STIRRUPS	VERT.
A602	19	-----	31-5			BODY - BOTTOM, F.F., B.F. & TOP	HORIZ.
A503	-----	77	14-11	X		BODY - STIRRUPS	VERT.
A604	-----	18	29-9			BODY - BOTTOM, F.F., B.F. & TOP	HORIZ.
A605	-----	11	39-9			BODY - BOTTOM, F.F. & TOP	HORIZ.
A906	-----	7	41-1	X		BODY - B.F.	HORIZ.
A407	12	26	2-3			BODY - AT PILES - 2 PER PILE	VERT.
A408	6	13	28-0	X		BODY - AT PILES - 1 PER PILE - SPIRAL WRAP	VERT.
A409	20	46	6-7	X		BODY - TOP	VERT.
A510	-----	50	7-3	X		BODY - TOP - UNDER GIRDERS 5 THRU 13	VERT.
A411	2	-----	30-5			BODY - TOP - UNDER GIRDERS 14 THRU 18	HORIZ.
A412	-----	7	28-8			BODY - TOP - UNDER GIRDERS 9 THRU 13	HORIZ.
A413	-----	2	39-9			BODY - TOP - UNDER GIRDERS 1 THRU 8	HORIZ.
A414	-----	3	22-2			BODY - TOP - UNDER GIRDERS 5 THRU 8	HORIZ.
EPOXY COATED BARS							TOTAL WEIGHT = 1,000 LBS.
C501	-----	13	15-5	X		WING 1 - STIRRUPS	VERT.
C502	-----	6	15-0			WING 1 - F.F.	HORIZ.
C803	-----	10	15-8	X		WING 1 - B.F.	HORIZ.
C404	-----	4	7-9			WING 1 - F.F. & B.F.	HORIZ.
C505	-----	17	14-2	X		WING 1 - F.F. & B.F.	VERT.
C506	-----	9	12-2	X		WING 1 - F.F. & B.F.	VERT.
C407	-----	11	18-6			WING 1 - F.F. & B.F.	HORIZ.
C608	-----	2	18-6			WING 1 - F.F. & B.F. - TOP	HORIZ.

ESTIMATED QUANTITIES

	HPC MASONRY STRUCTURES	BAR STEEL REINFORCEMENT HS BRIDGES
STAGE 1B	21 CY	1,690 LB
STAGE 2	61 CY	4,740 LB

STATE PROJECT NUMBER

1133-09-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

SOUTH ABUTMENT DETAILS

SHEET 11 OF 33
1720

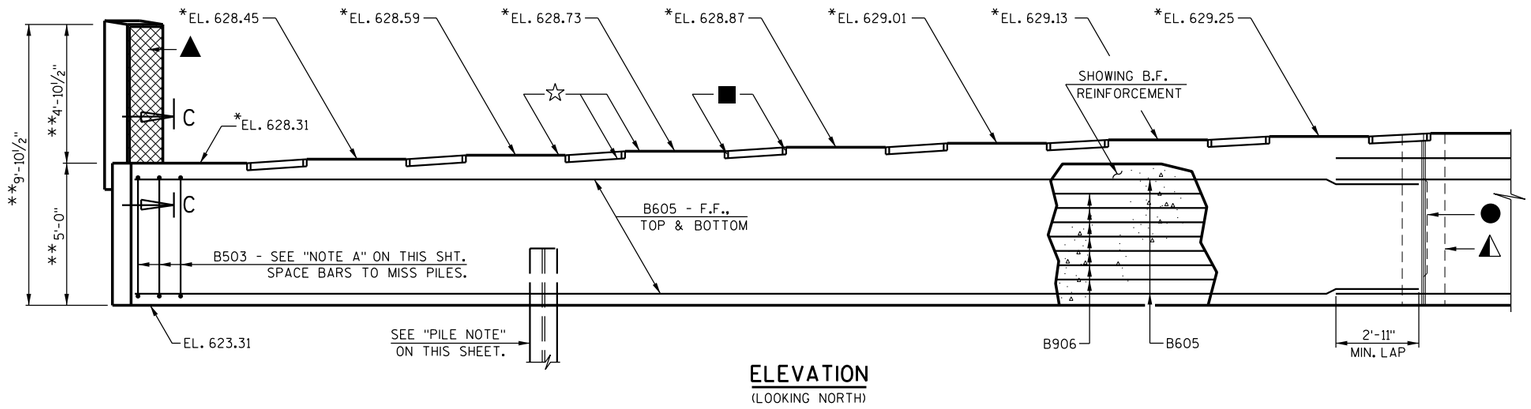
8

8

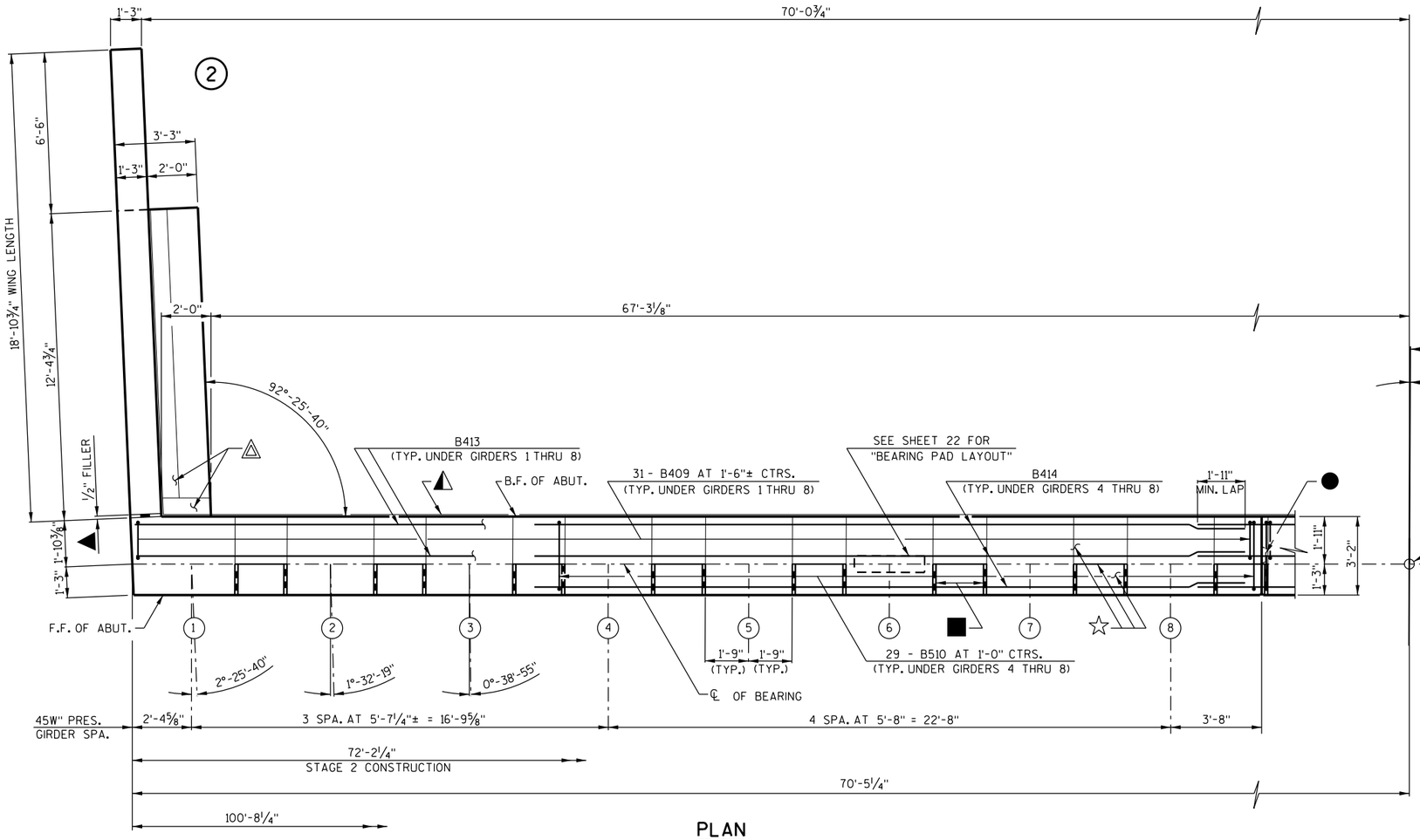
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\11.sabutdet.b-5-616.dgn
PLOT DATE : 2/7/2013

STATE PROJECT NUMBER

1133-09-71



ELEVATION
(LOOKING NORTH)



PLAN

LEGEND

* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.

** DIMENSIONS AND ELEVATIONS ARE GIVEN AT THE B.F. OF ABUTMENT. FOR WING DETAILS AND ELEVATIONS, SEE SHEET 16.

△ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

■ ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

☆ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

● KEYED CONST. JOINT FORMED BY A BEVELED 2" x 8".

◐ KEYED STAGE CONST. JOINT FORMED BY A BEVELED 2" x 8".

(X) INDICATES WING OR CORNER NUMBER

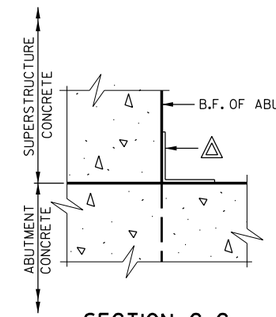
NOTES: SEE "PLAN" VIEW AND "TYPICAL SECTION THRU BODY" ON SHEET 15 FOR ADDITIONAL BAR STEEL REINFORCEMENT DETAILS AT GIRDER SEATS.
FOR "TYPICAL SECTION THRU BODY", SEE SHEET 15.

PILE NOTE

NORTH ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 90'LONG. FOR PILE SPLICE DETAILS, SEE SHEET 11. FOR PLIE LAYOUT DETAILS, SEE SHEET 14.

NOTE A

B501 BARS SHALL BE SPACED AT 1'-0" CTRS. (STAGE 1B CONST.)
B503 BARS SHALL BE SPACED AT 9" CTRS. IN THE OUTSIDE THIRD OF THE BODY NEAR WING 3 AND AT 1'-0" CTRS. IN THE REST OF THE BODY. (STAGE 2 CONST.) SPACE BARS TO MISS PILES.



SECTION C-C

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

NORTH ABUTMENT

SHEET 12 OF 33
1721

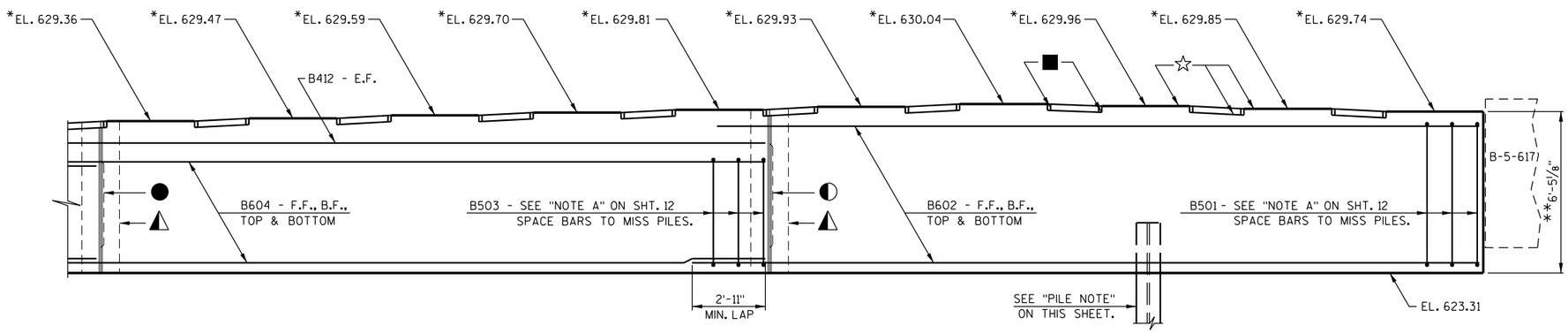
8

8

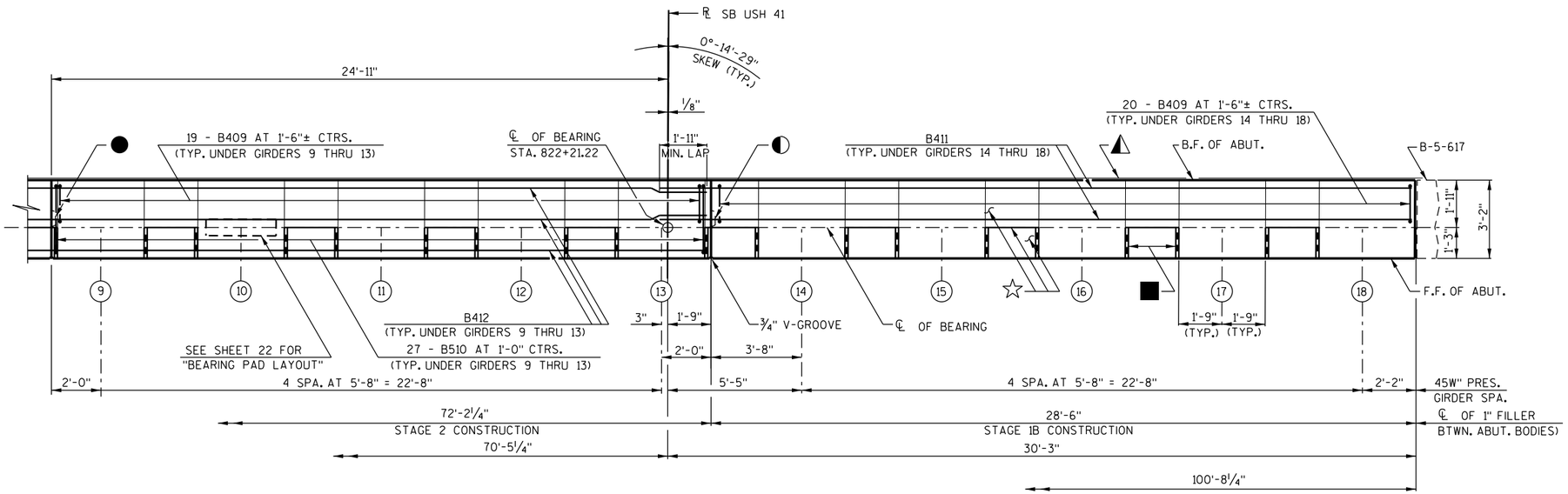
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\12.ndbuf1.b-5-616.dgn
PLOT DATE : 2/1/2013

STATE PROJECT NUMBER

1133-09-71



ELEVATION
(LOOKING NORTH)



PLAN

LEGEND

* ◭ ** ■ ☆ ● ◐ (X) FOR SYMBOL DESCRIPTIONS, SEE SHEET 12.

NOTES: SEE "PLAN" VIEW AND "TYPICAL SECTION THRU BODY" ON SHEET 15 FOR ADDITIONAL BAR STEEL REINFORCEMENT DETAILS AT GIRDER SEATS.
FOR "TYPICAL SECTION THRU BODY", SEE SHEET 15.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

NORTH ABUTMENT

SHEET 13 OF 33
1722

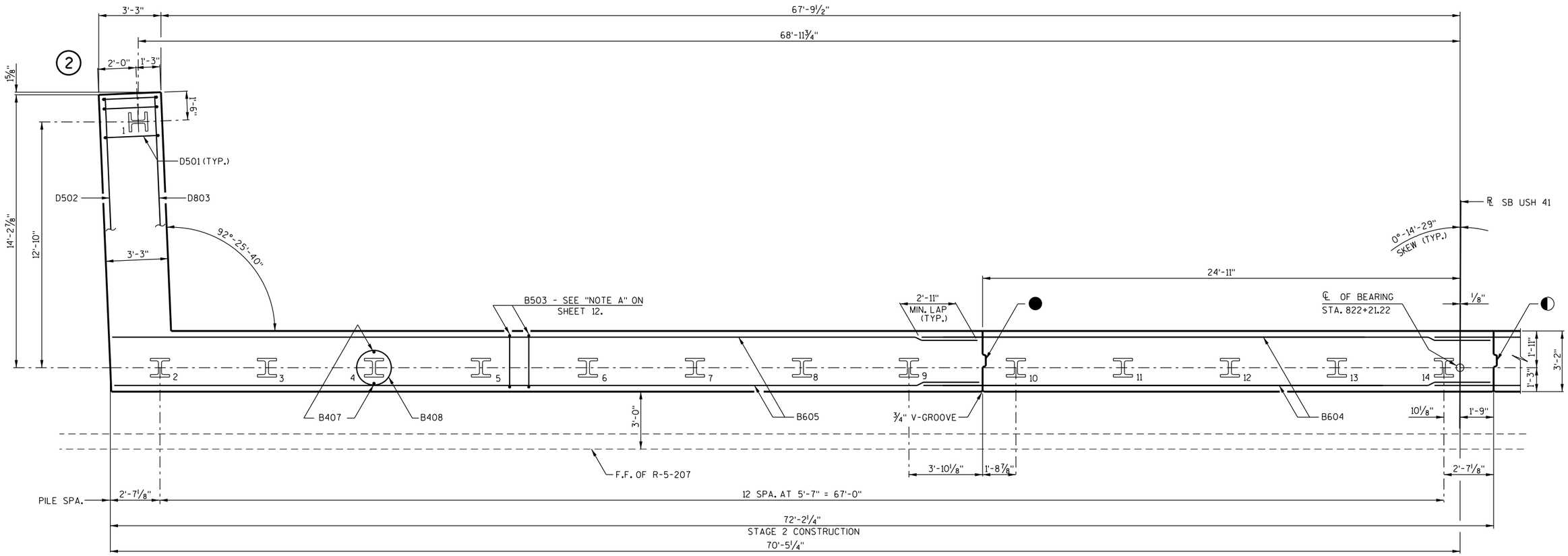
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\13.ndbu12.b-5-616.dgn
PLOT DATE : 2/1/2013

8

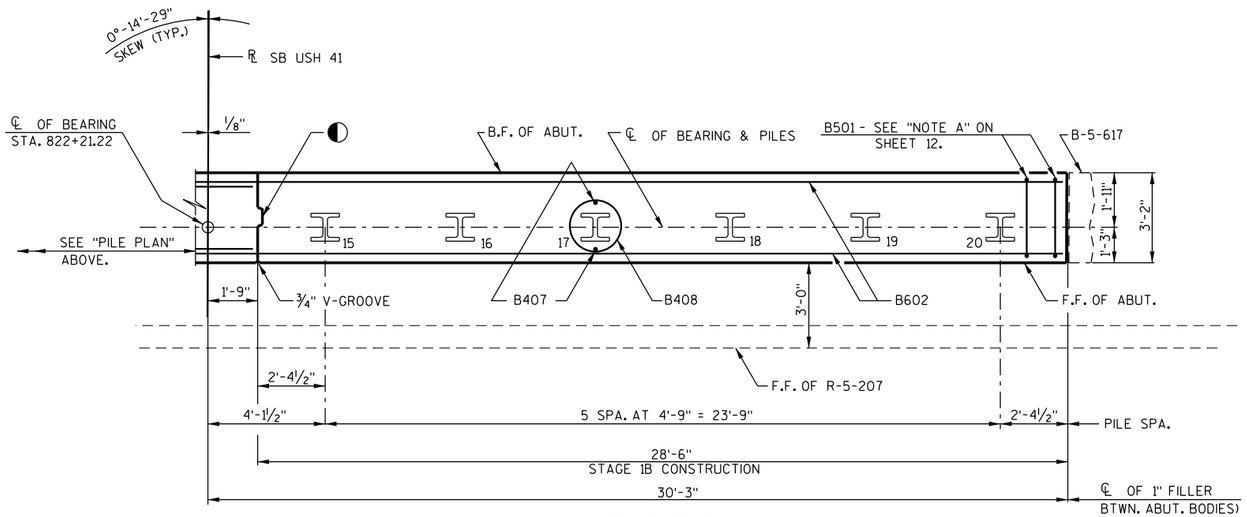
8

STATE PROJECT NUMBER

1133-09-71



PILE PLAN



PILE PLAN

LEGEND

- ● KEYED CONST. JOINT FORMED BY A BEVELED 2" × 8".
- ◐ KEYED STAGE CONST. JOINT FORMED BY A BEVELED 2" × 8".
- (X) INDICATES WING OR CORNER NUMBER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

NORTH ABUTMENT

SHEET 14 OF 33
1723

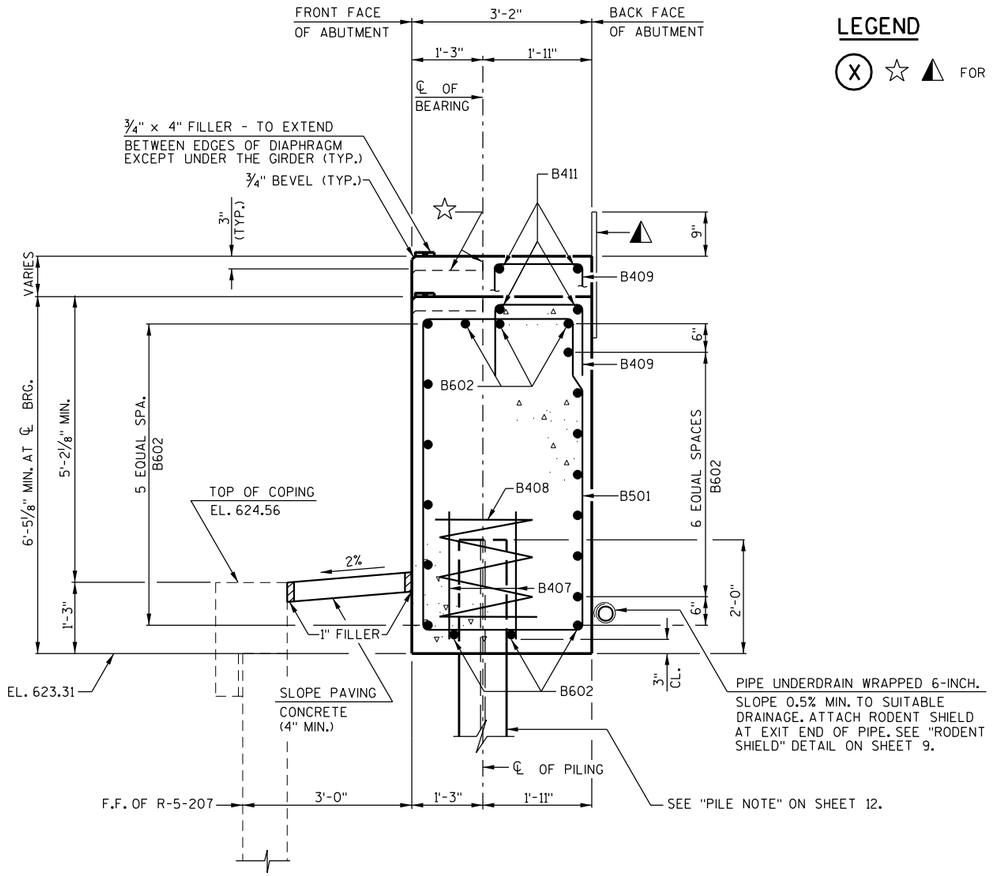
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\14_nabut3.b-5-616.dgn
PLOT DATE : 2/7/2013

8

8

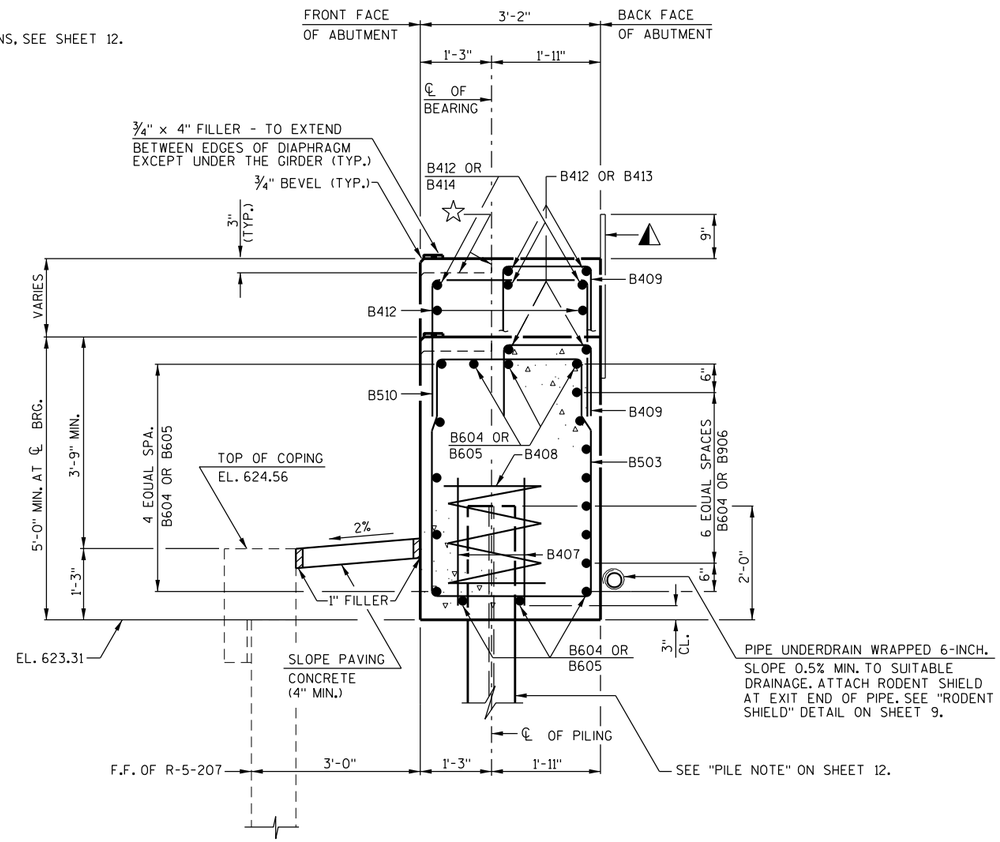
LEGEND

(X) ☆ ◭ FOR SYMBOL DESCRIPTIONS, SEE SHEET 12.



TYPICAL SECTION THRU BODY - STAGE 1B CONST.

(LOOKING WEST)



TYPICAL SECTION THRU BODY - STAGE 2 CONST.

(LOOKING WEST)

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616115_ndout4.dgn
PLOT DATE : 10/25/2012

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

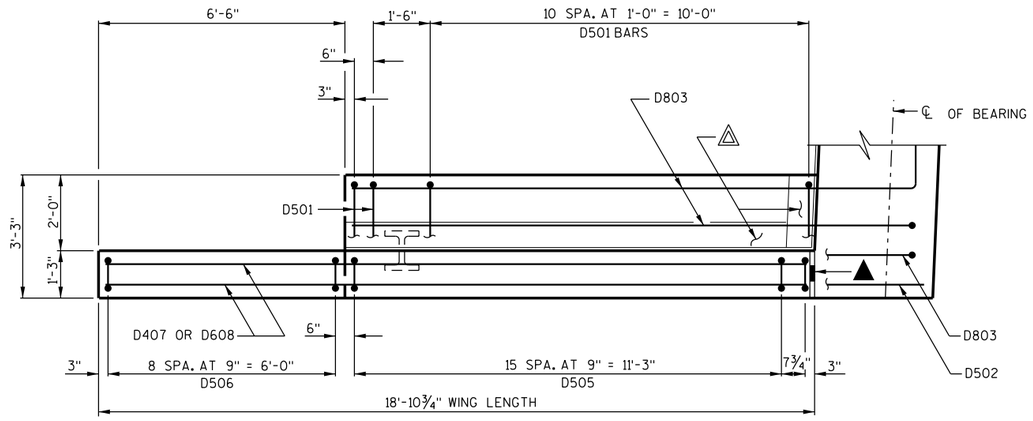
DRAWN BY TAW | PLANS CK'D. TR

NORTH ABUTMENT

SHEET 15 OF 33
1724

STATE PROJECT NUMBER

1133-09-71



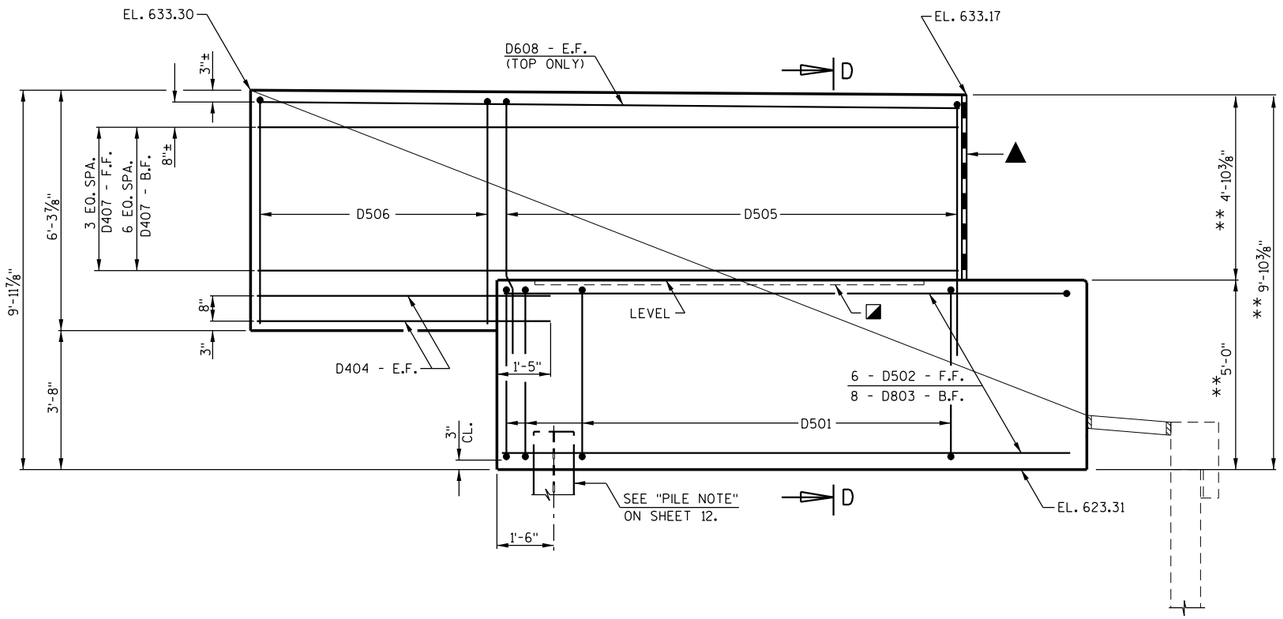
PLAN - WING 2

LEGEND

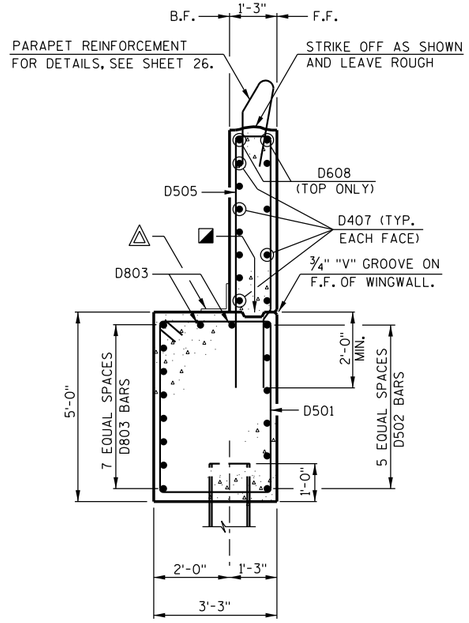
** DIMENSIONS AND ELEVATIONS ARE GIVEN AT THE B.F. OF ABUTMENT.

OPTIONAL CONST. JOINT FORMED BY BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE.

▲ △ FOR SYMBOL DESCRIPTIONS, SEE SHEET 12.



ELEVATION - WING 2



SECTION D-D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

WING 2

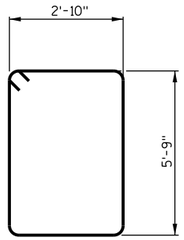
SHEET 16 OF 33
1725

8

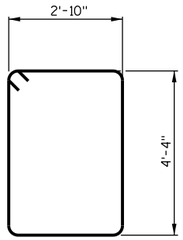
8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\Structures\B-5-616\16_wing2_b-5-616.dgn
PLOT DATE : 2/7/2013

STATE PROJECT NUMBER
1133-09-71

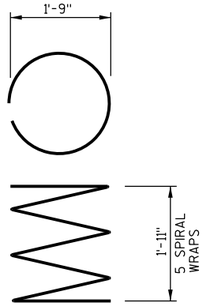


B501



B503

B906



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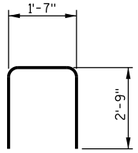

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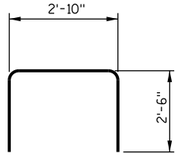
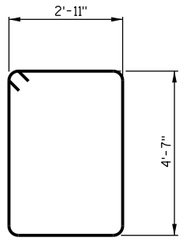


B510



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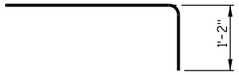
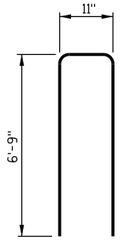


D803



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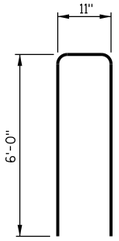


D506

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D. STAGE 1B	NO. REQ'D. STAGE 2	LENGTH	BENT	BAR SERIES	LOCATION	
NON-COATED BARS						TOTAL WEIGHT = 6,860 LBS.	
B501	29	-----	17-9	X		BODY - STIRRUPS	VERT.
B602	19	-----	31-5			BODY - BOTTOM, F.F., B.F. & TOP	HORIZ.
B503	-----	84	14-11	X		BODY - STIRRUPS	VERT.
B604	-----	18	29-9			BODY - BOTTOM, F.F., B.F. & TOP	HORIZ.
B605	-----	11	45-2			BODY - BOTTOM, F.F. & TOP	HORIZ.
B906	-----	7	45-10	X		BODY - B.F.	HORIZ.
B407	12	26	2-3			BODY - AT PILES - 2 PER PILE	VERT.
B408	6	13	28-0	X		BODY - AT PILES - 1 PER PILE - SPIRAL WRAP	VERT.
B409	20	50	6-11	X		BODY - TOP	VERT.
B510	-----	56	7-7	X		BODY - TOP - UNDER GIRDERS 4 THRU 13	VERT.
B411	2	-----	30-5			BODY - TOP - UNDER GIRDERS 14 THRU 18	HORIZ.
B412	-----	7	28-8			BODY - TOP - UNDER GIRDERS 9 THRU 13	HORIZ.
B413	-----	2	45-0			BODY - TOP - UNDER GIRDERS 1 THRU 8	HORIZ.
B414	-----	3	29-2			BODY - TOP - UNDER GIRDERS 4 THRU 9	HORIZ.
EPOXY COATED BARS						TOTAL WEIGHT = 1,000 LBS.	
D501	-----	13	15-7	X		WING 2 - STIRRUPS	VERT.
D502	-----	6	15-0			WING 2 - F.F.	HORIZ.
D803	-----	10	15-8	X		WING 2 - B.F.	HORIZ.
D404	-----	4	7-9			WING 2 - F.F. & B.F.	HORIZ.
D505	-----	17	14-2	X		WING 2 - F.F. & B.F.	VERT.
D506	-----	9	12-8	X		WING 2 - F.F. & B.F.	VERT.
D407	-----	11	18-6			WING 2 - F.F. & B.F.	HORIZ.
D608	-----	2	18-6			WING 2 - F.F. & B.F. - TOP	HORIZ.

ESTIMATED QUANTITIES

	HPC MASONRY STRUCTURES	BAR STEEL REINFORCEMENT HS BRIDGES
STAGE 1B	21 CY	1,700 LB
STAGE 2	65 CY	5,160 LB

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\17_notbrdet_b-5-616.dgn
PLOT DATE : 2/7/2013

8

8

NO.	DATE	REVISION	BY

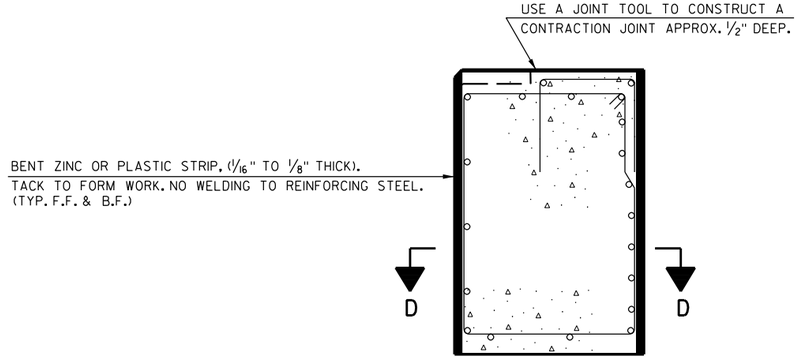
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

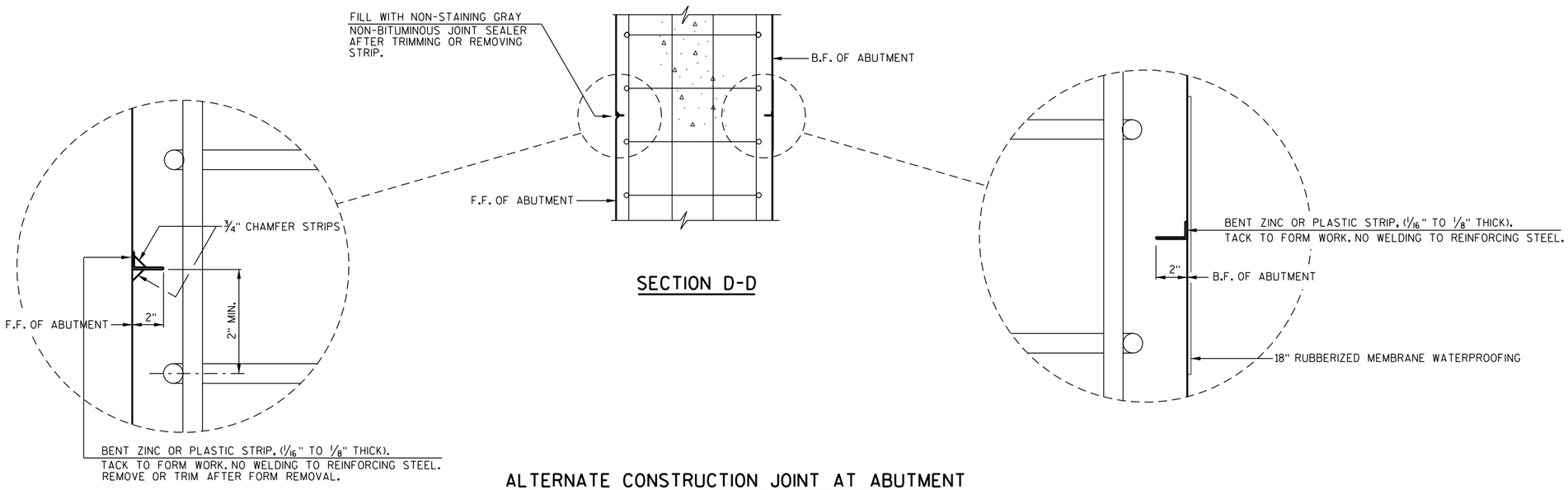
DRAWN BY TAW | PLANS CK'D. TR

NORTH ABUTMENT DETAILS

STATE PROJECT NUMBER
1133-09-71



SECTION THRU ABUTMENT BODY



SECTION D-D

ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\18.dltconstjt-b-5-616.dgn
PLOT DATE : 10/25/2012

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

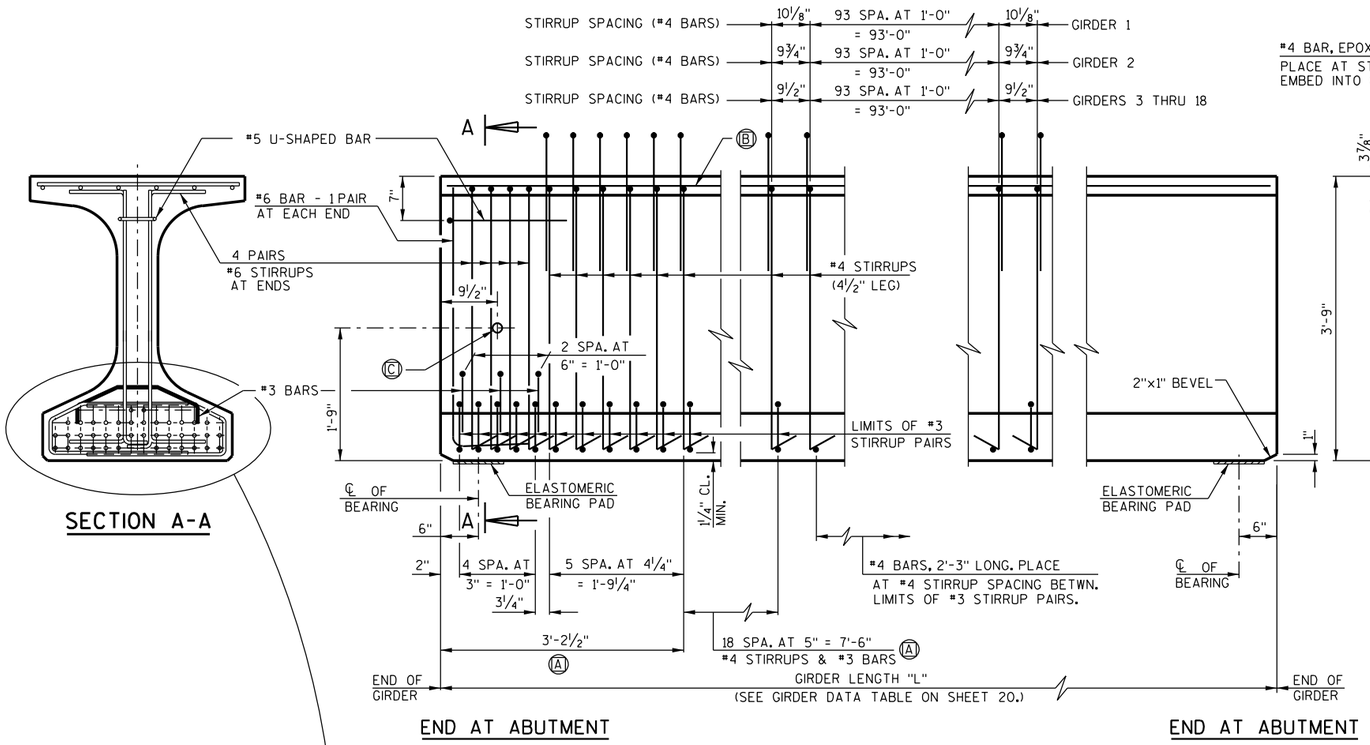
DRAWN BY TAW | PLANS CK'D. TR

ALTERNATE CONSTRUCTION JOINT

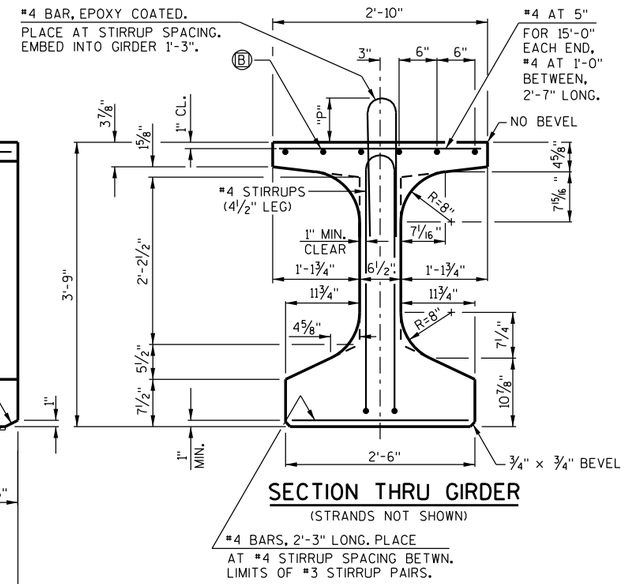
SHEET 18 OF 33
1727

STATE PROJECT NUMBER

1133-09-71



SECTION A-A



SECTION THRU GIRDER

(STRANDS NOT SHOWN)

NOTES: FOR GIRDER DATA AND STRAND PATTERN DETAILS, SEE SHEET 20.
FOR DIMENSION "P", SEE GIRDER DATA TABLE ON SHEET 20.

GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, ONE OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

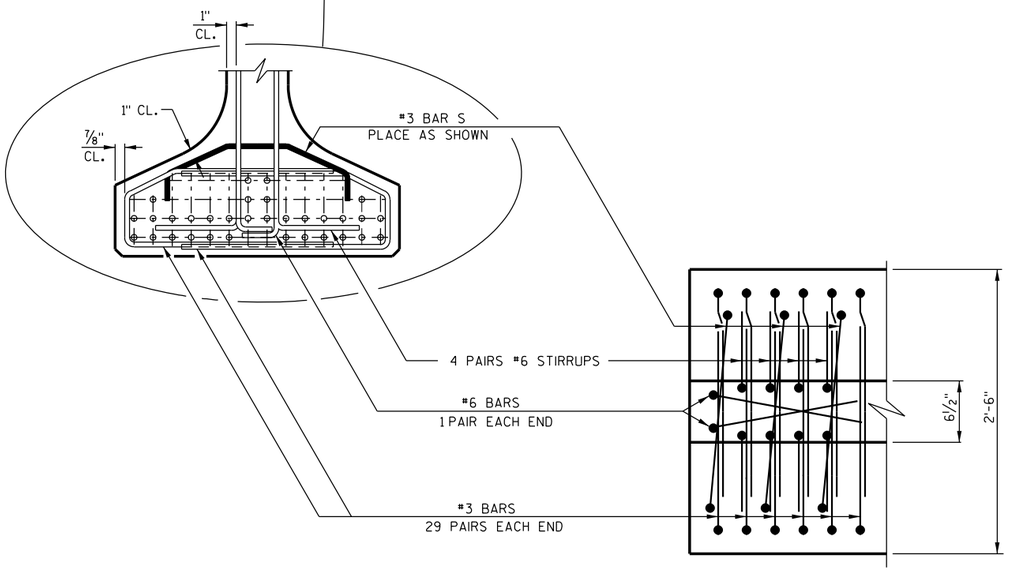
AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE 0.6" DIA.-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "INTERMEDIATE STEEL DIAPHRAGM" SHEET.

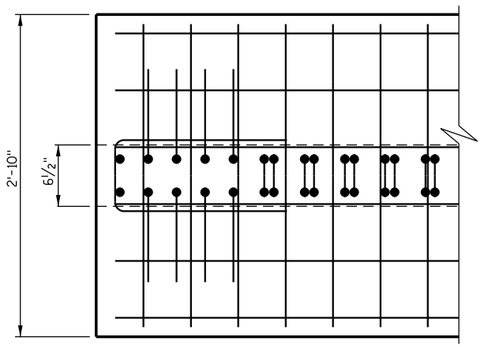
SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYPICAL EACH END
Ⓑ 6 - #4 BARS FULL LENGTH, MIN. LAP = 1'-11".
Ⓒ 1½" DIA. HOLE IN WEB FOR 2 - S510 BARS. (TYP. EACH END)

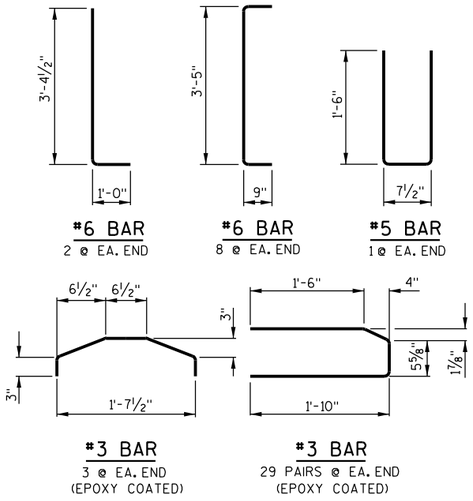


BOTTOM FLANGE

(TYP. EACH END)



TOP FLANGE



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

45W" PRESTRESSED GIRDER DETAILS

SHEET 19 OF 33
1728

8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\19_45Wgdr1.b-5-616.dgn
PLOT DATE : 10/25/2012

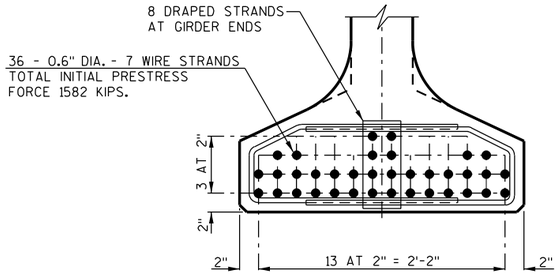
STATE PROJECT NUMBER

1133-09-71

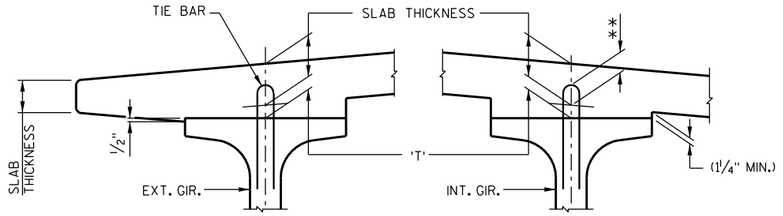
GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1st 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1	116'-1 1/4"	3/4"	1 1/2"	2 1/8"	2 1/2"	2 5/8"	2 1/2"	2 1/8"	1 1/2"	3/4"	8000	8"	7"	8"	0.60	36	6800	40"	13 3/4"	16 3/4"	5"		
1	2	116'-0 1/2"	3/4"	1 1/2"	2 1/8"	2 1/2"	2 5/8"	2 1/2"	2 1/8"	1 1/2"	3/4"	8000	8"	7"	8"	0.60	36	6800	40"	13 3/4"	16 3/4"	5"		
1	3 - 18	116'-0"	3/4"	1 1/2"	2 1/8"	2 1/2"	2 5/8"	2 1/2"	2 1/8"	1 1/2"	3/4"	8000	8"	7"	8"	0.60	36	6800	40"	13 3/4"	16 3/4"	5"		

* MINIMUM CYLINDER STRENGTH OF CONCRETE AT THE TIME OF TRANSFER OF PRESTRESS FORCE.



DRAPED STRAND PATTERN - SPAN



SLAB HAUNCH DETAIL

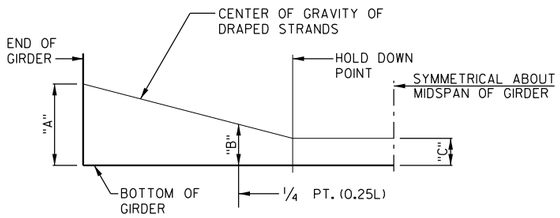
IF 1 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
\- TOP OF GIRDER ELEVATION
\+ DEAD LOAD DEFLECTION
\- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



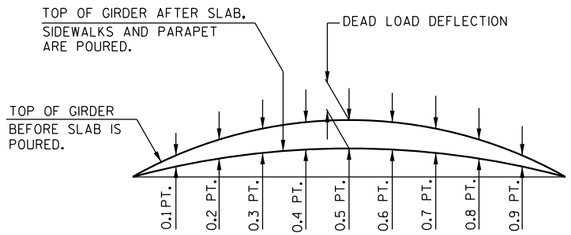
LOCATION OF DRAPED STRANDS

THEORETICAL CAMBER

SPAN	CAMBER (IN.) ***
1	4"

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T'. USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

*** THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.



DEAD LOAD DEFLECTION DIAGRAM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

45W" PRESTRESSED GIRDER DETAILS

SHEET 20 OF 33
1729

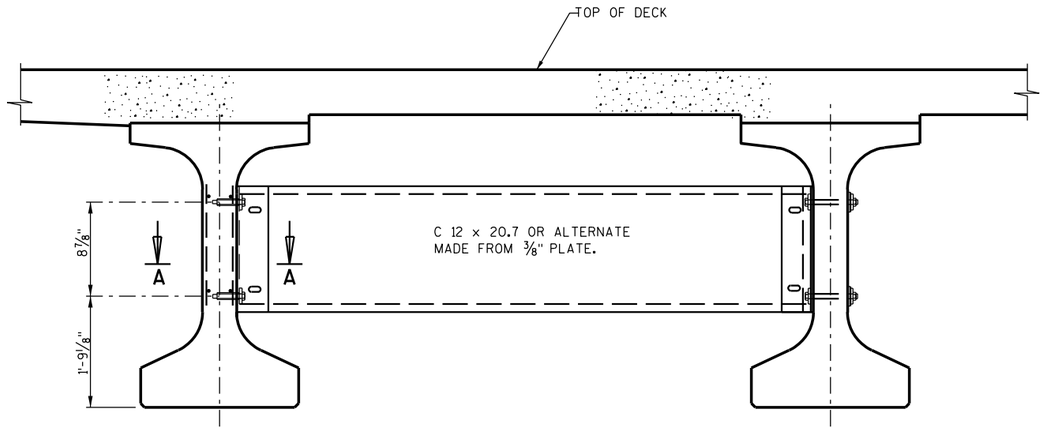
8

8

FILE NAME : P:\134 (DSH 41 Bridges (1133-09-00)\structures\B-5-616\20_45Wgir2_b-5-616.dgn
PLOT DATE : 10/25/2012

STATE PROJECT NUMBER

1133-09-71



PART TRANSVERSE SECTION AT DIAPHRAGM

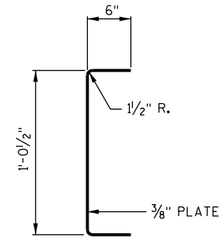
GENERAL NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-5-616", EACH.

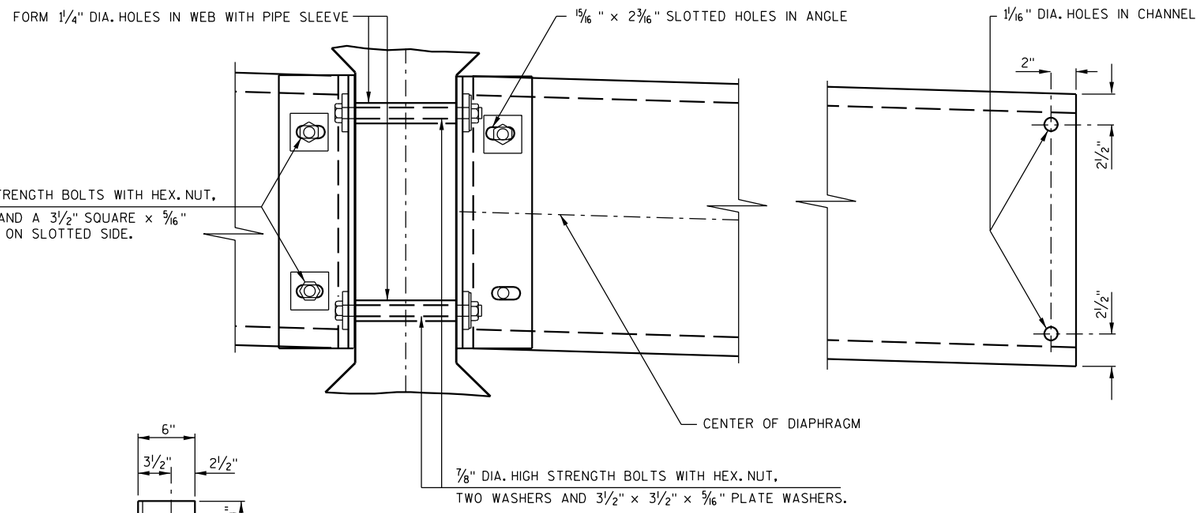
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS, SLEEVES AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563. LUBRICANT AND TEST FOR COATED NUTS.

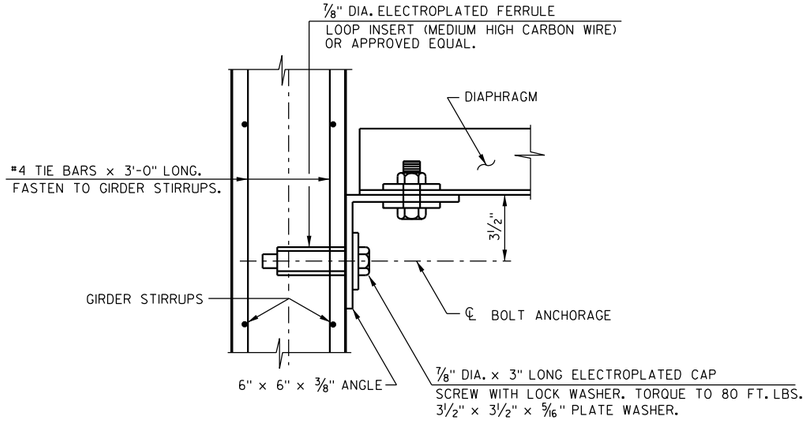


SECTION THRU ALTERNATE DIAPHRAGM



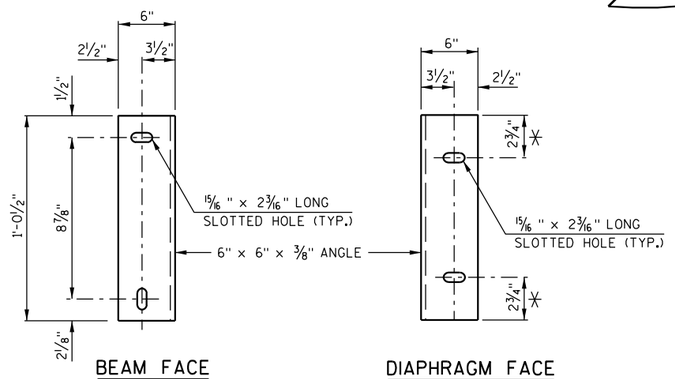
DETAIL B

(FOR CONTINUOUS LINE OF DIAPHRAGMS)



SECTION A-A

(FOR EXTERIOR ATTACHMENT)



DIAPHRAGM SUPPORT

✳ DIMENSION = 2½" FOR ALTERNATE PLATE DIAPHRAGM.

NOTE: BEND DIAPHRAGM SUPPORT ANGLE/PLATE AS NECESSARY SO THE ANGLE/PLATE IS FLUSH WITH BEAM FACE & DIAPHRAGM FACE BETWEEN GIRDERS 1 THRU 4. SEE ABUTMENT SHEETS FOR GIRDER ANGLE DIMENSIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

INTERMEDIATE STEEL DIAPHRAGMS

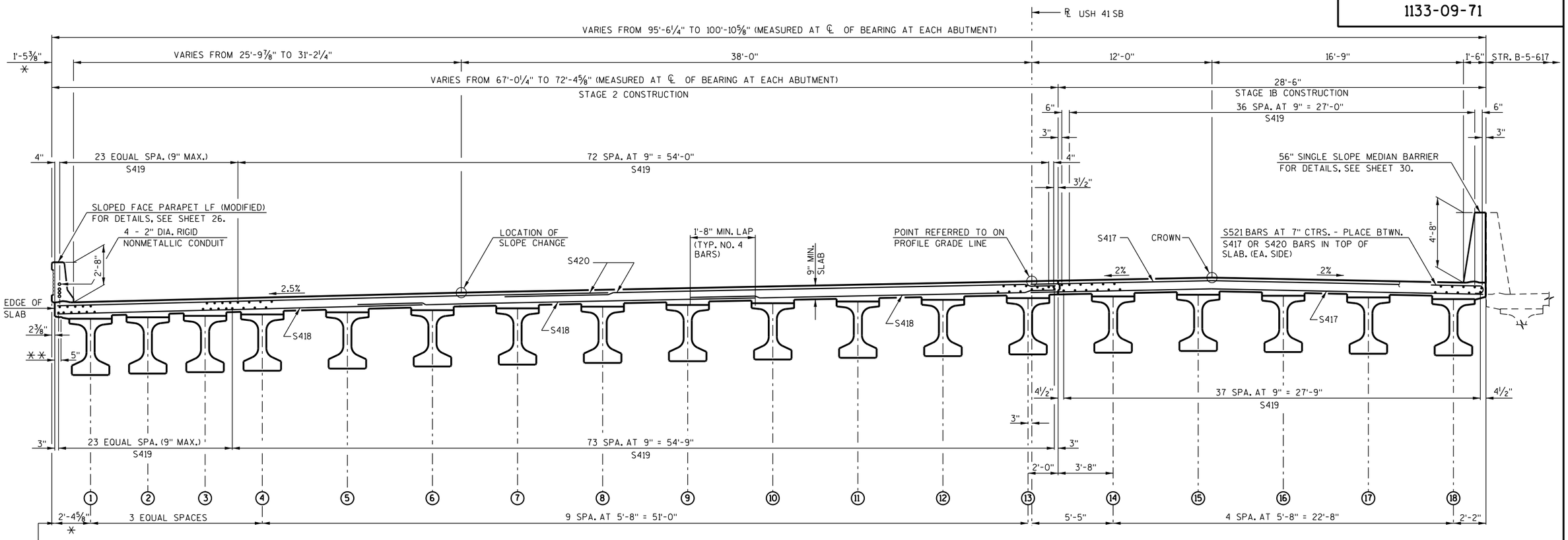
SHEET 21 OF 33
1730

8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\21_steeldiapn_b-5-616.dgn
PLOT DATE : 10/25/2012

STATE PROJECT NUMBER
1133-09-71



CROSS SECTION THRU ROADWAY

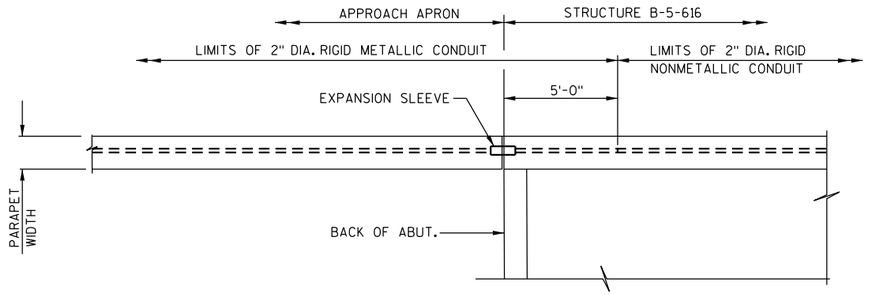
(LOOKING NORTH)

LEGEND

* DIMENSIONS ARE PARALLEL TO THE WEST EDGE OF DECK.

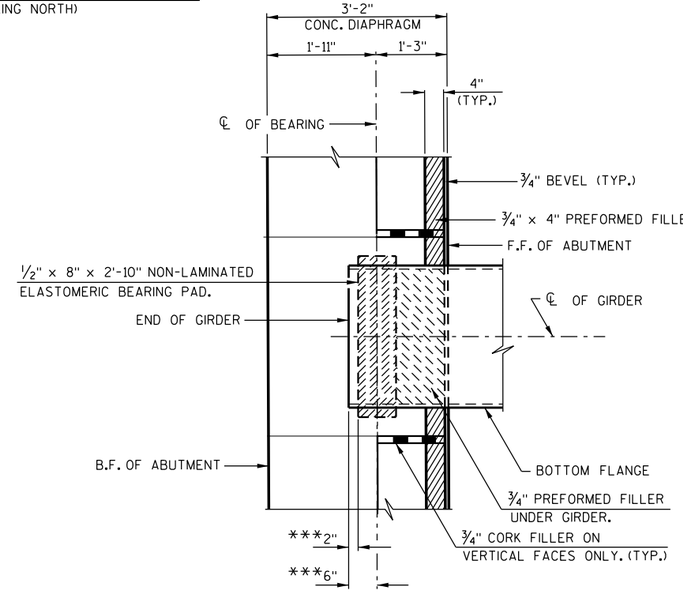
** ¾" CONTINUOUS 'V' DRIP GROOVE. EXTEND V-GROOVE TO FILLET ADJACENT TO ABUTMENTS.

*** DIMENSIONS ARE ALONG ℄ GIRDER.



PART PLAN - SUPERSTRUCTURE

(SHOWING CONDUIT LIMITS IN WEST SIDE PARAPET. SOUTH END OF DECK SHOWN, NORTH END SIMILAR.)



BEARING PAD LAYOUT

(SHOWN AT SOUTH ABUTMENT, NORTH ABUTMENT SIMILAR)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

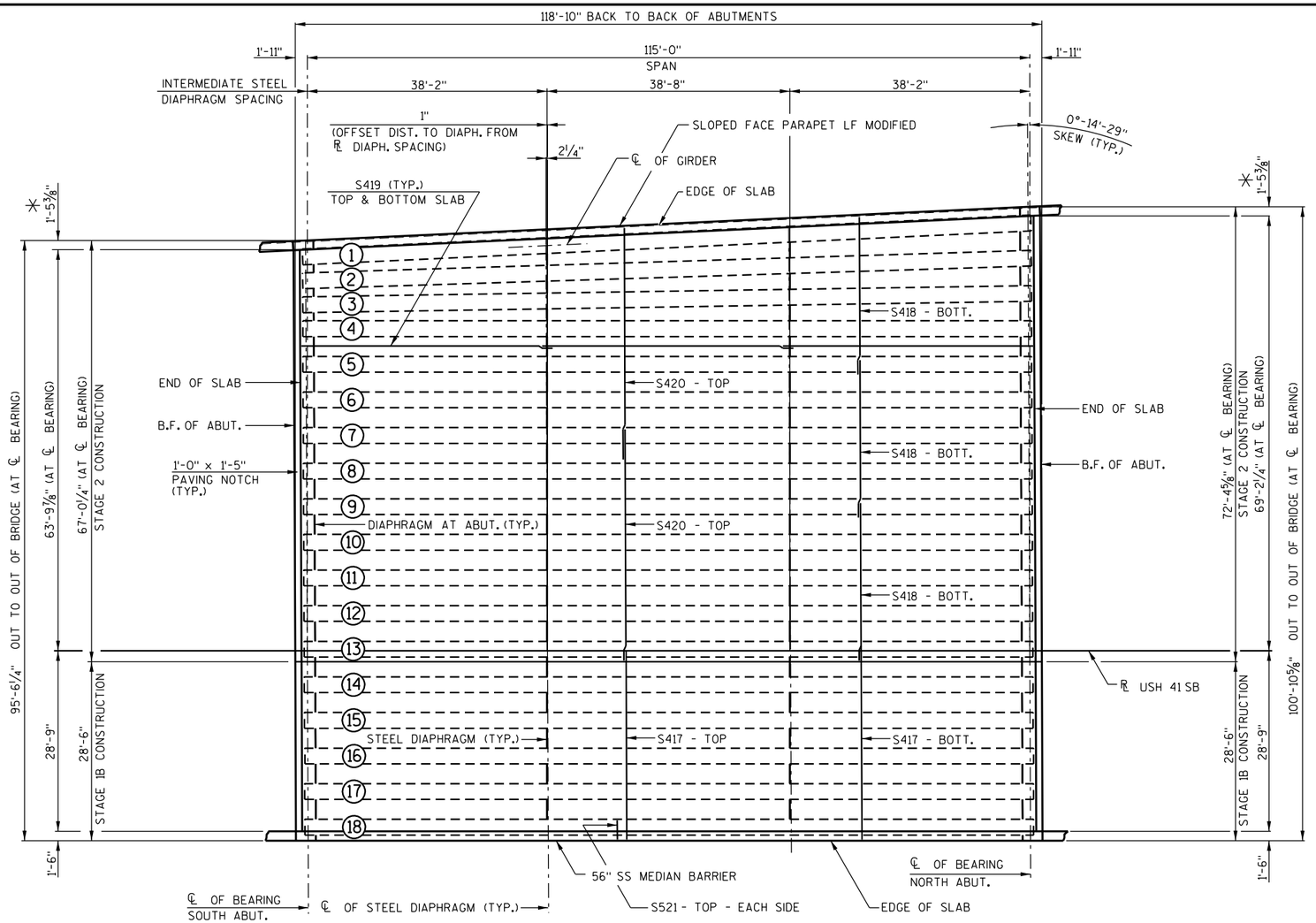
SUPERSTRUCTURE

SHEET 22 OF 33
1731

8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\22_superl_b-5-616.dgn
PLOT DATE : 2/7/2013



PLAN

NOTES

1. THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS.
2. THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.
3. LAP NO. 6 BARS 3'-6" MIN. AT BACK OF ABUTMENT DIAPHRAGMS.
4. LAP LONGITUDINAL NO. 5 BARS IN 56" SINGLE SLOPE MEDIAN BARRIER 2'-11" MIN.
5. LAP LONGITUDINAL NO. 5 BARS IN SLOPED FACE PARAPET LF (MODIFIED) 1'-9" MIN.
6. LAP NO. 4 BARS 1'-8" MIN. IN SLAB.
7. ALL TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED PARALLEL TO SUBSTRUCTURE UNITS.
8. EDGE OF DECK (EOD) ELEVATIONS ARE CALCULATED ASSUMING CROSS SLOPE CONTINUES TO EDGE.

TOP OF DECK ELEVATIONS

	℄ OF BRG. S. ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF BRG. N. ABUT.
W. EOD	632.19	632.29	632.39	632.49	632.59	632.68	632.78	632.87	632.95	633.04	633.12
GIRDER 1	632.25	632.35	632.45	632.55	632.65	632.74	632.84	632.93	633.01	633.10	633.18
GIRDER 2	632.35	632.45	632.56	632.66	632.76	632.86	632.96	633.05	633.14	633.23	633.32
GIRDER 3	632.44	632.55	632.66	632.77	632.88	632.98	633.08	633.18	633.28	633.37	633.46
GIRDER 4	632.54	632.65	632.77	632.88	632.99	633.10	633.20	633.31	633.41	633.50	633.60
GIRDER 5	632.68	632.80	632.91	633.02	633.13	633.24	633.34	633.45	633.55	633.65	633.74
GIRDER 6	632.82	632.94	633.05	633.16	633.27	633.38	633.49	633.59	633.69	633.79	633.88
GIRDER 7	632.94	633.06	633.17	633.29	633.40	633.50	633.61	633.71	633.81	633.91	634.01
GIRDER 8	633.06	633.17	633.29	633.40	633.51	633.62	633.72	633.83	633.93	634.03	634.12
GIRDER 9	633.17	633.29	633.40	633.51	633.62	633.73	633.84	633.94	634.04	634.14	634.23
GIRDER 10	633.28	633.40	633.52	633.63	633.74	633.85	633.95	634.05	634.15	634.25	634.35
GIRDER 11	633.40	633.51	633.63	633.74	633.85	633.96	634.06	634.17	634.27	634.37	634.46
GIRDER 12	633.51	633.63	633.74	633.85	633.96	634.07	634.18	634.28	634.38	634.48	634.58
GIRDER 13	633.62	633.74	633.86	633.97	634.08	634.19	634.29	634.39	634.49	634.59	634.69
STAGE JT.	633.66	633.78	633.90	634.01	634.12	634.23	634.33	634.43	634.53	634.63	634.73
GIRDER 14	633.74	633.86	633.97	634.08	634.19	634.30	634.40	634.51	634.61	634.71	634.80
GIRDER 15	633.85	633.97	634.08	634.20	634.31	634.41	634.52	634.62	634.72	634.82	634.92
GIRDER 16	633.78	633.89	634.01	634.12	634.23	634.34	634.44	634.54	634.65	634.74	634.84
GIRDER 17	633.66	633.78	633.89	634.01	634.12	634.22	634.33	634.43	634.53	634.63	634.73
GIRDER 18	633.55	633.67	633.78	633.89	634.00	634.11	634.22	634.32	634.42	634.52	634.61
E. EOD	633.51	633.62	633.74	633.85	633.96	634.07	634.17	634.28	634.38	634.47	634.57

LEGEND

✳ DIMENSIONS ARE PARALLEL TO THE WEST EDGE OF DECK.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 23 OF 33
1732

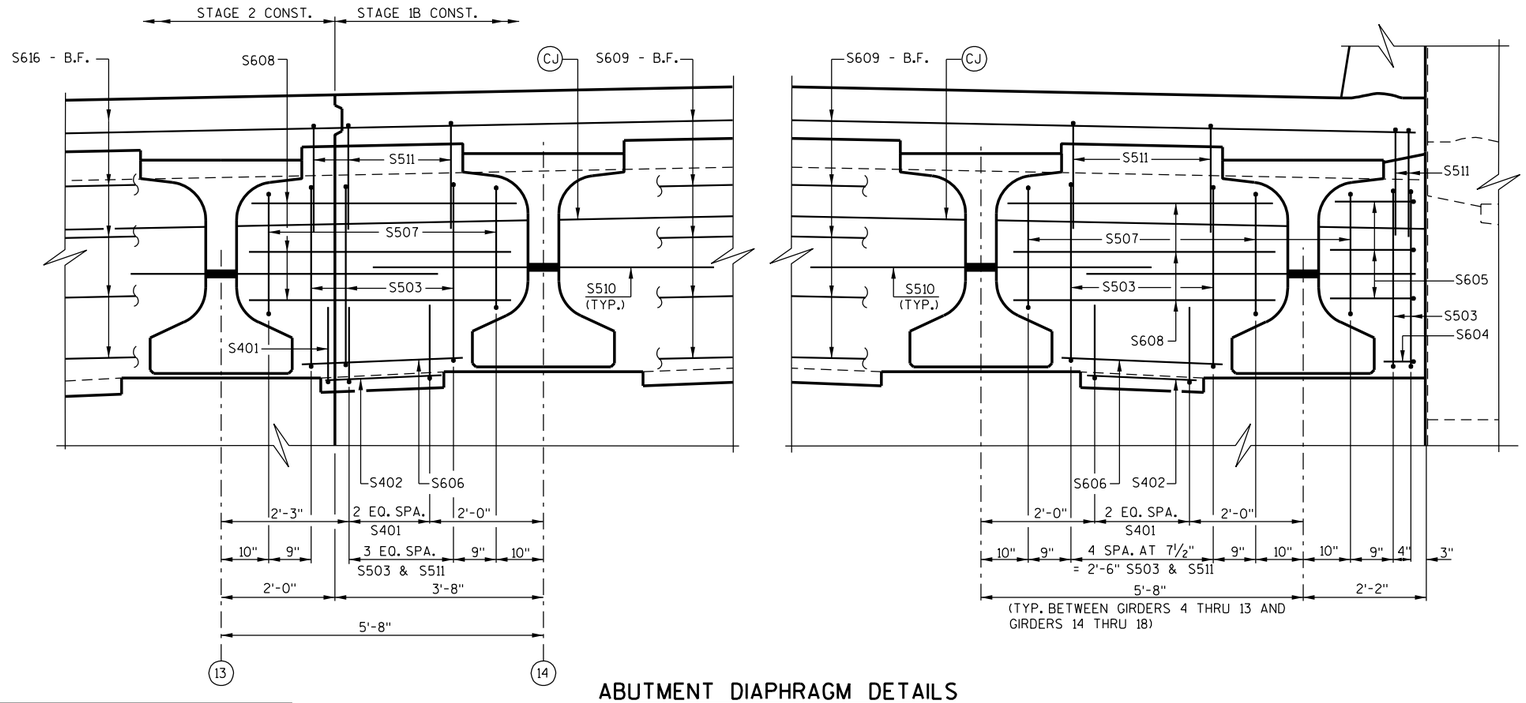
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\23_super2_b-5-616.dgn
PLOT DATE : 10/25/2012

8

8

STATE PROJECT NUMBER

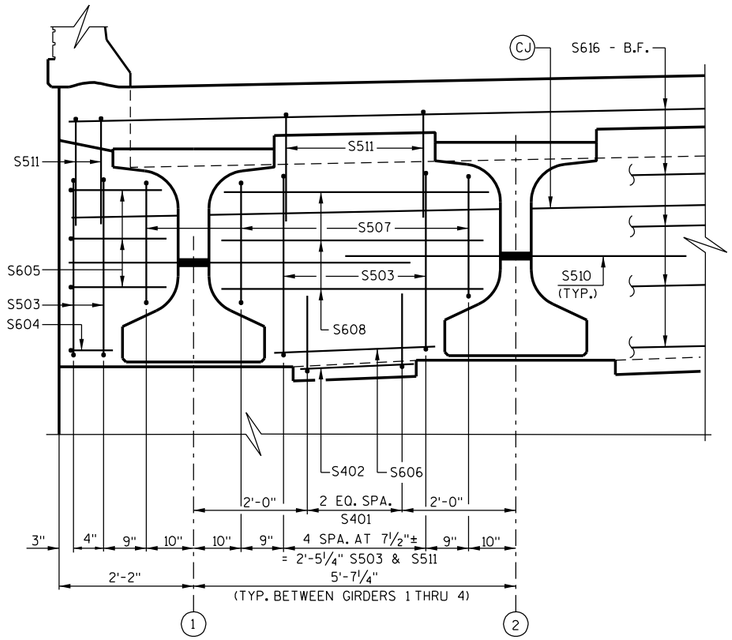
1133-09-71



ABUTMENT DIAPHRAGM DETAILS

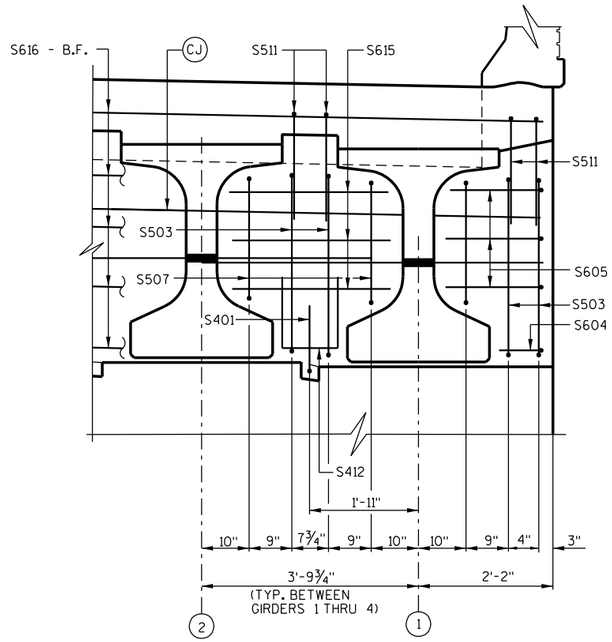
(LOOKING NORTH AT NORTH ABUT., SOUTH ABUT. SIMILAR EXCEPT IF NOTED OTHERWISE)

NOTES: LAP S616 BARS 3'-6" MIN. AT B.F. OF ABUTMENT DIAPHRAGM.
PLACE 18" RUBBERIZED MEMBRANE WATERPROOFING AT B.F. OF ABUTMENT DIAPHRAGM AT STAGE CONSTRUCTION JOINT.



ABUTMENT DIAPHRAGM DETAILS

(LOOKING NORTH AT NORTH ABUT.)



ABUTMENT DIAPHRAGM DETAILS

(LOOKING SOUTH AT SOUTH ABUT.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

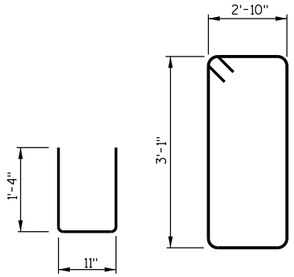
SHEET 24 OF 33
1733

8

8

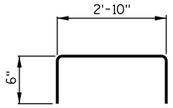
FILE NAME : P:\134 USH 41 Bridges \1133-09-00\structures\B-5-616\24_super3_b-5-616.dgn
PLOT DATE : 10/25/2012

STATE PROJECT NUMBER
1133-09-71

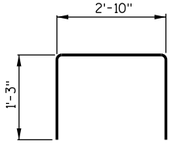


S401

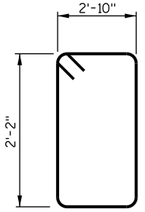
S503



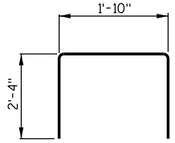
S604



S605



S507



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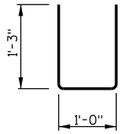

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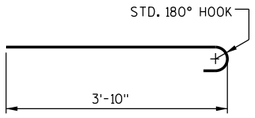

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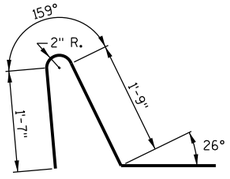

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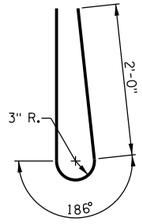

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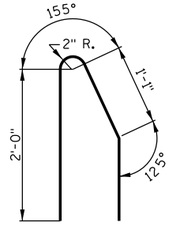
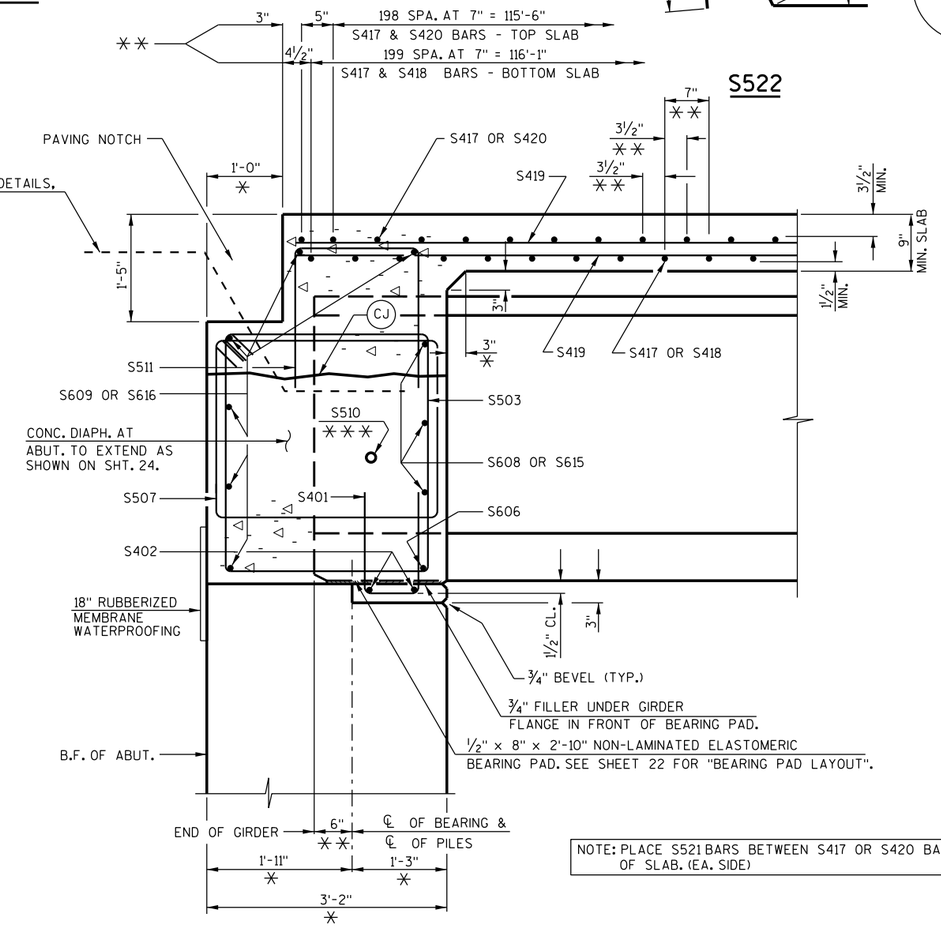


S525



AT ABUTMENTS

PART LONGITUDINAL SECTION
(BETWEEN EXTERIOR GIRDERS)

NOTE: PLACE S521 BARS BETWEEN S417 OR S420 BARS IN TOP OF SLAB. (EA. SIDE)

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT IN THIS BILL SHALL BE EPOXY COATED.

MARK	NO. REQ'D. STAGE 1B	NO. REQ'D. STAGE 2	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 61,630 LBS.
S401	30	68	3-5	X		ABUTMENT DIAPHRAGM - BOTTOM	VERT.
S402	20	42	1-10			ABUTMENT DIAPHRAGM - BOTTOM	HORIZ.
S503	52	117	12-5	X		ABUTMENT DIAPHRAGM - STIRRUPS	VERT.
S604	2	2	3-6	X		ABUTMENT DIAPHRAGM - ENDS	HORIZ.
S605	6	6	5-3	X		ABUTMENT DIAPHRAGM - ENDS	HORIZ.
S606	10	21	2-9			ABUTMENT DIAPHRAGM - F.F. - BETWEEN GIRDERS	HORIZ.
S507	20	52	10-7	X		ABUTMENT DIAPHRAGM - STIRRUPS	VERT.
S608	30	63	4-7			ABUTMENT DIAPHRAGM - F.F. - BETWEEN GIRDERS	HORIZ.
S609	12	-----	32-0			ABUTMENT DIAPHRAGM - B.F.	HORIZ.
S510	20	52	6-0			ABUTMENT DIAPHRAGM - SYMM. ABOUT ℄ OF GIRDER	HORIZ.
S511	52	117	6-3	X		ABUTMENT DIAPHRAGM - TOP	VERT.
S412	-----	1	3-4	X		S. ABUTMENT DIAPHRAGM - BTWN. GIRDERS 1 THRU 4	VERT.
S615	-----	3	2-8			S. ABUTMENT DIAPHRAGM - BTWN. GIRDERS 1 THRU 4	HORIZ.
S616	-----	24	37-9			ABUTMENT DIAPHRAGM - B.F.	HORIZ.
S417	401	-----	30-2			SLAB - TOP & BOTTOM	TRANS.
S418	-----	600	25-1			SLAB - BOTTOM	TRANS.
S419	231	582	40-1			SLAB - TOP & BOTTOM	LONGIT.
S420	-----	402	36-9			SLAB - TOP	TRANS.
S521	200	200	4-5	X		SLAB - TOP - AT SLAB EDGE	TRANS.
S522	-----	175	4-2	X		PARAPET - WEST SIDE	VERT.
S523	-----	179	4-10	X		PARAPET - WEST SIDE	VERT.
S524	-----	20	31-0			PARAPET - WEST SIDE	LONGIT.
S525	-----	4	4-7	X		PARAPET - WEST SIDE AT ENDS	VERT.

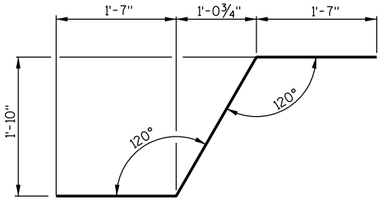
STAINLESS STEEL BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D. STAGE 1B	NO. REQ'D. STAGE 2	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 3,370 LBS.
SS901	58	140	5'-0"	X		APPROACH APRON AT BRIDGE PAVING NOTCH	LONGIT.

ESTIMATED QUANTITIES

	HPC MASONRY STRUCTURES	BAR STEEL REINFORCEMENT HS COATED BRIDGES
STAGE 1B	157 CY	17,530 LB
STAGE 2	339 CY	44,100 LB



SS901

LEGEND

⁎ DIMENSIONS ARE GIVEN NORMAL TO ℄ OF SUBSTRUCTURE UNITS.

⁎⁎ DIMENSIONS ARE GIVEN PARALLEL TO THE GIRDER ℄.

⁎⁎⁎ 1½" DIA. HOLE IN WEB FOR S510 BARS. PLACE TWO S510 BARS SYMMETRICAL ABOUT THE ℄ OF EACH GIRDER. FIELD BEND BARS ALONG SKEW. SEE "SIDE VIEW" ON SHEET 19 FOR DETAILS.

(CJ) OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

NOTES: ALL VERTICAL BAR STEEL REINFORCEMENT IN CONCRETE DIAPHRAGMS SHALL BE SPACED AND PLACED PARALLEL TO GIRDERS.

LAP S616 ABUTMENT DIAPHRAGM BARS 3'-6" MIN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 25 OF 33
1734

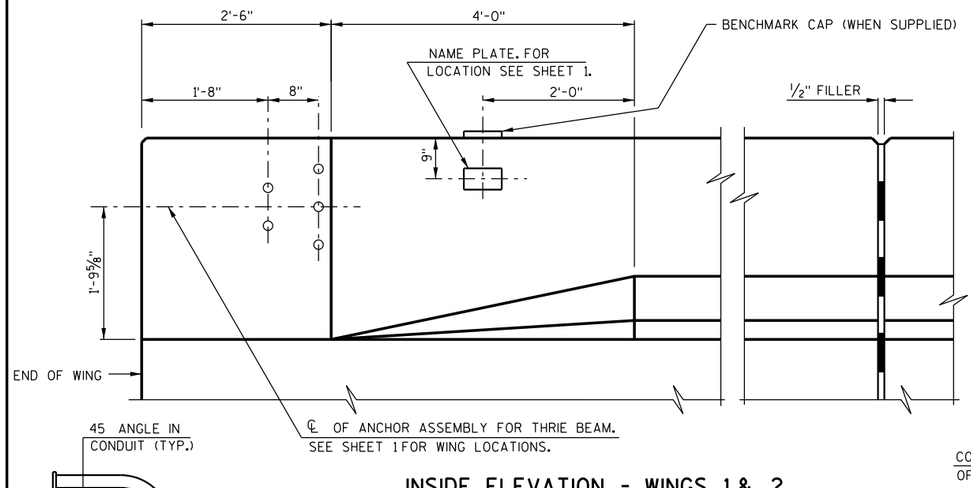
8

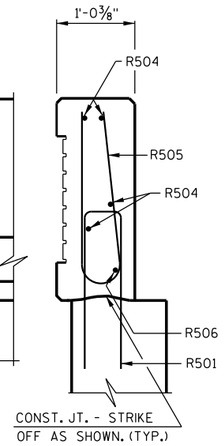
8

FILE NAME : P:\134 USH 41 Bridges \1133-09-00\Structures\B-5-616\25_super4_b-5-616.dgn
PLOT DATE : 2/7/2013

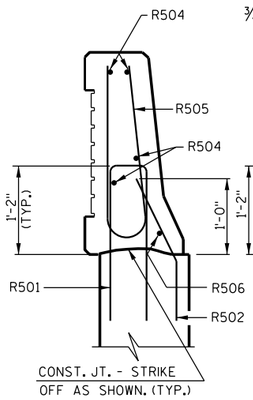
STATE PROJECT NUMBER

1133-09-71

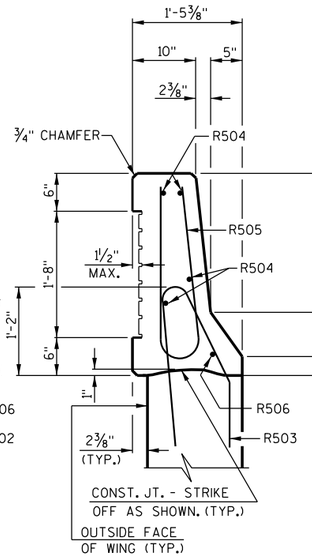




SECTION A-A



SECTION B-B

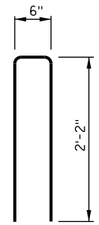


SECTION C-C

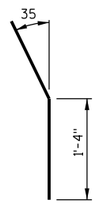
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL REINFORCEMENT BARS IN THIS BILL SHALL BE EPOXY COATED.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 880 LBS.
R501	28	4-7	X		PARAPET - WINGS 1& 2	VERT.
R502	16	2-4	X		PARAPET - WINGS 1& 2	VERT.
R503	36	4-7	X		PARAPET - WINGS 1& 2	VERT.
R504	8	18-6			PARAPET - WINGS 1& 2	HORIZ.
R505	64	4-10	X		PARAPET - WINGS 1& 2	VERT.
R506	2	18-6	X		PARAPET - WINGS 1& 2	HORIZ.



R501



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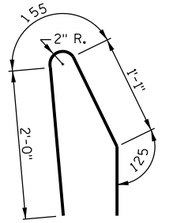

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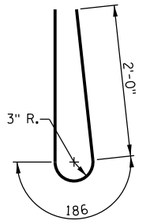

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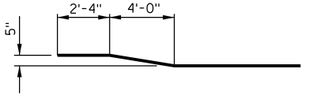
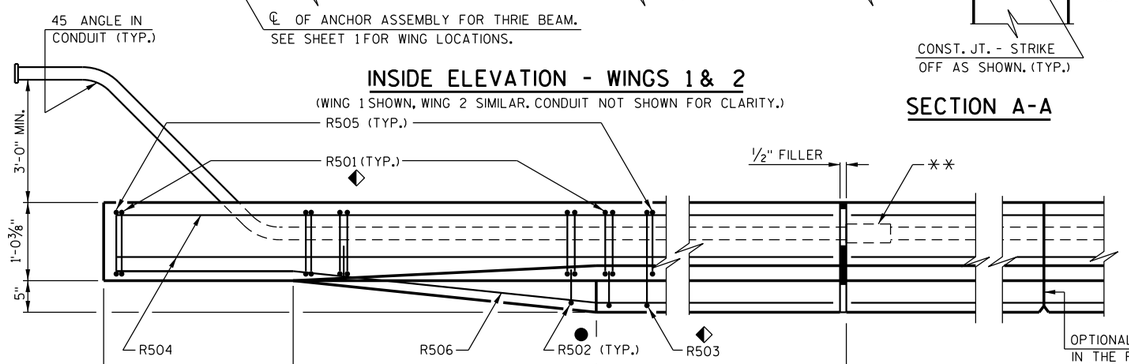


R506

INSIDE ELEVATION - WINGS 1& 2

(WING 1 SHOWN, WING 2 SIMILAR. CONDUIT NOT SHOWN FOR CLARITY.)



PLAN - WINGS 1& 2

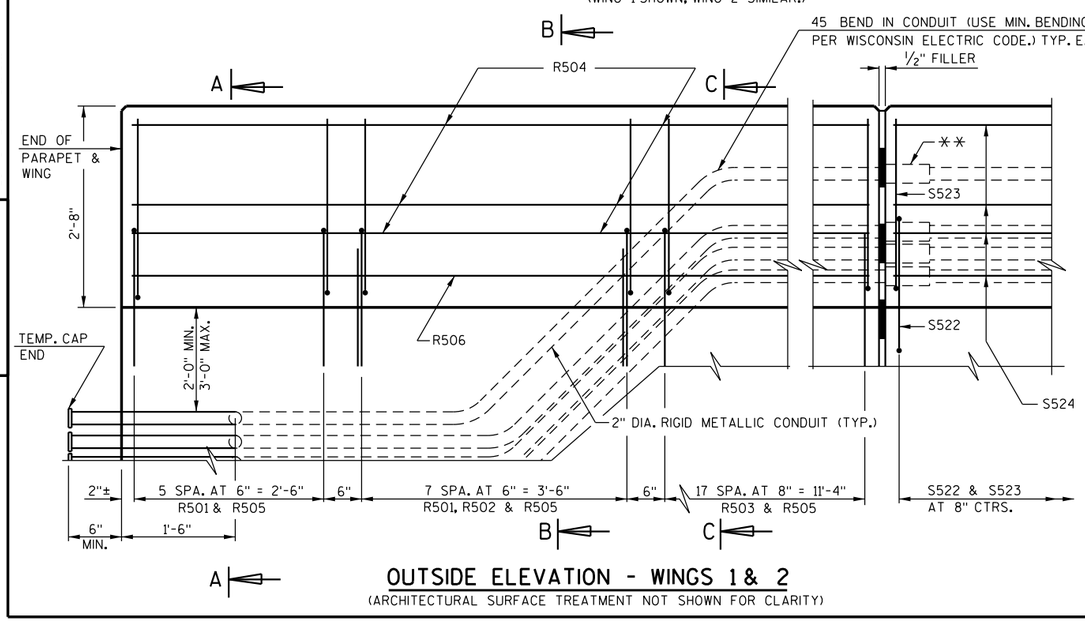
(WING 1 SHOWN, WING 2 SIMILAR.)

LEGEND

- ● R502 BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INTIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R502 BARS CORRECTLY ALONG TANSITION OF PARAPET.
- ◆ R501 AND R503 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.
- ** EXPANSION FITTING - USE AN APPROVED EXPANSION FITTING AT EACH SEMI-EXPANSION JOINT.

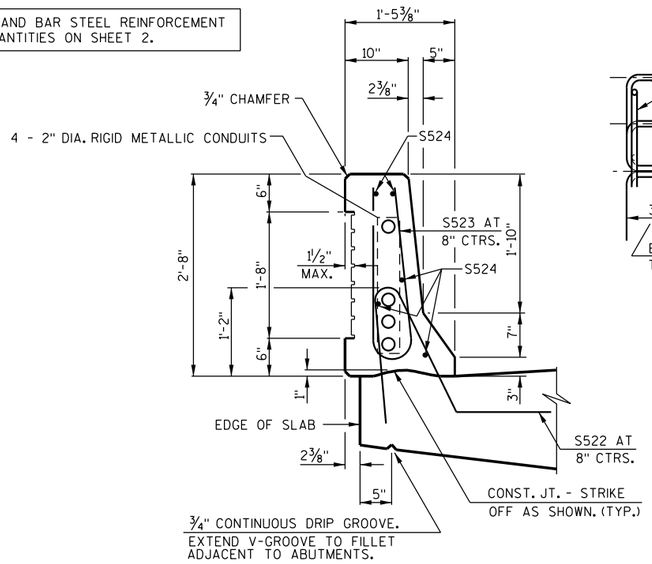
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 2'-11". MIN. JOINT SPACING OF 80'-0" DEFINE CONST. JOINT WITH A ¾" 'V' GROOVE.

NOTE: QUANTITIES OF CONCRETE MASONRY AND BAR STEEL REINFORCEMENT ARE INCLUDED IN THE ABUTMENT QUANTITIES ON SHEET 2.



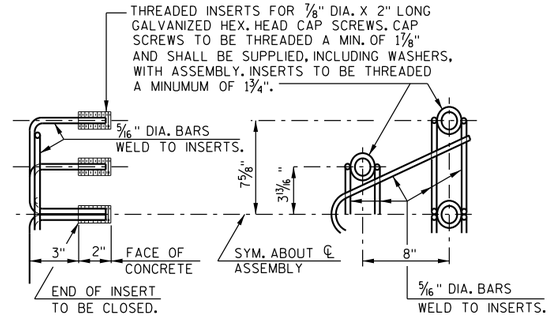
OUTSIDE ELEVATION - WINGS 1& 2

(ARCHITECTURAL SURFACE TREATMENT NOT SHOWN FOR CLARITY)



SECTION THRU PARAPET ON BRIDGE (WEST SIDE)

NOTE: SEE SHEET 25 FOR BAR STEEL REINFORCEMENT DETAILS AND BILL OF BARS FOR PARAPET ON BRIDGE.



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX. HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE PAID FOR BY BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

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SLOPED FACE PARAPET LF (MODIFIED)

SHEET 26 OF 33
1735

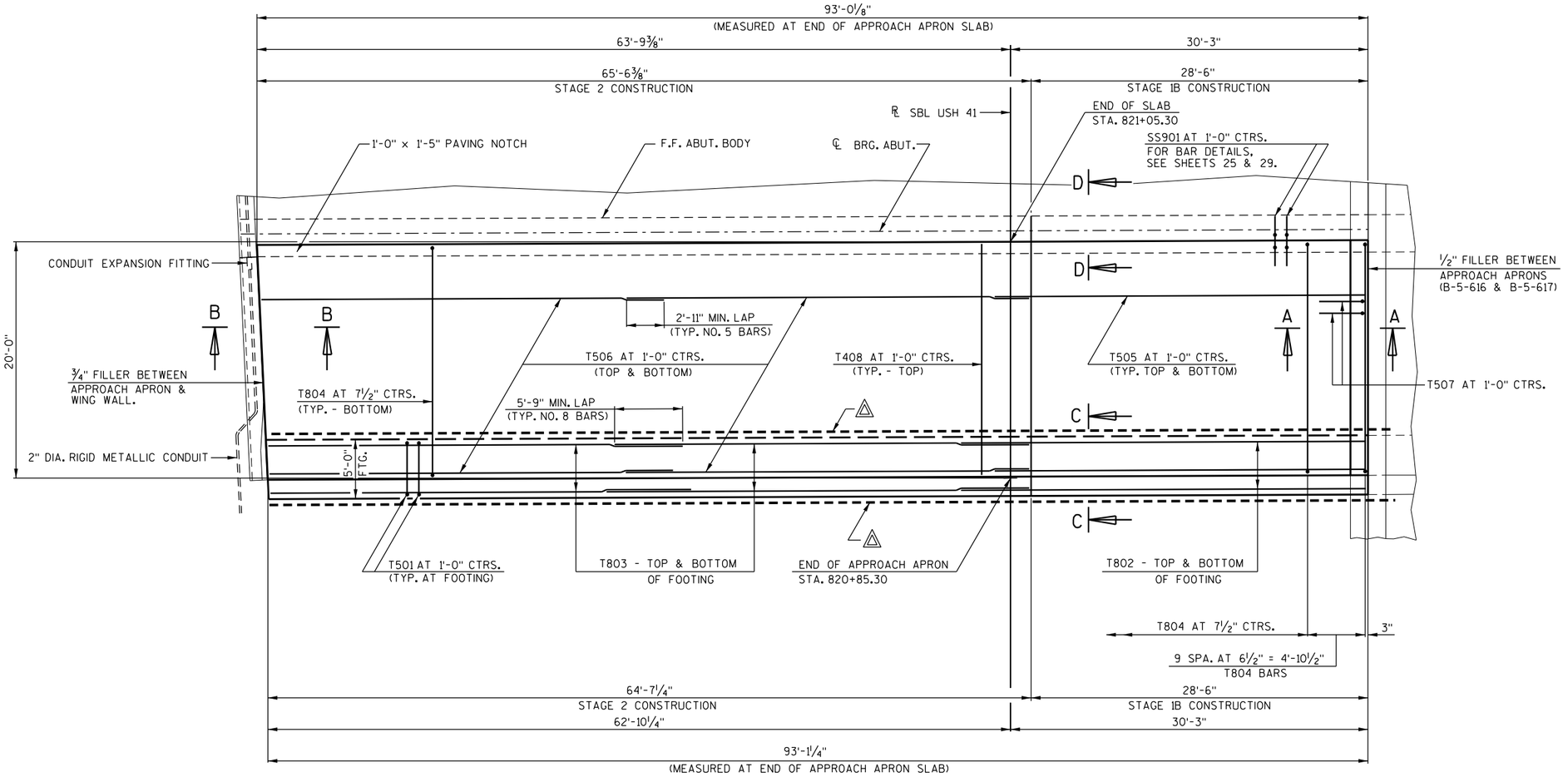
8

8

FILE NAME : P:\134 USH 41\Bridges 1133-09-00\structures\b-5-616\b5616_parapet_lf_b-5-616.dgn
PLOT DATE : 2/13/2013

STATE PROJECT NUMBER

1133-09-71



LEGEND

△ FOR SYMBOL DESCRIPTION, SEE SHEET 29.

SOUTH APPROACH APRON PART PLAN

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\27_south_apron_b-5-616.dgn
PLOT DATE : 10/25/2012

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

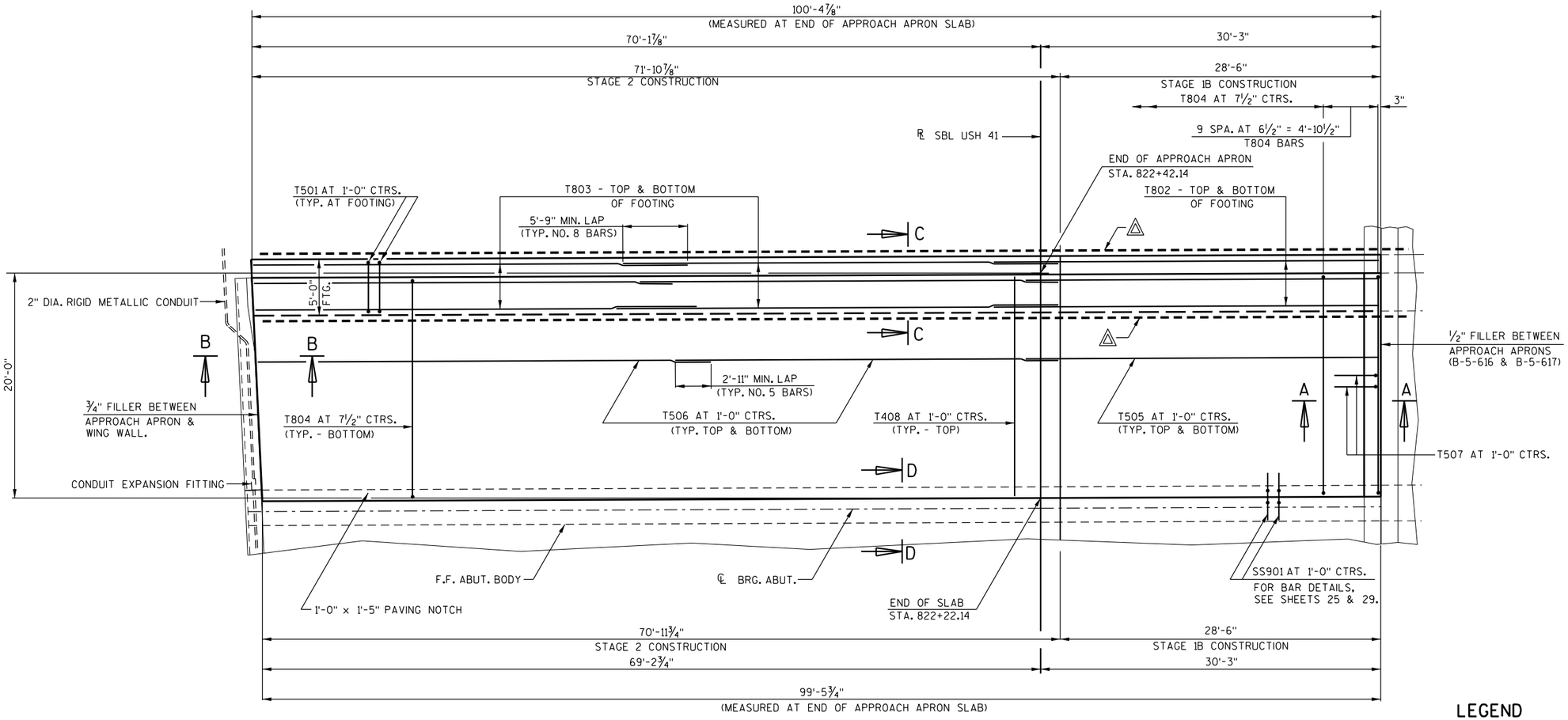
DRAWN BY TAW | PLANS CK'D. TR

SOUTH APPROACH APRON DETAILS

SHEET 27 OF 33
1736

STATE PROJECT NUMBER

1133-09-71



NORTH APPROACH APRON PART PLAN

LEGEND

△ FOR SYMBOL DESCRIPTION, SEE SHEET 29.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

NORTH APPROACH APRON DETAILS

SHEET 28 OF 33
1737

8

8

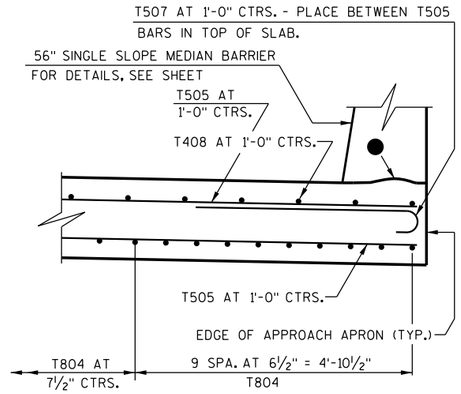
FILE NAME : P:\134 USH 41 Bridges \1133-09-00\Structures\B-5-616\28_north_apron_b-5-616.dgn
PLOT DATE : 10/25/2012

STATE PROJECT NUMBER

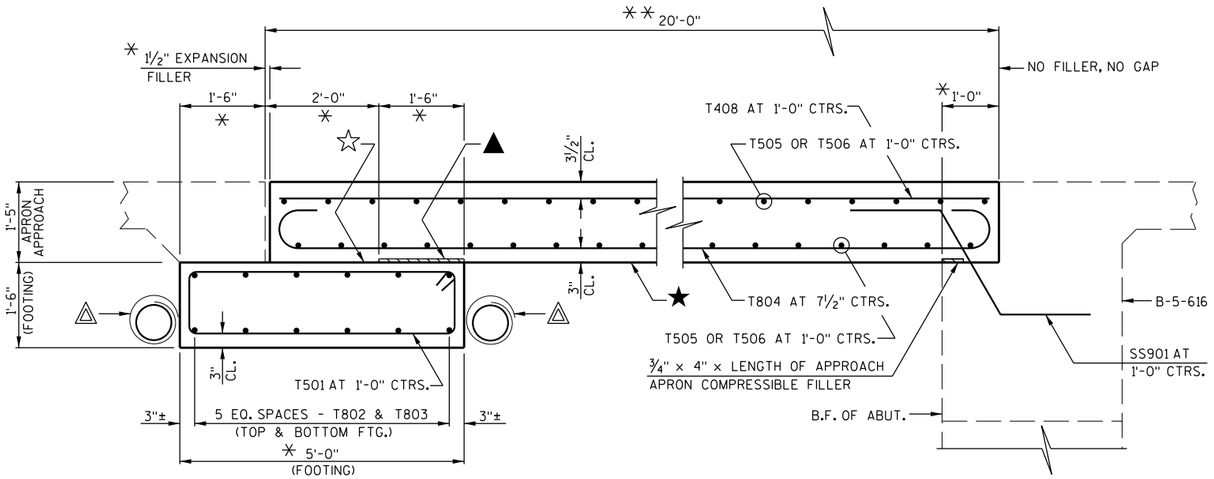
1133-09-71

LEGEND

- ✳ DIMENSIONS ARE GIVEN NORMAL ℄ SUBSTRUCTURE.
- ✳✳ DIMENSIONS ARE GIVEN PARALLEL TO ℞ SB USH 41
- ☆ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE LENGTH OF FOOTING. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ★ PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE LENGTH OF SUBGRADE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ▲ ¾" × 1'-6" × LENGTH OF FOOTING COMPRESSIBLE FILLER.
- ⧋ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD TO END OF PIPE. SEE "RODENT SHIELD" DETAIL ON THIS SHEET.
- ● CONST. JT. - STRIKE OFF AS SHOWN.



SECTION A-A

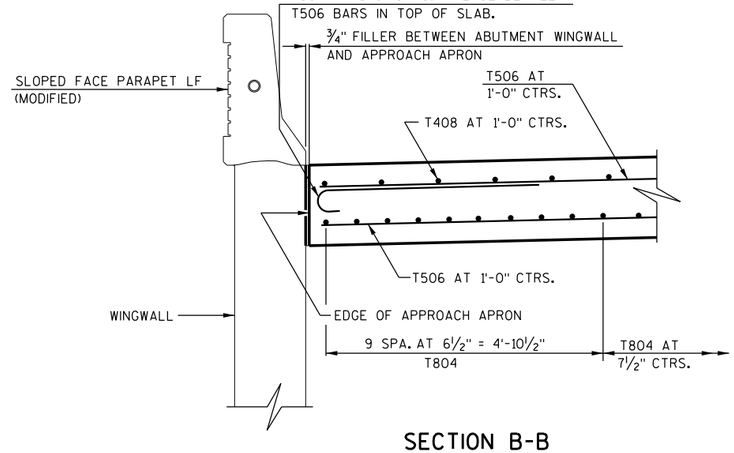


SECTION C-C

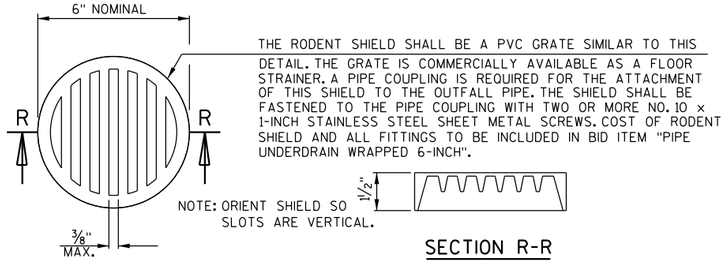
SECTION D-D

LONGITUDINAL SECTION AT APPROACH APRON

(SECTION SHOWN AT SOUTH APPROACH APRON, NORTH APPROACH APRON SIMILAR)



SECTION B-B



THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 × 1-INCH STAINLESS STEEL SHEET METAL SCREWS. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

NOTE: ORIENT SHIELD SO SLOTS ARE VERTICAL.

SECTION R-R

RODENT SHIELD

NOTE: BAR STEEL REINFORCEMENT FOR THE APPROACH APRONS AND FOR 56" SINGLE SLOPE CONCRETE BARRIER LOCATED ON THE EAST SIDE OF THE APPROACH APRON AND THE EAST SIDE OF THE DECK FOR B-5-616 IS INCLUDED IN THE BILL OF BARS ON SHEET 31.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

APPROACH APRON DETAILS

SHEET 29 OF 33
1738

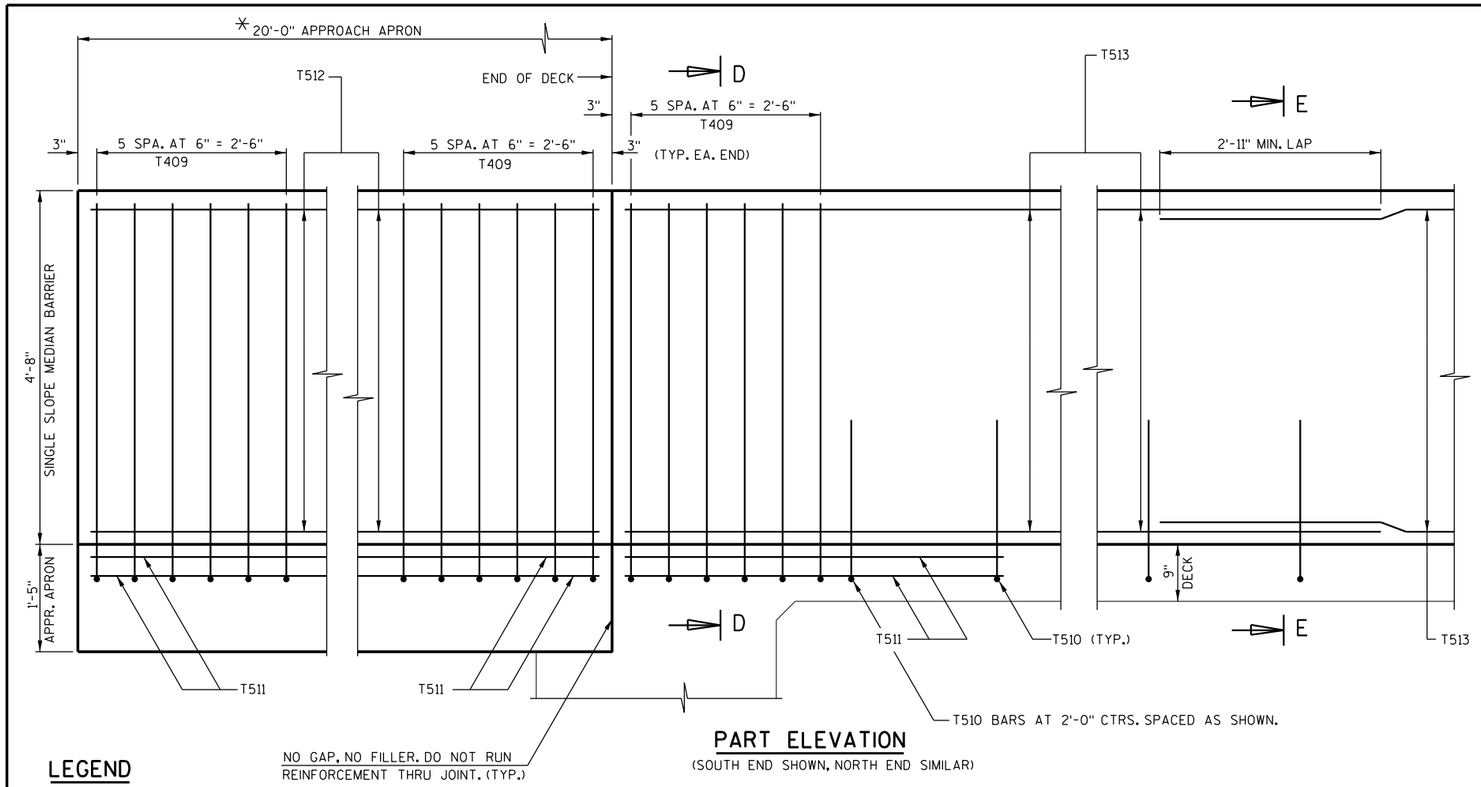
FILE NAME : P:\134 USH 41 Bridges 1133-09-00\structures\B-5-616\29_apron_det_b-5-616.dgn
PLOT DATE : 2/7/2013

8

8

STATE PROJECT NUMBER

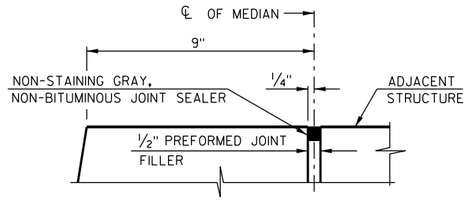
1133-09-71



PART ELEVATION

(SOUTH END SHOWN, NORTH END SIMILAR)

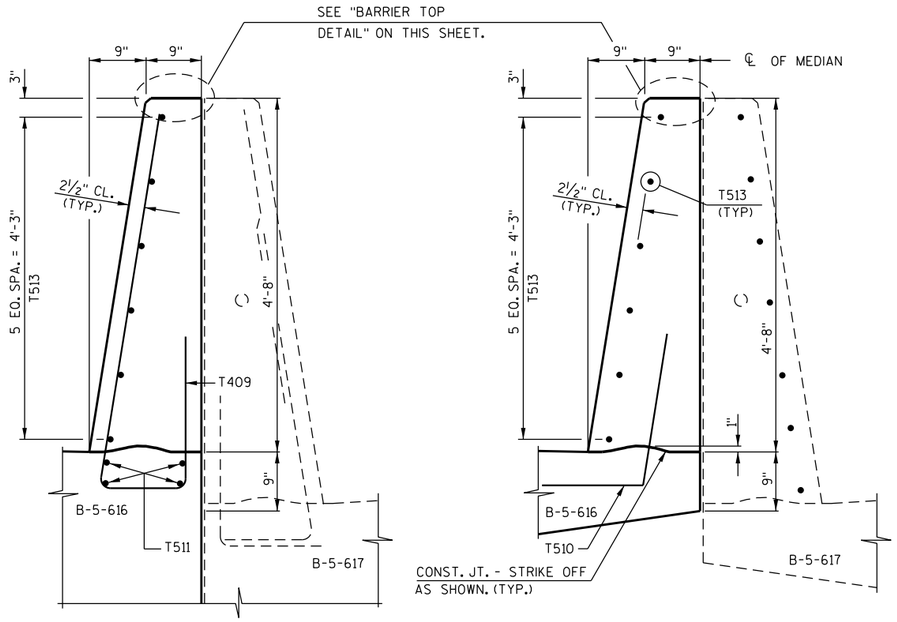
NOTE: OPTIONAL CONSTRUCTION JOINTS IN THE CONCRETE BARRIER MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 2'-11". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" 'V' GROOVE.



BARRIER TOP DETAIL

LEGEND

* DIMENSIONS ARE GIVEN PARALLEL TO ℄ SB USH 41



SECTION D-D

(TYPICAL AT ENDS OF BARRIER)

SECTION E-E

LOOKING NORTH - EAST EDGE OF DECK

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

56" SINGLE SLOPE MEDIAN BARRIER DETAILS

SHEET 30 OF 33

1739

8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\30.barrier_apron1_b-5-616.dgn
PLOT DATE : 2/7/2013

STATE PROJECT NUMBER

1133-09-71

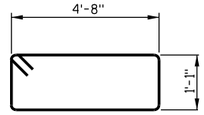
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT IN THIS BILL SHALL BE EPOXY COATED.

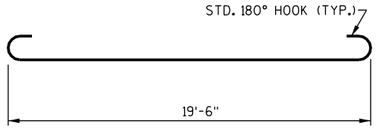
MARK	NO. REQ'D. STAGE 1B	NO. REQ'D. STAGE 2	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 41,520 LBS.
T501	58	138	12-1	X		APPROACH APRON - FOOTING	VERT.
T802	24	-----	34-3			APPROACH APRON - FOOTING	TRANS.
T803	-----	48	38-8			APPROACH APRON - FOOTING	TRANS.
T804	94	222	21-4	X		APPROACH APRON - SLAB - BOTTOM	LONGIT.
T505	84	-----	31-5			APPROACH APRON - SLAB - TOP & BOTTOM	TRANS.
T506	-----	168	37-3			APPROACH APRON - SLAB - TOP & BOTTOM	TRANS.
T507	40	40	5-4	X		APPROACH APRON - SLAB - TOP	TRANS.
T408	58	138	19-8			APPROACH APRON - SLAB - TOP	LONGIT.
T409	36	-----	7-11	X		MEDIAN BARRIER - AT APPR. APRON & DECK	VERT.
T510	72	-----	3-3	X		MEDIAN BARRIER - AT DECK	VERT.
T511	24	-----	5-0			MEDIAN BARRIER - AT APPR. APRON & DECK	VERT.
T512	12	-----	19-8			MEDIAN BARRIER - AT APPR. APRON & DECK	LONGIT.
T513	24	-----	31-5			MEDIAN BARRIER - AT DECK	LONGIT.

ESTIMATED QUANTITIES

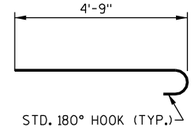
	HPC MASONRY STRUCTURES	BAR STEEL REINFORCEMENT HS COATED BRIDGES
STAGE 1B	80 CY	13,610 LB
STAGE 2	184 CY	27,910 LB



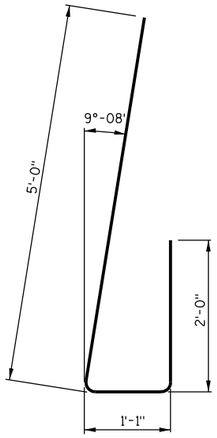
T501



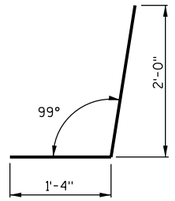
T804



T507



T409



T510

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

56" SINGLE SLOPE MEDIAN BARRIER DETAILS

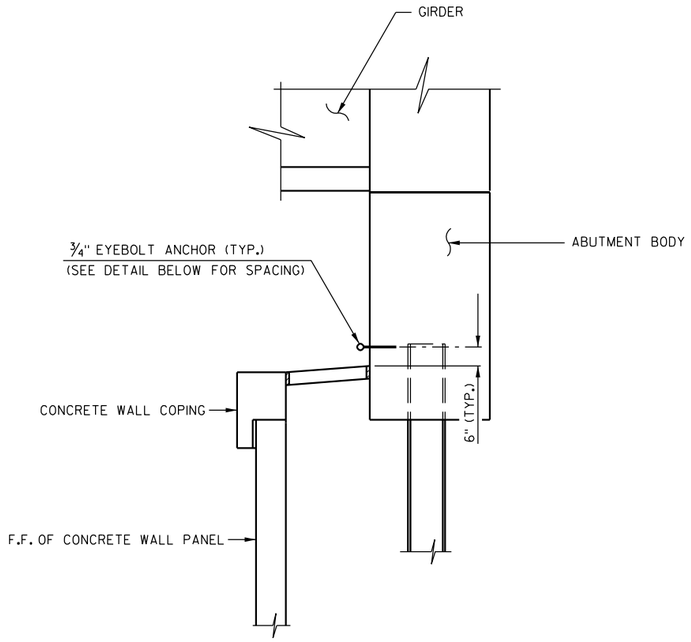
SHEET 31 OF 33
1740

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\31_barrier_detail2_b-5-616.dgn
PLOT DATE : 10/25/2012

8

8

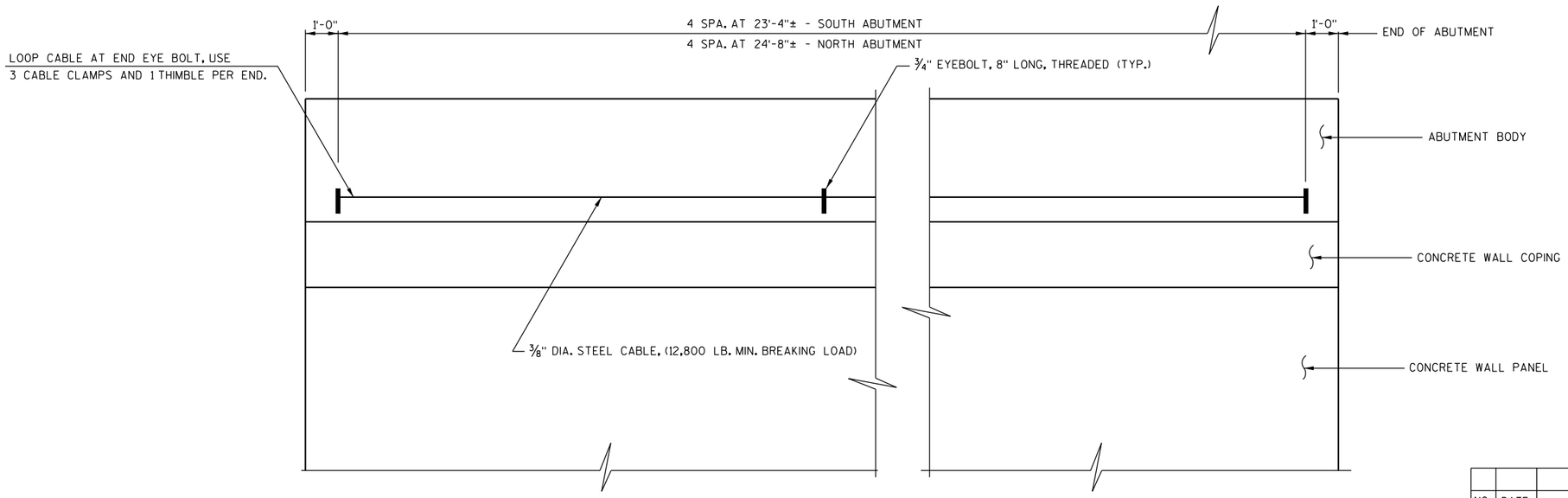
STATE PROJECT NUMBER
1133-09-71



TYPICAL SECTION THRU ABUTMENT BODY

NOTES

1. ALL LABOR AND MATERIAL (EYEBOLTS, CABLE AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4-INCH".
2. ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.
3. USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.
4. MASONRY ANCHORS TYPE S 3/4-INCH, MIN. PULLOUT CAPACITY OF 26 KIPS FOR ADHESIVE ANCHORS EMBEDDED A MIN. OF 7" IN CONCRETE.



PART FRONT VIEW OF ABUTMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

DRAWN BY TAW | PLANS CK'D. TR

FALL PROTECTION

SHEET 32 OF 33
1741

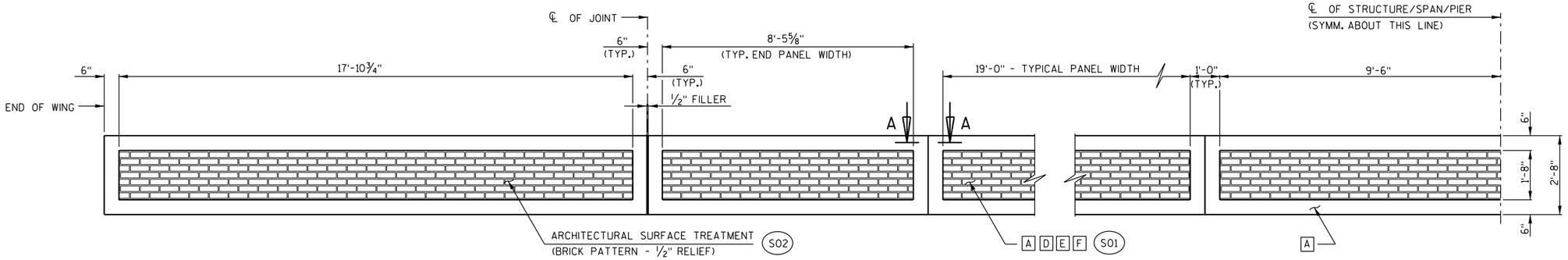
8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\32_fall protection_B-5-616.dgn
PLOT DATE : 10/24/2012

STATE PROJECT NUMBER

1133-09-71



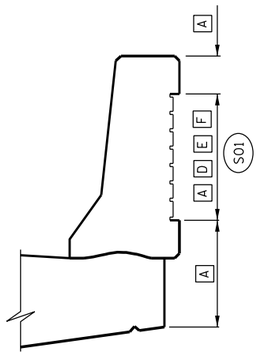
PARAPET ON WING WALL

(PARAPET ON WING 2 SHOWN. PARAPET ON WING 1 SIMILAR)

PARAPET ON BRIDGE DECK

PART ELEVATION AT PARAPET

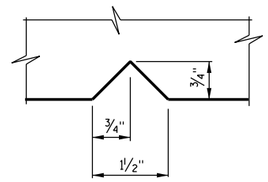
(LOOKING EAST)



AT BRIDGE DECK

SLOPED FACE PARAPET LF (MODIFIED)

(WEST SIDE ONLY - LOOKING SOUTH)



SECTION A-A

(3/4" 'V' GROOVE)

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	LETTERING AT ROADWAY NAME

NOTE: SEE SPECIAL PROVISIONS FOR STAIN COLORS.

NOTES

(S01) STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

(S02) THE COST OF BRICK PATTERN FORMLINER TREATMENT IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT". SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-616

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AESTHETIC DETAILS

SHEET 33 OF 33

1742

8

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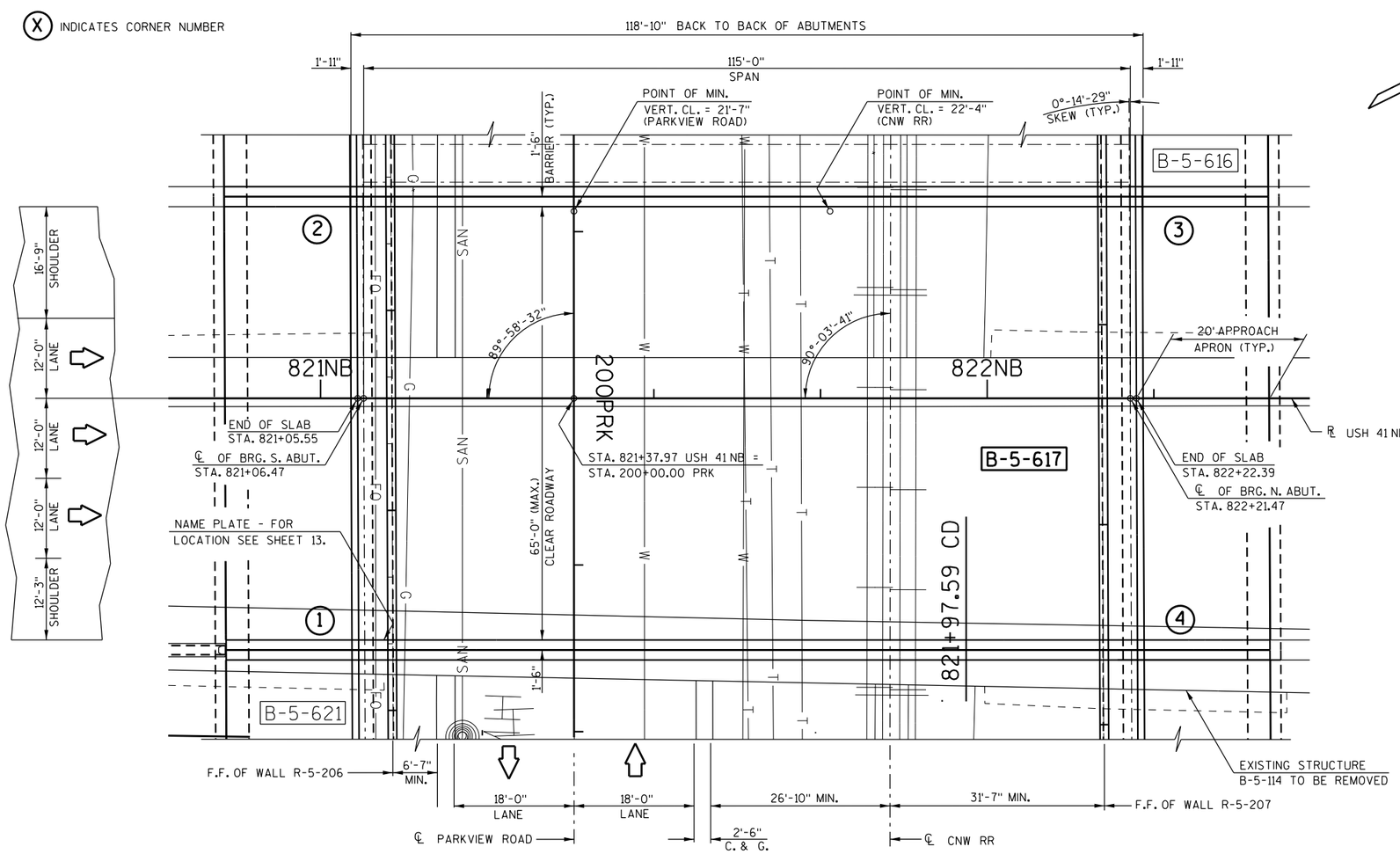
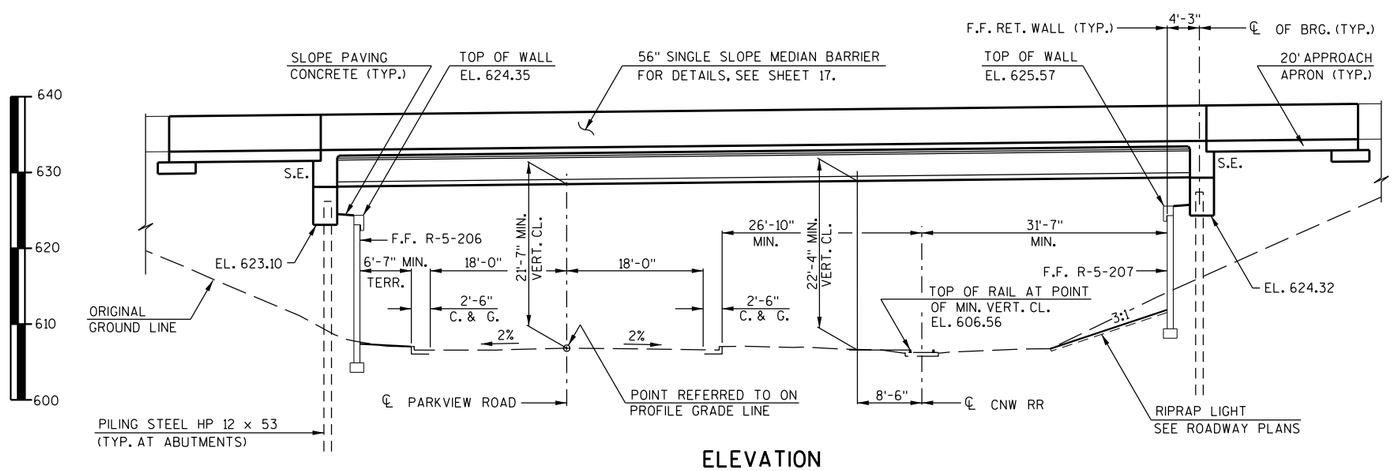
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-616\33.aesthetics2.b-5-616.dgn
PLOT DATE : 2/7/2013

STATE PROJECT NUMBER
1133-09-71



PLAN

(SINGLE SPAN - 45W" PRESTRESSED GIRDERS)



ELEVATION

(NORMAL TO PARKVIEW ROAD & CNW RR)

DESIGN DATA

LIVELOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR (RF): 1.03
OPERATIONAL RATING FACTOR (RF): 2.08
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 250 KIPS

STRUCTURE IS DESIGNED FOR A 1½" SACRIFICIAL WEARING SURFACE, PLACED AT INITIAL CONSTRUCTION INTEGRAL WITH THE DECK. NO ALLOWANCE HAS BEEN MADE FOR A FUTURE WEARING SURFACE LOAD.

ULTIMATE DESIGN STRESSES:

HPC MASONRY STRUCTURES — f'_c = 4,000 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 (INCLUDES STAINLESS STEEL BAR STEEL REINFORCEMENT) — f_y = 60,000 P.S.I.
45W" PRESTRESSED GIRDERS - CONCRETE MASONRY — f'_c = 8,000 P.S.I.
STRANDS - 0.6" DIA. WITH AN ULTIMATE TENSILE STRENGTH OF — 270,000 P.S.I.
ALLOWABLE SOIL BEARING PRESSURE FOR APPROACH APRON — 2,000 P.S.F.

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 90' LONG AT EACH ABUTMENT.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. ALTERNATE CONSTRUCTION JOINT
9. 45W" PRESTRESSED GIRDER DETAILS
10. 45W" PRESTRESSED GIRDER DETAILS
11. INTERMEDIATE STEEL DIAPHRAGMS
12. SUPERSTRUCTURE
13. SUPERSTRUCTURE
14. SUPERSTRUCTURE
15. SUPERSTRUCTURE
16. APPROACH APRON DETAILS
17. 56" SINGLE SLOPE MEDIAN BARRIER DETAILS
18. 56" SINGLE SLOPE MEDIAN BARRIER DETAILS
19. FALL PROTECTION

TRAFFIC DATA:

NBL USH 41
A.D.T. (2015) = 16,000
A.D.T. (2035) = 20,600
DESIGN SPEED = 70 M.P.H.

PARKVIEW ROAD
A.D.T. (2015) = 4,500
A.D.T. (2035) = 5,600
DESIGN SPEED = 35 M.P.H.

WISCONSIN
THOMAS J. ROMENESKO
E-26318
MADISON
WI
PROFESSIONAL ENGINEER
1/28/13

ROMENESKO ENGINEERING, INC.
CONTACT: TOM ROMENESKO, P.E.
7325 CEDAR CREST DRIVE
SAUK CITY, WI 53583
(608) 644-1502

BRIDGE OFFICE CONTACT:
WILLIAM DREHER, P.E.
(608) 266-8489

NO.	DATE	REVISION	BY

Original Plans Prepared By
ROMENESKO ENGINEERING, INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 02/13/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-5-617

USH 41 NB OVER PARKVIEW ROAD & CNW RR

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	TR	DESIGN CK'D.	VR	DRAWN BY	TAW	PLANS CK'D.	TR

GENERAL PLAN

SHEET 1 OF 19
1743

I.D. 1133-09-00 DATE : 1/28/2013

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-617\01_genplan_v8.b-5-617.dgn
PLOT DATE : 1/28/2013

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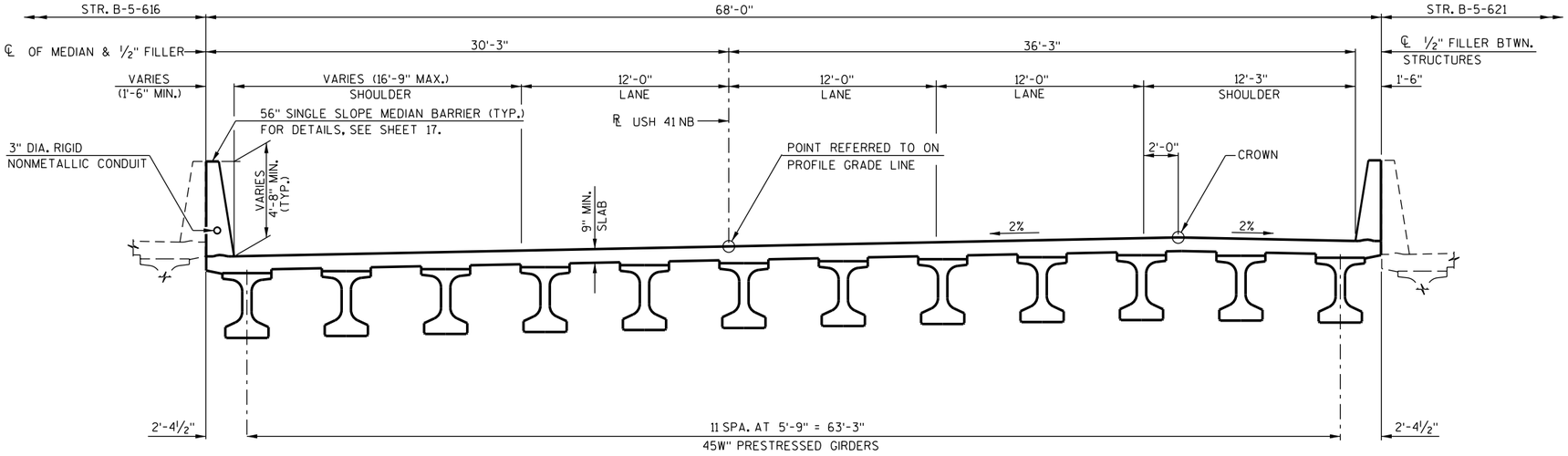
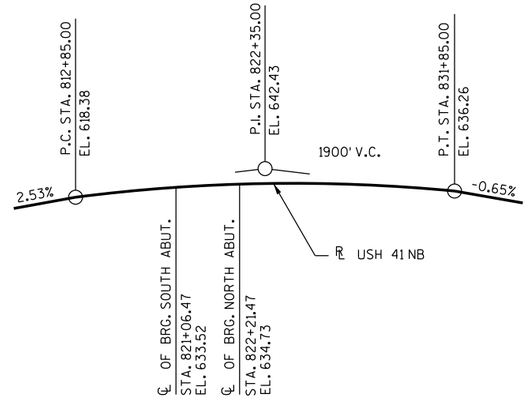


CROSS SECTION THRU ROADWAY
(LOOKING NORTH)



PROFILE GRADE LINE, USH 41 NB

BENCH MARK TABLE

NO.	STATION	OFFSET	DESCRIPTION	ELEVATION
11	820+64.53 NB	45.24' RT	DISK ON SE CORNER OF PARAPET WALL OF NB USH 41 OVER PARKVIEW, STR. B-05-114-73	635.67

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	SOUTH ABUTMENT	NORTH ABUTMENT	SUPER.	APPROACH APRON	TOTAL
203.0200	REMOVING OLD STRUCTURE STA. 821+55.61 NB	LS					1
203.0225.S	DEBRIS CONTAINMENT STRUCTURE B-5-114	LS					1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-5-617	LS					1
210.0100	BACKFILL STRUCTURE	CY	200	200			400
502.3200	PROTECTIVE SURFACE TREATMENT	SY			986	313	1,299
502.6110	MASONRY ANCHORS TYPE S 3/4-INCH	EA	4	4			8
503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH	LF			1,392		1,392
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	3,940	3,940			7,880
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB			40,400	31,150	71,550
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	12	12			24
506.4000	STEEL DIAPHRAGMS B-5-617	EACH			22		22
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	14	14			28
550.1120	PILING STEEL HP 12-INCH x 53 LB	LF	1,260	1,260			2,520
604.0400	SLOPE PAVING CONCRETE	SY	20	20			40
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	70	70		280	420
652.0135	CONDUIT RIGID METALLIC 3-INCH	LF			10	40	50
652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	LF			99		99
SPV.0035.700	HPC MASONRY STRUCTURES	CY	46	46	364	189	645
SPV.0085.700	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB			2,210		2,210
SPV.0165.501	STAINING CONCRETE	SF	524	524			1,048
SPV.0165.700	LONGITUDINAL GROOVING BRIDGE DECK	SF			7,244	2,480	9,724
	NON - BID ITEMS						
	FILLER	SIZE					1/2" & 3/4"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

THE TOP LAYER OF BAR STEEL REINFORCEMENT IN THE DECK SHALL BE PLACED WITH 3 1/2" OF CLEAR COVER.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M153, TYPES I , II OR III OR M213.

THE AREA OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING CONCRETE, TO THE LIMITS SHOWN ON SHEET 1, ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER.

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

FILL/EXCAVATE TO BOTTOM OF ABUTMENT/PIER ELEVATION BEFORE DRIVING PILING.

AT THE BACKFACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE, SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.

THE FINISHED GRADED SECTION SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE ELASTOMERIC BEARING PADS NON-LAMINATED NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE HAUNCH SHOWN ON THE PRESRESSED GIRDER DETAILS SHEET.

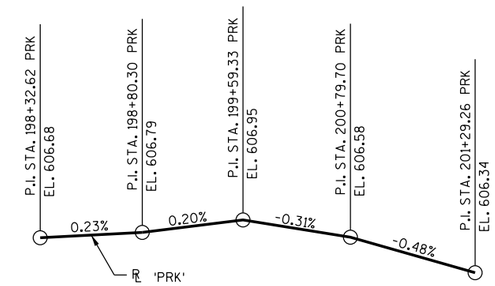
ALL STATIONS AND ALL ELEVATIONS ARE IN FEET.

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF THE DECK AND APPROACH APRONS, INSIDE FACE OF PARAPETS, AND TOP OF PARAPETS.

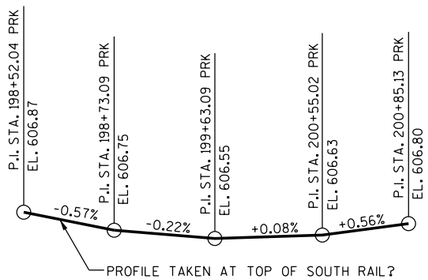
THE STRUCTURE SHALL BE PAINTED IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND THE STAINING DETAILS PROVIDED IN THIS PLAN.

THE PROPOSED GRADE SEPARATION PROJECT SHALL NOT INCREASE THE QUANTITY AND/OR CHARACTRERISTICS OF THE FLOW IN THE RAILROAD'S EXISTING DITCHES AND/OR DRAINAGE STRUCTURES.

THE EXISTING STRUCTURE, B-05-114, IS A TWO SPAN STEEL DECK GIRDER BRIDGE WITH AN OVERALL WIDTH OF 47'-10" TO 51'-6" AND AN OVERALL LENGTH OF 190'-4" AND IS TO BE REMOVED.



PROFILE GRADE LINE, PARKVIEW ROAD



PROFILE GRADE LINE, CNW RR
(STATIONING BASED ON PARKVIEW ROAD REFERENCE LINE)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-617

DRAWN BY TAW | PLANS CK'D. TR

CROSS SECTION & QUANTITIES

SHEET 2 OF 19
1744

8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-617\02_section_profiles_b-5-617.dgn
PLOT DATE : 1/28/2013

STATE PROJECT NUMBER

1133-09-71

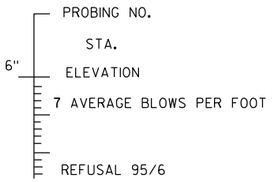
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

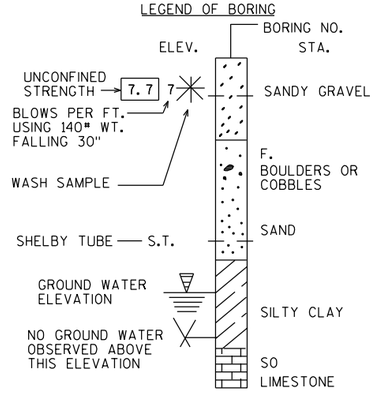
MATERIAL SYMBOLS

TOPSOIL SILT SANDSTONE
SAND PEAT LIMESTONE
GRAVEL CLAY IGNEOUS ROCK

LEGEND OF PROBING



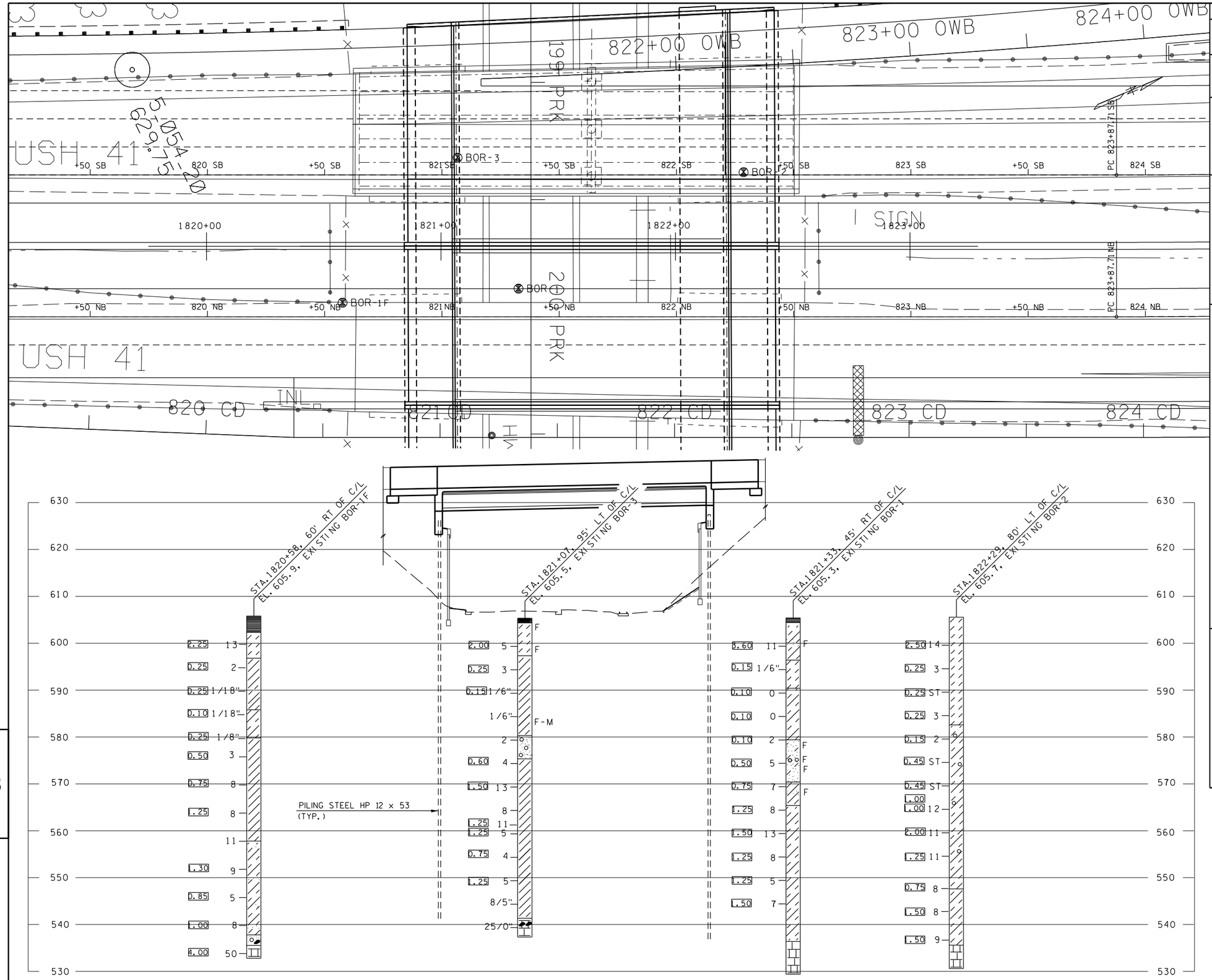
LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-617

DRAWN BY L H PLANS CK'D.

SUBSURFACE EXPLORATION

SHEET 3 OF 19
1745

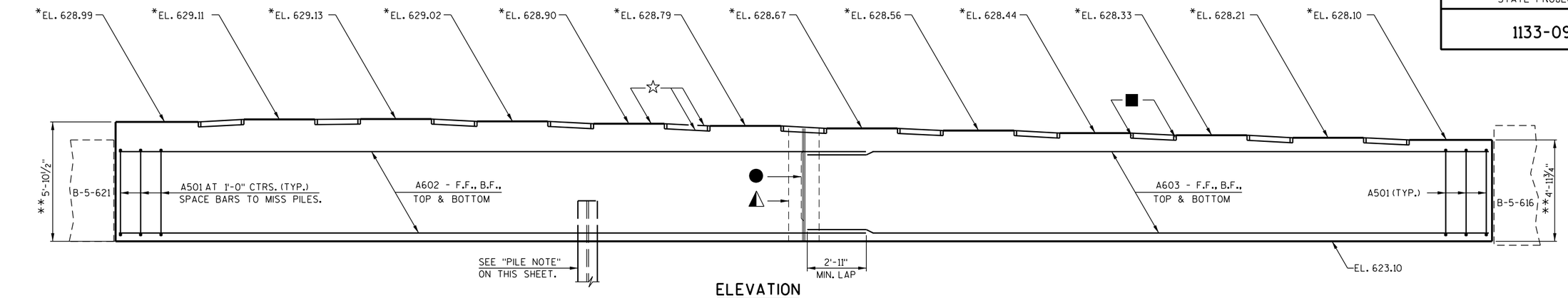
SCALE =

8

8

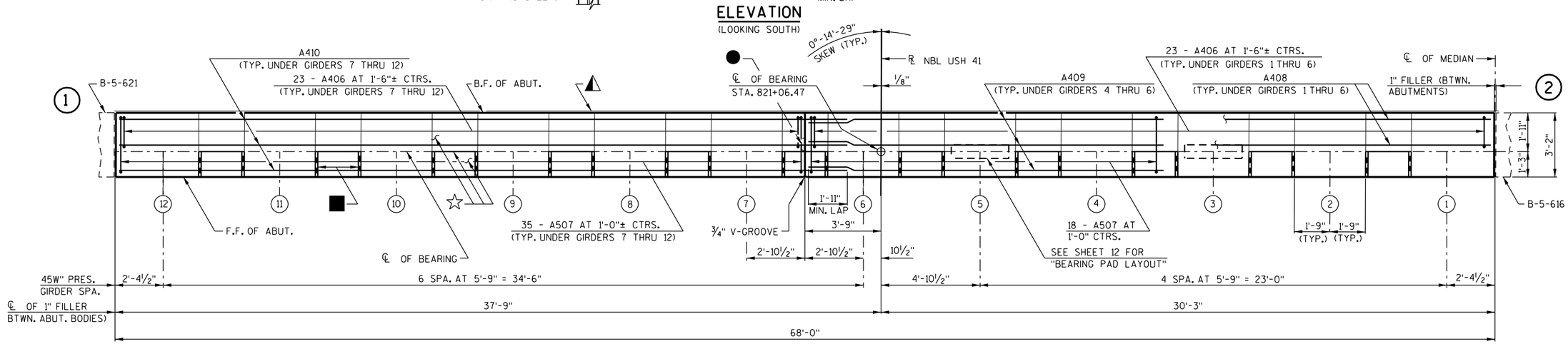
STATE PROJECT NUMBER

1133-09-71

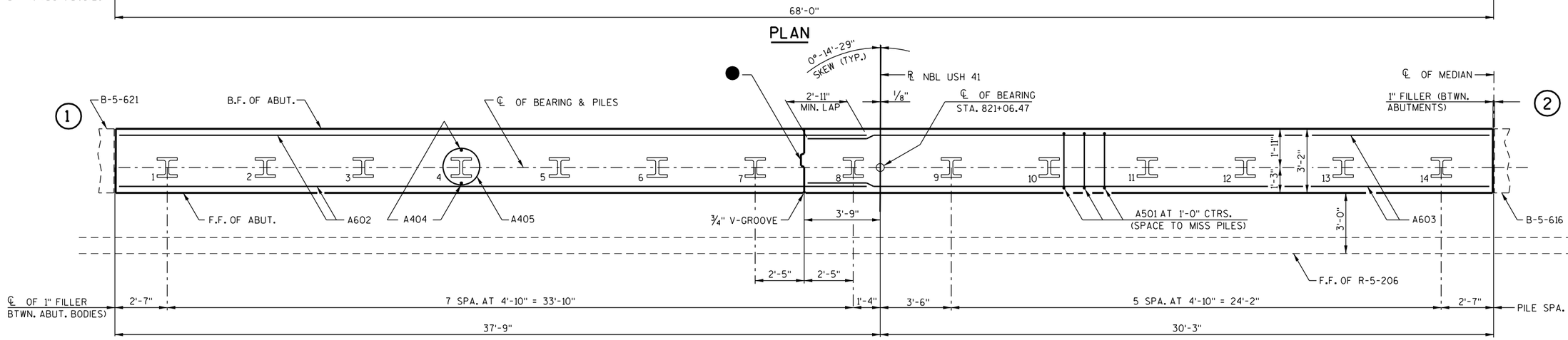


ELEVATION

(LOOKING SOUTH)



PLAN



LEGEND

* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.

** DIMENSIONS ARE GIVEN AT THE B.F. OF ABUTMENT.

△ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

● KEYED CONST. JOINT FORMED BY A BEVELED 2" x 8".

■ ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

☆ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

(X) INDICATES CORNER NUMBER

PILE PLAN

NOTES: SEE "PLAN" VIEW AND "TYPICAL SECTION THRU BODY" ON SHEET 5 FOR ADDITIONAL BAR STEEL REINFORCEMENT DETAILS AT GIRDER SEATS.

FOR "TYPICAL SECTION THRU BODY", SEE SHEET 5.

PILE NOTE

SOUTH ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 90' LONG. FOR PILE SPLICE DETAILS, SEE SHEET 5.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-617

DRAWN BY TAW | PLANS CK'D. TR

SOUTH ABUTMENT

SHEET 4 OF 19
1746

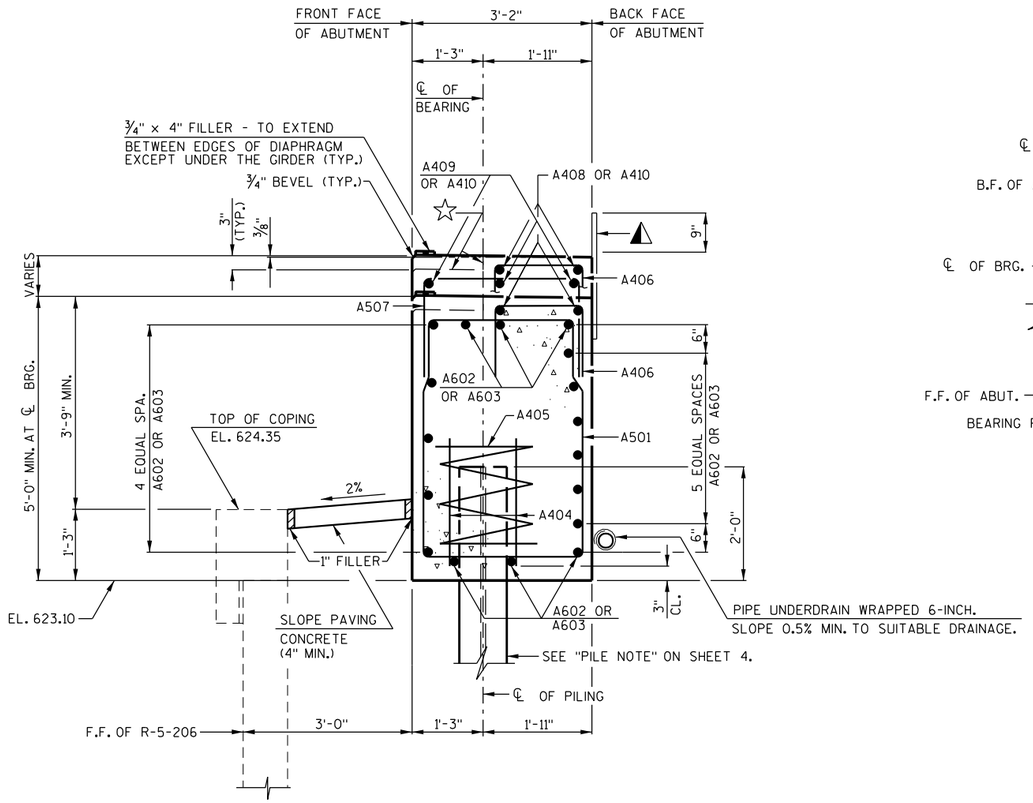
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-617T04.sdsut1.b-5-617.dgn
PLOT DATE : 11/21/2012

8

8

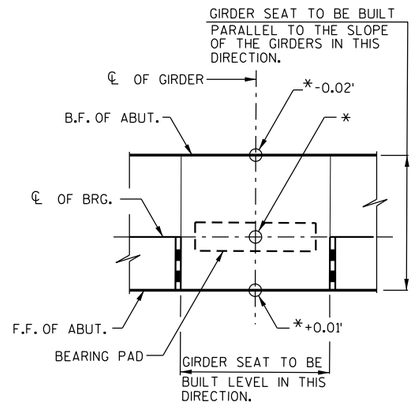
STATE PROJECT NUMBER

1133-09-71



TYPICAL SECTION THRU BODY

(LOOKING EAST)

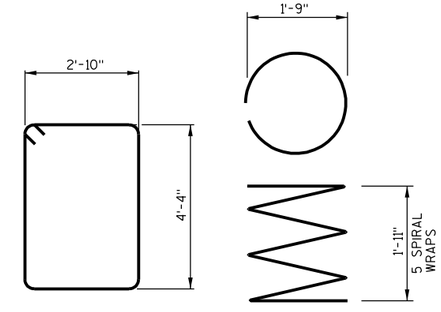


GIRDER SEAT DETAIL

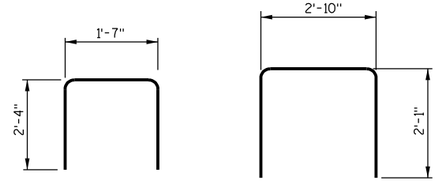
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 3,940 LBS.
A501	69	14-11	X		BODY - STIRRUPS	VERT.
A602	17	36-11			BODY - TOP, BOTTOM, F.F. & B.F.	HORIZ.
A603	17	33-8			BODY - TOP, BOTTOM, F.F. & B.F.	HORIZ.
A404	28	2-3			BODY - AT PILES - 2 PER PILE	VERT.
A405	14	28-0	X		BODY - AT PILES - 1 PER PILE - SPIRAL WRAP	VERT.
A406	46	6-1	X		BODY - TOP - AT GIRDERS	VERT.
A507	53	6-9	X		BODY - TOP - AT GIRDERS 4 THRU 12	VERT.
A408	2	33-8			BODY - TOP - AT GIRDERS 1 THRU 6	HORIZ.
A409	3	17-6			BODY - TOP - AT GIRDERS 4 THRU 6	HORIZ.
A410	5	35-11			BODY - TOP - AT GIRDERS 7 THRU 12	HORIZ.



A501



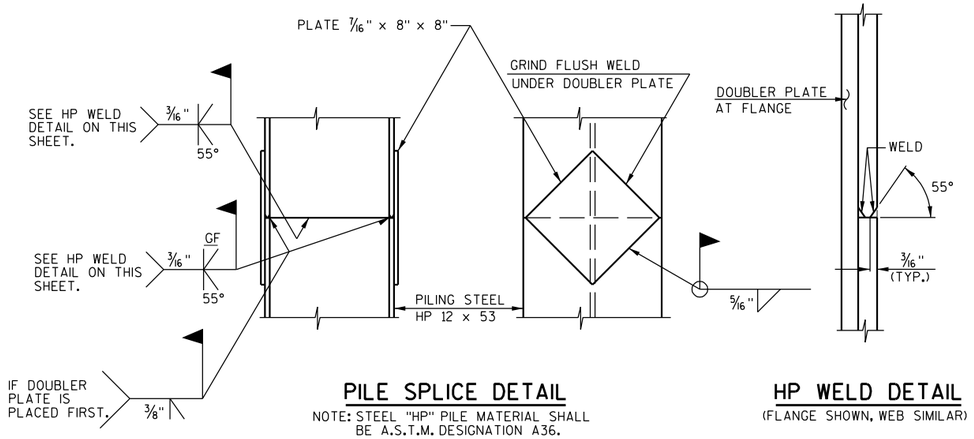
A405

A406

A507

LEGEND

☆ ◭ FOR SYMBOL DESCRIPTIONS, SEE SHEET 4.



PILE SPLICE DETAIL

NOTE: STEEL "HP" PILE MATERIAL SHALL BE A.S.T.M. DESIGNATION A36.

HP WELD DETAIL

(FLANGE SHOWN, WEB SIMILAR)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-617

DRAWN BY TAW | PLANS CK'D. TR

SOUTH ABUTMENT DETAILS

SHEET 5 OF 19
1747

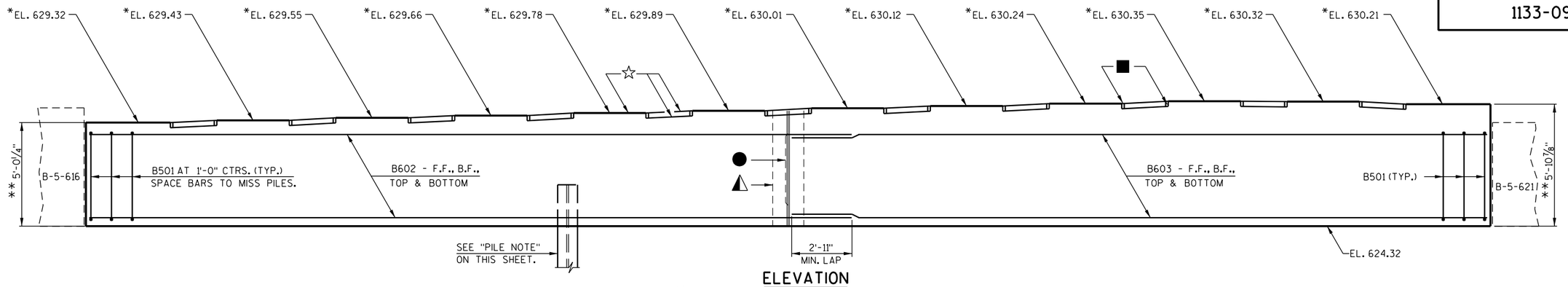
8

8

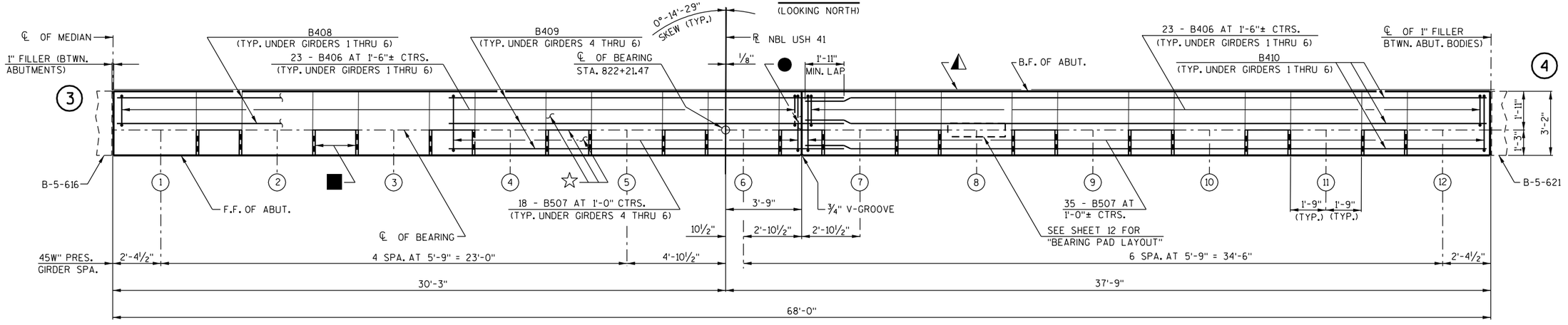
FILE NAME : P:\134 (DSH 41 Bridges (1133-09-00)\structures\B-5-617\05_sabutdet_b-5-617.dgn
PLOT DATE : 10/24/2012

STATE PROJECT NUMBER

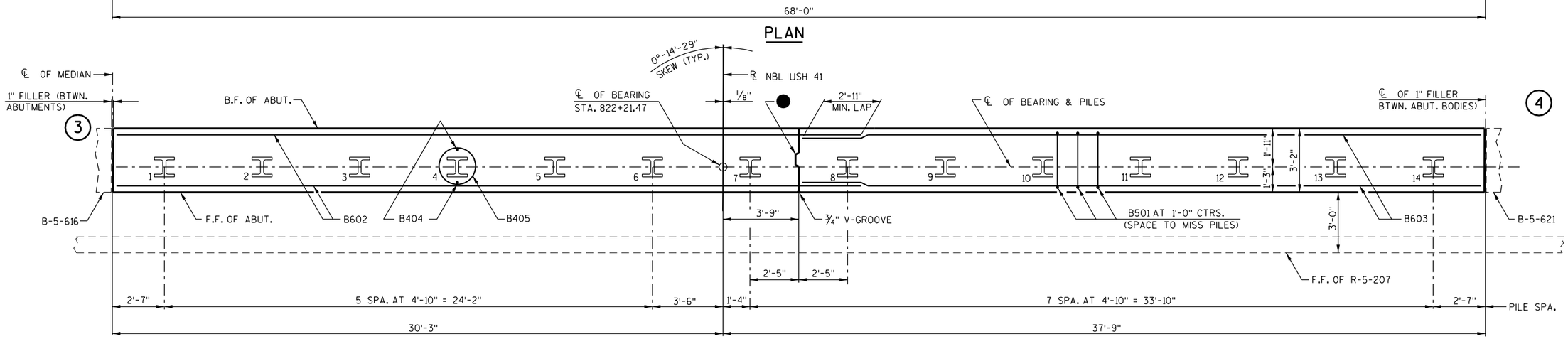
1133-09-71



ELEVATION
(LOOKING NORTH)



PLAN



LEGEND

* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.

** DIMENSIONS ARE GIVEN AT THE B.F. OF ABUTMENT.

△ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

● KEYED CONST. JOINT FORMED BY A BEVELED 2" x 8".

■ ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

☆ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

(X) INDICATES CORNER NUMBER

PILE PLAN

NOTES: SEE "PLAN" VIEW AND "TYPICAL SECTION THRU BODY" ON SHEET 7 FOR ADDITIONAL BAR STEEL REINFORCEMENT DETAILS AT GIRDER SEATS.

FOR "TYPICAL SECTION THRU BODY", SEE SHEET 7.

PILE NOTE

NORTH ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 90' LONG. FOR PILE SPLICE DETAILS, SEE SHEET 5.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-617

DRAWN BY TAW | PLANS CK'D. TR

NORTH ABUTMENT

SHEET 6 OF 19
1748

FILE NAME : P:\1134 USH 41 Bridges (1133-09-00)\structures\B-5-617\06_ndbut1.b-5-617.dgn
PLOT DATE : 10/24/2012

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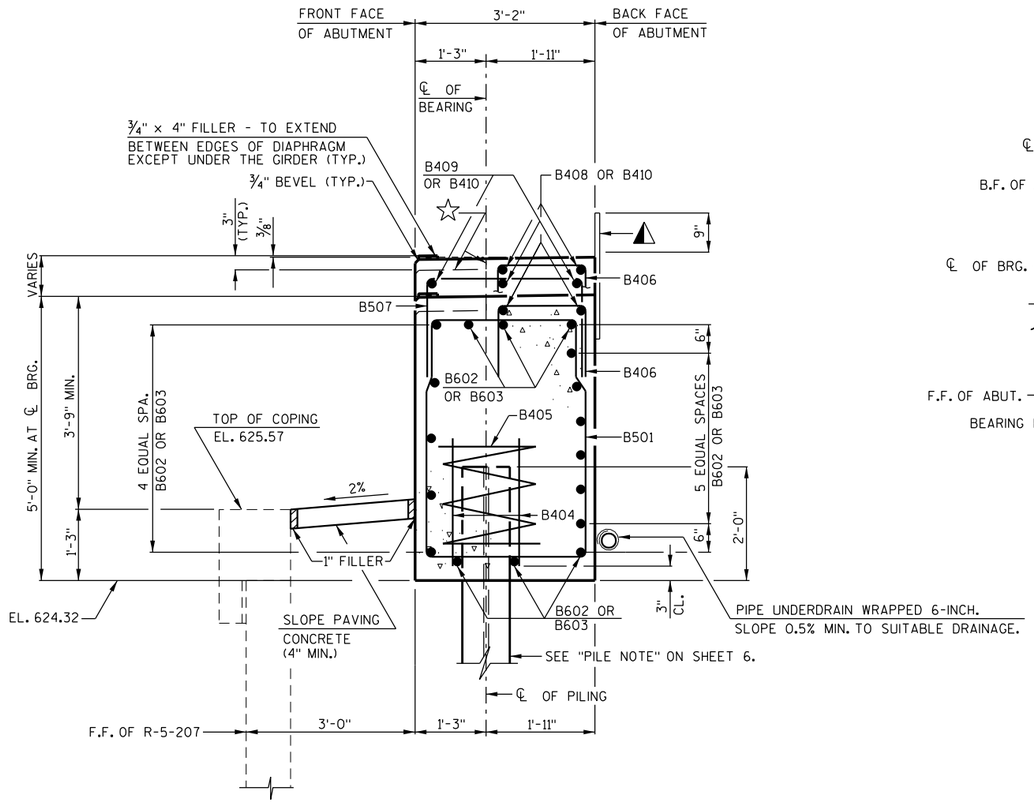
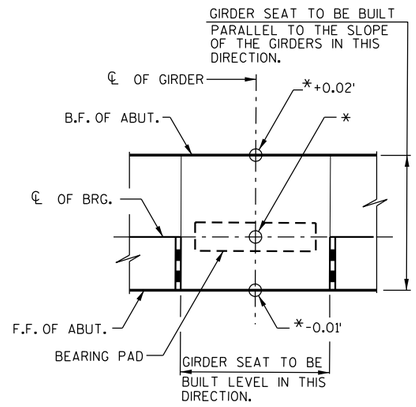


TYPICAL SECTION THRU BODY
(LOOKING WEST)



GIRDER SEAT DETAIL

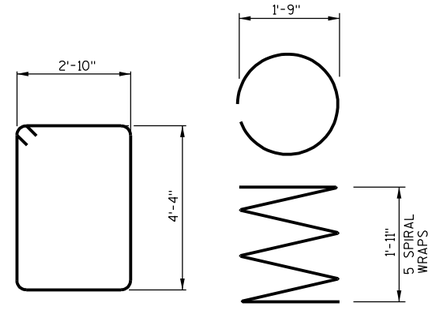
LEGEND

☆ ◭ FOR SYMBOL DESCRIPTIONS, SEE SHEET 6.

BILL OF BARS

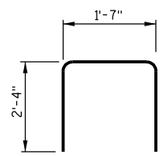
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 3,940 LBS.
B501	69	14-11	X		BODY - STIRRUPS	VERT.
B602	17	36-11			BODY - TOP, BOTTOM, F.F. & B.F.	HORIZ.
B603	17	33-8			BODY - TOP, BOTTOM, F.F. & B.F.	HORIZ.
B404	28	2-3			BODY - AT PILES - 2 PER PILE	VERT.
B405	14	28-0	X		BODY - AT PILES - 1 PER PILE - SPIRAL WRAP	VERT.
B406	46	6-1	X		BODY - TOP - AT GIRDERS	VERT.
B507	53	6-9	X		BODY - TOP - AT GIRDERS 4 THRU 12	VERT.
B408	2	35-11			BODY - TOP - AT GIRDERS 1 THRU 6	HORIZ.
B409	3	19-6			BODY - TOP - AT GIRDERS 4 THRU 6	HORIZ.
B410	5	33-8			BODY - TOP - AT GIRDERS 7 THRU 12	HORIZ.

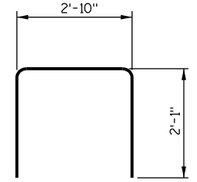


B501

B405



B406



B507

STATE PROJECT NUMBER

1133-09-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-617

DRAWN BY TAW | PLANS CK'D. TR

NORTH ABUTMENT DETAILS

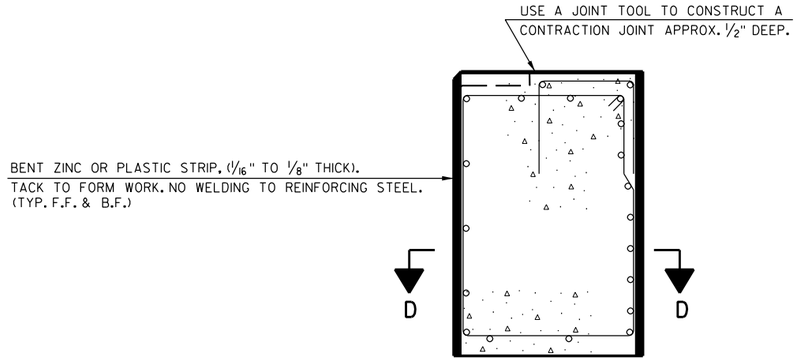
SHEET 7 OF 19
1749

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-617\07_nabutdet_b-5-617.dgn
PLOT DATE : 10/24/2012

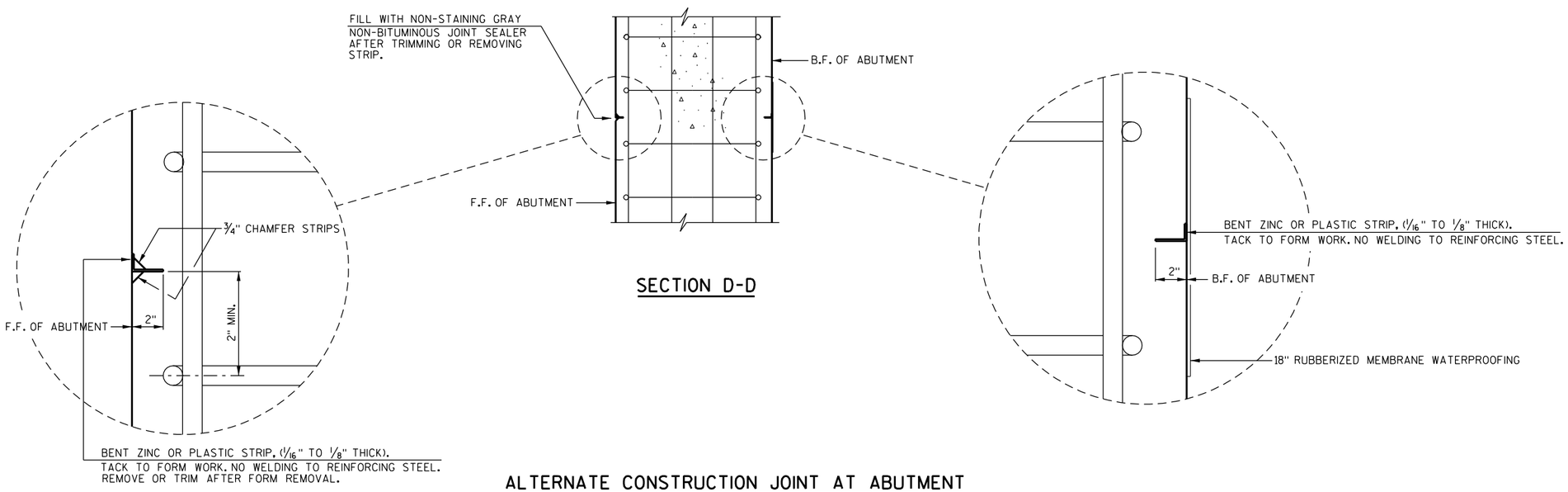
8

8

STATE PROJECT NUMBER
1133-09-71



SECTION THRU ABUTMENT BODY



SECTION D-D

ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-617\08.d1tconstjt-b-5-617.dgn
PLOT DATE : 10/24/2012

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-617

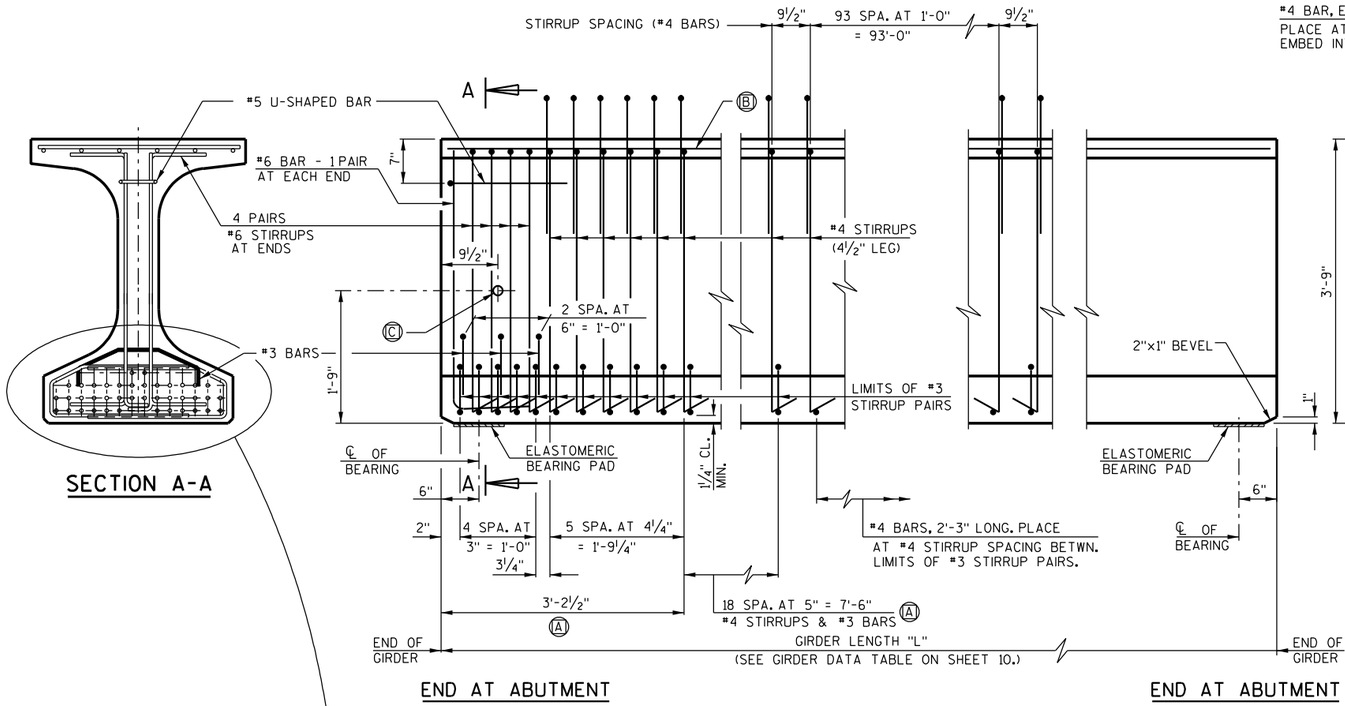
DRAWN BY TAW | PLANS CK'D. TR

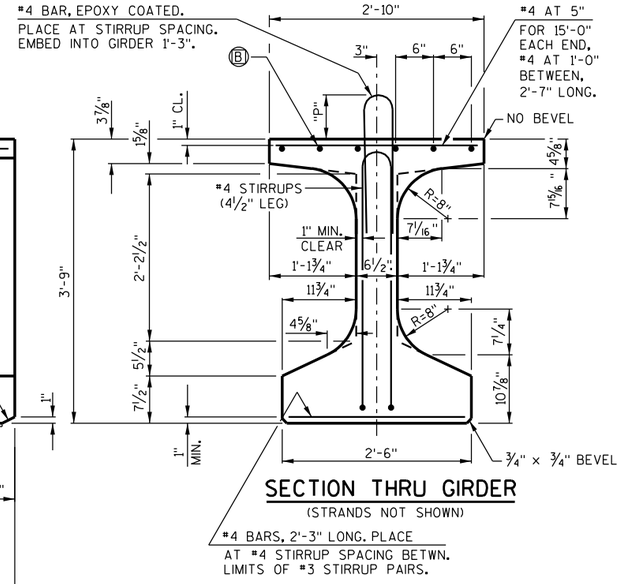
ALTERNATE CONSTRUCTION JOINT

SHEET 8 OF 19
1750

STATE PROJECT NUMBER

1133-09-71





SECTION THRU GIRDER

(STRANDS NOT SHOWN)

NOTES: FOR GIRDER DATA AND STRAND PATTERN DETAILS, SEE SHEET 10.

FOR DIMENSION "P", SEE GIRDER DATA TABLE ON SHEET 10.

GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, ONE OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE 0.6" DIA.-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

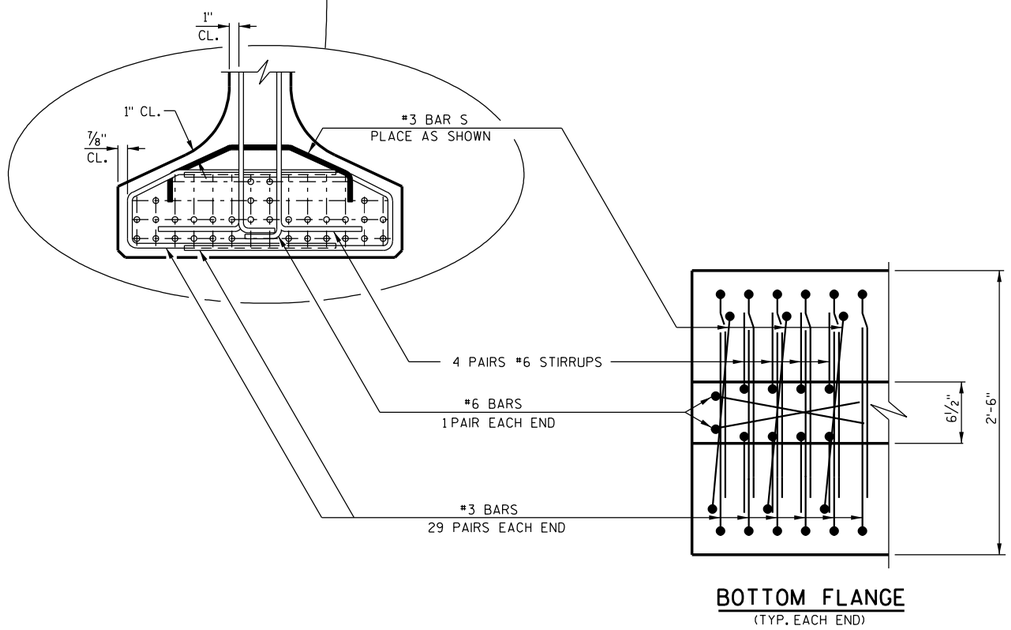
FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "INTERMEDIATE STEEL DIAPHRAGM" SHEET.

SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYPICAL EACH END

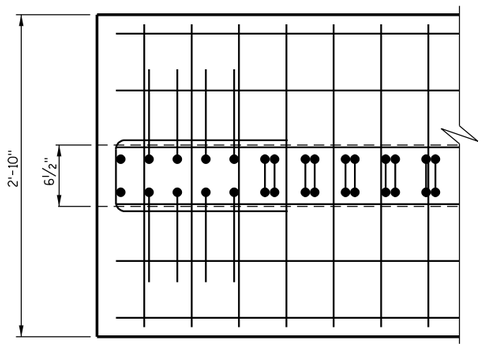
Ⓑ 6 - #4 BARS FULL LENGTH, MIN. LAP = 1'-11".

Ⓒ 1½" DIA. HOLE IN WEB FOR 2 - S510 BARS. (TYP. EACH END)

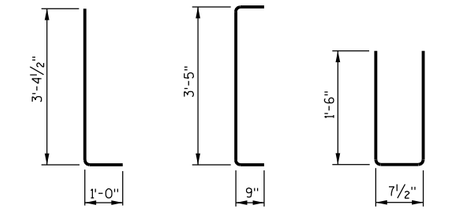


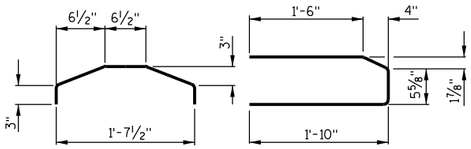
BOTTOM FLANGE

(TYP. EACH END)



TOP FLANGE





NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-617

DRAWN BY TAW | PLANS CK'D. TR

45W" PRESTRESSED GIRDER DETAILS

SHEET 9 OF 19

1751

8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\Structures\B-5-617\09_45Wgd1.b-5-617.dgn
PLOT DATE : 10/24/2012

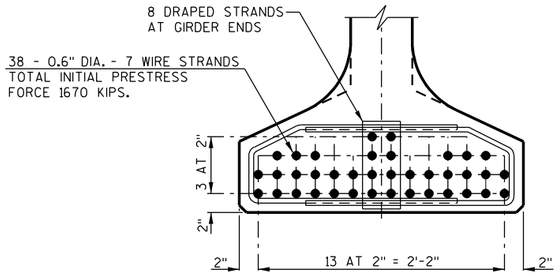
STATE PROJECT NUMBER

1133-09-71

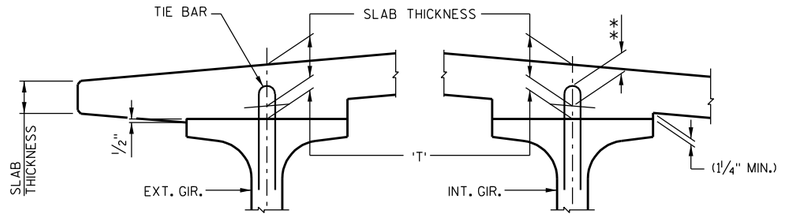
GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1st 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1 - 12	116'-0"	7/8"	1 5/8"	2 1/4"	2 5/8"	2 7/8"	2 5/8"	2 1/4"	1 5/8"	7/8"	8000	8"	7"	8"	0.60	38	6800	40"	13 3/4"	16 3/4"	5"		

* MINIMUM CYLINDER STRENGTH OF CONCRETE AT THE TIME OF TRANSFER OF PRESTRESS FORCE.



DRAPED STRAND PATTERN - SPAN



SLAB HAUNCH DETAIL

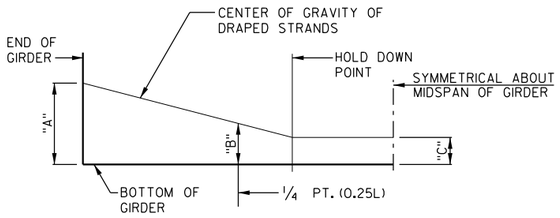
IF 1 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



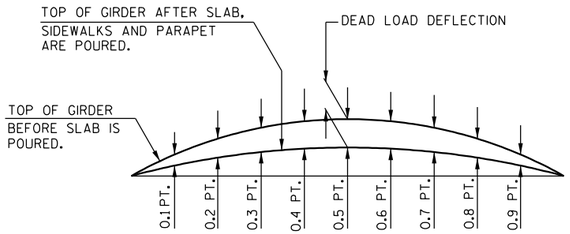
LOCATION OF DRAPED STRANDS

THEORETICAL CAMBER

SPAN	CAMBER (IN.) ***
1	4 7/8"

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

*** THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.



DEAD LOAD DEFLECTION DIAGRAM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-617

DRAWN BY TAW | PLANS CK'D. TR

45W" PRESTRESSED GIRDER DETAILS

SHEET 10 OF 19
1752

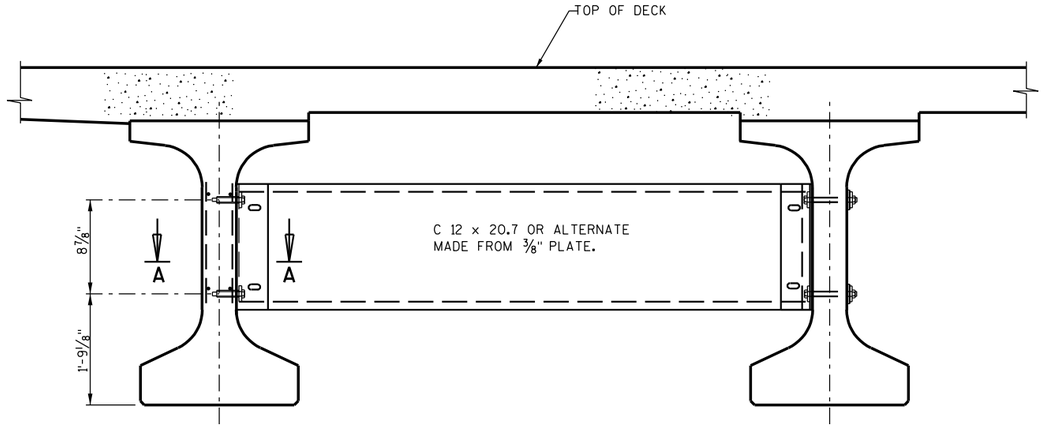
8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-617\10.45Wgir2.b-5-617.dgn
PLOT DATE : 10/24/2012

STATE PROJECT NUMBER

1133-09-71



EXTERIOR GIRDER

INTERIOR GIRDER

PART TRANSVERSE SECTION AT DIAPHRAGM

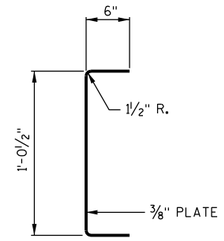
GENERAL NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-5-617", EACH.

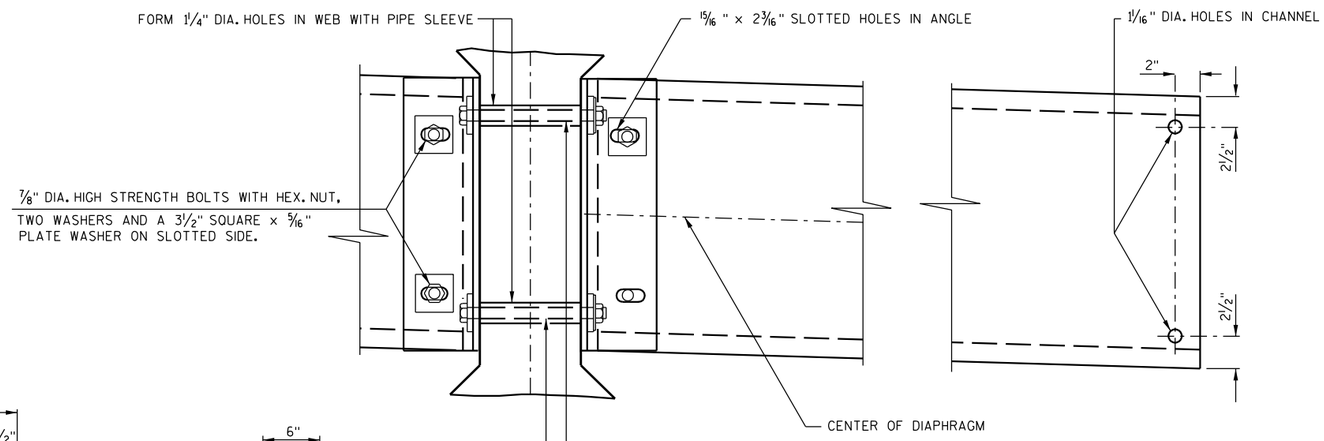
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS, SLEEVES AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563. LUBRICANT AND TEST FOR COATED NUTS.

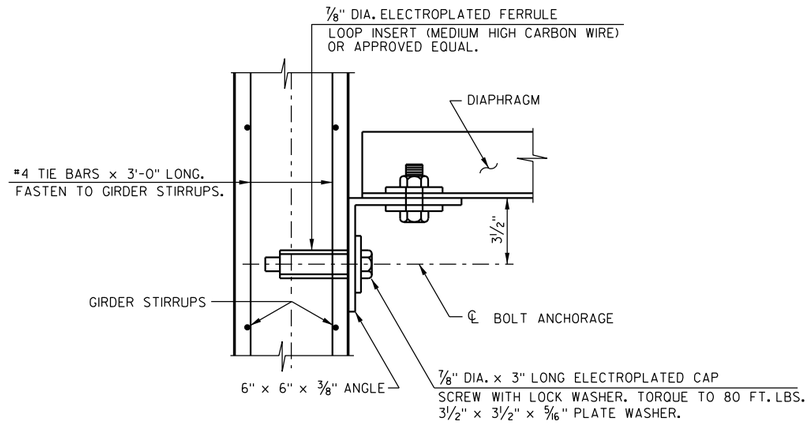


SECTION THRU ALTERNATE DIAPHRAGM



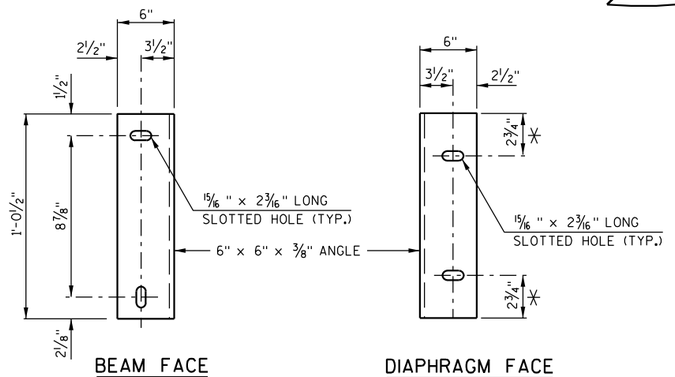
DETAIL B

(FOR CONTINUOUS LINE OF DIAPHRAGMS)



SECTION A-A

(FOR EXTERIOR ATTACHMENT)



DIAPHRAGM SUPPORT

⁜ DIMENSION = 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-617

DRAWN BY TAW | PLANS CK'D. TR

INTERMEDIATE STEEL DIAPHRAGMS

SHEET 11 OF 19

1753

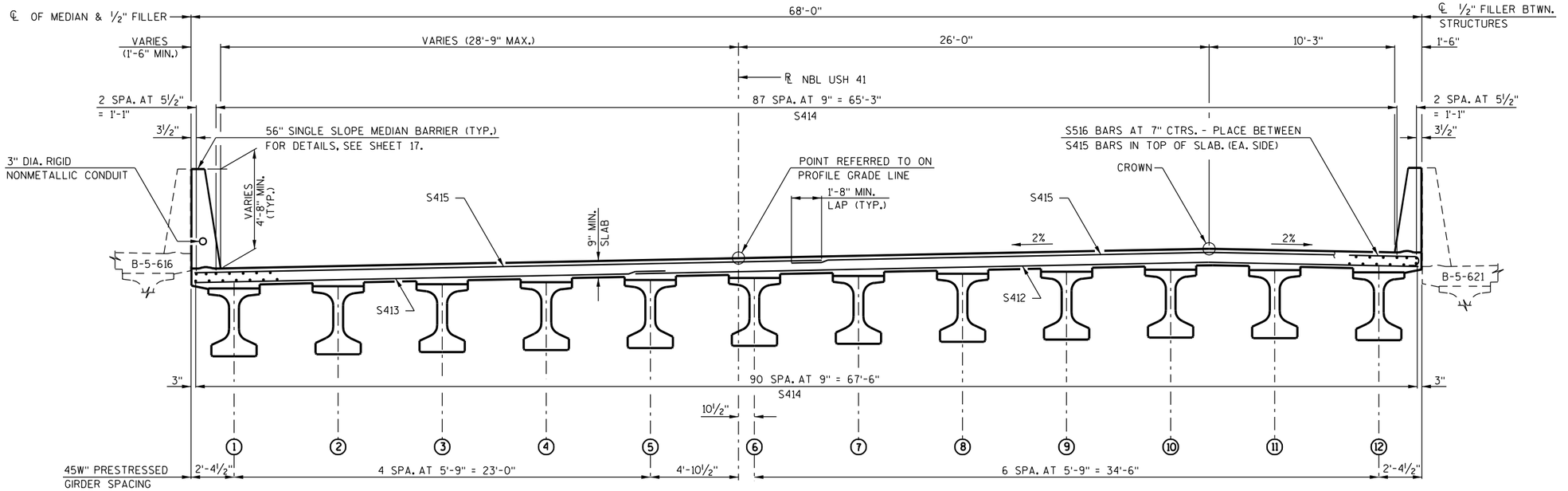
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\Structures\B-5-617\11_steeldiaph_b-5-617.dgn
PLOT DATE : 10/24/2012

8

8

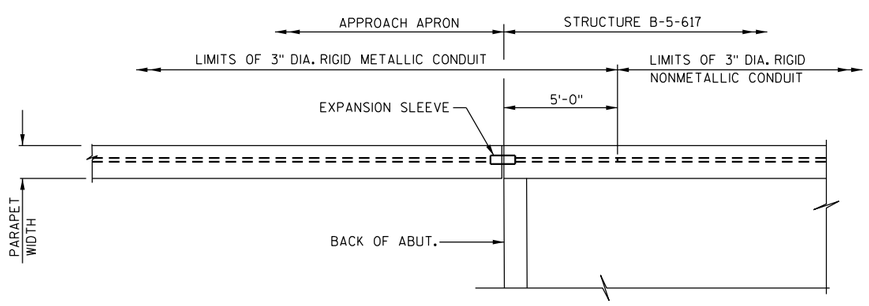
STATE PROJECT NUMBER

1133-09-71



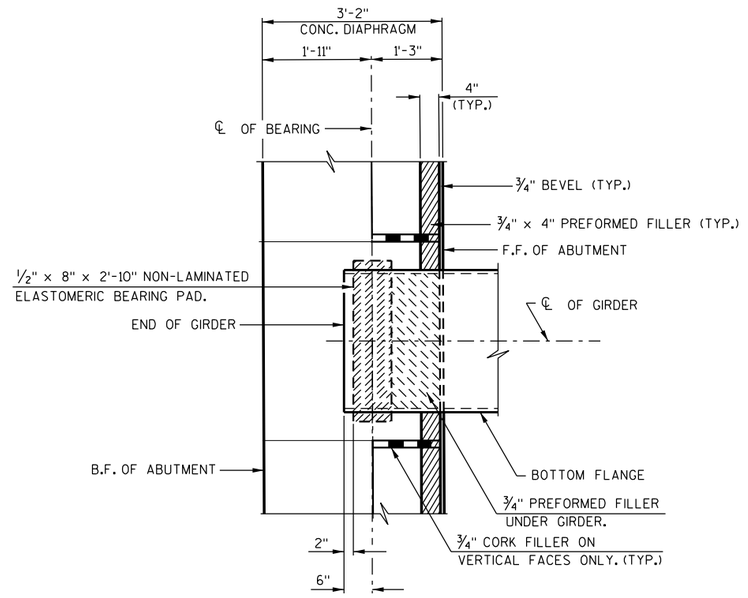
CROSS SECTION THRU ROADWAY

(LOOKING NORTH)



PART PLAN - SUPERSTRUCTURE

(SHOWING CONDUIT LIMITS IN WEST SIDE PARAPET. SOUTH END OF DECK SHOWN, NORTH END SIMILAR.)



BEARING PAD LAYOUT

(SHOWN AT SOUTH ABUTMENT, NORTH ABUTMENT SIMILAR)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-617

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

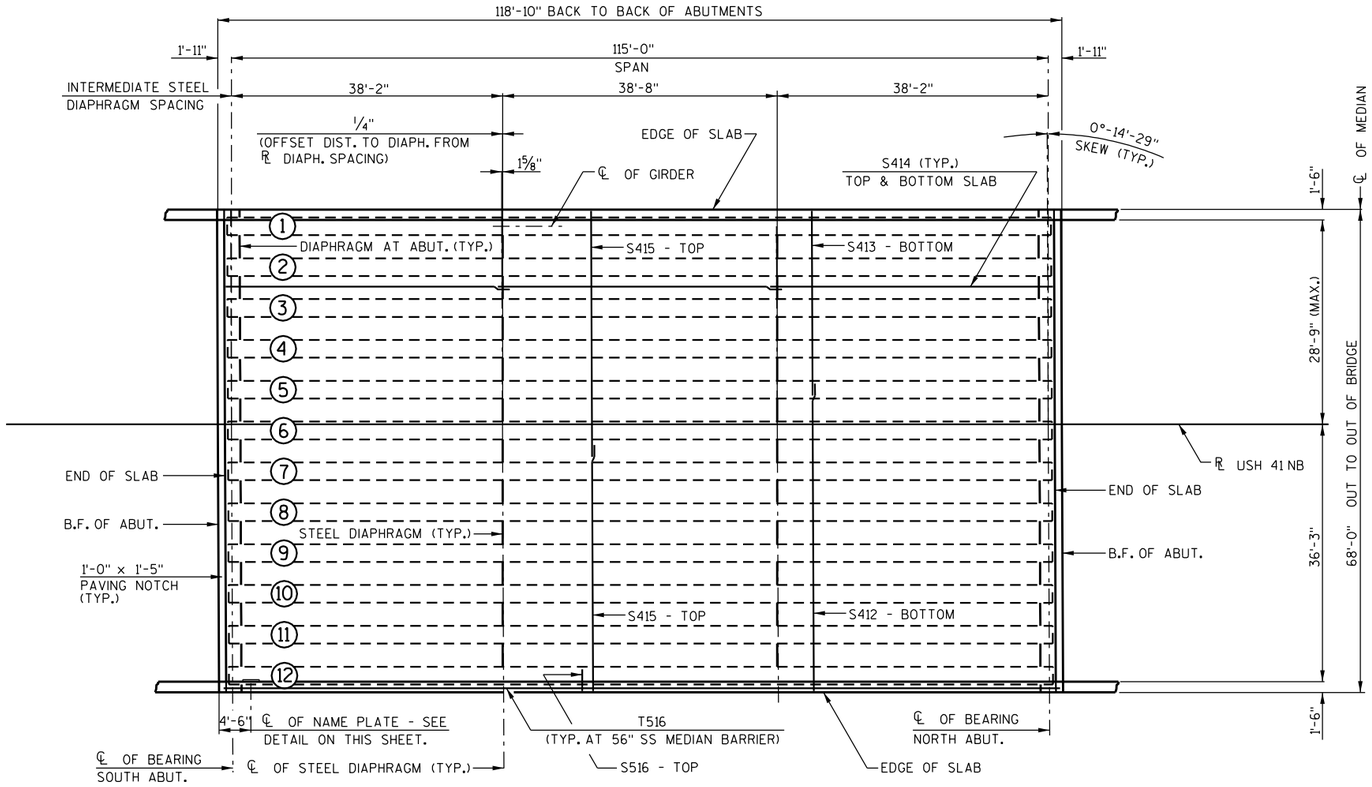
SHEET 12 OF 19
1754

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-617\12.superl.b-5-617.dgn
PLOT DATE : 10/24/2012

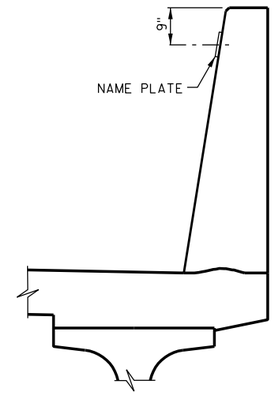
8

8

STATE PROJECT NUMBER
1133-09-71



PLAN



NAME PLATE DETAIL

TOP OF DECK ELEVATIONS

	℄ OF BRG. S. ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF BRG. N. ABUT.
W. EOD	632.92	633.06	633.19	633.31	633.44	633.56	633.68	633.80	633.92	634.03	634.14
GIRDER 1	632.97	633.10	633.23	633.36	633.49	633.61	633.73	633.85	633.96	634.08	634.19
GIRDER 2	633.09	633.22	633.35	633.48	633.60	633.72	633.84	633.96	634.08	634.19	634.31
GIRDER 3	633.20	633.33	633.46	633.59	633.72	633.84	633.96	634.08	634.19	634.31	634.42
GIRDER 4	633.32	633.45	633.58	633.71	633.83	633.95	634.08	634.19	634.31	634.42	634.54
GIRDER 5	633.43	633.57	633.69	633.82	633.95	634.07	634.19	634.31	634.43	634.54	634.65
GIRDER 6	633.55	633.68	633.81	633.94	634.06	634.19	634.31	634.42	634.54	634.65	634.77
GIRDER 7	633.66	633.80	633.93	634.05	634.18	634.30	634.42	634.54	634.66	634.77	634.88
GIRDER 8	633.78	633.91	634.04	634.17	634.29	634.42	634.54	634.65	634.77	634.88	635.00
GIRDER 9	633.89	634.03	634.16	634.28	634.41	634.53	634.65	634.77	634.89	635.00	635.11
GIRDER 10	634.01	634.14	634.27	634.40	634.52	634.65	634.77	634.89	635.00	635.12	635.23
GIRDER 11	633.98	634.11	634.24	634.37	634.49	634.62	634.74	634.86	634.97	635.09	635.20
GIRDER 12	633.87	634.00	634.13	634.25	634.38	634.50	634.62	634.74	634.86	634.97	635.08
E. EOD	633.82	633.95	634.08	634.21	634.33	634.45	634.57	634.69	634.81	634.92	635.04

NOTES

1. THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS.
2. THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.
3. LAP NO. 6 BARS 3'-6" MIN. AT BACK OF ABUTMENT DIAPHRAGMS.
4. LAP LONGITUDINAL NO. 5 BARS IN 56" SINGLE SLOPE MEDIAN BARRIER 2'-11" MIN.
5. LAP NO. 4 BARS 1'-8" MIN. IN SLAB.
6. ALL TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED PARALLEL TO SUBSTRUCTURE UNITS.
7. EDGE OF DECK (EOD) ELEVATIONS ARE CALCULATED ASSUMING CROSS SLOPE CONTINUES TO EDGE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-617

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 13 OF 19
1755

8

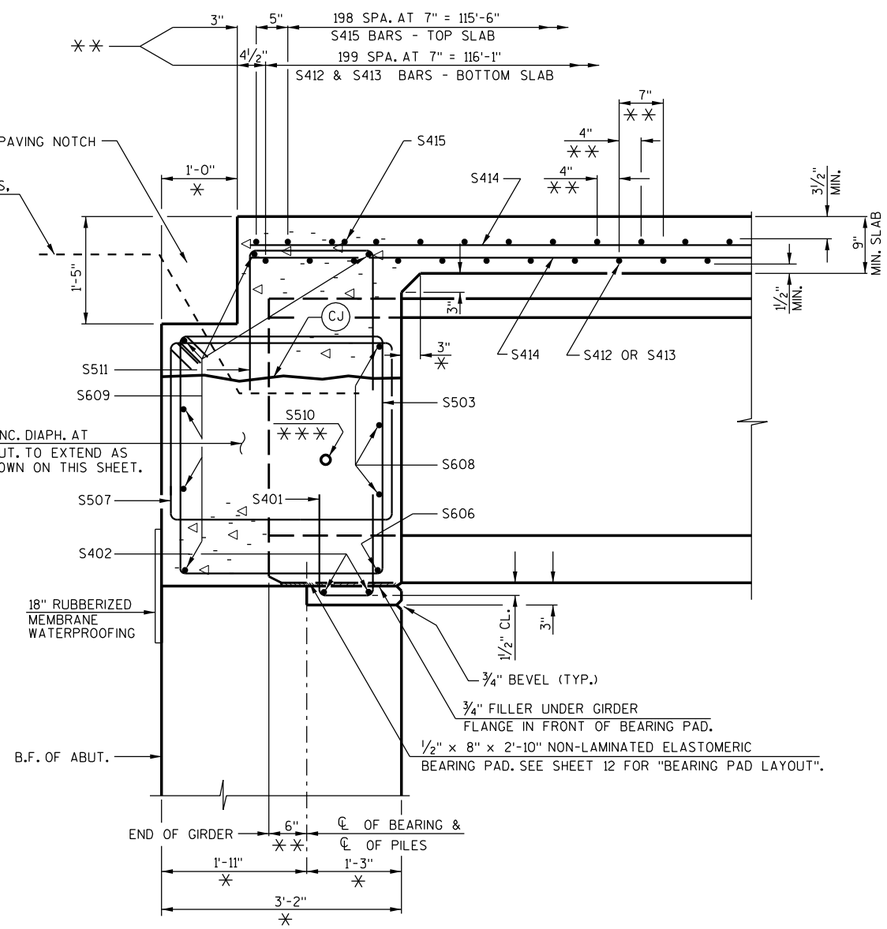
8

FILE NAME : P:\134 USH 41 Bridges \1133-09-00\structures\B-5-617\13.super2.b-5-617.dgn
PLOT DATE : 10/24/2012

STATE PROJECT NUMBER

1133-09-71

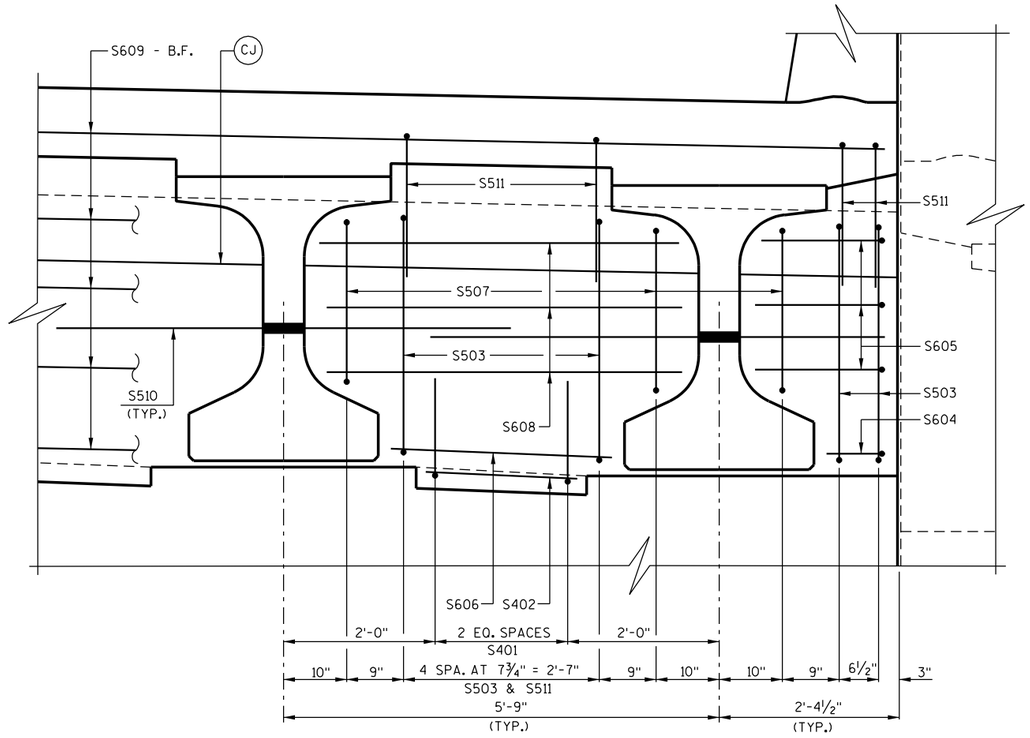
NOTE: PLACE S516 BARS BETWEEN S415 BARS IN TOP OF SLAB. (TYP. EA. SIDE)



AT ABUTMENTS

PART LONGITUDINAL SECTION

(BETWEEN EXTERIOR GIRDERS)



ABUTMENT DIAPHRAGM DETAILS

(LOOKING NORTH AT NORTH ABUT., SOUTH ABUT. SIMILAR)

LEGEND

- ✳ DIMENSIONS ARE GIVEN NORMAL TO ℄ OF SUBSTRUCTURE UNITS.
- ✳✳ DIMENSIONS ARE GIVEN PARALLEL TO THE GIRDER ℄.
- ✳✳✳ 1½" DIA. HOLE IN WEB FOR S510 BARS. PLACE TWO S510 BARS SYMMETRICAL ABOUT THE ℄ OF EACH GIRDER. FIELD BEND BARS ALONG SKEW. SEE "SIDE VIEW" ON SHEET 9 FOR DETAILS.
- (CJ) OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

NOTES: ALL VERTICAL BAR STEEL REINFORCEMENT IN CONCRETE DIAPHRAGMS SHALL BE SPACED AND PLACED PARALLEL TO GIRDERS.

LAP S609 ABUTMENT DIAPHRAGM BARS 3'-6" MIN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-617

DRAWN BY TAW | PLANS CK'D. TR

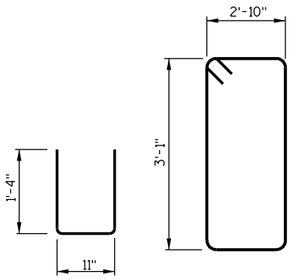
SUPERSTRUCTURE

SHEET 14 OF 19
1756

8

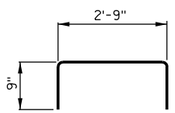
8

FILE NAME : P:\134 USH 41 Bridges \1133-09-00\Structures\B-5-617\14_super3_b-5-617.dgn
PLOT DATE : 10/24/2012

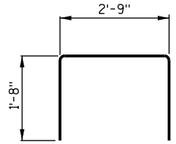


S401

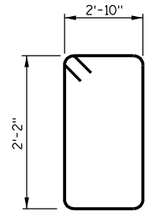
S503



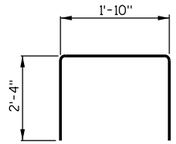
S604



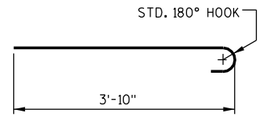
S605



S507



S511



S516

BILL OF BARS

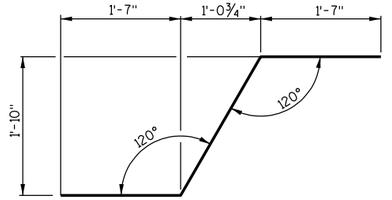
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT IN THIS BILL SHALL BE EPOXY COATED.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 40,400 LBS.
S401	66	3-5	X		ABUTMENT DIAPHRAGM - BOTTOM	VERT.
S402	44	2-0			ABUTMENT DIAPHRAGM - BOTTOM	HORIZ.
S503	118	12-5	X		ABUTMENT DIAPHRAGM - STIRRUPS	VERT.
S604	4	3-11	X		ABUTMENT DIAPHRAGM - ENDS	HORIZ.
S605	12	5-9	X		ABUTMENT DIAPHRAGM - ENDS	HORIZ.
S606	22	2-11			ABUTMENT DIAPHRAGM - BETWEEN GIRDERS	HORIZ.
S507	48	10-7	X		ABUTMENT DIAPHRAGM - STIRRUPS	VERT.
S608	66	4-8			ABUTMENT DIAPHRAGM - F.F. - BETWEEN GIRDERS	HORIZ.
S609	24	35-7			ABUTMENT DIAPHRAGM - B.F.	HORIZ.
S510	48	6-0			ABUTMENT DIAPHRAGM - SYMM. ABOUT ℄ OF GIRDER	HORIZ.
S511	118	6-3	X		ABUTMENT DIAPHRAGM - TOP	VERT.
S412	200	43-3			SLAB - BOTTOM	TRANS.
S413	200	26-1			SLAB - BOTTOM	TRANS.
S414	549	40-0			SLAB - TOP & BOTTOM	LONGIT.
S415	402	34-8			SLAB - TOP	TRANS.
S516	400	4-5	X		SLAB - TOP - BETWEEN S415 BARS AT EDGE	TRANS.

STAINLESS STEEL BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 2,210 LBS.
SS901	130	5'-0"	X		APPROACH APRON AT BRIDGE PAVING NOTCH	LONGIT.



SS901

STATE PROJECT NUMBER

1133-09-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-617

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 15 OF 19
1757

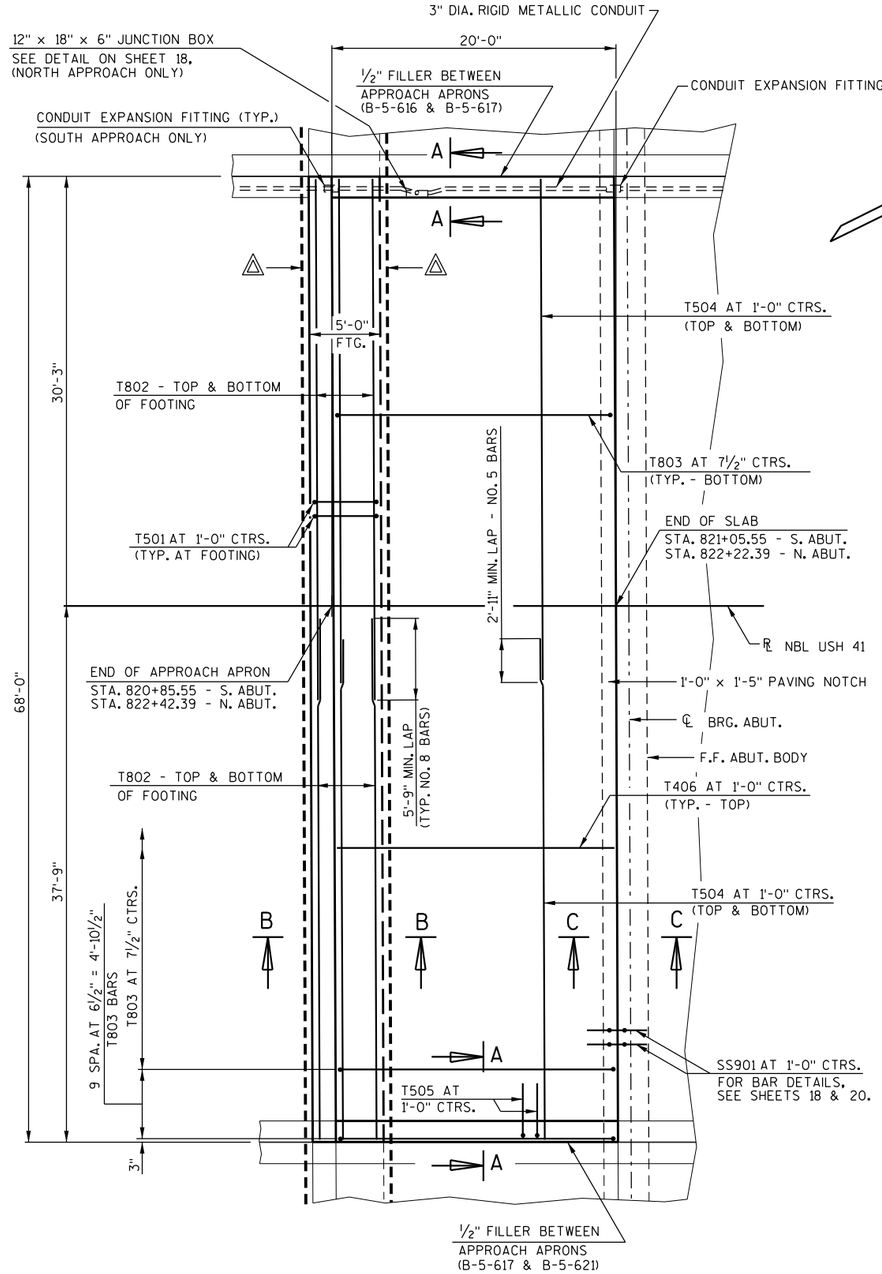
8

8

FILE NAME : P:\134 USH 41 Bridges 11133-09-00\structures\B-5-617\15.superstructure B-5-617.dgn
PLOT DATE : 10/24/2012

STATE PROJECT NUMBER

1133-09-71

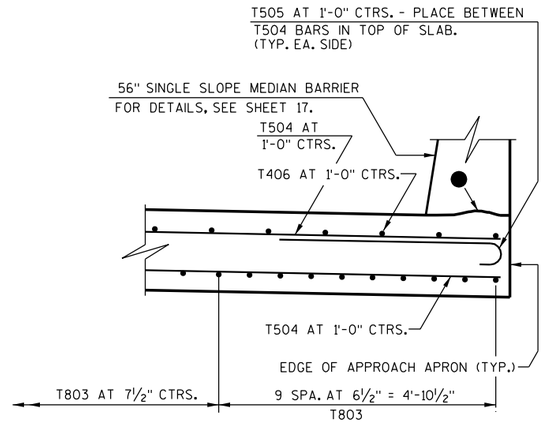


APPROACH APRON PART PLAN

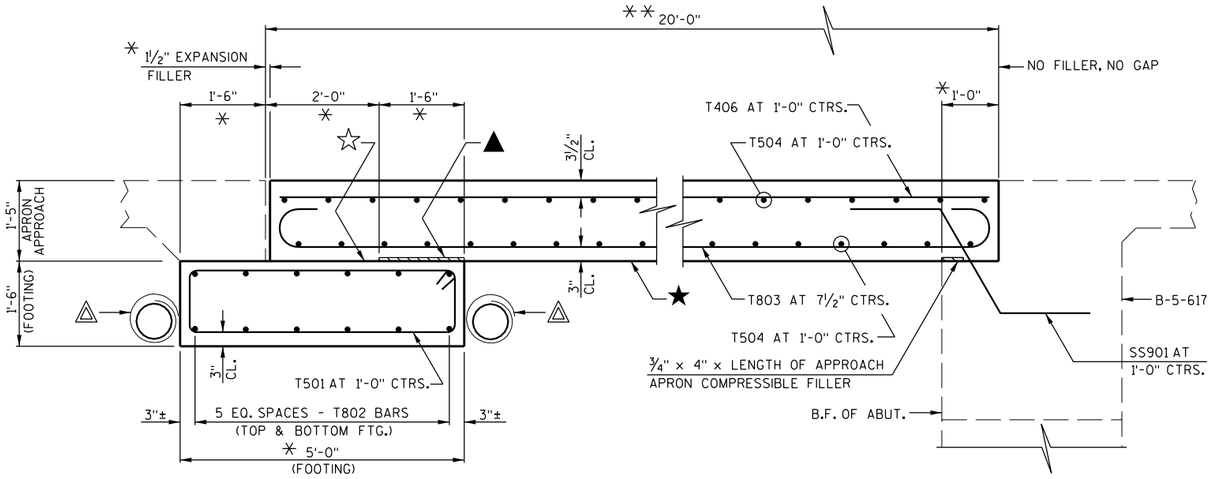
(SOUTH APPROACH APRON SHOWN, NORTH APPROACH APRON SIMILAR UNLESS NOTED OTHERWISE)

LEGEND

- ✳ DIMENSIONS ARE GIVEN NORMAL ℄ SUBSTRUCTURE.
- ✳✳ DIMENSIONS ARE GIVEN PARALLEL TO ℄ NBL USH 41.
- ☆ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE LENGTH OF FOOTING. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ★ PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE LENGTH OF SUBGRADE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ▲ 3/4" x 1'-6" x LENGTH OF FOOTING COMPRESSIBLE FILLER.
- ⧋ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD TO END OF PIPE. SEE "RODENT SHIELD" DETAIL ON THIS SHEET.
- ● CONST. JT. - STRIKE OFF AS SHOWN.



SECTION A-A



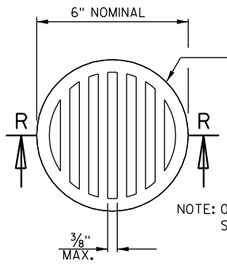
SECTION B-B

SECTION C-C

LONGITUDINAL SECTION AT APPROACH APRON

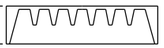
(SECTION SHOWN AT SOUTH APPROACH APRON, NORTH APPROACH APRON SIMILAR)

NOTE: BAR STEEL REINFORCEMENT FOR THE APPROACH APRONS AND FOR 56" SINGLE SLOPE CONCRETE BARRIER LOCATED ON EACH SIDE OF THE APPROACH APRON AND THE EACH SIDE OF THE DECK FOR B-5-617 IS INCLUDED IN THE BILL OF BARS ON SHEET 18.



THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

NOTE: ORIENT SHIELD SO SLOTS ARE VERTICAL.



SECTION R-R

RODENT SHIELD

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-617

DRAWN BY TAW | PLANS CK'D. TR

APPROACH APRON DETAILS

SHEET 16 OF 19
1758

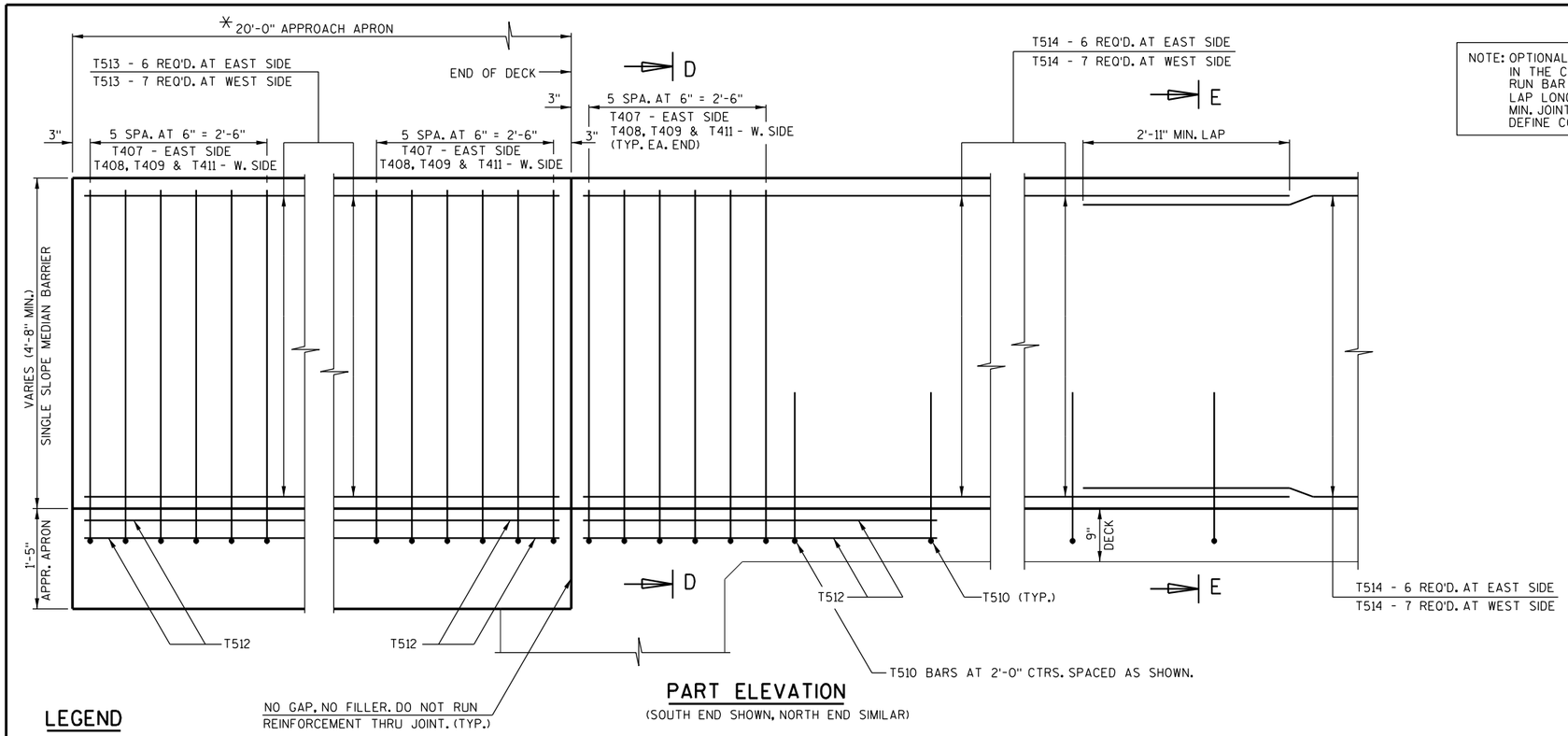
8

8

FILE NAME : P:\134 USH 41 Bridges \1133-09-00\structures\B-5-617\16_aprondet_b-5-617.dgn
PLOT DATE : 10/24/2012

STATE PROJECT NUMBER

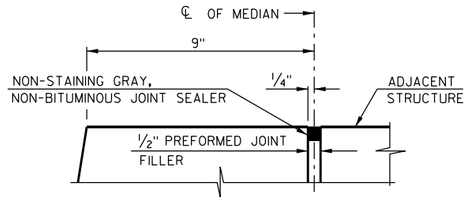
1133-09-71



PART ELEVATION

(SOUTH END SHOWN, NORTH END SIMILAR)

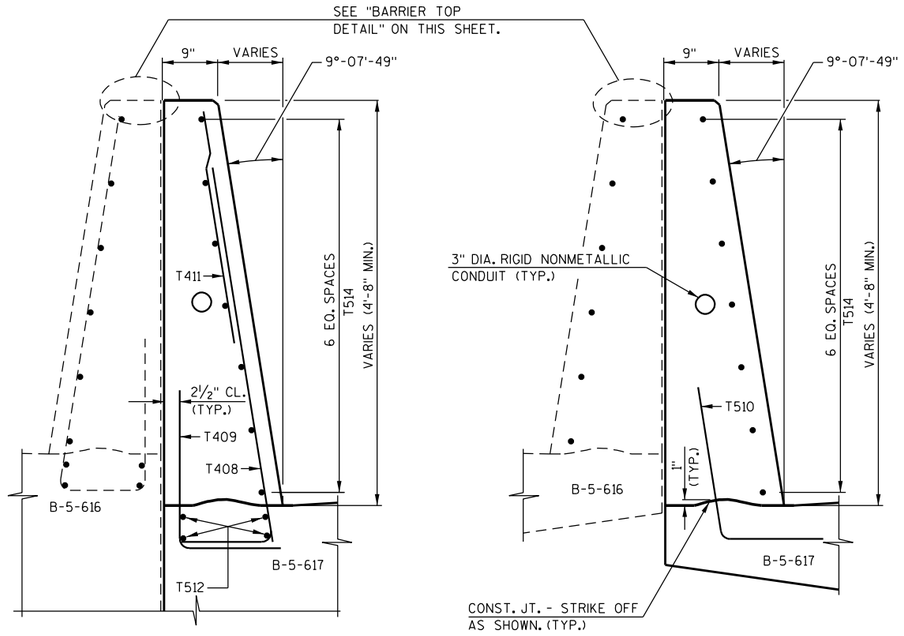
NOTE: OPTIONAL CONSTRUCTION JOINTS IN THE CONCRETE BARRIER MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 2'-11". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" 'V' GROOVE.



BARRIER TOP DETAIL

LEGEND

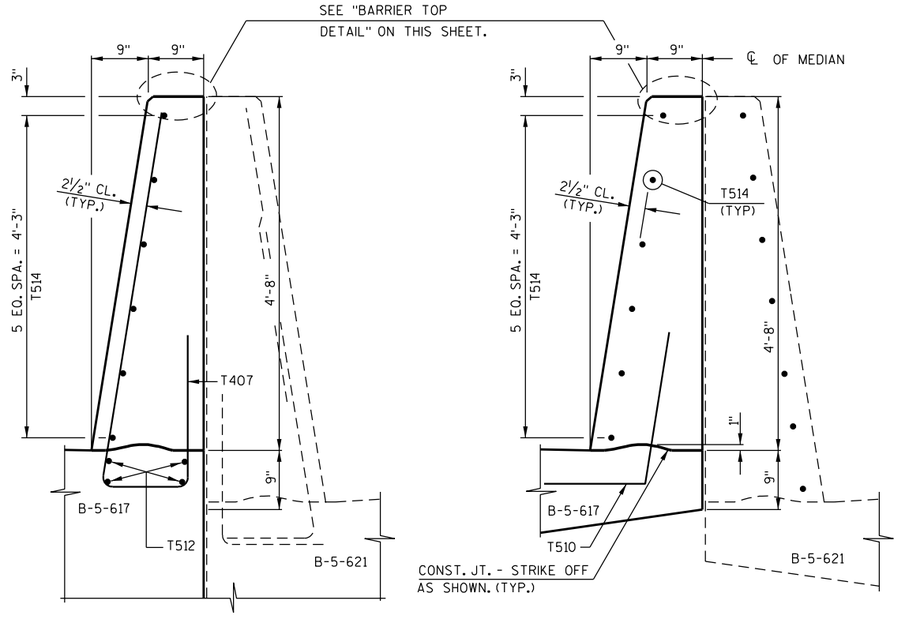
✳ DIMENSIONS ARE GIVEN PARALLEL TO ℄ NBL USH 41



SECTION D-D
(TYPICAL AT ENDS OF BARRIER)

SECTION E-E

LOOKING NORTH - WEST EDGE OF DECK



SECTION D-D
(TYPICAL AT ENDS OF BARRIER)

SECTION E-E

LOOKING NORTH - EAST EDGE OF DECK

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-617

DRAWN BY TAW | PLANS CK'D. TR

56" SINGLE SLOPE MEDIAN BARRIER DETAILS

SHEET 17 OF 19
1759

FILE NAME : P:\134 USH 41 Bridges \1133-09-00\structures\8-5-617\17.barrier_detail.b-5-617.dgn
PLOT DATE : 11/21/2012

8

8

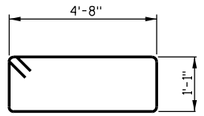
STATE PROJECT NUMBER

1133-09-71

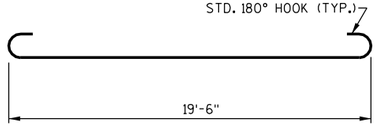
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT IN THIS BILL SHALL BE EPOXY COATED.

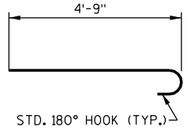
MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION TOTAL WEIGHT = 31,150 LBS.
T501	138	12-1	X		APPROACH APRON - FOOTING VERT.
T802	48	36-9			APPROACH APRON - FOOTING TRANS.
T803	224	21-4	X		APPROACH APRON - SLAB - BOTTOM LONGIT.
T504	168	35-4			APPROACH APRON - SLAB - TOP & BOTTOM TRANS.
T505	84	5-4	X		APPROACH APRON - SLAB - TOP TRANS.
T406	138	19-8			APPROACH APRON - SLAB - TOP LONGIT.
T407	36	7-11	X		MEDIAN BARRIER - AT APPR. APRON & DECK - E. SIDE VERT.
T408	36	6-3	X		MEDIAN BARRIER - AT APPR. APRON & DECK - W. SIDE VERT.
T409	36	3-3	X		MEDIAN BARRIER - AT APPR. APRON & DECK - W. SIDE VERT.
T510	144	3-3	X		MEDIAN BARRIER - AT DECK VERT.
T411	36	3-1			MEDIAN BARRIER - AT APPR. APRON & DECK - W. SIDE VERT.
T512	48	5-0			MEDIAN BARRIER - AT APPR. APRON & DECK LONGIT.
T513	26	19-8			MEDIAN BARRIER - AT APPR. APRON LONGIT.
T514	52	31-5			MEDIAN BARRIER - AT DECK LONGIT.



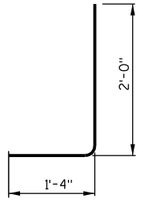
T501



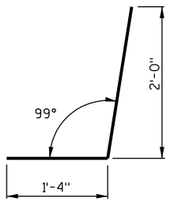
T803



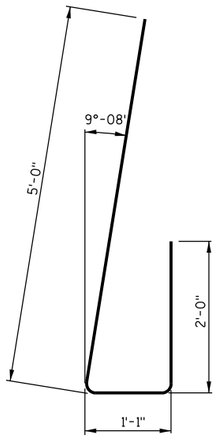
T505



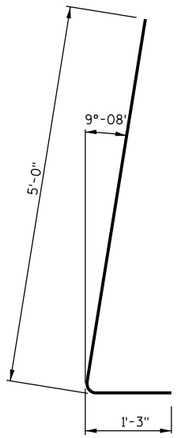
T409



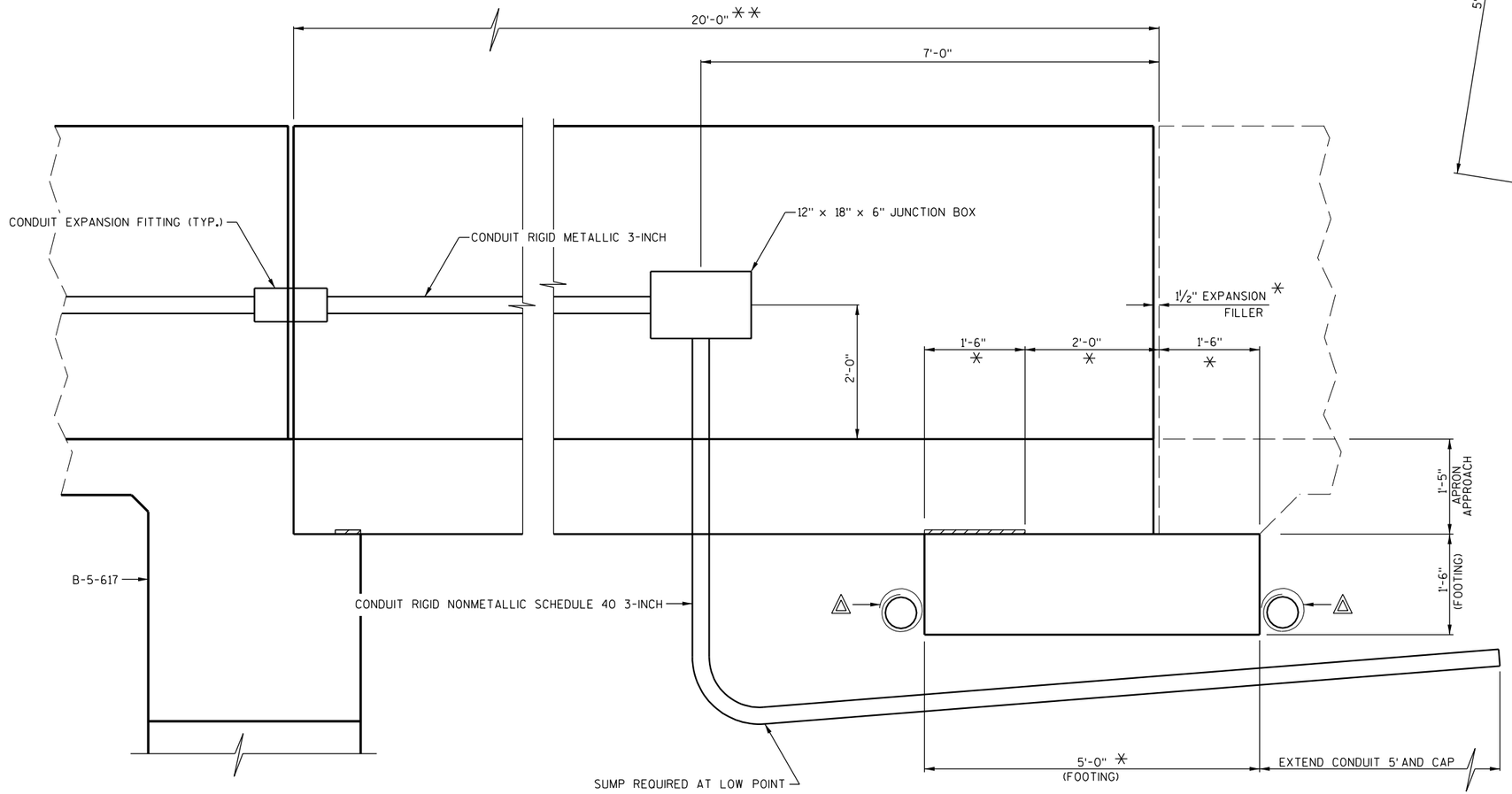
T510



T407



T408



CONDUIT TRANSITION - CORNER 3 ONLY

FILE NAME : P:\134 (DSH 41 Bridges (1133-09-00)\structures\8-5-617\18_barrier_apron2_b-5-617.dgn
PLOT DATE : 10/24/2012

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

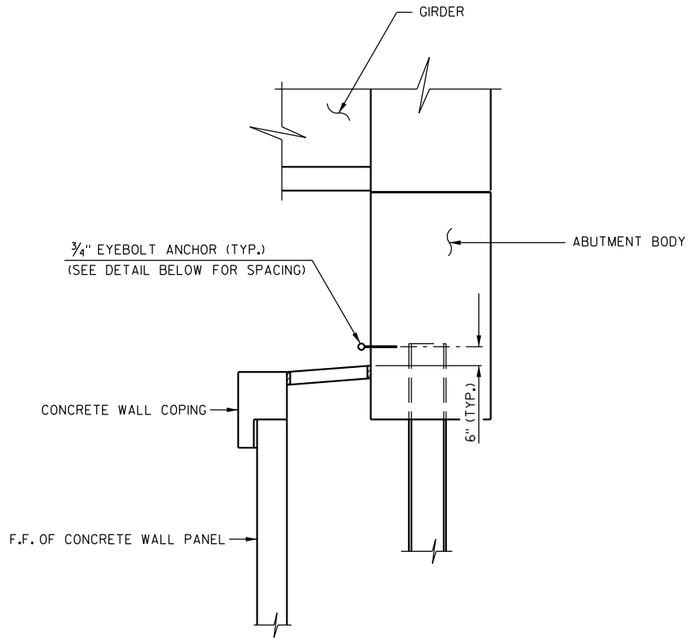
STRUCTURE B-5-617

DRAWN BY TAW | PLANS CK'D. TR

56" SINGLE SLOPE MEDIAN BARRIER DETAILS

SHEET 18 OF 19
1760

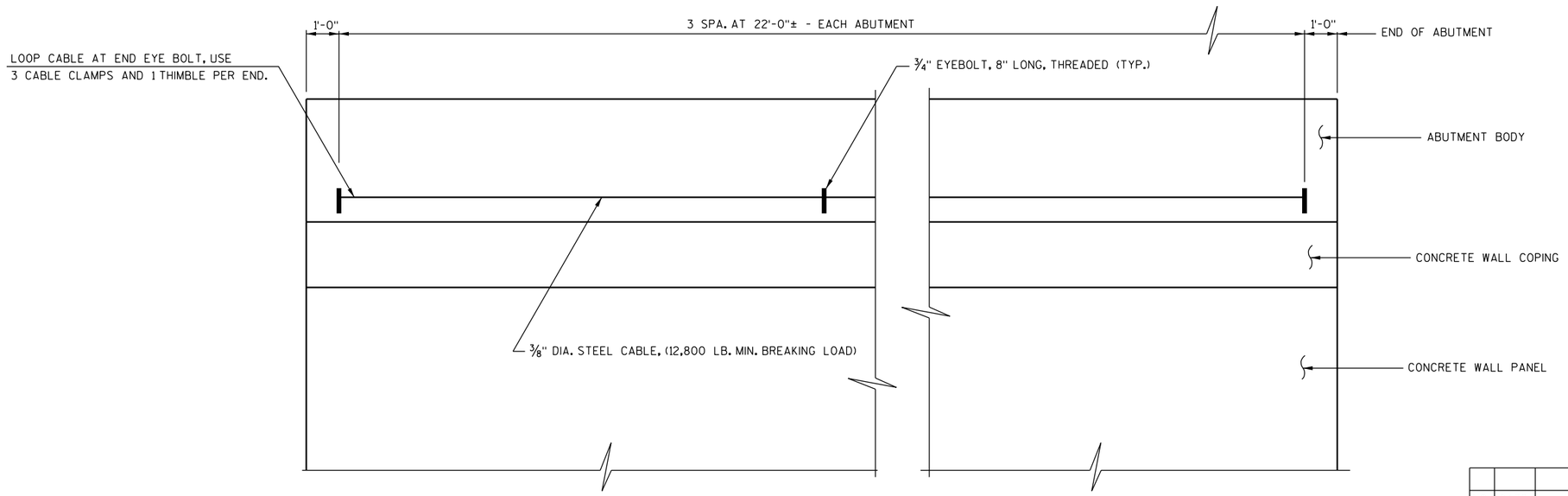
STATE PROJECT NUMBER
1133-09-71



TYPICAL SECTION THRU ABUTMENT BODY

NOTES

1. ALL LABOR AND MATERIAL (EYEBOLTS, CABLE AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4-INCH".
2. ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.
3. USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.
4. MASONRY ANCHORS TYPE S 3/4-INCH, MIN. PULLOUT CAPACITY OF 26 KIPS FOR ADHESIVE ANCHORS EMBEDDED A MIN. OF 7" IN CONCRETE.



PART FRONT VIEW OF ABUTMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-617

DRAWN BY TAW | PLANS CK'D. TR

FALL PROTECTION

SHEET 19 OF 19
1761

FILE NAME : P:\134 USH 41 Bridges 11133-09-00\structures\B-5-617\19.fall protection.dgn
PLOT DATE : 10/24/2012

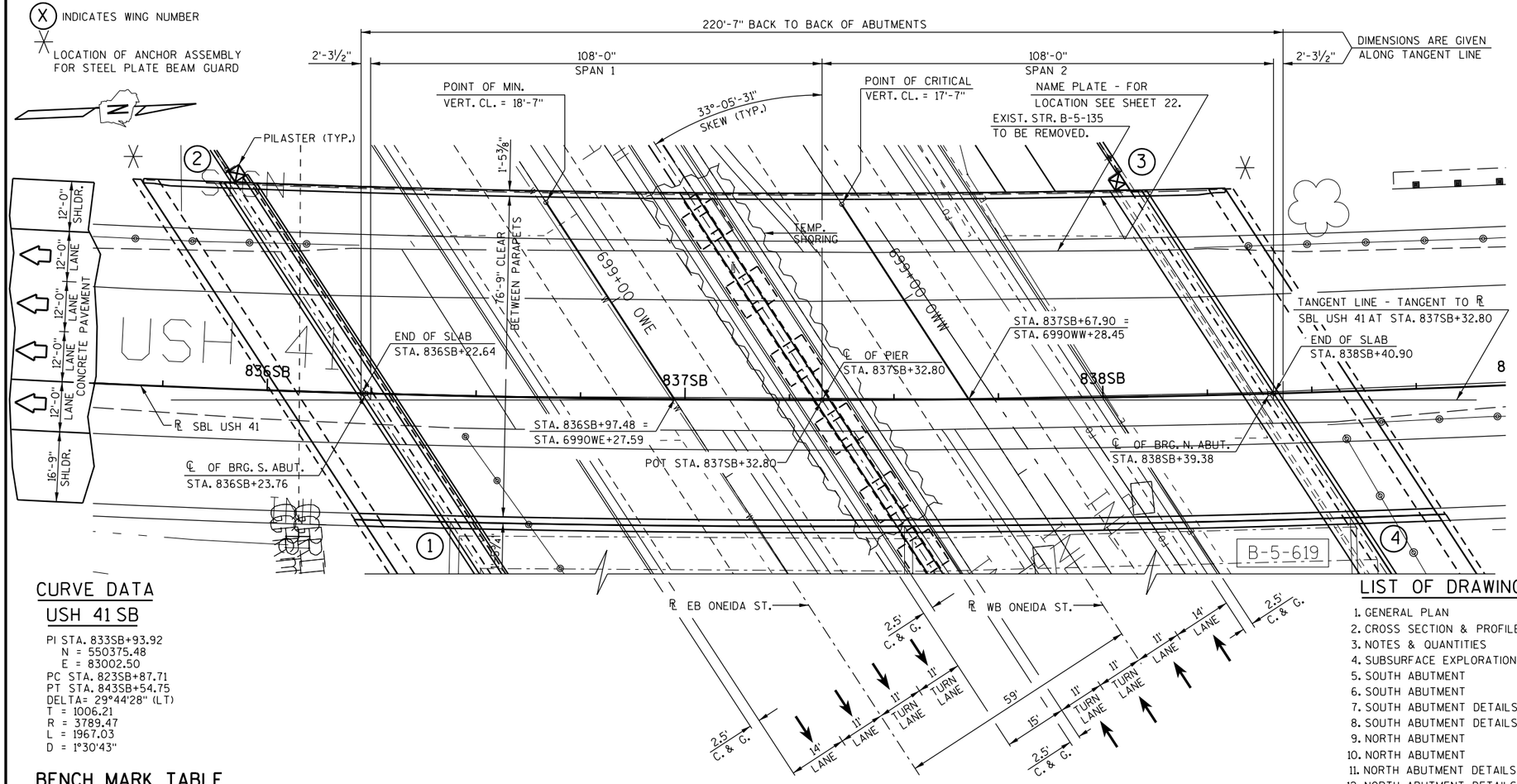
8

8

STATE PROJECT NUMBER
1133-09-71

X INDICATES WING NUMBER

LOCATION OF ANCHOR ASSEMBLY FOR STEEL PLATE BEAM GUARD



PLAN - B-5-618

(2 SPAN - 45W" PRESTRESSED GIRDERS)

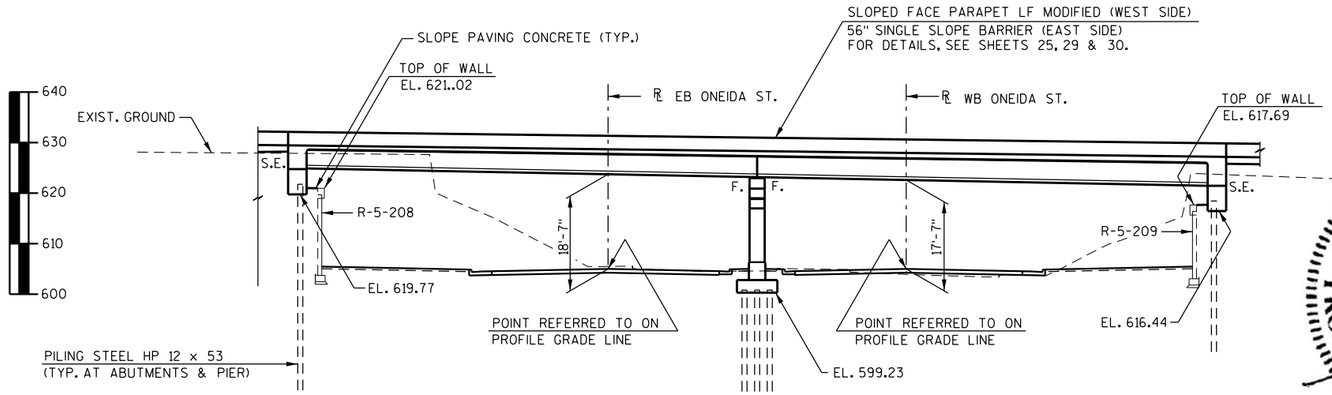
CURVE DATA

USH 41 SB

PI STA. 833SB+93.92
N = 550375.48
E = 83002.50
PC STA. 823SB+87.71
PT STA. 843SB+54.75
DELTA= 29°44'28" (LT)
T = 1006.21
R = 3789.47
L = 1967.03
D = 1°30'43"

BENCH MARK TABLE

NO.	STATION	OFFSET	DESCRIPTION	ELEVATION
41014			DISK ON SE CORNER OF PARAPET WALL OF NB USH 41 OVER ONEIDA STREET *B-5-136-73	630.50



ELEVATION

(NORMAL TO ONEIDA STREET)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR (RF): 1.01
OPERATIONAL RATING FACTOR (RF): 1.72
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 250 KIPS

STRUCTURE IS DESIGNED FOR A ½" SACRIFICIAL WEARING SURFACE, PLACED AT INITIAL CONSTRUCTION INTEGRAL WITH THE DECK. NO ALLOWANCE HAS BEEN MADE FOR A FUTURE WEARING SURFACE LOAD.

ULTIMATE DESIGN STRESSES:

HPC MASONRY STRUCTURES ——— f'_c = 4,000 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 ——— f_y = 60,000 P.S.I.
45W" PRESTRESSED GIRDERS - CONCRETE MASONRY ——— f'_c = 8,000 P.S.I.
STRANDS - 0.6" DIA. WITH AN ULTIMATE TENSILE STRENGTH OF ——— 270,000 P.S.I.

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 85'-0" LONG AT SOUTH ABUTMENT AND 75'-0" LONG AT NORTH ABUTMENT.

PIER TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 70'-0" LONG.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC DATA:

SBL USH 41	ONEIDA STREET
A.D.T. (2015) = 31,600	A.D.T. (2015) = 24,900
A.D.T. (2035) = 38,800	A.D.T. (2035) = 30,000
DESIGN SPEED = 70 M.P.H.	DESIGN SPEED = 40 M.P.H.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & PROFILES
3. NOTES & QUANTITIES
4. SUBSURFACE EXPLORATION
5. SOUTH ABUTMENT
6. SOUTH ABUTMENT
7. SOUTH ABUTMENT DETAILS
8. SOUTH ABUTMENT DETAILS
9. NORTH ABUTMENT
10. NORTH ABUTMENT
11. NORTH ABUTMENT DETAILS
12. NORTH ABUTMENT DETAILS
13. ALTERNATE CONSTRUCTION JOINT
14. PIER
15. PIER
16. PIER DETAILS
17. PIER DETAILS
18. 45W" PRESTRESSED GIRDER DETAILS
19. 45W" PRESTRESSED GIRDER DETAILS
20. INTERMEDIATE STEEL DIAPHRAGMS
21. SUPERSTRUCTURE
22. SUPERSTRUCTURE
23. SUPERSTRUCTURE
24. SUPERSTRUCTURE
25. SUPERSTRUCTURE
26. SUPERSTRUCTURE
27. APPROACH APRON DETAILS
28. APPROACH APRON DETAILS
29. SLOPED FACE PARAPET LF (MODIFIED)
30. 56" SINGLE SLOPE MEDIAN BARRIER DETAILS
31. 56" SINGLE SLOPE MEDIAN BARRIER DETAILS
32. AESTHETIC DETAILS
33. AESTHETIC DETAILS
34. FALL PROTECTION

ROMENESKO ENGINEERING, INC.
CONTACT: TOM ROMENESKO, P.E.
7325 CEDAR CREST DRIVE
SAUK CITY, WI 53583
(608) 644-1502

BRIDGE OFFICE CONTACT:
WILLIAM DREHER, P.E.
(608) 266-8489

WISCONSIN
THOMAS J. ROMENESKO
E-26318
MADISON
WI
PROFESSIONAL ENGINEER
1/28/13

NO.	DATE	REVISION	BY

Original Plans Prepared By
ROMENESKO ENGINEERING, INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR 02/13/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-5-618

USH 41 SB OVER ONEIDA STREET

COUNTY	TOWN/CITY/~~VILLAGE~~
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
TR	VR	TAW	TR

GENERAL PLAN

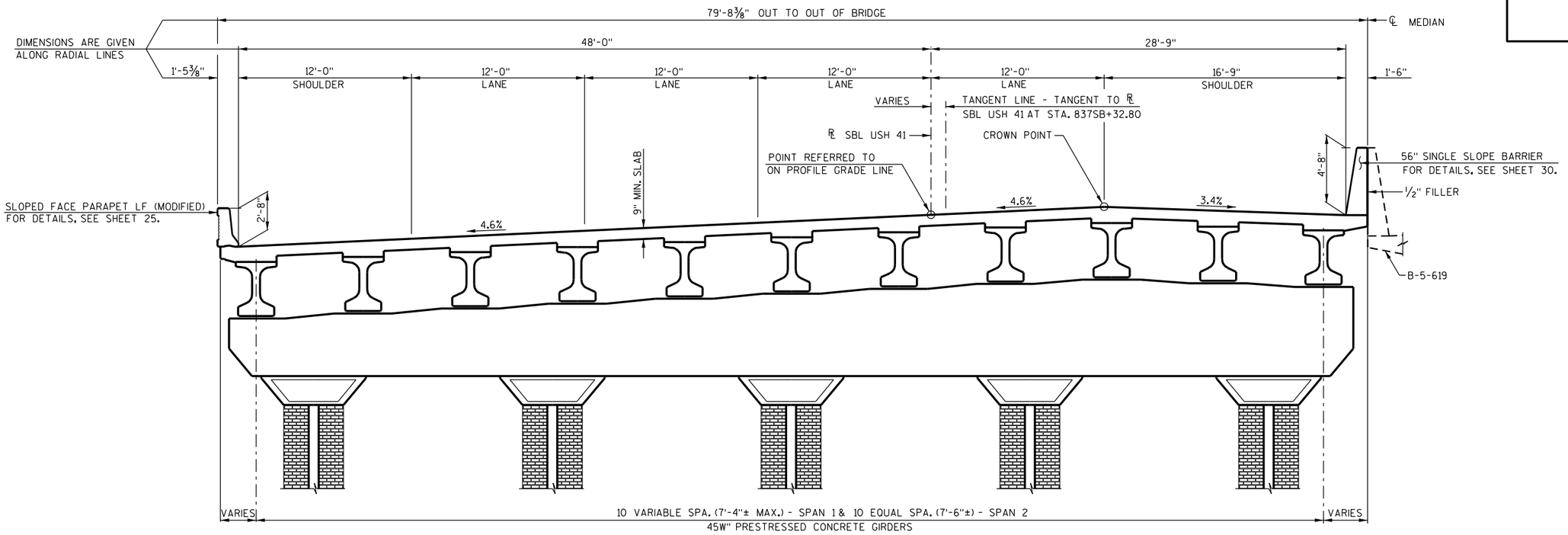
SHEET 1 OF 34
1762

I.D. 1133-09-00 DATE : 1/28/2013

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-618\01_genplan_v8.b-5-618.dgn
PLOT DATE : 1/28/2013

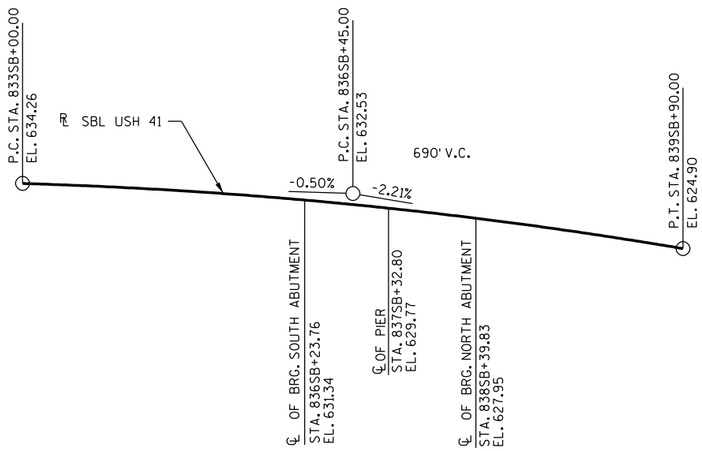
STATE PROJECT NUMBER

1133-09-71

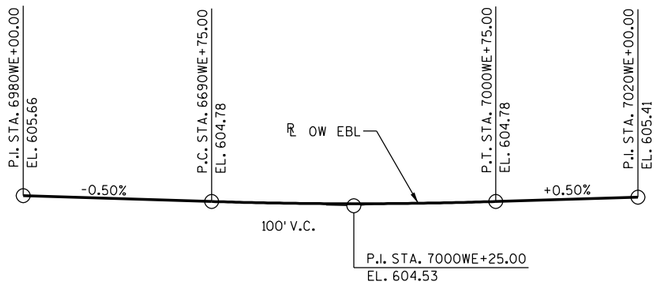


CROSS SECTION THRU ROADWAY

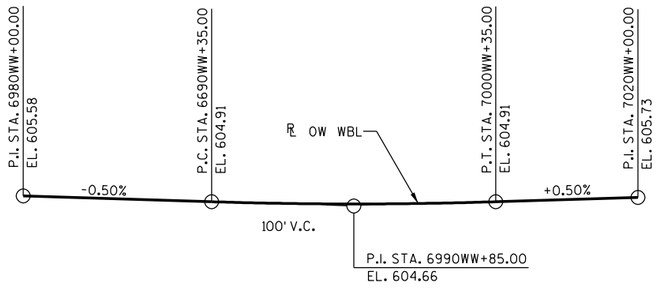
(LOOKING NORTH)



PROFILE GRADE LINE, SBL USH 41



PROFILE GRADE LINE, EBL ONEIDA ST./WAUBE LANE



PROFILE GRADE LINE, WBL ONEIDA ST./WAUBE LANE

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-618\02_section_profiles_b-5-618.dgn
PLOT DATE : 10/22/2012

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

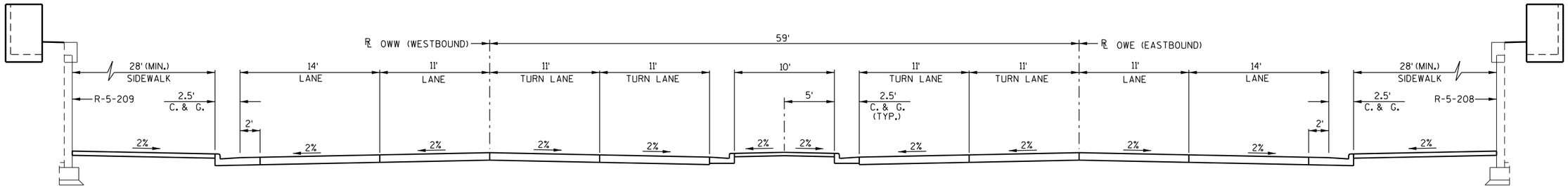
STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

CROSS SECTION & PROFILES

SHEET 2 OF 34
1763

STATE PROJECT NUMBER
1133-09-71



TYPICAL SECTION THRU ONEIDA STREET/WAUBE LANE (AT STRUCTURE)
(LOOKING EAST)

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	SOUTH ABUTMENT	PIER	NORTH ABUTMENT	SUPER.	APPROACH APRON	TOTAL
203.0200	REMOVING OLD STRUCTURE STA. 837SB+35.12	LS	———	———	———	———	———	1
203.0225.S	DEBRIS CONTAINMENT STRUCTURE B-5-135	LS	———	———	———	———	———	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-5-618	LS	———	———	———	———	———	1
206.6010.S	TEMPORARY SHORING	SF		1,060		———	———	1,060
210.0100	BACKFILL STRUCTURE	CY	370	180	350	———	———	900
502.3200	PROTECTIVE SURFACE TREATMENT	SY	———	———	———	2,076	379	2,455
502.6110	MASONRY ANCHORS TYPE S 3/4-INCH	EACH	5	———	5	———	———	10
503.0146	PRESTRESSED GIRDER TYPE I45W-INCH	LF	———	———	———	2,386	———	2,386
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	5,700	2,540	5,320	———	———	13,560
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	———	30,790	———	130,510	42,720	204,020
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	11	22	11	———	———	44
506.4000	STEEL DIAPHRAGMS B-5-618	EACH	———	———	———	40	———	40
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	19	———	18	———	———	37
550.1120	PILING STEEL HP 12-INCH x 53 LB	LF	1,190	2,800	1,050	———	———	5,040
604.0400	SLOPE PAVING CONCRETE	SY	23	———	22	———	———	45
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	110	———	110	———	400	620
SPV.0035.700	HPC MASONRY STRUCTURES	CY	75	163	72	738	226	1,274
SPV.0085.700	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	———	———	———	2,720	———	2,720
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	———	700	———	348	63	1,111
SPV.0165.501	STAINING CONCRETE	SF	701	1,491	679	4,070	50	6,991
SPV.0165.502	STAINING CONCRETE BRICK	SF	———	700	———	348	63	1,111
SPV.0165.700	LONGITUDINAL GROOVING BRIDGE DECK	SF	———	———	———	16,007	2,930	18,937
	NON - BID ITEMS							
	FILLER	SIZE	———	———	———	———		½" & ¾"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE. THE TOP LAYER OF BAR STEEL IN THE DECK SHALL BE PLACED WITH 3½" CLEAR COVER.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M153, TYPES I , II OR III OR M213.

THE AREA OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING CONCRETE, TO THE LIMITS SHOWN ON SHEET 1, ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER.

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

FILL/EXCAVATE TO BOTTOM OF ABUTMENT/PIER ELEVATION BEFORE DRIVING PILING.

AT THE BACKFACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE, SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.

THE FINISHED GRADED SECTION SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE EXISTING GROUND LINE SHALL BE THE UPPER LIMITS OF EXCAVATION AT THE PIER.

THE ELASTOMERIC BEARING PADS NON-LAMINATED NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE SUPERSTRUCTURE SHEET.

ALL STATIONS AND ALL ELEVATIONS ARE IN FEET.

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF THE DECK, TOP OF APPROACH APRONS, INSIDE FACE OF PARAPETS AND TOP OF PARAPETS ON BOTH THE DECK AND APPROACH APRONS.

THE STRUCTURE SHALL BE PAINTED IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND THE STAINING DETAILS PROVIDED IN THIS PLAN.

THE EXIST. STR., B-05-135, A TWO SPAN STEEL PLATE GIRDER BRIDGE WITH AN OVERALL WIDTH OF 43.83' AND AN OVERALL LENGTH OF 185.6'± IS TO BE REMOVED AND REPLACED WITH STR. B-5-618.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

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QUANTITIES & NOTES

SHEET 3 OF 34
1764

FILE NAME : P:\134 USH 41 Bridges \1133-09-00\structures\B-5-618\03_quants_notes_b-5-618.dgn
PLOT DATE : 10/30/2012

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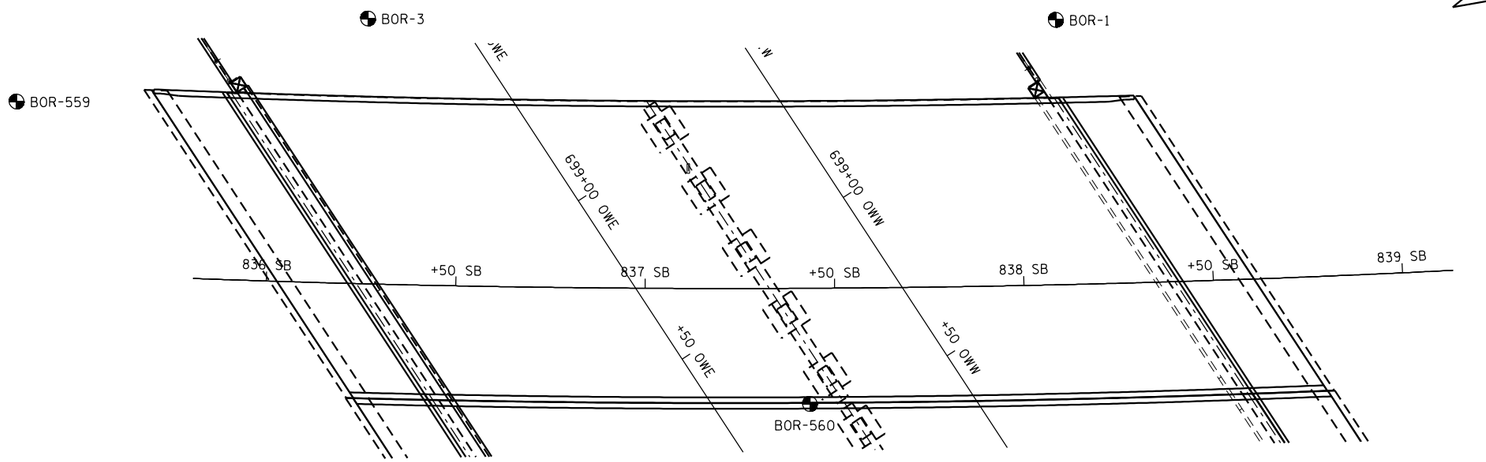
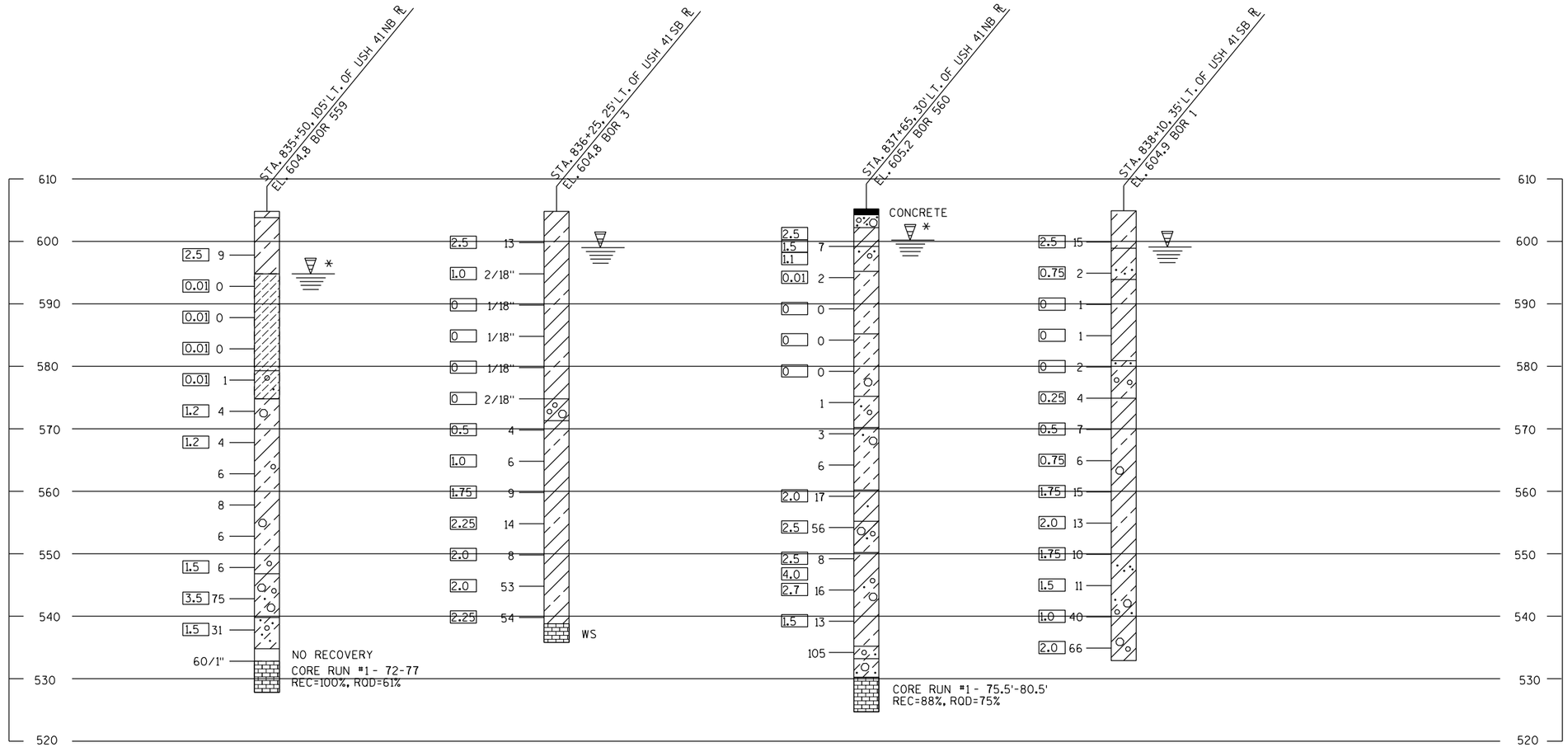
USH 41 OVER ONEIDA STREET (CTH AAA)
DEPERE - SUAMICO





BORINGS 1 AND 3 WERE DERIVED FROM THE EXISTING 1974 STRUCTURE PLAN SHEETS, B-5-135.

* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

STATE PROJECT NUMBER

1133-09-71

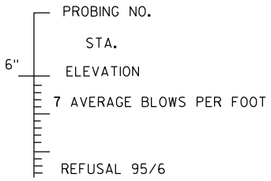
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

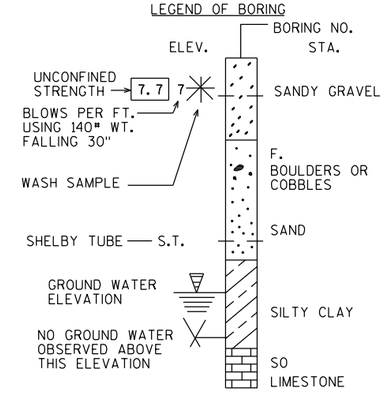
TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

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SUBSURFACE EXPLORATION

SHEET 4 OF 34
1765

SCALE =

8

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STATE PROJECT NUMBER
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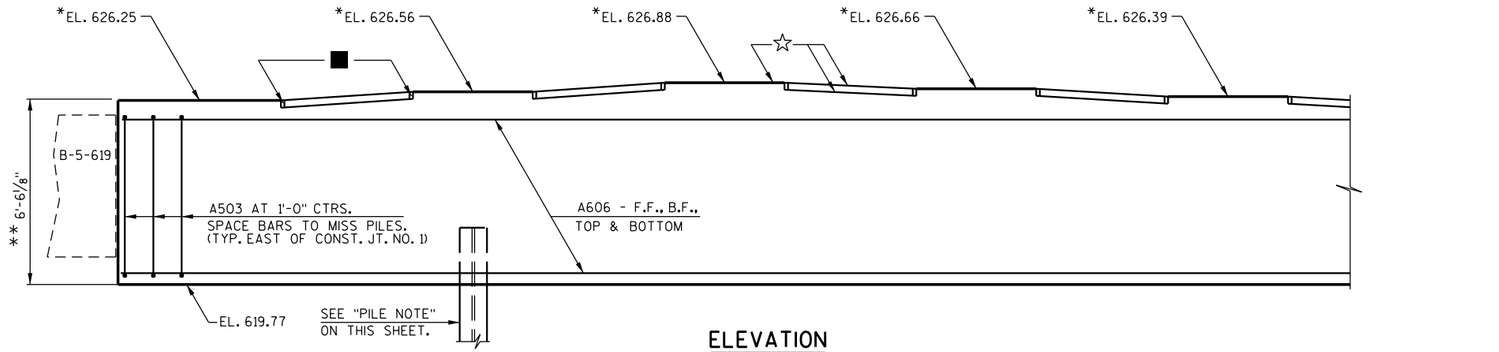
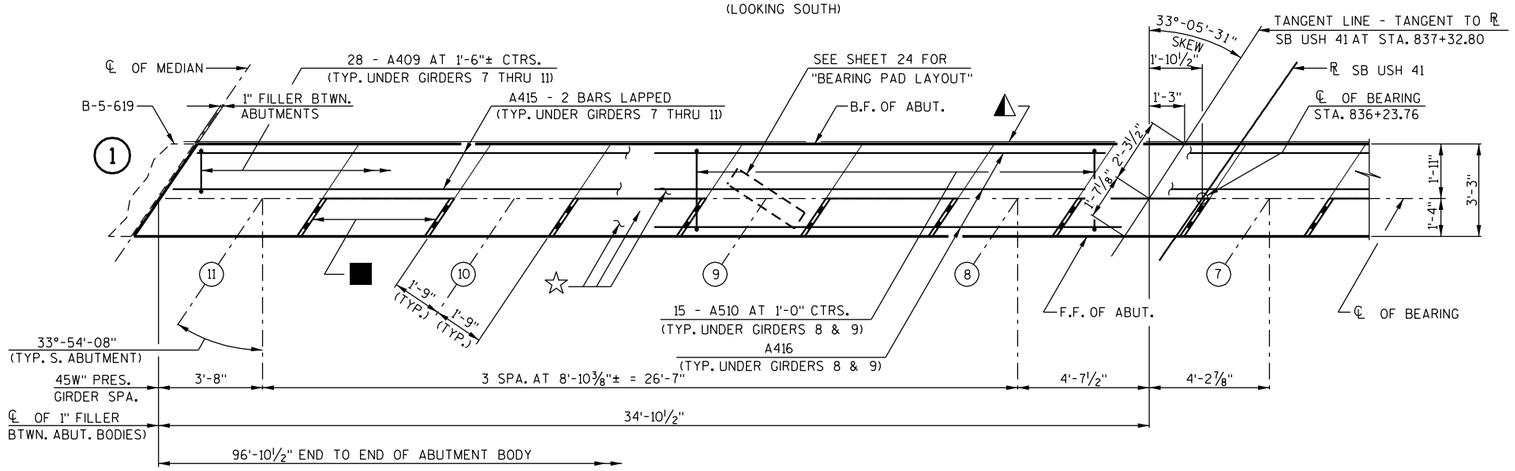
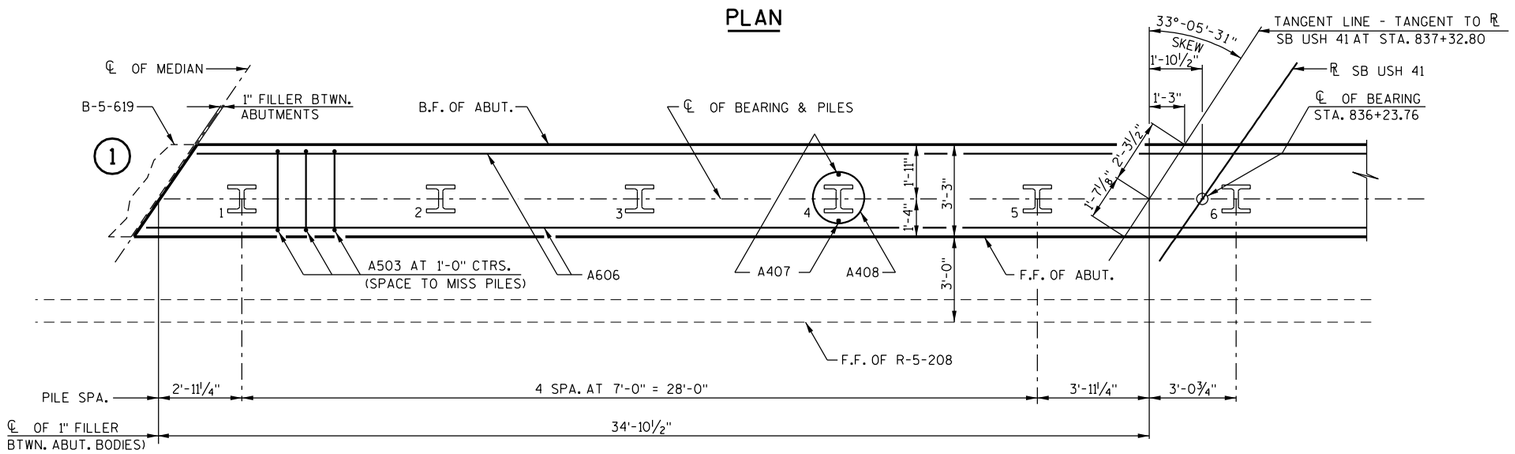


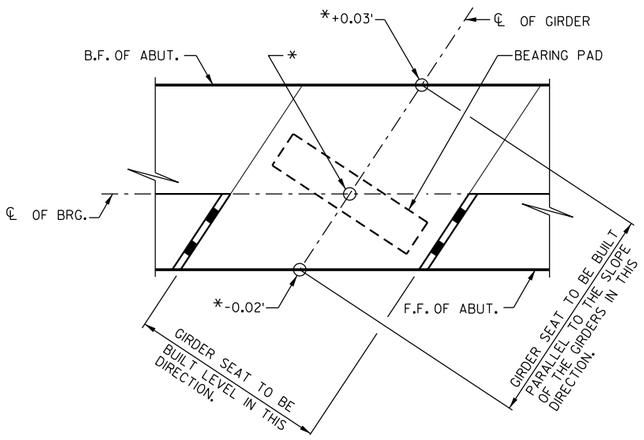
ELEVATION
(LOOKING SOUTH)



PLAN



PILE PLAN



GIRDER SEAT DETAIL

LEGEND

* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.

** DIMENSIONS ARE GIVEN AT THE B.F. OF ABUTMENT.

◭ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

● KEYED CONST. JOINT FORMED BY A BEVELED 2" x 8". (1) & (2) REFER TO CONST. JOINT LOCATION IN BODY.

■ 3/4" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

☆ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

(X) INDICATES CORNER NUMBER

NOTES: SEE "PLAN" VIEW AND "TYPICAL SECTION THRU BODY" ON SHEET 7 FOR ADDITIONAL BAR STEEL REINFORCEMENT DETAILS AT GIRDER SEATS.

LAP NO. 4 BARS 1'-11" MIN.

LAP NO. 6 BARS 2'-11" MIN.

PILE NOTE

SOUTH ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 85'LONG. FOR PILE SPLICE DETAILS, SEE SHEET 8.

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STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

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SOUTH ABUTMENT

SHEET 5 OF 34
1766

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-618\05_sabut1.b-5-618.dgn
PLOT DATE : 10/22/2012

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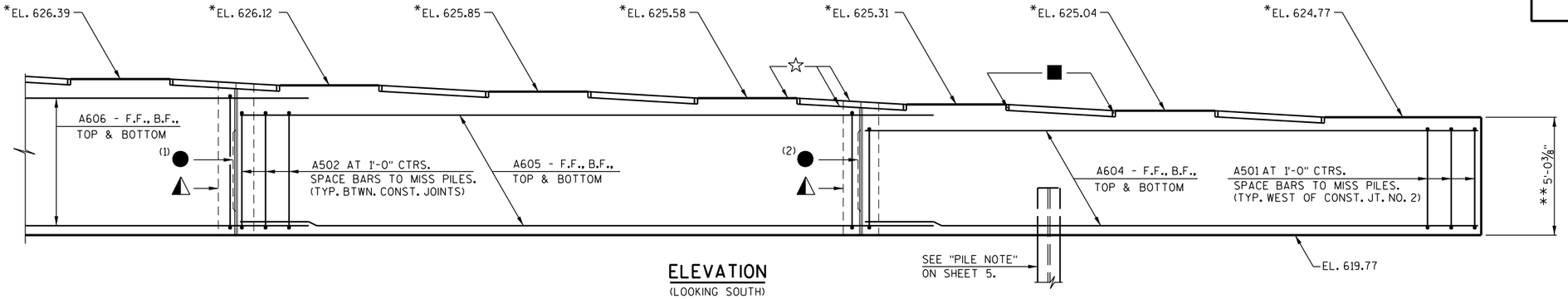
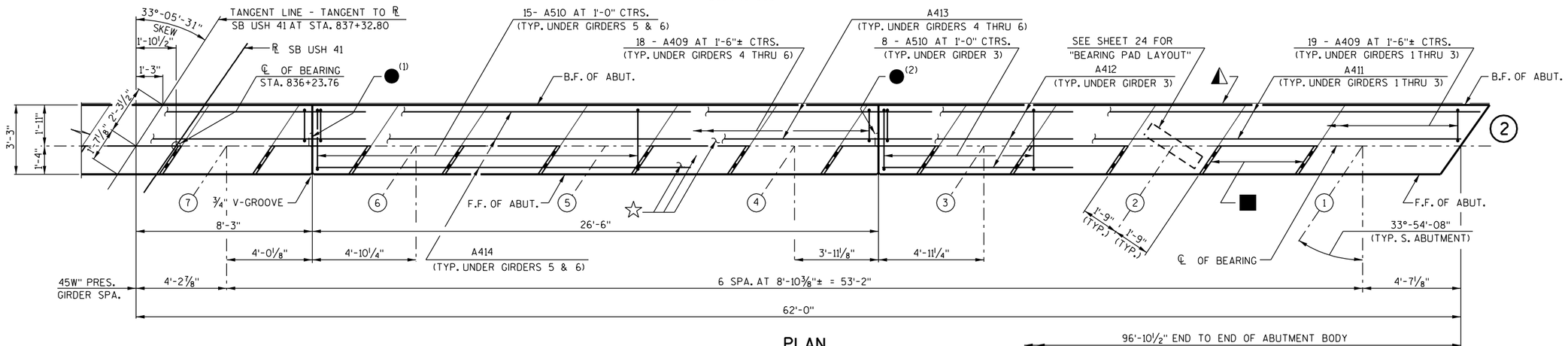
STATE PROJECT NUMBER
1133-09-71

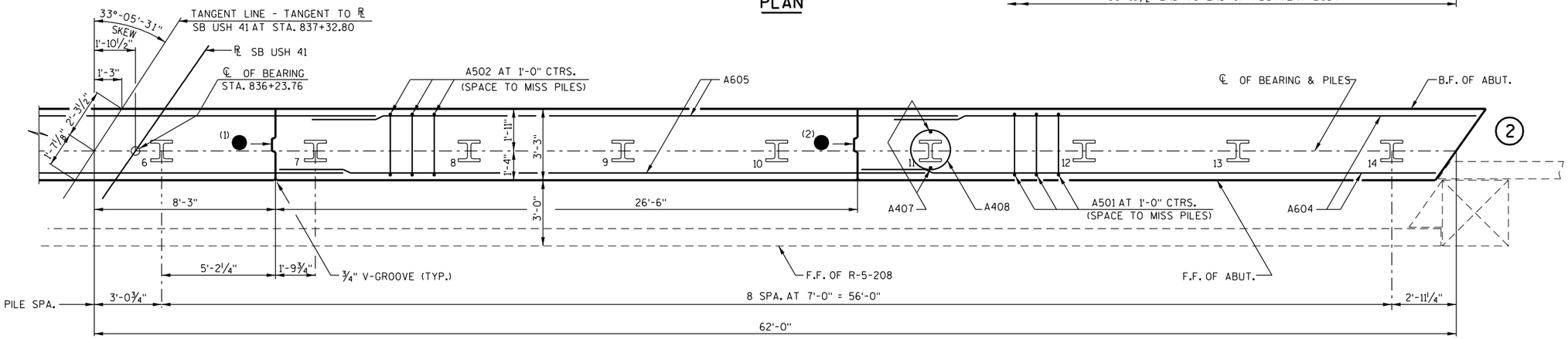


ELEVATION
(LOOKING SOUTH)



PLAN

96'-10 1/2" END TO END OF ABUTMENT BODY



PILE PLAN

LEGEND

* ● ◭ ■ ** ☆ FOR SYMBOL DESCRIPTIONS, SEE SHEET 5.

(X) INDICATES CORNER NUMBER

NOTES: SEE "PLAN" VIEW AND "TYPICAL SECTION THRU BODY" ON SHEET 7 FOR ADDITIONAL BAR STEEL REINFORCEMENT DETAILS AT GIRDER SEATS.

LAP NO. 4 BARS 1'-11" MIN.

LAP NO. 6 BARS 2'-11" MIN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

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SOUTH ABUTMENT

SHEET 6 OF 34
1767

FILE NAME : P:\1134 USH 41 Bridges \1133-09-00\Structures\B-5-618\06_sabut2_b-5-618.dgn
PLOT DATE : 10/22/2012

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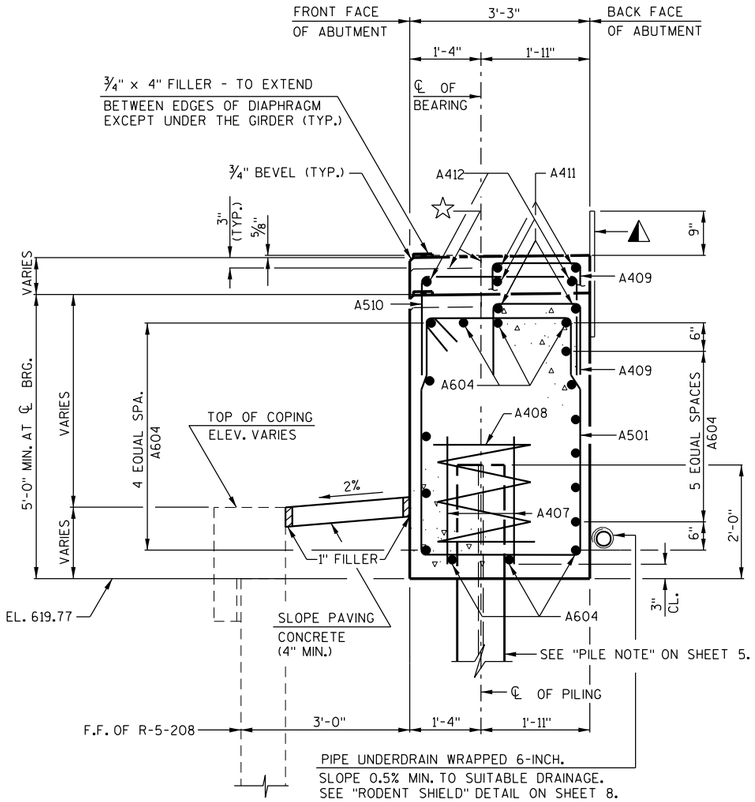
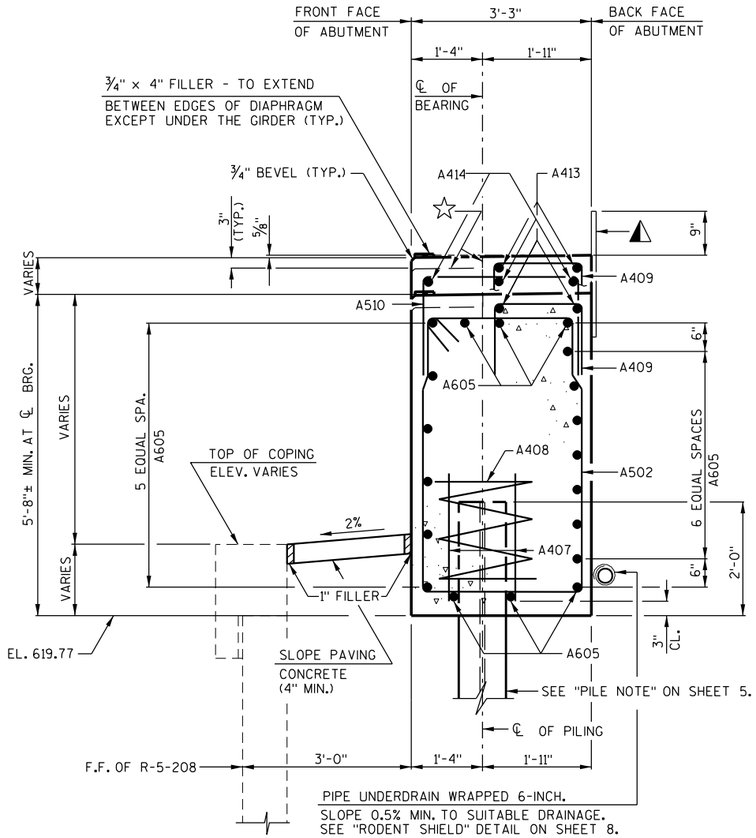
STATE PROJECT NUMBER

1133-09-71



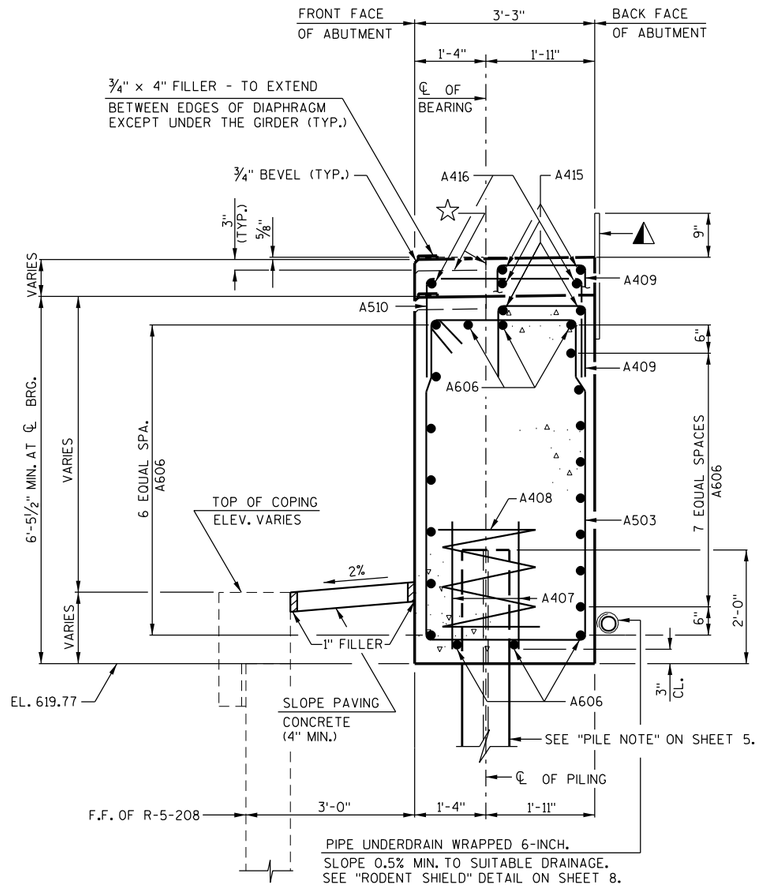
TYPICAL SECTION THRU BODY

(LOOKING EAST AT BODY ON WEST SIDE OF CONSTRUCTION JOINT NO. 2)



TYPICAL SECTION THRU BODY

(LOOKING EAST AT BODY SECTION BETWEEN CONSTRUCTION JOINTS)



TYPICAL SECTION THRU BODY

(LOOKING EAST AT BODY ON EAST SIDE OF CONSTRUCTION JOINT NO. 1)

LEGEND

☆ ◭ FOR SYMBOL DESCRIPTIONS, SEE SHEET 5.

FILE NAME : P:\134 USH 41 Bridges \1133-09-00\structures\B-5-618\07_sabutdet1.b-5-618.dgn
PLOT DATE : 10/22/2012

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NO.	DATE	REVISION	BY

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STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

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SOUTH ABUTMENT DETAILS

SHEET 7 OF 34
1768

FILE NAME : P:\134 USH 41 Bridges 11133-09-00\structures\B-5-618\08_sdsubdet2_b-5-618.dgn
PLOT DATE : 10/22/2012

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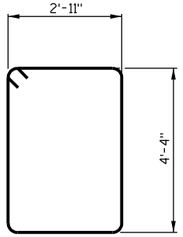
1133-09-71



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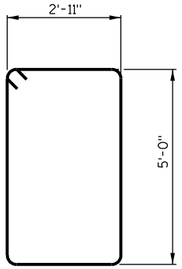

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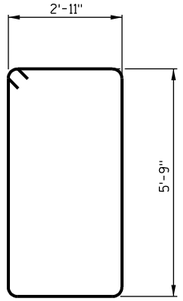

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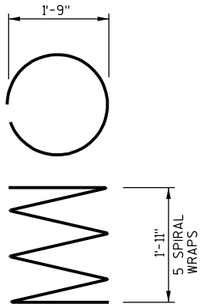

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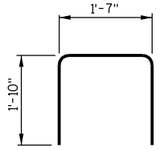

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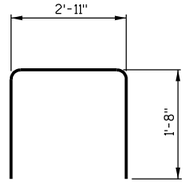
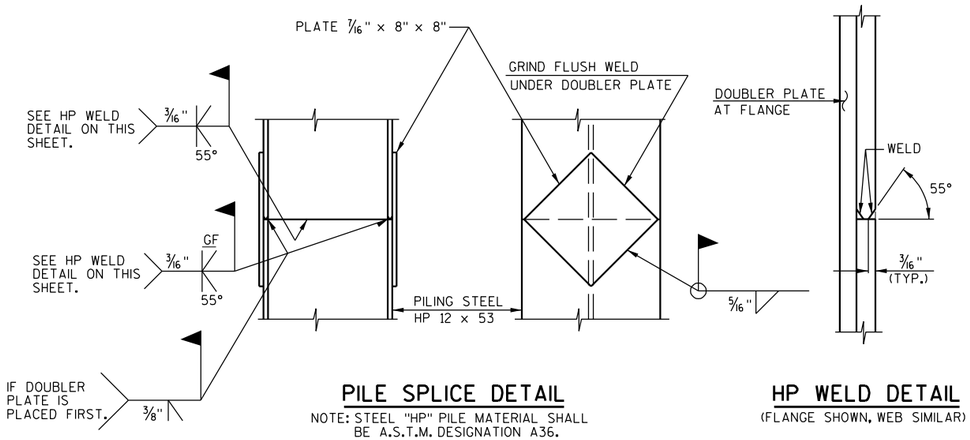


A510

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 5,700 LBS.
A501	28	15-1	X		BODY - STIRRUPS	VERT.
A502	27	16-5	X		BODY - STIRRUPS	VERT.
A503	44	17-11	X		BODY - STIRRUPS	VERT.
A604	17	26-1			BODY - TOP, BOTTOM, F.F. & B.F.	HORIZ.
A605	19	29-6			BODY - TOP, BOTTOM, F.F. & B.F.	HORIZ.
A606	21	46-9			BODY - TOP, BOTTOM, F.F. & B.F.	HORIZ.
A407	28	2-3			BODY - AT PILES - 2 PER PILE	VERT.
A408	14	28-0	X		BODY - AT PILES - 1 PER PILE - SPIRAL WRAP	VERT.
A409	65	5-1	X		BODY - TOP - AT GIRDERS 1 THRU 11	VERT.
A510	38	6-0	X		BODY - TOP - AT GIRDERS 3, 5, 6, 8 & 9	VERT.
A411	2	26-1			BODY - TOP - AT GIRDERS 1 THRU 3	HORIZ.
A412	3	9-0			BODY - TOP - AT GIRDER 3	HORIZ.
A413	2	28-6			BODY - TOP - AT GIRDERS 4 THRU 6	HORIZ.
A414	3	16-9			BODY - TOP - AT GIRDERS 5 & 6	HORIZ.
A415	4	23-10			BODY - TOP - AT GIRDERS 7 THRU 11	HORIZ.
A416	3	16-6			BODY - TOP - AT GIRDERS 8 & 9	HORIZ.

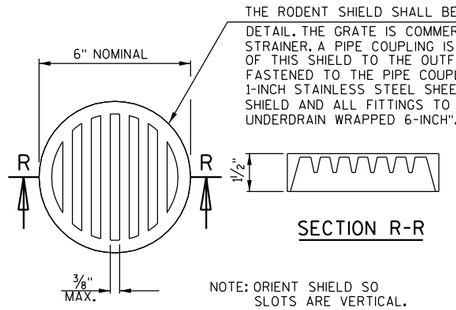


PILE SPLICE DETAIL

NOTE: STEEL "HP" PILE MATERIAL SHALL BE A.S.T.M. DESIGNATION A36.

HP WELD DETAIL

(FLANGE SHOWN, WEB SIMILAR)



THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

SECTION R-R

NOTE: ORIENT SHIELD SO SLOTS ARE VERTICAL.

RODENT SHIELD

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

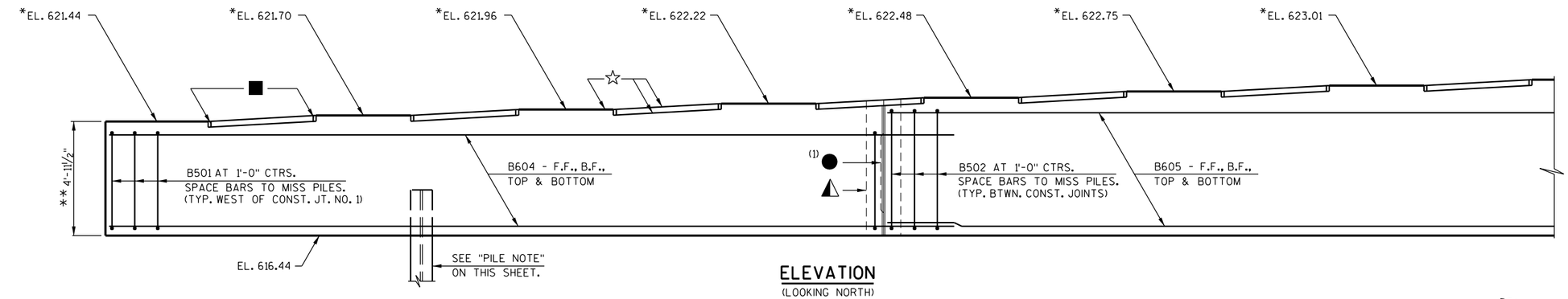
SOUTH ABUTMENT DETAILS

SHEET 8 OF 34
1769

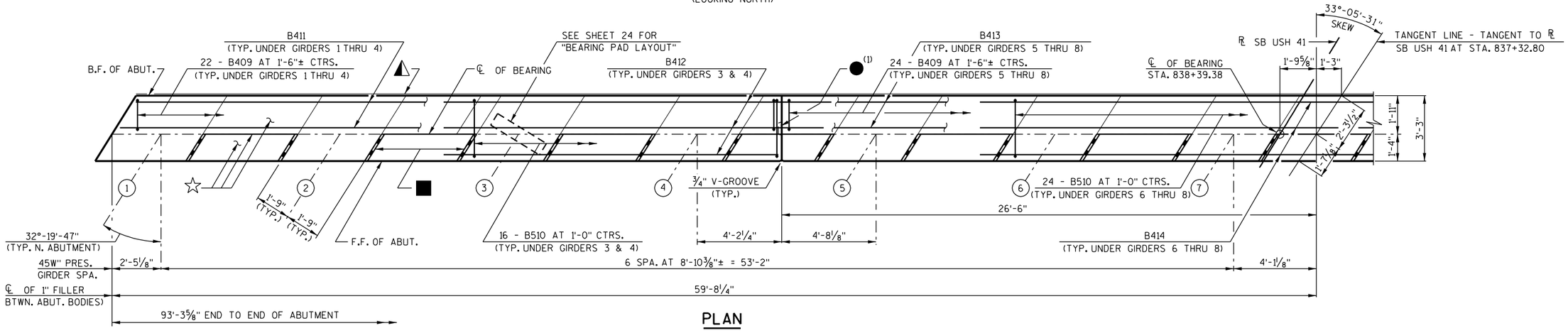
8

STATE PROJECT NUMBER

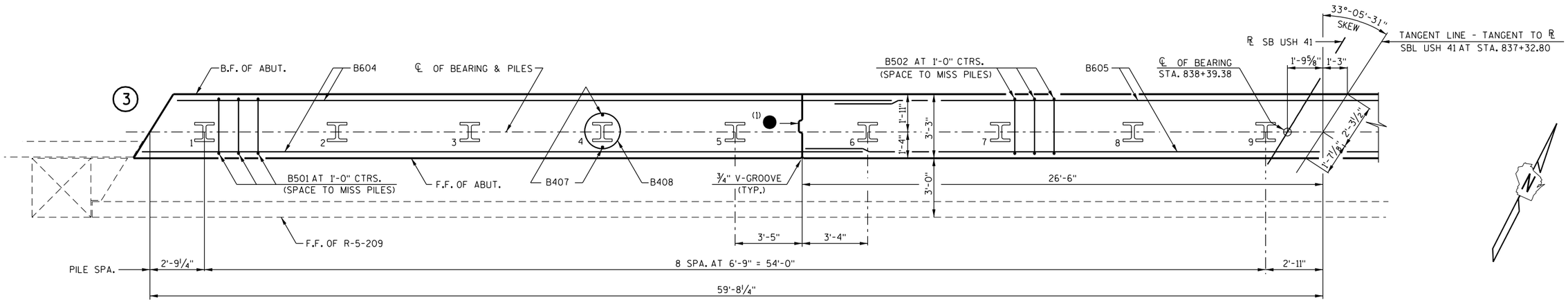
1133-09-71



ELEVATION
(LOOKING NORTH)



PLAN



PILE PLAN

LEGEND

* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.

** DIMENSIONS ARE GIVEN AT THE B.F. OF ABUTMENT.

◭ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

● KEYED CONST. JOINT FORMED BY A BEVELED 2" x 8".

■ ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

☆ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

(X) INDICATES CORNER NUMBER

NOTES: SEE "PLAN" VIEW AND "TYPICAL SECTION THRU BODY" ON SHEET 11 FOR ADDITIONAL BAR STEEL REINFORCEMENT DETAILS AT GIRDER SEATS.

LAP NO. 4 BARS 1'-11" MIN.

LAP NO. 6 BARS 2'-11" MIN.

PILE NOTE

NORTH ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 75' LONG. FOR PILE SPLICE DETAILS, SEE SHEET 8.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

NORTH ABUTMENT

SHEET 9 OF 34
1770

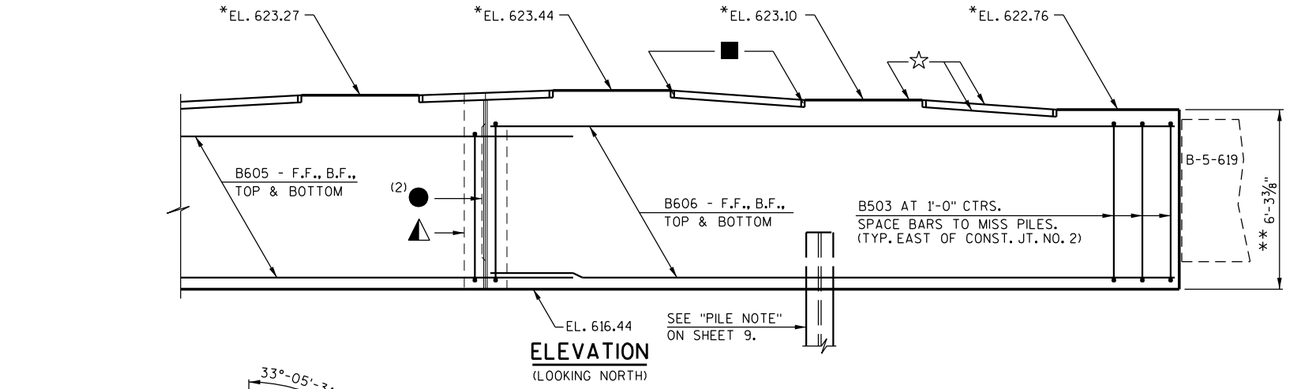
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-618\09_ndout1.b-5-618.dgn
PLOT DATE : 10/22/2012

8

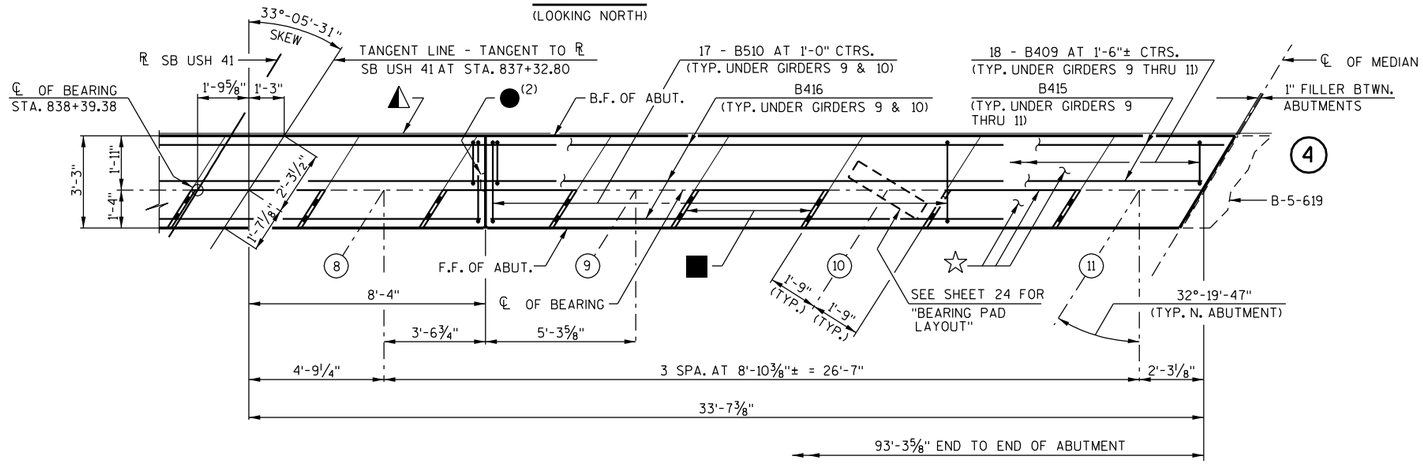
8

STATE PROJECT NUMBER

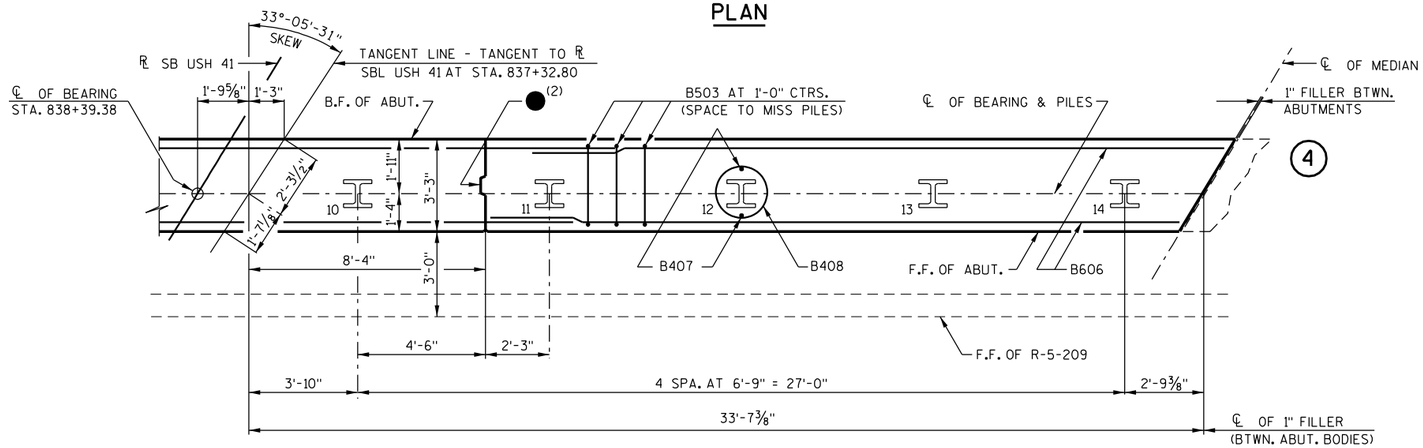
1133-09-71



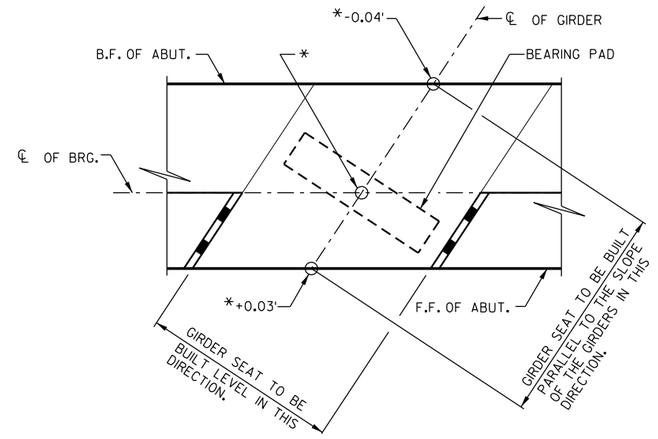
ELEVATION
(LOOKING NORTH)



PLAN



PILE PLAN



GIRDER SEAT DETAIL

LEGEND

* ● ◭ ■ ** ☆ FOR SYMBOL DESCRIPTIONS, SEE SHEET 9.

(X) INDICATES CORNER NUMBER

NOTES: SEE "PLAN" VIEW AND "TYPICAL SECTION THRU BODY" ON SHEET 11 FOR ADDITIONAL BAR STEEL REINFORCEMENT DETAILS AT GIRDER SEATS.

LAP NO. 4 BARS 1'-11" MIN.

LAP NO. 6 BARS 2'-11" MIN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

NORTH ABUTMENT

SHEET 10 OF 34
1771

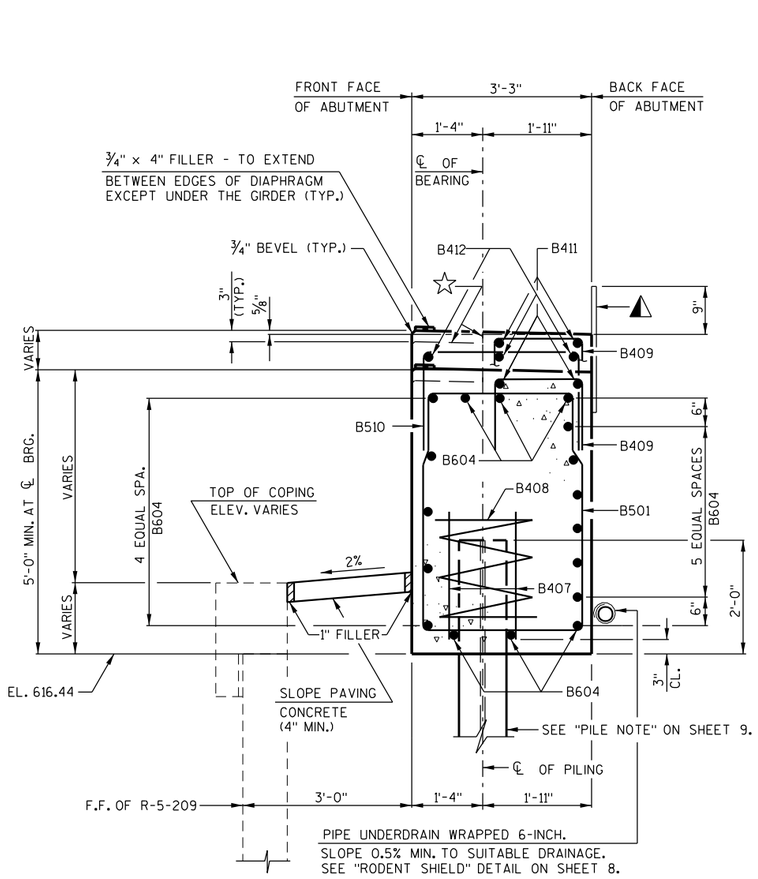
FILE NAME : P:\134 USH 41 Bridges \1133-09-00\Structures\B-5-618\10_ndsurf2_b-5-618.dgn
PLOT DATE : 10/22/2012

8

8

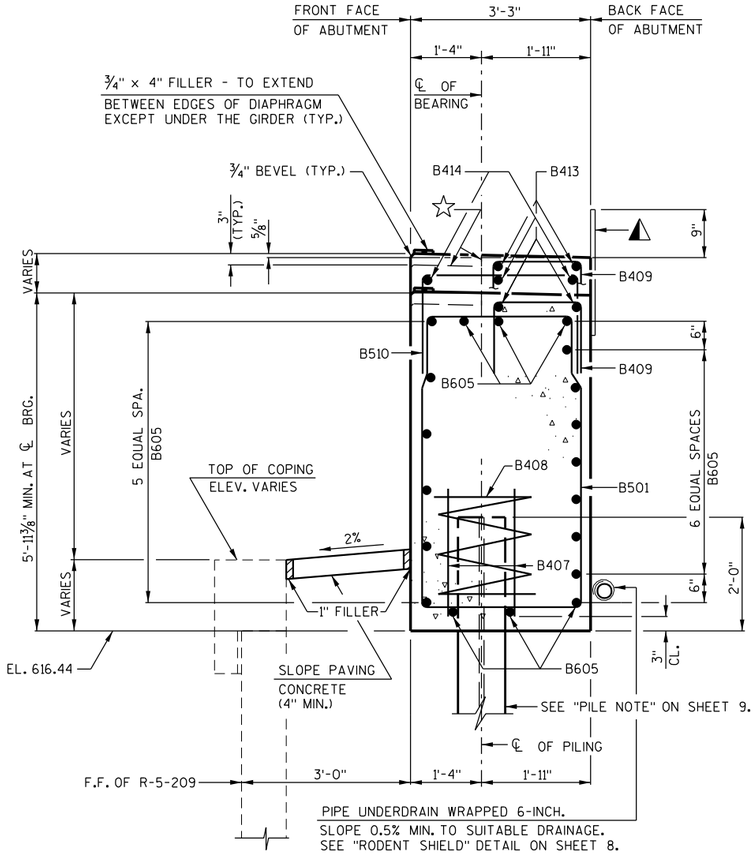
STATE PROJECT NUMBER

1133-09-71



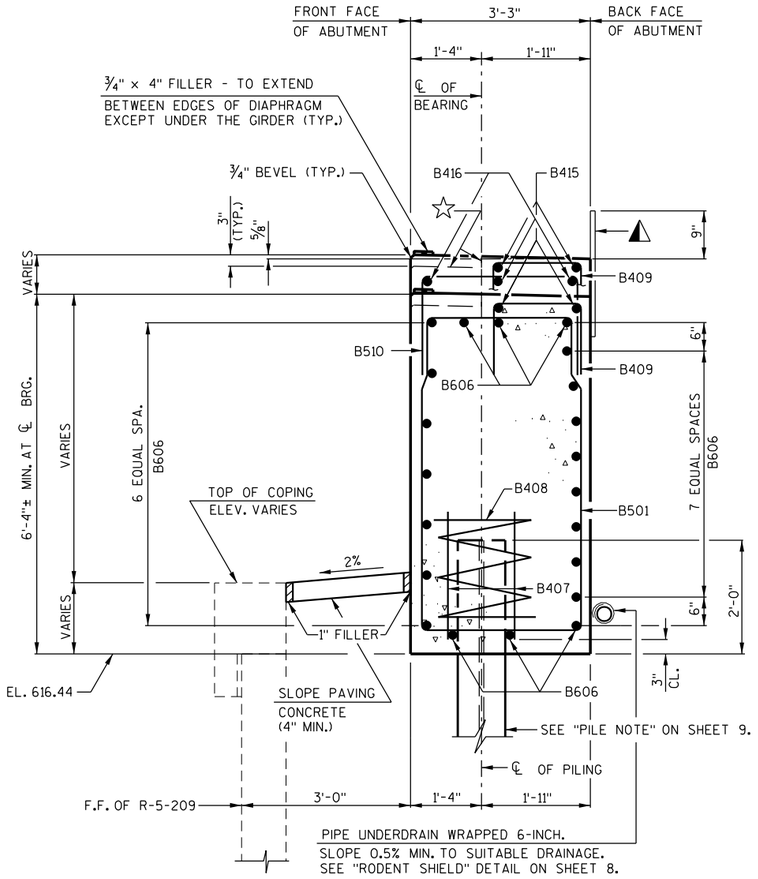
TYPICAL SECTION THRU BODY

(LOOKING EAST AT BODY ON WEST SIDE OF CONSTRUCTION JOINT NO. 1)



TYPICAL SECTION THRU BODY

(LOOKING EAST AT BODY SECTION BETWEEN CONSTRUCTION JOINTS)



TYPICAL SECTION THRU BODY

(LOOKING EAST AT BODY ON EAST SIDE OF CONSTRUCTION JOINT NO. 2)

LEGEND

☆ ◭ FOR SYMBOL DESCRIPTIONS, SEE SHEET 9.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

NORTH ABUTMENT DETAILS

SHEET 11 OF 34
1772

FILE NAME : P:\134 (SH 41 Bridges (1133-09-00)\structures\B-5-618\11.ndbutdet1.b-5-618.dgn
PLOT DATE : 10/22/2012

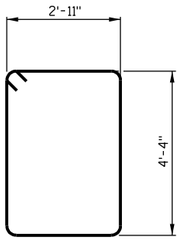
8

8

FILE NAME : P:\134 USH 41 Bridges 11133-09-00\Structures\B-5-618\12_nbutdet2_b-5-618.dgn
PLOT DATE : 10/22/2012

STATE PROJECT NUMBER

1133-09-71



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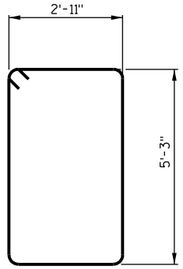

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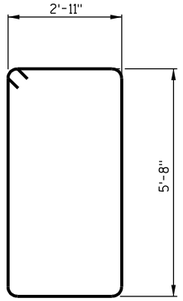

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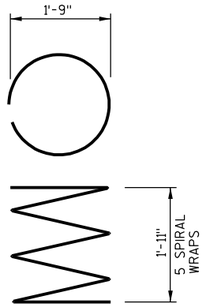

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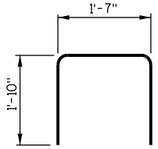

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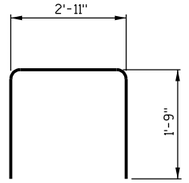


B510

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION TOTAL WEIGHT = 5,320 LBS.	
B501	32	15-1	X		BODY - STIRRUPS	VERT.
B502	27	16-11	X		BODY - STIRRUPS	VERT.
B503	25	17-9	X		BODY - STIRRUPS	VERT.
B604	17	36-9			BODY - TOP, BOTTOM, F.F. & B.F.	HORIZ.
B605	19	37-9			BODY - TOP, BOTTOM, F.F. & B.F.	HORIZ.
B606	21	24-4			BODY - TOP, BOTTOM, F.F. & B.F.	HORIZ.
B407	28	2-3			BODY - AT PILES - 2 PER PILE	VERT.
B408	14	28-0	X		BODY - AT PILES - 1 PER PILE - SPIRAL WRAP	VERT.
B409	64	5-1	X		BODY - TOP - AT GIRDERS 1 THRU 11	VERT.
B510	48	6-2	X		BODY - TOP - AT GIRDERS 3, 4, 7 THRU 10	VERT.
B411	2	35-0			BODY - TOP - AT GIRDERS 1 THRU 4	HORIZ.
B412	3	18-10			BODY - TOP - AT GIRDERS 3 & 4	HORIZ.
B413	2	36-11			BODY - TOP - AT GIRDERS 5 THRU 8	HORIZ.
B414	3	27-0			BODY - TOP - AT GIRDERS 7 & 8	HORIZ.
B415	2	24-9			BODY - TOP - AT GIRDERS 9 THRU 11	HORIZ.
B416	3	18-0			BODY - TOP - AT GIRDERS 9 & 10	HORIZ.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

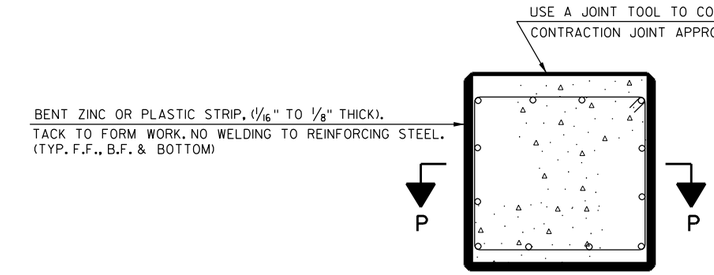
DRAWN BY TAW | PLANS CK'D. TR

NORTH ABUTMENT DETAILS

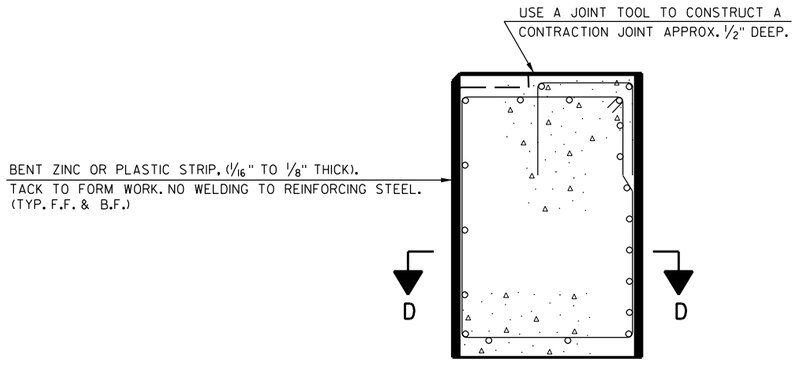
SHEET 12 OF 34
1773

STATE PROJECT NUMBER

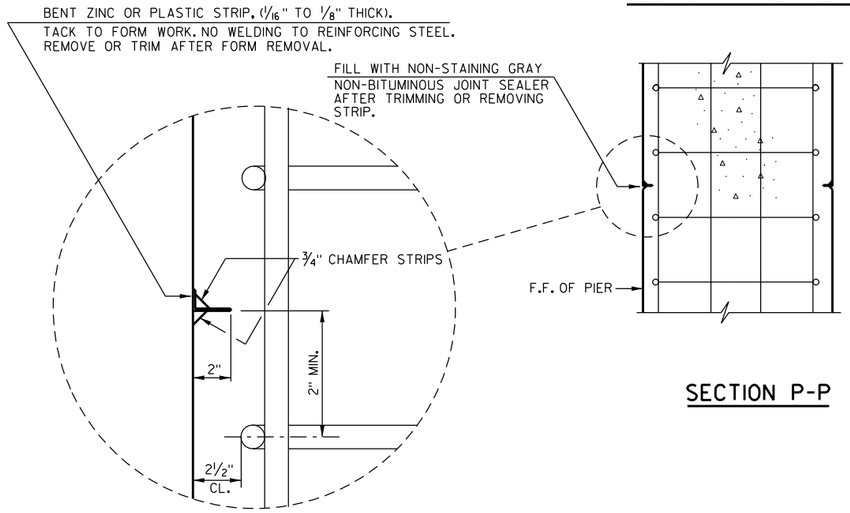
1133-09-71



SECTION THRU PIER CAP

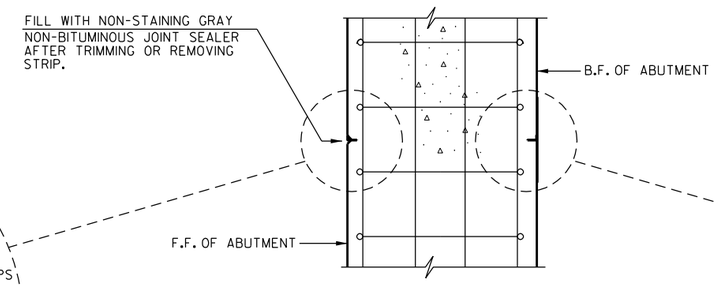


SECTION THRU ABUTMENT BODY

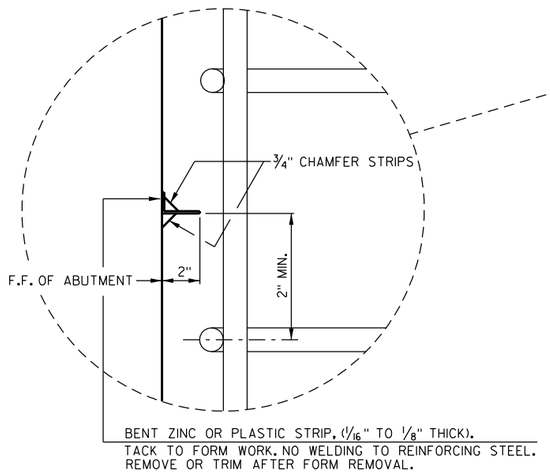


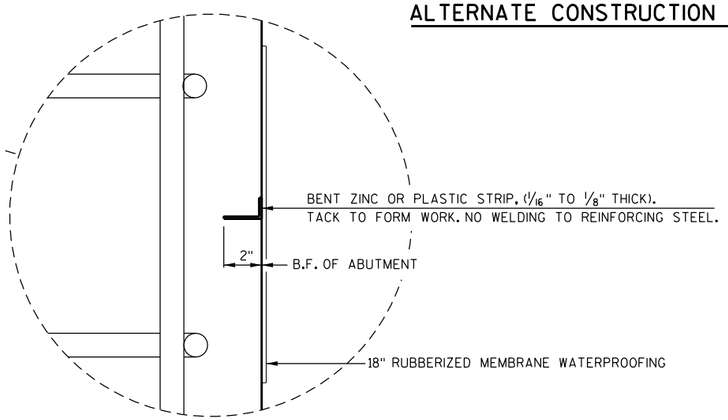
SECTION P-P

ALTERNATE CONSTRUCTION JOINT AT PIER CAP



SECTION D-D





ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

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ALTERNATE CONSTRUCTION JOINT

SHEET 13 OF 34
1774

8

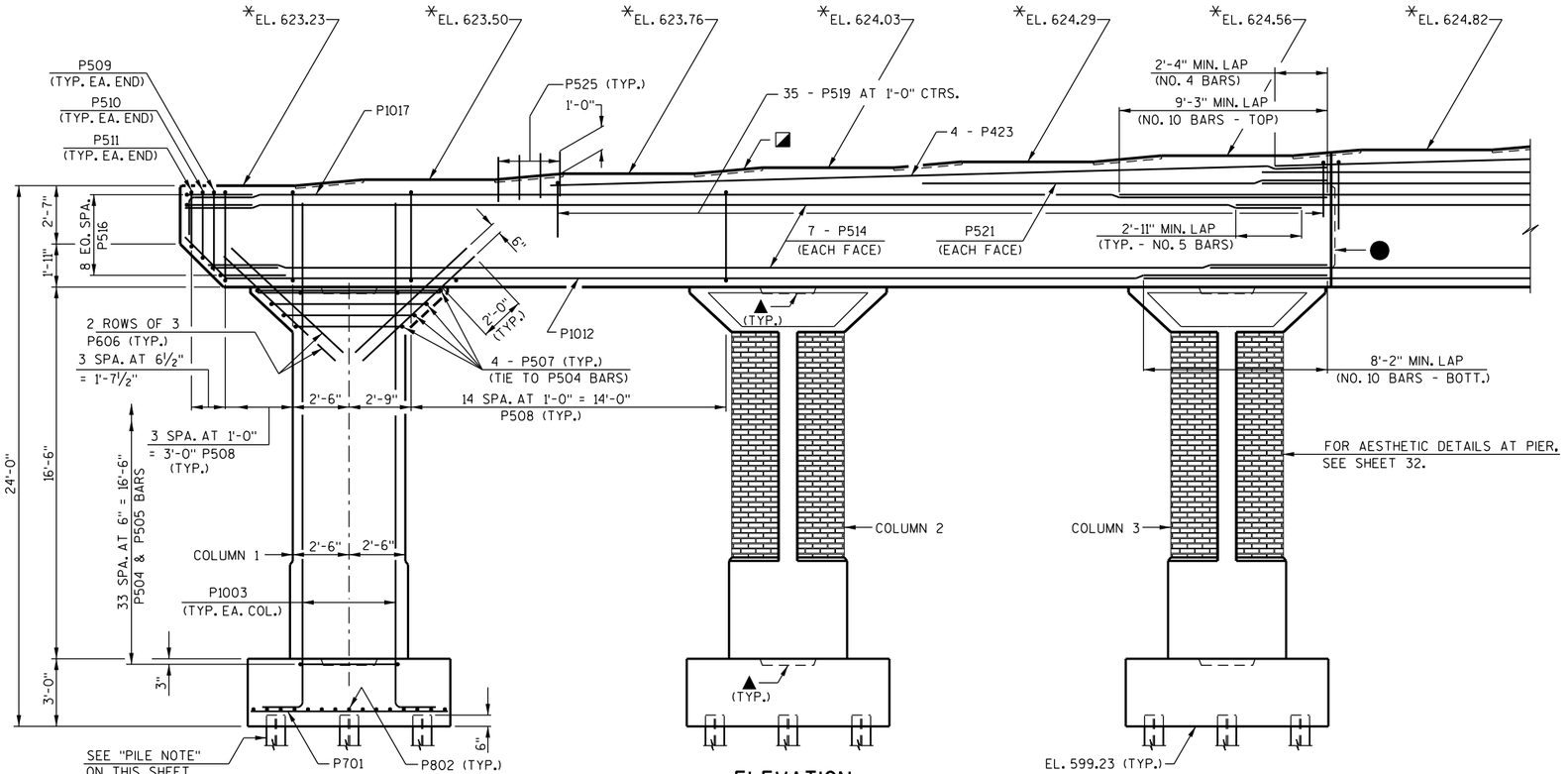
8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-618\13_altconstjt_b-5-618.dgn
PLOT DATE : 10/22/2012

STATE PROJECT NUMBER

1133-09-71

NOTE: ARCHITECTURAL SURFACE TREATMENT AND REVEALS NOT SHOWN FOR CLARITY AT COLUMN 1. FOR COLUMN DETAILS, SEE SHEET 16.



ELEVATION
(LOOKING NORTH)

NOTES: P525 BARS MAY BE PLACED AFTER CONCRETE IS POURS, BUT BEFORE INTIAL SET HAS TAKEN PLACE.

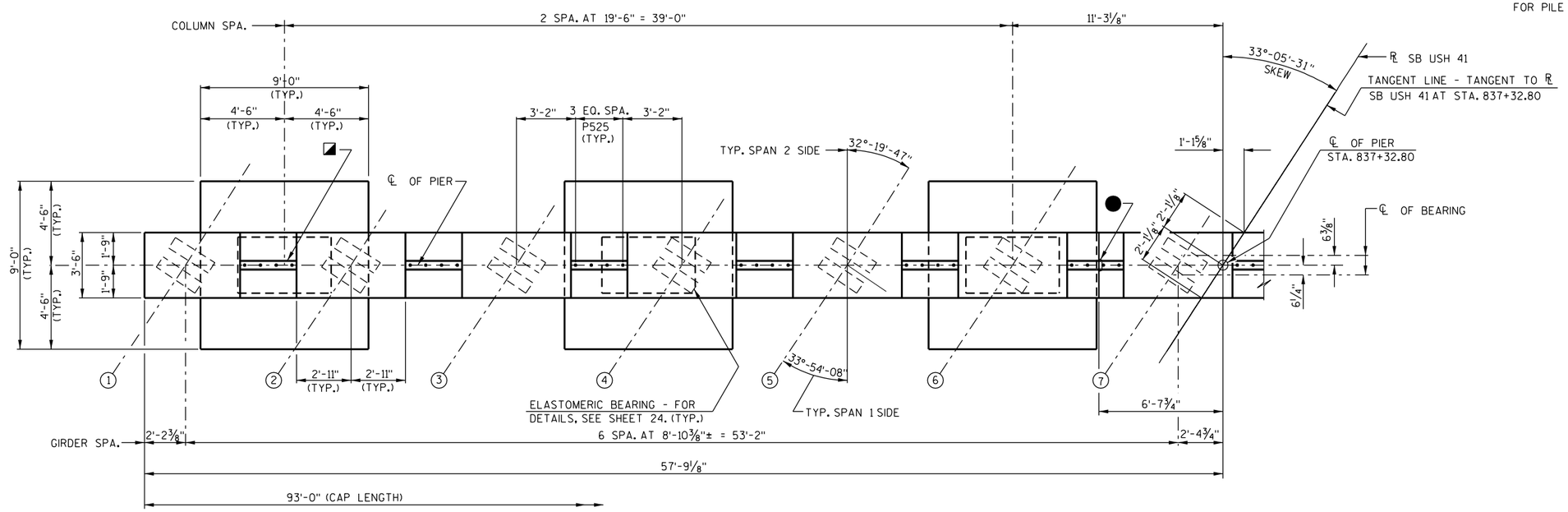
SEE SHEET 17 FOR CAP AND FOOTING DETAILS.

LEGEND

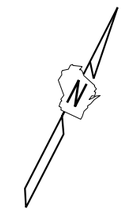
- ✳ ELEVATIONS & DIMENSIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF PIER.
- ▲ CONSTRUCTION JOINT FORMED BY BEVELED 4" x 1'-3" x 2'-6" KEYWAY.
- ◪ KEYED, CONST. JOINT FORMED BY BEVELED 2" x 6".
- ● KEYED, CONST. JOINT FORMED BY A BEVELED 2" x 8"

PILE NOTE

PIER TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 70' LONG. FOR PILE LAYOUT DETAILS, SEE SHEET 17. FOR PILE SPLICE DETAILS, SEE SHEET 8.



PLAN



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

PIER

SHEET 14 OF 34
1775

8

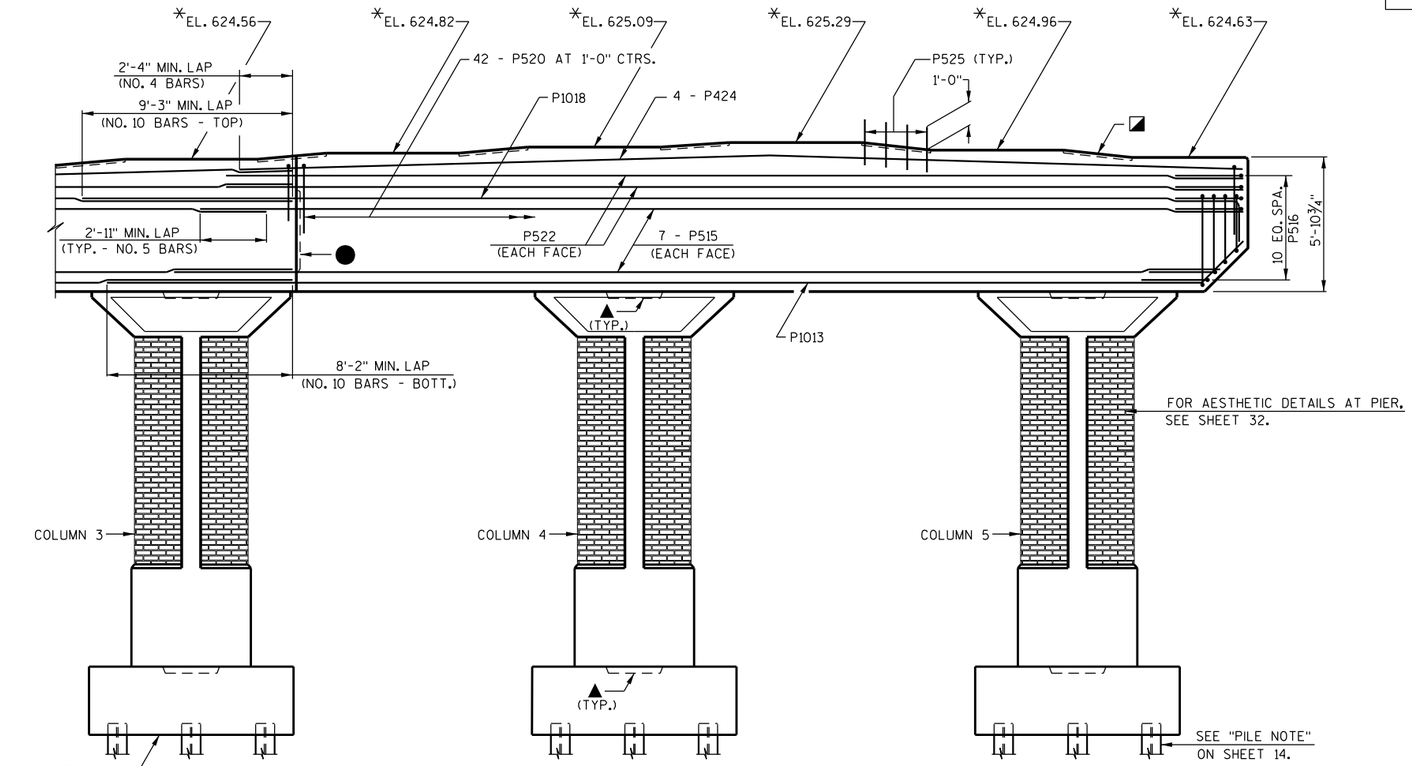
8

FILE NAME : P:\134 USH 41 Bridges \1133-09-00\Structures\B-5-618\14_piera_b-5-618.dgn
PLOT DATE : 10/22/2012

NOTE: ARCHITECTURAL SURFACE TREATMENT AND REVEALS NOT SHOWN FOR CLARITY AT COLUMN 1. FOR COLUMN DETAILS, SEE SHEET 16.

STATE PROJECT NUMBER

1133-09-71



ELEVATION
(LOOKING NORTH)

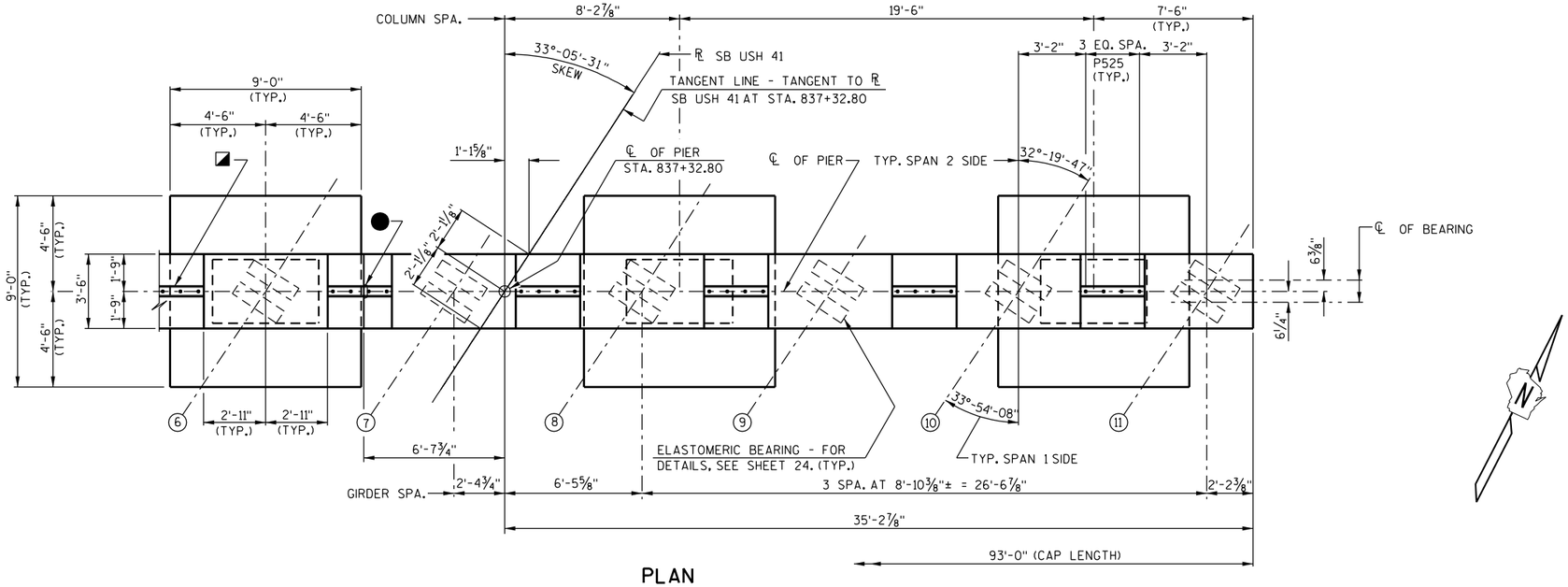
NOTES: P525 BARS MAY BE PLACED AFTER CONCRETE IS POURS, BUT BEFORE INTIAL SET HAS TAKEN PLACE.

SEE SHEET 17 FOR CAP AND FOOTING DETAILS.

FOR TYPICAL COLUMN BAR STEEL REINFORCEMENT DETAILS, SEE SHEET 14.

LEGEND

- ✳ ELEVATIONS & DIMENSIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF PIER.
- ▲ CONSTRUCTION JOINT FORMED BY BEVELED 4" x 1'-3" x 2'-6" KEYWAY.
- ◪ KEYED, CONST. JOINT FORMED BY BEVELED 2" x 6".
- ● KEYED, CONST. JOINT FORMED BY A BEVELED 2" x 8"



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

PIER

SHEET 15 OF 34
1776

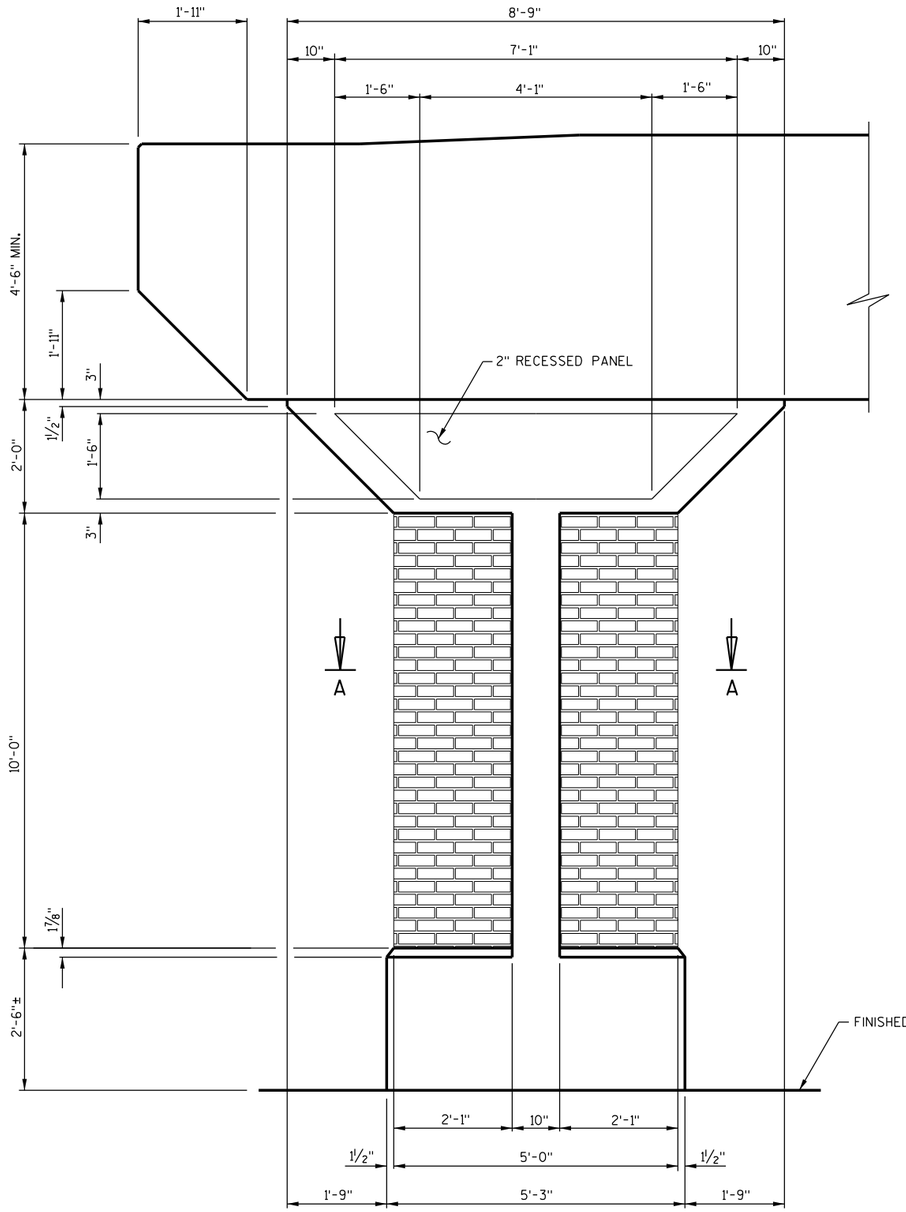
8

8

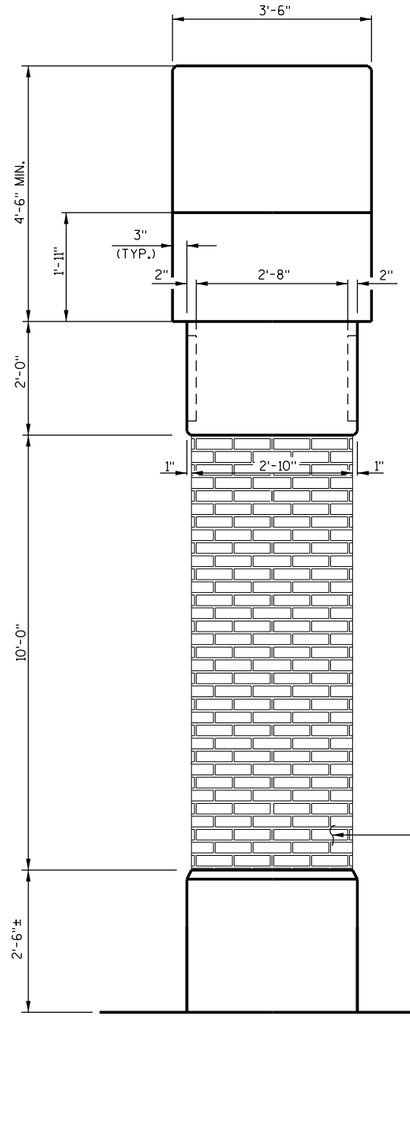
FILE NAME : P:\134 USH 41 Bridges \1133-09-00\Structures\B-5-618\15_pierb_b-5-618.dgn
PLOT DATE : 10/22/2012

STATE PROJECT NUMBER

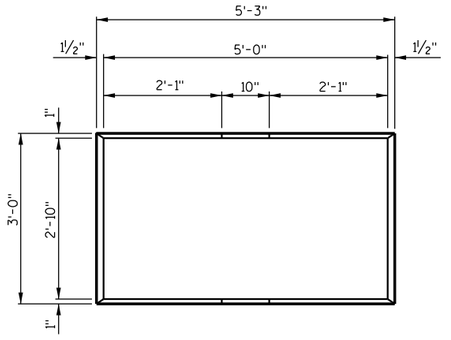
1133-09-71



PIER ELEVATION VIEW



PIER END VIEW



SECTION A-A

FILE NAME : P:\134 (DSH 41 Bridges (1133-09-00)\structures\B-5-618\16_piers_b-5-618.dgn
PLOT DATE : 10/22/2012

8

8

NO.	DATE	REVISION	BY

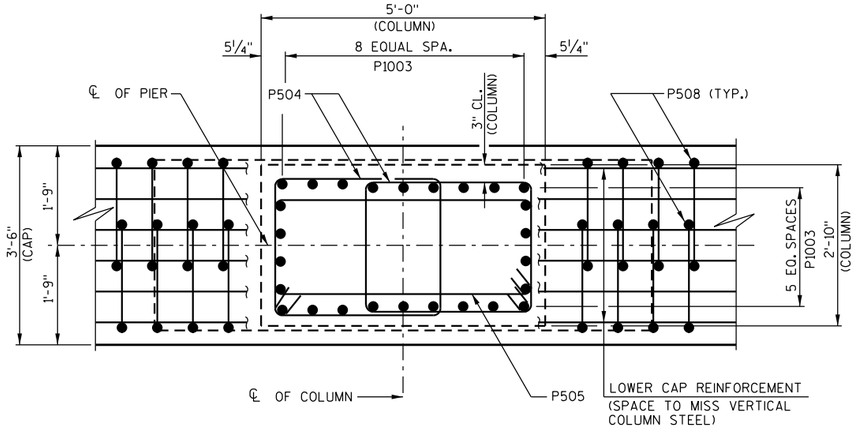
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

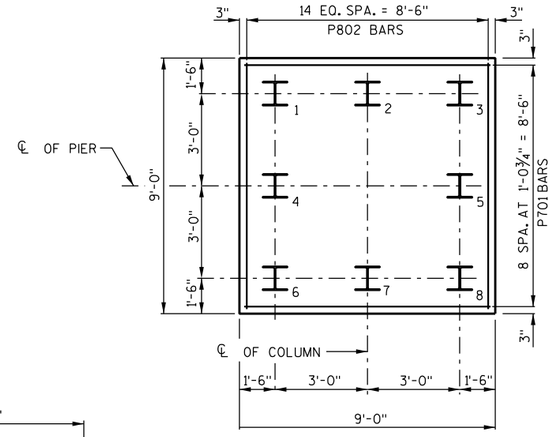
PIER DETAILS

SHEET 16 OF 34
1777

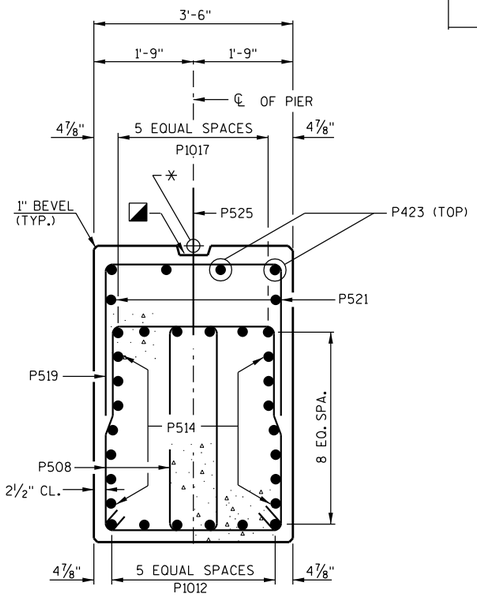


SECTION THRU COLUMN

(SECTION TAKEN AT BOTTOM OF PIER CAP, LOOKING UP)

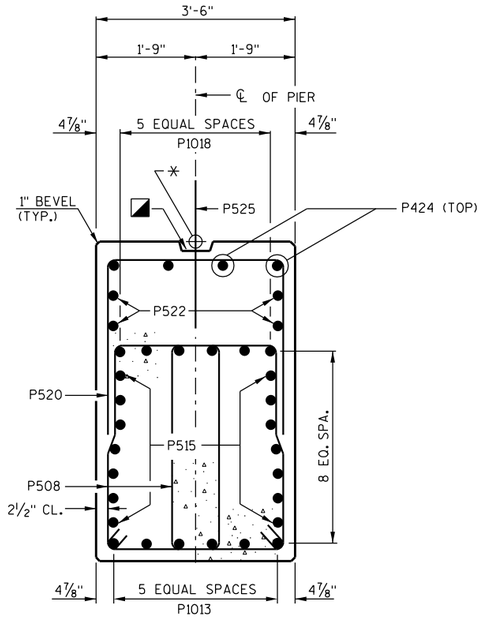


FOOTING PLAN



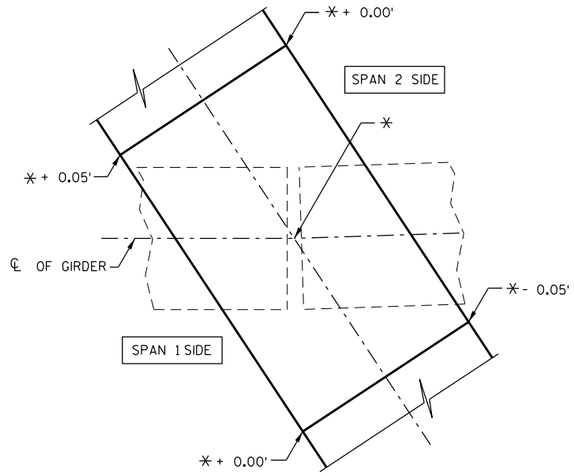
SECTION THRU PIER CAP

(WEST SIDE OF CONSTRUCTION JOINT)



SECTION THRU PIER CAP

(EAST SIDE OF CONSTRUCTION JOINT)



SLOPING BEAM SEAT DETAIL

LEGEND

✳ ◪ FOR SYMBOL DESCRIPTIONS, SEE SHEET 14.

BILL OF BARS

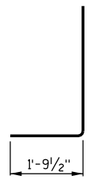
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	
NON-COATED BARS					TOTAL WEIGHT = 2,540 LBS.	
P701	45	8-8			FOOTINGS	HORIZ.
P802	75	8-8			FOOTINGS	HORIZ.
EPOXY COATED BARS					TOTAL WEIGHT = 30,790 LBS.	
P1003	130	24-0	X		PIER COLUMNS & FOOTINGS	VERT.
P504	340	11-3	X		PIER COLUMNS - STIRRUPS	HORIZ.
P505	170	12-7	X		PIER COLUMNS - STIRRUPS	HORIZ.
P606	60	7-0			PIER COLUMNS - TOP	VERT.
P507	20	18-4	X	✳	PIER COLUMNS - TOP	HORIZ.
P508	136	12-11	X		PIER CAP - STIRRUPS	VERT.
P509	4	11-9	X		PIER CAP - STIRRUPS - ENDS	VERT.
P510	4	10-7	X		PIER CAP - STIRRUPS - ENDS	VERT.
P511	4	9-5	X		PIER CAP - STIRRUPS - ENDS	VERT.
P1012	6	51-5	X		PIER CAP - BOTTOM	HORIZ.
P1013	6	50-8	X		PIER CAP - BOTTOM	HORIZ.
P514	14	49-7			PIER CAP - SIDES	HORIZ.
P515	14	45-11			PIER CAP - SIDES	HORIZ.
P516	20	8-8	X		PIER CAP - ENDS	HORIZ.
P1017	6	52-4	X		PIER CAP - TOP	HORIZ.
P1018	6	52-8	X		PIER CAP - TOP	HORIZ.
P519	35	7-10	X		PIER CAP - UNDER GIRDERS 3 THRU 6	VERT.
P520	42	9-0	X		PIER CAP - UNDER GIRDERS 7 THRU 11	VERT.
P521	4	18-0			PIER CAP - SIDES - UNDER GIRDERS 3 THRU 6	HORIZ.
P522	4	44-9			PIER CAP - SIDES - UNDER GIRDERS 7 THRU 11	HORIZ.
P423	4	34-6			PIER CAP - UNDER GIRDERS 3 THRU 6	HORIZ.
P424	4	44-2			PIER CAP - UNDER GIRDERS 7 THRU 11	HORIZ.
P525	40	2-0			PIER CAP - DOWELS	VERT.

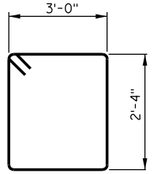
✳ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATION. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

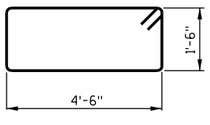
MARK	NO. REQ'D.	LENGTH
P507	5 SERIES OF 4	15'-1" TO 21'-7"



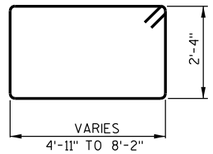
P1003



P504

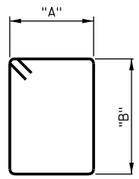


P505

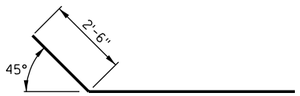


P507

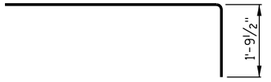
MARK	"A"	"B"
P508	2'-1"	4'-1"
P509	2'-1"	3'-6"
P510	2'-1"	2'-11"
P511	2'-1"	2'-4"



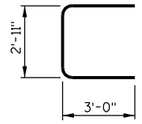
P508 THRU P511



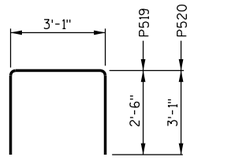
P1012 & P1013



P1017 & P1018



P516



P519 & P520

STATE PROJECT NUMBER

1133-09-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

PIER DETAILS

SHEET 17 OF 34
1778

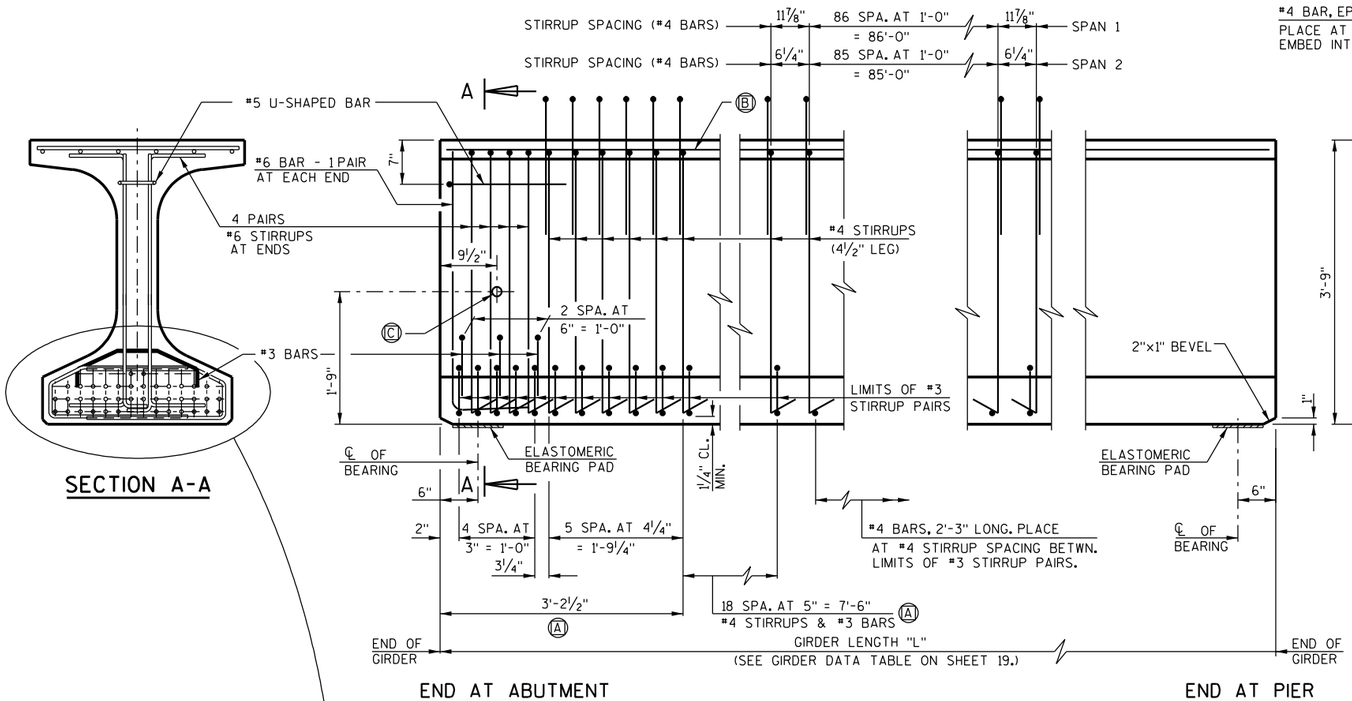
8

8

FILE NAME : P:\134 USH 41 Bridges\1133-09-00\Structures\B-5-618\17_pierd_b-5-618.dgn
PLOT DATE : 10/22/2012

STATE PROJECT NUMBER

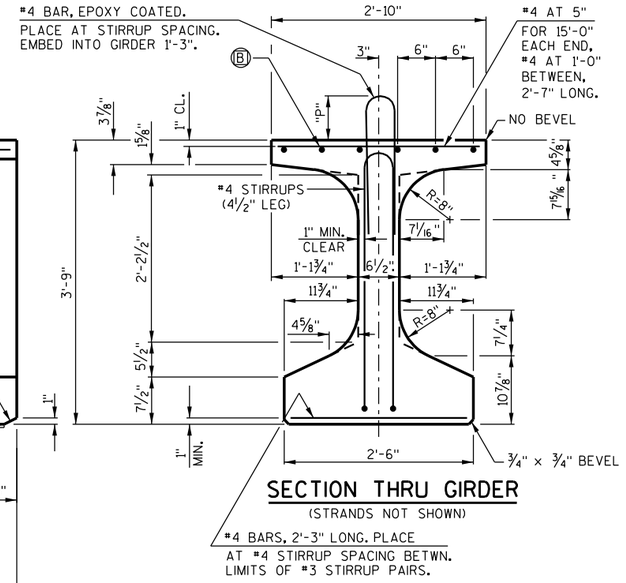
1133-09-71



SECTION A-A

END AT ABUTMENT

END AT PIER



SECTION THRU GIRDER

(STRANDS NOT SHOWN)

NOTES: FOR GIRDER DATA AND STRAND PATTERN DETAILS, SEE SHEET 96.

FOR DIMENSION "P", SEE GIRDER DATA TABLE ON SHEET 19.

GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, ONE OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE 0.6" DIA.-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

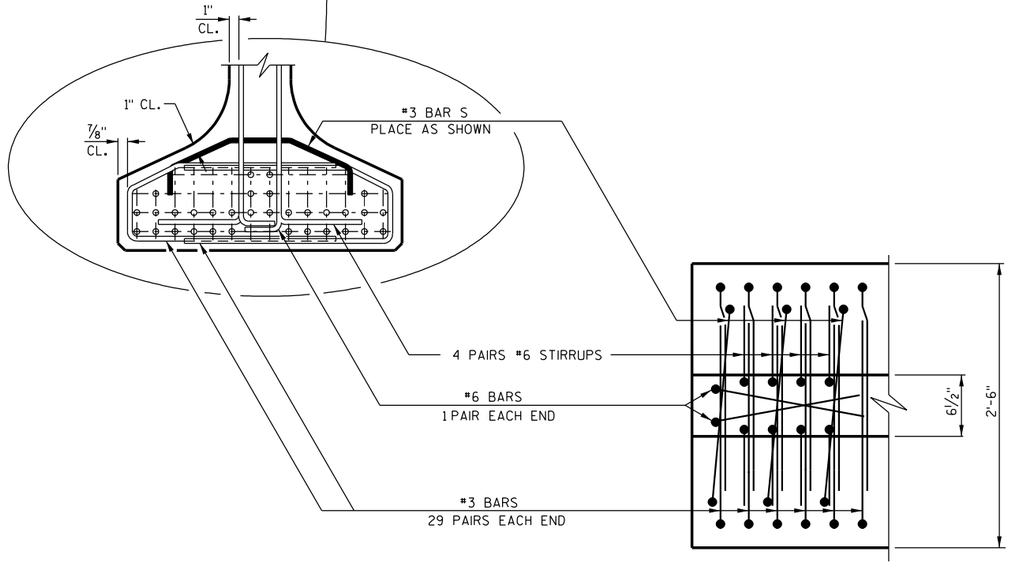
FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "INTERMEDIATE STEEL DIAPHRAGM" SHEET.

SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYPICAL EACH END

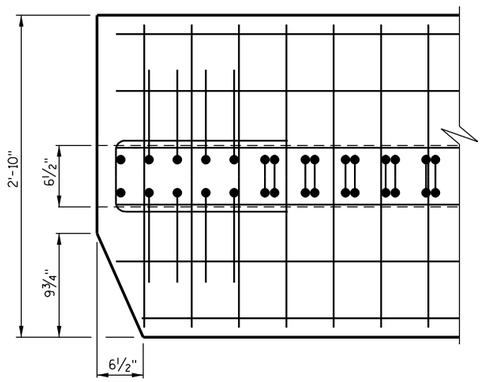
Ⓑ 6 - #4 BARS FULL LENGTH, MIN. LAP = 1'-11".

Ⓒ 1½" DIA. HOLE IN WEB FOR 2 - S514 BARS.



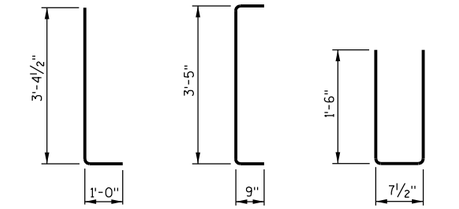
BOTTOM FLANGE

(TYP. EACH END)



TOP FLANGE

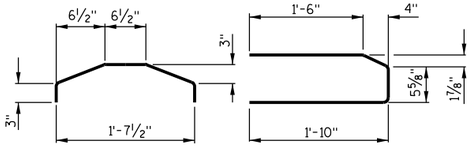
(SOUTH END OF SPAN 1 SHOWN, NORTH END OF SPAN 2 SIMILAR)



#6 BAR
2 @ EA. END

#6 BAR
8 @ EA. END

#5 BAR
1 @ EA. END



#3 BAR
3 @ EA. END
(EPOXY COATED)

#3 BAR
29 PAIRS @ EA. END
(EPOXY COATED)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

45W" PRESTRESSED GIRDER DETAILS

SHEET 18 OF 34
1779

8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-618\18.45Wgdr1.b-5-618.dgn
PLOT DATE : 10/22/2012

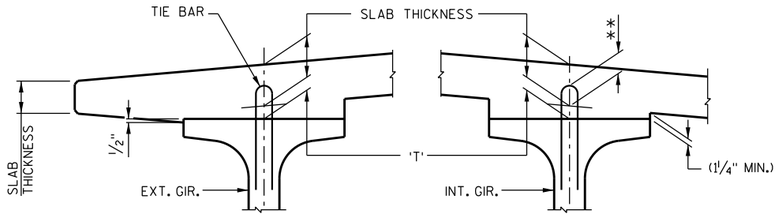
STATE PROJECT NUMBER

1133-09-71

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1st 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1 - 11	109'-4 5/8"	3/4"	1 1/2"	2"	2 3/8"	2 1/2"	2 3/8"	2"	1 1/2"	3/4"	8000	8"	7"	8"	0.60	34	6800	40"	13 3/4"	16 3/4"	5"		
2	1 - 11	107'-5 1/2"	3/4"	1 3/8"	1 7/8"	2 1/4"	2 3/8"	2 1/4"	1 7/8"	1 3/8"	3/4"	8000	8"	7"	8"	0.60	34	6800	40"	13 3/4"	16 3/4"	5"		

* MINIMUM CYLINDER STRENGTH OF CONCRETE AT THE TIME OF TRANSFER OF PRESTRESS FORCE.



SLAB HAUNCH DETAIL

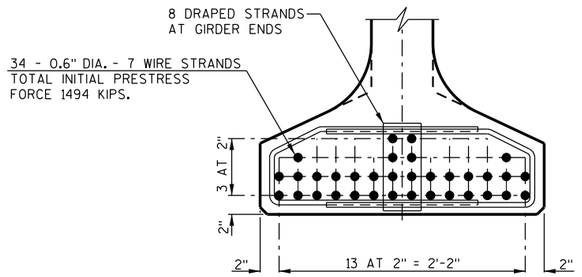
IF 1 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

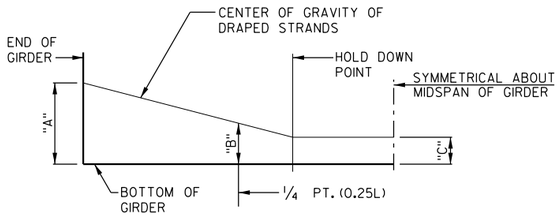
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DRAPED STRAND PATTERN - SPANS 1 & 2



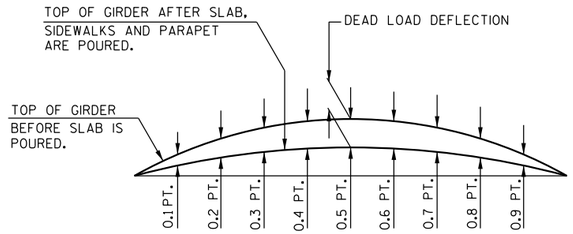
LOCATION OF DRAPED STRANDS

THEORETICAL CAMBER

SPAN	CAMBER (IN.) ***
1	3 3/8"
2	3 1/4"

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

*** THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.



DEAD LOAD DEFLECTION DIAGRAM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

45W" PRESTRESSED GIRDER DETAILS

SHEET 19 OF 34
1780

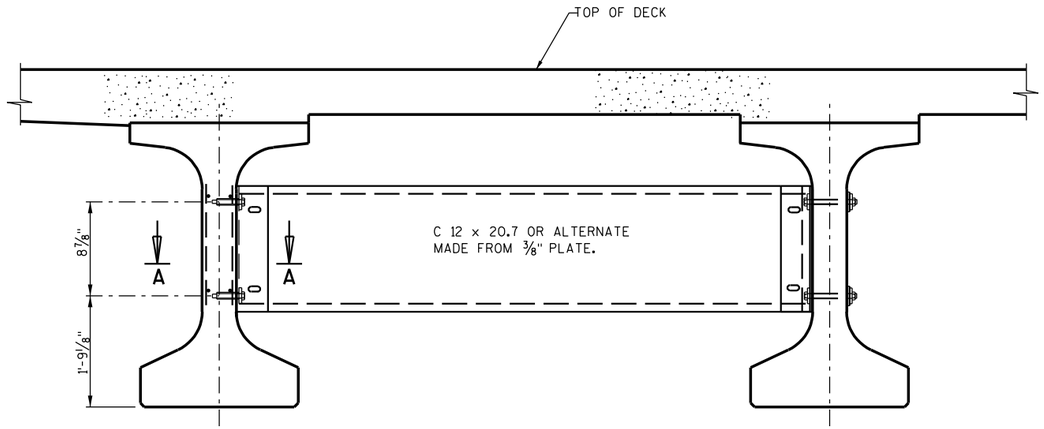
8

8

FILE NAME : P:\134 USH 41 Bridges 1133-09-00\Structures\B-5-618\13.45Wdgr2.b-5-618.dgn
PLOT DATE : 11/6/2012

STATE PROJECT NUMBER

1133-09-71



EXTERIOR GIRDER

INTERIOR GIRDER

PART TRANSVERSE SECTION AT DIAPHRAGM

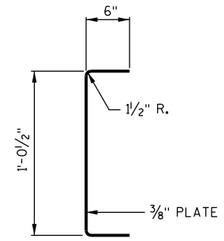
GENERAL NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-5-618", EACH.

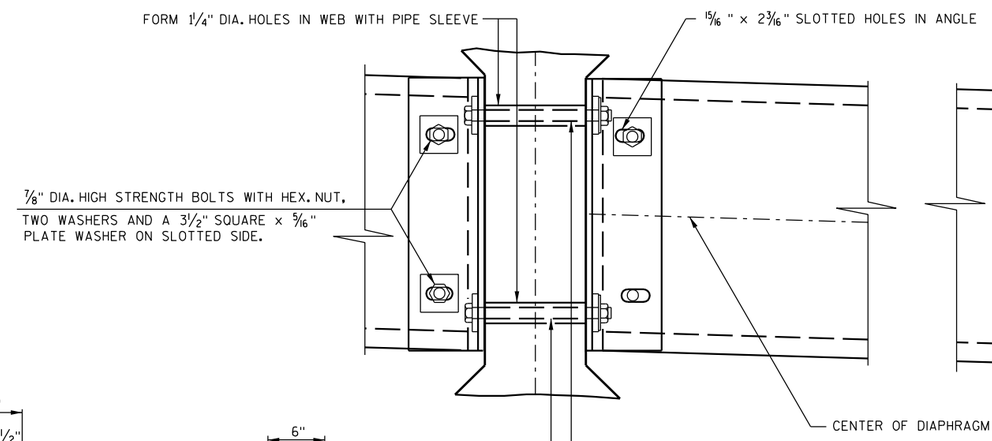
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS, SLEEVES AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563. LUBRICANT AND TEST FOR COATED NUTS.

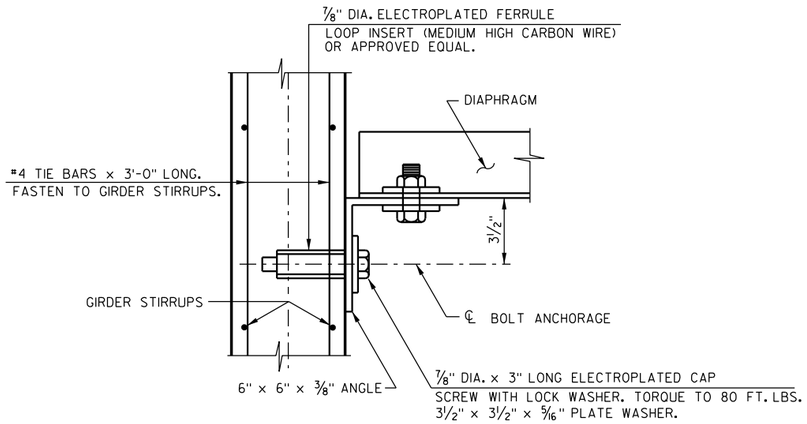


SECTION THRU ALTERNATE DIAPHRAGM



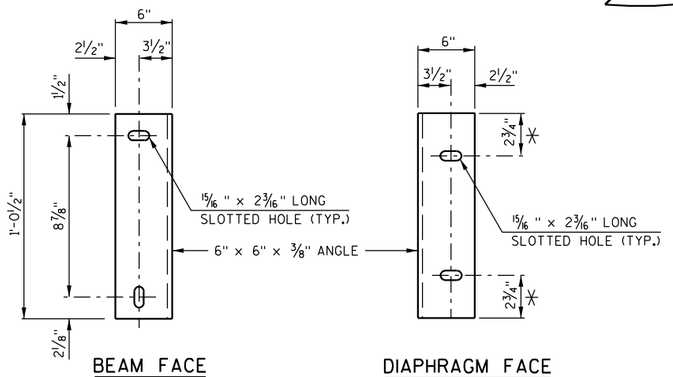
DETAIL B

(FOR CONTINUOUS LINE OF DIAPHRAGMS)



SECTION A-A

(FOR EXTERIOR ATTACHMENT)



BEAM FACE

DIAPHRAGM FACE

DIAPHRAGM SUPPORT

* DIMENSION = 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM.

NOTE: BEND DIAPHRAGM SUPPORT ANGLE/PLATE AS NECESSARY SO THE ANGLE/PLATE IS FLUSH WITH BEAM FACE & DIAPHRAGM FACE. SEE ABUTMENT SHEETS FOR GIRDER ANGLE DIMENSIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

INTERMEDIATE STEEL DIAPHRAGMS

SHEET 20 OF 34

1781

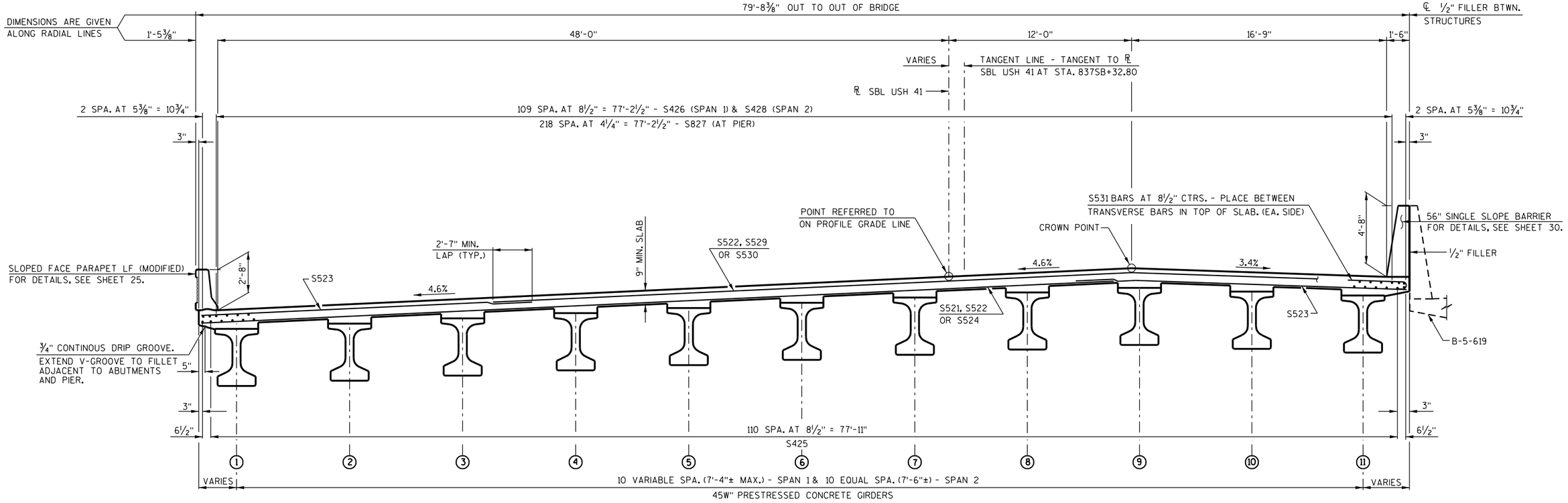
8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\Structures\B-5-618\20_steeldiaph_b-5-618.dgn
PLOT DATE : 10/22/2012

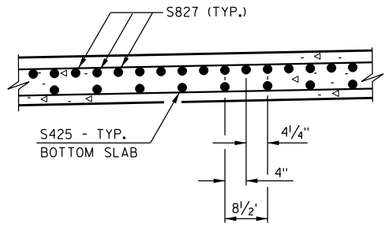
STATE PROJECT NUMBER

1133-09-71



CROSS SECTION THRU ROADWAY

(LOOKING NORTH)



CROSS SECTION THRU SLAB - AT PIER

(LOOKING NORTH)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 21 OF 34
1782

8

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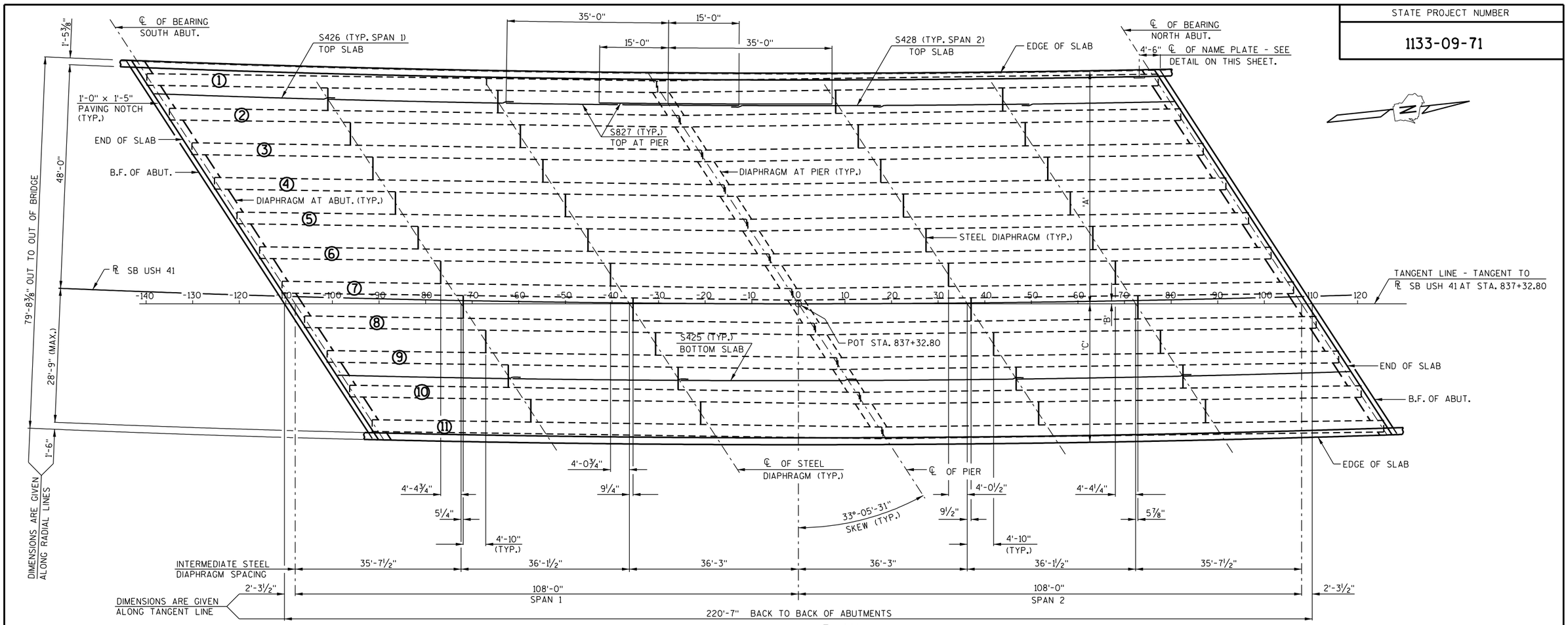
FILE NAME : P:\1134 USH 41 Bridges (1133-09-00)\structures\B-5-618\21_super1_b-5-618.dgn
PLOT DATE : 10/23/2012

STATE PROJECT NUMBER

1133-09-71



PLAN

OFFSET TABLE

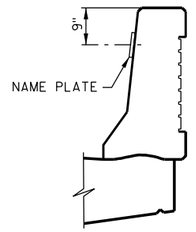
DISTANCE	-140	-130	-120	-110	-100	-90	-80	-70	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60	70	80	90	100	110	120
OFFSET 'A'	51'-10½"	51'-6⅛"	51'-2⅛"	50'-10⅜"	50'-7"	50'-4"	50'-1¼"	49'-10⅞"	49'-8¾"	49'-7"	49'-5⅝"	49'-4½"	49'-3⅝"	49'-3⅛"	49'-3"	49'-3⅛"	49'-3⅜"	49'-4½"	49'-5⅝"	49'-7"	49'-8¾"	49'-10⅞"	---	---	---	---	---
OFFSET 'B'	---	---	---	1'-7⅛"	1'-3⅞"	1'-0¾"	10⅛"	7¾"	5¾"	4"	2½"	1⅜"	⅝"	⅛"	0"	⅛"	⅜"	1⅜"	2½"	4"	5¾"	7¾"	10⅛"	1'-0¾"	1'-3⅞"	---	---
OFFSET 'C'	---	---	---	---	---	29'-2¼"	29'-4⅞"	29'-7¼"	29'-9⅜"	29'-11⅞"	30'-0½"	30'-1⅝"	30'-2⅜"	30'-2⅞"	30'-3"	30'-2⅞"	30'-2⅜"	30'-1⅝"	30'-0½"	29'-11⅛"	29'-9⅜"	29'-7¼"	29'-4⅞"	29'-2¼"	28'-11¼"	28'-8"	28'-4⅜"

TOP OF DECK ELEVATIONS

	℄ OF BRG. S. ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF BRG. N. ABUT.
W. EOD	629.51	629.37	629.23	629.09	628.94	628.79	628.64	628.49	628.33	628.17	628.00	627.84	627.67	627.51	627.33	627.16	626.98	626.80	626.62	626.43	626.24
GIRDER 1	629.65	629.50	629.35	629.20	629.05	628.90	628.74	628.58	628.43	628.27	628.11	627.93	627.76	627.58	627.41	627.23	627.05	626.86	626.68	626.50	626.31
GIRDER 2	629.92	629.77	629.62	629.47	629.32	629.16	629.01	628.85	628.69	628.53	628.37	628.20	628.02	627.85	627.67	627.49	627.31	627.13	626.94	626.76	626.57
GIRDER 3	630.19	630.04	629.89	629.74	629.59	629.43	629.28	629.12	628.96	628.80	628.64	628.46	628.29	628.11	627.93	627.75	627.57	627.39	627.21	627.02	626.84
GIRDER 4	630.46	630.31	630.16	630.01	629.85	629.70	629.54	629.38	629.23	629.06	628.90	628.73	628.55	628.38	628.20	628.02	627.84	627.65	627.47	627.28	627.10
GIRDER 5	630.73	630.58	630.43	630.27	630.12	629.97	629.81	629.65	629.49	629.33	629.17	628.99	628.82	628.64	628.46	628.28	628.10	627.92	627.73	627.55	627.36
GIRDER 6	631.00	630.85	630.70	630.54	630.39	630.23	630.08	629.92	629.76	629.60	629.43	629.26	629.08	628.90	628.73	628.55	628.36	628.18	628.00	627.81	627.62
GIRDER 7	631.27	631.12	630.96	630.81	630.66	630.50	630.34	630.18	630.02	629.86	629.70	629.52	629.35	629.17	628.99	628.81	628.63	628.44	628.26	628.07	627.88
GIRDER 8	631.53	631.38	631.23	631.08	630.92	630.77	630.61	630.45	630.29	630.13	629.96	629.79	629.61	629.43	629.25	629.07	628.89	628.71	628.52	628.34	628.15
GIRDER 9	631.75	631.61	631.47	631.32	631.16	631.01	630.85	630.68	630.51	630.34	630.16	629.99	629.82	629.65	629.47	629.29	629.10	628.91	628.72	628.52	628.32
GIRDER 10	631.44	631.30	631.15	631.00	630.84	630.68	630.52	630.36	630.18	630.01	629.83	629.66	629.49	629.31	629.13	628.95	628.76	628.57	628.38	628.18	627.97
GIRDER 11	631.12	630.98	630.83	630.68	630.52	630.36	630.20	630.03	629.86	629.68	629.50	629.33	629.16	628.98	628.80	628.61	628.42	628.23	628.04	627.84	627.63
E. EOD	630.99	630.85	630.70	630.54	630.39	630.23	630.07	629.90	629.73	629.56	629.39	629.22	629.04	628.87	628.69	628.50	628.32	628.13	627.94	627.74	627.54

NOTES

1. THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS.
2. THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.
3. LAP NO. 6 BARS 3'-6" MIN. AT BACK OF ABUTMENT DIAPHRAGMS.
4. LAP LONGITUDINAL NO. 5 BARS 2'-11" MIN. IN 56" SINGLE SLOPE MEDIAN BARRIER & 1'-9" MIN. IN SLOPED FACE PARAPET LF (MODIFIED).
5. LAP NO. 4 BARS 1'-8" MIN. IN SLAB.
6. TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED PERPENDICULAR TO THE TANGENT LINE. FOR DETAILS, SEE SHEET 23.
7. EDGE OF DECK (EOD) ELEVATIONS ARE CALCULATED ASSUMING CROSS SLOPE CONTINUES TO EDGE.
8. PLACE LONGITUDINAL BAR STEEL REINFORCEMENT CONCENTRIC TO ℄ SB USH 41.



NAME PLATE DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 22 OF 34
1783

FILE NAME : P:\134 USH 41 Bridges \1133-09-00\Structures\B-5-618\22.super2.b-5-618.dgn
PLOT DATE : 10/23/2012

8

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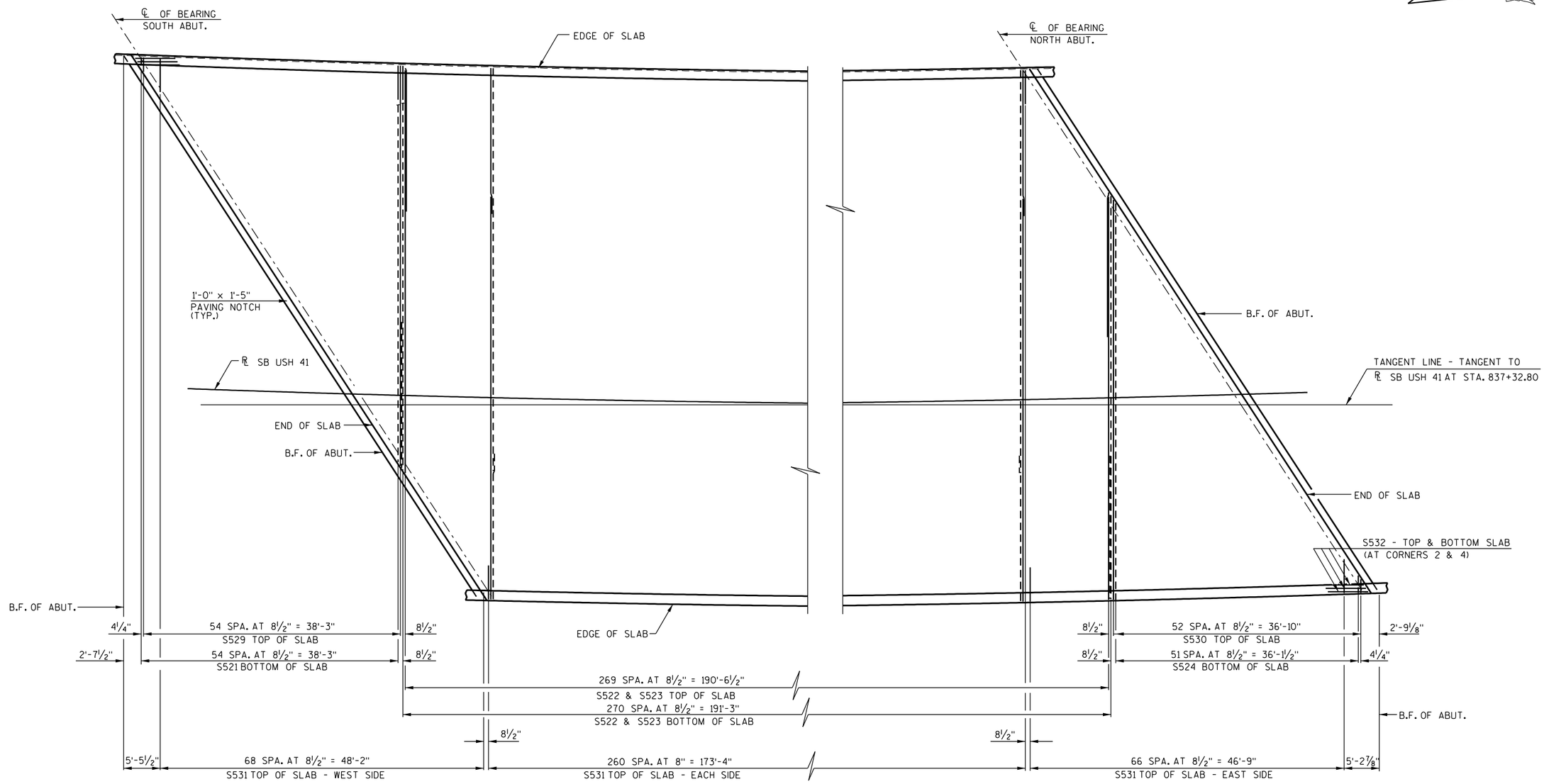
STATE PROJECT NUMBER

1133-09-71



PART PLAN

(SHOWING TOP & BOTTOM SLAB TRANSVERSE BAR STEEL REINFORCEMENT)

NOTE: LAP NO. 5 BARS 2'-7" MIN. IN TOP & BOTTOM OF SLAB.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 23 OF 34
1784

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-618\23_super3_b-5-618.dgn
PLOT DATE : 10/23/2012

8

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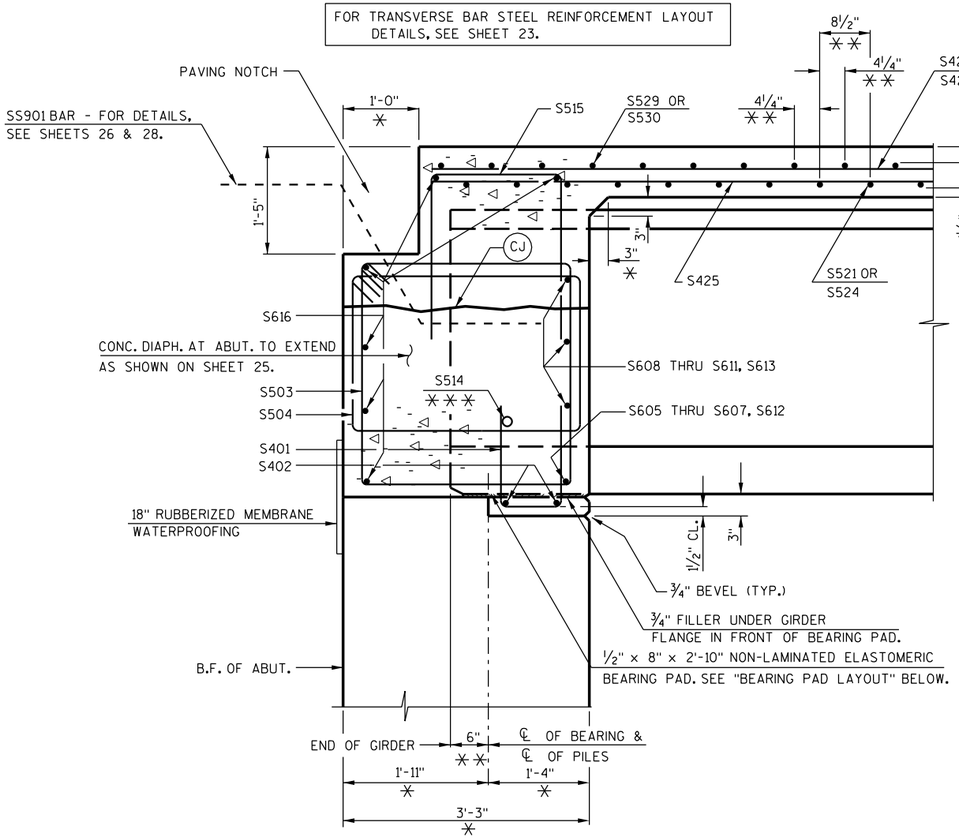
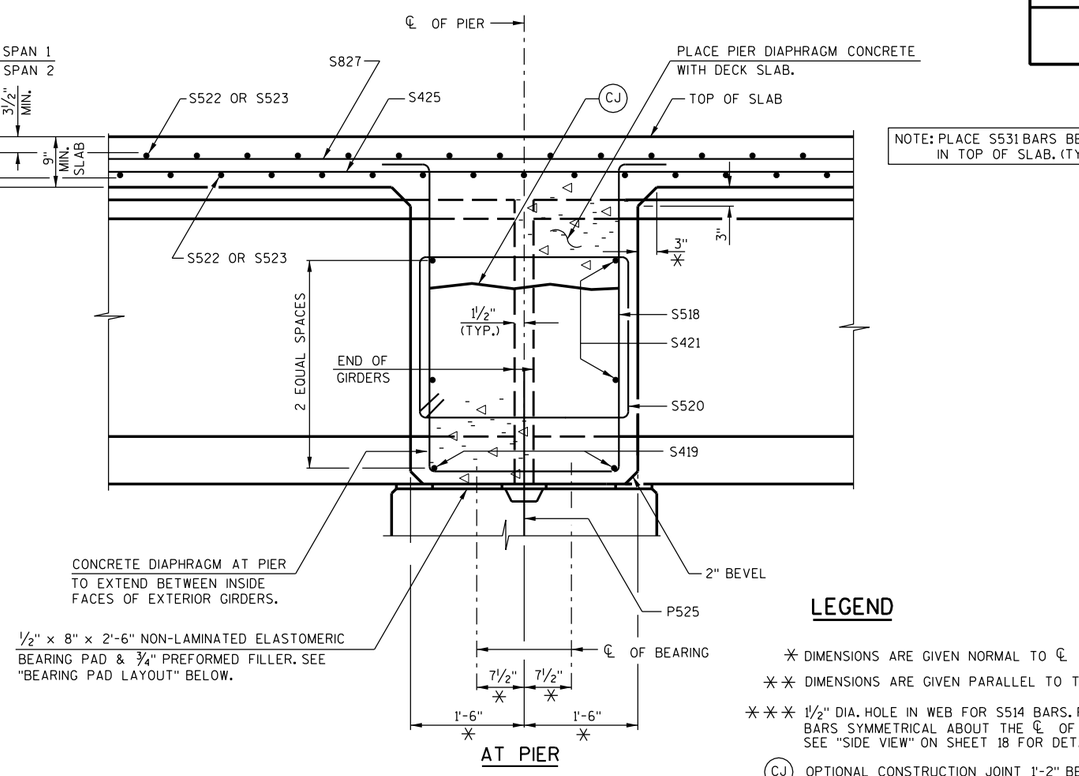
STATE PROJECT NUMBER
1133-09-71

FOR TRANSVERSE BAR STEEL REINFORCEMENT LAYOUT DETAILS, SEE SHEET 23.



AT ABUTMENTS



AT PIER

NOTE: PLACE S531 BARS BETWEEN TRANSVERSE BARS IN TOP OF SLAB. (TYP. EA. SIDE)

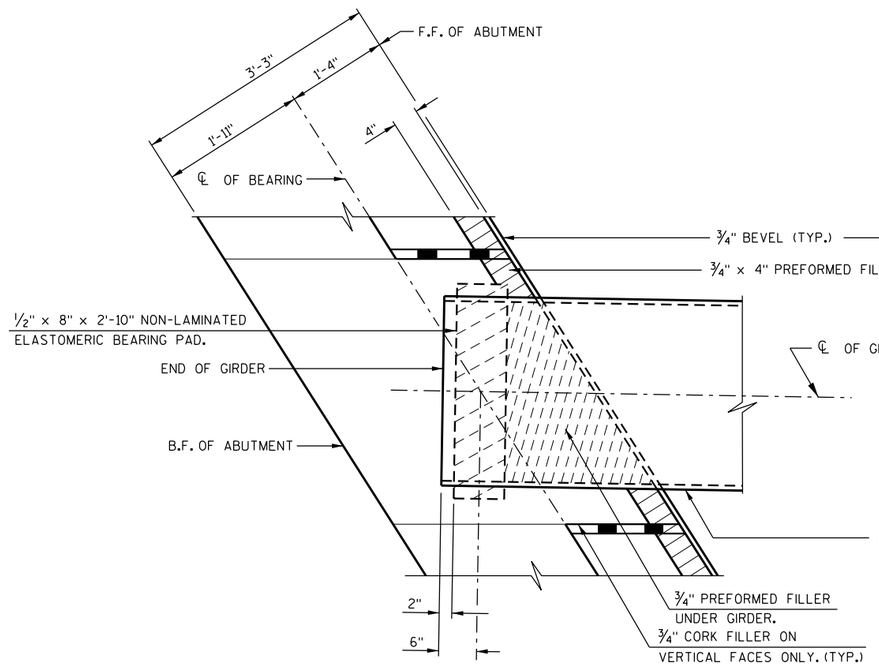
LEGEND

- ✳ DIMENSIONS ARE GIVEN NORMAL TO ℄ OF SUBSTRUCTURE UNITS.
- ✳✳ DIMENSIONS ARE GIVEN PARALLEL TO THE GIRDER ℄.
- ✳✳✳ 1½" DIA. HOLE IN WEB FOR S514 BARS. PLACE TWO S514 BARS SYMMETRICAL ABOUT THE ℄ OF EACH GIRDER. SEE "SIDE VIEW" ON SHEET 18 FOR DETAILS.
- (CJ) OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

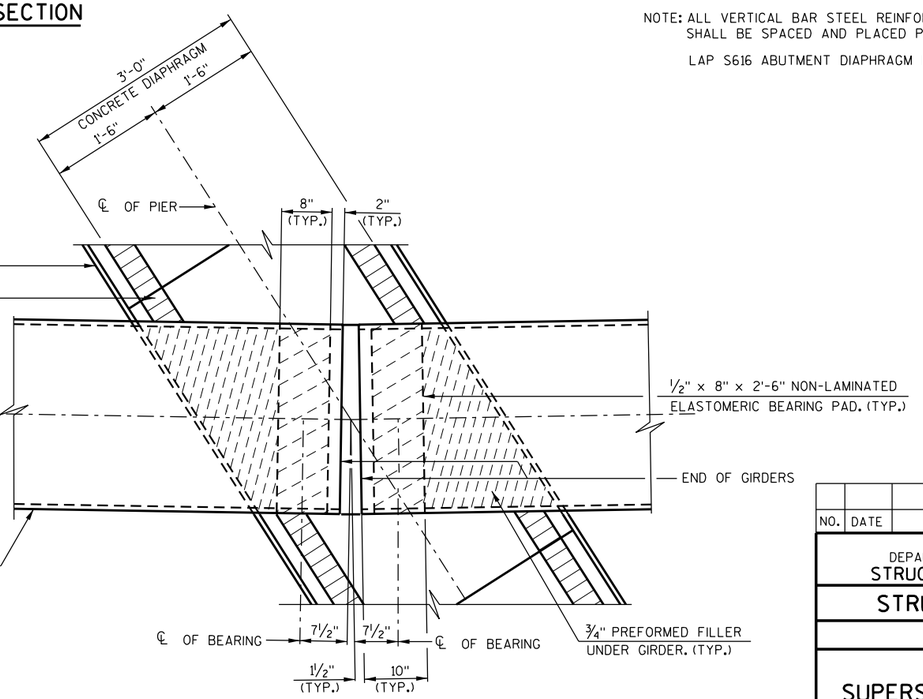
NOTE: ALL VERTICAL BAR STEEL REINFORCEMENT IN CONCRETE DIAPHRAGMS SHALL BE SPACED AND PLACED PARALLEL TO GIRDERS.

LAP S616 ABUTMENT DIAPHRAGM BARS 3'-6" MIN.

PART LONGITUDINAL SECTION



AT ABUTMENTS



AT PIER

BEARING PAD LAYOUT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

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SUPERSTRUCTURE

SHEET 24 OF 34
1785

8

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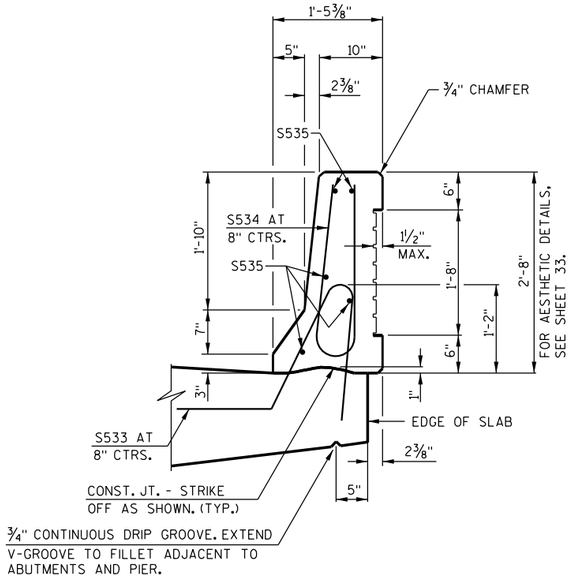
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-618\24_super4_b-5-618.dgn
PLOT DATE : 10/23/2012

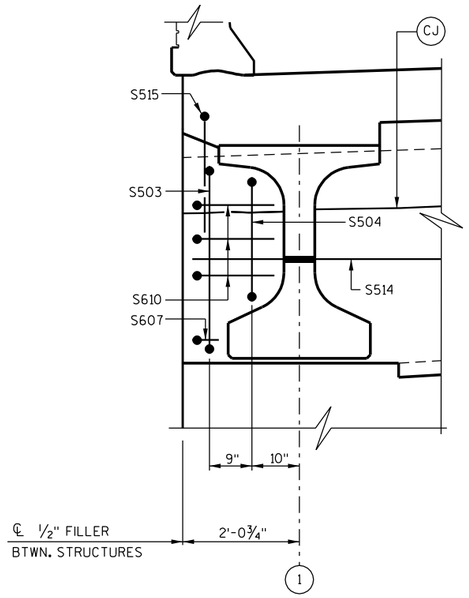
STATE PROJECT NUMBER

1133-09-71



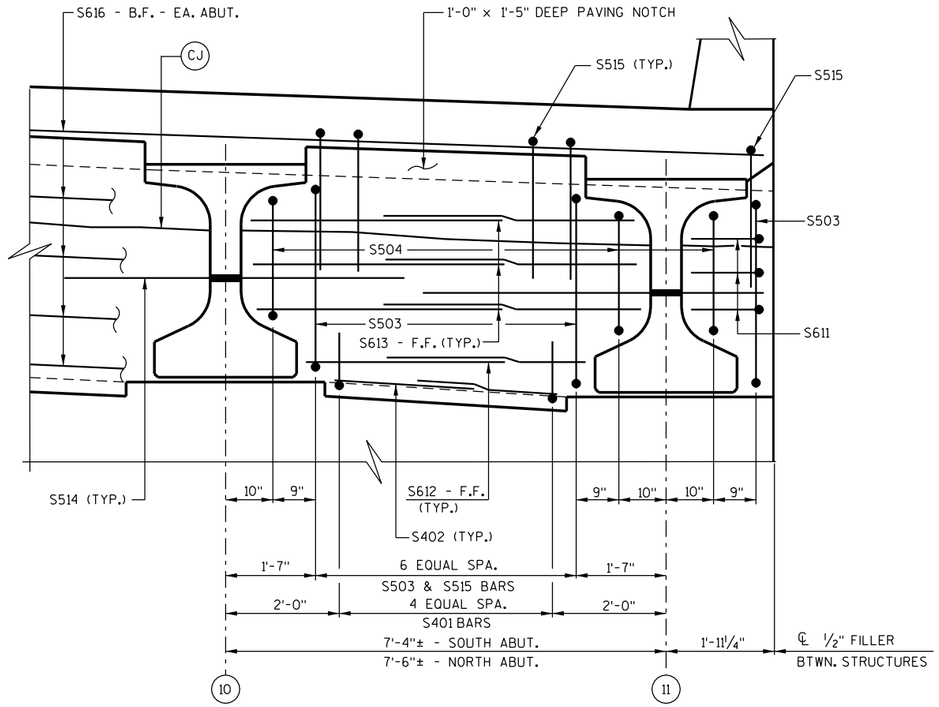
SECTION THRU SLOPED FACE PARAPET LF (MODIFIED) - WEST SIDE ONLY

(LOOKING SOUTH)



ABUTMENT DIAPHRAGM - CORNER 3

(LOOKING NORTH AT NORTH ABUT.)

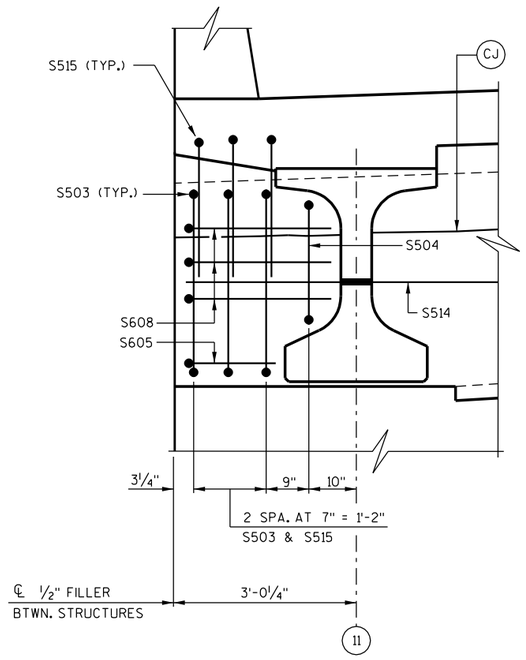


AT CORNER 4

ABUTMENT DIAPHRAGM DETAILS

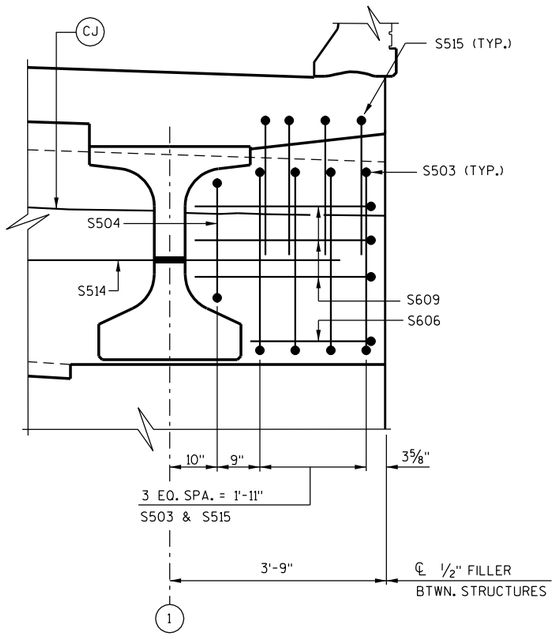
(LOOKING NORTH AT NORTH ABUT., SOUTH ABUT. SIMILAR)

NOTES: LAP NO. 4 BARS 1'-0" MIN. AT F.F. OF ABUTMENT DIAPHRAGM.
LAP NO. 6 BARS 2'-1" MIN. AT F.F. OF ABUTMENT DIAPHRAGM.
LAP NO. 6 BARS 3'-6" MIN. AT B.F. OF ABUTMENT DIAPHRAGM.



ABUTMENT DIAPHRAGM - CORNER 1

(LOOKING SOUTH AT SOUTH ABUT.)



ABUTMENT DIAPHRAGM - CORNER 2

(LOOKING SOUTH AT SOUTH ABUT.)

LEGEND

(CJ) OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 25 OF 34
1786

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FILE NAME : P:\134 USH 41 Bridges 1133-09-00\structures\B-5-618\25_super5_b-5-618.dgn
PLOT DATE : 10/23/2012

STATE PROJECT NUMBER

1133-09-71

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT IN THIS BILL SHALL BE EPOXY COATED.

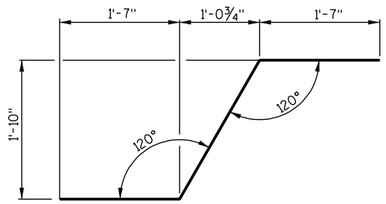
MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 130,510 LBS.
S401	100	3-8	X		ABUTMENT DIAPHRAGM - BOTTOM	VERT.
S402	80	3-4			ABUTMENT DIAPHRAGM - BOTTOM	HORIZ.
S503	149	13-7	X		ABUTMENT DIAPHRAGM - STIRRUPS	VERT.
S504	44	11-9	X		ABUTMENT DIAPHRAGM - STIRRUPS	VERT.
S605	1	6-4	X		ABUTMENT DIAPHRAGM - END - CORNER 1	HORIZ.
S606	1	8-4	X		ABUTMENT DIAPHRAGM - END - CORNER 2	HORIZ.
S607	1	3-11	X		ABUTMENT DIAPHRAGM - END - CORNER 3	HORIZ.
S608	3	8-8	X		ABUTMENT DIAPHRAGM - END - CORNER 1	HORIZ.
S609	3	10-8	X		ABUTMENT DIAPHRAGM - END - CORNER 2	HORIZ.
S610	3	6-3	X		ABUTMENT DIAPHRAGM - END - CORNER 3	HORIZ.
S611	3	5-11	X		ABUTMENT DIAPHRAGM - END - CORNER 4	HORIZ.
S612	40	4-1			ABUTMENT DIAPHRAGM - F.F, - BTWN. GIRDERS	HORIZ.
S613	120	5-0			ABUTMENT DIAPHRAGM - F.F, - BTWN. GIRDERS	HORIZ.
S514	44	6-0			ABUTMENT DIAPHRAGM - AT GIRDER HOLES	HORIZ.
S515	149	6-6	X		ABUTMENT DIAPHRAGM - TOP	VERT.
S616	24	50-1	X		ABUTMENT DIAPHRAGM - B.F.	HORIZ.
S517	60	12-11	X		PIER DIAPHRAGM	VERT.
S418	20	5-3			PIER DIAPHRAGM - BETWEEN GIRDERS	HORIZ.
S519	20	11-1	X		PIER DIAPHRAGM - BETWEEN GIRDERS	VERT.
S420	40	7-9			PIER DIAPHRAGM - BETWEEN GIRDERS	HORIZ.
S521	55	30-4		✳	SLAB - BOTTOM	TRANS.
S522	541	60-0			SLAB - TOP & BOTTOM	TRANS.
S523	541	21-10			SLAB - TOP & BOTTOM	TRANS.
S524	52	30-9		✳	SLAB - BOTTOM	TRANS.
S425	678	38-0			SLAB - BOTTOM	LONGIT.
S426	228	39-0			SLAB - TOP - SPAN 1	LONGIT.
S827	223	50-0			SLAB - TOP - AT PIER	LONGIT.
S428	342	32-11			SLAB - TOP - SPAN 2	LONGIT.
S529	55	30.10		✳	SLAB - TOP	TRANS.
S530	53	30-10		✳	SLAB - TOP	TRANS.
S531	658	5-7	X		SLAB - TOP - AT EDGE OF SLAB	TRANS.
S532	12	6-0			SLAB - TOP & BOTTOM - CORNERS 2 & 4	LONGIT.
S533	331	4-2	X		PARAPET - WEST SIDE	VERT.
S534	331	4-10	X		PARAPET - WEST SIDE	VERT.
S535	30	38-3			PARAPET - WEST SIDE	LONGIT.

✳ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATION. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

STAINLESS STEEL BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

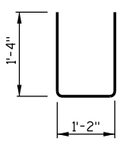
MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = LBS.
SS901	160	5-0	X		APPROACH APRON AT BRIDGE PAVING NOTCH	LONGIT.



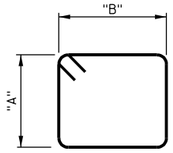
SS901

BAR SERIES TABLE

MARK	NO. REQ'D.	LENGTH
S521	1 SERIES OF 55	1'-7" TO 59'-0"
S524	1 SERIES OF 52	2'-6" TO 59'-0"
S529	1 SERIES OF 55	2'-1" TO 59'-7"
S530	1 SERIES OF 53	2'-0" TO 59'-7"

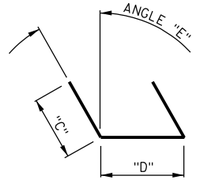


S401



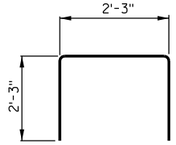
MARK	DIM. "A"	DIM. "B"
S503	3'-1"	3'-5"
S504	2'-2"	3'-5"
S519	2'-2"	3'-1"

S503, S504 & S519

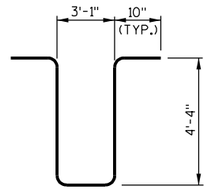


MARK	DIM. "C"	DIM. "D"	ANGLE "E"
S605	1'-8"	3'-4"	34°-25'-29"
S606	2'-8"	3'-4"	35°-16'-09"
S607	6"	3'-3"	31°-55'-48"
S608	2'-10"	3'-4"	34°-25'-29"
S609	3'-10"	3'-4"	35°-16'-09"
S610	1'-8"	3'-3"	31°-55'-48"
S611	1'-6"	3'-3"	31°-12'-06"

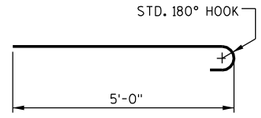
S605 THRU S611



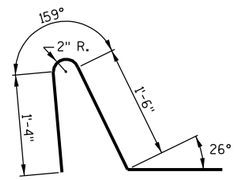
S515



S517



S531



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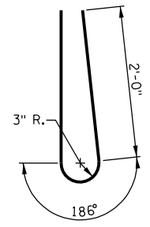

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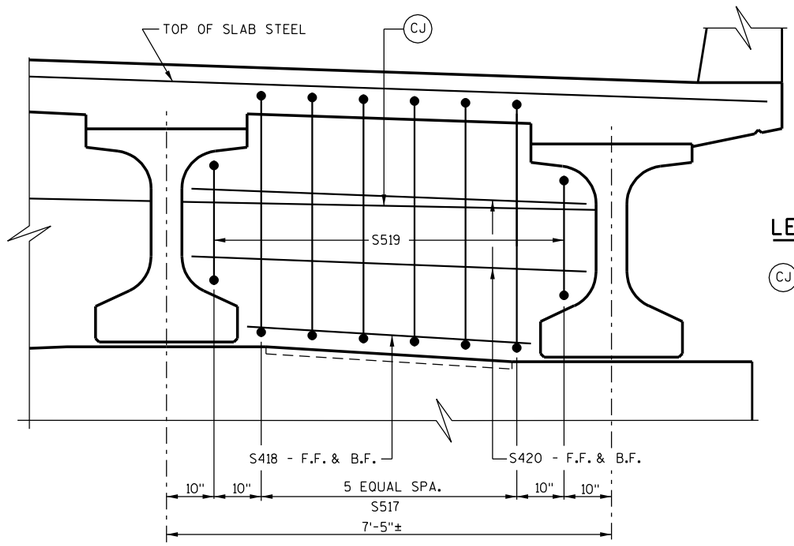


PIER DIAPHRAGM DETAILS
(LOOKING NORTH)

LEGEND

(CJ) OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 26 OF 34
1787

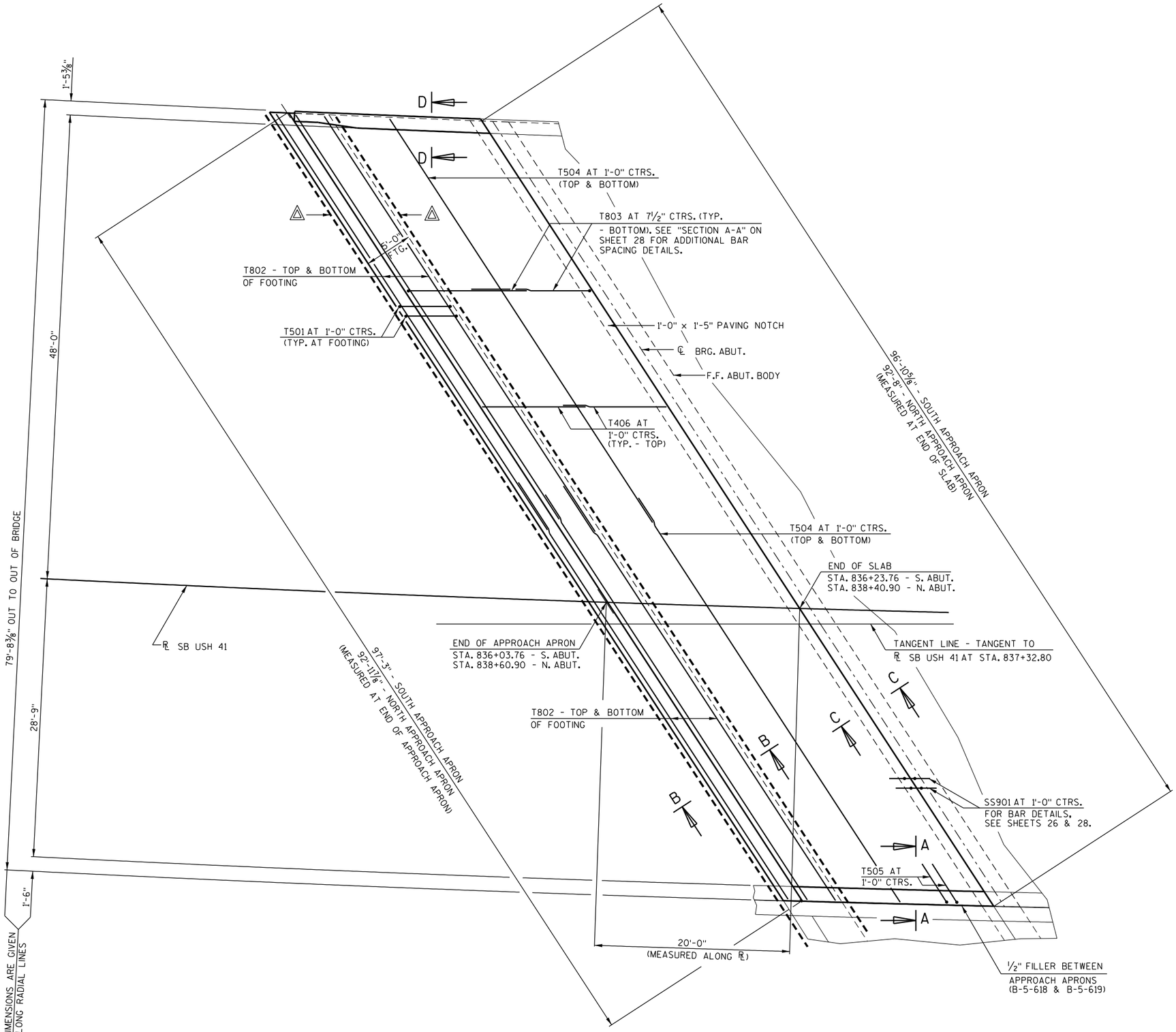
8

8

FILE NAME : P:\134 USH 41 Bridges 1133-09-00\structures\B-5-618\26_superb_b-5-618.dgn
PLOT DATE : 10/23/2012

STATE PROJECT NUMBER

1133-09-71



APPROACH APRON PART PLAN

(SOUTH APPROACH APRON SHOWN, NORTH APPROACH APRON SIMILAR UNLESS NOTED OTHERWISE)

NOTES: LAP NO. 4 BARS 2'-4" MIN.
LAP NO. 5 BARS 2'-11" MIN.
LAP NO. 8 BARS 5'-9" MIN.

LEGEND

△ FOR SYMBOL DESCRIPTION, SEE SHEET 28.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

APPROACH APRON DETAILS

SHEET 27 OF 34
1788

8

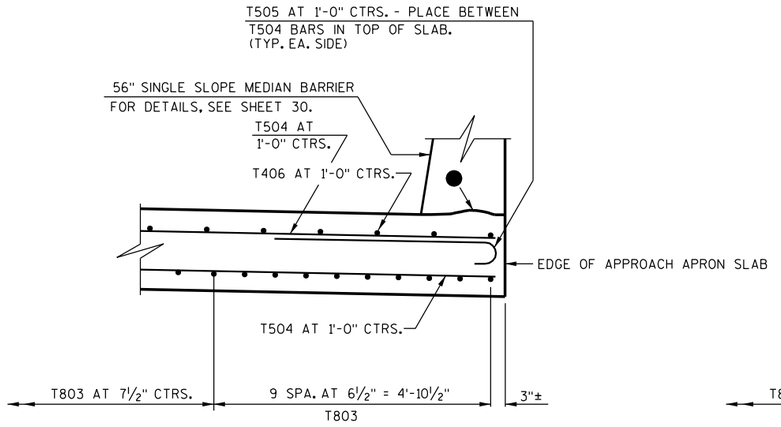
8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-618\27_aprnotl_b-5-618.dgn
PLOT DATE : 10/23/2012

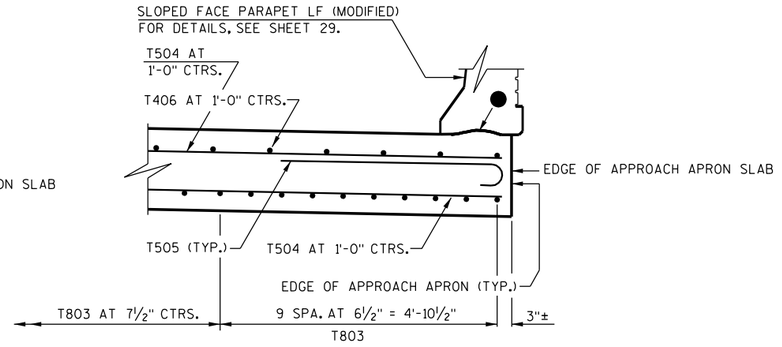
STATE PROJECT NUMBER
1133-09-71

LEGEND

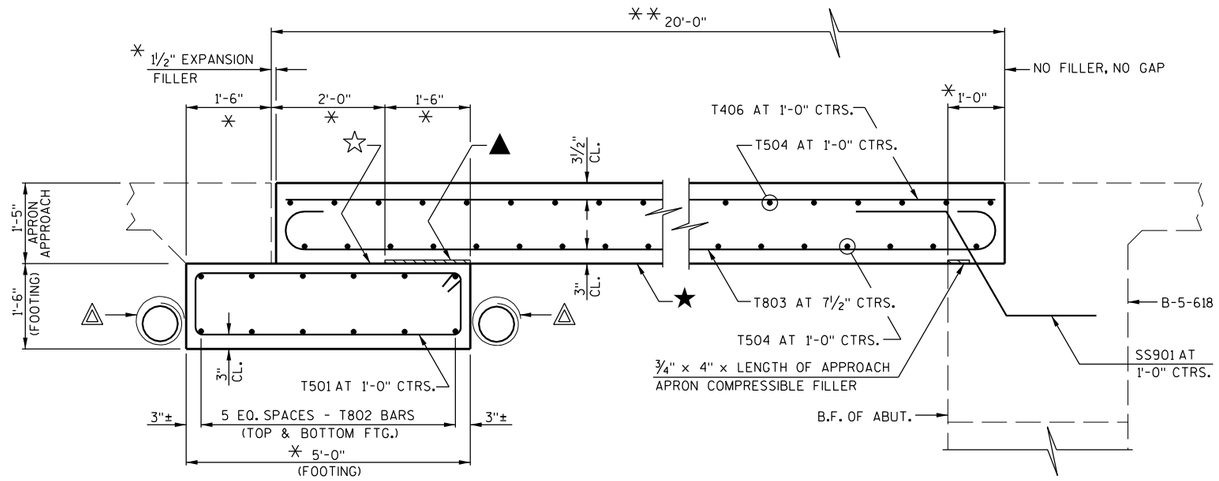
- ✳ DIMENSIONS ARE GIVEN NORMAL ℄ SUBSTRUCTURE.
- ✳✳ DIMENSIONS ARE GIVEN ALONG ℞ SB USH 41.
- ☆ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE LENGTH OF FOOTING. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ★ PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE LENGTH OF SUBGRADE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ▲ ¾" × 1'-6" × LENGTH OF FOOTING COMPRESSIBLE FILLER.
- ⧋ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD TO END OF PIPE. SEE "RODENT SHIELD" DETAIL ON THIS SHEET.
- ● CONST. JT. - STRIKE OFF AS SHOWN.



SECTION A-A

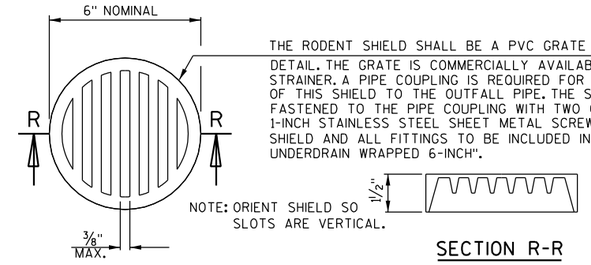


SECTION D-D



SECTION B-B

SECTION C-C



SECTION R-R

RODENT SHIELD

LONGITUDINAL SECTION AT APPROACH APRON

(SECTION SHOWN AT SOUTH APPROACH APRON, NORTH APPROACH APRON SIMILAR)

NOTES: BAR STEEL REINFORCEMENT FOR THE APPROACH APRONS AND THE 56" SINGLE SLOPE CONCRETE BARRIER LOCATED ON THE EAST SIDE OF THE APPROACH APRONS AND THE EAST SIDE OF THE DECK FOR B-5-618 IS INCLUDED IN THE BILL OF BARS ON SHEET 31.

FOR BAR STEEL REINFORCEMENT AND DETAILS FOR THE SLOPED FACE PARAPET LF (MODIFIED) LOCATED ON THE WEST SIDE OF THE APPROACH APRONS, SEE SHEET 29.

PLACE LONGITUDINAL BAR STEEL REINFORCEMENT CONCENTRIC TO ℞ SB USH 41.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

APPROACH APRON DETAILS

SHEET 28 OF 34
1789

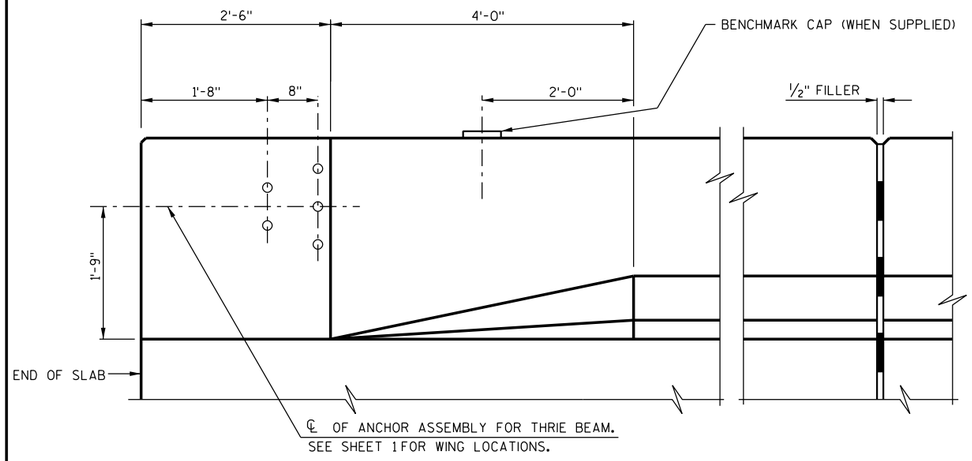
FILE NAME : P:\134 USH 41 Bridges 1133-09-00\Structures\B-5-618\28_aprons2_b-5-618.dgn
PLOT DATE : 10/23/2012

8

8

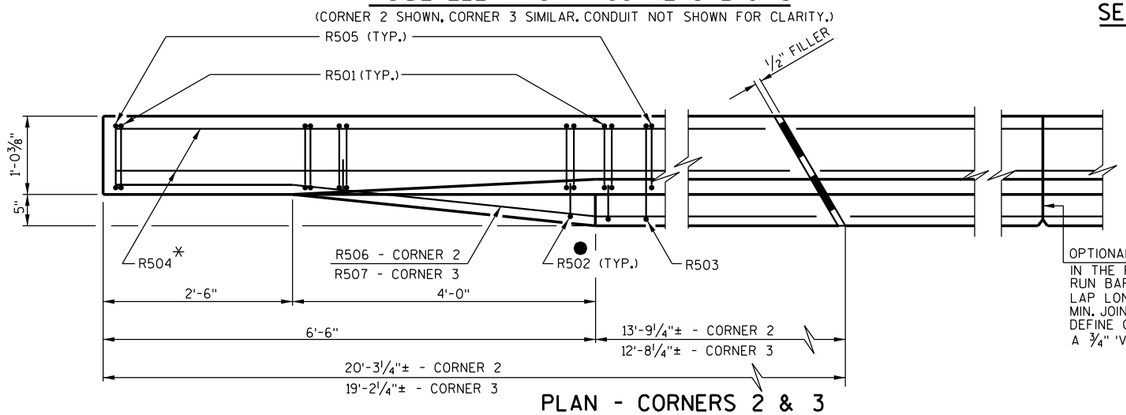
STATE PROJECT NUMBER

1133-09-71



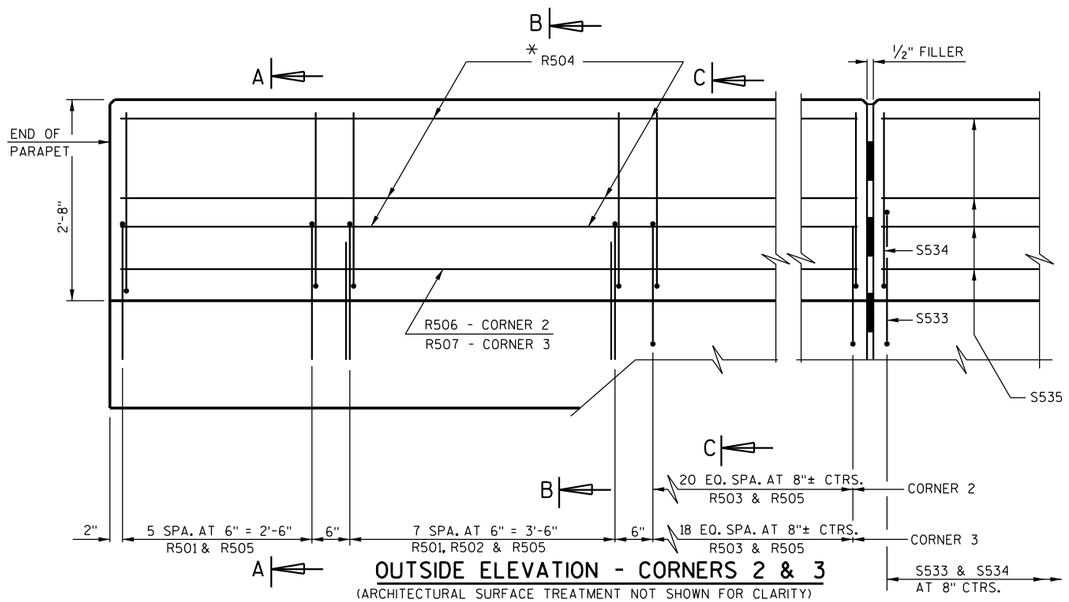
INSIDE ELEVATION - CORNERS 2 & 3

(CORNER 2 SHOWN, CORNER 3 SIMILAR. CONDUIT NOT SHOWN FOR CLARITY.)



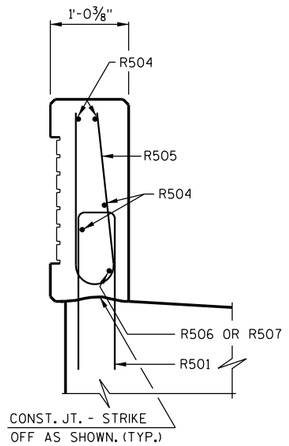
PLAN - CORNERS 2 & 3

(CORNER 2 SHOWN, CORNER 3 SIMILAR.)

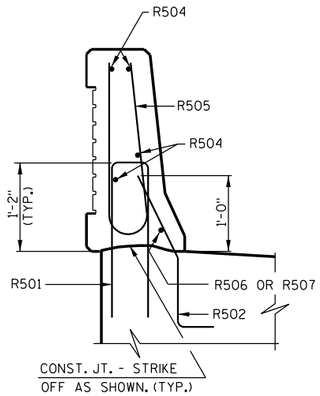


OUTSIDE ELEVATION - CORNERS 2 & 3

(ARCHITECTURAL SURFACE TREATMENT NOT SHOWN FOR CLARITY)



SECTION A-A



SECTION B-B

LEGEND

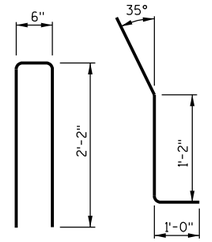
- ● R502 BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INTIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R502 BARS CORRECTLY ALONG TANSITION OF PARAPET.
- * LAP R504 BARS 1'-9" MIN.

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0" DEFINE CONST. JOINT WITH A 3/4" 'V' GROOVE.

BILL OF BARS

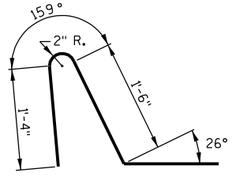
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL REINFORCEMENT BARS IN THIS BILL SHALL BE EPOXY COATED.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 920 LBS.
R501	28	4-7	X		PARAPET - CORNERS 2 & 3	VERT.
R502	16	3-1	X		PARAPET - CORNERS 2 & 3	VERT.
R503	40	4-2	X		PARAPET - CORNERS 2 & 3	VERT.
R504	16	10-8			PARAPET - CORNERS 2 & 3	HORIZ.
R505	68	4-10	X		PARAPET - CORNERS 2 & 3	VERT.
R506	1	19-8	X		PARAPET - CORNER 2	HORIZ.
R507	1	17-9	X		PARAPET - CORNER 3	HORIZ.

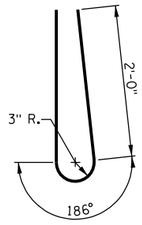


R501

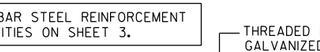
R502



R503

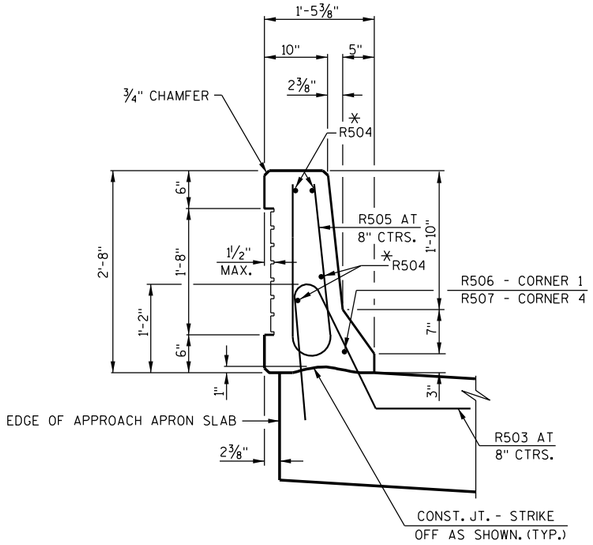


R505



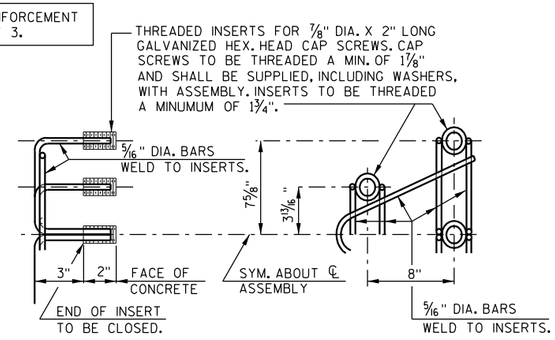
R506 & R507

NOTE: QUANTITIES OF CONCRETE MASONRY AND BAR STEEL REINFORCEMENT ARE INCLUDED IN THE APPR. APRON QUANTITIES ON SHEET 3.



SECTION C-C

(LOOKING SOUTH AT PARAPET ON APPROACH APRON, EAST SIDE ONLY)



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX. HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE PAID FOR BY BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

SLOPED FACE PARAPET LF (MODIFIED)

SHEET 29 OF 34
1790

8

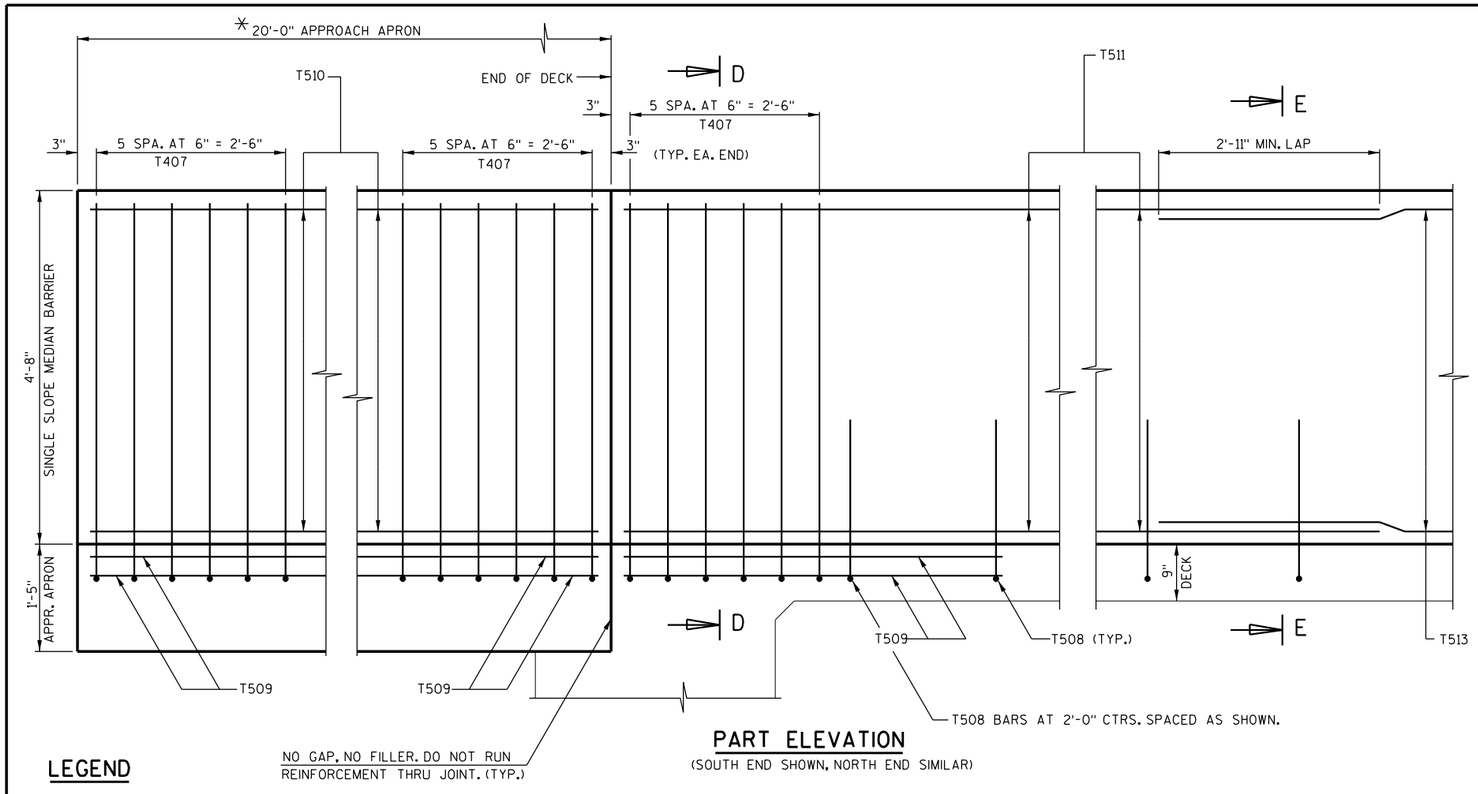
8

FILE NAME : P:\134 USH 41 Bridges 11133-09-00\structures\B-5-618\29_parapet_1f_b-5-618.dgn
PLOT DATE : 10/23/2012

STATE PROJECT NUMBER

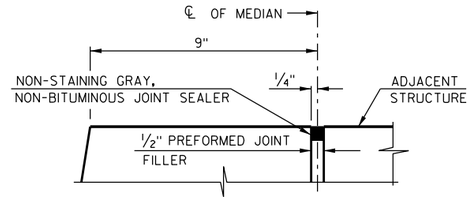
1133-09-71

NOTE: OPTIONAL CONSTRUCTION JOINTS IN THE CONCRETE BARRIER MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 2'-11". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" 'V' GROOVE.



PART ELEVATION

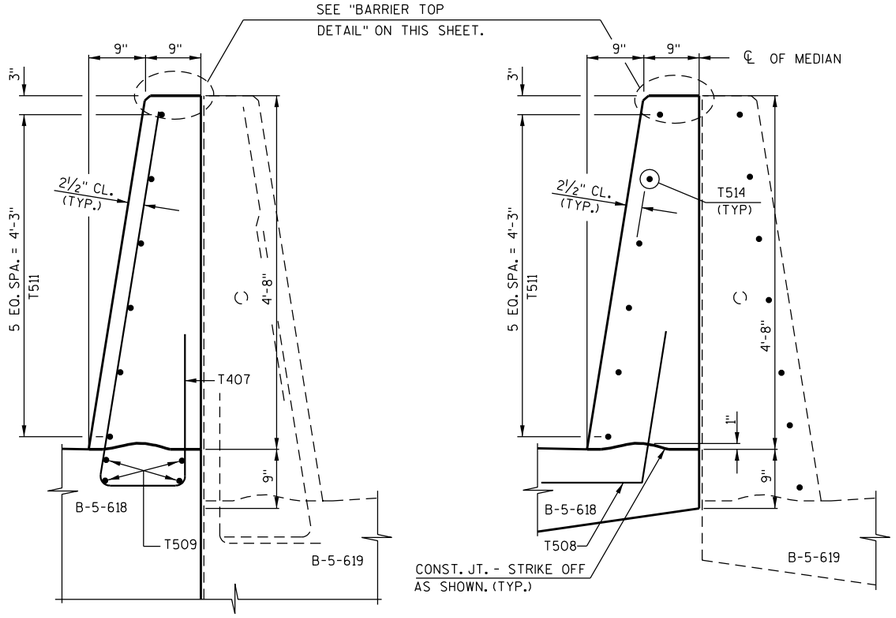
(SOUTH END SHOWN, NORTH END SIMILAR)



BARRIER TOP DETAIL

LEGEND

✳ DIMENSIONS ARE GIVEN PARALLEL TO ℄ SB USH 41



SECTION D-D

(TYPICAL AT ENDS OF BARRIER)

SECTION E-E

LOOKING NORTH - EAST EDGE OF DECK

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

56" SINGLE SLOPE MEDIAN BARRIER DETAILS

SHEET 30 OF 34

1791

8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-618\30_barrier_dprofl_b-5-618.dgn
PLOT DATE : 10/23/2012

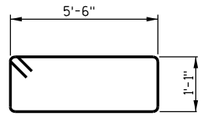
STATE PROJECT NUMBER

1133-09-71

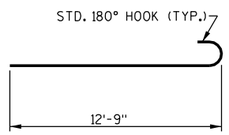
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT IN THIS BILL SHALL BE EPOXY COATED.

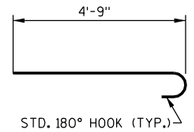
MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION TOTAL WEIGHT = 41,800 LBS.	
T501	160	13-9	X		APPROACH APRON - FOOTING	VERT.
T802	48	51-4			APPROACH APRON - FOOTING	TRANS.
T803	520	13-8	X		APPROACH APRON - SLAB - BOTTOM	LONGIT.
T504	168	49-11			APPROACH APRON - SLAB - TOP & BOTTOM	TRANS.
T505	80	5-4	X		APPROACH APRON - SLAB - TOP - EDGES	TRANS.
T406	320	10-11			APPROACH APRON - SLAB - TOP	LONGIT.
T407	36	7-11	X		MEDIAN BARRIER - AT APPR. APRON & DECK - E. SIDE	VERT.
T508	120	3-3	X		MEDIAN BARRIER - AT DECK - E. SIDE	VERT.
T509	24	5-0			MEDIAN BARRIER - AT APPR. APRON & DECK - E. SIDE	LONGIT.
T510	12	19-5			MEDIAN BARRIER - AT APPR. APRON	LONGIT.
T511	36	38-8			MEDIAN BARRIER - AT DECK	LONGIT.



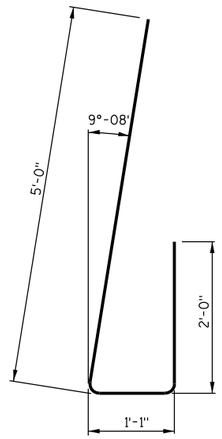
T501



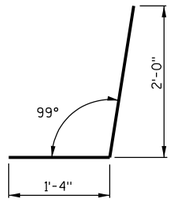
T803



T505



T407



T508

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-618\31_barrier_apron2_b-5-618.dgn
PLOT DATE : 10/23/2012

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

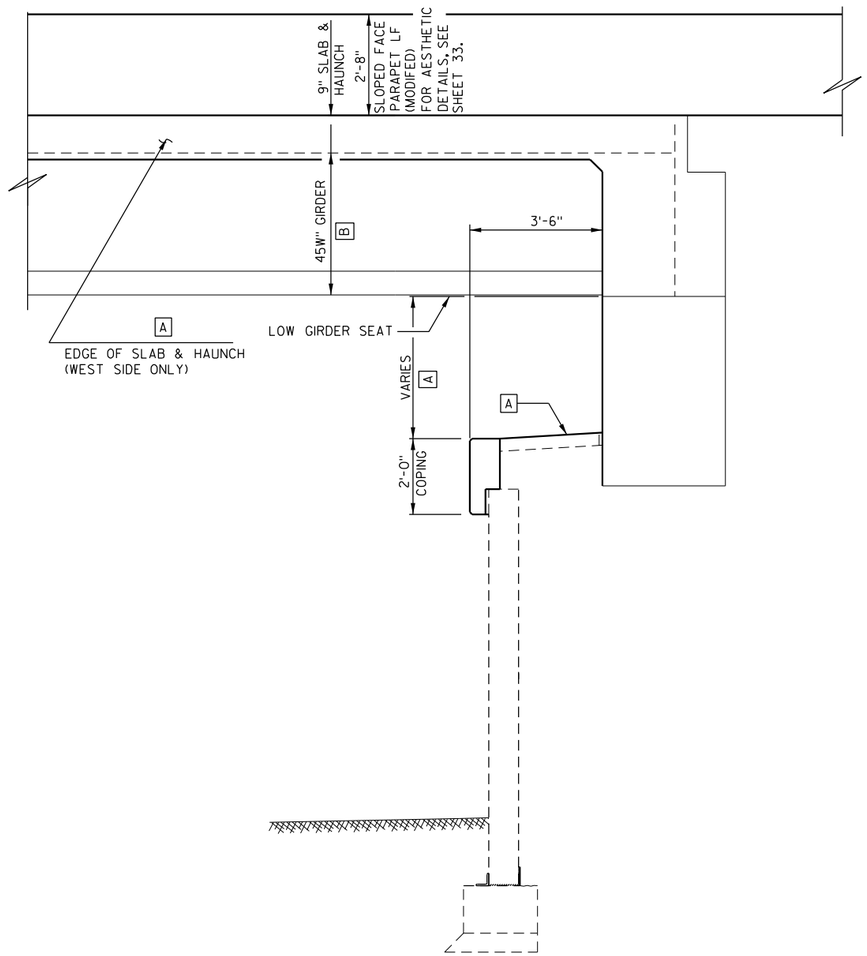
DRAWN BY TAW | PLANS CK'D. TR

56" SINGLE SLOPE MEDIAN BARRIER DETAILS

SHEET 31 OF 34
1792

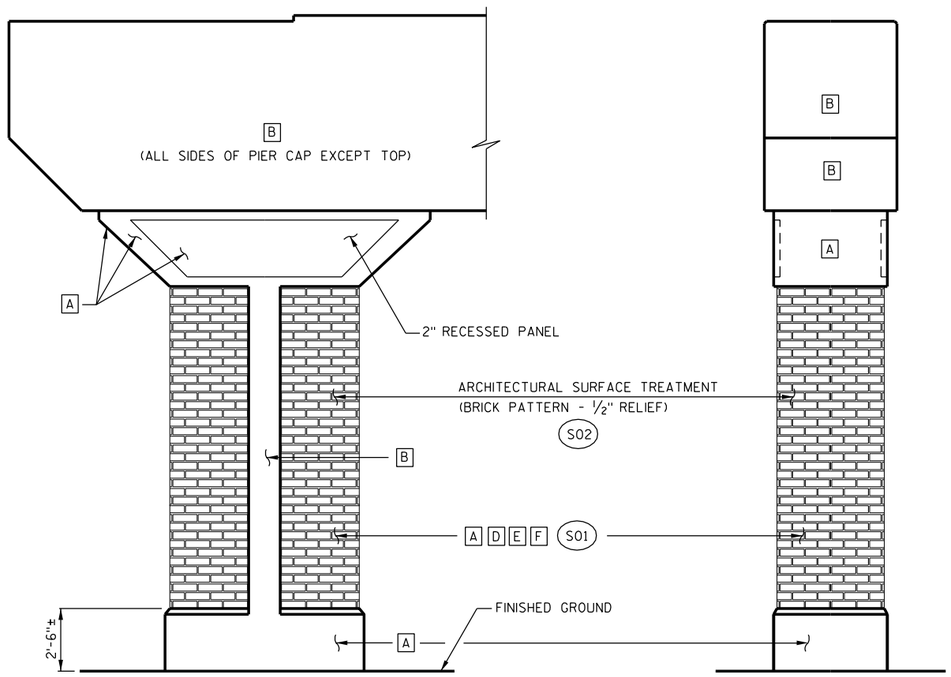
STATE PROJECT NUMBER

1133-09-71



PART ELEVATION - B-5-618

(LOOKING EAST AT SOUTH ABUTMENT)



PART ELEVATION AT PIER

NOTE: SEE PIER DETAIL SHEETS FOR ALL LAYOUT DIMENSIONS.

PIER END VIEW

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	LETTERING AT ROADWAY NAME

NOTE: SEE SPECIAL PROVISIONS FOR STAIN COLORS.

NOTES

(S01) STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

(S02) THE COST OF BRICK PATTERN FORMLINER TREATMENT IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT". SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

AESTHETIC DETAILS

SHEET 32 OF 34
1793

FILE NAME : P:\1134 USH 41 Bridges (1133-09-00)\structures\B-5-618\32_aesthetics1_b-5-618.dgn
PLOT DATE : 10/23/2012

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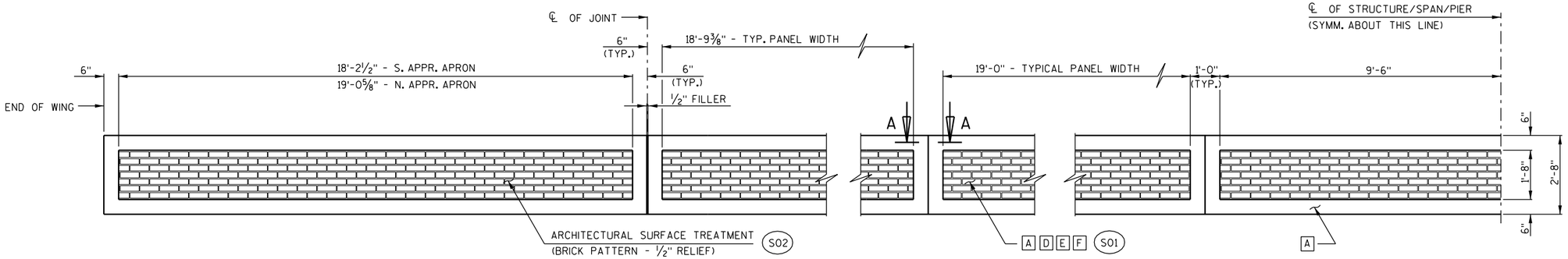
8

STATE PROJECT NUMBER

1133-09-71



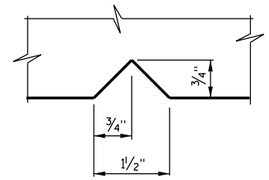
PARAPET ON APPROACH APRON

(PARAPET ONNORTH APPROACH APRON SHOWN, PARAPET ON NORTH APPROACH APRON SIMILAR)

PARAPET ON BRIDGE DECK

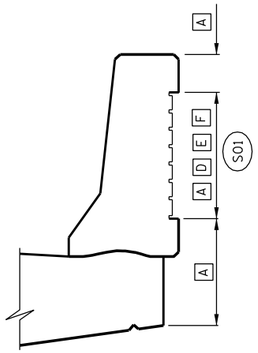
PART ELEVATION AT PARAPET

(LOOKING EAST)



SECTION A-A

(¾" 'V' GROOVE)



AT BRIDGE DECK

SLOPED FACE PARAPET LF (MODIFIED)

(WEST SIDE ONLY - LOOKING SOUTH)

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	LETTERING AT ROADWAY NAME

NOTE: SEE SPECIAL PROVISIONS FOR STAIN COLORS.

NOTES

(S01) STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

(S02) THE COST OF BRICK PATTERN FORMLINER TREATMENT IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT". SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

AESTHETIC DETAILS

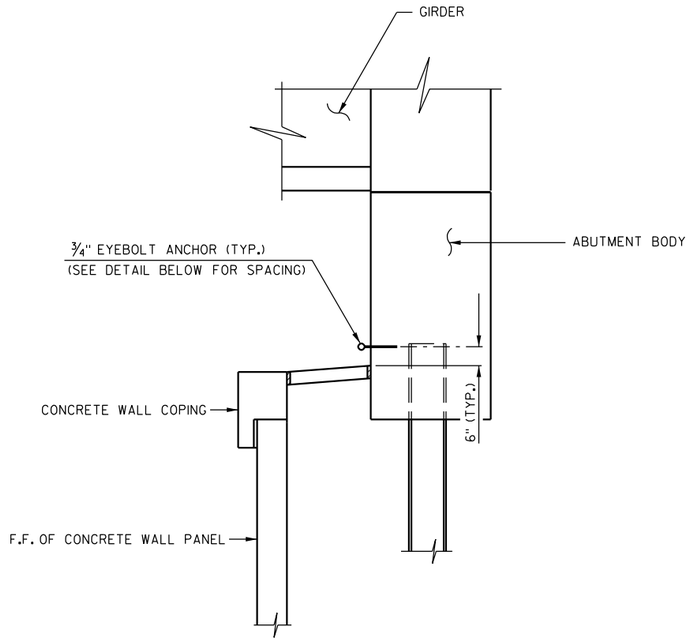
SHEET 33 OF 34
1794

8

8

FILE NAME : P:\134 USH 41 Bridges 1133-09-00\structures\B-5-618\33_aesthetics2_b-5-618.dgn
PLOT DATE : 10/23/2012

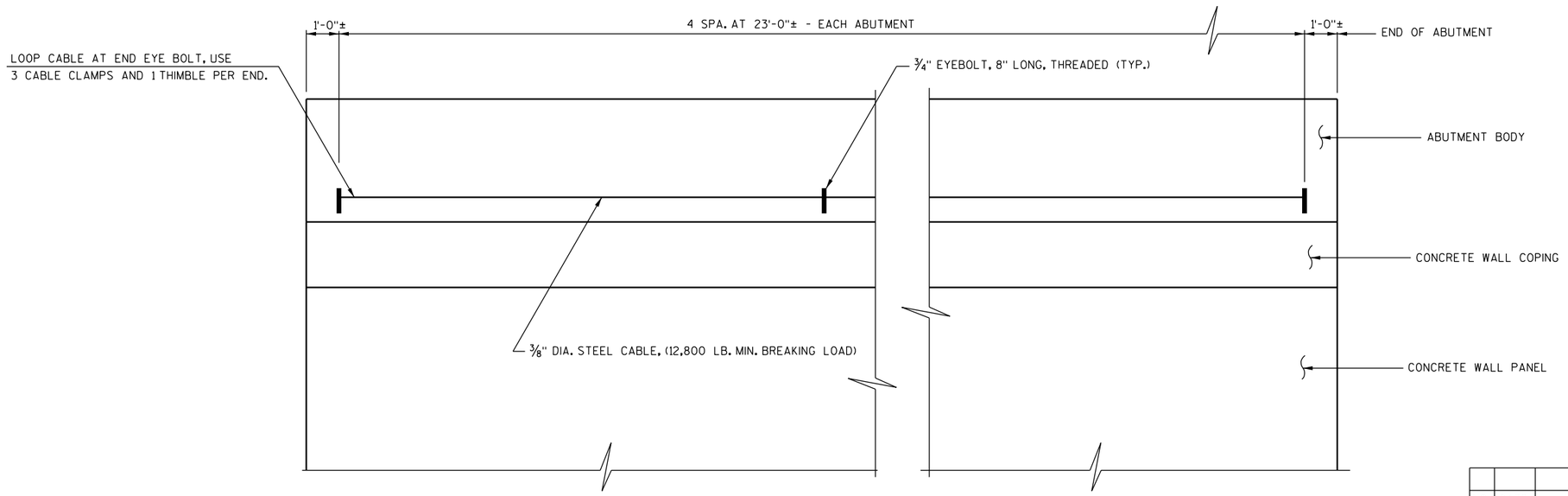
STATE PROJECT NUMBER
1133-09-71



TYPICAL SECTION THRU ABUTMENT BODY

NOTES

1. ALL LABOR AND MATERIAL (EYEBOLTS, CABLE AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4-INCH".
2. ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.
3. USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.
4. MASONRY ANCHORS TYPE S 3/4-INCH, MIN. PULLOUT CAPACITY OF 26 KIPS FOR ADHESIVE ANCHORS EMBEDDED A MIN. OF 7" IN CONCRETE.



PART FRONT VIEW OF ABUTMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-618

DRAWN BY TAW | PLANS CK'D. TR

FALL PROTECTION

SHEET 34 OF 34
1795

FILE NAME : P:\134 USH 41 Bridges 11133-09-00\structures\B-5-618\34_fallprot_b-5-618.dgn
PLOT DATE : 10/22/2012

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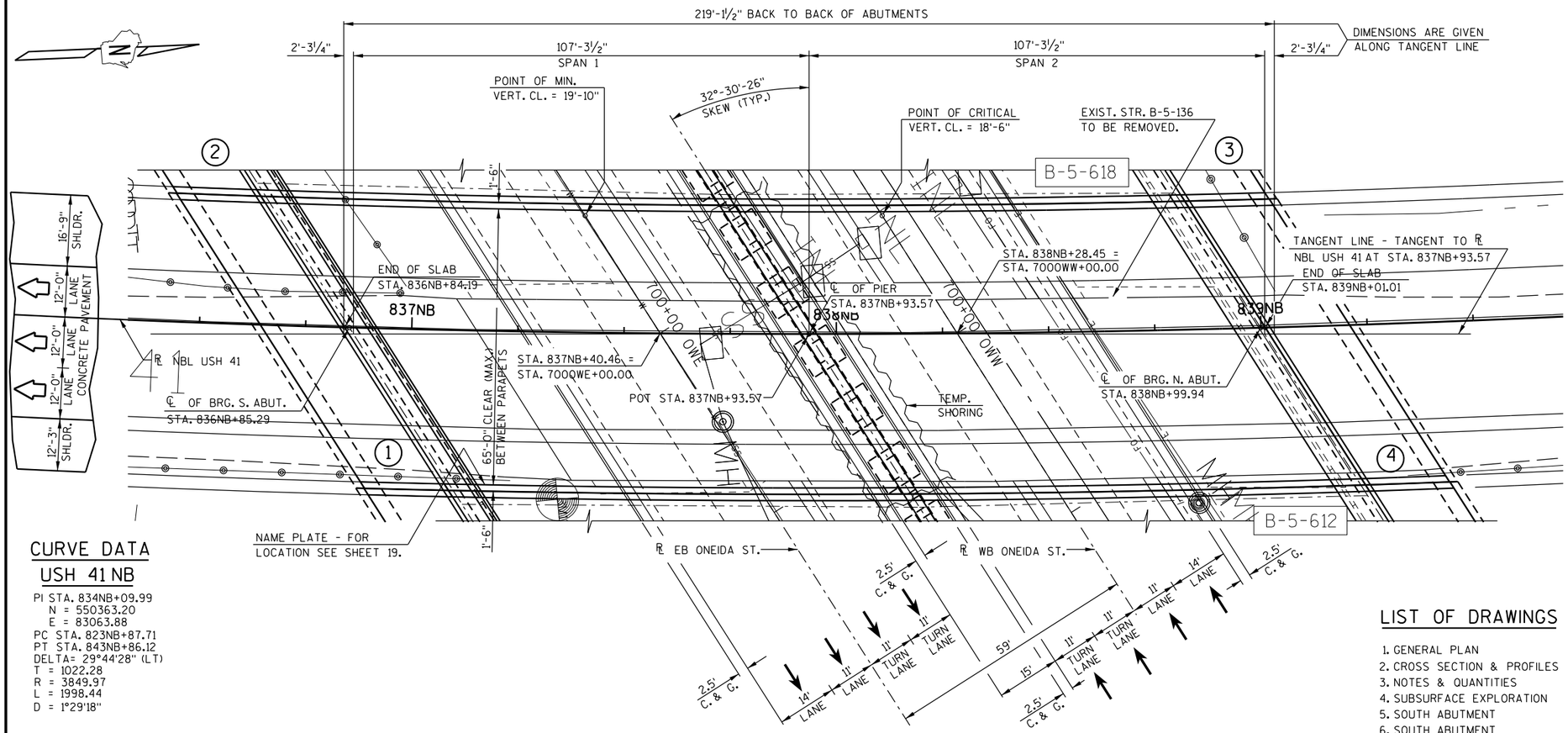
STATE PROJECT NUMBER

1133-09-71

(X) INDICATES WING NUMBER



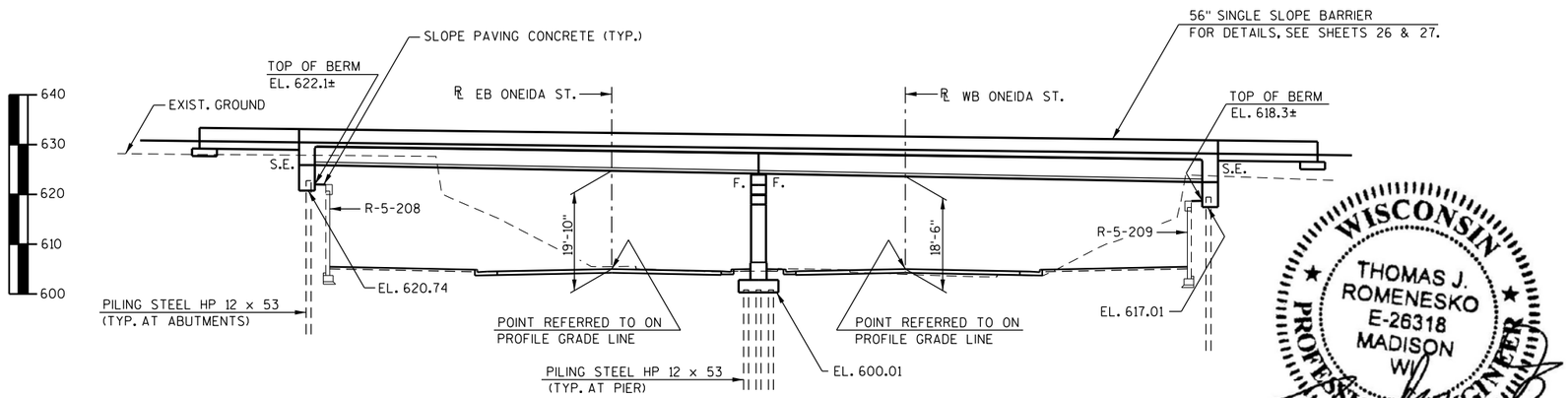
CURVE DATA
USH 41 NB

PI STA. 834NB+09.99
N = 550363.20
E = 83063.88
PC STA. 823NB+87.71
PT STA. 843NB+86.12
DELTA= 29°44'28" (LT)
T = 1022.28
R = 3849.97
L = 1998.44
D = 1°29'18"

PLAN - B-5-619
(2 SPAN - 45W" PRESTRESSED GIRDERS)

BENCH MARK TABLE

NO.	STATION	OFFSET	DESCRIPTION	ELEVATION
41014			DISK ON SE CORNER OF PARAPET WALL OF NB USH 41 OVER ONEIDA STREET #B-5-136-73	630.50



ELEVATION
(NORMAL TO ONEIDA STREET)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR (RF): 1.07
OPERATIONAL RATING FACTOR (RF): 1.63
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 250 KIPS

STRUCTURE IS DESIGNED FOR A 1½" SACRIFICIAL WEARING SURFACE, PLACED AT INITIAL CONSTRUCTION INTEGRAL WITH THE DECK. NO ALLOWANCE HAS BEEN MADE FOR A FUTURE WEARING SURFACE LOAD.

ULTIMATE DESIGN STRESSES:

HPC MASONRY STRUCTURES ——— f'_c = 4,000 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 ——— f_y = 60,000 P.S.I.
45W" PRESTRESSED GIRDERS - CONCRETE MASONRY ——— f'_c = 8,000 P.S.I.
STRANDS - 0.6" DIA. WITH AN ULTIMATE TENSILE STRENGTH OF ——— 270,000 P.S.I.

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 80'-0" LONG AT EACH ABUTMENT.

PIER TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 70'-0" LONG.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & PROFILES
3. NOTES & QUANTITIES
4. SUBSURFACE EXPLORATION
5. SOUTH ABUTMENT
6. SOUTH ABUTMENT
7. SOUTH ABUTMENT DETAILS
8. NORTH ABUTMENT
9. NORTH ABUTMENT
10. NORTH ABUTMENT DETAILS
11. ALTERNATE CONSTRUCTION JOINT
12. PIER
13. PIER DETAILS
14. PIER DETAILS
15. 45W" PRESTRESSED GIRDER DETAILS
16. 45W" PRESTRESSED GIRDER DETAILS
17. INTERMEDIATE STEEL DIAPHRAGMS
18. SUPERSTRUCTURE
19. SUPERSTRUCTURE
20. SUPERSTRUCTURE
21. SUPERSTRUCTURE
22. SUPERSTRUCTURE
23. SUPERSTRUCTURE
24. APPROACH APRON DETAILS
25. APPROACH APRON DETAILS
26. 56" SINGLE SLOPE MEDIAN BARRIER DETAILS
27. 56" SINGLE SLOPE MEDIAN BARRIER DETAILS
28. AESTHETIC DETAILS
29. FALL PROTECTION

TRAFFIC DATA:

NBL USH 41	ONEIDA STREET
A.D.T. (2015) = 16,000	A.D.T. (2015) = 24,900
A.D.T. (2035) = 20,600	A.D.T. (2035) = 30,000
DESIGN SPEED = 70 M.P.H.	DESIGN SPEED = 40 M.P.H.

NO.	DATE	REVISION	BY

Original Plans Prepared By
ROMENESKO ENGINEERING, INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR 02/13/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-5-619

USH 41 NB OVER ONEIDA STREET

COUNTY: BROWN
~~TOWN~~/CITY/~~VILLAGE~~: ASHWAUBENON
DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	TR	DESIGN CK'D.	VR	DRAWN BY	TAW	PLANS CK'D.	TR

GENERAL PLAN

SHEET 1 OF 29
1796

ROMENESKO ENGINEERING, INC.
CONTACT: TOM ROMENESKO, P.E.
7325 CEDAR CREST DRIVE
SAUK CITY, WI 53583
(608) 644-1502

BRIDGE OFFICE CONTACT:
WILLIAM DREHER, P.E.
(608) 266-8489

WISCONSIN
THOMAS J. ROMENESKO
E-26318
MADISON
WI
PROFESSIONAL ENGINEER
1/28/13

I.D. 1133-09-00 DATE : 1/28/2013

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-619\01.genplan.v8.b-5-619.dgn
PLOT DATE : 1/28/2013

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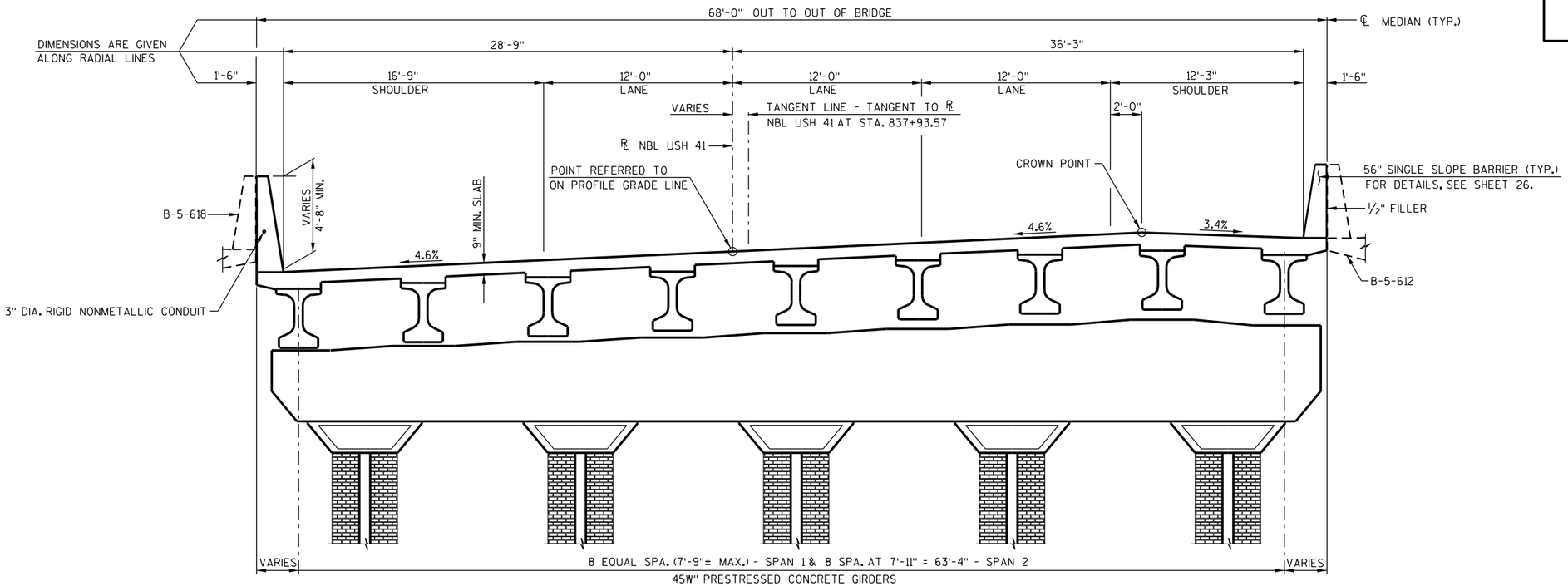
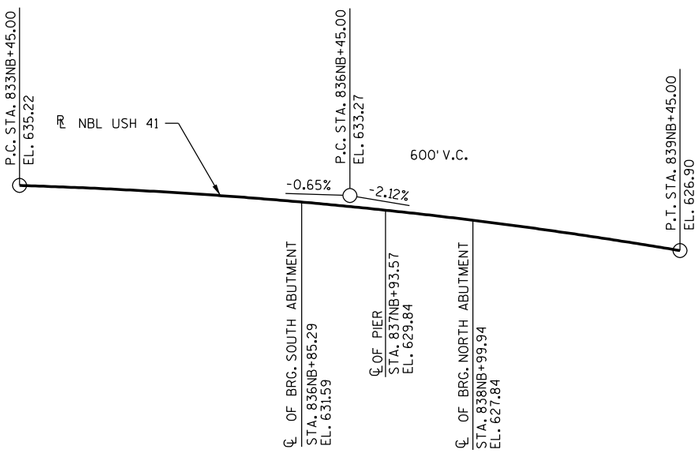
STATE PROJECT NUMBER
1133-09-71

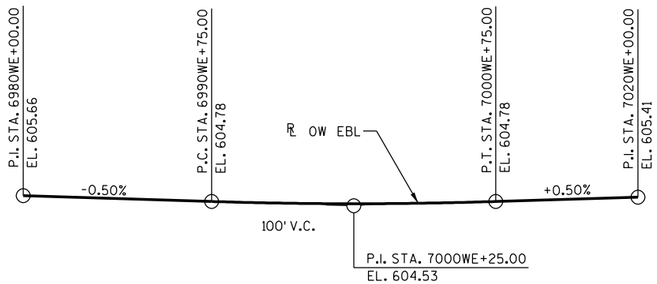


CROSS SECTION THRU ROADWAY

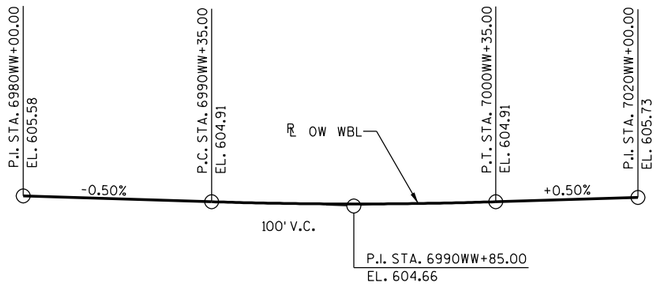
(LOOKING NORTH)



PROFILE GRADE LINE, NBL USH 41



PROFILE GRADE LINE, EBL ONEIDA ST./WAUBE LANE



PROFILE GRADE LINE, WBL ONEIDA ST./WAUBE LANE

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-619\02_sections\profiles_b-5-619.dgn
PLOT DATE : 10/23/2012

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

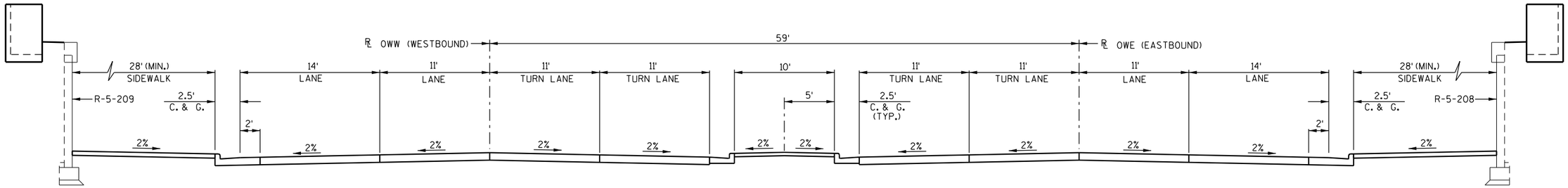
STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

CROSS SECTION & PROFILES

SHEET 2 OF 29
1797

STATE PROJECT NUMBER
1133-09-71



TYPICAL SECTION THRU ONEIDA STREET/WAUBE LANE (AT STRUCTURE)
(LOOKING EAST)

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	SOUTH ABUTMENT	PIER	NORTH ABUTMENT	SUPER.	APPROACH APRON	TOTAL
203.0200	REMOVING OLD STRUCTURE STA. 838SB+15.02	LS	———	———	———	———	———	1
203.0225.S	DEBRIS CONTAINMENT STRUCTURE B-5-136	LS	———	———	———	———	———	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-5-619	LS	———	———	———	———	———	1
206.6000.S	TEMPORARY SHORING	SF	———	920	———	———	———	920
210.0100	BACKFILL STRUCTURE	CY	310	150	290	———	———	750
502.3200	PROTECTIVE SURFACE TREATMENT	SY	———	———	———	1,923	335	2,278
502.6110	MASONRY ANCHORS TYPE S 3/4-INCH	EACH	5	———	5	———	———	10
503.0146	PRESTRESSED GIRDER TYPE I45W-INCH	LF	———	———	———	1,939	———	1,939
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	4,800	3,010	4,650	———	———	12,460
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	———	29,620	———	105,640	39,140	174,400
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	9	18	9	———	———	36
506.4000	STEEL DIAPHRAGMS B-5-619	EACH	———	———	———	32	———	32
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	15	———	15	———	———	30
550.1120	PILING STEEL HP 12-INCH x 53 LB	LF	960	2,450	960	———	———	4,370
604.0400	SLOPE PAVING CONCRETE	SY	20	———	19	———	———	39
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	90	———	80	———	360	530
652.0135	CONDUIT RIGID METALLIC 3-INCH	LF	———	———	———	10	40	50
652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	LF	———	———	———	210	———	210
SPV.0035.700	HPC MASONRY STRUCTURES	CY	63	147	60	672	205	1,147
SPV.0085.700	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	———	———	———	2,250	———	2,250
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	———	700	———	———	———	700
SPV.0165.501	STAINING CONCRETE	SF	643	1,342	577	———	———	2,562
SPV.0165.502	STAINING CONCRETE BRICK	SF	———	700	———	———	———	700
SPV.0165.700	LONGITUDINAL GROOVING BRIDGE DECK	SF	———	———	———	14,089	2,600	16,689
	NON - BID ITEMS							
	FILLER	SIZE	———	———	———	———		½" & ¾"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE. THE TOP LAYER OF BAR STEEL IN THE DECK SHALL BE PLACED WITH 3½" CLEAR COVER.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M153, TYPES I, II OR III OR M213.

THE AREA OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING CONCRETE, TO THE LIMITS SHOWN ON SHEET 1, ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER.

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

FILL/EXCAVATE TO BOTTOM OF ABUTMENT/PIER ELEVATION BEFORE DRIVING PILING.

AT THE BACKFACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE, SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.

THE FINISHED GRADED SECTION SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE EXISTING GROUND LINE SHALL BE THE UPPER LIMITS OF EXCAVATION AT THE PIER.

THE ELASTOMERIC BEARING PADS NON-LAMINATED NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE SUPERSTRUCTURE SHEET.

ALL STATIONS AND ALL ELEVATIONS ARE IN FEET.

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF THE DECK, TOP OF APPROACH APRONS, INSIDE FACE OF PARAPETS AND TOP OF PARAPETS ON BOTH THE DECK AND APPROACH APRONS.

THE STRUCTURE SHALL BE PAINTED IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND THE STAINING DETAILS PROVIDED IN THIS PLAN.

THE EXIST. STR., B-05-136, A TWO SPAN STEEL PLATE GIRDER BRIDGE WITH AN OVERALL WIDTH OF 43.83' AND AN OVERALL LENGTH OF 188.6'± IS TO BE REMOVED AND REPLACED WITH STR. B-5-619.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

QUANTITIES & NOTES

SHEET 3 OF 29
1798

FILE NAME : P:\134 USH 41 Bridges \1133-09-00\structures\B-5-619\03_quants_notes_b-5-619.dgn
PLOT DATE : 10/30/2012

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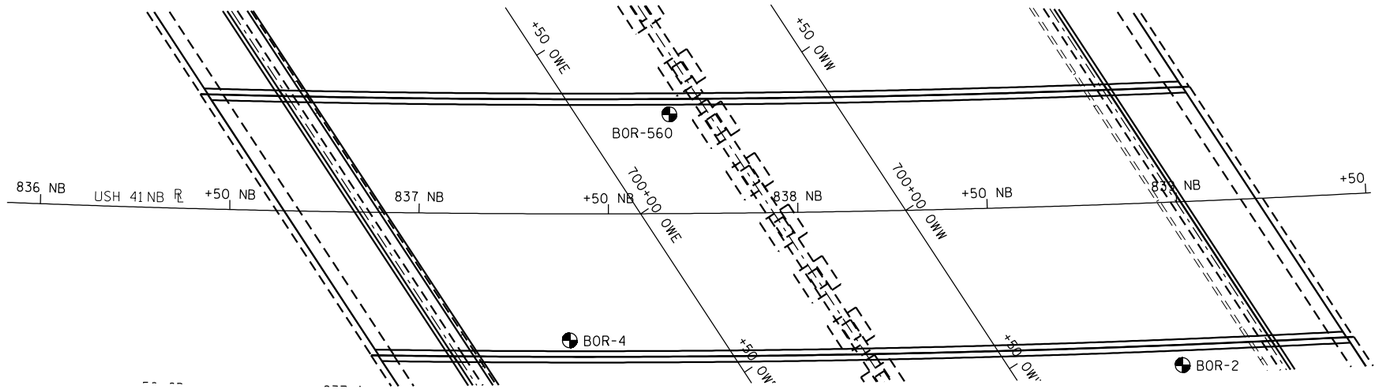
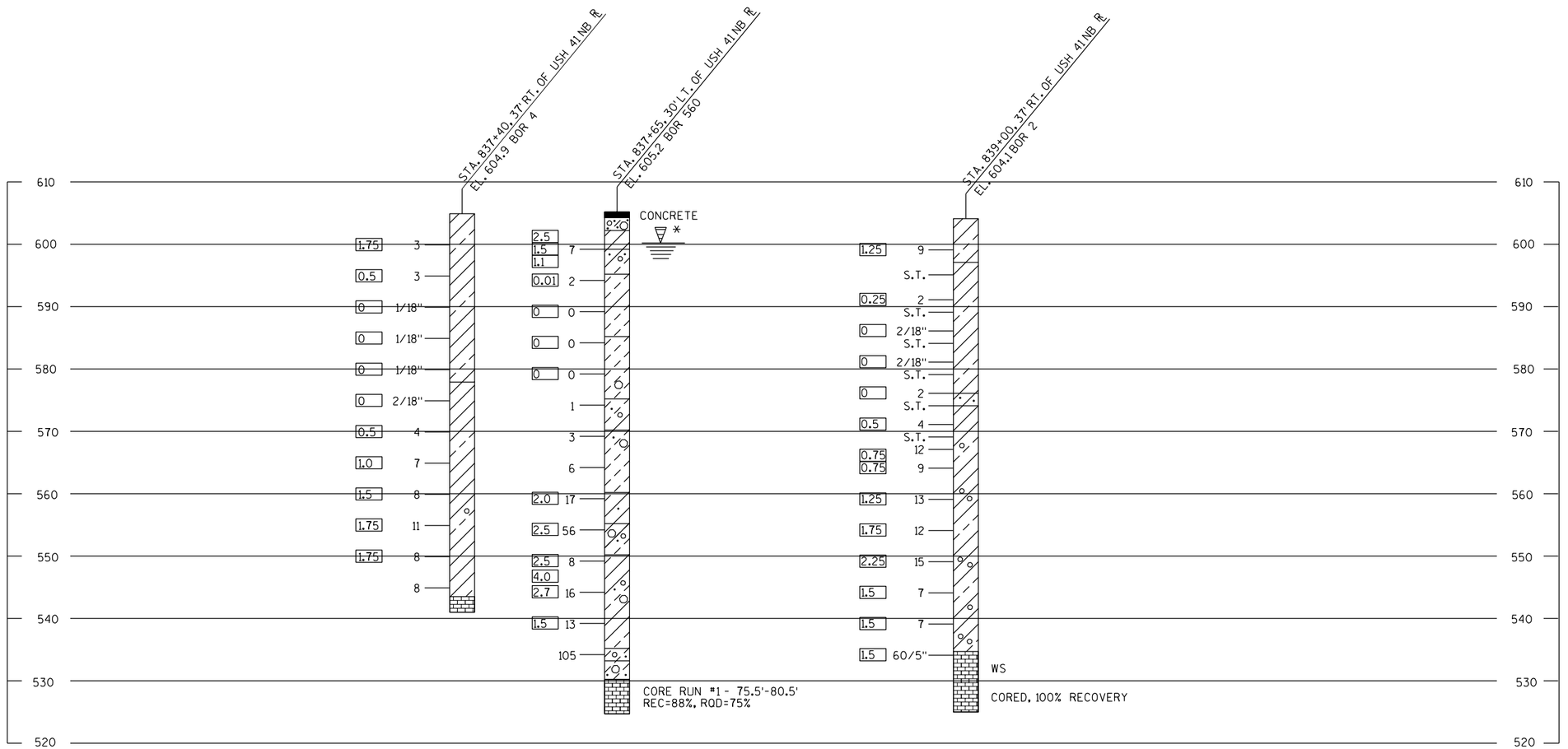
USH 41 OVER ONEIDA STREET (CTH AAA)
DEPERE - SUAMICO





BORINGS 2 AND 4 WERE DERIVED FROM THE EXISTING 1974 STRUCTURE PLAN SHEETS, B-5-136.

* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

STATE PROJECT NUMBER

1133-09-71

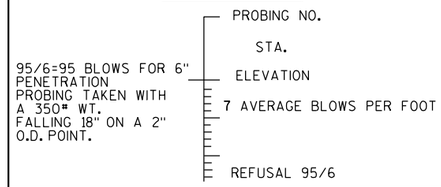
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

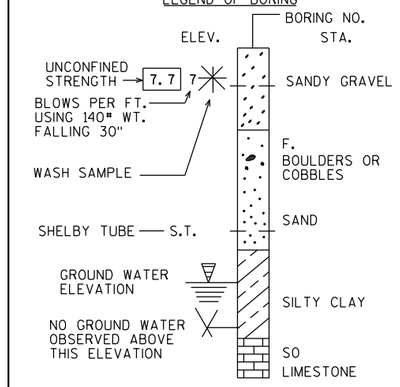
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY PR | PLANS CK'D.

SUBSURFACE EXPLORATION

SHEET 4 OF 29
1799

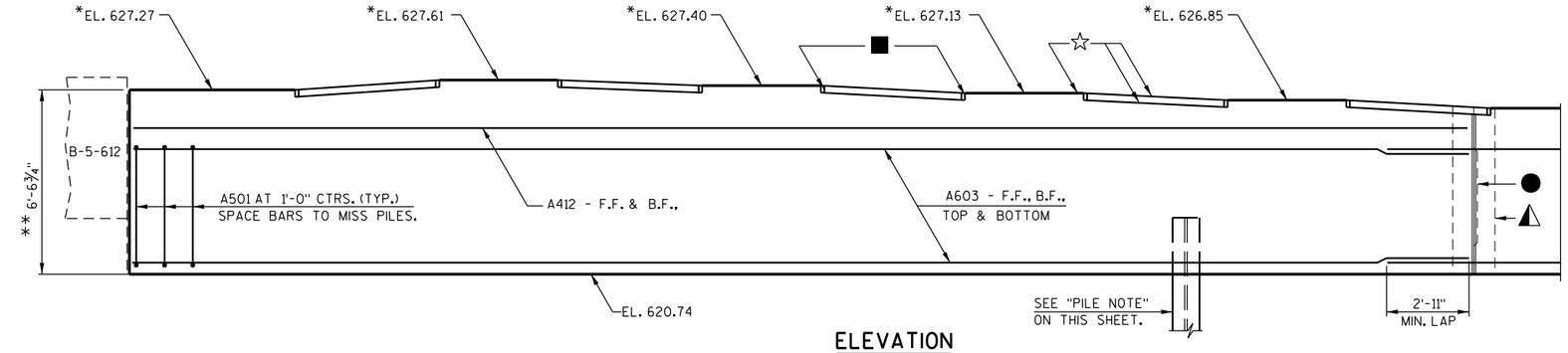
8

8

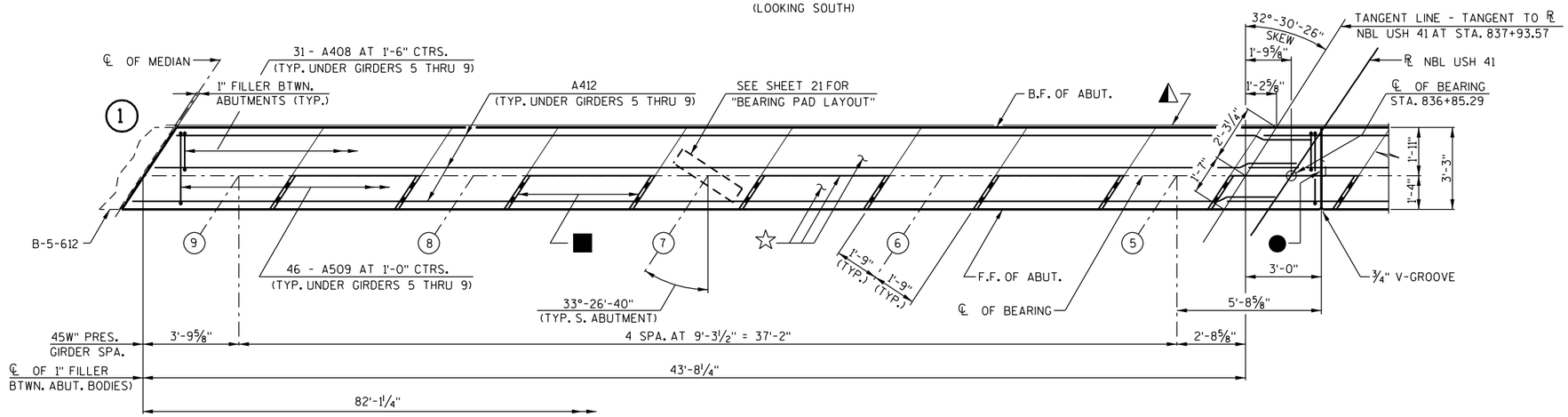
SCALE =

STATE PROJECT NUMBER

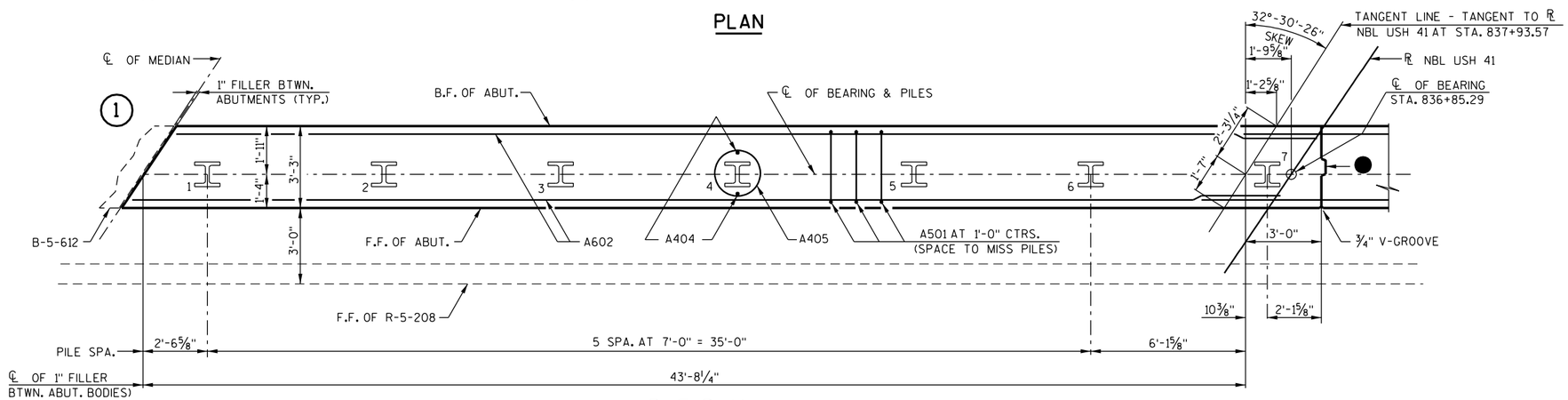
1133-09-71



ELEVATION
(LOOKING SOUTH)



PLAN



PILE PLAN

LEGEND

* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.

** DIMENSIONS ARE GIVEN AT THE B.F. OF ABUTMENT.

△ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

● KEYED CONST. JOINT FORMED BY A BEVELED 2" x 8".

■ ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

☆ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

(X) INDICATES CORNER NUMBER

NOTES: SEE "PLAN" VIEW AND "TYPICAL SECTION THRU BODY" ON SHEET 7 FOR ADDITIONAL BAR STEEL REINFORCEMENT DETAILS AT GIRDER SEATS.
FOR "TYPICAL SECTION THRU BODY", SEE SHEET 7.
LAP NO. 4 BARS 1'-11" MIN.
LAP NO. 6 BARS 2'-11" MIN.

PILE NOTE

SOUTH ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 80' LONG. FOR PILE SPLICE DETAILS, SEE SHEET 7.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

SOUTH ABUTMENT

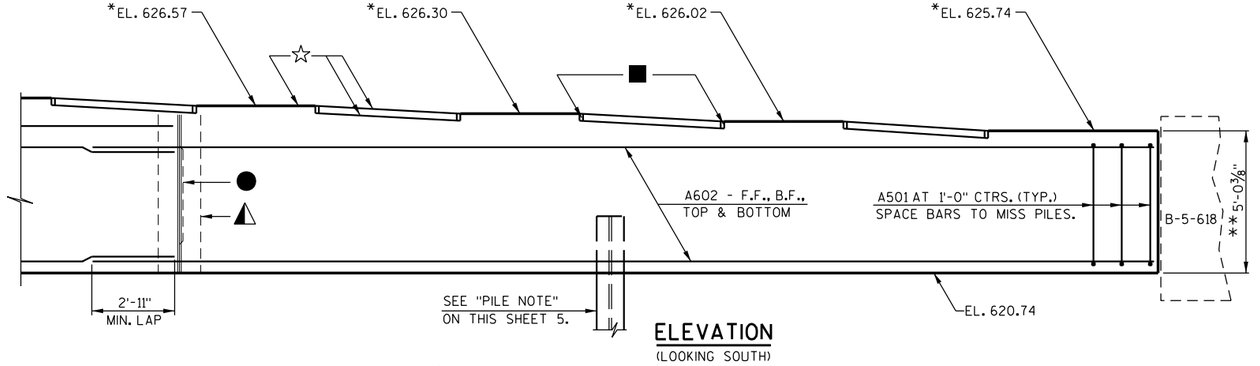
SHEET 5 OF 29
1800

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-619\05_sabut1_b-5-619.dgn
PLOT DATE : 10/23/2012

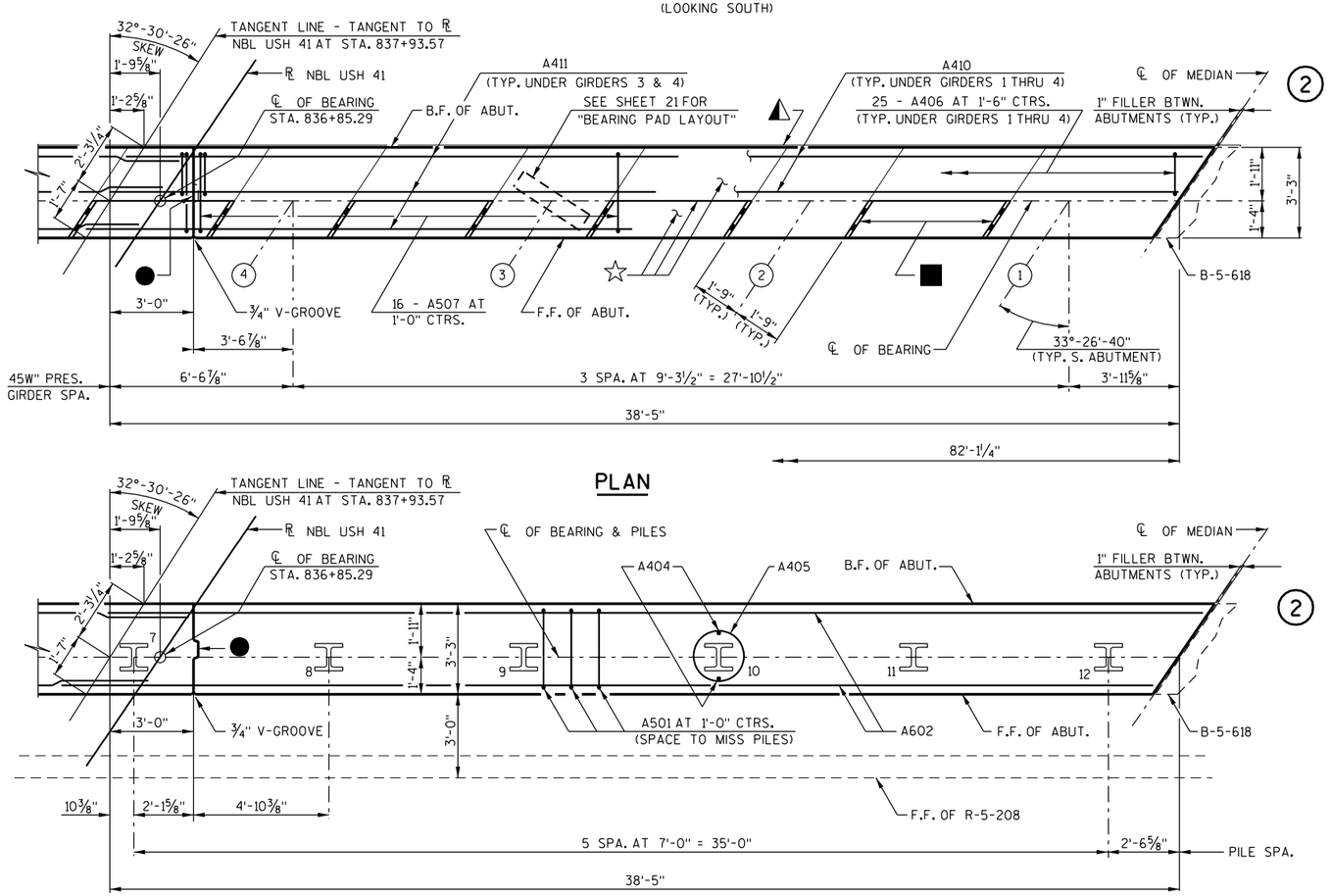
8

8

STATE PROJECT NUMBER
1133-09-71

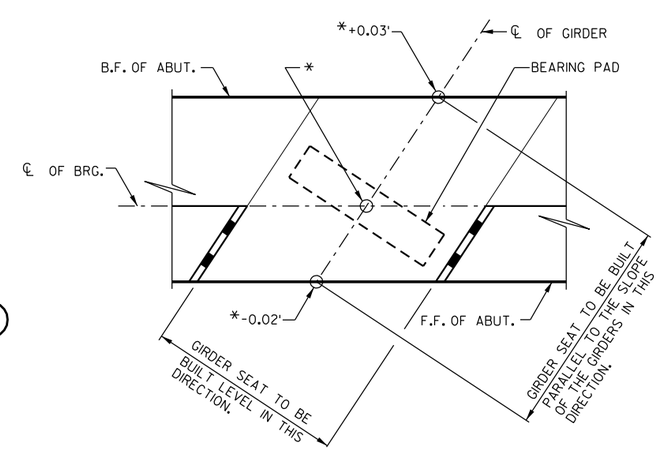


ELEVATION
(LOOKING SOUTH)



PLAN

PILE PLAN



GIRDER SEAT DETAIL

LEGEND

* ● ◭ ■ ** ☆ FOR SYMBOL DESCRIPTIONS, SEE SHEET 5.

(X) INDICATES CORNER NUMBER

NOTES: SEE "PLAN" VIEW AND "TYPICAL SECTION THRU BODY" ON SHEET 7 FOR ADDITIONAL BAR STEEL REINFORCEMENT DETAILS AT GIRDER SEATS.
FOR "TYPICAL SECTION THRU BODY", SEE SHEET 7.
LAP NO. 4 BARS 1'-11" MIN.
LAP NO. 6 BARS 2'-11" MIN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

SOUTH ABUTMENT

SHEET 6 OF 29
1801

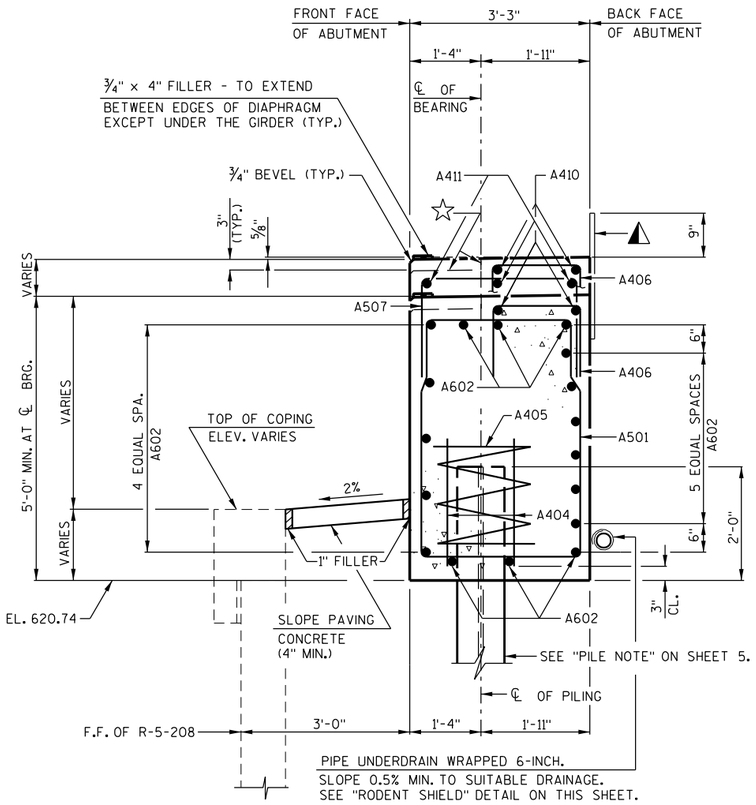
FILE NAME : P:\134 USH 41 Bridges \1133-09-00\structures\B-5-619(06.sabut2.b-5-619.dgn
PLOT DATE : 10/23/2012

8

8

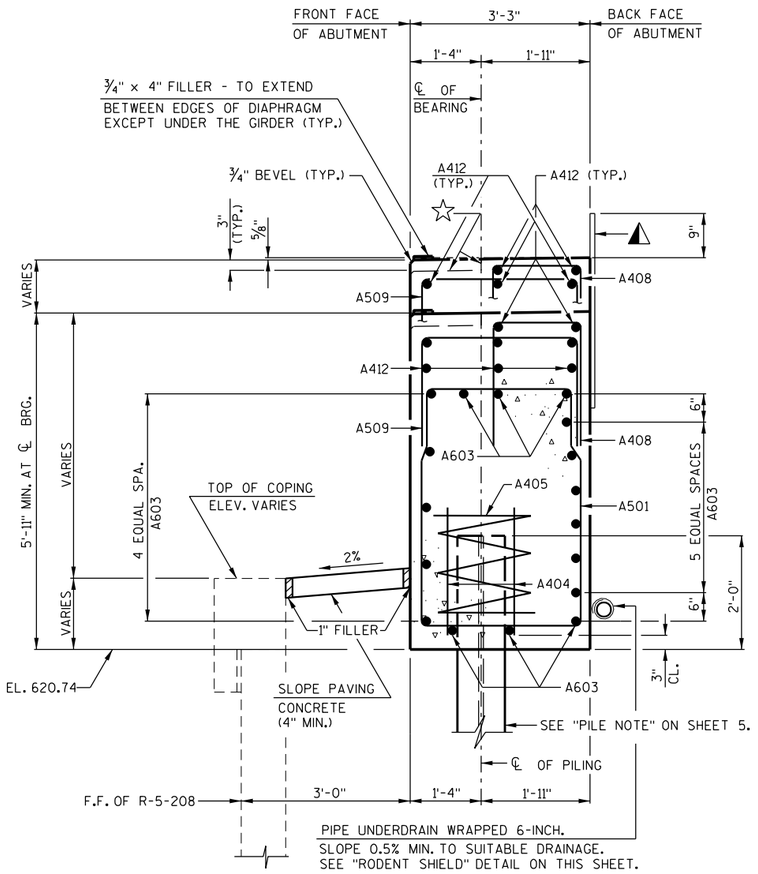
STATE PROJECT NUMBER

1133-09-71



TYPICAL SECTION THRU BODY

(LOOKING EAST AT BODY ON WEST SIDE OF CONSTRUCTION JOINT)



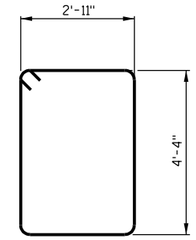
TYPICAL SECTION THRU BODY

(LOOKING EAST AT BODY ON EAST SIDE OF CONSTRUCTION JOINT)

BILL OF BARS

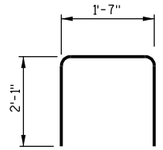
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 4,800 LBS.
A501	83	15-1	X		BODY - STIRRUPS	VERT.
A602	17	39-5			BODY - TOP, BOTTOM, F.F. & B.F.	HORIZ.
A603	17	45-2			BODY - TOP, BOTTOM, F.F. & B.F.	HORIZ.
A404	24	2-3			BODY - AT PILES - 2 PER PILE	VERT.
A405	12	28-0	X		BODY - AT PILES - 1 PER PILE - SPIRAL WRAP	VERT.
A406	25	5-7	X		BODY - TOP - AT GIRDERS 1 THRU 4	VERT.
A507	16	6-4	X		BODY - TOP - AT GIRDERS 3 & 4	VERT.
A408	31	7-3	X		BODY - TOP - AT GIRDERS 5 THRU 9	VERT.
A509	46	8-0	X		BODY - TOP - AT GIRDERS 5 THRU 9	VERT.
A410	2	38-8			BODY - TOP - AT GIRDERS 1 THRU 4	HORIZ.
A411	3	19-9			BODY - TOP - AT GIRDERS 3 & 4	HORIZ.
A412	8	45-2			BODY - TOP - AT GIRDERS 5 THRU 9	HORIZ.



A501

A405



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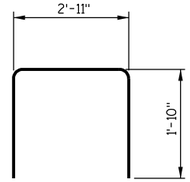

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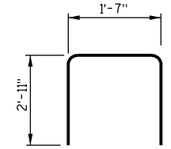

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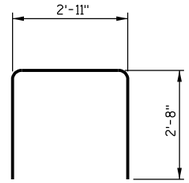
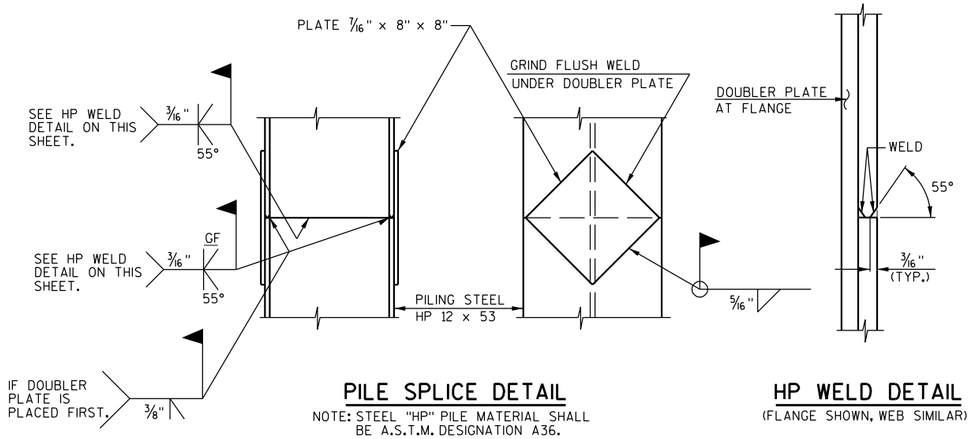


A509

LEGEND

☆ ◭ FOR SYMBOL DESCRIPTIONS, SEE SHEET 5.

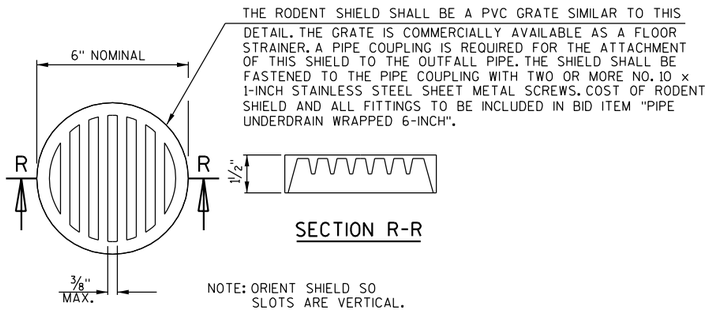


PILE SPLICE DETAIL

NOTE: STEEL "HP" PILE MATERIAL SHALL BE A.S.T.M. DESIGNATION A36.

HP WELD DETAIL

(FLANGE SHOWN, WEB SIMILAR)



THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 × 1-INCH STAINLESS STEEL SHEET METAL SCREWS. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

SECTION R-R

NOTE: ORIENT SHIELD SO SLOTS ARE VERTICAL.

RODENT SHIELD

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

SOUTH ABUTMENT DETAILS

SHEET 7 OF 29
1802

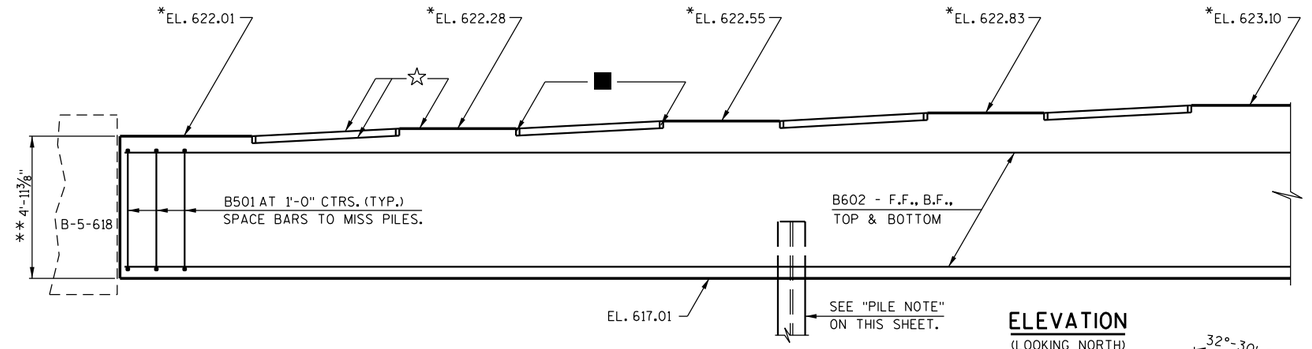
8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-619\07_sabutdet_b-5-619.dgn
PLOT DATE : 10/23/2012

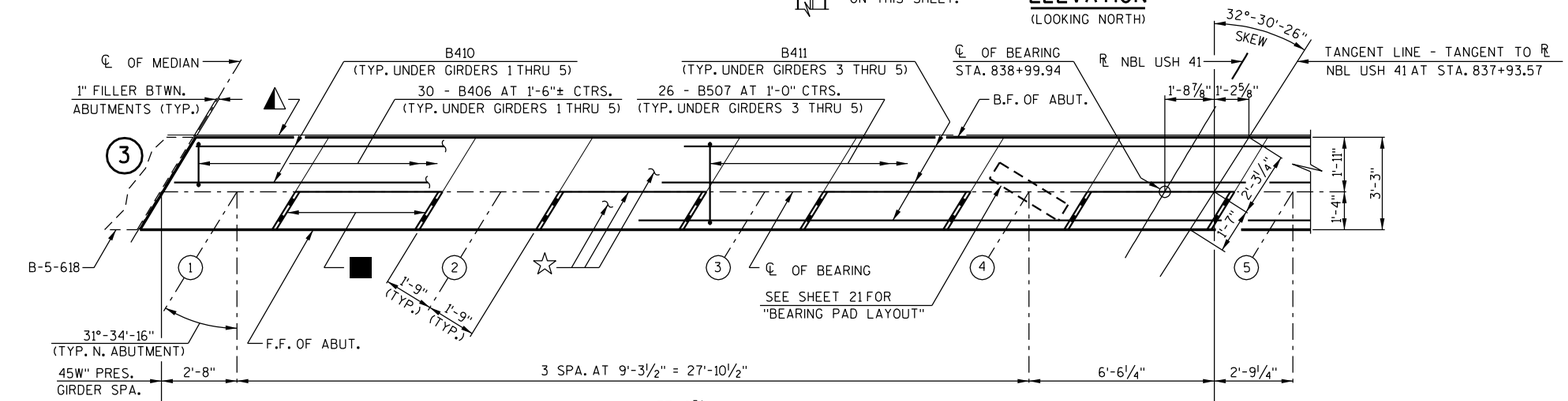
STATE PROJECT NUMBER

1133-09-71

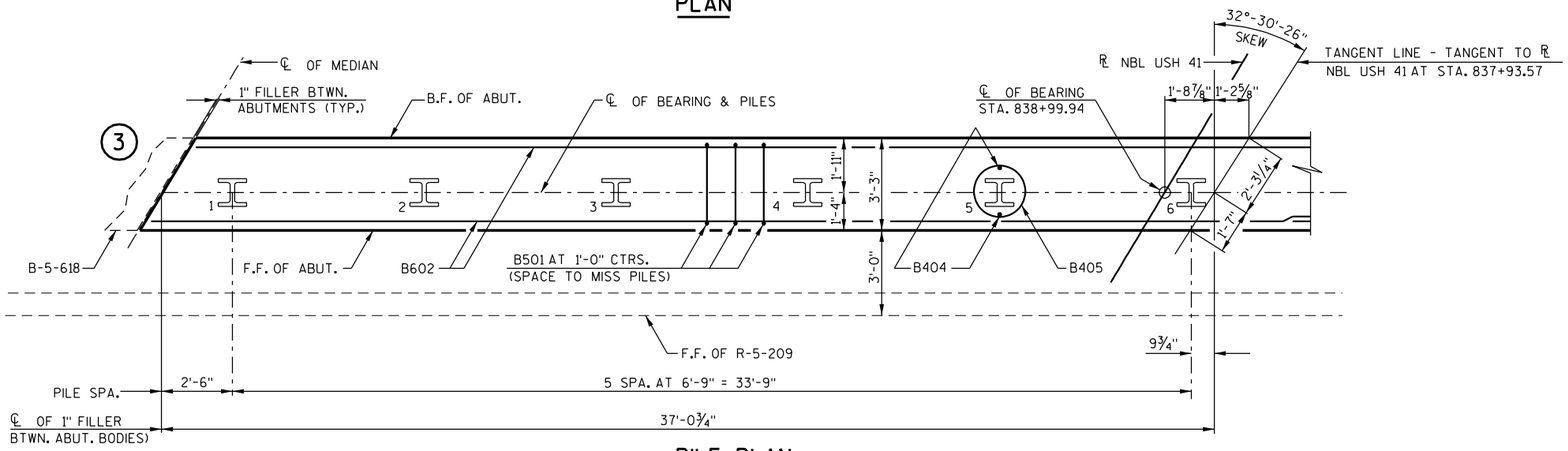


ELEVATION

(LOOKING NORTH)



PLAN



PILE PLAN

LEGEND

* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.

** DIMENSIONS ARE GIVEN AT THE B.F. OF ABUTMENT.

◭ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

● KEYED CONST. JOINT FORMED BY A BEVELED 2" x 8".

■ ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

☆ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

(X) INDICATES CORNER NUMBER

NOTES: SEE "PLAN" VIEW AND "TYPICAL SECTION THRU BODY" ON SHEET 10 FOR ADDITIONAL BAR STEEL REINFORCEMENT DETAILS AT GIRDER SEATS.

FOR "TYPICAL SECTION THRU BODY", SEE SHEET 10.

LAP NO. 4 BARS 1'-11" MIN.

LAP NO. 6 BARS 2'-11" MIN.

PILE NOTE

NORTH ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 80' LONG. FOR PILE SPLICE DETAILS, SEE SHEET 7.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

NORTH ABUTMENT

SHEET 8 OF 29
1803

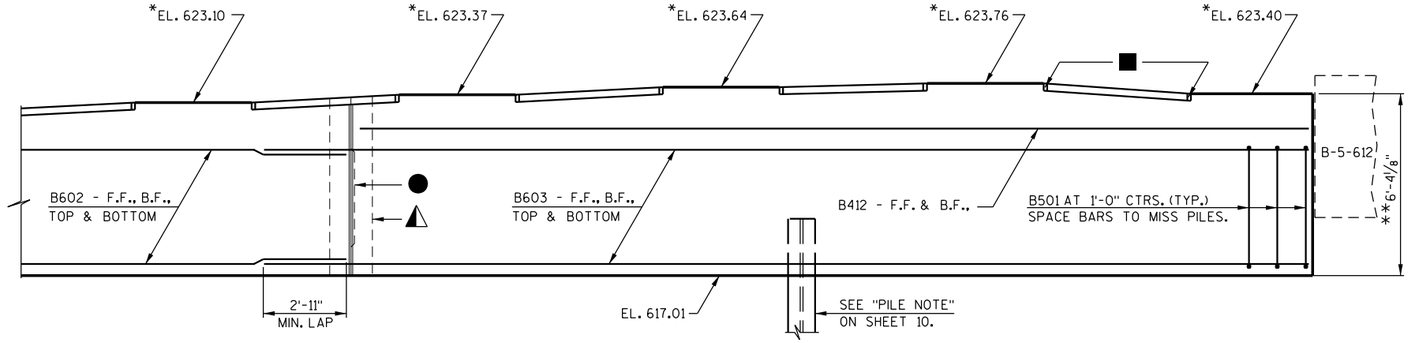
8

8

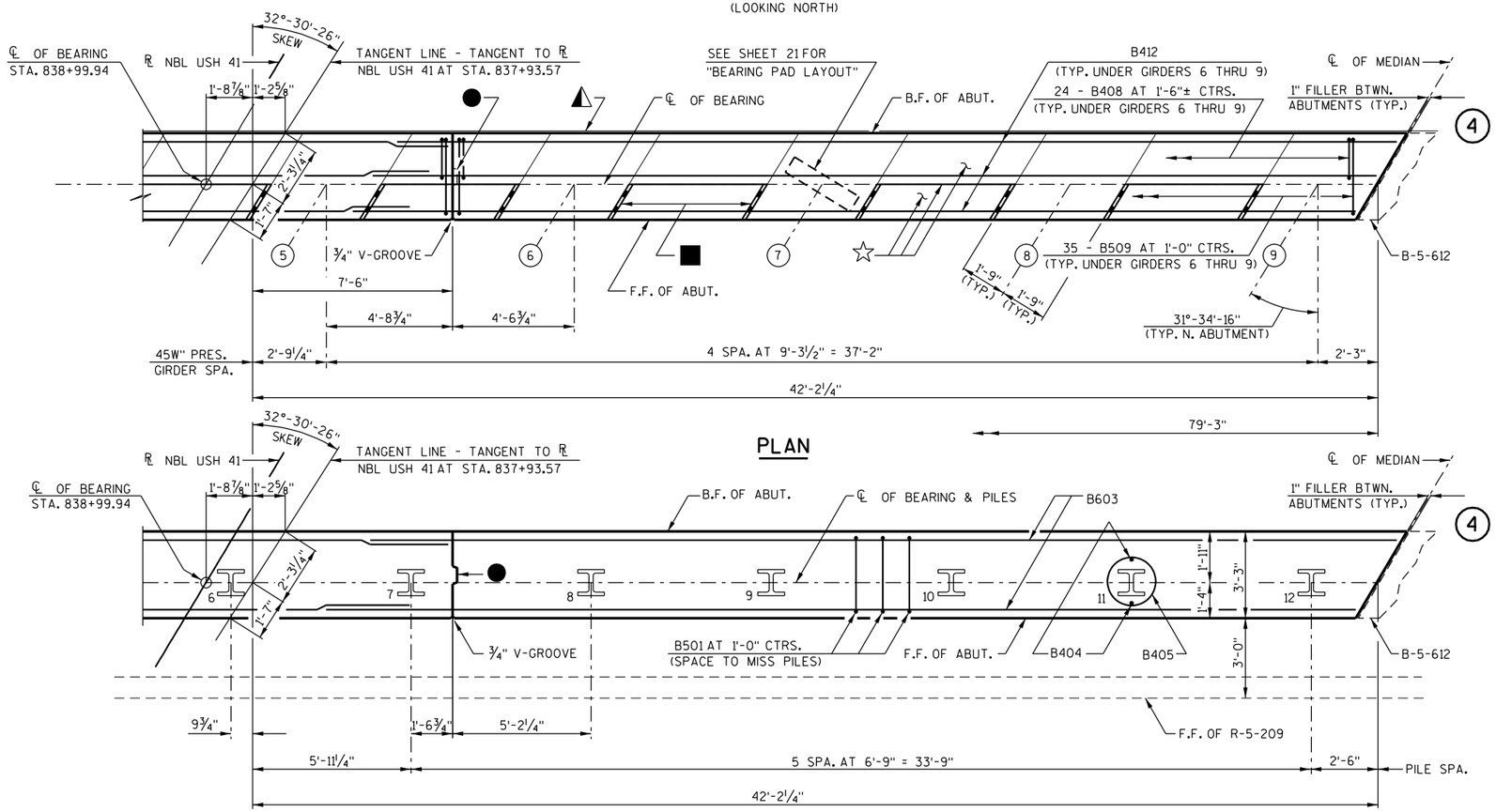
FILE NAME : P:\134 USH 41 Bridges 11133-09-00\structures\B-5-619\08_ndsurf1.b-5-619.dgn
PLOT DATE : 10/23/2012

STATE PROJECT NUMBER

1133-09-71

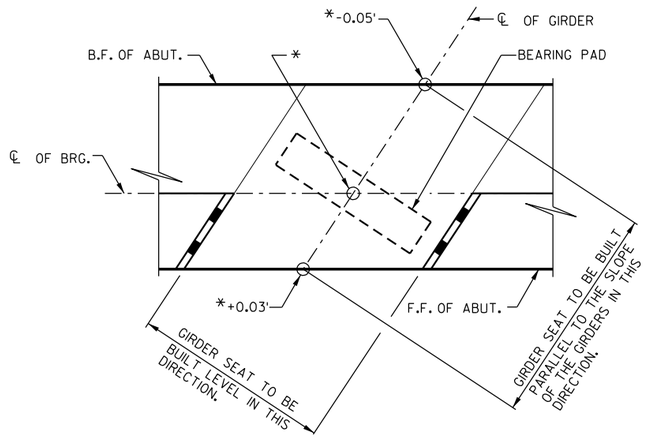


ELEVATION
(LOOKING NORTH)



PLAN

PILE PLAN



GIRDER SEAT DETAIL

LEGEND

* ● ◭ ■ ** ☆ FOR SYMBOL DESCRIPTIONS, SEE SHEET 8.

(X) INDICATES CORNER NUMBER

NOTES: SEE "PLAN" VIEW AND "TYPICAL SECTION THRU BODY" ON SHEET 10 FOR ADDITIONAL BAR STEEL REINFORCEMENT DETAILS AT GIRDER SEATS.
FOR "TYPICAL SECTION THRU BODY", SEE SHEET 10.
LAP NO. 4 BARS 1'-11" MIN.
LAP NO. 6 BARS 2'-11" MIN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

NORTH ABUTMENT

SHEET 9 OF 29
1804

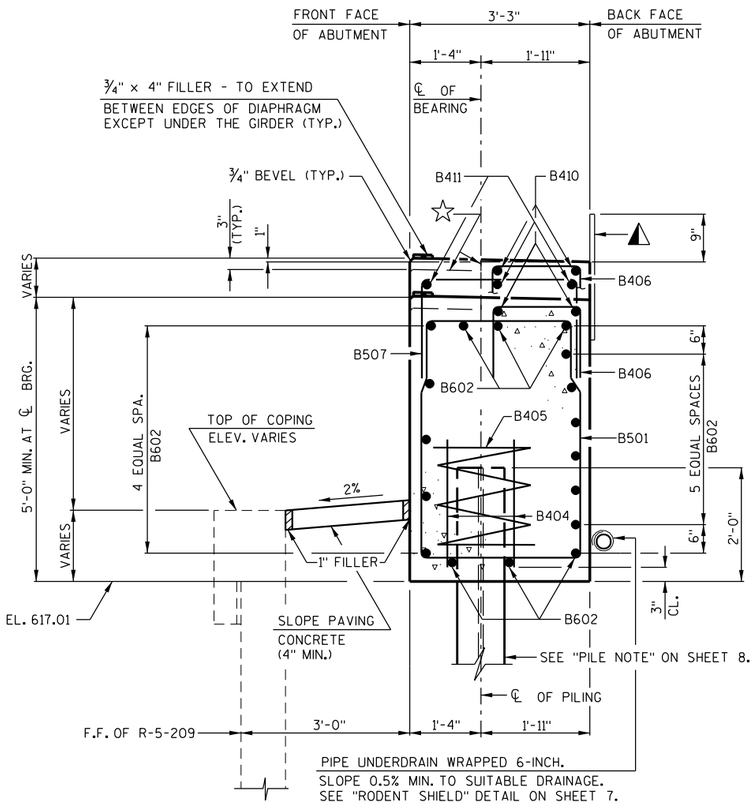
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\8-5-619\09_ndsurf2_b-5-619.dgn
PLOT DATE : 10/23/2012

8

8

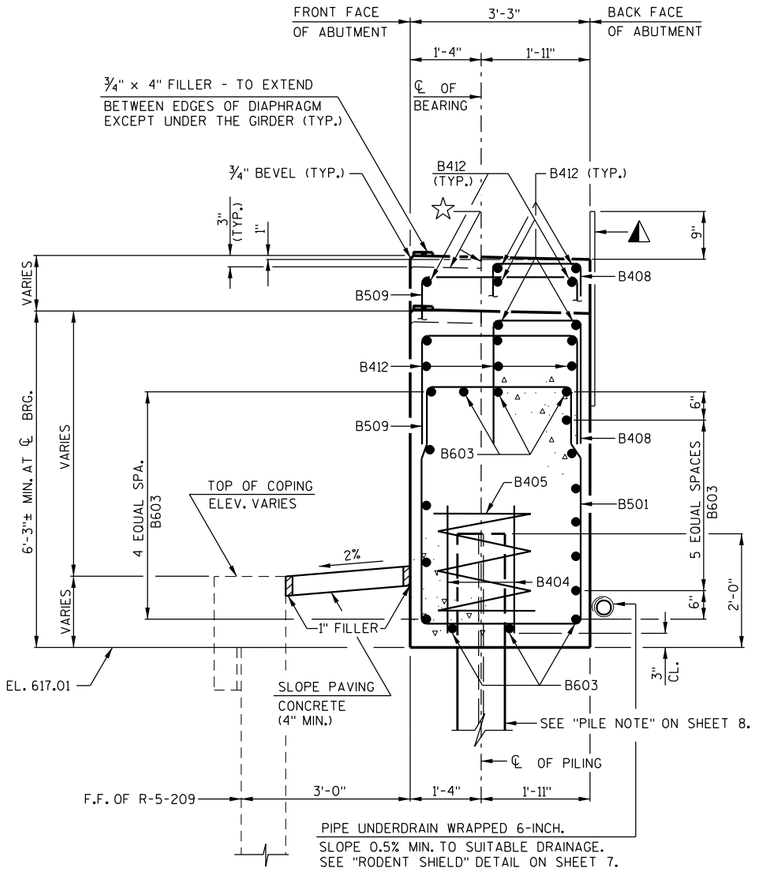
STATE PROJECT NUMBER

1133-09-71



TYPICAL SECTION THRU BODY

(LOOKING WEST AT BODY ON WEST SIDE OF CONSTRUCTION JOINT)



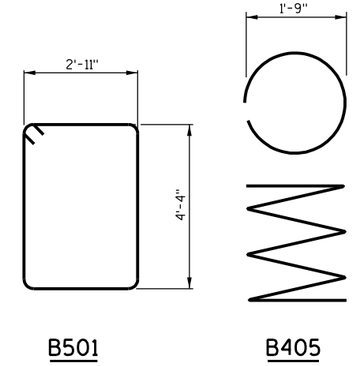
TYPICAL SECTION THRU BODY

(LOOKING WEST AT BODY ON EAST SIDE OF CONSTRUCTION JOINT)

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 4,650 LBS.
B501	80	15-1	X		BODY - STIRRUPS	VERT.
B602	17	43-0			BODY - TOP, BOTTOM, F.F. & B.F.	HORIZ.
B603	17	38-9			BODY - TOP, BOTTOM, F.F. & B.F.	HORIZ.
B404	24	2-3			BODY - AT PILES - 2 PER PILE	VERT.
B405	12	28-0	X		BODY - AT PILES - 1 PER PILE - SPIRAL WRAP	VERT.
B406	30	6-1	X		BODY - TOP - AT GIRDERS 1 THRU 5	VERT.
B507	26	6-10	X		BODY - TOP - AT GIRDERS 3 THRU 5	VERT.
B408	24	7-5	X		BODY - TOP - AT GIRDERS 6 THRU 9	VERT.
B509	35	8-2	X		BODY - TOP - AT GIRDERS 6 THRU 9	VERT.
B410	2	43-0			BODY - TOP - AT GIRDERS 1 THRU 5	HORIZ.
B411	3	26-0			BODY - TOP - AT GIRDERS 3 THRU	HORIZ.
B412	8	37-9			BODY - TOP - AT GIRDERS 6 THRU 9	HORIZ.



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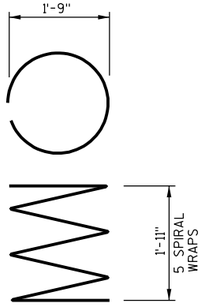

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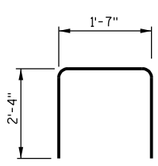

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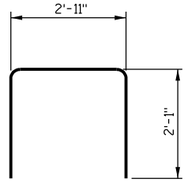

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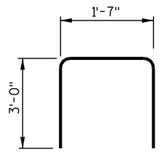

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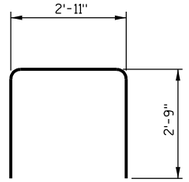


B509

LEGEND

☆ ◭ FOR SYMBOL DESCRIPTIONS, SEE SHEET 8.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

NORTH ABUTMENT DETAILS

SHEET 10 OF 29
1805

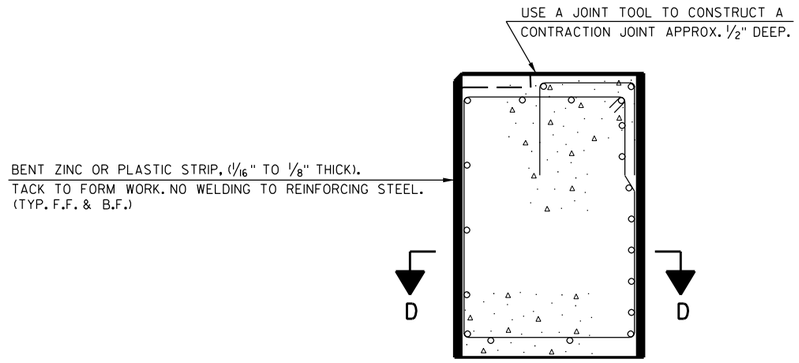
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-619\10_nabutdet_b-5-619.dgn
PLOT DATE : 10/23/2012

8

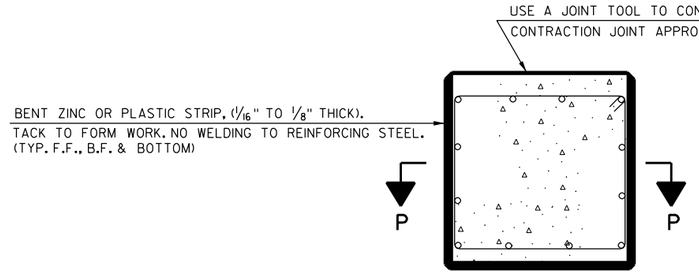
8

STATE PROJECT NUMBER

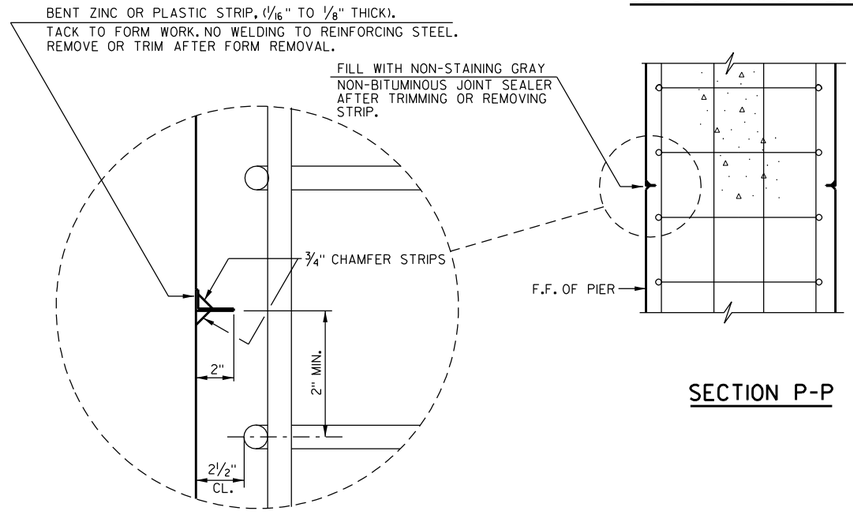
1133-09-71



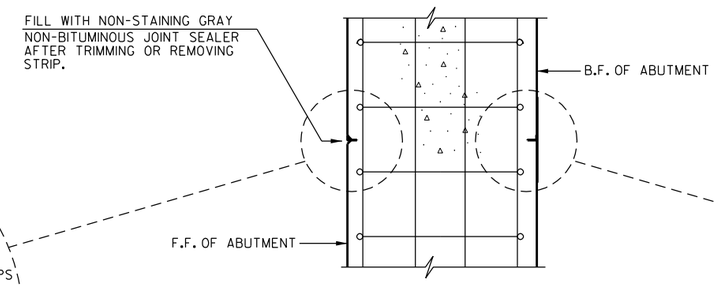
SECTION THRU ABUTMENT BODY



SECTION THRU PIER CAP

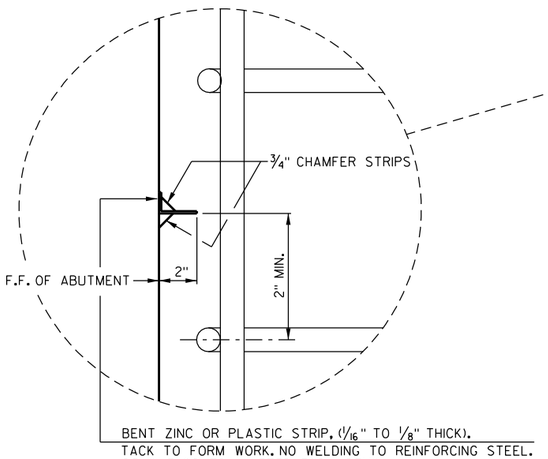


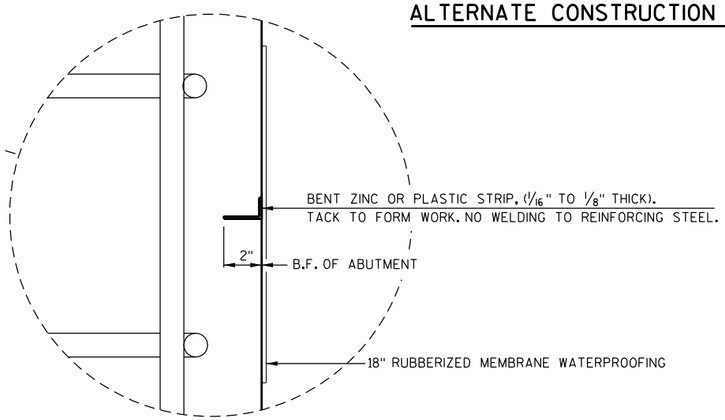
SECTION P-P



SECTION D-D

ALTERNATE CONSTRUCTION JOINT AT PIER CAP





ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

ALTERNATE CONSTRUCTION JOINT

SHEET 11 OF 29
1806

8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-619\11_altconstjt_b-5-619.dgn
PLOT DATE : 10/23/2012

NOTE: ARCHITECTURAL SURFACE TREATMENT AND REVEALS NOT SHOWN FOR CLARITY AT COLUMN 1. FOR COLUMN DETAILS, SEE SHEET 13.

STATE PROJECT NUMBER

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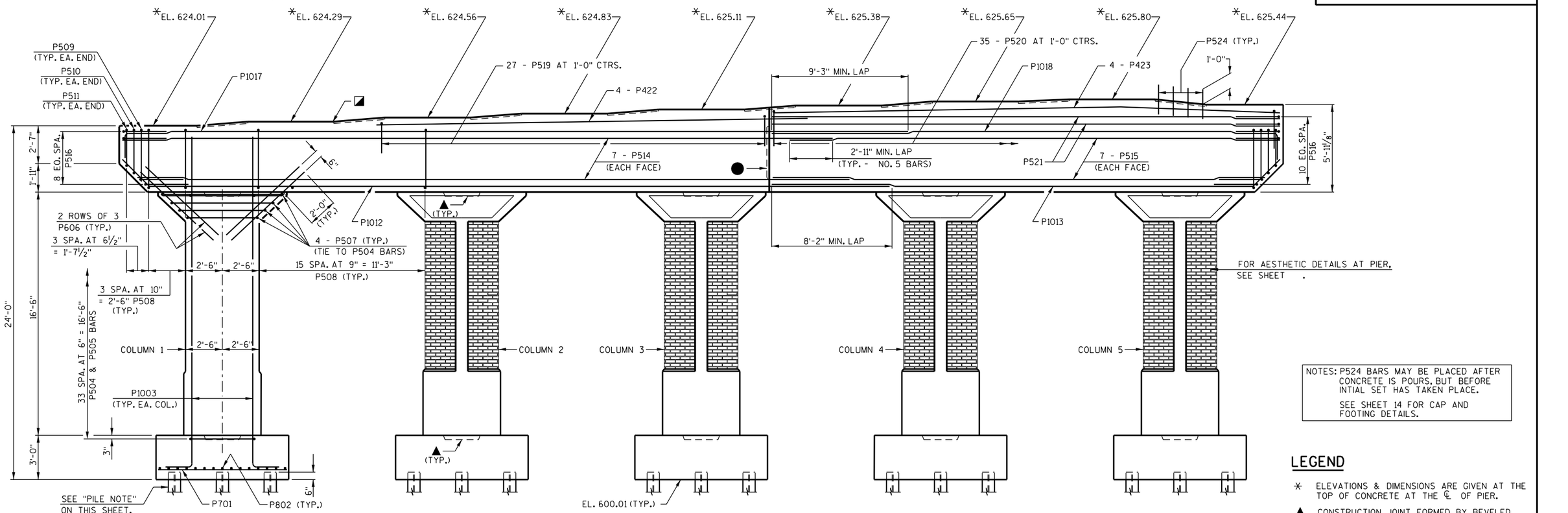


ELEVATION
(LOOKING NORTH)

NOTES: P524 BARS MAY BE PLACED AFTER CONCRETE IS POURS, BUT BEFORE INTIAL SET HAS TAKEN PLACE.

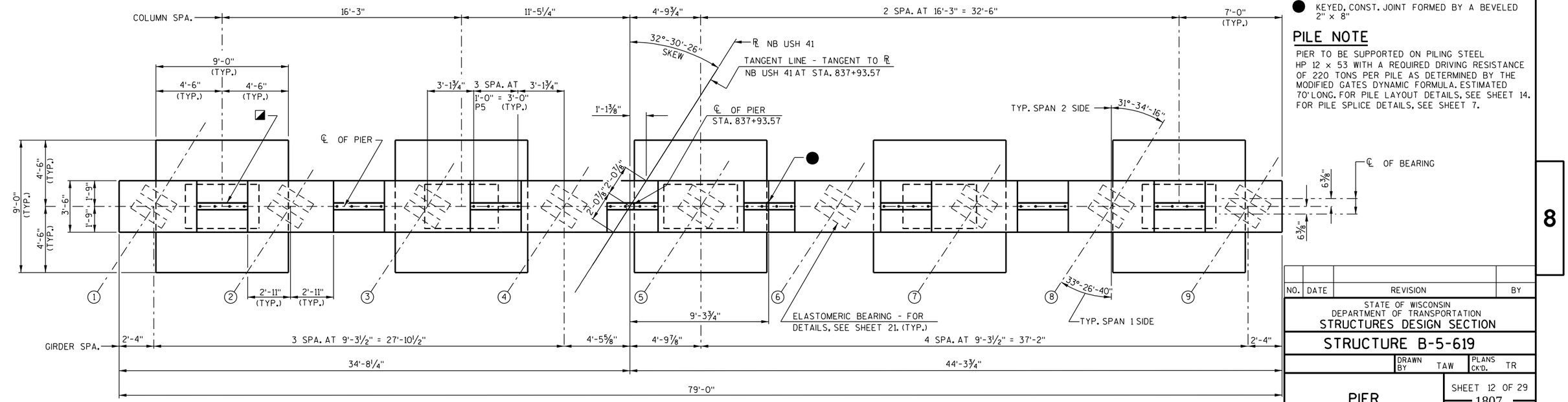
SEE SHEET 14 FOR CAP AND FOOTING DETAILS.

LEGEND

- ✳ ELEVATIONS & DIMENSIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF PIER.
- ▲ CONSTRUCTION JOINT FORMED BY BEVELED 4" × 1'-3" × 2'-6" KEYWAY.
- ◪ KEYED. CONST. JOINT FORMED BY BEVELED 2" × 6".
- ● KEYED, CONST. JOINT FORMED BY A BEVELED 2" × 8"

PILE NOTE

PIER TO BE SUPPORTED ON PILING STEEL HP 12 × 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 70' LONG. FOR PILE LAYOUT DETAILS, SEE SHEET 14. FOR PILE SPLICE DETAILS, SEE SHEET 7.



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

PIER

SHEET 12 OF 29
1807

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-619\12_piera_b-5-619.dgn
PLOT DATE : 10/23/2012

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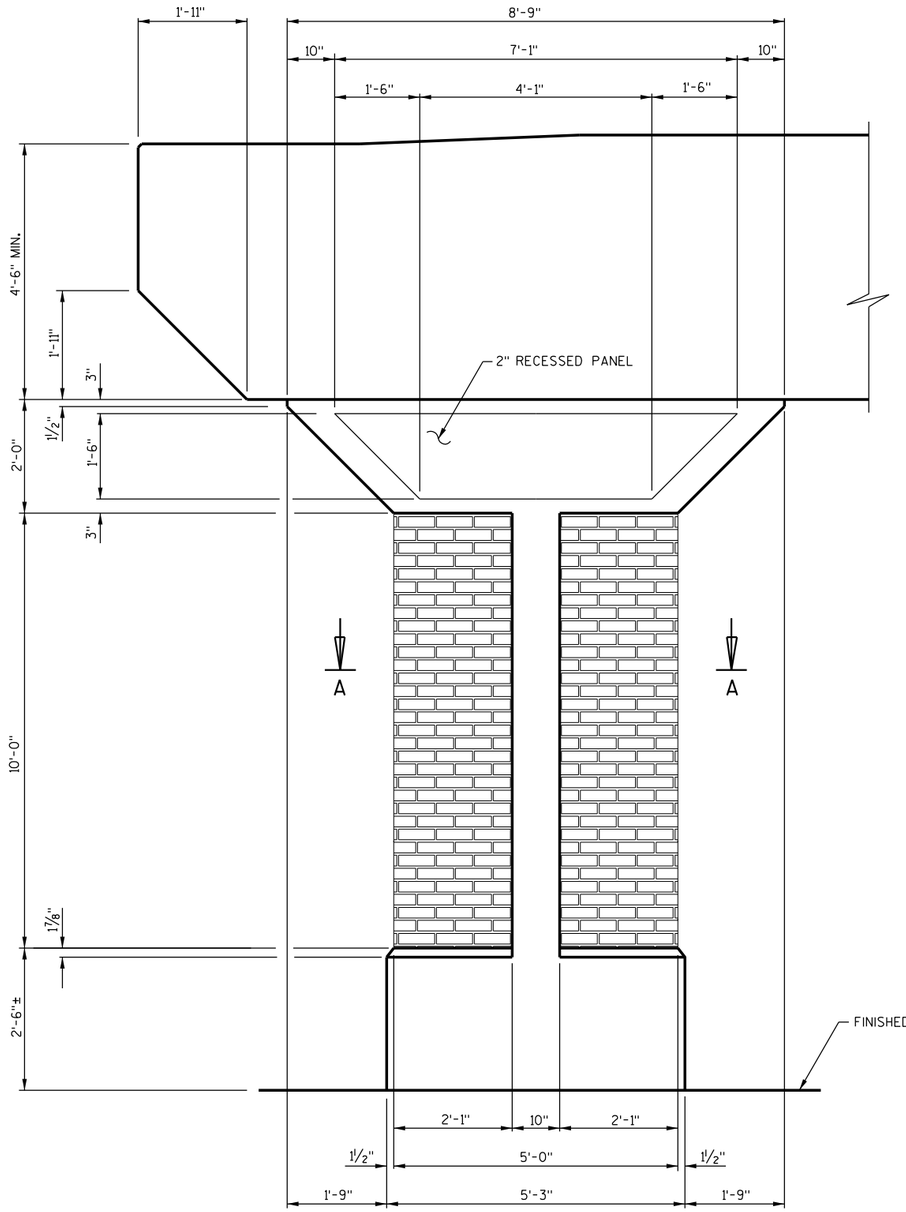
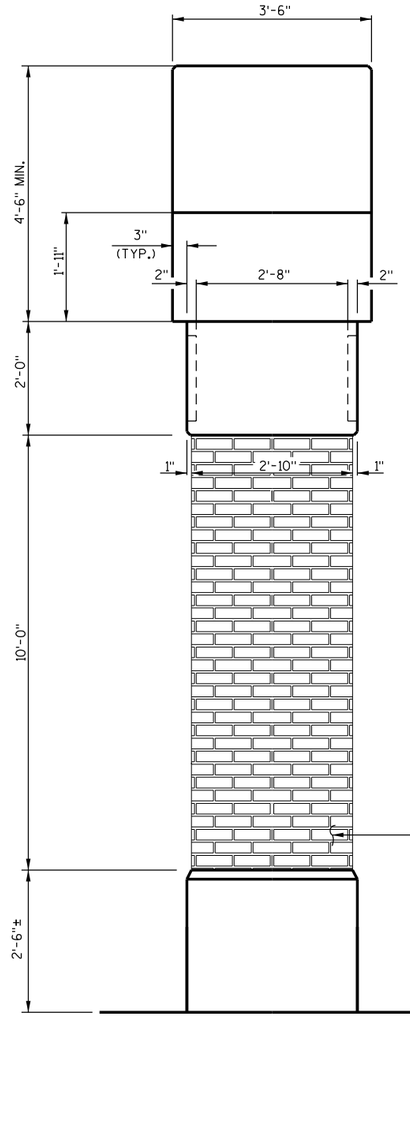
STATE PROJECT NUMBER

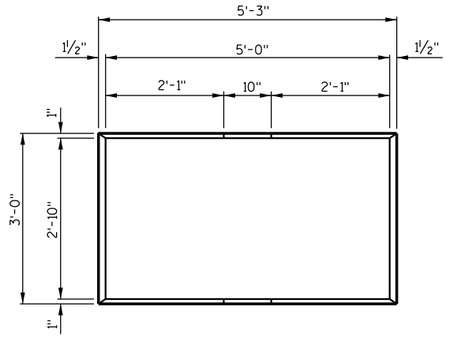
1133-09-71



PIER ELEVATION VIEW



PIER END VIEW



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

PIER DETAILS

SHEET 13 OF 29
1808

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-619\13_pierb_b-5-619.dgn
PLOT DATE : 10/23/2012

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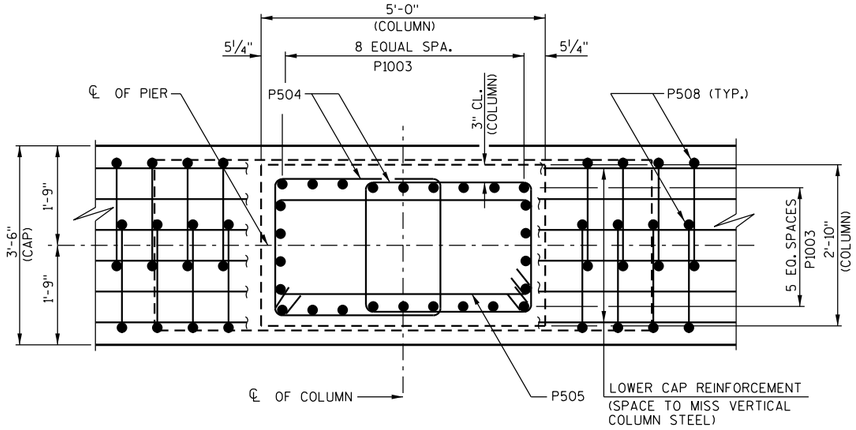
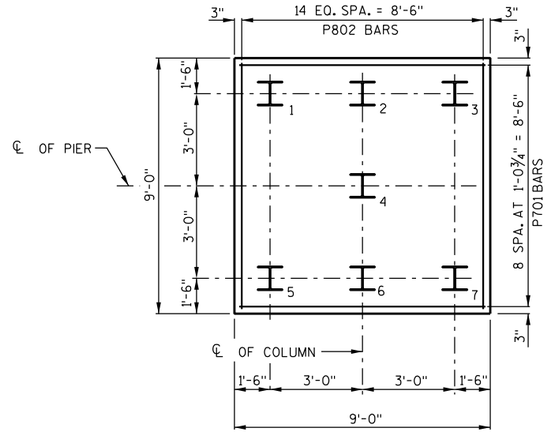
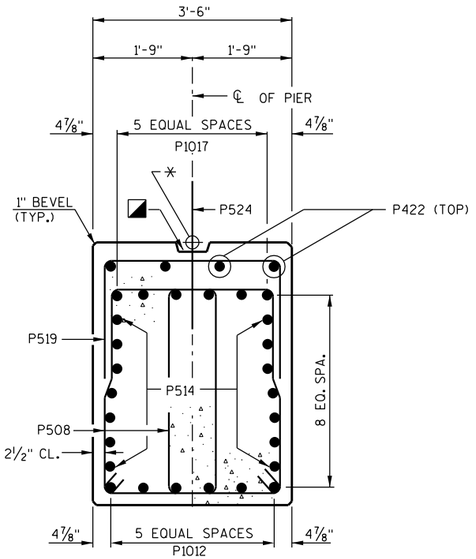


SECTION THRU COLUMN

(SECTION TAKEN AT BOTTOM OF PIER CAP, LOOKING UP)

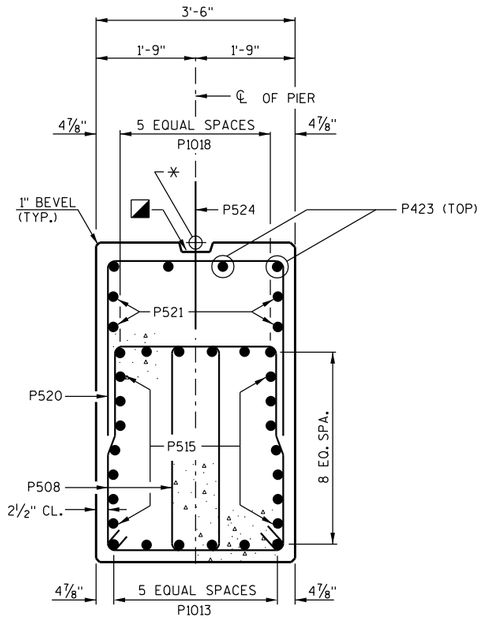


FOOTING PLAN



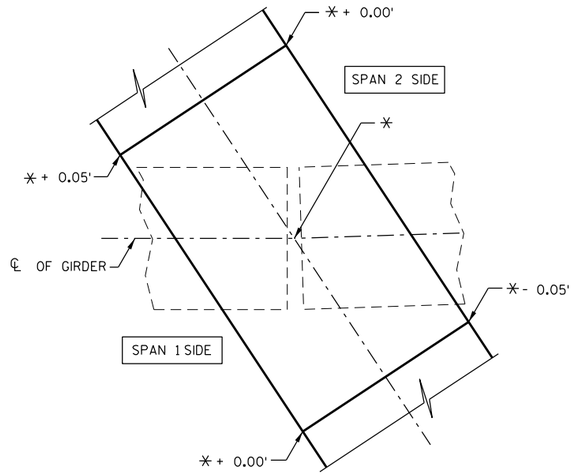
SECTION THRU PIER CAP

(WEST SIDE OF CONSTRUCTION JOINT)



SECTION THRU PIER CAP

(EAST SIDE OF CONSTRUCTION JOINT)



SLOPING BEAM SEAT DETAIL

LEGEND

✳ ◪ FOR SYMBOL DESCRIPTIONS, SEE SHEET 12.

BILL OF BARS

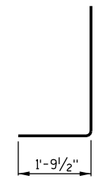
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	
NON-COATED BARS						TOTAL WEIGHT = 3,010 LBS.
P701	45	8-8			FOOTINGS	HORIZ.
P802	75	8-8			FOOTINGS	HORIZ.
EPOXY COATED BARS						TOTAL WEIGHT = 29,620 LBS.
P1003	130	24-0	X		PIER COLUMNS & FOOTINGS	VERT.
P504	340	11-3	X		PIER COLUMNS - STIRRUPS	HORIZ.
P505	170	12-7	X		PIER COLUMNS - STIRRUPS	HORIZ.
P606	60	7-0			PIER COLUMNS - TOP	VERT.
P507	20	18-4	X	✳	PIER COLUMNS - TOP	HORIZ.
P508	144	12-11	X		PIER CAP - STIRRUPS	VERT.
P509	4	11-9	X		PIER CAP - STIRRUPS - ENDS	VERT.
P510	4	10-7	X		PIER CAP - STIRRUPS - ENDS	VERT.
P511	4	9-5	X		PIER CAP - STIRRUPS - ENDS	VERT.
P1012	6	52-9	X		PIER CAP - BOTTOM	HORIZ.
P1013	6	35-2	X		PIER CAP - BOTTOM	HORIZ.
P514	14	46-11			PIER CAP - SIDES	HORIZ.
P515	14	34-8			PIER CAP - SIDES	HORIZ.
P516	20	8-8	X		PIER CAP - ENDS	HORIZ.
P1017	6	54-9	X		PIER CAP - TOP	HORIZ.
P1018	6	36-2	X		PIER CAP - TOP	HORIZ.
P519	27	7-2	X		PIER CAP - UNDER GIRDERS 3, 4 & 5	VERT.
P520	35	8-6	X		PIER CAP - UNDER GIRDERS 6 THRU 9	VERT.
P521	4	34-6			PIER CAP - SIDES - UNDER GIRDERS 6 THRU 9	HORIZ.
P422	4	29-4			PIER CAP - UNDER GIRDERS 3, 4 & 5	HORIZ.
P423	4	34-5			PIER CAP - UNDER GIRDERS 6 THRU 9	HORIZ.
P524	32	2-0			PIER CAP - DOWELS	VERT.

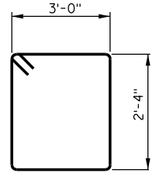
✳ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATION. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

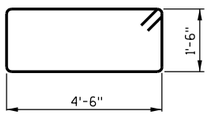
MARK	NO. REQ'D.	LENGTH
P507	5 SERIES OF 4	15'-1" TO 21'-7"



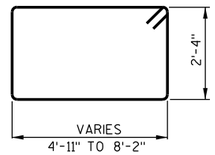
P1003



P504

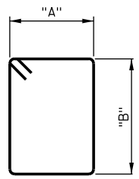


P505

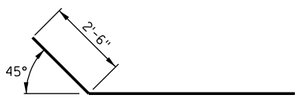


P507

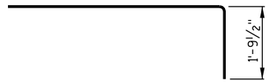
MARK	"A"	"B"
P508	2'-1"	4'-1"
P509	2'-1"	3'-6"
P510	2'-1"	2'-11"
P511	2'-1"	2'-4"



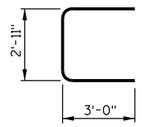
P508 THRU P511



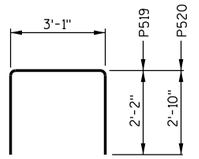
P1012 & P1013



P1017 & P1018



P516



P519 & P520

STATE PROJECT NUMBER

1133-09-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

PIER DETAILS

SHEET 14 OF 29
1809

8

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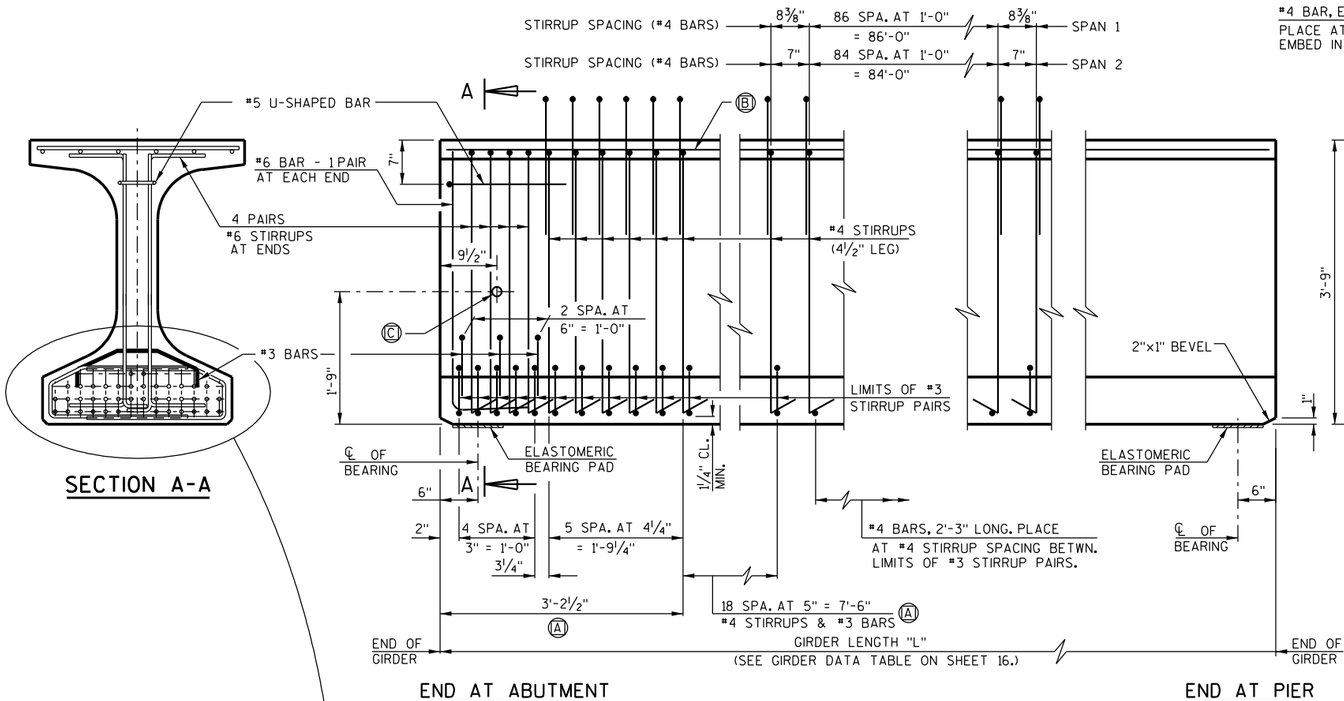
FILE NAME : P:\134 USH 41 Bridges 1133-09-00\Structures\B-5-619\14_pierc_b-5-619.dgn
PLOT DATE : 10/23/2012

STATE PROJECT NUMBER

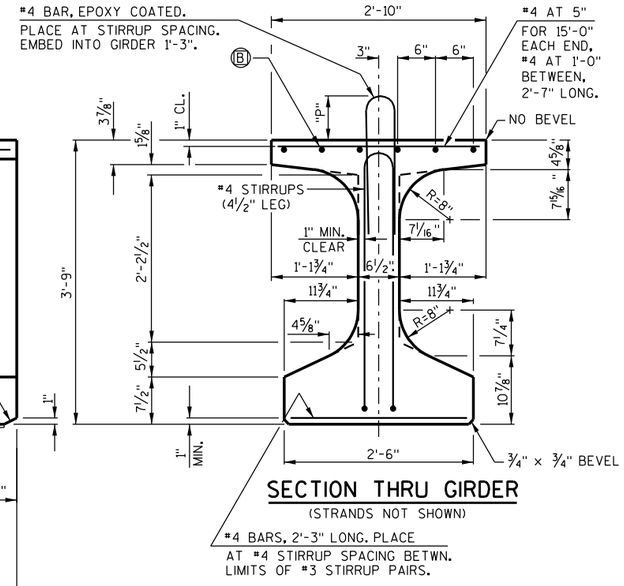
1133-09-71



SECTION A-A

END AT ABUTMENT

END AT PIER



SECTION THRU GIRDER

(STRANDS NOT SHOWN)

NOTES: FOR GIRDER DATA AND STRAND PATTERN DETAILS, SEE SHEET 16.

FOR DIMENSION "P", SEE GIRDER DATA TABLE ON SHEET 16.

GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, ONE OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE 0.6" DIA.-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

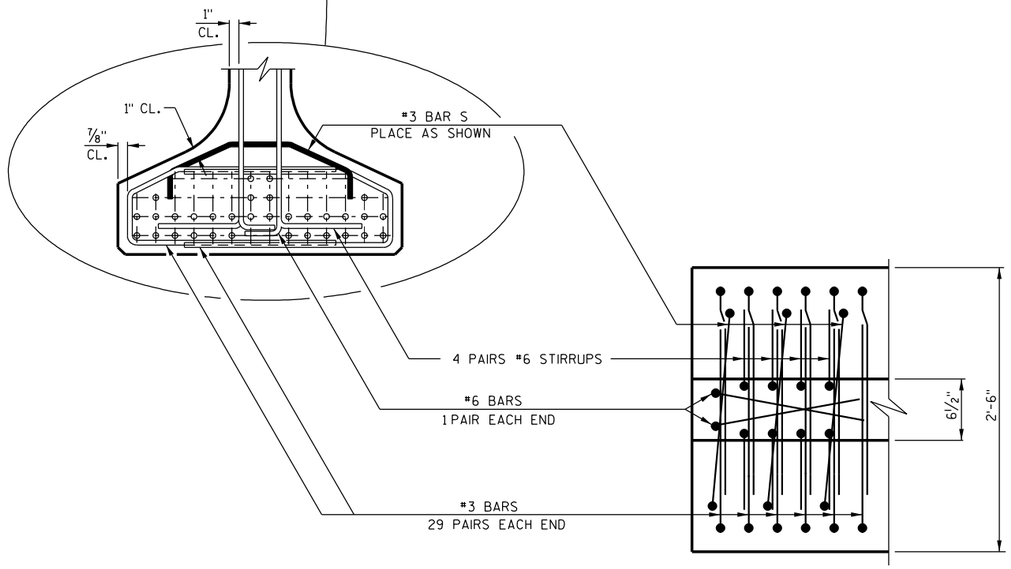
FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "INTERMEDIATE STEEL DIAPHRAGM" SHEET.

SIDE VIEW & TYP. SECTION IN SPAN

(A) DETAIL TYPICAL EACH END

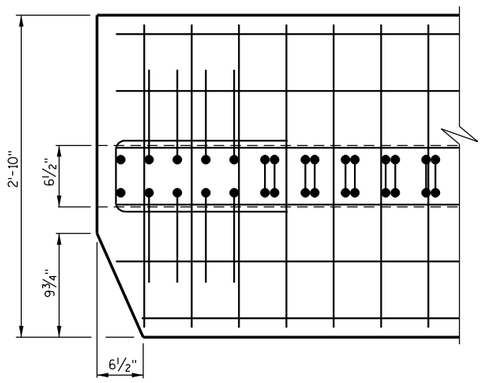
(B) 6 - #4 BARS FULL LENGTH, MIN. LAP = 1'-11".

(C) 1 1/2" DIA. HOLE IN WEB FOR 2 - S514 BARS.



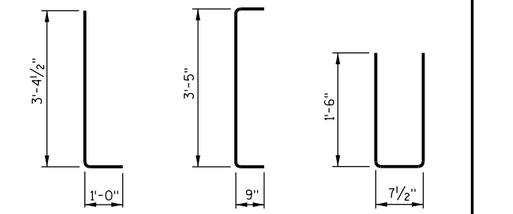
BOTTOM FLANGE

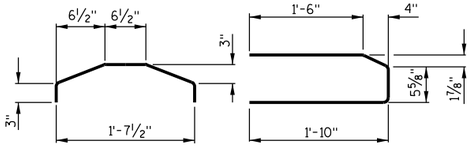
(TYP. EACH END)



TOP FLANGE

(SOUTH END OF SPAN 1 SHOWN, NORTH END OF SPAN 2 SIMILAR)





NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

45W" PRESTRESSED GIRDER DETAILS

SHEET 15 OF 29
1810

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FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-619\15_45Wgd1.0-5-619.dgn
PLOT DATE : 10/23/2012

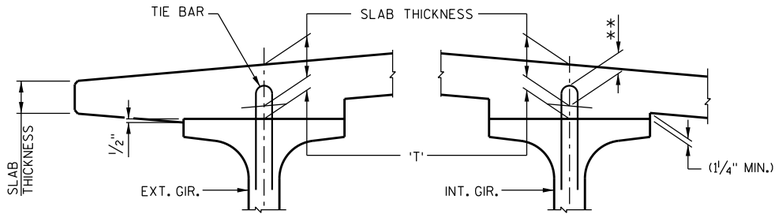
STATE PROJECT NUMBER

1133-09-71

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1st 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1 - 9	108'-9 3/4"	3/4"	1 1/2"	2"	2 3/8"	2 1/2"	2 3/8"	2"	1 1/2"	3/4"	8000	8"	7"	8"	0.60	34	6800	40"	13 3/4"	16 3/4"	5"		
2	1 - 9	106'-6 7/8"	3/4"	1 3/8"	1 7/8"	2 1/4"	2 3/8"	2 1/4"	1 7/8"	1 3/8"	3/4"	8000	8"	7"	8"	0.60	34	6800	40"	13 3/4"	16 3/4"	5"		

* MINIMUM CYLINDER STRENGTH OF CONCRETE AT THE TIME OF TRANSFER OF PRESTRESS FORCE.



SLAB HAUNCH DETAIL

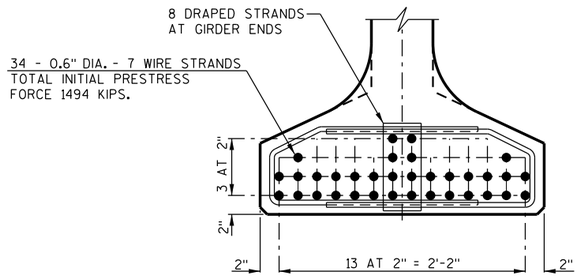
IF 1 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

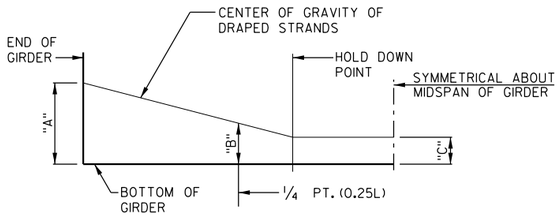
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DRAPED STRAND PATTERN - SPANS 1 & 2



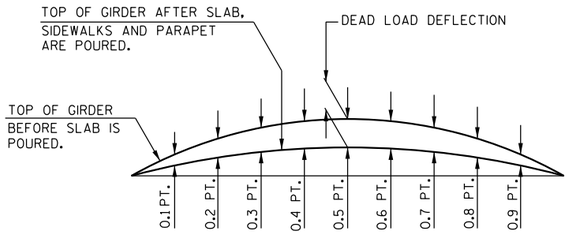
LOCATION OF DRAPED STRANDS

THEORETICAL CAMBER

SPAN	CAMBER (IN.) ***
1 & 2	3 5/8"

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

*** THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.



DEAD LOAD DEFLECTION DIAGRAM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

45W" PRESTRESSED GIRDER DETAILS

SHEET 16 OF 29
1811

8

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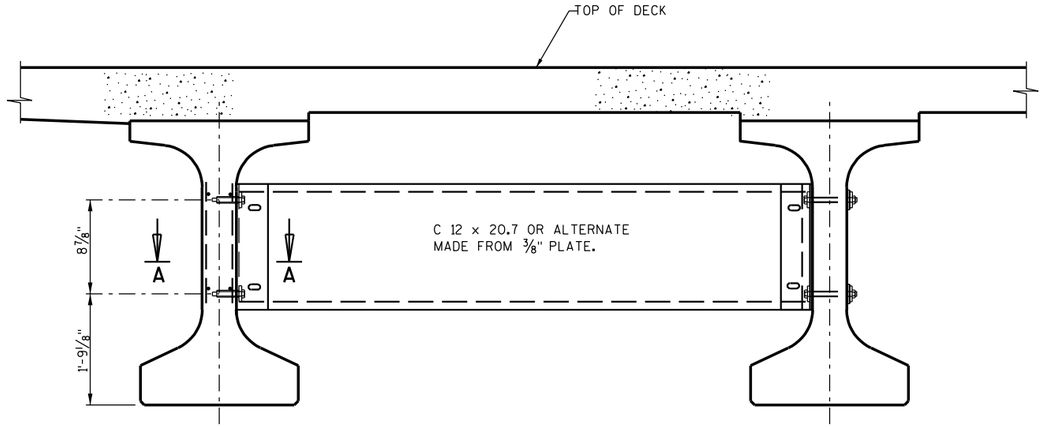
FILE NAME : P:\134 USH 41 Bridges\1133-09-00\Structures\B-5-619\16.45Wdgr2.b-5-619.dgn
PLOT DATE : 11/6/2012

STATE PROJECT NUMBER

1133-09-71



EXTERIOR GIRDER

INTERIOR GIRDER

PART TRANSVERSE SECTION AT DIAPHRAGM

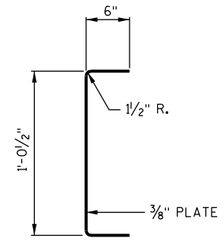
GENERAL NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-5-619", EACH.

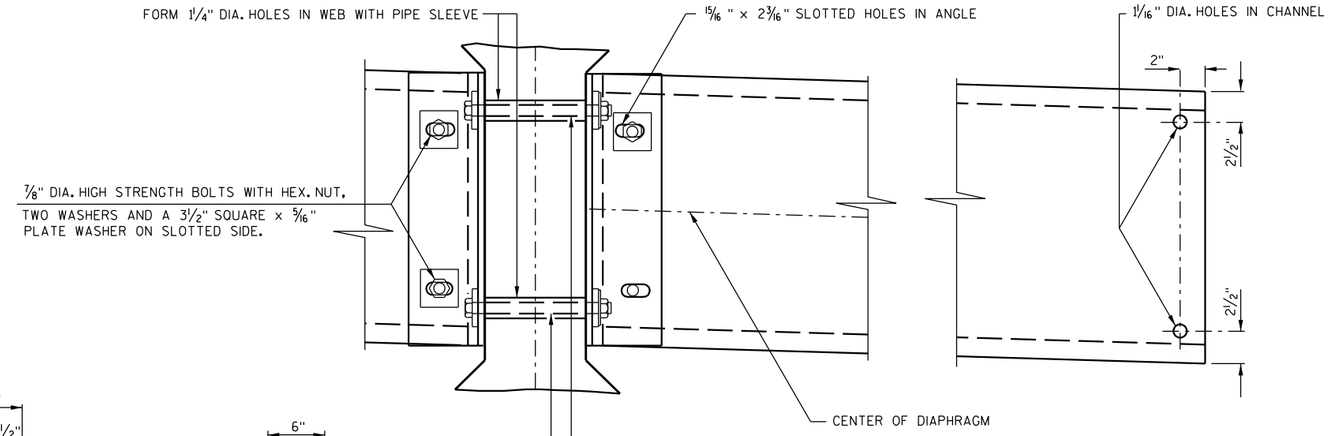
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS, SLEEVES AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563. LUBRICANT AND TEST FOR COATED NUTS.

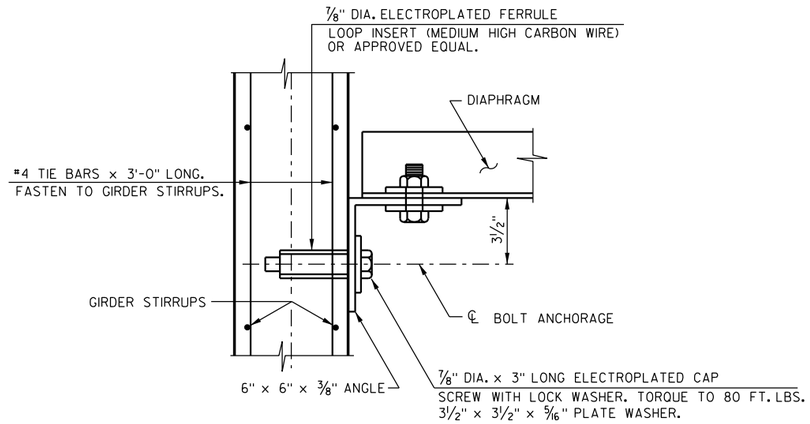


SECTION THRU ALTERNATE DIAPHRAGM



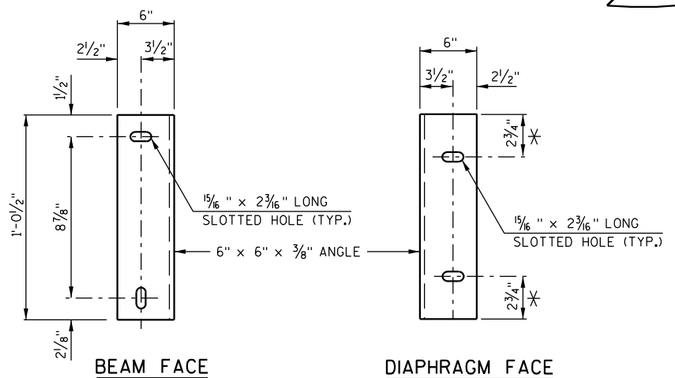
DETAIL B

(FOR CONTINUOUS LINE OF DIAPHRAGMS)



SECTION A-A

(FOR EXTERIOR ATTACHMENT)



DIAPHRAGM SUPPORT

* DIMENSION = 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM.

NOTE: BEND DIAPHRAGM SUPPORT ANGLE/PLATE AS NECESSARY SO THE ANGLE/PLATE IS FLUSH WITH BEAM FACE & DIAPHRAGM FACE. SEE ABUTMENT SHEETS FOR GIRDER ANGLE DIMENSIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

INTERMEDIATE STEEL DIAPHRAGMS

SHEET 17 OF 29

1812

8

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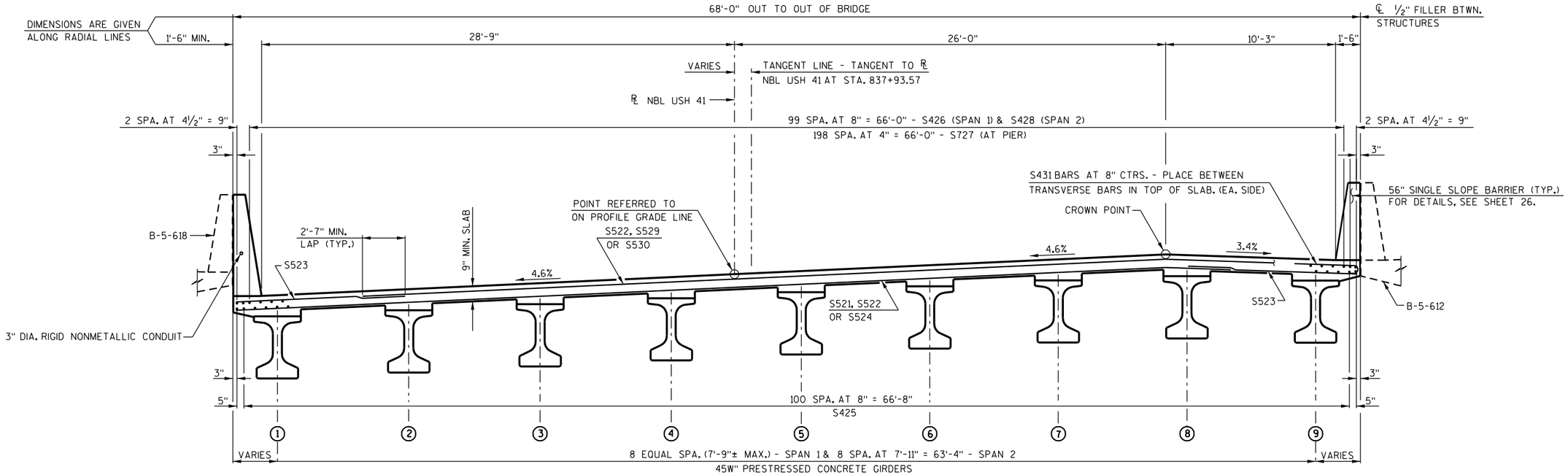
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\Structures\B-5-619\17_steeldiaph_b-5-619.dgn
PLOT DATE : 10/23/2012

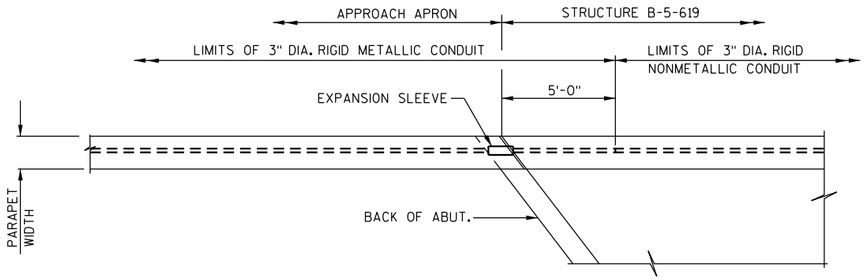
STATE PROJECT NUMBER

1133-09-71



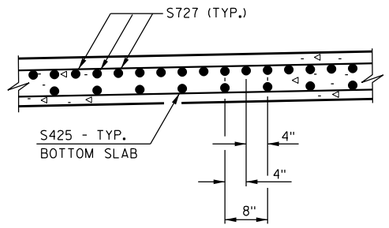
CROSS SECTION THRU ROADWAY

(LOOKING NORTH)



PART PLAN - SUPERSTRUCTURE

(SHOWING CONDUIT LIMITS IN WEST SIDE PARAPET. SOUTH END OF DECK SHOWN, NORTH END SIMILAR.)



CROSS SECTION THRU SLAB - AT PIER

(LOOKING NORTH)

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-619\18_superl_b-5-619.dgn
PLOT DATE : 10/23/2012

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

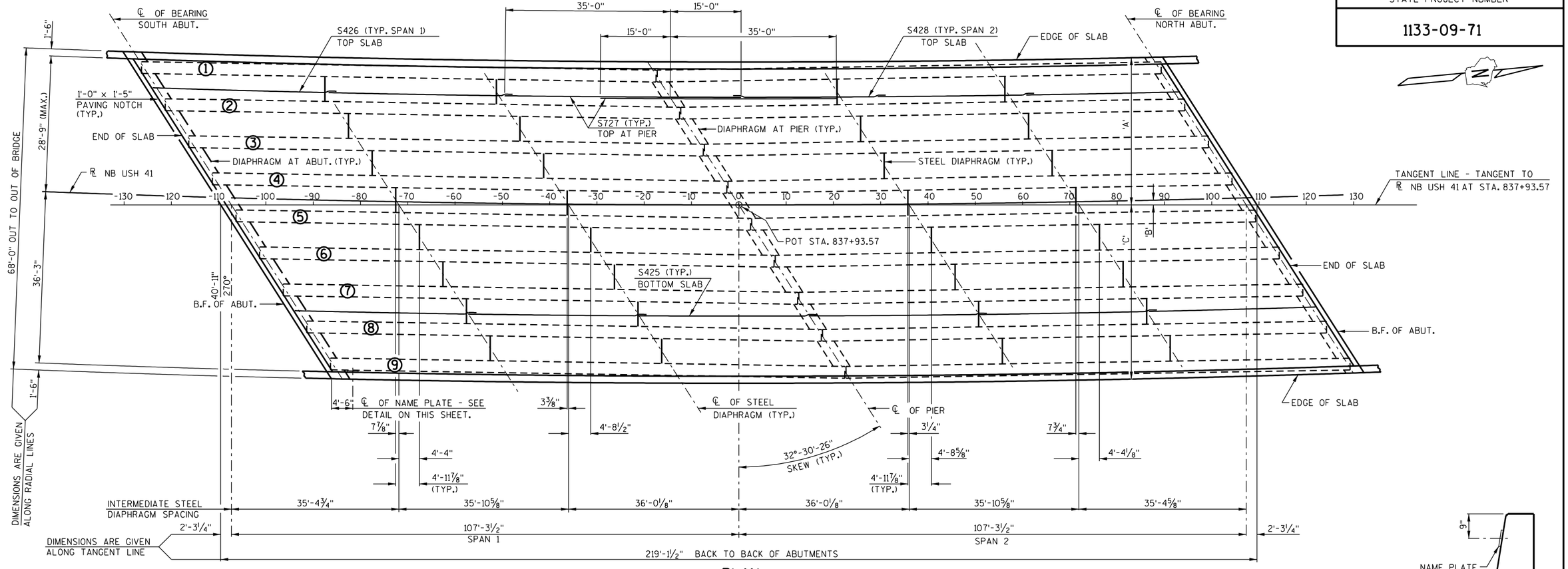
DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

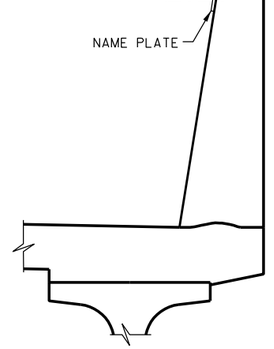
SHEET 18 OF 29
1813

STATE PROJECT NUMBER

1133-09-71



PLAN



NAME PLATE DETAIL

OFFSET TABLE

DISTANCE	-130	-120	-110	-100	-90	-80	-70	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60	70	80	90	100	110	120	130
OFFSET 'A'	32'-5½"	32'-1⅝"	31'-10"	31'-6¾"	31'-3¾"	31'-1"	30'-10⅝"	30'-8⅝"	30'-6⅞"	30'-5⅝"	30'-4⅜"	30'-3⅜"	30'-3⅛"	30'-3"	30'-3⅛"	30'-3⅜"	30'-4⅜"	30'-5⅝"	30'-6⅞"	30'-8⅝"	30'-10⅝"	31'-1"	31'-3¾"	31'-6¾"	---	---	---
OFFSET 'B'	---	---	1'-6⅞"	1'-3⅝"	1'-0⅝"	10"	7⅝"	5⅝"	3⅞"	2½"	1⅜"	⅝"	⅛"	0"	⅛"	⅝"	1⅜"	2½"	3⅞"	5⅝"	7⅝"	10"	1'-0⅝"	1'-3⅝"	---	---	---
OFFSET 'C'	---	---	---	36'-5⅝"	36'-8½"	36'-11⅛"	37'-1½"	37'-3½"	37'-5⅛"	37'-6½"	37'-7⅝"	37'-8⅜"	37'-8⅞"	37'-9"	37'-8⅞"	37'-8⅜"	37'-7⅝"	37'-6½"	37'-5⅛"	37'-3½"	37'-1½"	36'-11⅛"	36'-8½"	36'-5⅝"	36'-2⅜"	35'-10¾"	35'-6⅞"

TOP OF DECK ELEVATIONS

	℄ OF BRG. S. ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF BRG. N. ABUT.
W. EOD	630.50	630.34	630.18	630.02	629.85	629.68	629.51	629.33	629.15	628.97	628.78	628.60	628.41	628.22	628.03	627.83	627.64	627.43	627.23	627.02	626.81
GIRDER 1	630.62	630.45	630.28	630.11	629.94	629.77	629.60	629.42	629.25	629.07	628.89	628.69	628.50	628.30	628.11	627.91	627.71	627.50	627.30	627.10	626.89
GIRDER 2	630.89	630.73	630.56	630.39	630.22	630.05	629.87	629.70	629.52	629.34	629.16	628.97	628.77	628.58	628.38	628.18	627.98	627.77	627.57	627.37	627.16
GIRDER 3	631.17	631.00	630.84	630.67	630.49	630.32	630.15	629.97	629.79	629.61	629.43	629.24	629.04	628.85	628.65	628.45	628.25	628.05	627.84	627.64	627.43
GIRDER 4	631.45	631.28	631.11	630.94	630.77	630.60	630.42	630.24	630.07	629.89	629.71	629.51	629.32	629.12	628.92	628.72	628.52	628.32	628.11	627.91	627.70
GIRDER 5	631.72	631.56	631.39	631.22	631.04	630.87	630.70	630.52	630.34	630.16	629.98	629.79	629.59	629.39	629.19	628.99	628.79	628.59	628.38	628.18	627.97
GIRDER 6	632.00	631.83	631.66	631.49	631.32	631.15	630.97	630.79	630.61	630.43	630.25	630.06	629.86	629.66	629.47	629.27	629.06	628.86	628.66	628.45	628.24
GIRDER 7	632.28	632.11	631.94	631.77	631.59	631.42	631.24	631.07	630.89	630.71	630.53	630.33	630.13	629.94	629.74	629.54	629.33	629.13	628.93	628.72	628.51
GIRDER 8	632.48	632.32	632.15	631.98	631.81	631.63	631.44	631.26	631.07	630.87	630.67	630.49	630.30	630.10	629.90	629.70	629.50	629.29	629.08	628.86	628.64
GIRDER 9	632.14	631.98	631.81	631.64	631.46	631.28	631.09	630.91	630.71	630.52	630.32	630.13	629.94	629.74	629.54	629.34	629.13	628.92	628.71	628.49	628.27
E. EOD	632.00	631.84	631.67	631.50	631.32	631.14	630.96	630.78	630.59	630.41	630.21	630.02	629.83	629.63	629.43	629.23	629.03	628.82	628.61	628.40	628.18

NOTES

1. THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS.
2. THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.
3. LAP NO. 6 BARS 3'-6" MIN. AT BACK OF ABUTMENT DIAPHRAGMS.
4. LAP LONGITUDINAL NO. 5 BARS IN 56" SINGLE SLOPE MEDIAN BARRIER 2'-11" MIN.
5. LAP NO. 4 BARS 1'-8" MIN. IN SLAB.
6. TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED PERPENDICULAR TO THE TANGENT LINE. FOR DETAILS, SEE SHEET 20.
7. EDGE OF DECK (EOD) ELEVATIONS ARE CALCULATED ASSUMING CROSS SLOPE CONTINUES TO EDGE.
8. PLACE LONGITUDINAL BAR STEEL REINFORCEMENT CONCENTRIC TO ℄ NB USH 41.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 19 OF 29
1814

FILE NAME : P:\134 (SH 41 Bridges \1133-09-00\Structures\B-5-619\19_super2_b-5-619.dgn
PLOT DATE : 10/23/2012

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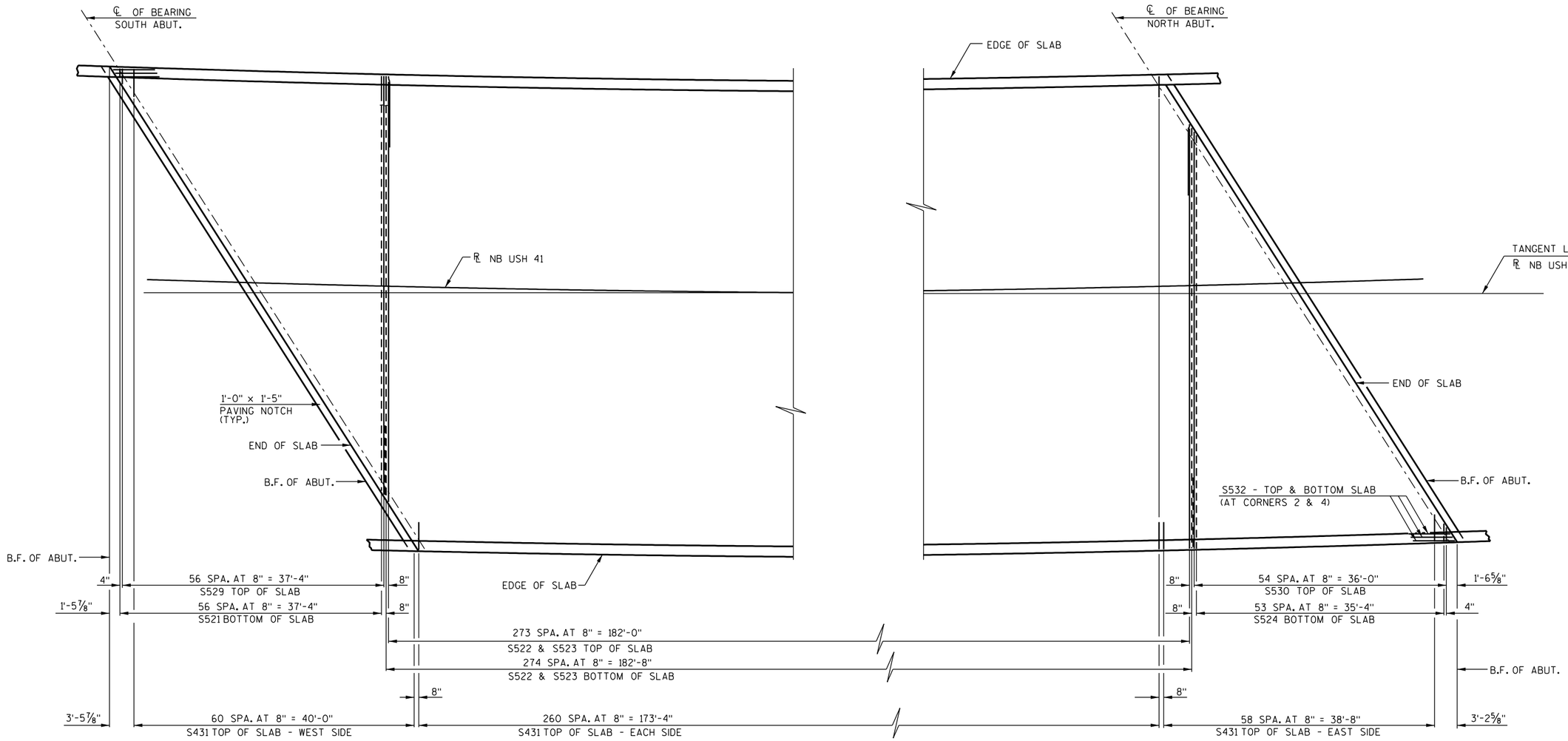
STATE PROJECT NUMBER

1133-09-71



PART PLAN

(SHOWING TOP & BOTTOM SLAB TRANSVERSE BAR STEEL REINFORCEMENT)

NOTE: LAP NO. 5 BARS 2'-7" MIN. IN TOP & BOTTOM OF SLAB.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 20 OF 29
1815

FILE NAME : P:\134 USH 41 Bridges \1133-09-00\structures\B-5-619\20.super3.b-5-619.dgn
PLOT DATE : 10/23/2012

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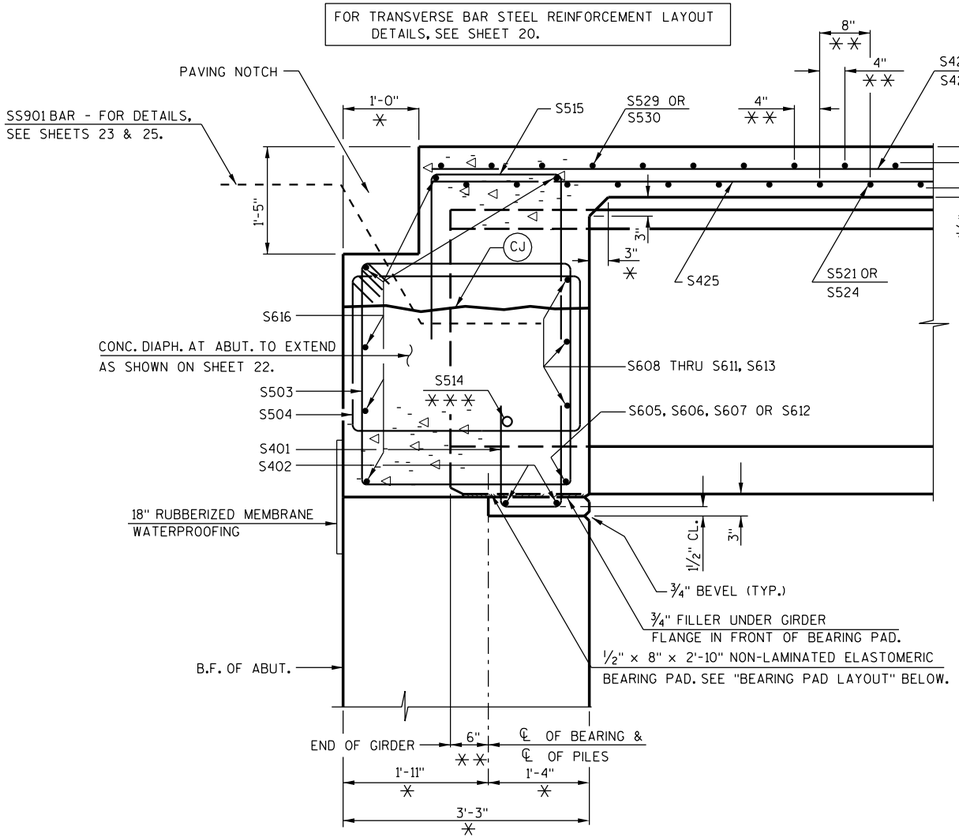
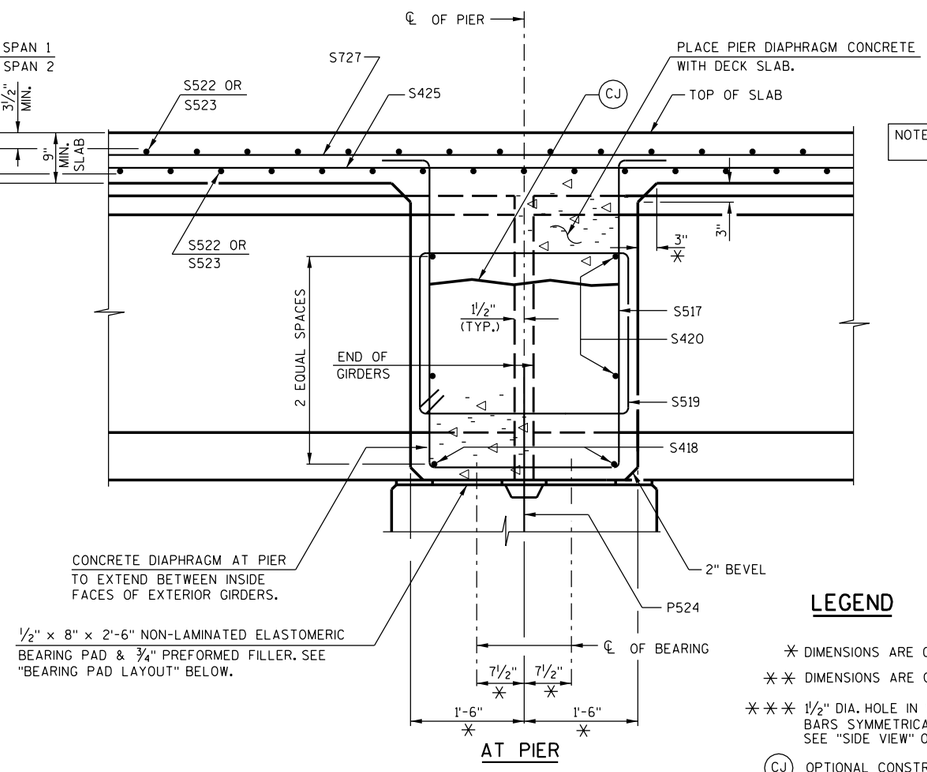
8

STATE PROJECT NUMBER
1133-09-71

FOR TRANSVERSE BAR STEEL REINFORCEMENT LAYOUT DETAILS, SEE SHEET 20.



AT ABUTMENTS



AT PIER

NOTE: PLACE S431 BARS BETWEEN TRANSVERSE BARS IN TOP OF SLAB. (TYP. EA. SIDE)

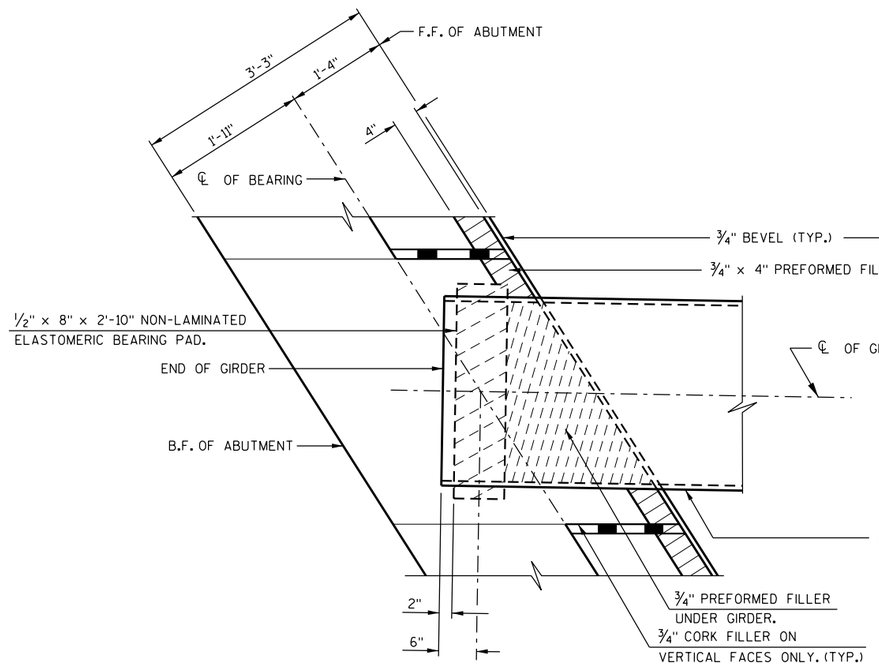
LEGEND

- ✳ DIMENSIONS ARE GIVEN NORMAL TO ℄ OF SUBSTRUCTURE UNITS.
- ✳✳ DIMENSIONS ARE GIVEN PARALLEL TO THE GIRDER ℄.
- ✳✳✳ 1½" DIA. HOLE IN WEB FOR S514 BARS. PLACE TWO S514 BARS SYMMETRICAL ABOUT THE ℄ OF EACH GIRDER. SEE "SIDE VIEW" ON SHEET 15 FOR DETAILS.
- (CJ) OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

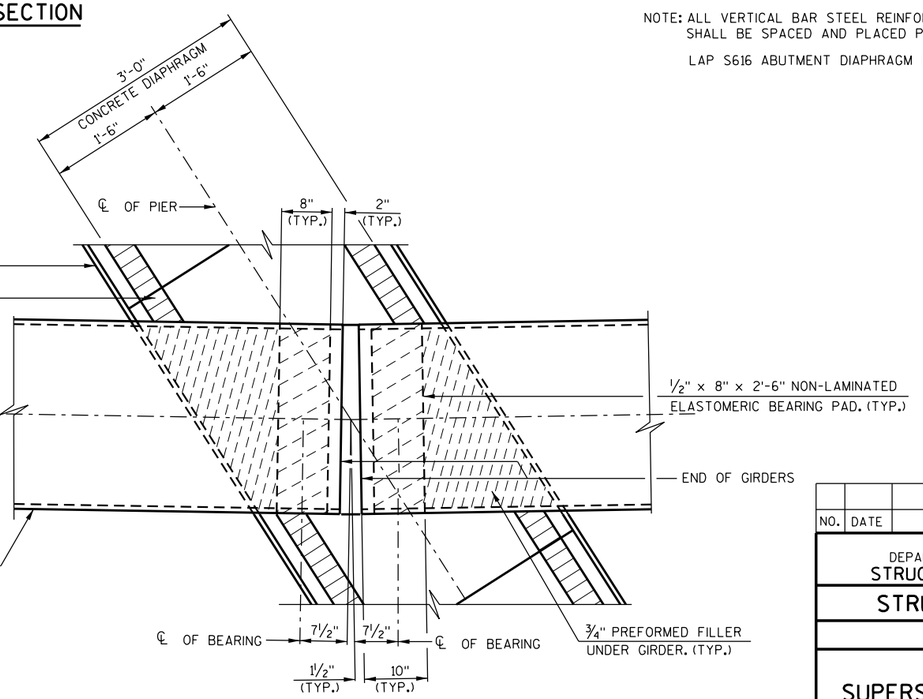
NOTE: ALL VERTICAL BAR STEEL REINFORCEMENT IN CONCRETE DIAPHRAGMS SHALL BE SPACED AND PLACED PARALLEL TO GIRDERS.

LAP S616 ABUTMENT DIAPHRAGM BARS 3'-6" MIN.

PART LONGITUDINAL SECTION



AT ABUTMENTS



AT PIER

BEARING PAD LAYOUT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 21 OF 29
1816

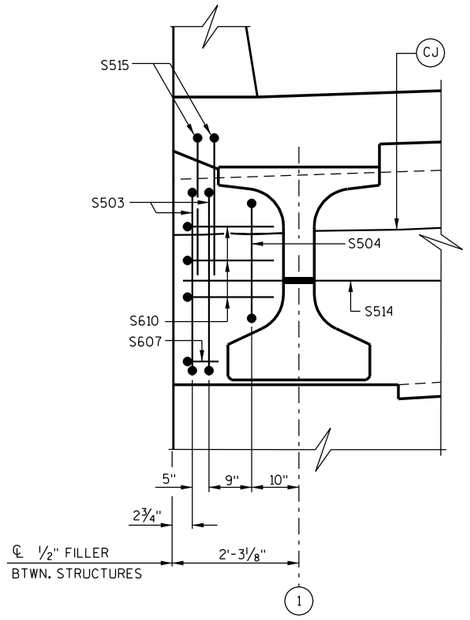
8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-619\21_super4_b-5-619.dgn
PLOT DATE : 10/23/2012

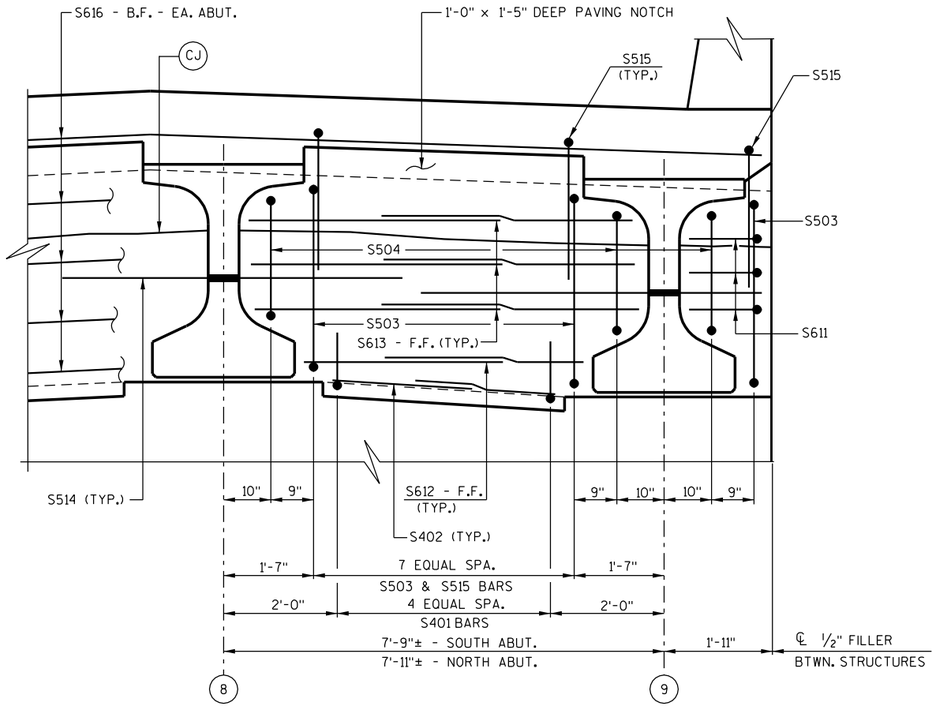
STATE PROJECT NUMBER

1133-09-71



ABUTMENT DIAPHRAGM - CORNER 3

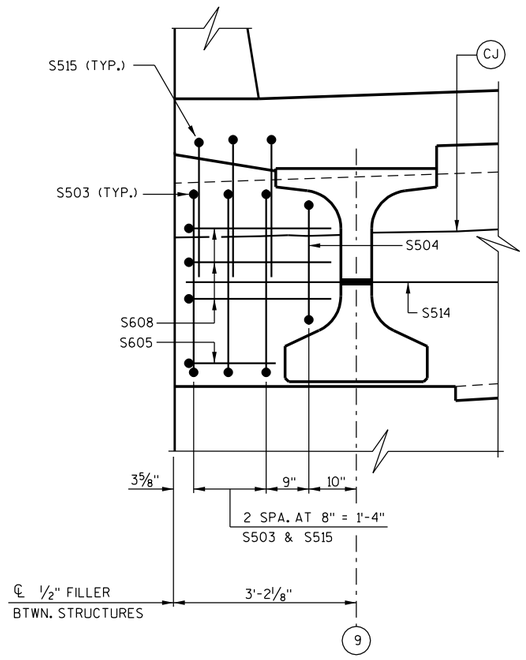
(LOOKING NORTH AT NORTH ABUT.)



AT CORNER 4

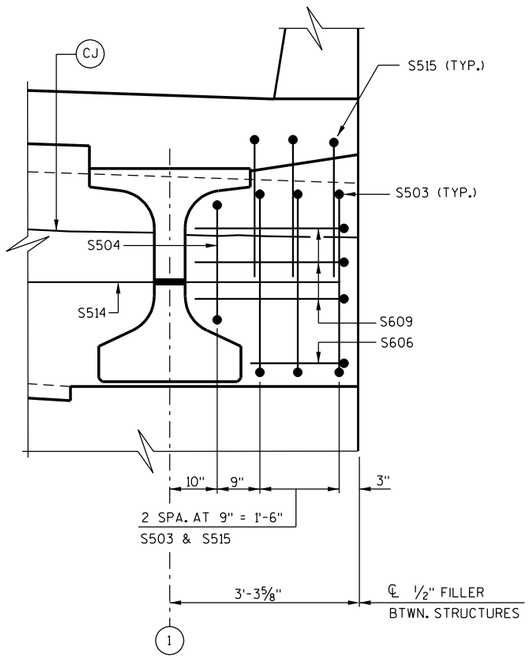
ABUTMENT DIAPHRAGM DETAILS

(LOOKING NORTH AT NORTH ABUT., SOUTH ABUT. SIMILAR)



ABUTMENT DIAPHRAGM - CORNER 1

(LOOKING SOUTH AT SOUTH ABUT.)



ABUTMENT DIAPHRAGM - CORNER 2

(LOOKING SOUTH AT SOUTH ABUT.)

NOTES: LAP NO. 4 BARS 1'-0" MIN. AT F.F. OF ABUTMENT DIAPHRAGM.
LAP NO. 6 BARS 2'-1" MIN. AT F.F. OF ABUTMENT DIAPHRAGM.
LAP NO. 6 BARS 3'-6" MIN. AT B.F. OF ABUTMENT DIAPHRAGM.

LEGEND

(CJ) OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 22 OF 29
1817

8

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FILE NAME : P:\134 USH 41 Bridges 1133-09-00\structures\B-5-619\22.super5_b-5-619.dgn
PLOT DATE : 10/23/2012

STATE PROJECT NUMBER

1133-09-71

BILL OF BARS

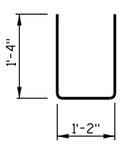
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT IN THIS BILL SHALL BE EPOXY COATED.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 105,640 LBS.
S401	80	3-8	X		ABUTMENT DIAPHRAGM - BOTTOM	VERT.
S402	64	3-7			ABUTMENT DIAPHRAGM - BOTTOM	HORIZ.
S503	137	13-7	X		ABUTMENT DIAPHRAGM - STIRRUPS	VERT.
S504	36	11-9	X		ABUTMENT DIAPHRAGM - STIRRUPS	VERT.
S605	1	6-8	X		ABUTMENT DIAPHRAGM - END - CORNER 1	HORIZ.
S606	1	7-0	X		ABUTMENT DIAPHRAGM - END - CORNER 2	HORIZ.
S607	1	4-5	X		ABUTMENT DIAPHRAGM - END - CORNER 3	HORIZ.
S608	3	9-0	X		ABUTMENT DIAPHRAGM - END - CORNER 1	HORIZ.
S609	3	9-4	X		ABUTMENT DIAPHRAGM - END - CORNER 2	HORIZ.
S610	3	6-9	X		ABUTMENT DIAPHRAGM - END - CORNER 3	HORIZ.
S611	3	5-11	X		ABUTMENT DIAPHRAGM - END - CORNER 4	HORIZ.
S612	32	3-7			ABUTMENT DIAPHRAGM - F.F, - BTWN. GIRDERS	HORIZ.
S613	96	5-3			ABUTMENT DIAPHRAGM - F.F, - BTWN. GIRDERS	HORIZ.
S514	36	6-0			ABUTMENT DIAPHRAGM - AT GIRDER HOLES	HORIZ.
S515	137	6-6	X		ABUTMENT DIAPHRAGM - TOP	VERT.
S616	24	42-6			ABUTMENT DIAPHRAGM - B.F.	HORIZ.
S517	48	12-11	X		PIER DIAPHRAGM	VERT.
S418	16	5-11			PIER DIAPHRAGM - BETWEEN GIRDERS	HORIZ.
S519	16	11-1	X		PIER DIAPHRAGM - BETWEEN GIRDERS	VERT.
S420	32	8-3			PIER DIAPHRAGM - BETWEEN GIRDERS	HORIZ.
S521	57	30-6		✳	SLAB - BOTTOM	TRANS.
S522	549	60-0			SLAB - TOP & BOTTOM	TRANS.
S523	549	10-2			SLAB - TOP & BOTTOM	TRANS.
S524	54	30-9		✳	SLAB - BOTTOM	TRANS.
S425	618	38-0			SLAB - BOTTOM	LONGIT.
S426	208	39-0			SLAB - TOP - SPAN 1	LONGIT.
S727	203	50-0			SLAB - TOP - AT PIER	LONGIT.
S428	312	32-11			SLAB - TOP - SPAN 2	LONGIT.
S529	57	31-0		✳	SLAB - TOP	TRANS.
S530	55	30-9		✳	SLAB - TOP	TRANS.
S431	642	4-6	X		SLAB - TOP - AT EDGE OF SLAB	TRANS.
S532	12	6-0			SLAB - TOP & BOTTOM - CORNERS 2 & 4	LONGIT.

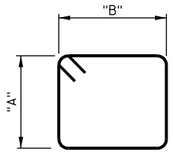
✳ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATION. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

MARK	NO. REQ'D.	LENGTH
S521	1 SERIES OF 57	1'-8" TO 59'-3"
S524	1 SERIES OF 54	2'-6" TO 59'-0"
S529	1 SERIES OF 57	2'-3" TO 59'-9"
S530	1 SERIES OF 55	2'-0" TO 59'-6"

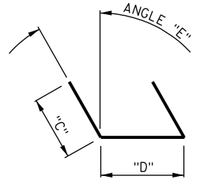


S401



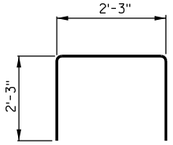
MARK	DIM. "A"	DIM. "B"
S503	3'-1"	3'-5"
S504	2'-2"	3'-5"
S519	2'-2"	3'-1"

S503, S504 & S519

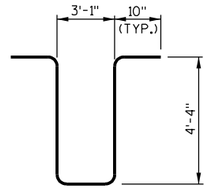


MARK	DIM. "C"	DIM. "D"	ANGLE "E"
S605	1'-10"	3'-4"	33°-44'-57"
S606	2'-0"	3'-4"	34°-25'-48"
S607	9"	3'-3"	31°-11'-23"
S608	3'-0"	3'-4"	33°-44'-57"
S609	3'-2"	3'-4"	34°-25'-48"
S610	1'-11"	3'-3"	31°-11'-23"
S611	1'-6"	3'-3"	30°-35'-17"

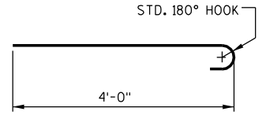
S605 THRU S611



S515



S517

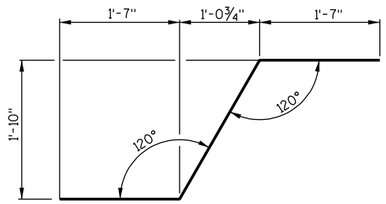


S431

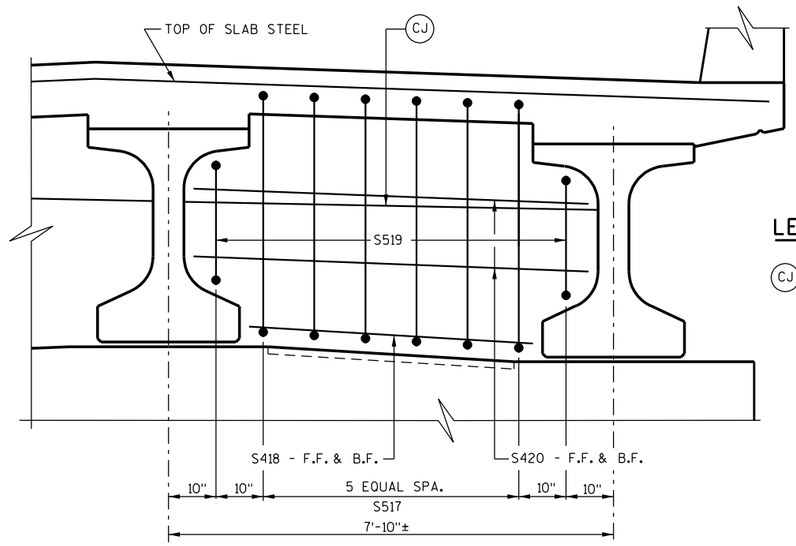
STAINLESS STEEL BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 2,250 LBS.
SS901	136	5-0	X		APPROACH APRON AT BRIDGE PAVING NOTCH	LONGIT.



SS901



PIER DIAPHRAGM DETAILS
(LOOKING NORTH)

LEGEND

(CJ) OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 23 OF 29
1818

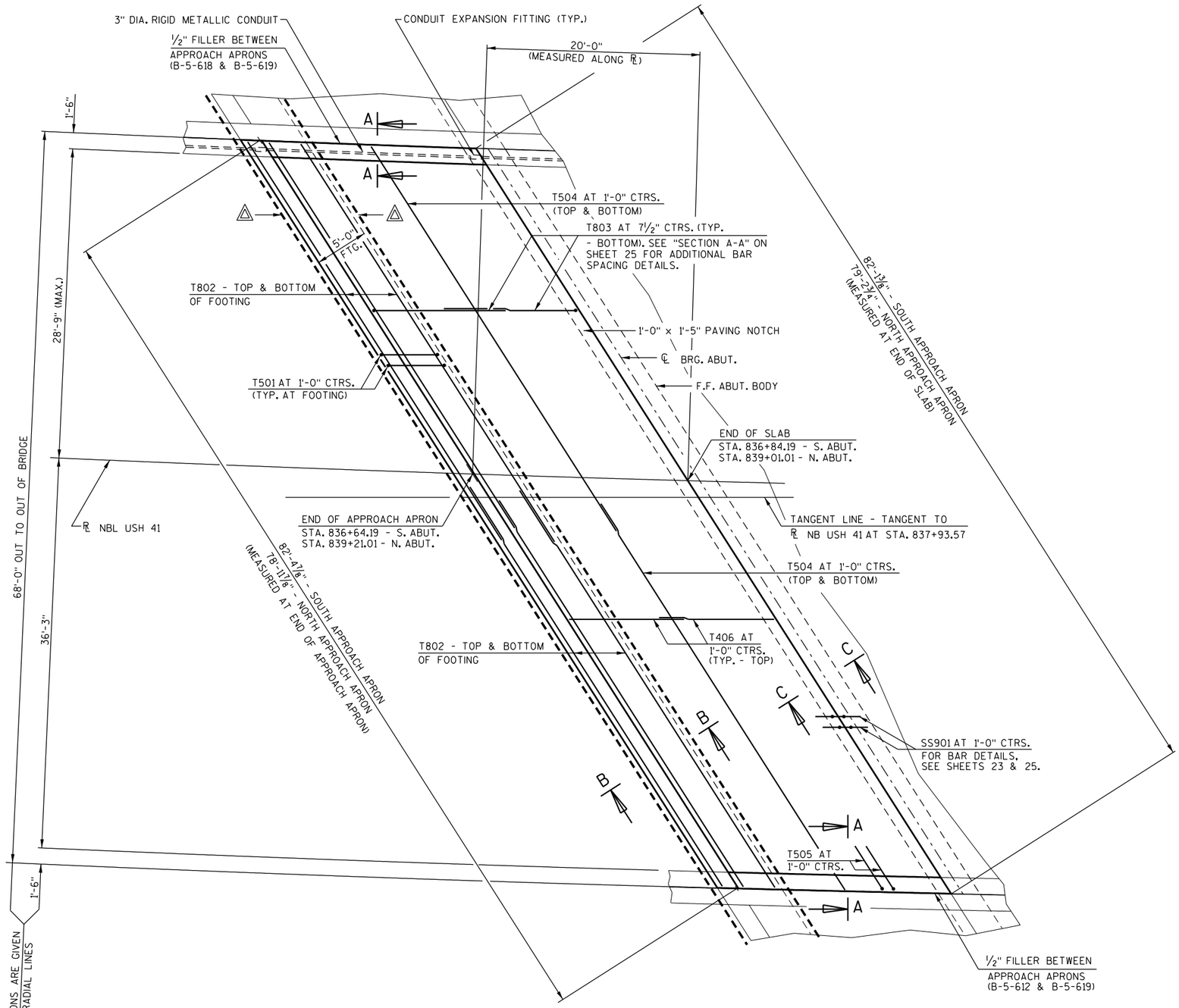
8

8

FILE NAME : P:\134 USH 41 Bridges \1133-09-00\Structures\B-5-619\23_superb_b-5-619.dgn
PLOT DATE : 10/23/2012

STATE PROJECT NUMBER

1133-09-71



APPROACH APRON PART PLAN

(SOUTH APPROACH APRON SHOWN. NORTH APPROACH APRON SIMILAR UNLESS NOTED OTHERWISE)

NOTES: LAP NO. 4 BARS 2'-4" MIN.
LAP NO. 5 BARS 2'-11" MIN.
LAP NO. 8 BARS 5'-9" MIN.

LEGEND

△ FOR SYMBOL DESCRIPTION, SEE SHEET 25.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

APPROACH APRON DETAILS

SHEET 24 OF 29
1819

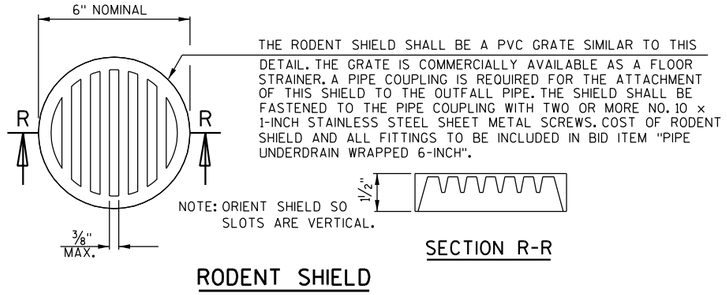
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-619\24_apron1_b-5-619.dgn
PLOT DATE : 10/23/2012

8

8

STATE PROJECT NUMBER

1133-09-71



THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

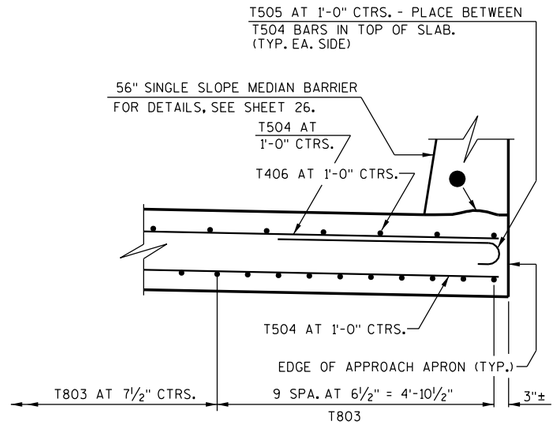
NOTE: ORIENT SHIELD SO SLOTS ARE VERTICAL.

SECTION R-R

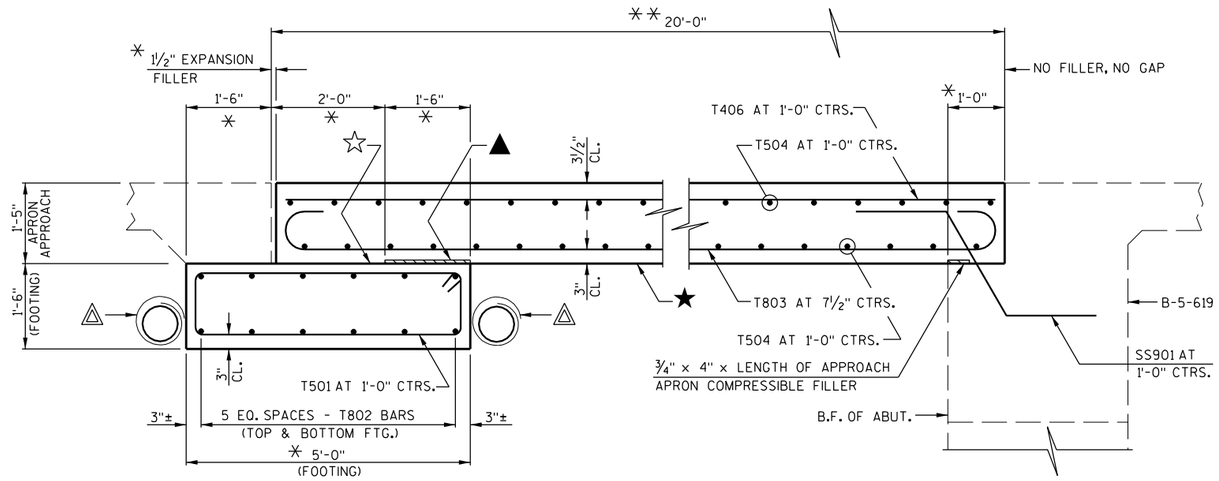
RODENT SHIELD

LEGEND

- ✳ DIMENSIONS ARE GIVEN NORMAL ℄ SUBSTRUCTURE.
- ✳✳ DIMENSIONS ARE GIVEN ALONG ℞ NBL USH 41.
- ☆ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE LENGTH OF FOOTING. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ★ PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE LENGTH OF SUBGRADE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ▲ 3/4" x 1'-6" x LENGTH OF FOOTING COMPRESSIBLE FILLER.
- ⧋ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD TO END OF PIPE. SEE "RODENT SHIELD" DETAIL ON THIS SHEET.
- ● CONST. JT. - STRIKE OFF AS SHOWN.



SECTION A-A



SECTION B-B

SECTION C-C

LONGITUDINAL SECTION AT APPROACH APRON

(SECTION SHOWN AT SOUTH APPROACH APRON, NORTH APPROACH APRON SIMILAR)

NOTES: BAR STEEL REINFORCEMENT FOR THE APPROACH APRONS AND FOR 56" SINGLE SLOPE CONCRETE BARRIER LOCATED ON EACH SIDE OF THE APPROACH APRON AND THE EACH SIDE OF THE DECK FOR B-5-619 IS INCLUDED IN THE BILL OF BARS ON SHEET 27.

PLACE LONGITUDINAL BAR STEEL REINFORCEMENT CONCENTRIC TO ℞ NB USH 41.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

APPROACH APRON DETAILS

SHEET 25 OF 29

1820

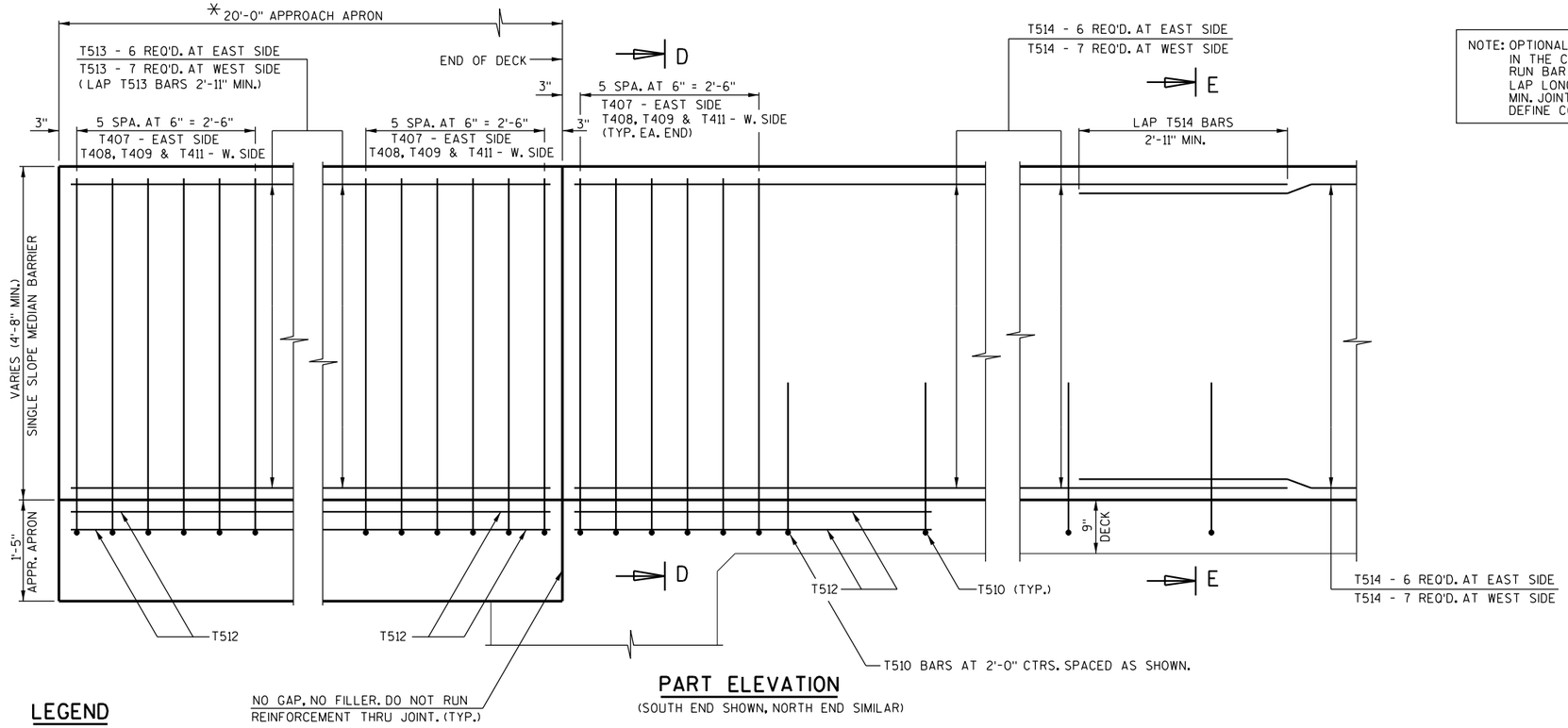
8

8

FILE NAME : P:\134 USH 41 Bridges 11133-09-00\structures\B-5-619\25_aprons2_b-5-619.dgn
PLOT DATE : 10/23/2012

STATE PROJECT NUMBER

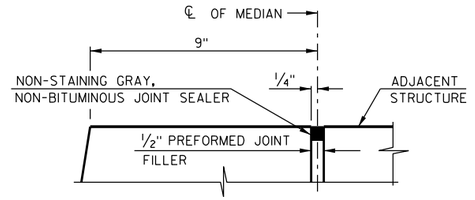
1133-09-71



PART ELEVATION

(SOUTH END SHOWN, NORTH END SIMILAR)

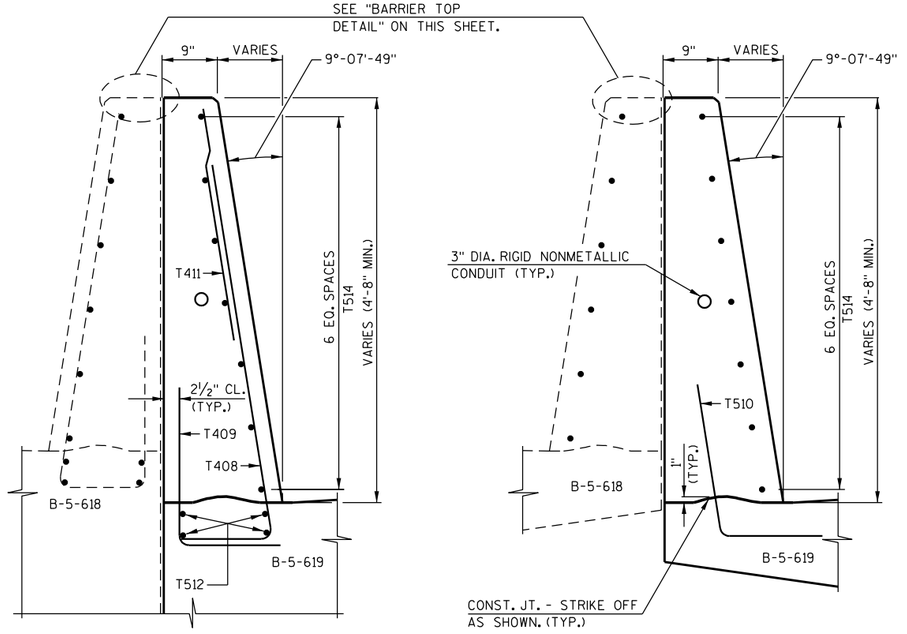
NOTE: OPTIONAL CONSTRUCTION JOINTS IN THE CONCRETE BARRIER MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 2'-11". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" 'V' GROOVE.



BARRIER TOP DETAIL

LEGEND

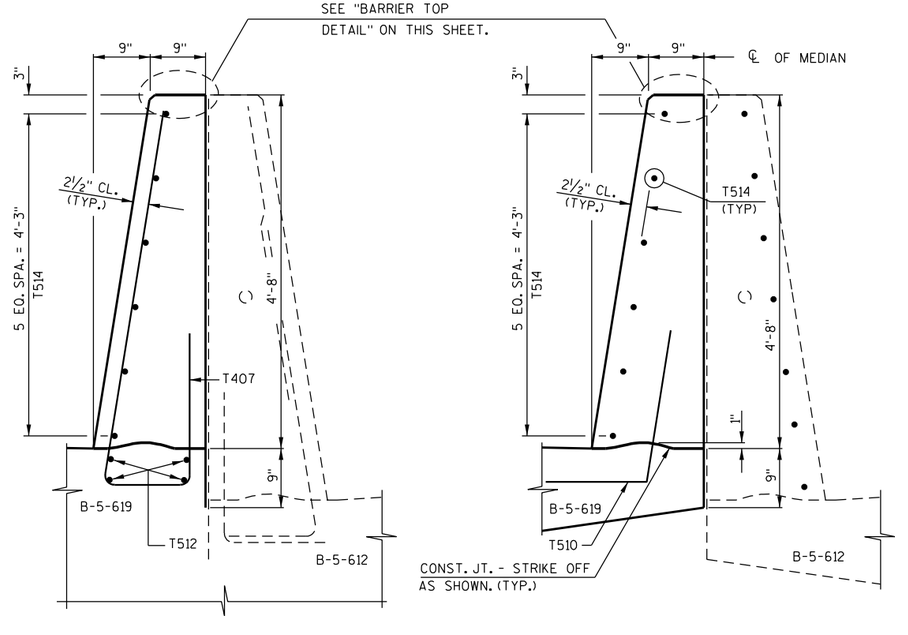
⁎ DIMENSIONS ARE GIVEN PARALLEL TO ℄ NBL USH 41



SECTION D-D
(TYPICAL AT ENDS OF BARRIER)

SECTION E-E

LOOKING NORTH - WEST EDGE OF DECK



SECTION D-D
(TYPICAL AT ENDS OF BARRIER)

SECTION E-E

LOOKING NORTH - EAST EDGE OF DECK

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

56" SINGLE SLOPE MEDIAN BARRIER DETAILS

SHEET 26 OF 29
1821

8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-619\26_barrier_dprotl_b-5-619.dgn
PLOT DATE : 11/21/2012

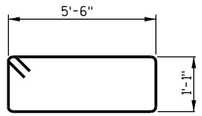
STATE PROJECT NUMBER

1133-09-71

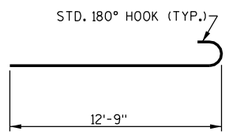
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT IN THIS BILL SHALL BE EPOXY COATED.

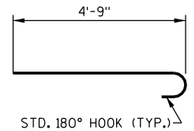
MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION TOTAL WEIGHT = 39,140 LBS.	
T501	136	13-9	X		APPROACH APRON - FOOTING	VERT.
T802	48	43-11			APPROACH APRON - FOOTING	TRANS.
T803	448	13-8	X		APPROACH APRON - SLAB - BOTTOM	LONGIT.
T504	168	42-6			APPROACH APRON - SLAB - TOP & BOTTOM	TRANS.
T505	80	5-4	X		APPROACH APRON - SLAB - TOP - EDGES	TRANS.
T406	276	10-11			APPROACH APRON - SLAB - TOP	LONGIT.
T407	36	7-11	X		MEDIAN BARRIER - AT APPR. APRON & DECK - E. SIDE	VERT.
T408	36	6-3	X		MEDIAN BARRIER - AT APPR. APRON & DECK - W. SIDE	VERT.
T409	36	3-3	X		MEDIAN BARRIER - AT APPR. APRON & DECK - W. SIDE	VERT.
T510	240	3-3	X		MEDIAN BARRIER - AT DECK	VERT.
T411	36	2-10			MEDIAN BARRIER - AT APPR. APRON & DECK - W. SIDE	VERT.
T512	48	5-0			MEDIAN BARRIER - AT APPR. APRON & DECK	LONGIT.
T513	52	11-3			MEDIAN BARRIER - AT APPR. APRON	LONGIT.
T514	78	38-8			MEDIAN BARRIER - AT DECK	LONGIT.



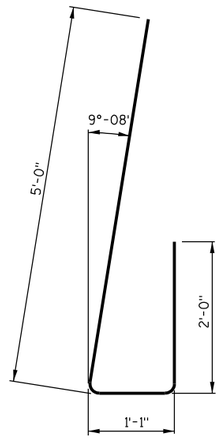
T501



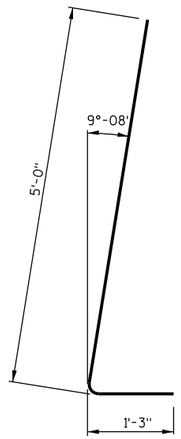
T803



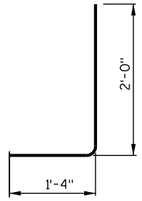
T505



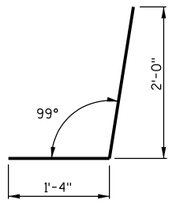
T407



T408



T409



T510

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-619\27_barrier_dprod2_b-5-619.dgn
PLOT DATE : 10/23/2012

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

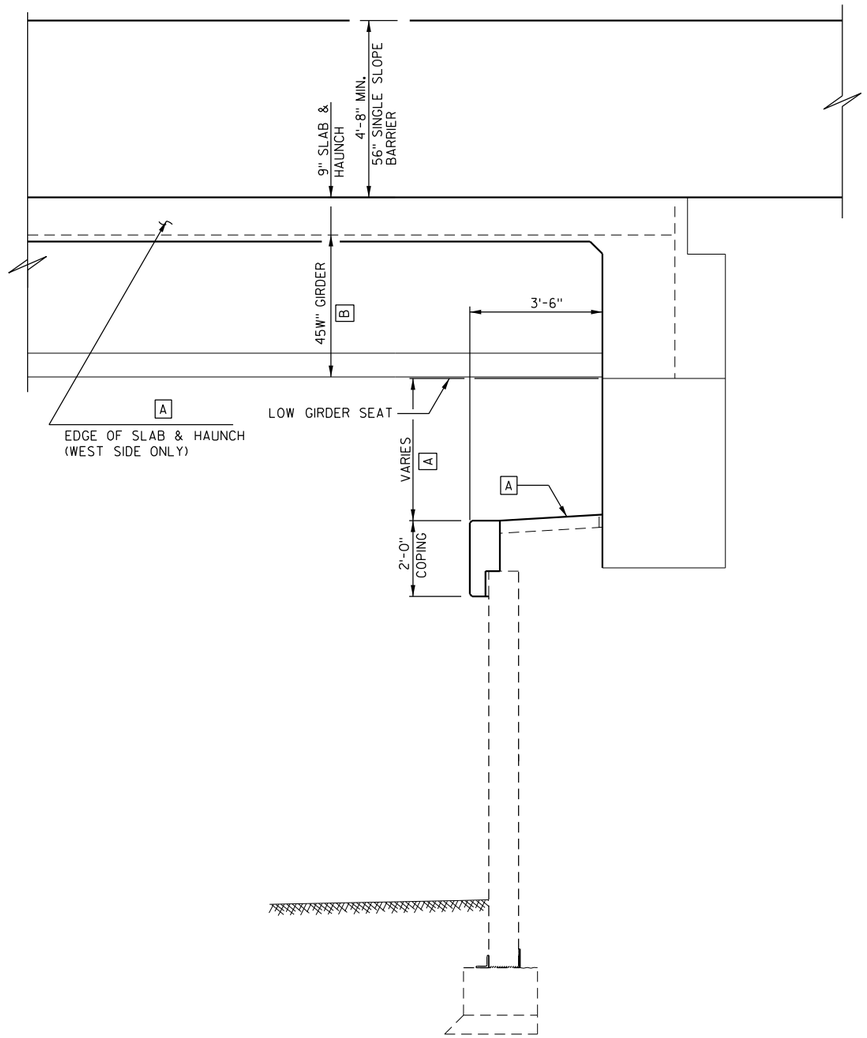
DRAWN BY TAW | PLANS CK'D. TR

56" SINGLE SLOPE MEDIAN BARRIER DETAILS

SHEET 27 OF 29
1822

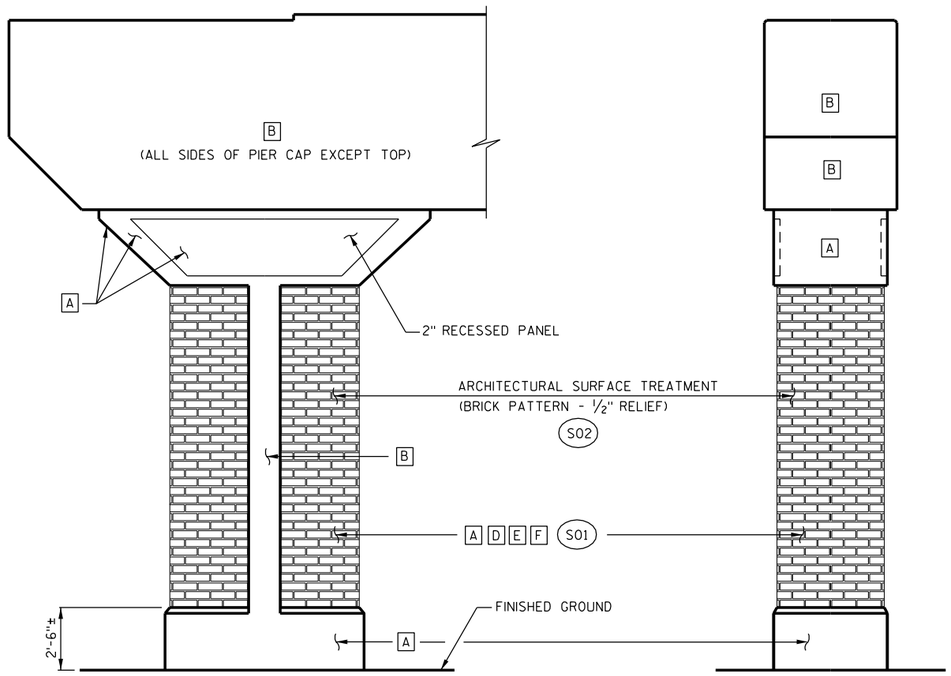
STATE PROJECT NUMBER

1133-09-71



PART ELEVATION - B-5-619

(LOOKING WEST AT NORTH ABUTMENT)



PART ELEVATION AT PIER

NOTE: SEE PIER DETAIL SHEETS FOR ALL LAYOUT DIMENSIONS.

PIER END VIEW

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	LETTERING AT ROADWAY NAME

NOTE: SEE SPECIAL PROVISIONS FOR STAIN COLORS.

NOTES

(S01) STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

(S02) THE COST OF BRICK PATTERN FORMLINER TREATMENT IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT". SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

AESTHETIC DETAILS

SHEET 28 OF 29

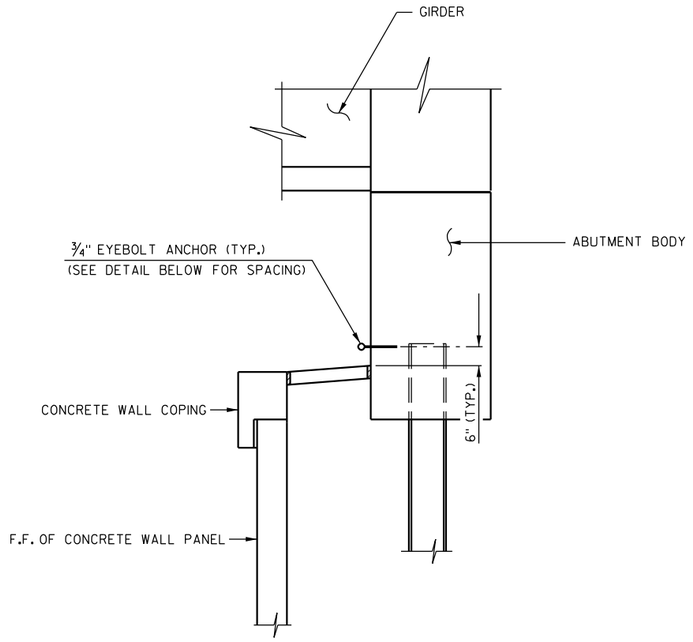
1823

8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-619\28_aesthetics1_b-5-619.dgn
PLOT DATE : 10/23/2012

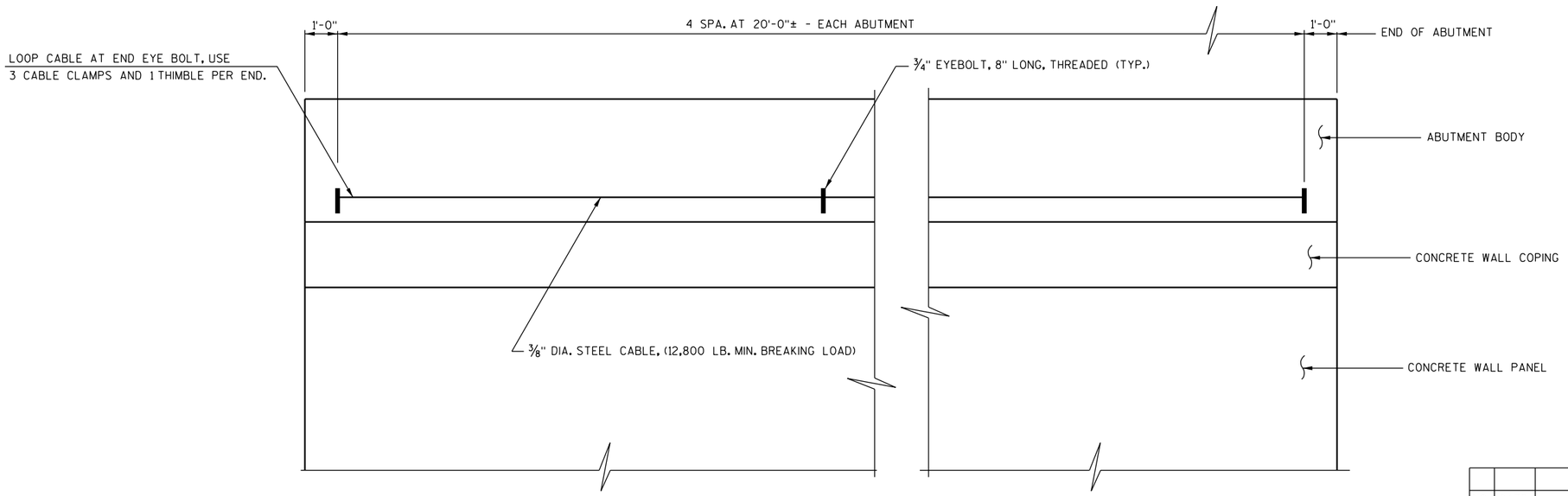
STATE PROJECT NUMBER
1133-09-71



TYPICAL SECTION THRU ABUTMENT BODY

NOTES

1. ALL LABOR AND MATERIAL (EYEBOLTS, CABLE AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4-INCH".
2. ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.
3. USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.
4. MASONRY ANCHORS TYPE S 3/4-INCH, MIN. PULLOUT CAPACITY OF 26 KIPS FOR ADHESIVE ANCHORS EMBEDDED A MIN. OF 7" IN CONCRETE.



PART FRONT VIEW OF ABUTMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-619

DRAWN BY TAW | PLANS CK'D. TR

FALL PROTECTION

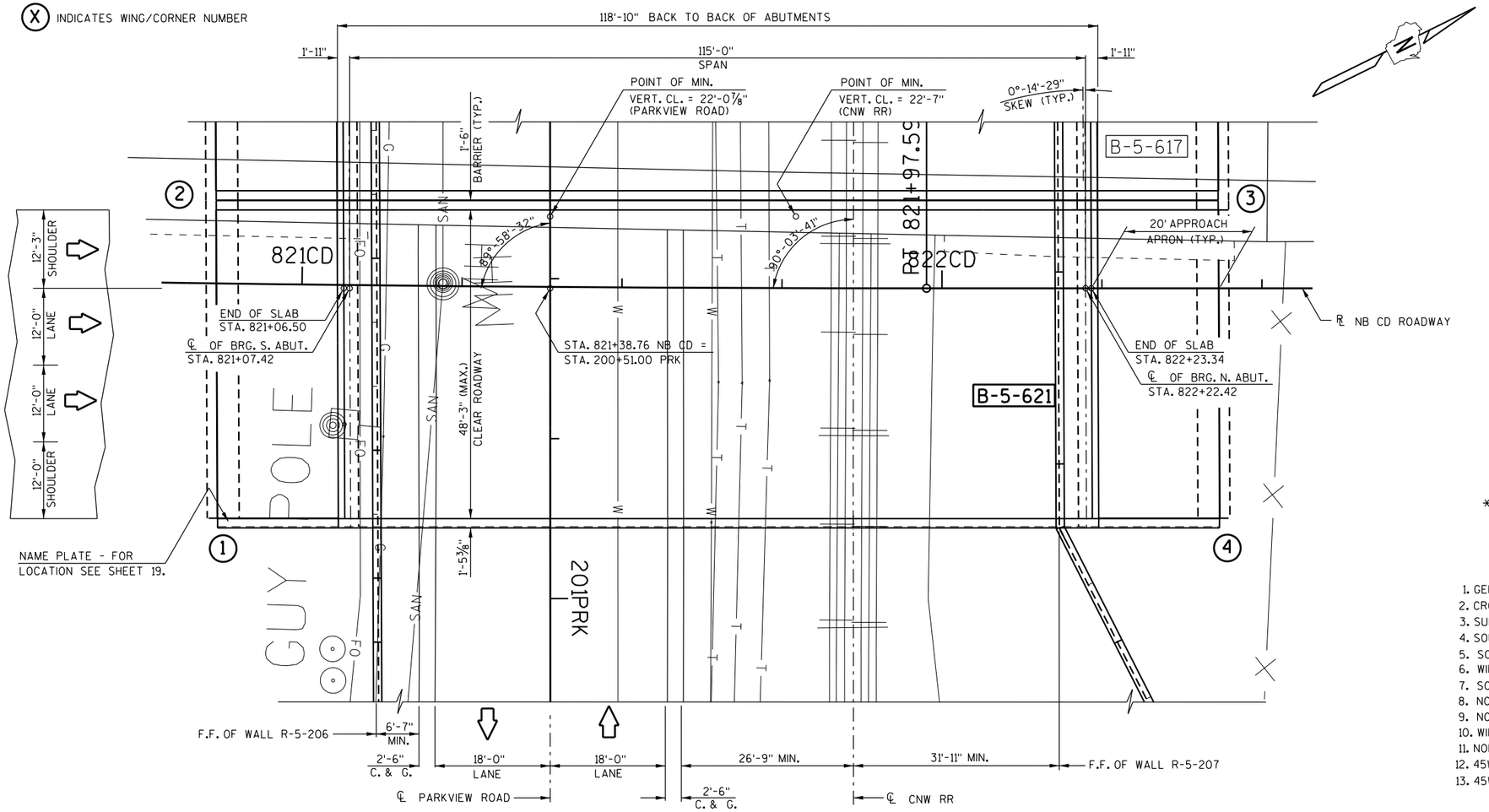
SHEET 29 OF 29
1824

FILE NAME : P:\134 USH 41 Bridges 11133-09-00\structures\B-5-619\29_fallprot_b-5-619.dgn
PLOT DATE : 10/23/2012

8

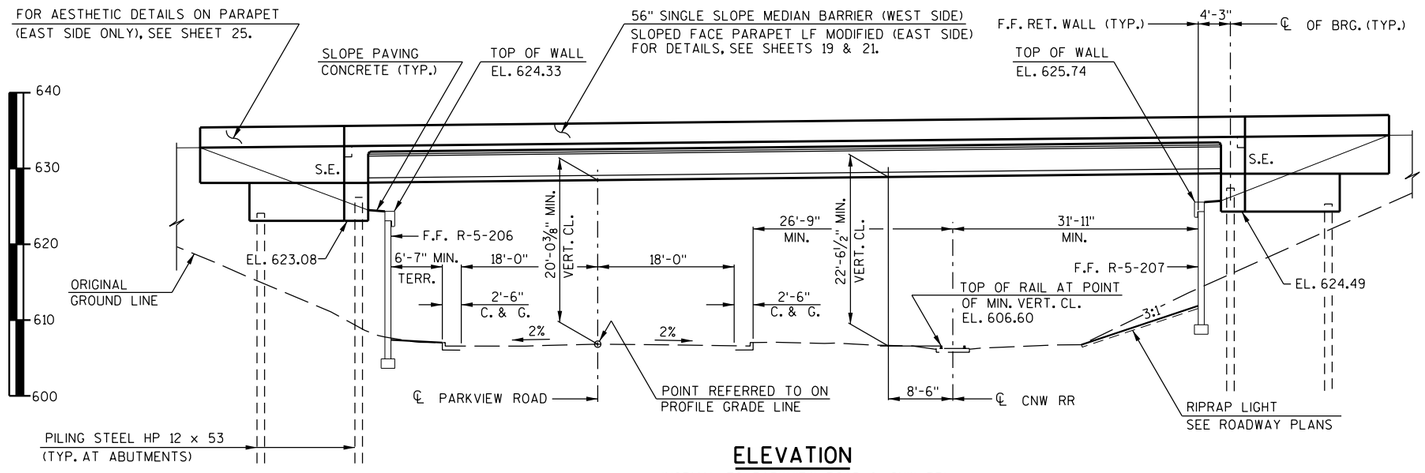
8

STATE PROJECT NUMBER
1133-09-71



PLAN

(SINGLE SPAN - 45W" PRESTRESSED GIRDERS)



ELEVATION

(NORMAL TO PARKVIEW ROAD & CNW RR)

DESIGN DATA

LIVELOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR (RF): 1.03
OPERATIONAL RATING FACTOR (RF): 2.02
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 250 KIPS

STRUCTURE IS DESIGNED FOR A 1½" SACRIFICIAL WEARING SURFACE, PLACED AT INITIAL CONSTRUCTION INTEGRAL WITH THE DECK. NO ALLOWANCE HAS BEEN MADE FOR A FUTURE WEARING SURFACE LOAD.

ULTIMATE DESIGN STRESSES:

HPC MASONRY STRUCTURES — f'_c = 4,000 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 (INCLUDES STAINLESS STEEL BAR STEEL REINFORCEMENT) — f_y = 60,000 P.S.I.
45W" PRESTRESSED GIRDERS - CONCRETE MASONRY — f'_c = 8,000 P.S.I.
STRANDS - 0.6" DIA. WITH AN ULTIMATE TENSILE STRENGTH OF — 270,000 P.S.I.
ALLOWABLE SOIL BEARING PRESSURE FOR APPROACH APRON — 2,000 P.S.F.

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 90' LONG AT EACH ABUTMENT.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT
6. WING 1
7. SOUTH ABUTMENT DETAILS
8. NORTH ABUTMENT
9. NORTH ABUTMENT
10. WING 4
11. NORTH ABUTMENT DETAILS
12. 45W" PRESTRESSED GIRDER DETAILS
13. 45W" PRESTRESSED GIRDER DETAILS
14. INTERMEDIATE STEEL DIAPHRAGMS
15. SUPERSTRUCTURE
16. SUPERSTRUCTURE
17. SUPERSTRUCTURE
18. SUPERSTRUCTURE
19. SLOPED FACE PARAPET LF (MODIFIED
20. APPROACH APRON DETAILS
21. 56" SINGLE SLOPE MEDIAN BARRIER DETAILS
22. 56" SINGLE SLOPE MEDIAN BARRIER DETAILS
23. FALL PROTECTION
24. AESTHETIC DETAILS

TRAFFIC DATA:

NB CD ROADWAY
A.D.T. (2015) = 20,800
A.D.T. (2035) = 24,400
DESIGN SPEED = 60 M.P.H.

PARKVIEW ROAD
A.D.T. (2015) = 4,500
A.D.T. (2035) = 5,600
DESIGN SPEED = 35 M.P.H.

WISCONSIN
THOMAS J. ROMENESKO
E-26318
MADISON
WI
PROFESSIONAL ENGINEER
1/28/13

ROMENESKO ENGINEERING, INC.
CONTACT: TOM ROMENESKO, P.E.
7325 CEDAR CREST DRIVE
SAUK CITY, WI 53583
(608) 644-1502

BRIDGE OFFICE CONTACT:
WILLIAM DREHER, P.E.
(608) 266-8489

NO.	DATE	REVISION	BY

Original Plans Prepared By
ROMENESKO ENGINEERING, INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 02/13/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-5-621

NB CD ROADWAY OVER PARKVIEW ROAD & CNW RR

COUNTY	TOWN/CITY/~~VILLAGE~~
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
TR	VR	TAW	TR

GENERAL PLAN

SHEET 1 OF 24
1825

I.D. 1133-09-00 DATE : 1/28/2013

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-621\01.genplan.v8.b-5-621.dgn
PLOT DATE : 1/28/2013

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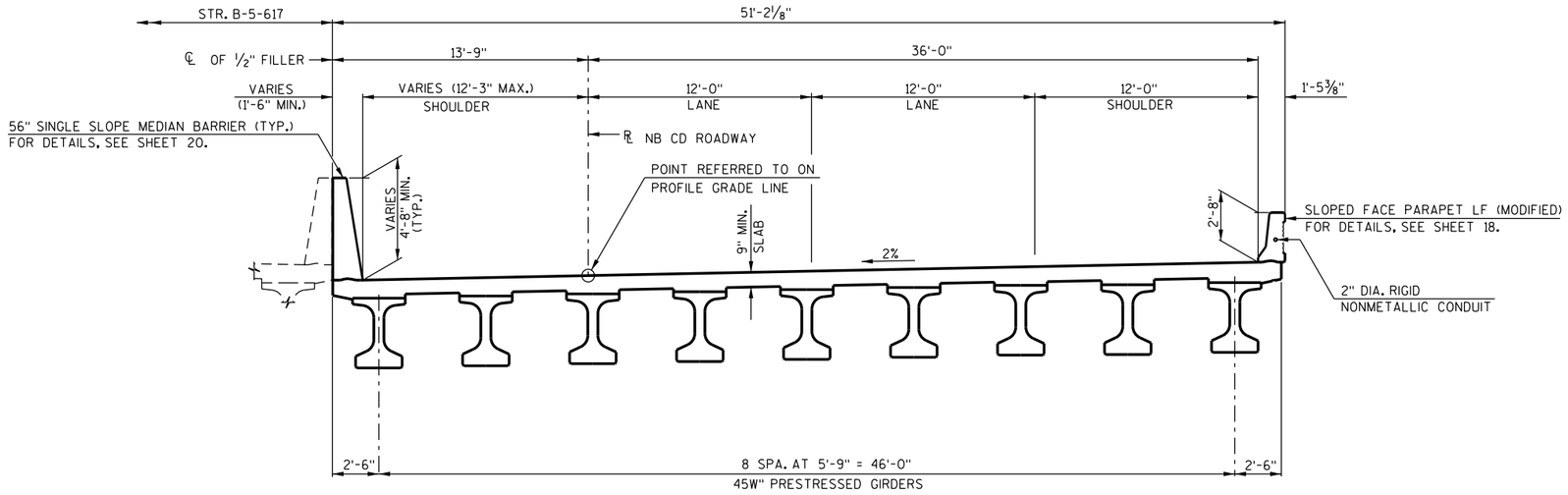
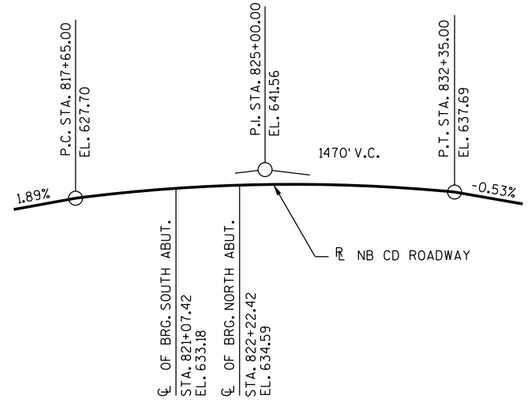
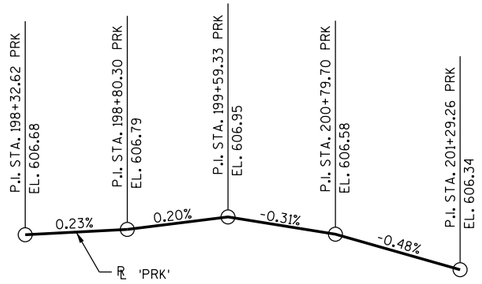
STATE PROJECT NUMBER
1133-09-71



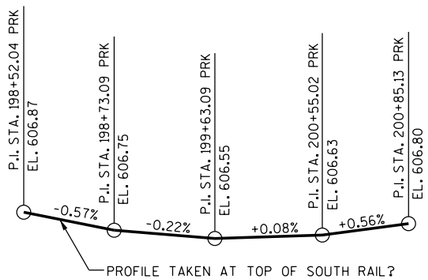
CROSS SECTION THRU ROADWAY
(LOOKING NORTH)



PROFILE GRADE LINE, NB CD ROADWAY



PROFILE GRADE LINE, PARKVIEW ROAD



PROFILE GRADE LINE, CNW RR
(STATIONING BASED ON PARKVIEW ROAD REFERENCE LINE)

BENCH MARK TABLE

NO.	STATION	OFFSET	DESCRIPTION	ELEVATION
11	820+64.53 NB	45.24' RT	DISK ON SE CORNER OF PARAPET WALL OF NB USH 41 OVER PARKVIEW, STR. B-05-114-73	635.67

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	SOUTH ABUTMENT	NORTH ABUTMENT	SUPER.	APPROACH APRON	TOTAL
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-5-621	LS	———	———	———	———	1
210.0100	BACKFILL STRUCTURE	CY	200	200	———	———	400
502.3200	PROTECTIVE SURFACE TREATMENT	SY	———	———	743	255	998
502.6110	MASONRY ANCHORS TYPE S 3/4-INCH	EA	4	4	———	———	8
503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH	LF	———	———	1,044	———	1,044
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	3,460	3,460	———	———	6,920
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1,740	1,750	33,250	22,350	59,090
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	9	9	———	———	18
506.4000	STEEL DIAPHRAGMS B-5-621	EACH	———	———	16	———	16
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	11	11	———	———	22
550.1120	PILING STEEL HP 12-INCH x 53 LB	LF	1,080	1,080	———	———	2,160
604.0400	SLOPE PAVING CONCRETE	SY	20	20	———	———	40
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80	60	———	240	360
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	———	———	10	40	50
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	———	———	110	———	110
SPV.0035.700	HPC MASONRY STRUCTURES	CY	47	47	281	139	514
SPV.0085.700	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	———	———	1,700	———	1,700
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	30	30	184	———	244
SPV.0165.501	STAINING CONCRETE	SF	538	538	1,879	———	2,955
SPV.0165.502	STAINING CONCRETE BRICK	SF	30	30	184	———	244
SPV.0165.700	LONGITUDINAL GROOVING BRIDGE DECK	SF	———	———	5,287	1,810	7,097
	NON - BID ITEMS						
	FILLER	SIZE	———	———	———		½" & ¾"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

THE TOP LAYER OF BAR STEEL REINFORCEMENT IN THE DECK SHALL BE PLACED WITH 3½" OF CLEAR COVER.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M153, TYPES I , II OR III OR M213.

THE AREA OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING CONCRETE, TO THE LIMITS SHOWN ON SHEET 1, ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER.

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

FILL/EXCAVATE TO BOTTOM OF ABUTMENT/PIER ELEVATION BEFORE DRIVING PILING.

AT THE BACKFACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE, SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.

THE FINISHED GRADED SECTION SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE ELASTOMERIC BEARING PADS NON-LAMINATED NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE HAUNCH SHOWN ON THE PRESRESSED GIRDER DETAILS SHEET.

ALL STATIONS AND ALL ELEVATIONS ARE IN FEET.

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF THE DECK AND APPROACH APRONS, INSIDE FACE OF PARAPETS, AND TOP OF PARAPETS.

THE STRUCTURE SHALL BE PAINTED IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND THE STAINING DETAILS PROVIDED IN THIS PLAN.

THE PROPOSED GRADE SEPARATION PROJECT SHALL NOT INCREASE THE QUANTITY AND/OR CHARACTRERISTICS OF THE FLOW IN THE RAILROAD'S EXISTING DITCHES AND/OR DRAINAGE STRUCTURES.

REMOVAL OF ANY PORTION OF EXISTING STRUCTURE B-5-114 WILL BE PAID FOR UNDER "REMOVING OLD STRUCTURE STA. 821+55.61 NB" LISTED IN THE STRUCTURE PLANS FOR B-5-617.

DEBRIS CONTAINMENT FOR STRUCTURE B-5-114 IS INCLUDED IN THE PLANS FOR B-5-617.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

DRAWN BY TAW | PLANS CK'D. TR

CROSS SECTION & QUANTITIES

SHEET 2 OF 24
1826

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-621\02_section_profiles_b-5-621.dgn
PLOT DATE : 12/18/2012

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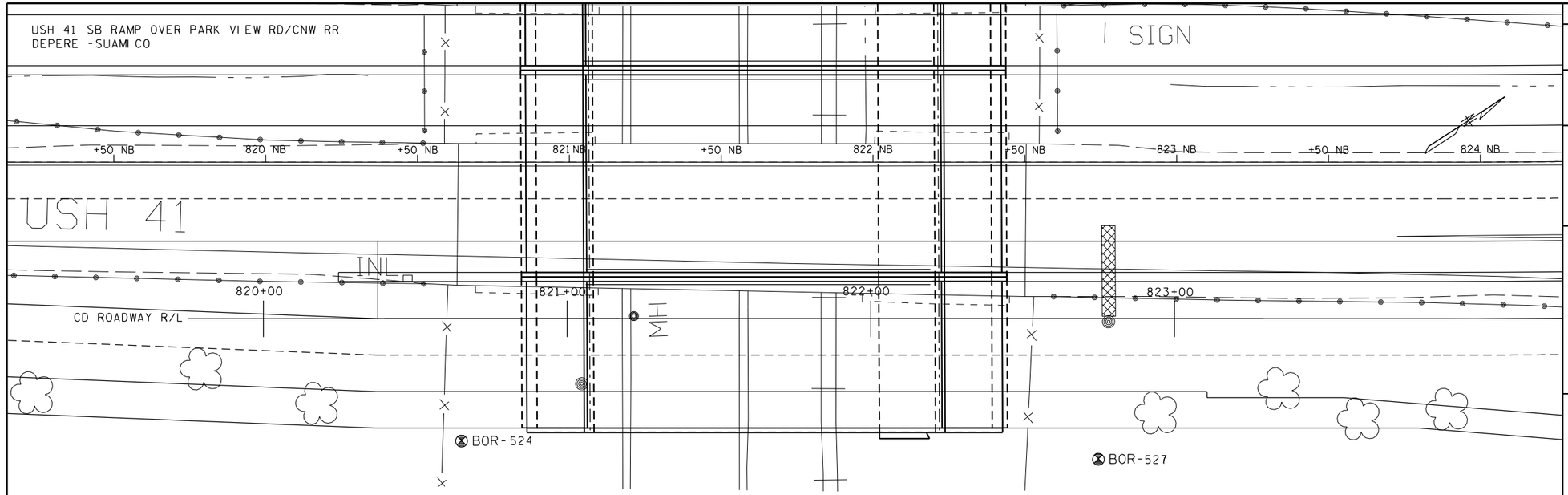
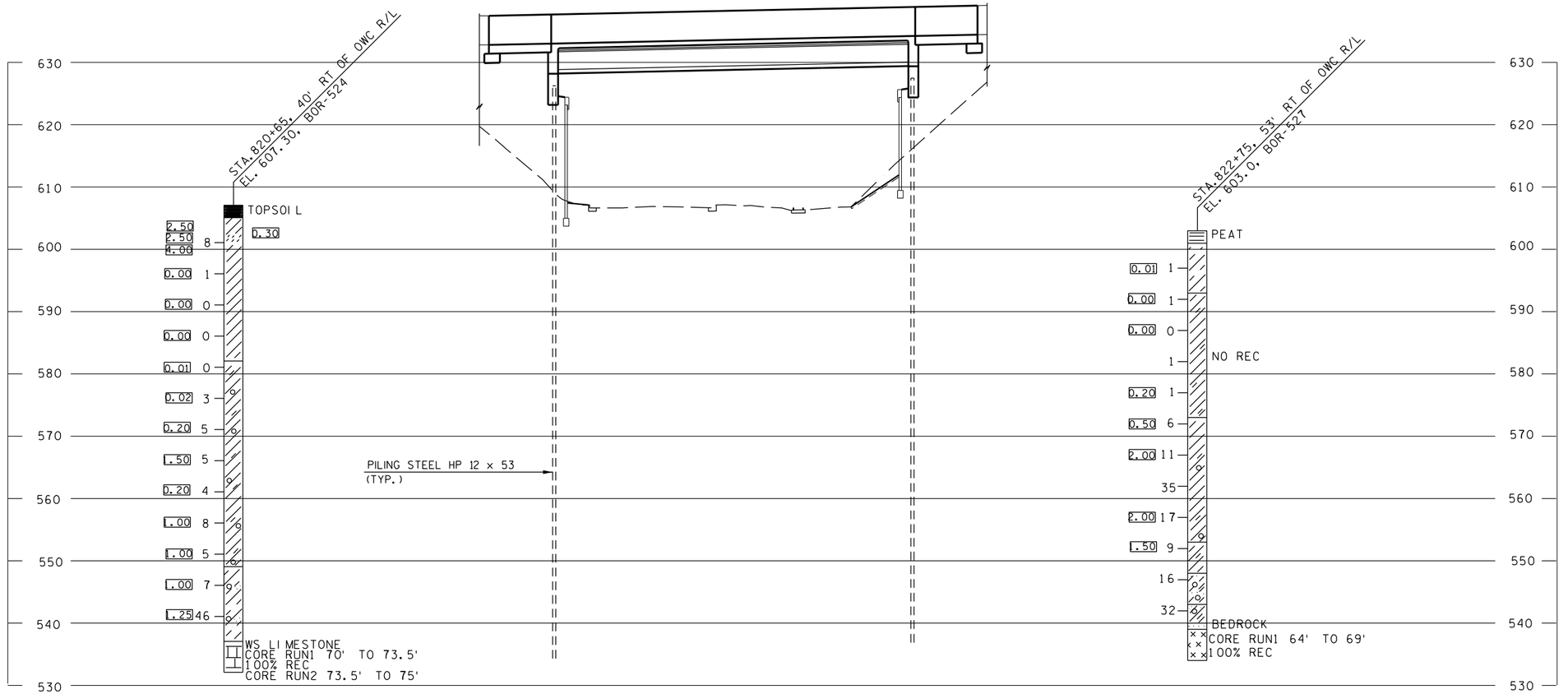
USH 41 SB RAMP OVER PARK VIEW RD/CNW RR
DEPERE - SUAMICO





STATE PROJECT NUMBER

1133-09-71

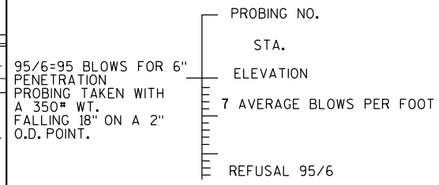
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

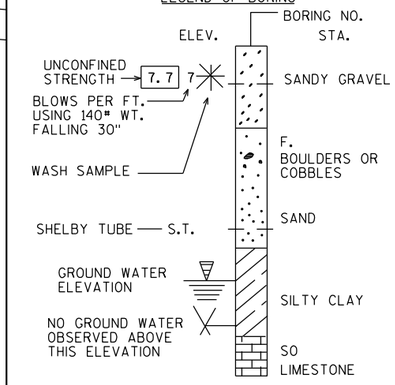
MATERIAL SYMBOLS

TOPSOIL SILT SANDSTONE
SAND PEAT LIMESTONE
GRAVEL CLAY IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

DRAWN BY L H PLANS CK'D.

SUBSURFACE EXPLORATION

SHEET 3 OF 24
1827

SCALE =

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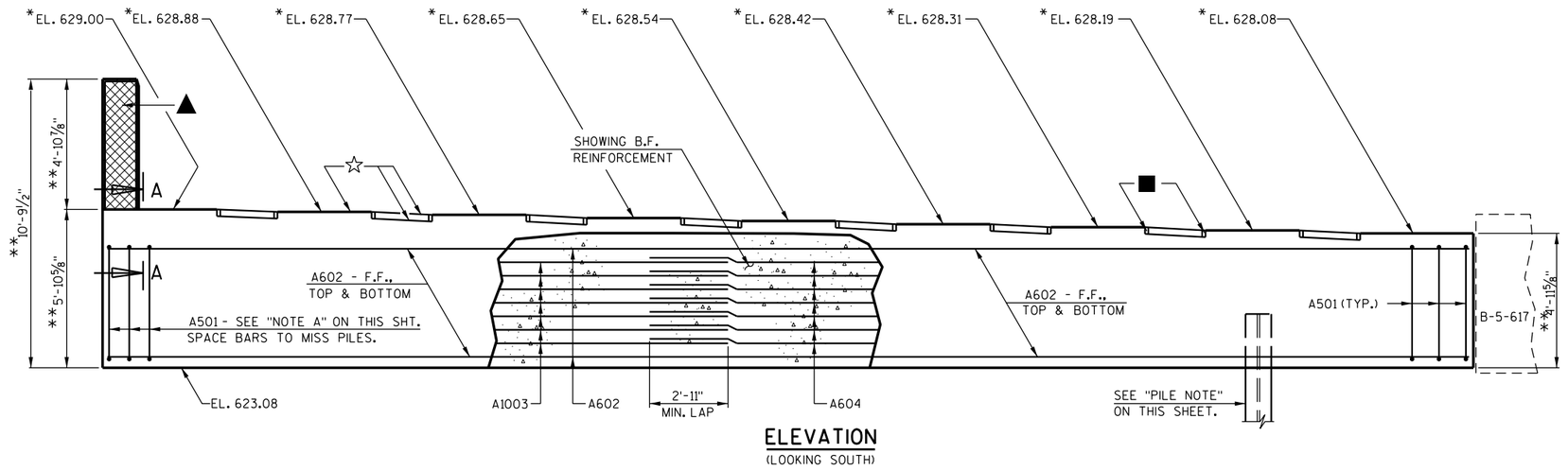
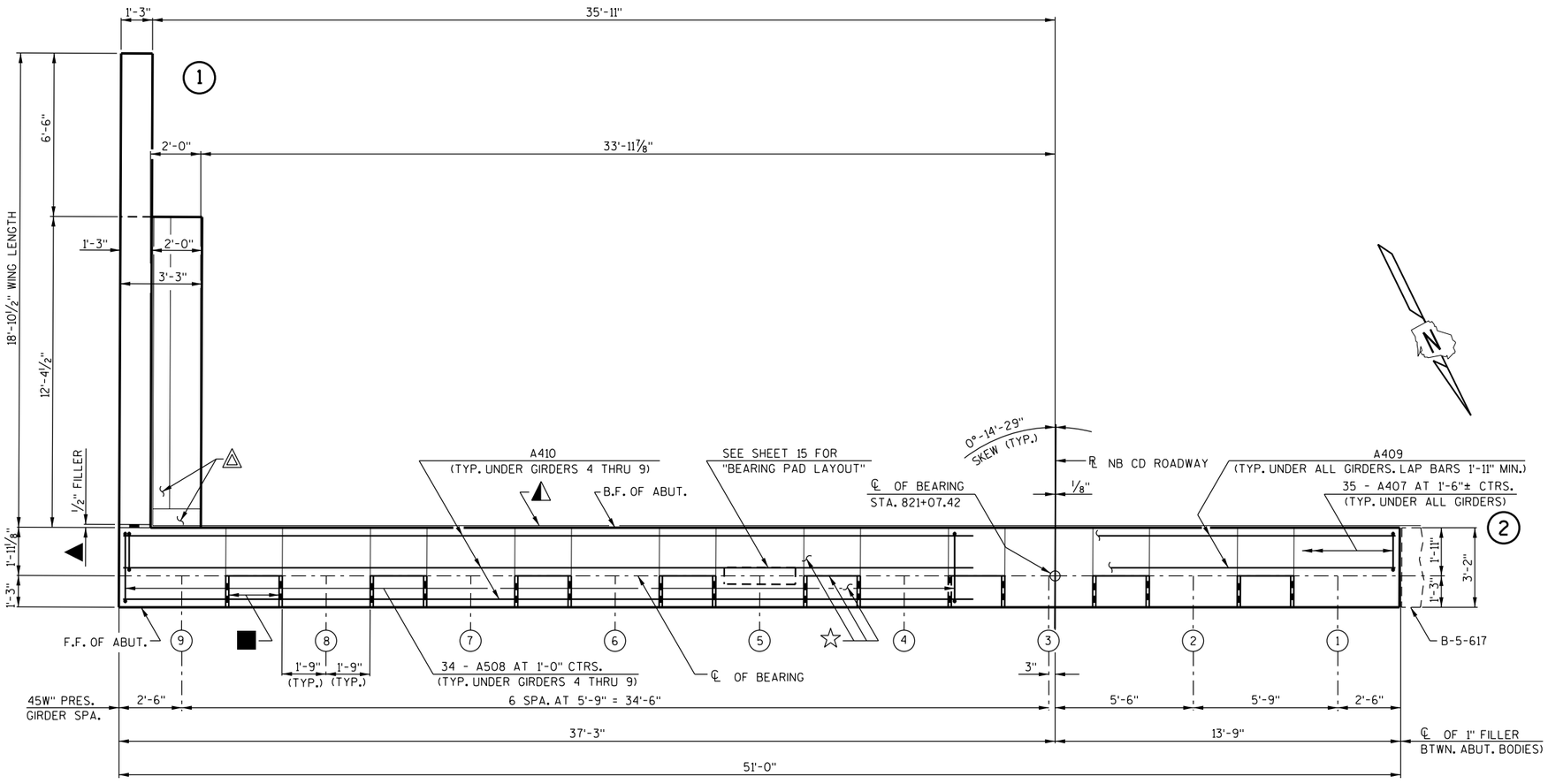
STATE PROJECT NUMBER

1133-09-71



ELEVATION
(LOOKING SOUTH)



PLAN

LEGEND

* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.

** DIMENSIONS AND ELEVATIONS ARE GIVEN AT THE B.F. OF ABUTMENT. FOR WING DETAILS AND ELEVATIONS, SEE SHEET 6.

PLACE BOTTOM HALF OF RUBBERIZED MEMBRANE WATERPROOFING HORIZONTAL IN THIS AREA. SEE SECTION A-A ON THIS SHEET.

18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

½" FILLER TO EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

(X) INDICATES WING OR CORNER NUMBER

NOTES: SEE "PLAN" VIEW AND "TYPICAL SECTION THRU BODY" ON SHEET 5 FOR ADDITIONAL BAR STEEL REINFORCEMENT DETAILS AT GIRDER SEATS.

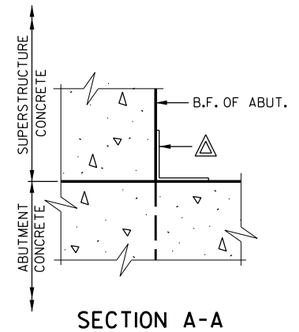
FOR "TYPICAL SECTION THRU BODY", SEE SHEET 5.

PILE NOTE

SOUTH ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 90' LONG. FOR PILE SPLICE DETAILS, SEE SHEET 7.

NOTE A

A501 BARS SHALL BE SPACED AT 9" CTRS. IN THE OUTSIDE THIRD OF THE BODY NEAR WING 1 AND AT 1'-0" CTRS. IN THE REST OF THE BODY. SPACE BARS TO MISS PILES.



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

DRAWN BY TAW | PLANS CK'D. TR

SOUTH ABUTMENT

SHEET 4 OF 24
1828

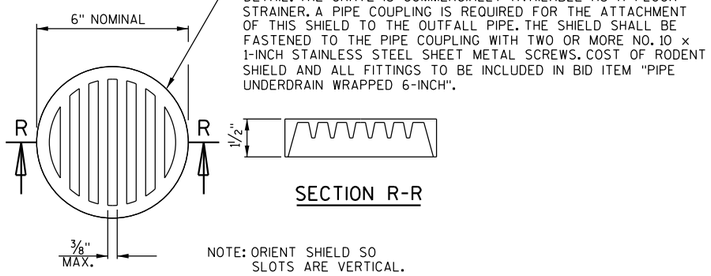
8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-621\04.sdbut1.b-5-621.dgn
PLOT DATE : 12/18/2012

STATE PROJECT NUMBER

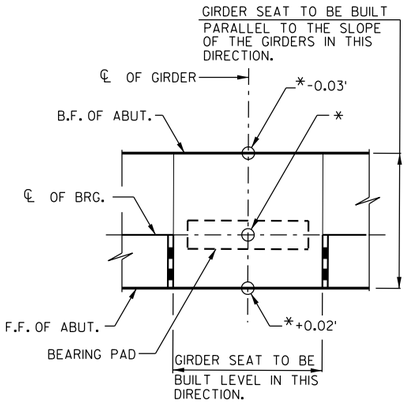
1133-09-71



THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

NOTE: ORIENT SHIELD SO SLOTS ARE VERTICAL.

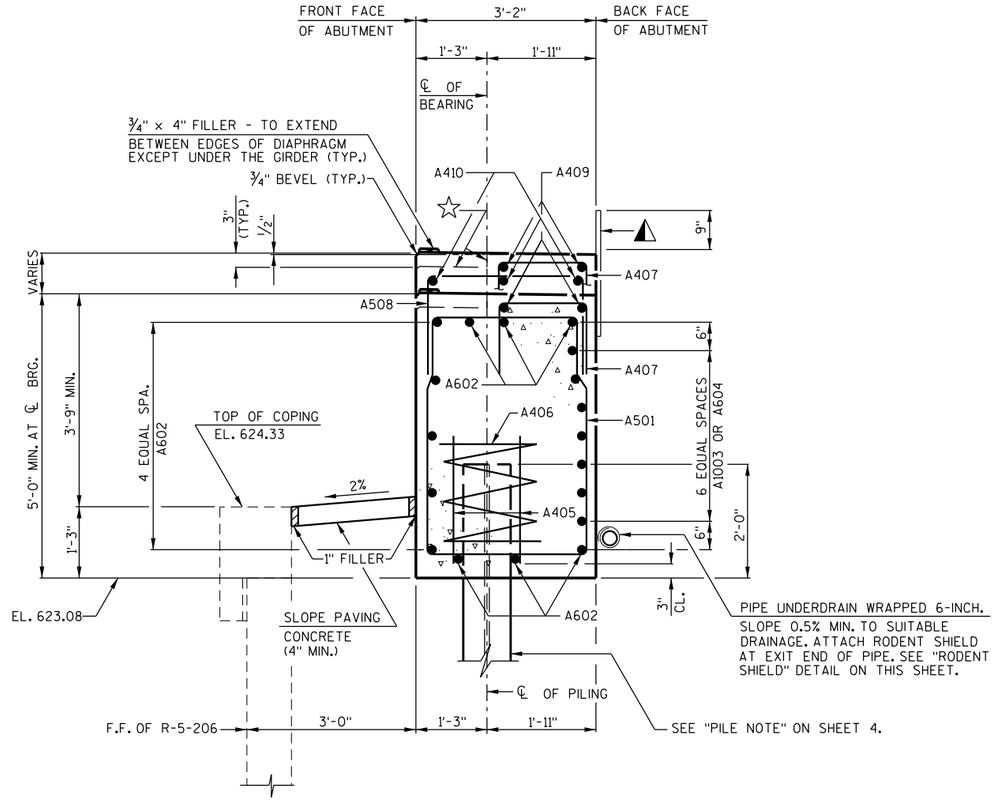
RODENT SHIELD



GIRDER SEAT DETAIL

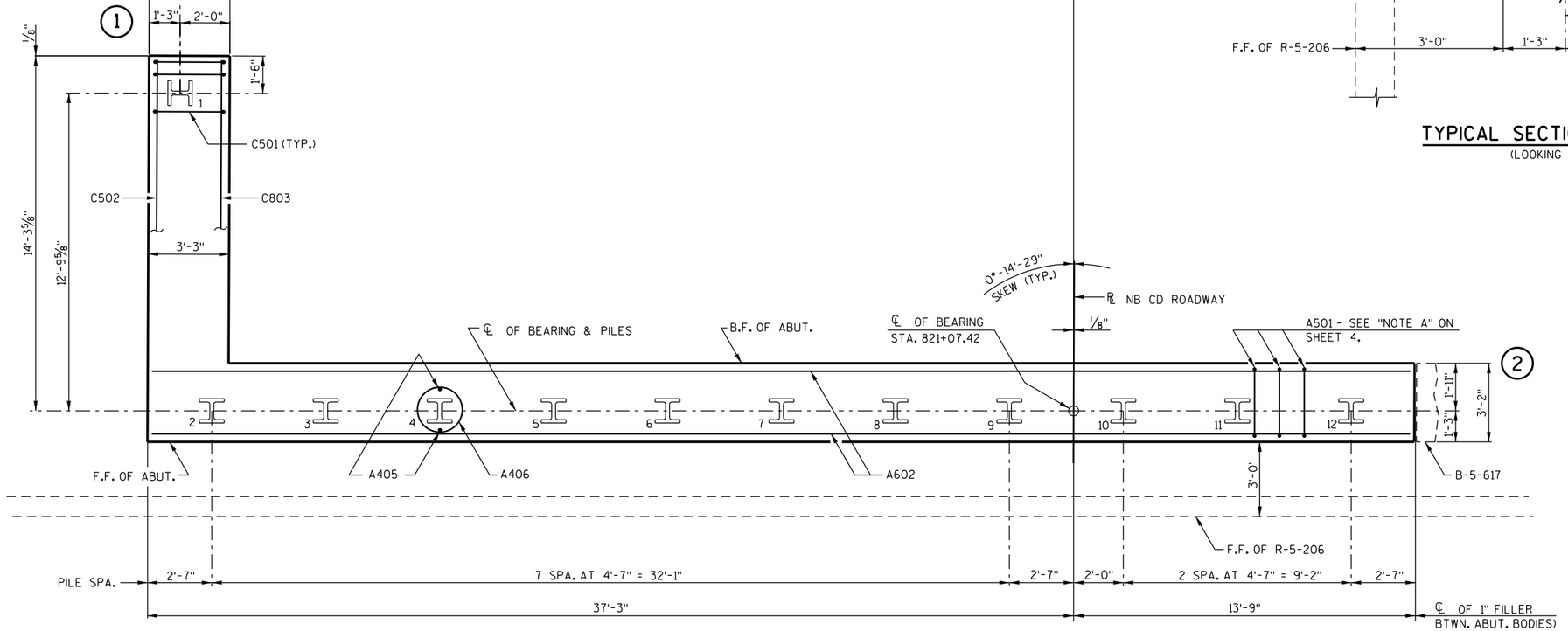
LEGEND

(X) ☆ ◭ FOR SYMBOL DESCRIPTIONS, SEE SHEET 4.



TYPICAL SECTION THRU BODY

(LOOKING EAST)



PILE PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

DRAWN BY TAW | PLANS CK'D. TR

SOUTH ABUTMENT

SHEET 5 OF 24
1829

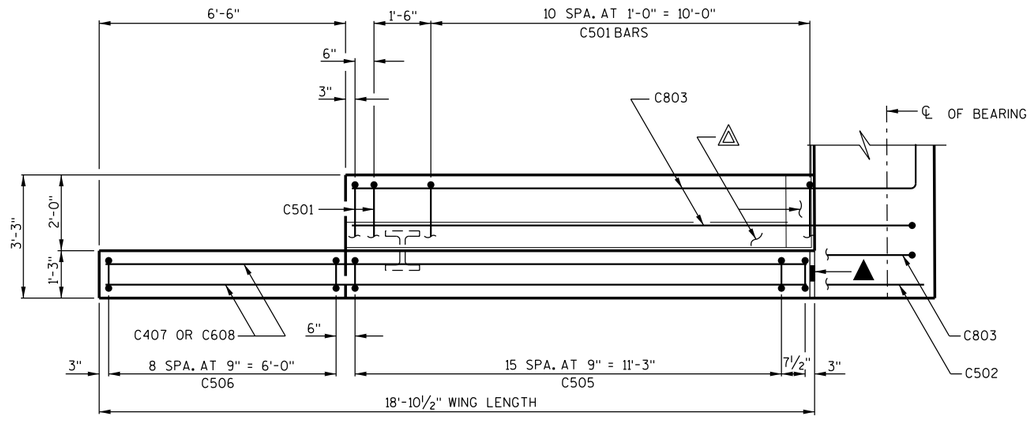
8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-621\05_sabut2_b-5-621.dgn
PLOT DATE : 12/18/2012

STATE PROJECT NUMBER

1133-09-71



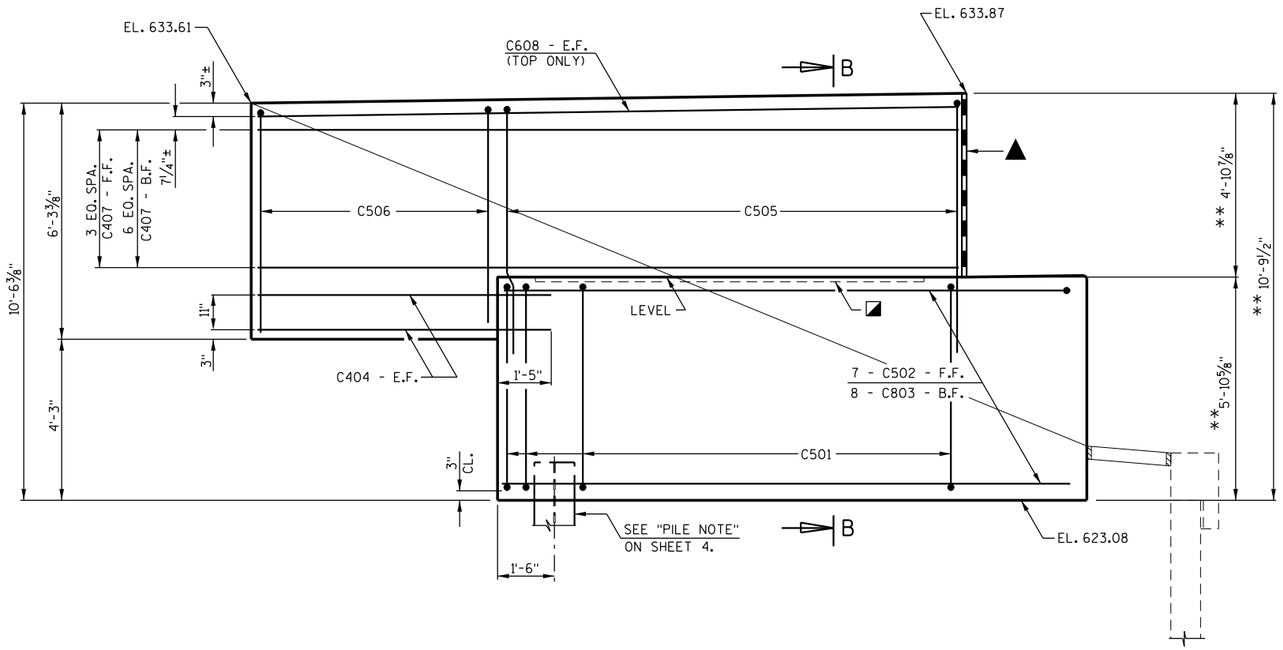
PLAN - WING 1

LEGEND

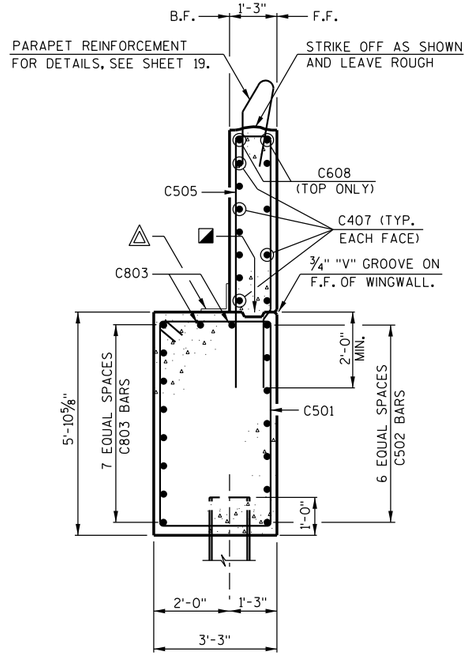
** DIMENSIONS AND ELEVATIONS ARE GIVEN AT THE B.F. OF ABUTMENT.

◪ OPTIONAL CONST. JOINT FORMED BY BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE.

▲ △ FOR SYMBOL DESCRIPTIONS, SEE SHEET 4.



ELEVATION - WING 1



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

DRAWN BY TAW | PLANS CK'D. TR

WING 1

SHEET 6 OF 24
1830

8

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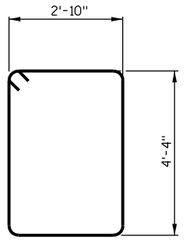
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\Structures\B-5-621\06.wingl_b-5-621.dgn
PLOT DATE : 12/18/2012

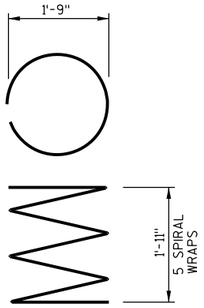
STATE PROJECT NUMBER

1133-09-71



A501

A1003



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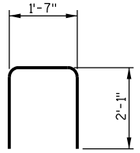

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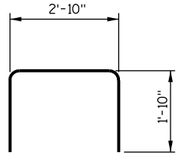
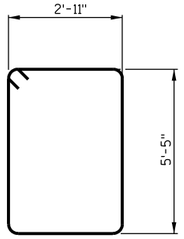
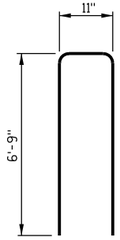


A508



C501

C803



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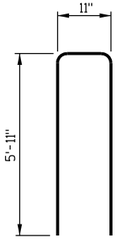
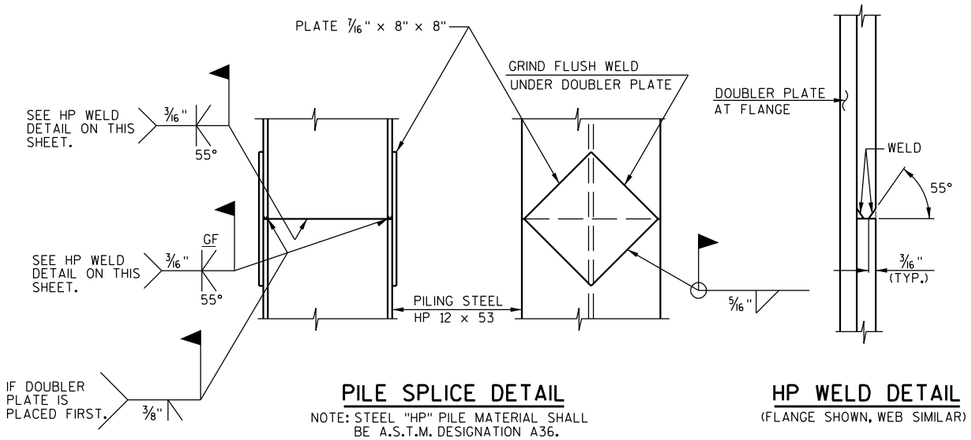


C506

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
NON-COATED BARS					TOTAL WEIGHT = 3,460 LBS.
A501	5757	14-11	X		BODY - STIRRUPS VERT.
A602	11	50-8			BODY - BOTTOM, F.F. & TOP HORIZ.
A1003	7	21-6	X		BODY - B.F. HORIZ.
A604	7	33-10			BODY - B.F. HORIZ.
A405	22	2-3			BODY - AT PILES - 2 PER PILE VERT.
A406	11	28-0	X		BODY - AT PILES - 1 PER PILE - SPIRAL WRAP VERT.
A407	35	5-7	X		BODY - TOP VERT.
A508	34	6-3	X		BODY - TOP - UNDER GIRDERS 4 THRU 9 VERT.
A409	4	26-4			BODY - TOP - UNDER GIRDERS HORIZ.
A410	3	33-10			BODY - TOP - UNDER GIRDERS 4 THRU 9 HORIZ.
EPOXY COATED BARS					TOTAL WEIGHT = 1,350 LBS.
C501	13	17-3	X		WING 1 - STIRRUPS VERT.
C502	7	14-11			WING 1 - F.F. HORIZ.
C803	10	15-8	X		WING 1 - B.F. HORIZ.
C404	4	7-9			WING 1 - F.F. & B.F. HORIZ.
C505	17	14-2	X		WING 1 - F.F. & B.F. VERT.
C506	9	12-6	X		WING 1 - F.F. & B.F. VERT.
C407	11	18-6			WING 1 - F.F. & B.F. HORIZ.
C608	2	18-6			WING 1 - F.F. & B.F. - TOP HORIZ.



PILE SPLICE DETAIL

NOTE: STEEL "HP" PILE MATERIAL SHALL BE A.S.T.M. DESIGNATION A36.

HP WELD DETAIL

(FLANGE SHOWN, WEB SIMILAR)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

DRAWN BY TAW | PLANS CK'D. TR

SOUTH ABUTMENT DETAILS

SHEET 7 OF 24
1831

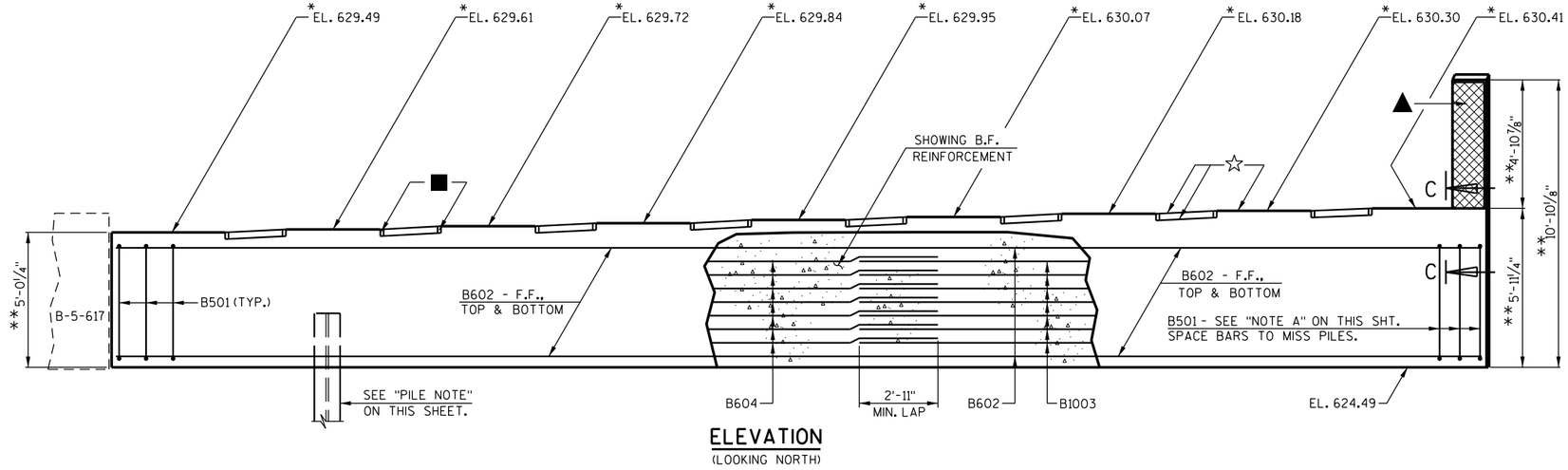
8

8

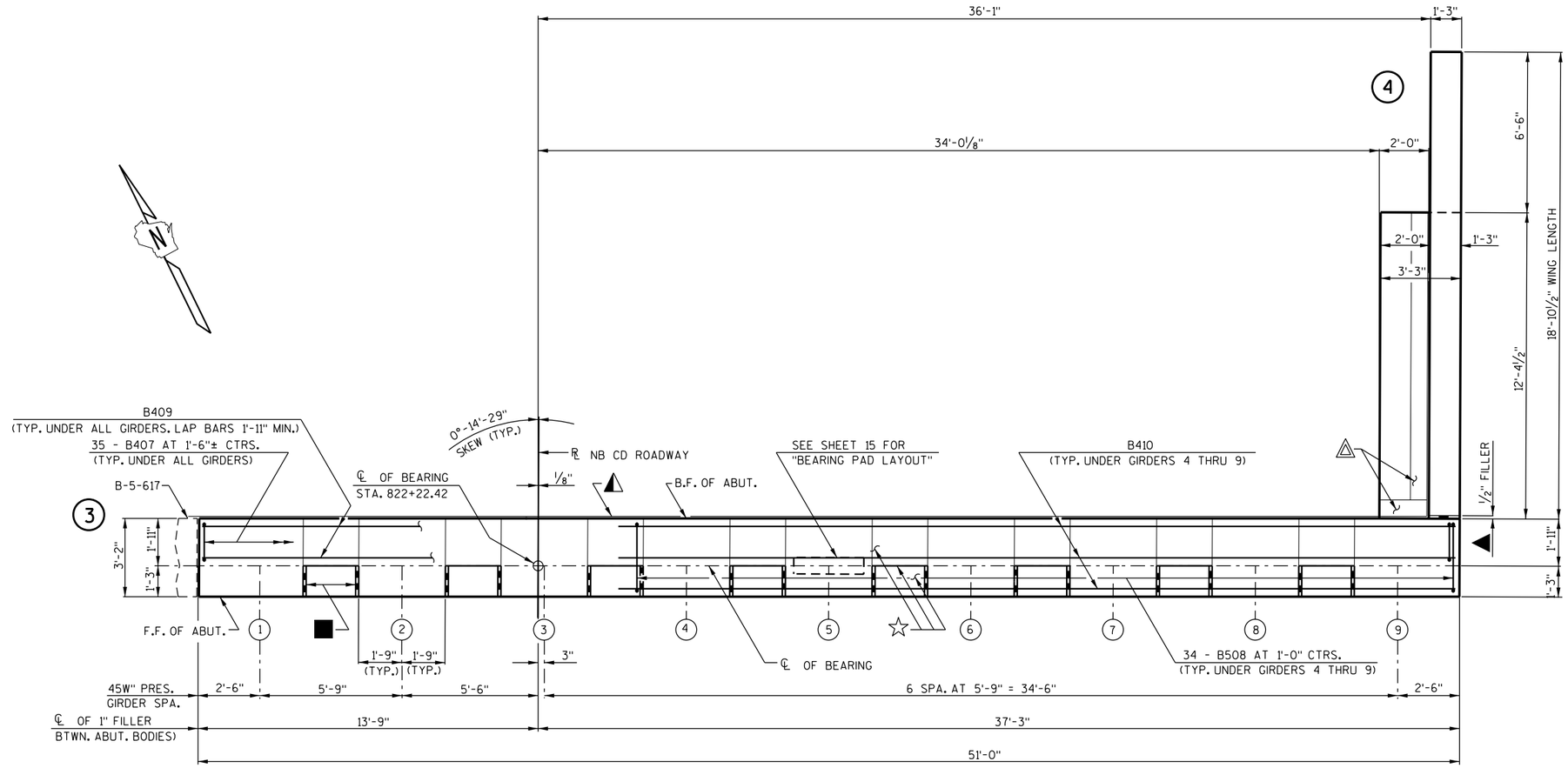
FILE NAME : P:\134 USH 41 Bridges 1133-09-00\Structures\B-5-621\07.sdgn
PLOT DATE : 10/24/2012

STATE PROJECT NUMBER

1133-09-71



ELEVATION
(LOOKING NORTH)



PLAN

LEGEND

* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.

** DIMENSIONS AND ELEVATIONS ARE GIVEN AT THE B.F. OF ABUTMENT. FOR WING DETAILS AND ELEVATIONS, SEE SHEET 10.

PLACE BOTTOM HALF OF RUBBERIZED MEMBRANE WATERPROOFING HORIZONTAL IN THIS AREA. SEE SECTION C-C ON THIS SHEET.

18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

½" FILLER TO EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

(X) INDICATES WING OR CORNER NUMBER

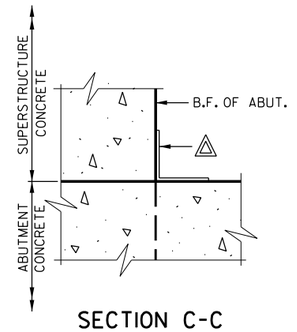
NOTES: SEE "PLAN" VIEW AND "TYPICAL SECTION THRU BODY" ON SHEET 9 FOR ADDITIONAL BAR STEEL REINFORCEMENT DETAILS AT GIRDER SEATS.
FOR "TYPICAL SECTION THRU BODY", SEE SHEET 9.

PILE NOTE

NORTH ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 90' LONG. FOR PILE SPLICE DETAILS, SEE SHEET 7.

NOTE A

B501 BARS SHALL BE SPACED AT 9" CTRS. IN THE OUTSIDE THIRD OF THE BODY NEAR WING 1 AND AT 1'-0" CTRS. IN THE REST OF THE BODY. SPACE BARS TO MISS PILES.



SECTION C-C

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

DRAWN BY TAW | PLANS CK'D. TR

NORTH ABUTMENT

SHEET 8 OF 24
1832

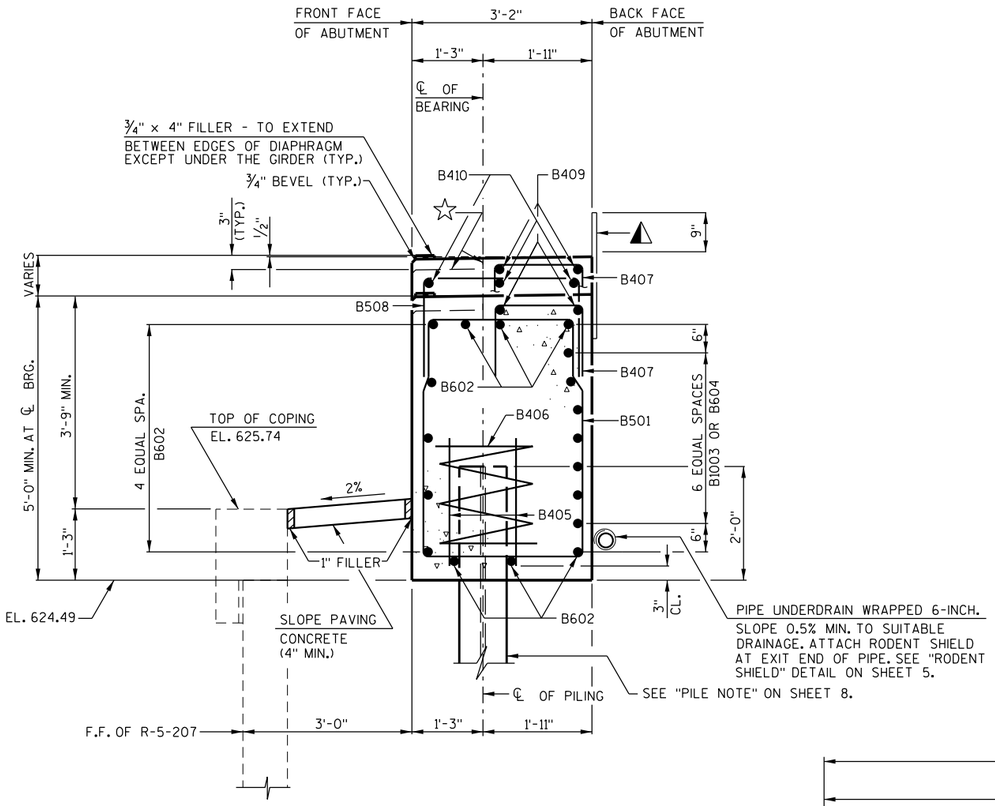
8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-621\08_nabut1_b-5-621.dgn
PLOT DATE : 12/18/2012

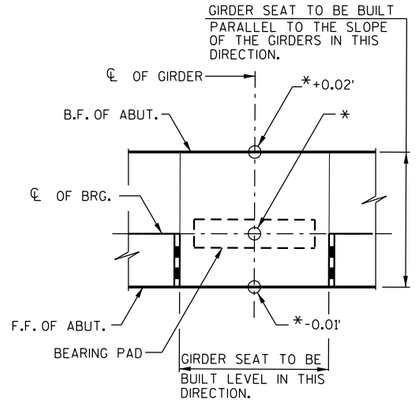
STATE PROJECT NUMBER

1133-09-71



TYPICAL SECTION THRU BODY

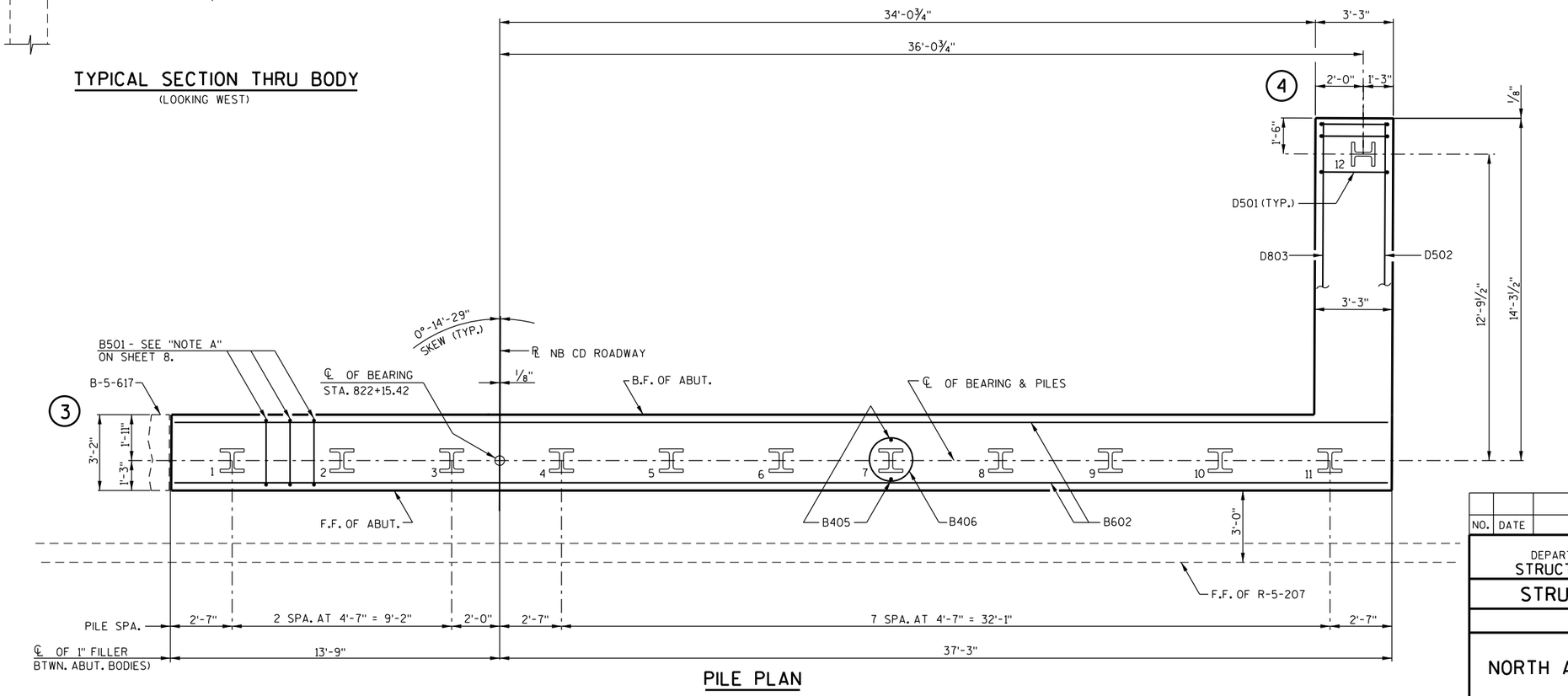
(LOOKING WEST)



GIRDER SEAT DETAIL

LEGEND

Ⓧ ☆ ◭ FOR SYMBOL DESCRIPTIONS, SEE SHEET 8.



PILE PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

DRAWN BY TAW | PLANS CK'D. TR

NORTH ABUTMENT

SHEET 9 OF 24
1833

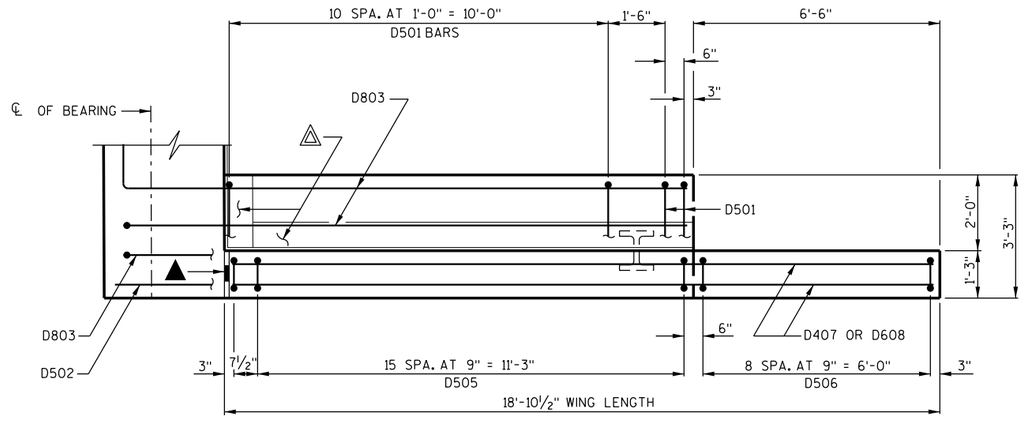
8

8

FILE NAME : P:\134 USH 41 Bridges 1133-09-00\structures\B-5-621\09_nbdut2.b-5-621.dgn
PLOT DATE : 12/18/2012

STATE PROJECT NUMBER

1133-09-71



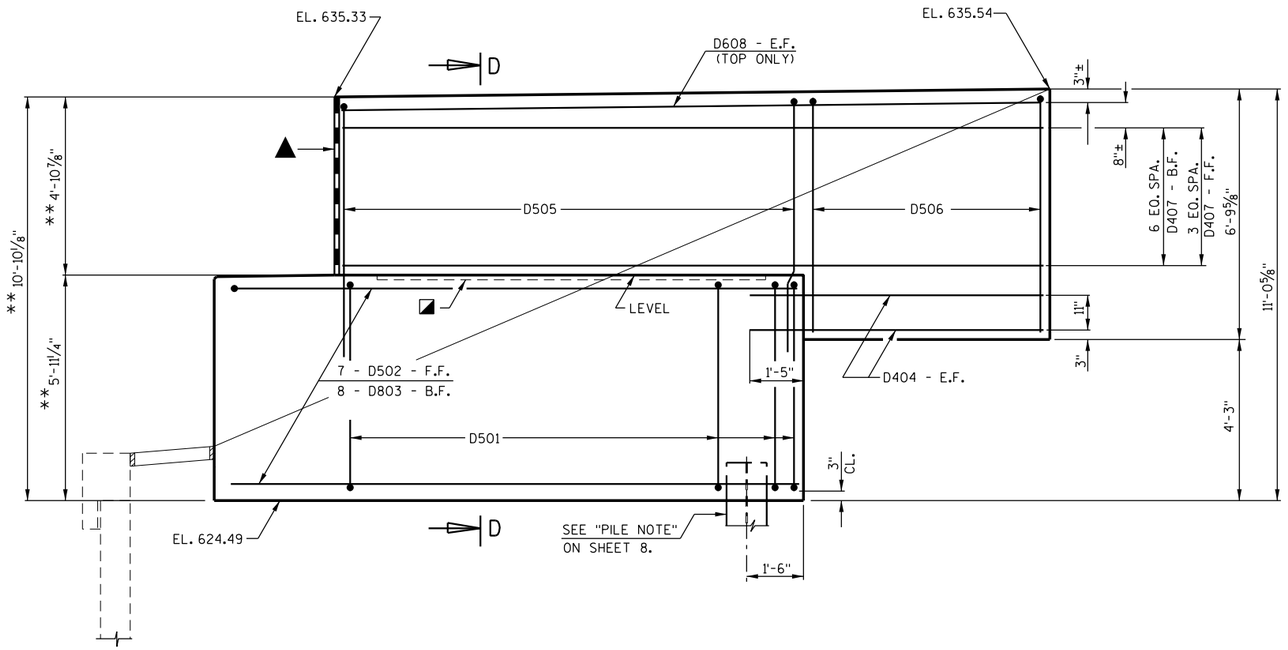
PLAN - WING 4

LEGEND

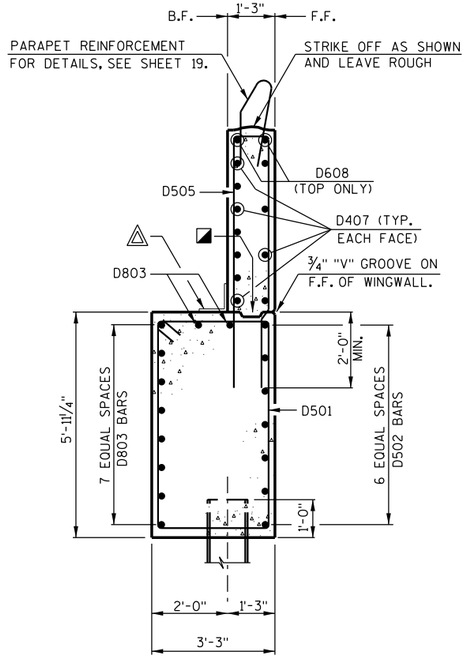
** DIMENSIONS AND ELEVATIONS ARE GIVEN AT THE B.F. OF ABUTMENT.

◪ OPTIONAL CONST. JOINT FORMED BY BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE.

▲ △ FOR SYMBOL DESCRIPTIONS, SEE SHEET 8.



ELEVATION - WING 4



SECTION D-D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

DRAWN BY TAW | PLANS CK'D. TR

WING 4

SHEET 10 OF 24
1834

FILE NAME : P:\134 USH 41 Bridges \1133-09-00\Structures\B-5-621\10.wing4_b-5-621.dgn
PLOT DATE : 12/18/2012

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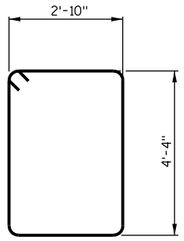
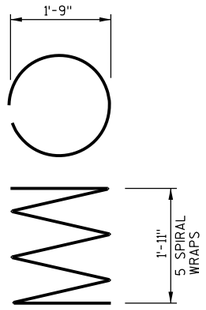
STATE PROJECT NUMBER

1133-09-71



B501

B1003



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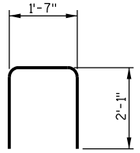

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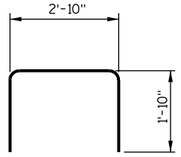

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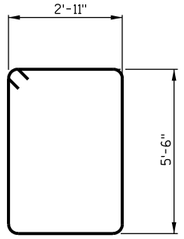
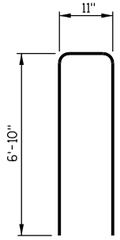


D501

D803



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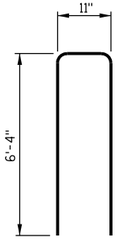

D506

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	
NON-COATED BARS						TOTAL WEIGHT = 3,460 LBS.
B501	57	14-11	X		BODY - STIRRUPS	VERT.
B602	11	50-8			BODY - BOTTOM, F.F. & TOP	HORIZ.
B1003	7	21-6	X		BODY - B.F.	HORIZ.
B604	7	33-10			BODY - B.F.	HORIZ.
B405	22	2-3			BODY - AT PILES - 2 PER PILE	VERT.
B406	11	28-0	X		BODY - AT PILES - 1 PER PILE - SPIRAL WRAP	VERT.
B407	35	5-7	X		BODY - TOP	VERT.
B508	34	6-3	X		BODY - TOP - UNDER GIRDERS 4 THRU 9	VERT.
B409	4	26-4			BODY - TOP - UNDER GIRDERS	HORIZ.
B410	3	33-10			BODY - TOP - UNDER GIRDERS 4 THRU 9	HORIZ.
EPOXY COATED BARS						TOTAL WEIGHT = 1,360 LBS.
D501	13	17-5	X		WING 4 - STIRRUPS	VERT.
D502	7	15-2			WING 4 - F.F.	HORIZ.
D803	10	15-8	X		WING 4 - B.F.	HORIZ.
D404	4	7-9			WING 4 - F.F. & B.F.	HORIZ.
D505	17	14-4	X		WING 4 - F.F. & B.F.	VERT.
D506	9	13-4	X		WING 4 - F.F. & B.F.	VERT.
D407	11	18-6			WING 4 - F.F. & B.F.	HORIZ.
D608	2	18-6			WING 4 - F.F. & B.F. - TOP	HORIZ.
						HORIZ.

FILE NAME : P:\134 DSH 41 Bridges 1133-09-00\Structures\B-5-621\11.ndp\det_b-5-621.dgn
PLOT DATE : 10/24/2012

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

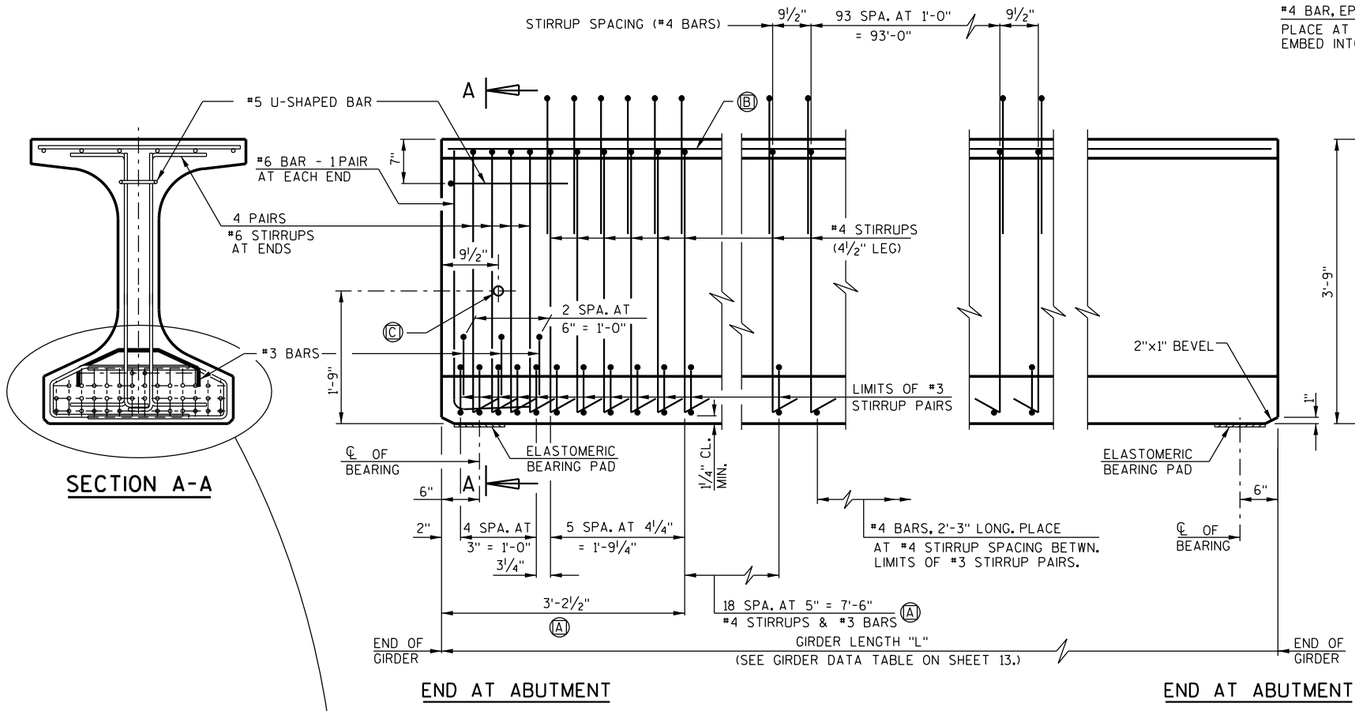
STRUCTURE B-5-621

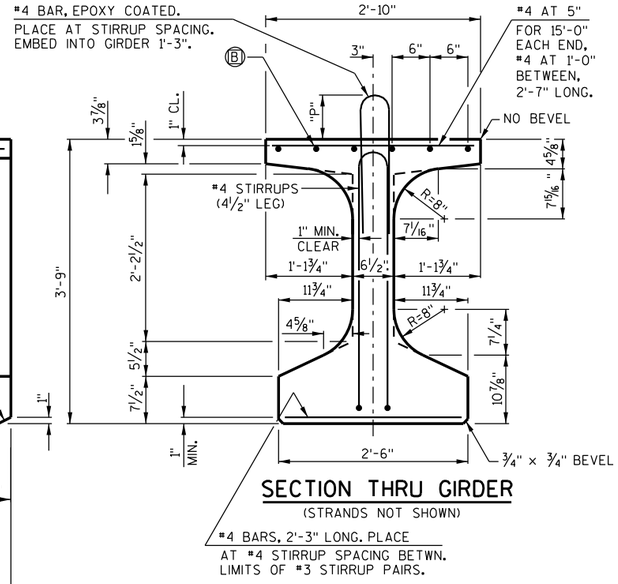
DRAWN BY TAW | PLANS CK'D. TR

NORTH ABUTMENT DETAILS

STATE PROJECT NUMBER

1133-09-71





NOTES: FOR GIRDER DATA AND STRAND PATTERN DETAILS, SEE SHEET 13.
FOR DIMENSION "P", SEE GIRDER DATA TABLE ON SHEET 13.

GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, ONE OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

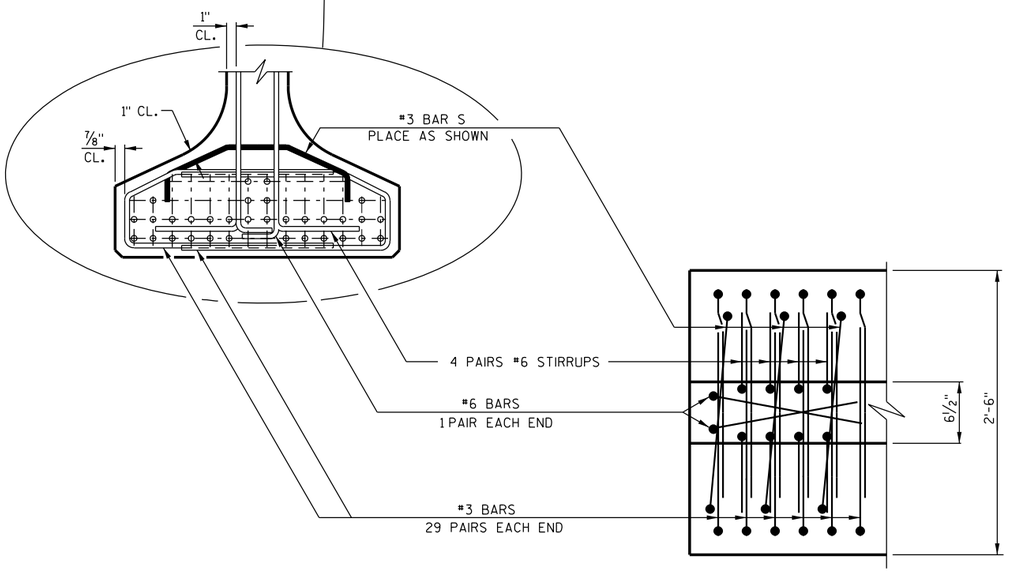
AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

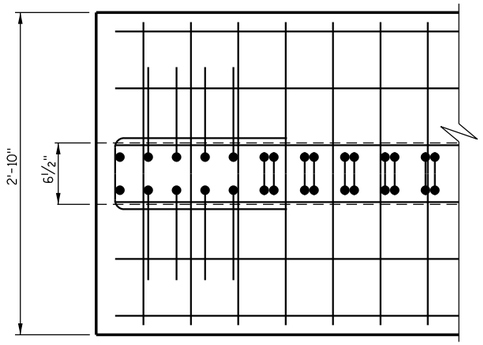
PRESTRESSING STRANDS SHALL BE 0.6" DIA.-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

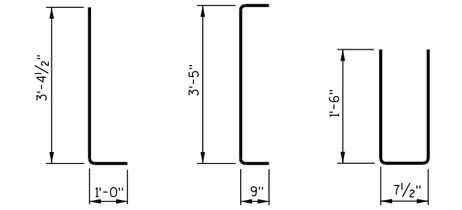
FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "INTERMEDIATE STEEL DIAPHRAGM" SHEET.

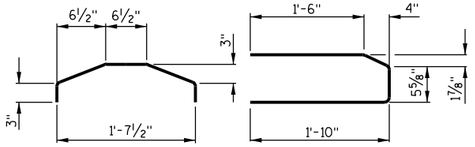
SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYPICAL EACH END
Ⓑ 6 - #4 BARS FULL LENGTH, MIN. LAP = 1'-11".
Ⓒ 1½" DIA. HOLE IN WEB FOR 2 - S510 BARS. (TYP. EACH END)









NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

DRAWN BY TAW | PLANS CK'D. TR

45W" PRESTRESSED GIRDER DETAILS

SHEET 12 OF 24
1836

FILE NAME : P:\134 USH 41 Bridges 11133-09-00\structures\B-5-621\12.45Wgdr1.b-5-621.dgn
PLOT DATE : 10/24/2012

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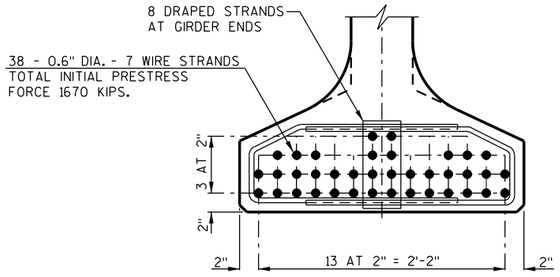
STATE PROJECT NUMBER

1133-09-71

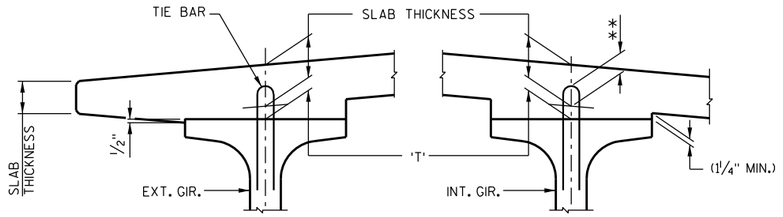
GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1st 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1 - 9	116'-0"	7/8"	1 5/8"	2 1/4"	2 5/8"	2 7/8"	2 5/8"	2 1/4"	1 5/8"	7/8"	8000	8"	7"	8"	0.60	38	6800	40"	13 3/4"	16 3/4"	5"		

* MINIMUM CYLINDER STRENGTH OF CONCRETE AT THE TIME OF TRANSFER OF PRESTRESS FORCE.



DRAPED STRAND PATTERN - SPAN



SLAB HAUNCH DETAIL

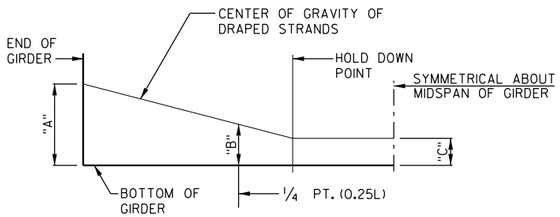
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



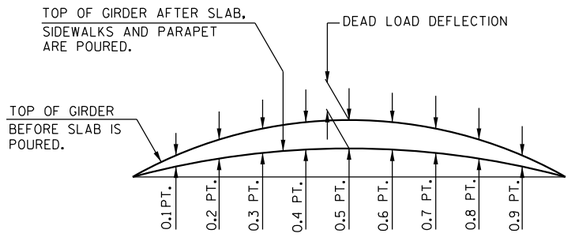
LOCATION OF DRAPED STRANDS

THEORETICAL CAMBER

SPAN	CAMBER (IN.) ***
1	4½"

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T'. USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

*** THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.



DEAD LOAD DEFLECTION DIAGRAM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

DRAWN BY TAW | PLANS CK'D. TR

45W" PRESTRESSED GIRDER DETAILS

SHEET 13 OF 24
1837

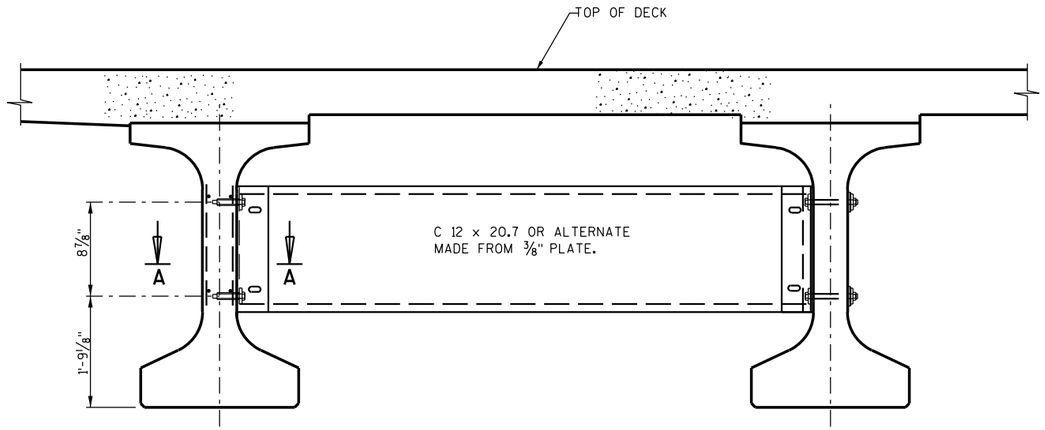
FILE NAME : P:\134 (DSH 41 Bridges (1133-09-00)\structures\B-5-621\13_45Wgd2_b-5-621.dgn
PLOT DATE : 10/24/2012

8

8

STATE PROJECT NUMBER

1133-09-71



PART TRANSVERSE SECTION AT DIAPHRAGM

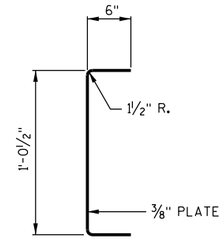
GENERAL NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-5-621", EACH.

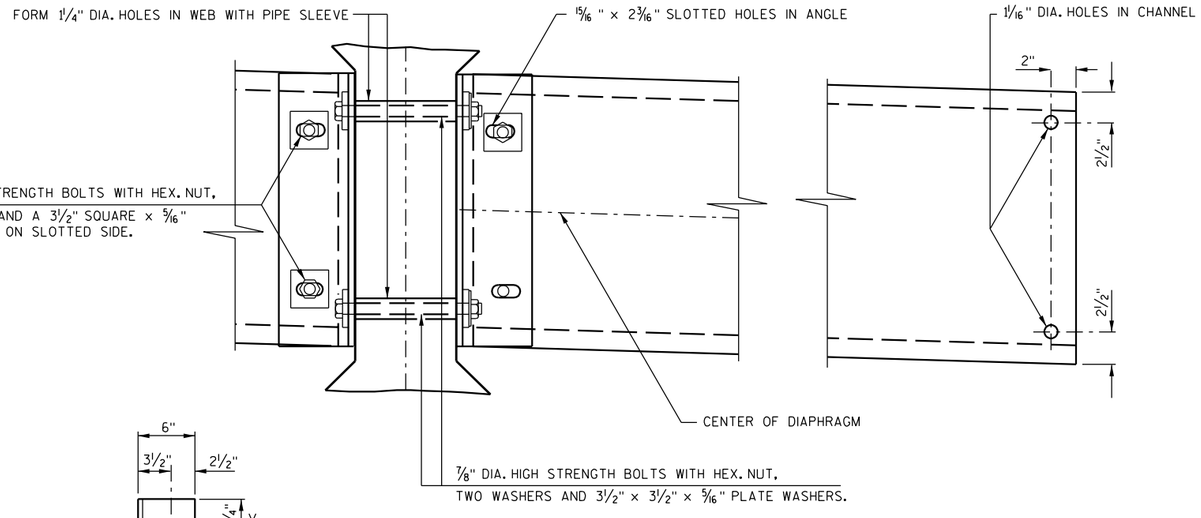
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS, SLEEVES AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563. LUBRICANT AND TEST FOR COATED NUTS.

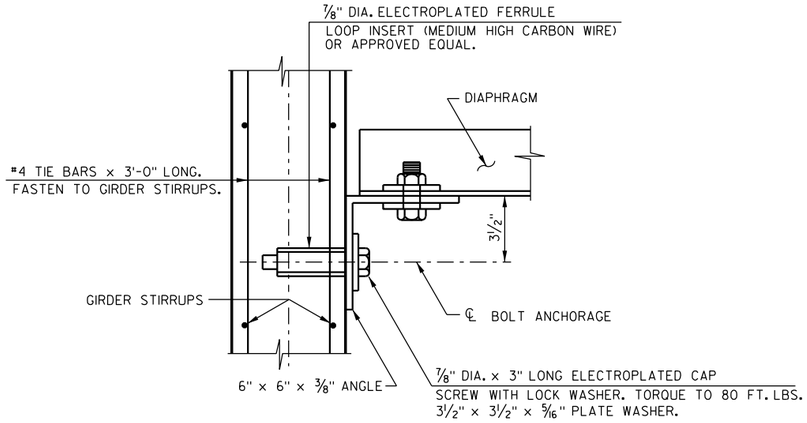


SECTION THRU ALTERNATE DIAPHRAGM



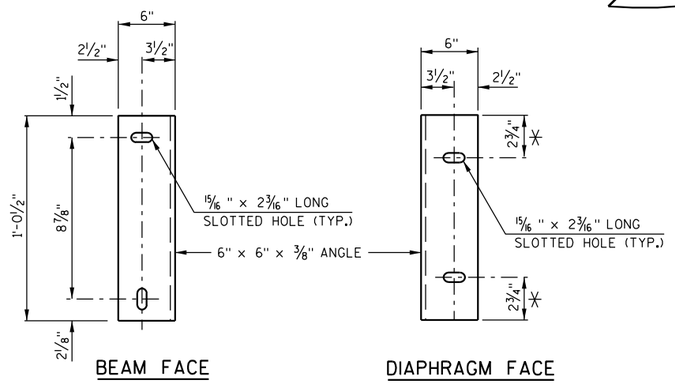
DETAIL B

(FOR CONTINUOUS LINE OF DIAPHRAGMS)



SECTION A-A

(FOR EXTERIOR ATTACHMENT)



DIAPHRAGM SUPPORT

✳ DIMENSION = 2½" FOR ALTERNATE PLATE DIAPHRAGM.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

DRAWN BY TAW | PLANS CK'D. TR

INTERMEDIATE STEEL DIAPHRAGMS

SHEET 14 OF 24
1838

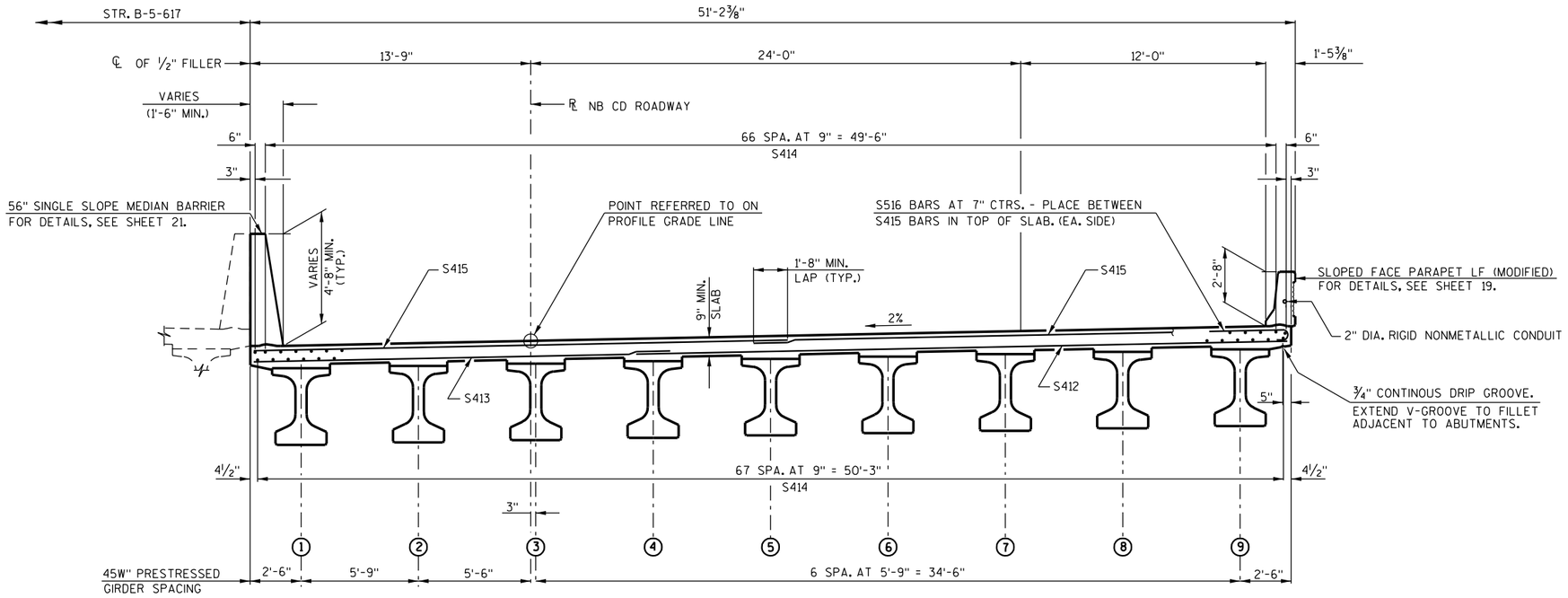
8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-621\14_steeldiaph_b-5-621.dgn
PLOT DATE : 10/24/2012

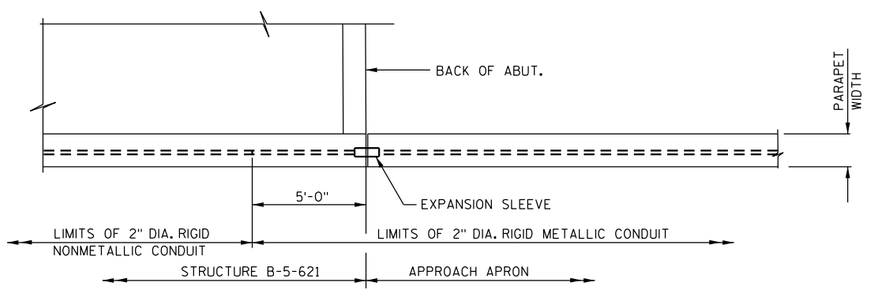
STATE PROJECT NUMBER

1133-09-71



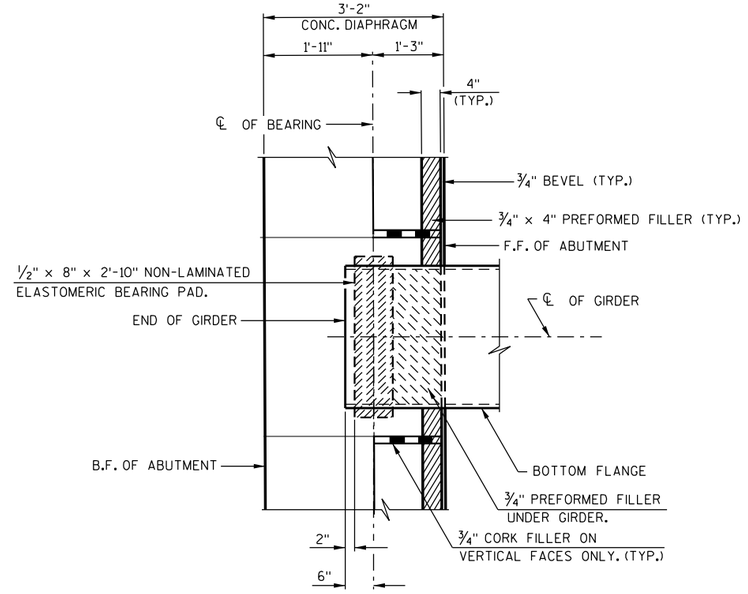
CROSS SECTION THRU ROADWAY

(LOOKING NORTH)



PART PLAN - SUPERSTRUCTURE

(SHOWING CONDUIT LIMITS IN EAST SIDE PARAPET. NORTH END OF DECK SHOWN, SOUTH END SIMILAR.)



BEARING PAD LAYOUT

(SHOWN AT SOUTH ABUTMENT, NORTH ABUTMENT SIMILAR)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 15 OF 24
1839

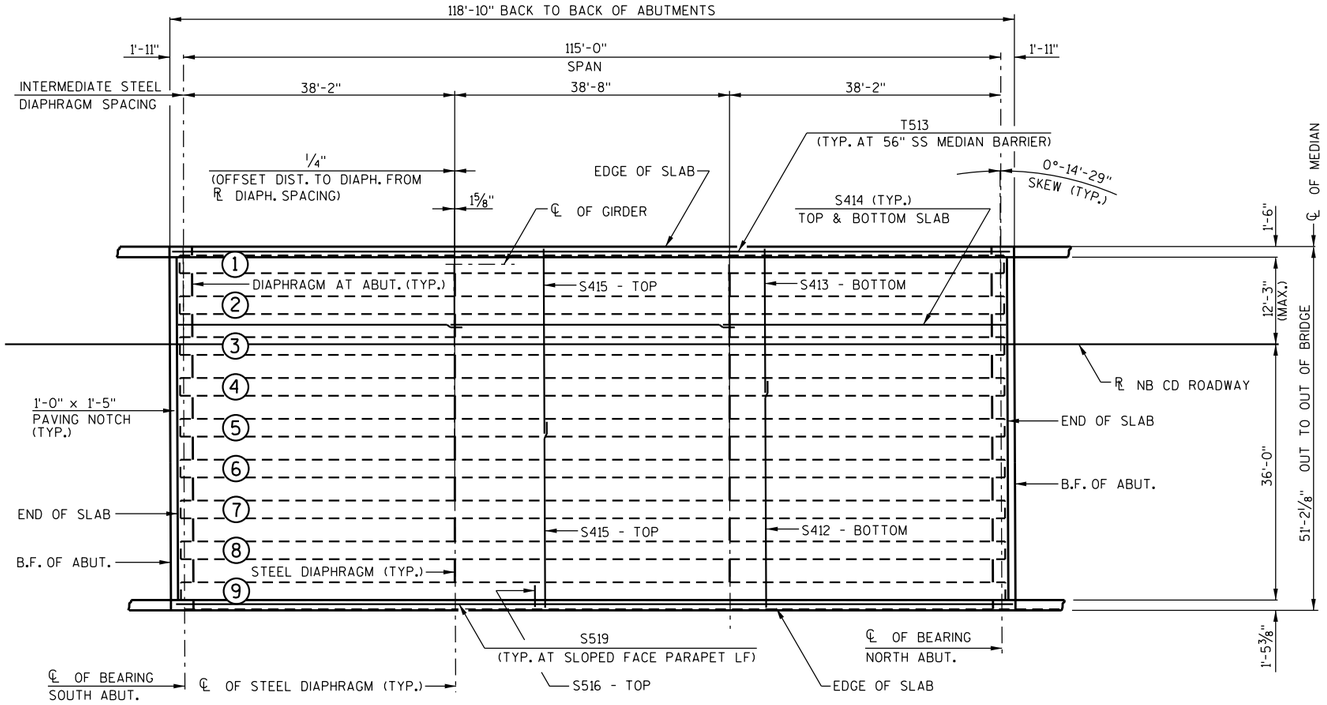
8

8

FILE NAME : P:\134 DSH 41 Bridges (1133-09-00)\Structures\B-5-621\15_superl_b-5-621.dgn
PLOT DATE : 10/24/2012

STATE PROJECT NUMBER

1133-09-71



PLAN

TOP OF DECK ELEVATIONS

	℄ OF BRG. S. ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF BRG. N. ABUT.
W. EOD	632.90	633.05	633.20	633.35	633.49	633.63	633.78	633.91	634.05	634.18	634.32
GIRDER 1	632.95	633.10	633.25	633.40	633.54	633.68	633.83	633.96	634.10	634.23	634.37
GIRDER 2	633.06	633.22	633.37	633.51	633.66	633.80	633.94	634.08	634.22	634.35	634.48
GIRDER 3	633.18	633.33	633.48	633.63	633.77	633.92	634.06	634.19	634.33	634.46	634.60
GIRDER 4	633.30	633.45	633.60	633.74	633.89	634.03	634.17	634.31	634.45	634.58	634.71
GIRDER 5	633.41	633.56	633.71	633.86	634.00	634.15	634.29	634.43	634.56	634.70	634.83
GIRDER 6	633.53	633.68	633.83	633.97	634.12	634.26	634.40	634.54	634.68	634.81	634.94
GIRDER 7	633.64	633.79	633.94	634.09	634.23	634.38	634.52	634.66	634.79	634.93	635.06
GIRDER 8	633.76	633.91	634.06	634.20	634.35	634.49	634.63	634.77	634.91	635.04	635.17
GIRDER 9	633.87	634.02	634.17	634.32	634.46	634.61	634.75	634.89	635.02	635.16	635.29
E. EOD	633.92	634.07	634.22	634.37	634.51	634.66	634.80	634.94	635.07	635.21	635.34

NOTES

1. THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS.
2. THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.
3. LAP NO. 6 BARS 3'-6" MIN. AT BACK OF ABUTMENT DIAPHRAGMS.
4. LAP LONGITUDINAL NO. 5 BARS IN 56" SINGLE SLOPE MEDIAN BARRIER 2'-11" MIN.
5. LAP NO. 4 BARS 1'-8" MIN. IN SLAB.
6. ALL TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED PARALLEL TO SUBSTRUCTURE UNITS.
7. EDGE OF DECK (EOD) ELEVATIONS ARE CALCULATED ASSUMING CROSS SLOPE CONTINUES TO EDGE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 16 OF 24
1840

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-621\16.superZ.b-5-621.dgn
PLOT DATE : 12/18/2012

8

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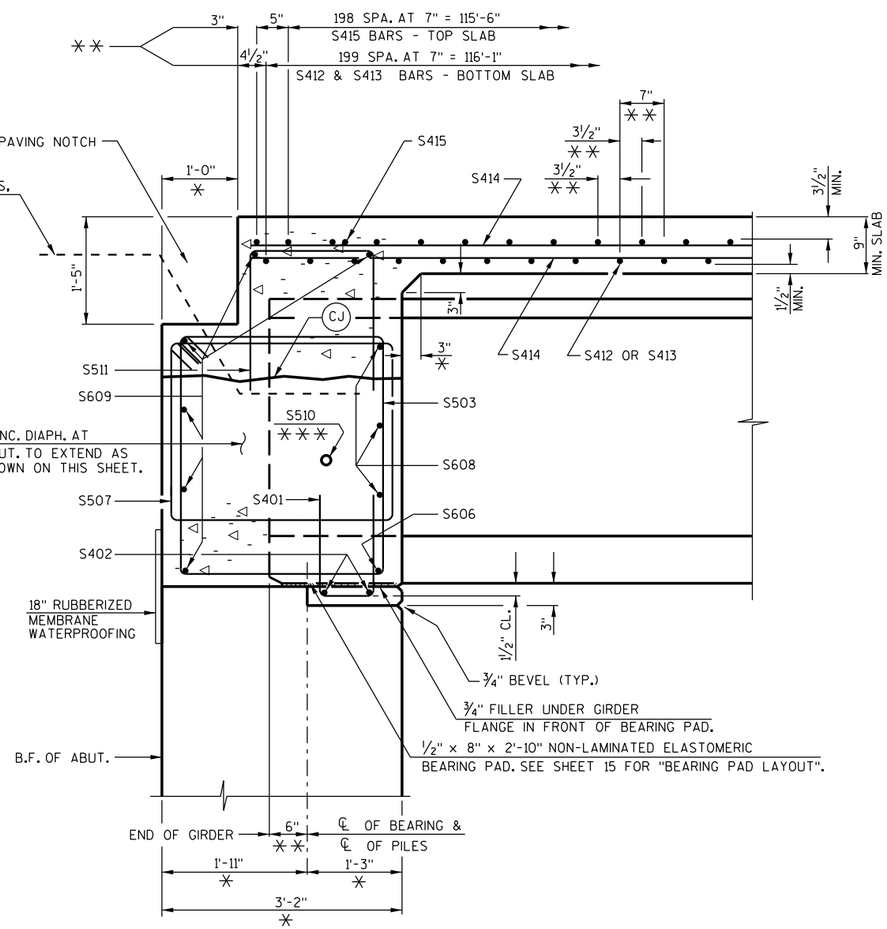
STATE PROJECT NUMBER

1133-09-71

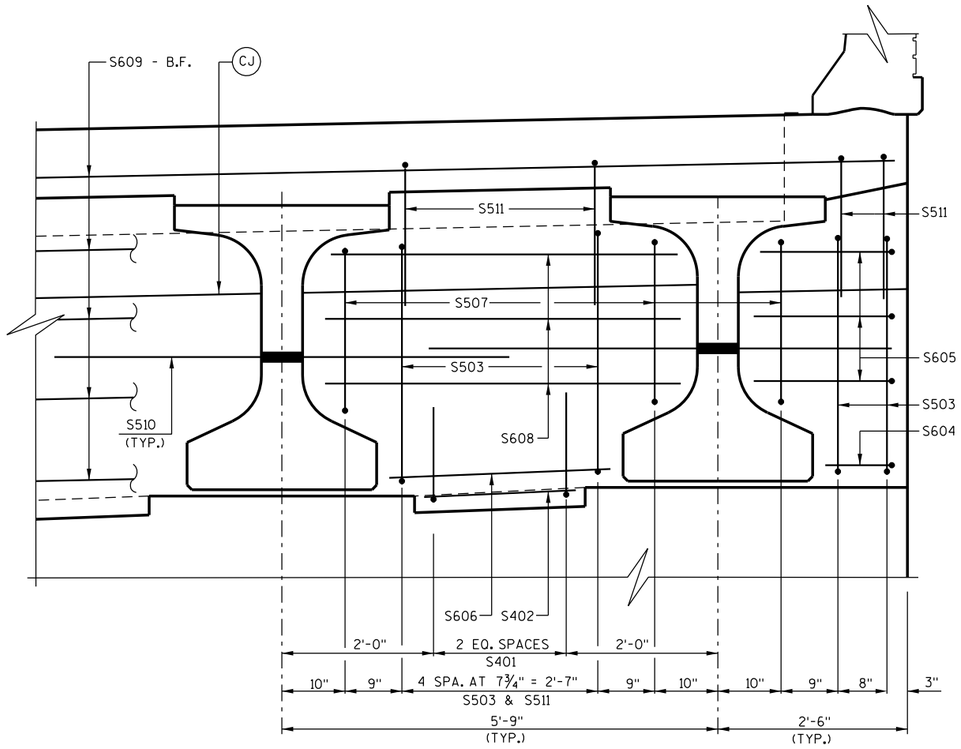
NOTE: PLACE S516 BARS BETWEEN S415 BARS IN TOP OF SLAB. (TYP. EA. SIDE)



AT ABUTMENTS

PART LONGITUDINAL SECTION

(BETWEEN EXTERIOR GIRDERS)



ABUTMENT DIAPHRAGM DETAILS

(LOOKING NORTH AT NORTH ABUT., SOUTH ABUT. SIMILAR)

LEGEND

- ✳ DIMENSIONS ARE GIVEN NORMAL TO ℄ OF SUBSTRUCTURE UNITS.
- ✳✳ DIMENSIONS ARE GIVEN PARALLEL TO THE GIRDER ℄.
- ✳✳✳ 1½" DIA. HOLE IN WEB FOR S510 BARS. PLACE TWO S510 BARS SYMMETRICAL ABOUT THE ℄ OF EACH GIRDER. FIELD BEND BARS ALONG SKEW. SEE "SIDE VIEW" ON SHEET 12 FOR DETAILS.
- (CJ) OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

NOTES: ALL VERTICAL BAR STEEL REINFORCEMENT IN CONCRETE DIAPHRAGMS SHALL BE SPACED AND PLACED PARALLEL TO GIRDERS.

LAP S609 ABUTMENT DIAPHRAGM BARS 3'-6" MIN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

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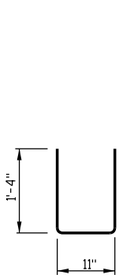
SUPERSTRUCTURE

SHEET 17 OF 24
1841

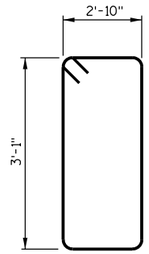
8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-621\17_super3_b-5-621.dgn
PLOT DATE : 10/24/2012



S401



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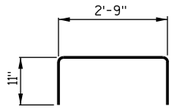

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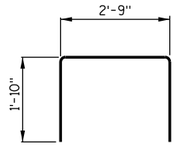

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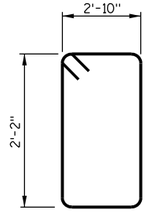

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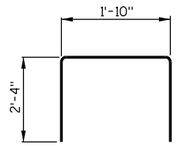

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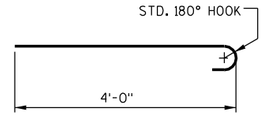

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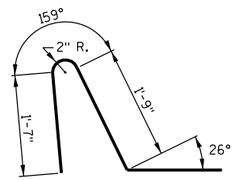

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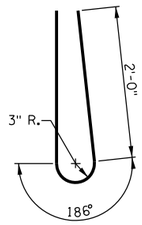
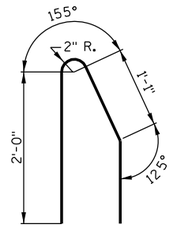


S518



S520

BILL OF BARS

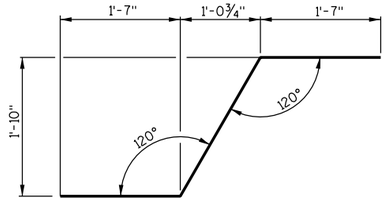
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT IN THIS BILL SHALL BE EPOXY COATED.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 33,250 LBS.
S401	48	3-5	X		ABUTMENT DIAPHRAGM - BOTTOM	VERT.
S402	32	2-0			ABUTMENT DIAPHRAGM - BOTTOM	HORIZ.
S503	88	12-5	X		ABUTMENT DIAPHRAGM - STIRRUPS	VERT.
S604	4	4-3	X		ABUTMENT DIAPHRAGM - ENDS	HORIZ.
S605	12	6-1	X		ABUTMENT DIAPHRAGM - ENDS	HORIZ.
S606	16	2-11			ABUTMENT DIAPHRAGM - BETWEEN GIRDERS	HORIZ.
S507	36	10-7	X		ABUTMENT DIAPHRAGM - STIRRUPS	VERT.
S608	48	4-8			ABUTMENT DIAPHRAGM - F.F. - BETWEEN GIRDERS	HORIZ.
S609	24	27-1			ABUTMENT DIAPHRAGM - B.F.	HORIZ.
S510	36	6-0			ABUTMENT DIAPHRAGM - SYMM. ABOUT ℄ OF GIRDER	HORIZ.
S511	88	6-3	X		ABUTMENT DIAPHRAGM - TOP	VERT.
S412	200	31-11			SLAB - BOTTOM	TRANS.
S413	200	20-5			SLAB - BOTTOM	TRANS.
S414	411	40-0			SLAB - TOP & BOTTOM	LONGIT.
S415	402	26-2			SLAB - TOP	TRANS.
S516	400	4-7	X		SLAB - TOP - BETWEEN S415 BARS AT EDGE	TRANS.
S517	175	4-2	X		PARAPET - EAST SIDE	VERT.
S518	179	4-10	X		PARAPET - EAST SIDE	VERT.
S519	20	31-0			PARAPET - EAST SIDE	HORIZ.
S520	4	4-7	x		PARAPET - EAST SIDE AT ENDS	VERT.

STAINLESS STEEL BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 1,700 LBS.
SS901	100	5'-0"	X		APPROACH APRON AT BRIDGE PAVING NOTCH	LONGIT.



SS901

FILE NAME : P:\134 DSH 41 Bridges 1133-09-00\Structures\B-5-621\18_superA_b-5-621.dgn
PLOT DATE : 10/24/2012

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

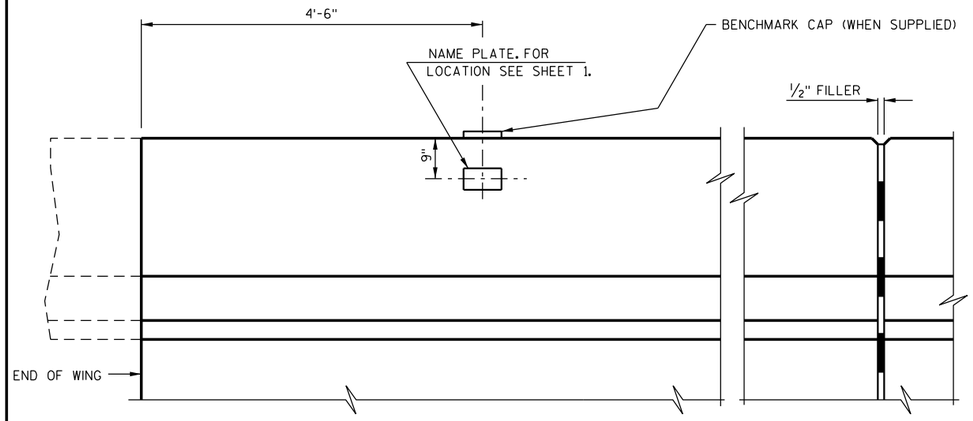
STRUCTURE B-5-621

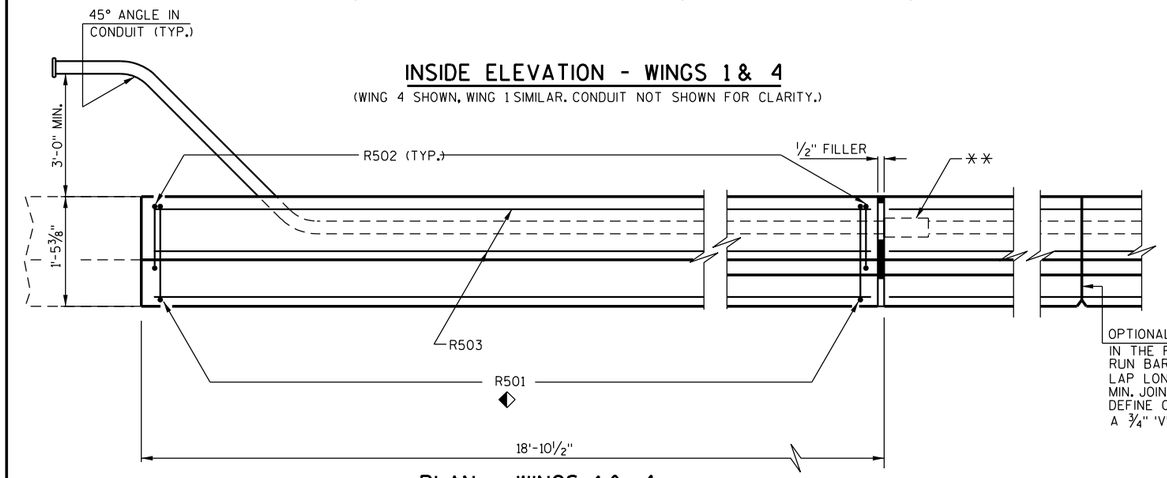
DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE

SHEET 18 OF 24
1842

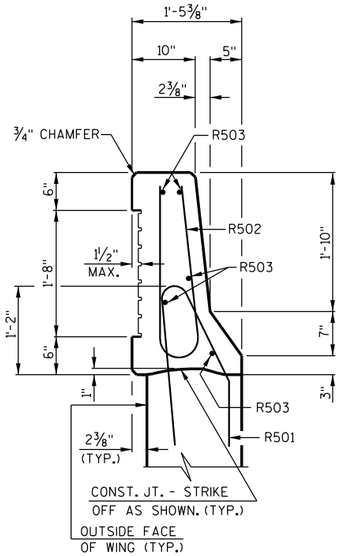
STATE PROJECT NUMBER
1133-09-71





INSIDE ELEVATION - WINGS 1 & 4
(WING 4 SHOWN, WING 1 SIMILAR. CONDUIT NOT SHOWN FOR CLARITY.)

PLAN - WINGS 1 & 4
(WING 4 SHOWN, WING 1 SIMILAR.)



SECTION C-C

LEGEND

◆ R501 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

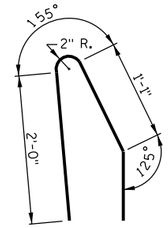
** EXPANSION FITTING - USE AN APPROVED EXPANSION FITTING AT EACH SEMI-EXPANSION JOINT.

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 2'-11". MIN. JOINT SPACING OF 80'-0" DEFINE CONST. JOINT WITH A ¾" 'V' GROOVE.

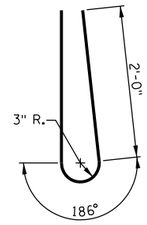
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL REINFORCEMENT BARS IN THIS BILL SHALL BE EPOXY COATED.

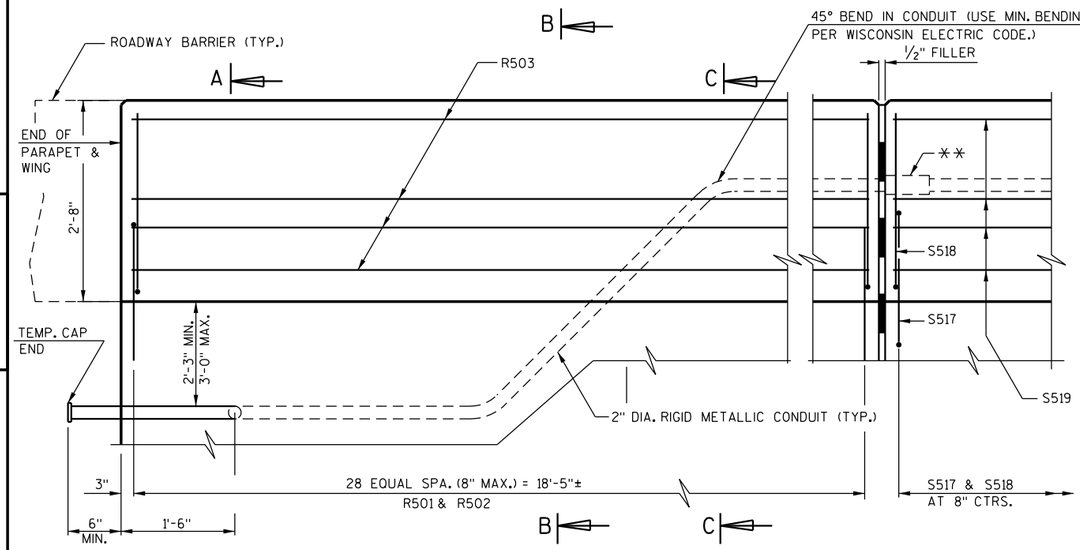
MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 780 LBS.
R501	58	4-7	X		PARAPET - WINGS 1 & 4	VERT.
R502	58	4-10	X		PARAPET - WINGS 1 & 4	VERT.
R503	10	18-6			PARAPET - WINGS 1 & 4	HORIZ.



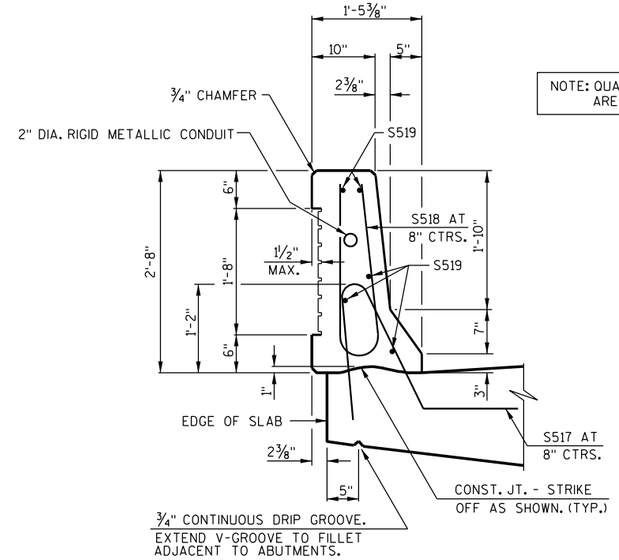
R501



R502



OUTSIDE ELEVATION - WINGS 1 & 4
(ARCHITECTURAL SURFACE TREATMENT NOT SHOWN FOR CLARITY)



SECTION THRU PARAPET ON BRIDGE (EAST SIDE)

NOTE: SEE SHEET 18 FOR BAR STEEL REINFORCEMENT DETAILS AND BILL OF BARS FOR PARAPET ON BRIDGE.

NOTE: QUANTITIES OF CONCRETE MASONRY AND BAR STEEL REINFORCEMENT ARE INCLUDED IN THE ABUTMENT QUANTITIES ON SHEET 2.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

DRAWN BY TAW | PLANS CK'D. TR

SLOPED FACE PARAPET LF (MODIFIED)

SHEET 19 OF 24
1843

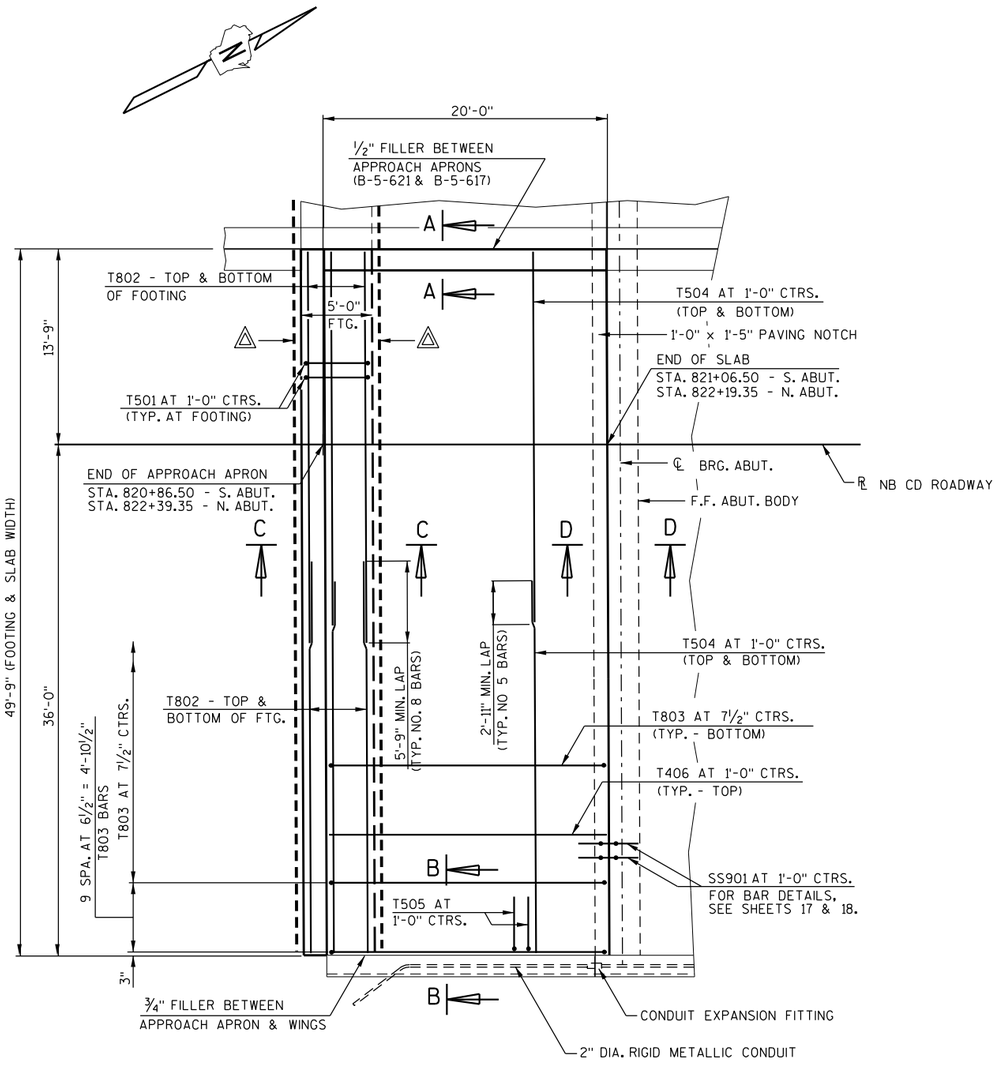
8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-621\19_parapet_lf_b-5-621.dgn
PLOT DATE : 10/24/2012

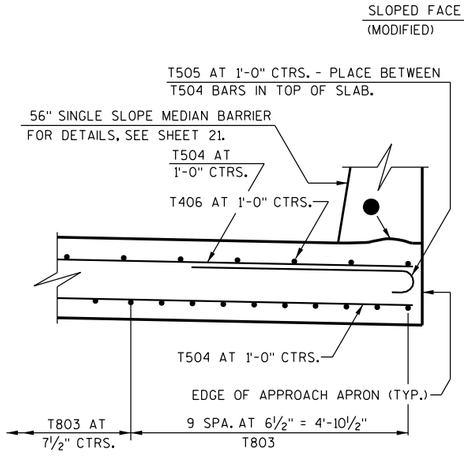
LEGEND

- ✳ DIMENSIONS ARE GIVEN NORMAL ℄ SUBSTRUCTURE.
- ✳✳ DIMENSIONS ARE GIVEN PARALLEL TO ℞ NB CD ROADWAY
- ☆ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE LENGTH OF FOOTING. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ★ PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE LENGTH OF SUBGRADE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ▲ ¾" × 1'-6" × LENGTH OF FOOTING COMPRESSIBLE FILLER.
- △ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD TO END OF PIPE. SEE "RODENT SHIELD" DETAIL ON THIS SHEET.
- ● CONST. JT. - STRIKE OFF AS SHOWN.

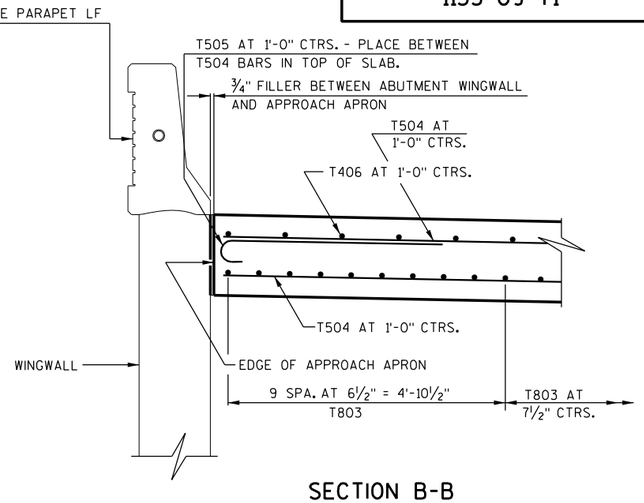


APPROACH APRON PART PLAN

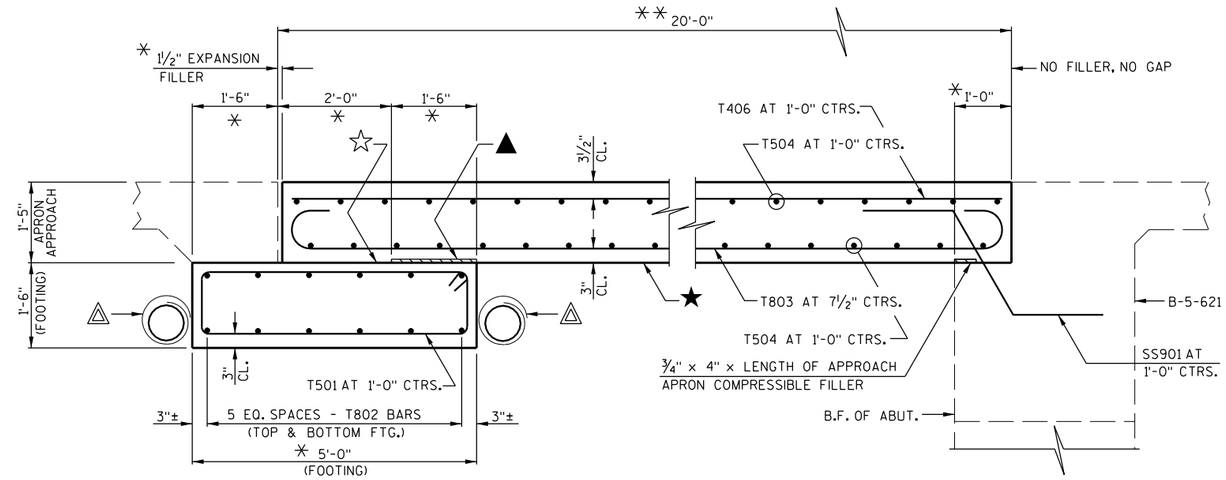
(SOUTH APPROACH APRON SHOWN. NORTH APPROACH APRON SIMILAR UNLESS NOTED OTHERWISE)



SECTION A-A



SECTION B-B



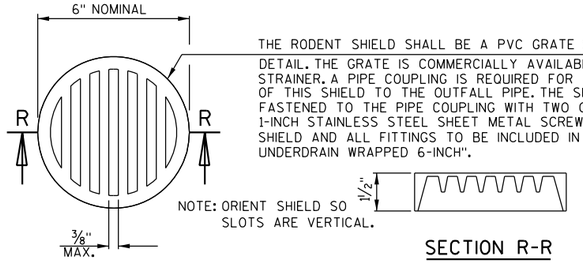
SECTION C-C

SECTION D-D

LONGITUDINAL SECTION AT APPROACH APRON

(SECTION SHOWN AT SOUTH APPROACH APRON, NORTH APPROACH APRON SIMILAR)

NOTE: BAR STEEL REINFORCEMENT FOR THE APPROACH APRONS AND FOR 56" SINGLE SLOPE CONCRETE BARRIER LOCATED ON THE WEST SIDE OF THE APPROACH APRON AND THE WEST SIDE OF THE DECK FOR B-5-621 IS INCLUDED IN THE BILL OF BARS ON SHEET 22.



RODENT SHIELD

SECTION R-R

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

DRAWN BY TAW | PLANS CK'D. TR

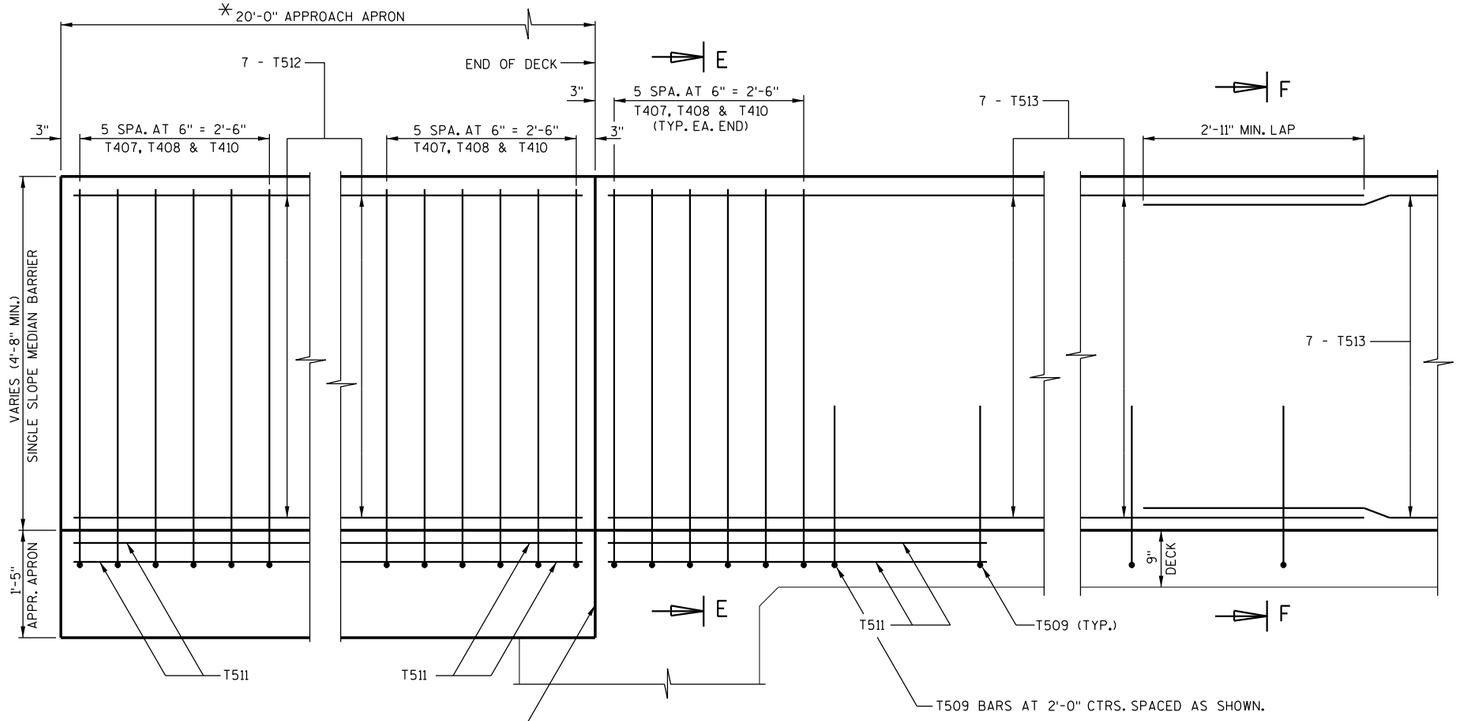
APPROACH APRON DETAILS

SHEET 20 OF 24
1844

FILE NAME : P:\134 USH 41 Bridges 1133-09-00\structures\B-5-621\20_aprnot_b-5-621.dgn
PLOT DATE : 10/24/2012

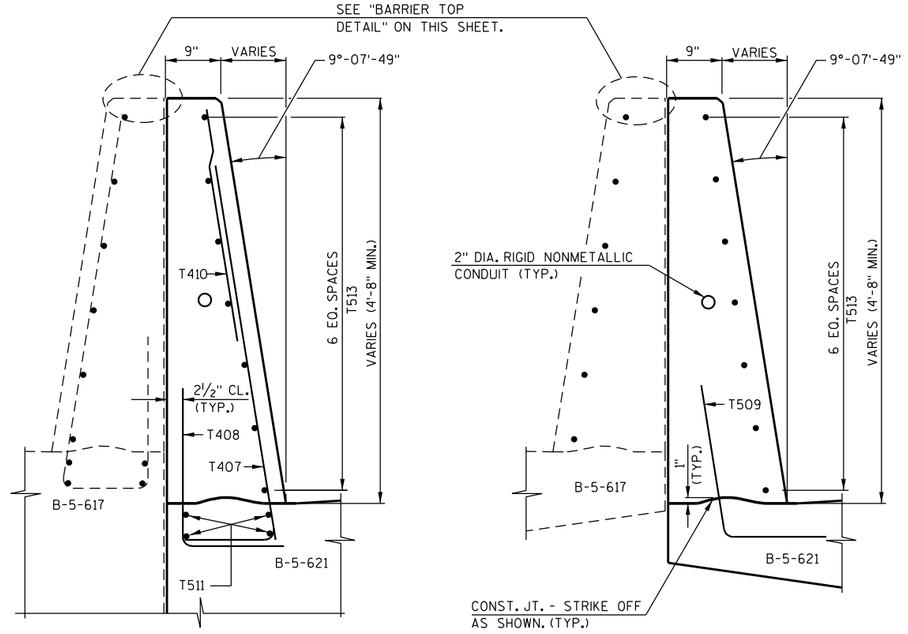
8

STATE PROJECT NUMBER
1133-09-71



PART ELEVATION

(SOUTH END SHOWN, NORTH END SIMILAR)



SECTION E-E

(TYPICAL AT ENDS OF BARRIER)

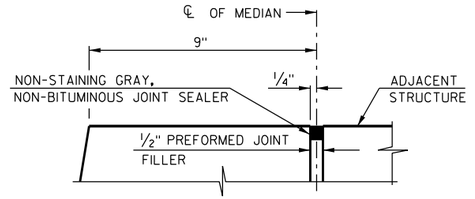
SECTION F-F

LOOKING NORTH - WEST EDGE OF DECK

LEGEND

✳ DIMENSIONS ARE GIVEN PARALLEL TO ℄ NB CD ROADWAY

NOTE: OPTIONAL CONSTRUCTION JOINTS
IN THE CONCRETE BARRIER MAY BE USED.
RUN BAR REINF. THRU THE JOINT.
LAP LONGIT. BARS A MIN. OF 2'-11".
MIN. JOINT SPACING OF 80'-0"
DEFINE CONST. JOINT WITH A ¾" 'V' GROOVE.



BARRIER TOP DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

DRAWN BY TAW | PLANS CK'D. TR

56" SINGLE SLOPE MEDIAN BARRIER DETAILS

SHEET 21 OF 24
1845

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-621\21.barrier_dprot.b-5-621.dgn
PLOT DATE : 11/21/2012

8

8

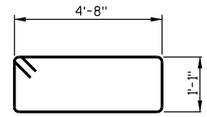
STATE PROJECT NUMBER

1133-09-71

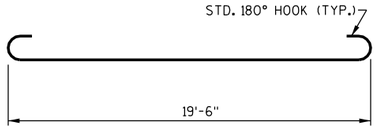
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT IN THIS BILL SHALL BE EPOXY COATED.

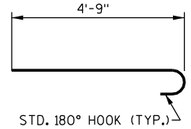
MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION TOTAL WEIGHT = 22,350 LBS.	
T501	100	12-1	X		APPROACH APRON - FOOTING	VERT.
T802	48	27-7			APPROACH APRON - FOOTING	TRANS.
T803	164	21-4	X		APPROACH APRON - SLAB - BOTTOM	LONGIT.
T504	168	26-2			APPROACH APRON - SLAB - TOP & BOTTOM	TRANS.
T505	80	5-4	X		APPROACH APRON - SLAB - TOP	TRANS.
T406	100	19-6			APPROACH APRON - SLAB - TOP	LONGIT.
T407	36	6-3	X		MEDIAN BARRIER - AT APPR. APRON & DECK	VERT.
T408	36	3-3	X		MEDIAN BARRIER - AT APPR. APRON & DECK	VERT.
T509	72	3-3	X		MEDIAN BARRIER - AT DECK	VERT.
T410	36	3-1			MEDIAN BARRIER - AT APPR. APRON & DECK	VERT.
T511	24	5-0			MEDIAN BARRIER - AT APPR. APRON & DECK	LONGIT.
T512	14	19-8			MEDIAN BARRIER - AT APPR. APRON	LONGIT.
T513	28	31-5			MEDIAN BARRIER - AT DECK	LONGIT.



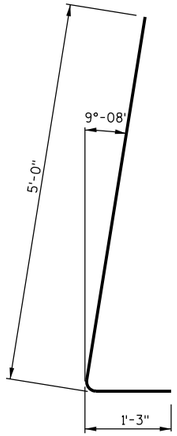
T501



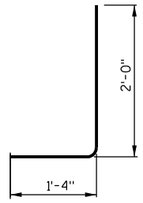
T803



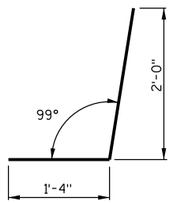
T505



T407



T408



T509

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

DRAWN BY TAW | PLANS CK'D. TR

56" SINGLE SLOPE MEDIAN BARRIER DETAILS

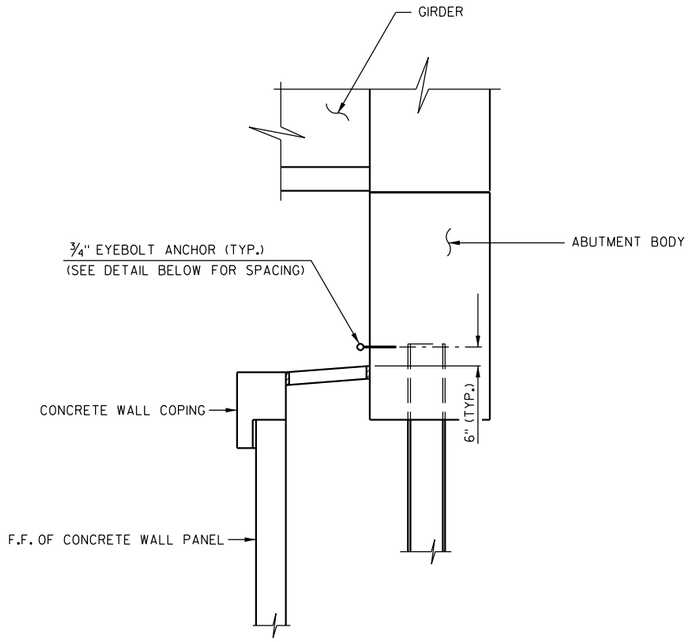
SHEET 22 OF 24
1846

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-621\22_barrier_detail2_b-5-621.dgn
PLOT DATE : 10/24/2012

8

8

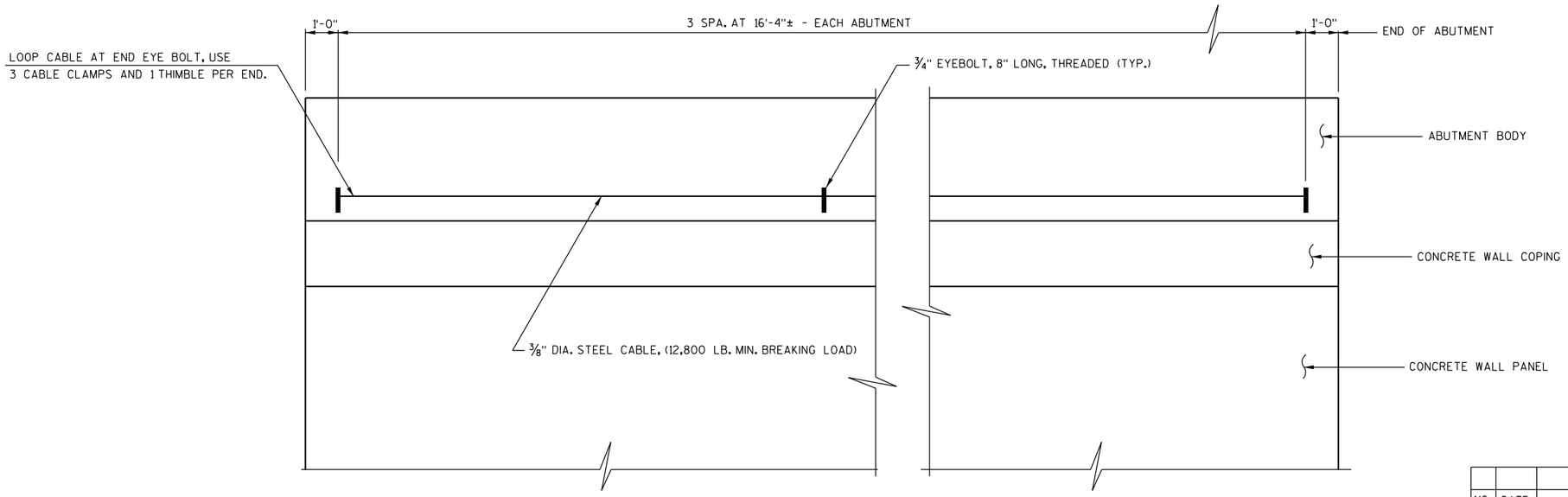
STATE PROJECT NUMBER
1133-09-71



TYPICAL SECTION THRU ABUTMENT BODY

NOTES

1. ALL LABOR AND MATERIAL (EYEBOLTS, CABLE AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4-INCH".
2. ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.
3. USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.
4. MASONRY ANCHORS TYPE S 3/4-INCH, MIN. PULLOUT CAPACITY OF 26 KIPS FOR ADHESIVE ANCHORS EMBEDDED A MIN. OF 7" IN CONCRETE.



PART FRONT VIEW OF ABUTMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

DRAWN BY TAW | PLANS CK'D. TR

FALL PROTECTION

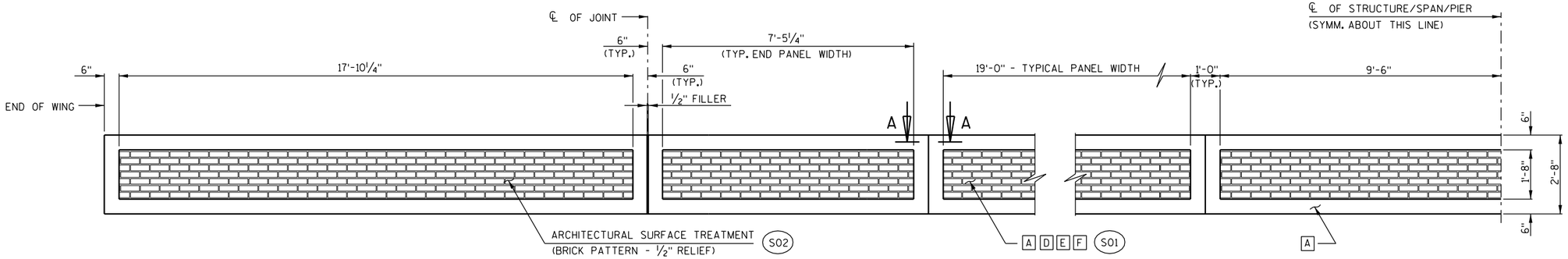
SHEET 23 OF 24
1847

8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-621\23.fall protection.dgn
PLOT DATE : 10/24/2012

STATE PROJECT NUMBER
1133-09-71

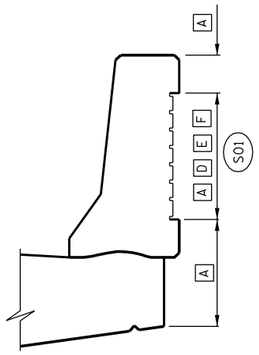


PARAPET ON WING WALL

(PARAPET ON WING 1 SHOWN, WING 4 SIMILAR)

PARAPET ON BRIDGE DECK

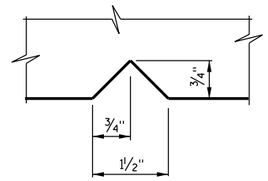
PART ELEVATION AT PARAPET



AT BRIDGE DECK

SLOPED FACE PARAPET LF (MODIFIED)

(EAST SIDE ONLY - LOOKING NORTH)



SECTION A-A

(¾" 'V' GROOVE)

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	LETTERING AT ROADWAY NAME

NOTE: SEE SPECIAL PROVISIONS FOR STAIN COLORS.

NOTES

(S01) STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

(S02) THE COST OF BRICK PATTERN FORMLINER TREATMENT IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT". SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-621

DRAWN BY TAW | PLANS CK'D. TR

AESTHETIC DETAILS

SHEET 24 OF 24

1848

8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\B-5-621\24.aesthetics2_b-5-621.dgn
PLOT DATE : 10/24/2012

STATE PROJECT NUMBER

1133-09-71

DESIGN DATA

LIVE LOAD:
- DESIGN LOAD HL-93
- INVENTORY RATING FACTOR 1.01
- OPERATING RATING FACTOR 1.31
- MAX. STD. PERMIT VEHICLE LOAD ... 250 KIPS

THE STRUCTURE IS DESIGNED FOR A 1-½" SACRIFICIAL WEARING SURFACE PLACED AT INITIAL CONSTRUCTION INTEGRAL WITH THE DECK. THE DESIGN DOES NOT PROVIDE FOR ADDITIONAL LOADS DUE TO FUTURE WEARING SURFACE.

ULTIMATE DESIGN STRESSES:
- CONCRETE MASONRY (HPC) .....f'c = 4000 PSI

HIGH STRENGTH BAR STEEL
- REINFORCEMENT GRADE 60 .....fy = 60,000 PSI

36W-INCH PRESTRESSED GIRDERS
- CONCRETE MASONRY .....f'c = 8000 PSI

PRESTRESSING STRANDS = 0.6 INCH DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 PSI

FOUNDATION DATA

NORTH ABUTMENT TO BE SUPPORTED ON STEEL PILING, HP 12-INCH X 53 LB. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 110' LONG.

SOUTH ABUTMENT TO BE SUPPORTED ON STEEL PILING, HP 12-INCH X 53 LB. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS *** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 110' LONG.

PIER TO BE SUPPORTED ON STEEL PILING, HP 12-INCH X 53 LB. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 90' LONG AT PIER.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

*** THE FACTERED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 (AND FURTHER REDUCED BY DOWNDRAG FORCES EQUAL TO 5 TONS) USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION AND QUANTITIES
3. SUBSURFACE EXPLORATION
4. CONSTRUCTION STAGING - 1
5. CONSTRUCTION STAGING - 2
6. CONSTRUCTION STAGING - 3
7. CONSTRUCTION STAGING - 4
8. SOUTH ABUTMENT
9. SOUTH ABUTMENT DETAILS
10. NORTH ABUTMENT
11. NORTH ABUTMENT DETAILS
12. PIER
13. PIER FOUNDATION
14. PIER DETAILS
15. 36W" PRESTRESSED GIRDER DETAILS-1
16. 36W" PRESTRESSED GIRDER DETAILS-2
17. STEEL DIAPHRAGMS
18. SUPERSTRUCTURE PLAN
19. SUPERSTRUCTURE SECTION
20. SUPERSTRUCTURE DETAILS-1
21. SUPERSTRUCTURE DETAILS-2
22. SUPERSTRUCTURE DETAILS-3
23. APPROACH APRON
24. APPROACH APRON DETAILS
25. 32" SLOPED FACE PARAPET LF (MODIFIED)
26. SINGLE SLOPE MEDIAN BARRIER
27. AESTHETIC DETAILS

TRAFFIC DATA USH 41 NB

ADT = 27,300 (2015)
= 34,800 (2035)
DESIGN SPEED = 70 MPH

TRAFFIC DATA USH 41 SB

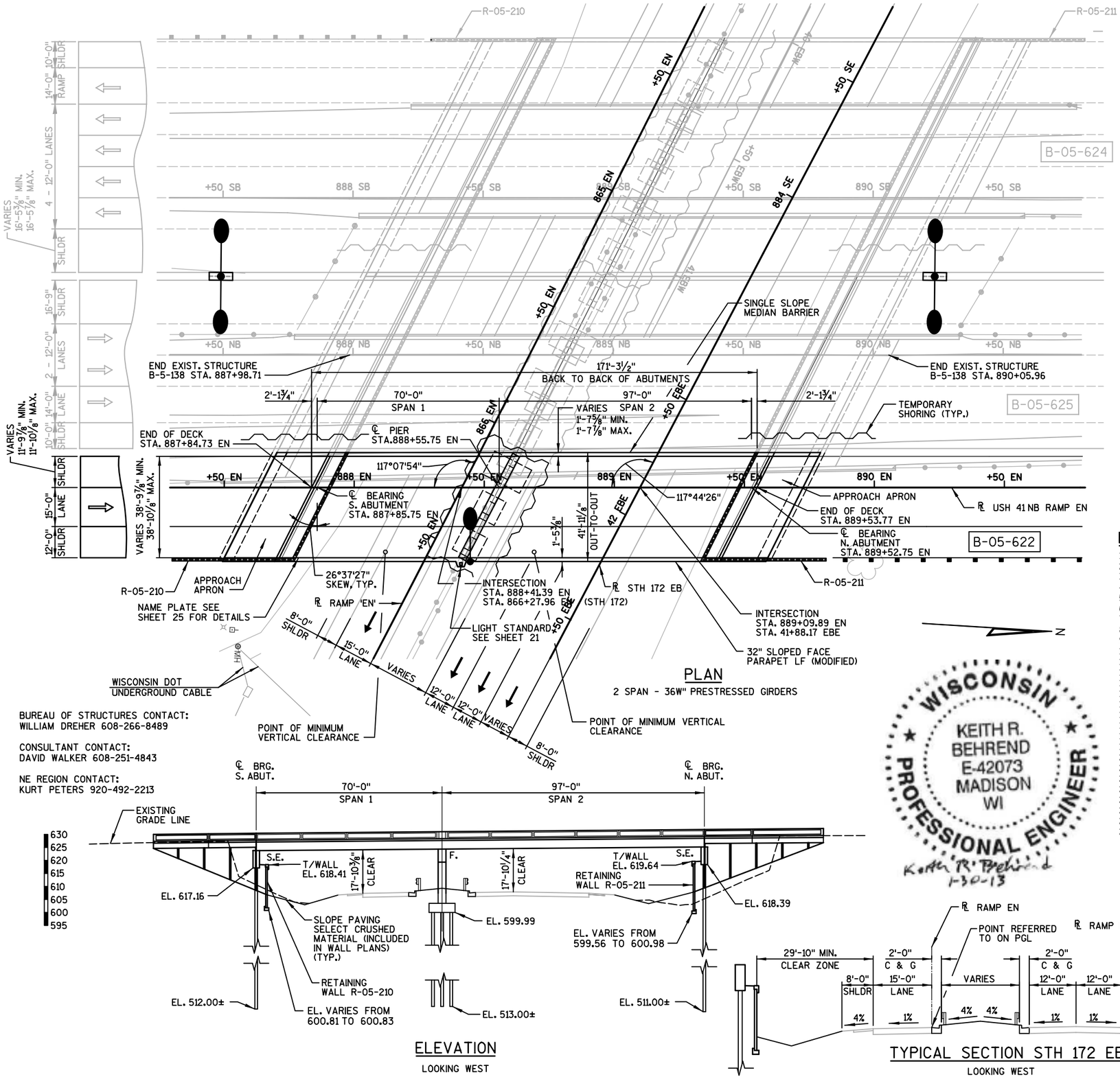
ADT = 37,900 (2015)
= 47,300 (2035)
DESIGN SPEED = 70 MPH

TRAFFIC DATA STH 172 EB

ADT = 28,500 (2015)
= 38,800 (2035)
DESIGN SPEED = 60 MPH

TRAFFIC DATA RAMP 'EN'

ADT = 2,400 (2015)
= 3,000 (2035)
DESIGN SPEED = 55 MPH



PLAN

2 SPAN - 36W" PRESTRESSED GIRDERS

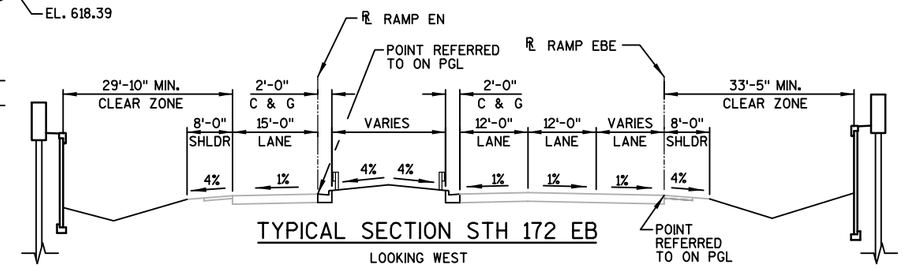
BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER 608-266-8489

CONSULTANT CONTACT:
DAVID WALKER 608-251-4843

NE REGION CONTACT:
KURT PETERS 920-492-2213

ELEVATION

LOOKING WEST



TYPICAL SECTION STH 172 EB

LOOKING WEST

NO.	DATE	REVISION	BY

STRAND ASSOCIATES®
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608)-251-4843
(608) 251-8655 FAX
WWW.STRAND.COM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR — 02/13/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

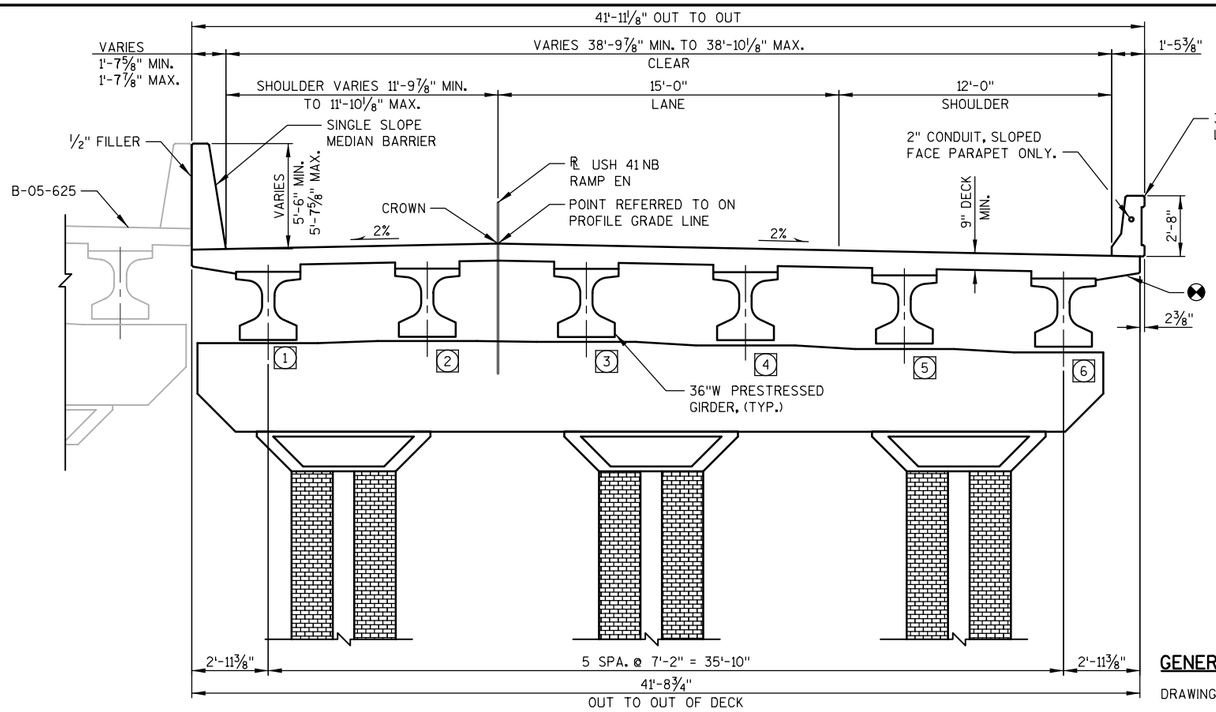
STRUCTURE B-05-622

USH 41 NB RAMP EN OVER STH 172 EB

COUNTY	BROWN
~~TOWN/CITY~~/VILLAGE	ASHWAUBENON
DESIGN SPEC.	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS
DESIGNED BY	KRB
DESIGN CK'D.	DDR
DRAWN BY	AJW
PLANS CK'D.	DJW

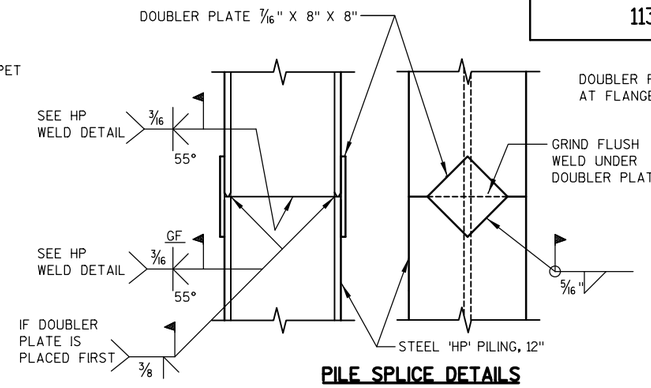
GENERAL PLAN

SHEET 1 OF 27
1849

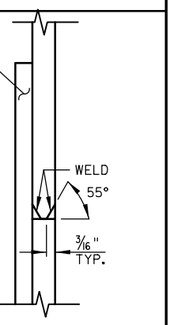


TYPICAL SECTION

(LOOKING NORTH)



PILE SPLICE DETAILS

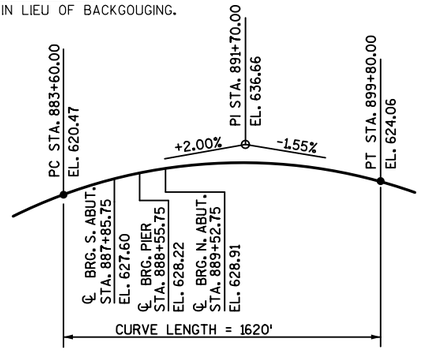


HP WELD DETAIL

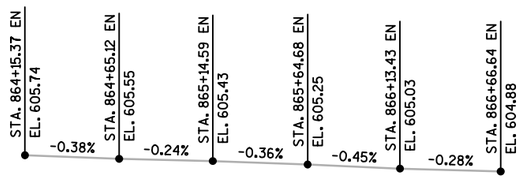
FLANGE SHOWN, WEB SIMILAR

PILE SPLICE NOTES

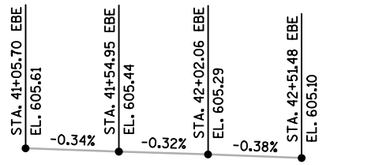
GRINDING MAY BE USED IN LIEU OF BACKGOUGING.



PROFILE GRADE LINE, NB USH 41 RAMP EN



EXISTING PROFILE GRADE LINE STH 172 RAMP EN



EXISTING PROFILE GRADE LINE STH 172 EB

(EAST OF RAMP SE GORE POINT)

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEVATION
525	N/A	CHISELED "X" ON FIRE HYDRANT BURY BOLT ON A DEAD END CUL-DE-SAC OF SPRINGHURST DR. 55' FROM A MANHOLE COVER TO FIRE HYDRANT AT THE EAST END OF THE ROUND-A-BOUT.	648.93
526	N/A	CHISELED "X" ON FIRE HYDRANT BURY BOLT IN THE NORTHEAST QUADRANT OF TIMBER LN. & COMMANCHE AVE. BY A PARKING LOT ENTRANCE TO THE PARK. 35' NORTH OF THE ℄ OF TIMBER LN. & 25' WEST OF THE ℄ OF THE WEST ENTRANCE TO THE PARK.	629.88
528	N/A	CHISELED "X" ON FIRE HYDRANT BURY BOLT IN THE NORTHWEST QUADRANT OF GERHARDT LN. & NORTH RD. 65' WEST OF THE ℄ OF NORTH RD. AND 35' NORTH OF THE ℄ OF GERHARDT LN.	626.81

LEGEND

- ⊙ INDICATES GIRDER NUMBER.
- ⋈ ¾" V-GROOVE. EXTEND V-GROOVE TO THE FILLET ADJACENT TO THE ABUTMENTS.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES.
ALL STATIONS AND ELEVATIONS ARE IN FEET.

ALL DETAILS, MATERIALS AND FABRICATION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE SPECIFICATIONS OF THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153, TYPE I, II, OR III, OR M213.

AT THE BACKFACE OF ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

NON-LAMINATED ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE EXISTING STRUCTURE, B-05-138, IS A TWO SPAN STEEL DECK GIRDER STRUCTURE WITH AN OVERALL WIDTH OF 52.7 FEET TO 56.8 FEET AND ON OVERALL LENGTH OF 209.5 FEET. THE BRIDGE WILL BE REMOVED IN STAGES FOR CONSTRUCTION ON STRUCTURES B-05-622 AND B-05-625. THE BRIDGE WILL BE REMOVED A MIN. 2'-0" BELOW FINISHED GRADE. EXISTING SOUTH AND NORTH ABUTMENT PILING SHALL BE CUT OFF AT THE BOTTOM OF WALL ELEVATIONS FOR R-05-210 AND R-05-211 RESPECTIVELY.

TEMPORARY SUPPORT OF EXISTING STRUCTURE B-50-138 IS REQUIRED. SEE SHEET 4 FOR DETAILS.

PAYMENT FOR REMOVING OLD STRUCTURE, DEBRIS CONTAINMENT, AND TEMPORARY SHORING WILL BE INCLUDED IN THE TOTAL ESTIMATED QUANTITIES FOR STRUCTURE B-05-625.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING CONCRETE TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

9" MINIMUM DECK THICKNESS INCLUDES 3½" COVER TO TOP LAYER OF STEEL REINFORCEMENT.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEETS.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SOUTH ABUT.	NORTH ABUT.	PIER 1	SUPER.	SOUTH APPROACH APRON	NORTH APPROACH APRON	TOTALS
206.1000.708	EXCAVATION FOR STRUCTURES BRIDGES B-05-622	LS	--	--	--	--	--	--	1
206.6000.S	TEMPORARY SHORING	SF	1200	1800	850	--	--	--	3850
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	--	--	919	108	108	1135
502.6110	MASONRY ANCHORS TYPE S 3/4 -INCH	EACH	3	3	--	--	--	--	6
503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	--	--	--	1007	--	--	1007
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	2720	2730	3560	--	--	--	9010
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	--	--	15970	61790	9400	9430	96590
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	6	6	12	--	--	--	24
506.4000.708	STEEL DIAPHRAGMS B-05-622	EACH	--	--	--	15	--	--	15
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	8	8	--	--	--	--	16
550.0500	PILE POINTS	EACH	7	7	21	--	--	--	35
550.1120	PILING STEEL HP 12-INCH X 53 LB.	LF	770	770	1890	--	--	--	3430
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	47	47	--	--	46	46	186
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	--	--	--	10	18	18	46
652.0225	CONDUIT RIGID NON-METALLIC SCH 40 2-INCH	LF	--	--	--	163	--	--	163
653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	--	--	--	1	--	--	1
SPV.0035.700	HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES	CY	30	32	94	328	62	62	608
SPV.0060.700	ANCHOR BOLT ASSEMBLY LIGHT POLE	EACH	--	--	--	1	--	--	1
SPV.0085.700	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	--	--	--	1460	--	--	1460
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	--	--	353	--	--	--	353
SPV.0165.501	STAINING CONCRETE	SF	261	282	853	2314	89	89	3888
SPV.0165.502	STAINING CONCRETE BRICK	SF	--	--	353	--	--	--	353
SPV.0165.700	LONGITUDINAL GROOVING BRIDGE DECK	SF	--	--	--	6564	777	777	8118
	NON-BID ITEMS								
	FILLER	SIZE	--	--	--	--	--	--	½" & ¾"
	CORK	SIZE	--	--	--	--	--	--	¾"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

CROSS SECTION & QUANTITIES

SHEET 2 OF 27
1850

STATE PROJECT NUMBER
1133-09-71

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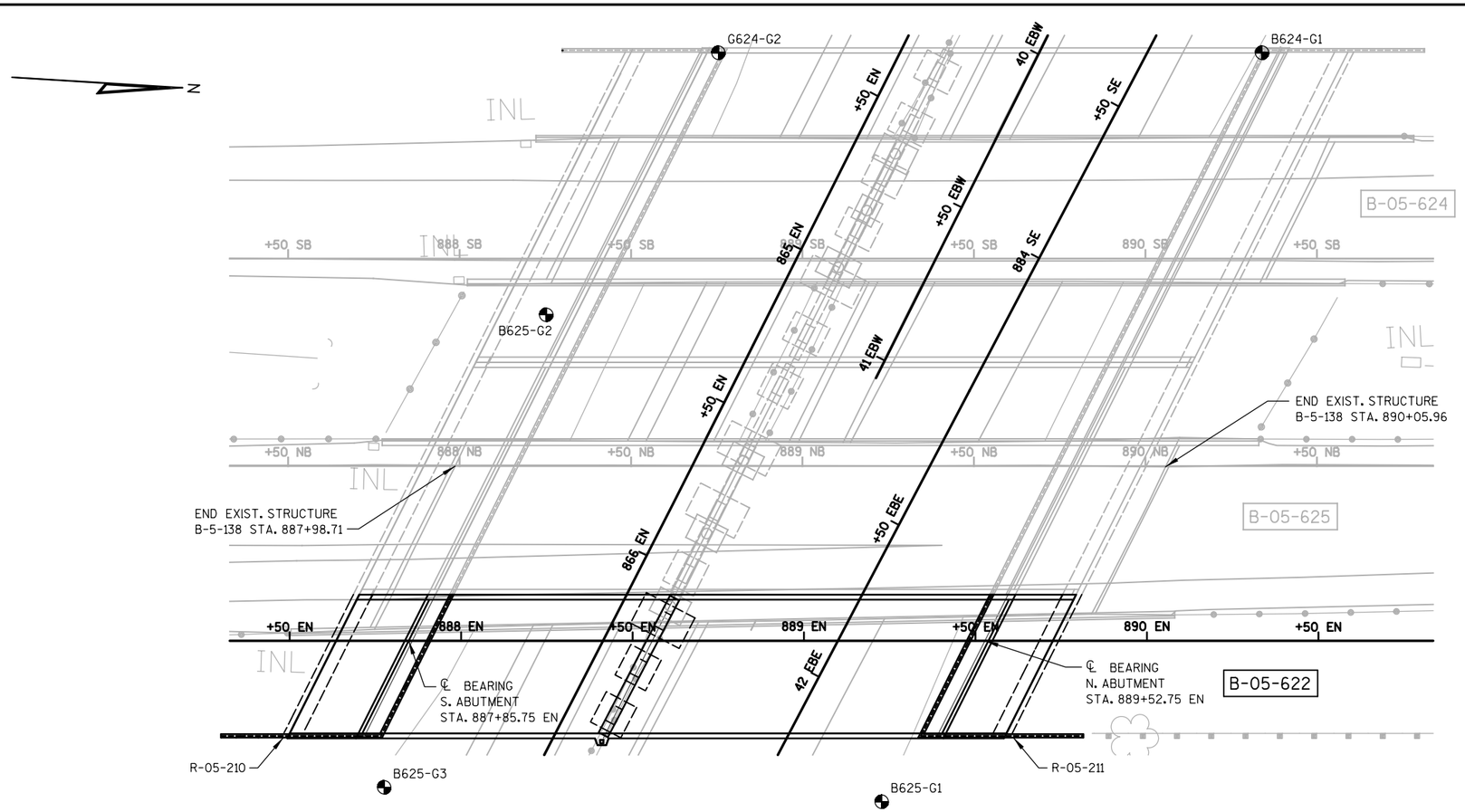
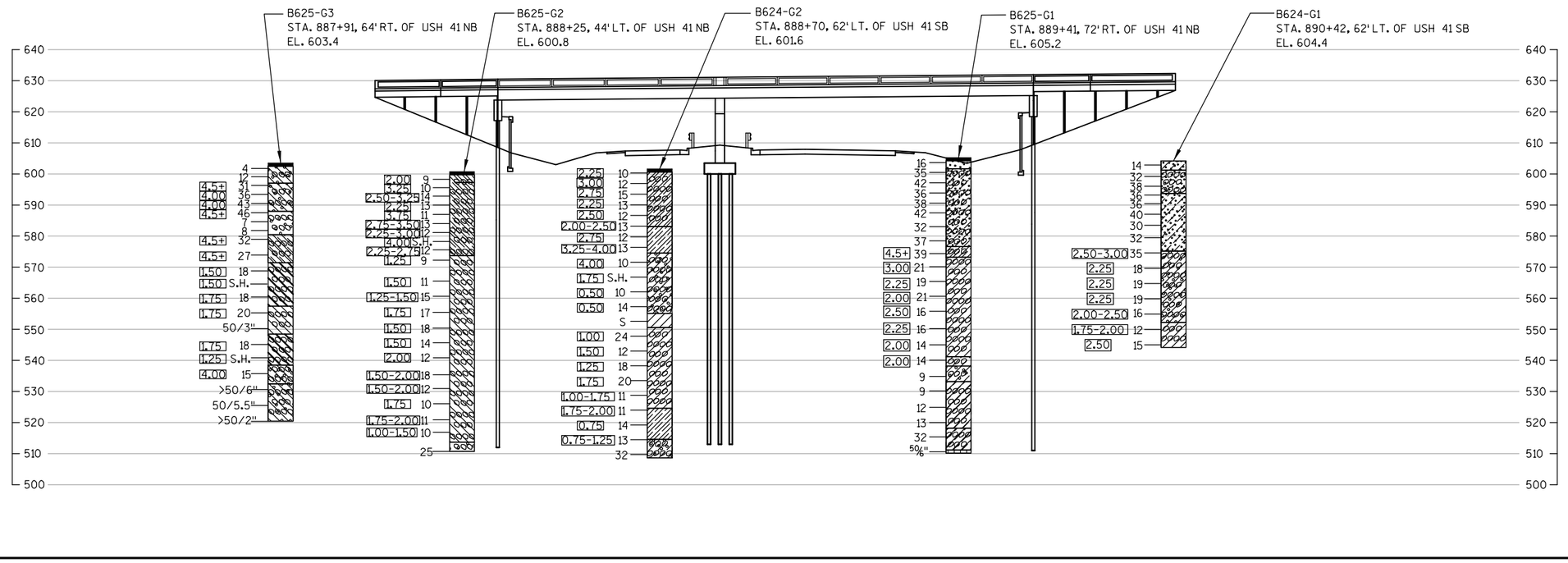


BORINGS PREPARED BY:
GESTRA ENGINEERING, INC.
1626 W. FOND DU LAC AVE.
MILWAUKEE, WI 53205



STATE PROJECT NUMBER

1133-09-71

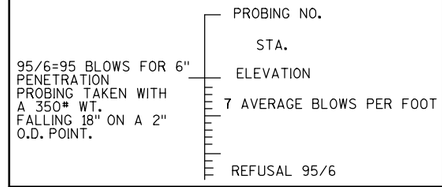
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

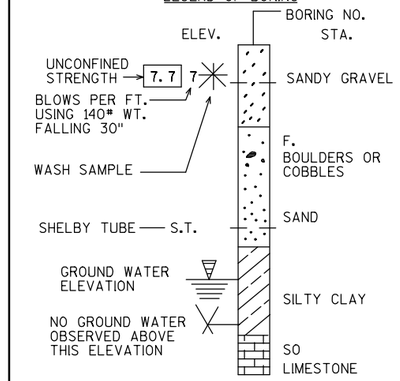
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE, SAND, PEAT, LIMESTONE, GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

SUBSURFACE EXPLORATION

SHEET 3 OF 27
1851

FILE=
SCALE =

8

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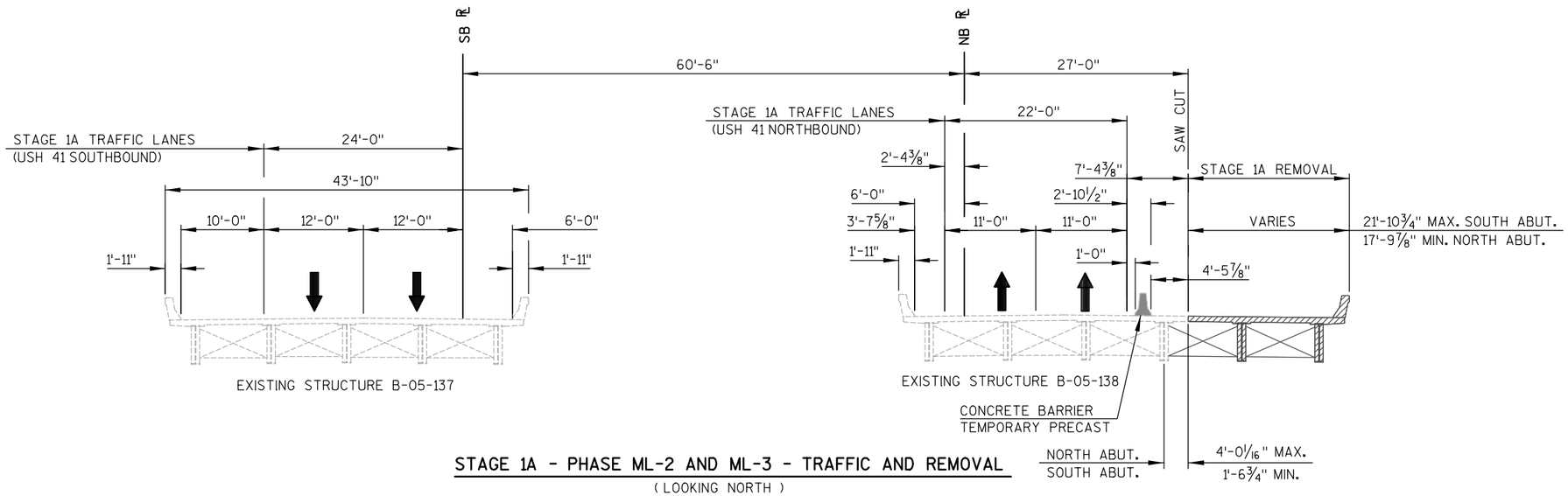
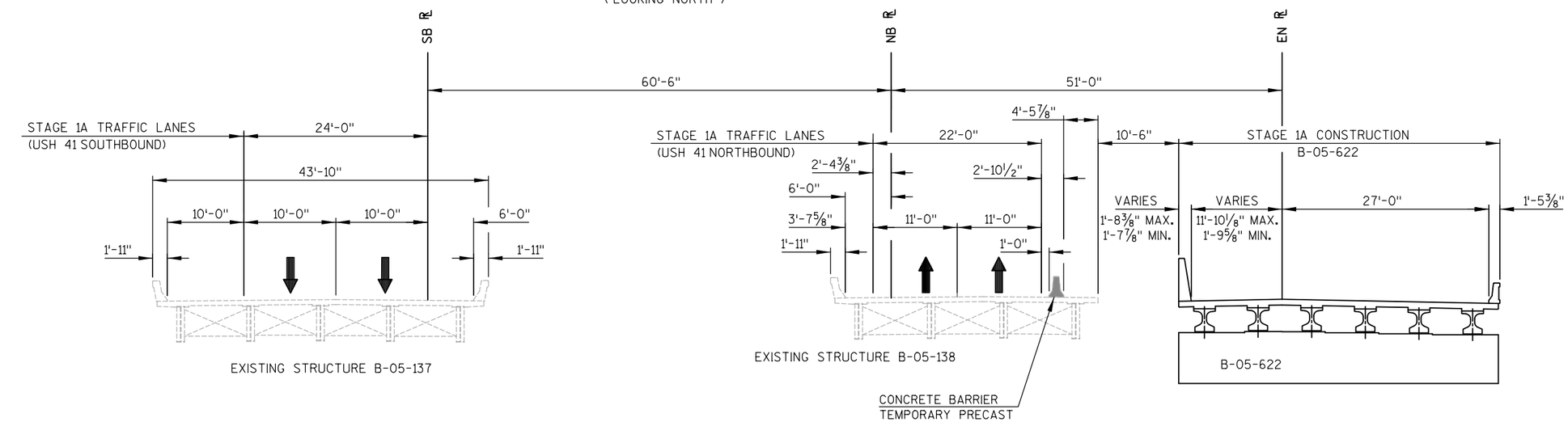
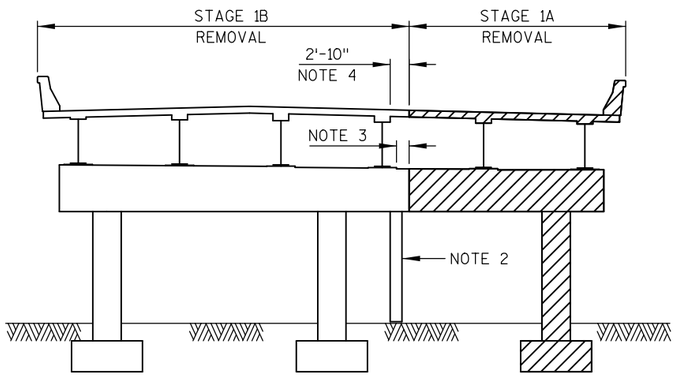
STATE PROJECT NUMBER
1133-09-71



STAGE 1A - PHASE ML-2 AND ML-3 - TRAFFIC AND REMOVAL

(LOOKING NORTH)





TEMPORARY SUPPORT EXISTING STRUCTURE B-05-138

STAGE 1A - PHASE ML-2 AND ML-3 - TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.
2. TEMPORARY SUPPORT OF THE B-05-138 PIER CAP IS REQUIRED. THE CONTRACTOR IS TO DESIGN A TEMPORARY SUPPORT SYSTEM FOR USE DURING STAGED REMOVAL (CONSTRUCTION) OF THE BRIDGE. THE PROPOSED SUPPORT SYSTEM SHALL BE SUBMITTED TO THE DEPARTMENT FOR ACCEPTANCE.
3. DIMENSION AS REQUIRED BY CONTRACTOR FOR CONCRETE REMOVAL.
4. DIMENSION TAKEN PARALLEL TO PIER CAP.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

CONSTRUCTION STAGING - 1

SHEET 4 OF 27
1852

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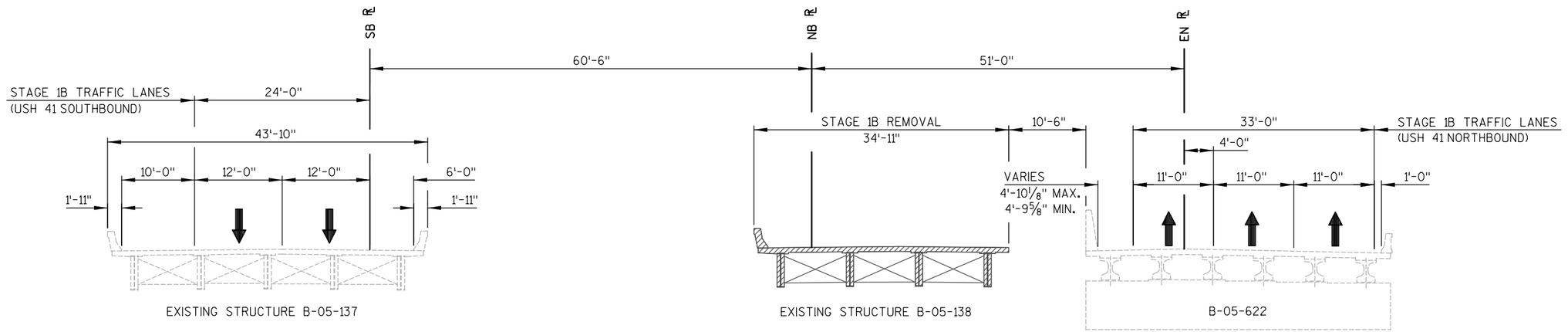
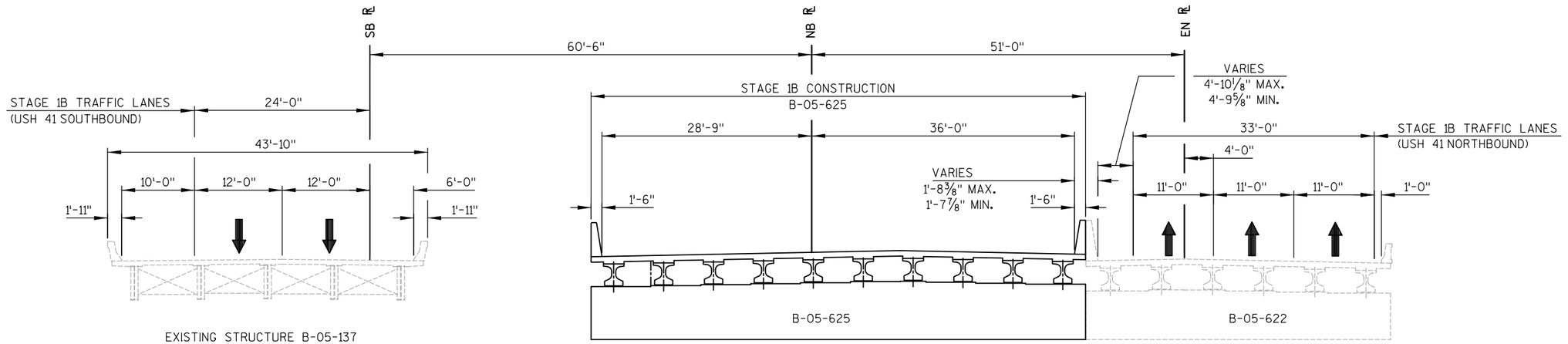
STATE PROJECT NUMBER
1133-09-71



STAGE 1B - TRAFFIC AND REMOVAL

(LOOKING NORTH)



STAGE 1B - TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

CONSTRUCTION STAGING - 2

SHEET 5 OF 27
1853

8

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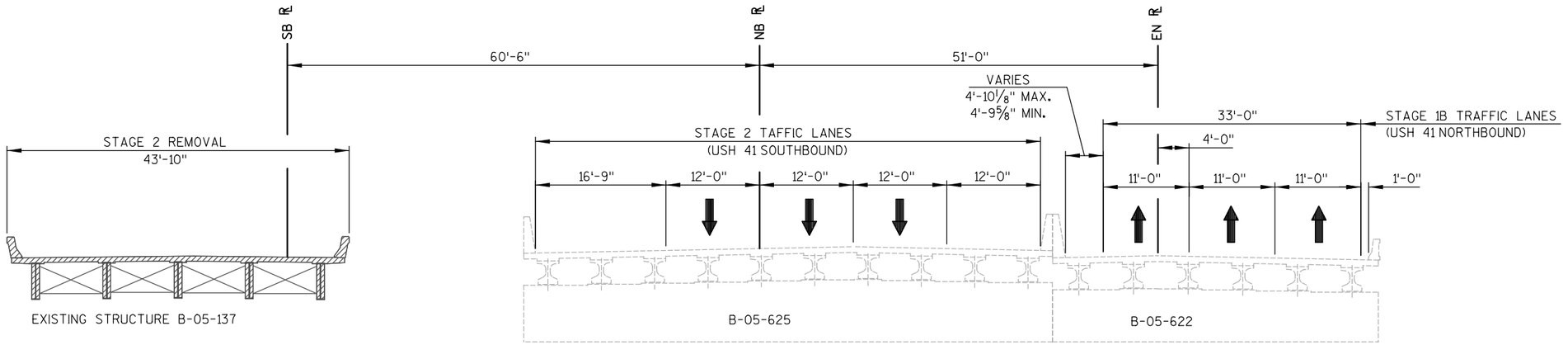
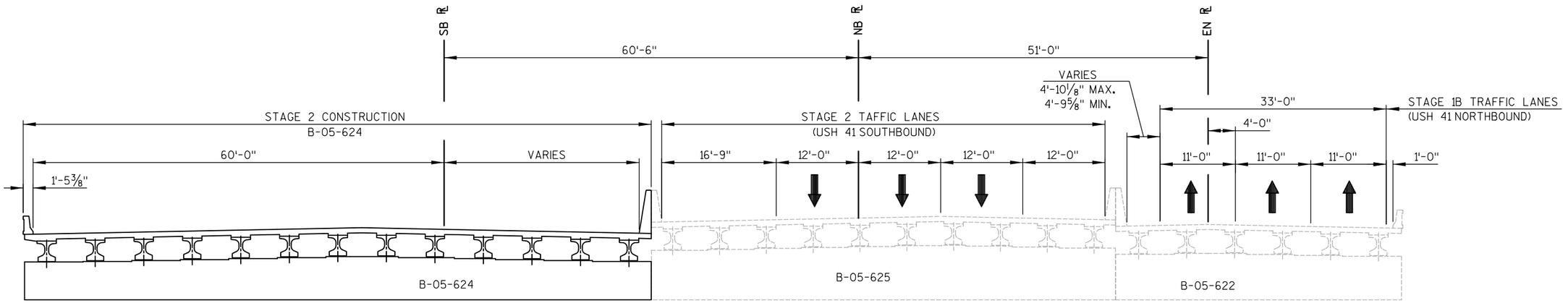
STATE PROJECT NUMBER
1133-09-71



STAGE 2 - PHASE ML-1 - TRAFFIC AND REMOVAL

(LOOKING NORTH)



STAGE 2 - PHASE ML-2 - TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

CONSTRUCTION STAGING - 3

SHEET 6 OF 27
1854

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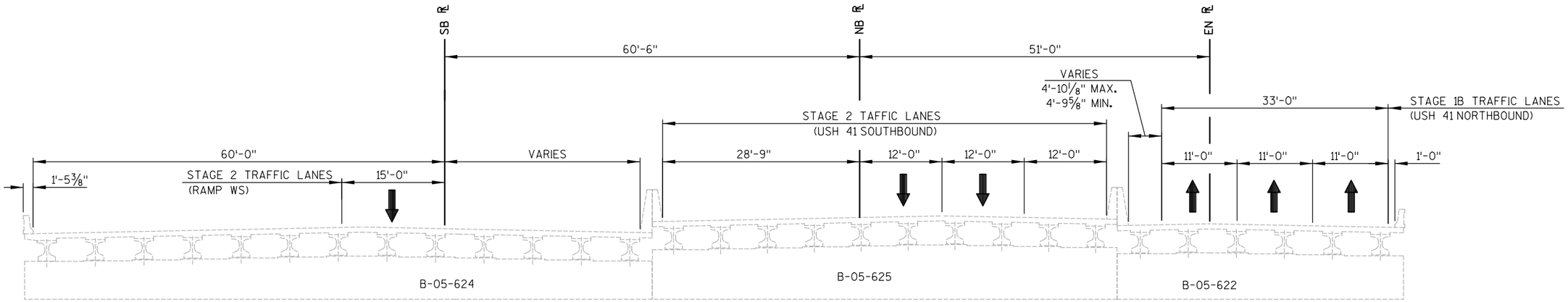
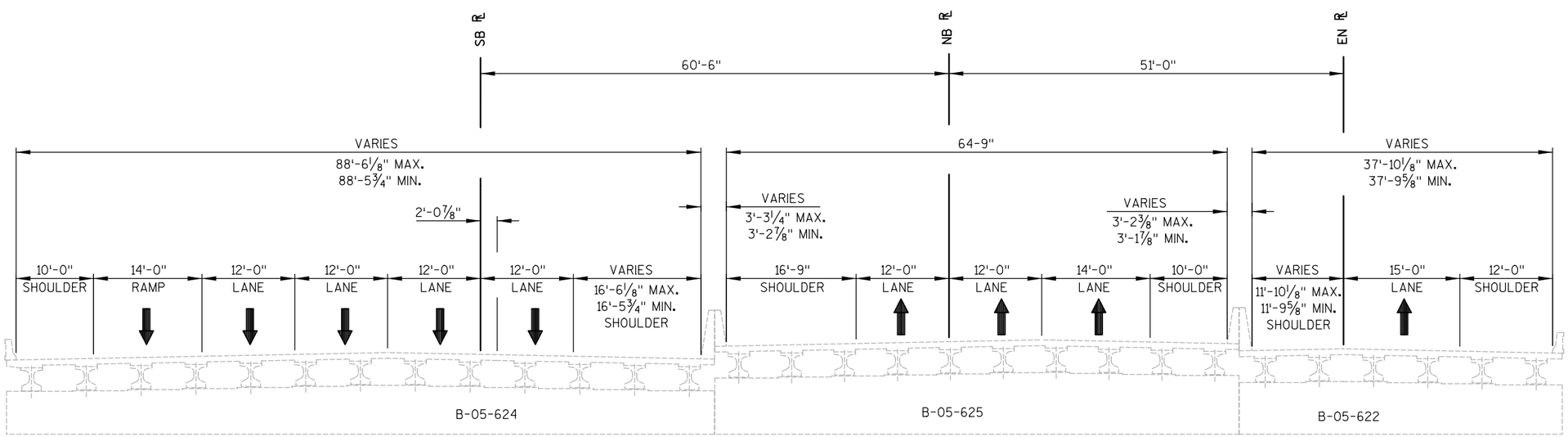
STATE PROJECT NUMBER
1133-09-71



STAGE 2 - PHASE ML-2 - TRAFFIC

(LOOKING NORTH)



FINAL CROSS SECTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

CONSTRUCTION STAGING - 4

SHEET 7 OF 27
1855

8

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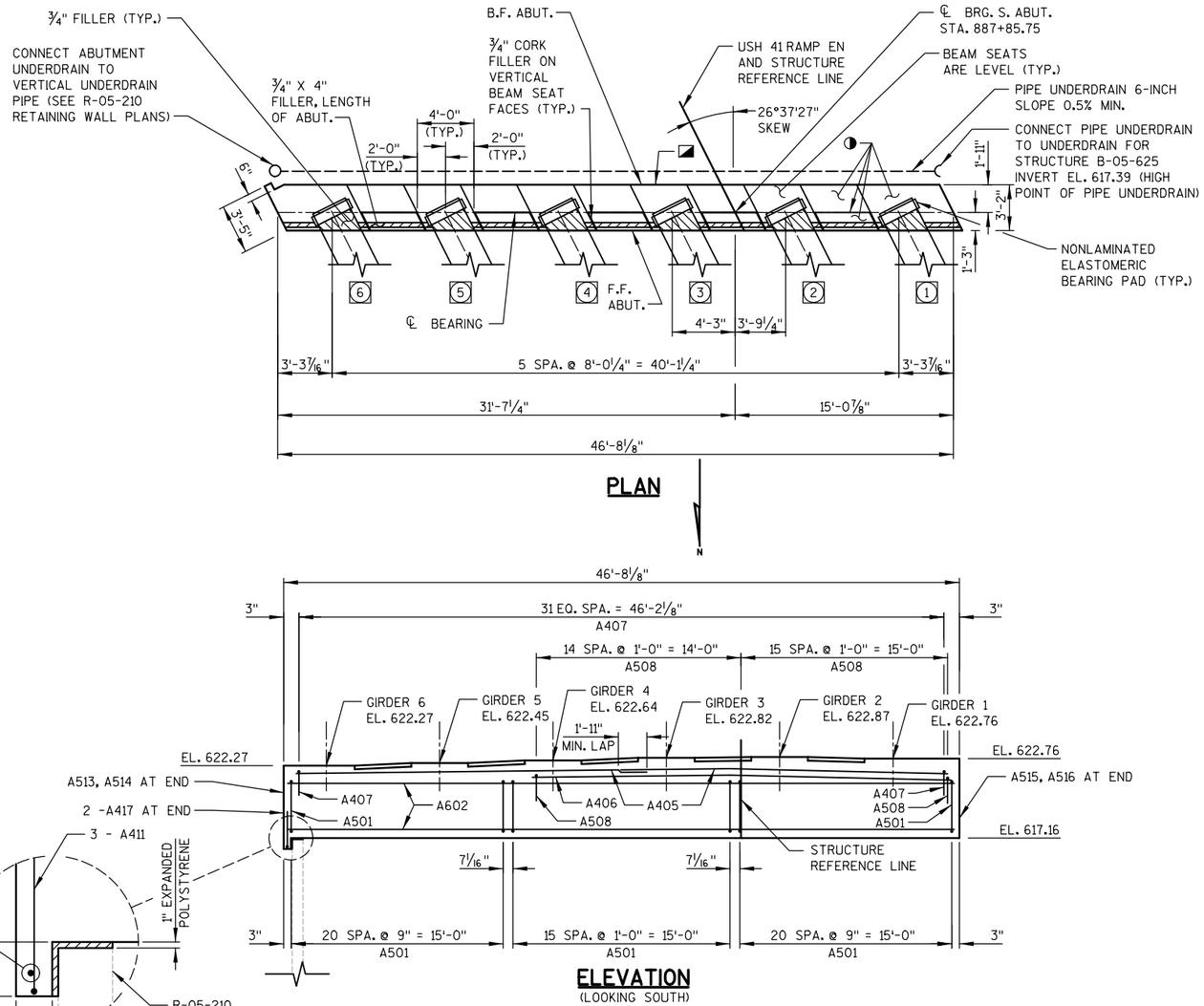
STATE PROJECT NUMBER
1133-09-71



LEGEND

◑ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

◪ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

(#) INDICATES GIRDER NUMBER.

NOTES

SEE SHEET 2 FOR PILE SPLICE DETAILS.

ADJUST A501 BARS TO AVOID INTERFERENCE WITH PILES.

SEE SHEET 9 FOR REINFORCING DETAILS.

ABUTMENTS TO BE SUPPORTED ON HP 12-INCH X 53 LB. STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH IS 110 FEET.

SEE SHEET 9 FOR ABUTMENT FALL PROTECTION DETAIL.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

SOUTH ABUTMENT

SHEET 8 OF 27
1856

STATE PROJECT NUMBER

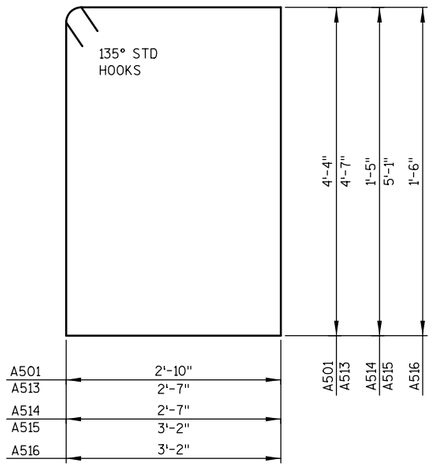
1133-09-71

SOUTH ABUTMENT BILL OF BARS

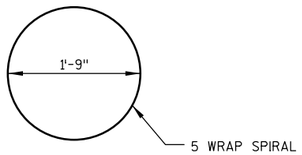
UNCOATED: 2,720 LBS

MARK	NO.	LENGTH	BENT	COAT	LOCATION
A501	58	14'-11"	X		BODY - VERT. -STIRRUPS
A602	17	46'-4"			BODY - HORIZ. - FF/BF, TOP/BOT
A403	14	2'-3"			BODY - PILES - VERT.
A404	7	28'-0"	X		BODY - PILES - VERT.
A405	4	24'-2"			BODY - TOP - HORIZ.
A406	3	29'-0"			BODY - TOP - HORIZ.
A407	32	4'-5"	X		BODY - TOP - VERT.
A508	30	5'-7"	X		BODY - TOP - VERT.
A409	1	3'-1"			RETAINING WALL EAR
A410	1	5'-6"			RETAINING WALL EAR
A411	3	4'-2"	X		RETAINING WALL EAR
A412	5	3'-9"	X		RETAINING WALL EAR
A513	1	14'-11"	X		BODY - VERT. - STIRRUP - EAST END
A514	1	8'-7"	X		BODY - VERT. - STIRRUP - EAST END
A515	1	17'-1"	X		BODY - VERT. - STIRRUP - WEST END
A516	1	9'-11"	X		BODY - VERT. - STIRRUP - WEST END
A417	2	5'-6"			BODY - VERT. - EAST END

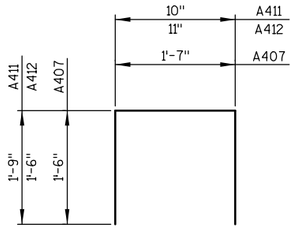
NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



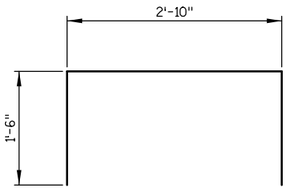
A501, A513, A514, A515, A516



A404



A407, A411, A412



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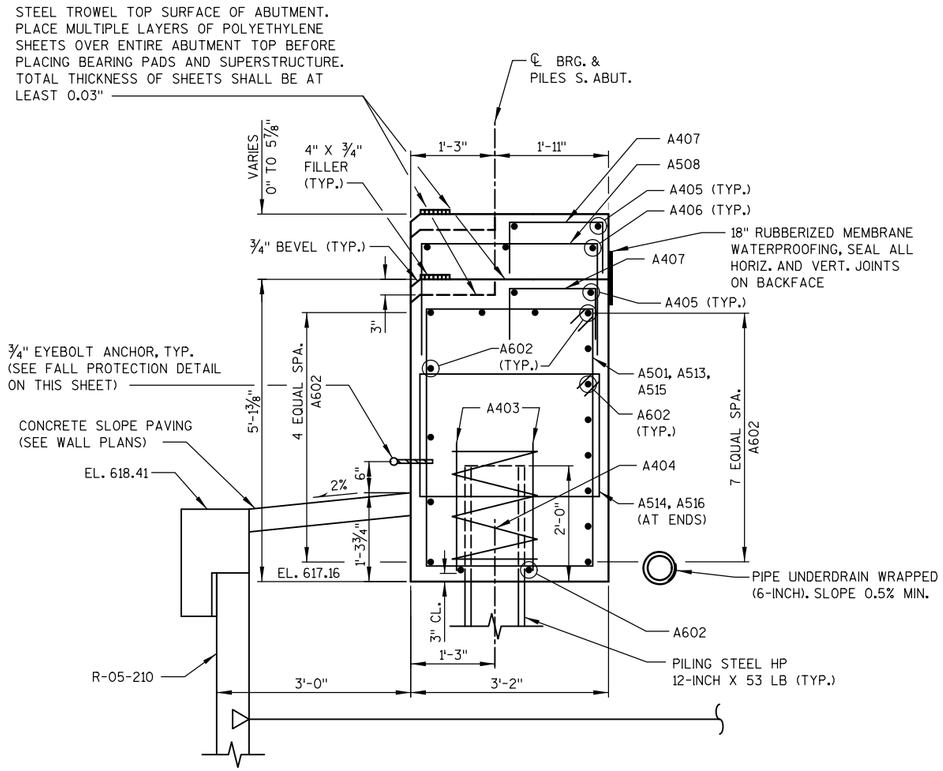
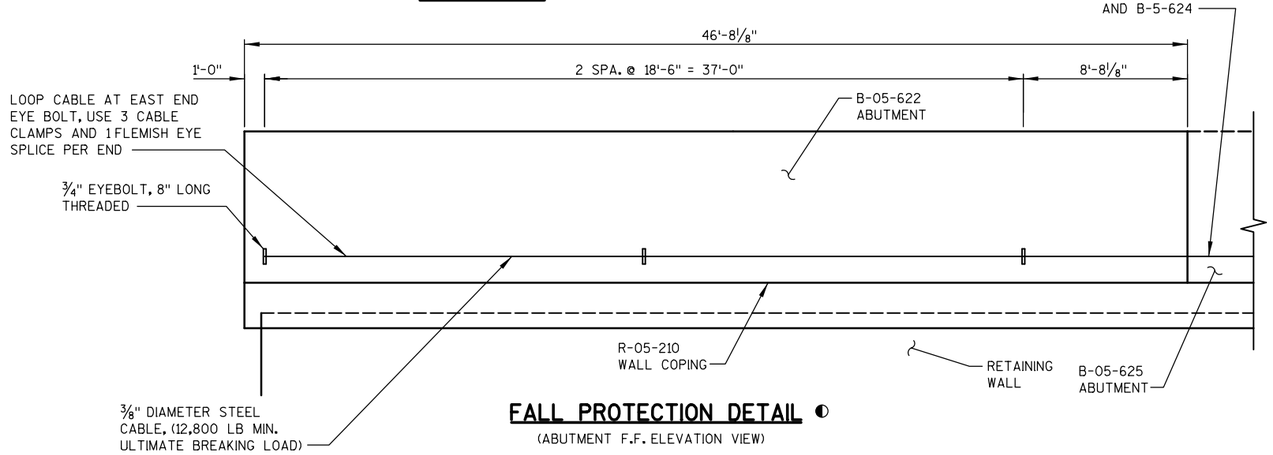


TYPICAL SECTION THRU BODY

CABLE SHALL RUN CONTINUOUS ALONG B-5-622, B-5-625 AND B-5-624



FALL PROTECTION DETAIL ◐

(ABUTMENT F.F. ELEVATION VIEW)

◐ NOTES:

ALL LABOR AND MATERIAL (EYE BOLTS, CABLE, AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4-INCH.

ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.

USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.

MASONRY ANCHORS TYPE S 3/4-INCH. MIN. ULTIMATE PULLOUT CAPACITY OF 26 KIPS. FOR ADHESIVE ANCHORS, EMBED A MINIMUM OF 7" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

SOUTH ABUTMENT DETAILS

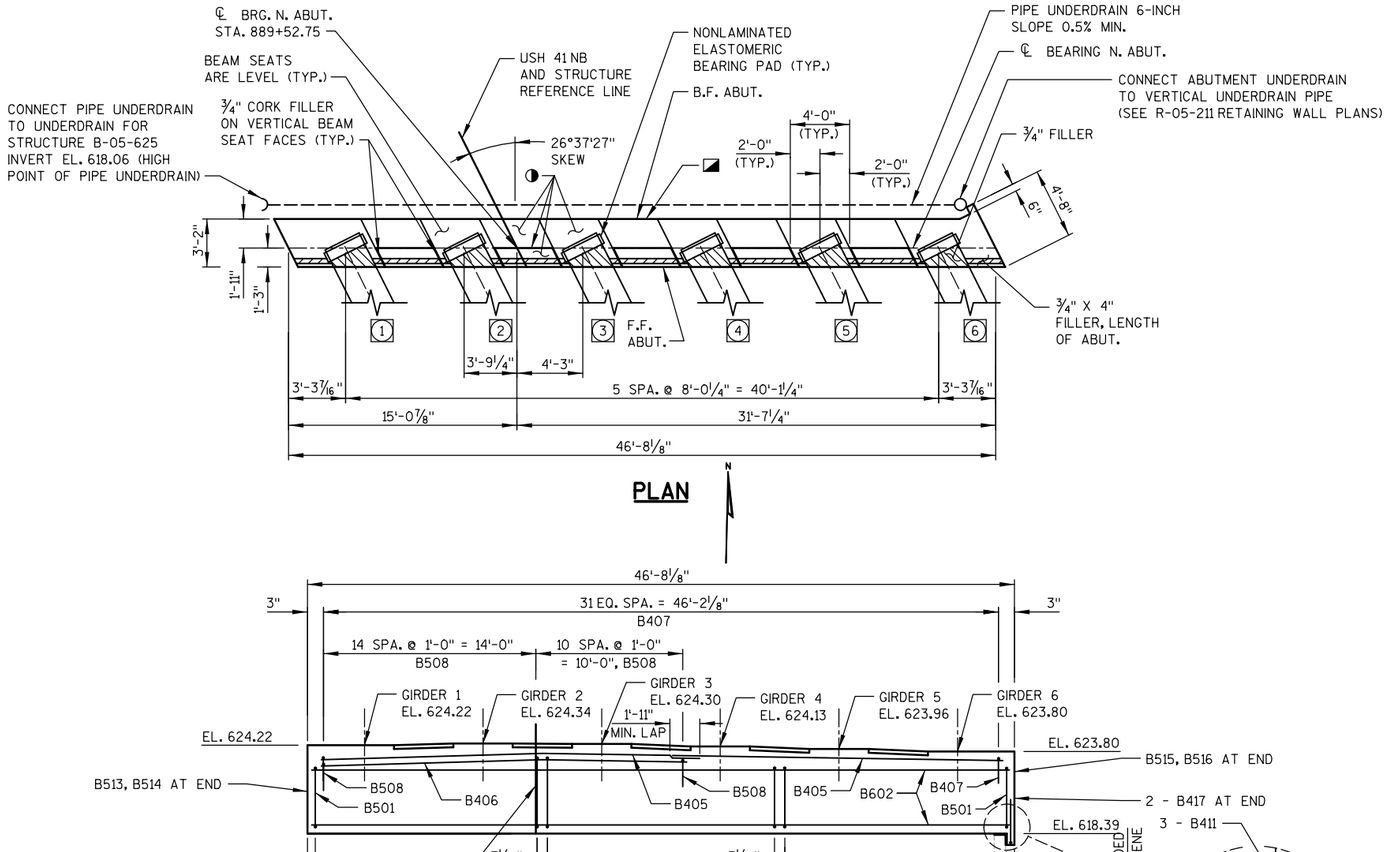
SHEET 9 OF 27
1857

8

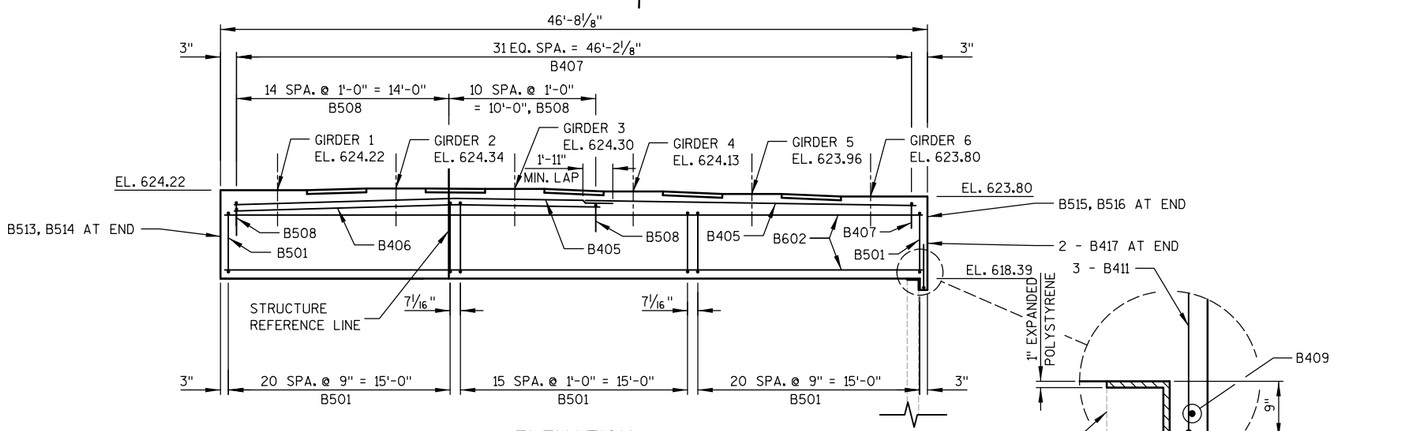
8

STATE PROJECT NUMBER

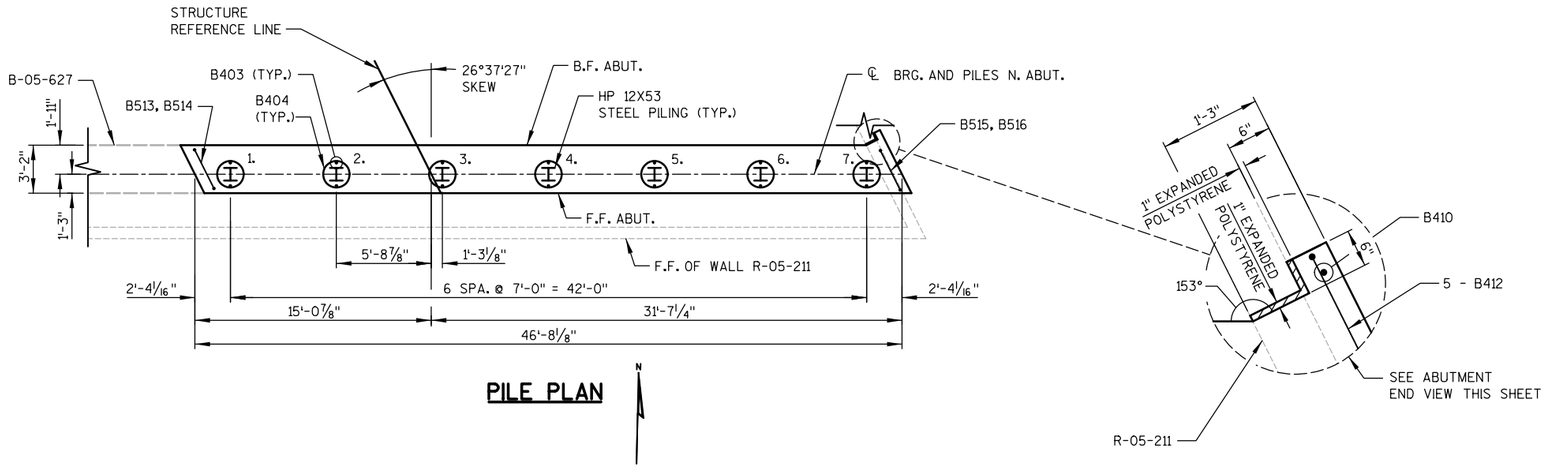
1133-09-71



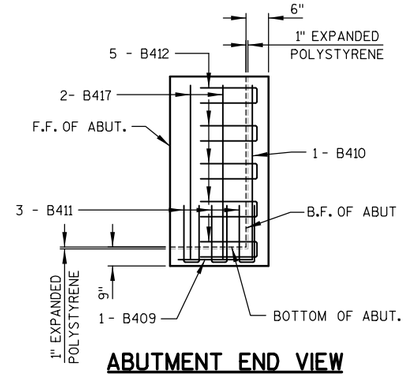
PLAN



ELEVATION
(LOOKING NORTH)



PILE PLAN



ABUTMENT END VIEW
(EAST END ONLY)

LEGEND

◑ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

◪ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

(#) INDICATES GIRDER NUMBER.

NOTES

SEE SHEET 2 FOR PILE SPLICE DETAILS.

ADJUST B501 BARS TO AVOID INTERFERENCE WITH PILES.

SEE SHEET 11 FOR REINFORCING DETAILS.

ABUTMENTS TO BE SUPPORTED ON HP 12-INCH X 53 LB. STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH IS 115 FEET.

SEE SHEET 11 FOR ABUTMENT FALL PROTECTION DETAIL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

NORTH ABUTMENT

SHEET 10 OF 27
1858

8

8

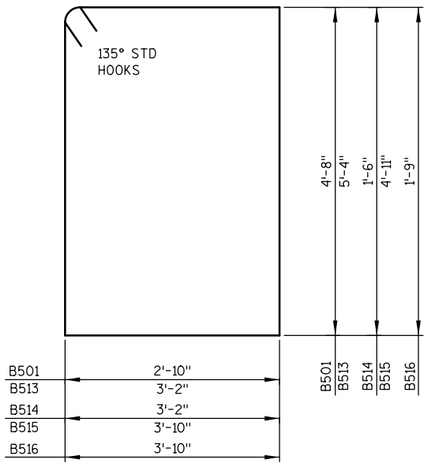
STATE PROJECT NUMBER
1133-09-71

NORTH ABUTMENT BILL OF BARS

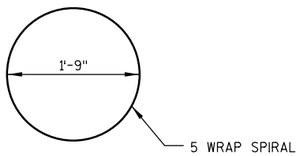
UNCOATED: 2,730 LBS

MARK	NO.	LENGTH	BENT	COAT	LOCATION
B501	58	15'-7"	X		BODY - VERT. -STIRRUPS
B602	17	46'-4"			BODY - HORIZ. - FF/BF, TOP/BOT
B403	14	2'-3"			BODY - PILES - VERT.
B404	7	28'-0"	X		BODY - PILES - VERT.
B405	4	24'-2"			BODY - TOP - HORIZ.
B406	3	24'-0"			BODY - TOP - HORIZ.
B407	32	4'-5"	X		BODY - TOP - VERT.
B508	25	5'-7"	X		BODY - TOP - VERT.
B409	1	4'-4"			RETAINING WALL EAR
B410	1	5'-10"			RETAINING WALL EAR
B411	3	4'-8"	X		RETAINING WALL EAR
B412	5	3'-10"	X		RETAINING WALL EAR
B513	1	17'-7"	X		BODY - VERT. - STIRRUP - WEST END
B514	1	9'-11"	X		BODY - VERT. - STIRRUP - WEST END
B515	1	18'-1"	X		BODY - VERT. - STIRRUP - EAST END
B516	1	11'-9"	X		BODY - VERT. - STIRRUP - EAST END
B417	2	5'-10"			BODY - VERT. - EAST END

NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



B501, B513, B514, B515, B516



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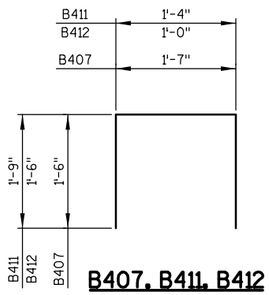
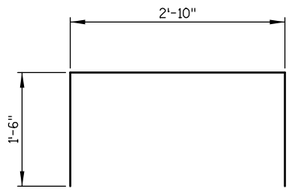


B407, B411, B412



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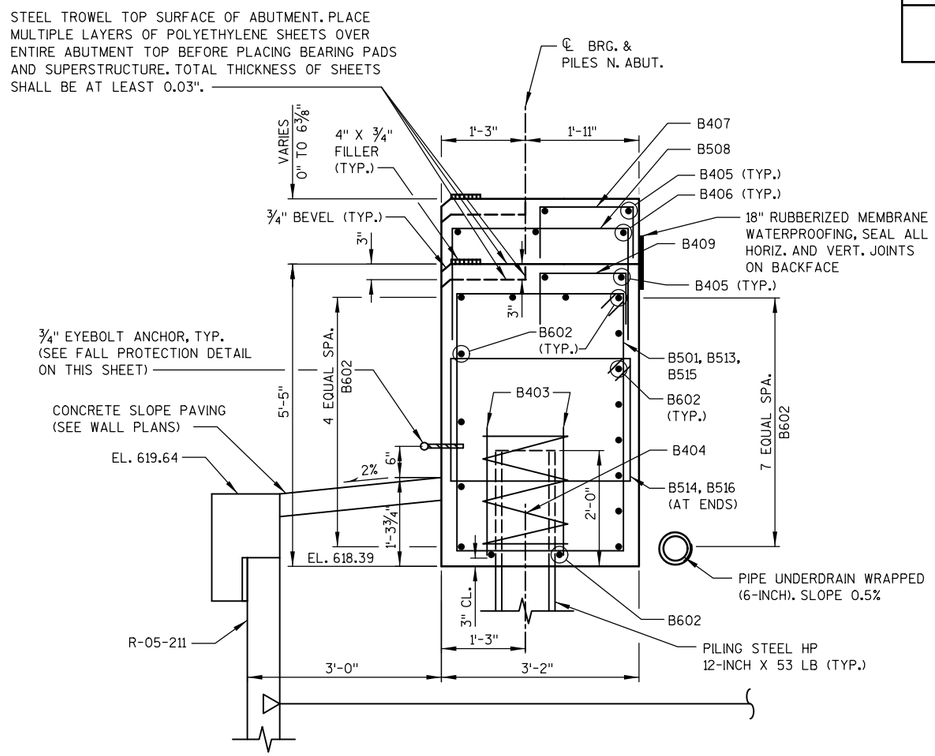
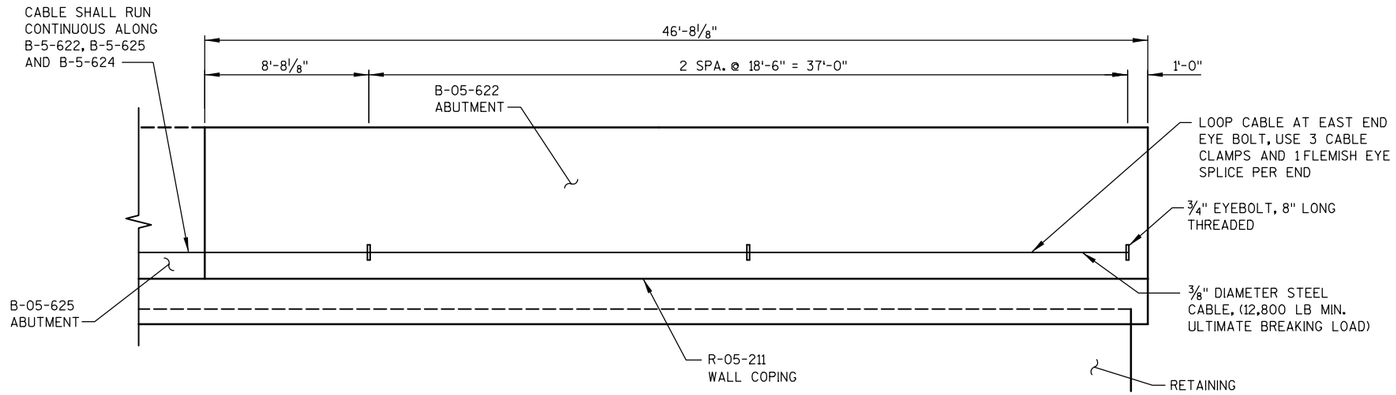


TYPICAL SECTION THRU BODY



FALL PROTECTION DETAIL ◐

(ABUTMENT F.F. ELEVATION VIEW)

◐ NOTES:

ALL LABOR AND MATERIAL (EYE BOLTS, CABLE, AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4-INCH.

ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.

USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.

MASONRY ANCHORS TYPE S 3/4-INCH. MIN. ULTIMATE PULLOUT CAPACITY OF 26 KIPS. FOR ADHESIVE ANCHORS, EMBED A MINIMUM OF 7" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

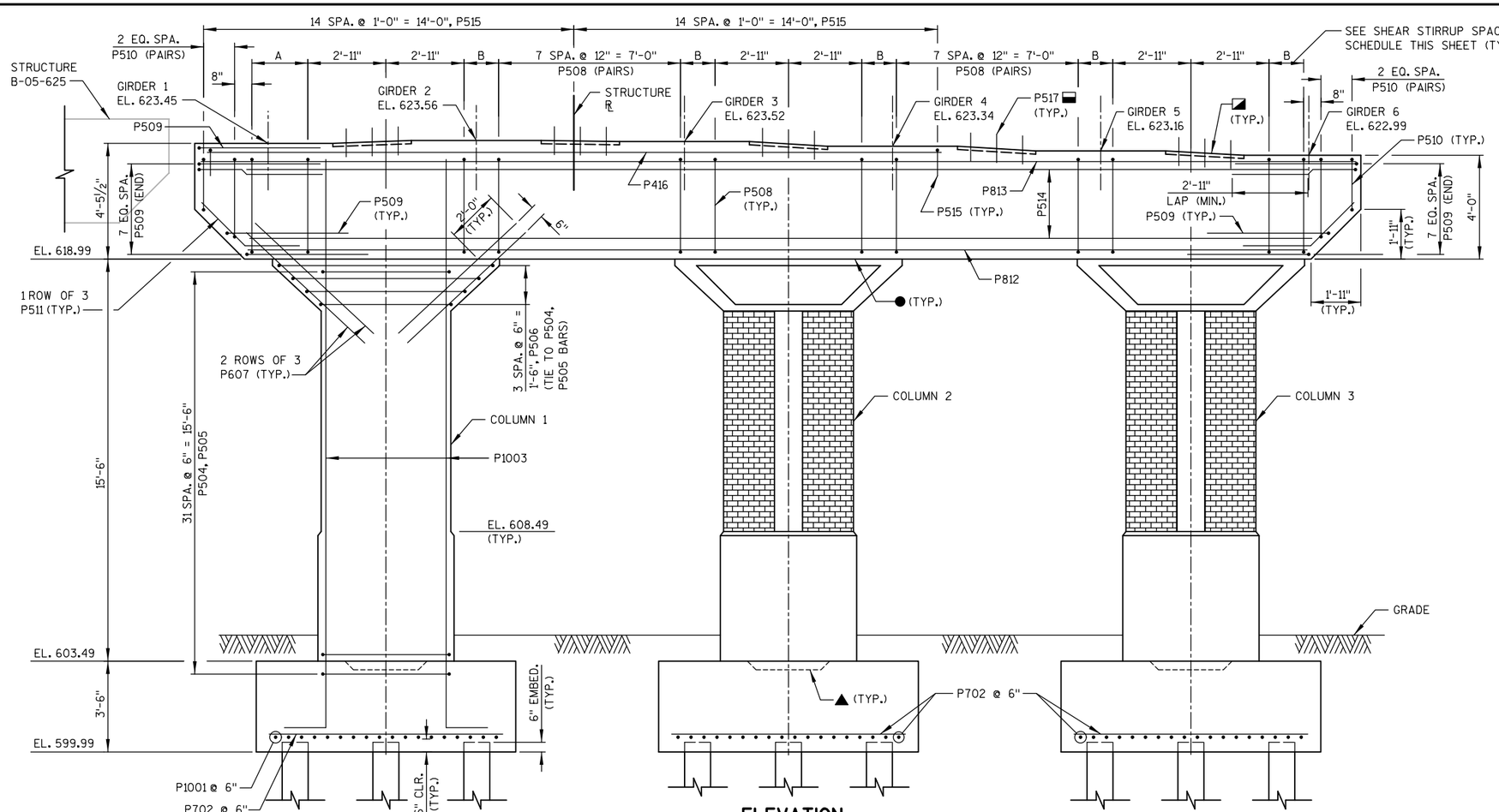
NORTH ABUTMENT DETAILS

SHEET 11 OF 27
1859

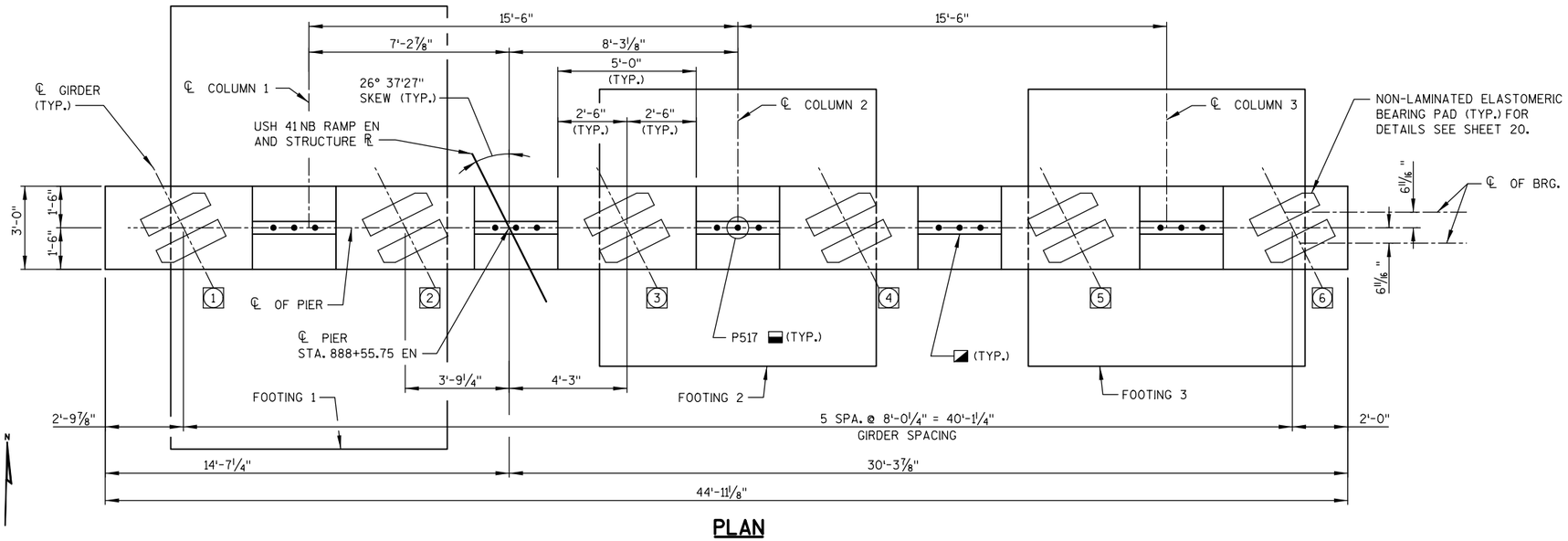
8

8

STATE PROJECT NUMBER
1133-09-71



ELEVATION
(LOOKING NORTH)



PLAN

NOTES

GIRDER ELEVATIONS GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF THE PIER. BEAM SEATS SHALL BE FLAT.

SEE SHEET 13 FOR REINFORCEING DETAILS.

ARCHITECTURAL SURFACE TREATMENT AND REVEAL NOT SHOWN ON COLUMN 1 FOR CLARITY.

LEGEND

- ◪ KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2"X6".
- ⊗ INDICATES GIRDER NUMBER.
- ▬ P517 BARS @ 1'-0" CENTERS BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED 1'-0" INTO CONCRETE.
- ▲ CONSTRUCTION JOINT FORMED BY BEVELED 3"X1'-3"X2'-6" KEYWAY.
- ● CONSTRUCTION JOINT. STRIKE OFF AND LEAVE ROUGH.

SHEAR STIRRUP SPACING

A 3 SPA. @ 8" = 2'-0", P508 (PAIRS)

B 2 SPA. @ 8" = 1'-4", P508 (PAIRS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

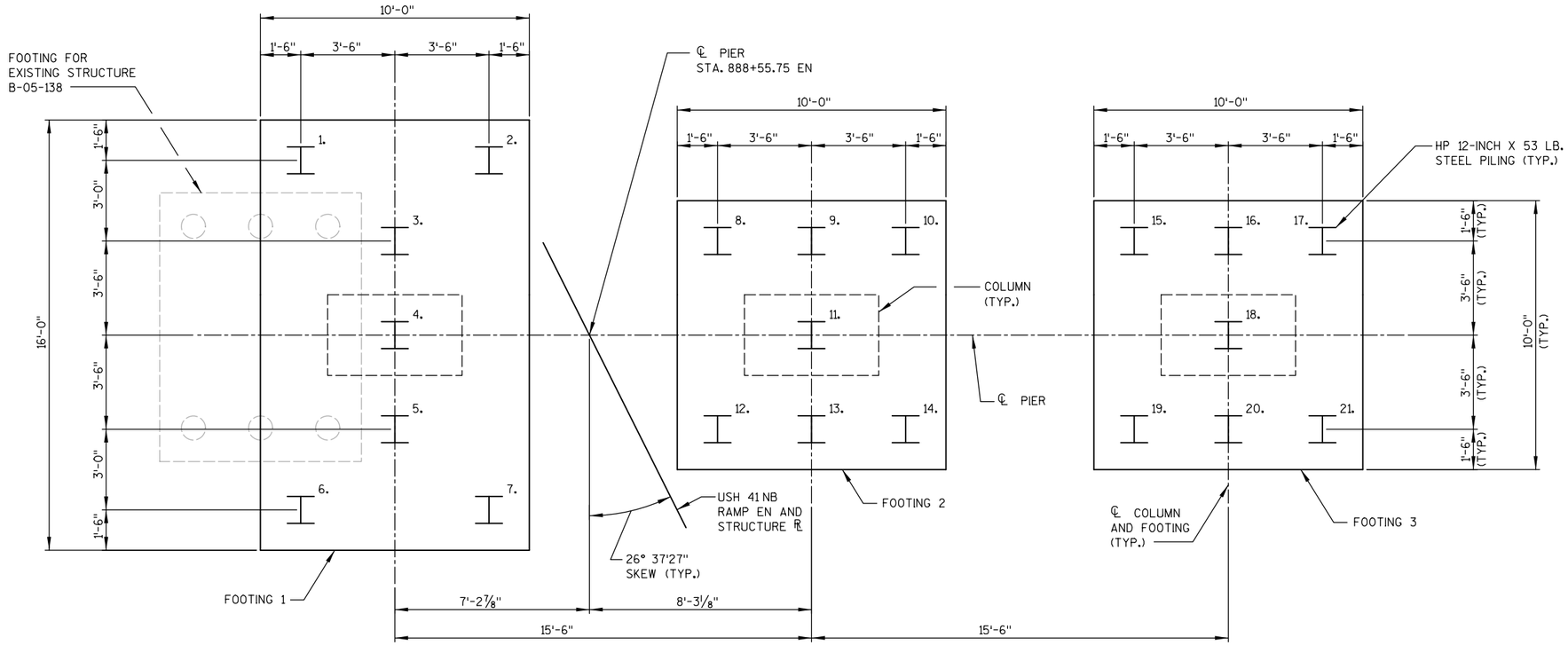
PIER

SHEET 12 OF 27
1860

8

8

STATE PROJECT NUMBER
1133-09-71



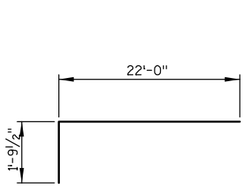
FOUNDATION PLAN

PIER 1
BILL OF BARS

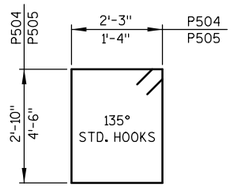
UNCOATED: 3,560 LBS.
COATED: 15,970 LBS.

MARK	NO.	LENGTH	BENT	COAT	LOCATION
P1001	20	15'-8"			FOOTING 1 - HORIZ.
P702	112	9'-8"			FOOTINGS - HORIZ.
P1003	84	23'-6"	X	X	FOOTINGS AND COLUMNS - VERT.
P504	192	10'-9"	X	X	COLUMNS - STIRRUPS
P505	96	12'-3"	X	X	COLUMNS - STIRRUPS
▲ P506	12	17'-10"	X	X	COLUMNS - STIRRUPS - TOP
P607	36	7'-0"		X	COLUMNS - TOP
P508	62	11'-5"	X	X	CAP - STIRRUPS
P509	17	11'-8"	X	X	CAP - HORIZ. - ENDS
▲ P510	12	9'-4"	X	X	CAP - STIRRUPS - ENDS
P511	6	5'-0"	X	X	CAP - HORIZ. - ENDS
P812	7	40'-8"		X	CAP - HORIZ. - BOTTOM
P813	7	44'-6"		X	CAP - HORIZ. - TOP
P514	12	41'-0"		X	CAP - HORIZ. - SIDES
P515	29	6'-4"	X	X	CAP - VERT. - TOP
P416	4	28'-0"		X	CAP - HORIZ. - TOP
P517	15	2'-0"		X	CAP - DOWELS - TOP

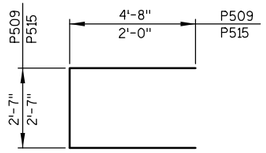
NOTE: THE FIRST ONE OR TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. DIMENSIONS FOR BENDING ARE OUT TO OUT OF BAR.



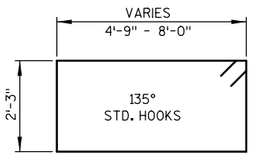
P1003



P504, P505



P509, P515



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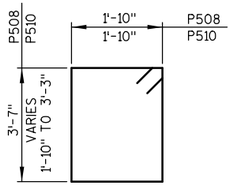
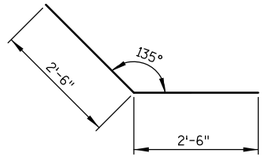


P508, P510



P511

▲S BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
P506	3 SERIES OF 4	14'-7" TO 21'-1"
P510	4 SERIES OF 3	7'-11" TO 10'-9"

NOTES

PIER TO BE SUPPORTED ON HP 12-INCH X 53 LB. STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH 90 FT EACH.

EXISTING PILING SHALL NOT BE INCORPORATED INTO THE NEW WORK. EXISTING PILING SHALL BE CUT AT OR BELOW THE BOTTOM OF THE NEW FOOTING AND ABANDONED.

SEE SHEET 2 FOR PILE SPLICE DETAILS.

THE EXISTING PILE LOCATIONS ARE BASED ON THE ORIGINAL PLANS FOR B-05-138. THE ENGINEER SHALL APPROVE ALL ADJUSTMENTS IF THE EXISTING PILE LOCATIONS DO NOT MATCH THE LOCATIONS SHOWN ON THE PLANS. NOTIFY ENGINEER IF EXISTING PILE SPACING TO NEW PILE IS LESS THAN 2.25 FT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

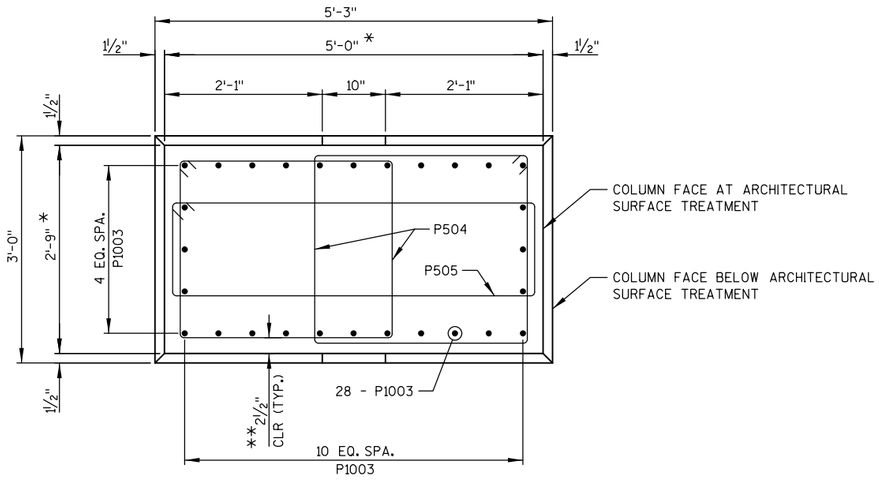
PIER FOUNDATION

SHEET 13 OF 27
1861

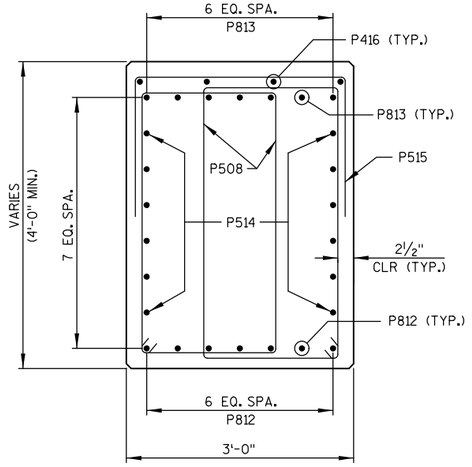
8

8

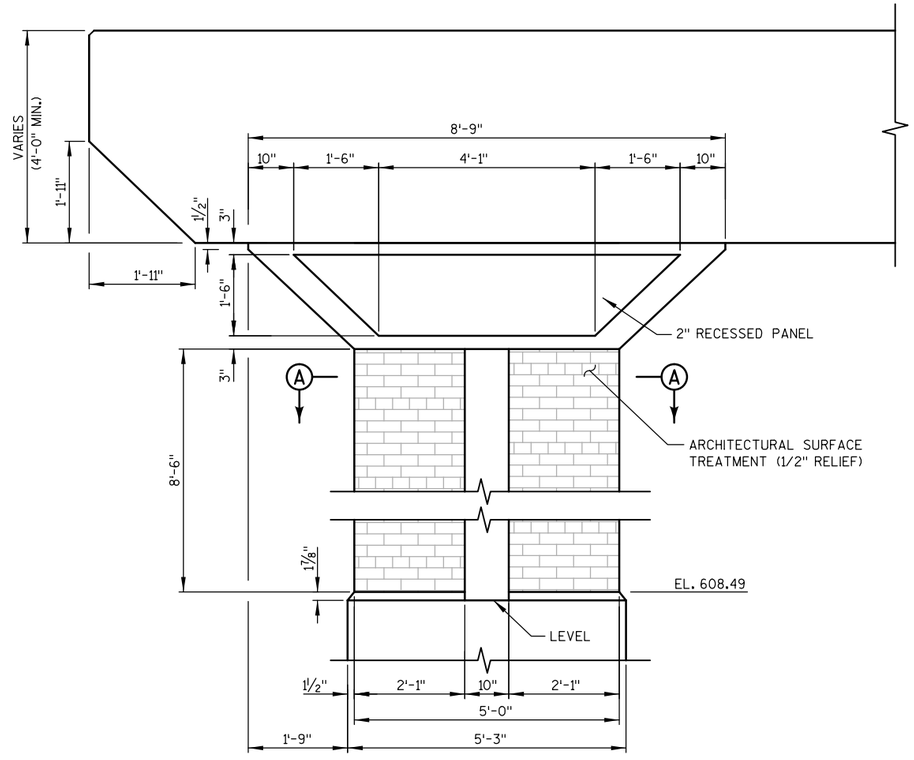
STATE PROJECT NUMBER
1133-09-71



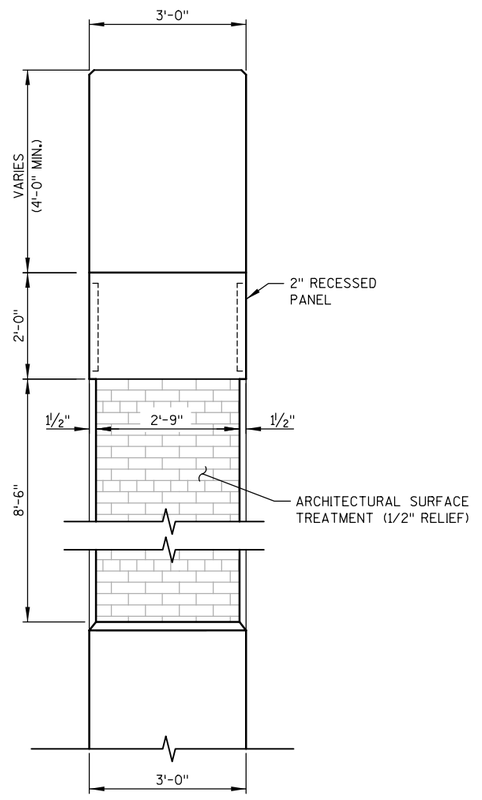
PIER COLUMN SECTION A-A



SECTION THRU PIER CAP



PIER ELEVATION



PIER END ELEVATION

NOTES

SEE SHEET 13 FOR REINFORCING DETAILS.

SEE SHEET 27 FOR ARCHITECTURAL SURFACE TREATMENT AND CONCRETE STAINING REQUIREMENTS.

LEGEND

* DIMENSION IS TAKEN TO OUTER FACE OF ARCHITECTURAL SURFACE TREATMENT.

** 2½" CLEAR DISTANCE IS FROM INSIDE OF ARCHITECTURAL SURFACE TREATMENT RELIEF (3" FROM OUTSIDE OF FACE OF RELIEF).

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY	AJW	PLANS CK'D.	DJW

PIER DETAILS

SHEET 14 OF 27

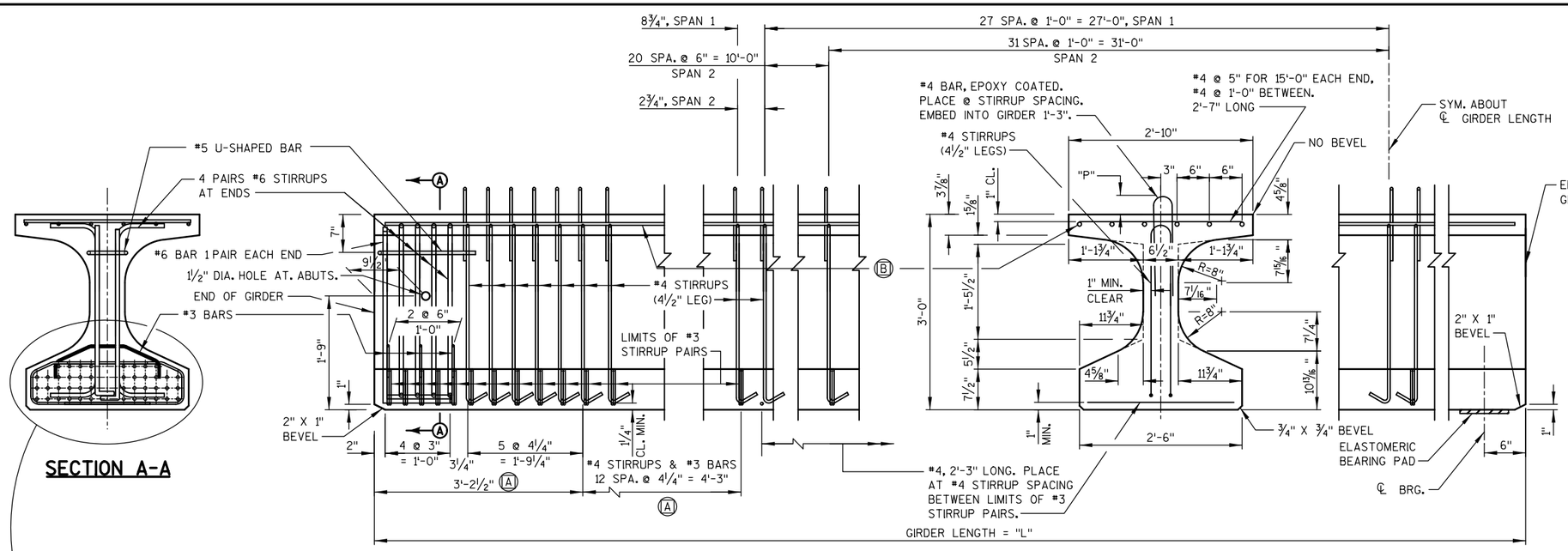
1862

8

8

STATE PROJECT NUMBER

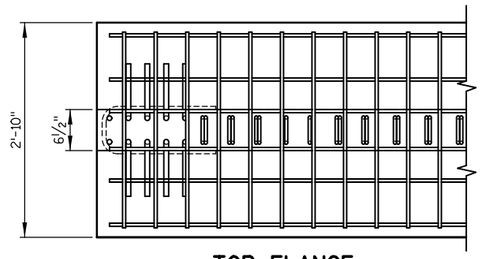
1133-09-71



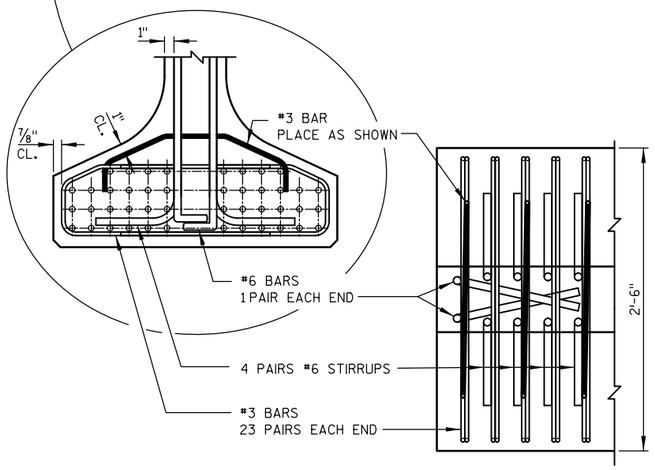
SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

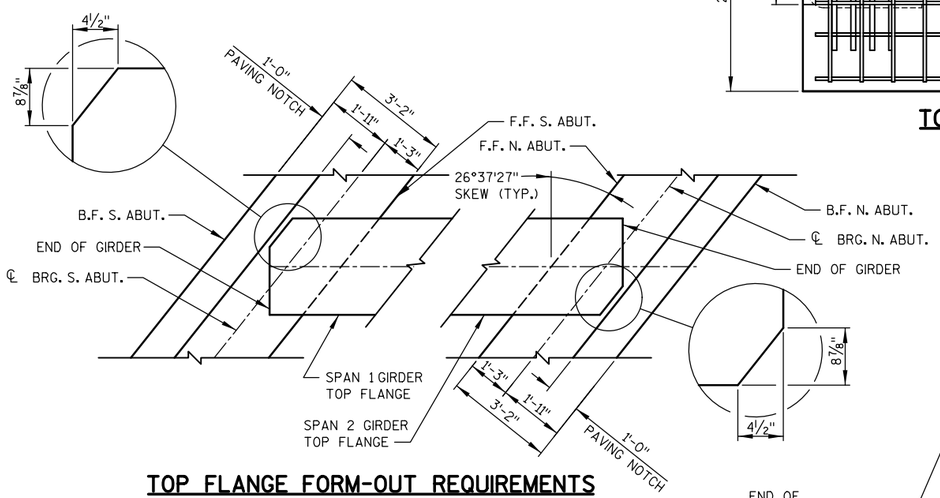
Ⓑ 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"



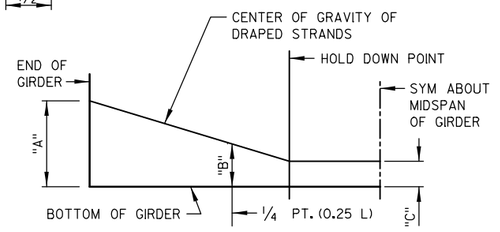
TOP FLANGE



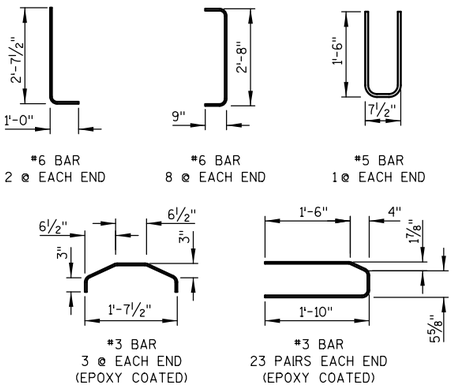
BOTTOM FLANGE



TOP FLANGE FORM-OUT REQUIREMENTS



DRAPED STRAND PROFILE



*MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (P.S.I.)	"P" (IN.) IST 1/3 OF GIRDER	"P" (IN.) MID 1/3 OF GIRDER	"P" (IN.) END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1, 6	70'-4½"	0.23	0.43	0.58	0.68	0.71	0.68	0.58	0.43	0.23	8000	8	7	8	0.60							18	6800
1	2-5	70'-4½"	0.23	0.44	0.61	0.71	0.75	0.71	0.61	0.44	0.23	8000	8	7	8	0.60							18	6800
2	1, 6	97'-4½"	0.82	1.56	2.15	2.52	2.65	2.52	2.15	1.56	0.82	8000	8	7	8	0.60	36	6800	31	11.5	14.5	5		
2	2-5	97'-4½"	0.87	1.65	2.26	2.65	2.78	2.65	2.26	1.65	0.87	8000	8	7	8	0.60	36	6800	31	11.5	14.5	5		

GIRDER NOTES

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

PRESTRESSING STRANDS SHALL BE 0.6"Φ - 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, THE FOLLOWING OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT CHIEF, (608) 266-5161.

FORM-OUT CORNER OF TOP FLANGE AT ABUTMENTS TO MEET CLEARANCE REQUIREMENTS. SEE DETAIL THIS SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

36W" PRESTRESSED GIRDER DETAILS-1

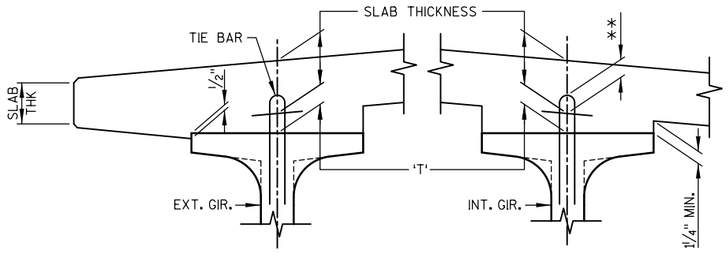
SHEET 15 OF 27

1863

8

8

STATE PROJECT NUMBER
1133-09-71



SLAB HAUNCH DETAIL

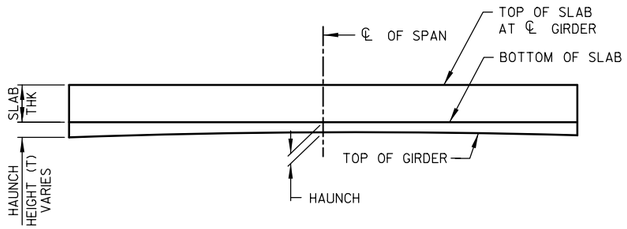
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
\- TOP OF GIRDER ELEVATION
\+ DEAD LOAD DEFLECTION
\- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES".

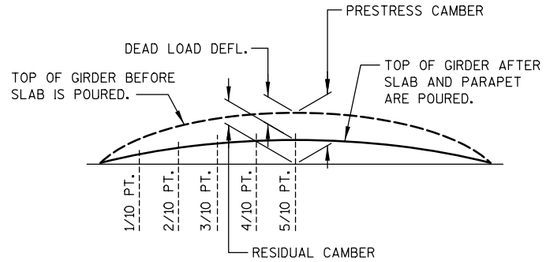


ELEVATION

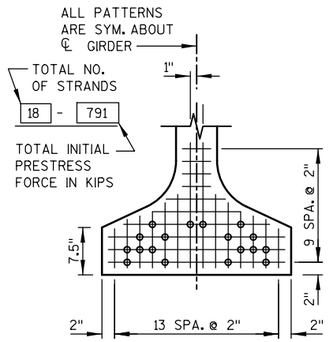
THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.)
1	1.18
2	4.19

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

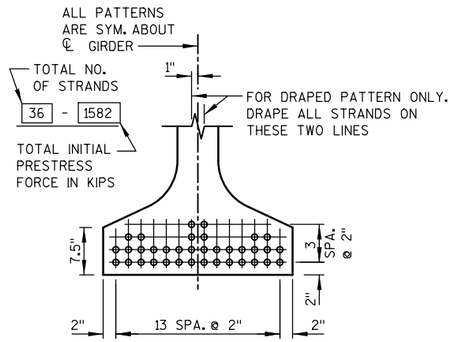


CAMBER AND DEFLECTION DIAGRAM



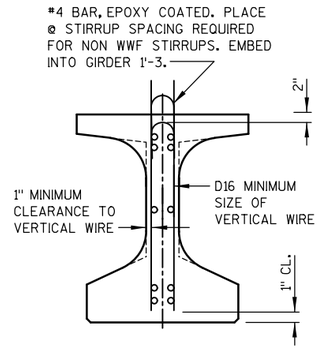
TYP. STRAND PATTERN

(SPAN 1)



TYP. STRAND PATTERN

(SPAN 2)



SECTION THRU GIRDER

SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

36W" PRESTRESSED GIRDER DETAILS-2

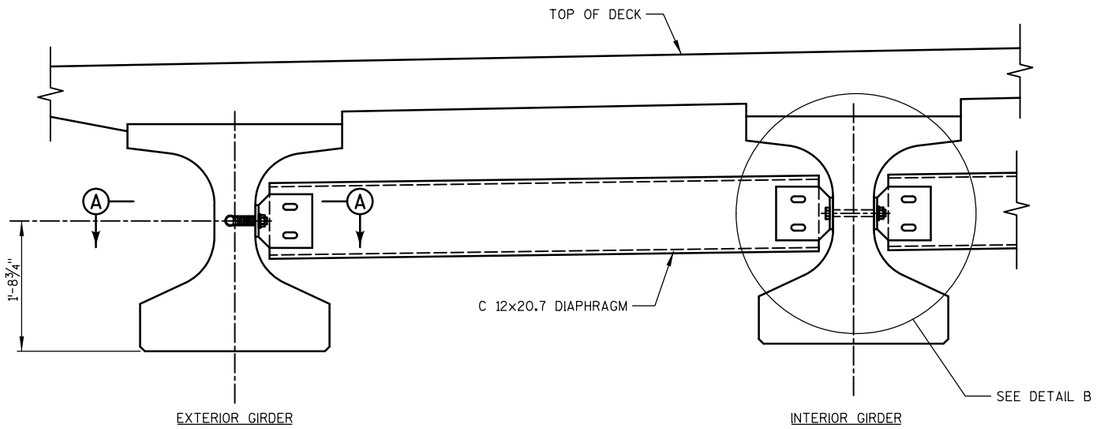
SHEET 16 OF 27
1864

8

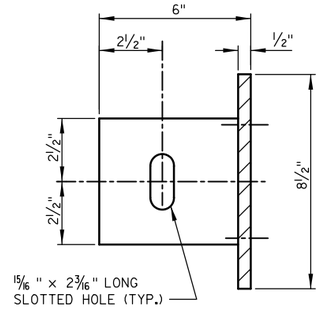
8

STATE PROJECT NUMBER

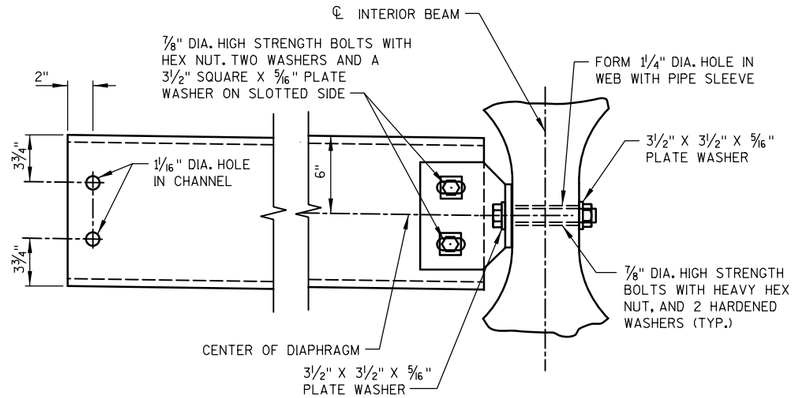
1133-09-71



PART TRANSVERSE SECTION AT DIAPHRAGM



BEAM FACE



(FOR STAGGERED DIAPHRAGMS)

DETAIL B

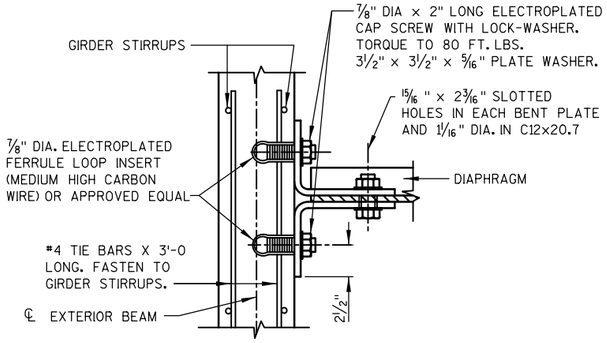
NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-05-622", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT. ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

SEE THIS SHEET FOR DIAPHRAGM LAYOUT.

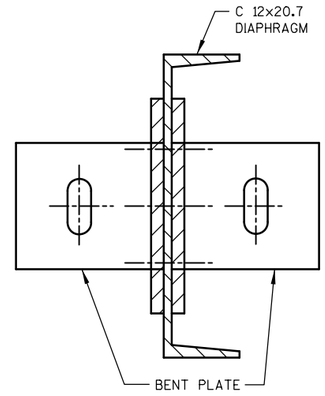


SECTION A-A

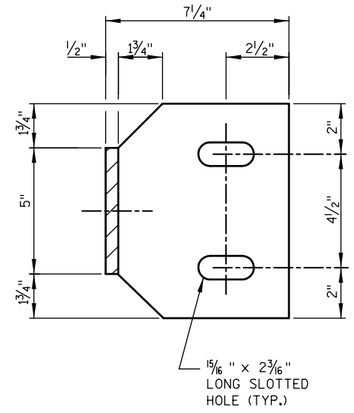
(FOR EXTERIOR ATTACHMENT)

LEGEND

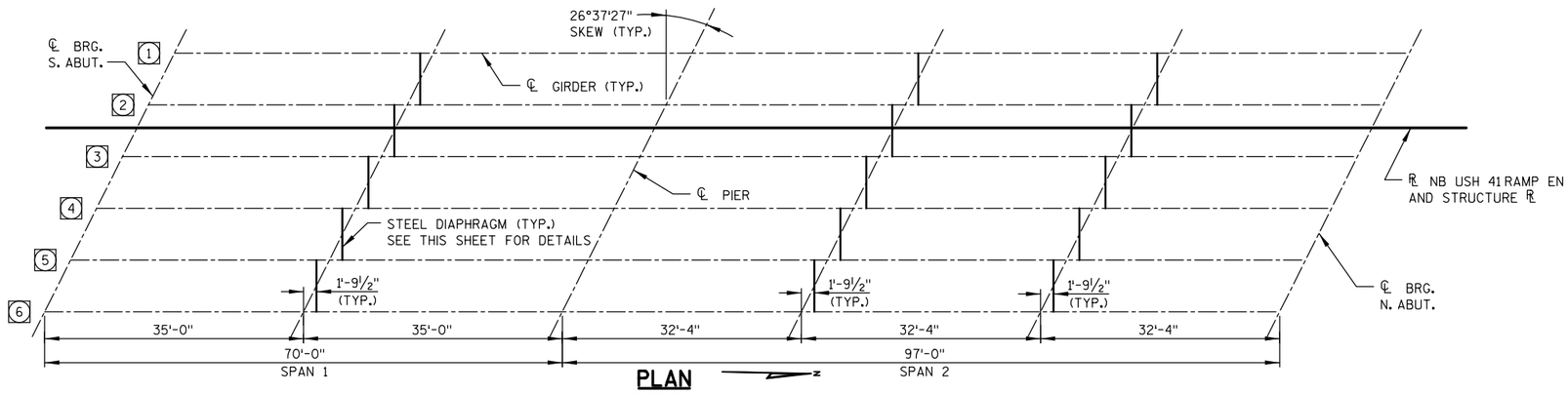
(#) INDICATES GIRDER NUMBER.



ATTACHMENT TO CHANNEL



DIAPHRAGM FACE



PLAN

(SHOWING DIAPHRAGM LAYOUT)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

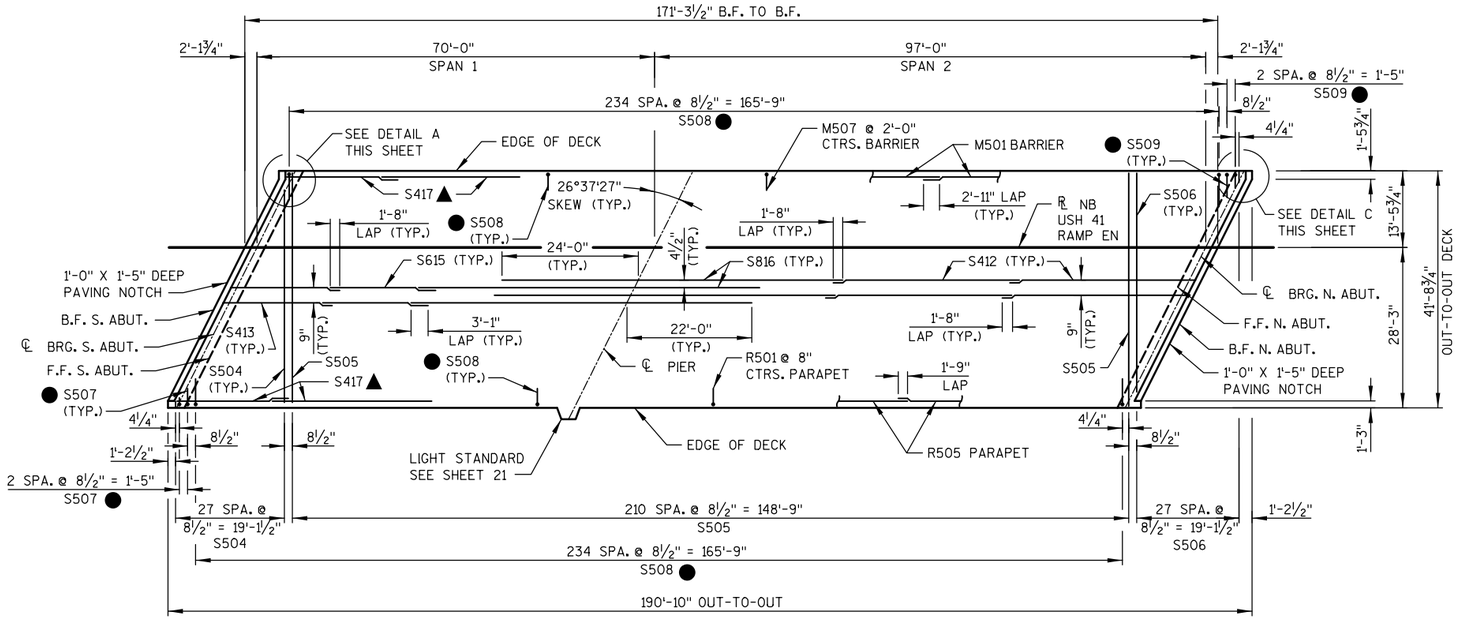
STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

STEEL DIAPHRAGM

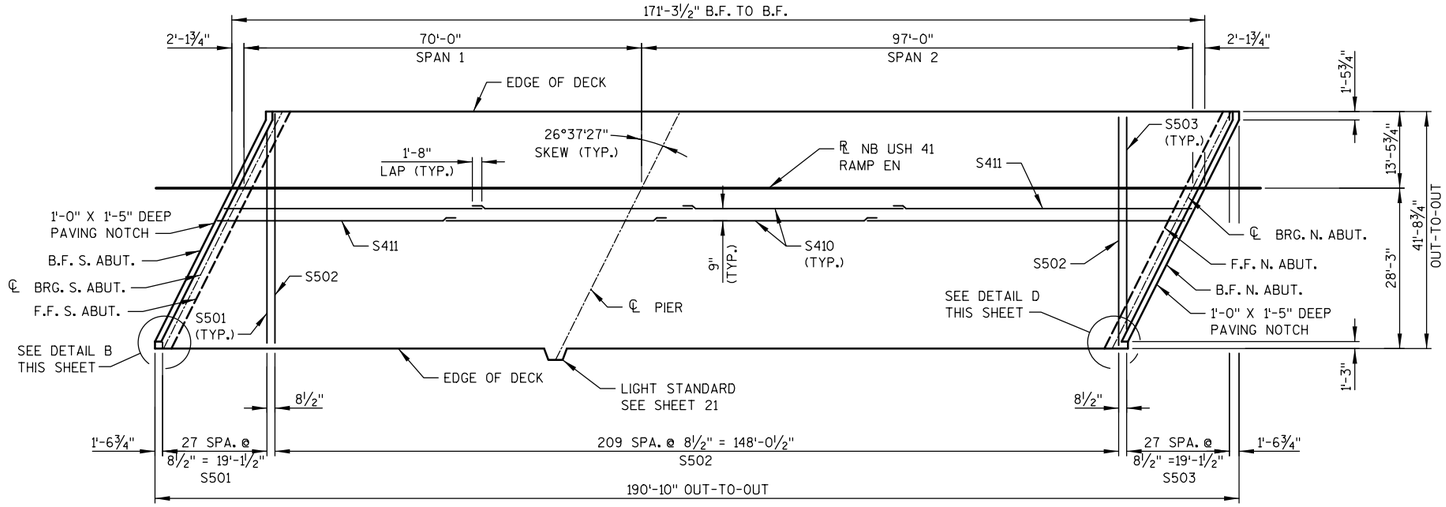
SHEET 17 OF 27
1865

STATE PROJECT NUMBER
1133-09-71



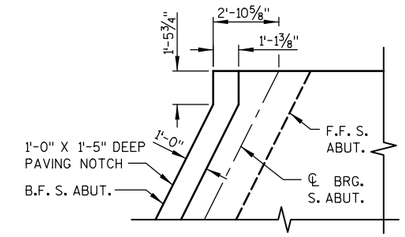
PLAN

(SHOWING TOP MAT SLAB REINFORCING)

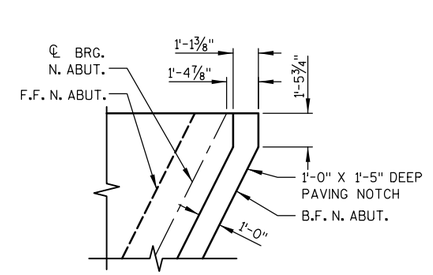


PLAN

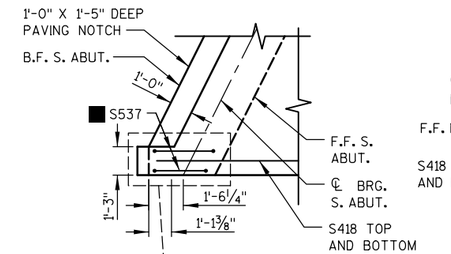
(SHOWING BOTTOM MAT SLAB REINFORCING)



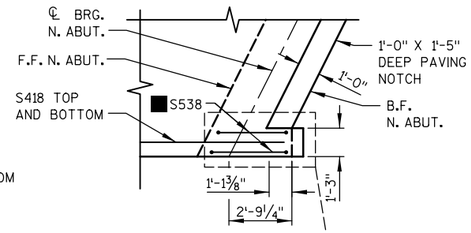
DETAIL A



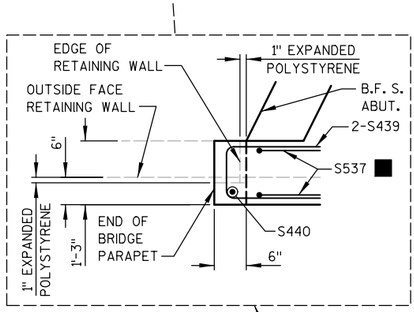
DETAIL C

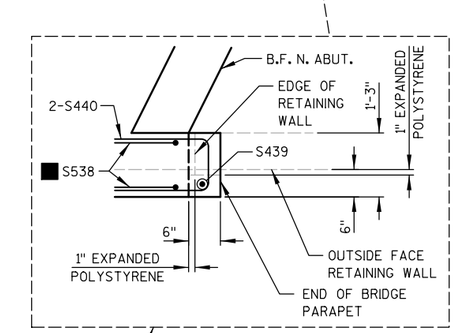


DETAIL B



DETAIL D





SEE ABUTMENT DIAPHRAGM END VIEW ON SUPERSTRUCTURE DETAILS - 1 SHEET FOR ADDITIONAL DETAILS

LEGEND

- ● LOCATE BARS BETWEEN TOP MAT TRANSVERSE REINFORCEMENT.
- ■ PROVIDE THESE BARS IN ADDITION TO S527 BARS ADJACENT TO PAVING NOTCH AT EAST EDGE OF DECK.
- ▲ LAP THESE BARS ONTO S816 BARS AT EDGES OF DECK. PROVIDE MIN. 1'-8" LAPS.

NOTES

SEE SHEET 22 FOR BAR DETAILS AND TOP OF DECK ELEVATIONS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE PLAN

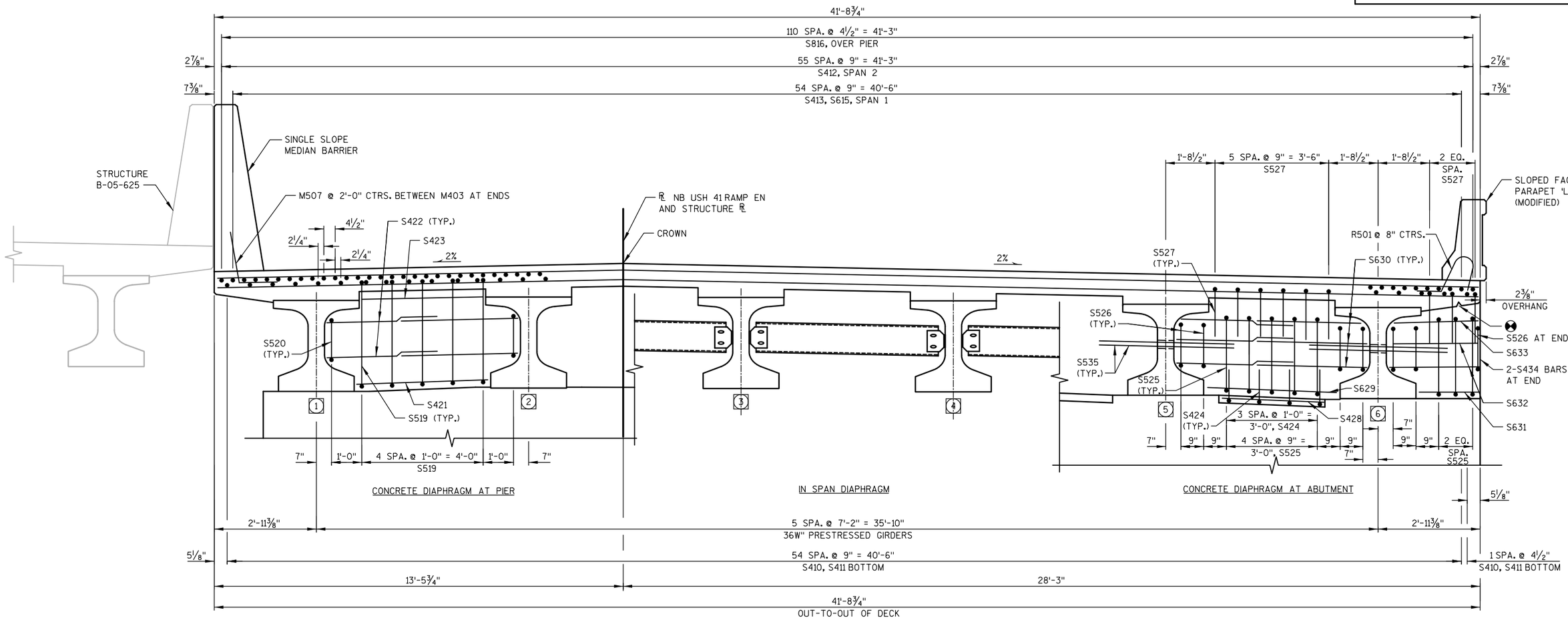
SHEET 18 OF 27
1866

8

8

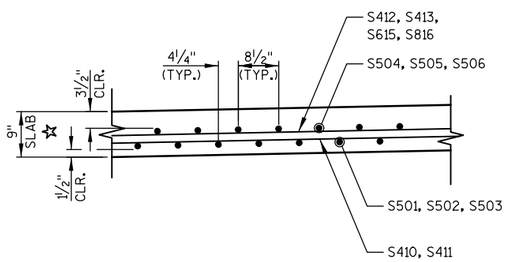
STATE PROJECT NUMBER

1133-09-71



CROSS SECTION THRU DECK

(LOOKING NORTH)



SECTION S-S

LEGEND

- ◓ ¾" V-GROOVE. EXTEND V-GROOVE TO THE FILLET ADJACENT TO THE ABUTMENTS. LOCATE 5" FROM EDGE OF DECK.
- ☆ STRUCTURE IS DESIGNED FOR A 1½" WEARING SURFACE PLACED AT INITIAL CONSTRUCTION, INTEGRAL WITH THE DECK. THE DESIGN DOES NOT PROVIDE FOR ADDITIONAL LOADS DUE TO A FUTURE WEARING SURFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE SECTION

SHEET 19 OF 27

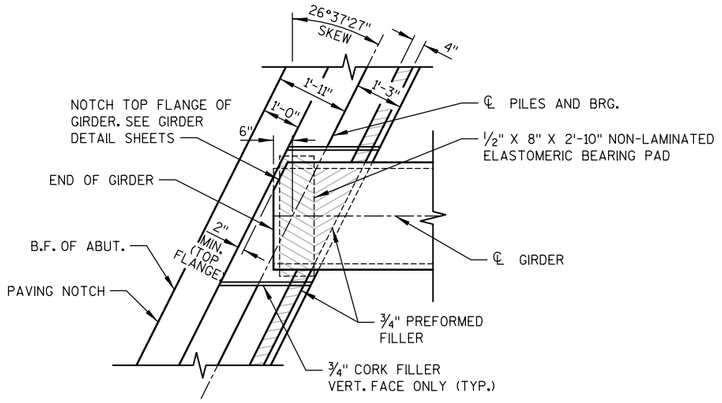
1867

8

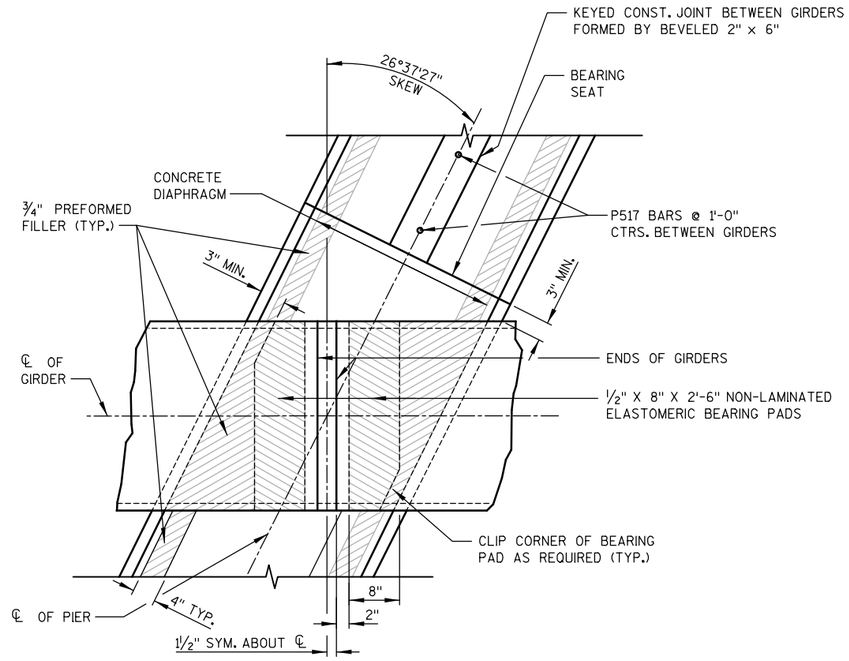
8

STATE PROJECT NUMBER

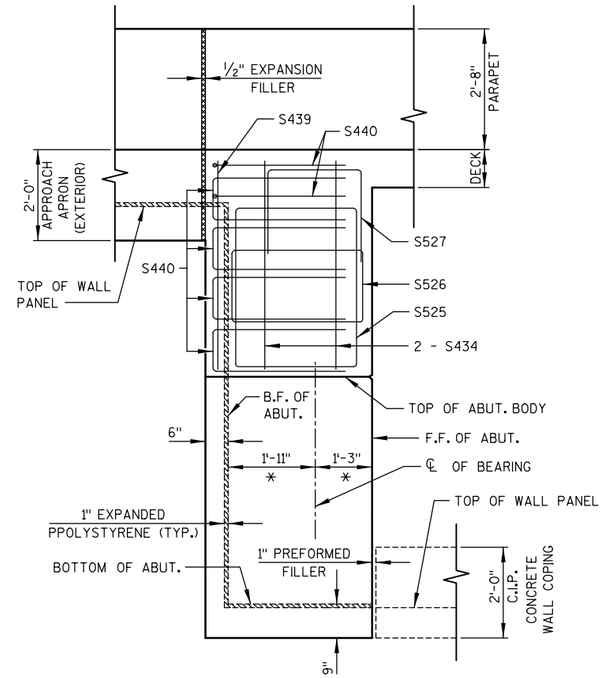
1133-09-71



BEARING PAD AT ABUTMENT

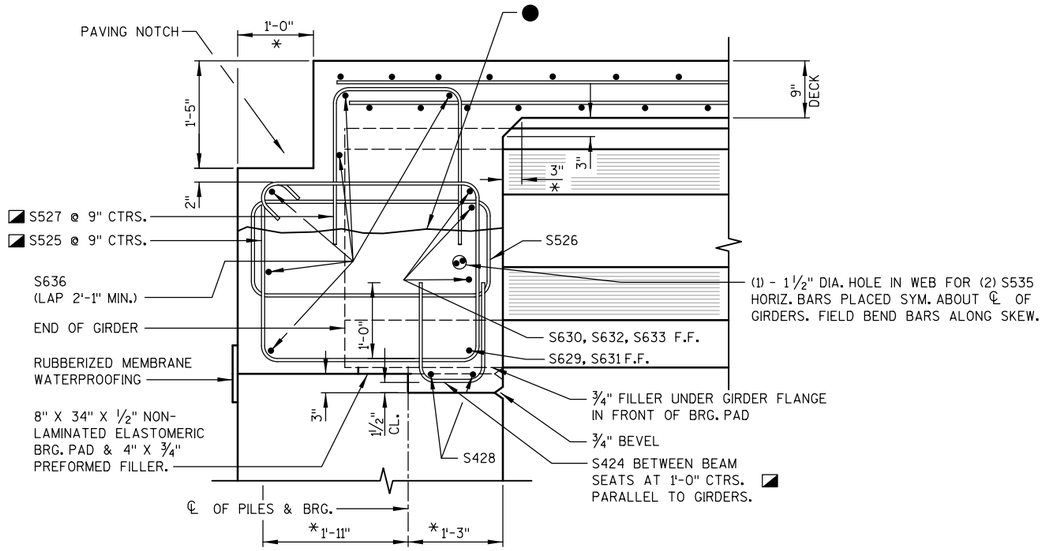


BEARING PAD AT PIER

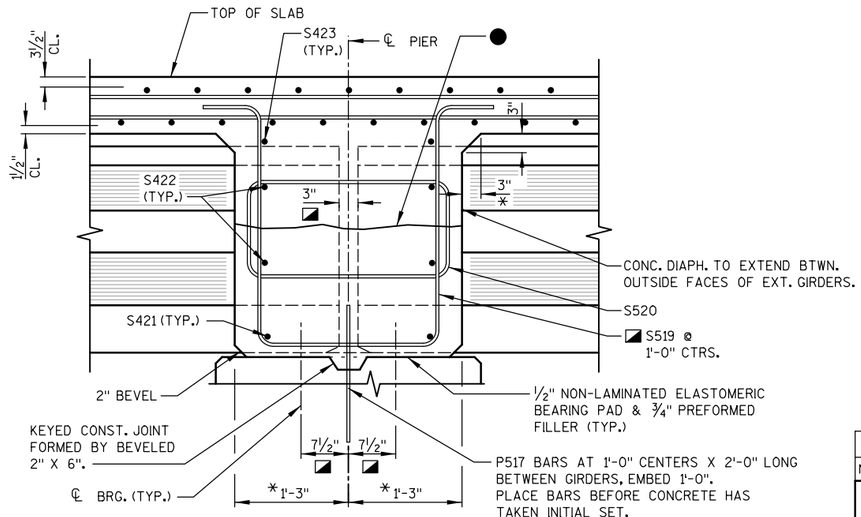


END VIEW AT ABUTMENT DIAPHRAGM

(TYPICAL AT EAST EDGE OF BRIDGE, 2 LOCATIONS)



PRESTRESSED GIRDER WITH SEMI-EXPANSION SEAT AT ABUTMENT



DIAPHRAGM AT PIER

NOTES

SEE SHEET 22 FOR REINFORCING DETAILS.

SPACE S421, S422 AND S423 MAX. 1'-6" O.C. VERTICALLY.

LEGEND

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

◪ DIMENSION IS TAKEN PARALLEL TO GIRDER.

● OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

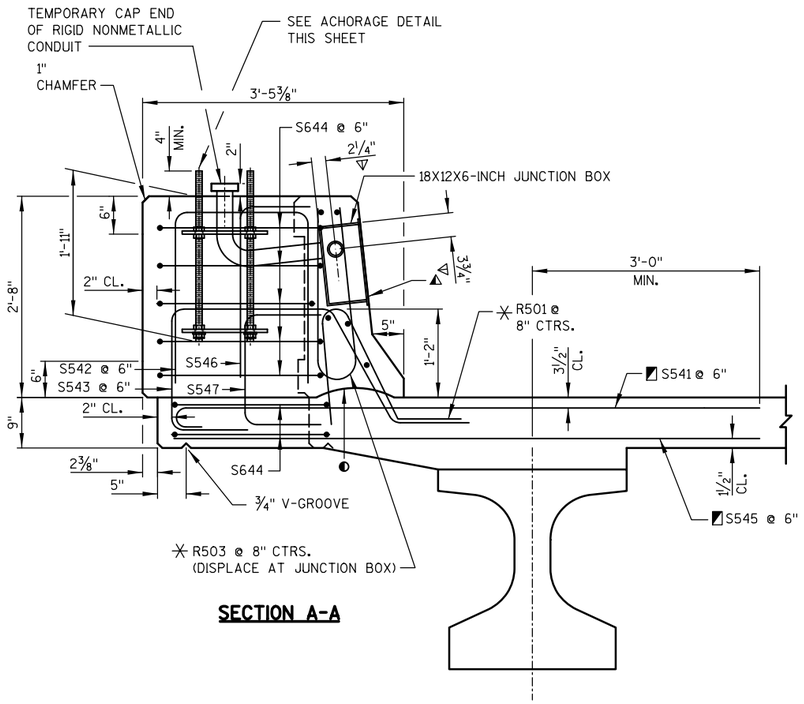
SUPERSTRUCTURE DETAILS-1

SHEET 20 OF 27
1868

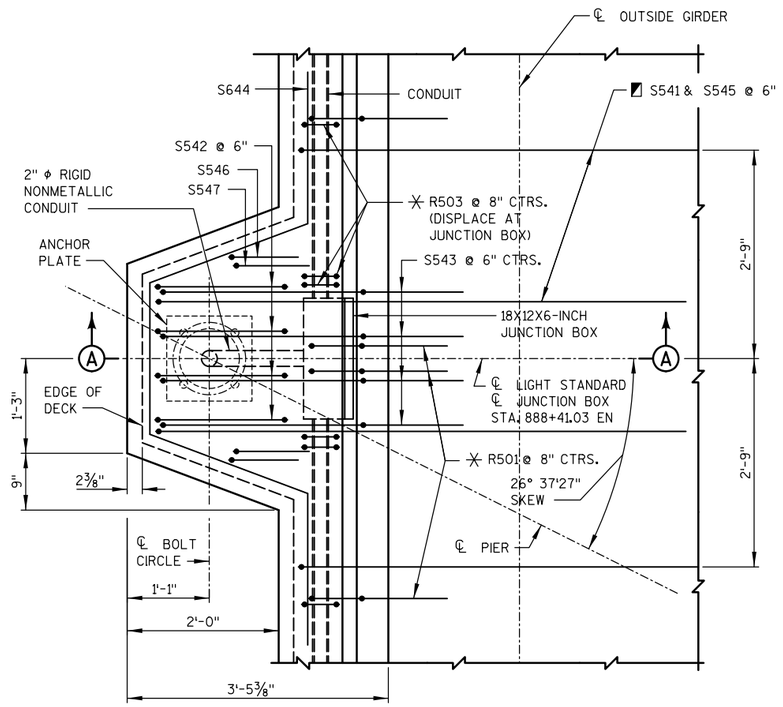
8

8

STATE PROJECT NUMBER
1133-09-71



SECTION A-A



PLAN AT LIGHT STANDARD

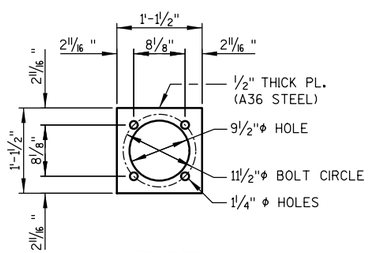
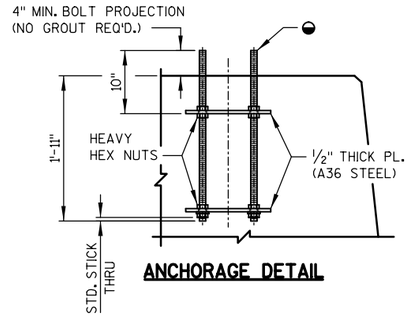


PLATE DETAIL



ANCHORAGE DETAIL

LEGEND

- ◐ CONSTR. JT. STRIKE AS SHOWN
- ◭ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- ▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.
- ◩ THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN DECK.
- ◒ 1"ϕ THREADED ANCHOR BOLTS ASTM A449 OR AASHTO M 314-90 GR 55. HOT DIP ASTM A153, CLASS C, UPPER 12" OF BOLT INCLUDING NUTS & WASHERS. PROVIDE ENLARGED THREAD ON NUTS FOR PROPER FIT AFTER GALVANIZING. PROVIDE DOUBLE FLAT WASHERS & NUTS.
- ✳ SEE SHEET 25 FOR ADDITIONAL BAR STEEL DETAILS.

NOTES

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
O-Z/GEDNEY TYPE AX-200 AND BONDING JUMPER (4" TOTAL CONDUIT MOVEMENT).

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS U.L. LISTED FOR ELECTRICAL USE SHALL BE USED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE DETAILS-2

SHEET 21 OF 27
1869

8

8

STATE PROJECT NUMBER
1133-09-71

SUPERSTRUCTURE
BILL OF BARS

COATED: 56,570 LBS.

	MARK	NO.	LENGTH	BENT	COAT	LOCATION
▲	S501	28	20'-8"		X	SLAB - TRANSVERSE - BOTTOM
	S502	210	41'-4"		X	SLAB - TRANSVERSE - BOTTOM
▲	S503	28	20'-11"		X	SLAB - TRANSVERSE - BOTTOM
▲	S504	28	19'-11"		X	SLAB - TRANSVERSE - TOP
	S505	211	41'-4"		X	SLAB - TRANSVERSE - TOP
▲	S506	28	20'-2"		X	SLAB - TRANSVERSE - TOP
▲	S507	3	3'-7"	X	X	SLAB - TRANSVERSE - TOP - EDGE OF DECK
	S508	470	5'-4"	X	X	SLAB - TRANSVERSE - TOP - EDGE OF DECK
▲	S509	3	3'-10"	X	X	SLAB - TRANSVERSE - TOP - EDGE OF DECK
	S410	168	45'-0"		X	SLAB - LONGITUDINAL - BOTTOM
	S411	56	38'-8"		X	SLAB - LONGITUDINAL - BOTTOM
	S412	112	32'-7"		X	SLAB - LONGITUDINAL - TOP - SPAN 2
	S413	55	19'-6"		X	SLAB - LONGITUDINAL - TOP - SPAN 1
						NOT USED
	S615	55	18'-1"		X	SLAB - LONGITUDINAL - TOP - SPAN 1
	S816	111	60'-0"		X	SLAB - LONGITUDINAL - TOP - OVER PIER
	S417	4	25'-2"		X	SLAB - LONGITUDINAL - TOP - EDGES OF DECK - SPAN 1
	S418	4	4'-0"		X	SLAB - LONGITUDINAL - TOP & BOTTOM - EAST EDGE OF DECK - ADJACENT TO PAVING NOTCH
	S519	25	10'-3"	X	X	PIER DIAPHRAGM - VERT.
	S520	10	7'-3"	X	X	PIER DIAPHRAGM - VERT. - ADJACENT TO GIRDERS
	S421	10	4'-10"		X	PIER DIAPHRAGM - HORIZ.
	S422	40	4'-3"		X	PIER DIAPHRAGM - HORIZ.
	S423	10	4'-5"		X	PIER DIAPHRAGM - HORIZ.
	S424	40	3'-4"	X	X	ABUT. DIAPHRAGM - VERT. - ABUT. BODY NOTCH
	S525	62	11'-5"	X	X	ABUT. DIAPHRAGM - VERT.
	S526	52	8'-9"	X	X	ABUT. DIAPHRAGM - VERT. - ADJACENT TO GIRDERS & AT ENDS
	S527	72	6'-10"	X	X	ABUT. DIAPHRAGM - VERT. - PAVING NOTCH
	S428	20	3'-8"		X	ABUT. DIAPHRAGM - HORIZ. - ABUT. BODY NOTCH
	S629	10	4'-10"		X	ABUT. DIAPHRAGM - HORIZ. - F.F.
	S630	60	4'-7"		X	ABUT. DIAPHRAGM - HORIZ. - F.F.
	S631	4	1'-6"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - ENDS
	S632	8	2'-7"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - ENDS
	S633	4	2'-3"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - ENDS
	S434	8	3'-6"		X	ABUT. DIAPHRAGM - VERT. - ENDS
	S535	24	6'-0"		X	ABUT. DIAPHRAGM - HORIZ. - THRU GIRDERS
	S636	24	24'-3"		X	ABUT. DIAPHRAGM - HORIZ. - B.F., SLAB
	S537	2	9'-4"	X	X	ABUT. DIAPHRAGM - VERT. - SOUTHEAST CORNER
	S538	2	9'-11"	X	X	ABUT. DIAPHRAGM - VERT. - NORTHEAST CORNER
	S439	2	3'-6"		X	ABUT. DIAPHRAGM - VERT. - RETAINING WALL EARS - EAST EDGE
	S440	12	4'-2"	X	X	ABUT. DIAPHRAGM - VERT./HORIZ. - RETAINING WALL EARS - EAST EDGE
	S541	12	8'-7"	X	X	DECK TRANSV. @ LIGHT STD.
	S542	4	6'-0"	X	X	PARAPET VERT. @ LIGHT STD.
	S543	4	7'-0"	X	X	PARAPET VERT. @ LIGHT STD.
	S644	5	10'-0"	X	X	PARAPET HORIZ. @ LIGHT STD.
	S545	12	8'-0"		X	DECK TRANSV. @ LIGHT STD.
	S546	2	3'-2"	X	X	PARAPET VERT. @ LIGHT STD.
	S547	2	3'-5"	X	X	PARAPET VERT. @ LIGHT STD.

NOTE: THE FIRST ONE OR TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. DIMENSIONS FOR BENDING ARE OUT TO OUT OF BAR.

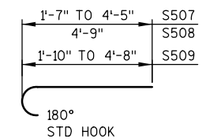
▲ BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S501	1 SERIES OF 28	1'-7" TO 39'-9"
S503	1 SERIES OF 28	1'-10" TO 39'-11"
S504	1 SERIES OF 28	10" TO 39'-0"
S506	1 SERIES OF 28	1'-1" TO 39'-3"
S507	1 SERIES OF 3	2'-2" TO 5'-0"
S509	1 SERIES OF 3	2'-5" TO 5'-3"

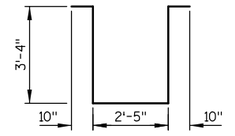
TOP OF DECK ELEVATIONS AT ℄ GIRDERS

LOCATION	WEST EDGE OF DECK		GIRDER NUMBER 1		2		REFERENCE LINE		3	
	13'-5 3/4" LT		10'-6 3/8" LT		3'-4 3/8" LT		0		3'-9 5/8" RT	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
C/L BRG S ABUT	887+92.51	626.80	887+91.03	626.84	887+87.44	626.95	887+85.75	627.00	887+83.84	626.90
0.1 L POINT	887+99.51	626.87	887+98.03	626.92	887+94.44	627.02	887+92.75	627.07	887+90.84	626.98
0.2 L POINT	888+06.51	626.95	888+05.03	626.99	888+01.44	627.10	887+99.75	627.15	887+97.84	627.05
0.3 L POINT	888+13.51	627.02	888+12.03	627.06	888+08.44	627.17	888+06.75	627.22	888+04.84	627.12
0.4 L POINT	888+20.51	627.09	888+19.03	627.13	888+15.44	627.24	888+13.75	627.29	888+11.84	627.19
0.5 L POINT	888+27.51	627.16	888+26.03	627.20	888+22.44	627.31	888+20.75	627.36	888+18.84	627.26
0.6 L POINT	888+34.51	627.22	888+33.03	627.27	888+29.44	627.38	888+27.75	627.43	888+25.84	627.33
0.7 L POINT	888+41.51	627.29	888+40.03	627.34	888+36.44	627.44	888+34.75	627.50	888+32.84	627.40
0.8 L POINT	888+48.51	627.36	888+47.03	627.40	888+43.44	627.51	888+41.75	627.56	888+39.84	627.47
0.9 L POINT	888+55.51	627.42	888+54.03	627.47	888+50.44	627.58	888+48.75	627.63	888+46.84	627.53
C/L PIER 1	888+62.51	627.48	888+61.03	627.53	888+57.44	627.64	888+55.75	627.69	888+53.84	627.60
0.1 L POINT	888+72.21	627.57	888+70.73	627.62	888+67.14	627.73	888+65.45	627.78	888+63.54	627.69
0.2 L POINT	888+81.91	627.65	888+80.43	627.70	888+76.84	627.81	888+75.15	627.87	888+73.24	627.77
0.3 L POINT	888+91.61	627.74	888+90.13	627.78	888+86.54	627.90	888+84.85	627.95	888+82.94	627.86
0.4 L POINT	889+01.31	627.82	888+99.83	627.86	888+96.24	627.98	888+94.55	628.03	888+92.64	627.94
0.5 L POINT	889+11.01	627.89	889+09.53	627.94	889+05.94	628.06	889+04.25	628.11	889+02.34	628.02
0.6 L POINT	889+20.71	627.97	889+19.23	628.02	889+15.64	628.13	889+13.95	628.19	889+12.04	628.10
0.7 L POINT	889+30.41	628.04	889+28.93	628.09	889+25.34	628.21	889+23.65	628.26	889+21.74	628.17
0.8 L POINT	889+40.11	628.12	889+38.63	628.16	889+35.04	628.28	889+33.35	628.34	889+31.44	628.24
0.9 L POINT	889+49.81	628.18	889+48.33	628.23	889+44.74	628.35	889+43.05	628.41	889+41.14	628.32
C/L BRG N ABUT	889+59.51	628.25	889+58.03	628.30	889+54.44	628.42	889+52.75	628.48	889+50.84	628.39

LOCATION	GIRDER NUMBER 4		5		6		EAST EDGE OF DECK	
	10'-11 5/8" RT		18'-1 5/8" RT		25'-3 5/8" RT		28'-3" RT	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
C/L BRG S ABUT	887+80.25	626.72	887+76.66	626.54	887+73.07	626.36	887+71.59	626.28
0.1 L POINT	887+87.25	626.80	887+83.66	626.61	887+80.07	626.43	887+78.59	626.36
0.2 L POINT	887+94.25	626.87	887+90.66	626.69	887+87.07	626.51	887+85.59	626.43
0.3 L POINT	888+01.25	626.94	887+97.66	626.76	887+94.07	626.58	887+92.59	626.51
0.4 L POINT	888+08.25	627.01	888+04.66	626.83	888+01.07	626.65	887+99.59	626.58
0.5 L POINT	888+15.25	627.08	888+11.66	626.91	888+08.07	626.73	888+06.59	626.65
0.6 L POINT	888+22.25	627.15	888+18.66	626.98	888+15.07	626.80	888+13.59	626.72
0.7 L POINT	888+29.25	627.22	888+25.66	627.04	888+22.07	626.87	888+20.59	626.79
0.8 L POINT	888+36.25	627.29	888+32.66	627.11	888+29.07	626.93	888+27.59	626.86
0.9 L POINT	888+43.25	627.36	888+39.66	627.18	888+36.07	627.00	888+34.59	626.93
C/L PIER 1	888+50.25	627.42	888+46.66	627.25	888+43.07	627.07	888+41.59	627.00
0.1 L POINT	888+59.95	627.51	888+56.36	627.34	888+52.77	627.16	888+51.29	627.09
0.2 L POINT	888+69.65	627.60	888+66.06	627.42	888+62.47	627.25	888+60.99	627.17
0.3 L POINT	888+79.35	627.68	888+75.76	627.51	888+72.17	627.33	888+70.69	627.26
0.4 L POINT	888+89.05	627.76	888+85.46	627.59	888+81.87	627.42	888+80.39	627.35
0.5 L POINT	888+98.75	627.85	888+95.16	627.67	888+91.57	627.50	888+90.09	627.43
0.6 L POINT	889+08.45	627.92	889+04.86	627.75	889+01.27	627.58	888+99.79	627.51
0.7 L POINT	889+18.15	628.00	889+14.56	627.83	889+10.97	627.66	889+09.49	627.59
0.8 L POINT	889+27.85	628.07	889+24.26	627.90	889+20.67	627.73	889+19.19	627.66
0.9 L POINT	889+37.55	628.15	889+33.96	627.98	889+30.37	627.81	889+28.89	627.74
C/L BRG N ABUT	889+47.25	628.22	889+43.66	628.05	889+40.07	627.88	889+38.59	627.81



S507, S508, S509



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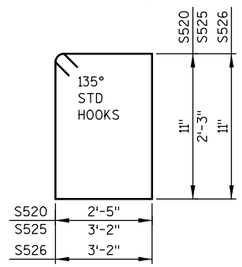
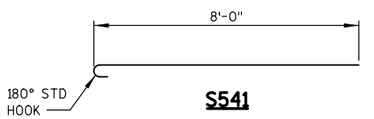


S520, S525, S526



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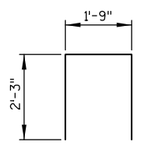

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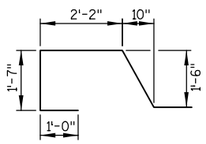

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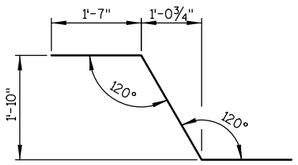

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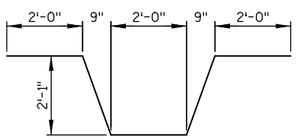

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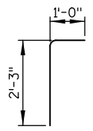

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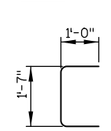

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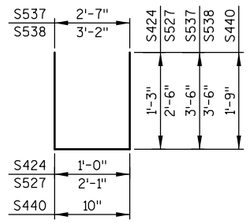


S424, S527, S537, S538, S440

STAINLESS STEEL BILL OF BARS

1,460 LBS.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
SS901		86	5'-0"	X		CONC. DIAPH. @ ABUTS. TO APPROACH APRON

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

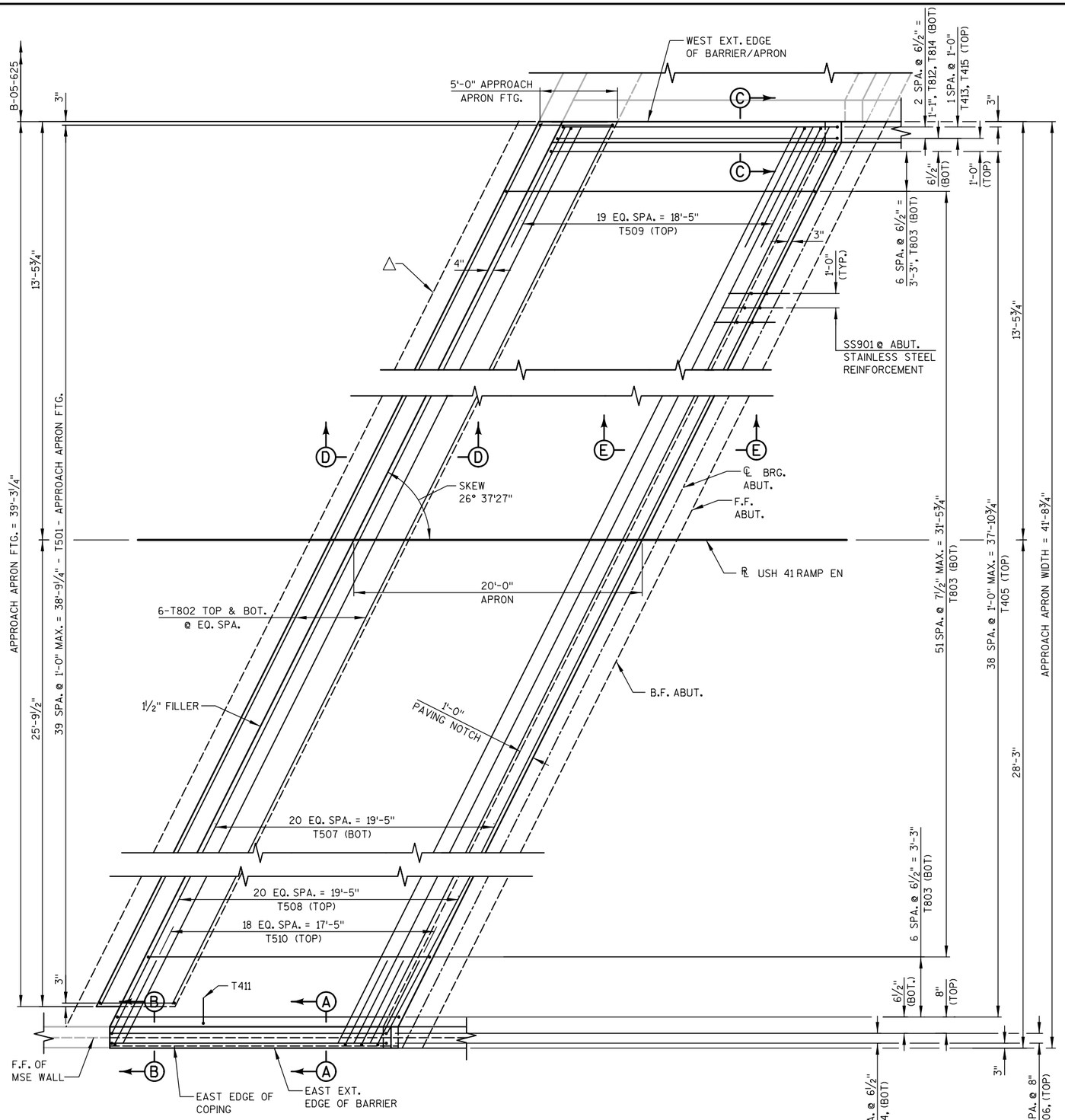
SUPERSTRUCTURE DETAILS-3

SHEET 22 OF 27
1870

8

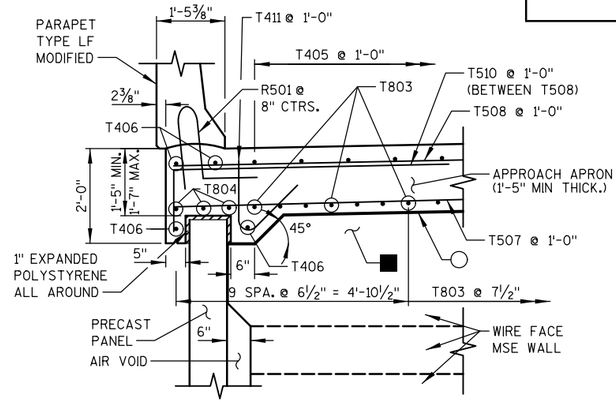
8

STATE PROJECT NUMBER
1133-09-71



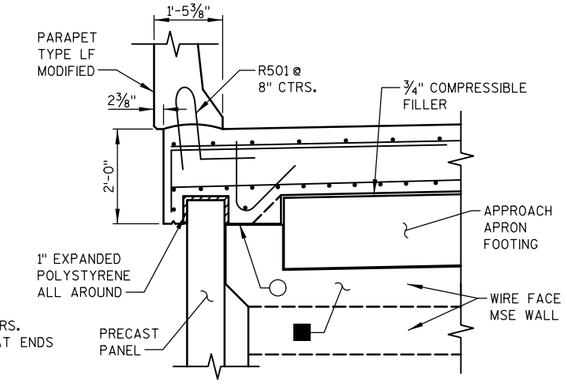
APPROACH APRON PLAN

(SOUTH APRON SHOWN, NORTH APRON SIMILAR)



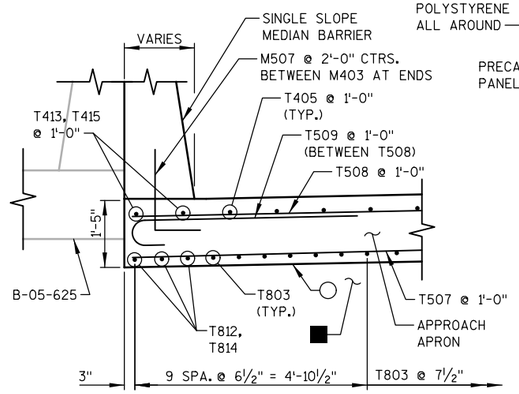
SECTION A-A

(AT MSE WINGWALLS)



SECTION B-B

(AT MSE WINGWALLS)



SECTION C-C

LEGEND

△ PIPE UNDERDRAIN WRAPPED 6-INCH AT APPROACH APRON. LOCATED ONLY ON UPHILL SIDE OF APRON FOOTING. SLOPE 0.5% MIN. TO USH 41 CLOSED MEDIAN DRAINAGE SYSTEM.

○ PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.

■ 1¼" COURSE AGGREGATE BASE COURSE. SEE ROADWAY PLANS.

NOTES

SEE SHEET 24 FOR DETAILS.

DESIGN DATA:

ALLOWABLE SOIL BEARING PRESSURE:	2,000 P.S.F.
CONCRETE STRENGTH f'c:	4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60, fy:	60,000 P.S.I.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

SHEET 23 OF 27

APPROACH APRON 1871

8

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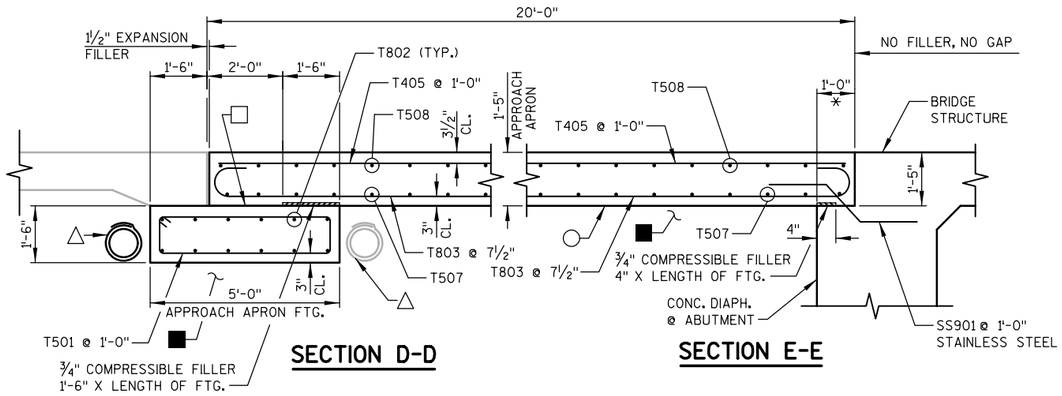
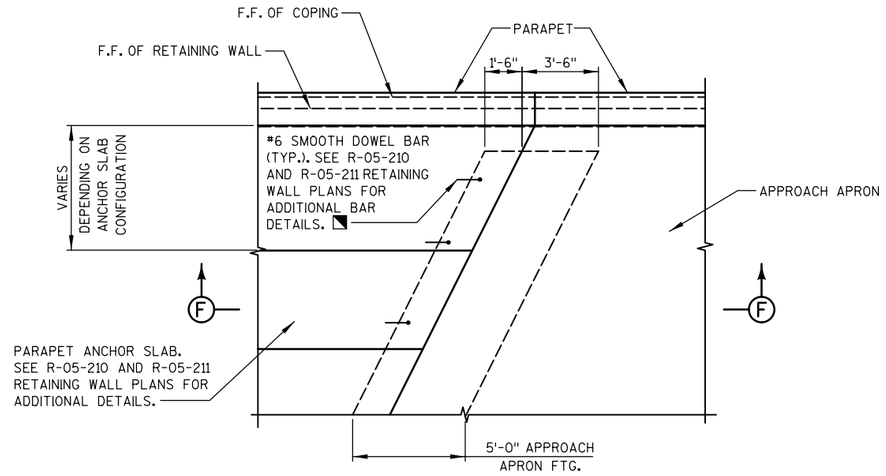
STATE PROJECT NUMBER
1133-09-71



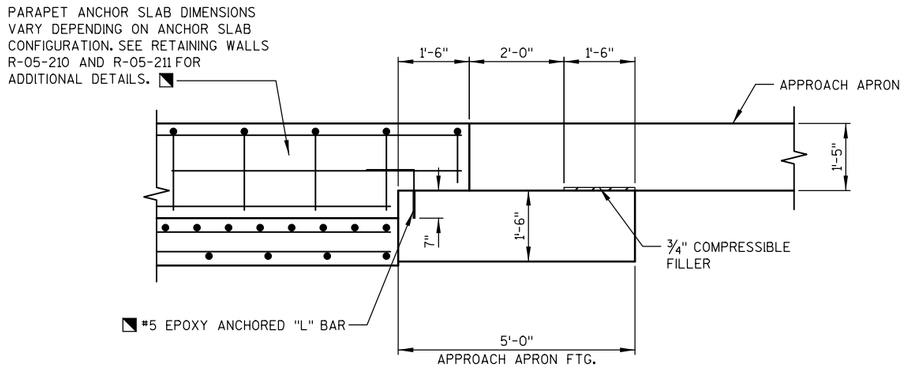
SECTION D-D

SECTION E-E

SECTION THRU APPROACH APRON



PLAN AT APPROACH APRON INTERFACE WITH RETAINING WALL ANCHOR SLAB



SECTION F-F

COATED:
SOUTH APPROACH APRON = 8,740 LBS.
NORTH APPROACH APRON = 8,750 LBS.

BILL OF BARS

BAR MARK	COAT	NO. REQ'D. S. APRON	NO. REQ'D. N. APRON	LENGTH	BENT	BAR SERIES	LOCATION
T501	X	40	40	12'-1"	X		FOOTING - STIRRUPS
T802	X	12	12	43'-5"			FOOTING - HORIZONTAL
T803	X	64	64	21'-4"	X		APPROACH APRON - LONGIT. - BOT.
T804	X	3	3	19'-8"	X		APPROACH APRON - LONGIT. - BOT.
T405	X	39	39	19'-6"			APPROACH APRON - LONGIT. - TOP
T406	X	4	4	17'-10"			APPROACH APRON - LONGIT. AT MSE WALL PANEL
T507	X	21	21	46'-2"			APPROACH APRON - TRANS. - BOT.
T508	X	21	21	46'-2"			APPROACH APRON - TRANS. - TOP
T509	X	20	20	5'-4"	X		APPROACH APRON - TRANS. - TOP
T510	X	19	19	6'-2"	X		APPROACH APRON - TRANS. - TOP
T411	X	21	21	3'-0"	X		APPROACH APRON - TIE
▲ T812	X	3	0	20'-11"	X	X	SOUTH APPROACH APRON - LONGIT. - BOT.
▲ T413	X	2	0	19'-1"		X	SOUTH APPROACH APRON - LONGIT. - TOP
▲ T814	X	0	3	21'-8"	X	X	NORTH APPROACH APRON - LONGIT. - BOT.
▲ T415	X	0	2	19'-10"		X	NORTH APPROACH APRON - LONGIT. - TOP

NOTE: ALL DIMENSIONS IN THE BAR BENDS ARE OUT TO OUT.

▲ BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
T812	1 SERIES OF 3	20'-8" TO 21'-2"
T413	1 SERIES OF 2	18'-10" TO 19'-4"
T814	1 SERIES OF 3	21'-5" TO 21'-11"
T415	1 SERIES OF 2	19'-7" TO 20'-1"

LEGEND

△ PIPE UNDERDRAIN WRAPPED 6-INCH AT APPROACH APRON. LOCATED ONLY ON UPHILL SIDE OF APRON FOOTING. SLOPE 0.5% MIN. TO USH 41 CLOSED MEDIAN DRAINAGE SYSTEM.

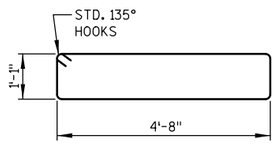
□ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.

○ PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.

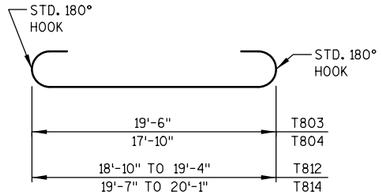
* PAVING NOTCH MEASURED NORMAL TO ABUTMENTS.

◥ SEE R-05-210 AND R-05-211 RETAINING WALL PLANS FOR ADDITIONAL DETAILS PAID FOR UNDER RETAINING WALLS R-05-210 AND R-05-211.

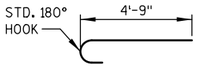
■ 1¼" COURSE AGGREGATE BASE COURSE. SEE ROADWAY PLANS.



T501



T803, T804, T812, T814



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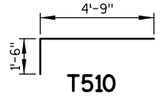

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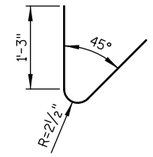


T411

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

APPROACH APRON DETAILS

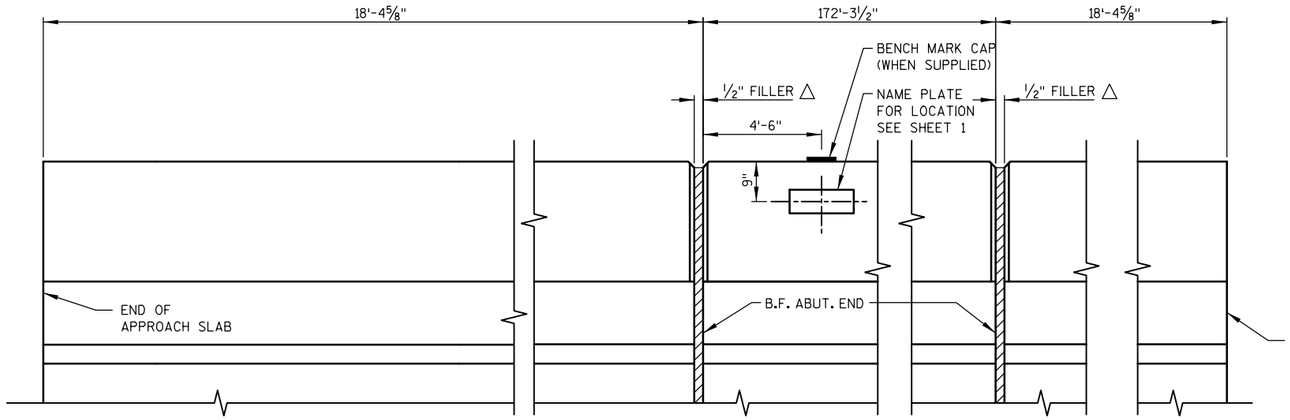
SHEET 24 OF 27
1872

8

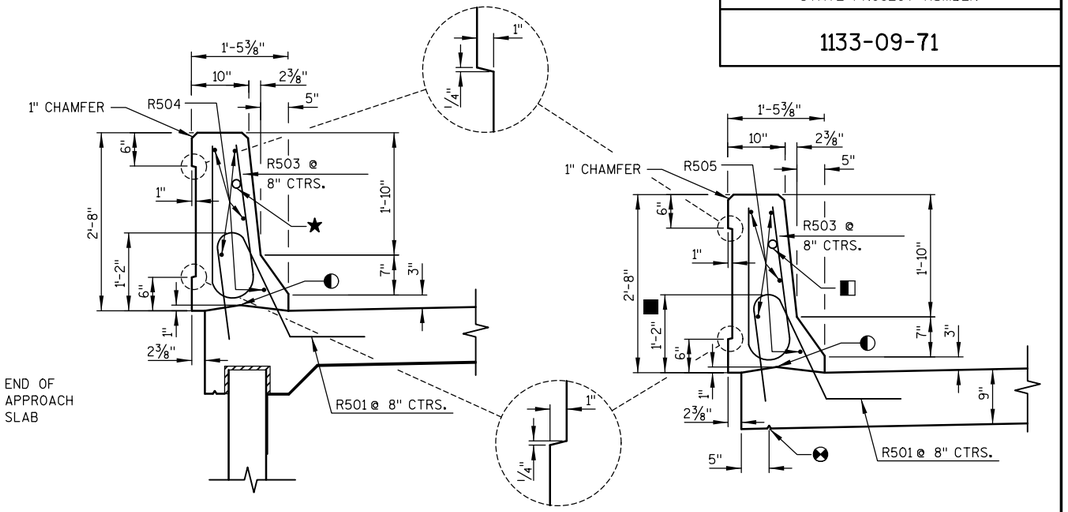
8

STATE PROJECT NUMBER

1133-09-71

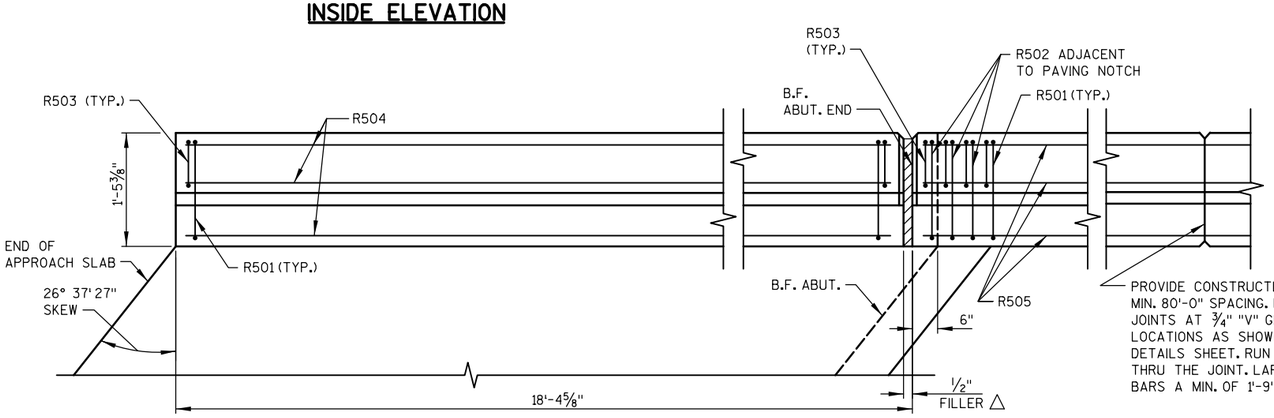


INSIDE ELEVATION

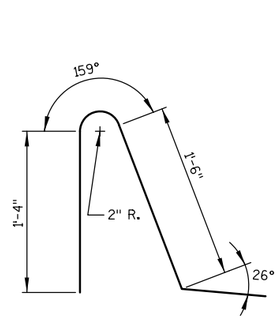


SECTION THRU PARAPET ON APRON

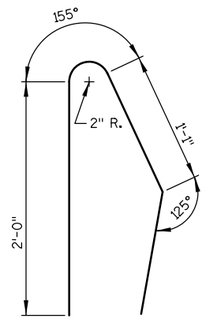
SECTION THRU PARAPET ON BRIDGE



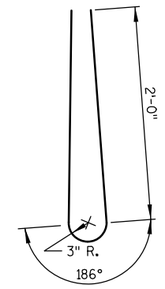
PLAN



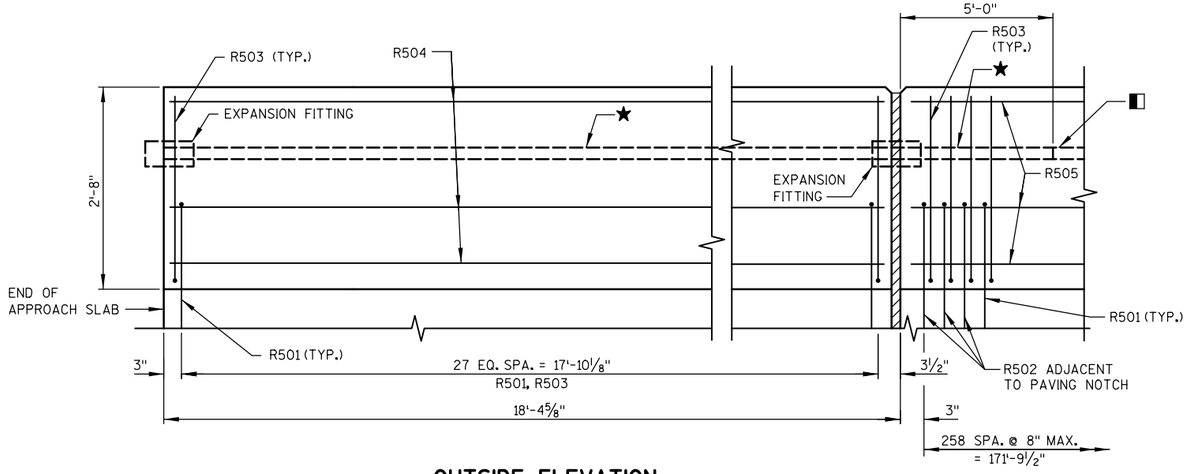
R501



R502



R503



OUTSIDE ELEVATION

LEGEND

- ◐ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.
- ⊖ ¾" V-GROOVE, EXTEND V-GROOVE TO THE FILLET ADJACENT TO THE ABUTMENTS.
- △ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN ⅛" BELOW SURFACE OF CONCRETE.
- ■ THIS DIMENSION SHALL ALSO BE USED WITH R502 BARS.
- ★ "CONDUIT RIGID METALLIC 2-INCH." PLACE IN PARAPET ON EACH APPROACH APRON AND FOR 5'-0" AT BOTH ENDS OF PARAPET ON BRIDGE.
- ◧ "CONDUIT RIGID NON-METALLIC SCHEDULE 40 2-INCH." PLACE IN PARAPET ON BRIDGE BETWEEN METALLIC CONDUIT.

COATED:
SOUTH APPROACH APRON = 360 LBS.
SUPERSTRUCTURE = 3,350 LBS.
NORTH APPROACH APRON = 360 LBS.

BILL OF BARS

MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
R501	309	4'-2"	X	X	PARAPET - VERT.
R502	6	4'-7"	X	X	PARAPET - VERT. - AT ENDS OF BRIDGE
R503	315	4'-10"	X	X	PARAPET - VERT.
R504	10	18'-0"		X	PARAPET - HORIZ. - AT APPROACH APRON
R505	15	58'-6"		X	PARAPET - HORIZ. - SUPERSTRUCTURE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

SLOPED FACE PARAPET 'LF' (MODIFIED)

SHEET 25 OF 27
1873

8

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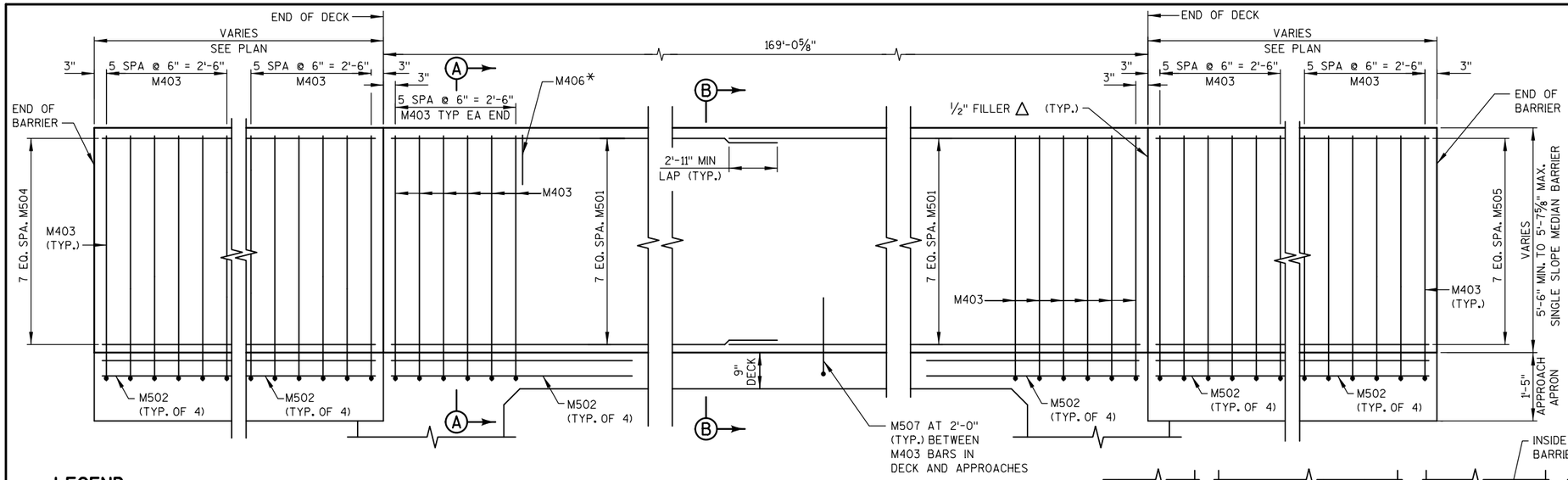
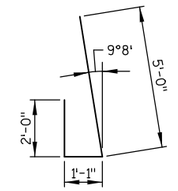
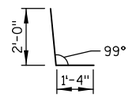
STATE PROJECT NUMBER

1133-09-71





M403



M507

LEGEND

* LAP ONTO M403 BARS.

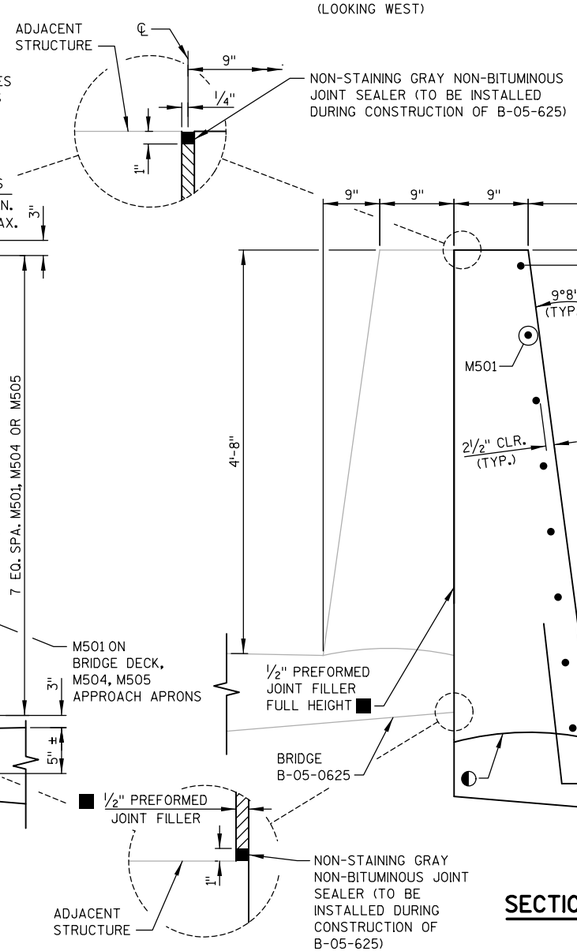
◐ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.

■ TO BE INSTALLED DURING CONSTRUCTION OF B-05-625.

△ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HELD DOWN 1/8" BELOW SURFACE OF CONCRETE.

INSIDE ELEVATION

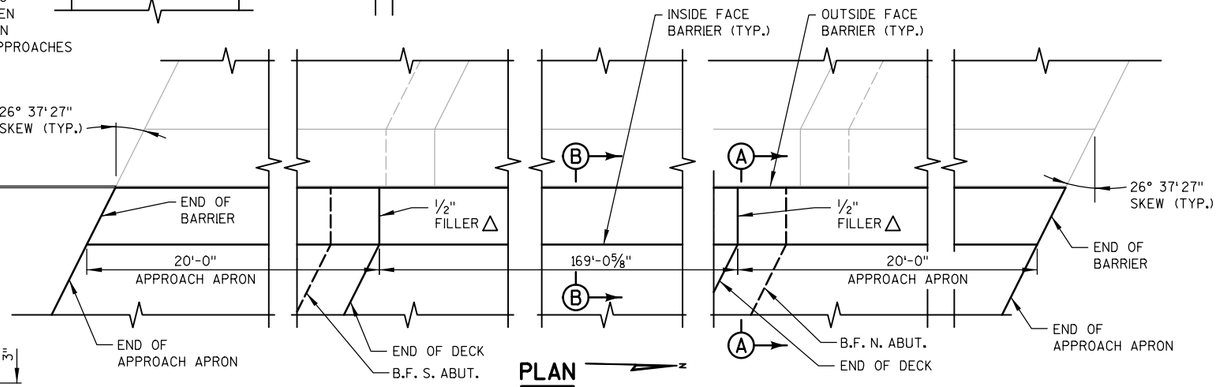
(LOOKING WEST)



SECTION A-A

TYPICAL AT ENDS OF BARRIER

SECTION B-B



PLAN

TOP OF BARRIER ELEVATION TABLE

LOCATION	WEST EDGE OF DECK 13'-5 3/4" LT	
	STATION	ELEV.
END OF SOUTH APPROACH APRON	887+73.26	631.26
APRON MIDPOINT	887+82.88	631.37
C/L BRG S ABUT	887+92.51	631.47
0.1 L POINT	887+99.51	631.54
0.2 L POINT	888+06.51	631.61
0.3 L POINT	888+13.51	631.68
0.4 L POINT	888+20.51	631.75
0.5 L POINT	888+27.51	631.82
0.6 L POINT	888+34.51	631.89
0.7 L POINT	888+41.51	631.96
0.8 L POINT	888+48.51	632.02
0.9 L POINT	888+55.51	632.09
C/L PIER 1	888+62.51	632.15
0.1 L POINT	888+72.21	632.24
0.2 L POINT	888+81.91	632.32
0.3 L POINT	888+91.61	632.40
0.4 L POINT	889+01.31	632.48
0.5 L POINT	889+11.01	632.56
0.6 L POINT	889+20.71	632.64
0.7 L POINT	889+30.41	632.71
0.8 L POINT	889+40.11	632.78
0.9 L POINT	889+49.81	632.85
C/L BRG N ABUT	889+59.51	632.92
APRON MIDPOINT	889+69.88	632.99
END OF NORTH APPROACH APRON	889+80.26	633.06

BILL OF BARS

BAR MARK	COAT	NO.	LENGTH	BENT	LOCATION
M501	X	24	58'-4"		MEDIAN BARRIER HORIZ. AT DECK
M502	X	24	5'-0"		MEDIAN BARRIER HORIZ. AT ENDS (IN DECK OR APPROACH APRON)
M403	X	36	7'-11"	X	MEDIAN BARRIER VERT. AT ENDS (IN DECK OR APPROACH APRON)
M504	X	8	19'-8"		MEDIAN BARRIER HORIZ. AT SOUTH APPROACH APRON
M505	X	8	19'-8"		MEDIAN BARRIER HORIZ. AT NORTH APPROACH APRON
M406	X	36	3'-6"		MEDIAN BARRIER VERT. *
M507	X	98	3'-3"	X	MEDIAN BARRIER VERT.

COATED:
SOUTH APPROACH APRON = 300 LBS.
SUPERSTRUCTURE = 1,870 LBS.
NORTH APPROACH APRON = 320 LBS.

NOTES

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINFORCEMENT THRU THE JOINT. LAP LONGITUDINAL BARS A MIN. OF 2'-11". MIN. JOINT SPACING OF 80'-0". DEFINE CONSTRUCTION JOINT WITH A 3/4" 'V' GROOVE.

ADJACENT STRUCTURE (B-05-625) WILL BE CONSTRUCTED AFTER B-05-622. SEE TOP OF BARRIER ELEVATION TABLE THIS SHEET FOR B-05-622 TOP OF BARRIER ELEVATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

SINGLE SLOPE MEDIAN BARRIER

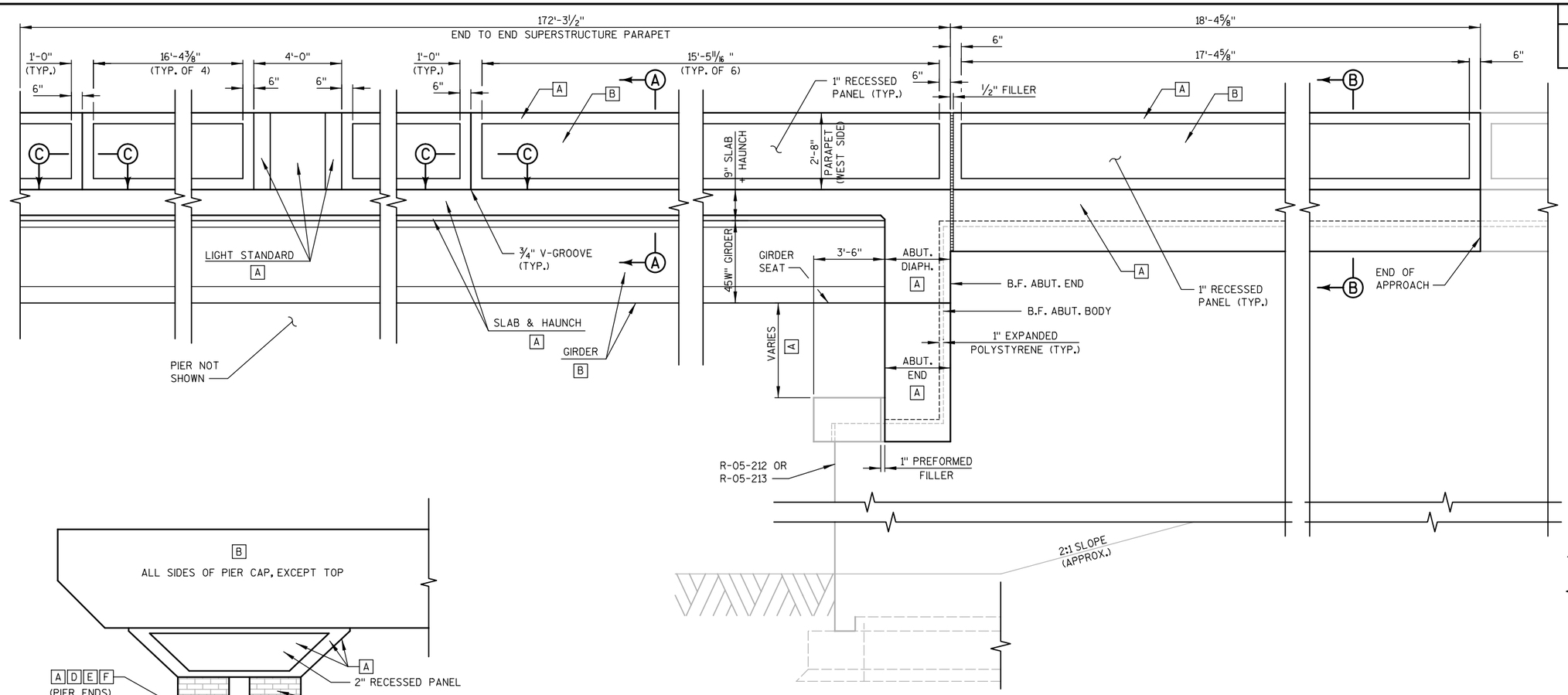
SHEET 26 OF 27
1874

8

8

STATE PROJECT NUMBER

1133-09-71



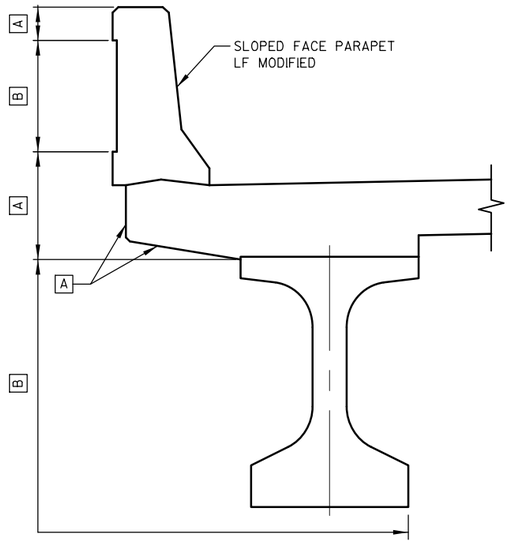
PIER ELEVATION

OUTSIDE ELEVATION OF PARAPET

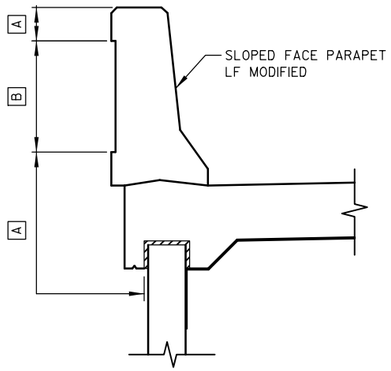
(SOUTHWEST CORNER AT SOUTH ABUTMENT SHOWN, NORTH ABUTMENT SIMILAR)

SECTION C-C

¾" "V" GROOVE



SECTION A-A



SECTION B-B

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE AND BOTTOM OF EXTERIOR CONC. GIRDER, PIER CAP
C	ACCENT COLOR #2	NOT USED
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	NOT USED

NOTES

STAIN TO 1'-0" BELOW FINISHED GRADE.

STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

THE COST OF BRICK PATTERN FORMLINER TREATMENT IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT." SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

STAIN FRONT FACE OF ABUTMENTS AND END DIAPHRAGMS FROM 1-FOOT BELOW GRADE TO UNDERSIDE OF DECK, INCLUDING END DIAPHRAGM FACE BETWEEN GIRDERS.

SEE SPECIAL PROVISIONS FOR STAIN COLORS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-622

DRAWN BY AJW | PLANS CK'D. DJW

AESTHETIC DETAILS

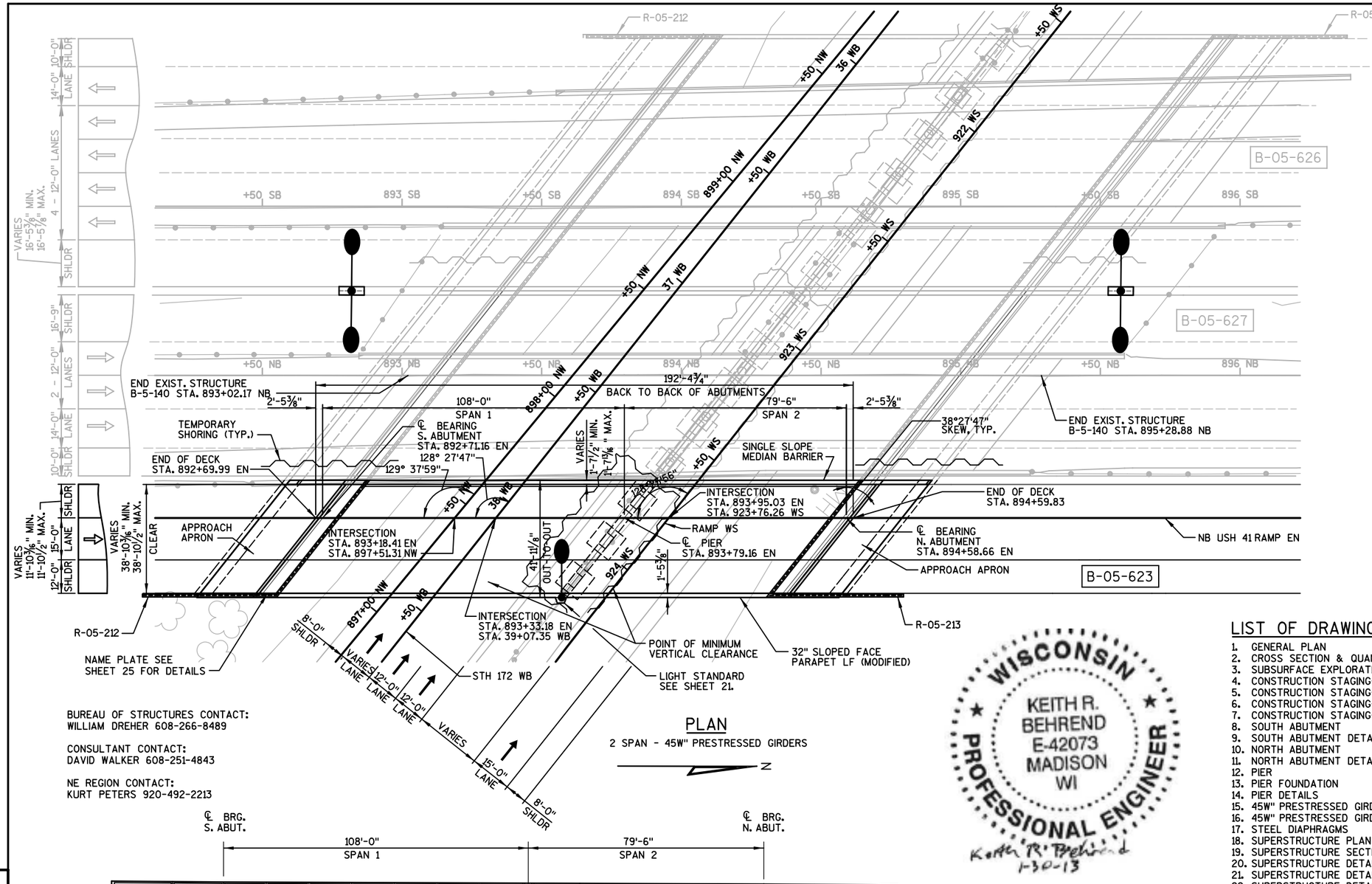
SHEET 27 OF 27
1875

8

8

STATE PROJECT NUMBER

1133-09-71



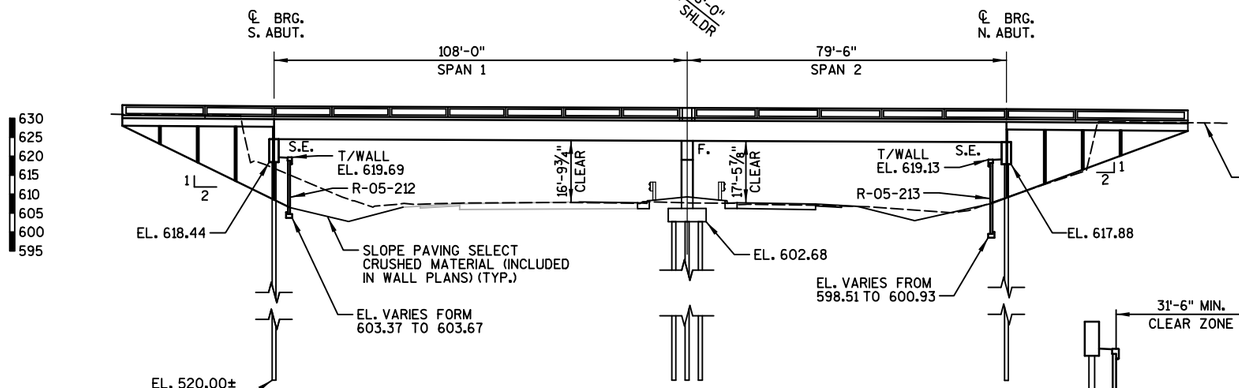
PLAN

2 SPAN - 45W" PRESTRESSED GIRDERS

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER 608-266-8489

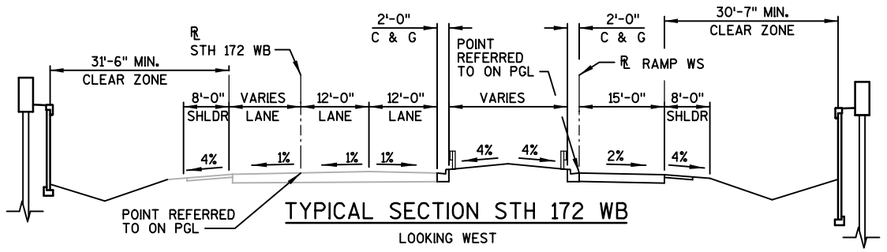
CONSULTANT CONTACT:
DAVID WALKER 608-251-4843

NE REGION CONTACT:
KURT PETERS 920-492-2213



ELEVATION

LOOKING WEST



TYPICAL SECTION STH 172 WB

LOOKING WEST

DESIGN DATA

LIVE LOAD:
- DESIGN LOAD HL-93
- INVENTORY RATING FACTOR 1.13
- OPERATING RATING FACTOR 1.46
- MAX. STD. PERMIT VEHICLE LOAD ... 250 KIPS

THE STRUCTURE IS DESIGNED FOR A 1½" SACRIFICIAL WEARING SURFACE PLACED AT INITIAL CONSTRUCTION INTEGRAL WITH THE DECK. THE DESIGN DOES NOT PROVIDE FOR ADDITIONAL LOADS DUE TO FUTURE WEARING SURFACE.

ULTIMATE DESIGN STRESSES:
- CONCRETE MASONRY (HPC) .....f'c = 4000 PSI

HIGH STRENGTH BAR STEEL
REINFORCEMENT GRADE 60 .....fy = 60,000 PSI

45W-INCH PRESTRESSED GIRDERS
CONCRETE MASONRY .....f'c = 8000 PSI

PRESTRESSING STRANDS = 0.6 INCH DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 PSI

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON STEEL PILING, HP 12-INCH X 53 LB. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 105'LONG AT SOUTH ABUTMENT.
ESTIMATED 105'LONG AT NORTH ABUTMENT.

PIER TO BE SUPPORTED ON STEEL PILING, HP 12-INCH X 53 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS
** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 85'LONG AT PIER.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. CONSTRUCTION STAGING-1
5. CONSTRUCTION STAGING-2
6. CONSTRUCTION STAGING-3
7. CONSTRUCTION STAGING-4
8. SOUTH ABUTMENT
9. SOUTH ABUTMENT DETAILS
10. NORTH ABUTMENT
11. NORTH ABUTMENT DETAILS
12. PIER
13. PIER FOUNDATION
14. PIER DETAILS
15. 45W" PRESTRESSED GIRDER DETAILS-1
16. 45W" PRESTRESSED GIRDER DETAILS-2
17. STEEL DIAPHRAGMS
18. SUPERSTRUCTURE PLAN
19. SUPERSTRUCTURE SECTION
20. SUPERSTRUCTURE DETAILS-1
21. SUPERSTRUCTURE DETAILS-2
22. SUPERSTRUCTURE DETAILS-3
23. APPROACH APRON
24. APPROACH APRON DETAILS
25. 32" SLOPED FACE PARAPET LF (MODIFIED)
26. SINGLE SLOPE MEDIAN BARRIER
27. AESTHETIC DETAILS

TRAFFIC DATA USH 41 NB

ADT = 27,300 (2015)
= 34,800 (2035)
DESIGN SPEED = 70 MPH

TRAFFIC DATA USH 41 SB

ADT = 37,900 (2015)
= 47,300 (2035)
DESIGN SPEED = 70 MPH

TRAFFIC DATA STH 172 WB

ADT = 27,100 (2015)
= 38,300 (2035)
DESIGN SPEED = 60 MPH

TRAFFIC DATA RAMP 'WS'

ADT = 11,000 (2015)
= 12,300 (2035)
DESIGN SPEED = 55 MPH

WISCONSIN PROFESSIONAL ENGINEER
KEITH R. BEHREND
E-42073
MADISON
WI
Keith R. Behrend
1-30-13

NO.	DATE	REVISION	BY

STRAND ASSOCIATES
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608)-251-4843
(608) 251-8655 FAX
WWW.STRAND.COM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 02/13/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-05-623

USH 41 RAMP EN OVER STH 172 WB

COUNTY	~~TOWN/CITY~~/VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

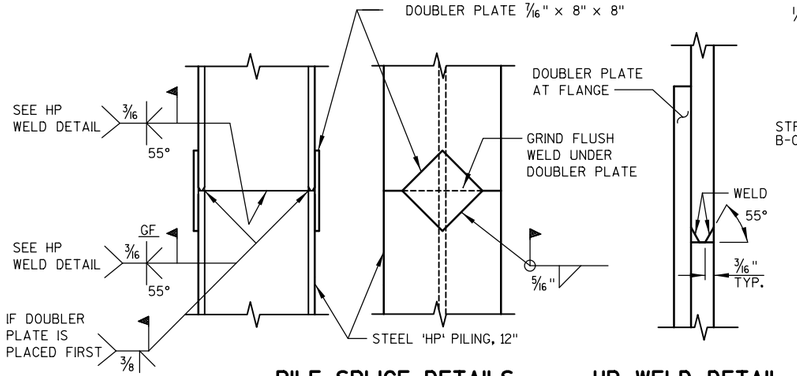
DESIGNED BY	KRB	DESIGN CK'D.	DDR	DRAWN BY	AJW	PLANS CK'D.	DJW

GENERAL PLAN

SHEET 1 OF 27
1876

STATE PROJECT NUMBER

1133-09-71



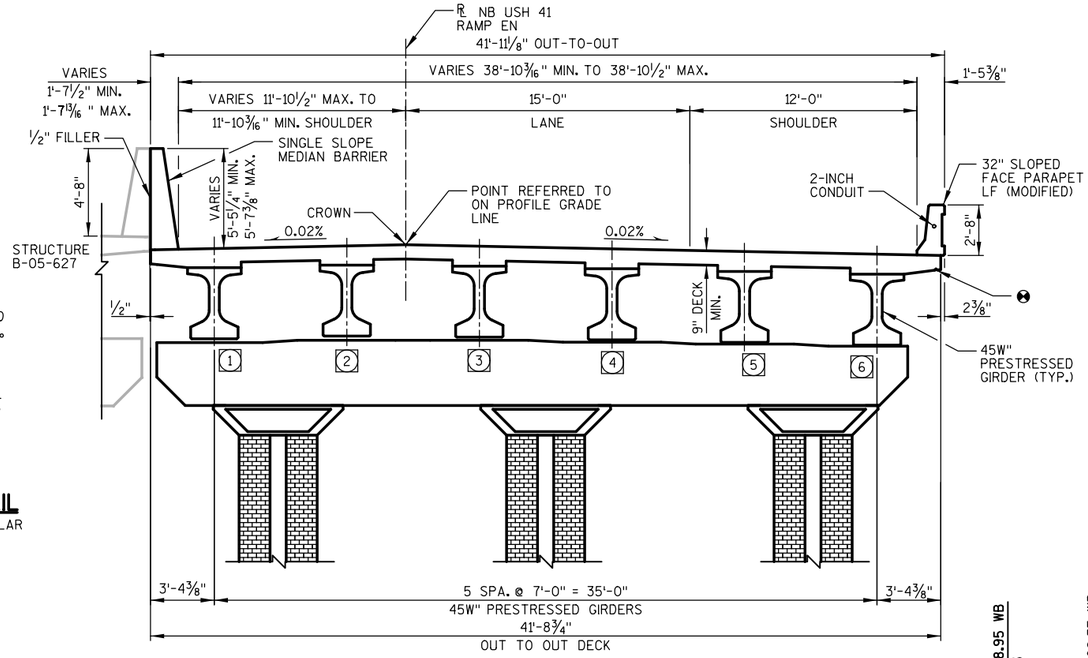
PILE SPLICE DETAILS

HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

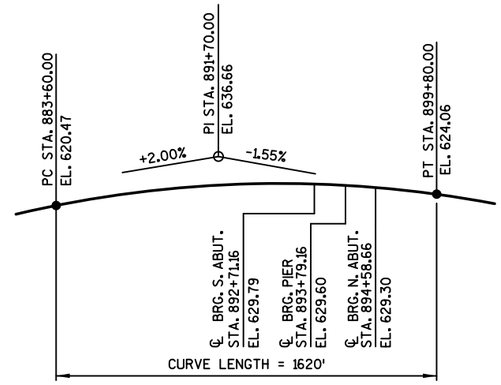
PILE SPLICE NOTES

GRINDING MAY BE USED IN LIEU OF BACKGOUGING.

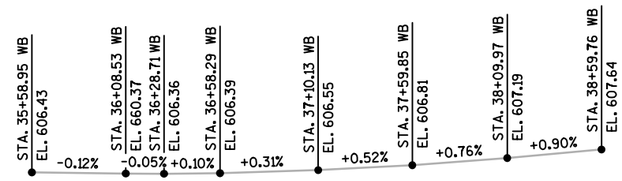


TYPICAL SECTION

(LOOKING NORTH)



PROFILE GRADE LINE NB USH 41 RAMP EN



EXISTING PROFILE GRADE LINE STH 172 WB

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEVATION
525	N/A	CHISELED "X" ON FIRE HYDRANT BURY BOLT ON A DEAD END CUL-DE-SAC OF SPRINGHURST DR. 55' FROM A MANHOLE COVER TO FIRE HYDRANT AT THE EAST END OF THE ROUND-A-BOUT.	648.93
526	N/A	CHISELED "X" ON FIRE HYDRANT BURY BOLT IN THE NORTHEAST QUADRANT OF TIMBER LN. & COMMANCHE AVE. BY A PARKING LOT ENTRANCE TO THE PARK. 35' NORTH OF THE ℄ OF TIMBER LN. & 25' WEST OF THE ℄ OF THE WEST ENTRANCE TO THE PARK.	629.88
528	N/A	CHISELED "X" ON FIRE HYDRANT BURY BOLT IN THE NORTHWEST QUADRANT OF GERHARDT LN. & NORTH RD. 65' WEST OF THE ℄ OF NORTH RD. AND 35' NORTH OF THE ℄ OF GERHARDT LN.	626.81

LEGEND

(#) INDICATES GIRDER NUMBER.

3/4" V-GROOVE. EXTEND V-GROOVE TO THE FILLET ADJACENT TO THE ABUTMENTS. LOCATE 5" FROM EDGE OF DECK.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SOUTH ABUT.	NORTH ABUT.	PIER 1	SUPER.	SOUTH APPROACH APRON	NORTH APPROACH APRON	TOTALS
206.1000.709	EXCAVATION FOR STRUCTURES BRIDGES B-05-623	LS	--	--	--	--	--	--	1
206.6000.S	TEMPORARY SHORING	SF	1600	2100	800	--	--	--	4500
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	--	--	1032	108	108	1248
502.6110	MASONRY ANCHORS TYPE S 3/4-INCH	EACH	3	3	--	--	--	--	6
503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH	LF	--	--	--	1130	--	--	1130
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	3110	3090	2370	--	--	--	8570
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	--	--	15950	66690	9900	9910	102450
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	6	6	12	--	--	--	24
506.4000.709	STEEL DIAPHRAGMS B-05-623	EACH	--	--	--	15	--	--	15
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	9	9	--	--	--	--	18
550.0500	PILE POINTS	EACH	8	7	21	--	--	--	36
550.1120	PILING STEEL HP 12-INCH X 53 LB.	LF	840	735	1785	--	--	--	3360
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	52	52	--	--	52	52	208
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	--	--	--	10	18	18	46
652.0225	CONDUIT RIGID NON-METALLIC SCHEDULE 40 2-INCH	LF	--	--	--	184	--	--	184
653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	--	--	--	1	--	--	1
SPV.0035.700	HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES	CY	38	40	86	380	62	62	668
SPV.0060.700	ANCHOR BOLT ASSEMBLY LIGHT POLES	EACH	--	--	--	1	--	--	1
SPV.0085.700	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	--	--	--	1460	--	--	1460
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	--	--	332	--	--	--	332
SPV.0165.501	STAINING CONCRETE	SF	331	356	902	2824	96	96	4605
SPV.0165.502	STAINING CONCRETE BRICK	SF	--	--	332	--	--	--	332
SPV.0165.700	LONGITUDINAL GROOVING BRIDGE DECK	SF	--	--	--	7377	777	777	8931
	NON-BID ITEMS								
	FILLER	SIZE	--	--	--	--	--	--	1/2" & 3/4"
	CORK	SIZE	--	--	--	--	--	--	3/4"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

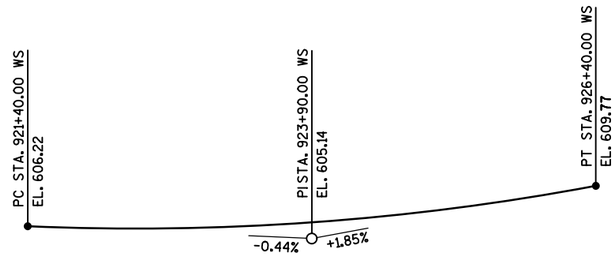
ALL DIMENSIONS ARE IN FEET AND INCHES.
ALL STATIONS AND ELEVATIONS ARE IN FEET.

ALL DETAILS, MATERIALS AND FABRICATION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE SPECIFICATIONS OF THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153, TYPE I, II, OR III, OR M213.



PROFILE GRADE LINE STH 172 RAMP WS

AT THE BACKFACE OF ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE FIRST OR FIRST TWO DIGITS OF A DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE EXISTING STRUCTURE, B-05-140, IS A TWO SPAN STEEL DECK GIRDER STRUCTURE WITH AN OVERALL WIDTH OF 43.8 FEET TO 47.0 FEET AND AN OVERALL LENGTH OF 231.3 FEET. THE BRIDGE WILL BE REMOVED IN STAGES FOR CONSTRUCTION OF STRUCTURES B-05-623 AND B-05-627. THE BRIDGE SHALL BE REMOVED MIN. 2'-0" BELOW GRADE.

TEMPORARY SUPPORT OF EXISTING STRUCTURE B-05-140 IS REQUIRED. SEE SHEET 4 FOR DETAILS.

PAYMENT FOR REMOVING OLD STRUCTURE, DEBRIS CONTAINMENT, AND TEMPORARY SHORING WILL BE INCLUDED IN THE TOTAL ESTIMATED QUANTITIES FOR STRUCTURE B-05-627.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING CONCRETE TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

9" MINIMUM DECK THICKNESS INCLUDES 3 1/2" COVER TO TOP LAYER OF STEEL REINFORCEMENT.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEETS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

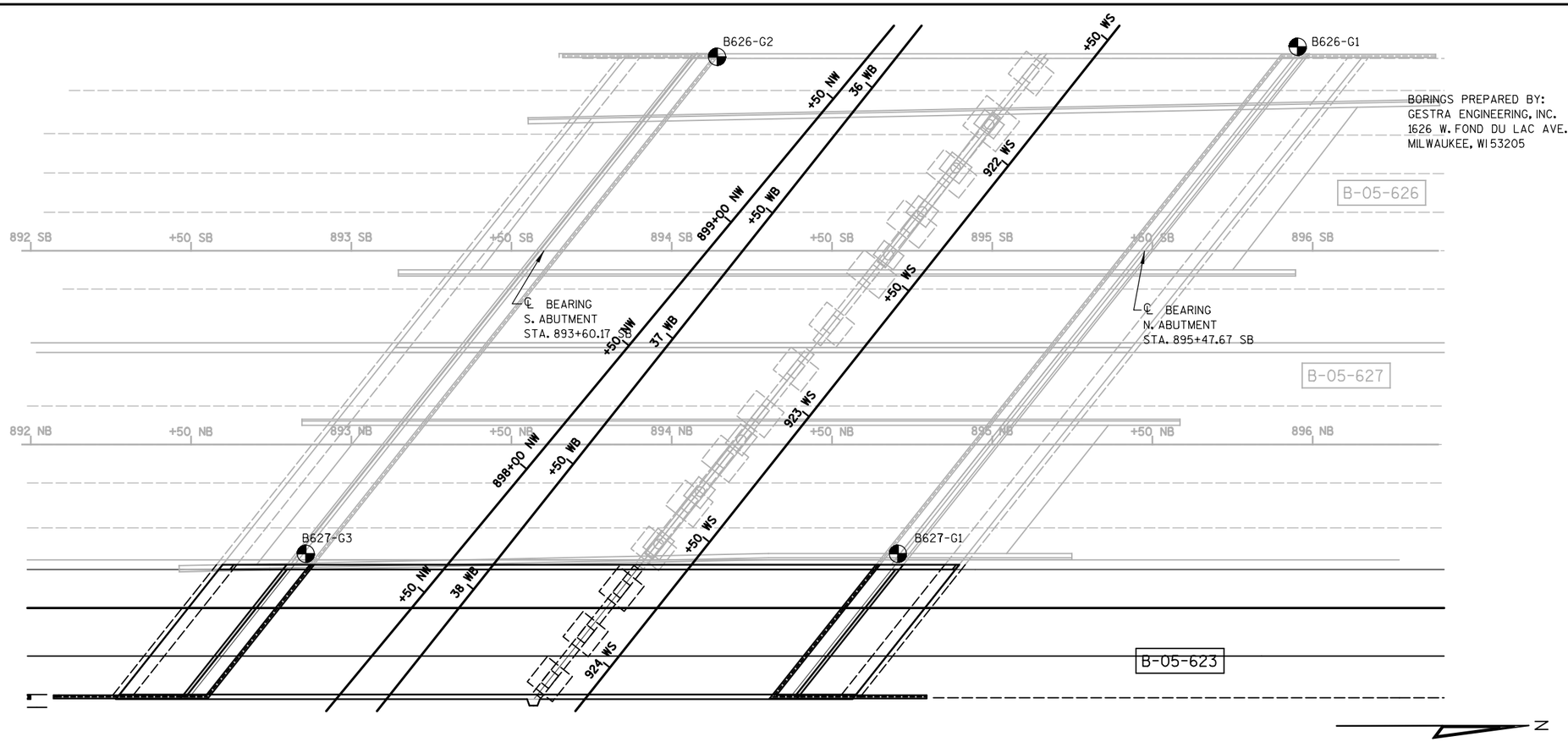
DRAWN BY AJW | PLANS CK'D. DJW

CROSS SECTIONS & QUANTITIES

SHEET 2 OF 27
1877

8

8



BORINGS PREPARED BY:
GESTRA ENGINEERING, INC.
1626 W. FOND DU LAC AVE.
MILWAUKEE, WI 53205

STATE PROJECT NUMBER

1133-09-71

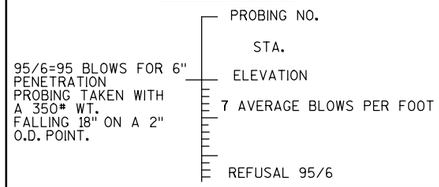
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

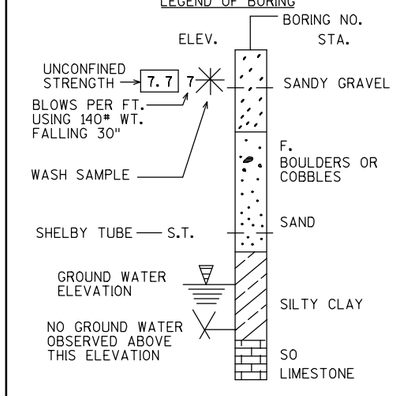
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE, SAND, PEAT, LIMESTONE, GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



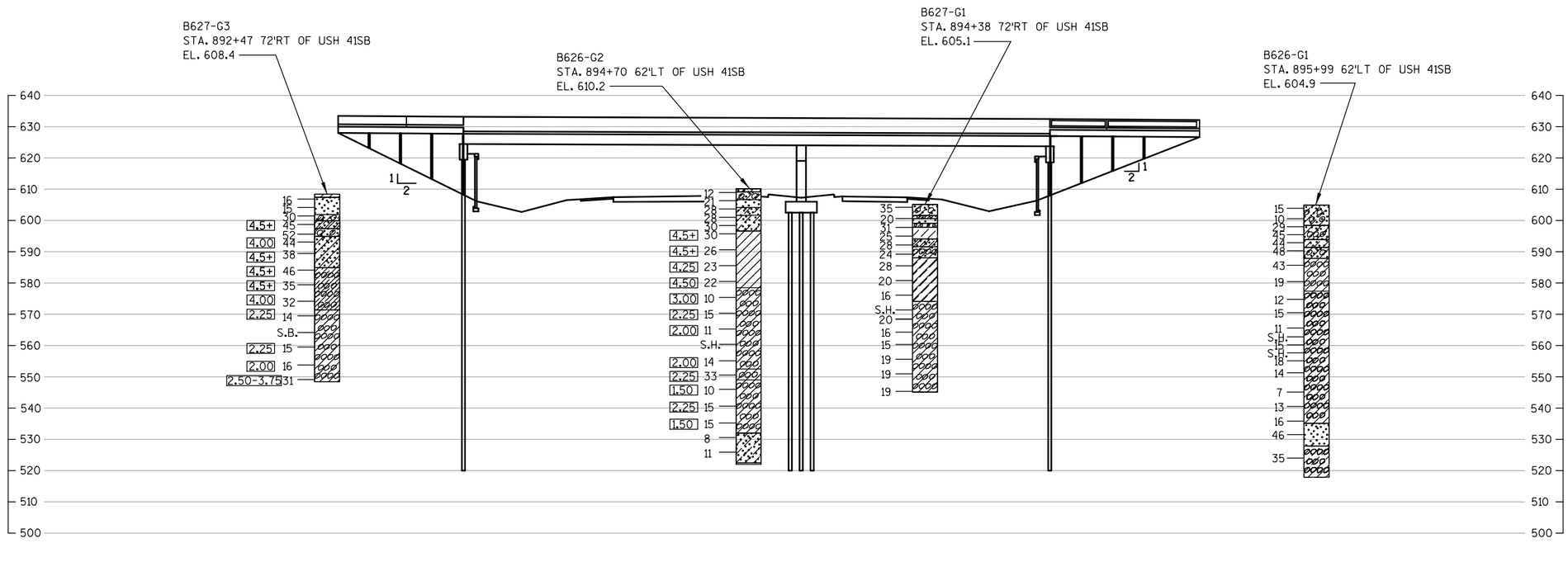
LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

SUBSURFACE EXPLORATION

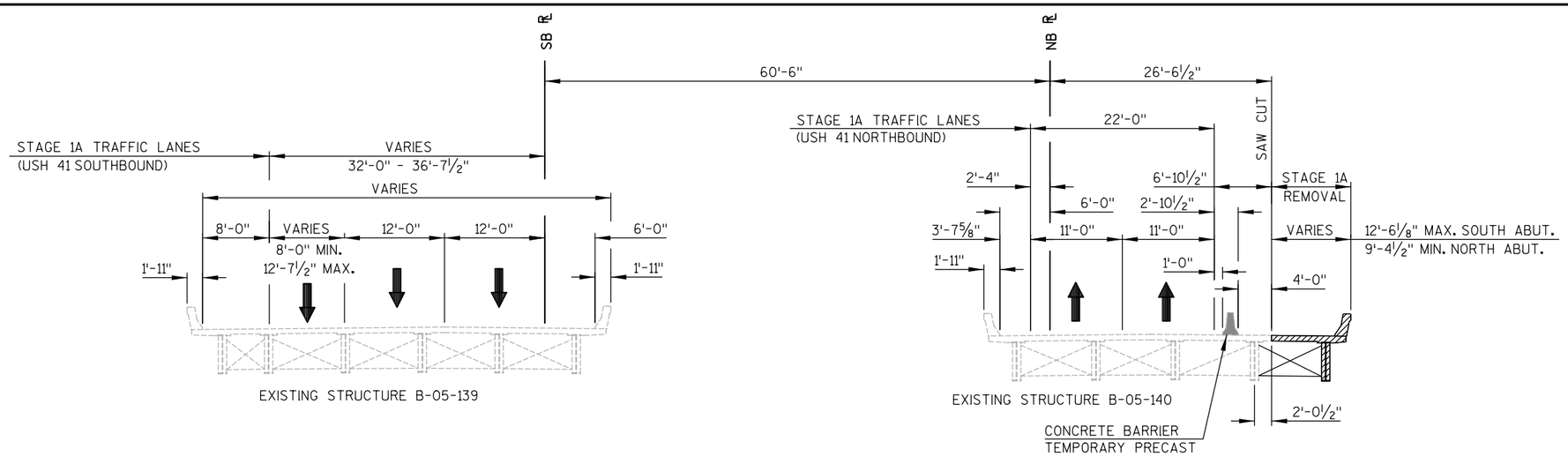
SHEET 3 OF 27
1878

FILE=
SCALE =

8

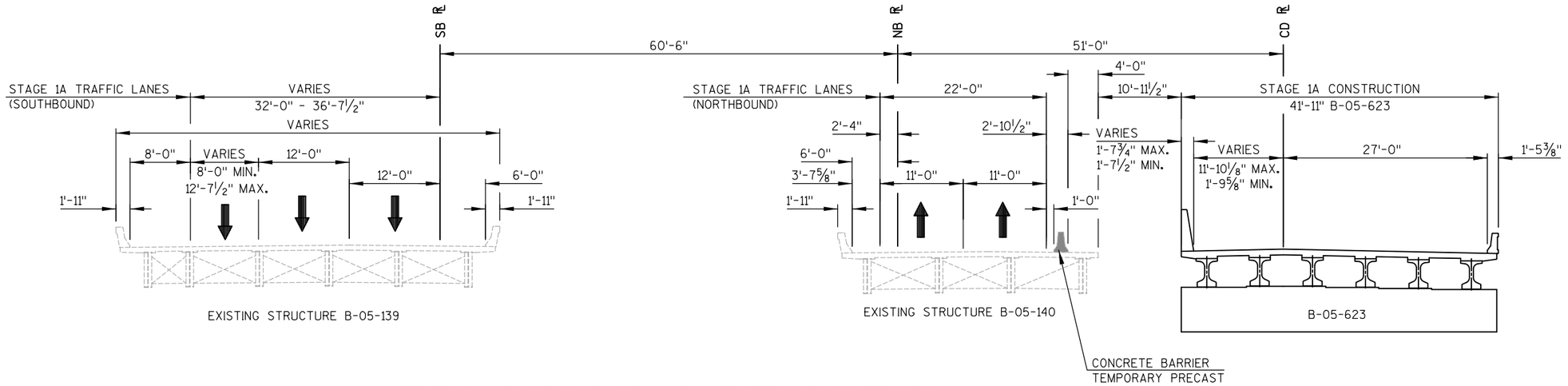
8

STATE PROJECT NUMBER
1133-09-71



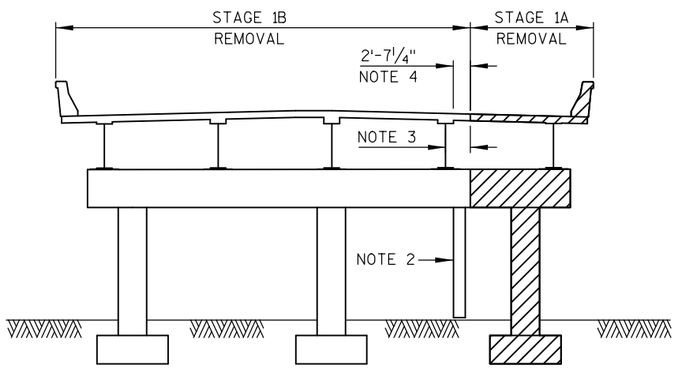
STAGE 1A - PHASE ML-2 AND ML-3 - TRAFFIC AND REMOVAL

(LOOKING NORTH)



STAGE 1A - PHASE ML-2 AND ML-3 - TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)



TEMPORARY SUPPORT EXISTING STRUCTURE B-05-140

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.
2. TEMPORARY SUPPORT OF THE B-05-140 PIER CAP IS REQUIRED. THE CONTRACTOR IS TO DESIGN A TEMPORARY SUPPORT SYSTEM FOR USE DURING STAGED REMOVAL (CONSTRUCTION) OF THE BRIDGE. THE PROPOSED SUPPORT SYSTEM SHALL BE SUBMITTED TO THE DEPARTMENT FOR ACCEPTANCE.
3. DIMENSION AS REQUIRED BY CONTRACTOR FOR CONCRETE REMOVAL.
4. DIMENSION TAKEN PARALLEL TO PIER CAP.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

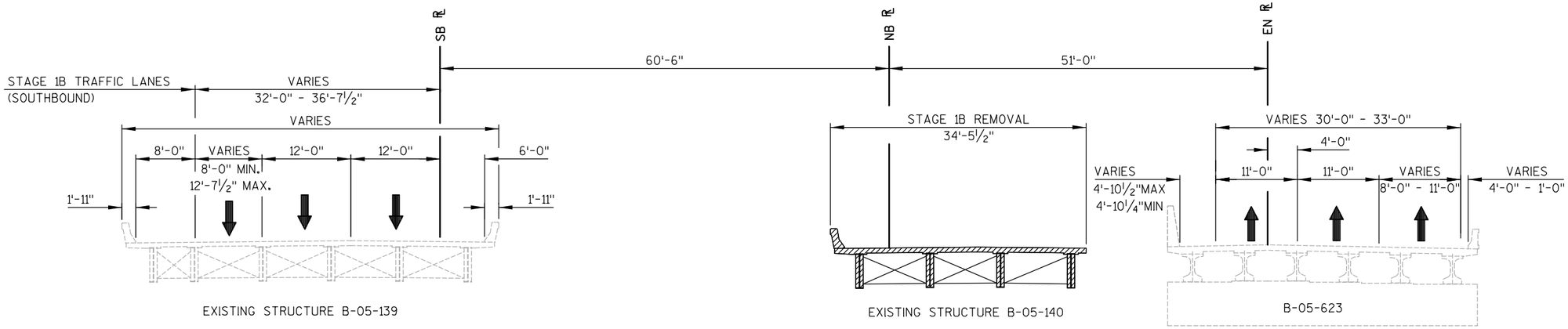
CONSTRUCTION STAGING - 1

SHEET 4 OF 27
1879

8

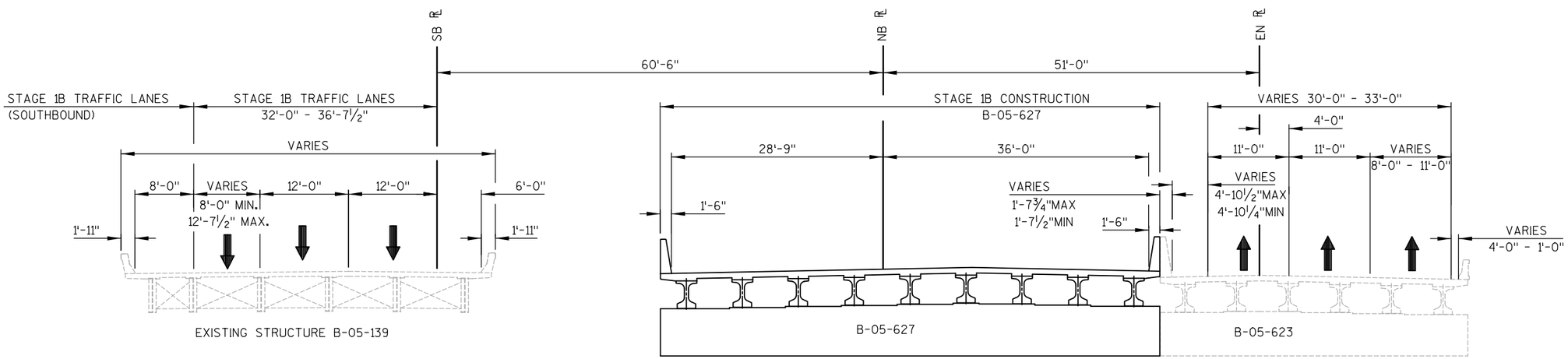
8

STATE PROJECT NUMBER
1133-09-71



STAGE 1B - TRAFFIC AND REMOVAL

(LOOKING NORTH)



STAGE 1B - TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

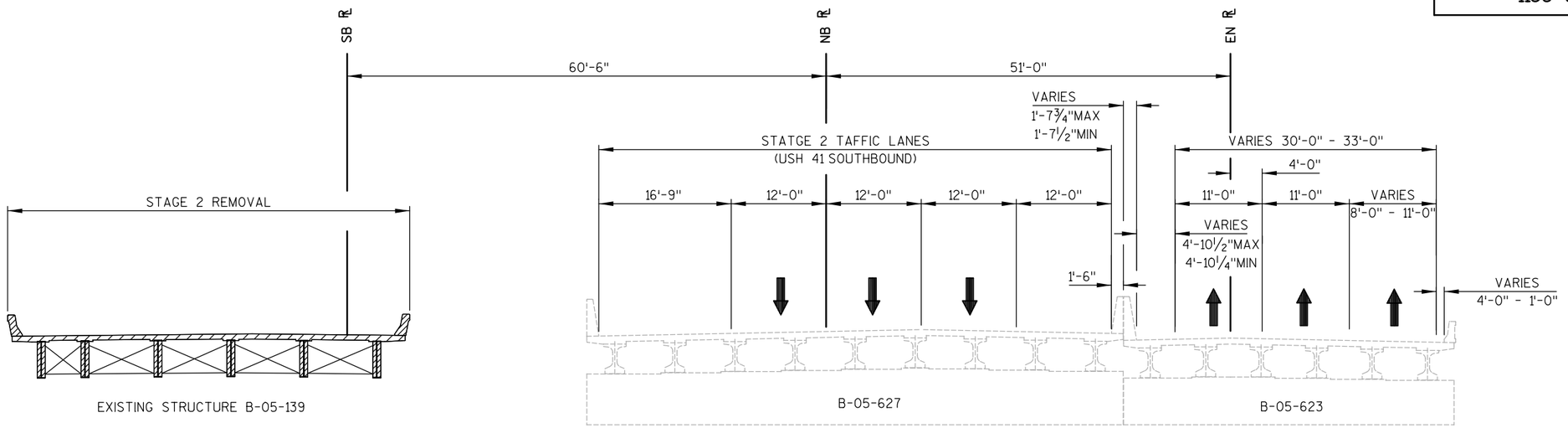
CONSTRUCTION STAGING - 2

SHEET 5 OF 27
1880

8

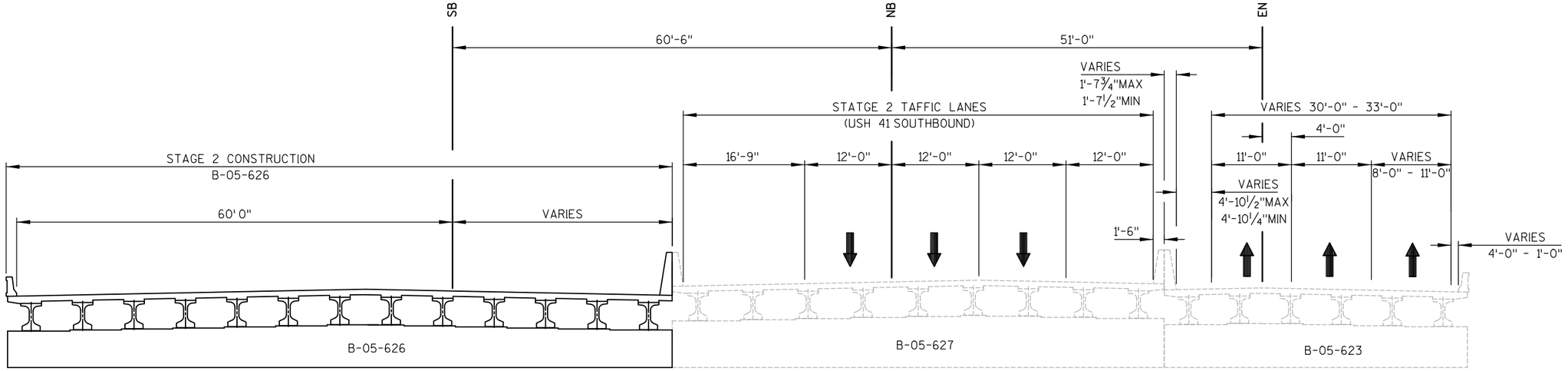
8

STATE PROJECT NUMBER
1133-09-71



STAGE 2 - PHASE ML-1 REMOVAL

(LOOKING NORTH)



STAGE 2 - PHASE ML-2 - CONSTRUCTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

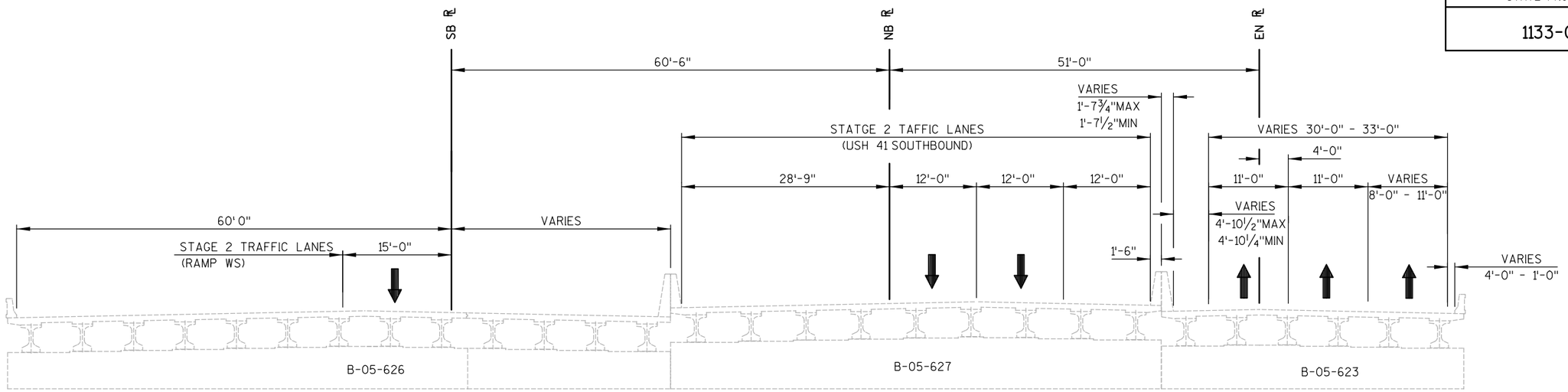
CONSTRUCTION STAGING - 3

SHEET 6 OF 27
1881

8

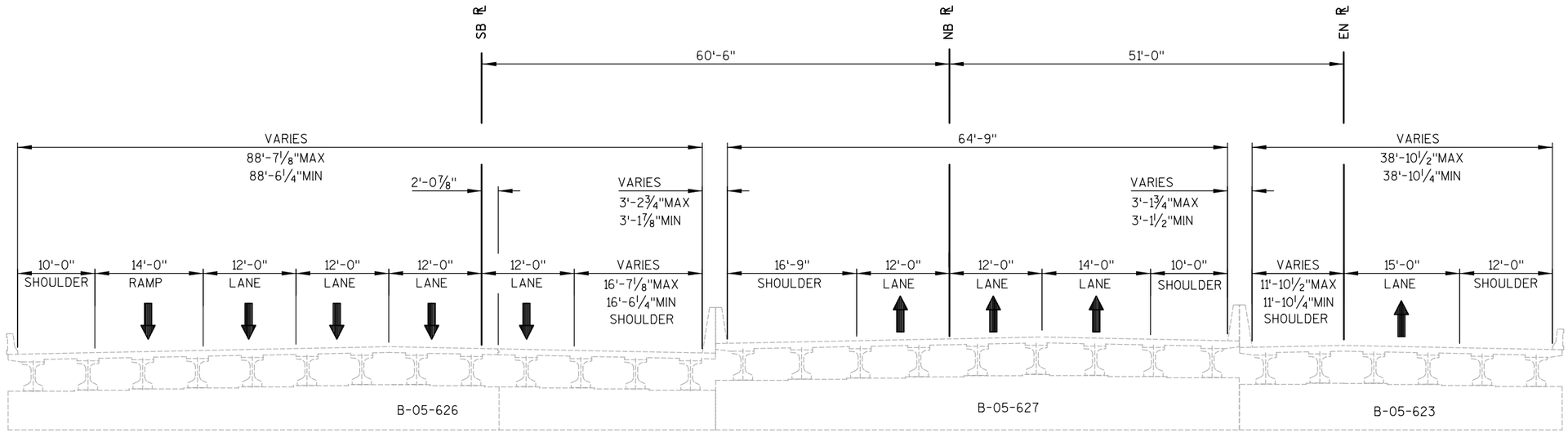
8

STATE PROJECT NUMBER
1133-09-71



STAGE 2 - PHASE ML-2 - TRAFFIC

(LOOKING NORTH)



FINAL CROSS SECTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

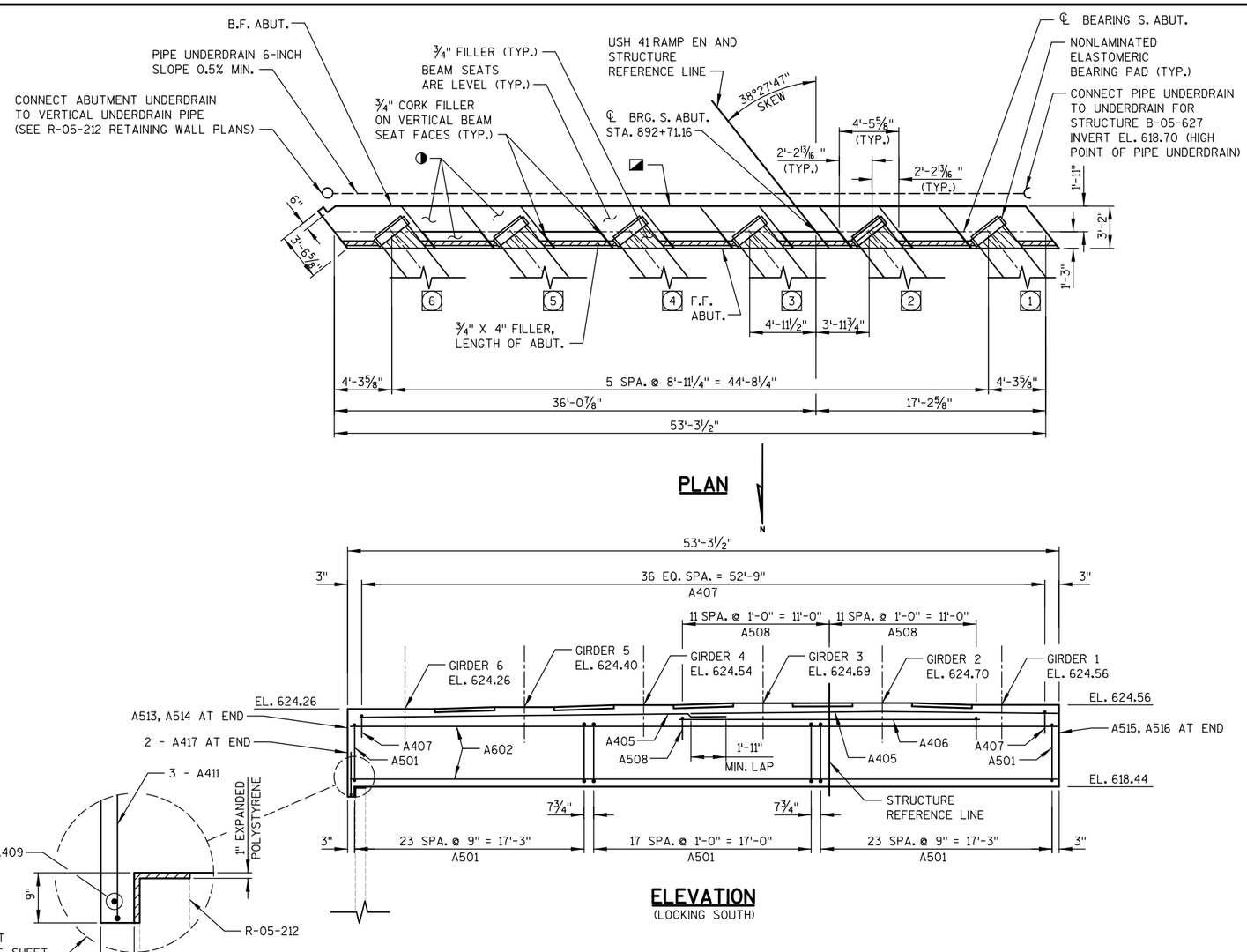
CONSTRUCTION STAGING - 4

SHEET 7 OF 27
1882

8

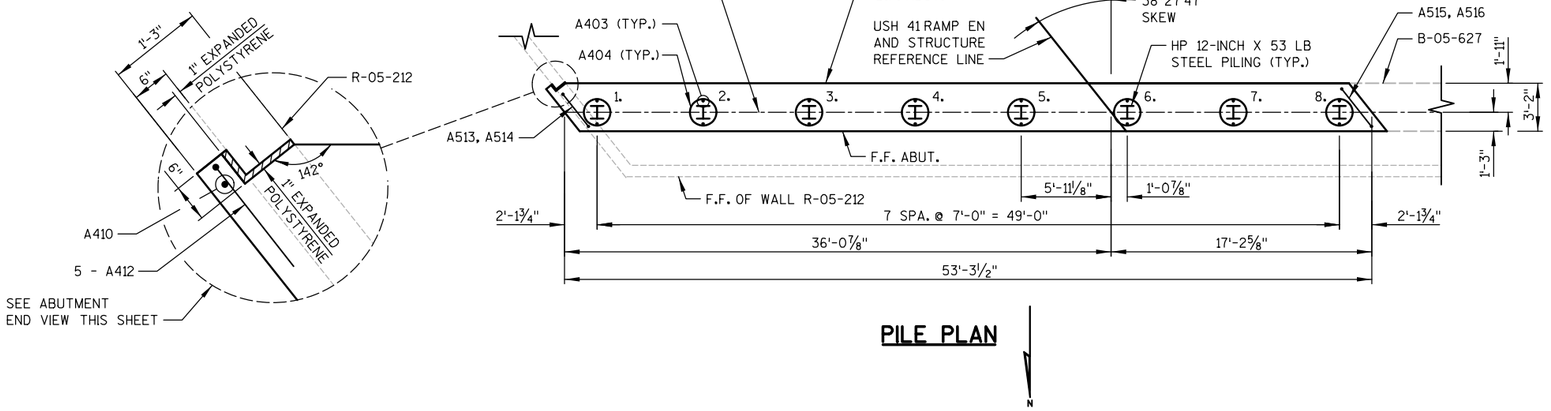
8

STATE PROJECT NUMBER
1133-09-71

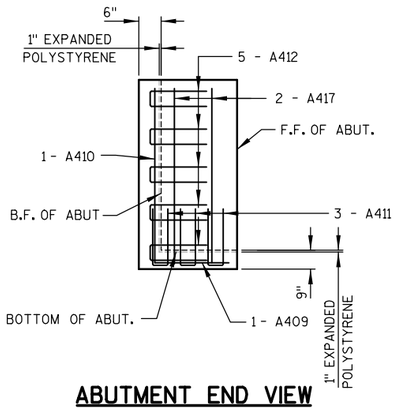


PLAN

ELEVATION
(LOOKING SOUTH)



PILE PLAN



ABUTMENT END VIEW
(EAST END ONLY)

LEGEND

◑ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

◪ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

⊠ INDICATES GIRDER NUMBER.

NOTES

SEE SHEET 2 FOR PILE SPLICE DETAILS.

ADJUST A501 BARS TO AVOID INTERFERENCE WITH PILES.

SEE SHEET 9 FOR REINFORCING DETAILS.

ABUTMENTS TO BE SUPPORTED ON HP 12-INCH X 53 LB STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH IS 105 FEET EACH.

SEE SHEET 9 FOR ABUTMENT FALL PROTECTION DETAIL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

SOUTH ABUTMENT

SHEET 8 OF 27
1883

8

8

STATE PROJECT NUMBER

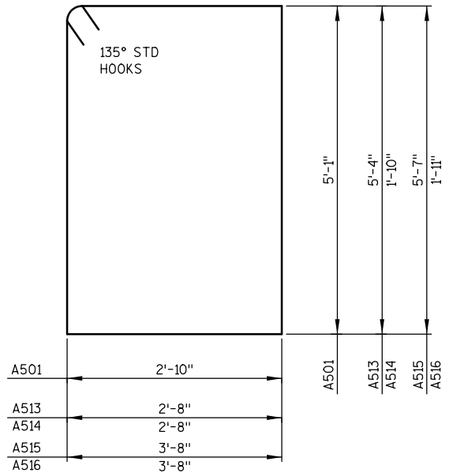
1133-09-71

SOUTH ABUTMENT BILL OF BARS

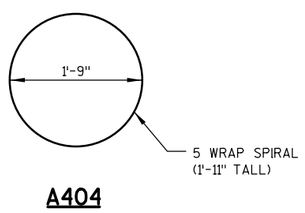
UNCOATED: 3,110 LBS

MARK	NO.	LENGTH	BENT	COAT	LOCATION
A501	66	16'-5"	X		BODY - VERT. - STIRRUPS
A602	17	52'-11"			BODY - HORIZ. - FF/BF, TOP/BOT
A403	16	2'-3"			BODY - PILES - VERT.
A404	8	28'-0"	X		BODY - PILES - VERT.
A405	4	27'-5"			BODY - TOP - HORIZ.
A406	3	22'-0"			BODY - TOP - HORIZ.
A407	37	4'-5"	X		BODY - TOP - VERT.
A508	23	5'-7"	X		BODY - TOP - VERT.
A409	1	3'-2"			RETAINING WALL EAR
A410	1	6'-2"			RETAINING WALL EAR
A411	3	4'-3"	X		RETAINING WALL EAR
A412	5	3'-8"	X		RETAINING WALL EAR
A513	1	16'-7"	X		BODY - VERT. - STIRRUP - EAST END
A514	1	9'-7"	X		BODY - VERT. - STIRRUP - EAST END
A515	1	19'-1"	X		BODY - VERT. - STIRRUP - WEST END
A516	1	11'-9"	X		BODY - VERT. - STIRRUP - WEST END
A417	2	6'-2"			BODY - VERT. - EAST END

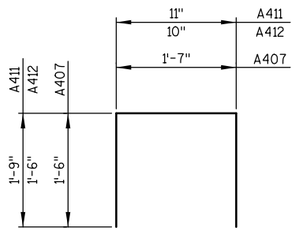
NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



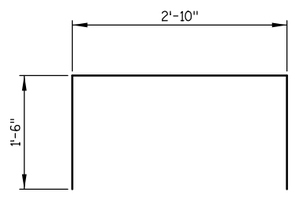
A501, A513, A514, A515, A516



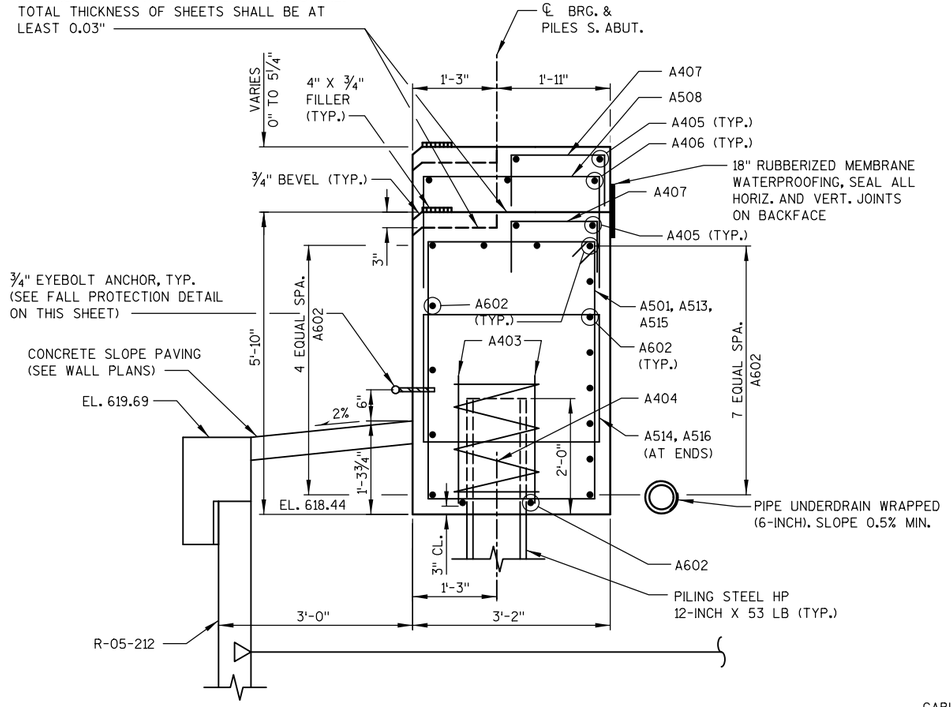
A404



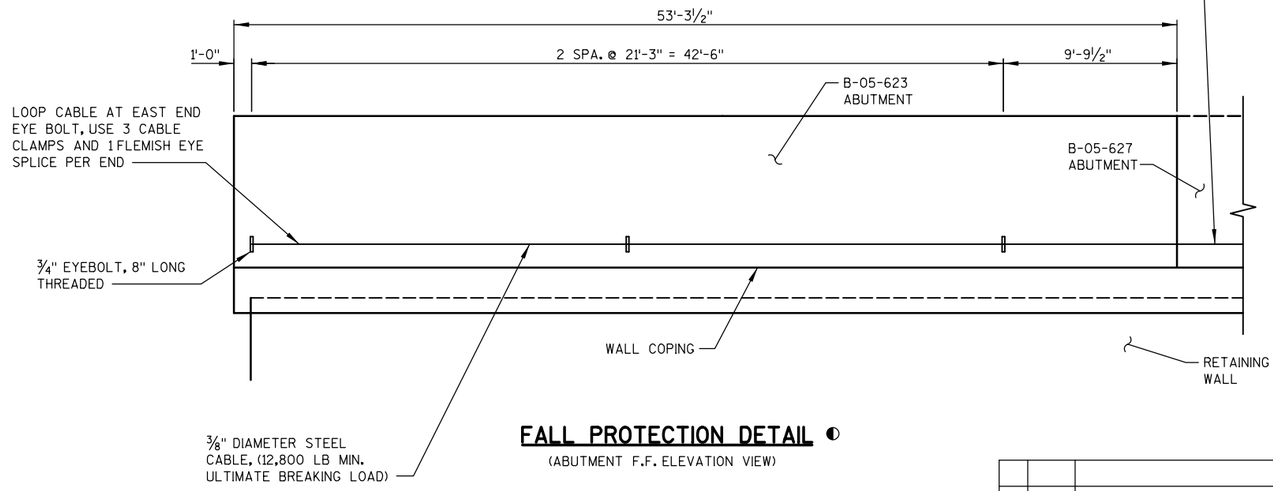
A407, A411, A412



A508



TYPICAL SECTION THRU BODY



FALL PROTECTION DETAIL ◐

(ABUTMENT F.F. ELEVATION VIEW)

◐ NOTES:

ALL LABOR AND MATERIAL (EYE BOLTS, CABLE, AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4-INCH.

ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.

USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.

MASONRY ANCHORS TYPE S 3/4-INCH. MIN. ULTIMATE PULLOUT CAPACITY OF 26 KIPS. FOR ADHESIVE ANCHORS, EMBED A MINIMUM OF 7" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

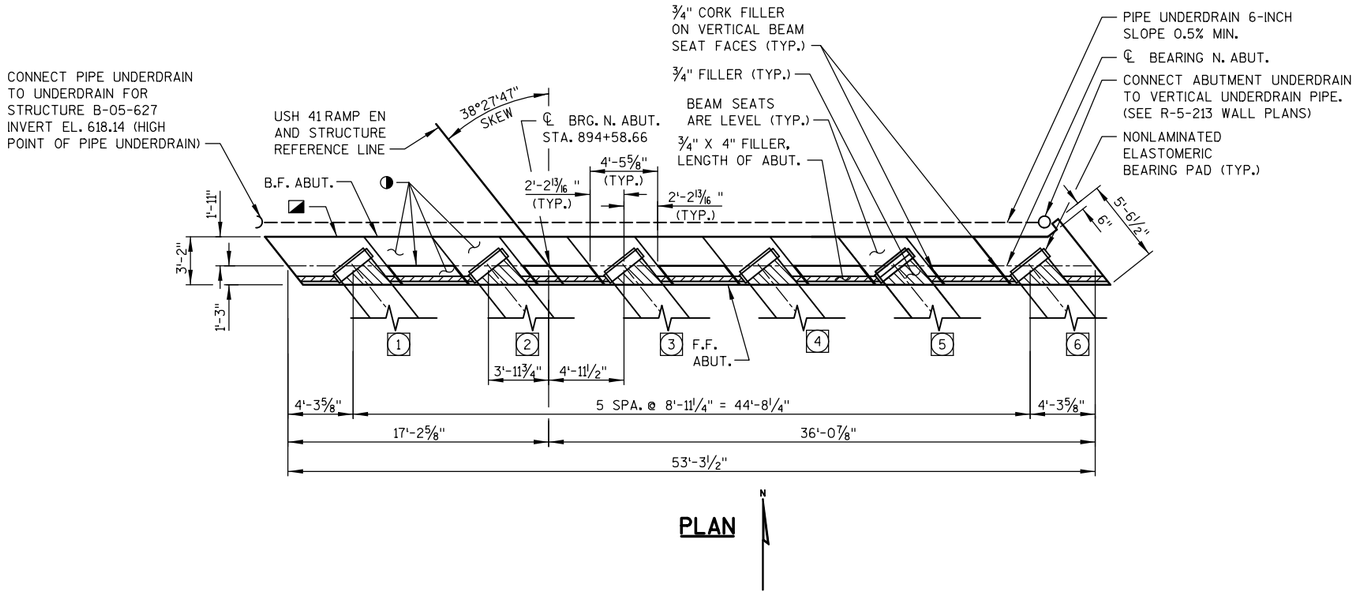
SOUTH ABUTMENT DETAILS

SHEET 9 OF 27
1884

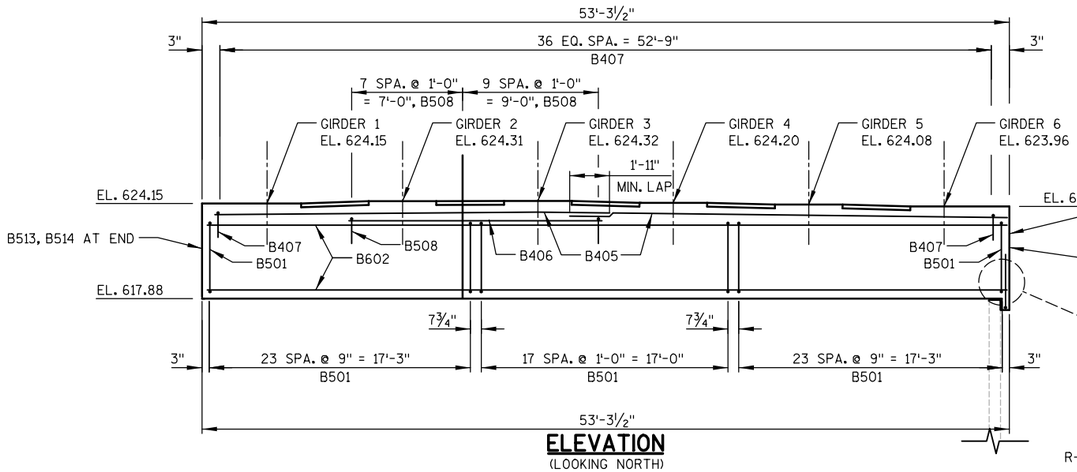
8

8

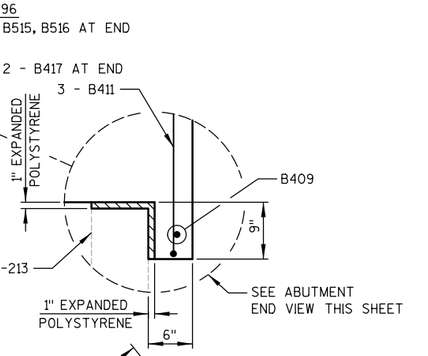
STATE PROJECT NUMBER
1133-09-71

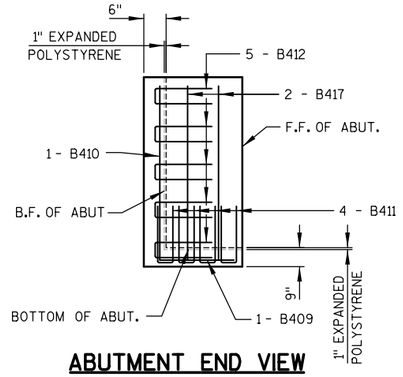


PLAN

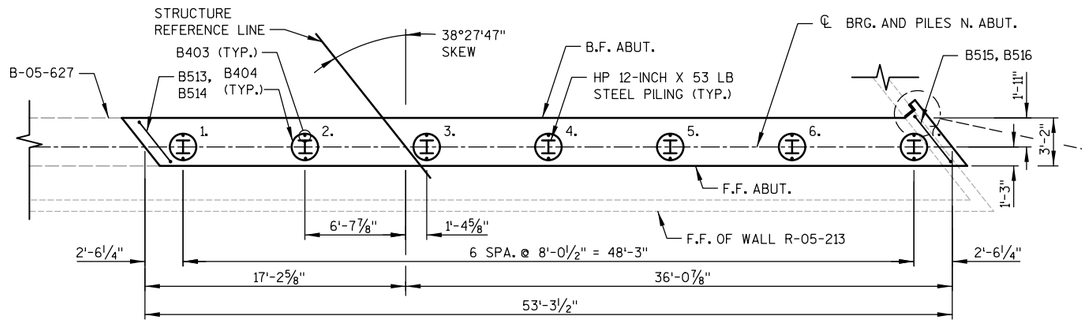


ELEVATION
(LOOKING NORTH)

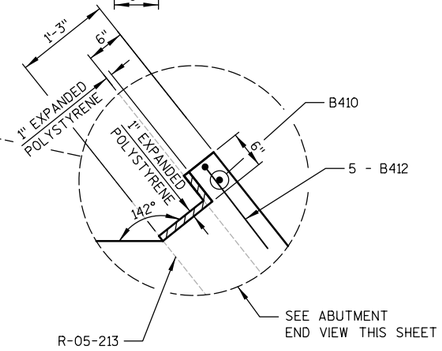




ABUTMENT END VIEW
(EAST END ONLY)



PILE PLAN



LEGEND

◑ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

◪ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

(#) INDICATES GIRDER NUMBER.

NOTES

SEE SHEET 2 FOR PILE SPLICE DETAILS.

ADJUST B501 BARS TO AVOID INTERFERENCE WITH PILES.

SEE SHEET 11 FOR REINFORCING DETAILS.

ABUTMENTS TO BE SUPPORTED ON HP 12-INCH X 53 LB STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH IS 105 FEET EACH.

SEE SHEET 11 FOR ABUTMENT FALL PROTECTION DETAIL.

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY	AJW	PLANS CK'D.	DJW

NORTH ABUTMENT

SHEET 10 OF 27
1885

STATE PROJECT NUMBER

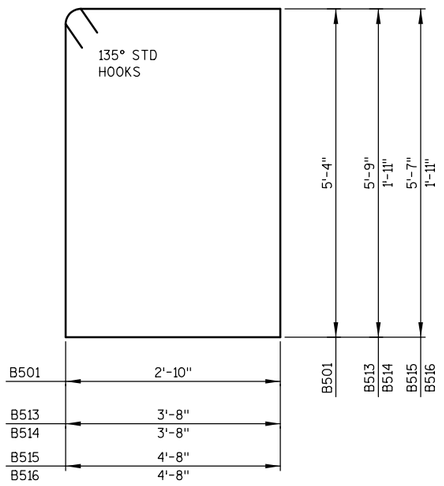
1133-09-71

NORTH ABUTMENT BILL OF BARS

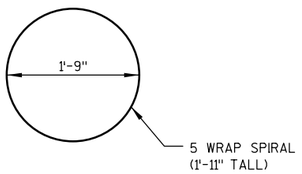
UNCOATED: 3,090 LBS

MARK	NO.	LENGTH	BENT	COAT	LOCATION
B501	66	16'-11"	X		BODY - VERT. - STIRRUPS
B602	17	52'-11'			BODY - HORIZ. - FF/BF, TOP/BOT
B403	14	2'-3"			BODY - PILES - VERT.
B404	7	28'-0"	X		BODY - PILES - VERT.
B405	4	27'-5"			BODY - TOP - HORIZ.
B406	3	16'-0"			BODY - TOP - HORIZ.
B407	37	4'-5"	X		BODY - TOP - VERT.
B508	17	5'-7"	X		BODY - TOP - VERT.
B409	1	5'-1"			RETAINING WALL EAR
B410	1	6'-6"			RETAINING WALL EAR
B411	4	4'-5"	X		RETAINING WALL EAR
B412	5	4'-0"	X		RETAINING WALL EAR
B513	1	19'-5"	X		BODY - VERT. - STIRRUP - WEST END
B514	1	11'-9"	X		BODY - VERT. - STIRRUP - WEST END
B515	1	21'-1"	X		BODY - VERT. - STIRRUP - EAST END
B516	1	13'-9"	X		BODY - VERT. - STIRRUP - EAST END
B417	2	6'-5"			BODY - VERT. - EAST END

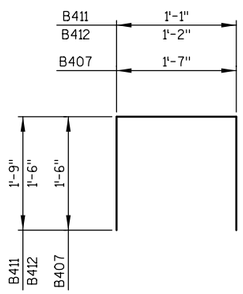
NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



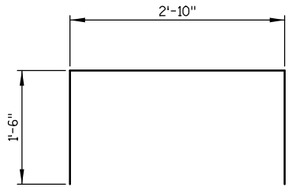
B501, B513, B514, B515, B516



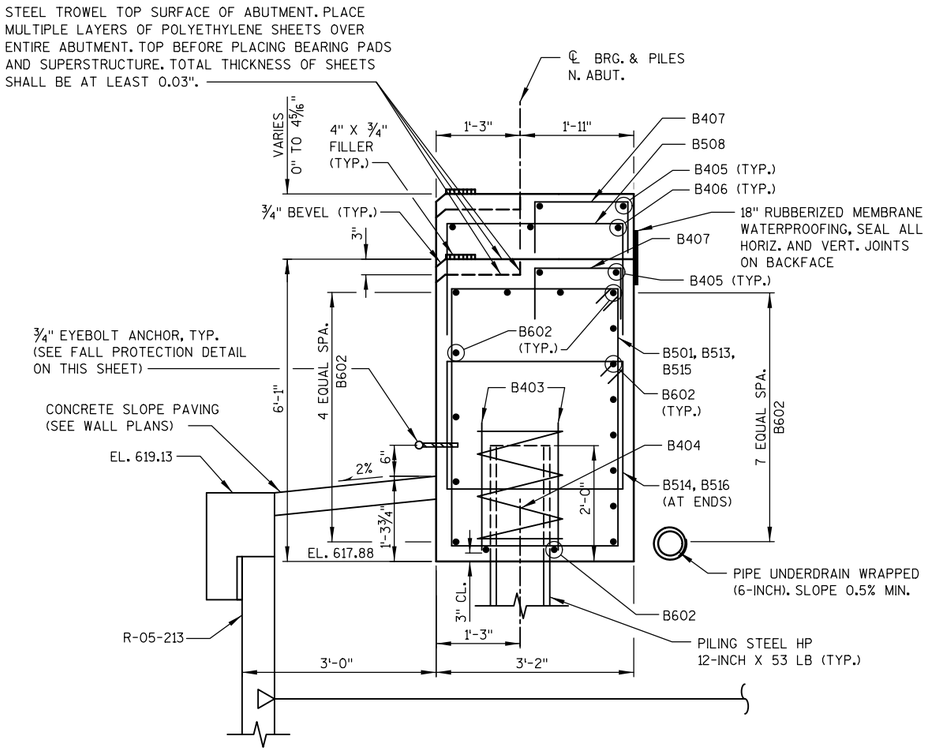
B404



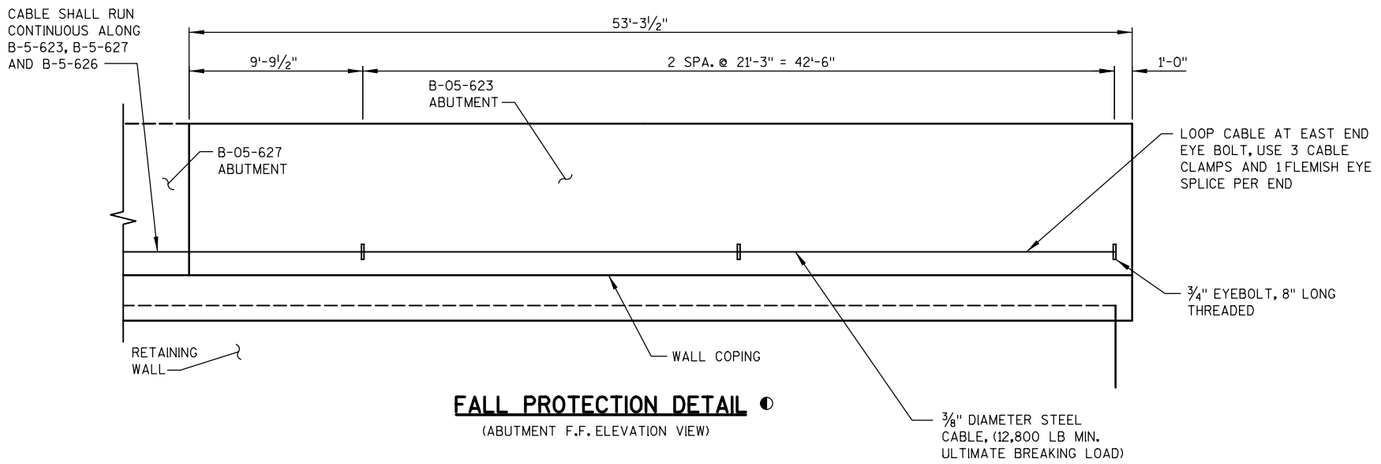
B407, B411, B412



B508



TYPICAL SECTION THRU BODY



FALL PROTECTION DETAIL ◐

(ABUTMENT F.F. ELEVATION VIEW)

◐ NOTES:

ALL LABOR AND MATERIAL (EYE BOLTS, CABLE, AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4-INCH.

ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.

USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.

MASONRY ANCHORS TYPE S 3/4-INCH. MIN. ULTIMATE PULLOUT CAPACITY OF 26 KIPS. FOR ADHESIVE ANCHORS, EMBED A MINIMUM OF 7" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

NORTH ABUTMENT DETAILS

SHEET 11 OF 27

1886

8

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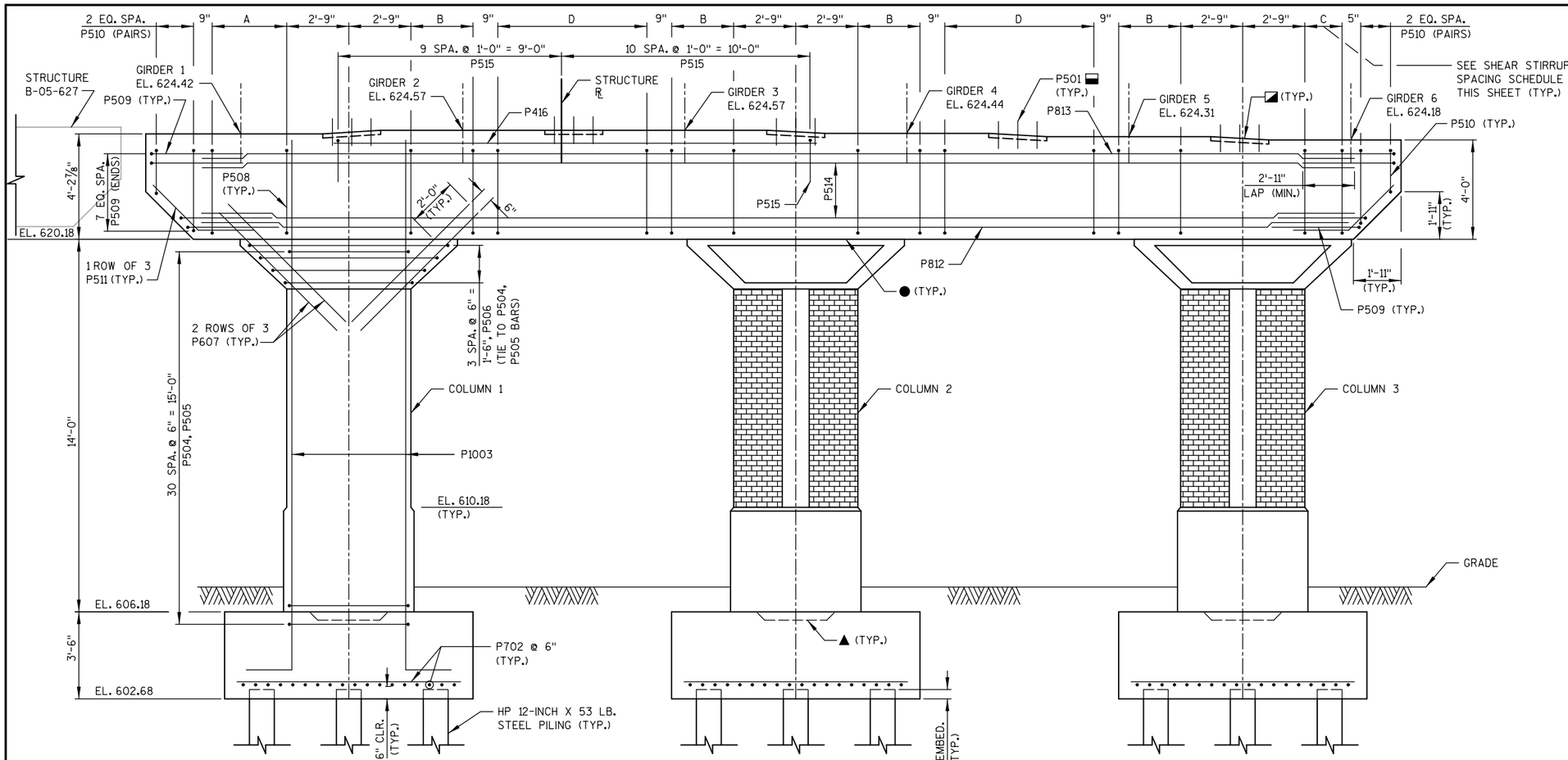
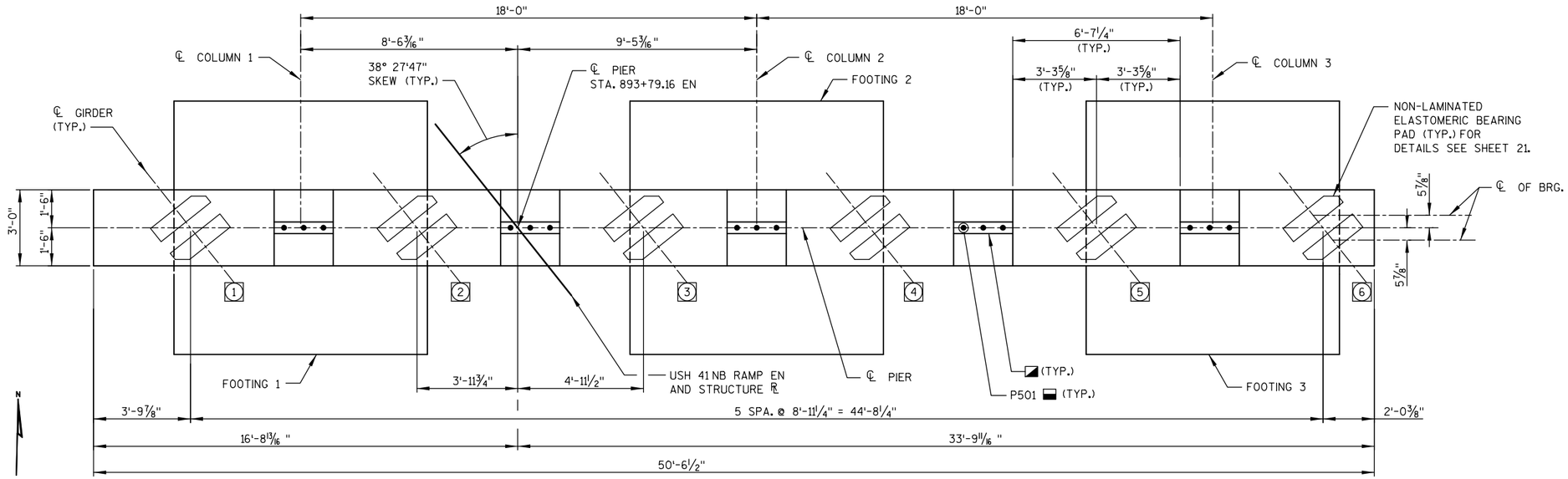
STATE PROJECT NUMBER

1133-09-71



ELEVATION

(LOOKING NORTH)



PLAN

NOTES

GIRDER ELEVATIONS GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF THE PIER. BEAM SEATS SHALL BE LEVEL.

SEE SHEET 13 FOR REINFORCING DETAILS.

ARCHITECTURAL SURFACE TREATMENT AND REVEALS NOT SHOWN ON COLUMN 1 FOR CLARITY.

LEGEND

- KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2"X6".
- INDICATES GIRDER NUMBER.
- P501 BARS @ 1'-0" CENTERS BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED 1'-0" INTO CONCRETE.
- ▲ CONSTRUCTION JOINT FORMED BY A BEVELED 3"X1'-3"X2'-6" KEYWAY.
- ● CONSTRUCTION JOINT. STRIKE OFF AND LEAVE ROUGH.

SHEAR STIRRUP SPACING

A 4 SPA. @ 9" = 3'-0", P508 (PAIRS)
B 4 SPA. @ 6" = 2'-0", P508 (PAIRS)
C 2 SPA. @ 9" = 1'-6", P508 (PAIRS)
D 7 SPA. @ 1'-0" = 7'-0", P508 (PAIRS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

PIER

SHEET 12 OF 27
1887

8

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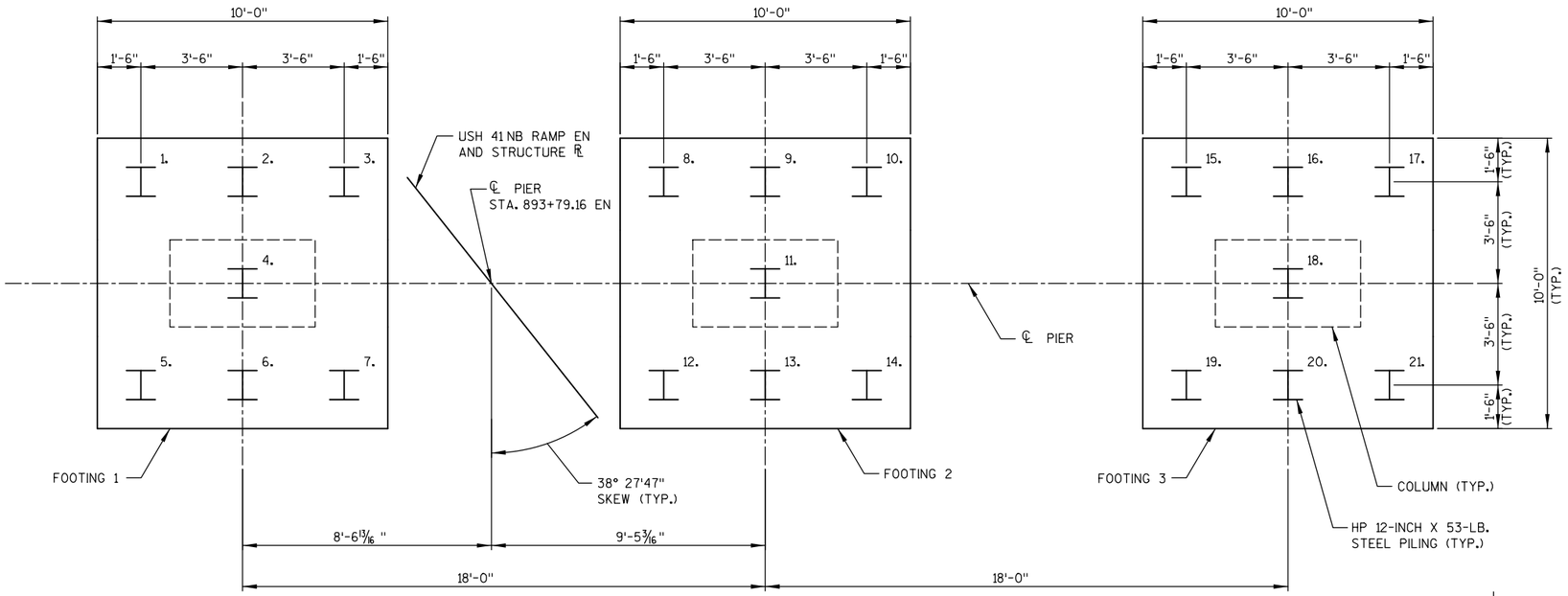
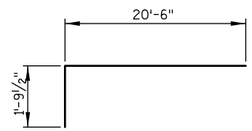
STATE PROJECT NUMBER
1133-09-71



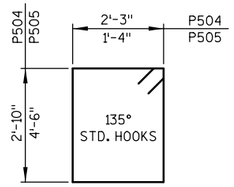
NOTES

PIER TO BE SUPPORTED ON HP 12-INCH X 53 LB. STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH 85 FT EACH.

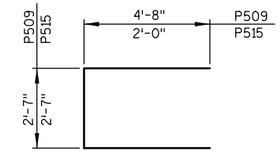
FOUNDATION PLAN



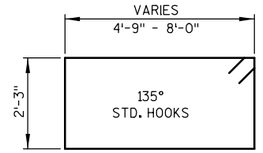
P1003



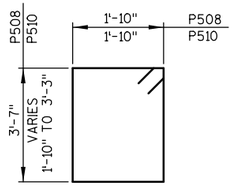
P504, P505



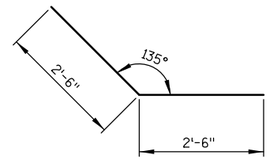
P509, P515



P506



P508, P510



P511

PIER 1 BILL OF BARS

UNCOATED: 2,370 LBS.
COATED: 15,950 LBS

MARK	NO.	LENGTH	BENT	COAT	LOCATION
P501	15	2'-0"		X	CAP - DOWELS - TOP
P702	120	9'-8"			FOOTINGS - HORIZ.
P1003	84	22'-0"	X	X	FOOTINGS AND COLUMNS - VERT.
P504	186	10'-9"	X	X	COLUMNS - STIRRUPS
P505	93	12'-3"	X	X	COLUMNS - STIRRUPS
▲ P506	12	17'-10"	X	X	COLUMNS - STIRRUPS - TOP
P607	36	7'-0"		X	COLUMNS - TOP
P508	88	11'-5"	X	X	CAP - STIRRUPS
P509	16	11'-8"	X	X	CAP - HORIZ. - ENDS
P510	12	9'-4"	X	X	CAP - STIRRUPS - ENDS
P511	6	5'-0"	X	X	CAP - HORIZ. - ENDS
P812	7	46'-4"		X	CAP - HORIZ. - BOTTOM
P813	8	50'-2"		X	CAP - HORIZ. - TOP
P514	12	46'-8"		X	CAP - HORIZ. - SIDES
P515	20	6'-4"	X	X	CAP - VERT. - TOP
P416	4	19'-0"		X	CAP - HORIZ. - TOP

NOTE: THE FIRST ONE OR TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. DIMENSIONS FOR BENDING ARE OUT TO OUT OF BAR.

▲ BARS SERIES TABLE

MARK	NO. REQ'D	LENGTH
P506	3 SERIES OF 4	14'-7" TO 21'-1"
P510	4 SERIES OF 3	7'-11" TO 10'-9"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

PIER FOUNDATION

SHEET 13 OF 27
1888

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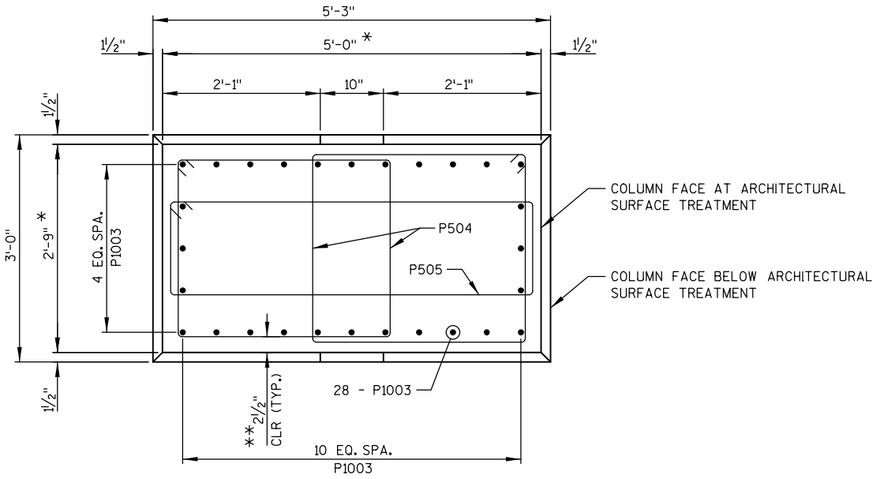
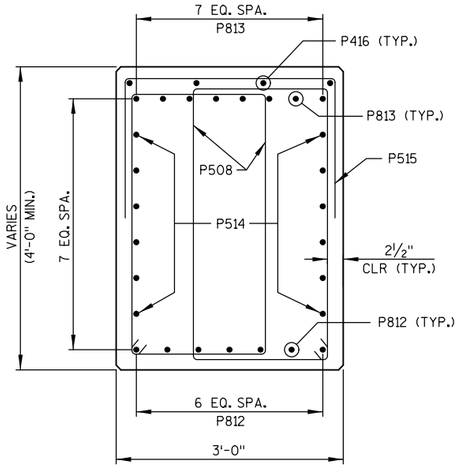
8

STATE PROJECT NUMBER

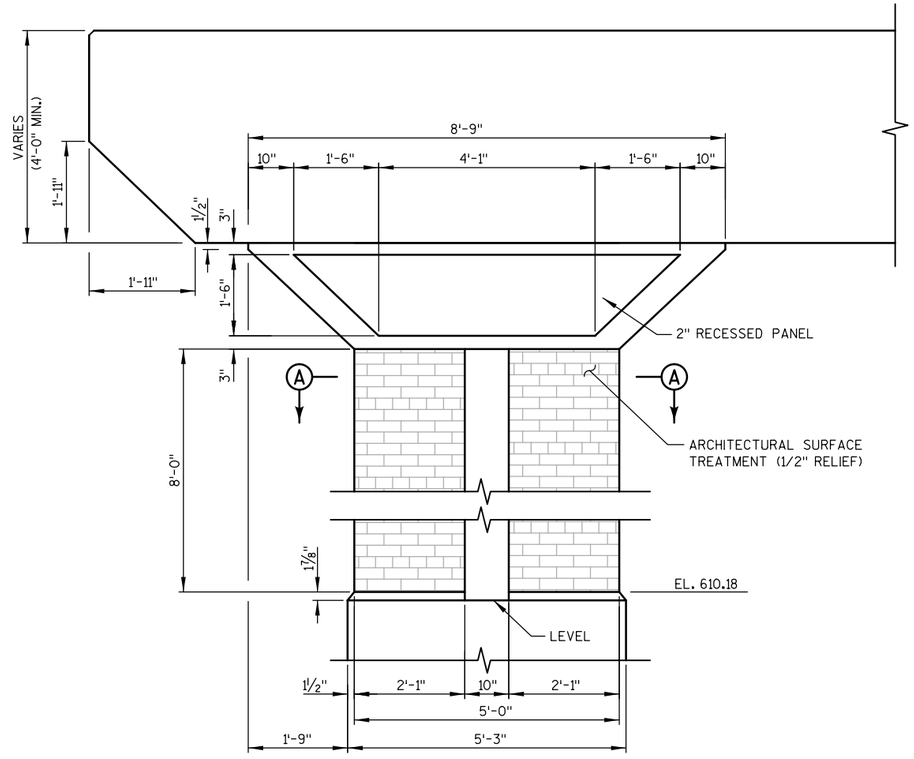
1133-09-71



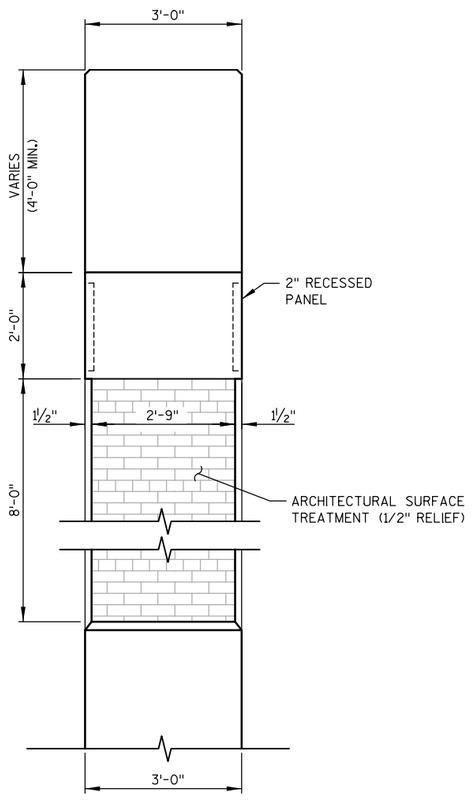
PIER COLUMN SECTION A-A



SECTION THRU PIER CAP



PIER ELEVATION



PIER END ELEVATION

NOTES

SEE SHEET 13 FOR REINFORCING DETAILS.

SEE SHEET 27 FOR ARCHITECTURAL SURFACE TREATMENT AND CONCRETE STAINING REQUIREMENTS.

LEGEND

* DIMENSION IS TAKEN TO OUTER FACE OF ARCHITECTURAL SURFACE TREATMENT.

** 2½" CLEAR DISTANCE IS FROM INSIDE OF ARCHITECTURAL SURFACE TREATMENT RELIEF (3" FROM OUTSIDE OF FACE RELIEF).

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

PIER DETAILS

SHEET 14 OF 27

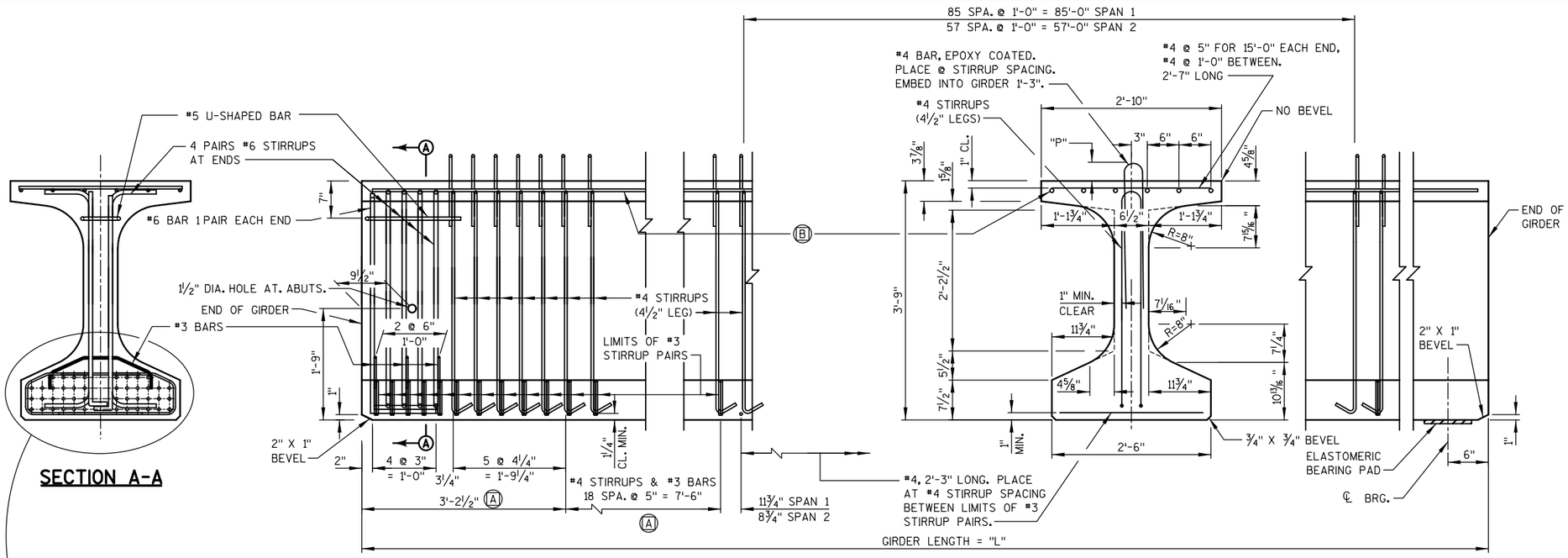
1889

8

8

STATE PROJECT NUMBER

1133-09-71

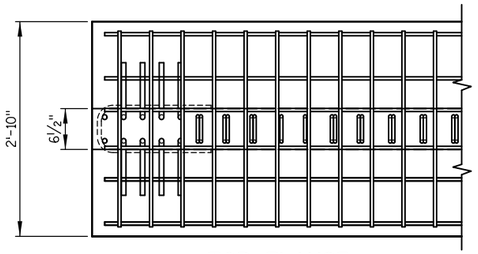


SECTION A-A

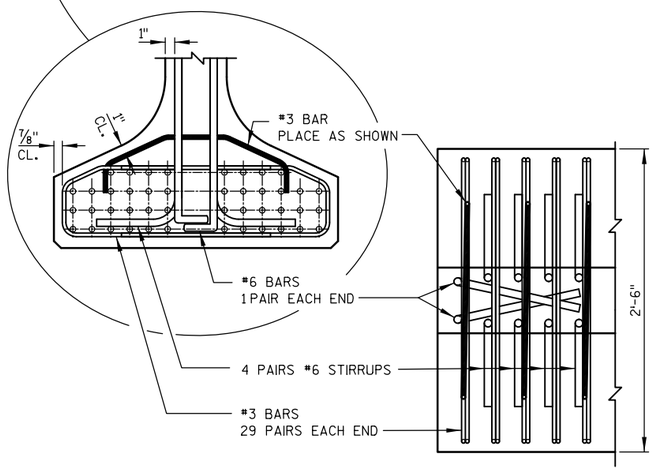
SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

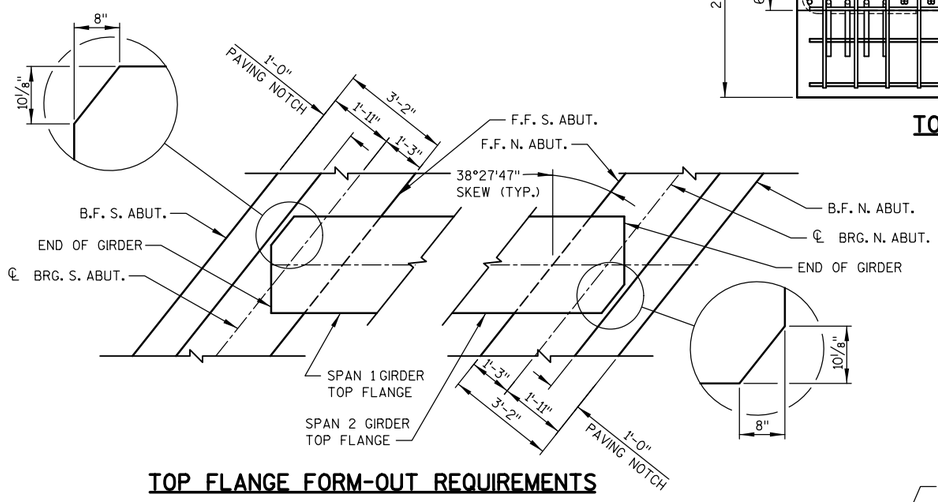
Ⓑ 6 #5 BARS, FULL LENGTH, MIN. LAP = 2'-5"



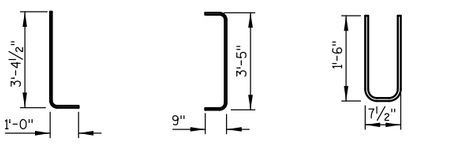
TOP FLANGE

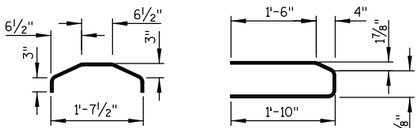


BOTTOM FLANGE



TOP FLANGE FORM-OUT REQUIREMENTS

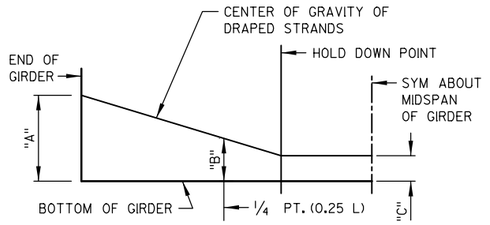




*MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.)									CONC. STRGTH. f'c (P.S.I.)	"P" (IN.) 1ST ⅓ OF GIRDER	"P" (IN.) MID ⅓ OF GIRDER	"P" (IN.) END ⅓ OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN						UNDRAPED PATTERN	
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10						TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1, 6	108'-4½"	0.76	1.44	1.98	2.32	2.44	2.32	1.98	1.44	0.76	8000	8	7	8	0.60	36	6800	39	13.50	16.50	5		
1	2-5	108'-4½"	0.76	1.42	1.94	2.26	2.37	2.26	1.94	1.42	0.76	8000	8	7	8	0.60	36	6800	39	13.50	16.50	5		
2	1, 6	79'-10½"	0.22	0.41	0.57	0.67	0.71	0.67	0.57	0.41	0.22	8000	8	7	8	0.60								
2	2-5	79'-10½"	0.22	0.41	0.56	0.65	0.68	0.65	0.56	0.41	0.22	8000	8	7	8	0.60							20	6800
																							20	6800



DRAPED STRAND PROFILE

GIRDER NOTES

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

PRESTRESSING STRANDS SHALL BE 0.6"Φ - 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, THE FOLLOWING OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT CHIEF, (608) 266-5161.

FORM-OUT CORNER OF TOP FLANGE AT ABUTMENTS TO MEET CLEARANCE REQUIREMENTS. SEE DETAIL THIS SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

45W" PRESTRESSED GIRDER DETAILS-1

SHEET 15 OF 27

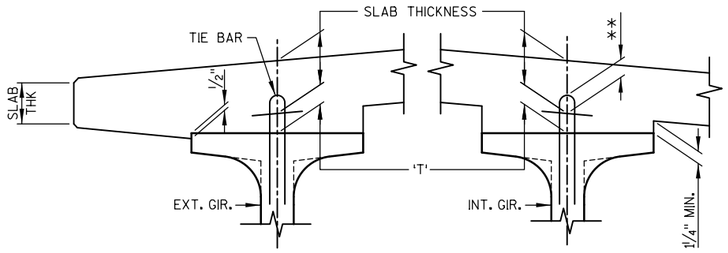
1890

8

8

STATE PROJECT NUMBER

1133-09-71



SLAB HAUNCH DETAIL

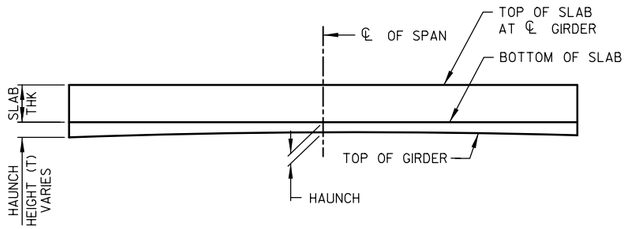
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
\- TOP OF GIRDER ELEVATION
\+ DEAD LOAD DEFLECTION
\- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES".

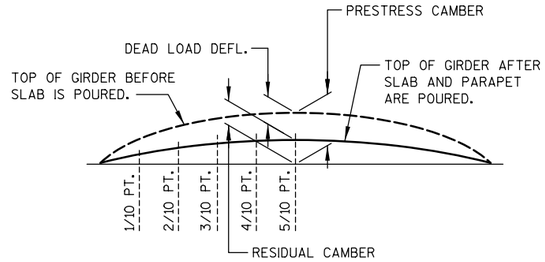


ELEVATION

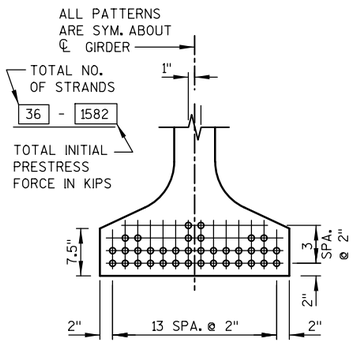
THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.)
1	3.81
2	1.23

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

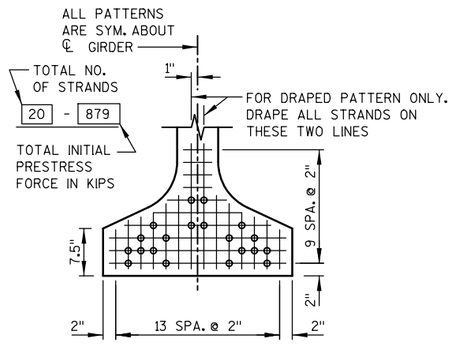


CAMBER AND DEFLECTION DIAGRAM



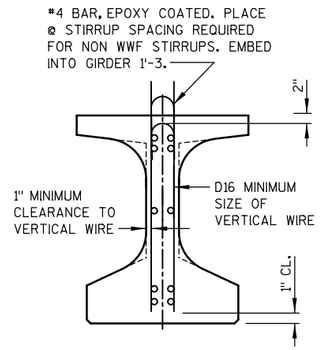
TYP. STRAND PATTERN

(SPAN 1)



TYP. STRAND PATTERN

(SPAN 2)



SECTION THRU GIRDER

SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

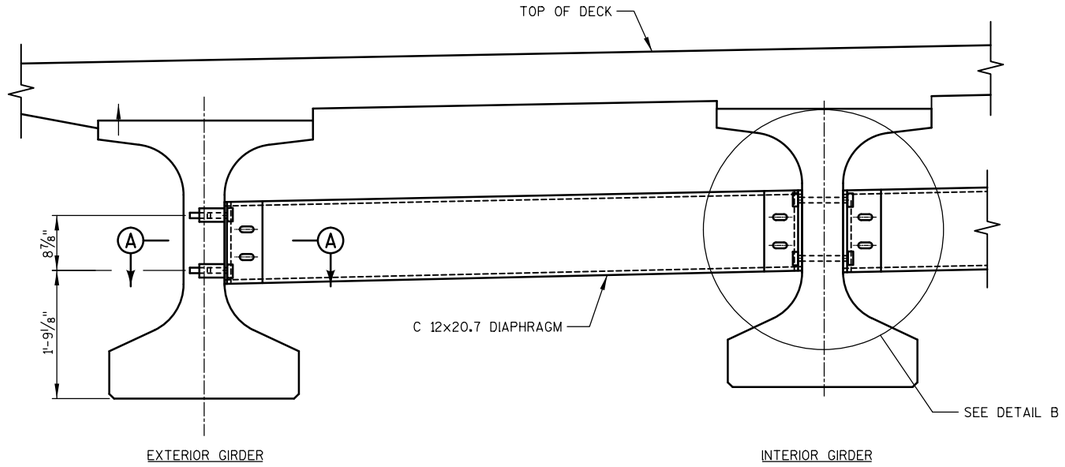
45W" PRESTRESSED GIRDER DETAILS-2

SHEET 16 OF 27

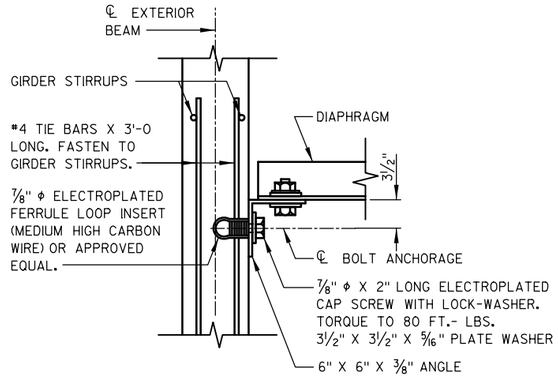
1891

STATE PROJECT NUMBER

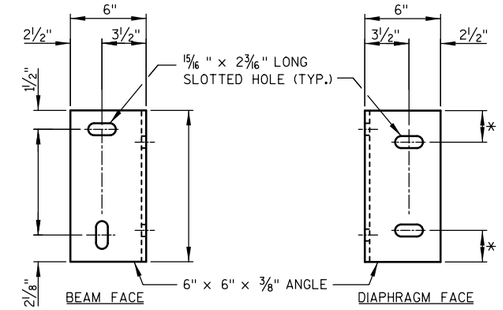
1133-09-71



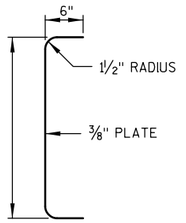
PART TRANSVERSE SECTION AT DIAPHRAGM



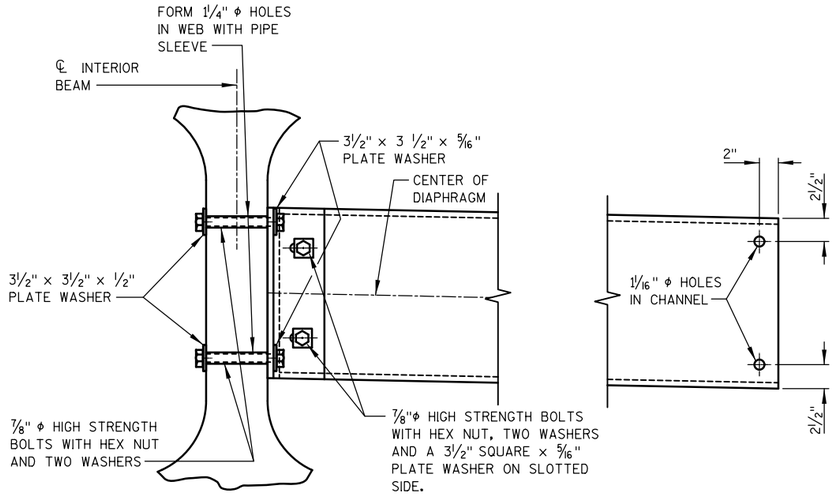
SECTION A-A
(FOR EXTERIOR ATTACHMENT)



DIAPHRAGM SUPPORT
* 2½" FOR ALTERNATE PLATE DIAPHRAGM

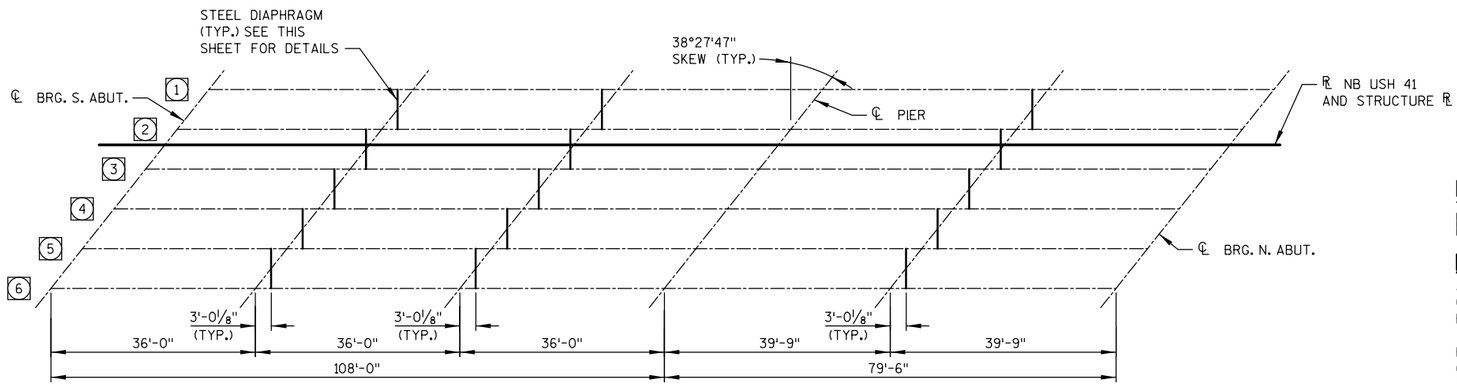


SECTION THRU ALTERNATE DIAPHRAGM



(FOR STAGGERED DIAPHRAGM)

DETAIL B



PLAN
(SHOWING DIAPHRAGM LAYOUT)

LEGEND

(#) INDICATES GIRDER NUMBER.

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-05-623", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT. ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

SEE THIS SHEET FOR DIAPHRAGM LAYOUT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

STEEL DIAPHRAGM

SHEET 17 OF 27
1892

8

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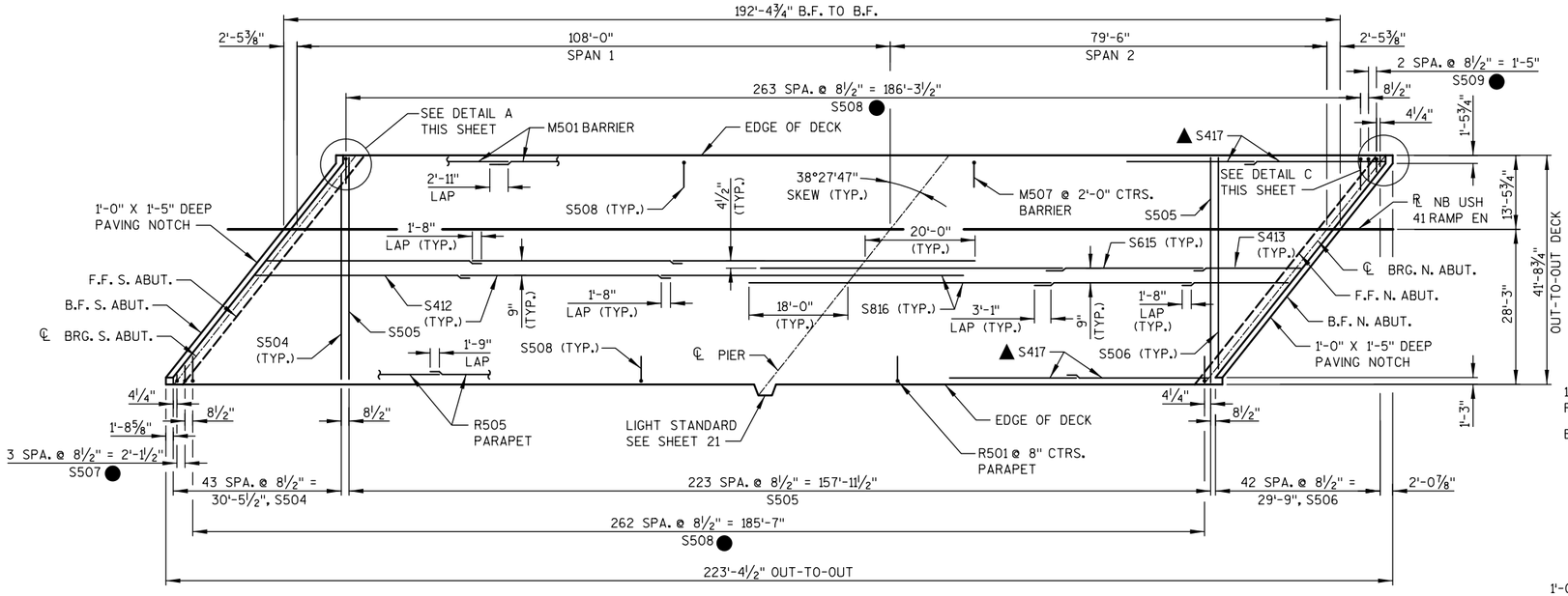
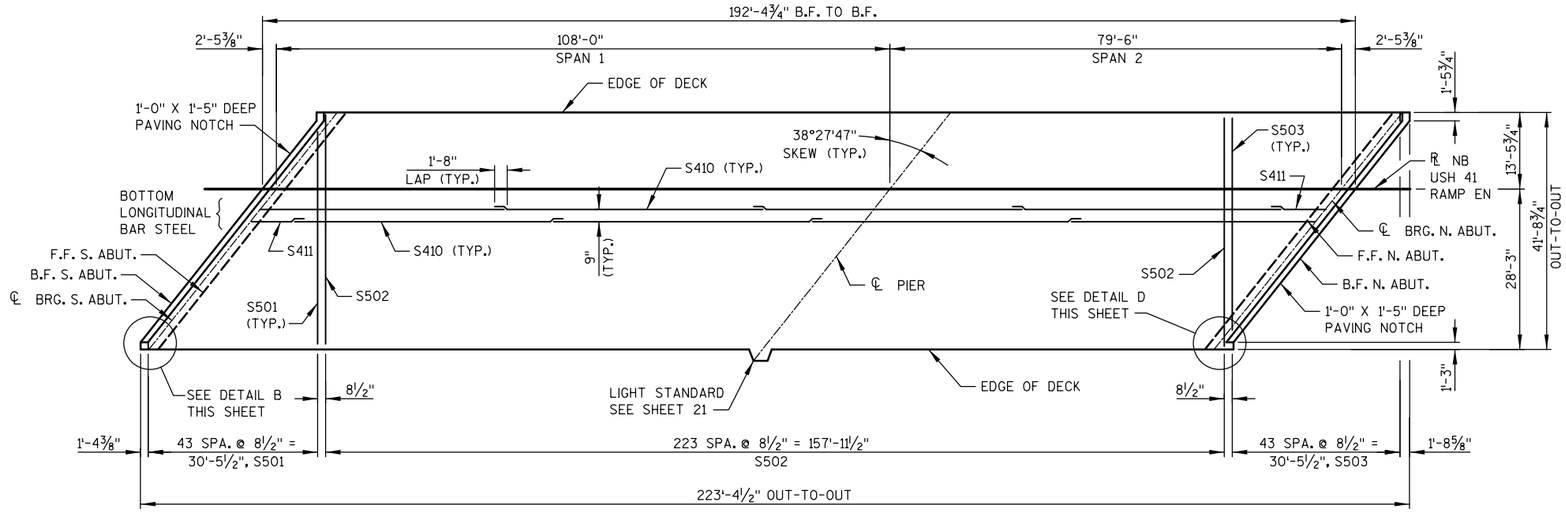
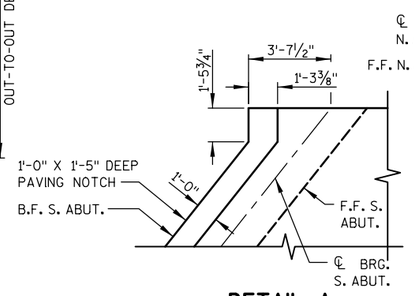
STATE PROJECT NUMBER
1133-09-71



PLAN
(SHOWING TOP MAT SLAB REINFORCING)

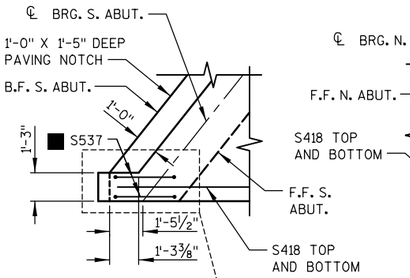


PLAN
(SHOWING BOTTOM MAT SLAB REINFORCING)

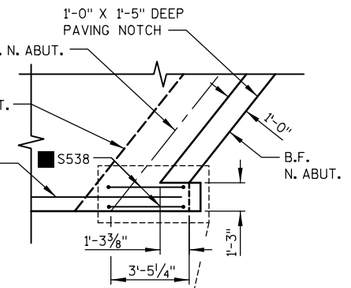


DETAIL A

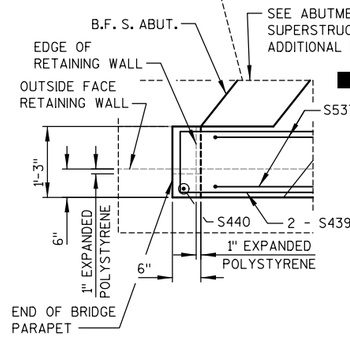
DETAIL C

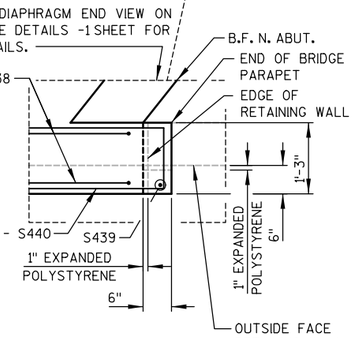


DETAIL B



DETAIL D





NOTES

SEE SHEET 22 FOR BAR DETAILS AND TOP OF DECK ELEVATIONS

LEGEND

- ● LOCATE BARS BETWEEN TOP MAT TRANSVERSE REINFORCEMENT.
- ■ PROVIDE THESE BARS IN PLACE OF S527 BARS ADJACENT TO PAVING NOTCH AT EAST EDGE OF DECK.
- ▲ LAP THESE BARS ONTO S816 BARS AT EDGES OF DECK. PROVIDE MIN. 1'-8" LAPS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE PLAN

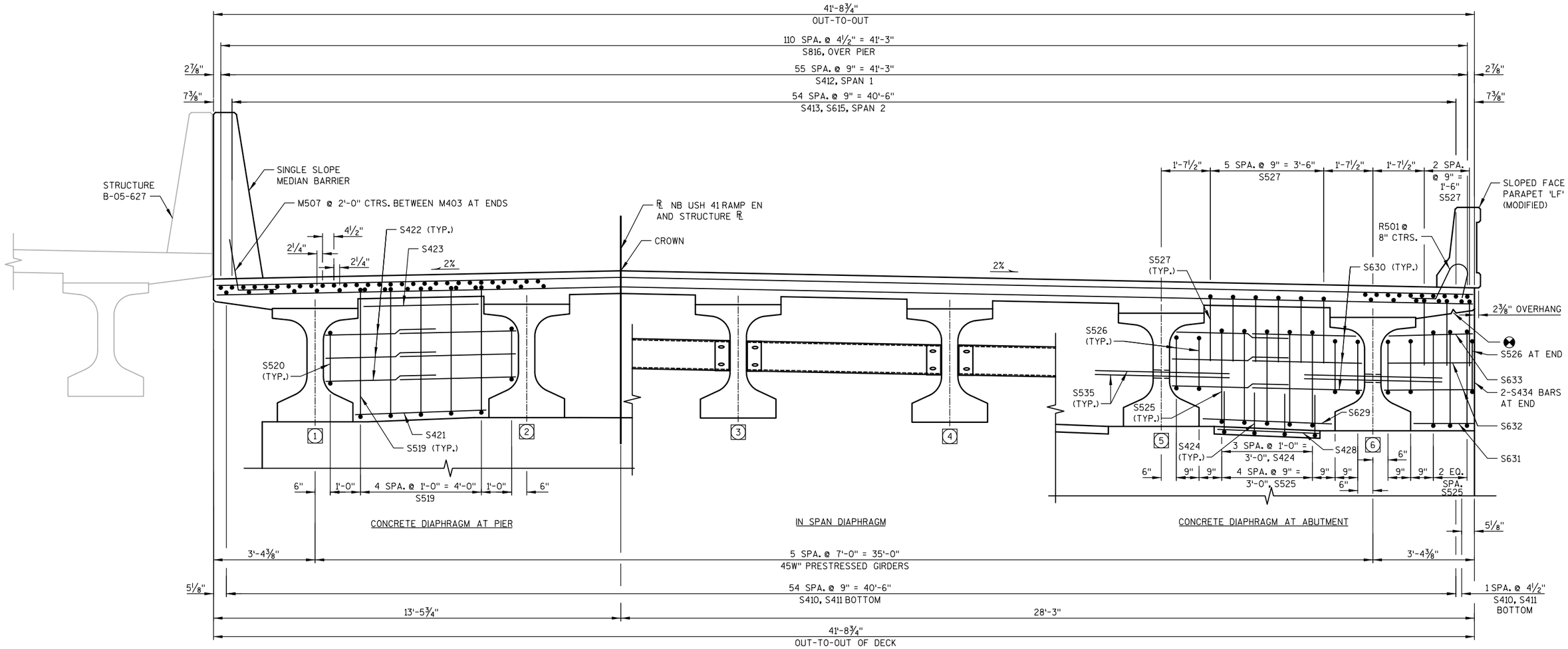
SHEET 18 OF 27
1893

8

8

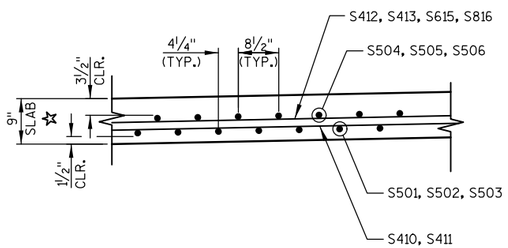
STATE PROJECT NUMBER

1133-09-71



CROSS SECTION THRU DECK

(LOOKING NORTH)



SECTION S-S

LEGEND

- ◓ ¾" V-GROOVE. EXTEND V-GROOVE TO THE FILLET ADJACENT TO THE ABUTMENTS. LOCATE 5" FROM EDGE OF DECK.
- ☆ STRUCTURE IS DESIGNED FOR A 1½" WEARING SURFACE PLACED AT INITIAL CONSTRUCTION, INTEGRAL WITH THE DECK. THE DESIGN DOES NOT PROVIDE FOR ADDITIONAL LOADS DUE TO A FUTURE WEARING SURFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY	AJW	PLANS CK'D.	DJW

SUPERSTRUCTURE SECTION

SHEET 19 OF 27

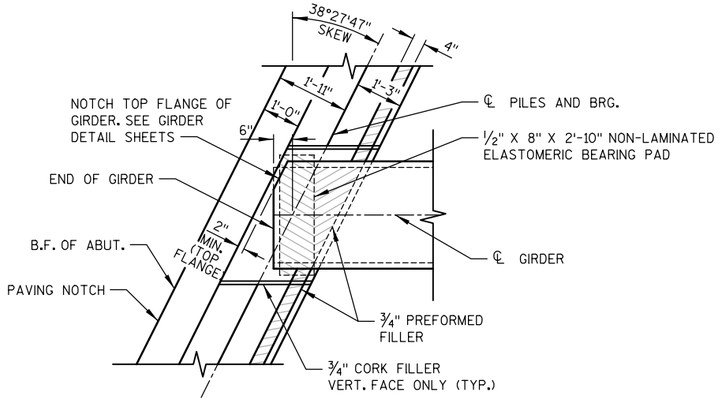
1894

8

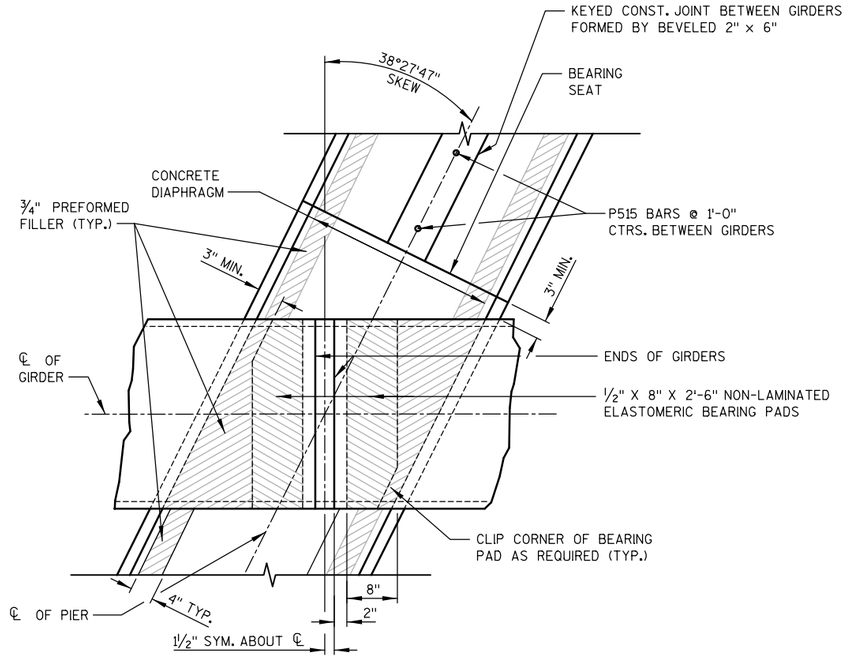
8

STATE PROJECT NUMBER

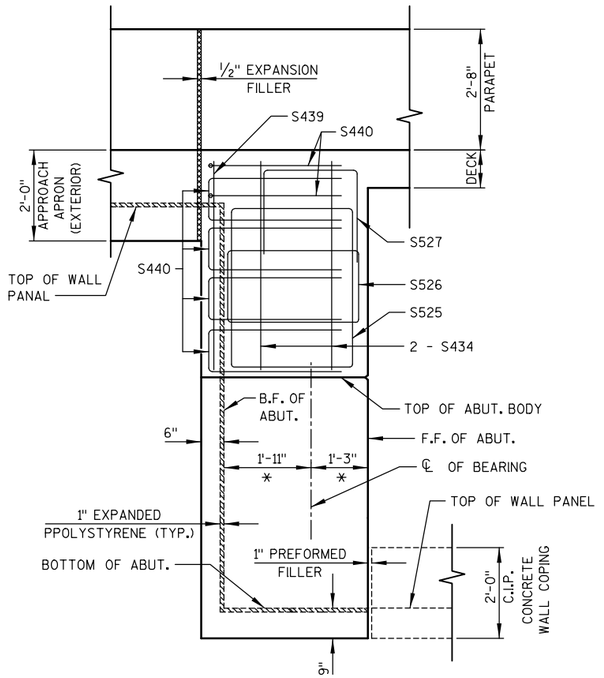
1133-09-71



BEARING PAD AT ABUTMENT

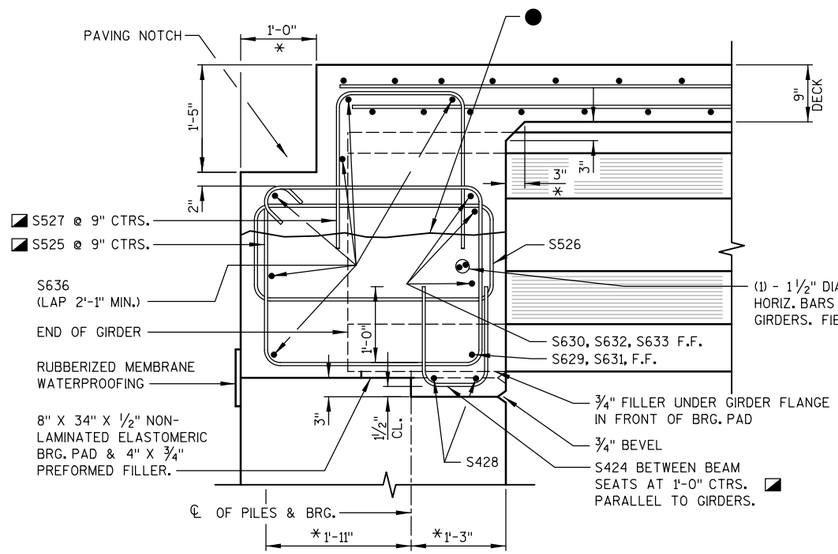


BEARING PAD AT PIER

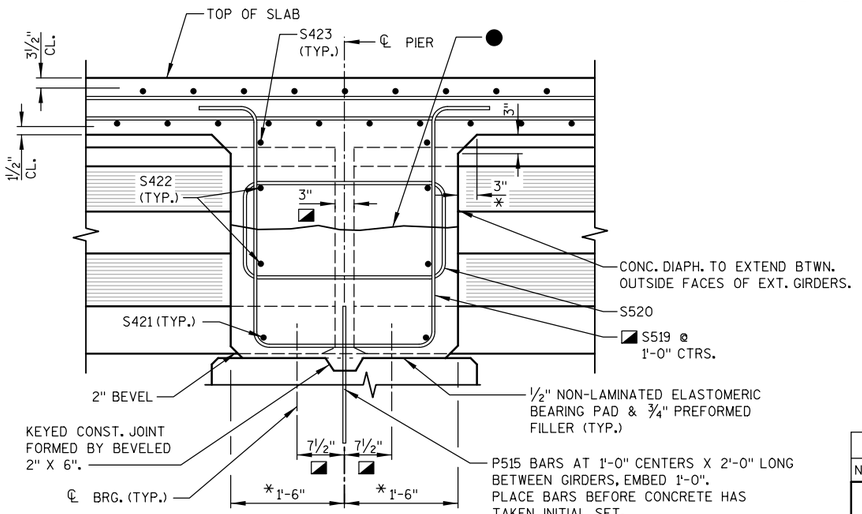


END VIEW AT ABUTMENT DIAPHRAGM

(TYPICAL AT EAST EDGE OF BRIDGE, 2 LOCATIONS)



PRESTRESSED GIRDER WITH SEMI-EXPANSION SEAT AT ABUTMENT



DIAPHRAGM AT PIER

NOTES

SEE SHEET 22 FOR REINFORCING DETAILS.

SPACE S421, S422 AND S423 MAX. 1'-6" O.C. VERTICALLY.

LEGEND

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

◪ DIMENSION IS TAKEN PARALLEL TO GIRDER.

● OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE DETAILS-1

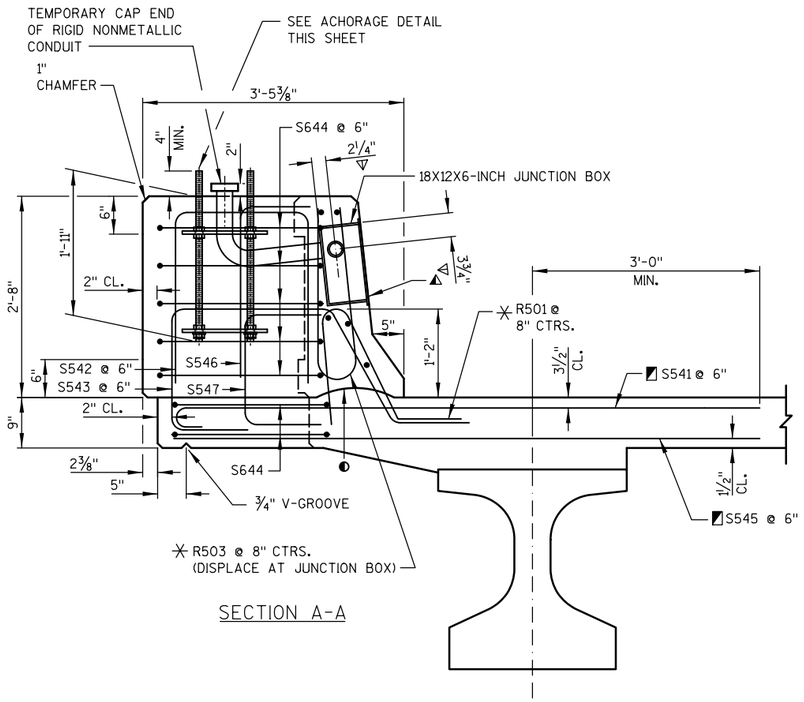
SHEET 20 OF 27

1895

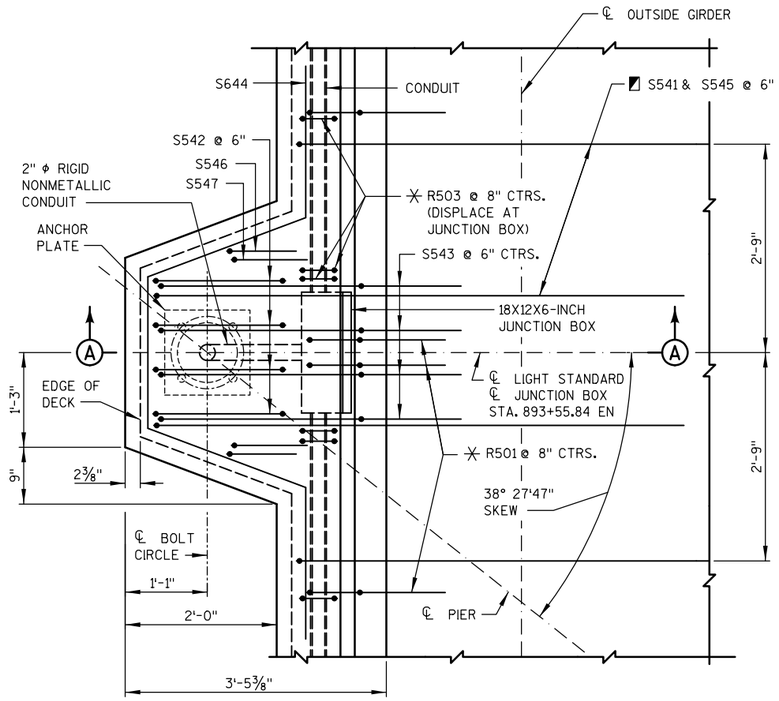
8

8

STATE PROJECT NUMBER
1133-09-71



SECTION A-A



PLAN AT LIGHT STANDARD

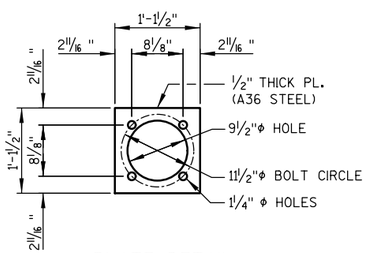
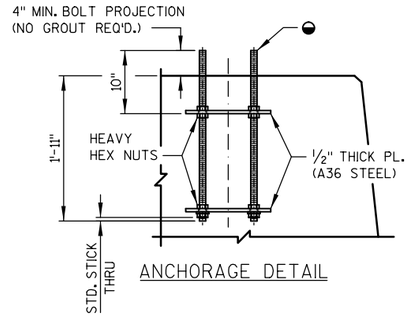


PLATE DETAIL



ANCHORAGE DETAIL

LEGEND

- ◐ CONSTR. JT. STRIKE AS SHOWN
- ◭ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- ▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.
- ◩ THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN DECK.
- ◒ 1"ϕ THREADED ANCHOR BOLTS ASTM A449 OR AASHTO M 314-90 GR 55. HOT DIP ASTM A153, CLASS C, UPPER 12" OF BOLT INCLUDING NUTS & WASHERS. PROVIDE ENLARGED THREAD ON NUTS FOR PROPER FIT AFTER GALVANIZING. PROVIDE DOUBLE FLAT WASHERS & NUTS.
- ✳ SEE SHEET 25 FOR ADDITIONAL BAR STEEL DETAILS.

NOTES

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
O-Z/GEDNEY TYPE AX-200 AND BONDING JUMPER (4" TOTAL CONDUIT MOVEMENT).

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS U.L. LISTED FOR ELECTRICAL USE SHALL BE USED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE DETAILS-2

SHEET 21 OF 27
1896

8

8

SUPERSTRUCTURE
BILL OF BARS

COATED: 60,810 LBS.

	MARK	NO.	LENGTH	BENT	COAT	LOCATION
▲	S501	44	20'-1"		X	SLAB - TRANSVERSE - BOTTOM
	S502	224	41'-4"		X	SLAB - TRANSVERSE - BOTTOM
▲	S503	44	20'-9"		X	SLAB - TRANSVERSE - BOTTOM
▲	S504	44	20'-6"		X	SLAB - TRANSVERSE - TOP
	S505	224	41'-4"		X	SLAB - TRANSVERSE - TOP
▲	S506	43	20'-9"		X	SLAB - TRANSVERSE - TOP
▲	S507	4	3'-8"	X	X	SLAB - TRANSVERSE - TOP - EDGE OF DECK
	S508	527	5'-4"	X	X	SLAB - TRANSVERSE - TOP - EDGE OF DECK
▲	S509	3	3'-7"	X	X	SLAB - TRANSVERSE - TOP - EDGE OF DECK
	S410	224	45'-0"		X	SLAB - LONGITUDINAL - BOTTOM
	S411	56	16'-2"		X	SLAB - LONGITUDINAL - BOTTOM
	S412	112	38'-8"		X	SLAB - LONGITUDINAL - TOP - SPAN 1
	S413	55	20'-2"		X	SLAB - LONGITUDINAL - TOP - SPAN 2
						NOT USED
	S615	55	28'-1"		X	SLAB - LONGITUDINAL - TOP - SPAN 2
	S816	111	55'-0"		X	SLAB - LONGITUDINAL - TOP - OVER PIER
	S417	4	32'-0"		X	SLAB - LONGITUDINAL - TOP - EDGES OF DECK - SPAN 2
	S418	4	4'-0"		X	SLAB - LONGITUDINAL - TOP & BOTTOM - EAST EDGE OF DECK - ADJACENT TO PAVING NOTCH
	S519	25	12'-10"	X	X	PIER DIAPHRAGM - VERT.
	S520	10	10'-11"	X	X	PIER DIAPHRAGM - VERT. - ADJACENT TO GIRDERS
	S421	10	5'-5"		X	PIER DIAPHRAGM - HORIZ.
	S422	60	4'-9"		X	PIER DIAPHRAGM - HORIZ.
	S423	10	4'-11"		X	PIER DIAPHRAGM - HORIZ.
	S424	40	3'-7"	X	X	ABUT. DIAPHRAGM - VERT. - ABUT. BODY NOTCH
	S525	62	13'-11"	X	X	ABUT. DIAPHRAGM - VERT.
	S526	52	11'-3"	X	X	ABUT. DIAPHRAGM - VERT. - ADJACENT TO GIRDERS & AT ENDS
	S527	72	7'-2"	X	X	ABUT. DIAPHRAGM - VERT. - PAVING NOTCH
	S428	20	4'-1"		X	ABUT. DIAPHRAGM - HORIZ. - ABUT. BODY NOTCH
	S629	10	5'-5"		X	ABUT. DIAPHRAGM - HORIZ. - F.F.
	S630	60	5'-0"		X	ABUT. DIAPHRAGM - HORIZ. - F.F.
	S631	4	2'-4"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - ENDS
	S632	8	3'-7"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - ENDS
	S633	4	2'-10"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - ENDS
	S434	8	4'-5"		X	ABUT. DIAPHRAGM - VERT. - ENDS
	S535	24	6'-0"		X	ABUT. DIAPHRAGM - HORIZ. - THRU GIRDERS
	S636	24	27'-6"		X	ABUT. DIAPHRAGM - HORIZ. - B.F., SLAB
	S537	2	9'-5"	X	X	ABUT. DIAPHRAGM - VERT. - SOUTHEAST CORNER
	S538	2	10'-5"	X	X	ABUT. DIAPHRAGM - VERT. - NORTHEAST CORNER
	S439	2	3'-6"		X	ABUT. DIAPHRAGM - VERT. - RETAINING WALL EARS - EAST EDGE
	S440	12	4'-2"	X	X	ABUT. DIAPHRAGM - VERT. / HORIZ. - RETAINING WALL EARS - EAST EDGE
	S541	12	8'-7"	X	X	DECK TRANSVERSE @ LIGHT STANDARD
	S542	4	6'-0"	X	X	PARAPET VERT. @ LIGHT STANDARD
	S543	4	7'-0"	X	X	PARAPET VERT. @ LIGHT STANDARD
	S644	5	10'-0"	X	X	PARAPET HORIZ. @ LIGHT STANDARD
	S545	12	8'-0"		X	DECK TRANSVERSE @ LIGHT STANDARD
	S546	2	3'-2"	X	X	PARAPET VERT. @ LIGHT STANDARD
	S547	2	3'-5"	X	X	PARAPET VERT. @ LIGHT STANDARD

NOTE: THE FIRST ONE OR TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. DIMENSIONS FOR BENDING ARE OUT TO OUT OF BAR.

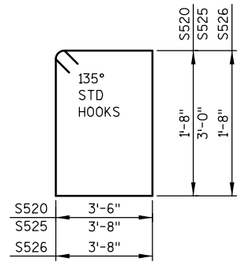
▲ BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S501	1 SERIES OF 44	11" TO 39'-3"
S503	1 SERIES OF 44	1'-7" TO 39'-11"
S504	1 SERIES OF 44	1'-4" TO 39'-8"
S506	1 SERIES OF 43	2'-0" TO 39'-6"
S507	1 SERIES OF 4	2'-4" TO 5'-0"
S509	1 SERIES OF 3	3'-0" TO 4'-11"

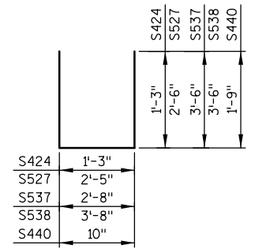
TOP OF DECK ELEVATIONS AT ℄ GIRDERS

LOCATION	WEST EDGE OF DECK		GIRDER NUMBER 1		GIRDER NUMBER 2		REFERENCE LINE		GIRDER NUMBER 3	
	13'-5 3/4" LT		10'-1 3/8" LT		3'-1 3/8" LT		0		3'-10 5/8" RT	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
C/L BRG S ABUT	892+81.87	629.33	892+79.19	629.39	892+73.63	629.53	892+71.16	629.60	892+68.07	629.52
0.1 L POINT	892+92.67	629.32	892+89.99	629.39	892+84.43	629.53	892+81.96	629.60	892+78.87	629.52
0.2 L POINT	893+03.47	629.32	893+00.79	629.39	892+95.23	629.53	892+92.76	629.59	892+89.67	629.52
0.3 L POINT	893+14.27	629.31	893+11.59	629.38	893+06.03	629.52	893+03.56	629.59	893+00.47	629.51
0.4 L POINT	893+25.07	629.30	893+22.39	629.37	893+16.83	629.51	893+14.36	629.58	893+11.27	629.50
0.5 L POINT	893+35.87	629.28	893+33.19	629.35	893+27.63	629.50	893+25.16	629.57	893+22.07	629.49
0.6 L POINT	893+46.67	629.27	893+43.99	629.34	893+38.43	629.49	893+35.96	629.55	893+32.87	629.48
0.7 L POINT	893+57.47	629.25	893+54.79	629.32	893+49.23	629.47	893+46.76	629.54	893+43.67	629.46
0.8 L POINT	893+68.27	629.23	893+65.59	629.30	893+60.03	629.45	893+57.56	629.52	893+54.47	629.45
0.9 L POINT	893+79.07	629.20	893+76.39	629.28	893+70.83	629.43	893+68.36	629.50	893+65.27	629.43
C/L PIER 1	893+89.87	629.18	893+87.19	629.25	893+81.63	629.40	893+79.16	629.47	893+76.07	629.40
0.1 L POINT	893+97.82	629.16	893+95.14	629.23	893+89.58	629.38	893+87.11	629.45	893+84.02	629.38
0.2 L POINT	894+05.77	629.13	894+03.09	629.21	893+97.53	629.36	893+95.06	629.43	893+91.97	629.36
0.3 L POINT	894+13.72	629.11	894+11.04	629.18	894+05.48	629.34	894+03.01	629.41	893+99.92	629.34
0.4 L POINT	894+21.67	629.08	894+18.99	629.16	894+13.43	629.32	894+10.96	629.39	894+07.87	629.32
0.5 L POINT	894+29.62	629.06	894+26.94	629.13	894+21.38	629.29	894+18.91	629.36	894+15.82	629.29
0.6 L POINT	894+37.57	629.03	894+34.89	629.11	894+29.33	629.27	894+26.86	629.34	894+23.77	629.27
0.7 L POINT	894+45.52	629.00	894+42.84	629.08	894+37.28	629.24	894+34.81	629.31	894+31.72	629.24
0.8 L POINT	894+53.47	628.97	894+50.79	629.05	894+45.23	629.21	894+42.76	629.28	894+39.67	629.21
0.9 L POINT	894+61.42	628.94	894+58.74	629.02	894+53.18	629.18	894+50.71	629.25	894+47.62	629.18
C/L BRG N ABUT	894+69.37	628.90	894+66.69	628.98	894+61.13	629.15	894+58.66	629.22	894+55.57	629.15

LOCATION	GIRDER NUMBER 4		GIRDER NUMBER 5		GIRDER NUMBER 6		EAST EDGE OF DECK	
	10'-10 5/8" RT		17'-10 5/8" RT		24'-10 5/8" RT		28'-3" RT	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
C/L BRG S ABUT	892+62.51	629.38	892+56.95	629.24	892+51.39	629.09	892+48.72	629.03
0.1 L POINT	892+73.31	629.38	892+67.75	629.24	892+62.19	629.10	892+59.52	629.03
0.2 L POINT	892+84.11	629.38	892+78.55	629.24	892+72.99	629.10	892+70.32	629.03
0.3 L POINT	892+94.91	629.37	892+89.35	629.24	892+83.79	629.10	892+81.12	629.03
0.4 L POINT	893+05.71	629.37	893+00.15	629.23	892+94.59	629.09	892+91.92	629.03
0.5 L POINT	893+16.51	629.36	893+10.95	629.22	893+05.39	629.09	893+02.72	629.02
0.6 L POINT	893+27.31	629.35	893+21.75	629.21	893+16.19	629.08	893+13.52	629.01
0.7 L POINT	893+38.11	629.33	893+32.55	629.20	893+26.99	629.07	893+24.32	629.00
0.8 L POINT	893+48.91	629.32	893+43.35	629.18	893+37.79	629.05	893+35.12	628.99
0.9 L POINT	893+59.71	629.30	893+54.15	629.17	893+48.59	629.04	893+45.92	628.97
C/L PIER 1	893+70.51	629.27	893+64.95	629.15	893+59.39	629.02	893+56.72	628.95
0.1 L POINT	893+78.46	629.26	893+72.90	629.13	893+67.34	629.00	893+64.67	628.94
0.2 L POINT	893+86.41	629.24	893+80.85	629.11	893+75.29	628.98	893+72.62	628.92
0.3 L POINT	893+94.36	629.22	893+88.80	629.09	893+83.24	628.97	893+80.57	628.90
0.4 L POINT	894+02.31	629.19	893+96.75	629.07	893+91.19	628.95	893+88.52	628.88
0.5 L POINT	894+10.26	629.17	894+04.70	629.05	893+99.14	628.92	893+96.47	628.86
0.6 L POINT	894+18.21	629.15	894+12.65	629.02	894+07.09	628.90	894+04.42	628.84
0.7 L POINT	894+26.16	629.12	894+20.60	629.00	894+15.04	628.88	894+12.37	628.82
0.8 L POINT	894+34.11	629.09	894+28.55	628.97	894+22.99	628.85	894+20.32	628.79
0.9 L POINT	894+42.06	629.06	894+36.50	628.94	894+30.94	628.82	894+28.27	628.77
C/L BRG N ABUT	894+50.01	629.03	894+44.45	628.92	894+38.89	628.80	894+36.22	628.74



S520, S525, S526



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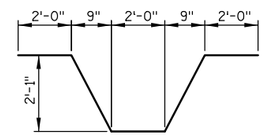

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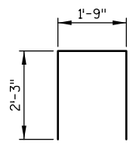

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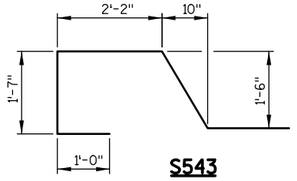

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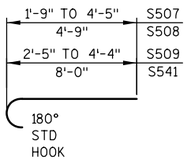
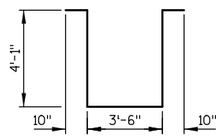
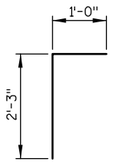
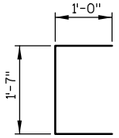
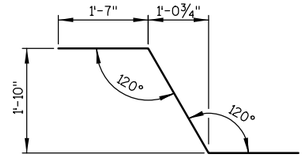








S507, S508, S509, S541 **S519** **S546** **S547**



SS901

STAINLESS STEEL BILL OF BARS

1,460 LB.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
SS901		86	5'-0"	X		CONC. DIAPH. @ ABUTS. TO APPROACH APRON

NOTES

SEE APPROACH APRON AND APPROACH APRON DETAILS SHEETS FOR PLACEMENT OF SS901 BARS.

STATE PROJECT NUMBER

1133-09-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE DETAILS-3

SHEET 22 OF 27
1897

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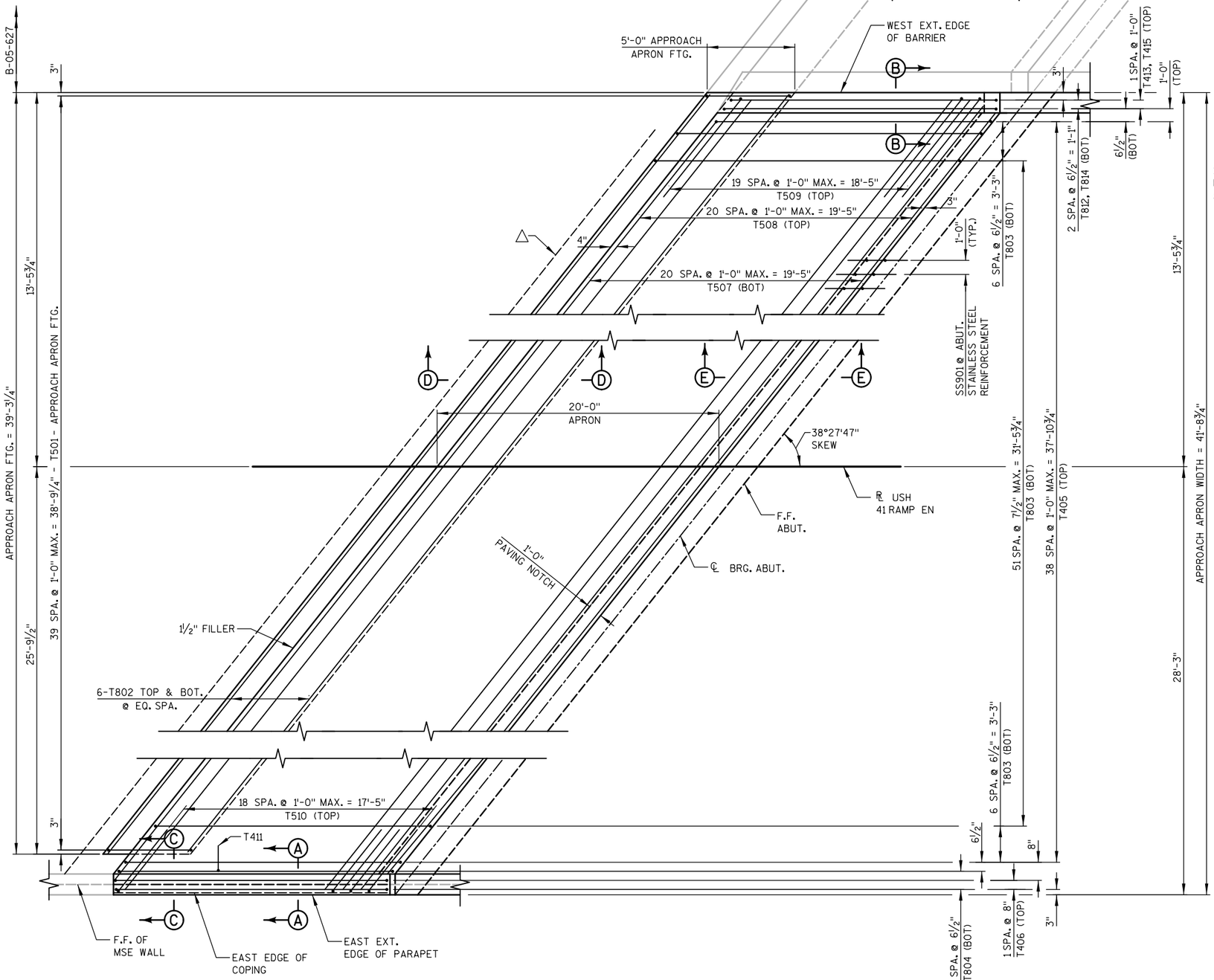
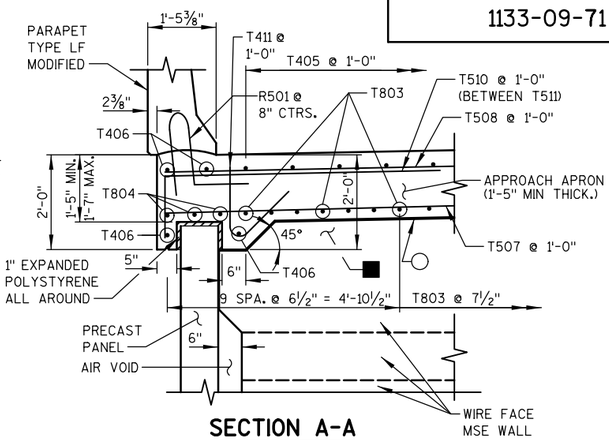
STATE PROJECT NUMBER

1133-09-71



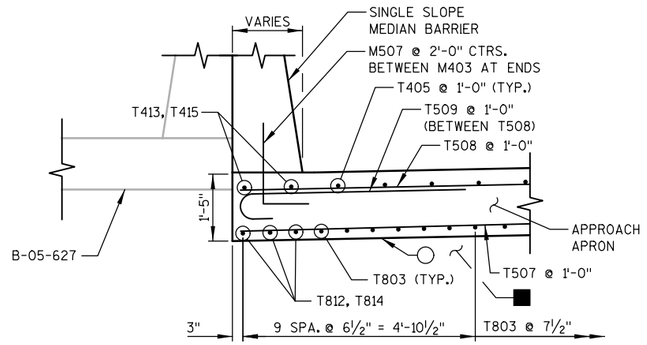
APPROACH APRON PLAN

(SOUTH APRON SHOWN, NORTH SIMILAR)

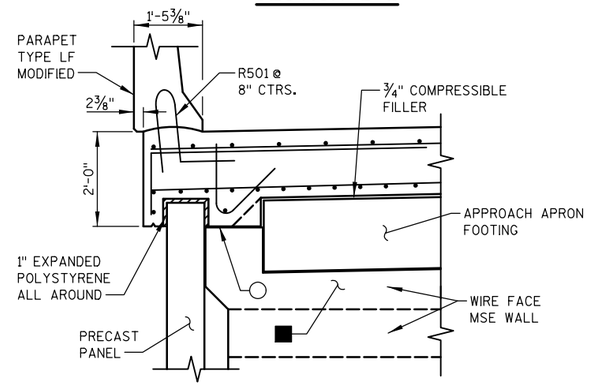


SECTION A-A

(AT MSE WINGWALLS)



SECTION B-B



SECTION C-C

(AT MSE WINGWALLS)

NOTES

SEE SHEET 24 FOR DETAILS

DESIGN DATA:

ALLOWABLE SOIL BEARING PRESSURE:	2,000 P.S.F.
CONCRETE STRENGTH f'c:	4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60, fy:	60,000 P.S.I.

LEGEND

△ PIPE UNDERDRAIN WRAPPED 6-INCH AT APPROACH APRON. LOCATED ONLY ON UPHILL SIDE OF APRON FOOTING. SLOPE 0.5% MIN. TO USH 41 CLOSED MEDIAN DRAINAGE SYSTEM.

○ PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.

■ 1¼" COURSE AGGREGATE BASE COURSE. SEE ROADWAY PLANS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

SHEET 23 OF 27

APPROACH APRON 1898

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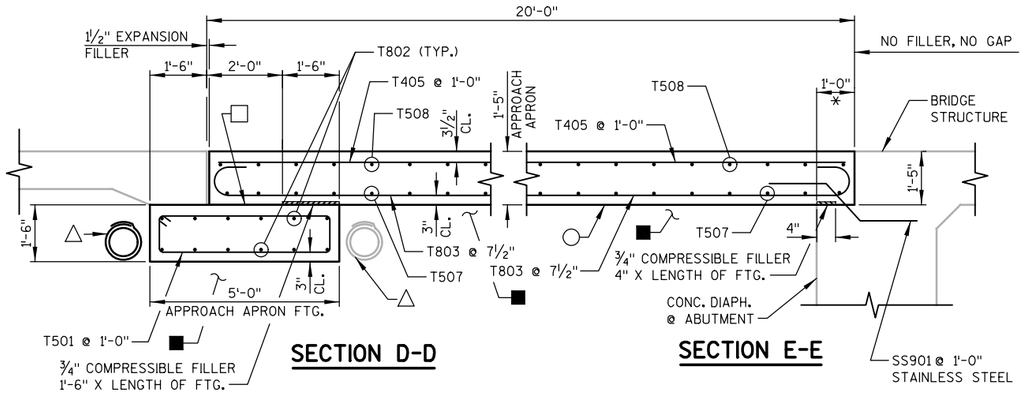
STATE PROJECT NUMBER
1133-09-71



SECTION D-D **SECTION E-E**

SECTION THRU APPROACH APRON

LEGENDS:

△ PIPE UNDERDRAIN WRAPPED 6-INCH AT APPROACH APRON, LOCATED ONLY ON UPHILL SIDE OF APRON FOOTING. SLOPE 0.5% MIN. TO USH 41 CLOSED MEDIAN DRAINAGE SYSTEM.

□ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.

○ PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.

✳ PAVING NOTCH MEASURED NORMAL TO ABUTMENT.

◥ SEE R-05-212 AND R-05-213 RETAINING WALL PLANS FOR ADDITIONAL DETAILS PAID FOR UNDER RETAINING WALLS R-05-212 AND R-05-213 RESPECTIVELY.

■ 1¼" COURSE AGGREGATE BASE COURSE. SEE ROADWAY PLANS.

COATED:
SOUTH APPROACH APRON = 9,240 LBS.
NORTH APPROACH APRON = 9,250 LBS.

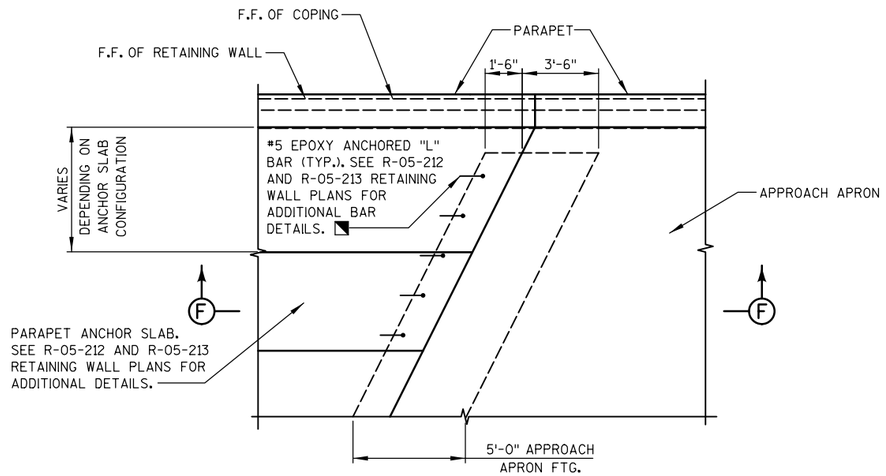
BILL OF BARS

BAR MARK	COAT	NO. REQ'D. S. APRON	NO. REQ'D. N. APRON	LENGTH	BENT	BAR SERIES	LOCATION
T501	X	40	40	12'-1"	X		FOOTING - STIRRUPS
T802	X	12	12	49'-9"			FOOTING - HORIZONTAL
T803	X	64	64	21'-4"	X		APPROACH APRON - LONGIT. - BOT.
T804	X	3	3	19'-6"	X		APPROACH APRON - LONGIT. - BOT.
T405	X	39	39	19'-6"			APPROACH APRON - LONGIT. - TOP
T406	X	4	4	17'-8"			APPROACH APRON - LONGIT. AT MSE WALL PANEL
T507	X	21	21	52'-10"			APPROACH APRON - TRANS. - BOT.
T508	X	21	21	52'-10"			APPROACH APRON - TRANS. - TOP
T509	X	20	20	5'-4"	X		APPROACH APRON - TRANS. - TOP
T510	X	19	19	6'-2"	X		APPROACH APRON - TRANS. - TOP
T411	X	21	21	3'-0"	X		APPROACH APRON - TIE
▲ T812	X	3	0	20'-9"	X	X	SOUTH APPROACH APRON - LONGIT. - BOT.
▲ T413	X	2	0	18'-11"		X	SOUTH APPROACH APRON - LONGIT. - TOP
▲ T814	X	0	3	21'-11"	X	X	NORTH APPROACH APRON - LONGIT. - BOT.
▲ T415	X	0	2	20'-1"		X	NORTH APPROACH APRON - LONGIT. - TOP

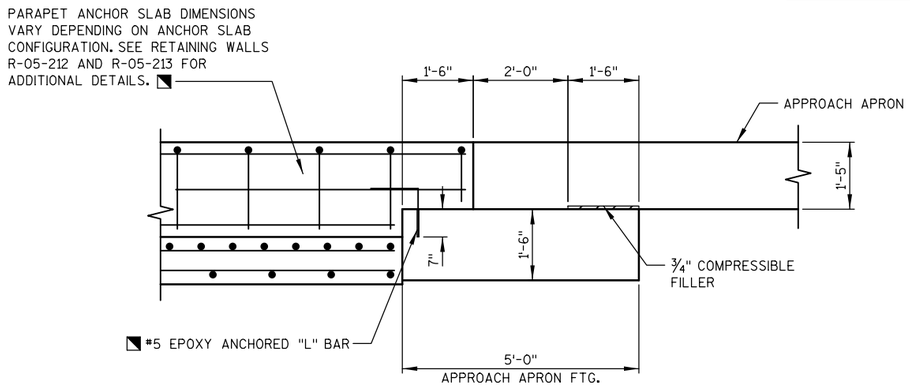
NOTE: ALL DIMENSIONS IN THE BAR BENDS ARE OUT TO OUT.

▲ BAR SERIES TABLE

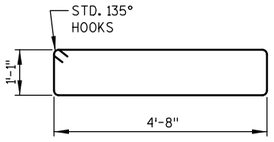
MARK	NO. REQ'D	LENGTH
T812	1 SERIES OF 3	20'-4" TO 21'-2"
T413	1 SERIES OF 2	18'-6" TO 19'-3"
T814	1 SERIES OF 3	21'-6" TO 22'-3"
T415	1 SERIES OF 2	19'-8" TO 20'-5"



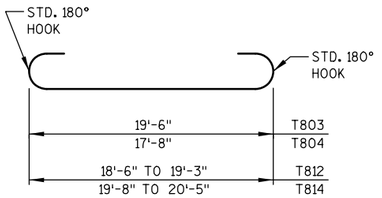
PLAN AT APPROACH APRON INTERFACE WITH RETAINING WALL ANCHOR SLAB



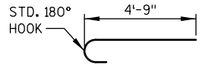
SECTION F-F



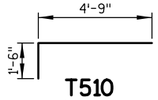
T501



T803, T804, T812, T814



T509



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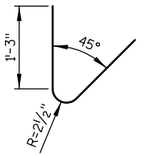

T411

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

APPROACH APRON DETAILS

SHEET 24 OF 27
1899

8

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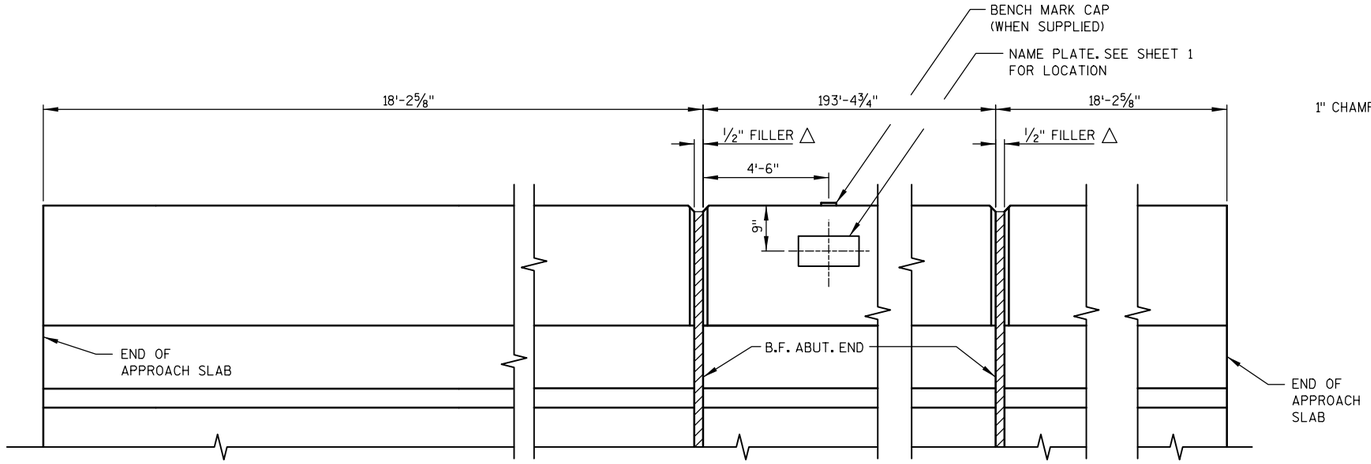
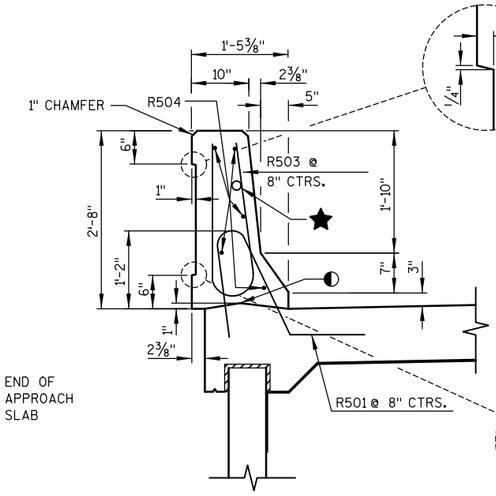
STATE PROJECT NUMBER

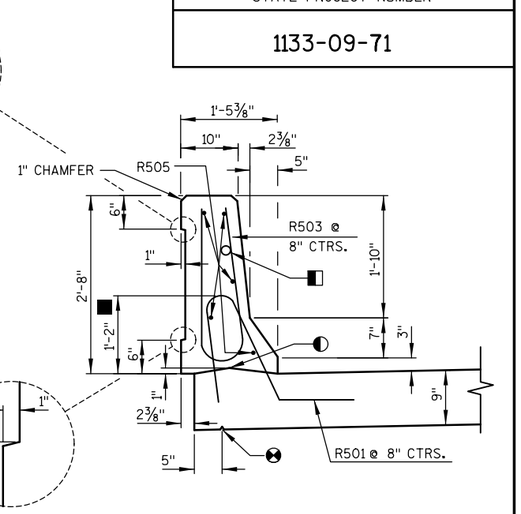
1133-09-71



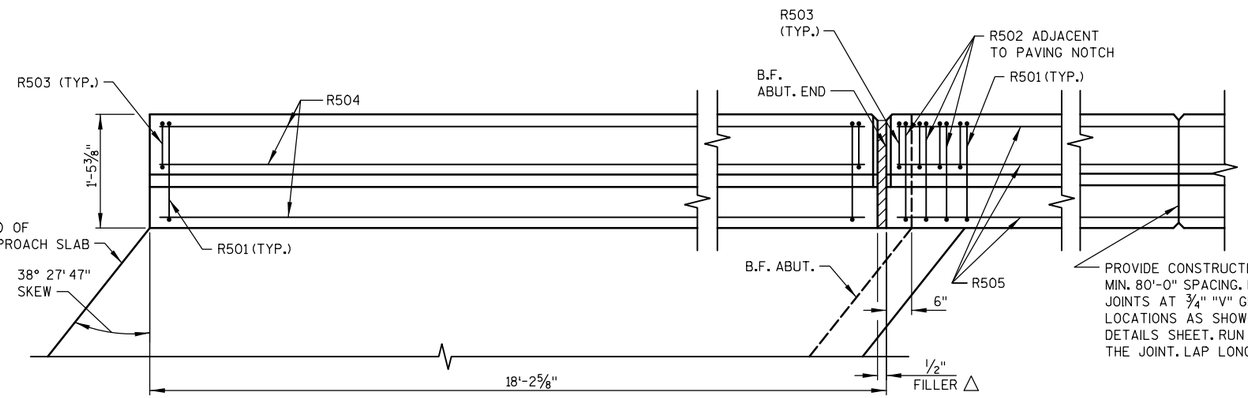
INSIDE ELEVATION



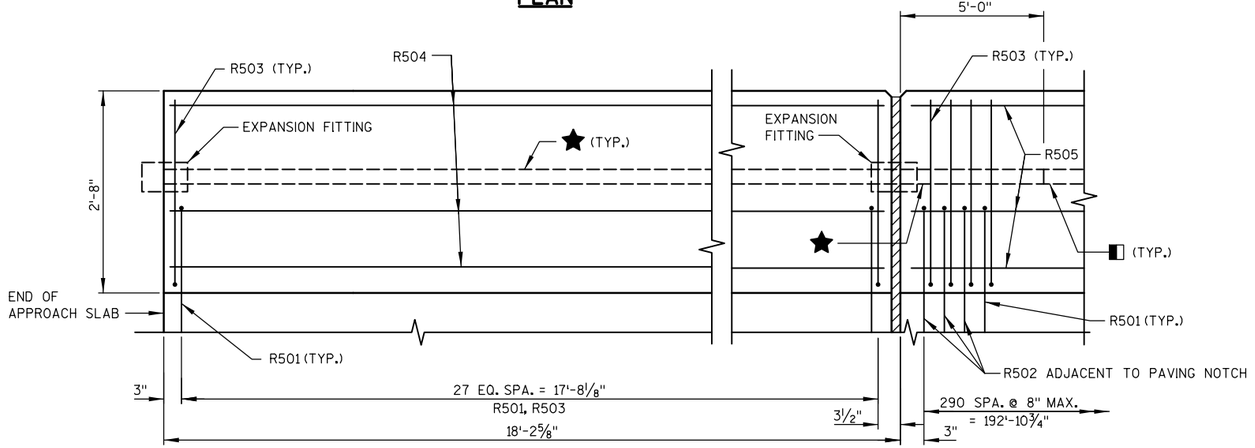
SECTION THRU PARAPET ON APRON



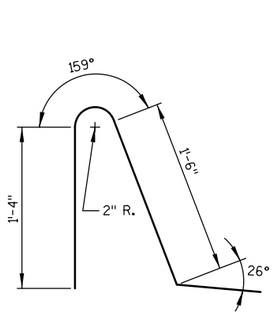
SECTION THRU PARAPET ON BRIDGE



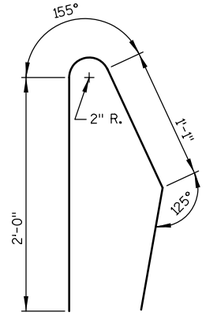
PLAN



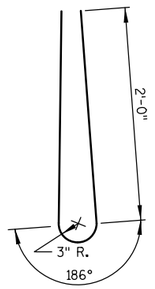
OUTSIDE ELEVATION



R501



R502



R503

LEGEND

★ "CONDUIT RIGID METALLIC 2-INCH." PLACE IN PARAPET ON EACH APPROACH APRON AND FOR 5'-0" AT BOTH ENDS OF PARAPET ON BRIDGE.

■ "CONDUIT RIGID NON-METALLIC SCHEDULE 40 2-INCH." PLACE IN PARAPET ON BRIDGE BETWEEN MATALLIC CONDUIT.

◐ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.

⊗ ¾" V-GROOVE. EXTEND V-GROOVE TO THE FILLET ADJACENT TO THE ABUTMENTS.

△ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN ⅛" BELOW SURFACE OF CONCRETE.

■ THIS DIMENSION SHALL ALSO BE USED WITH R502 BARS.

COATED:
SOUTH APPROACH APRON = 360 LBS.
SUPERSTRUCTURE = 3,770 LBS.
NORTH APPROACH APRON = 360 LBS.

BILL OF BARS

MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
R501	341	4'-2"	X	X	PARAPET - VERT.
R502	6	4'-7"	X	X	PARAPET - VERT. - AT ENDS OF BRIDGE
R503	347	4'-10"	X	X	PARAPET - VERT.
R504	10	17'-10"		X	PARAPET - HORIZ. - AT APPROACH APRON
R505	20	49'-7"		X	PARAPET - HORIZ. - SUPERSTRUCTURE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

32" SLOPED FACE PARAPET 'LF' (MODIFIED)

SHEET 25 OF 27
1900

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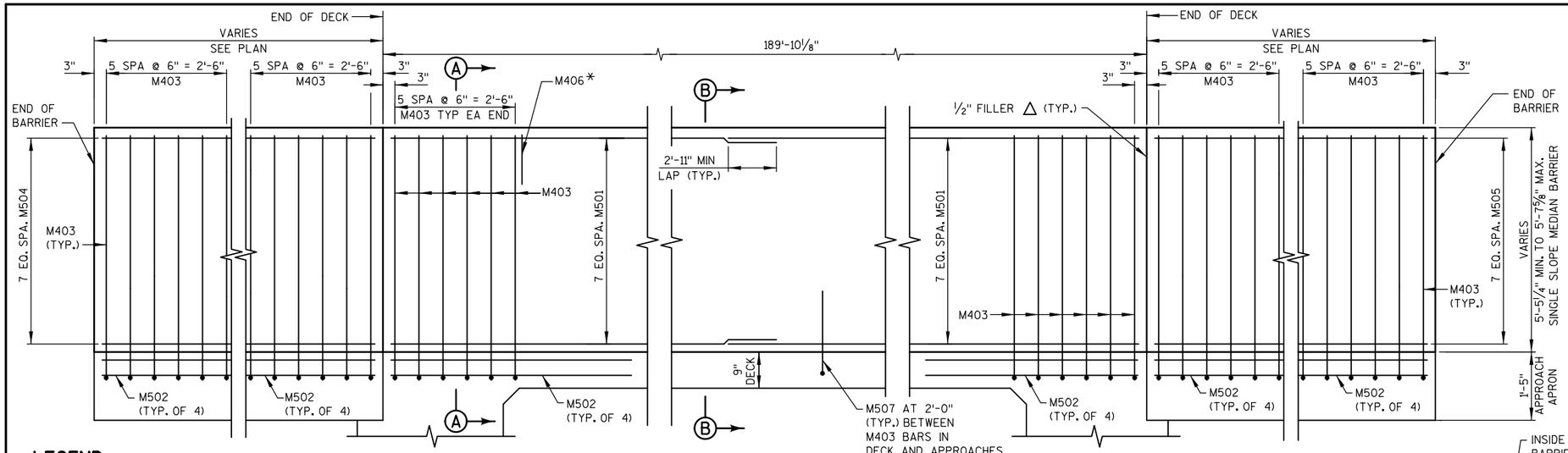
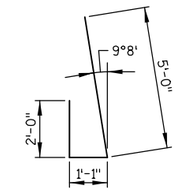
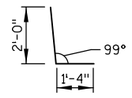
STATE PROJECT NUMBER
1133-09-71





M403



M507

LEGEND

* LAP ONTO M403 BARS.

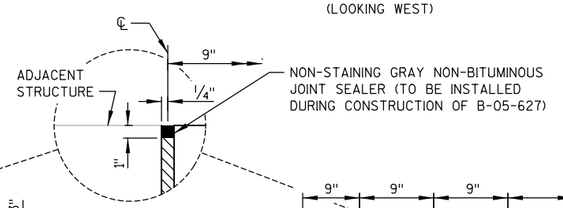
◐ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.

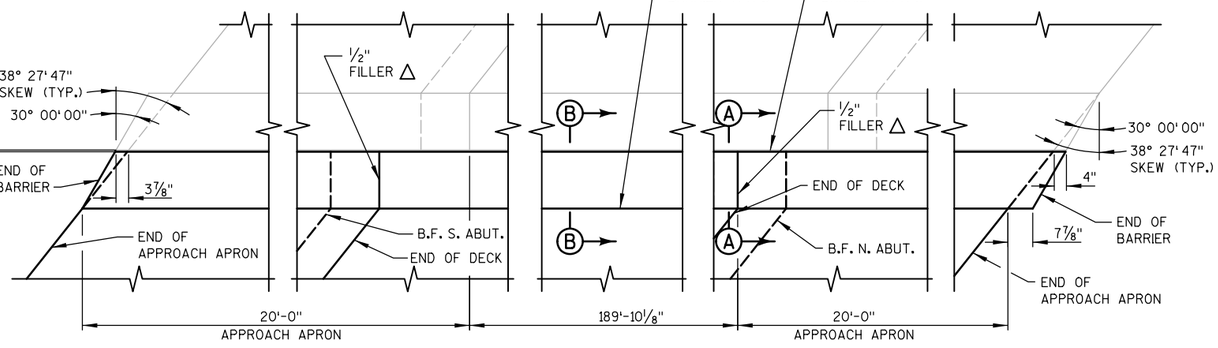
■ TO BE INSTALLED DURING CONSTRUCTION OF B-05-627.

△ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN ⅛" BELOW SURFACE OF CONCRETE.

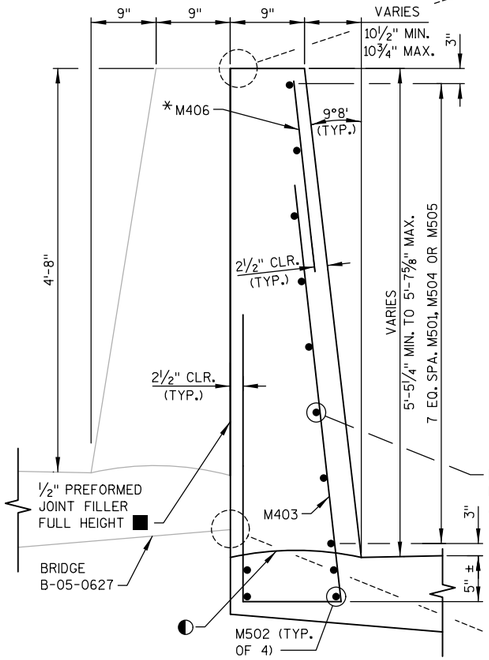
INSIDE ELEVATION

(LOOKING WEST)



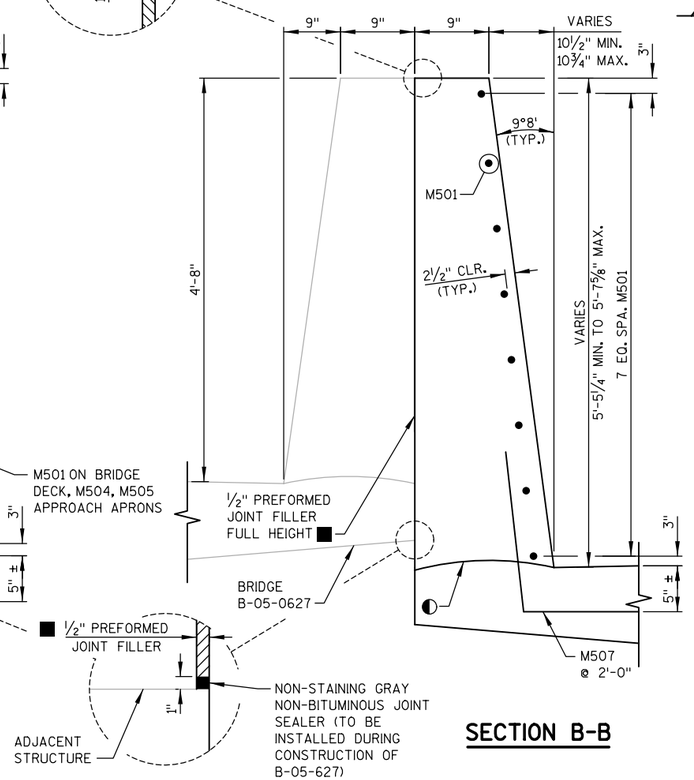


PLAN



SECTION A-A

TYPICAL AT ENDS OF BARRIER



SECTION B-B

TOP OF BARRIER ELEVATION TABLE

LOCATION	WEST EDGE OF DECK 13'-5 3/4" LT	
	STATION	ELEV.
END OF SOUTH APPROACH APRON	892+60.38	633.99
APRON MIDPOINT	892+71.12	633.99
C/L BRG S ABUT	892+81.87	633.99
0.1 L POINT	892+92.67	633.99
0.2 L POINT	893+03.47	633.98
0.3 L POINT	893+14.27	633.97
0.4 L POINT	893+25.07	633.96
0.5 L POINT	893+35.87	633.95
0.6 L POINT	893+46.67	633.93
0.7 L POINT	893+57.47	633.92
0.8 L POINT	893+68.27	633.89
0.9 L POINT	893+79.07	633.87
C/L PIER 1	893+89.87	633.84
0.1 L POINT	893+97.82	633.82
0.2 L POINT	894+05.77	633.80
0.3 L POINT	894+13.72	633.78
0.4 L POINT	894+21.67	633.75
0.5 L POINT	894+29.62	633.72
0.6 L POINT	894+37.57	633.70
0.7 L POINT	894+45.52	633.67
0.8 L POINT	894+53.47	633.64
0.9 L POINT	894+61.42	633.60
C/L BRG N ABUT	894+69.37	633.57
APRON MIDPOINT	894+80.12	633.52
END OF NORTH APPROACH APRON	894+90.87	633.47

BILL OF BARS

BAR MARK	COAT	NO.	LENGTH	BENT	LOCATION
M501	X	32	49'-8"		MEDIAN BARRIER HORIZ. AT DECK
M502	X	24	5'-0"		MEDIAN BARRIER HORIZ. AT ENDS (IN DECK OR APPROACH APRON)
M403	X	36	7'-11"	X	MEDIAN BARRIER VERT. AT ENDS (IN DECK OR APPROACH APRON)
M504	X	8	20'-2"		MEDIAN BARRIER HORIZ. AT NORTH APPROACH APRON
M505	X	8	19'-8"		MEDIAN BARRIER HORIZ. AT SOUTH APPROACH APRON
M406	X	36	3'-6"		MEDIAN BARRIER VERT. *
M507	X	109	3'-3"	X	MEDIAN BARRIER VERT.

COATED:
SOUTH APPROACH APRON = 300 LBS.
SUPERSTRUCTURE = 2,110 LBS.
NORTH APPROACH APRON = 330 LBS.

NOTES

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINFORCEMENT THRU THE JOINT. LAP LONGITUDINAL BARS A MIN. OF 2'-11". MIN. JOINT SPACING OF 80'-0". DEFINE CONSTRUCTION JOINT WITH A ¾" 'V' GROOVE.

ADJACENT STRUCTURE (B-05-627) WILL BE CONSTRUCTED AFTER B-05-623. SEE TOP OF BARRIER ELEVATION TABLE THIS SHEET FOR B-05-623 TOP OF BARRIER ELEVATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

SINGLE SLOPE MEDIAN BARRIER

SHEET 26 OF 27
1901

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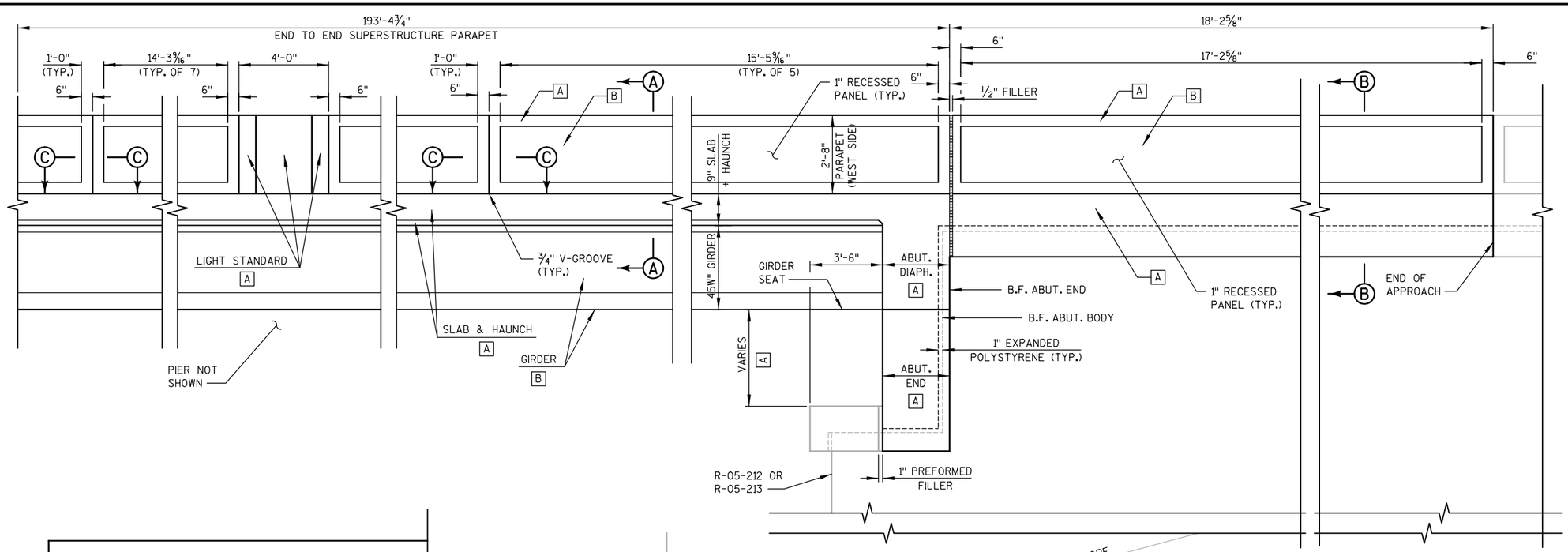
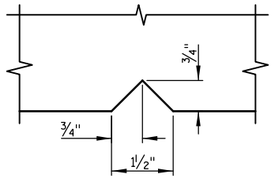
8

STATE PROJECT NUMBER

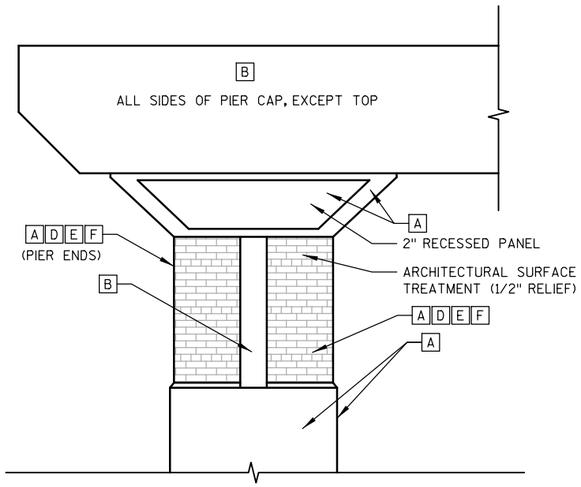
1133-09-71



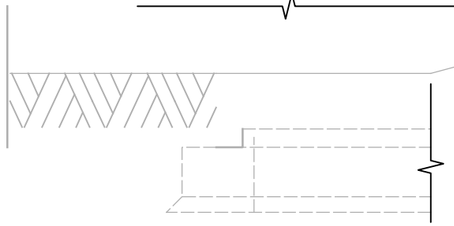


SECTION C-C

¾" "V" GROOVE



PIER ELEVATION



OUTSIDE ELEVATION OF PARAPET

(SOUTHWEST CORNER AT SOUTH ABUTMENT SHOWN, NORTH ABUTMENT SIMILAR)

NOTES

STAIN TO 1'-0" BELOW FINISHED GRADE.

STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

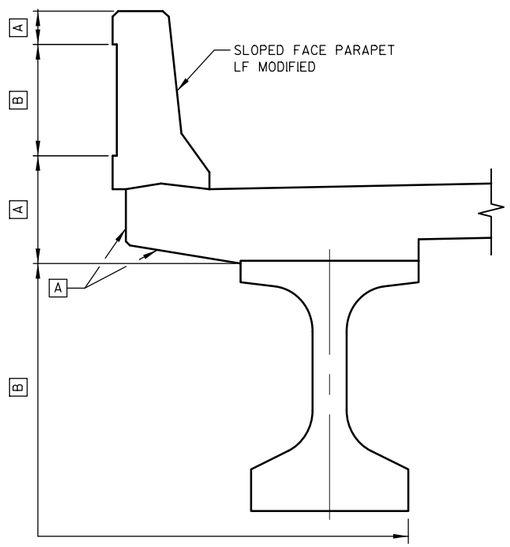
THE COST OF BRICK PATTERN FORMLINER TREATMENT IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT." SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

STAIN FRONT FACE OF ABUTMENTS AND END DIAPHRAGMS FROM 1-FOOT BELOW GRADE TO UNDERSIDE OF DECK, INCLUDING END DIAPHRAGM FACE BETWEEN GIRDERS.

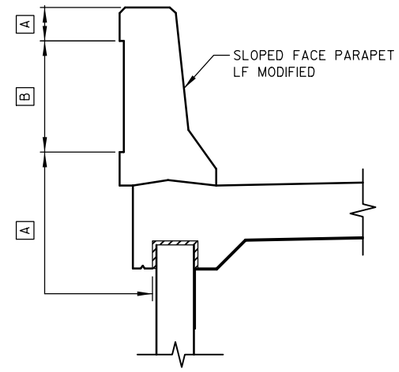
SEE SPECIAL PROVISIONS FOR STAIN COLORS.

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE AND BOTTOM OF EXTERIOR CONC. GIRDER, PIER CAP
C	ACCENT COLOR #2	NOT USED
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	NOT USED



SECTION A-A



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-623

DRAWN BY AJW | PLANS CK'D. DJW

AESTHETIC DETAILS

SHEET 27 OF 27

1902

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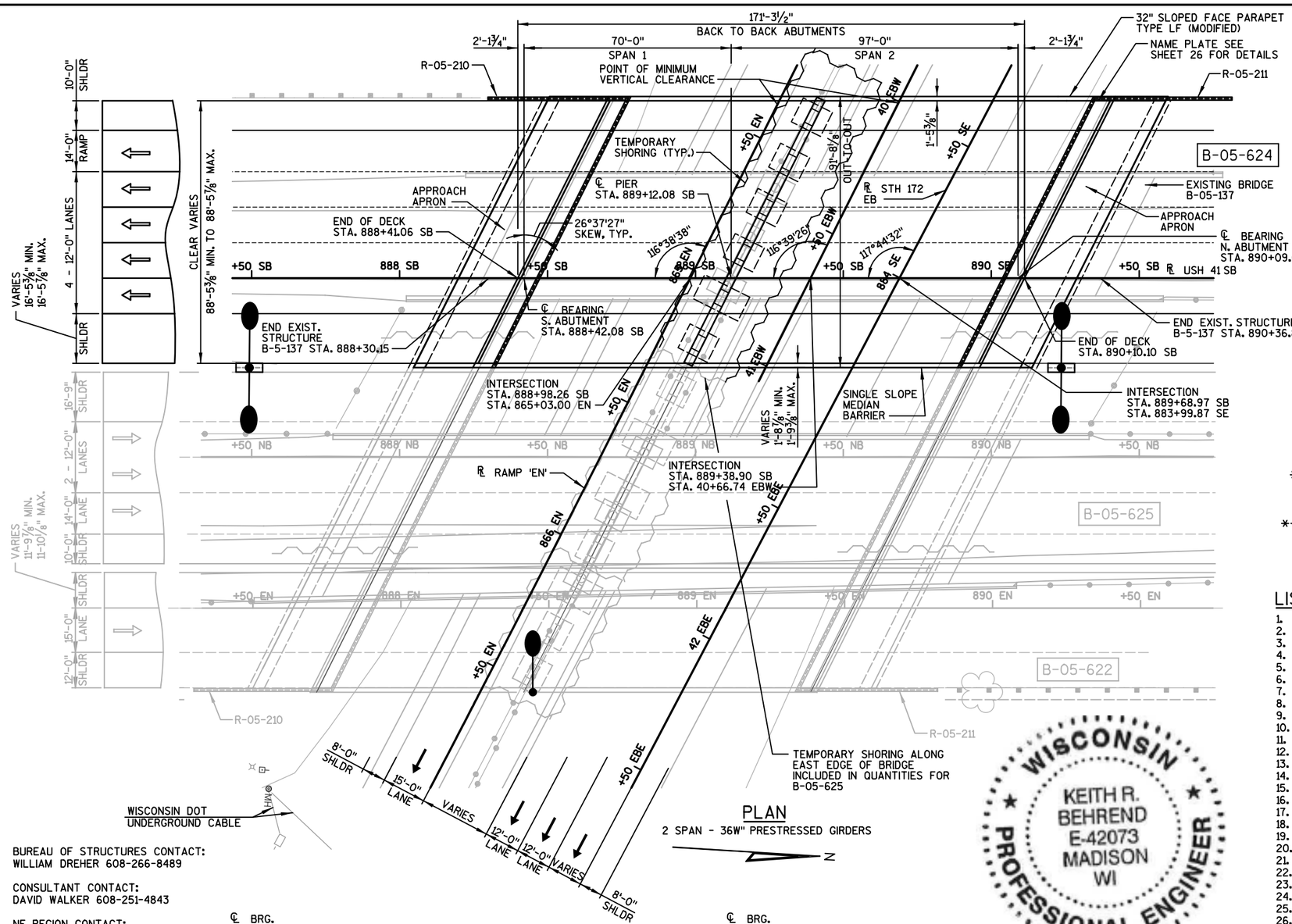
STATE PROJECT NUMBER

1133-09-71



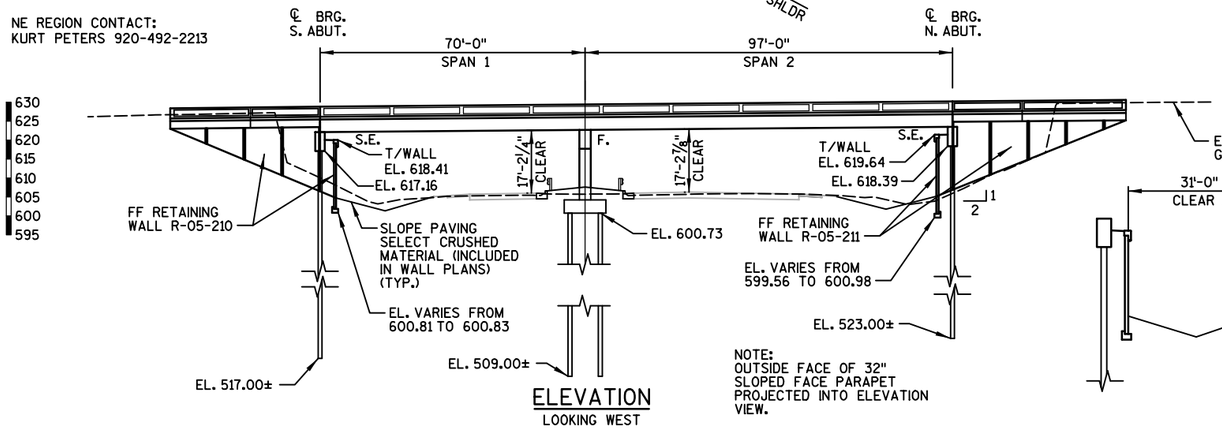
PLAN

2 SPAN - 36W" PRESTRESSED GIRDERS

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER 608-266-8489

CONSULTANT CONTACT:
DAVID WALKER 608-251-4843

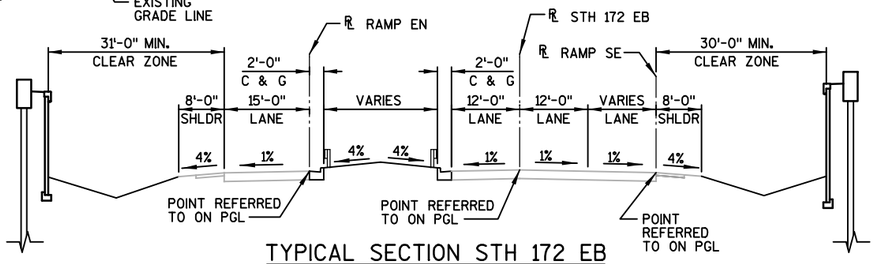
NE REGION CONTACT:
KURT PETERS 920-492-2213



ELEVATION

LOOKING WEST

NOTE:
OUTSIDE FACE OF 32" SLOPED FACE PARAPET PROJECTED INTO ELEVATION VIEW.



TYPICAL SECTION STH 172 EB

LOOKING WEST

DESIGN DATA

LIVE LOAD:
DESIGN LOAD HL-93
INVENTORY RATING FACTOR 1.15
OPERATING RATING FACTOR 1.49
MAX. STD. PERMIT VEHICLE LOAD ... 250 KIPS

THE STRUCTURE IS DESIGNED FOR A 1½" SACRIFICIAL WEARING SURFACE PLACED AT INITIAL CONSTRUCTION INTEGRAL WITH THE DECK. THE DESIGN DOES NOT PROVIDE FOR ADDITIONAL LOADS DUE TO FUTURE WEARING SURFACE.

ULTIMATE DESIGN STRESSES:
CONCRETE MASONRY (HPC) .....f'c = 4000 PSI

HIGH STRENGTH BAR STEEL
REINFORCEMENT GRADE 60 .....fy = 60,000 PSI

36W-INCH PRESTRESSED GIRDERS
CONCRETE MASONRY .....f'c = 8000 PSI

PRESTRESSING STRANDS = 0.6 INCH DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 PSI

FOUNDATION DATA

NORTH ABUTMENT TO BE SUPPORTED ON STEEL PILING, HP 12-INCH X 53 LB. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 100' LONG EACH.

SOUTH ABUTMENT TO BE SUPPORTED ON STEEL PILING, HP 12-INCH X 53 LB. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS *** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 105' LONG EACH.

PIER TO BE SUPPORTED ON STEEL PILING, HP 12-INCH X 53 LB. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 95' LONG AT PIER.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

*** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 (AND FUTHER REDUCED BY DOWNDRAG FORCES EQUAL TO 10 TONS) USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION AND QUANTITIES
3. SUBSURFACE EXPLORATION
4. CONSTRUCTION STAGING - 1
5. CONSTRUCTION STAGING - 2
6. CONSTRUCTION STAGING - 3
7. CONSTRUCTION STAGING - 4
8. SOUTH ABUTMENT
9. SOUTH ABUTMENT DETAILS
10. NORTH ABUTMENT
11. NORTH ABUTMENT DETAILS
12. ABUTMENT AND PIER DETAILS
13. PIER
14. PIER FOUNDATION
15. PIER DETAILS
16. 36W" PRESTRESSED GIRDER DETAILS-1
17. 36W" PRESTRESSED GIRDER DETAILS-2
18. STEEL DIAPHRAGMS
19. SUPERSTRUCTURE PLAN
20. SUPERSTRUCTURE SECTION
21. SUPERSTRUCTURE DETAILS-1
22. SUPERSTRUCTURE DETAILS-2
23. SUPERSTRUCTURE DETAILS-3
24. APPROACH APRON
25. APPROACH APRON DETAILS
26. 32" SLOPED FACE PARAPET LF (MODIFIED)
27. SINGLE SLOPE MEDIAN BARRIER
28. AESTHETIC DETAILS

TRAFFIC DATA USH 41 NB

ADT = 27,300 (2015)
= 34,800 (2035)
DESIGN SPEED = 70 MPH

TRAFFIC DATA USH 41 SB

ADT = 37,900 (2015)
= 47,300 (2035)
DESIGN SPEED = 70 MPH

TRAFFIC DATA STH 172 EB

ADT = 28,500 (2015)
= 38,800 (2035)
DESIGN SPEED = 60 MPH

TRAFFIC DATA RAMP 'EN'

ADT = 2,400 (2015)
= 3,000 (2035)
DESIGN SPEED = 55 MPH

TRAFFIC DATA RAMP 'SE'

ADT = 15,800 (2015)
= 20,400 (2035)
DESIGN SPEED = 60 MPH

WISCONSIN PROFESSIONAL ENGINEER
KEITH R. BEHREND
E-42073
MADISON
WI
Keith R. Behrend
1-30-13

NO.	DATE	REVISION	BY

STRAND ASSOCIATES®
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608)-251-4843
(608) 251-8655 FAX
WWW.STRAND.COM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR — 02/13/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-05-624

SB USH 41 OVER STH 172 EB

COUNTY: BROWN
~~TOWN/CITY/~~VILLAGE: ASHWAUBENON

DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

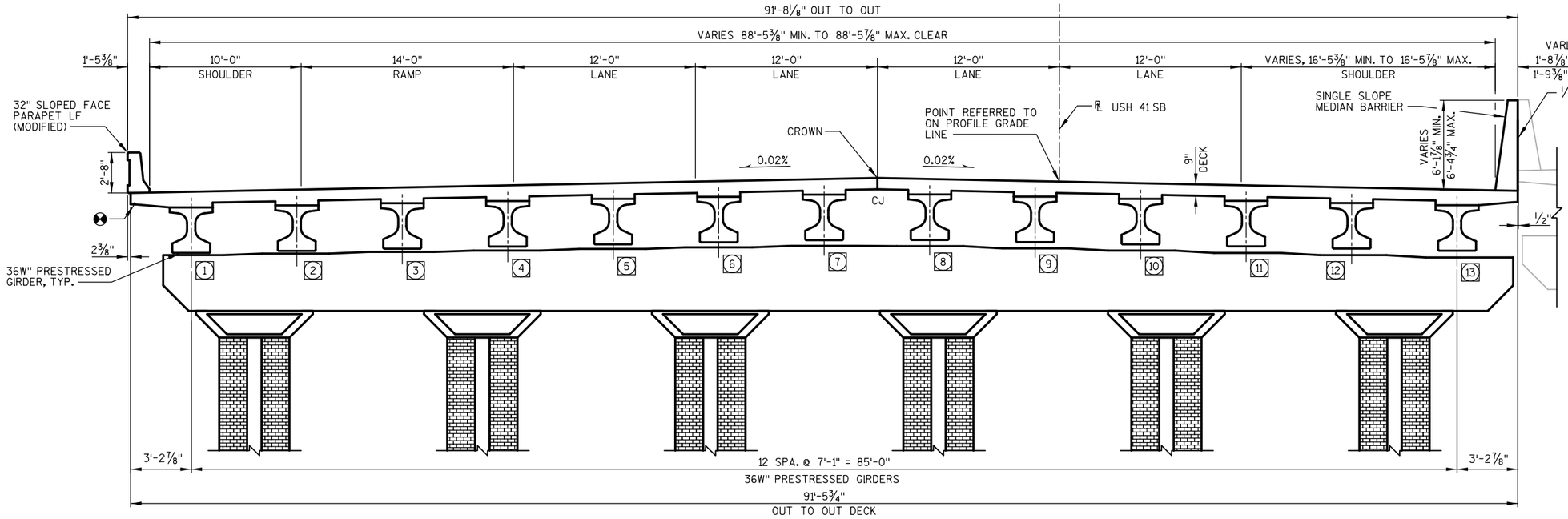
DESIGNED BY	KRB	DESIGN CK'D.	DDR	DRAWN BY	AJW	PLANS CK'D.	DJW

GENERAL PLAN

SHEET 1 OF 28
1903

STATE PROJECT NUMBER

1133-09-71



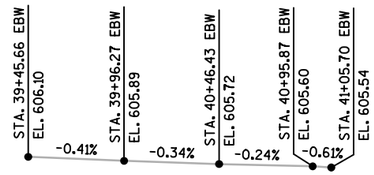
TYPICAL SECTION

(LOOKING NORTH)

LEGEND

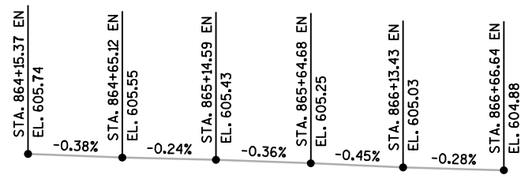
(#) INDICATES GIRDER NUMBER.

¾" V-GROOVE. EXTEND V-GROOVE TO THE FILLET ADJACENT TO THE ABUTMENTS. LOCATED 5" FROM EDGE OF DECK.

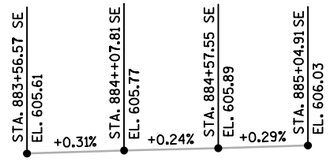


EXISTING PROFILE GRADE LINE STH 172 EB

(WEST OF RAMP SE GORE POINT)



EXISTING PROFILE GRADE LINE STH 172 RAMP EN



EXISTING PROFILE GRADE LINE STH 172 RAMP SE

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEVATION
525	N/A	CHISELED "X" ON FIRE HYDRANT BURY BOLT ON A DEAD END CUL-DE-SAC OF SPRINGHURST DR. 55' FROM A MANHOLE COVER TO FIRE HYDRANT AT THE EAST END OF THE ROUND-A-BOUT.	648.93
526	N/A	CHISELED "X" ON FIRE HYDRANT BURY BOLT IN THE NORTHEAST QUADRANT OF TIMBER LN. & COMMANCHE AVE. BY A PARKING LOT ENTRANCE TO THE PARK. 35' NORTH OF THE ℄ OF TIMBER LN. & 25' WEST OF THE ℄ OF THE WEST ENTRANCE TO THE PARK.	629.88
528	N/A	CHISELED "X" ON FIRE HYDRANT BURY BOLT IN THE NORTHWEST QUADRANT OF GERHARDT LN. & NORTH RD. 65' WEST OF THE ℄ OF NORTH RD. AND 35' NORTH OF THE ℄ OF GERHARDT LN.	626.81

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SOUTH ABUT.	NORTH ABUT.	PIER 1	SUPER.	SOUTH APPROACH APRON	NORTH APPROACH APRON	TOTALS
203.0200.710	REMOVING OLD STRUCTURE STA. 889+30.10 'NB'	LS	--	--	--	--	--	--	1
203.0225.S.710	DEBRIS CONTAINMENT STRUCTURE B-05-137	LS	--	--	--	--	--	--	1
206.1000.710	EXCAVATION FOR STRUCTURES BRIDGES B-05-624	LS	--	--	--	--	--	--	1
206.6000.S	TEMPORARY SHORING	SF	--	--	1400	--	--	--	1400
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	--	--	1865	220	220	2305
502.6110	MASONRY ANCHORS TYPE S 3/4-INCH	EACH	6	6	--	--	--	--	12
503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	--	--	--	2181	--	--	2181
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	6200	6040	4240	--	--	--	16480
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	--	--	32090	121960	19830	19820	193700
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	13	13	26	--	--	--	52
506.4000.710	STEEL DIAPHRAGMS B-05-624	EACH	--	--	--	36	--	--	36
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	19	19	--	--	--	--	38
550.0500	PILE POINTS	EACH	14	14	33	--	--	--	61
550.1120	PILING STEEL HP 12-INCH X 53 LB.	LF	1470	1400	3135	--	--	--	6005
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	101	101	--	--	101	101	404
SPV.0035.700	HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES	CY	66	65	182	649	129	129	1220
SPV.0085.700	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	--	--	--	3130	--	--	3130
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	--	--	705	--	--	--	705
SPV.0165.501	STAINING CONCRETE	SF	559	545	1775	2549	96	96	5620
SPV.0165.502	STAINING CONCRETE BRICK	SF	--	--	705	--	--	--	705
SPV.0165.700	LONGITUDINAL GROOVING BRIDGE DECK	SF	--	--	--	14956	1770	1770	18496
	NON-BID ITEMS								
	FILLER	SIZE	--	--	--	--	--	--	½" & ¾"
	CORK	SIZE	--	--	--	--	--	--	¾"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES.
ALL STATIONS AND ELEVATIONS ARE IN FEET.

ALL DETAILS, MATERIALS AND FABRICATION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE SPECIFICATIONS OF THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153, TYPE I, II, OR III, OR M213.

AT THE BACKFACE OF ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

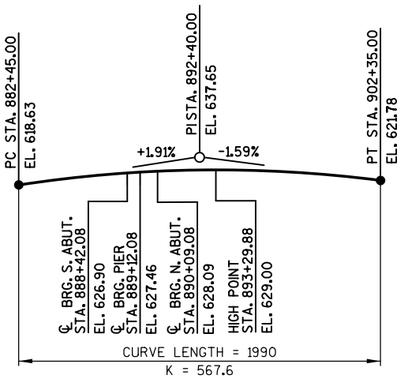
NON-LAMINATED ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE EXISTING STRUCTURE, B-05-137, IS A TWO SPAN STEEL DECK GIRDER STRUCTURE WITH AN OVERALL WIDTH OF 43.8 FEET AND AN OVERALL LENGTH OF 209.5 FEET. THE BRIDGE SHALL BE REMOVED MIN. 2'-0" BELOW FINISHED GRADE. EXISTING SOUTH AND NORTH ABUTMENT PILING SHALL BE CUT OFF AT THE BOTTOM OF WALL ELEVATIONS FOR R-05-210 RESPECTIVELY.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING CONCRETE TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

9" MINIMUM DECK THICKNESS INCLUDES 3½" COVER TO TOP LAYER OF STEEL REINFORCEMENT.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDERS DETAILS SHEET.



PROFILE GRADE LINE USH 41 SB

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

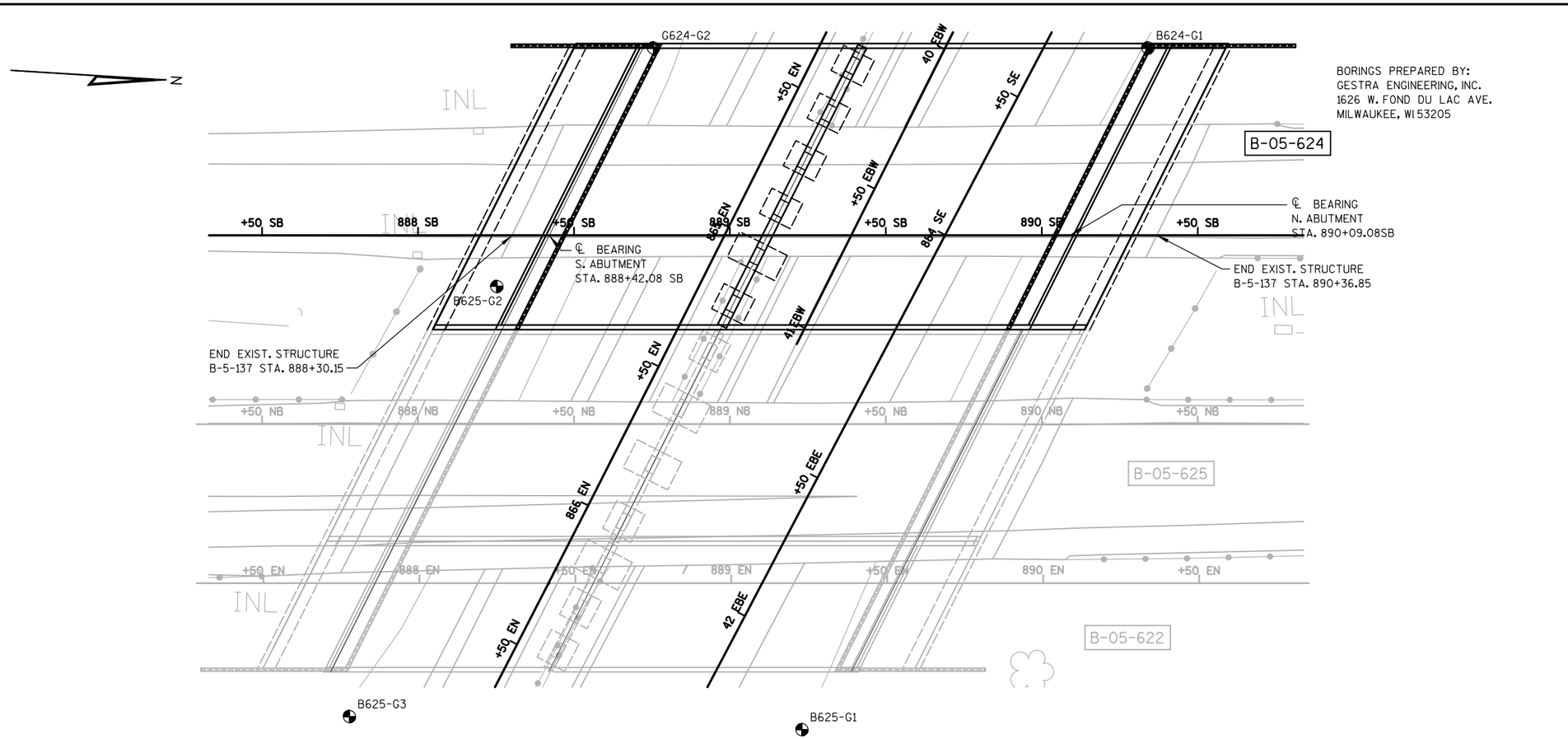
CROSS SECTIONS & QUANTITIES

SHEET 2 OF 28

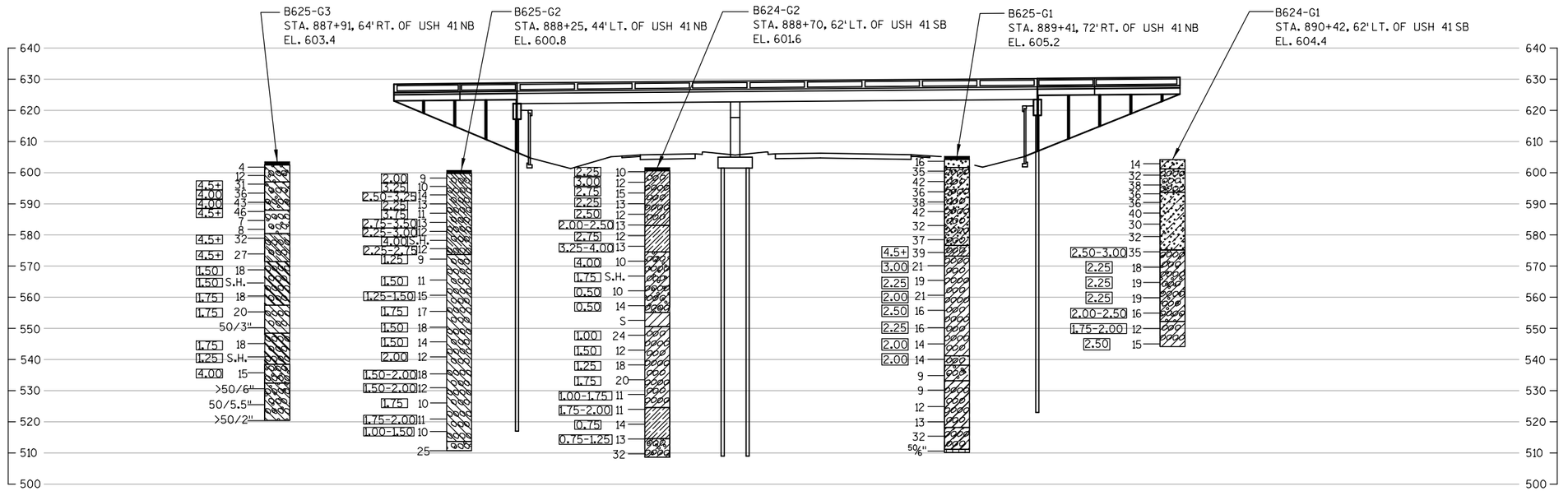
1904

8

8



BORINGS PREPARED BY:
GESTRA ENGINEERING, INC.
1626 W. FOND DU LAC AVE.
MILWAUKEE, WI 53205



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STATE PROJECT NUMBER

1133-09-71

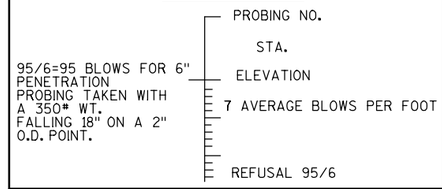
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

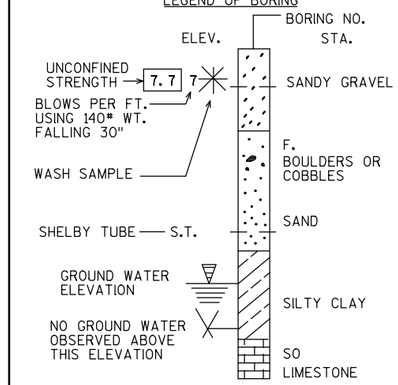
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE, SAND, PEAT, LIMESTONE, GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

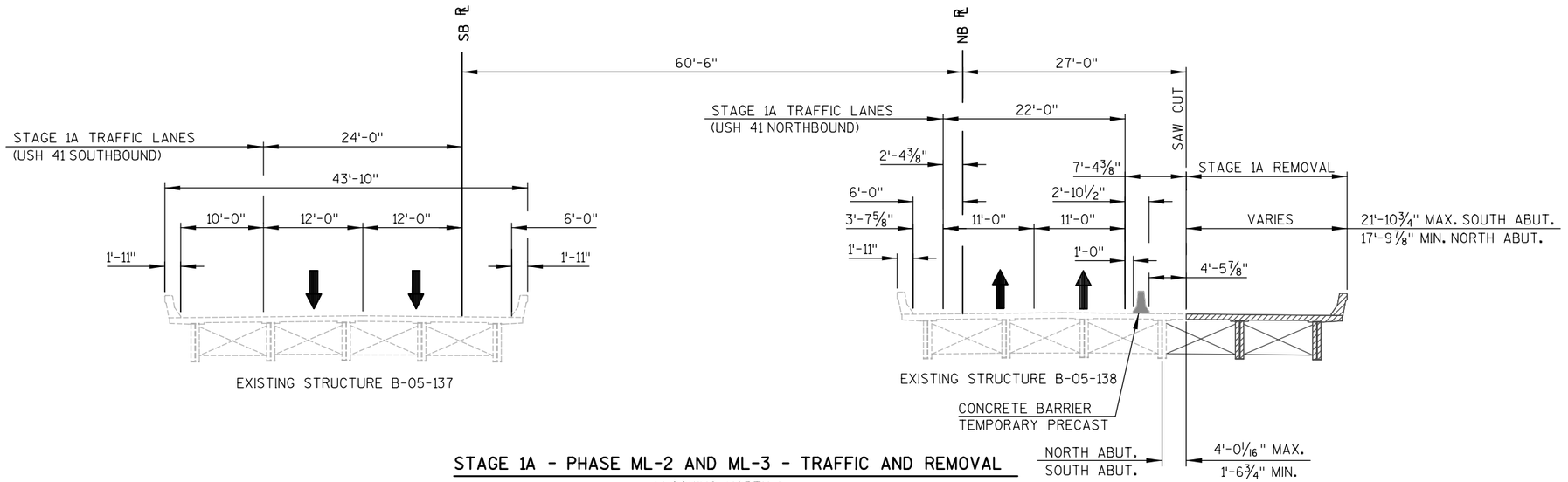
DRAWN BY AJW | PLANS CK'D. DJW

SUBSURFACE EXPLORATION

SHEET 3 OF 28
1905

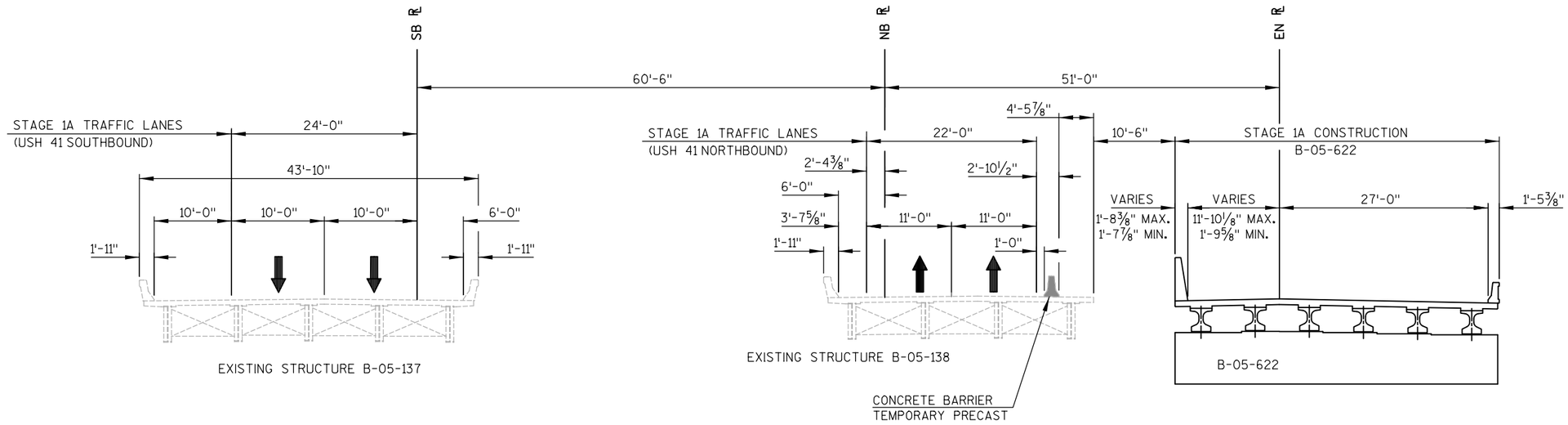
FILE=
SCALE =

STATE PROJECT NUMBER
1133-09-71



STAGE 1A - PHASE ML-2 AND ML-3 - TRAFFIC AND REMOVAL

(LOOKING NORTH)



STAGE 1A - PHASE ML-2 AND ML-3 - TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

CONSTRUCTION STAGING - 1

SHEET 4 OF 28
1906

8

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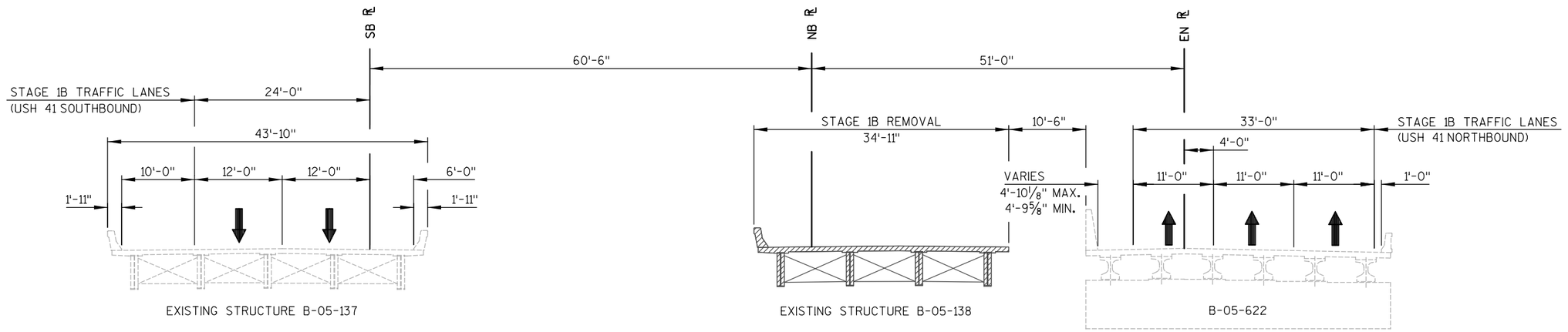
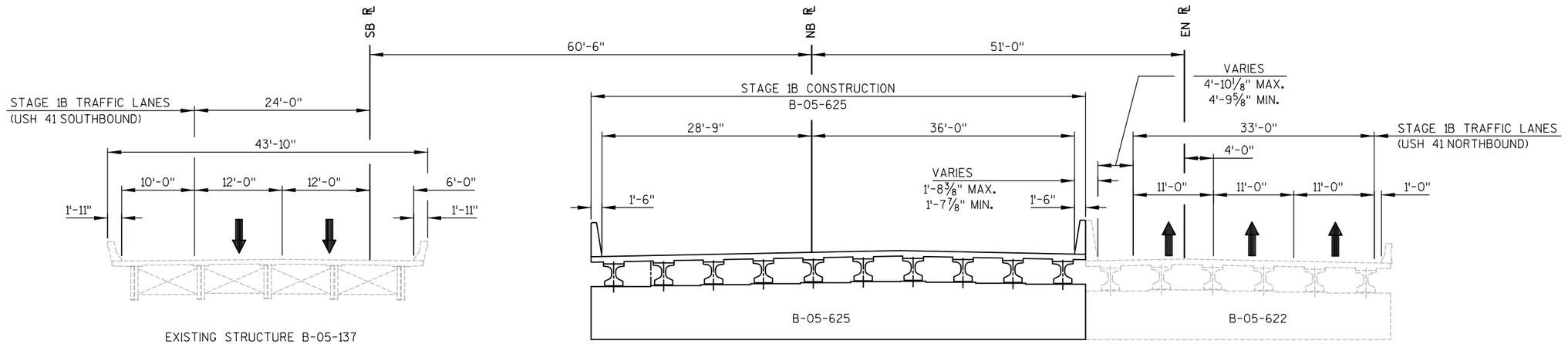
STATE PROJECT NUMBER
1133-09-71



STAGE 1B - TRAFFIC AND REMOVAL

(LOOKING NORTH)



STAGE 1B - TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY	AJW	PLANS CK'D.	DJW

CONSTRUCTION STAGING - 2

SHEET 5 OF 28
1907

8

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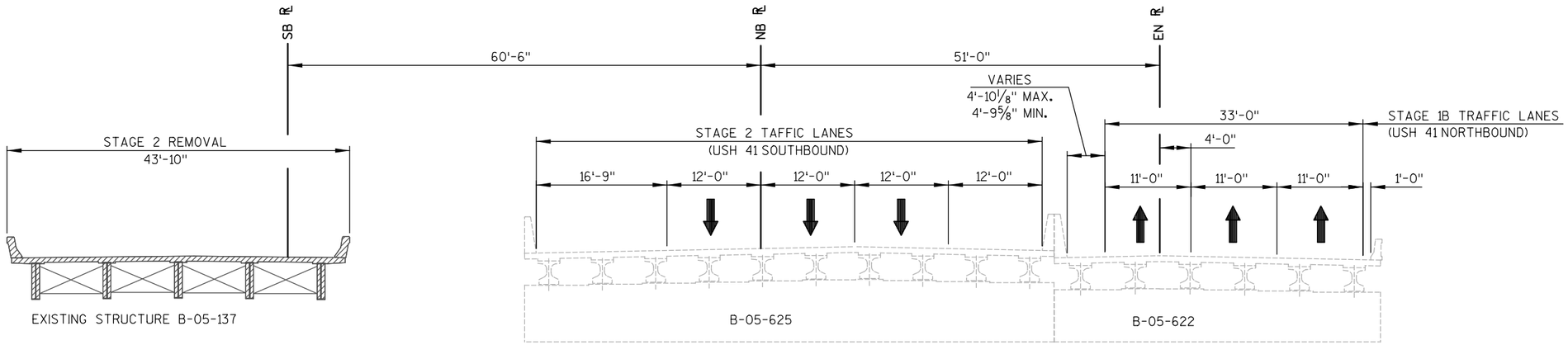
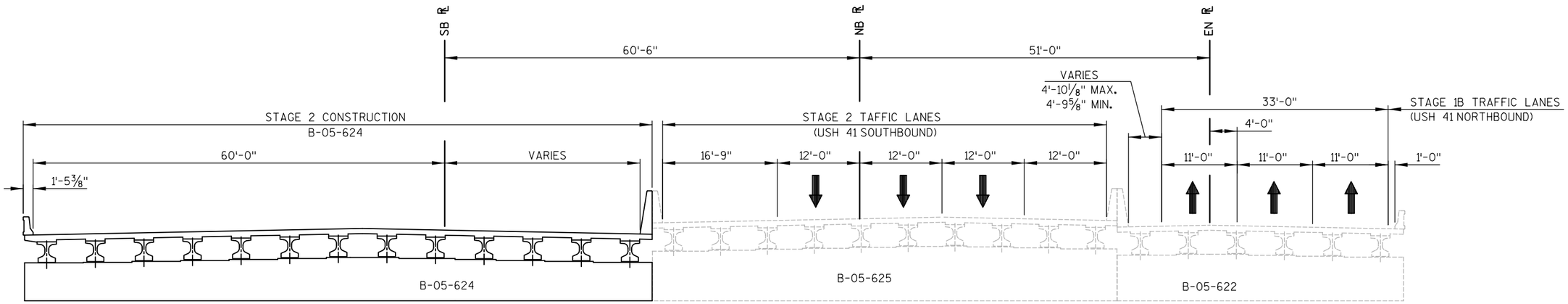
STATE PROJECT NUMBER
1133-09-71



STAGE 2 - PHASE ML-1 - TRAFFIC AND REMOVAL

(LOOKING NORTH)



STAGE 2 - PHASE ML-2 - TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

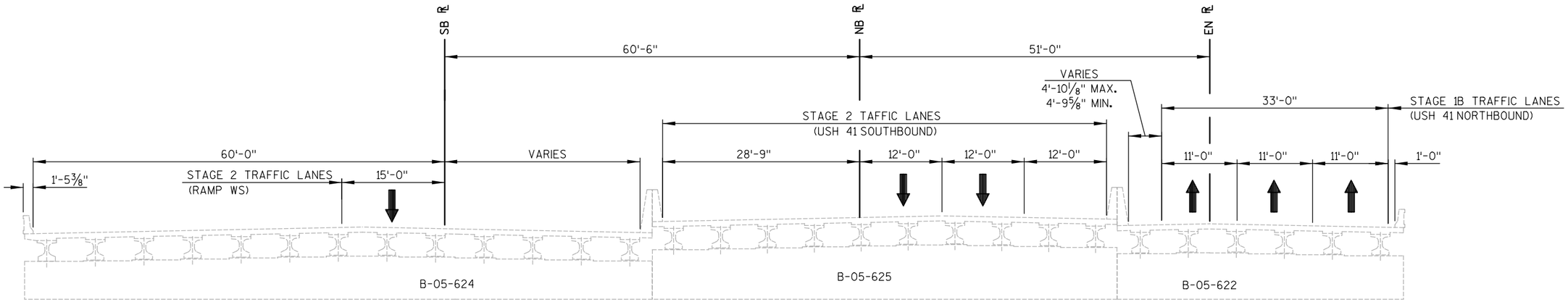
CONSTRUCTION STAGING - 3

SHEET 6 OF 28
1908

8

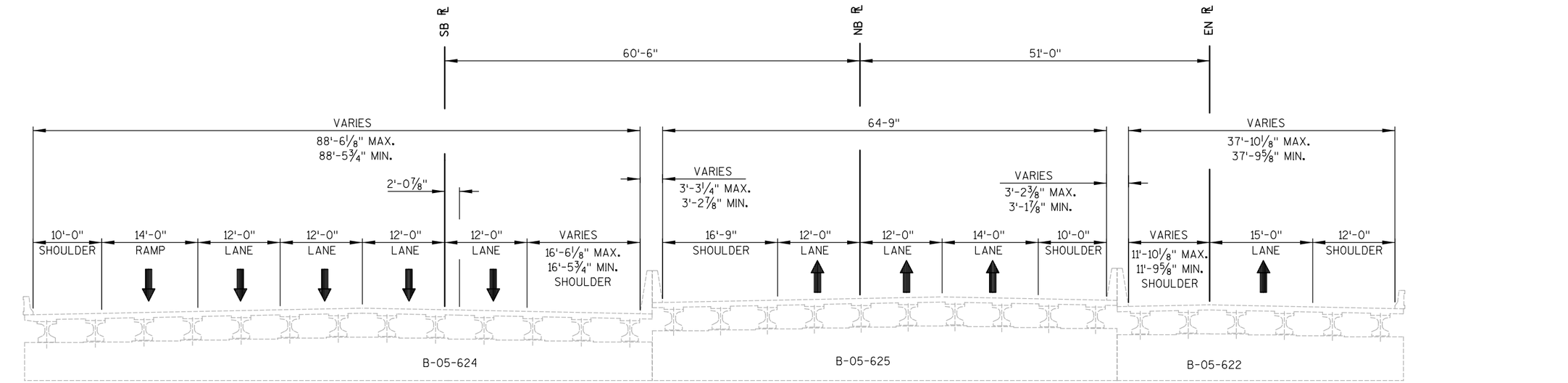
8

STATE PROJECT NUMBER
1133-09-71



STAGE 2 - PHASE ML-2 - TRAFFIC

(LOOKING NORTH)



FINAL CROSS SECTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

CONSTRUCTION STAGING - 4

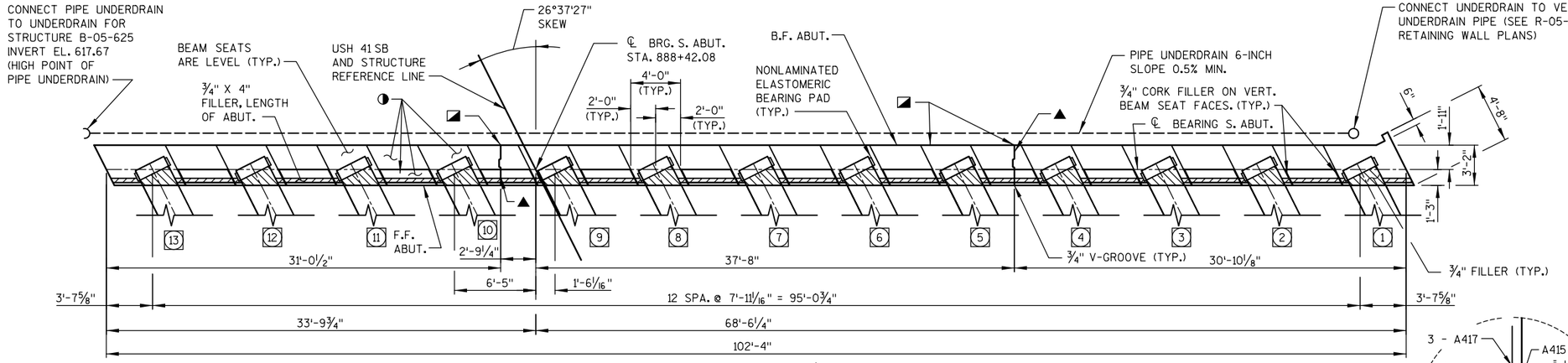
SHEET 7 OF 28
1909

8

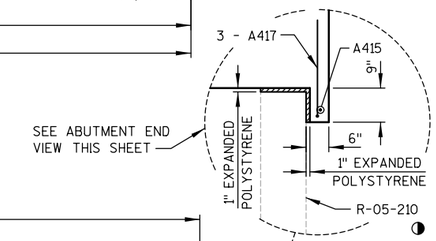
8

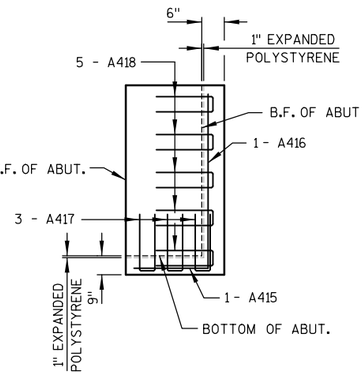
STATE PROJECT NUMBER

1133-09-71



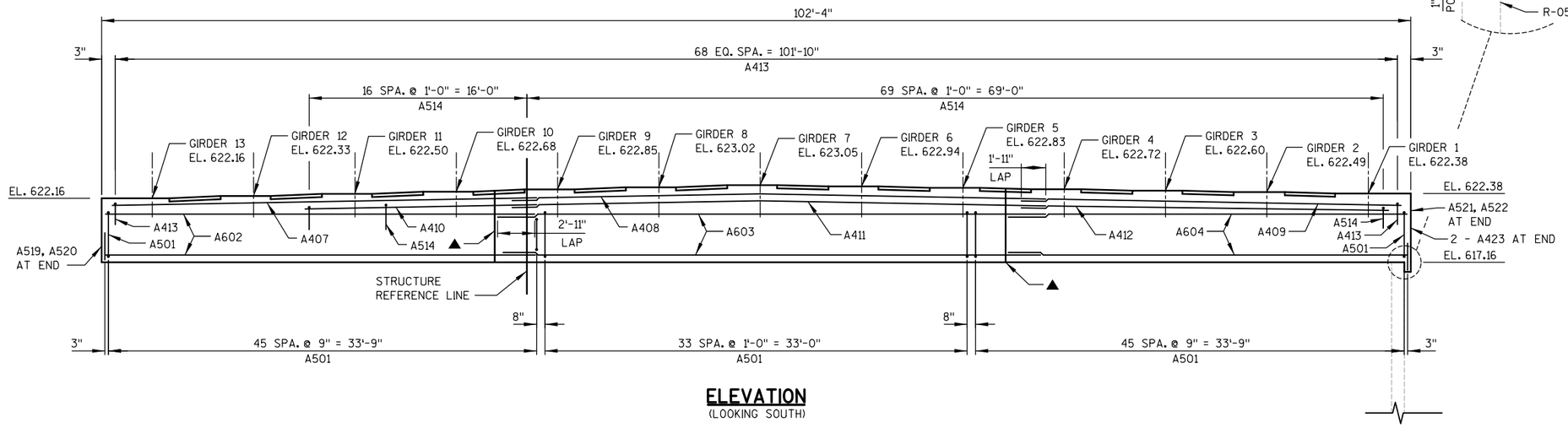
PLAN





ABUTMENT END VIEW

(WEST END ONLY)



ELEVATION

(LOOKING SOUTH)

LEGEND

- ◑ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ◪ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ▲ VERTICAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 8". RUN BAR STEEL THRU JOINT. SEAL JOINT WITH 18" RUBBERIZED MEMBRANE WATERPROOFING. SEE SHEET 14 FOR ALTERNATE CONSTRUCTION JOINT DETAIL.
- ◒ 18" RUBBERIZED MEMBRANE WATERPROOFING AT VERTICAL JOINT WHERE B-05-624 ABUTS B-05-625.
- △ ½" FILLER. EXTEND FULL HEIGHT OF ABUTMENT. SEAL EXPOSED SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP. EXTEND SEALER 6" BELOW FINISHED GRADE.
- (#) INDICATES GIRDER NUMBER.

NOTES

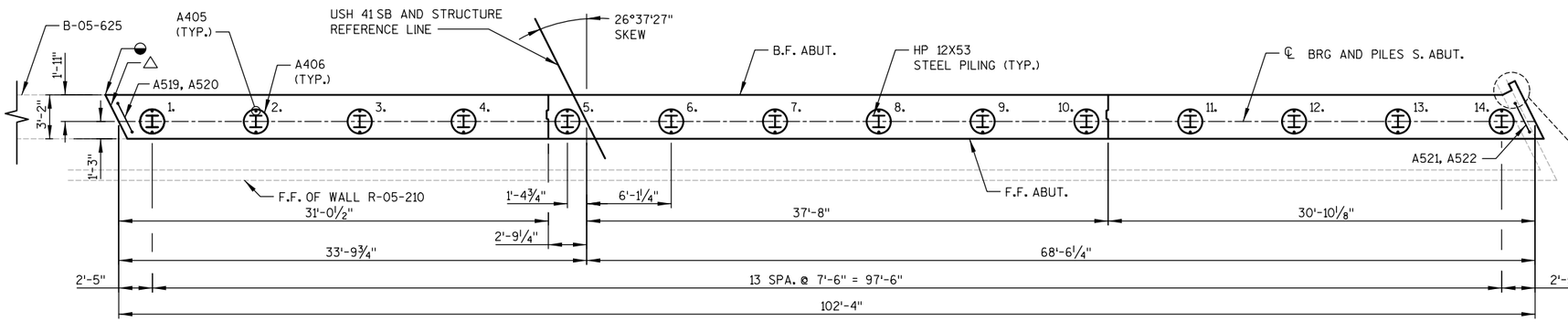
SEE SHEET 12 FOR PILE SPLICE DETAILS.

ADJUST A501 BARS TO AVOID INTERFERENCE WITH PILES.

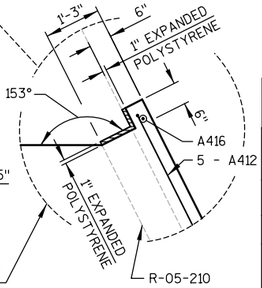
SEE SHEET 9 FOR REINFORCING DETAILS.

ABUTMENTS TO BE SUPPORTED ON HP 12-INCH X 53 LB. STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH IS 105 FEET.

SEE SHEET 9 FOR ABUTMENT FALL PROTECTION DETAIL.



PILE PLAN



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

SOUTH ABUTMENT

SHEET 8 OF 28
1910

8

8

STATE PROJECT NUMBER

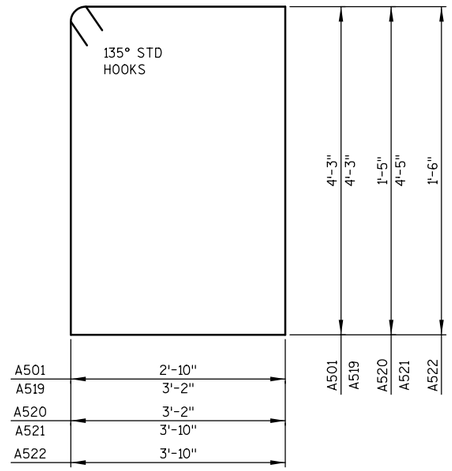
1133-09-71

SOUTH ABUTMENT BILL OF BARS

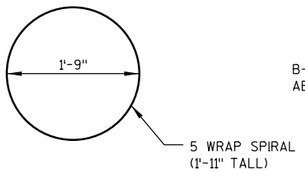
UNCOATED: 6,200 LBS

MARK	NO.	LENGTH	BENT	COAT	LOCATION
A501	126	14'-9"	X		BODY - VERT. - STIRRUPS
A602	17	35'-0"			BODY - HORIZ. - FF/BF, TOP/BOT
A603	17	43'-6"			BODY - HORIZ. - FF/BF, TOP/BOT
A604	17	29'-4"			BODY - HORIZ. - FF/BF, TOP/BOT
A405	28	2'-3"			BODY - PILES - VERT.
A406	14	28'-0"	X		BODY - PILES - VERT.
A407	2	34'-0"			BODY - TOP - HORIZ.
A408	2	42'-6"			BODY - TOP - HORIZ.
A409	2	29'-4"			BODY - TOP - HORIZ.
A410	3	16'-3"			BODY - TOP - HORIZ.
A411	3	42'-6"			BODY - TOP - HORIZ.
A412	3	30'-1"			BODY - TOP - HORIZ.
A413	69	4'-5"	X		BODY - TOP - VERT.
A514	86	6'-7"	X		BODY - TOP - VERT.
A415	1	4'-4"			RETAINING WALL EAR
A416	1	5'-7"			RETAINING WALL EAR
A417	3	4'-8"	X		RETAINING WALL EAR
A418	5	3'-9"	X		RETAINING WALL EAR
A519	1	15'-5"	X		BODY - VERT. - STIRRUP - EAST END
A520	1	9'-9"	X		BODY - VERT. - STIRRUP - EAST END
A521	1	17'-1"	X		BODY - VERT. - STIRRUP - WEST END
A522	1	11'-3"	X		BODY - VERT. - STIRRUP - WEST END
A423	2	5'-7"			BODY - VERT. - WEST SIDE

NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



A501, A519, A520, A521, A522



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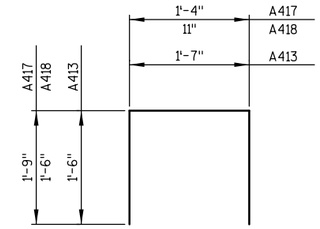
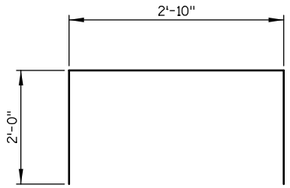


A413, A417, A418



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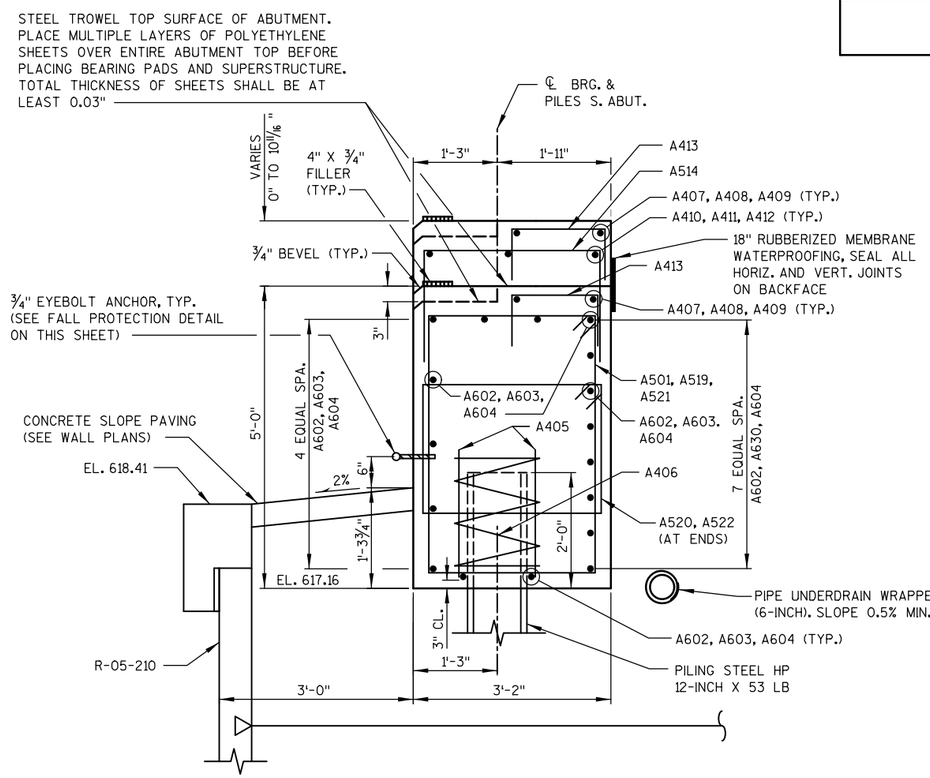
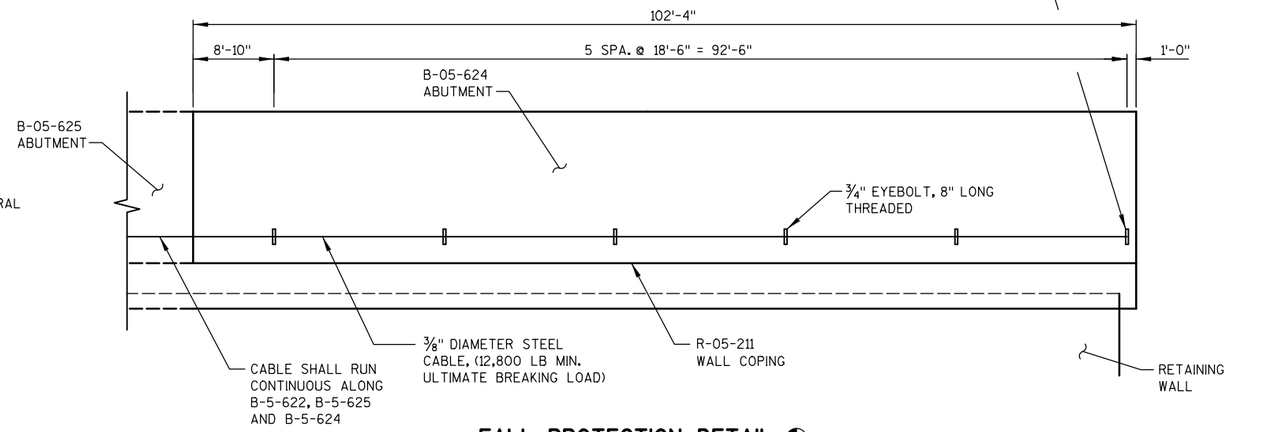


TYPICAL SECTION THRU BODY



FALL PROTECTION DETAIL

(ABUTMENT F.F. ELEVATION VIEW)

NOTES:

ALL LABOR AND MATERIAL (EYE BOLTS, CABLE, AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4-INCH.

ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.

USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.

MASONRY ANCHORS TYPE S 3/4-INCH, MIN. ULTIMATE PULLOUT CAPACITY OF 19 KIPS. FOR ADHESIVE ANCHORS EMBED A MINIMUM OF 7" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

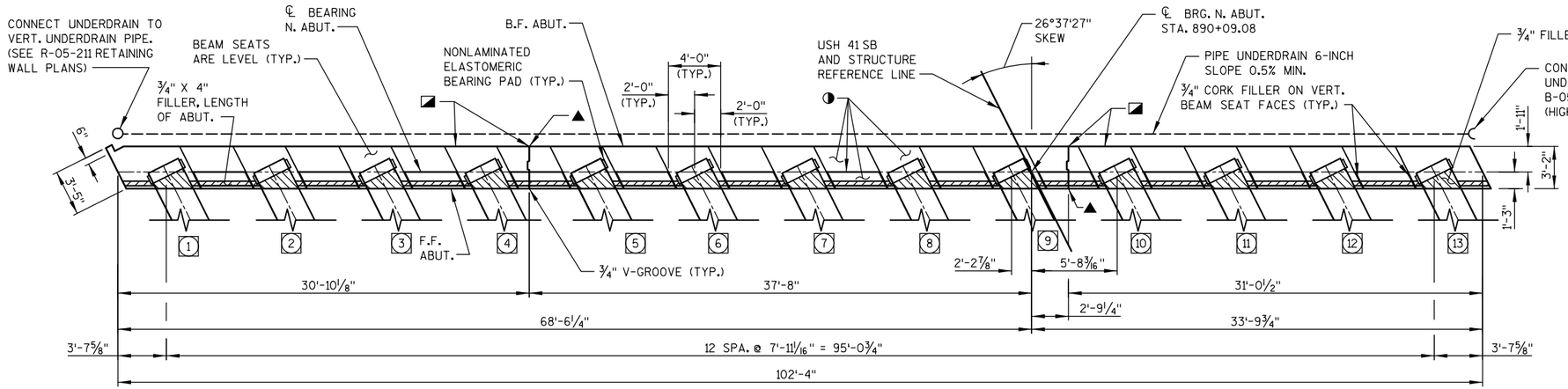
SOUTH ABUTMENT DETAILS

SHEET 9 OF 28
1911

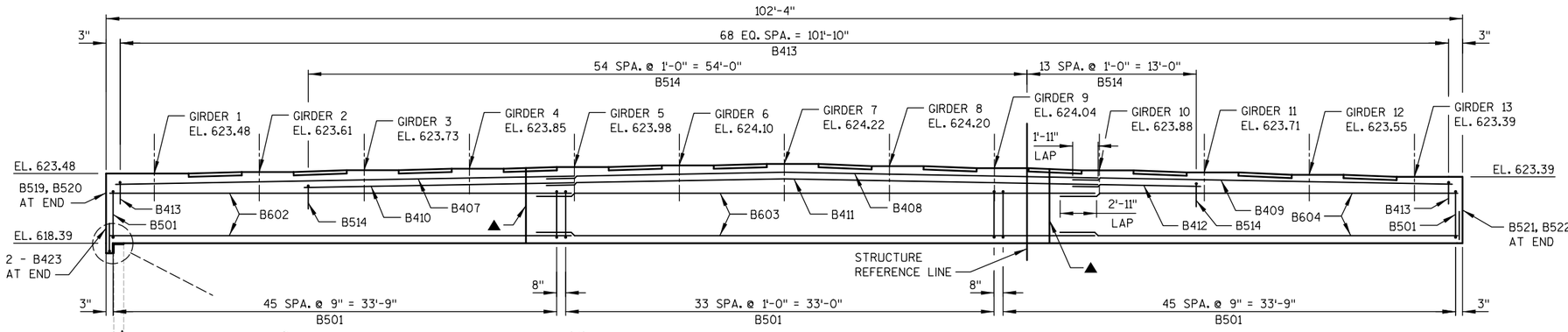
8

8

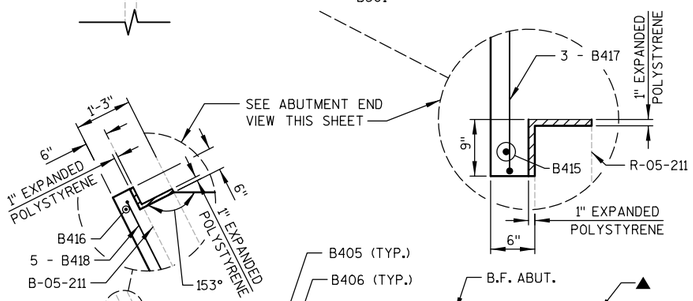
STATE PROJECT NUMBER
1133-09-71

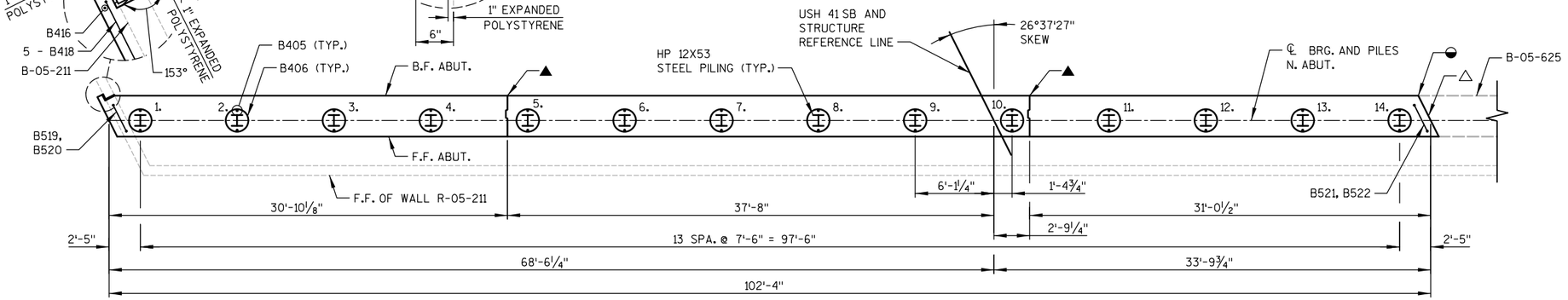


PLAN

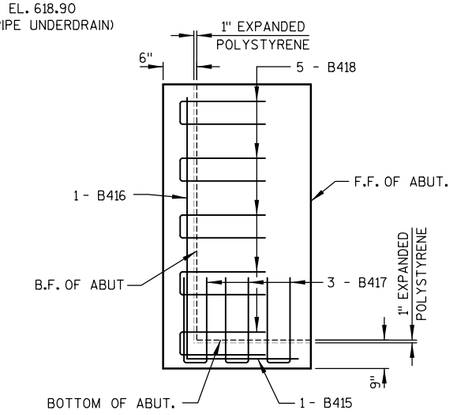


ELEVATION
(LOOKING NORTH)





PILE PLAN



ABUTMENT END VIEW
(WEST END ONLY)

LEGEND

- ◑ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ◪ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ▲ VERTICAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 8". RUN BAR STEEL THRU JOINT. SEAL JOINT WITH 18" RUBBERIZED MEMBRANE WATERPROOFING. SEE SHEET 14 FOR ALTERNATE CONSTRUCTION JOINT DETAIL.
- ◒ 18" RUBBERIZED MEMBRANE WATERPROOFING AT VERTICAL JOINT WHERE B-05-624 ABUTS B-05-625.
- △ ½" FILLER. EXTEND FULL HEIGHT OF ABUTMENT. SEAL EXPOSED SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP. EXTEND SEALER 6" BELOW FINISED GRADE.
- (#) INDICATES GIRDER NUMBER.

NOTES

SEE SHEET 12 FOR PILE SPLICE DETAILS.

ADJUST B501 BARS TO AVOID INTERFERENCE WITH PILES.

SEE SHEET 11 FOR REINFORCING DETAILS.

ABUTMENTS TO BE SUPPORTED ON HP 12-INCH X 53 LB. STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH IS 100 FEET.

SEE SHEET 11 FOR ABUTMENT FALL PROTECTION DETAIL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

NORTH ABUTMENT

SHEET 10 OF 28
1912

8

8

STATE PROJECT NUMBER

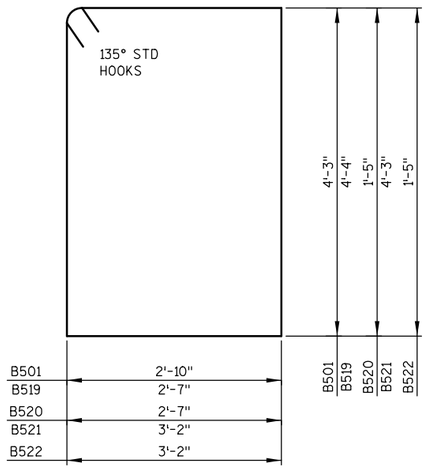
1133-09-71

NORTH ABUTMENT BILL OF BARS

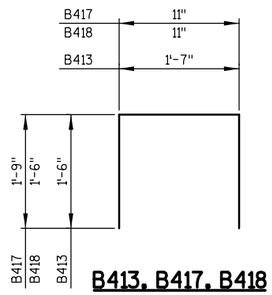
UNCOATED: 6,040 LBS

MARK	NO.	LENGTH	BENT	COAT	LOCATION
B501	126	14'-9"	X		BODY - VERT. -STIRRUPS
B602	17	35'-2"			BODY - HORIZ. - FF/BF, TOP/BOT
B603	17	43'-6"			BODY - HORIZ. - FF/BF, TOP/BOT
B604	17	29'-6"			BODY - HORIZ. - FF/BF, TOP/BOT
B405	28	2'-3"			BODY - PILES - VERT.
B406	14	28'-0"	X		BODY - PILES - VERT.
B407	2	34'-1"			BODY - TOP - HORIZ.
B408	2	42'-6"			BODY - TOP - HORIZ.
B409	2	29'-5"			BODY - TOP - HORIZ.
B410	3	18'-6"			BODY - TOP - HORIZ.
B411	3	42'-6"			BODY - TOP - HORIZ.
B412	3	10'-2"			BODY - TOP - HORIZ.
B413	69	4'-5"	X		BODY - TOP - VERT.
B514	68	6'-7"	X		BODY - TOP - VERT.
B415	1	3'-1"			RETAINING WALL EAR
B416	1	5'-6"			RETAINING WALL EAR
B417	3	4'-3"	X		RETAINING WALL EAR
B418	5	3'-9"	X		RETAINING WALL EAR
B519	1	14'-5"	X		BODY - VERT. - STIRRUP - WEST END
B520	1	8'-7"	X		BODY - VERT. - STIRRUP - WEST END
B521	1	15'-5"	X		BODY - VERT. - STIRRUP - EAST END
B522	1	9'-9"	X		BODY - VERT. - STIRRUP - EAST END
B423	2	5'-6"			BODY - VERT. - WEST END

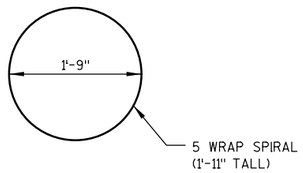
NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



B501, B519, B520, B521, B522



B413, B417, B418



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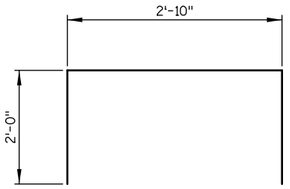

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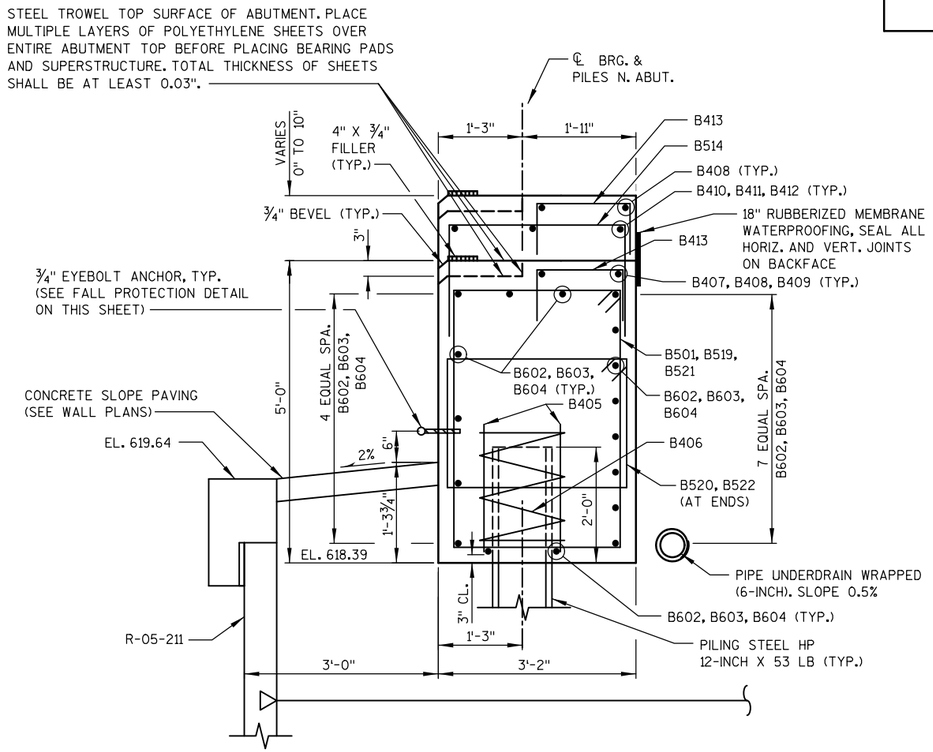
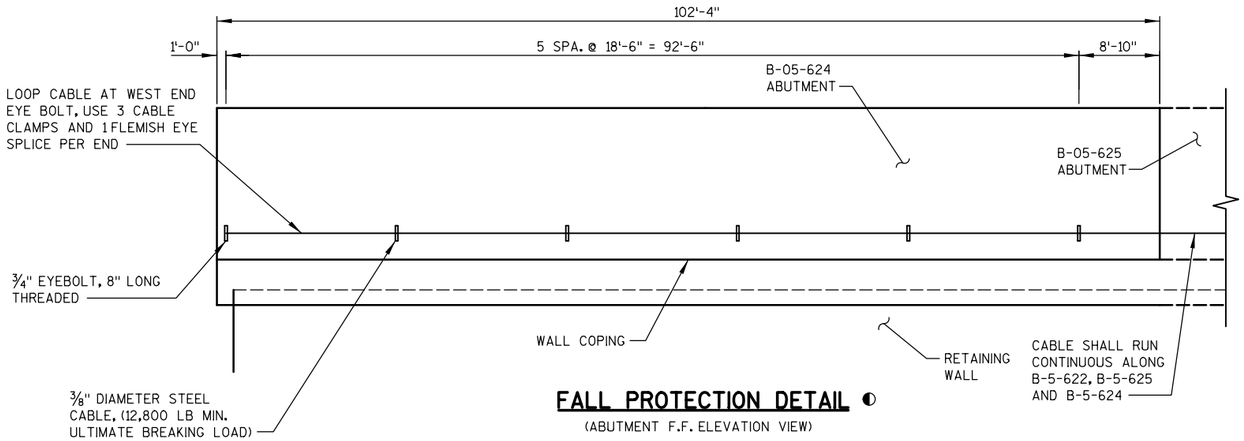


TYPICAL SECTION THRU BODY



FALL PROTECTION DETAIL ◐

(ABUTMENT F.F. ELEVATION VIEW)

◐ NOTES:

ALL LABOR AND MATERIAL (EYE BOLTS, CABLE, AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4-INCH.

ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.

USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.

MASONRY ANCHORS TYPE S 3/4-INCH. MIN. ULTIMATE PULLOUT CAPACITY OF 26 KIPS. FOR ADHESIVE ANCHORS, EMBED A MINIMUM OF 7" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

NORTH ABUTMENT DETAILS

SHEET 11 OF 28
1913

8

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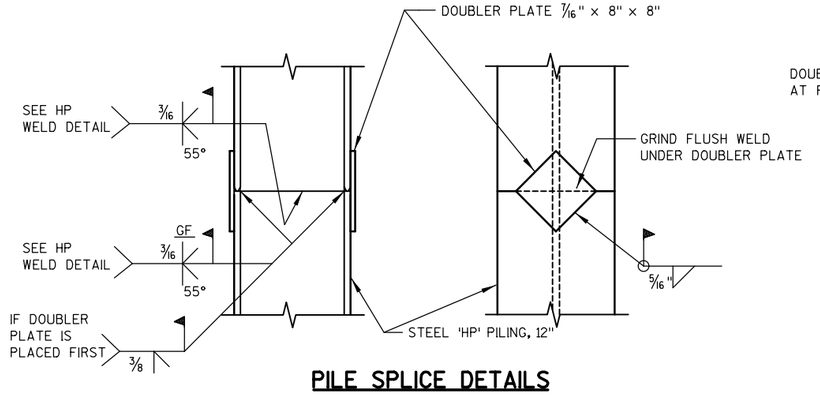
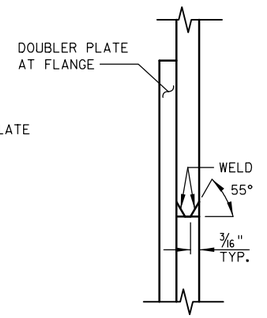
STATE PROJECT NUMBER
1133-09-71



PILE SPLICE DETAILS

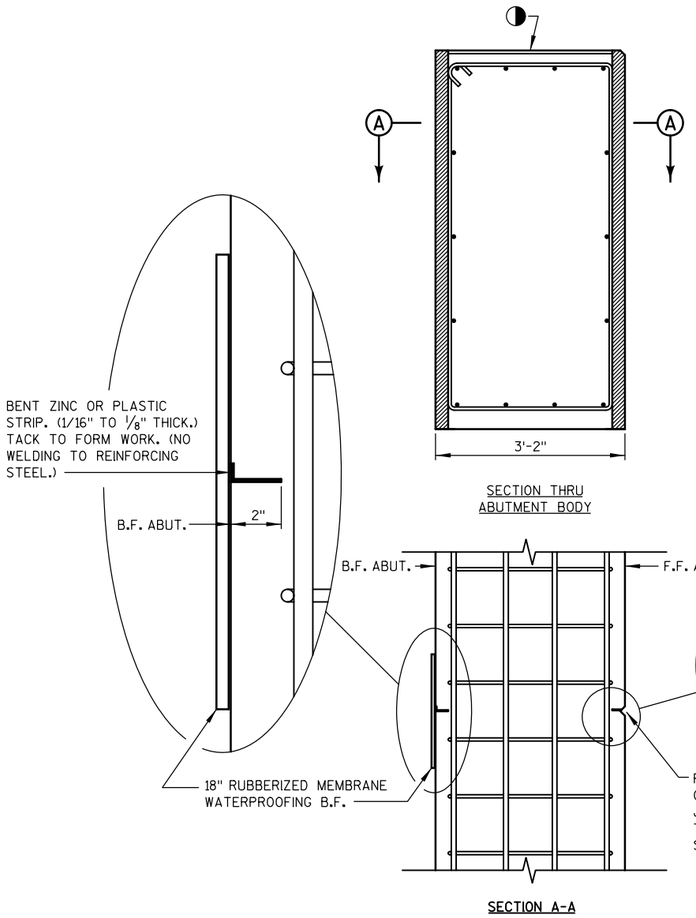


HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE SPLICE NOTES

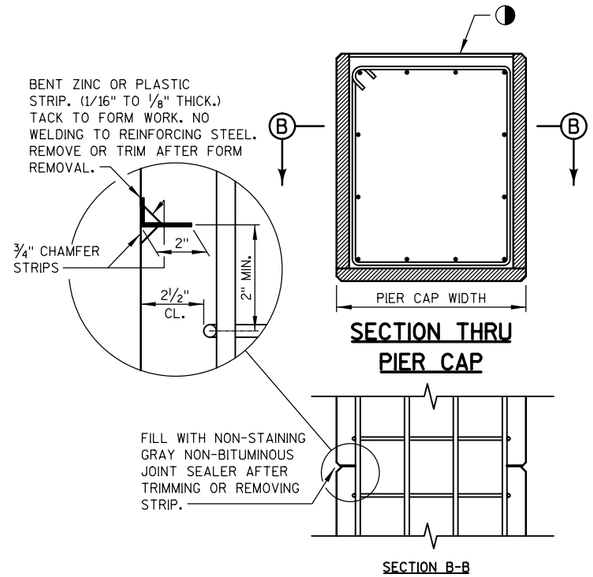
GRINDING MAY BE USED IN LIEU OF BACKGOUGING.



SECTION THRU ABUTMENT BODY

SECTION A-A

ALTERNATE CONSTRUCTION JOINT AT ABUTMENT



SECTION THRU PIER CAP

SECTION B-B

ALTERNATE CONSTRUCTION JOINT AT PIER CAP

NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

ABUTMENT AND PIER DETAILS

SHEET 12 OF 28
1914

8

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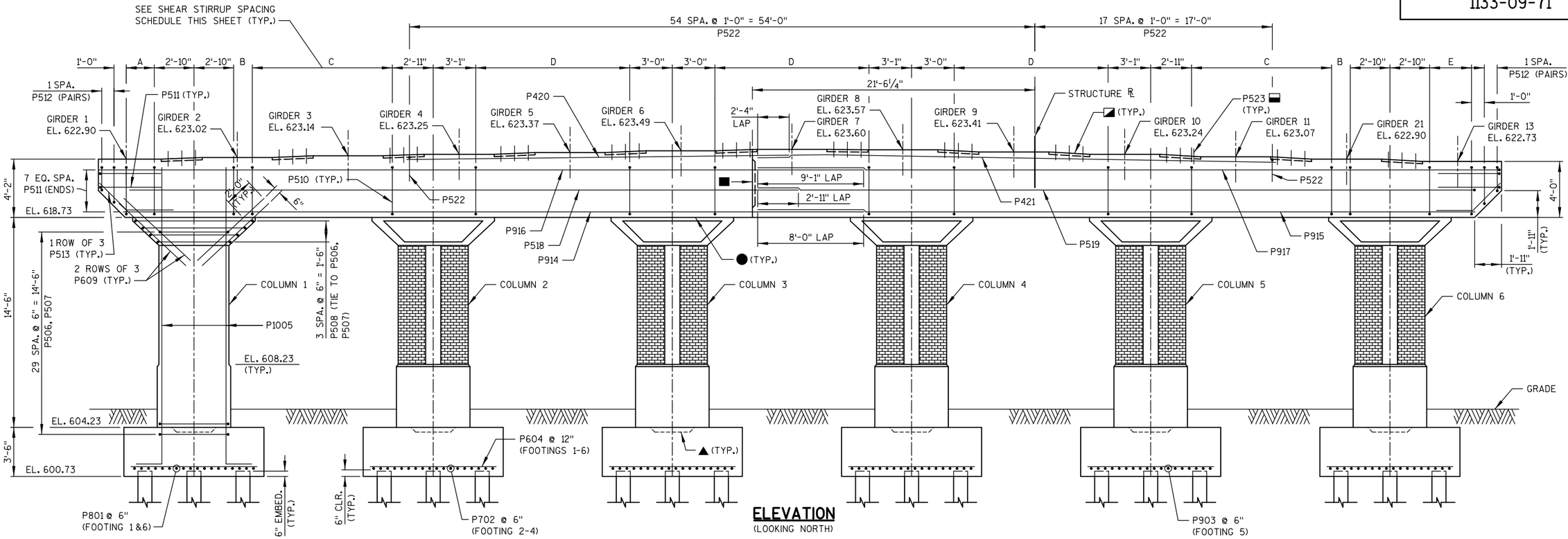
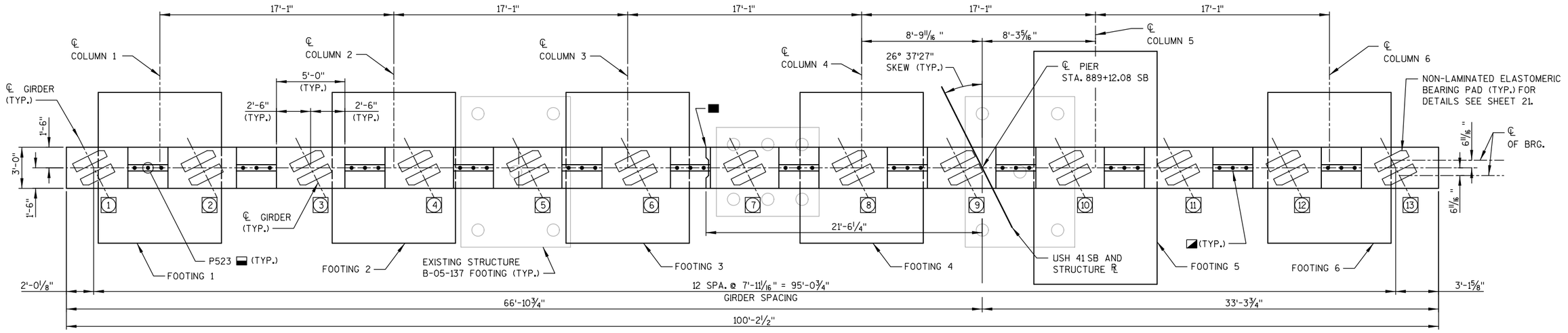
STATE PROJECT NUMBER
1133-09-71



ELEVATION
(LOOKING NORTH)



PLAN

LEGEND

- KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2"X6".
- (#) INDICATES GIRDER NUMBER.
- P523 BARS @ 1'-0" CENTERS BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED 1'-0" INTO CONCRETE.
- ▲ CONSTRUCTION JOINT FORMED BY BEVELED 3"X1'-3"X2'-6" KEYWAY.
- ● CONSTRUCTION JOINT. STRIKE OFF AND LEAVE ROUGH.
- ■ VERTICAL CONSTRUCTION JOINT FORMED BY BEVELED 2"X6"X2'-6" KEYWAY.

NOTES

GIRDER ELEVATIONS GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF THE PIER. BEAM SEATS SHALL BE FLAT.

SEE SHEET 14 FOR REINFORCING DETAILS.

ARCHITECTURAL SURFACE TREATMENT AND REVEAL NOT SHOWN ON COLUMN 1 FOR CLARITY.

SHEAR STIRRUP SPACING

A	2 SPA. @ 1'-0" = 2'-0", P510 (PAIRS)
B	2 SPA. @ 8" = 1'-4", P510 (PAIRS)
C	10 SPA. @ 1'-0" = 10'-0", P510 (PAIRS)
D	11 SPA. @ 1'-0" = 11'-0", P510 (PAIRS)
E	3 SPA. @ 1'-0" = 3'-0", P510 (PAIRS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY	AJW	PLANS CK'D.	DJW

PIER

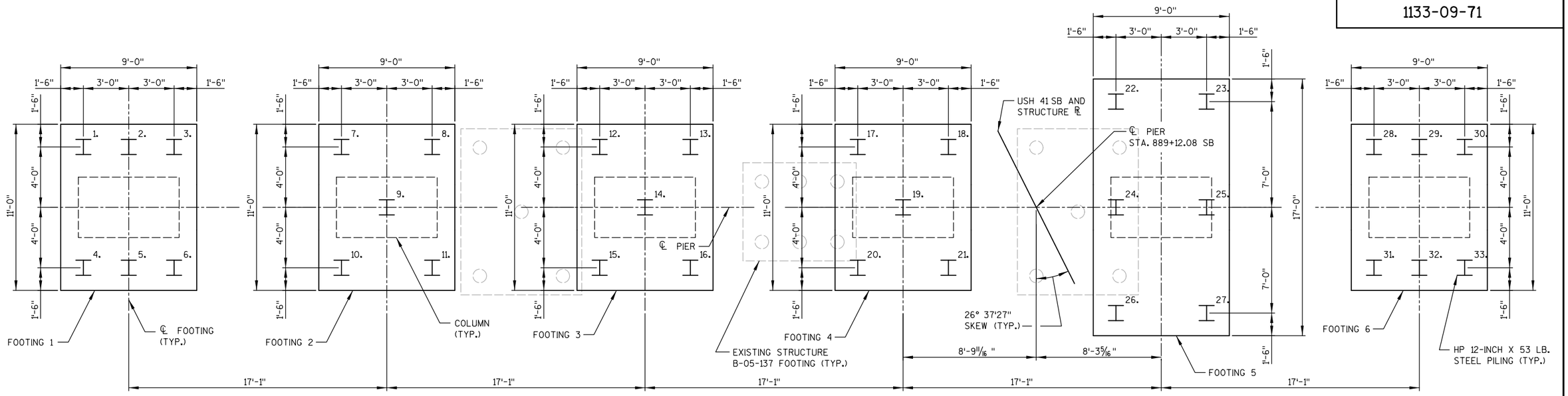
SHEET 13 OF 28
1915

8

8

STATE PROJECT NUMBER

1133-09-71



FOUNDATION PLAN

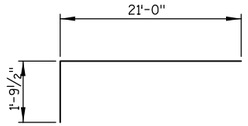
N

PIER BILL OF BARS

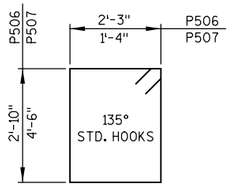
UNCOATED: 4,240 LBS.
COATED: 32,090 LBS.

MARK	NO.	LENGTH	BENT	COAT	LOCATION
P801	36	10'-8"			FOOTINGS 1 & 6 - HORIZ.
P702	54	10'-8"			FOOTINGS 2 - 4 - HORIZ.
P903	18	16'-8"			FOOTING 5 - HORIZ.
P604	78	8'-8"			FOOTINGS 1 - 6 - HORIZ.
P1005	168	22'-6"	X	X	FOOTINGS & COLUMNS - VERT.
P506	360	10'-9"	X	X	COLUMNS - STIRRUPS
P507	180	12'-3"	X	X	COLUMNS - STIRRUPS
▲ P508	24	17'-10"	X	X	COLUMNS - STIRRUPS - TOP
P609	72	7'-0"		X	COLUMNS - TOP
P510	138	11'-5"	X	X	CAP - STIRRUPS
P511	16	11'-8"	X	X	CAP - HORIZ. - ENDS
▲ P512	8	8'-9"	X	X	CAP - STIRRUPS - ENDS
P513	6	5'-0"	X	X	CAP - HORIZ. - ENDS
P914	6	51'-6"		X	CAP - HORIZ. - BOTTOM
P915	6	52'-8"		X	CAP - HORIZ. - BOTTOM
P916	6	54'-5"		X	CAP - HORIZ. - TOP
P917	6	54'-7"		X	CAP - HORIZ. - TOP
P518	12	46'-6"		X	CAP - HORIZ. - SIDES
P519	12	52'-11"		X	CAP - HORIZ. - SIDES
P420	4	35'-0"		X	CAP - HORIZ. - TOP
P421	4	38'-6"		X	CAP - HORIZ. - TOP
P522	72	6'-4"	X	X	CAP - VERT. - TOP
P523	36	2'-0"		X	CAP - VERT. - DOWELS

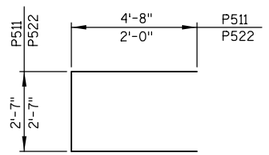
NOTE: THE FIRST ONE OR TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.
DIMENSIONS FOR BENDING ARE OUT TO OUT OF BAR.



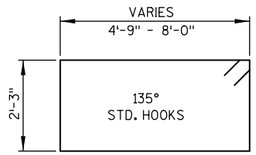
P1005



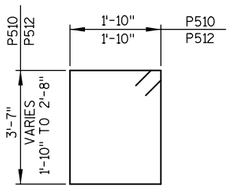
P506, P507



P511, P522



P508



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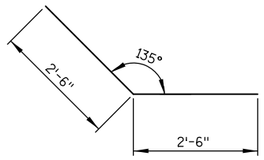


P513

▲ BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
P508	6 SERIES OF 4	14'-7" TO 21'-1"
P512	4 SERIES OF 2	7'-11" TO 9'-7"

NOTES

PIER TO BE SUPPORTED ON HP 12-INCH X 53 LB. STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH 95 FT EACH.

EXISTING PILING SHALL NOT BE INCORPORATED INTO THE NEW WORK. EXISTING PILING SHALL BE CUT AT OR BELOW THE BOTTOM OF THE NEW FOOTING.

SEE SHEET 12 FOR PILE SPLICE DETAILS.

THE EXISTING PILE LOCATIONS ARE BASED ON THE ORIGINAL PLANS FOR B-05-138. THE ENGINEER SHALL APPROVE ALL ADJUSTMENTS IF THE EXISTING PILE LOCATIONS DO NOT MATCH THE LOCATIONS SHOWN ON THE PLANS. NOTIFY ENGINEER IF EXISTING PILE SPACING TO NEW PILE IS LESS THAN 2.25 FT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

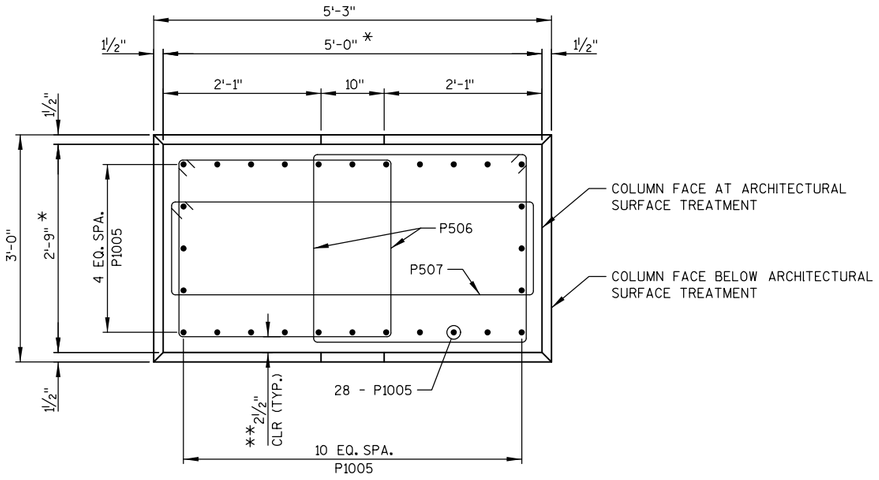
PIER FOUNDATION

SHEET 14 OF 28
1916

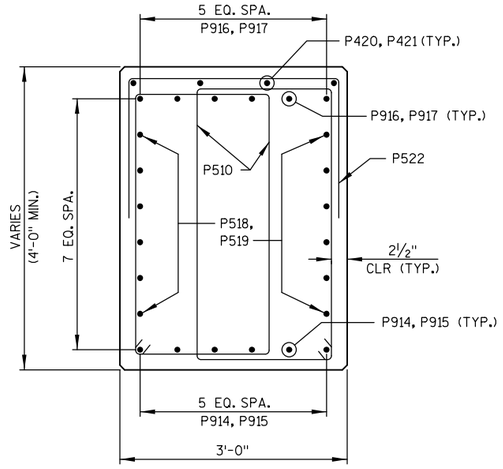
8

8

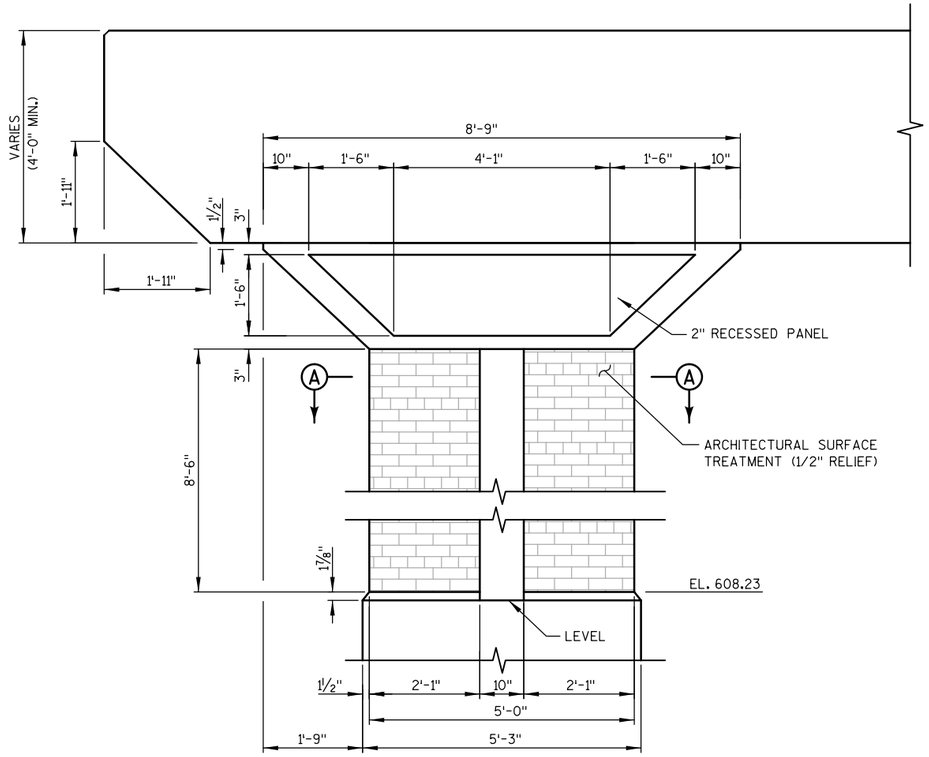
STATE PROJECT NUMBER
1133-09-71



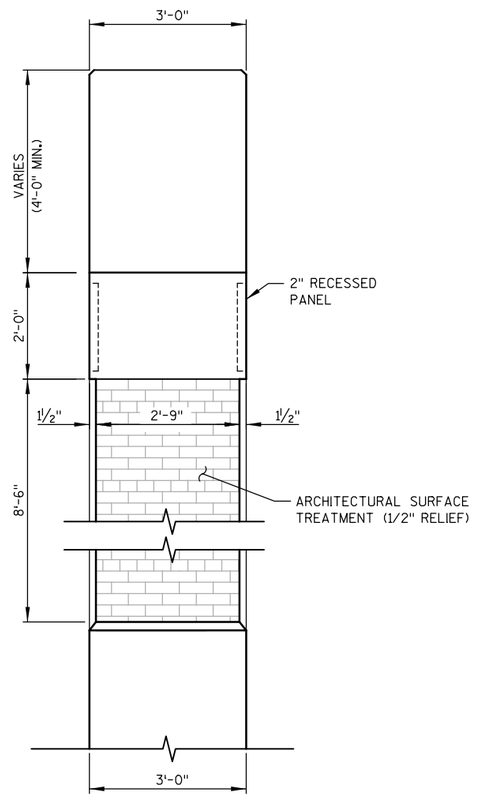
PIER COLUMN SECTION A-A



SECTION THRU PIER CAP



PIER ELEVATION



PIER END ELEVATION

NOTES

SEE SHEET 14 FOR REINFORCING DETAILS.

SEE SHEET 28 FOR ARCHITECTURAL SURFACE TREATMENT AND CONCRETE STAINING REQUIREMENTS.

LEGEND

* DIMENSION IS TAKEN TO OUTER FACE OF ARCHITECTURAL SURFACE TREATMENT.

** 2½" CLEAR DISTANCE IS FROM INSIDE OF ARCHITECTURAL SURFACE TREATMENT RELIEF (3" FROM OUTSIDE OF FACE RELIEF).

8

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STRUCTURE B-05-624

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PIER DETAILS

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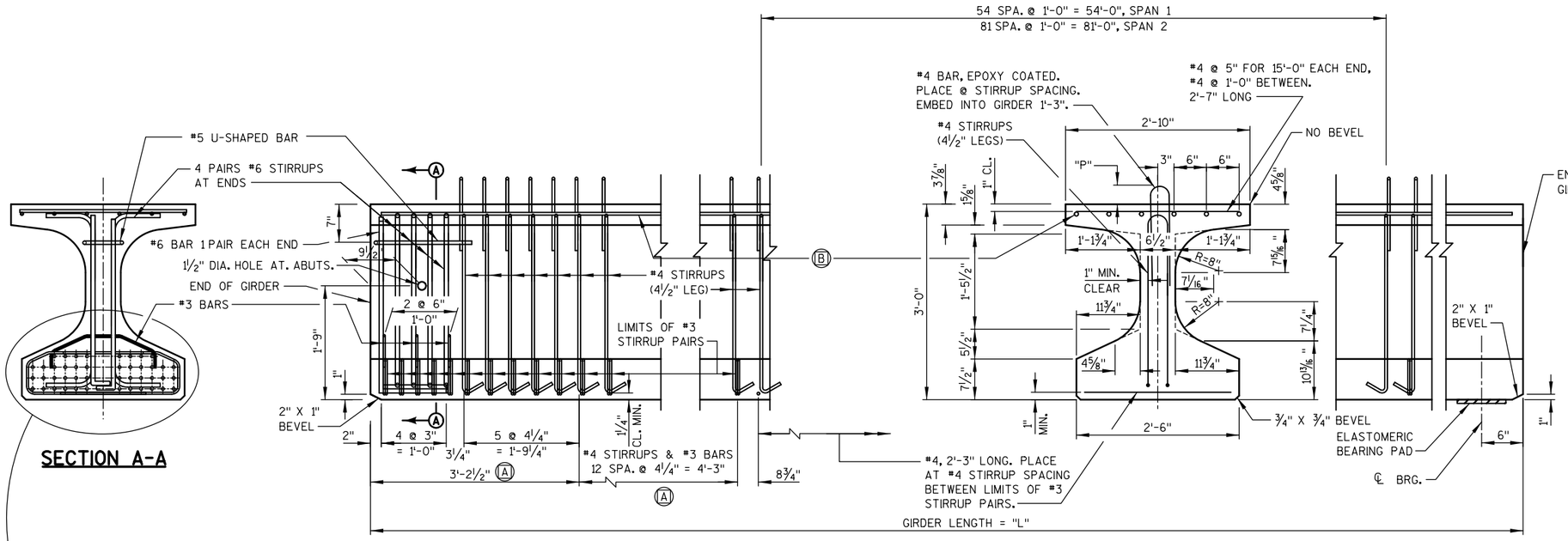
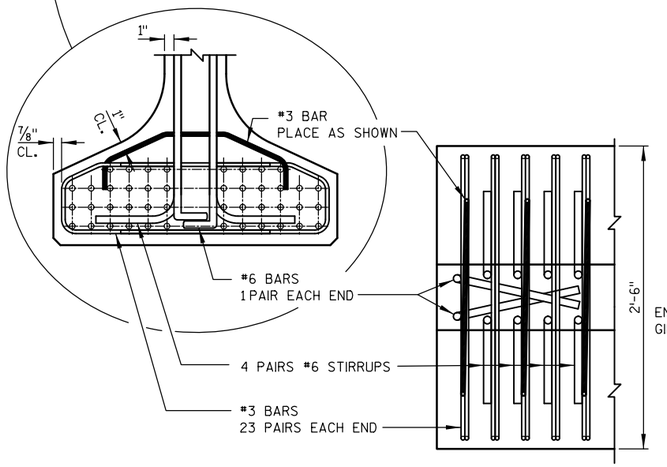


SECTION A-A

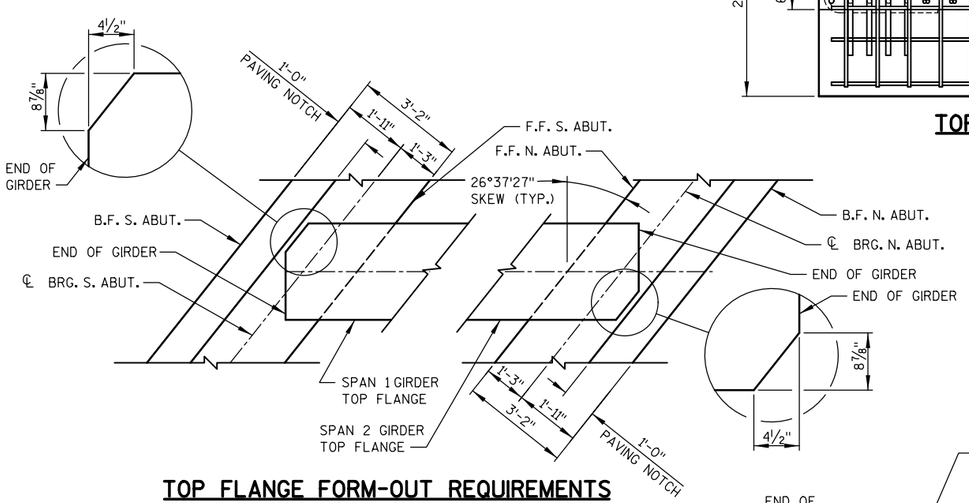
SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

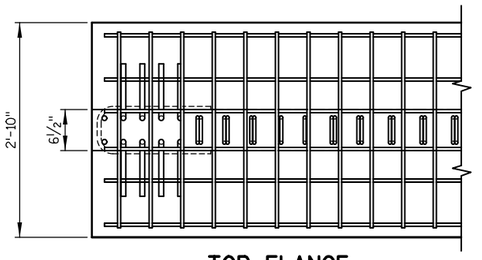
Ⓑ 6 #5 BARS, FULL LENGTH, MIN. LAP = 2'-5"



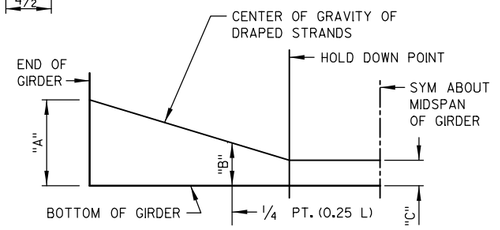
BOTTOM FLANGE



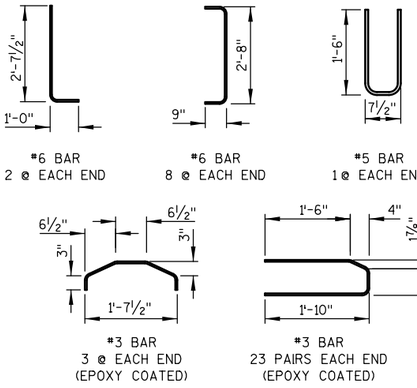
TOP FLANGE FORM-OUT REQUIREMENTS



TOP FLANGE



DRAPED STRAND PROFILE



*MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (P.S.I.)	"P" (IN.) IST 1/3 OF GIRDER	"P" (IN.) MID 1/3 OF GIRDER	"P" (IN.) END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1, 13	70'-4½"	0.25	0.46	0.61	0.71	0.74	0.71	0.61	0.46	0.25	8000	8	7	8	0.60							18	6800
1	2-12	70'-4½"	0.22	0.43	0.60	0.70	0.74	0.70	0.60	0.43	0.22	8000	8	7	8	0.60							18	6800
2	1, 13	97'-4½"	0.87	1.66	2.27	2.67	2.80	2.67	2.27	1.66	0.87	8000	8	7	8	0.60	36	6800	31	11.5	14.5	5		
2	2-12	97'-4½"	0.87	1.65	2.26	2.65	2.78	2.65	2.26	1.65	0.87	8000	8	7	8	0.60	36	6800	31	11.5	14.5	5		

GIRDER NOTES

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

PRESTRESSING STRANDS SHALL BE 0.6"Φ - 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, THE FOLLOWING OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT CHIEF, (608) 266-5161.

FORM-OUT CORNER OF TOP FLANGE AT ABUTMENTS TO MEET CLEARANCE REQUIREMENTS. SEE DETAIL THIS SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

36W" PRESTRESSED GIRDER DETAILS-1

SHEET 16 OF 28

1918

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STATE PROJECT NUMBER
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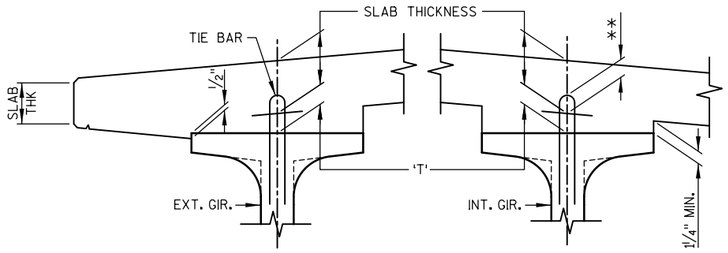


SLAB HAUNCH DETAIL

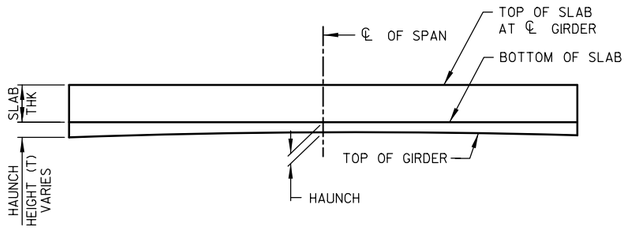
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
\- TOP OF GIRDER ELEVATION
\+ DEAD LOAD DEFLECTION
\- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES".

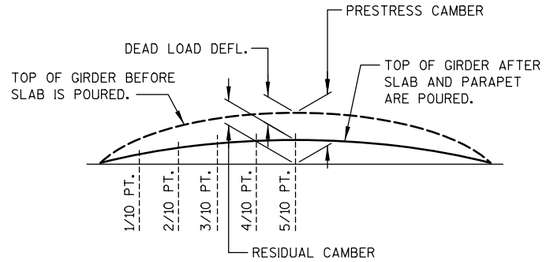


ELEVATION

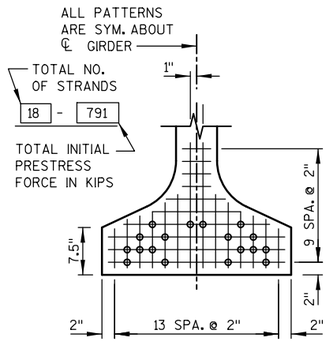
THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.)
1	1.18
2	4.19

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

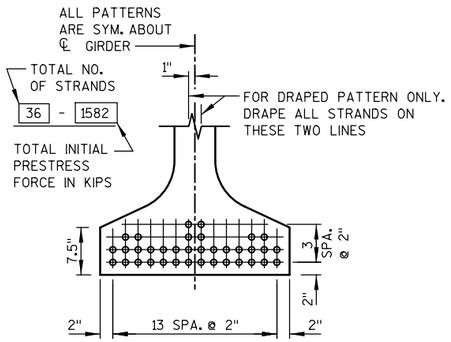


CAMBER AND DEFLECTION DIAGRAM



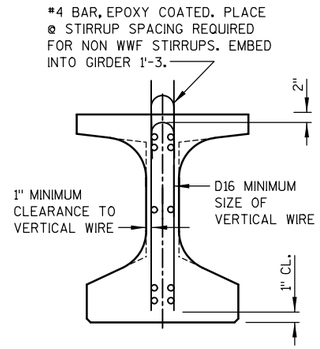
TYP. STRAND PATTERN

(SPAN 1)



TYP. STRAND PATTERN

(SPAN 2)



SECTION THRU GIRDER

SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS

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DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

36W" PRESTRESSED GIRDER DETAILS-2 1919

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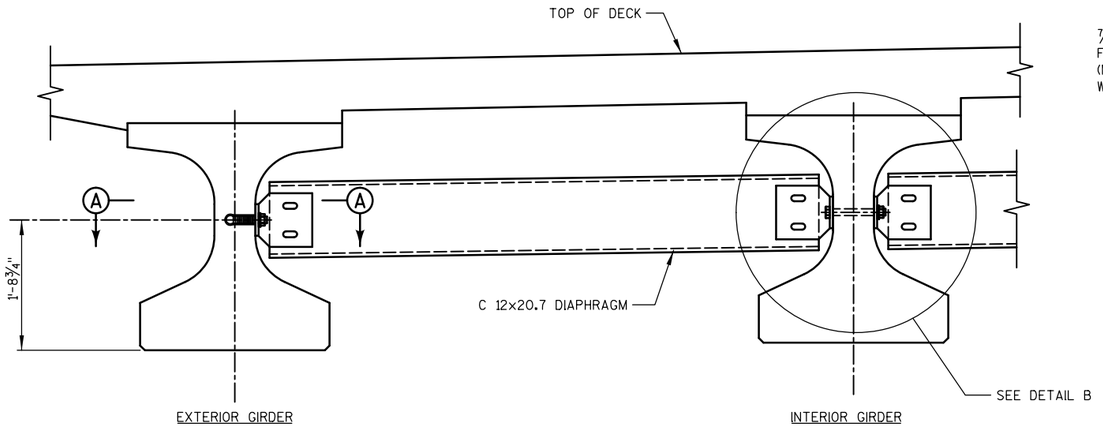
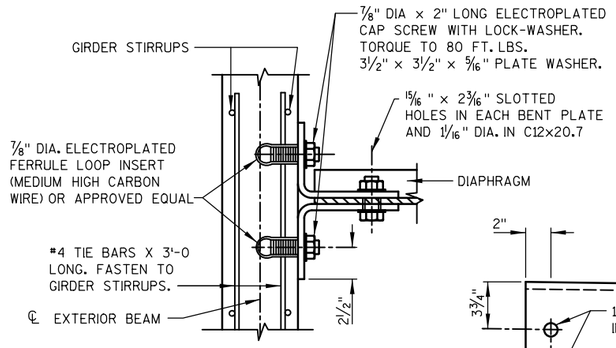
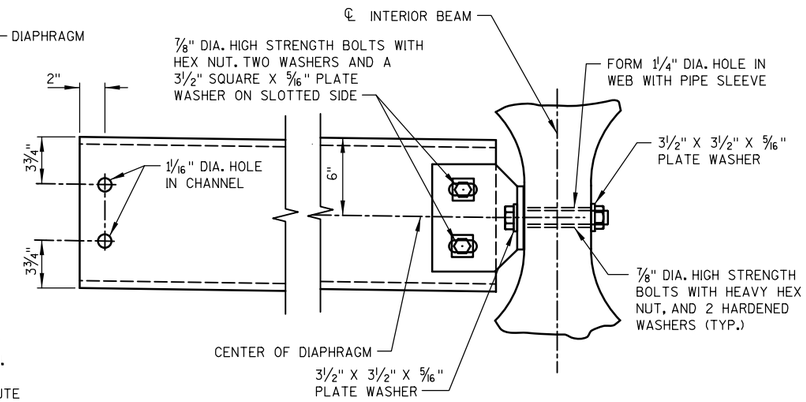


PART TRANSVERSE SECTION AT DIAPHRAGM



SECTION A-A

(FOR EXTERIOR ATTACHMENT)



(FOR STAGGERED DIAPHRAGMS)

DETAIL B

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-05-624", EACH.

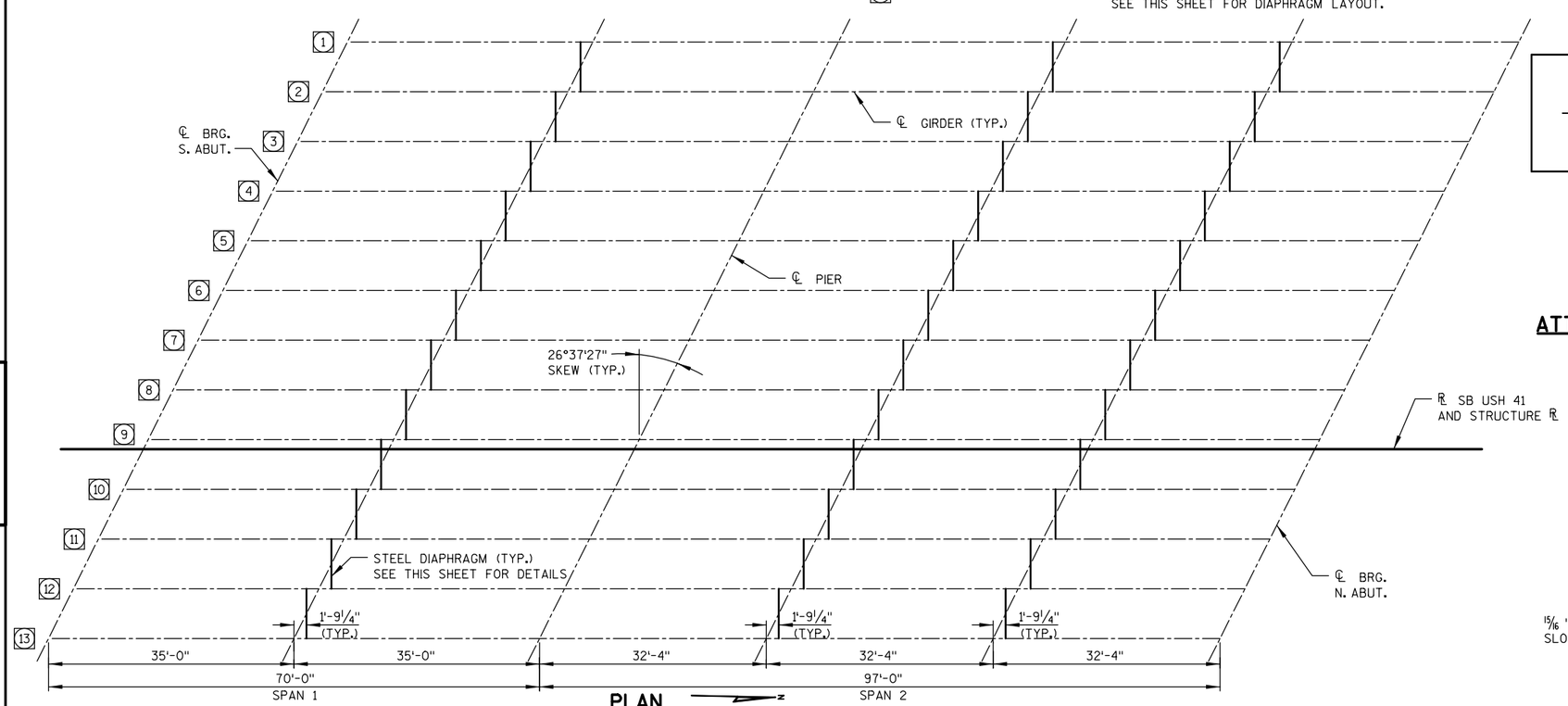
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT. ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

SEE THIS SHEET FOR DIAPHRAGM LAYOUT.

LEGEND

(#) INDICATES GIRDER NUMBER.

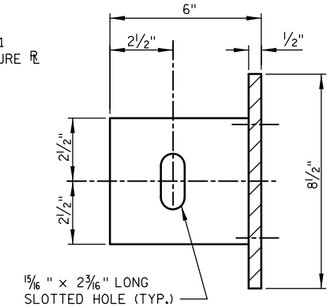


PLAN

(SHOWING DIAPHRAGM LAYOUT)

ATTACHMENT TO CHANNEL

DIAPHRAGM FACE



BEAM FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

STEEL DIAPHRAGM

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1920

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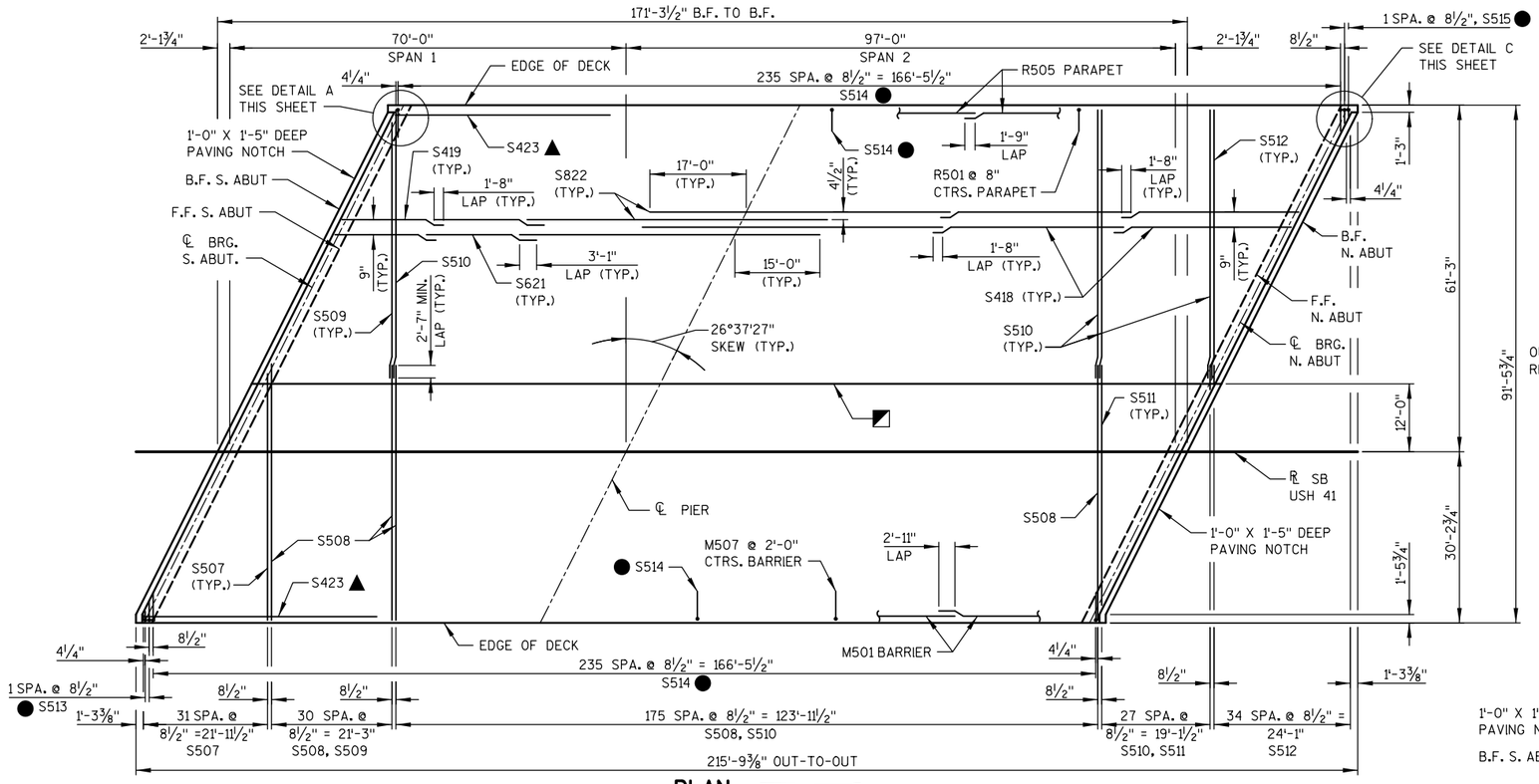
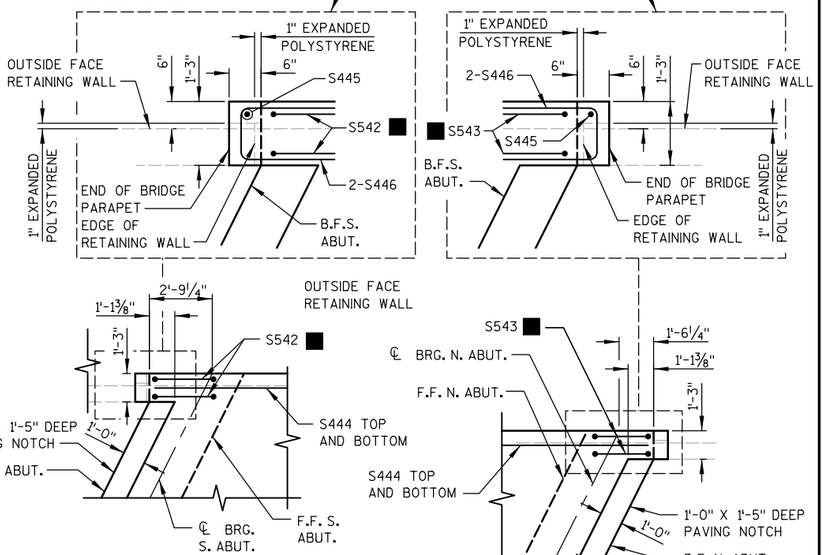


PLAN

(SHOWING TOP MAT SLAB REINFORCING)

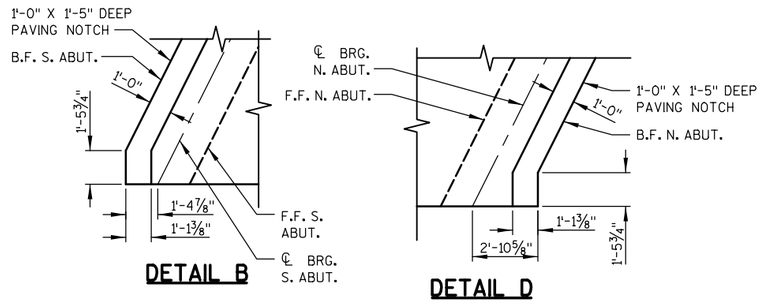
LEGEND

- ▲ LAP THESE BARS ONTO S822 BARS AT EDGES OF DECK. PROVIDE MIN. 1'-8" LAPS.
- ● LOCATE BARS BETWEEN TOP MAT TRANSVERSE REINFORCEMENT.
- ■ PROVIDE THESE BARS IN ADDITION TO S532 BARS ADJACENT TO PAVING NOTCH AT WEST EDGE OF DECK.
- ◪ LONGITUDINAL CONSTRUCTION JOINT KEYWAY FORMED BY A SURFACE BEVELED 2" X 2". CENTER KEYWAY BETWEEN MATS.



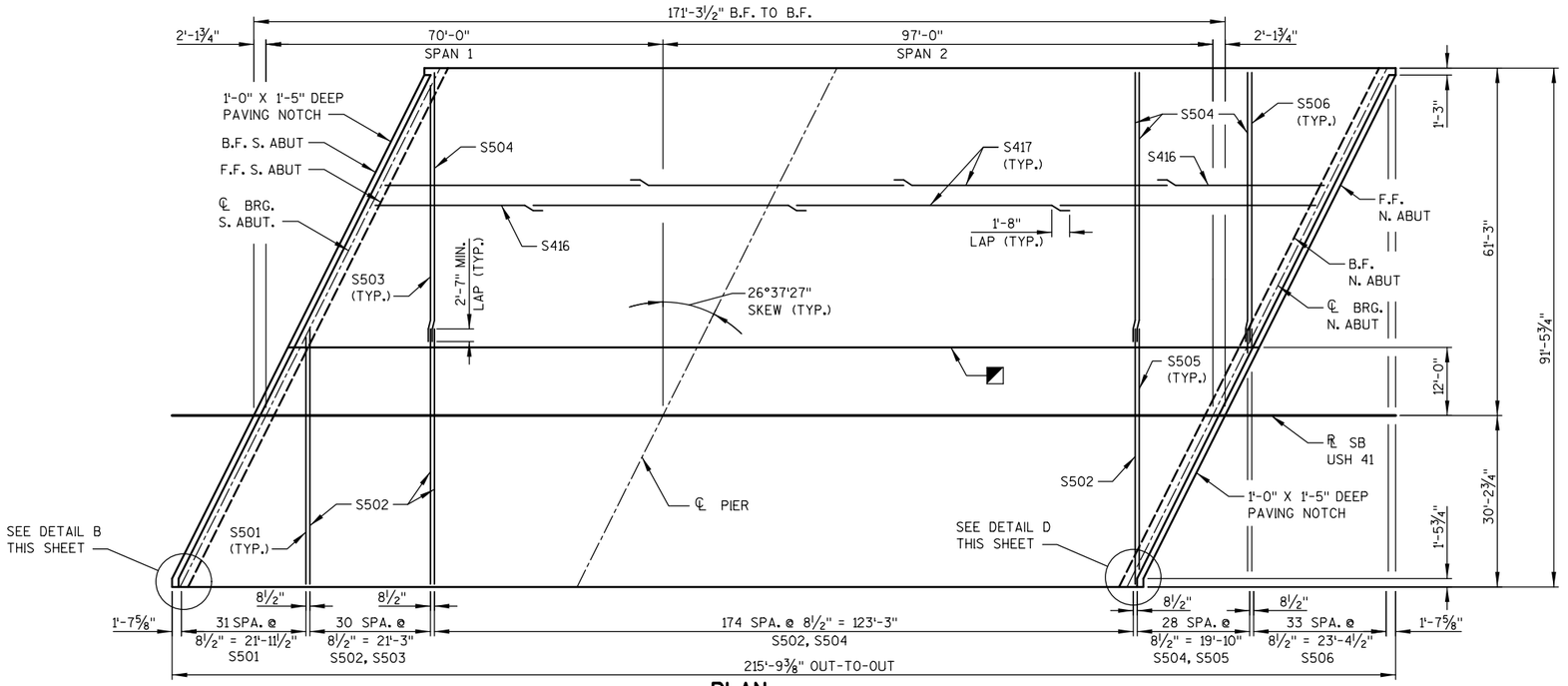
DETAIL A

DETAIL C



DETAIL B

DETAIL D



PLAN

(SHOWING BOTTOM MAT SLAB REINFORCING)

NOTES

SEE SHEET 22 FOR BAR DETAILS AND TOP OF DECK ELEVATIONS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE PLAN

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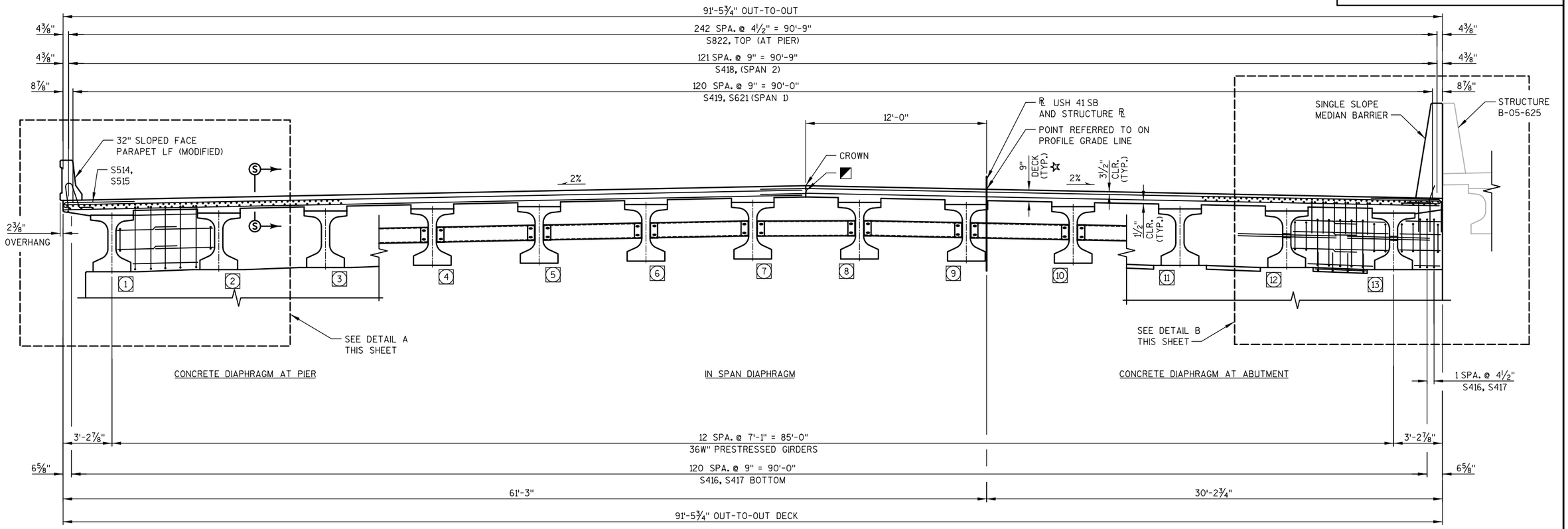
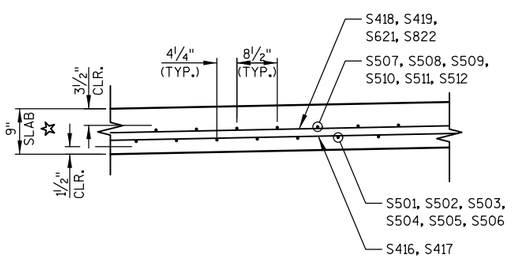
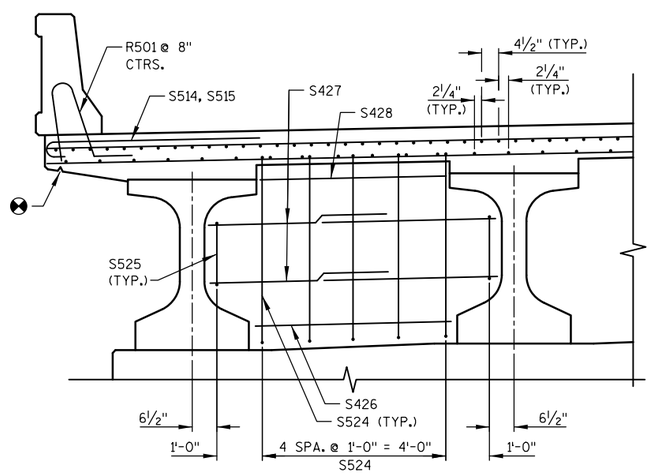


CROSS SECTION THRU DECK

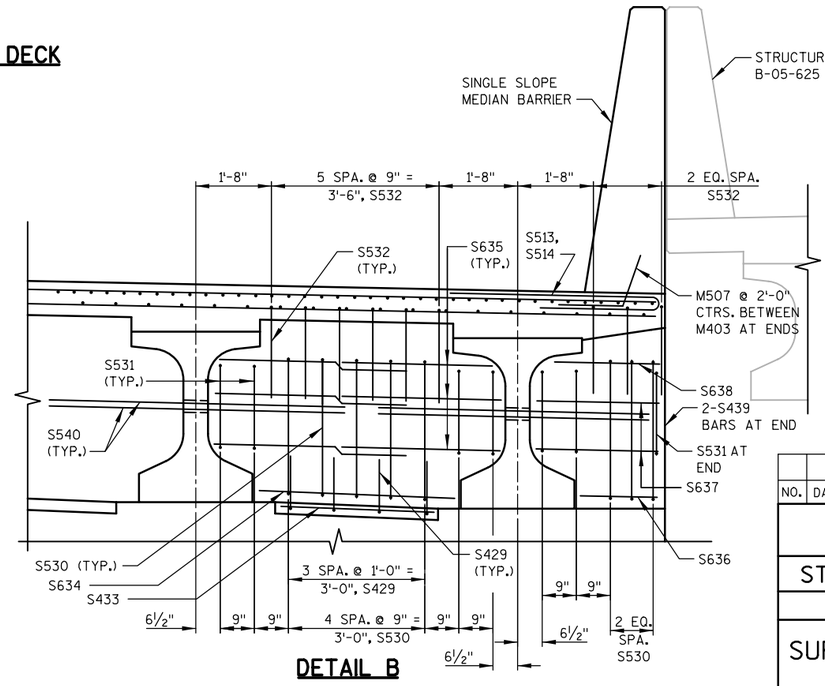
(LOOKING NORTH)



SECTION S-S



DETAIL A



DETAIL B

LEGEND

- ¾" V-GROOVE. EXTEND V-GROOVE TO THE FILLET ADJACENT TO THE ABUTMENTS. LOCATE 5" FROM EDGE OF DECK.
- LONGITUDINAL CONSTRUCTION JOINT KEYWAY FORMED BY A SURFACE BEVELED 2" X 2". CENTER KEYWAY BETWEEN MATS.
- ☆ STRUCTURE IS DESIGNED FOR A 1½" WEARING SURFACE PLACED AT INITIAL CONSTRUCTION, INTEGRAL WITH THE DECK. THE DESIGN DOES NOT PROVIDE FOR ADDITIONAL LOADS DUE TO A FUTURE WEARING SURFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY	AJW	PLANS CK'D.	DJW

SUPERSTRUCTURE SECTION

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1922

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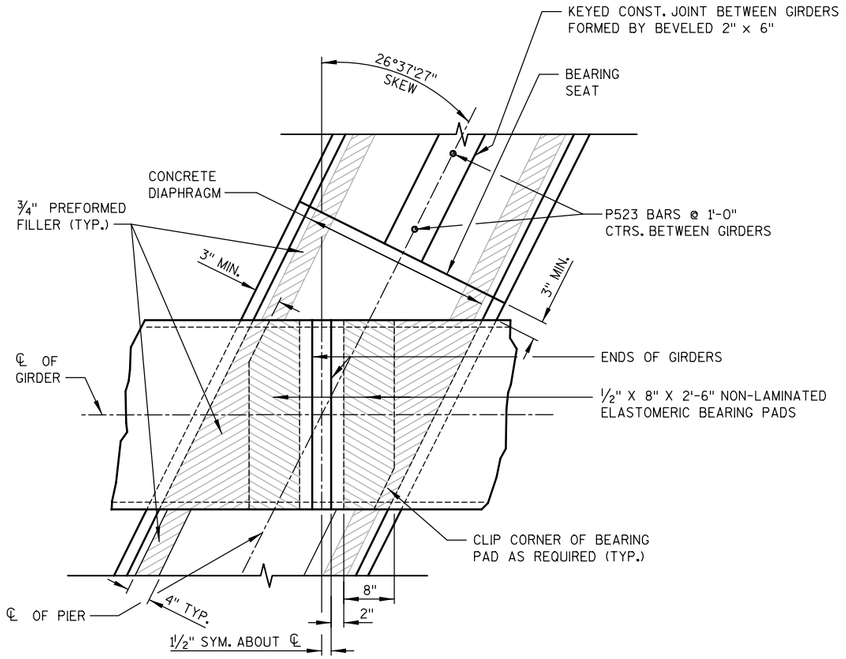
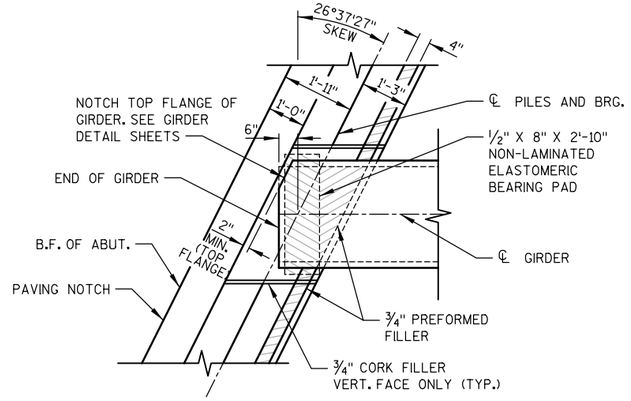
STATE PROJECT NUMBER

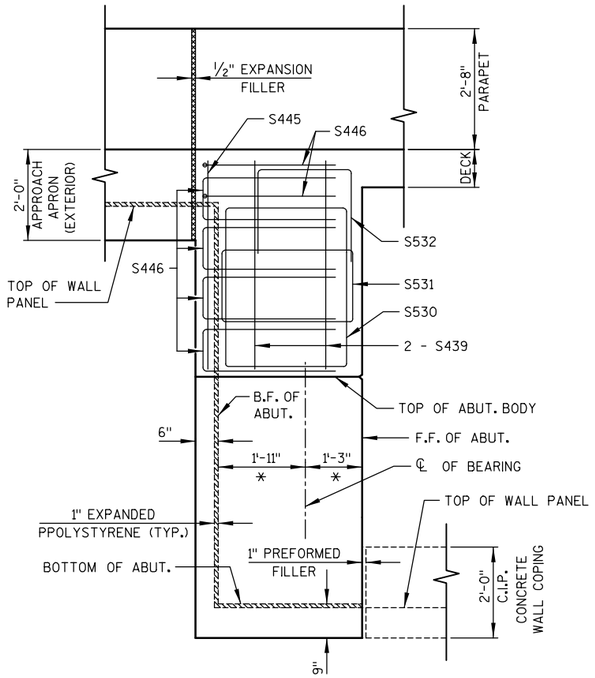
1133-09-71



BEARING PAD AT PIER

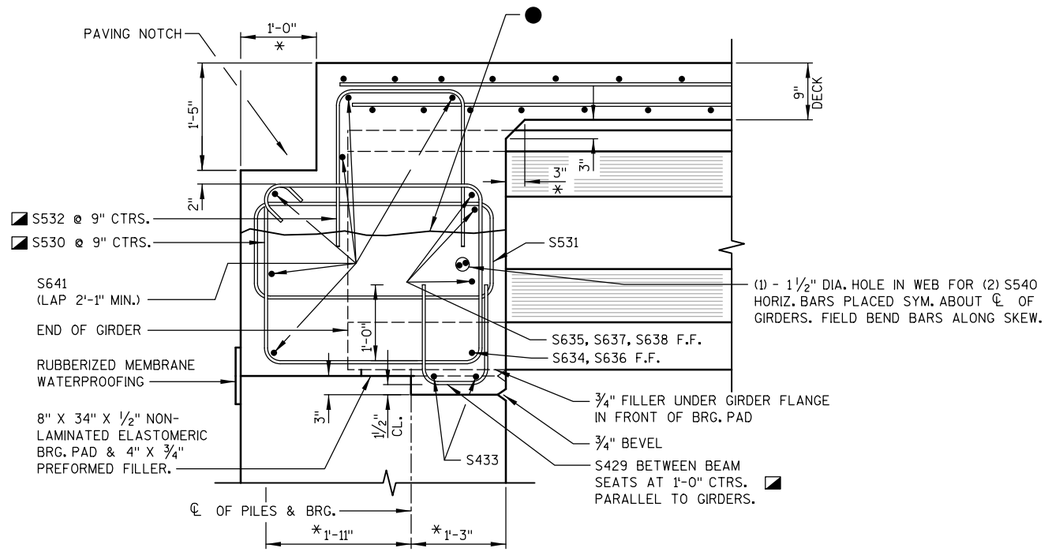


BEARING PAD AT ABUTMENT

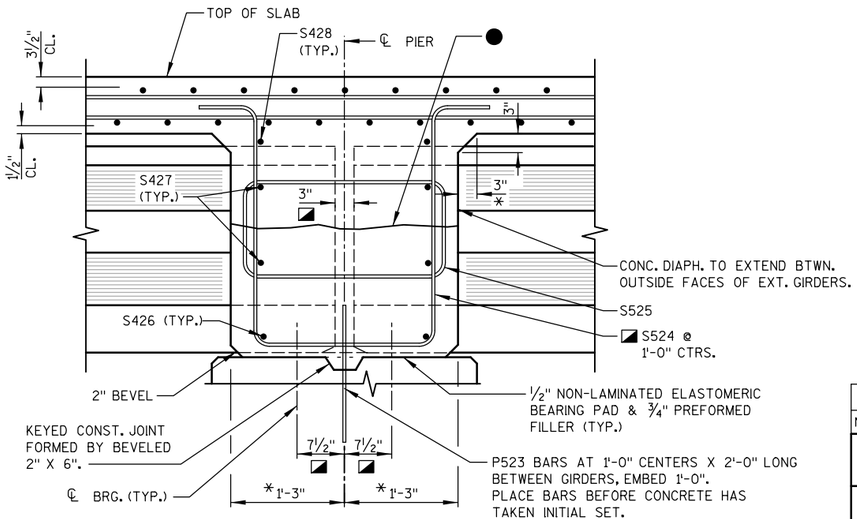


END VIEW AT ABUTMENT DIAPHRAGM

(TYPICAL AT WEST EDGE OF BRIDGE, 2 LOCATIONS)



PRESTRESSED GIRDER WITH SEMI-EXPANSION SEAT AT ABUTMENT



DIAPHRAGM AT PIER

NOTES

SEE SHEET 22 FOR REINFORCING DETAILS.

SPACE S426, S427 AND S428 MAX. 1'-6" O.C. VERTICALLY.

LEGEND

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

◪ DIMENSION IS TAKEN PARALLEL TO GIRDER.

● OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE DETAILS-1

SHEET 21 OF 28
1923

8

8

STATE PROJECT NUMBER

1133-09-71

SUPERSTRUCTURE
BILL OF BARS

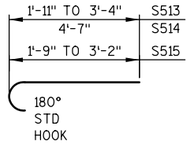
COATED: 116,700 LBS.

	MARK	NO.	LENGTH	BENT	COAT	LOCATION
▲	S501	32	23'-10"		X	SLAB - TRANSVERSE - BOTTOM
	S502	206	45'-0"		X	SLAB - TRANSVERSE - BOTTOM
▲	S503	31	26'-2"		X	SLAB - TRANSVERSE - BOTTOM
	S504	204	48'-11"		X	SLAB - TRANSVERSE - BOTTOM
▲	S505	29	23'-5"		X	SLAB - TRANSVERSE - BOTTOM
▲	S506	34	25'-1"		X	SLAB - TRANSVERSE - BOTTOM
▲	S507	32	23'-2"		X	SLAB - TRANSVERSE - TOP
	S508	207	45'-0"		X	SLAB - TRANSVERSE - TOP
▲	S509	31	25'-5"		X	SLAB - TRANSVERSE - TOP
	S510	204	48'-11"		X	SLAB - TRANSVERSE - TOP
▲	S511	28	23'-5"		X	SLAB - TRANSVERSE - TOP
▲	S512	35	25'-1"		X	SLAB - TRANSVERSE - TOP
▲	S513	2	3'-3"	X	X	SLAB - TRANSVERSE - TOP - EDGE OF DECK
	S514	472	5'-2"	X	X	SLAB - TRANSVERSE - TOP - EDGE OF DECK
▲	S515	2	3'-1"	X	X	SLAB - TRANSVERSE - TOP - EDGE OF DECK
	S416	122	38'-8"		X	SLAB - LONGITUDINAL - BOTTOM
	S417	366	45'-0"		X	SLAB - LONGITUDINAL - BOTTOM
	S418	244	32'-7"		X	SLAB - LONGITUDINAL - TOP - SPAN 2
	S419	121	19'-6"		X	SLAB - LONGITUDINAL - TOP - SPAN 1
						NOT USED
	S621	121	18'-1"		X	SLAB - LONGITUDINAL - TOP - SPAN 1
	S822	243	53'-0"		X	SLAB - LONGITUDINAL - TOP - OVER PIER
	S423	2	43'-1"		X	SLAB - LONGITUDINAL - TOP - EDGES OF DECK - SPAN 1
	S524	60	10'-3"	X	X	PIER DIAPHRAGM - VERT.
	S525	24	7'-3"	X	X	PIER DIAPHRAGM - VERT. - ADJACENT TO GIRDERS
	S426	24	4'-9"		X	PIER DIAPHRAGM - HORIZ.
	S427	96	4'-3"		X	PIER DIAPHRAGM - HORIZ.
	S428	24	4'-4"		X	PIER DIAPHRAGM - HORIZ.
	S429	96	3'-4"	X	X	ABUT. DIAPHRAGM - VERT. - ABUT. BODY NOTCH
	S530	132	11'-5"	X	X	ABUT. DIAPHRAGM - VERT.
	S531	108	8'-9"	X	X	ABUT. DIAPHRAGM - VERT. - ADJACENT TO GIRDERS & AT ENDS OF DIAPHRAGMS
	S532	156	6'-10"	X	X	ABUT. DIAPHRAGM - VERT. - PAVING NOTCH
	S433	48	3'-8"		X	ABUT. DIAPHRAGM - HORIZ. - ABUT. BODY NOTCH
	S634	24	4'-9"		X	ABUT. DIAPHRAGM - HORIZ. - F.F.
	S635	144	4'-6"		X	ABUT. DIAPHRAGM - HORIZ. - F.F.
	S636	4	1'-10"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - ENDS
	S637	8	2'-11"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - ENDS
	S638	4	2'-6"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - ENDS
	S439	8	3'-6"		X	ABUT. DIAPHRAGM - VERT. - ENDS
	S540	52	6'-0"		X	ABUT. DIAPHRAGM - HORIZ. - THRU GIRDERS
	S641	24	52'-6"		X	ABUT. DIAPHRAGM - HORIZ. - B.F., SLAB
	S542	2	9'-11"	X	X	ABUT. DIAPHRAGM - VERT. - SOUTHWEST CORNER
	S543	2	9'-4"	X	X	ABUT. DIAPHRAGM - VERT. - NORTHWEST CORNER
	S444	4	4'-0"		X	SLAB - LONGITUDINAL - TOP & BOTTOM - WEST EDGE OF DECK - ADJACENT TO PAVING NOTCH
	S445	2	3'-6"		X	ABUT. DIAPHRAGM - VERT. - RETAINING WALL EARS - WEST EDGE
	S446	12	4'-2"	X	X	ABUT. DIAPHRAGM - VERT./HORIZ. - RETAINING WALL EARS - WEST EDGE

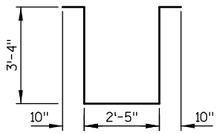
NOTE: THE FIRST ONE OR TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. DIMENSIONS FOR BENDING ARE OUT TO OUT OF BAR.

▲ BAR SERIES TABLE

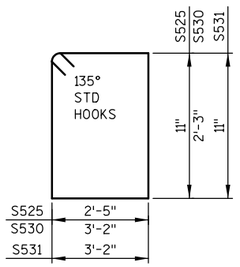
MARK	NO. REQ'D	LENGTH
S501	1 SERIES OF 32	1'-11" TO 45'-9"
S503	1 SERIES OF 31	4'-11" TO 47'-4"
S505	1 SERIES OF 29	3'-7" TO 43'-2"
S506	1 SERIES OF 34	1'-9" TO 48'-4"
S507	1 SERIES OF 32	1'-3" TO 45'-0"
S509	1 SERIES OF 31	4'-3" TO 46'-7"
S511	1 SERIES OF 28	4'-4" TO 42'-6"
S512	1 SERIES OF 35	1'-0" TO 49'-1"
S513	1 SERIES OF 2	2'-6" TO 3'-11"
S515	1 SERIES OF 2	2'-4" TO 3'-9"



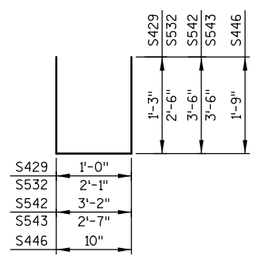
S513, S514, S515



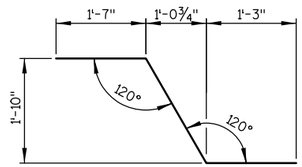
S524



S525, S530, S531



S429, S532, S542, S543, S446



SS901

STAINLESS STEEL BILL OF BARS

3,130 LBS.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
SS901		184	5'-0"	X		CONC. DIAPH. @ ABUTS. TO APPROACH APRON

NOTES

SEE APPROACH APRON AND APPROACH DETAILS SHEETS FOR PLACEMENT OF SS901 BARS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE DETAILS-2

SHEET 22 OF 28
1924

8

8

STATE PROJECT NUMBER

1133-09-71

TOP OF DECK ELEVATIONS AT ℄ GIRDERS

LOCATION	WEST EDGE OF DECK		GIRDER NUMBER 1		2		3		4		5	
	61'-3" LT		58'-0 1/8" LT		50'-11 1/8" LT		43'-10 1/8" LT		36'-9 1/8" LT		29'-8 1/8" LT	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
C/L BRG S ABUT	888+72.78	626.41	888+71.16	626.46	888+67.61	626.57	888+64.06	626.69	888+60.51	626.80	888+56.96	626.91
0.1 L POINT	888+79.78	626.47	888+78.16	626.52	888+74.61	626.63	888+71.06	626.74	888+67.51	626.86	888+63.96	626.97
0.2 L POINT	888+86.78	626.52	888+85.16	626.57	888+81.61	626.69	888+78.06	626.80	888+74.51	626.91	888+70.96	627.03
0.3 L POINT	888+93.78	626.58	888+92.16	626.63	888+88.61	626.74	888+85.06	626.86	888+81.51	626.97	888+77.96	627.08
0.4 L POINT	889+00.78	626.63	888+99.16	626.68	888+95.61	626.80	888+92.06	626.91	888+88.51	627.02	888+84.96	627.14
0.5 L POINT	889+07.78	626.68	889+06.16	626.73	889+02.61	626.85	888+99.06	626.96	888+95.51	627.08	888+91.96	627.19
0.6 L POINT	889+14.78	626.73	889+13.16	626.79	889+09.61	626.90	889+06.06	627.02	889+02.51	627.13	888+98.96	627.25
0.7 L POINT	889+21.78	626.78	889+20.16	626.84	889+16.61	626.95	889+13.06	627.07	889+09.51	627.18	889+05.96	627.30
0.8 L POINT	889+28.78	626.83	889+27.16	626.89	889+23.61	627.00	889+20.06	627.12	889+16.51	627.24	889+12.96	627.35
0.9 L POINT	889+35.78	626.88	889+34.16	626.94	889+30.61	627.05	889+27.06	627.17	889+23.51	627.29	889+19.96	627.40
C/L PIER 1	889+42.78	626.93	889+41.16	626.98	889+37.61	627.10	889+34.06	627.22	889+30.51	627.34	889+26.96	627.45
0.1 L POINT	889+52.48	627.00	889+50.86	627.05	889+47.31	627.17	889+43.76	627.29	889+40.21	627.40	889+36.66	627.52
0.2 L POINT	889+62.18	627.06	889+60.56	627.11	889+57.01	627.23	889+53.46	627.35	889+49.91	627.47	889+46.36	627.59
0.3 L POINT	889+71.88	627.12	889+70.26	627.18	889+66.71	627.30	889+63.16	627.41	889+59.61	627.53	889+56.06	627.65
0.4 L POINT	889+81.58	627.18	889+79.96	627.24	889+76.41	627.36	889+72.86	627.48	889+69.31	627.60	889+65.76	627.71
0.5 L POINT	889+91.28	627.24	889+89.66	627.30	889+86.11	627.42	889+82.56	627.54	889+79.01	627.66	889+75.46	627.78
0.6 L POINT	890+00.98	627.30	889+99.36	627.35	889+95.81	627.47	889+92.26	627.60	889+88.71	627.72	889+85.16	627.84
0.7 L POINT	890+10.68	627.35	890+09.06	627.41	890+05.51	627.53	890+01.96	627.65	889+98.41	627.77	889+94.86	627.89
0.8 L POINT	890+20.38	627.41	890+18.76	627.46	890+15.21	627.59	890+11.66	627.71	890+08.11	627.83	890+04.56	627.95
0.9 L POINT	890+30.08	627.46	890+28.46	627.52	890+24.91	627.64	890+21.36	627.76	890+17.81	627.88	890+14.26	628.01
C/L BRG N ABUT	890+39.78	627.51	890+38.16	627.57	890+34.61	627.69	890+31.06	627.81	890+27.51	627.94	890+23.96	628.06

LOCATION	GIRDER NUMBER 6		7		CROWN		8		9		REFERENCE LINE	
	22'-7 1/8" LT		15'-6 1/8" LT		12'-0" LT		8'-5 1/8" LT		1'-4 1/8"		0	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
C/L BRG S ABUT	888+53.41	627.02	888+49.86	627.14	888+48.10	627.19	888+46.30	627.10	888+42.75	626.93	888+42.08	626.90
0.1 L POINT	888+60.41	627.08	888+56.86	627.19	888+55.10	627.25	888+53.30	627.16	888+49.75	626.99	888+49.08	626.96
0.2 L POINT	888+67.41	627.14	888+63.86	627.25	888+62.10	627.31	888+60.30	627.22	888+56.75	627.05	888+56.08	627.02
0.3 L POINT	888+74.41	627.20	888+70.86	627.31	888+69.10	627.37	888+67.30	627.28	888+63.75	627.11	888+63.08	627.08
0.4 L POINT	888+81.41	627.25	888+77.86	627.37	888+76.10	627.42	888+74.30	627.34	888+70.75	627.17	888+70.08	627.13
0.5 L POINT	888+88.41	627.31	888+84.86	627.42	888+83.10	627.48	888+81.30	627.39	888+77.75	627.22	888+77.08	627.19
0.6 L POINT	888+95.41	627.36	888+91.86	627.48	888+90.10	627.53	888+88.30	627.45	888+84.75	627.28	888+84.08	627.24
0.7 L POINT	889+02.41	627.41	888+98.86	627.53	888+97.10	627.59	888+95.30	627.50	888+91.75	627.33	888+91.08	627.30
0.8 L POINT	889+09.41	627.47	889+05.86	627.58	889+04.10	627.64	889+02.30	627.55	888+98.75	627.39	888+98.08	627.35
0.9 L POINT	889+16.41	627.52	889+12.86	627.63	889+11.10	627.69	889+09.30	627.61	889+05.75	627.44	889+05.08	627.41
C/L PIER 1	889+23.41	627.57	889+19.86	627.68	889+18.10	627.74	889+16.30	627.66	889+12.75	627.49	889+12.08	627.46
0.1 L POINT	889+33.11	627.64	889+29.56	627.75	889+27.80	627.81	889+26.00	627.73	889+22.45	627.56	889+21.78	627.53
0.2 L POINT	889+42.81	627.70	889+39.26	627.82	889+37.50	627.88	889+35.70	627.80	889+32.15	627.63	889+31.48	627.60
0.3 L POINT	889+52.51	627.77	889+48.96	627.89	889+47.20	627.95	889+45.40	627.86	889+41.85	627.70	889+41.18	627.66
0.4 L POINT	889+62.21	627.83	889+58.66	627.95	889+56.90	628.01	889+55.10	627.93	889+51.55	627.76	889+50.88	627.73
0.5 L POINT	889+71.91	627.90	889+68.36	628.01	889+66.60	628.07	889+64.80	627.99	889+61.25	627.83	889+60.58	627.79
0.6 L POINT	889+81.61	627.96	889+78.06	628.08	889+76.30	628.13	889+74.50	628.05	889+70.95	627.89	889+70.28	627.86
0.7 L POINT	889+91.31	628.01	889+87.76	628.13	889+86.00	628.19	889+84.20	628.11	889+80.65	627.95	889+79.98	627.92
0.8 L POINT	890+01.01	628.07	889+97.46	628.19	889+95.70	628.25	889+93.90	628.17	889+90.35	628.01	889+89.68	627.98
0.9 L POINT	890+10.71	628.13	890+07.16	628.25	890+05.40	628.31	890+03.60	628.23	890+00.05	628.06	889+99.38	628.03
C/L BRG N ABUT	890+20.41	628.18	890+16.86	628.30	890+15.10	628.36	890+13.30	628.28	890+09.75	628.12	890+09.08	628.09

LOCATION	GIRDER NUMBER 10		11		12		13		EAST EDGE OF DECK	
	5'-8 7/8" RT		12'-9 7/8" RT		19'-10 7/8" RT		26'-11 7/8" RT		30'-2 3/4" RT	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
C/L BRG S ABUT	888+39.20	626.76	888+35.65	626.59	888+32.10	626.41	888+28.55	626.24	888+26.93	626.16
0.1 L POINT	888+46.20	626.82	888+42.65	626.65	888+39.10	626.48	888+35.55	626.30	888+33.93	626.22
0.2 L POINT	888+53.20	626.88	888+49.65	626.71	888+46.10	626.54	888+42.55	626.36	888+40.93	626.28
0.3 L POINT	888+60.20	626.94	888+56.65	626.77	888+53.10	626.59	888+49.55	626.42	888+47.93	626.34
0.4 L POINT	888+67.20	626.99	888+63.65	626.82	888+60.10	626.65	888+56.55	626.48	888+54.93	626.40
0.5 L POINT	888+74.20	627.05	888+70.65	626.88	888+67.10	626.71	888+63.55	626.54	888+61.93	626.46
0.6 L POINT	888+81.20	627.11	888+77.65	626.94	888+74.10	626.77	888+70.55	626.60	888+68.93	626.52
0.7 L POINT	888+88.20	627.16	888+84.65	626.99	888+81.10	626.82	888+77.55	626.65	888+75.93	626.58
0.8 L POINT	888+95.20	627.22	888+91.65	627.05	888+88.10	626.88	888+84.55	626.71	888+82.93	626.63
0.9 L POINT	889+02.20	627.27	888+98.65	627.10	888+95.10	626.93	888+91.55	626.76	888+89.93	626.69
C/L PIER 1	889+09.20	627.32	889+05.65	627.15	889+02.10	626.99	888+98.55	626.82	888+96.93	626.74
0.1 L POINT	889+18.90	627.39	889+15.35	627.23	889+11.80	627.06	889+08.25	626.89	889+06.63	626.81
0.2 L POINT	889+28.60	627.46	889+25.05	627.30	889+21.50	627.13	889+17.95	626.96	889+16.33	626.88
0.3 L POINT	889+38.30	627.53	889+34.75	627.36	889+31.20	627.20	889+27.65	627.03	889+26.03	626.95
0.4 L POINT	889+48.00	627.60	889+44.45	627.43	889+40.90	627.26	889+37.35	627.10	889+35.73	627.02
0.5 L POINT	889+57.70	627.66	889+54.15	627.50	889+50.60	627.33	889+47.05	627.17	889+45.43	627.09
0.6 L POINT	889+67.40	627.72	889+63.85	627.56	889+60.30	627.39	889+56.75	627.23	889+55.13	627.15
0.7 L POINT	889+77.10	627.79	889+73.55	627.62	889+70.00	627.46	889+66.45	627.29	889+64.83	627.22
0.8 L POINT	889+86.80	627.84	889+83.25	627.68	889+79.70	627.52	889+76.15	627.35	889+74.53	627.28
0.9 L POINT	889+96.50	627.90	889+92.95	627.74	889+89.40	627.58	889+85.85	627.41	889+84.23	627.34
C/L BRG N ABUT	890+06.20	627.96	890+02.65	627.80	889+99.10	627.63	889+95.55	627.47	889+93.93	627.40

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE DETAILS-3

SHEET 23 OF 28
1925

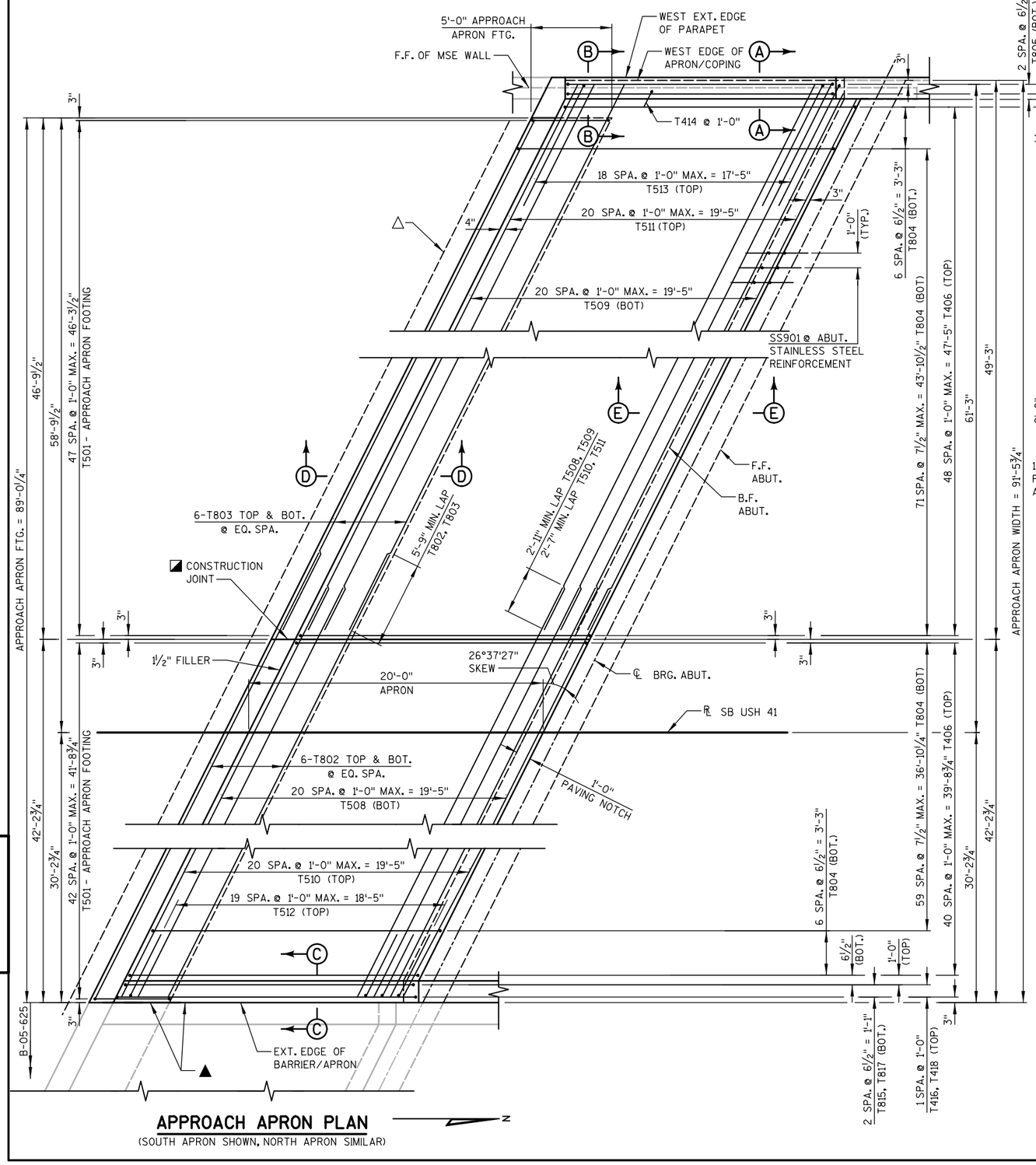
STATE PROJECT NUMBER
1133-09-71

DESIGN DATA:

ALLOWABLE SOIL BEARING PRESSURE:	2,000 P.S.F.
CONCRETE STRENGTH f'c:	4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60, fy:	60,000 P.S.I.

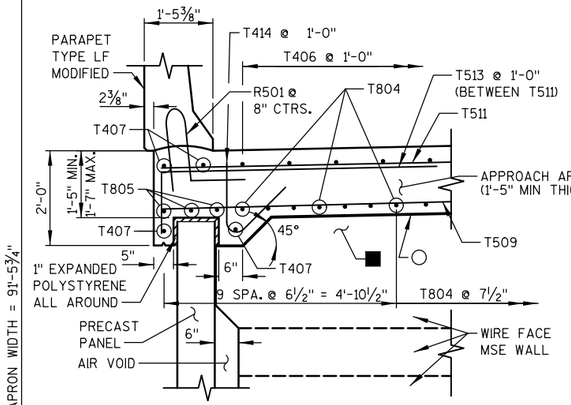
NOTES:

SEE SHEET 25 FOR DETAILS



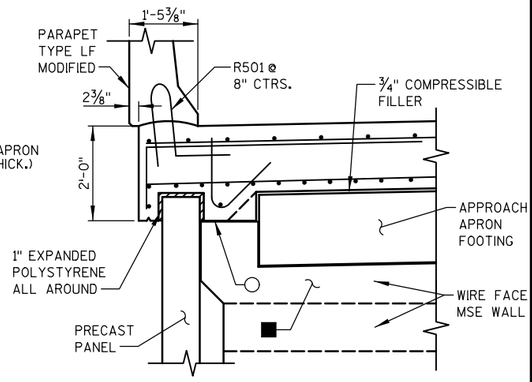
APPROACH APRON PLAN

(SOUTH APRON SHOWN, NORTH APRON SIMILAR)



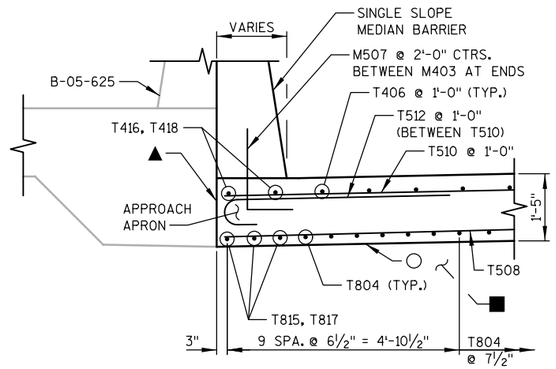
SECTION A-A

(AT MSE WINGWALLS)



SECTION B-B

(AT MSE WINGWALLS)



SECTION C-C

LEGEND:

○ PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING. SEE SHEET 20, APPROACH APRON DETAILS, FOR SECTIONS C-C, D-D.

△ PIPE UNDERDRAIN WRAPPED 6-INCH AT APPROACH APRON. LOCATED ONLY ON UPHILL SIDE OF APRON FOOTING. SLOPE 0.5% MIN. TO USH 41 CLOSED MEDIAN DRAINAGE SYSTEM.

◪ RUN REINFORCEMENT CONTINUOUS THRU THE CONSTRUCTION JOINT.

▲ PLACE ½" FILLER BETWEEN EDGE OF B-05-625 APPROACH APRON FOOTING AND SLAB AND EDGE OF B-05-624 APPROACH APRON FOOTING AND SLAB.

■ 1¼" COURSE AGGREGATE BASE COURSE. SEE ROADWAY PLANS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

SHEET 24 OF 28

APPROACH APRON 1926

8

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STATE PROJECT NUMBER
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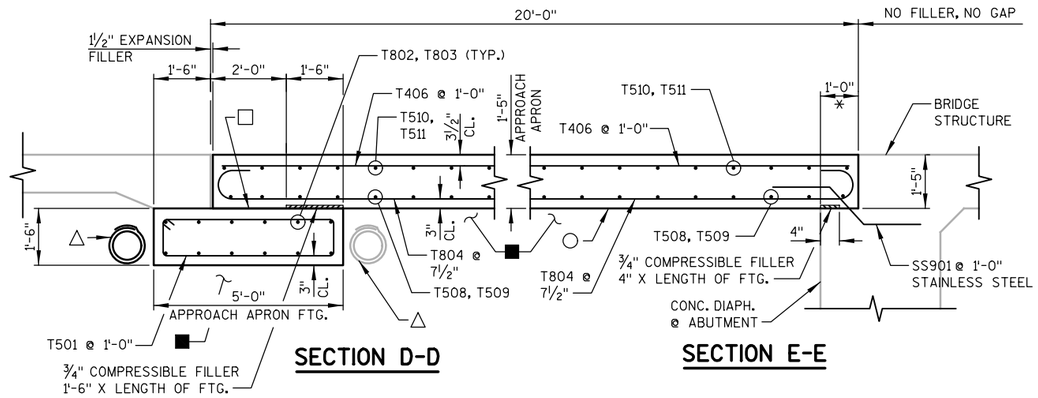
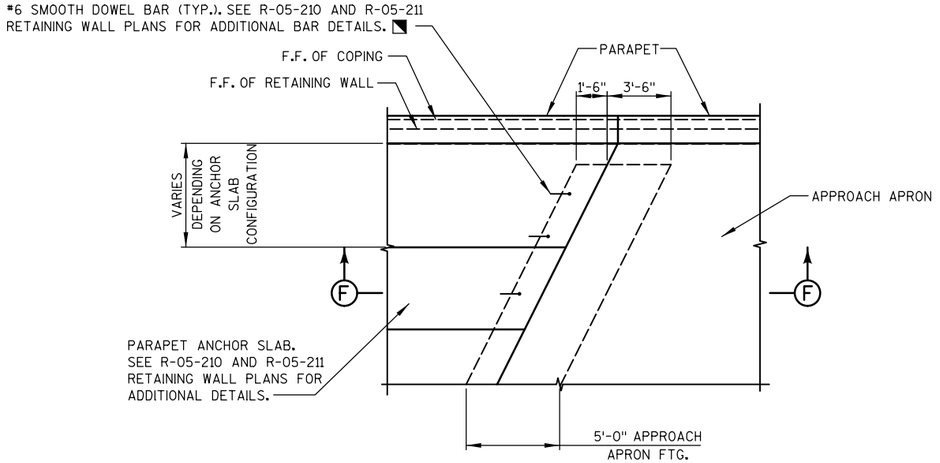


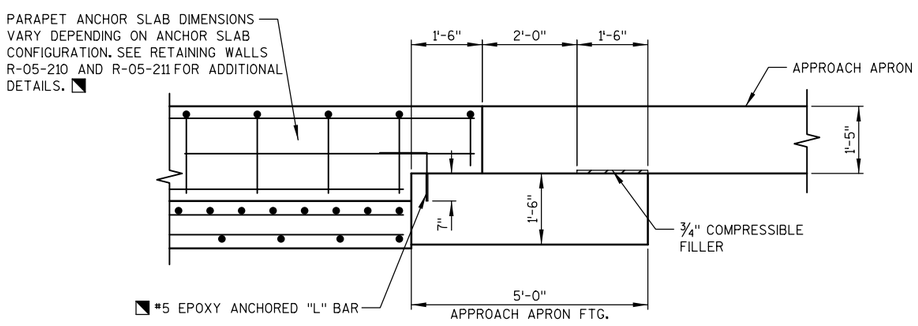
SECTION D-D

SECTION E-E

SECTION THRU APPROACH APRON



PLAN AT APPROACH APRON INTERFACE WITH RETAINING WALL ANCHOR SLAB



SECTION F-F

BILL OF BARS

COATED:
SOUTH APPROACH APRON = 19,150 LBS.
NORTH APPROACH APRON = 19,140 LBS.

BAR MARK	COAT	NO. REQ'D. S. APRON	NO. REQ'D. N. APRON	LENGTH	BENT	BAR SERIES	LOCATION
T501	X	91	91	12'-1"	X		FOOTING - STIRRUPS
T802	X	12	12	52'-9"			FOOTING - HORIZONTAL
T803	X	12	12	52'-2"			FOOTING - HORIZONTAL
T804	X	144	144	21'-4"	X		APPROACH APRON - LONGIT. - BOT.
T805	X	3	3	19'-9"	X		APPROACH APRON - LONGIT. - BOT.
T406	X	90	90	19'-6"			APPROACH APRON - LONGIT. - TOP
T407	X	4	4	17'-11"			APPROACH APRON - LONGIT. AT MSE WALL PANEL
T508	X	21	21	49'-9"			APPROACH APRON - TRANS. - BOT.
T509	X	21	21	54'-9"			APPROACH APRON - TRANS. - BOT.
T510	X	21	21	50'-1"			APPROACH APRON - TRANS. - TOP
T511	X	21	21	54'-9"			APPROACH APRON - TRANS. - TOP
T512	X	20	20	5'-4"	X		APPROACH APRON - TRANS. - TOP
T513	X	19	19	6'-2"	X		APPROACH APRON - TRANS. - TOP
T414	X	21	21	3'-0"	X		APPROACH APRON - TIE
▲ T815	X	3	0	21'-8"	X	X	SOUTH APPROACH APRON - LONGIT. - BOT.
▲ T416	X	2	0	19'-10"		X	SOUTH APPROACH APRON - LONGIT. - TOP
▲ T817	X	0	3	20'-11"	X	X	NORTH APPROACH APRON - LONGIT. - BOT.
▲ T418	X	0	2	19'-1"		X	NORTH APPROACH APRON - LONGIT. - TOP

NOTE: ALL DIMENSIONS IN THE BAR BENDS ARE OUT TO OUT.

▲ BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
T815	1 SERIES OF 3	21'-5" TO 21'-11"
T416	1 SERIES OF 2	19'-7" TO 20'-1"
T817	1 SERIES OF 3	20'-8" TO 21'-2"
T418	1 SERIES OF 2	18'-10" TO 19'-4"

LEGEND

△ PIPE UNDERDRAIN WRAPPED 6-INCH AT APPROACH APRON, LOCATED ONLY ON UPHILL SIDE OF APRON FOOTING. SLOPE 0.5% MIN. TO USH 41 CLOSED MEDIAN DRAINAGE SYSTEM.

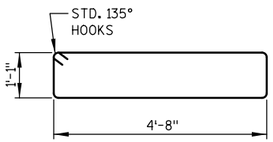
□ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.

○ PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.

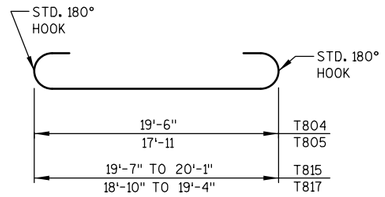
* PAVING NOTCH MEASURED NORMAL TO ABUTMENT.

◥ SEE R-05-210 AND R-05-211 RETAINING WALL PLANS FOR ADDITIONAL DETAILS PAID FOR UNDER RETAINING WALLS R-05-210 AND R-05-211

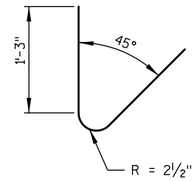
■ 1¼" COURSE AGGREGATE BASE COURSE. SEE ROADWAY PLANS.



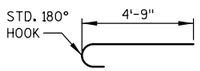
T501



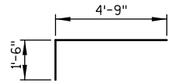
T804, T805, T815, T817



T414



T512



T513

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

APPROACH APRON DETAILS

SHEET 25 OF 28
1927

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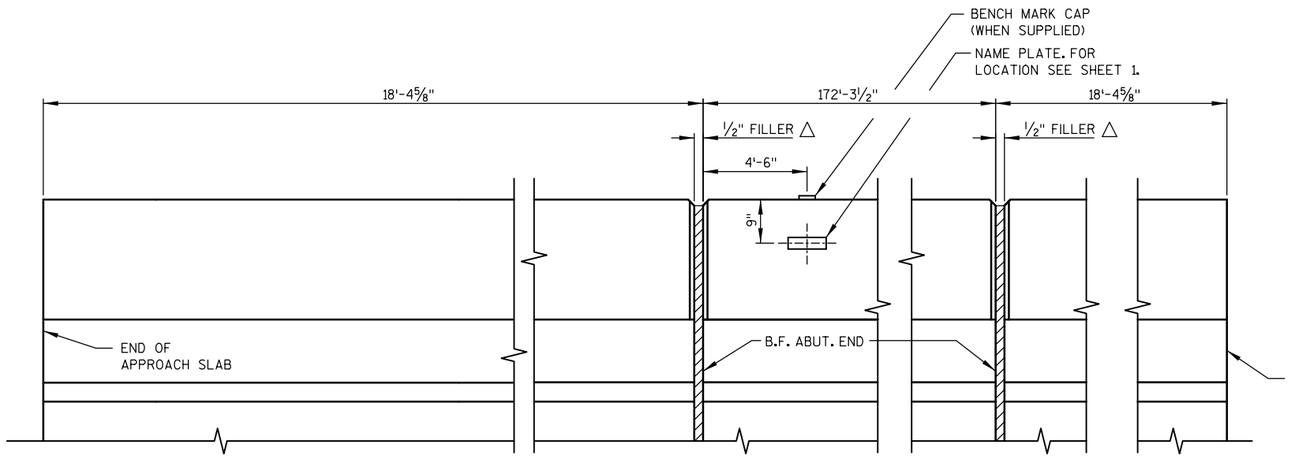
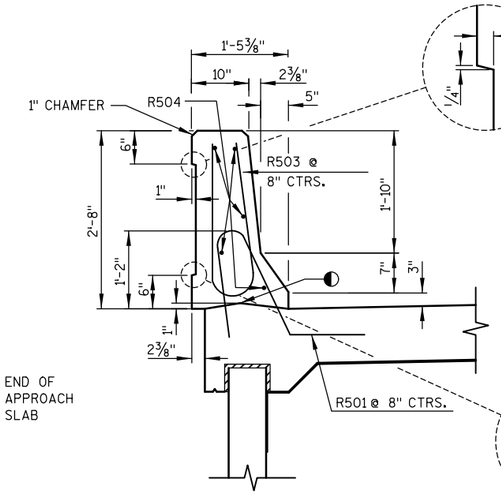
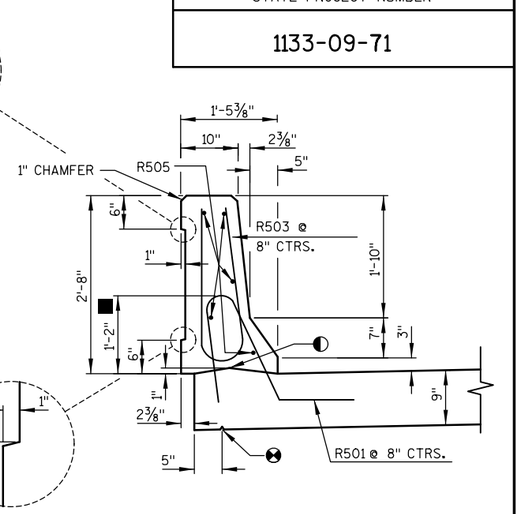


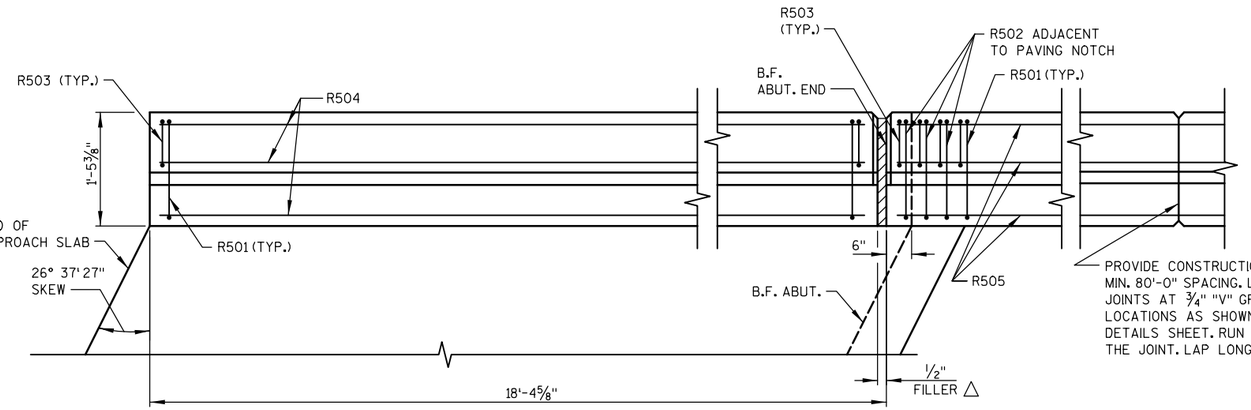
INSIDE ELEVATION



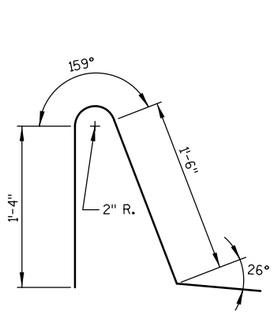
SECTION THRU PARAPET ON APRON



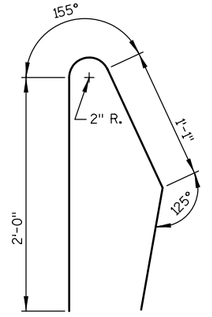
SECTION THRU PARAPET ON BRIDGE



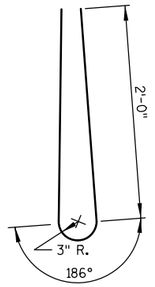
PLAN



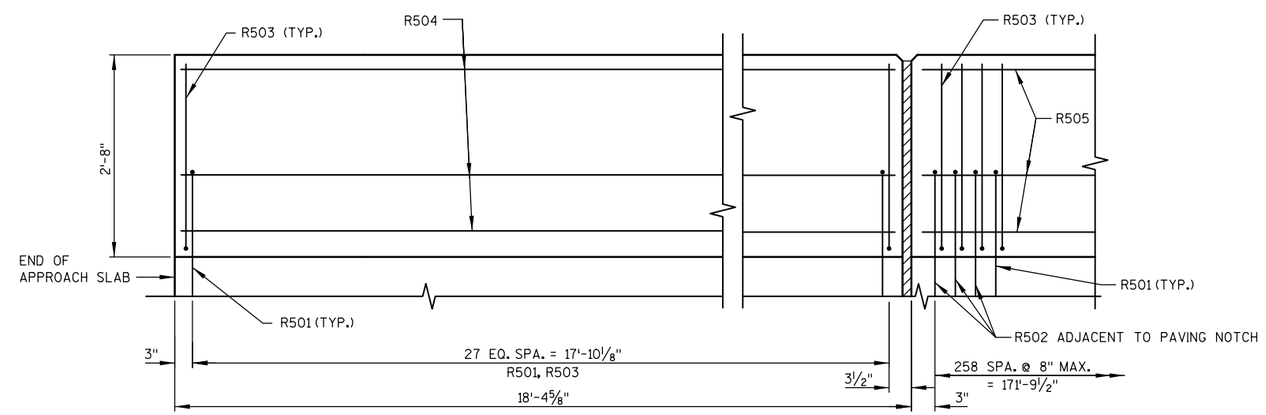
R501



R502



R503



OUTSIDE ELEVATION

LEGEND

◐ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.

⊗ ¾" V-GROOVE. EXTEND V-GROOVE TO THE FILLET ADJACENT TO THE ABUTMENTS.

△ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN ⅛" BELOW SURFACE OF CONCRETE.

■ THIS DIMENSION SHALL ALSO BE USED WITH R502 BARS.

COATED:
SOUTH APPROACH APRON = 360 LBS.
SUPERSTRUCTURE = 3,350 LBS.
NORTH APPROACH APRON = 360 LBS.

BILL OF BARS

MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
R501	309	4'-2"	X	X	PARAPET - VERT.
R502	6	4'-7"	X	X	PARAPET - VERT. - AT ENDS OF BRIDGE
R503	315	4'-10"	X	X	PARAPET - VERT.
R504	10	18'-0"		X	PARAPET - HORIZ. - AT APPROACH APRON
R505	15	58'-6"		X	PARAPET - HORIZ. - SUPERSTRUCTURE

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

SLOPED FACE PARAPET 'LF' (MODIFIED)

SHEET 26 OF 28
1928

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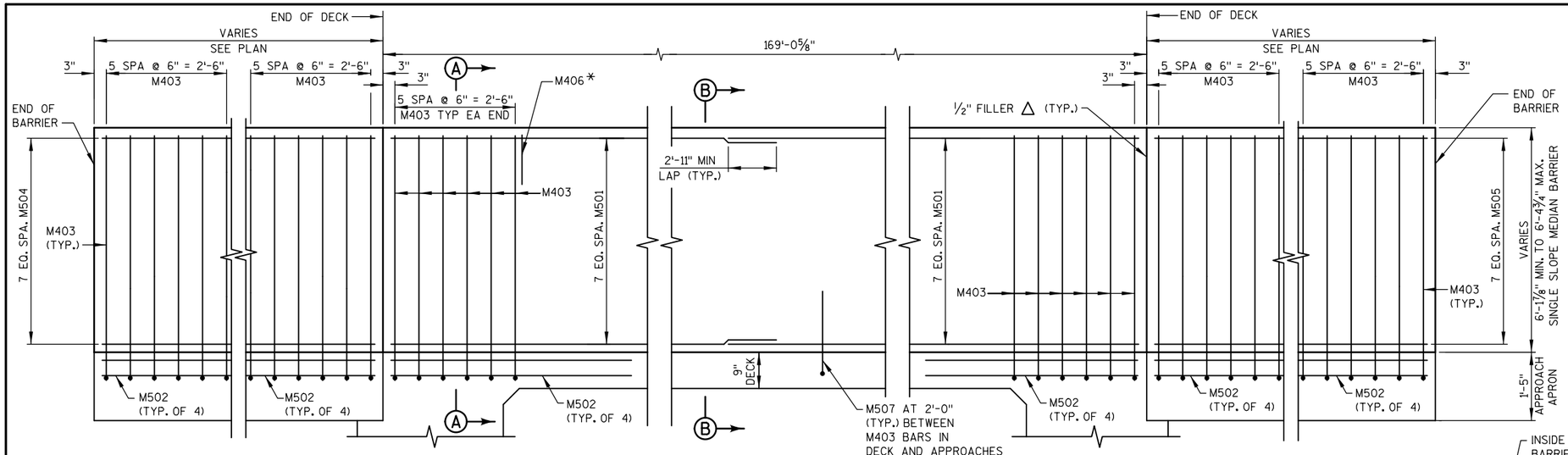
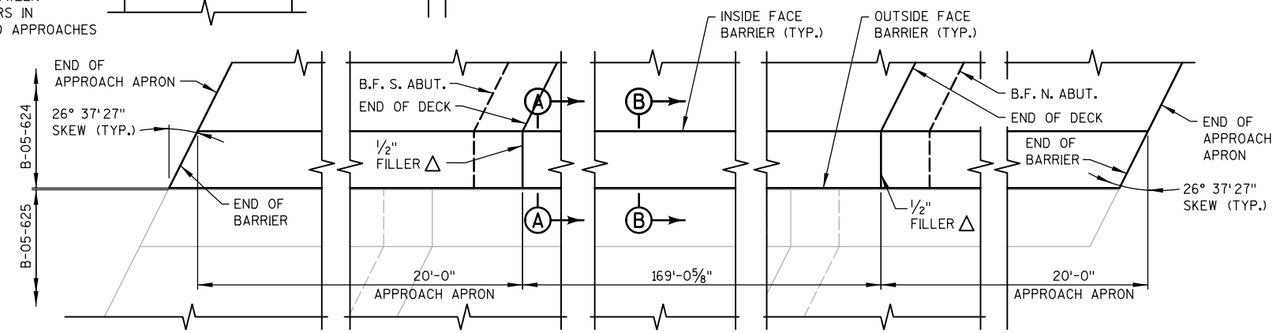
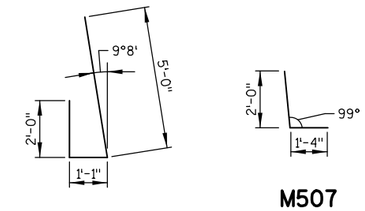


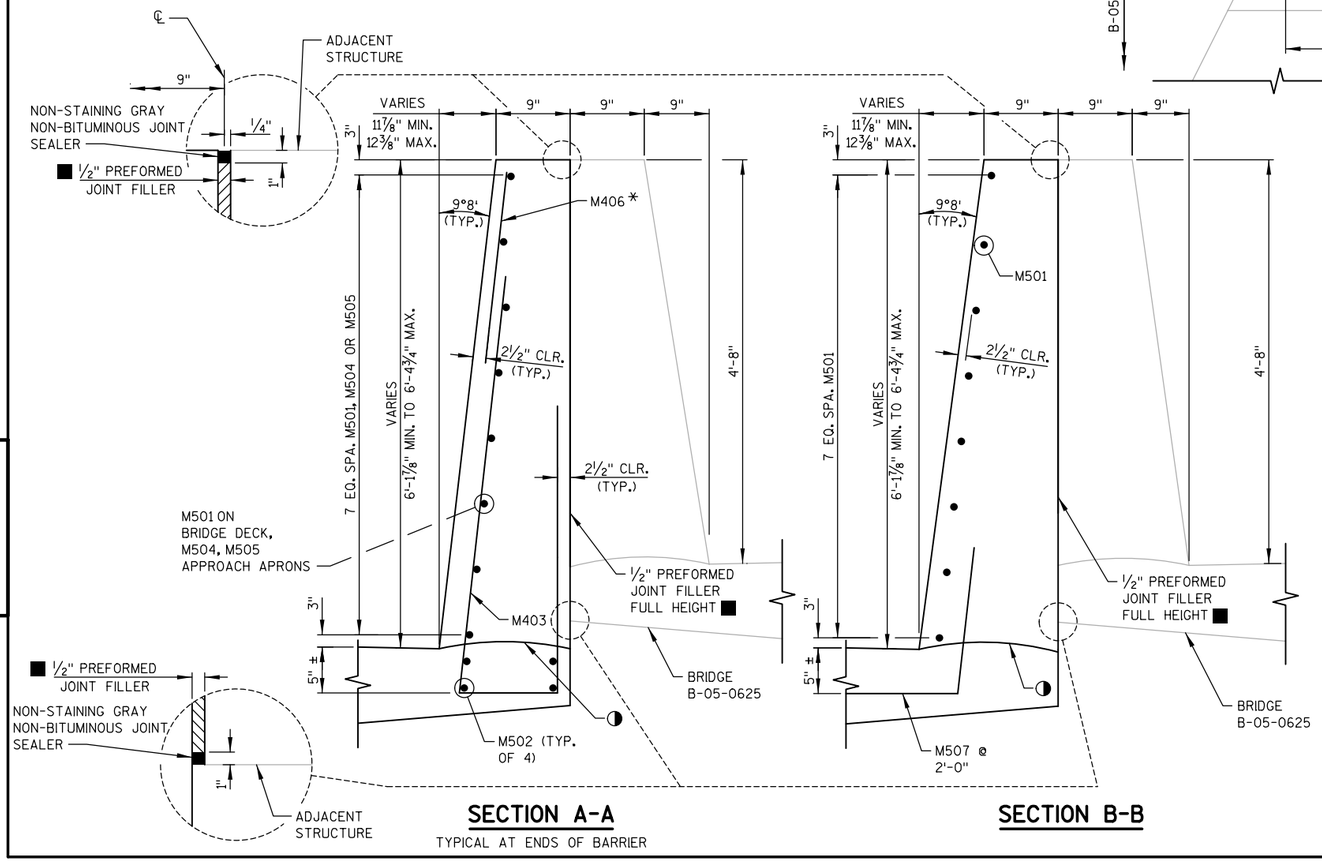
OUTSIDE ELEVATION

(LOOKING WEST)



PLAN





SECTION A-A

TYPICAL AT ENDS OF BARRIER

SECTION B-B

BILL OF BARS

BAR MARK	COAT	NO.	LENGTH	BENT	LOCATION
M501	X	24	58'-4"		MEDIAN BARRIER HORIZ. AT DECK
M502	X	24	5'-0"		MEDIAN BARRIER HORIZ. AT ENDS (IN DECK OR APPROACH APRON)
M403	X	36	7'-11"	X	MEDIAN BARRIER VERT. AT ENDS (IN DECK OR APPROACH APRON)
M504	X	8	19'-8"		MEDIAN BARRIER HORIZ. AT SOUTH APPROACH APRON
M505	X	8	19'-8"		MEDIAN BARRIER HORIZ. AT NORTH APPROACH APRON
M406	X	36	3'-6"		MEDIAN BARRIER VERT. *
M507	X	98	3'-3"	X	MEDIAN BARRIER VERT.

COATED:
SOUTH APPROACH APRON = 320 LBS.
SUPERSTRUCTURE = 1,870 LBS.
NORTH APPROACH APRON = 320 LBS.

LEGEND

* LAP ONTO M403 BARS.

◐ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.

■ FASTEN ½" PREFORMED JOINT FILLER TO OUTSIDE OF B-05-625 WITH 1½" LONG GALVANIZED CONCRETE NAILS SPACED 2'-0" O.C. MAX. HORIZONTAL/VERTICAL.

△ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HELD DOWN ⅛" BELOW SURFACE OF CONCRETE.

NOTES

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINFORCEMENT THRU THE JOINT. LAP LONGITUDINAL BARS A MIN. OF 2'-11". MIN. JOINT SPACING OF 80'-0". DEFINE CONSTRUCTION JOINT WITH A ¾" 'V' GROOVE.

ADJACENT STRUCTURE (B-05-625) WILL BE CONSTRUCTED PRIOR TO B-05-624. ALIGN TOP OF B-05-624 SINGLE SLOPE MEDIAN BARRIER WITH TOP OF B-05-625 BARRIER AS SHOWN.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
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STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

SINGLE SLOPE MEDIAN BARRIER

SHEET 27 OF 28
1929

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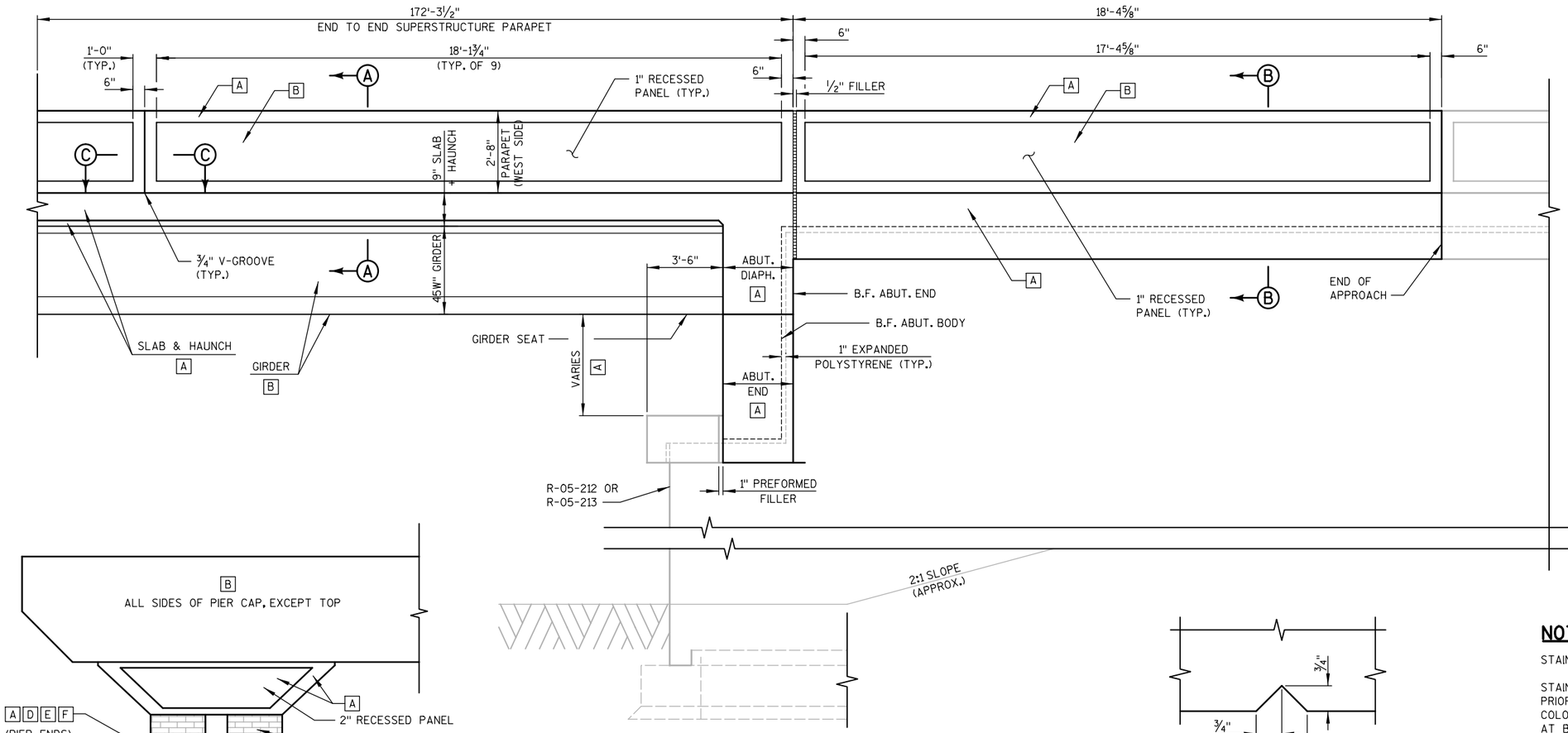
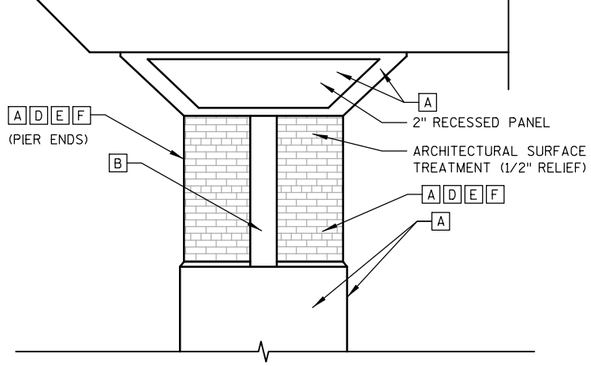
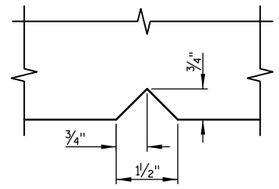




PIER ELEVATION

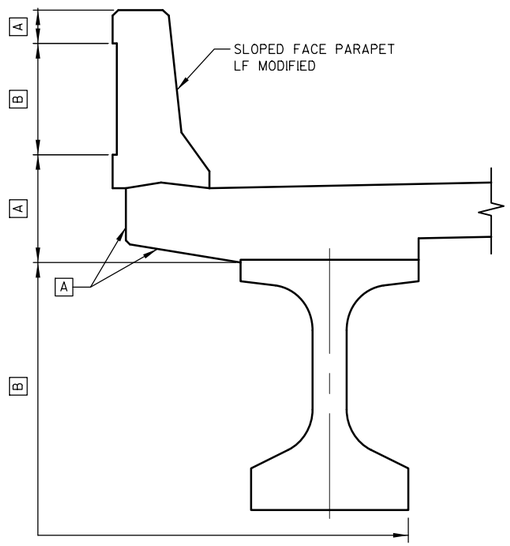
OUTSIDE ELEVATION OF PARAPET

(SOUTHWEST CORNER AT SOUTH ABUTMENT SHOWN, NORTH ABUTMENT SIMILAR)

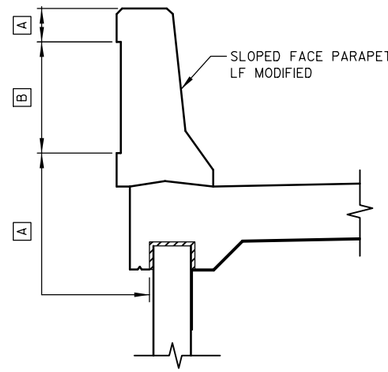


SECTION C-C

¾" "V" GROOVE



SECTION A-A



SECTION B-B

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE AND BOTTOM OF EXTERIOR CONC. GIRDER, PIER CAP
C	ACCENT COLOR #2	NOT USED
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	NOT USED

NOTES

STAIN TO 1'-0" BELOW FINISHED GRADE.

STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

THE COST OF BRICK PATTERN FORMLINER TREATMENT IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT." SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

STAIN FRONT FACE OF ABUTMENTS AND END DIAPHRAGMS FROM 1-FOOT BELOW GRADE TO UNDERSIDE OF DECK, INCLUDING END DIAPHRAGM FACE BETWEEN GIRDERS.

SEE SPECIAL PROVISIONS FOR STAIN COLORS.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-624

DRAWN BY AJW | PLANS CK'D. DJW

AESTHETIC DETAILS

SHEET 28 OF 28

1930

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STATE PROJECT NUMBER

1133-09-71

DESIGN DATA

LIVE LOAD:
DESIGN LOAD HL-93
INVENTORY RATING FACTOR 1.17
OPERATING RATING FACTOR 1.52
MAX. STD. PERMIT VEHICLE LOAD ... 250 KIPS

THE STRUCTURE IS DESIGNED FOR A 1½" SACRIFICIAL WEARING SURFACE PLACED AT INITIAL CONSTRUCTION INTEGRAL WITH THE DECK. THE DESIGN DOES NOT PROVIDE FOR ADDITIONAL LOADS DUE TO FUTURE WEARING SURFACE.

ULTIMATE DESIGN STRESSES:
CONCRETE MASONRY (HPC) .....f'c = 4000 PSI

HIGH STRENGTH BAR STEEL
REINFORCEMENT GRADE 60 .....fy = 60,000 PSI

36W-INCH PRESTRESSED GIRDERS
CONCRETE MASONRY .....f'c = 8000 PSI

PRESTRESSING STRANDS = 0.6 INCH DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 PSI

FOUNDATION DATA

NORTH ABUTMENT TO BE SUPPORTED ON STEEL PILING, HP 12-INCH X 53 LB. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 110' LONG EACH.

SOUTH ABUTMENT TO BE SUPPORTED ON STEEL PILING, HP 12-INCH X 53 LB. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS *** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 110' LONG EACH.

PIER TO BE SUPPORTED ON STEEL PILING, HP 12-INCH X 53 LB. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 90' LONG AT PIER.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

*** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLED BY A RESISTANCE FACTOR OF 0.5 (AND FURTHER REDUCED BY DOWNDRAG FORCES EQUAL TO 5 TONS) USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION AND QUANTITIES
3. SUBSURFACE EXPLORATION
4. CONSTRUCTION STAGING - 1
5. CONSTRUCTION STAGING - 2
6. CONSTRUCTION STAGING - 3
7. CONSTRUCTION STAGING - 4
8. SOUTH ABUTMENT
9. SOUTH ABUTMENT DETAILS
10. NORTH ABUTMENT
11. NORTH ABUTMENT DETAILS
12. ABUTMENT AND PIER DETAILS
13. PIER
14. PIER FOUNDATION
15. PIER DETAILS
16. 36W" PRESTRESSED GIRDER DETAILS-1
17. 36W" PRESTRESSED GIRDER DETAILS-2
18. STEEL DIAPHRAGMS
19. SUPERSTRUCTURE PLAN
20. SUPERSTRUCTURE SECTION
21. SUPERSTRUCTURE DETAILS-1
22. SUPERSTRUCTURE DETAILS-2
23. APPROACH APRON
24. APPROACH APRON DETAILS
25. SINGLE SLOPE MEDIAN BARRIER
26. AESTHETIC DETAILS

TRAFFIC DATA USH 41 NB

ADT = 27,300 (2015)
= 34,800 (2035)
DESIGN SPEED = 70 MPH

TRAFFIC DATA USH 41 SB

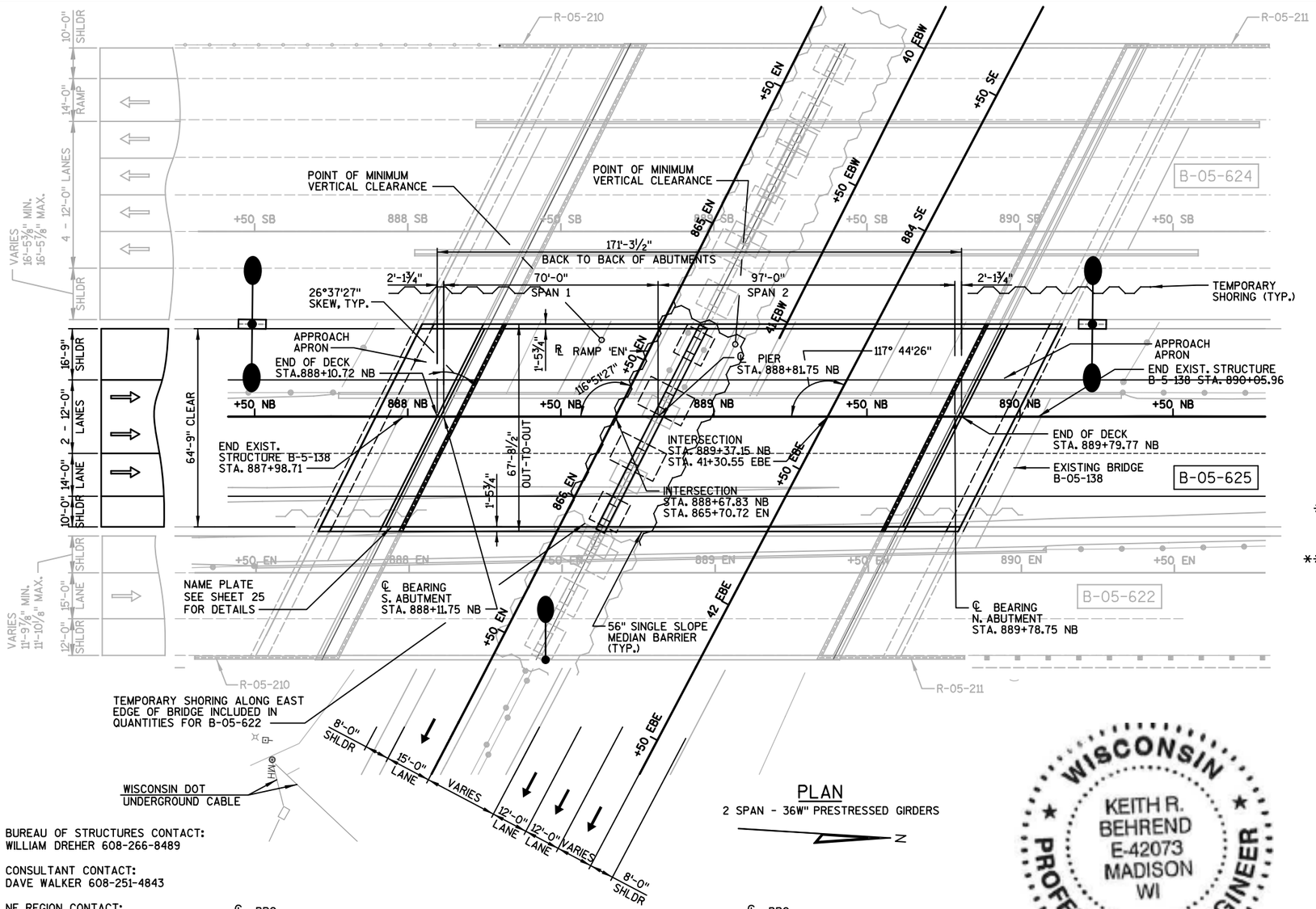
ADT = 37,900 (2015)
= 47,300 (2035)
DESIGN SPEED = 70 MPH

TRAFFIC DATA STH 172 EB

ADT = 28,500 (2015)
= 38,800 (2035)
DESIGN SPEED = 60 MPH

TRAFFIC DATA RAMP 'EN'

ADT = 2,400 (2015)
= 3,000 (2035)
DESIGN SPEED = 55 MPH



PLAN

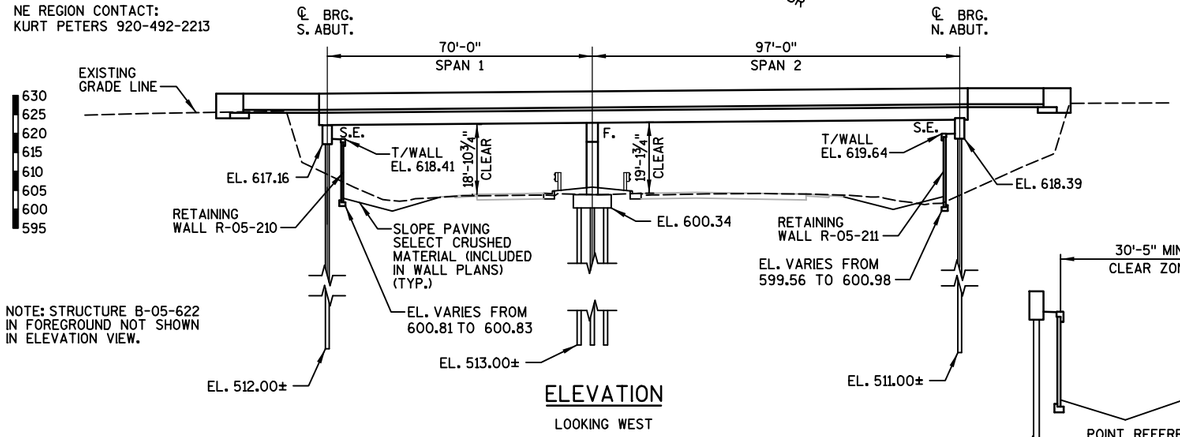
2 SPAN - 36W" PRESTRESSED GIRDERS

N

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER 608-266-8489

CONSULTANT CONTACT:
DAVE WALKER 608-251-4843

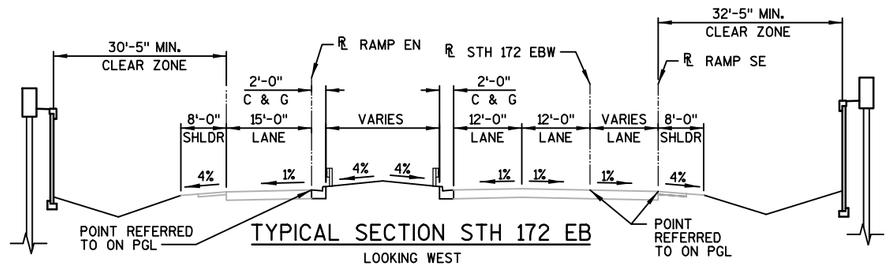
NE REGION CONTACT:
KURT PETERS 920-492-2213



NOTE: STRUCTURE B-05-622 IN FOREGROUND NOT SHOWN IN ELEVATION VIEW.

ELEVATION

LOOKING WEST



TYPICAL SECTION STH 172 EB

LOOKING WEST

WISCONSIN
KEITH R. BEHREND
E-42073
MADISON
WI
PROFESSIONAL ENGINEER
Keith R. Behrend
1-30-13

NO.	DATE	REVISION	BY

STRAND ASSOCIATES®
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608)-251-4843
(608) 251-8655 FAX
WWW.STRAND.COM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR — 02/13/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-05-625

NB USH 41 OVER STH 172 EB

COUNTY: BROWN
~~TOWN/CITY~~ VILLAGE: ASHWAUBENON

DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
KRB	DDR	AJW	DJW

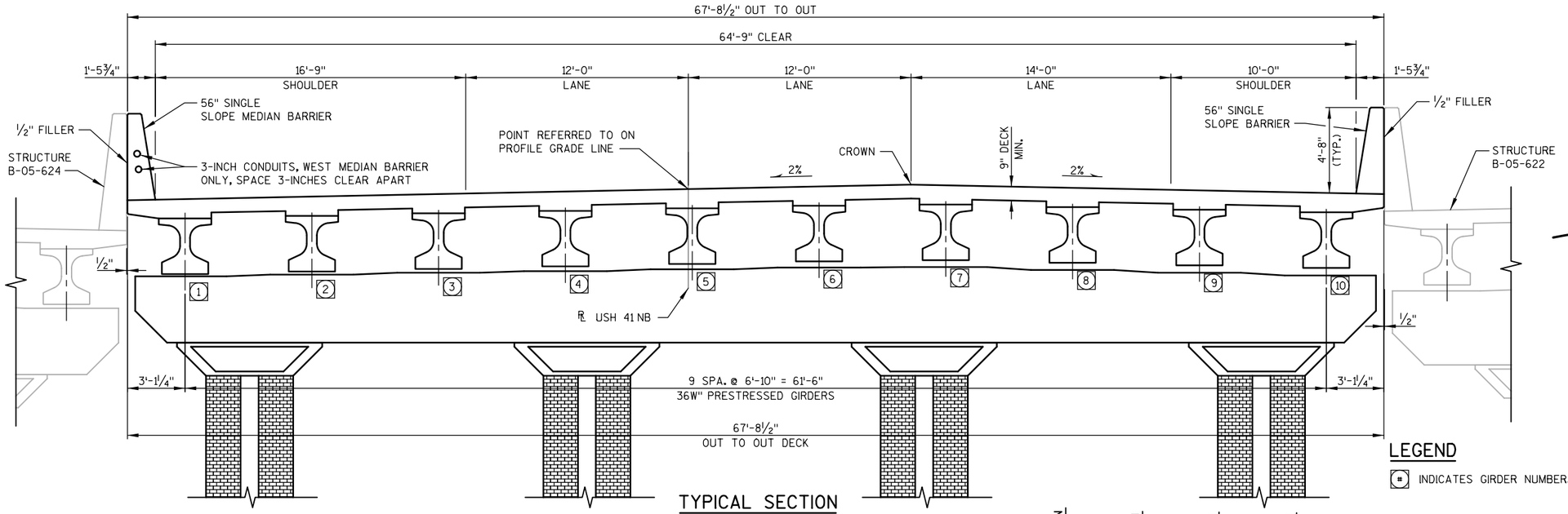
GENERAL PLAN

SHEET 1 OF 26
1931

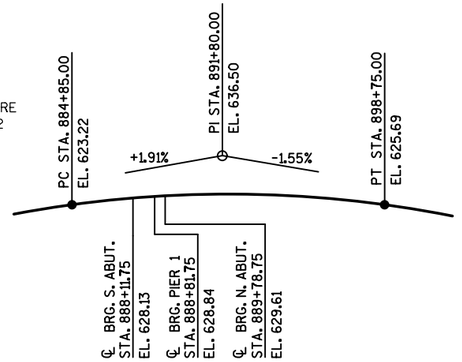
8

8

STATE PROJECT NUMBER
1133-09-71

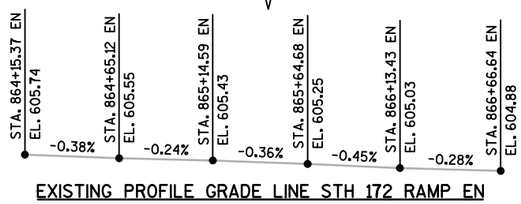


TYPICAL SECTION
(LOOKING NORTH)

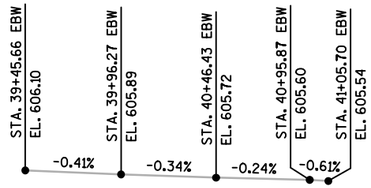


PROFILE GRADE LINE USH 41 NB

LEGEND
(#) INDICATES GIRDER NUMBER.



EXISTING PROFILE GRADE LINE STH 172 RAMP EN



EXISTING PROFILE GRADE LINE STH 172 EB
(WEST OF RAMP SE GORE POINT)

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEVATION
525	N/A	CHISELED "X" ON FIRE HYDRANT BURY BOLT ON A DEAD END CUL-DE-SAC OF SPRINGHURST DR. 55' FROM A MANHOLE COVER TO FIRE HYDRANT AT THE EAST END OF THE ROUND-A-BOUT.	648.93
526	N/A	CHISELED "X" ON FIRE HYDRANT BURY BOLT IN THE NORTHEAST QUADRANT OF TIMBER LN. & COMMANCHE AVE. BY A PARKING LOT ENTRANCE TO THE PARK. 35' NORTH OF THE ℄ OF TIMBER LN. & 25' WEST OF THE ℄ OF THE WEST ENTRANCE TO THE PARK.	629.88
528	N/A	CHISELED "X" ON FIRE HYDRANT BURY BOLT IN THE NORTHWEST QUADRANT OF GERHARDT LN. & NORTH RD. 65' WEST OF THE ℄ OF NORTH RD. AND 35' NORTH OF THE ℄ OF GERHARDT LN.	626.81

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SOUTH ABUT.	NORTH ABUT.	PIER 1	SUPER.	SOUTH APPROACH APRON	NORTH APPROACH APRON	TOTALS
203.0200.711	REMOVING OLD STRUCTURE STA. 888+95.18 'NB'	LS	--	--	--	--	--	--	1
203.0225.S.711	DEBRIS CONTAINMENT STRUCTURE B-05-138	LS	--	--	--	--	--	--	1
206.1000.711	EXCAVATION FOR STRUCTURES BRIDGES B-05-625	LS	--	--	--	--	--	--	1
206.6000.S	TEMPORARY SHORING	SF	1350	2250	1150	--	--	--	4750
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	--	--	1422	156	156	1734
502.6110	MASONRY ANCHORS TYPE S 3/4-INCH	EACH	4	4	--	--	--	--	8
503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	--	--	--	1678	--	--	1678
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	4650	4770	3910	--	--	--	13330
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	--	--	24670	90120	15110	15110	145010
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	10	10	20	--	--	--	40
506.4000.711	STEEL DIAPHRAGMS B-05-625	EACH	--	--	--	27	--	--	27
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	14	14	--	--	--	--	28
550.0500	PILE POINTS	EACH	10	11	28	--	--	--	49
550.1120	PILING STEEL HP 12-INCH X 53 LB.	LF	1100	1210	2520	--	--	--	4830
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	76	76	--	--	76	76	304
652.0135	CONDUIT RIGID METALLIC 3-INCH	LF	--	--	--	20	40	40	100
652.0235	CONDUIT RIGID NON-METALLIC SCH 40 3-INCH	LF	--	--	--	318	--	--	318
SPV.0035.700	HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES	CY	60	62	140	496	102	102	962
SPV.0085.700	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	--	--	--	2350	--	--	2350
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	--	--	553	--	--	--	553
SPV.0165.501	STAINING CONCRETE	SF	488	509	1288	356	--	--	2641
SPV.0165.502	STAINING CONCRETE BRICK	SF	--	--	553	--	--	--	553
SPV.0165.700	LONGITUDINAL GROOVING BRIDGE DECK	SF	--	--	--	10946	1295	1295	13536
	NON-BID ITEMS								
	FILLER	SIZE	--	--	--	--	--	--	½" & ¾"
	CORK	SIZE	--	--	--	--	--	--	¾"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

ALL DETAILS, MATERIALS AND FABRICATION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE SPECIFICATIONS OF THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153, TYPE I, II, OR III, OR M213.

AT THE BACKFACE OF ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEET.

NON-LAMINATED ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

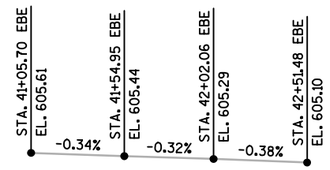
ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE EXISTING STRUCTURE, B-05-138, IS A TWO SPAN STEEL DECK GIRDER STRUCTURE WITH AN OVERALL WIDTH OF 52.7 FEET TO 56.8 FEET AND AN OVERALL LENGTH OF 209.5 FEET. THE BRIDGE WILL BE REMOVED IN STAGES FOR CONSTRUCTION OF STRUCTURES B-05-625, AND B-05-622. THE BRIDGE WILL BE REMOVED A MIN. OF 2'-0" BELOW FINISHED GRADE. EXISTING SOUTH AND NORTH ABUTMENT PILING SHALL BE CUT OFF AT THE BOTTOM OF WALL ELEVATIONS FOR R-05-210 AND R-05-211 RESPECTIVELY.

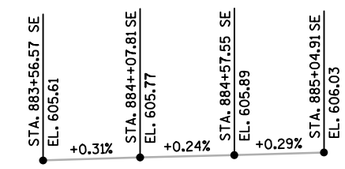
TEMPORARY SUPPORT OF EXISTING STRUCTURE B-05-138 IS REQUIRED. SEE SHEET 4 FOR DETAILS.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING CONCRETE TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

9" MINIMUM DECK THICKNESS INCLUDES 3½" COVER TO TOP LAYER OF STEEL REINFORCEMENT.



EXISTING PROFILE GRADE LINE STH 172 EB
(EAST OF RAMP SE GORE POINT)



EXISTING PROFILE GRADE LINE STH 172 RAMP SE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

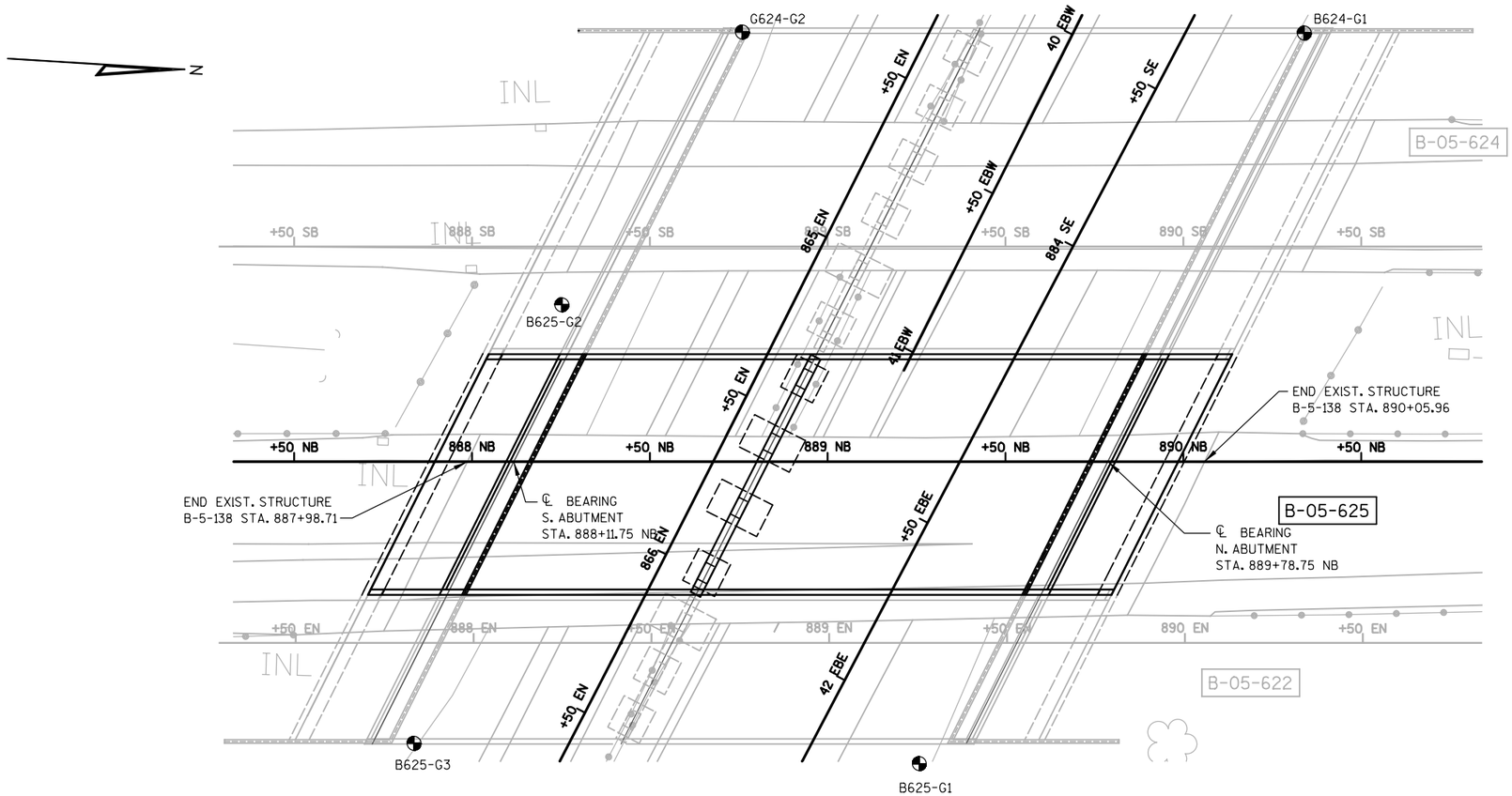
DRAWN BY AJW | PLANS CK'D. DJW

CROSS SECTION & QUANTITIES

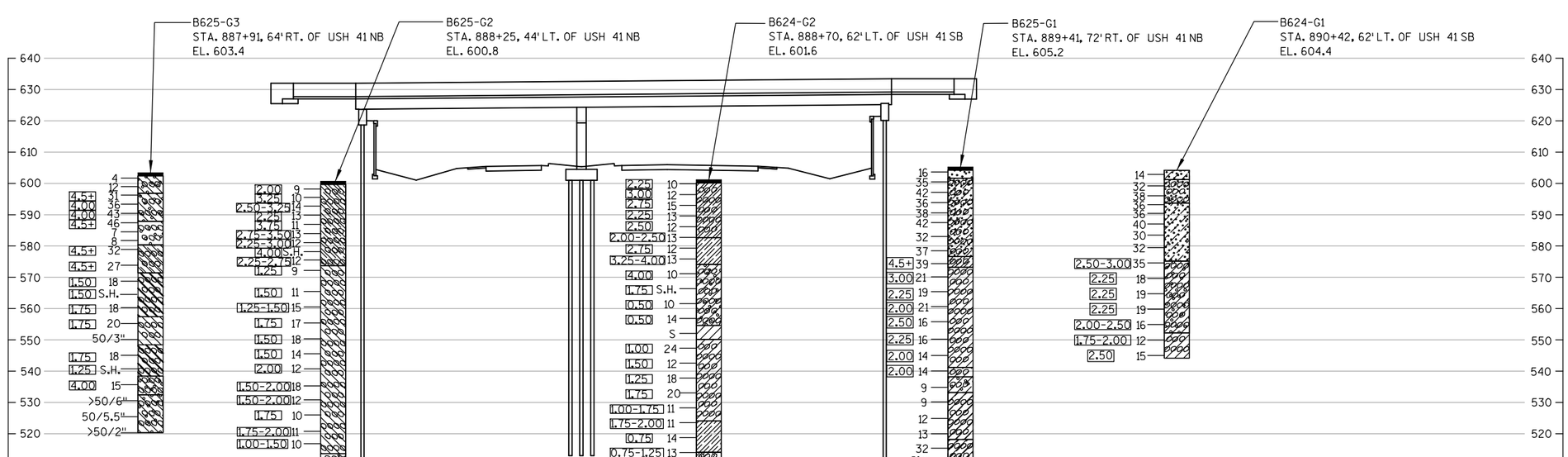
SHEET 2 OF 26
1932

8

8



BORINGS PREPARED BY:
GESTRA ENGINEERING, INC.
1626 W. FOND DU LAC AVE.
MILWAUKEE, WI 53205



STATE PROJECT NUMBER

1133-09-71

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE, SAND, PEAT, LIMESTONE, GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
ELEV.
STA.
UNCONFINED STRENGTH → 7.7 7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

SUBSURFACE EXPLORATION

SHEET 3 OF 26
1933

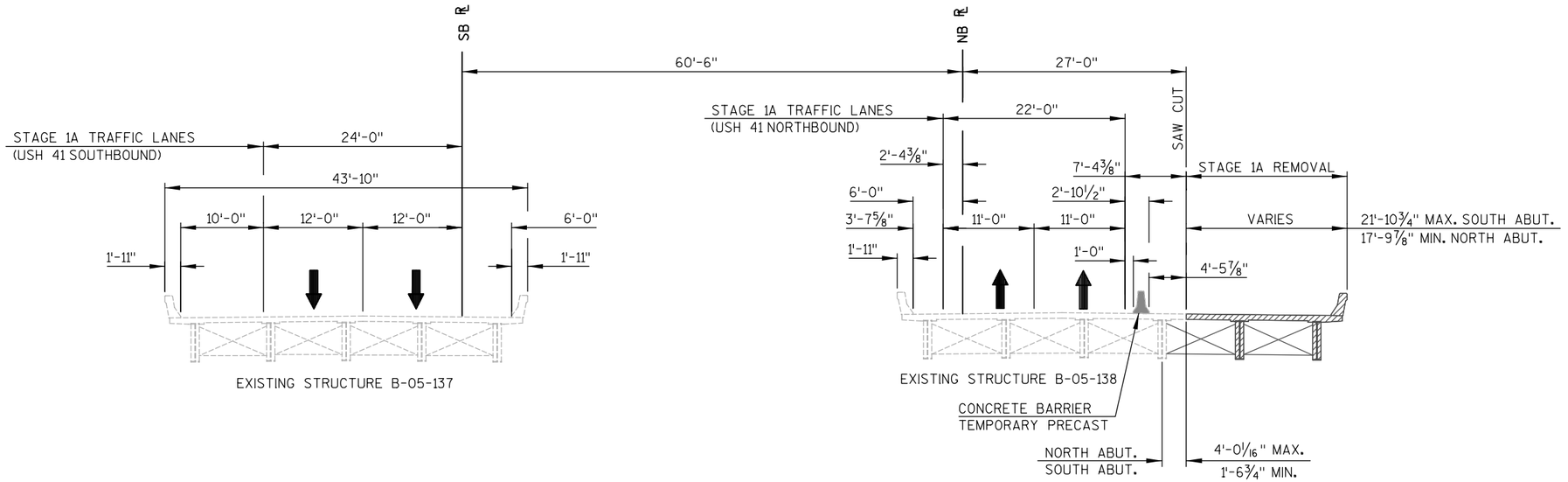
FILE=
SCALE =

8

8

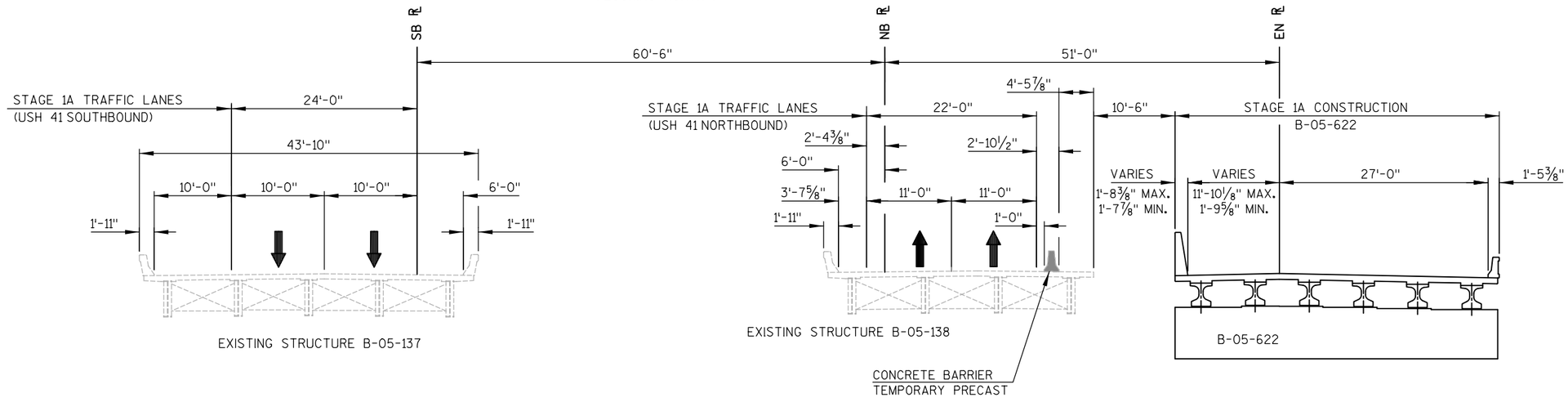
STATE PROJECT NUMBER

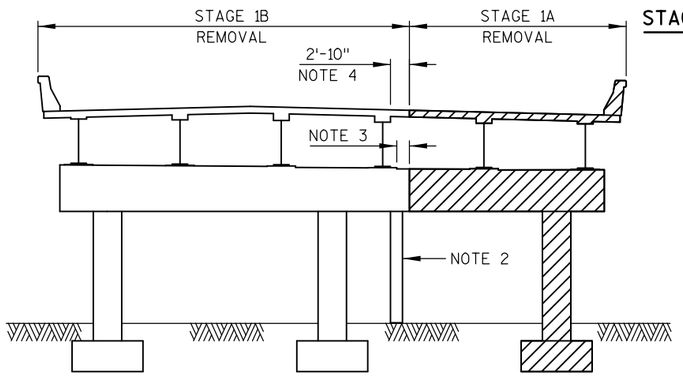
1133-09-71



STAGE 1A - PHASE ML-2 AND ML-3 - TRAFFIC AND REMOVAL

(LOOKING NORTH)





TEMPORARY SUPPORT EXISTING STRUCTURE B-05-138

STAGE 1A - PHASE ML-2 AND ML-3 - TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.
2. TEMPORARY SUPPORT OF THE B-05-138 PIER CAP IS REQUIRED. THE CONTRACTOR IS TO DESIGN A TEMPORARY SUPPORT SYSTEM FOR USE DURING STAGED REMOVAL (CONSTRUCTION) OF THE BRIDGE. THE PROPOSED SUPPORT SYSTEM SHALL BE SUBMITTED TO THE DEPARTMENT FOR ACCEPTANCE.
3. DIMENSION AS REQUIRED BY CONTRACTOR FOR CONCRETE REMOVAL.
4. DIMENSION TAKEN PARALLEL TO PIER CAP.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

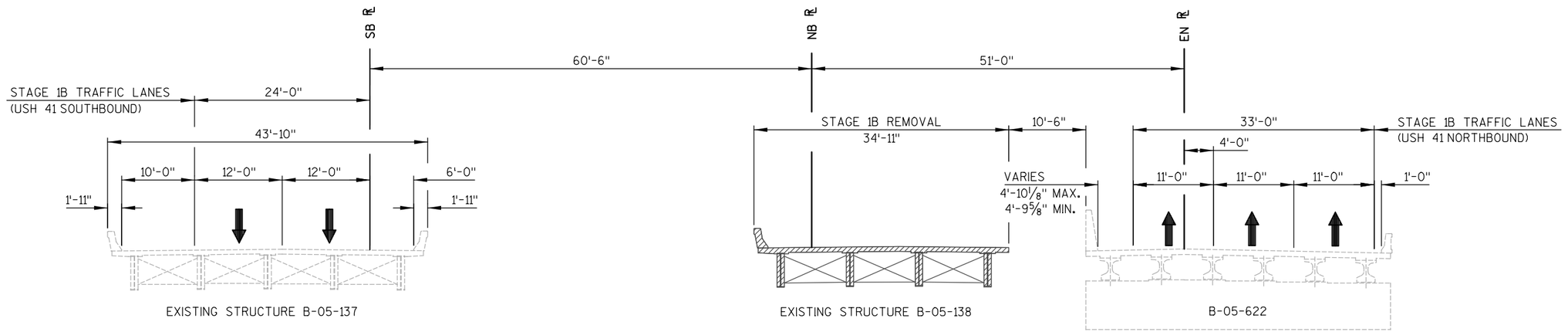
CONSTRUCTION STAGING - 1

SHEET 4 OF 26
1934

8

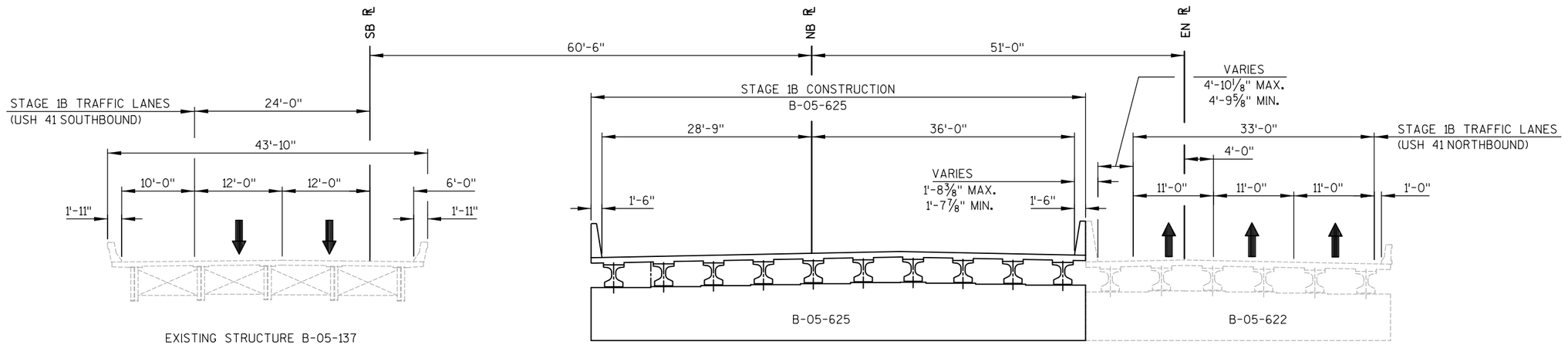
8

STATE PROJECT NUMBER
1133-09-71



STAGE 1B - TRAFFIC AND REMOVAL

(LOOKING NORTH)



STAGE 1B - TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

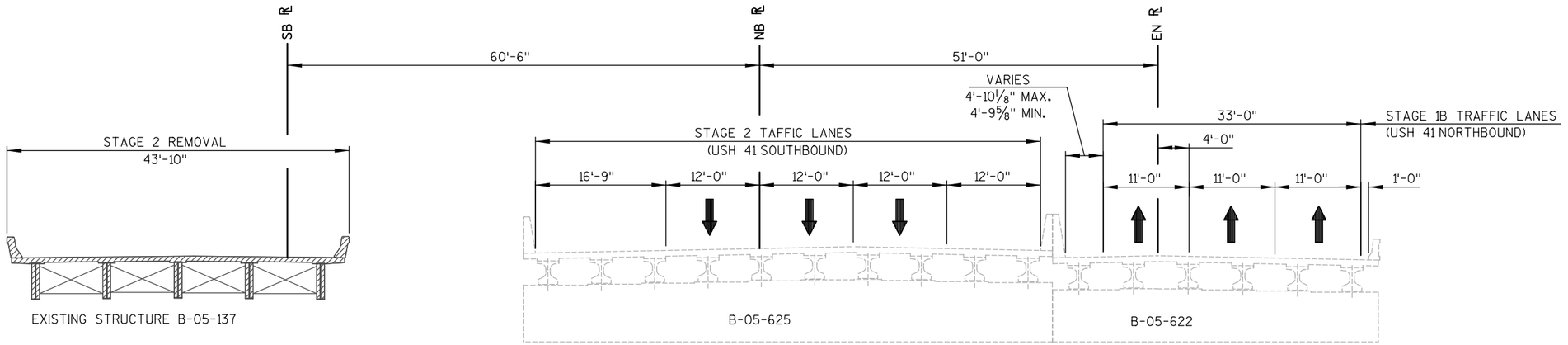
CONSTRUCTION STAGING - 2

SHEET 5 OF 26
1935

8

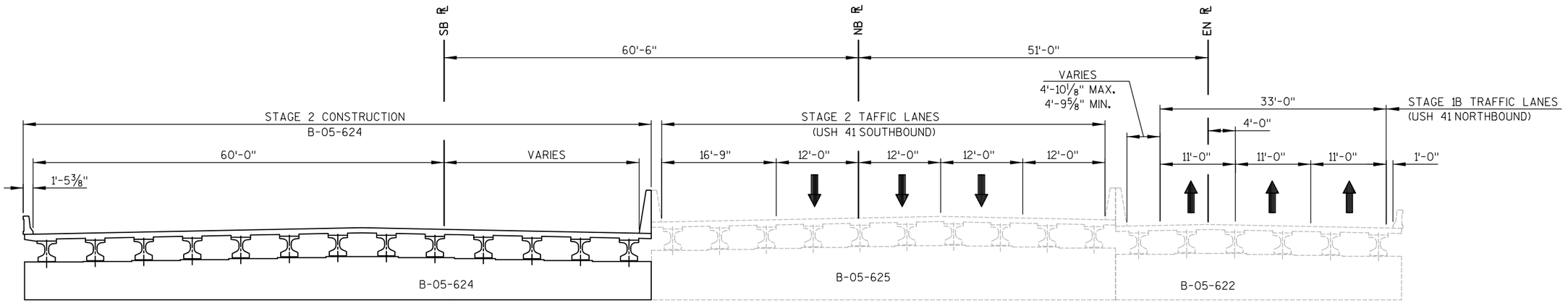
8

STATE PROJECT NUMBER
1133-09-71



STAGE 2 - PHASE ML-1 - TRAFFIC AND REMOVAL

(LOOKING NORTH)



STAGE 2 - PHASE ML-2 - TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

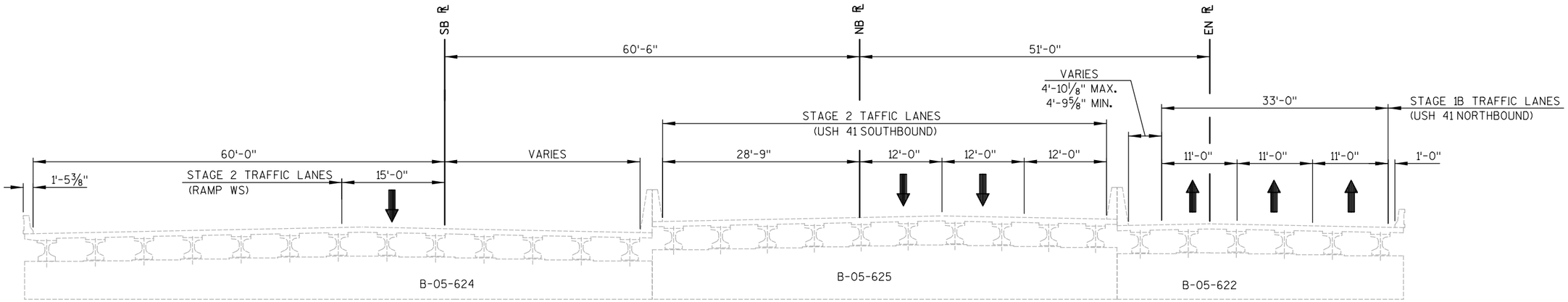
CONSTRUCTION STAGING - 3

SHEET 6 OF 26
1936

8

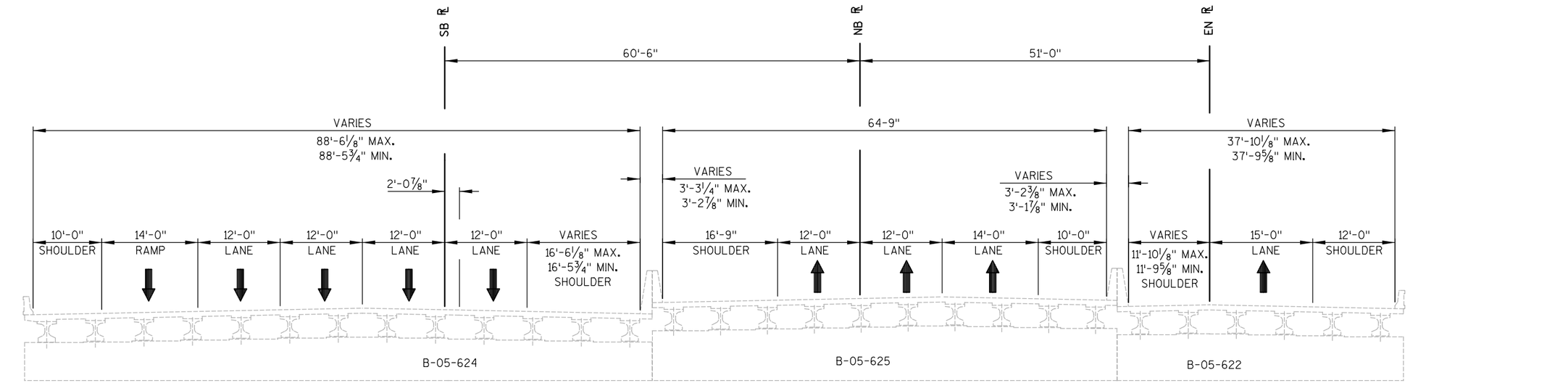
8

STATE PROJECT NUMBER
1133-09-71



STAGE 2 - PHASE ML-2 - TRAFFIC

(LOOKING NORTH)



FINAL CROSS SECTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

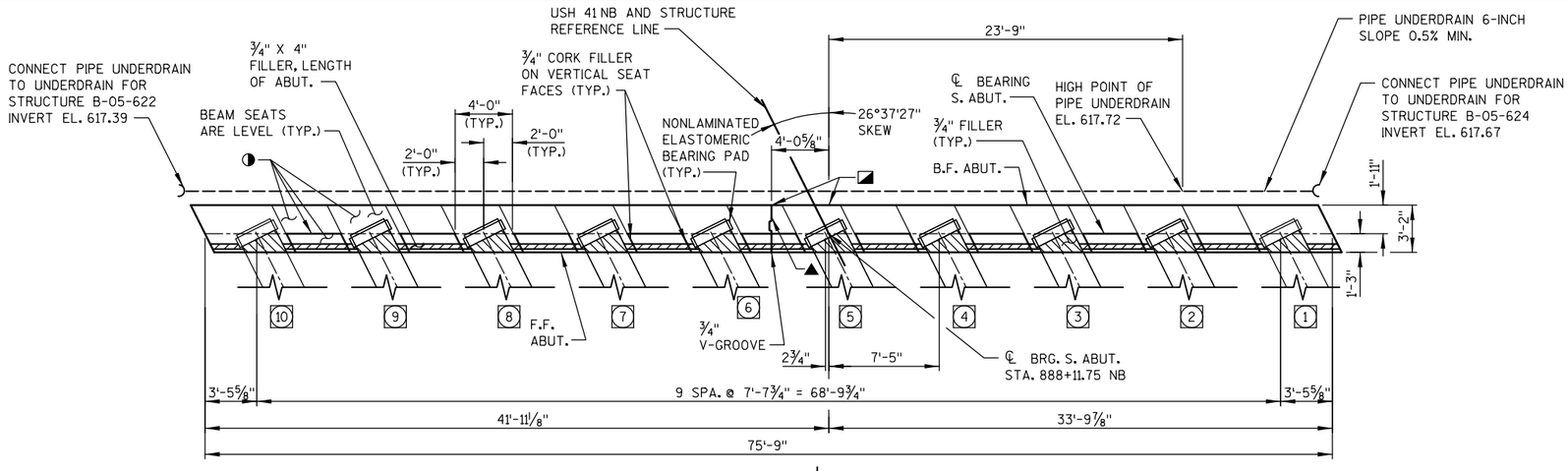
DRAWN BY AJW | PLANS CK'D. DJW

CONSTRUCTION STAGING - 4

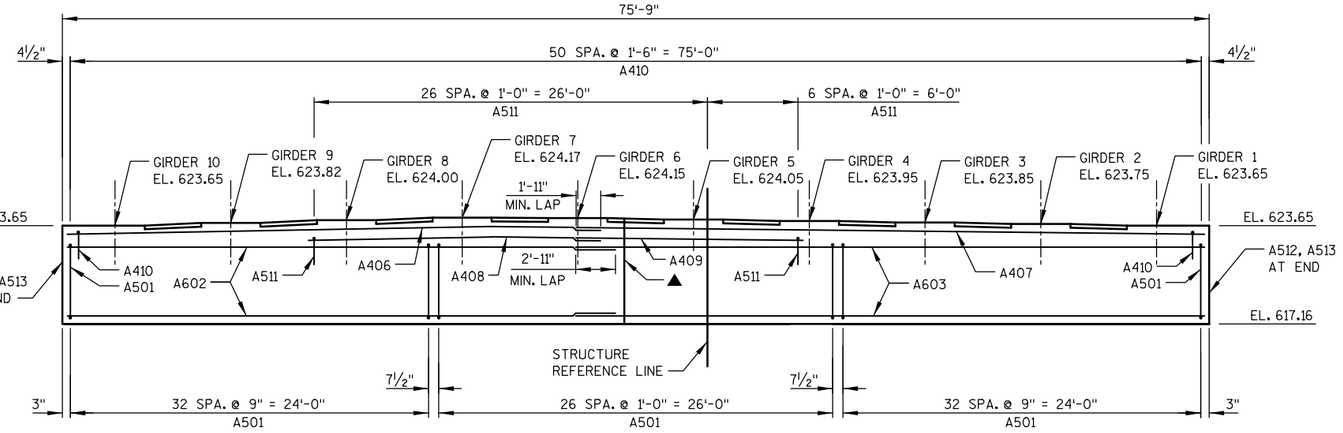
SHEET 7 OF 26
1937

8

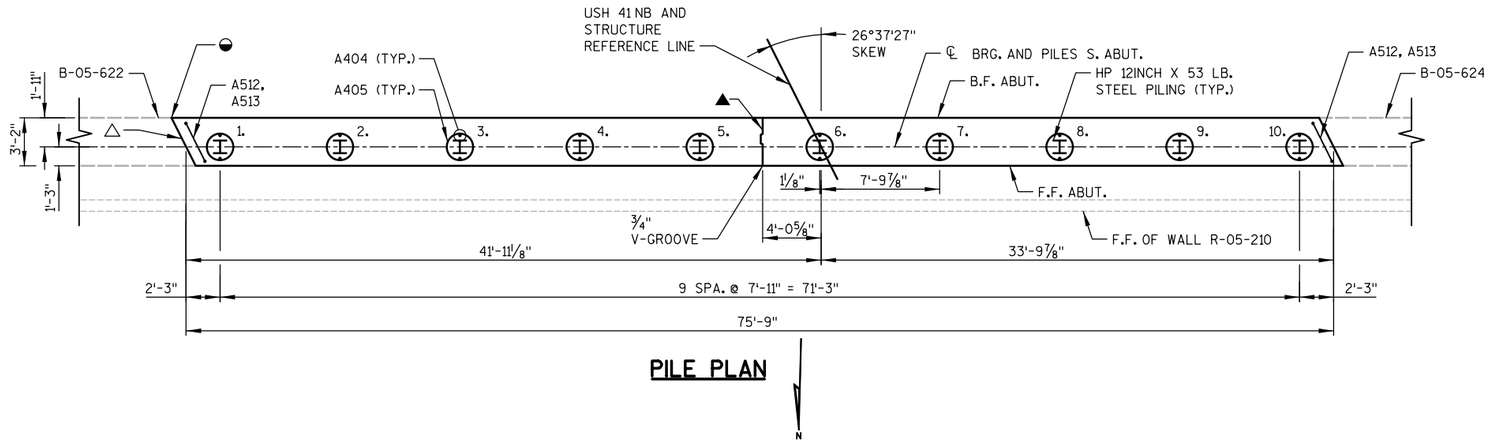
8



PLAN



ELEVATION
(LOOKING SOUTH)



PILE PLAN

LEGEND

- ◑ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ◪ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ▲ VERTICAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 8". RUN BAR STEEL THRU JOINT. SEAL JOINT WITH 18" RUBBERIZED MEMBRANE WATERPROOFING. SEE SHEET 12 FOR ALTERNATE CONSTRUCTION JOINT DETAIL.
- ◒ 18" RUBBERIZED MEMBRANE WATERPROOFING AT VERTICAL JOINT WHERE B-05-625 ABUTS B-05-622.
- △ ½" FILLER. EXTEND FULL HEIGHT OF ABUTMENT. SEAL EXPOSED SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP. EXTEND SEALER 6" BELOW FINISHED GRADE.
- ⊠ INDICATES GIRDER NUMBER.

NOTES

SEE SHEET 12 FOR PILE SPLICE DETAILS.

ADJUST A501 BARS TO AVOID INTERFERENCE WITH PILES.

SEE SHEET 9 FOR REINFORCING DETAILS.

ABUTMENTS TO BE SUPPORTED ON HP 12-INCH X 53 LB. STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH IS 110 FEET.

SEE SHEET 9 FOR ABUTMENT FALL PROTECTION DETAIL.

STATE PROJECT NUMBER

1133-09-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

SOUTH ABUTMENT

SHEET 8 OF 26
1938

8

8

STATE PROJECT NUMBER

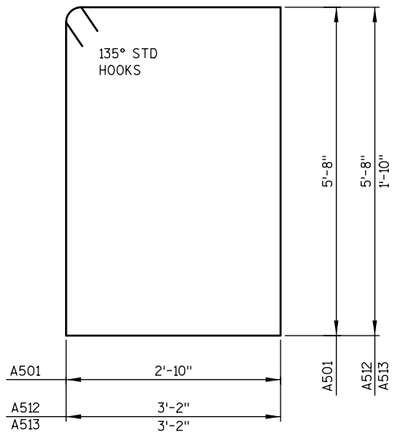
1133-09-71

SOUTH ABUTMENT BILL OF BARS

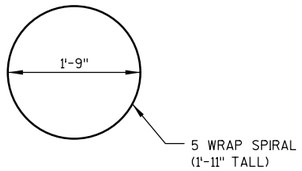
UNCOATED: 4,650 LBS

MARK	NO.	LENGTH	BENT	COAT	LOCATION
A501	93	17'-7"	X		BODY - VERT. - STIRRUPS
A602	18	37'-1"			BODY - HORIZ. - FF/BF, TOP/BOT
A603	18	41'-3"			BODY - HORIZ. - FF/BF, TOP/BOT
A404	20	2'-3"			BODY - PILES - VERT.
A405	10	28'-0"	X		BODY - PILES - VERT.
A406	2	36'-1"			BODY - TOP - HORIZ.
A407	2	41'-3"			BODY - TOP - HORIZ.
A408	3	20'-10"			BODY - TOP - HORIZ.
A409	3	13'-1"			BODY - TOP - HORIZ.
A410	51	4'-5"	X		BODY - TOP - VERT.
A511	33	6'-7"	X		BODY - TOP - VERT.
A512	2	18'-3"	X		BODY - VERT. - STIRRUPS - ENDS
A513	2	10'-7"	X		BODY - VERT. - STIRRUPS - ENDS

NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



A501, A512, A513



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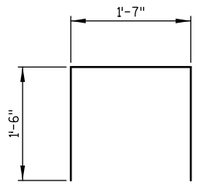

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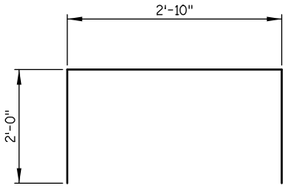

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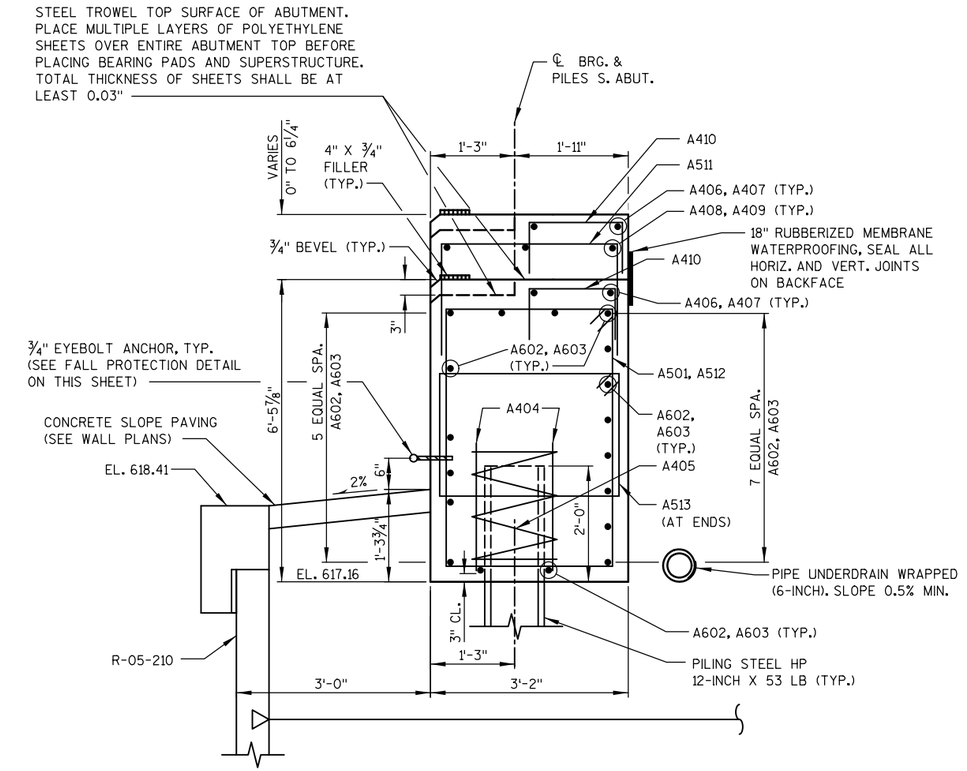
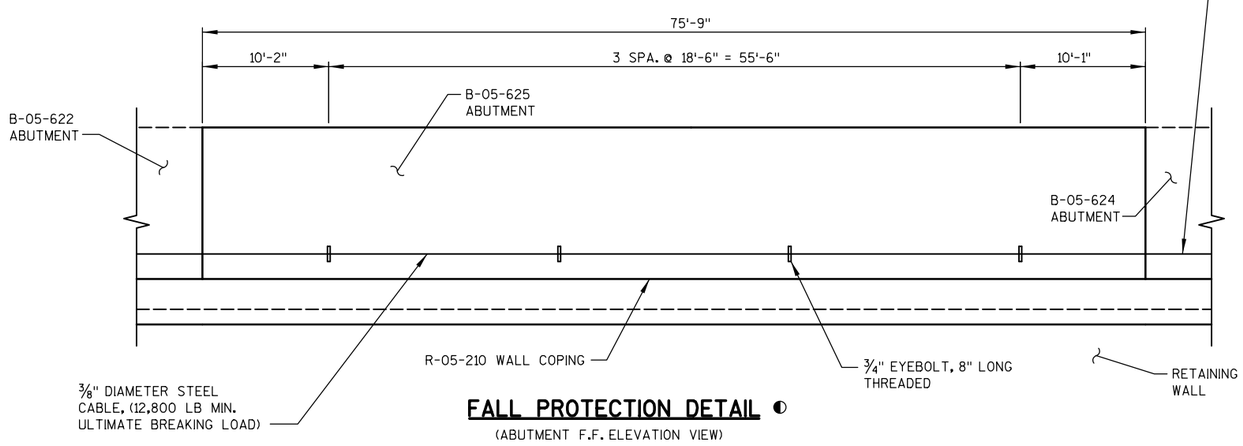


TYPICAL SECTION THRU BODY



FALL PROTECTION DETAIL ◐

(ABUTMENT F.F. ELEVATION VIEW)

◐ NOTES:

ALL LABOR AND MATERIAL (EYE BOLTS, CABLE, AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4-INCH.

ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.

USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.

MASONRY ANCHORS TYPE S 3/4-INCH. MIN. ULTIMATE PULLOUT CAPACITY OF 26 KIPS. FOR ADHESIVE ANCHORS, EMBED A MINIMUM OF 7" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

SOUTH ABUTMENT DETAILS

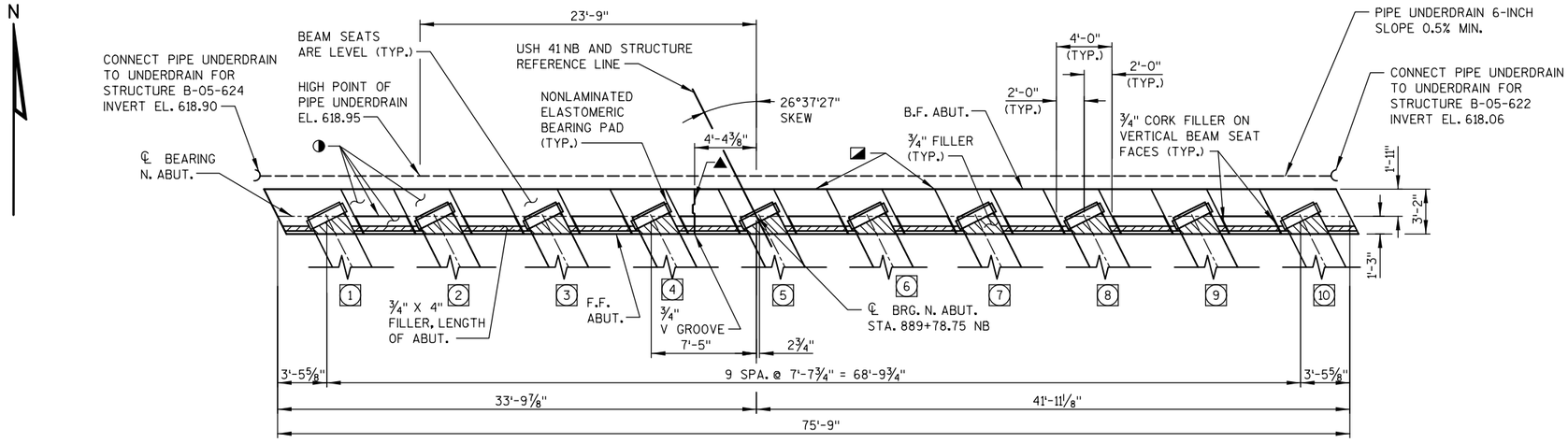
SHEET 9 OF 26

1939

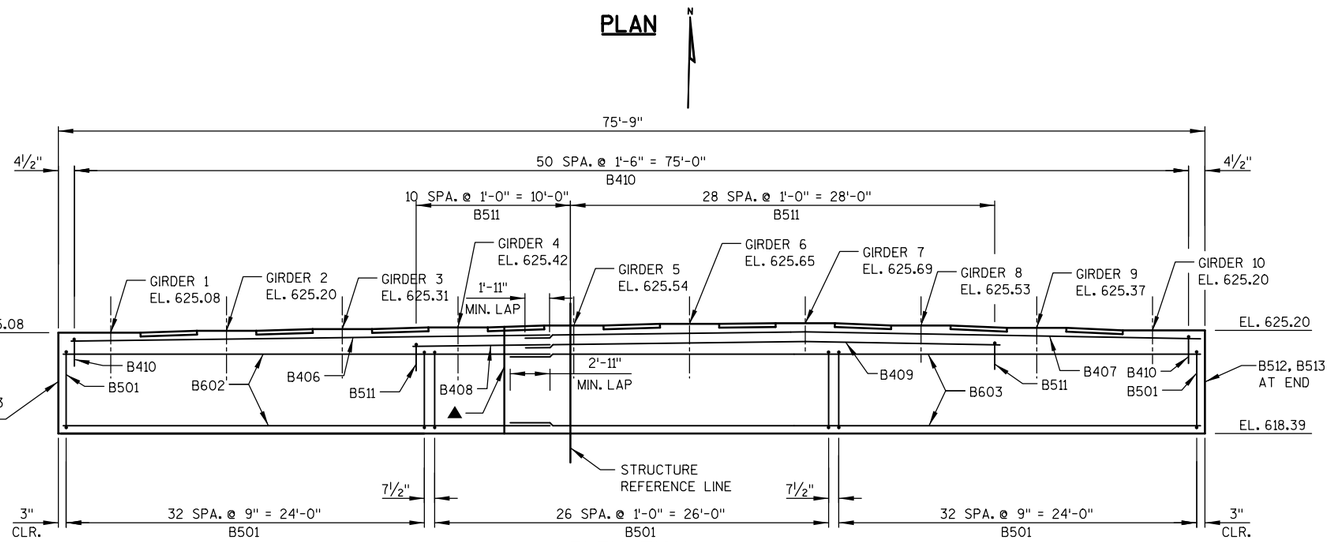
8

8

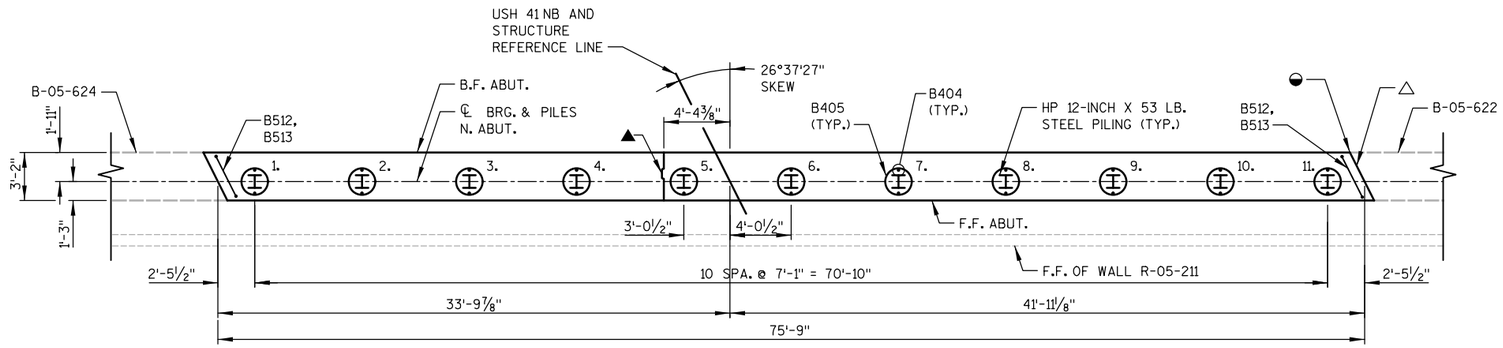
STATE PROJECT NUMBER
1133-09-71



PLAN



ELEVATION
(LOOKING NORTH)



PILE PLAN

LEGEND

◑ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

◪ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

▲ VERTICAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 8". RUN BAR STEEL THRU JOINT. SEAL JOINT WITH 18" RUBBERIZED MEMBRANE WATERPROOFING. SEE SHEET 12 FOR ALTERNATE CONSTRUCTION JOINT DETAIL.

◒ 18" RUBBERIZED MEMBRANE WATERPROOFING AT VERTICAL JOINT WHERE B-05-625 ABUTS B-05-622.

△ 1/2" FILLER. EXTEND FULL HEIGHT OF ABUTMENT. SEAL EXPOSED SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP. EXTEND SEALER 6" BELOW FINISHED GRADE.

(#) INDICATES GIRDER NUMBER.

NOTES

SEE SHEET 12 FOR PILE SPLICE DETAILS.

ADJUST B501 BARS TO AVOID INTERFERENCE WITH PILES.

SEE SHEET 11 FOR REINFORCING DETAILS.

ABUTMENTS TO BE SUPPORTED ON HP 12-INCH X 53 LB. STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH IS 110 FEET.

SEE SHEET 11 FOR ABUTMENT FALL PROTECTION DETAIL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

NORTH ABUTMENT

SHEET 10 OF 26
1940

8

8

STATE PROJECT NUMBER

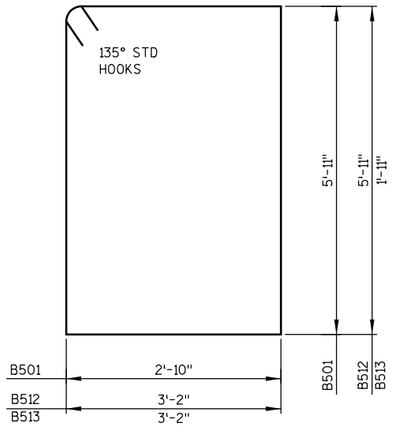
1133-09-71

NORTH ABUTMENT BILL OF BARS

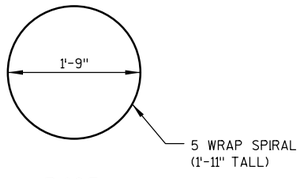
UNCOATED: 4,770 LBS

MARK	NO.	LENGTH	BENT	COAT	LOCATION
B501	93	18'-1"	X		BODY - VERT. -STIRRUPS
B602	18	33'-2"			BODY - HORIZ. - FF/BF, TOP/BOT
B603	18	45'-2"			BODY - HORIZ. - FF/BF, TOP/BOT
B404	22	2'-3"			BODY - PILES - VERT.
B405	11	28'-0"	X		BODY - PILES - VERT.
B406	2	33'-2"			BODY - TOP - HORIZ.
B407	2	44'-2"			BODY - TOP - HORIZ.
B408	3	8'-9'			BODY - TOP - HORIZ.
B409	3	31'-2"			BODY - TOP - HORIZ.
B410	51	4'-5"	X		BODY - TOP - VERT.
B511	39	6'-7"	X		BODY - TOP - VERT.
B512	2	18'-9"	X		BODY - VERT. - STIRRUPS - ENDS
B513	2	10'-9"	X		BODY - VERT. - STIRRUPS - ENDS

NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



B501, B512, B513



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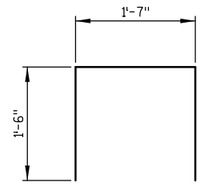

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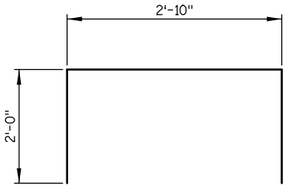

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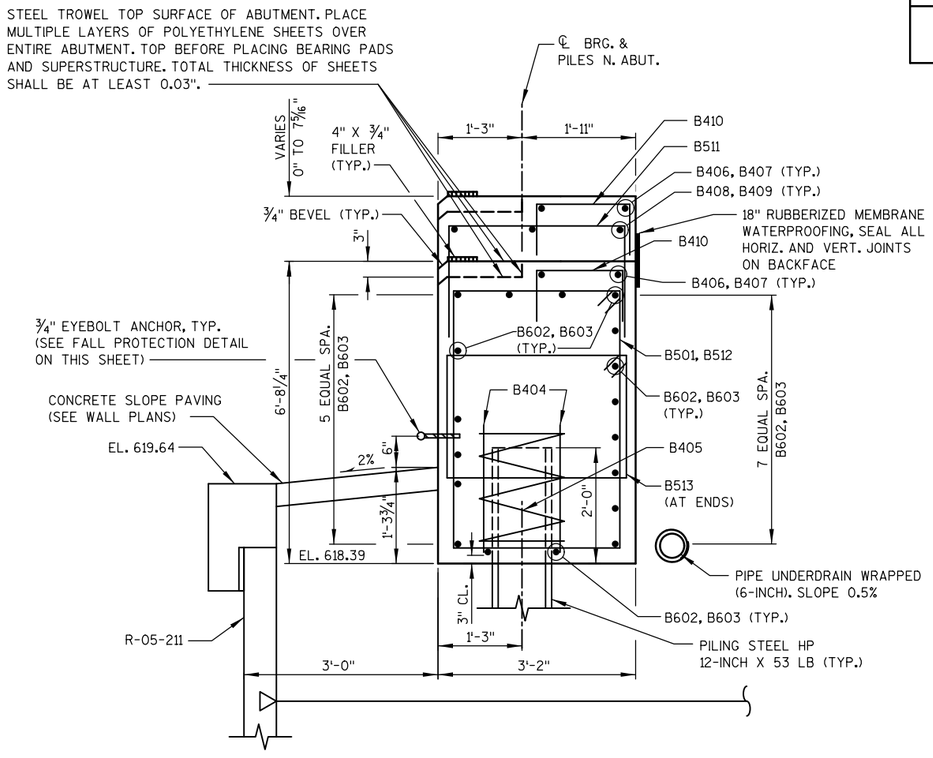
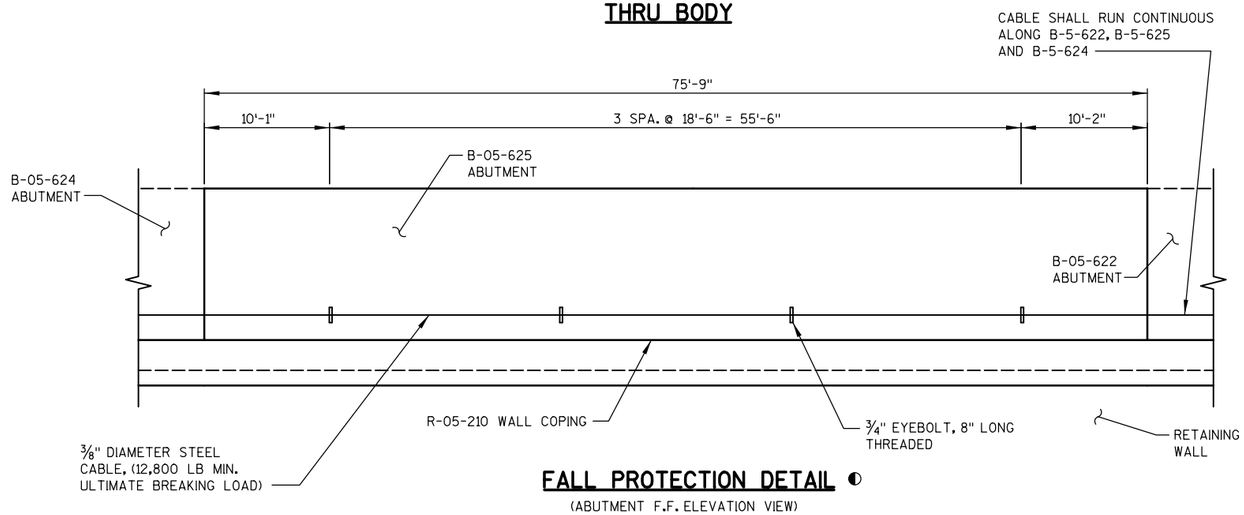


TYPICAL SECTION THRU BODY



FALL PROTECTION DETAIL ◐

(ABUTMENT F.F. ELEVATION VIEW)

◐ NOTES:

ALL LABOR AND MATERIAL (EYE BOLTS, CABLE, AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4-INCH.

ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.

USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.

MASONRY ANCHORS TYPE S 3/4-INCH. MIN. ULTIMATE PULLOUT CAPACITY OF 26 KIPS. FOR ADHESIVE ANCHORS, EMBED A MINIMUM OF 7" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

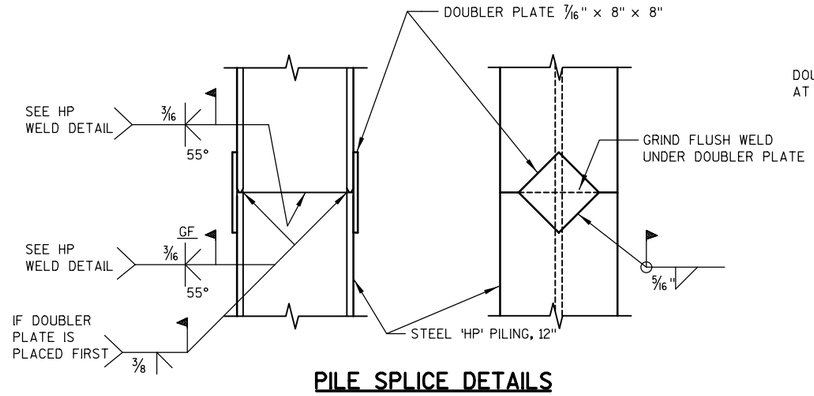
NORTH ABUTMENT DETAILS

SHEET 11 OF 26
1941

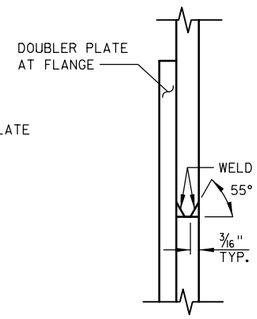
8

8

STATE PROJECT NUMBER
1133-09-71



PILE SPLICE DETAILS

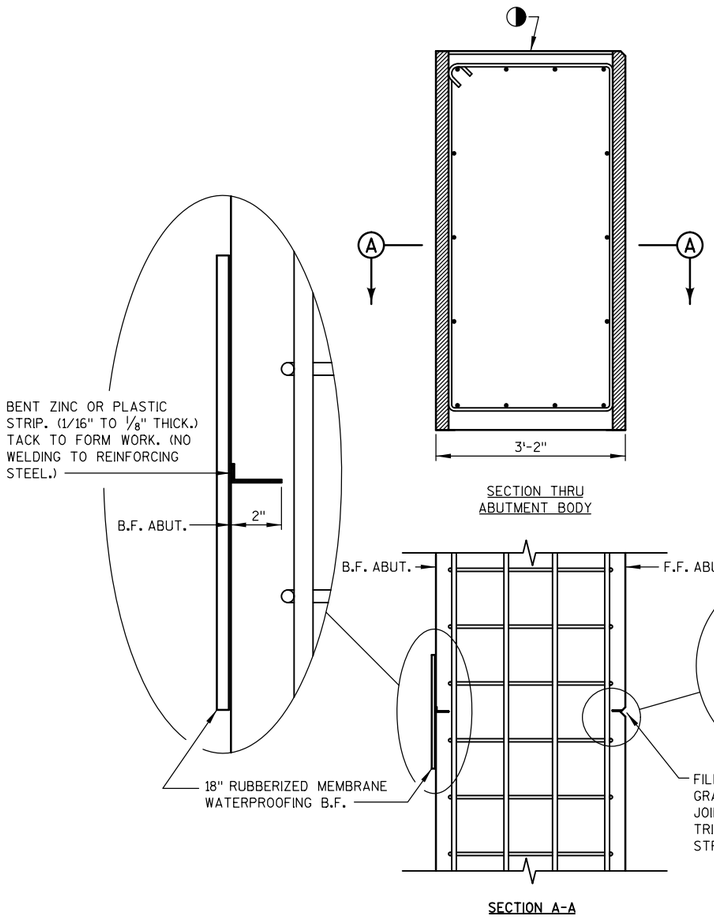


HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE SPLICE NOTES

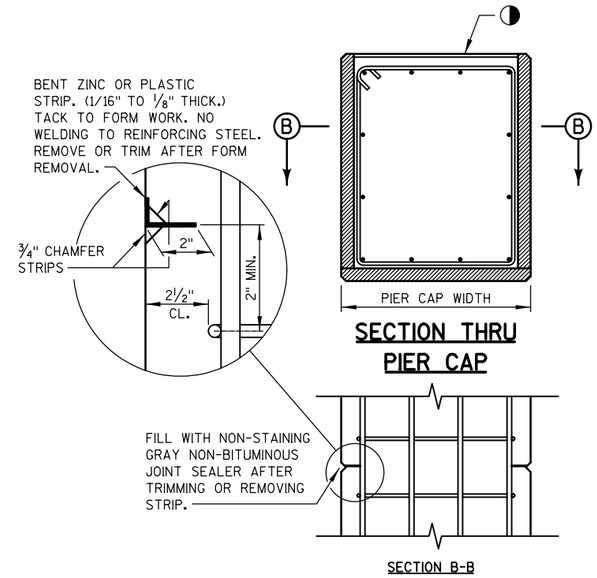
GRINDING MAY BE USED IN LIEU OF BACKGOUGING.



SECTION THRU ABUTMENT BODY

SECTION A-A

ALTERNATE CONSTRUCTION JOINT AT ABUTMENT



SECTION THRU PIER CAP

SECTION B-B

ALTERNATE CONSTRUCTION JOINT AT PIER CAP

NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY	AJW	PLANS CK'D.	DJW

ABUTMENT AND PIER DETAILS

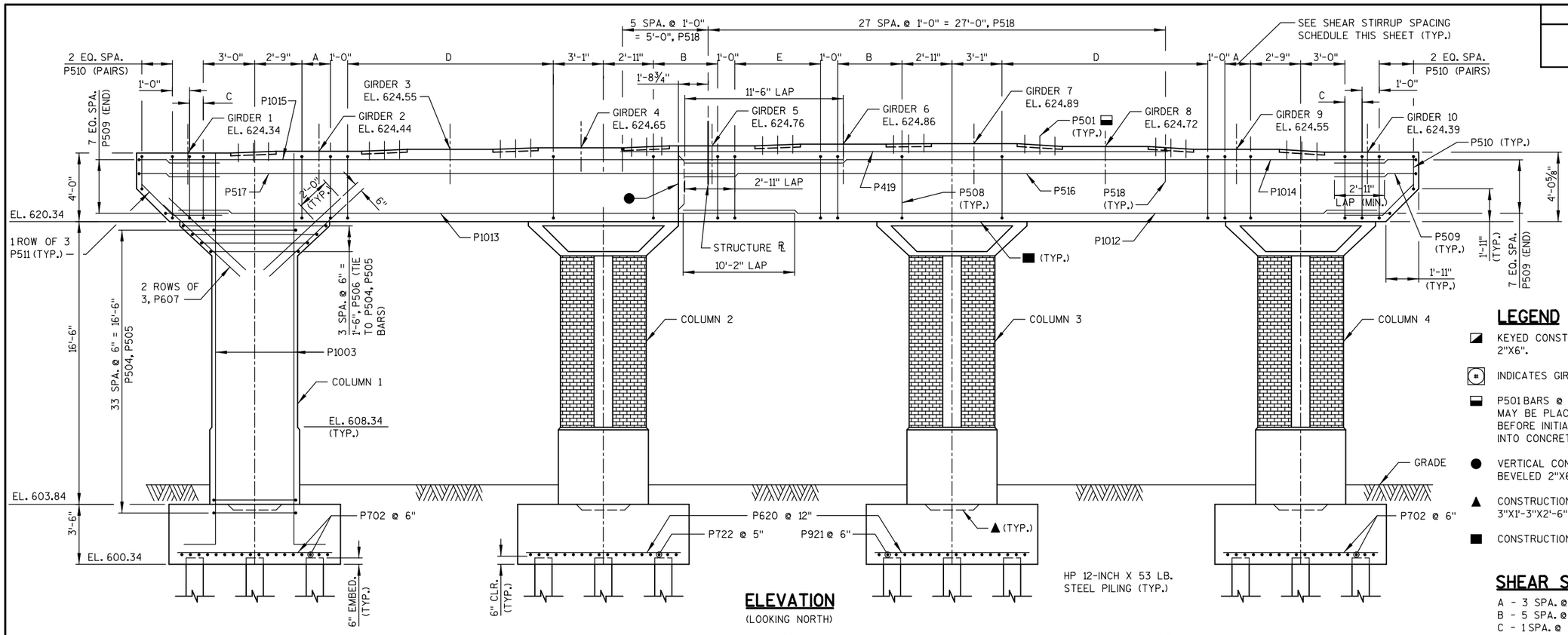
SHEET 12 OF 26
1942

8

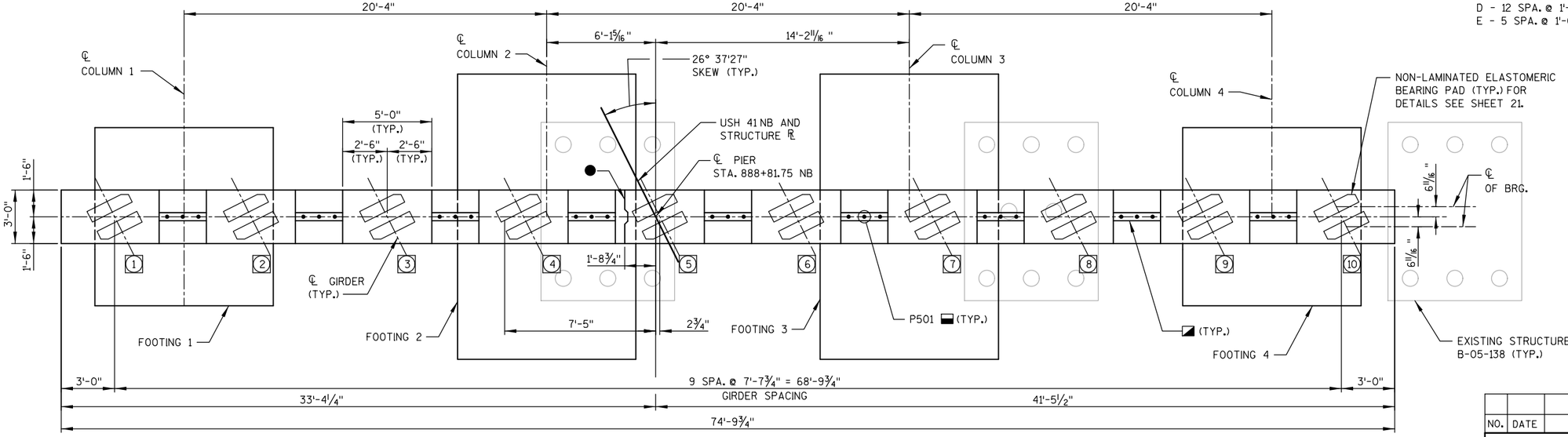
8

STATE PROJECT NUMBER

1133-09-71



ELEVATION
(LOOKING NORTH)



PLAN

LEGEND

- ◪ KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2"X6".
- (#) INDICATES GIRDER NUMBER.
- ▬ P501 BARS @ 1'-0" CENTERS BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED 1'-0" INTO CONCRETE.
- ● VERTICAL CONSTRUCTION JOINT FORMED BY SURFACE BEVELED 2"X6"X2'-6" KEYWAY.
- ▲ CONSTRUCTION JOINT FORMED BY BEVELED 3"X1'-3"X2'-6" KEYWAY.
- ■ CONSTRUCTION JOINT, STRIKE OFF AND LEAVE ROUGH.

SHEAR STIRRUP SPACING

A - 3 SPA. @ 6" = 1'-6", P508 (PAIRS)
B - 5 SPA. @ 9" = 3'-9", P508 (PAIRS)
C - 1 SPA. @ 1'-0" = 1'-0", P508 (PAIRS)
D - 12 SPA. @ 1'-0" = 12'-0", P508 (PAIRS)
E - 5 SPA. @ 1'-0" = 5'-0", P508 (PAIRS)

NOTES

GIRDER ELEVATIONS GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF THE PIER. BEAM SEATS SHALL BE FLAT.

SEE SHEET 14 FOR REINFORCING DETAILS.

ARCHITECTURAL SURFACE TREATMENT AND REVEALS NOT SHOWN ON COLUMN 1 FOR CLARITY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

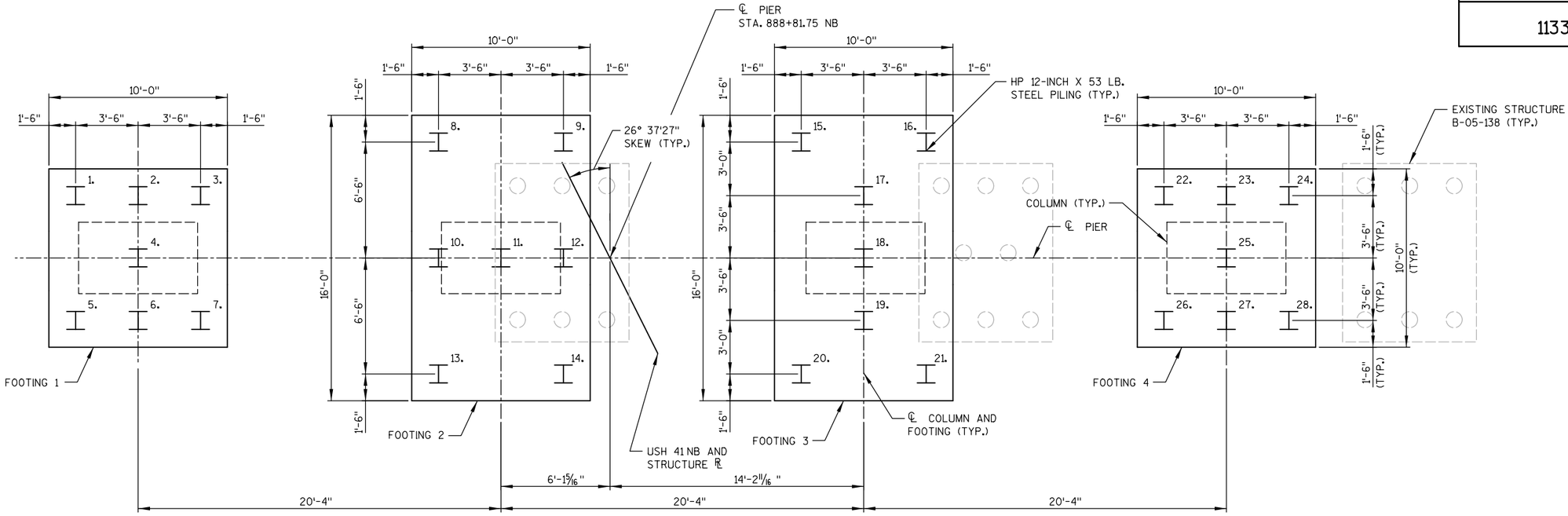
PIER

SHEET 13 OF 26
1943

8

8

STATE PROJECT NUMBER
1133-09-71



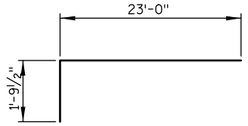
FOUNDATION PLAN

PIER
BILL OF BARS

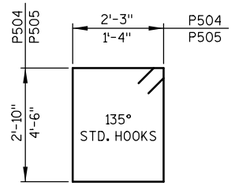
UNCOATED: 3,910 LBS.
COATED: 24,670 LBS.

	MARK	NO.	LENGTH	BENT	COAT	LOCATION
	P501	27	2'-0"		X	CAP - VERT. - DOWELS
	P702	80	9'-8"			FOOTINGS 1 & 4 - HORIZ.
	P1003	112	24'-6"	X	X	FOOTINGS & COLUMNS - VERT.
	P504	272	10'-9"	X	X	COLUMNS - STIRRUPS
	P505	136	12'-3"	X	X	COLUMNS - STIRRUPS
▲	P506	16	17'-10"	X	X	COLUMNS - STIRRUPS - TOP
	P607	48	7'-0"		X	COLUMNS - TOP
	P508	112	11'-5"	X	X	CAP - STIRRUPS
	P509	16	11'-8"	X	X	CAP - HORIZ. - ENDS
▲	P510	12	9'-6"	X	X	CAP - STIRRUPS - ENDS
	P511	6	5'-0"	X	X	CAP - HORIZ. - ENDS
	P1012	6	40'-8"		X	CAP - HORIZ. - BOTTOM
	P1013	6	40'-6"		X	CAP - HORIZ. - BOTTOM
	P1014	6	42'-8"		X	CAP - HORIZ. - TOP
	P1015	6	43'-4"		X	CAP - HORIZ. - TOP
	P516	12	40'-2"		X	CAP - HORIZ. - SIDES
	P517	12	33'-8"		X	CAP - HORIZ. - SIDES
	P518	33	6'-4"	X	X	CAP - VERT. - TOP
	P419	4	32'-0"		X	CAP - HORIZ. - TOP
	P620	34	9'-8"			FOOTINGS 2 & 3 - HORIZ.
	P921	20	15'-8"			FOOTING 3 - HORIZ.
	P722	24	15'-8"			FOOTING 2 - HORIZ.

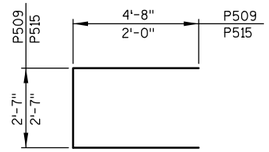
NOTE: THE FIRST ONE OR TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. DIMENSIONS FOR BENDING ARE OUT TO OUT OF BAR.



P1003



P504, P505



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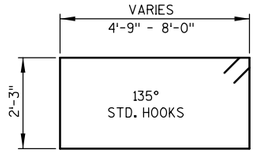

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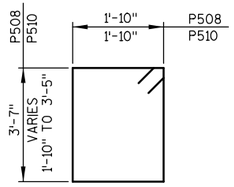

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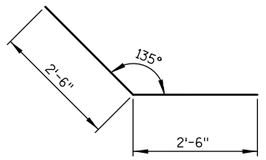

P511

▲ BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
P506	4 SERIES OF 4	14'-7" TO 21'-1"
P510	4 SERIES OF 3	7'-11" TO 10'-9"

NOTES

PIER TO BE SUPPORTED ON HP 12-INCH X 53 LB. STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH 90 FT EACH.

EXISTING PILING SHALL NOT BE INCORPORATED INTO THE NEW WORK. EXISTING PILING SHALL BE CUT AT OR BELOW THE BOTTOM OF THE NEW FOOTING AND ABANDONED.

SEE SHEET 12 FOR PILE SPLICE DETAILS.

THE EXISTING PILE LOCATIONS ARE BASED ON THE ORIGINAL PLANS FOR B-05-138. THE ENGINEER SHALL APPROVE ALL ADJUSTMENTS IF THE EXISTING PILE LOCATIONS DO NOT MATCH THE LOCATIONS SHOWN ON THE PLANS. NOTIFY ENGINEER IF EXISTING PILE SPACING TO NEW PILE IS LESS THAN 2.25 FT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

PIER FOUNDATION

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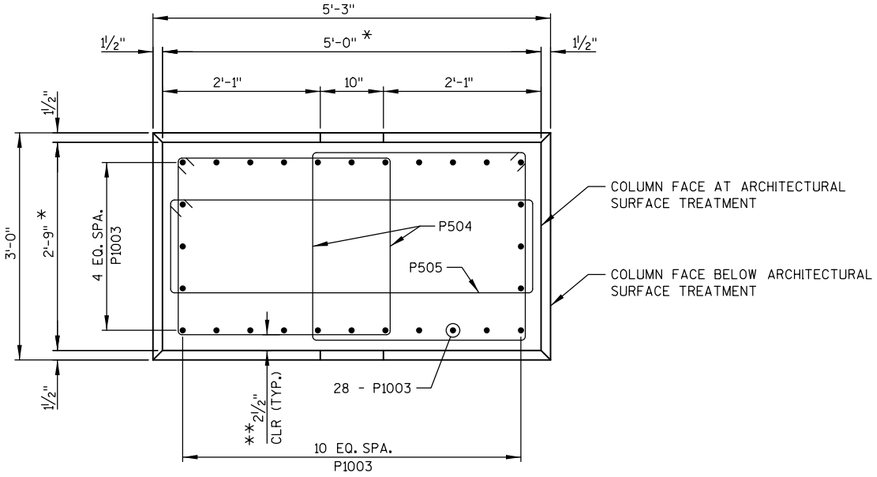
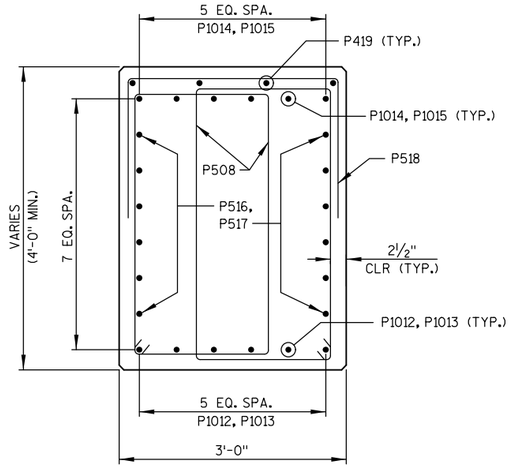
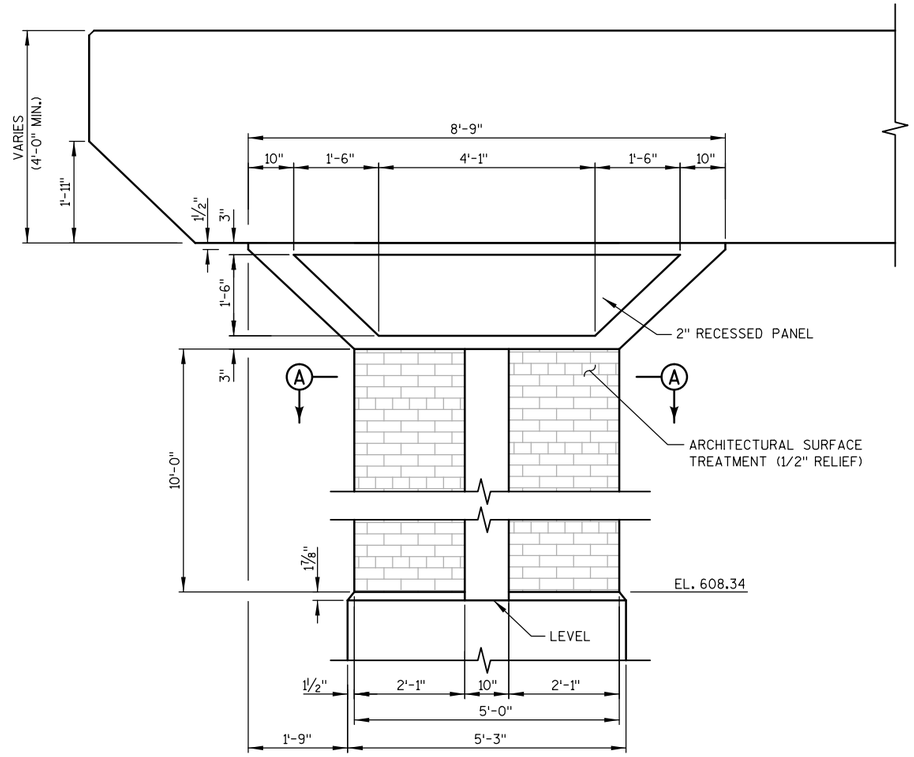


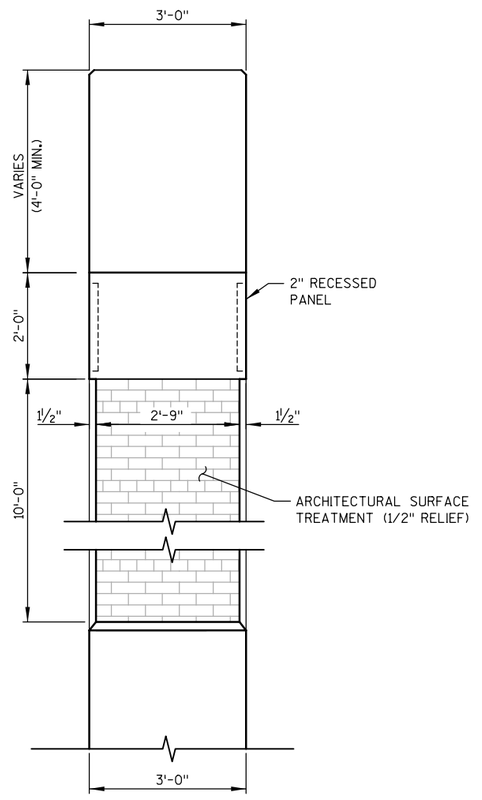
PIER COLUMN SECTION A-A



SECTION THRU PIER CAP



PIER ELEVATION



PIER END ELEVATION

NOTES

SEE SHEET 14 FOR REINFORCING DETAILS.

SEE SHEET 27 FOR ARCHITECTURAL SURFACE TREATMENT AND CONCRETE STAINING REQUIREMENTS.

LEGEND

* DIMENSION IS TAKEN TO OUTER FACE OF ARCHITECTURAL SURFACE TREATMENT.

** 2½" CLEAR DISTANCE IS FROM INSIDE OF ARCHITECTURAL SURFACE TREATMENT RELIEF (3" FROM OUTSIDE OF FACE OF RELIEF).

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

PIER DETAILS

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1945

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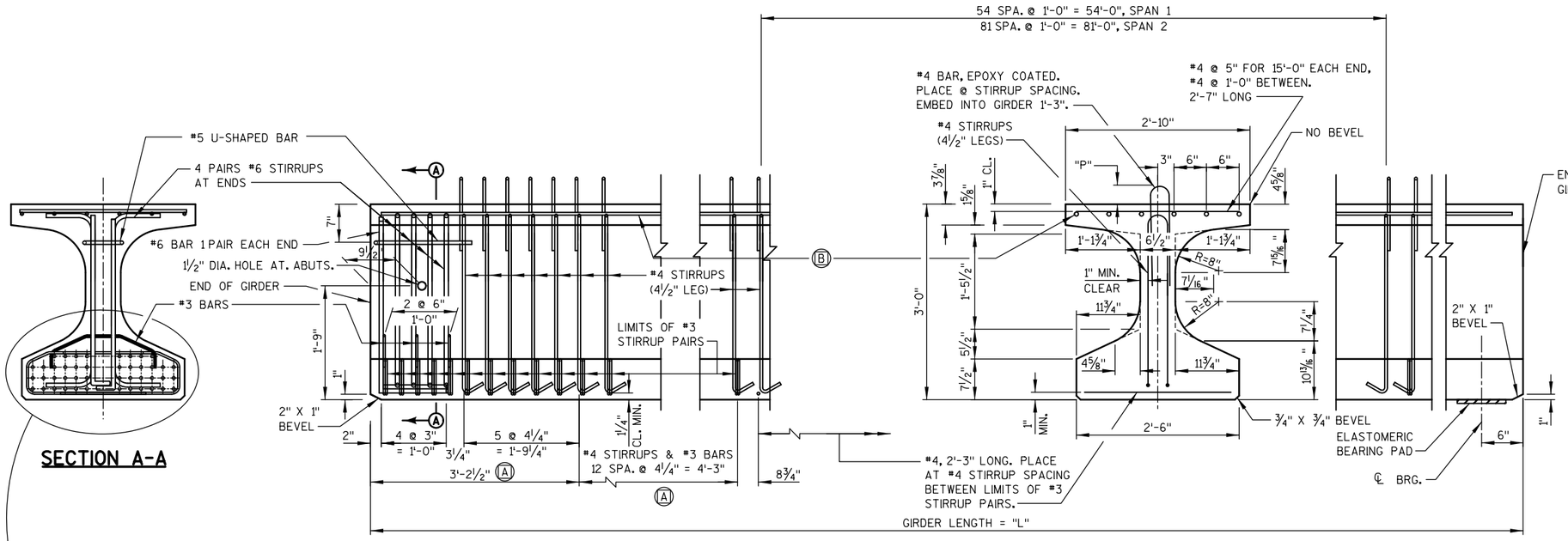
STATE PROJECT NUMBER

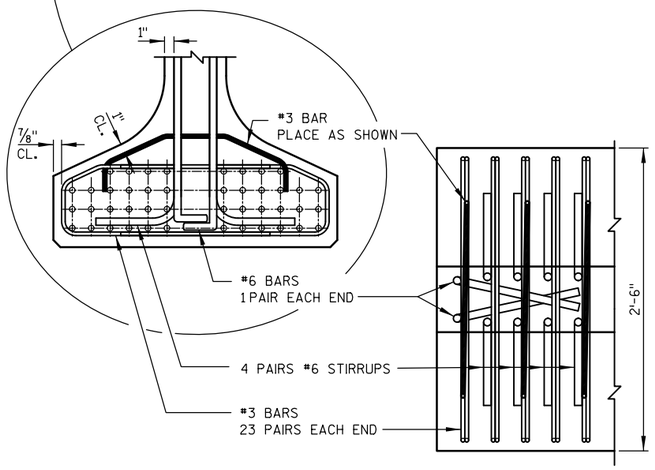
1133-09-71



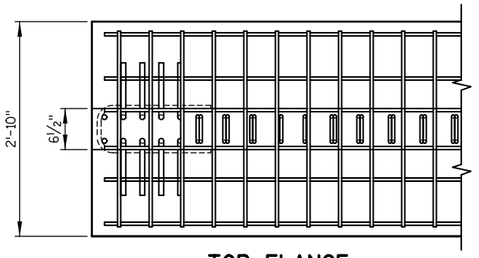
SIDE VIEW & TYP. SECTION IN SPAN

(A) DETAIL TYP. AT EACH END

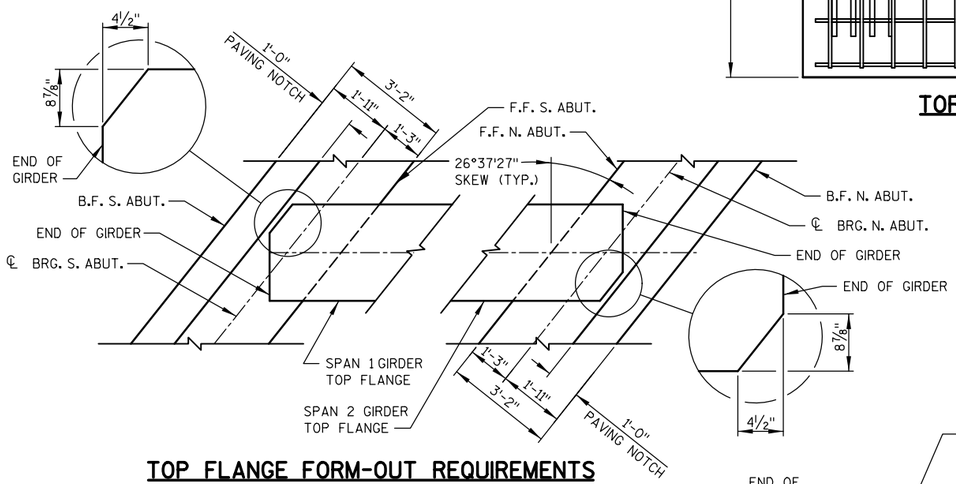
(B) 6 #5 BARS, FULL LENGTH, MIN. LAP = 2'-5"



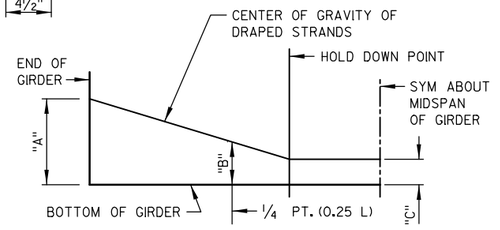
BOTTOM FLANGE



TOP FLANGE



TOP FLANGE FORM-OUT REQUIREMENTS



DRAPED STRAND PROFILE

GIRDER NOTES

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

PRESTRESSING STRANDS SHALL BE 0.6"Φ - 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

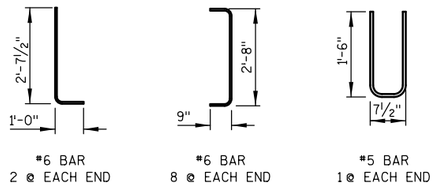
FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, THE FOLLOWING OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT CHIEF, (608) 266-5161.

FORM-OUT CORNER OF TOP FLANGE AT ABUTMENTS TO MEET CLEARANCE REQUIREMENTS. SEE DETAIL THIS SHEET.



*MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (P.S.I.)	"P" (IN.) IST 1/3 OF GIRDER	"P" (IN.) MID 1/3 OF GIRDER	"P" (IN.) END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1, 10	70'-4½"	0.23	0.44	0.59	0.69	0.72	0.69	0.59	0.44	0.23	8000	8	7	8	0.60							18	6800
1	2-9	70'-4½"	0.22	0.42	0.58	0.69	0.72	0.69	0.58	0.42	0.22	8000	8	7	8	0.60							18	6800
2	1, 10	97'-4½"	0.85	1.61	2.20	2.58	2.71	2.58	2.20	1.61	0.85	8000	8	7	8	0.60	36	6800	31	11.5	14.5	5		
2	2-9	97'-4½"	0.85	1.60	2.19	2.56	2.69	2.56	2.19	1.60	0.85	8000	8	7	8	0.60	36	6800	31	11.5	14.5	5		

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

36W" PRESTRESSED GIRDER DETAILS-1

SHEET 16 OF 26
1946

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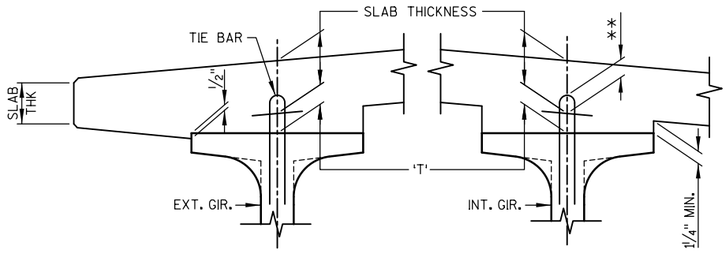


SLAB HAUNCH DETAIL

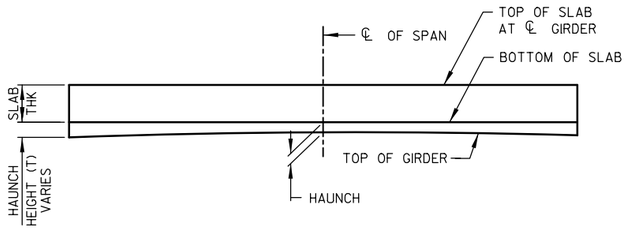
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
\- TOP OF GIRDER ELEVATION
\+ DEAD LOAD DEFLECTION
\- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES"

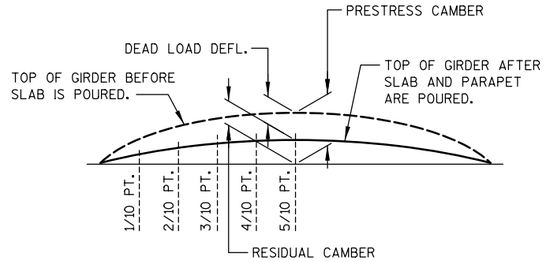


ELEVATION

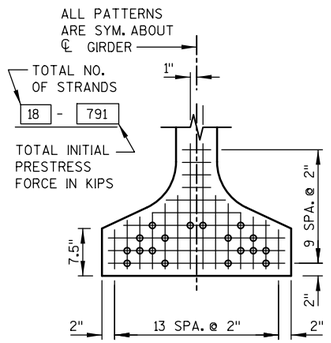
THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.)
1	1.18
2	4.19

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

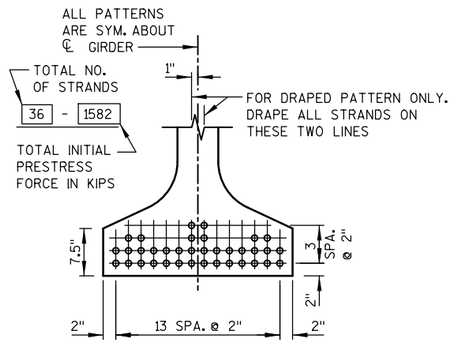


CAMBER AND DEFLECTION DIAGRAM



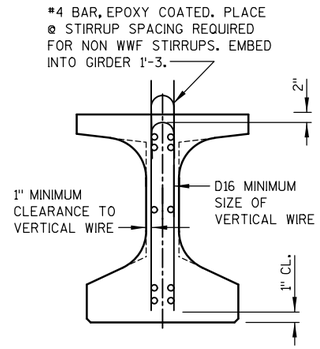
TYP. STRAND PATTERN

(SPAN 1)



TYP. STRAND PATTERN

(SPAN 2)



SECTION THRU GIRDER

SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

36W" PRESTRESSED GIRDER DETAILS-2 1947

SHEET 17 OF 26

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STATE PROJECT NUMBER

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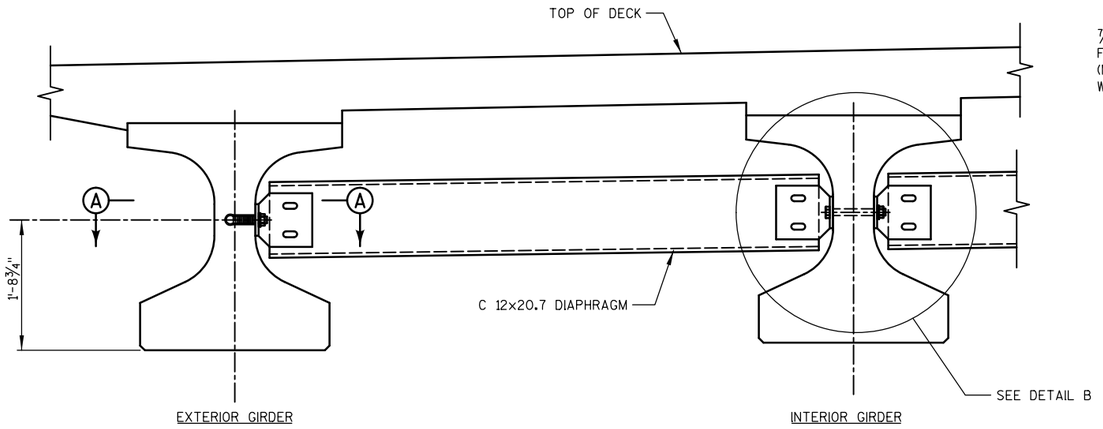
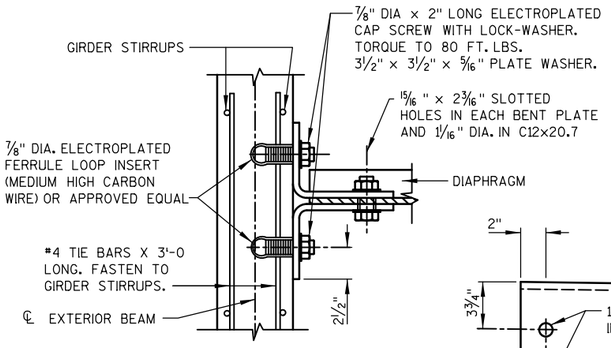
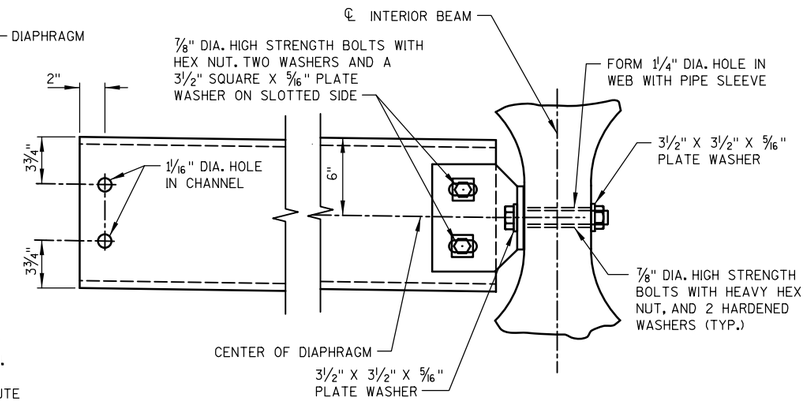


PART TRANSVERSE SECTION AT DIAPHRAGM



SECTION A-A
(FOR EXTERIOR ATTACHMENT)



(FOR STAGGERED DIAPHRAGMS)

DETAIL B

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-05-625", EACH.

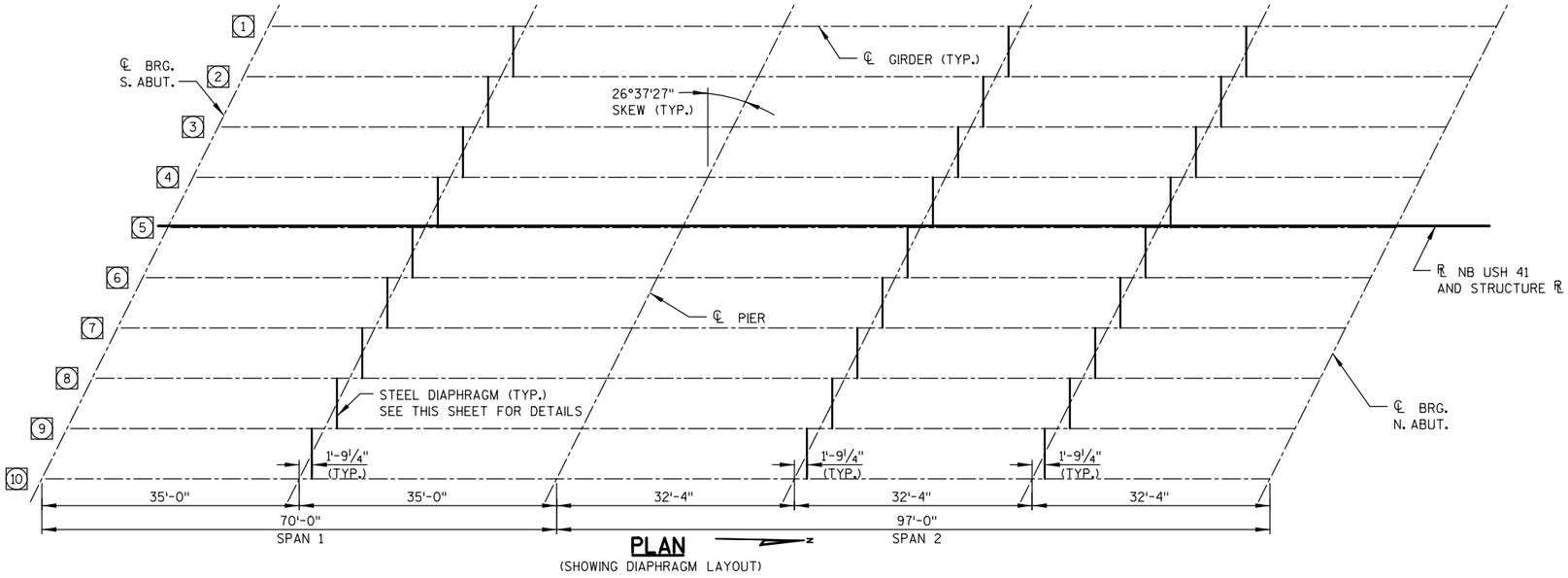
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT. ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

SEE THIS SHEET FOR DIAPHRAGM LAYOUT.

LEGEND

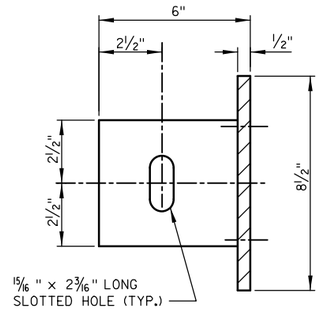
(#) INDICATES GIRDER NUMBER.



PLAN
(SHOWING DIAPHRAGM LAYOUT)

ATTACHMENT TO CHANNEL

DIAPHRAGM FACE



BEAM FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

STEEL DIAPHRAGM

SHEET 18 OF 26
1948

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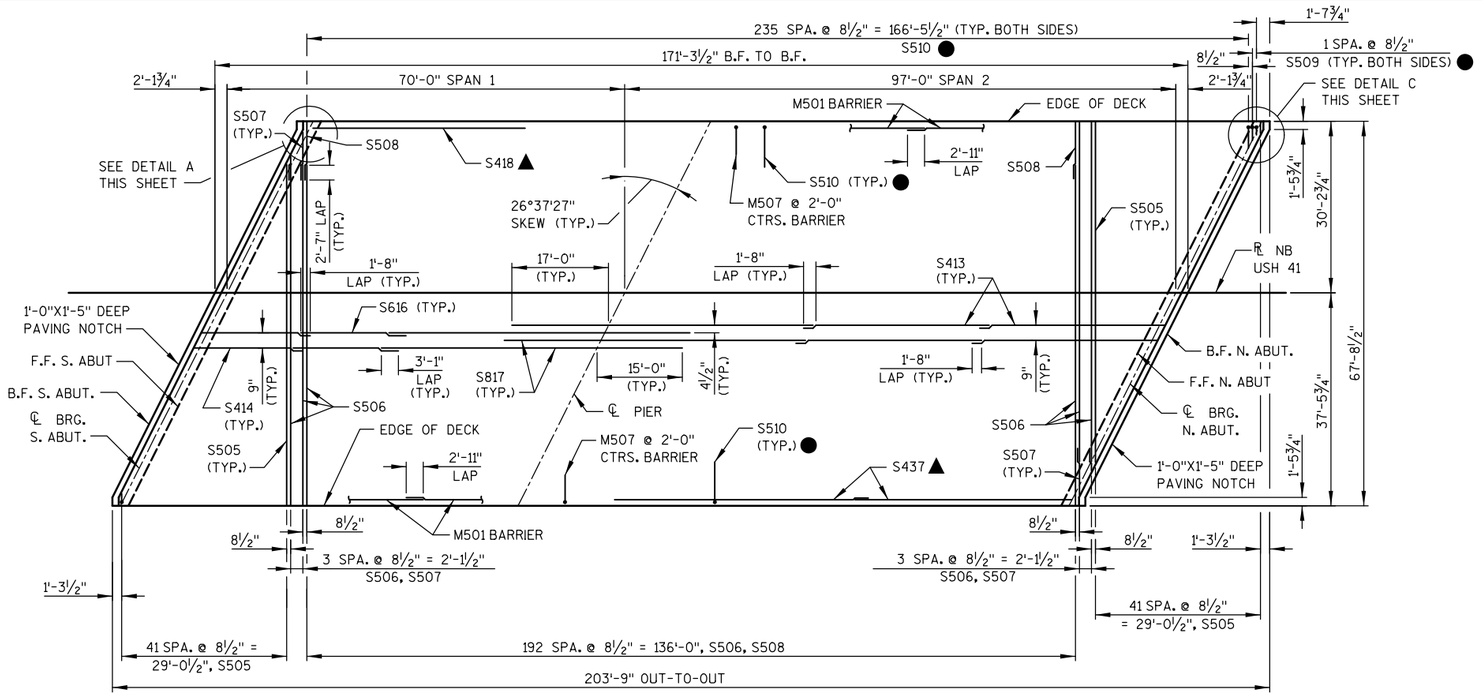
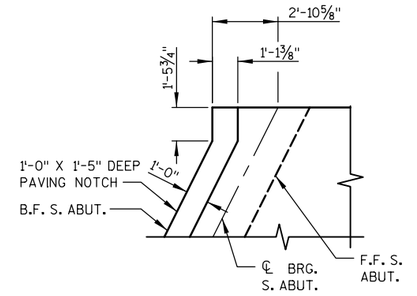
STATE PROJECT NUMBER
1133-09-71

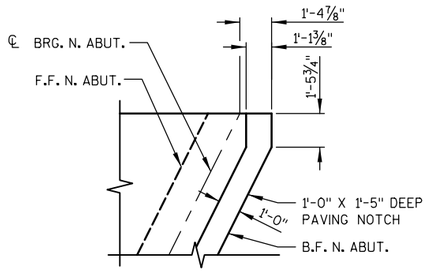


PLAN

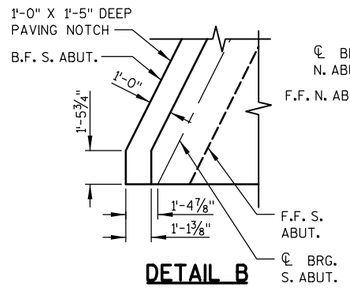
(SHOWING TOP MAT SLAB REINFORCING)



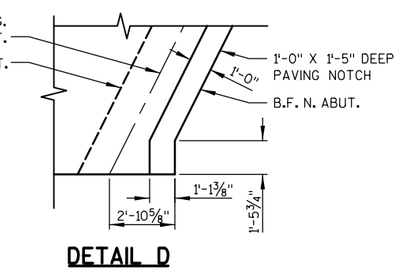
DETAIL A



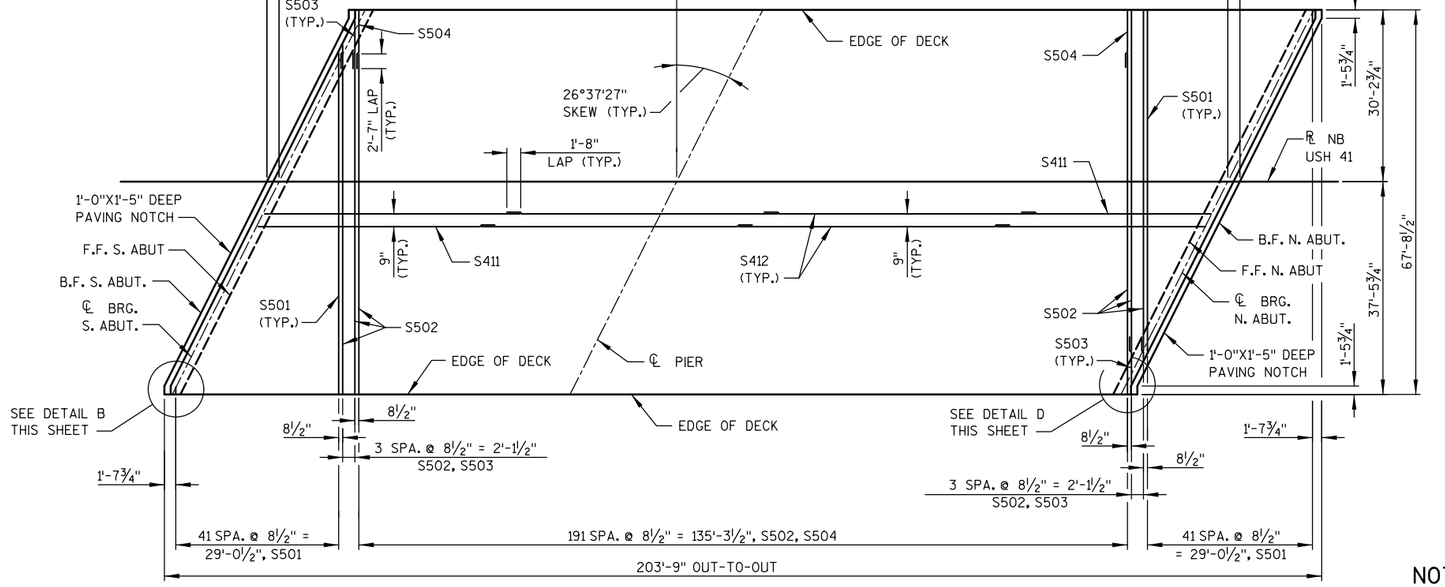
DETAIL C



DETAIL B



DETAIL D



PLAN

(SHOWING BOTTOM MAT SLAB REINFORCING)

NOTES

SEE SHEET 22 FOR BAR DETAILS AND TOP OF DECK ELEVATIONS

LEGEND

▲ LAP THESE BARS ONTO S817 BARS AT EDGES OF DECK. PROVIDE MIN. 1'-8" LAPS.

● LOCATE BARS BETWEEN TOP MAT TRANSVERSE REINFORCEMENT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE PLAN

SHEET 19 OF 26

1949

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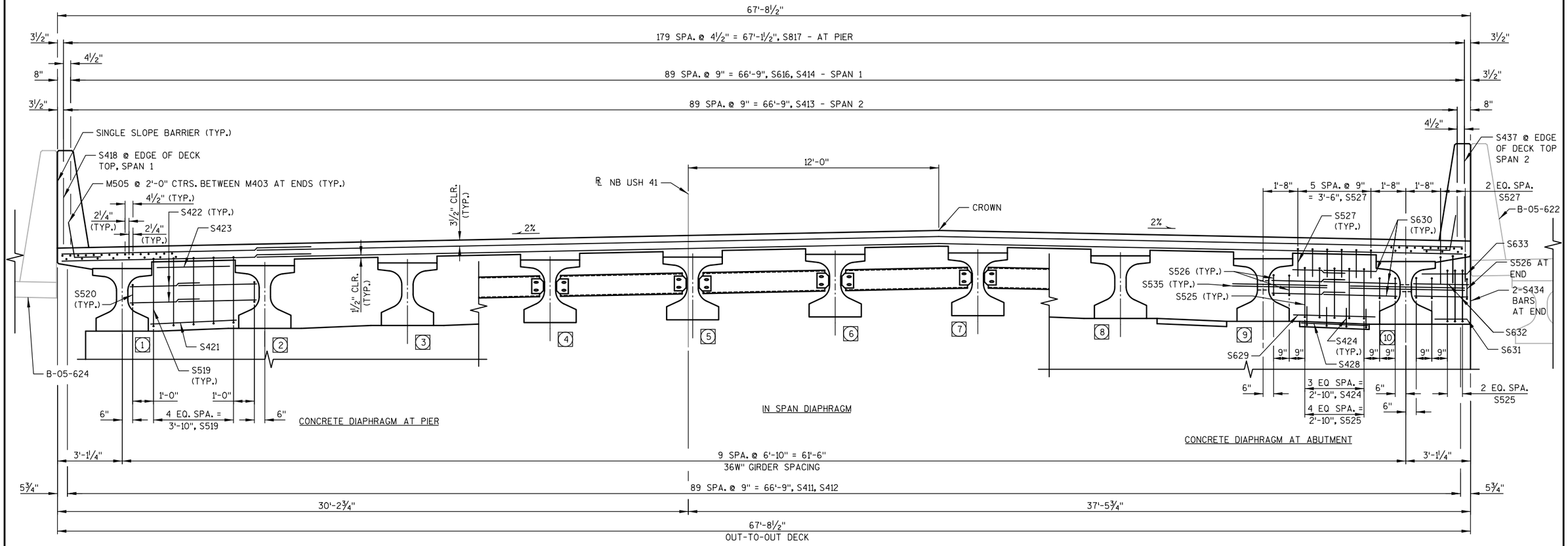
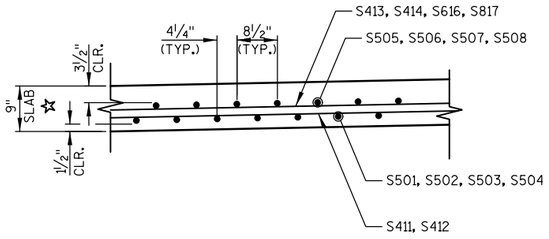
STATE PROJECT NUMBER

1133-09-71



CROSS SECTION THRU DECK

(LOOKING NORTH)



SECTION S-S

LEGEND

☆ STRUCTURE IS DESIGNED FOR A 1½" WEARING SURFACE PLACED AT INITIAL CONSTRUCTION, INTEGRAL WITH THE DECK. THE DESIGN DOES NOT PROVIDE FOR ADDITIONAL LOADS DUE TO A FUTURE WEARING SURFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE SECTION

SHEET 20 OF 26

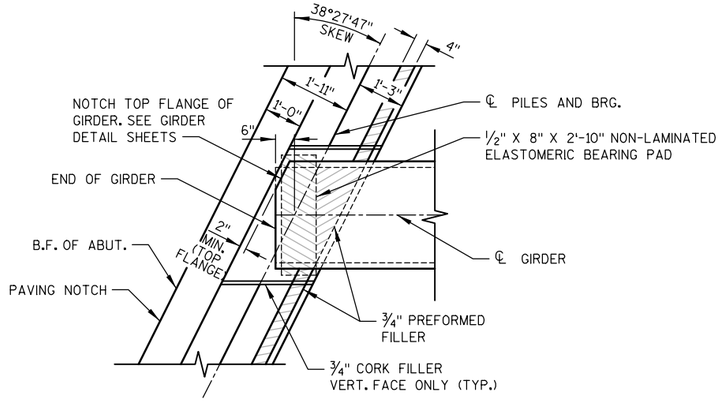
1950

8

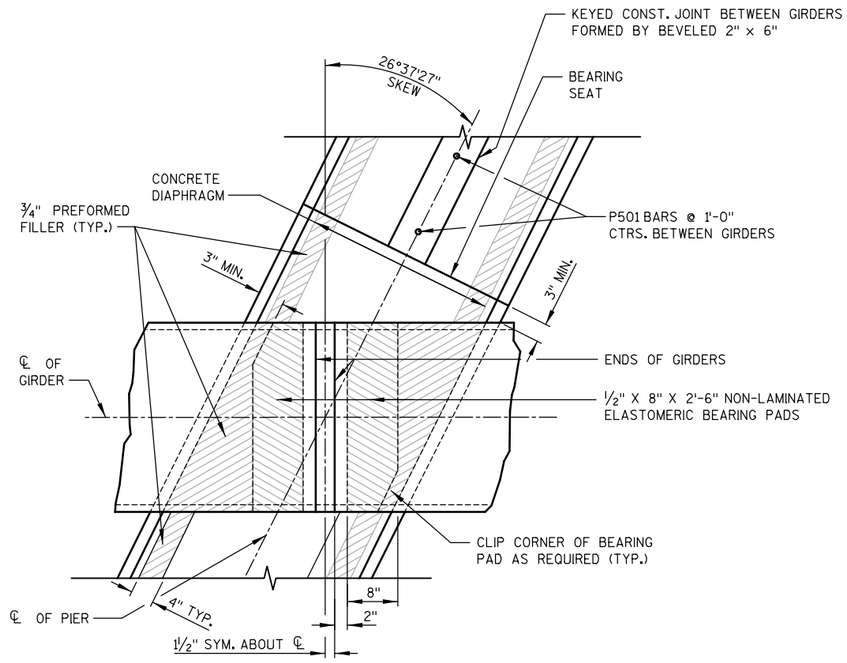
8

STATE PROJECT NUMBER

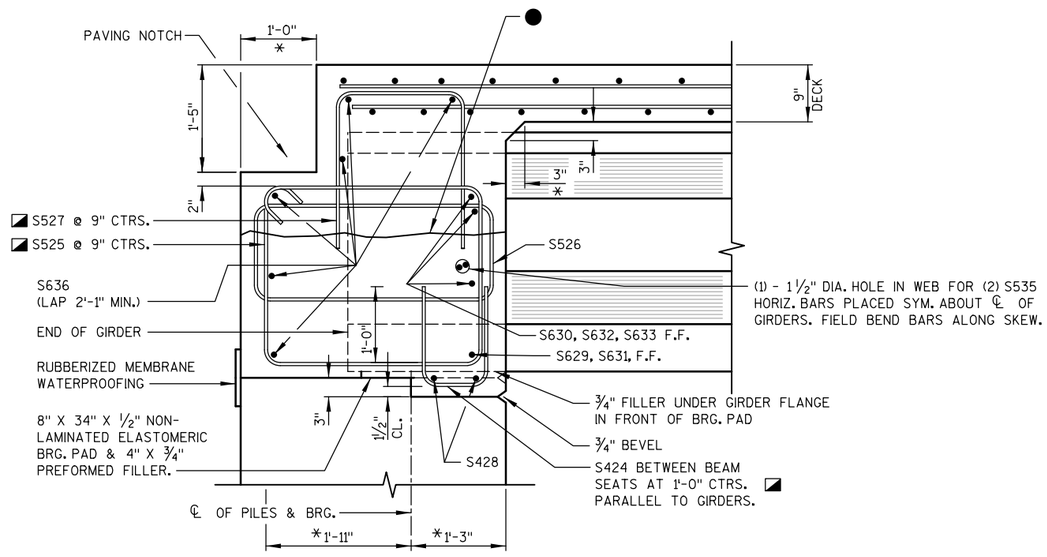
1133-09-71



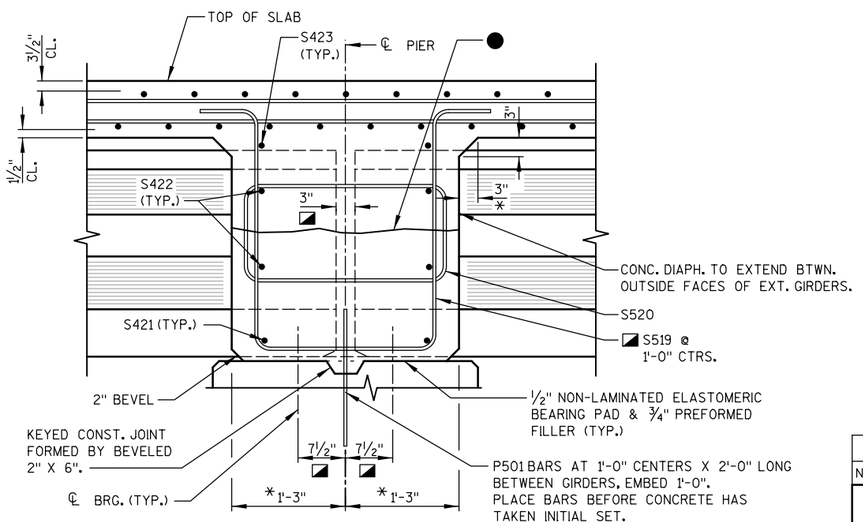
BEARING PAD AT ABUTMENT



BEARING PAD AT PIER



PRESTRESSED GIRDER WITH SEMI-EXPANSION SEAT AT ABUTMENT



DIAPHRAGM AT PIER

NOTES

SEE SHEET 22 FOR REINFORCING DETAILS.

SPACE S421, S422 AND S423 MAX. 1'-6" O.C. VERTICALLY.

LEGEND

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

◪ DIMENSION IS TAKEN PARALLEL TO GIRDER.

● OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE DETAILS-1

SHEET 21 OF 26

1951

8

8

STATE PROJECT NUMBER

1133-09-71

SUPERSTRUCTURE BILL OF BARS

COATED: 87,170 LBS.

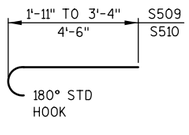
	MARK	NO.	LENGTH	BENT	COAT	LOCATION
▲	S501	84	30'-11"		X	SLAB - TRANSVERSE - BOTTOM
	S502	200	60'-0"		X	SLAB - TRANSVERSE - BOTTOM
▲	S503	8	6'-0"		X	SLAB - TRANSVERSE - BOTTOM
	S504	192	10'-0"		X	SLAB - TRANSVERSE - BOTTOM
▲	S505	84	30'-3"		X	SLAB - TRANSVERSE - TOP
	S506	201	60'-0"		X	SLAB - TRANSVERSE - TOP
▲	S507	8	5'-4"		X	SLAB - TRANSVERSE - TOP
	S508	193	10'-0"		X	SLAB - TRANSVERSE - TOP
▲	S509	4	3'-9"	X	X	SLAB - TRANSVERSE - TOP - EDGE OF DECK
	S510	472	5'-1"	X	X	SLAB - TRANSVERSE - TOP - EDGE OF DECK
	S411	90	38'-8"		X	SLAB - LONGITUDINAL - BOTTOM
	S412	270	45'-0"		X	SLAB - LONGITUDINAL - BOTTOM
	S413	180	32'-7"		X	SLAB - LONGITUDINAL - TOP - SPAN 2
	S414	90	19'-6"		X	SLAB - LONGITUDINAL - TOP - SPAN 1
						NOT USED
	S616	90	18'-1"		X	SLAB - LONGITUDINAL - TOP - SPAN 1
	S817	180	53'-0"		X	SLAB - LONGITUDINAL - TOP - OVER PIER
	S418	1	34'-8"		X	SLAB - LONGITUDINAL - TOP - WEST EDGE OF DECK - SPAN 1
	S519	45	10'-3"	X	X	PIER DIAPHRAGM - VERT.
	S520	18	7'-3"	X	X	PIER DIAPHRAGM - VERT. - ADJACENT TO GIRDERS
	S421	18	4'-6"		X	PIER DIAPHRAGM - HORIZ.
	S422	72	4'-1"		X	PIER DIAPHRAGM - HORIZ.
	S423	18	4'-1"		X	PIER DIAPHRAGM - HORIZ.
	S424	72	3'-4"	X	X	ABUT. DIAPHRAGM - VERT. - ABUT. BODY NOTCH
	S525	102	11'-5"	X	X	ABUT. DIAPHRAGM - VERT.
	S526	84	8'-9"	X	X	ABUT. DIAPHRAGM - VERT. - ADJACENT TO GIRDERS & AT ENDS
	S527	120	6'-10"	X	X	ABUT. DIAPHRAGM - VERT. - PAVING NOTCH
	S428	36	3'-8"		X	ABUT. DIAPHRAGM - HORIZ. - ABUT. BODY NOTCH
	S629	18	4'-6"		X	ABUT. DIAPHRAGM - HORIZ. - F.F.
	S630	108	4'-5"		X	ABUT. DIAPHRAGM - HORIZ. - F.F.
	S631	4	1'-8"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - ENDS
	S632	8	2'-10"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - ENDS
	S633	4	2'-6"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - ENDS
	S434	8	3'-6"		X	ABUT. DIAPHRAGM - VERT. - ENDS
	S535	40	6'-0"		X	ABUT. DIAPHRAGM - HORIZ. - THRU GIRDERS
	S636	24	38'-9"		X	ABUT. DIAPHRAGM - HORIZ. - B.F., SLAB
	S437	2	43'-1"		X	SLAB - LONGITUDINAL - TOP - EAST EDGE OF DECK - SPAN 2

NOTE: THE FIRST ONE OR TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.
DIMENSIONS FOR BENDING ARE OUT TO OUT OF BAR.

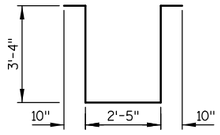
TOP OF DECK AT ℄ GIRDERS

LOCATION	WEST EDGE OF DECK		GIRDER NUMBER									
			1		2		3		4		REFERENCE LINE	5
	30'-2 3/4" LT		27'-1 1/2" LT		20'-3 1/2" LT		13'-5 1/2" LT		6'-7 1/2" LT		0	0'-2 1/2" RT
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	STATION	ELEV.
C/L BRG S ABUT	888+26.90	627.69	888+25.35	627.74	888+21.92	627.84	888+18.50	627.94	888+15.07	628.04	888+11.75	628.13	888+11.65	628.14
0.1 L POINT	888+33.90	627.76	888+32.35	627.81	888+28.92	627.91	888+25.50	628.01	888+22.07	628.11	888+18.75	628.21	888+18.65	628.21
0.2 L POINT	888+40.90	627.84	888+39.35	627.88	888+35.92	627.98	888+32.50	628.09	888+29.07	628.19	888+25.75	628.28	888+25.65	628.29
0.3 L POINT	888+47.90	627.91	888+46.35	627.95	888+42.92	628.06	888+39.50	628.16	888+36.07	628.26	888+32.75	628.36	888+32.65	628.36
0.4 L POINT	888+54.90	627.98	888+53.35	628.02	888+49.92	628.13	888+46.50	628.23	888+43.07	628.33	888+39.75	628.43	888+39.65	628.43
0.5 L POINT	888+61.90	628.05	888+60.35	628.09	888+56.92	628.20	888+53.50	628.30	888+50.07	628.40	888+46.75	628.50	888+46.65	628.50
0.6 L POINT	888+68.90	628.11	888+67.35	628.16	888+63.92	628.26	888+60.50	628.37	888+57.07	628.47	888+53.75	628.57	888+53.65	628.57
0.7 L POINT	888+75.90	628.18	888+74.35	628.23	888+70.92	628.33	888+67.50	628.44	888+64.07	628.54	888+60.75	628.64	888+60.65	628.64
0.8 L POINT	888+82.90	628.24	888+81.35	628.29	888+77.92	628.40	888+74.50	628.50	888+71.07	628.61	888+67.75	628.71	888+67.65	628.71
0.9 L POINT	888+89.90	628.31	888+88.35	628.36	888+84.92	628.46	888+81.50	628.57	888+78.07	628.67	888+74.75	628.77	888+74.65	628.78
C/L PIER 1	888+96.90	628.37	888+95.35	628.42	888+91.92	628.53	888+88.50	628.63	888+85.07	628.74	888+81.75	628.84	888+81.65	628.84
0.1 L POINT	889+06.60	628.46	889+05.05	628.50	889+01.62	628.61	888+98.20	628.72	888+94.77	628.82	888+91.45	628.93	888+91.35	628.93
0.2 L POINT	889+16.30	628.54	889+14.75	628.59	889+11.32	628.69	889+07.90	628.80	889+04.47	628.91	889+01.15	629.01	889+01.05	629.02
0.3 L POINT	889+26.00	628.62	889+24.45	628.67	889+21.02	628.78	889+17.60	628.88	889+14.17	628.99	889+10.85	629.10	889+10.75	629.10
0.4 L POINT	889+35.70	628.70	889+34.15	628.75	889+30.72	628.85	889+27.30	628.96	889+23.87	629.07	889+20.55	629.18	889+20.45	629.18
0.5 L POINT	889+45.40	628.77	889+43.85	628.82	889+40.42	628.93	889+37.00	629.04	889+33.57	629.15	889+30.25	629.26	889+30.15	629.26
0.6 L POINT	889+55.10	628.84	889+53.55	628.89	889+50.12	629.01	889+46.70	629.12	889+43.27	629.23	889+39.95	629.33	889+39.85	629.34
0.7 L POINT	889+64.80	628.91	889+63.25	628.97	889+59.82	629.08	889+56.40	629.19	889+52.97	629.30	889+49.65	629.41	889+49.55	629.41
0.8 L POINT	889+74.50	628.98	889+72.95	629.03	889+69.52	629.15	889+66.10	629.26	889+62.67	629.37	889+59.35	629.48	889+59.25	629.48
0.9 L POINT	889+84.20	629.05	889+82.65	629.10	889+79.22	629.21	889+75.80	629.33	889+72.37	629.44	889+69.05	629.55	889+68.95	629.55
C/L BRG N ABUT	889+93.90	629.11	889+92.35	629.16	889+88.92	629.28	889+85.50	629.39	889+82.07	629.51	889+78.75	629.62	889+78.65	629.62

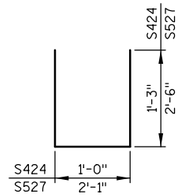
LOCATION	GIRDER NUMBER										EAST EDGE OF DECK	
	6		CROWN		7		8		9		10	
	7'-0 1/2" RT		12'-0" RT		13'-10 1/2" RT		20'-8 1/2" RT		27'-6 1/2" RT		34'-4 1/2" RT	37'-5 3/4" RT	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
C/L BRG S ABUT	888+08.22	628.23	888+05.73	628.31	888+04.79	628.26	888+01.37	628.08	887+97.94	627.91	887+94.52	627.73	887+92.96	627.65
0.1 L POINT	888+15.22	628.31	888+12.73	628.38	888+11.79	628.34	888+08.37	628.16	888+04.94	627.99	888+01.52	627.81	887+99.96	627.73
0.2 L POINT	888+22.22	628.39	888+19.73	628.46	888+18.79	628.41	888+15.37	628.24	888+11.94	628.06	888+08.52	627.89	888+06.96	627.81
0.3 L POINT	888+29.22	628.46	888+26.73	628.53	888+25.79	628.49	888+22.37	628.31	888+18.94	628.14	888+15.52	627.97	888+13.96	627.89
0.4 L POINT	888+36.22	628.53	888+33.73	628.61	888+32.79	628.56	888+29.37	628.39	888+25.94	628.21	888+22.52	628.04	888+20.96	627.96
0.5 L POINT	888+43.22	628.61	888+40.73	628.68	888+39.79	628.63	888+36.37	628.46	888+32.94	628.29	888+29.52	628.12	888+27.96	628.04
0.6 L POINT	888+50.22	628.68	888+47.73	628.75	888+46.79	628.70	888+43.37	628.53	888+39.94	628.36	888+36.52	628.19	888+34.96	628.11
0.7 L POINT	888+57.22	628.75	888+54.73	628.82	888+53.79	628.77	888+50.37	628.60	888+46.94	628.43	888+43.52	628.26	888+41.96	628.18
0.8 L POINT	888+64.22	628.81	888+61.73	628.89	888+60.79	628.84	888+57.37	628.67	888+53.94	628.50	888+50.52	628.33	888+48.96	628.25
0.9 L POINT	888+71.22	628.88	888+68.73	628.96	888+67.79	628.91	888+64.37	628.74	888+60.94	628.57	888+57.52	628.40	888+55.96	628.32
C/L PIER 1	888+78.22	628.95	888+75.73	629.02	888+74.79	628.98	888+71.37	628.81	888+67.94	628.64	888+64.52	628.47	888+62.96	628.39
0.1 L POINT	888+87.92	629.04	888+85.43	629.11	888+84.49	629.07	888+81.07	628.90	888+77.64	628.73	888+74.22	628.56	888+72.66	628.48
0.2 L POINT	888+97.62	629.12	888+95.13	629.20	888+94.19	629.15	888+90.77	628.99	888+87.34	628.82	888+83.92	628.65	888+82.36	628.57
0.3 L POINT	889+07.32	629.21	889+04.83	629.29	889+03.89	629.24	889+00.47	629.07	888+97.04	628.91	888+93.62	628.74	888+92.06	628.66
0.4 L POINT	889+17.02	629.29	889+14.53	629.37	889+13.59	629.32	889+10.17	629.16	889+06.74	628.99	889+03.32	628.82	889+01.76	628.75
0.5 L POINT	889+26.72	629.37	889+24.23	629.45	889+23.29	629.40	889+19.87	629.24	889+16.44	629.07	889+13.02	628.91	889+11.46	628.83
0.6 L POINT	889+36.42	629.45	889+33.93	629.53	889+32.99	629.48	889+29.57	629.32	889+26.14	629.15	889+22.72	628.99	889+21.16	628.91
0.7 L POINT	889+46.12	629.52	889+43.63	629.60	889+42.69	629.56	889+39.27	629.39	889+35.84	629.23	889+32.42	629.07	889+30.86	628.99
0.8 L POINT	889+55.82	629.59	889+53.33	629.68	889+52.39	629.63	889+48.97	629.47	889+45.54	629.31	889+42.12	629.14	889+40.56	629.07
0.9 L POINT	889+65.52	629.66	889+63.03	629.75	889+62.09	629.70	889+58.67	629.54	889+55.24	629.38	889+51.82	629.22	889+50.26	629.14
C/L BRG N ABUT	889+75.22	629.73	889+72.73	629.82	889+71.79	629.77	889+68.37	629.61	889+64.94	629.45	889+61.52	629.29	889+59.96	629.21



S509, S510



S519



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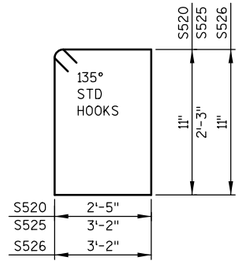

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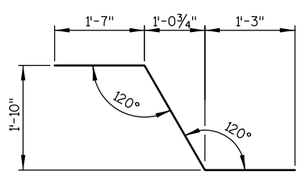

SS901

▲ BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S501	2 SERIES OF 42	1'-11" TO 59'-11"
S503	2 SERIES OF 4	3'-11" TO 8'-1"
S505	2 SERIES OF 42	1'-3" TO 59'-2"
S507	2 SERIES OF 4	3'-2" TO 7'-5"
S509	2 SERIES OF 2	2'-6" TO 5'-0"

STAINLESS STEEL BILL OF BARS

2,350 LBS.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
SS901		138	5'-0"	X		CONC. DIAPH. @ ABUTS. TO APPROACH APRON

NOTES

SEE APPROACH APRON AND APPROACH APRON DETAILS SHEETS FOR PLACEMENT OF SS901 BARS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE DETAILS-2

SHEET 22 OF 26
1952

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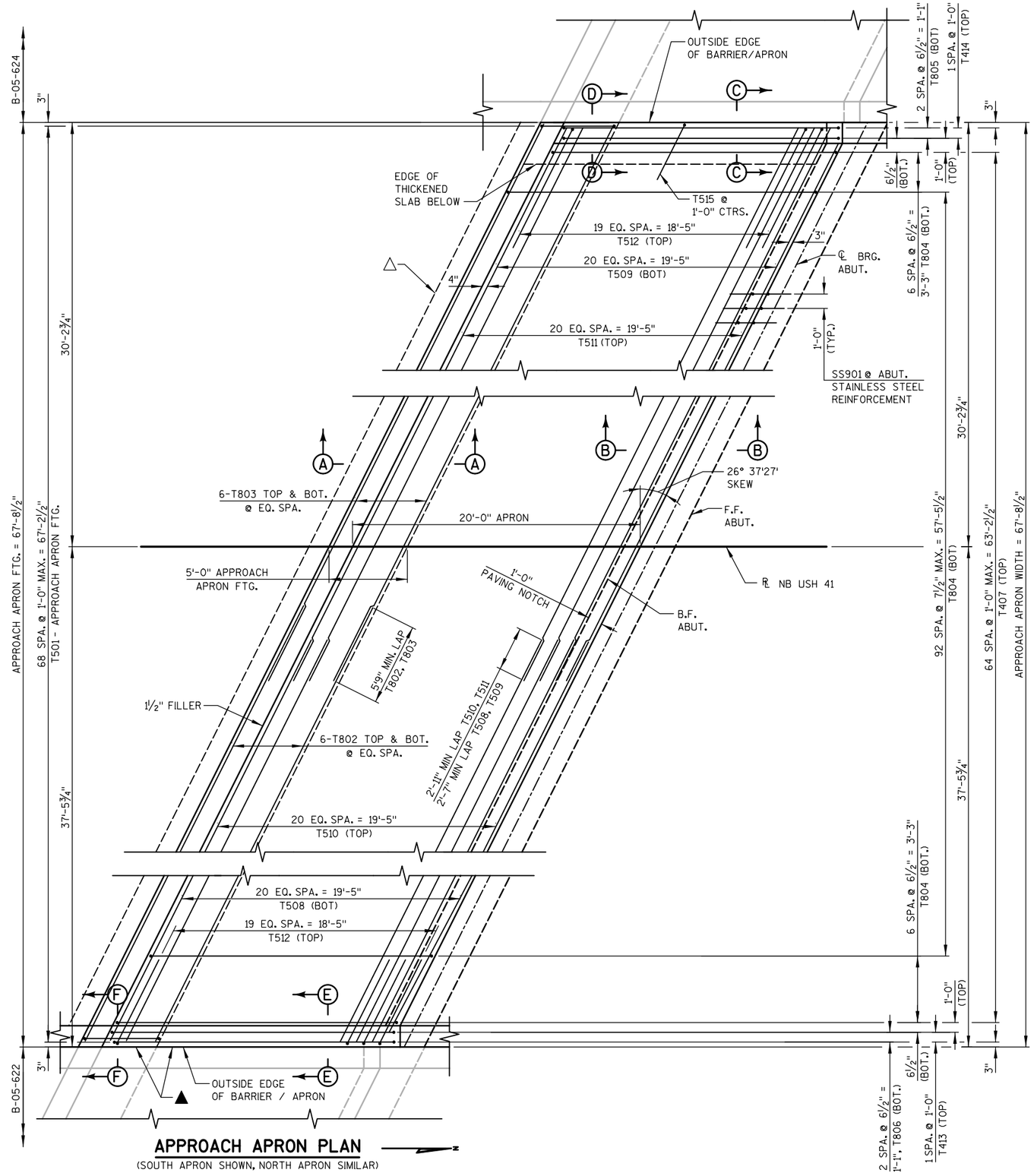
STATE PROJECT NUMBER
1133-09-71



APPROACH APRON PLAN

(SOUTH APRON SHOWN, NORTH APRON SIMILAR)

DESIGN DATA:

ALLOWABLE SOIL BEARING PRESSURE:	2,000 P.S.F.
CONCRETE STRENGTH f'c:	4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60, fy:	60,000 P.S.I.

LEGEND

△ PIPE UNDERDRAIN WRAPPED 6-INCH AT APPROACH APRON. LOCATED ONLY ON UPHILL SIDE OF APRON FOOTING. SLOPE 0.5% MIN. TO USH 41 CLOSED MEDIAN DRAINAGE SYSTEM.

▲ PLACE ½" FILLER BETWEEN EDGE OF B-05-622 APPROACH APRON FOOTING AND SLAB AND EDGE OF B-05-625 APPROACH APRON FOOTING AND SLAB.

NOTES

SEE SHEET 24 FOR DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

SHEET 23 OF 26

APPROACH APRON 1953

8

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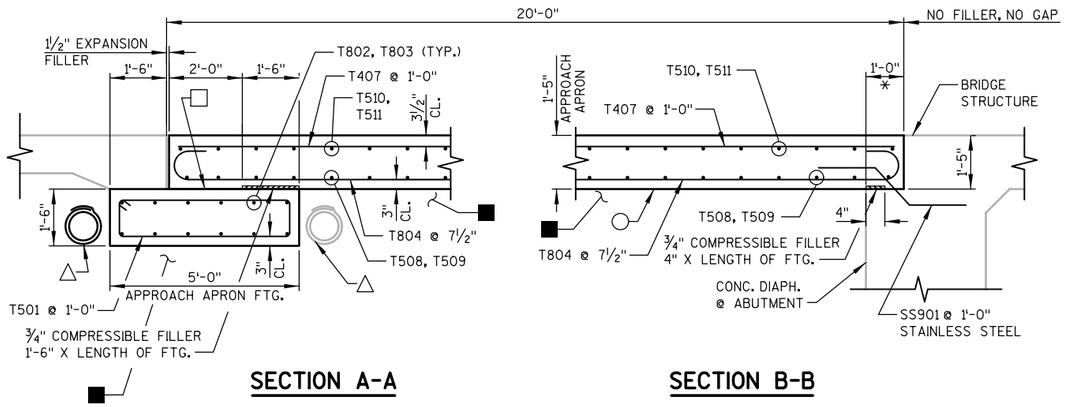
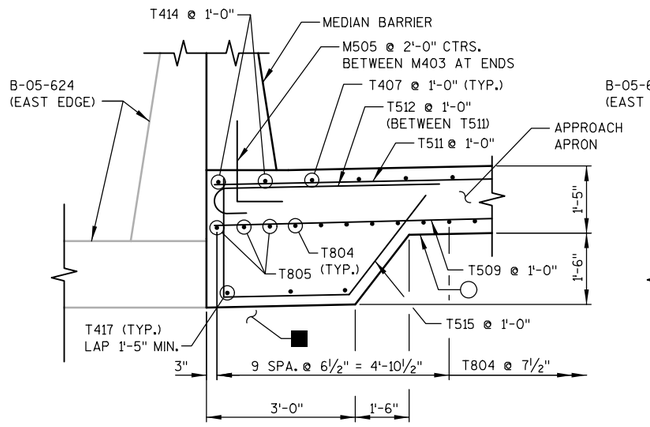


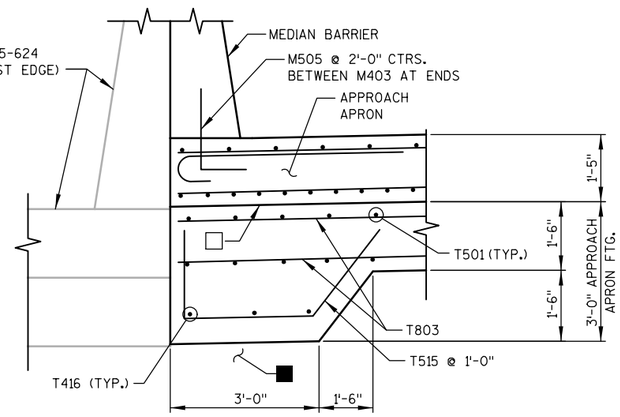
SECTION A-A

SECTION B-B

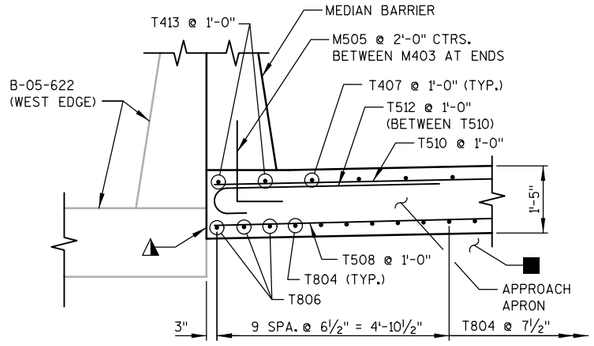
SECTION THRU APPROACH APRON



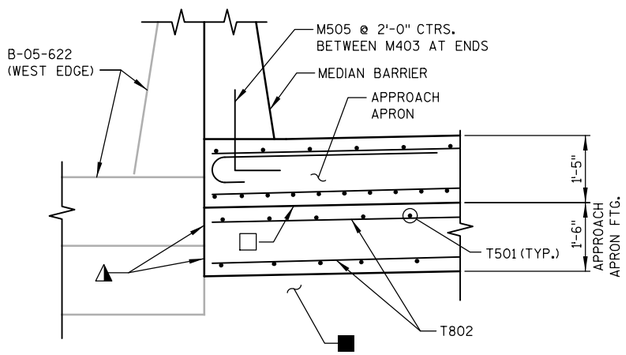
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

LEGEND

△ PIPE UNDERDRAIN WRAPPED 6-INCH AT APPROACH APRON. LOCATED ONLY ON UPHILL SIDE OF APRON FOOTING. SLOPE 0.5% MIN. TO USH 41 CLOSED MEDIAN DRAINAGE SYSTEM.

□ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.

○ PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.

* PAVING NOTCH MEASURED NORMAL TO ABUTMENT.

◭ PLACE ½" FILLER BETWEEN EDGE OF B-05-622 APPROACH APRON FOOTING AND SLAB AND EDGE OF B-05-625 APPROACH APRON FOOTING AND SLAB.

■ 1¼" COURSE AGGREGATE BASE COURSE. SEE ROADWAY PLANS.

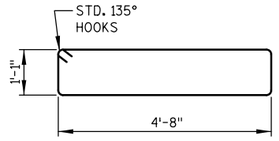
STATE PROJECT NUMBER
1133-09-71

COATED:
SOUTH APPROACH APRON = 14,600 LBS.
NORTH APPROACH APRON = 14,600 LBS.

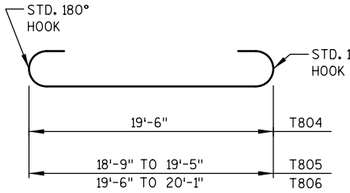
BILL OF BARS

	BAR MARK	COAT	NO. REQ'D. S. APRON	NO. REQ'D. N. APRON	LENGTH	BENT	BAR SERIES	LOCATION
	T501	X	69	69	12'-1"	X		FOOTING - STIRRUPS
	T802	X	12	12	60'-0"			FOOTING - HORIZONTAL
	T803	X	12	12	21'-1"			FOOTING - HORIZONTAL
	T804	X	105	105	21'-4"	X		APPROACH APRON - LONGIT. - BOT.
▲	T805	X	3	3	20'-11"	X	X	APPROACH APRON - LONGIT. - BOT.
▲	T806	X	3	3	21'-8"	X	X	APPROACH APRON - LONGIT. - BOT.
	T407	X	65	65	19'-6"			APPROACH APRON - LONGIT. - TOP
	T508	X	21	21	60'-0"			APPROACH APRON - TRANS. - BOT.
	T509	X	21	21	17'-11"			APPROACH APRON - TRANS. - BOT.
	T510	X	21	21	60'-0"			APPROACH APRON - TRANS. - TOP
	T511	X	21	21	18'-3"			APPROACH APRON - TRANS. - TOP
	T512	X	40	40	5'-4"	X		APPROACH APRON - TRANS. - TOP
▲	T413	X	2	2	19'-10"		X	APPROACH APRON - LONGIT. - TOP
▲	T414	X	2	2	19'-1"		X	APPROACH APRON - LONGIT. - TOP
	T515	X	24	24	8'-9"	X		FOOTING & APPROACH APRON - THICKENED W. EDGE
	T416	X	3	3	4'-8"			FOOTING - THICKENED WEST EDGE
	T417	X	6	6	8'-9"			APPROACH APRON - THICKENED WEST EDGE

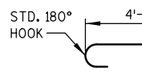
NOTE: THE FIRST ONE OR TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. DIMENSIONS FOR BENDING ARE OUT TO OUT OF BAR.



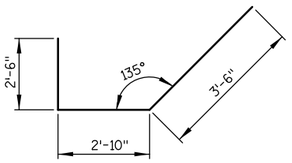
T501



T804, T805, T806



T512



T515

▲ BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
T805	2 SERIES OF 3	20'-7" TO 21'-3"
T806	2 SERIES OF 3	21'-4" TO 21'-11"
T413	2 SERIES OF 2	19'-6" TO 20'-1"
T414	2 SERIES OF 2	18'-9" TO 19'-5"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

APPROACH APRON DETAILS

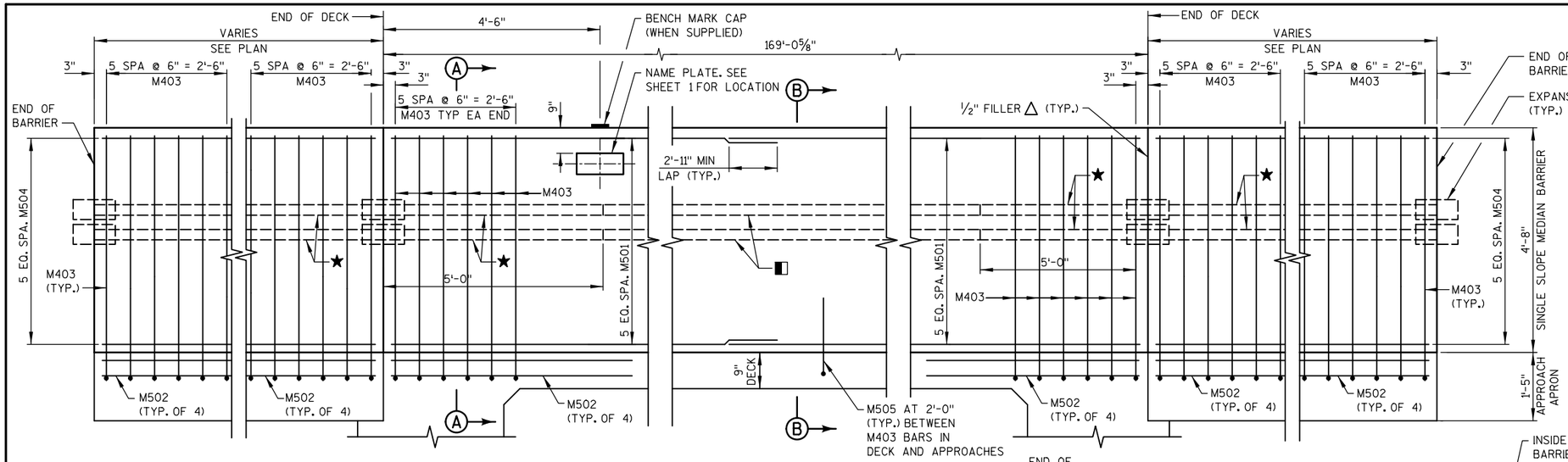
SHEET 24 OF 26
1954

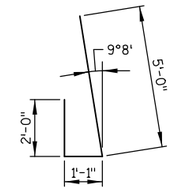
8

8

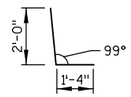
STATE PROJECT NUMBER

1133-09-71





M403



M505

NOTES

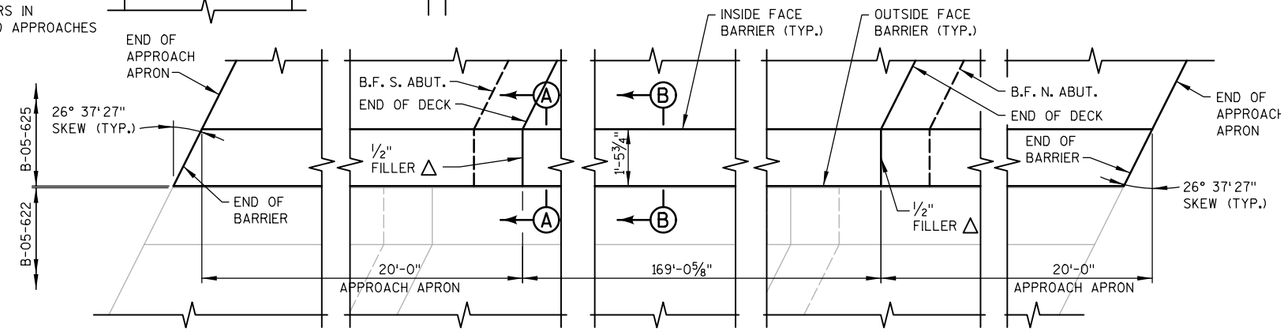
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINFORCEMENT THRU THE JOINT. LAP LONGITUDINAL BARS A MIN. OF 2'-11". MIN. JOINT SPACING OF 80'-0". DEFINE CONSTRUCTION JOINT WITH A ¾" 'V' GROOVE.

ADJACENT STRUCTURE B-05-622 WILL BE CONSTRUCTED PRIOR TO B-05-625. ALIGN TOP OF B-05-625 56" SINGLE SLOPE MEDIAN BARRIER WITH TOP OF B-05-622 BARRIER AS SHOWN.

ADJACENT STRUCTURE B-05-624 WILL BE CONSTRUCTED AFTER B-05-625.

INSIDE ELEVATION

(LOOKING WEST)



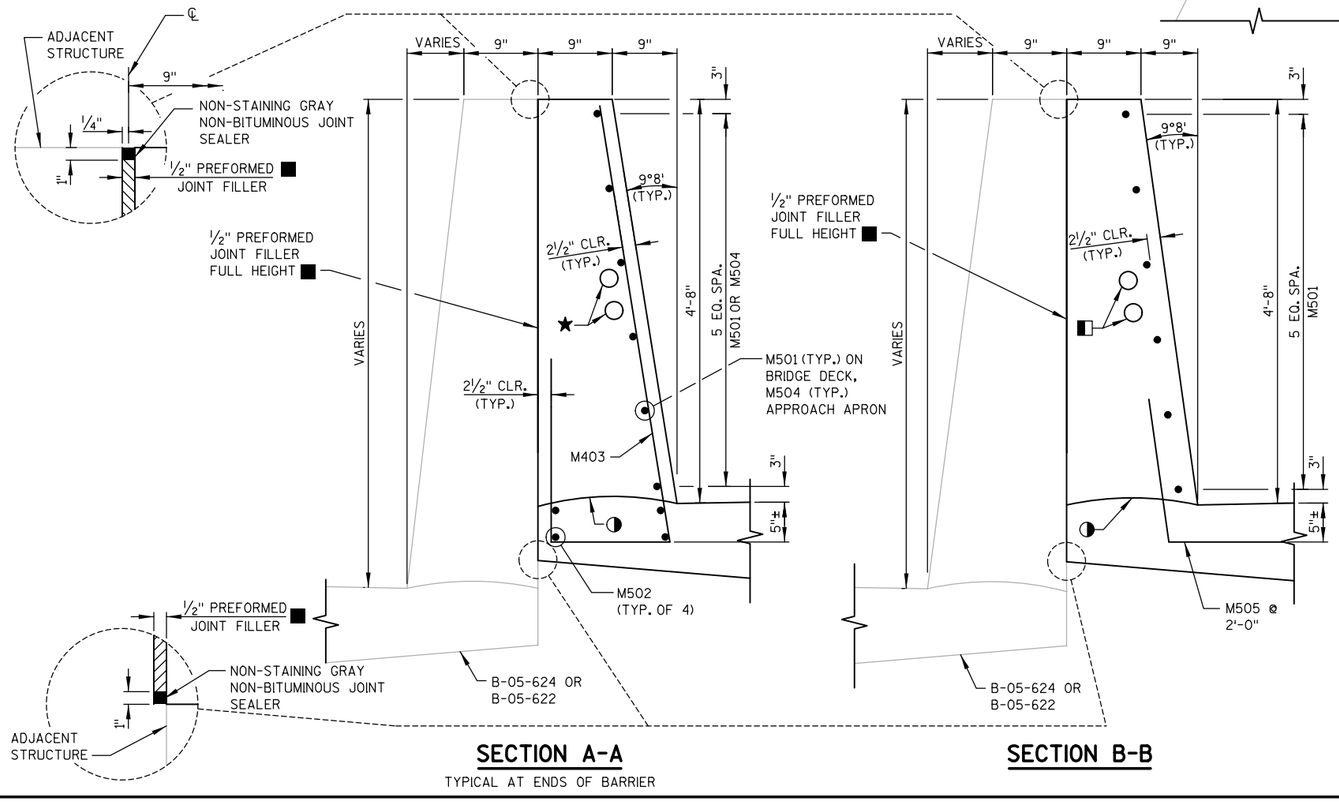
PLAN

(EAST BARRIER SHOWN, WEST SIMILAR)

COATED:
SOUTH APPROACH APRON = 510 LBS.
SUPERSTRUCTURE = 2,950 LBS.
NORTH APPROACH APRON = 510 LBS.

BILL OF BARS

BAR MARK	COAT	NO.	LENGTH	BENT	LOCATION
M501	X	36	58'-2"		MEDIAN BARRIER HORIZ. AT DECK
M502	X	48	5'-0"		MEDIAN BARRIER HORIZ. AT ENDS (IN DECK OR APPROACH APRON)
M403	X	72	7'-11"	X	MEDIAN BARRIER VERT. AT ENDS (IN DECK OR APPROACH APRON)
M504	X	24	19'-8"		MEDIAN BARRIER HORIZ. AT APPROACH APRON
M505	X	196	3'-3"	X	MEDIAN BARRIER VERT.



SECTION A-A

TYPICAL AT ENDS OF BARRIER

SECTION B-B

LEGEND

◐ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.

■ FASTEN ½" PREFORMED JOINT FILLER TO OUTSIDE OF B-05-622 WITH 1½" LONG GALVANIZED CONCRETE NAILS SPACED 2'-0" O.C. MAX. HORIZONTAL/VERTICAL.

◧ "CONDUIT RIGID NON-METALLIC SCHEDULE 40 3-INCH." PLACE IN WEST BARRIER ON BRIDGE BETWEEN METALLIC CONDUIT.

★ "CONDUIT RIGID METALLIC 3-INCH." PLACE IN WEST BARRIER ON EACH APPROACH APRON AND FOR 5'-0" AT BOTH ENDS OF WEST BARRIER ON BRIDGE.

△ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN ⅛" BELOW SURFACE OF CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

DRAWN BY AJW | PLANS CK'D. DJW

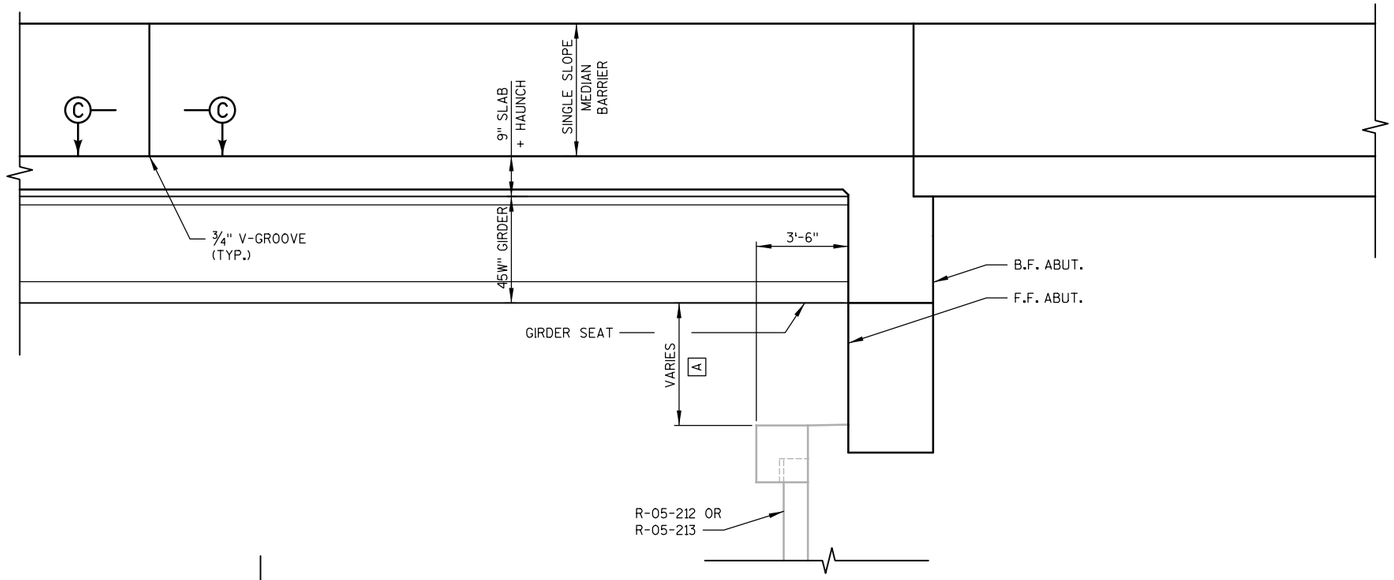
SINGLE SLOPE MEDIAN BARRIER

SHEET 25 OF 26
1955

8

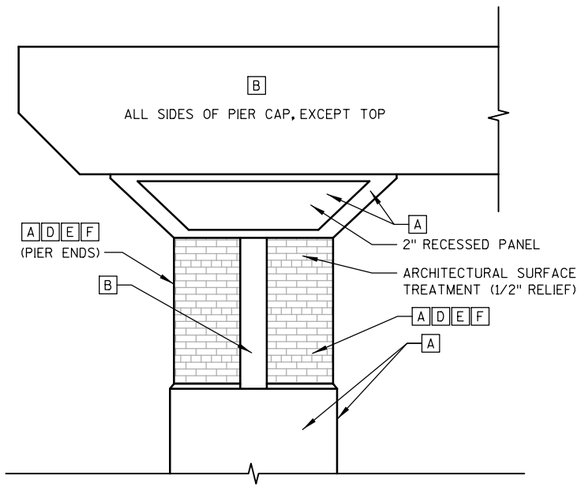
8

STATE PROJECT NUMBER
1133-09-71

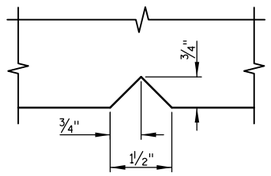


LONGITUDINAL SECTION THRU ABUTMENT

(NORTH ABUTMENT SHOWN, SOUTH ABUTMENT SIMILAR)



PIER ELEVATION



SECTION C-C

¾" "V" GROOVE

NOTES

STAIN TO 1'-0" BELOW FINISHED GRADE.

STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

THE COST OF BRICK PATTERN FORMLINER TREATMENT IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT." SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

STAIN FRONT FACE OF ABUTMENTS AND END DIAPHRAGMS FROM 1-FOOT BELOW GRADE TO UNDERSIDE OF DECK, INCLUDING END DIAPHRAGM FACE BETWEEN GIRDERS.

SEE SPECIAL PROVISIONS FOR STAIN COLORS.

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE AND BOTTOM OF EXTERIOR CONC. GIRDER, PIER CAP
C	ACCENT COLOR #2	NOT USED
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	NOT USED

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-625

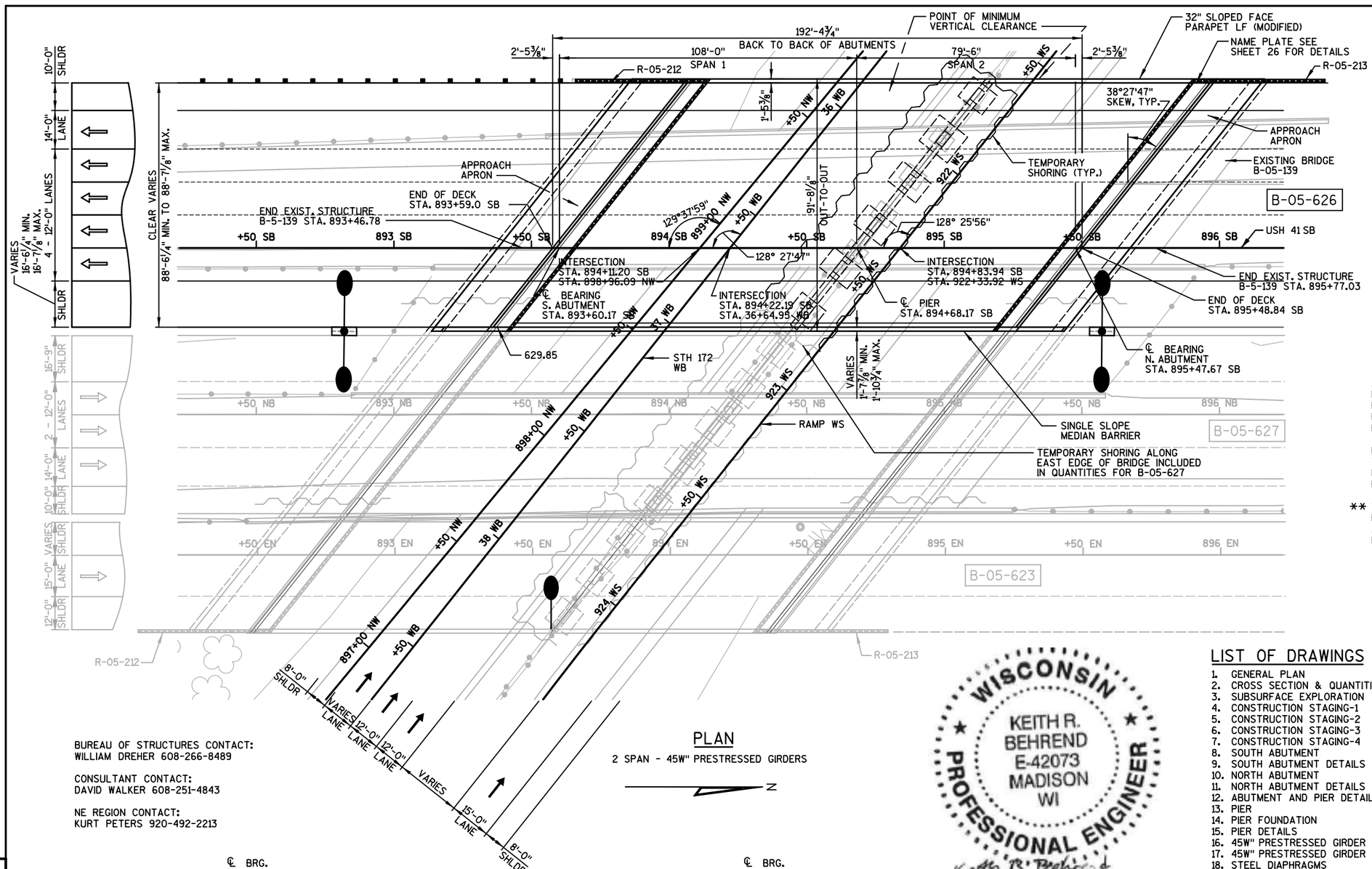
DRAWN BY AJW | PLANS CK'D. DJW

AESTHETIC DETAILS

SHEET 26 OF 26
1956

STATE PROJECT NUMBER

1133-09-71



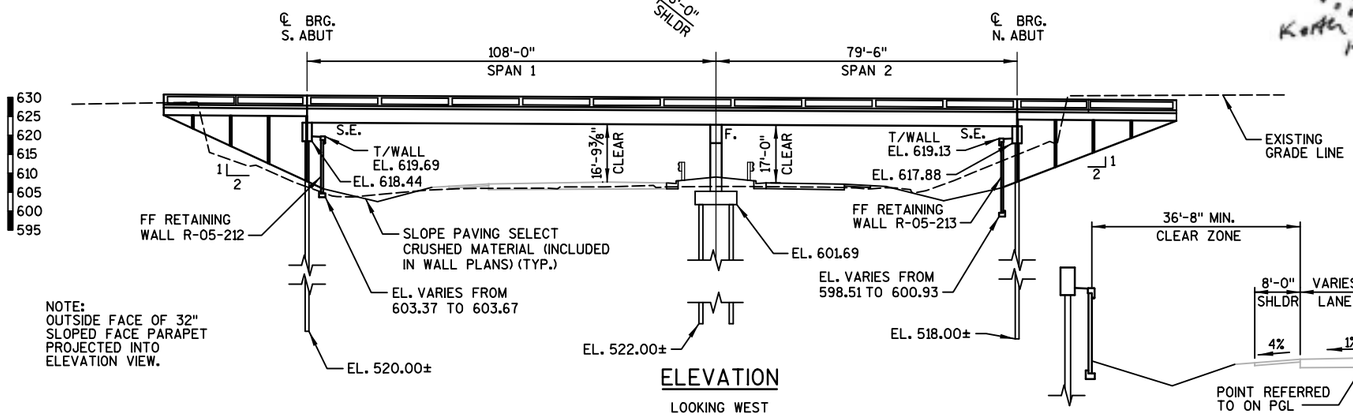
PLAN

2 SPAN - 45W" PRESTRESSED GIRDERS

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER 608-266-8489

CONSULTANT CONTACT:
DAVID WALKER 608-251-4843

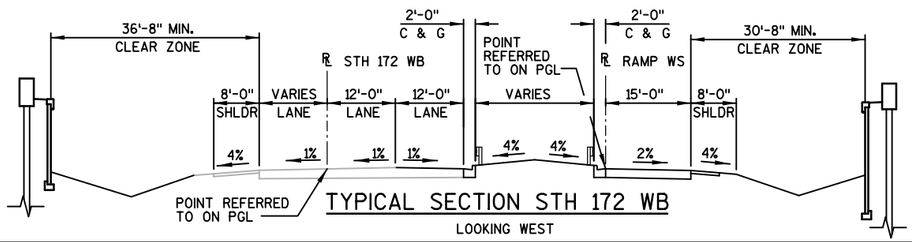
NE REGION CONTACT:
KURT PETERS 920-492-2213



NOTE:
OUTSIDE FACE OF 32" SLOPED FACE PARAPET PROJECTED INTO ELEVATION VIEW.

ELEVATION

LOOKING WEST



TYPICAL SECTION STH 172 WB

LOOKING WEST

DESIGN DATA

LIVE LOAD:
DESIGN LOAD HL-93
INVENTORY RATING FACTOR 1.22
OPERATING RATING FACTOR 1.58
MAX. STD. PERMIT VEHICLE LOAD ... 250 KIPS

THE STRUCTURE IS DESIGNED FOR A 1½" SACRIFICIAL WEARING SURFACE PLACED AT INITIAL CONSTRUCTION INTEGRAL WITH THE DECK. THE DESIGN DOES NOT PROVIDE FOR ADDITIONAL LOADS DUE TO FUTURE WEARING SURFACE.

ULTIMATE DESIGN STRESSES:
CONCRETE MASONRY (HPC) .....f'c = 4000 PSI

HIGH STRENGTH BAR STEEL
REINFORCEMENT GRADE 60 .....fy = 60,000 PSI

45W-INCH PRESTRESSED GIRDERS
CONCRETE MASONRY .....f'c = 8000 PSI

PRESTRESSING STRANDS = 0.6 INCH DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 PSI

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON STEEL PILING, HP 12-INCH X 53 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 105'LONG AT SOUTH ABUTMENT.
ESTIMATED 105'LONG AT NORTH ABUTMENT.

PIER TO BE SUPPORTED ON STEEL PILING, HP 12-INCH X 53 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 85'LONG AT PIER.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC DATA USH 41 NB

ADT = 27,300 (2015)
= 34,800 (2035)
DESIGN SPEED = 70 MPH

TRAFFIC DATA USH 41 SB

ADT = 37,900 (2015)
= 47,300 (2035)
DESIGN SPEED = 70 MPH

TRAFFIC DATA STH 172 WB

ADT = 27,100 (2015)
= 38,300 (2035)
DESIGN SPEED = 60 MPH

TRAFFIC DATA RAMP 'WS'

ADT = 11,000 (2015)
= 12,300 (2035)
DESIGN SPEED = 55 MPH

WISCONSIN PROFESSIONAL ENGINEER
KEITH R. BEHREND
E-42073
MADISON
WI
Keith R. Behrend
1-30-13

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. CONSTRUCTION STAGING-1
5. CONSTRUCTION STAGING-2
6. CONSTRUCTION STAGING-3
7. CONSTRUCTION STAGING-4
8. SOUTH ABUTMENT
9. SOUTH ABUTMENT DETAILS
10. NORTH ABUTMENT
11. NORTH ABUTMENT DETAILS
12. ABUTMENT AND PIER DETAILS
13. PIER
14. PIER FOUNDATION
15. PIER DETAILS
16. 45W" PRESTRESSED GIRDER DETAILS-1
17. 45W" PRESTRESSED GIRDER DETAILS-2
18. STEEL DIAPHRAGMS
19. SUPERSTRUCTURE PLAN
20. SUPERSTRUCTURE SECTION
21. SUPERSTRUCTURE DETAILS-1
22. SUPERSTRUCTURE DETAILS-2
23. SUPERSTRUCTURE DETAILS-3
24. APPROACH APRON
25. APPROACH APRON DETAILS
26. 32" SLOPED FACE PARAPET LF (MODIFIED)
27. SINGLE SLOPE MEDIAN BARRIER
28. AESTHETIC DETAILS

NO.	DATE	REVISION	BY

STRAND ASSOCIATES®
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608)-251-4843
(608) 251-8655 FAX
WWW.STRAND.COM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 02/13/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-05-626

SB USH 41 OVER STH 172 WB

COUNTY	TOWN/CITY/VILLAGE
BROWN	ASHWAUBENON

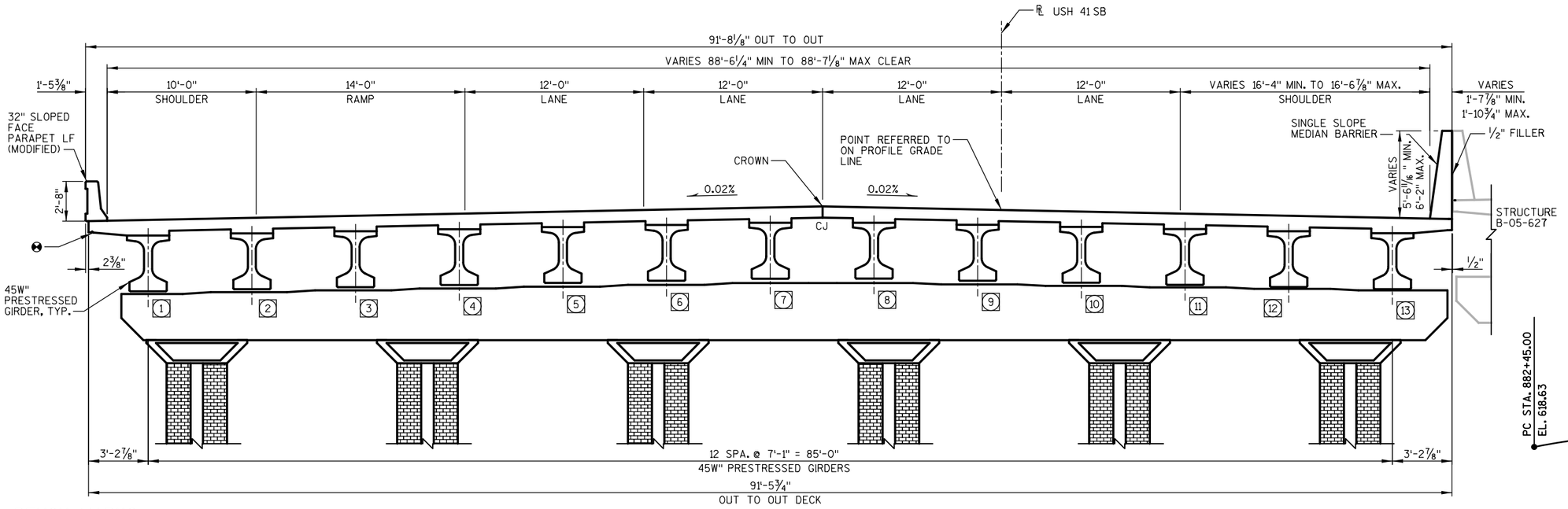
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	KRB	DESIGN CK'D.	DDR	DRAWN BY	AJW	PLANS CK'D.	DJW

GENERAL PLAN

SHEET 1 OF 28
1957

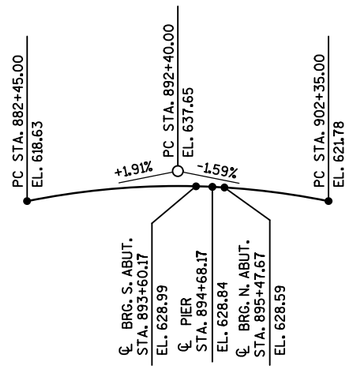
STATE PROJECT NUMBER
1133-09-71



LEGEND

(#) INDICATES GIRDER NUMBER.

¾" V-GROOVE. EXTEND V-GROOVE TO THE FILLET ADJACENT TO THE ABUTMENTS. LOCATE 5" FROM EDGE OF DECK.



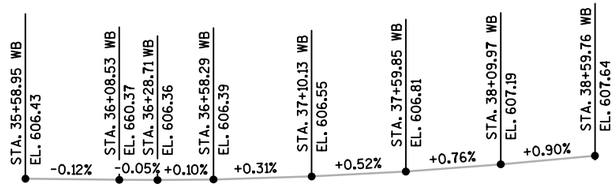
PROFILE GRADE LINE USH 41 SB

BENCH MARKS

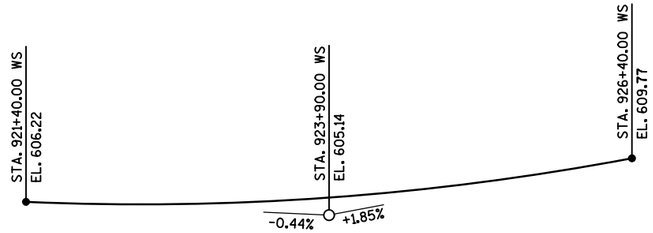
NO.	STATION	DESCRIPTION	ELEVATION
525	N/A	CHISELED "X" ON FIRE HYDRANT BURY BOLT ON A DEAD END CUL-DE-SAC OF SPRINGHURST DR. 55' FROM A MANHOLE COVER TO FIRE HYDRANT AT THE EAST END OF THE ROUND-A-BOUT.	648.93
526	N/A	CHISELED "X" ON FIRE HYDRANT BURY BOLT IN THE NORTHEAST QUADRANT OF TIMBER LN. & COMMANCHE AVE. BY A PARKING LOT ENTRANCE TO THE PARK. 35' NORTH OF THE ℄ OF TIMBER LN. & 25' WEST OF THE ℄ OF THE WEST ENTRANCE TO THE PARK.	629.88
528	N/A	CHISELED "X" ON FIRE HYDRANT BURY BOLT IN THE NORTHWEST QUADRANT OF GERHARDT LN. & NORTH RD. 65' WEST OF THE ℄ OF NORTH RD. AND 35' NORTH OF THE ℄ OF GERHARDT LN.	626.81

TYPICAL SECTION

(LOOKING NORTH)



EXISTING PROFILE GRADE LINE STH 172 WB



PROFILE GRADE LINE STH 172 RAMP WS

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SOUTH ABUT.	NORTH ABUT.	PIER 1	SUPER.	SOUTH APPROACH APRON	NORTH APPROACH APRON	TOTALS
203.0200.712	REMOVING OLD STRUCTURE STA. 894+75.47 'NB'	LS	--	--	--	--	--	--	1
203.0225.S.712	DEBRIS CONTAINMENT STRUCTURE B-05-139	LS	--	--	--	--	--	--	1
206.1000.712	EXCAVATION FOR STRUCTURES, BRIDGES B-05-626	LS	--	--	--	--	--	--	1
206.6000.S	TEMPORARY SHORING	SF	--	--	1700	--	--	--	1700
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	--	--	2087	219	219	2525
502.6110	MASONRY ANCHORS TYPE S 3/4-INCH	EACH	6	6	--	--	--	--	12
503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH	LF	--	--	--	2447	--	--	2447
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	6910	7000	4740	--	--	--	18650
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	--	--	36170	135930	20220	20210	212530
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	13	13	26	--	--	--	52
506.4000.712	STEEL DIAPHRAGMS B-05-626	EACH	--	--	--	36	--	--	36
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	22	22	--	--	--	--	44
550.0500	PILE POINTS	EACH	15	15	37	--	--	--	67
550.1120	PILING STEEL HP 12-INCH X 53 LB.	LF	1575	1575	3145	--	--	--	6295
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	116	116	--	--	116	116	464
SPV.0035.700	HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES	CY	76	77	196	759	129	129	1366
SPV.0085.700	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	--	--	--	3130	--	--	3130
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	--	--	664	--	--	--	664
SPV.0165.501	STAINING CONCRETE	SF	637	640	1980	3194	96	96	6643
SPV.0165.502	STAINING CONCRETE BRICK	SF	--	--	664	--	--	--	664
SPV.0165.700	LONGITUDINAL GROOVING BRIDGE DECK	SF	--	--	--	16812	1771	1771	20354
	NON-BID ITEMS								
	FILLER	SIZE	--	--	--	--	--	--	½" & ¾"
	CORK	SIZE	--	--	--	--	--	--	¾"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES.
ALL STATIONS AND ELEVATIONS ARE IN FEET.

ALL DETAILS, MATERIALS AND FABRICATION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE SPECIFICATIONS OF THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153, TYPE I, II, OR III, OR M213.

AT THE BACKFACE OF ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

NON-LAMINATED ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE EXISTING STRUCTURE, B-05-139, IS A TWO SPAN STEEL DECK GIRDER STRUCTURE WITH AN OVERALL WIDTH OF 49.8 FEET TO 54.5 FEET AND AN OVERALL LENGTH OF 234.8 FEET. THE BRIDGE SHALL BE REMOVED MIN. 2'-0" BELOW GRADE.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING CONCRETE TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

9" MINIMUM DECK THICKNESS INCLUDES 3½" COVER TO TOP LAYER OF STEEL REINFORCEMENT.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEETS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

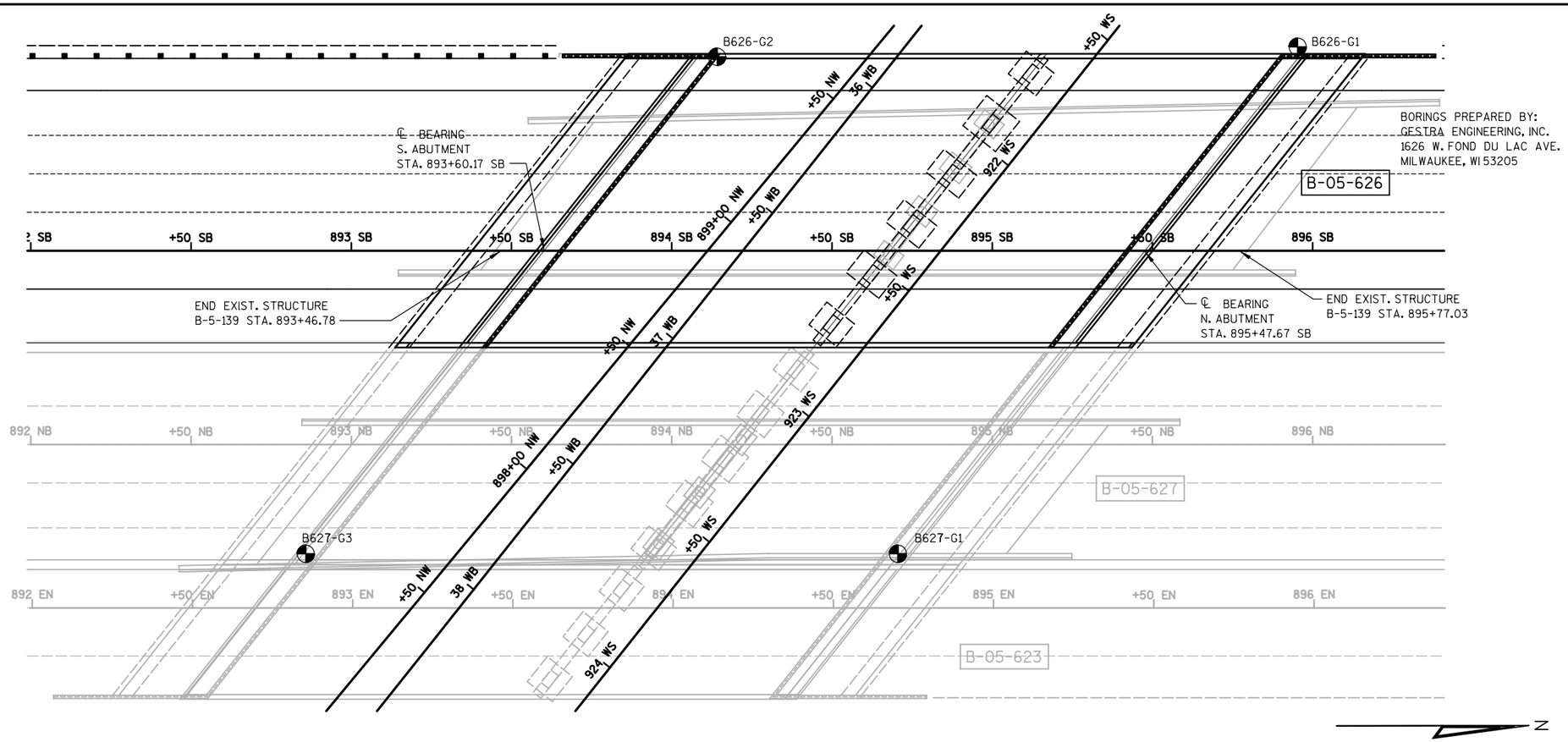
DRAWN BY AJW | PLANS CK'D. DJW

CROSS SECTIONS & QUANTITIES

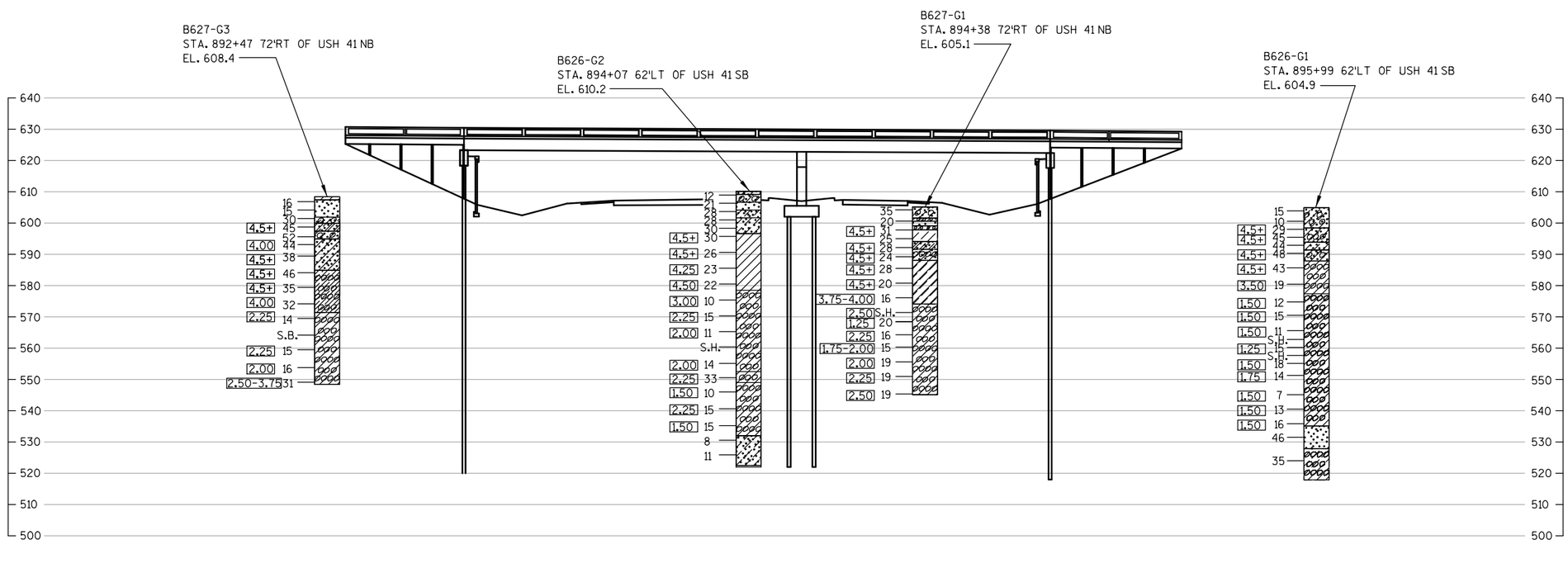
SHEET 2 OF 28
1958

8

8



BORINGS PREPARED BY:
GESTRA ENGINEERING, INC.
1626 W. FOND DU LAC AVE.
MILWAUKEE, WI 53205



STATE PROJECT NUMBER

1133-09-71

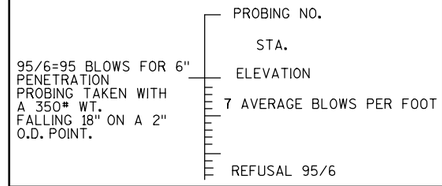
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

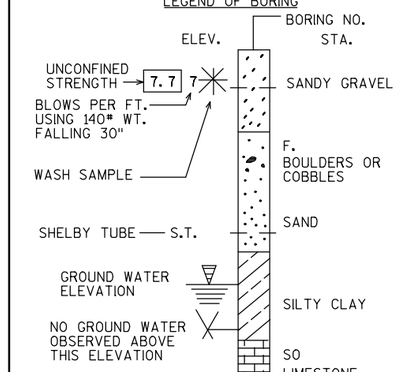
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

SUBSURFACE EXPLORATION

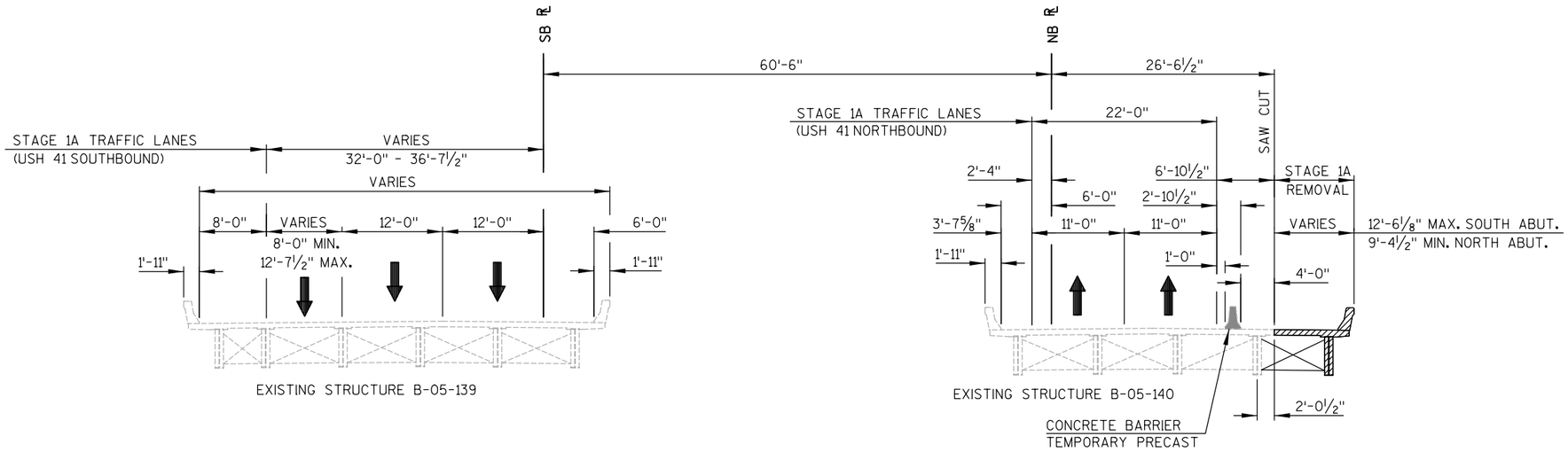
SHEET 3 OF 28
1959

FILE=
SCALE =

8

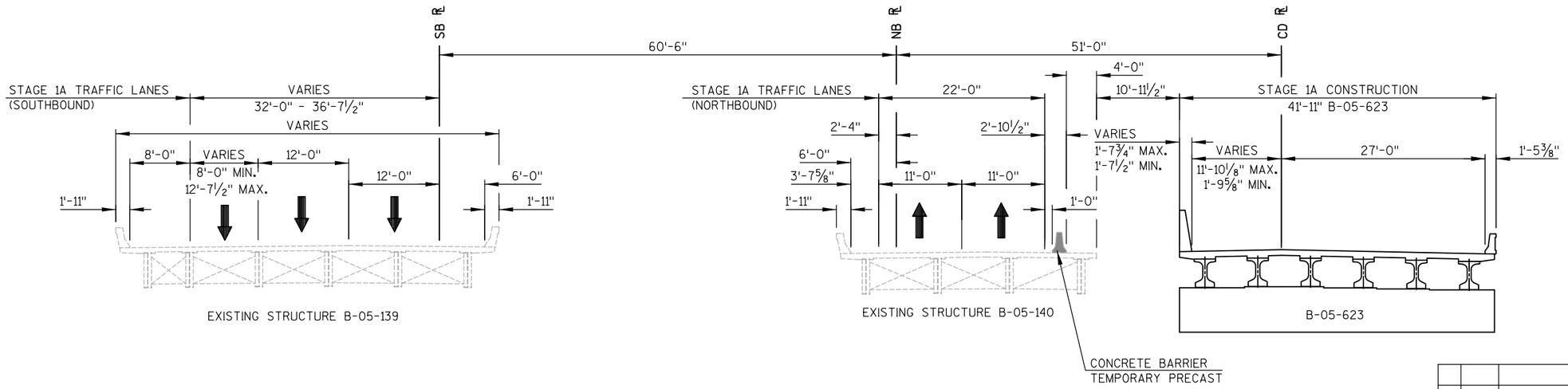
8

STATE PROJECT NUMBER
1133-09-71



STAGE 1A - PHASE ML-2 AND ML-3 - TRAFFIC AND REMOVAL

(LOOKING NORTH)



STAGE 1A - PHASE ML-2 AND ML-3 - TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

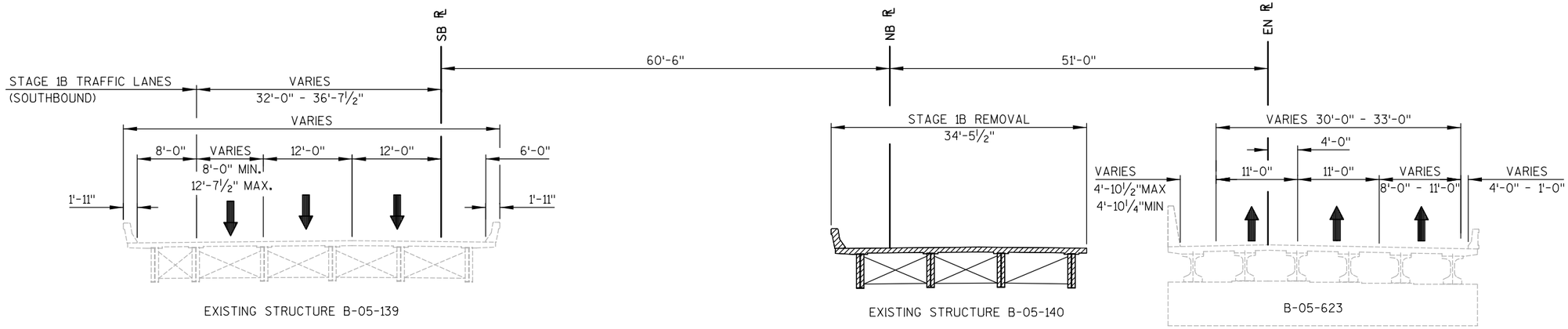
CONSTRUCTION STAGING - 1

SHEET 4 OF 28
1960

8

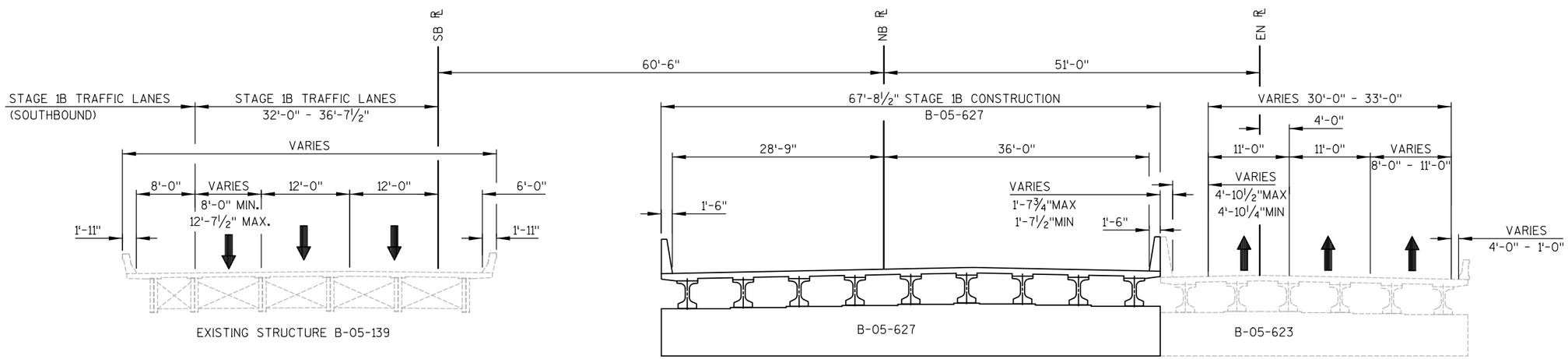
8

STATE PROJECT NUMBER
1133-09-71



STAGE 1B - TRAFFIC AND REMOVAL

(LOOKING NORTH)



STAGE 1B - TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

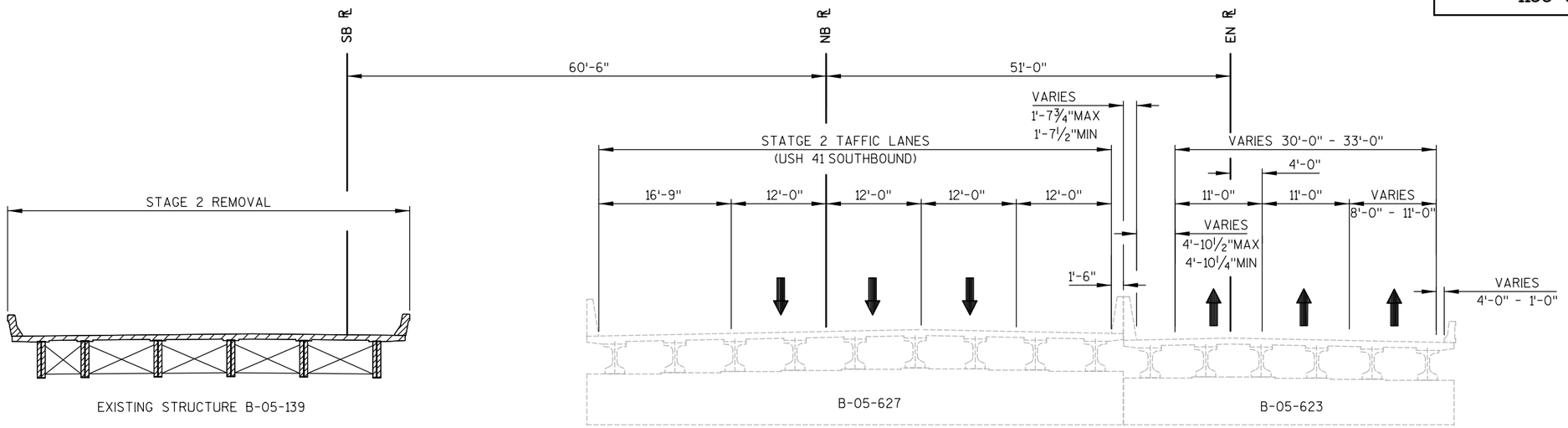
CONSTRUCTION STAGING - 2

SHEET 5 OF 28
1961

8

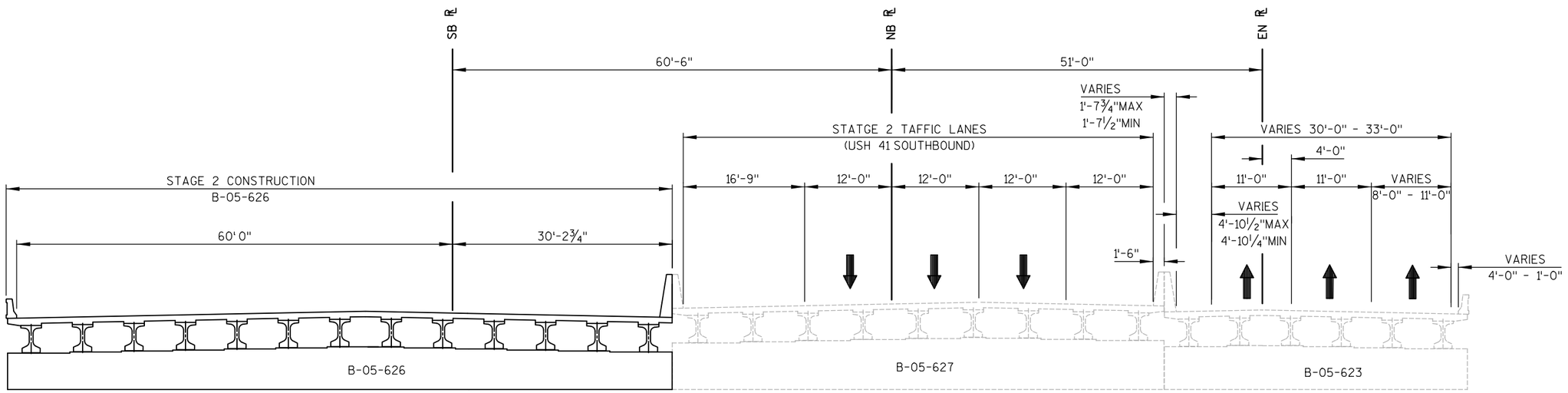
8

STATE PROJECT NUMBER
1133-09-71



STAGE 2 - PHASE ML-1 REMOVAL

(LOOKING NORTH)



STAGE 2 - PHASE ML-2 - CONSTRUCTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

CONSTRUCTION STAGING - 3

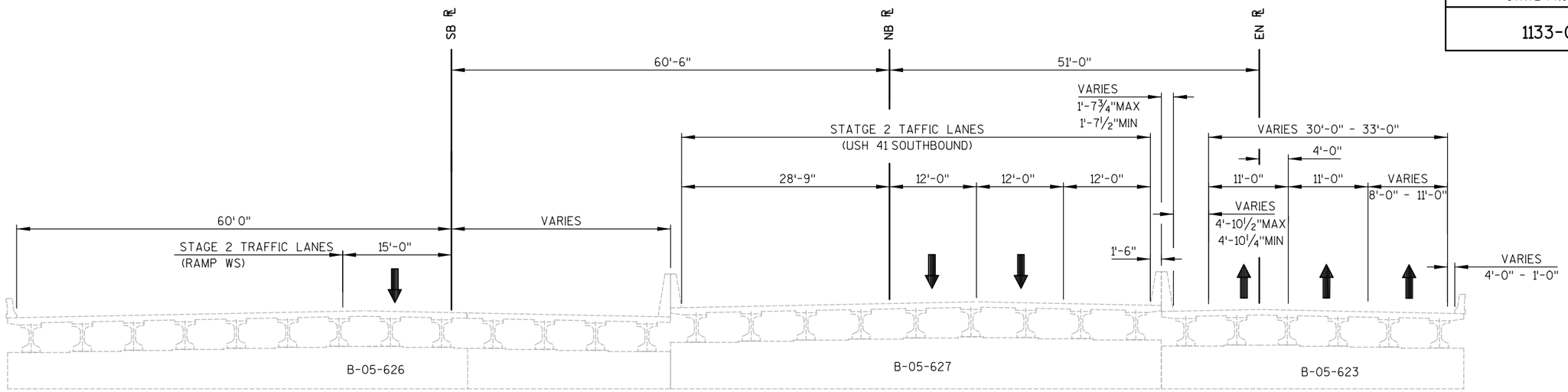
SHEET 6 OF 28

1962

8

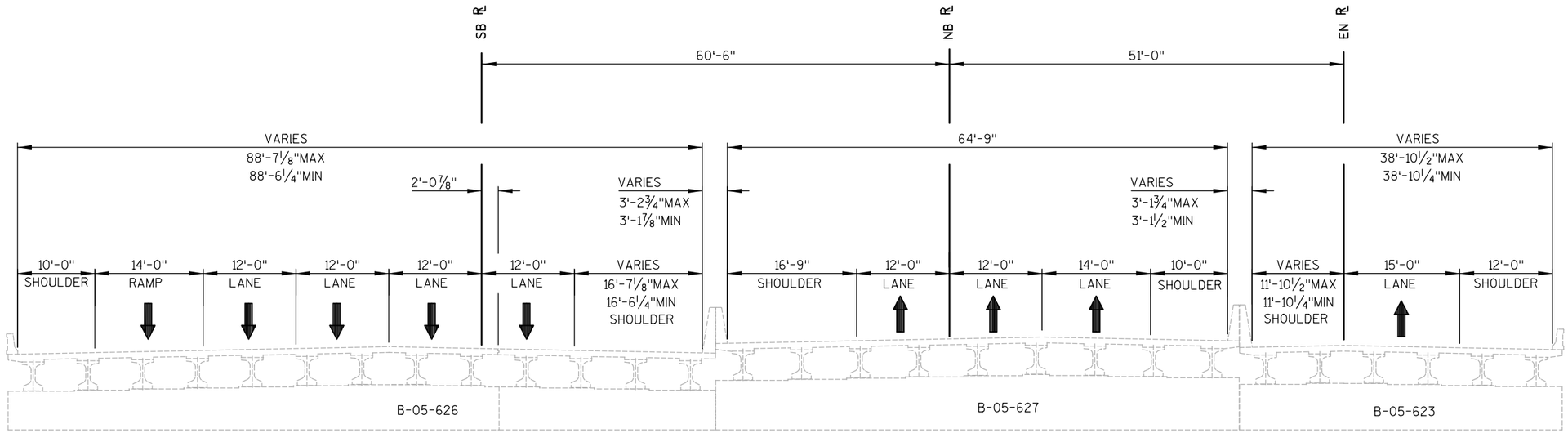
8

STATE PROJECT NUMBER
1133-09-71



STAGE 2 - PHASE ML-2 - TRAFFIC

(LOOKING NORTH)



FINAL CROSS SECTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

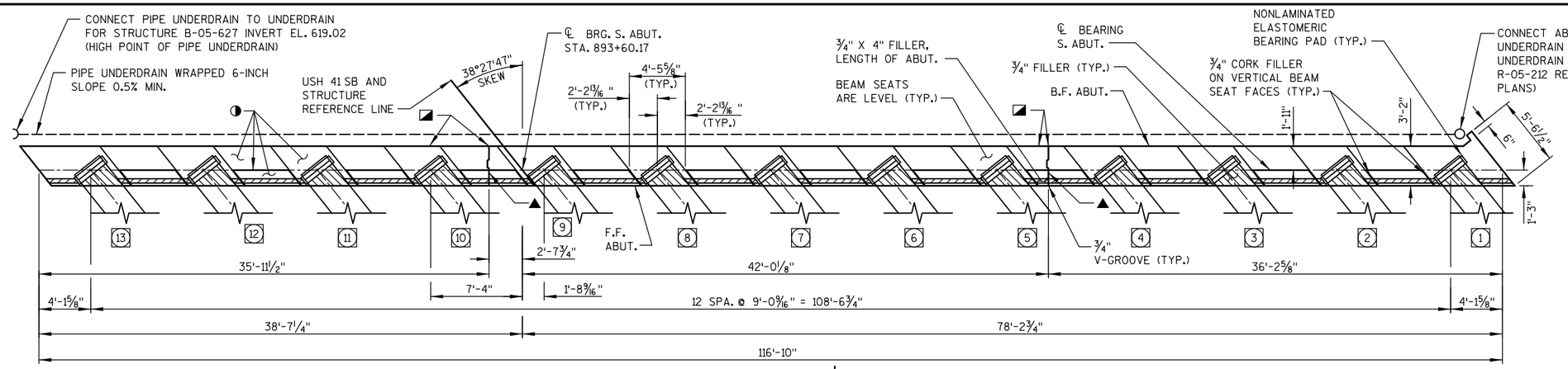
CONSTRUCTION STAGING - 4

SHEET 7 OF 28
1963

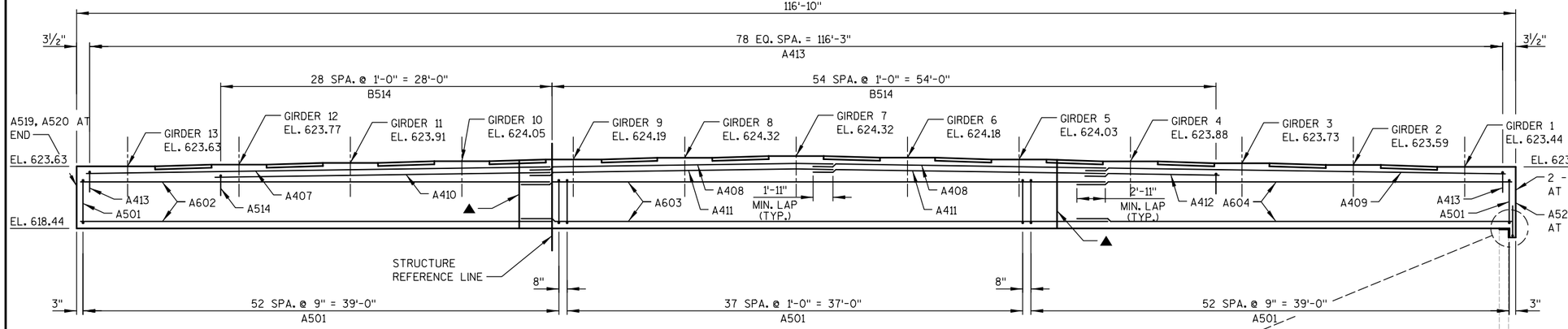
8

8

STATE PROJECT NUMBER
1133-09-71

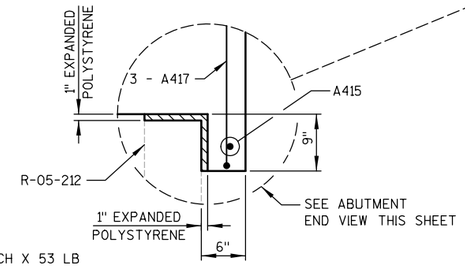


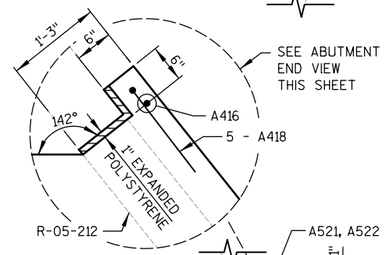
PLAN

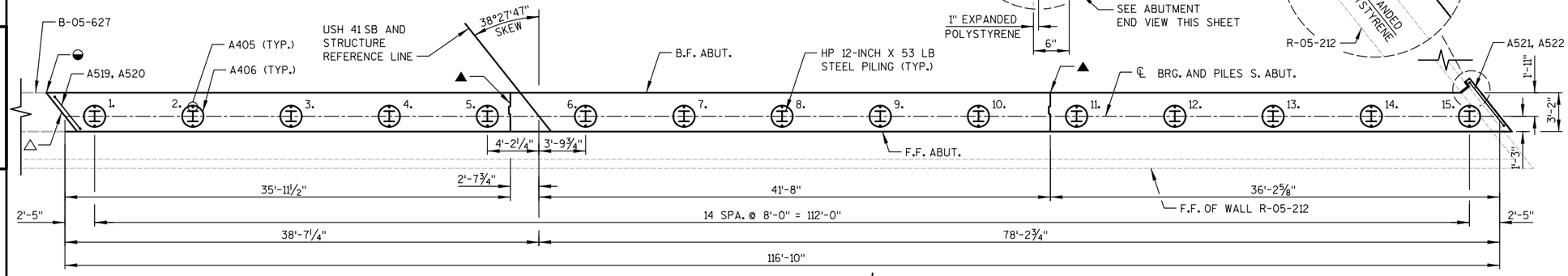


ELEVATION

(LOOKING SOUTH)







PILE PLAN

LEGEND

- STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- VERTICAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 8". RUN BAR STEEL THRU JOINT. SEAL JOINT WITH 18" RUBBERIZED MEMBRANE WATERPROOFING. SEE SHEET 14 FOR ALTERNATE CONSTRUCTION JOINT DETAIL.
- 18" RUBBERIZED MEMBRANE WATERPROOFING AT VERTICAL JOINT WHERE B-05-626 ABUTS B-05-625.
- △ 1/2" FILLER. EXTEND FULL HEIGHT OF ABUTMENT. SEAL EXPOSED SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP. EXTEND SEALER 6" BELOW FINISHED GRADE.
- (#) INDICATES GIRDER NUMBER.

NOTES

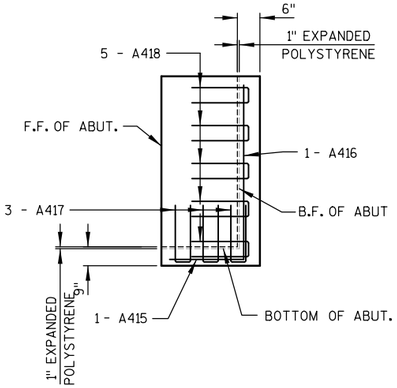
SEE SHEET 12 FOR PILE SPLICE DETAILS.

ADJUST A501 BARS TO AVOID INTERFERENCE WITH PILES.

SEE SHEET 9 FOR REINFORCING DETAILS.

ABUTMENTS TO BE SUPPORTED ON HP 12-INCH X 53 LB STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH IS 105 FEET.

SEE SHEET 9 FOR ABUTMENT FALL PROTECTION DETAIL.



ABUTMENT END VIEW

(WEST END ONLY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

SOUTH ABUTMENT

SHEET 8 OF 28
1964

8

8

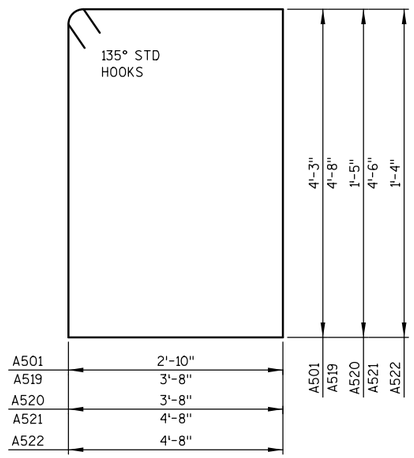
STATE PROJECT NUMBER
1133-09-71

SOUTH ABUTMENT BILL OF BARS

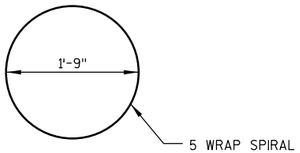
UNCOATED: 6,910 LBS

MARK	NO.	LENGTH	BENT	COAT	LOCATION
A501	144	14'-9"	X		BODY - VERT. - STIRRUPS
A602	17	40'-2"			BODY - HORIZ. - FF/BF, TOP/BOT
A603	17	47'-6"			BODY - HORIZ. - FF/BF, TOP/BOT
A604	17	34'-8"			BODY - HORIZ. - FF/BF, TOP/BOT
A405	30	2'-3"			BODY - PILES - VERT.
A406	15	28'-0"	X		BODY - PILES - VERT.
A407	2	39'-2"			BODY - TOP - HORIZ.
A408	4	24'-3"			BODY - TOP - HORIZ.
A409	2	34'-7"			BODY - TOP - HORIZ.
A410	3	30'-0"			BODY - TOP - HORIZ.
A411	6	24'-0"			BODY - TOP - HORIZ.
A412	3	10'-0"			BODY - TOP - HORIZ.
A413	79	4'-5"	X		BODY - TOP - VERT.
A514	83	6'-7"	X		BODY - TOP - VERT.
A415	1	5'-0"			RETAINING WALL EAR
A416	1	5'-5"			RETAINING WALL EAR
A417	3	4'-10"	X		RETAINING WALL EAR
A418	5	3'-9"	X		RETAINING WALL EAR
A519	1	17'-3"	X		BODY - VERT. - STIRRUP - EAST END
A520	1	10'-9"	X		BODY - VERT. - STIRRUP - EAST END
A521	1	18'-11"	X		BODY - VERT. - STIRRUP - WEST END
A522	1	12'-7"	X		BODY - VERT. - STIRRUP - WEST END
A423	2	5'-5"			BODY - VERT. - WEST END

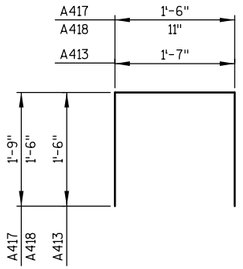
NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



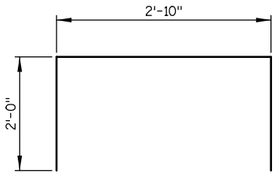
A501, A519, A520, A521, A522



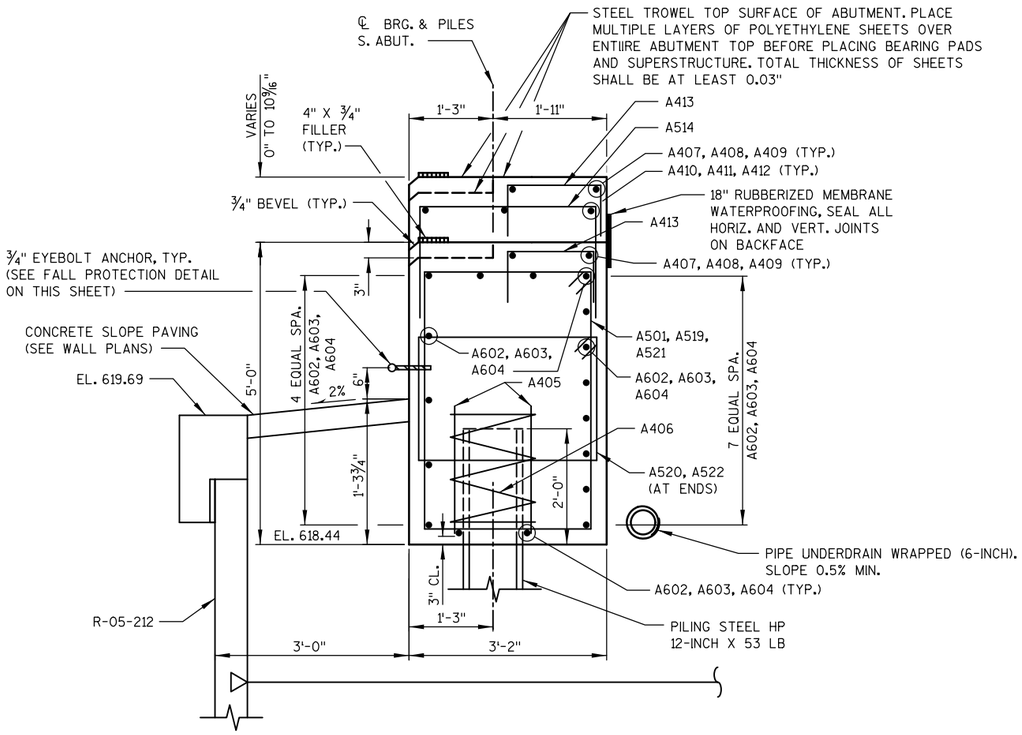
A406



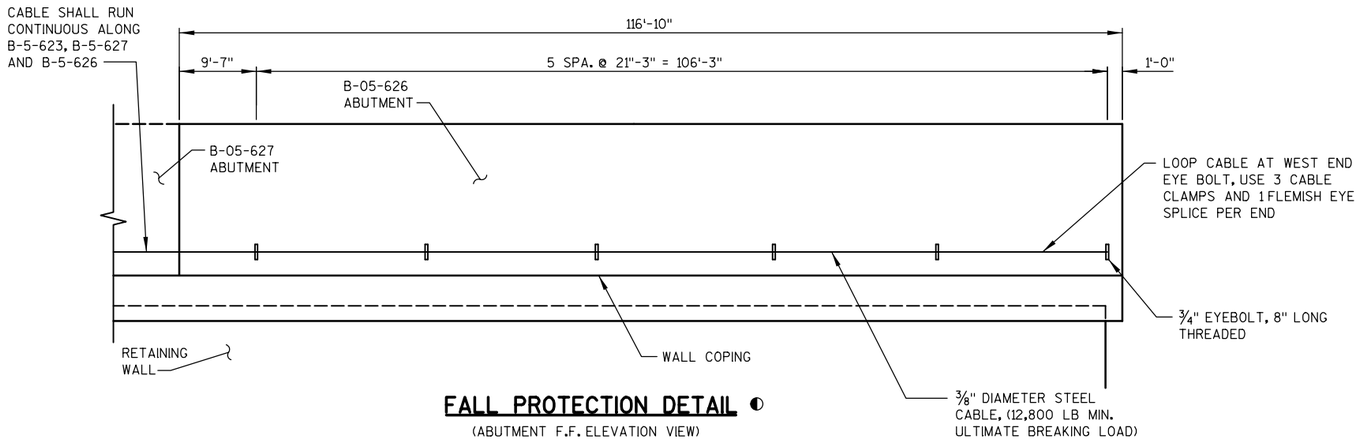
A413, A417, A418



A514



TYPICAL SECTION THRU BODY



FALL PROTECTION DETAIL ◐

(ABUTMENT F.F. ELEVATION VIEW)

◐ NOTES:

ALL LABOR AND MATERIAL (EYE BOLTS, CABLE, AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4-INCH.

ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.

USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.

MASONRY ANCHORS TYPE S 3/4-INCH. MIN. ULTIMATE PULLOUT CAPACITY OF 26 KIPS. FOR ADHESIVE ANCHORS, EMBED A MINIMUM OF 7" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

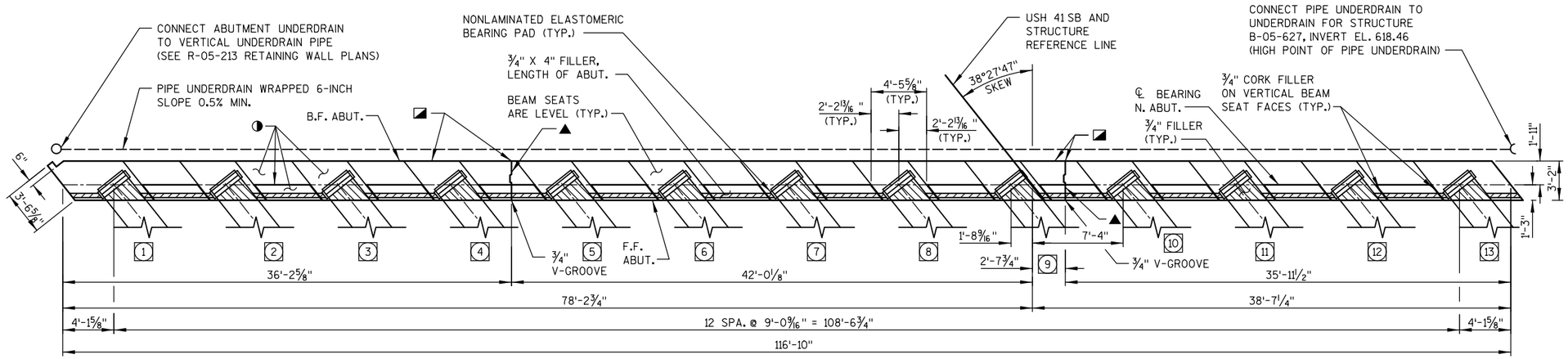
SOUTH ABUTMENT DETAILS

SHEET 9 OF 28
1965

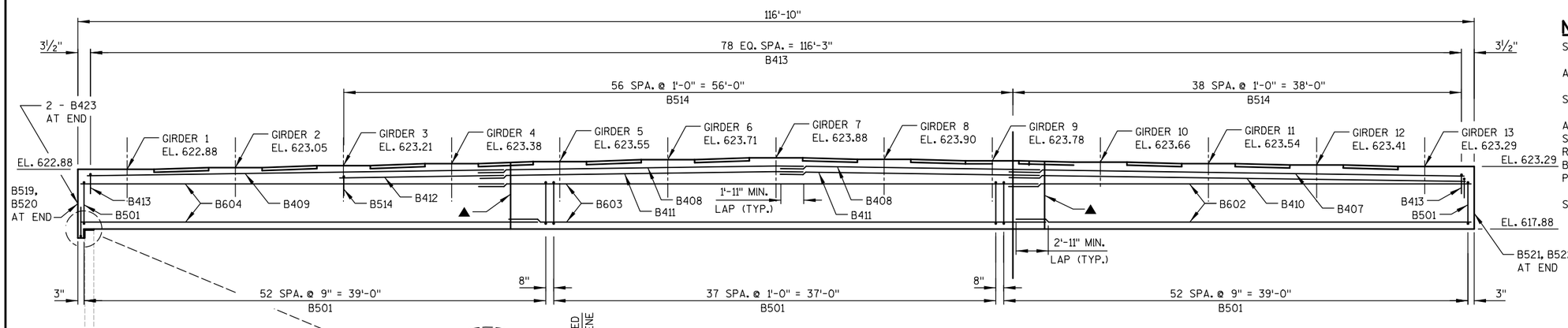
8

8

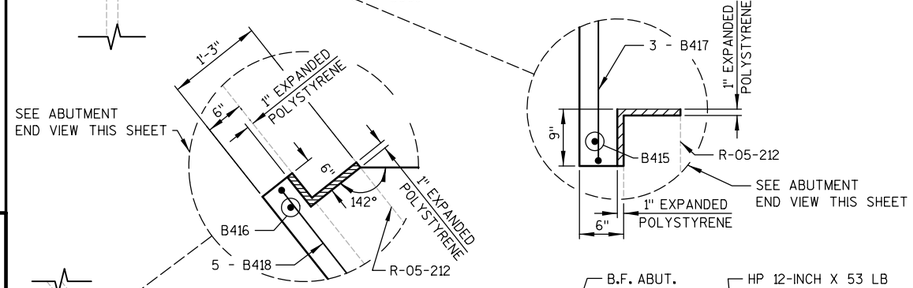
STATE PROJECT NUMBER
1133-09-71

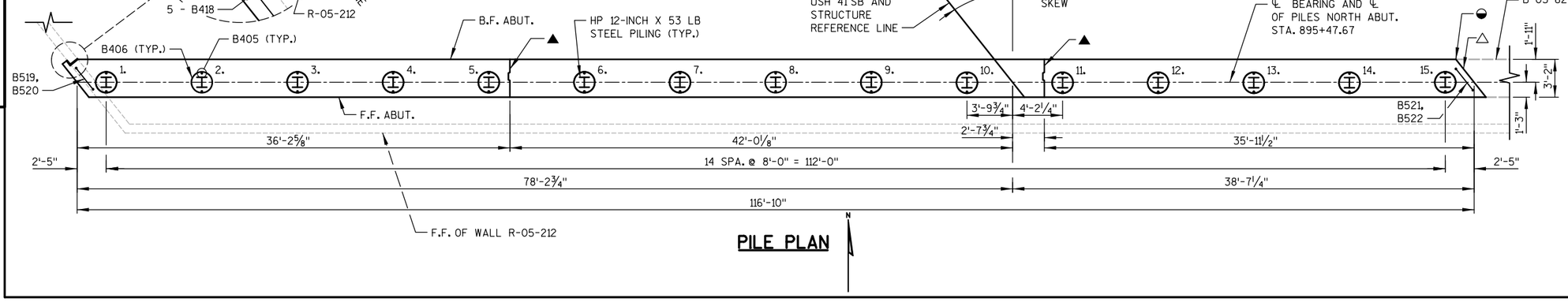


PLAN

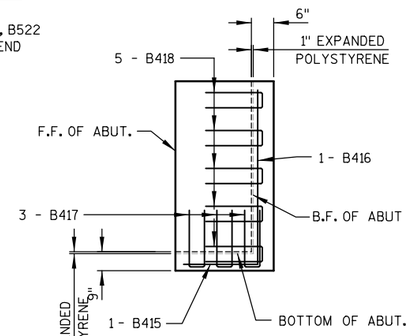


ELEVATION
(LOOKING NORTH)





PILE PLAN



ABUTMENT END VIEW
(WEST END ONLY)

LEGEND

- ◑ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ◪ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ▲ VERTICAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 8". RUN BAR STEEL THRU JOINT. SEAL JOINT WITH 18" RUBBERIZED MEMBRANE WATERPROOFING. SEE SHEET 14 FOR ALTERNATE CONSTRUCTION JOINT DETAIL.
- ◒ 18" RUBBERIZED MEMBRANE WATERPROOFING AT VERTICAL JOINT WHERE B-05-625 ABUTS B-05-622.
- △ ½" FILLER. EXTEND FULL HEIGHT OF ABUTMENT. SEAL EXPOSED SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP. EXTEND SEALER 6" BELOW FINISHED GRADE.
- ⬡ INDICATES GIRDER NUMBER.

NOTES

SEE SHEET 12 FOR PILE SPLICE DETAILS.

ADJUST B501 BARS TO AVOID INTERFERENCE WITH PILES.

SEE SHEET 11 FOR REINFORCING DETAILS.

ABUTMENTS TO BE SUPPORTED ON HP 12-INCH X 53 LB STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH IS 105 FEET.

SEE SHEET 11 FOR ABUTMENT FALL PROTECTION DETAIL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY	AJW	PLANS CK'D.	DJW

NORTH ABUTMENT

SHEET 10 OF 28
1966

8

8

STATE PROJECT NUMBER

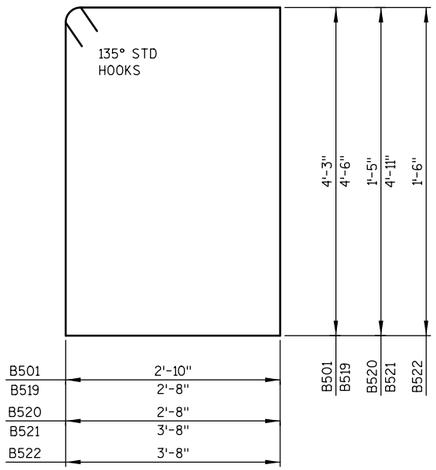
1133-09-71

NORTH ABUTMENT BILL OF BARS

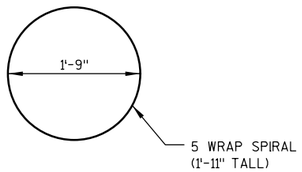
UNCOATED: 7,000 LBS

MARK	NO.	LENGTH	BENT	COAT	LOCATION
B501	144	14'-9"	X		BODY - VERT. -STIRRUPS
B602	17	40'-2"			BODY - HORIZ. - FF/BF, TOP/BOT
B603	17	47'-6"			BODY - HORIZ. - FF/BF, TOP/BOT
B604	17	34'-8"			BODY - HORIZ. - FF/BF, TOP/BOT
B405	30	2'-3"			BODY - PILES - VERT.
B406	15	28'-0"	X		BODY - PILES - VERT.
B407	2	39'-2"			BODY - TOP - HORIZ.
B408	4	24'-3"			BODY - TOP - HORIZ.
B409	2	34'-7"			BODY - TOP - HORIZ.
B410	3	39'-2"			BODY - TOP - HORIZ.
B411	6	24'-3"			BODY - TOP - HORIZ.
B412	3	12'-1"			BODY - TOP - HORIZ.
B413	79	4'-5"	X		BODY - TOP - VERT.
B514	95	6'-7"	X		BODY - TOP - VERT.
B415	1	3'-2"			RETAINING WALL EAR
B416	1	5'-5"			RETAINING WALL EAR
B417	3	4'-3"	X		RETAINING WALL EAR
B418	5	3'-9"	X		RETAINING WALL EAR
B519	1	14'-11"	X		BODY - VERT. - STIRRUP - WEST END
B520	1	8'-9"	X		BODY - VERT. - STIRRUP - WEST END
B521	1	17'-9"	X		BODY - VERT. - STIRRUP - EAST END
B522	1	10'-11"	X		BODY - VERT. - STIRRUP - EAST END
B423	2	5'-5"			BODY - VERT. - WEST END

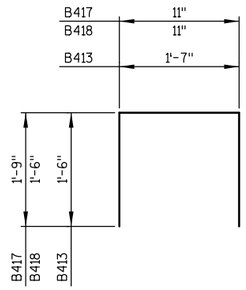
NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



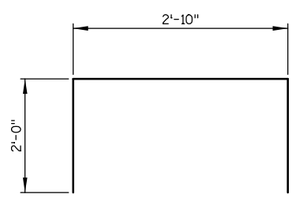
B501, B519, B520, B521, B522



B406



B413, B417, B418



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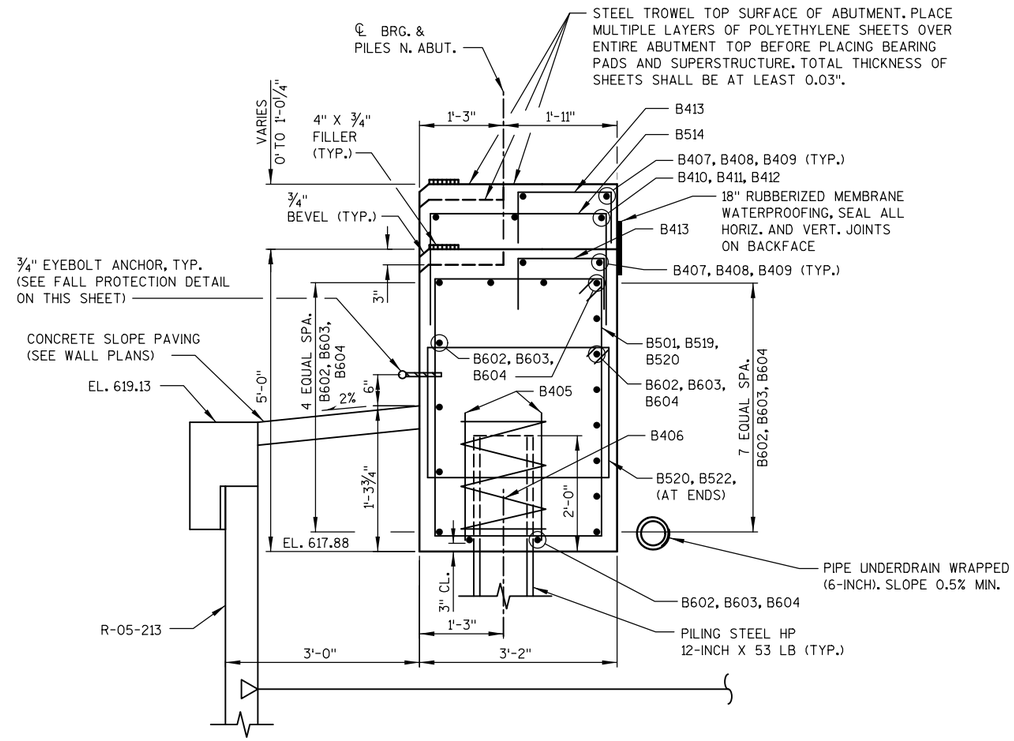
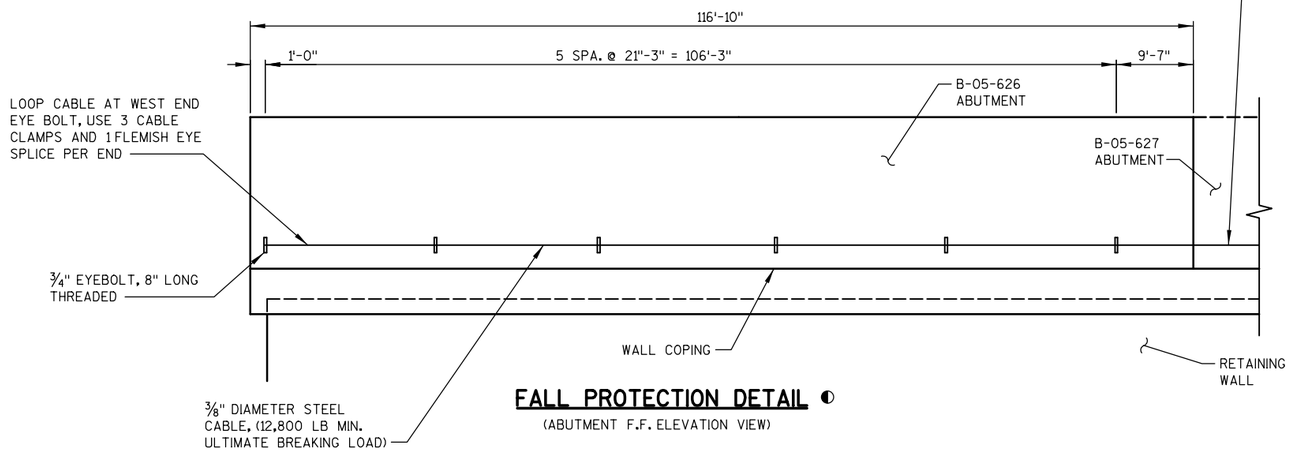


TYPICAL SECTION THRU BODY



FALL PROTECTION DETAIL ◐

(ABUTMENT F.F. ELEVATION VIEW)

◐ NOTES:

ALL LABOR AND MATERIAL (EYE BOLTS, CABLE, AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4-INCH.

ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.

USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.

MASONRY ANCHORS TYPE S 3/4-INCH. MIN. ULTIMATE PULLOUT CAPACITY OF 26 KIPS. FOR ADHESIVE ANCHORS, EMBED A MINIMUM OF 7" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

NORTH ABUTMENT DETAILS

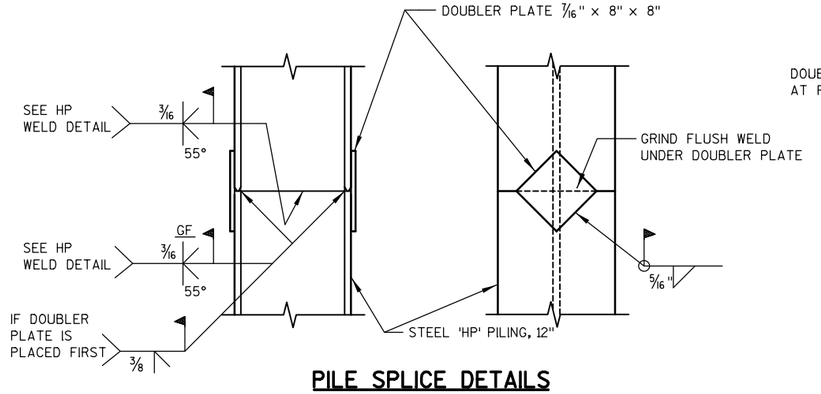
SHEET 11 OF 28

1967

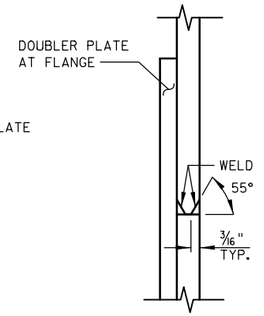
8

8

STATE PROJECT NUMBER
1133-09-71



PILE SPLICE DETAILS

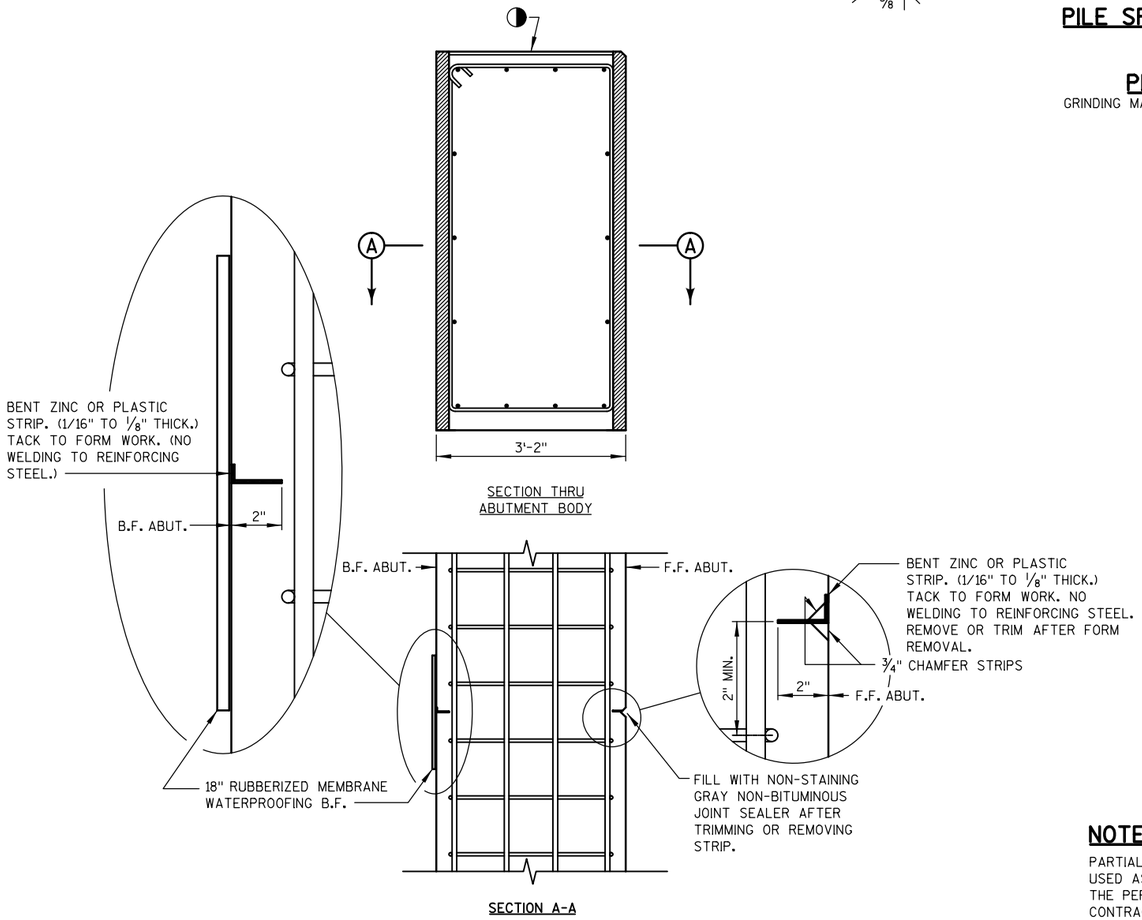


HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE SPLICE NOTES

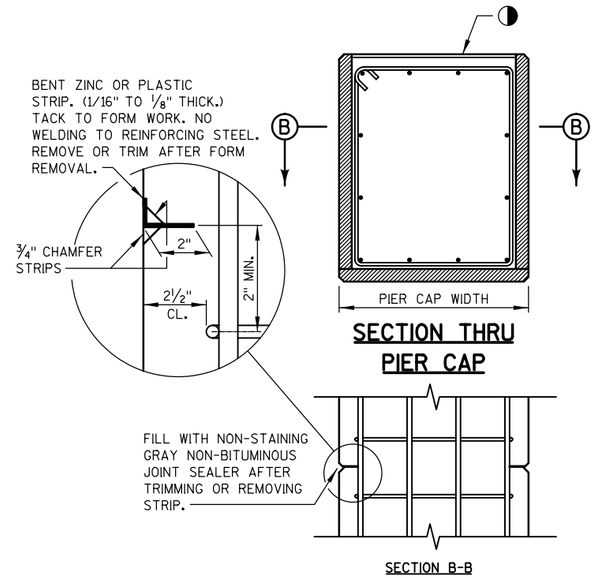
GRINDING MAY BE USED IN LIEU OF BACKGOUGING.



SECTION THRU ABUTMENT BODY

SECTION A-A

ALTERNATE CONSTRUCTION JOINT AT ABUTMENT



SECTION THRU PIER CAP

SECTION B-B

ALTERNATE CONSTRUCTION JOINT AT PIER CAP

NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

ABUTMENT AND PIER DETAILS

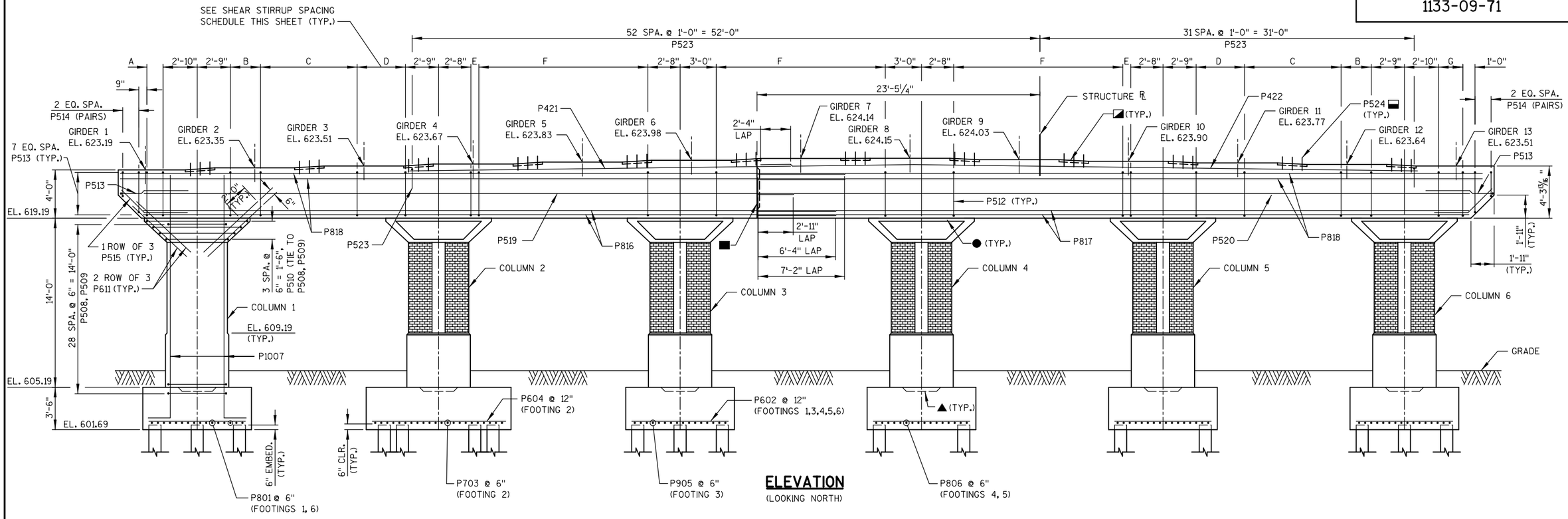
SHEET 12 OF 28
1968

8

8

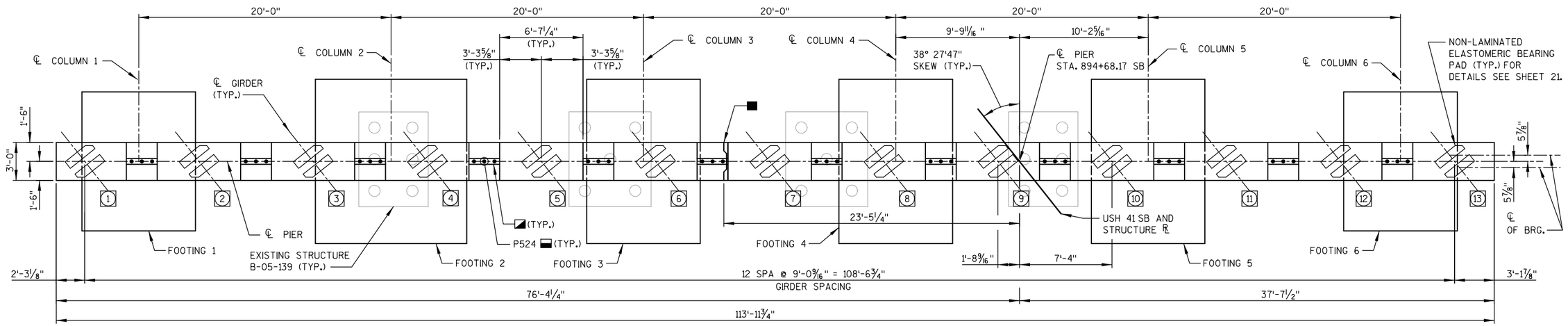
STATE PROJECT NUMBER

1133-09-71



ELEVATION

(LOOKING NORTH)



PLAN

N

LEGEND

- ◪ KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2"X6".
- (#) INDICATES GIRDER NUMBER.
- ▬ P524 BARS @ 1'-0" CENTERS BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED 1'-0" INTO CONCRETE.
- ▲ CONSTRUCTION JOINT FORMED BY BEVELED 3"X1'-3"X2'-6" KEYWAY.
- ● CONSTRUCTION JOINT. STRIKE OFF AND LEAVE ROUGH.
- ■ VERTICAL CONSTRUCTION JOINT FORMED BY BEVELED 2"X6"X2'-6" KEYWAY.

NOTES

GIRDER ELEVATIONS GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF THE PIER. BEAM SEAT SHALL BE LEVEL.

SEE SHEET 14 FOR REINFORCING DETAILS.

ARCHITECTURAL SURFACE TREATMENT AND REVEALS NOT SHOWN ON COLUMN 1 FOR CLARITY.

SHEAR STIRRUP SPACING

A	2 SPA. @ 8" = 1'-4",	P512 (PAIRS)
B	5 SPA. @ 6" = 2'-6",	P512 (PAIRS)
C	8 SPA. @ 1'-0" = 8'-0",	P512 (PAIRS)
D	6 SPA. @ 8" = 4'-0",	P512 (PAIRS)
E	2 SPA. @ 4" = 8",	P512 (PAIRS)
F	14 SPA. @ 1'-0" = 14'-0",	P512 (PAIRS)
G	3 SPA. @ 8" = 2'-0",	P512 (PAIRS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

PIER

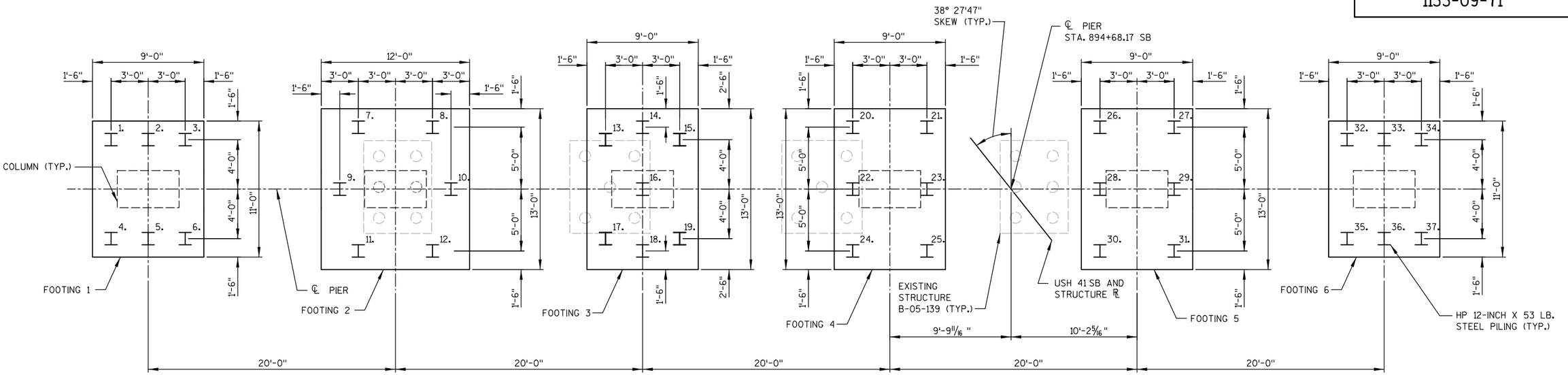
SHEET 13 OF 28

1969

8

8

STATE PROJECT NUMBER
1133-09-71



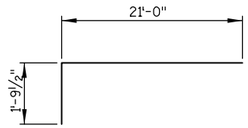
FOUNDATION PLAN

PIER BILL OF BARS

UNCOATED: 4,740 LBS.
COATED: 36,170 LBS.

MARK	NO.	LENGTH	BENT	COAT	LOCATION
P801	36	10'-8"			FOOTINGS 1 & 6 - HORIZ.
P602	66	8'-8"			FOOTINGS 1, 3, 4, 5, 6 - HORIZ.
P703	24	12'-8"			FOOTING 2 - HORIZ.
P604	14	11'-8"			FOOTING 2 - HORIZ.
P905	18	12'-8"			FOOTING 3 - HORIZ.
P806	36	12'-8"			FOOTINGS 4, 5 - HORIZ.
P1007	168	22'-6"	X	X	FOOTINGS & COLUMNS - VERT.
P508	348	10'-9"	X	X	COLUMNS - STIRRUPS
P509	174	12'-3"	X	X	COLUMNS - STIRRUPS
▲ P510	24	17'-10"	X	X	COLUMNS - STIRRUPS - TOP
P611	72	7'-0"		X	COLUMNS - TOP
P512	192	11'-5"	X	X	CAP - STIRRUPS
P513	16	11'-8"	X	X	CAP - HORIZ. - ENDS
▲ P514	12	9'-3"	X	X	CAP - STIRRUPS - ENDS
P515	6	5'-0"	X	X	CAP - HORIZ. - ENDS
P816	12	57'-4"		X	CAP - HORIZ. - BOTTOM
P817	12	58'-11"		X	CAP - HORIZ. - BOTTOM
P818	24	60'-0"		X	CAP - HORIZ. - TOP
P519	12	54'-0"		X	CAP - HORIZ. - SIDES
P520	12	59'-1"		X	CAP - HORIZ. - SIDES
P421	4	31'-6"		X	CAP - HORIZ. - TOP
P422	4	54'-6"		X	CAP - HORIZ. - TOP
P523	84	6'-4"	X	X	CAP - VERT. - TOP
P524	36	2'-0"		X	CAP - VERT. - DOWELS

NOTE: THE FIRST ONE OR TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.
DIMENSIONS FOR BENDING ARE OUT TO OUT OF BAR.



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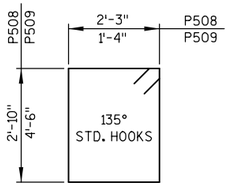
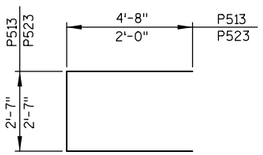


P508, P509



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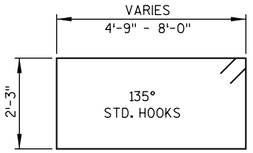

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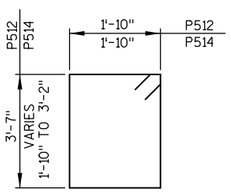
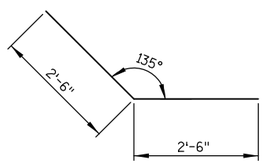


P512, P514



P515

▲ BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
P510	6 SERIES OF 4	14'-7" TO 21'-1"
P514	4 SERIES OF 3	7'-11" TO 10'-7"

NOTES

PIER TO BE SUPPORTED ON HP 12-INCH X 53 LB. STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH 85 FT EACH.

EXISTING PILING SHALL NOT BE INCORPORATED INTO THE NEW WORK. EXISTING PILING SHALL BE CUT AT OR BELOW THE BOTTOM OF THE NEW FOOTING.

SEE SHEET 12 FOR PILE SPLICE DETAILS.

THE EXISTING PILE LOCATIONS ARE BASED ON THE ORIGINAL PLANS FOR B-05-138. THE ENGINEER SHALL APPROVE ALL ADJUSTMENTS IF THE EXISTING PILE LOCATIONS DO NOT MATCH THE LOCATIONS SHOWN ON THE PLANS. NOTIFY ENGINEER IF EXISTING PILE SPACING TO NEW PILE IS LESS THAN 2.25 FT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

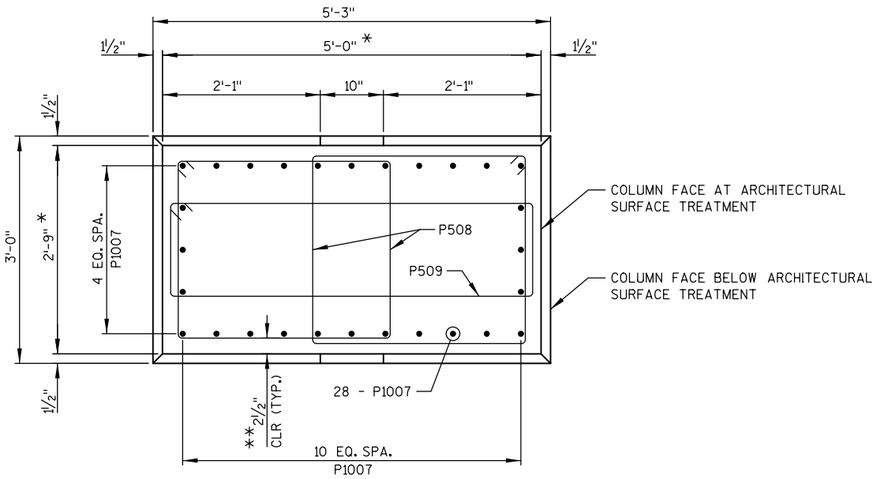
PIER FOUNDATION

SHEET 14 OF 28
1970

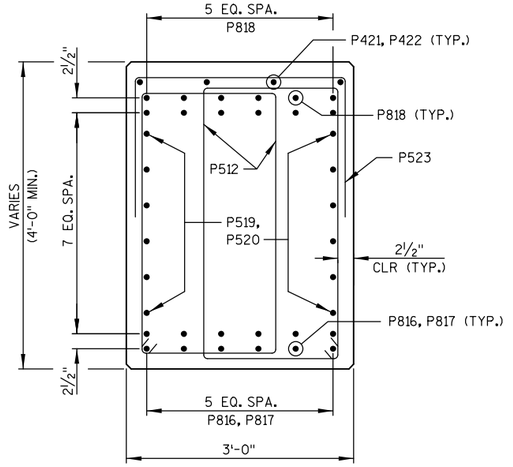
8

8

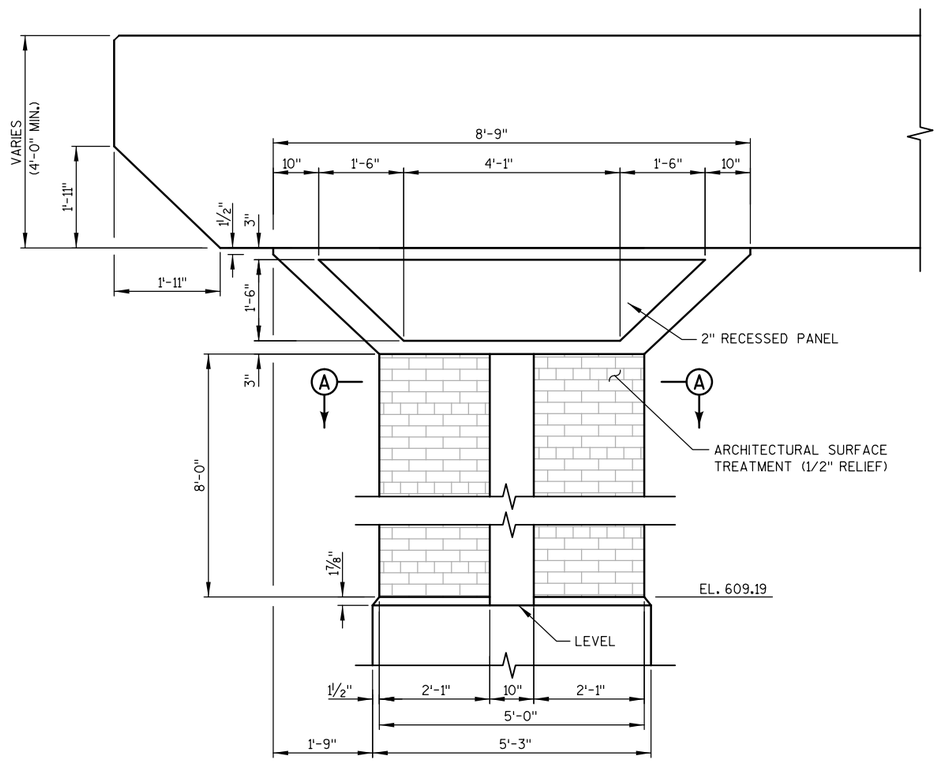
STATE PROJECT NUMBER
1133-09-71



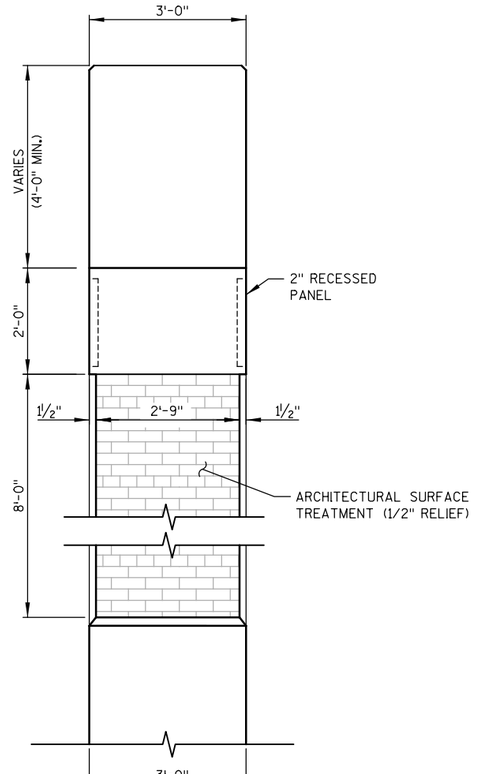
PIER COLUMN SECTION A-A



SECTION THRU PIER CAP



PIER ELEVATION



PIER END ELEVATION

NOTES

SEE SHEET 14 FOR REINFORCING DETAILS.

SEE SHEET 28 FOR ARCHITECTURAL SURFACE TREATMENT AND CONCRETE STAINING REQUIREMENTS.

LEGEND

* DIMENSION IS TAKEN TO OUTER FACE OF ARCHITECTURAL SURFACE TREATMENT.

** 2½" CLEAR DISTANCE IS FROM INSIDE OF ARCHITECTURAL SURFACE TREATMENT RELIEF (3" FROM OUTSIDE OF FACE RELIEF).

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

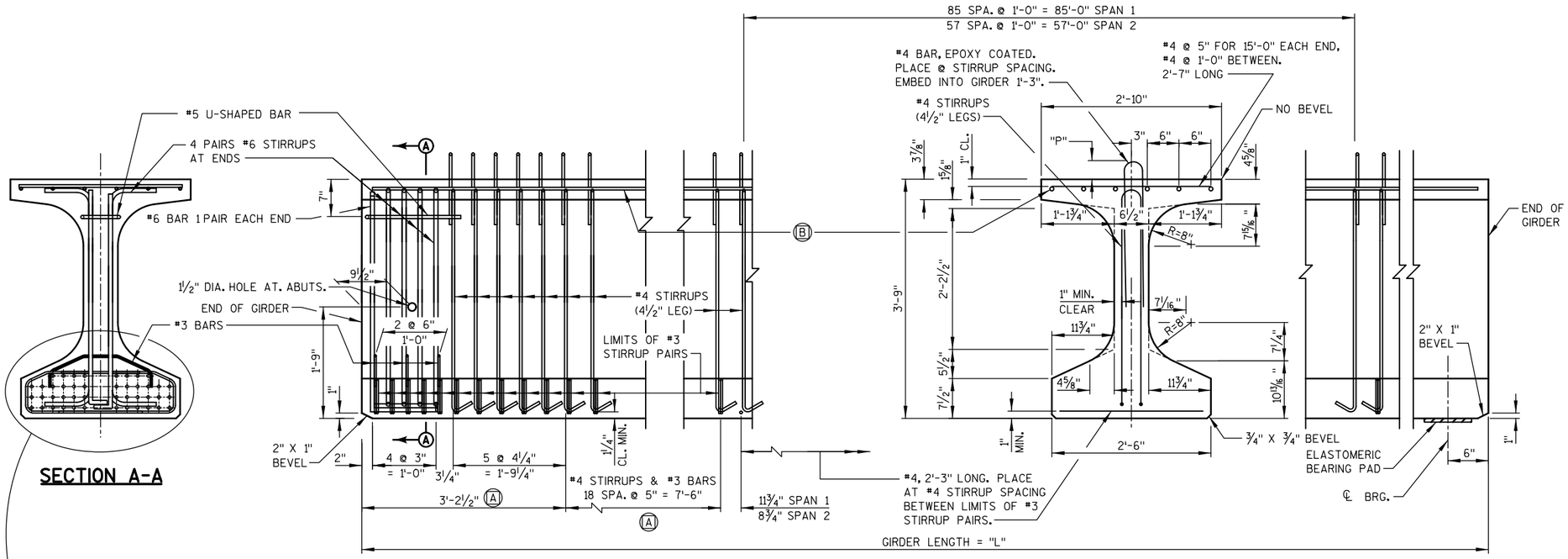
DRAWN BY	AJW	PLANS CK'D.	DJW

PIER DETAILS

SHEET 15 OF 28
1971

8

8

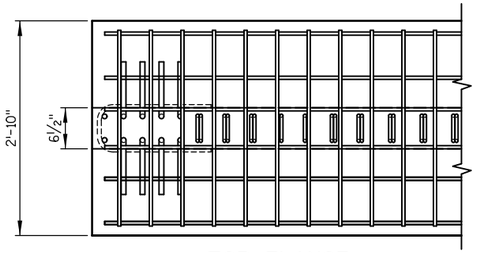


SECTION A-A

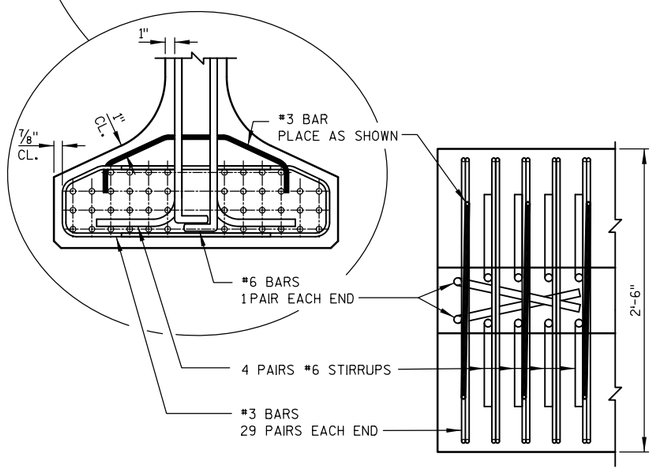
SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

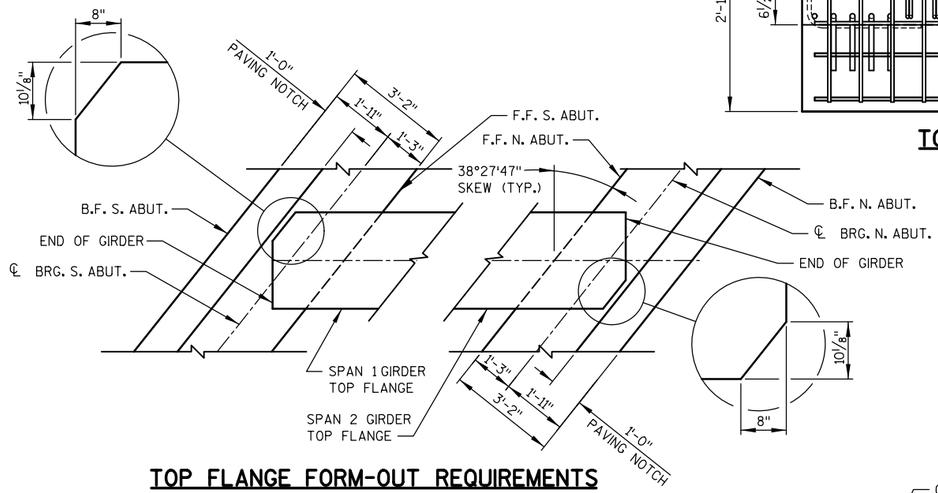
Ⓑ 6 #5 BARS, FULL LENGTH, MIN. LAP = 2'-5"



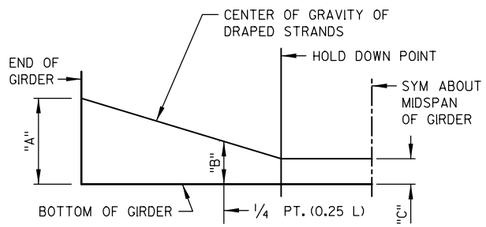
TOP FLANGE



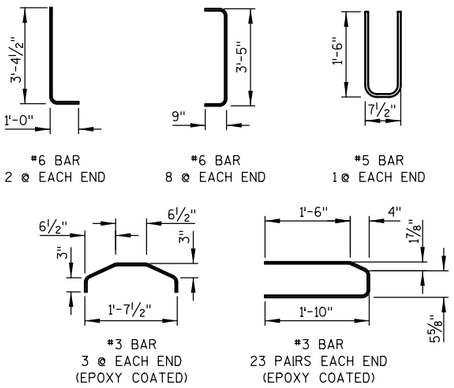
BOTTOM FLANGE



TOP FLANGE FORM-OUT REQUIREMENTS



DRAPED STRAND PROFILE



*MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (P.S.I.)	"P" (IN.) 1ST ⅓ OF GIRDER	"P" (IN.) MID ⅓ OF GIRDER	"P" (IN.) END ⅓ OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1, 13	108'-4½"	0.74	1.42	1.96	2.30	2.42	2.30	1.96	1.42	0.74	8000	8	7	8	0.60	36	6800	39	13.50	16.50	5		
1	2-12	108'-4½"	0.75	1.43	1.95	2.29	2.40	2.29	1.95	1.43	0.75	8000	8	7	8	0.60	36	6800	39	13.50	16.50	5		
2	1, 13	79'-10½"	0.22	0.42	0.57	0.67	0.70	0.67	0.57	0.42	0.22	8000	8	7	8	0.60							20	6800
2	2-12	79'-10½"	0.23	0.42	0.57	0.66	0.69	0.66	0.57	0.42	0.23	8000	8	7	8	0.60							20	6800

GIRDER NOTES

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

PRESTRESSING STRANDS SHALL BE 0.6"Φ - 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, THE FOLLOWING OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT CHIEF, (608) 266-5161.

FORM-OUT CORNER OF TOP FLANGE AT ABUTMENTS TO MEET CLEARANCE REQUIREMENTS. SEE DETAIL THIS SHEET.

STATE PROJECT NUMBER

1133-09-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

45W" PRESTRESSED GIRDER DETAILS-1

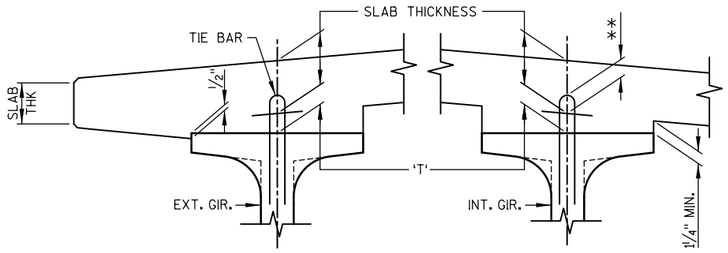
SHEET 16 OF 28

1972

8

8

STATE PROJECT NUMBER
1133-09-71



SLAB HAUNCH DETAIL

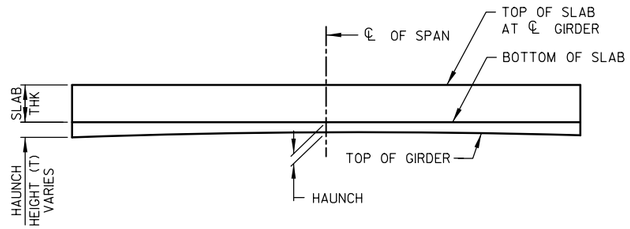
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
\- TOP OF GIRDER ELEVATION
\+ DEAD LOAD DEFLECTION
\- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES".

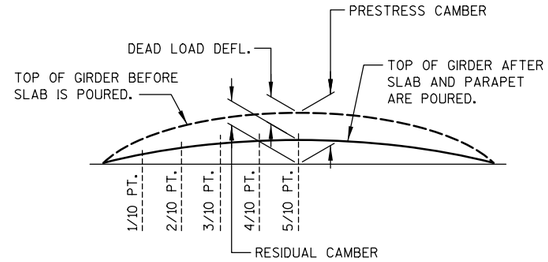


ELEVATION

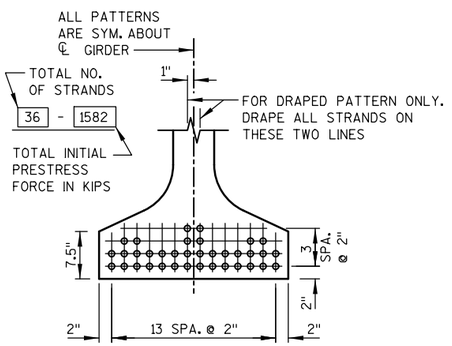
THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.)
1	3.81
2	1.23

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

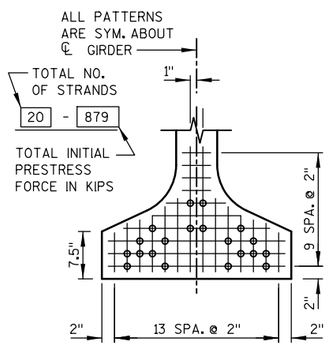


CAMBER AND DEFLECTION DIAGRAM



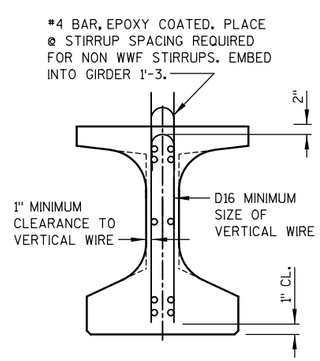
TYP. STRAND PATTERN

(SPAN 1)



TYP. STRAND PATTERN

(SPAN 2)



SECTION THRU GIRDER

SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

45W" PRESTRESSED GIRDER DETAILS-2 1973

SHEET 17 OF 28

8

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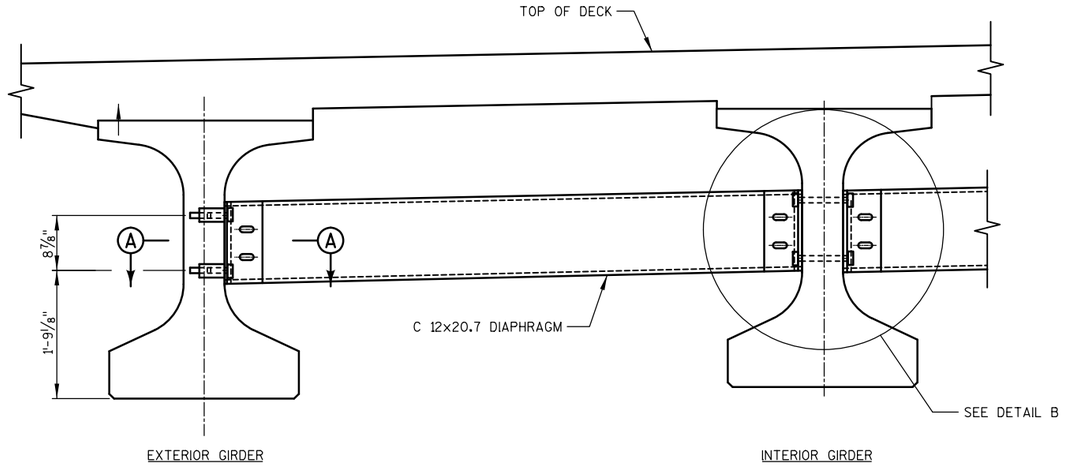
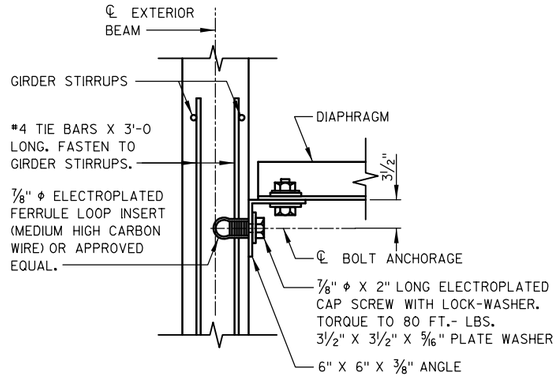
STATE PROJECT NUMBER

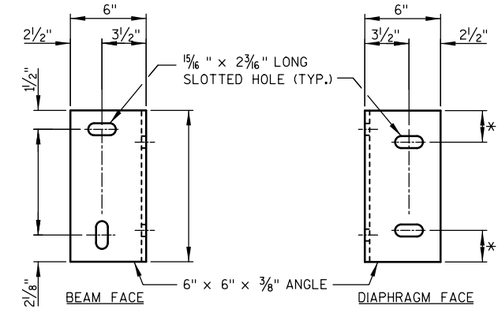
1133-09-71



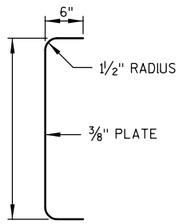
PART TRANSVERSE SECTION AT DIAPHRAGM



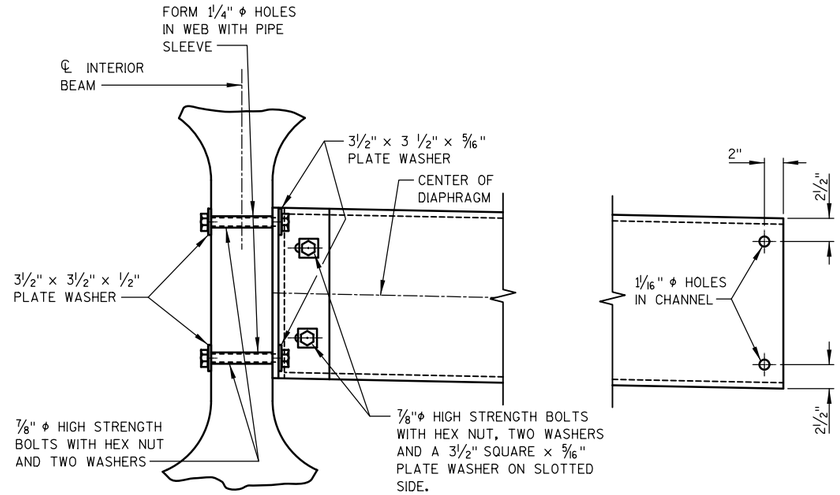
SECTION A-A
(FOR EXTERIOR ATTACHMENT)



DIAPHRAGM SUPPORT
* 2½" FOR ALTERNATE PLATE DIAPHRAGM

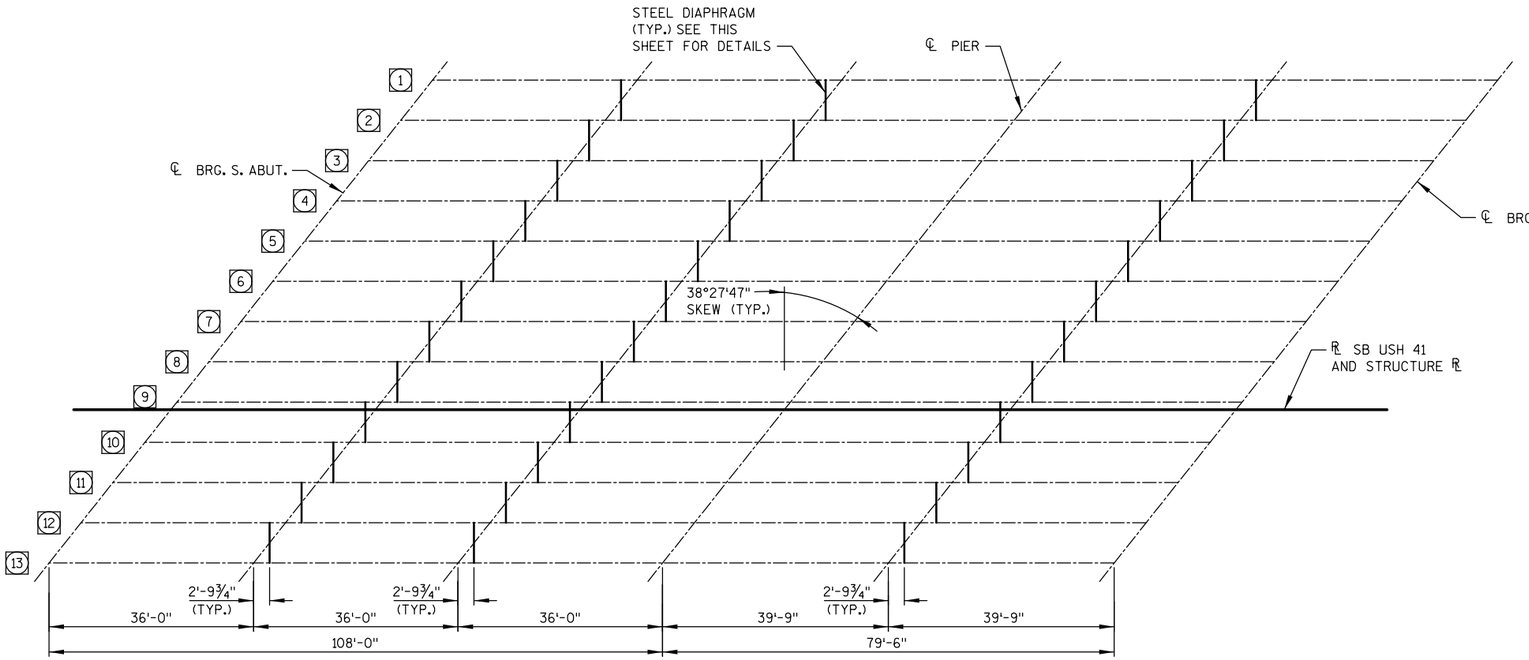


SECTION THRU ALTERNATE DIAPHRAGM



(FOR STAGGERED DIAPHRAGM)

DETAIL B



PLAN
(SHOWING DIAPHRAGM LAYOUT)

LEGEND

(#) INDICATES GIRDER NUMBER.

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-05-626", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT. ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

SEE THIS SHEET FOR DIAPHRAGM LAYOUT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

STEEL DIAPHRAGM

SHEET 18 OF 28
1974

8

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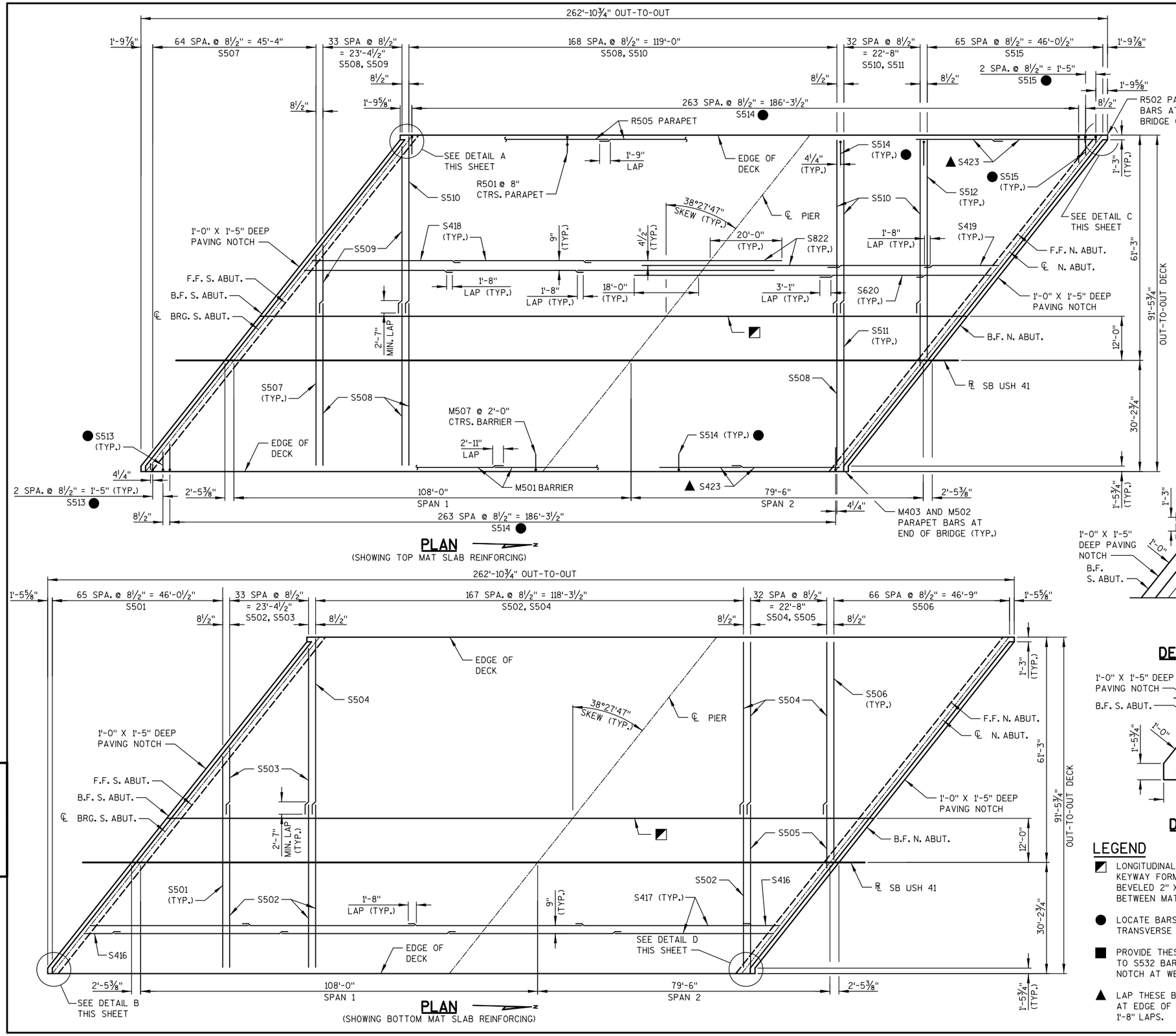


PLAN
(SHOWING TOP MAT SLAB REINFORCING)

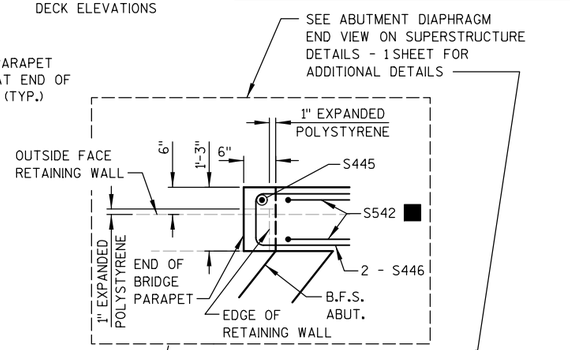
PLAN
(SHOWING BOTTOM MAT SLAB REINFORCING)

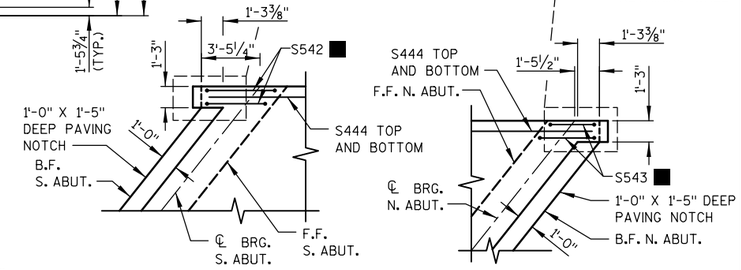
NOTES

SEE SHEET 22 FOR BAR DETAILS AND TOP OF DECK ELEVATIONS

STATE PROJECT NUMBER

1133-09-71





LEGEND

- ◪ LONGITUDINAL CONSTRUCTION JOINT KEYWAY FORMED BY A SURFACE BEVELED 2" X 2". CENTER KEYWAY BETWEEN MATS.
- ● LOCATE BARS BETWEEN TOP MAT TRANSVERSE REINFORCEMENT.
- ■ PROVIDE THESE BARS IN ADDITION TO S532 BARS ADJACENT TO PAVING NOTCH AT WEST EDGE OF DECK.
- ▲ LAP THESE BARS ONTO S822 BARS AT EDGE OF DECK. PROVIDE MIN. 1'-8" LAPS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE PLAN

SHEET 19 OF 28

1975

8

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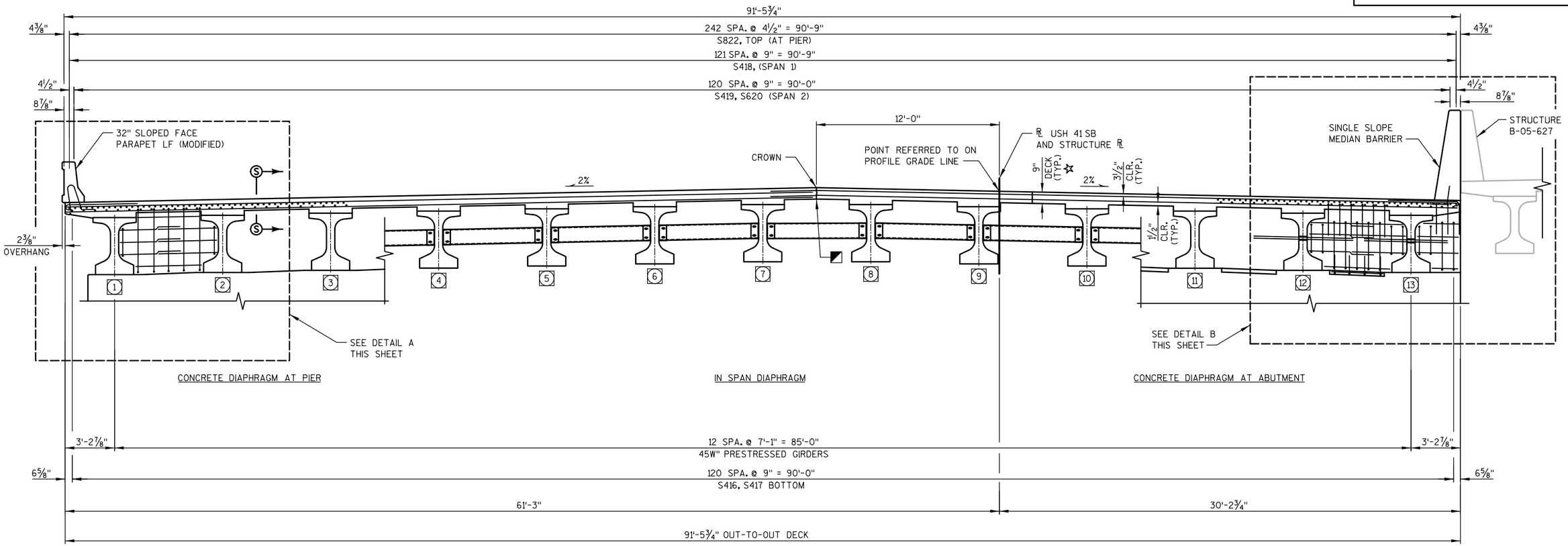
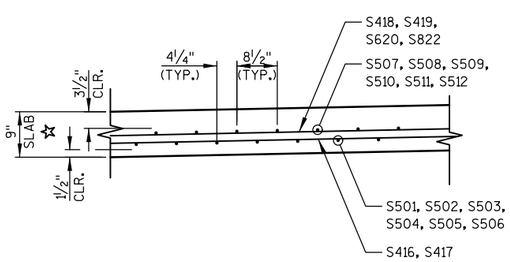
STATE PROJECT NUMBER
1133-09-71

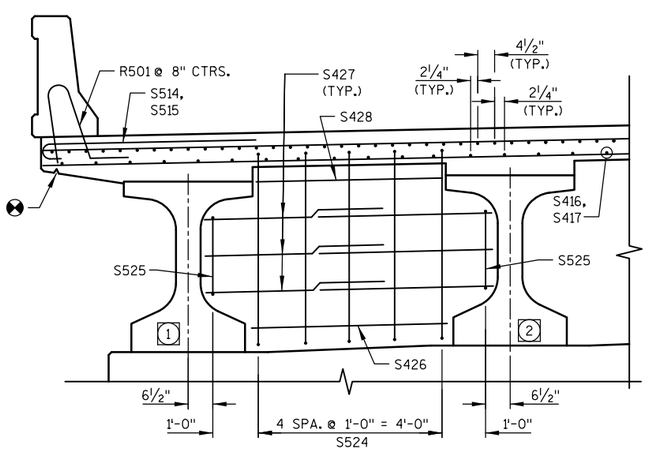


CROSS SECTION THRU DECK

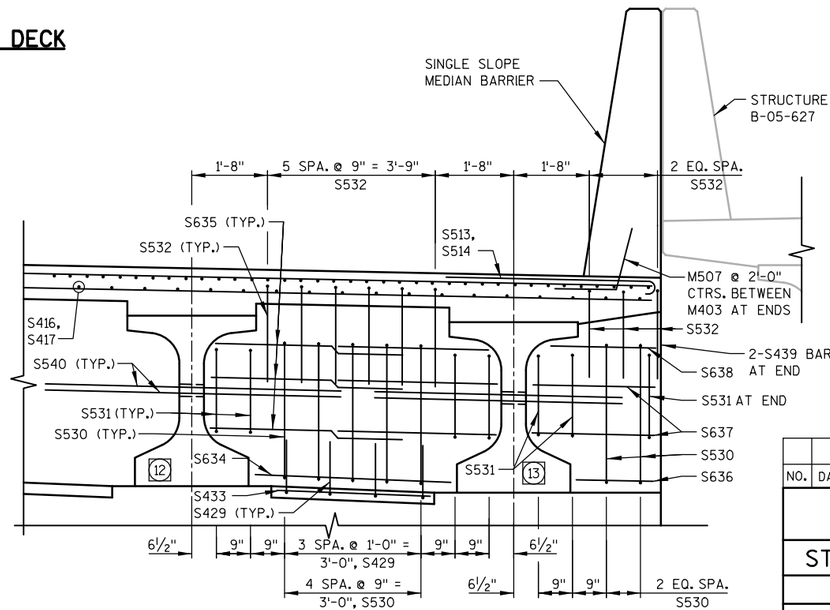
(LOOKING NORTH)



SECTION S-S



DETAIL A



DETAIL B

NOTES

SEE SHEETS 26 AND 27 FOR PARAPET AND BARRIER REINFORCING.

LEGEND

- ◐ ¾" V-GROOVE. EXTEND V-GROOVE TO THE FILLET ADJACENT TO THE ABUTMENTS. LOCATE 5" FROM EDGE OF DECK.
- ◩ LONGITUDINAL CONSTRUCTION JOINT KEYWAY FORMED BY A SURFACE BEVELED 2" X 2". CENTER KEYWAY BETWEEN MATS.
- ☆ STRUCTURE IS DESIGNED FOR A 1½" WEARING SURFACE PLACED AT INITIAL CONSTRUCTION, INTEGRAL WITH THE DECK. THE DESIGN DOES NOT PROVIDE FOR ADDITIONAL LOADS DUE TO A FUTURE WEARING SURFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY	AJW	PLANS CK'D.	DJW

SUPERSTRUCTURE SECTION

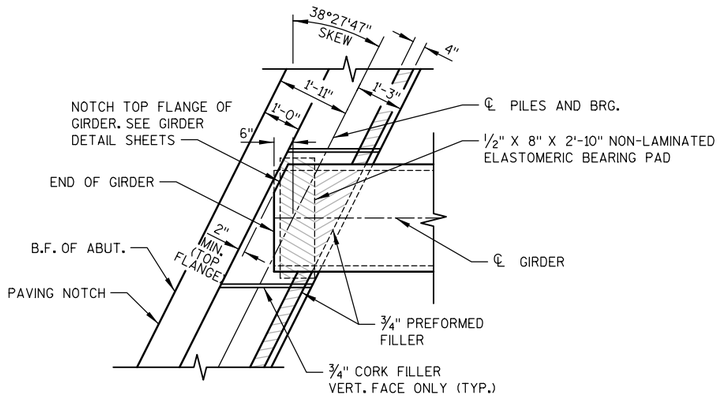
SHEET 20 OF 28
1976

8

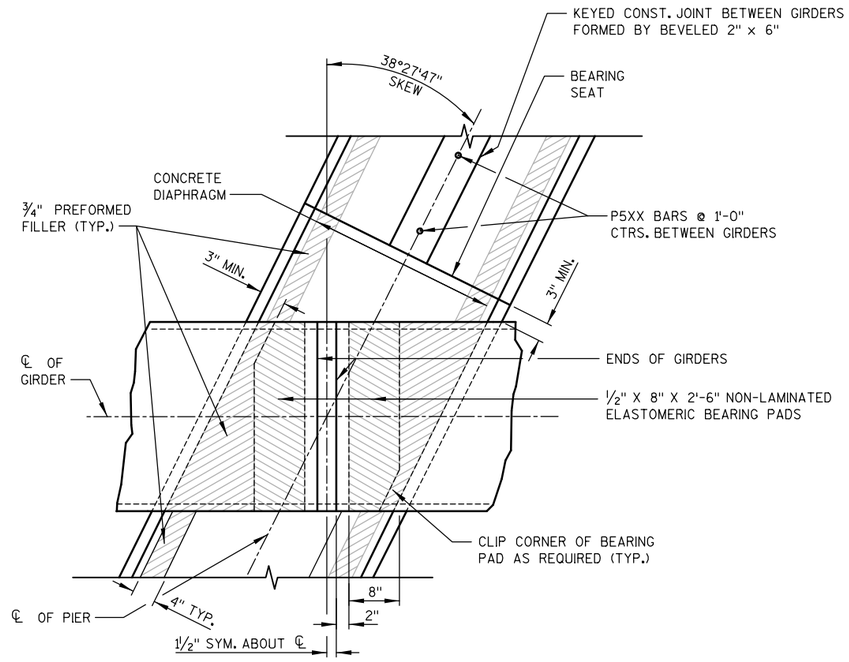
8

STATE PROJECT NUMBER

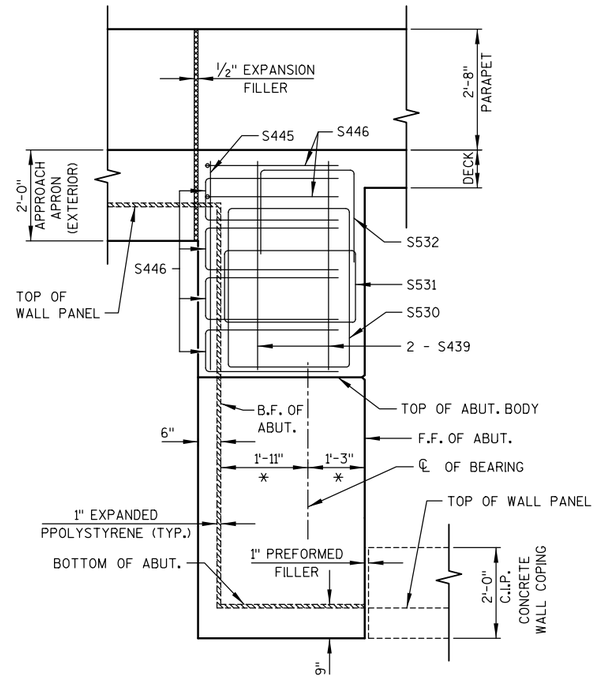
1133-09-71



BEARING PAD AT ABUTMENT

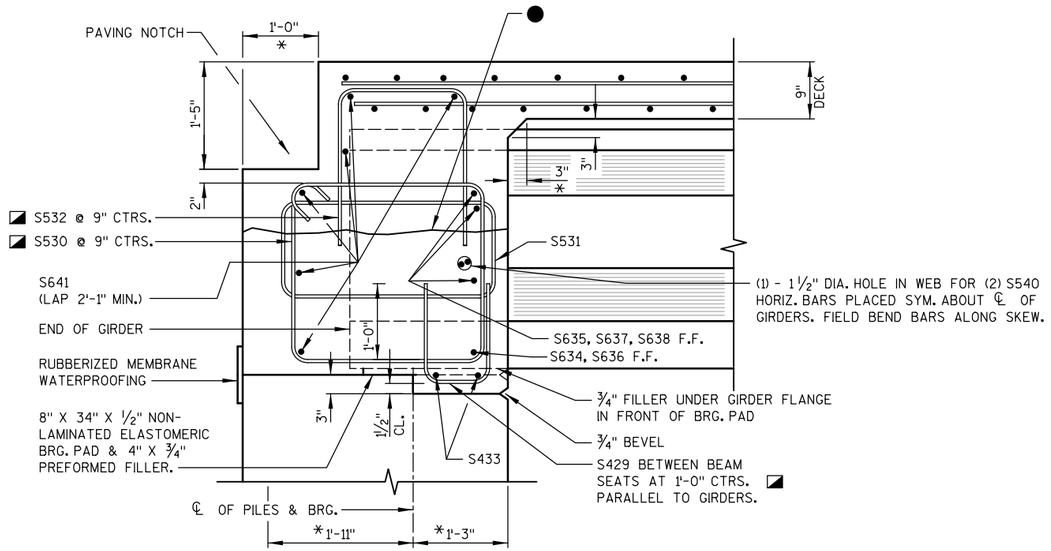


BEARING PAD AT PIER

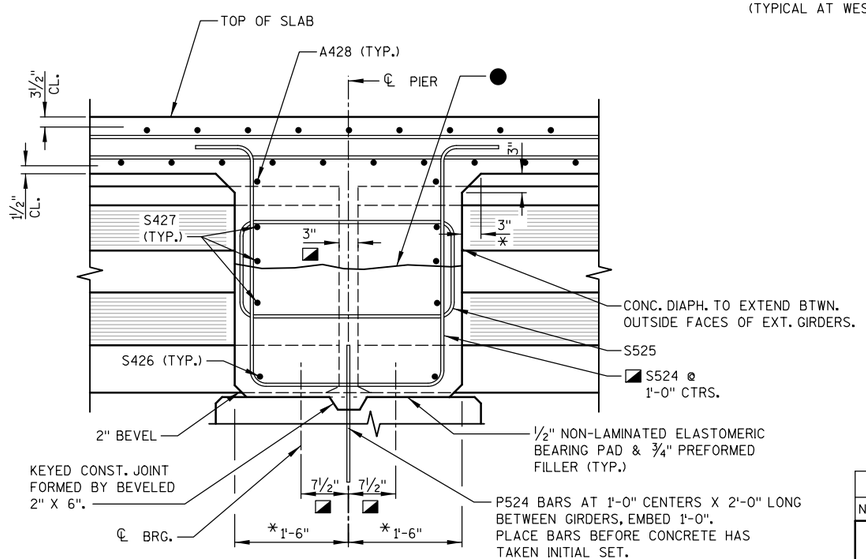


END VIEW AT ABUTMENT DIAPHRAGM

(TYPICAL AT WEST EDGE OF BRIDGE, 2 LOCATIONS)



PRESTRESSED GIRDER WITH SEMI-EXPANSION SEAT AT ABUTMENT



DIAPHRAGM AT PIER

LEGEND

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

◪ DIMENSION IS TAKEN PARALLEL TO GIRDER.

● OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

NOTES

SEE SHEET 22 FOR REINFORCING DETAILS.

SPACE S426, S427 AND S428 MAX. 1'-6" O.C. VERTICALLY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE DETAILS-1

SHEET 21 OF 28

1977

8

8

STATE PROJECT NUMBER
1133-09-71

SUPERSTRUCTURE
BILL OF BARS

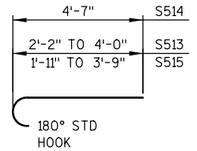
COATED: 130,050 LBS.

	MARK	NO.	LENGTH	BENT	COAT	LOCATION
▲	S501	66	30'-4"		X	SLAB - TRANSVERSE - BOTTOM
	S502	202	45'-0"		X	SLAB - TRANSVERSE - BOTTOM
▲	S503	34	32'-8"		X	SLAB - TRANSVERSE - BOTTOM
	S504	201	48'-11"		X	SLAB - TRANSVERSE - BOTTOM
▲	S505	33	28'-11"		X	SLAB - TRANSVERSE - BOTTOM
▲	S506	67	30'-6"		X	SLAB - TRANSVERSE - BOTTOM
▲	S507	65	30'-4"		X	SLAB - TRANSVERSE - TOP
	S508	203	45'-0"		X	SLAB - TRANSVERSE - TOP
▲	S509	34	32'-2"		X	SLAB - TRANSVERSE - TOP
	S510	202	48'-11"		X	SLAB - TRANSVERSE - TOP
▲	S511	33	28'-6"		X	SLAB - TRANSVERSE - TOP
▲	S512	66	30'-6"		X	SLAB - TRANSVERSE - TOP
▲	S513	3	3'-8"	X	X	SLAB - TRANSVERSE - TOP - EDGE OF DECK
	S514	528	5'-2"	X	X	SLAB - TRANSVERSE - TOP - EDGE OF DECK
▲	S515	3	3'-5"	X	X	SLAB - TRANSVERSE - TOP - EDGE OF DECK
	S416	121	16'-6"		X	SLAB - LONGITUDINAL - BOTTOM
	S417	484	45'-0"		X	SLAB - LONGITUDINAL - BOTTOM
	S418	244	38'-8"		X	SLAB - LONGITUDINAL - TOP
	S419	121	20'-2"		X	SLAB - LONGITUDINAL - TOP
	S620	121	28'-1"		X	SLAB - LONGITUDINAL - TOP
						NOT USED
	S822	243	55'-0"		X	SLAB - LONGITUDINAL - TOP
	S423	4	32'-0"		X	SLAB - LONGITUDINAL - TOP - EAST EDGE - SPAN 2
	S524	60	12'-10"	X	X	PIER DIAPHRAGM - VERT.
	S525	24	10'-11"	X	X	PIER DIAPHRAGM - VERT. - ADJACENT TO GIRDERS
	S426	24	5'-5"		X	PIER DIAPHRAGM - HORIZ.
	S427	144	5'-0"		X	PIER DIAPHRAGM - HORIZ.
	S428	24	4'-9"		X	PIER DIAPHRAGM - HORIZ.
	S429	96	3'-4"	X	X	ABUT. DIAPHRAGM - VERT. - ABUT. BODY NOTCH
	S530	128	13'-11"	X	X	ABUT. DIAPHRAGM - VERT.
	S531	104	11'-3"	X	X	ABUT. DIAPHRAGM - VERT. - ADJACENT TO GIRDERS
	S532	156	7'-2"	X	X	ABUT. DIAPHRAGM - VERT. - PAVING NOTCH
	S433	48	4'-2"		X	ABUT. DIAPHRAGM - HORIZ. - ABUT. BODY NOTCH
	S634	24	5'-5"		X	ABUT. DIAPHRAGM - HORIZ. - F.F.
	S635	144	5'-0"		X	ABUT. DIAPHRAGM - HORIZ. - F.F.
	S636	4	2'-2"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - ENDS
	S637	8	3'-4"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - ENDS
	S638	4	2'-11"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - ENDS
	S439	8	3'-8"		X	ABUT. DIAPHRAGM - VERT. - ENDS
	S540	52	6'-0"		X	ABUT. DIAPHRAGM - HORIZ. - THRU GIRDERS
	S641	36	40'-3"		X	ABUT. DIAPHRAGM - HORIZ. - B.F., SLAB
	S542	2	10'-5"	X	X	ABUT. DIAPHRAGM - VERT. - SOUTHWEST CORNER
	S543	2	9'-5"	X	X	ABUT. DIAPHRAGM - VERT. - NORTHWEST CORNER
	S444	4	4'-0"		X	SLAB - LONGITUDINAL - TOP & BOTTOM - WEST EDGE OF DECK - ADJACENT TO PAVING NOTCH
	S445	2	4'-3"		X	ABUT. DIAPHRAGM - VERT. - RETAINING WALL EARS - WEST EDGE
	S446	12	4'-2"	X	X	ABUT. DIAPHRAGM - VERT./HORIZ. - RETAINING WALL EARS - WEST EDGE

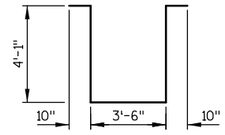
NOTE: THE FIRST ONE OR TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. DIMENSIONS FOR BENDING ARE OUT TO OUT OF BAR.

▲ BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S501	1 SERIES OF 66	1'-4" TO 59'-3"
S503	1 SERIES OF 34	17'-11" TO 47'-4"
S505	1 SERIES OF 33	14'-8" TO 43'-2"
S506	1 SERIES OF 67	1'-1" TO 59'-11"
S507	1 SERIES OF 65	1'-9" TO 58'-10"
S509	1 SERIES OF 34	17'-5" TO 46'-10"
S511	1 SERIES OF 33	14'-2" TO 42'-9"
S512	1 SERIES OF 66	1'-6" TO 59'-5"
S513	1 SERIES OF 3	2'-9" TO 4'-7"
S515	1 SERIES OF 3	2'-6" TO 4'-4"



S513, S514, S515



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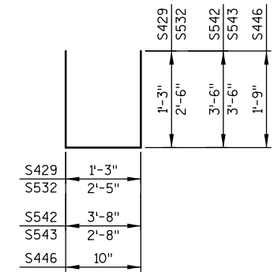
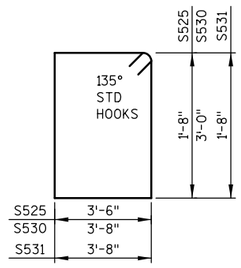


S429, S532, S542, S543, S446



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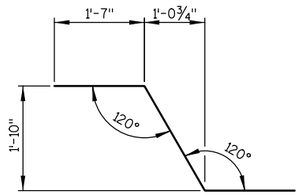


SS901

STAINLESS STEEL BILL OF BARS

3,130 LBS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
SS901		184	5'-0"	X		CONC. DIAPH. @ ABUTS. TO APPROACH APRON

NOTE:
SEE APPROACH APRON AND APPROACH APRON DETAILS SHEETS FOR PLACEMENT OF SS901 BARS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE DETAILS - 2

SHEET 22 OF 28
1978

STATE PROJECT NUMBER

1133-09-71

TOP OF DECK ELEVATIONS AT ℄ GIRDERS

LOCATION	WEST EDGE OF DECK		GIRDER NUMBER													
			1		2		3		4		5		6		7	
	61'-3" LT		58'-0 1/8" LT		50'-11 1/8" LT		43'-10 1/8" LT		36'-9 1/8" LT		29'-8 1/8" LT		22'-7 1/8" LT		15'-5 1/8" LT	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
C/L BRG S ABUT	894+08.83	628.20	894+06.25	628.27	894+00.63	628.42	893+95.00	628.57	893+89.37	628.72	893+83.74	628.86	893+78.12	629.01	893+72.49	629.16
0.1 L POINT	894+19.63	628.19	894+17.05	628.26	894+11.43	628.41	894+05.80	628.55	894+00.17	628.70	893+94.54	628.85	893+88.92	629.00	893+83.29	629.15
0.2 L POINT	894+30.43	628.17	894+27.85	628.24	894+22.23	628.39	894+16.60	628.54	894+10.97	628.69	894+05.34	628.84	893+99.72	628.99	893+94.09	629.14
0.3 L POINT	894+41.23	628.15	894+38.65	628.22	894+33.03	628.37	894+27.40	628.52	894+21.77	628.67	894+16.14	628.82	894+10.52	628.97	894+04.89	629.12
0.4 L POINT	894+52.03	628.13	894+49.45	628.20	894+43.83	628.35	894+38.20	628.50	894+32.57	628.66	894+26.94	628.81	894+21.32	628.96	894+15.69	629.11
0.5 L POINT	894+62.83	628.10	894+60.25	628.17	894+54.63	628.33	894+49.00	628.48	894+43.37	628.63	894+37.74	628.79	894+32.12	628.94	894+26.49	629.09
0.6 L POINT	894+73.63	628.08	894+71.05	628.15	894+65.43	628.30	894+59.80	628.46	894+54.17	628.61	894+48.54	628.77	894+42.92	628.92	894+37.29	629.07
0.7 L POINT	894+84.43	628.05	894+81.85	628.12	894+76.23	628.28	894+70.60	628.43	894+64.97	628.59	894+59.34	628.74	894+53.72	628.90	894+48.09	629.05
0.8 L POINT	894+95.23	628.02	894+92.65	628.09	894+87.03	628.25	894+81.40	628.41	894+75.77	628.56	894+70.14	628.72	894+64.52	628.87	894+58.89	629.03
0.9 L POINT	895+06.03	627.99	895+03.45	628.06	894+97.83	628.22	894+92.20	628.38	894+86.57	628.53	894+80.94	628.69	894+75.32	628.85	894+69.69	629.00
C/L PIER 1	895+16.83	627.95	895+14.25	628.03	895+08.63	628.18	895+03.00	628.34	894+97.37	628.50	894+91.74	628.66	894+86.12	628.82	894+80.49	628.97
0.1 L POINT	895+24.78	627.93	895+22.20	628.00	895+16.58	628.16	895+10.95	628.32	895+05.32	628.48	894+99.69	628.64	894+94.07	628.80	894+88.44	628.95
0.2 L POINT	895+32.73	627.90	895+30.15	627.97	895+24.53	628.13	895+18.90	628.29	895+13.27	628.45	895+07.64	628.61	895+02.02	628.77	894+96.39	628.93
0.3 L POINT	895+40.68	627.87	895+38.10	627.94	895+32.48	628.11	895+26.85	628.27	895+21.22	628.43	895+15.59	628.59	895+09.97	628.75	895+04.34	628.91
0.4 L POINT	895+48.63	627.84	895+46.05	627.91	895+40.43	628.08	895+34.80	628.24	895+29.17	628.40	895+23.54	628.56	895+17.92	628.72	895+12.29	628.88
0.5 L POINT	895+56.58	627.81	895+54.00	627.88	895+48.38	628.05	895+42.75	628.21	895+37.12	628.37	895+31.49	628.53	895+25.87	628.70	895+20.24	628.86
0.6 L POINT	895+64.53	627.78	895+61.95	627.85	895+56.33	628.02	895+50.70	628.18	895+45.07	628.34	895+39.44	628.51	895+33.82	628.67	895+28.19	628.83
0.7 L POINT	895+72.48	627.74	895+69.90	627.82	895+64.28	627.98	895+58.65	628.15	895+53.02	628.31	895+47.39	628.48	895+41.77	628.64	895+36.14	628.80
0.8 L POINT	895+80.43	627.71	895+77.85	627.78	895+72.23	627.95	895+66.60	628.12	895+60.97	628.28	895+55.34	628.44	895+49.72	628.61	895+44.09	628.77
0.9 L POINT	895+88.38	627.67	895+85.80	627.75	895+80.18	627.92	895+74.55	628.08	895+68.92	628.25	895+63.29	628.41	895+57.67	628.58	895+52.04	628.74
C/L BRG N ABUT	895+96.33	627.64	895+93.75	627.71	895+88.13	627.88	895+82.50	628.05	895+76.87	628.21	895+71.24	628.38	895+65.62	628.54	895+59.99	628.71

LOCATION	GIRDER NUMBER														EAST EDGE OF DECK	
	CROWN		8		9		REFERENCE LINE		10		11		12		13		
	12'-0" LT		8'-4 1/8" LT		1'-3 1/8"		0		5'-8 7/8" RT		12'-9 7/8" RT		19'-10 7/8" RT		26'-11 7/8" RT		30'-2 3/4" RT	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
C/L BRG S ABUT	893+69.70	629.23	893+66.86	629.16	893+61.24	629.02	893+60.17	628.99	893+55.61	628.88	893+49.98	628.74	893+44.36	628.60	893+38.73	628.46	893+36.16	628.40
0.1 L POINT	893+80.50	629.22	893+77.66	629.15	893+72.04	629.01	893+70.97	628.99	893+66.41	628.88	893+60.78	628.74	893+55.16	628.60	893+49.53	628.46	893+46.96	628.39
0.2 L POINT	893+91.30	629.21	893+88.46	629.14	893+82.84	629.00	893+81.77	628.98	893+77.21	628.87	893+71.58	628.73	893+65.96	628.59	893+60.33	628.45	893+57.76	628.39
0.3 L POINT	894+02.10	629.20	893+99.26	629.13	893+93.64	628.99	893+92.57	628.97	893+88.01	628.86	893+82.38	628.72	893+76.76	628.58	893+71.13	628.45	893+68.56	628.38
0.4 L POINT	894+12.90	629.18	894+10.06	629.11	894+04.44	628.98	894+03.37	628.95	893+98.81	628.85	893+93.18	628.71	893+87.56	628.57	893+81.93	628.44	893+79.36	628.38
0.5 L POINT	894+23.70	629.17	894+20.86	629.10	894+15.24	628.97	894+14.17	628.94	894+09.61	628.83	894+03.98	628.70	893+98.36	628.56	893+92.73	628.43	893+90.16	628.37
0.6 L POINT	894+34.50	629.15	894+31.66	629.08	894+26.04	628.95	894+24.97	628.92	894+20.41	628.82	894+14.78	628.68	894+09.16	628.55	894+03.53	628.41	894+00.96	628.35
0.7 L POINT	894+45.30	629.13	894+42.46	629.06	894+36.84	628.93	894+35.77	628.90	894+31.21	628.80	894+25.58	628.67	894+19.96	628.53	894+14.33	628.40	894+11.76	628.34
0.8 L POINT	894+56.10	629.10	894+53.26	629.04	894+47.64	628.91	894+46.57	628.88	894+42.01	628.78	894+36.38	628.65	894+30.76	628.52	894+25.13	628.38	894+22.56	628.32
0.9 L POINT	894+66.90	629.08	894+64.06	629.01	894+58.44	628.89	894+57.37	628.86	894+52.81	628.76	894+47.18	628.63	894+41.56	628.50	894+35.93	628.36	894+33.36	628.30
C/L PIER 1	894+77.70	629.05	894+74.86	628.99	894+69.24	628.86	894+68.17	628.84	894+63.61	628.73	894+57.98	628.60	894+52.36	628.47	894+46.73	628.34	894+44.16	628.28
0.1 L POINT	894+85.65	629.03	894+82.81	628.97	894+77.19	628.84	894+76.12	628.82	894+71.56	628.71	894+65.93	628.58	894+60.31	628.46	894+54.68	628.33	894+52.11	628.27
0.2 L POINT	894+93.60	629.01	894+90.76	628.95	894+85.14	628.82	894+84.07	628.79	894+79.51	628.69	894+73.88	628.56	894+68.26	628.44	894+62.63	628.31	894+60.06	628.25
0.3 L POINT	895+01.55	628.99	894+98.71	628.92	894+93.09	628.80	894+92.02	628.77	894+87.46	628.67	894+81.83	628.54	894+76.21	628.42	894+70.58	628.29	894+68.01	628.23
0.4 L POINT	895+09.50	628.96	895+06.66	628.90	895+01.04	628.77	894+99.97	628.75	894+95.41	628.65	894+89.78	628.52	894+84.16	628.40	894+78.53	628.27	894+75.96	628.21
0.5 L POINT	895+17.45	628.94	895+14.61	628.87	895+08.99	628.75	895+07.92	628.73	895+03.36	628.62	894+97.73	628.50	894+92.11	628.37	894+86.48	628.25	894+83.91	628.19
0.6 L POINT	895+25.40	628.91	895+22.56	628.85	895+16.94	628.72	895+15.87	628.70	895+11.31	628.60	895+05.68	628.48	895+00.06	628.35	894+94.43	628.23	894+91.86	628.17
0.7 L POINT	895+33.35	628.88	895+30.51	628.82	895+24.89	628.70	895+23.82	628.67	895+19.26	628.57	895+13.63	628.45	895+08.01	628.33	895+02.38	628.20	894+99.81	628.15
0.8 L POINT	895+41.30	628.85	895+38.46	628.79	895+32.84	628.67	895+31.77	628.65	895+27.21	628.55	895+21.58	628.43	895+15.96	628.30	895+10.33	628.18	895+07.76	628.12
0.9 L POINT	895+49.25	628.82	895+46.41	628.76	895+40.79	628.64	895+39.72	628.62	895+35.16	628.52	895+29.53	628.40	895+23.91	628.28	895+18.28	628.15	895+15.71	628.10
C/L BRG N ABUT	895+57.20	628.79	895+54.36	628.73	895+48.74	628.61	895+47.67	628.59	895+43.11	628.49	895+37.48	628.37	895+31.86	628.25	895+26.23	628.13	895+23.66	628.07

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

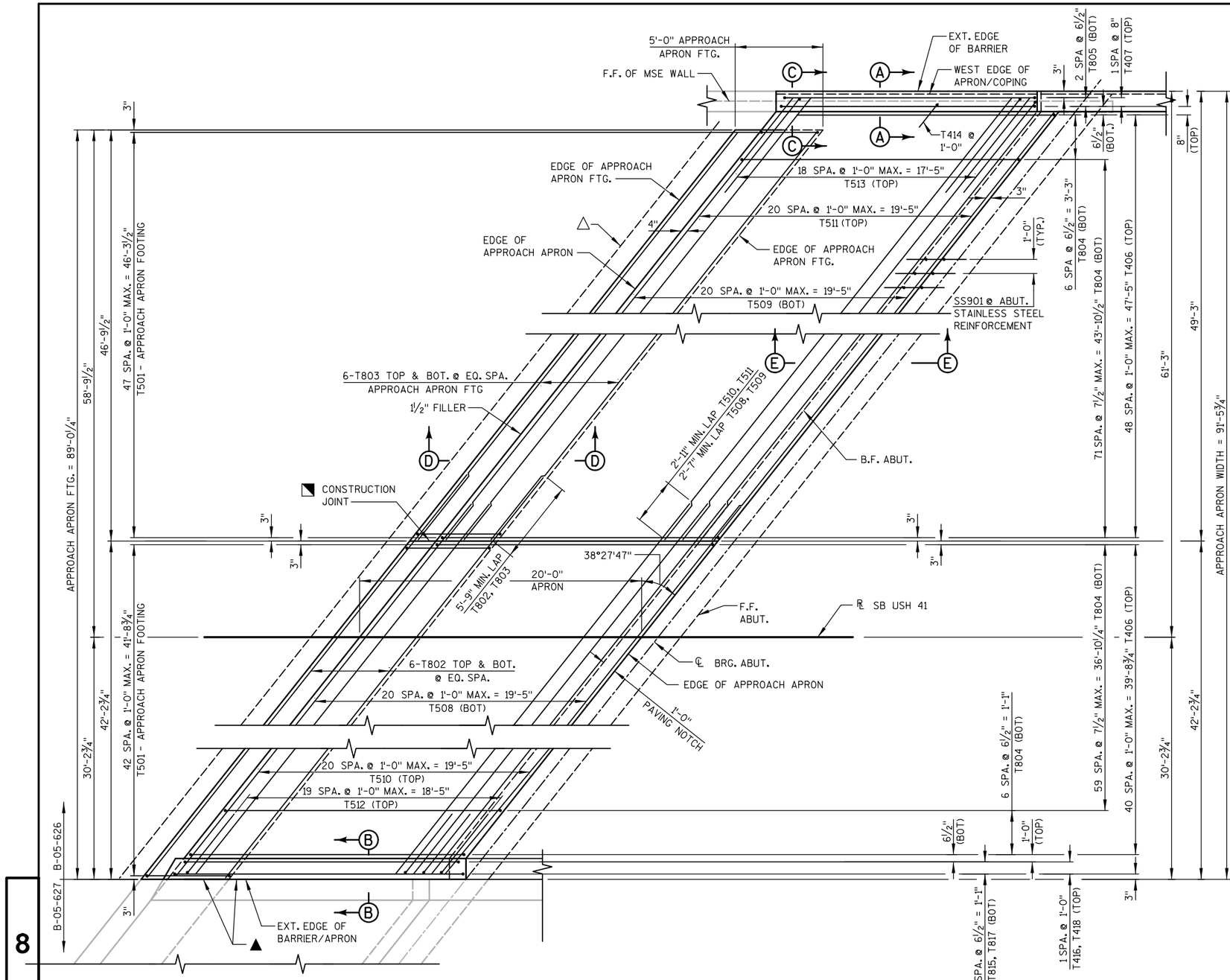
SUPERSTRUCTURE DETAILS - 3

SHEET 23 OF 28

1979

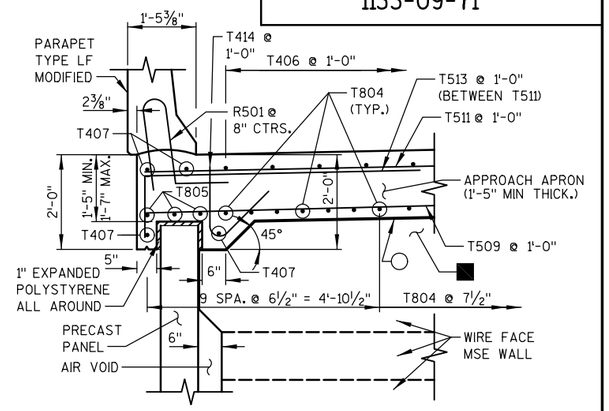
STATE PROJECT NUMBER

1133-09-71



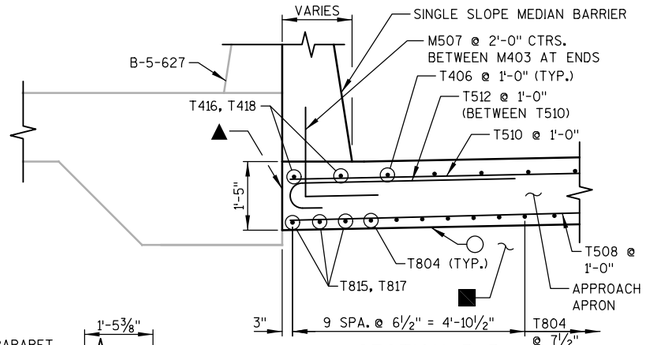
APPROACH APRON PLAN

(SOUTH APRON SHOWN, NORTH APRON SIMILAR)

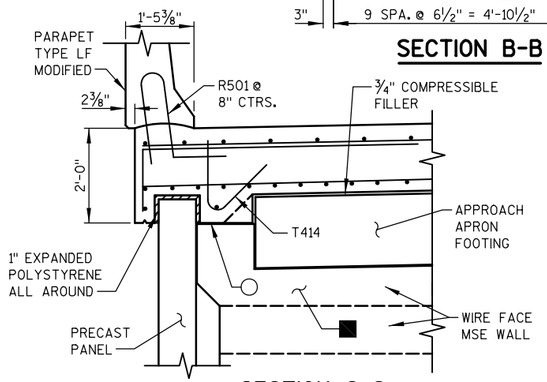


SECTION A-A

(AT MSE WINGWALL)



SECTION B-B



SECTION C-C

(AT MSE WINGWALLS)

NOTES

SEE SHEET 25 FOR DETAILS

DESIGN DATA:

ALLOWABLE SOIL BEARING PRESSURE:	2,000 P.S.F.
CONCRETE STRENGTH f'c:	4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60, fy:	60,000 P.S.I.

LEGEND

△ PIPE UNDERDRAIN WRAPPED 6-INCH AT APPROACH APRON. LOCATED ONLY ON UPHILL SIDE OF APRON FOOTING. SLOPE 0.5% MIN. TO USH 41 CLOSED MEDIAN DRAINAGE SYSTEM.

◥ RUN REINFORCEMENT THRU THE CONSTRUCTION JOINT.

○ PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.

▲ PLACE ½" FILLER BETWEEN EDGE OF B-05-627 APPROACH APRON FOOTING AND SLAB AND EDGE OF B-05-626 APPROACH APRON FOOTING AND SLAB.

■ 1¼" COURSE AGGREGATE BASE COURSE. SEE ROADWAY PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

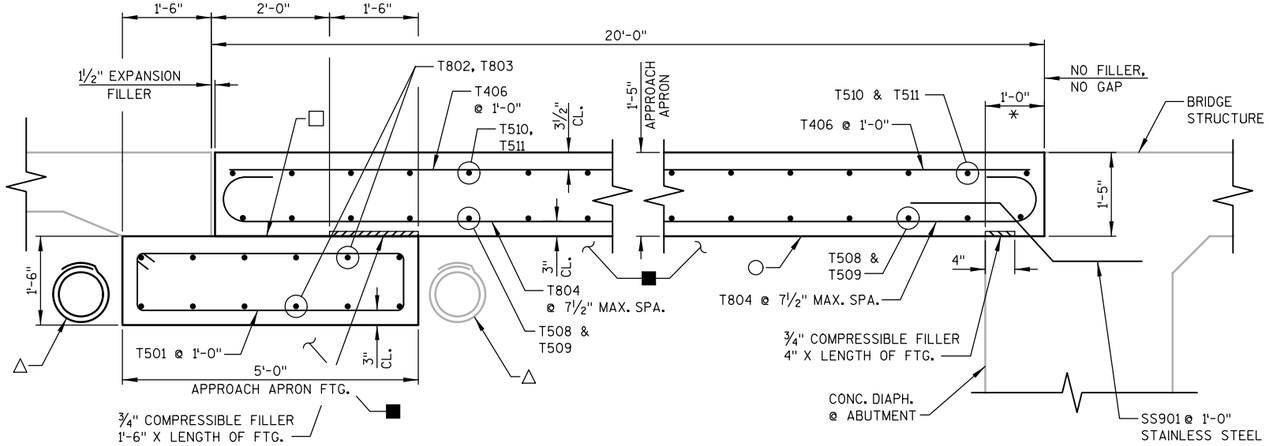
STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

SHEET 24 OF 28

APPROACH APRON 1980

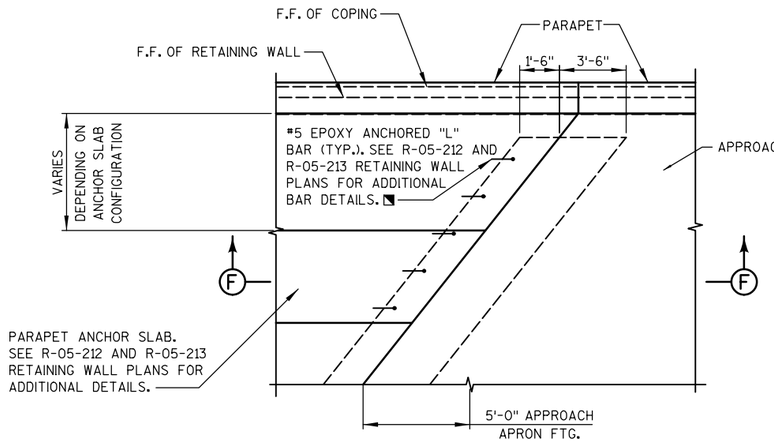
STATE PROJECT NUMBER
1133-09-71



SECTION D-D

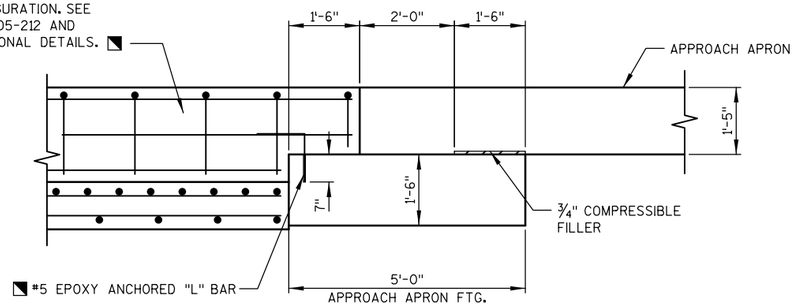
SECTION E-E

SECTION THRU APPROACH APRON



PLAN AT APPROACH APRON INTERFACE WITH RETAINING WALL ANCHOR SLAB

PARAPET ANCHOR SLAB DIMENSIONS VARY DEPENDING ON ANCHOR SLAB CONFIGURATION. SEE RETAINING WALLS R-05-212 AND R-05-213 FOR ADDITIONAL DETAILS.



SECTION F-F

BILL OF BARS

COATED:
SOUTH APPROACH APRON = 20,220 LBS.
NORTH APPROACH APRON = 20,210 LBS.

	BAR MARK	COAT	NO. REQ'D. S. APRON	NO. REQ'D. N. APRON	LENGTH	BENT	BAR SERIES	LOCATION
	T501	X	91	91	12'-1"	X		FOOTING - STIRRUPS
	T802	X	12	12	59'-6"			FOOTING - HORIZONTAL
	T803	X	12	12	59'-4"			FOOTING - HORIZONTAL
	T804	X	144	144	21'-4"	X		APPROACH APRON - LONGIT. - BOT.
	T805	X	3	3	19'-6"	X		APPROACH APRON - LONGIT. - BOT.
	T406	X	90	90	19'-6"			APPROACH APRON - LONGIT. - TOP
	T407	X	4	4	17'-8"			APPROACH APRON - LONGIT. - AT MSE WALL PANEL
	T508	X	21	21	58'-9"			APPROACH APRON - TRANS. - BOT.
	T509	X	21	21	60'-0"			APPROACH APRON - TRANS. - BOT.
	T510	X	21	21	59'-1"			APPROACH APRON - TRANS. - TOP
	T511	X	21	21	60'-0"			APPROACH APRON - TRANS. - TOP
	T512	X	20	20	5'-4"	X		APPROACH APRON - TRANS. - TOP
	T513	X	19	19	6'-2"	X		APPROACH APRON - TRANS. - TOP
	T414	X	21	21	3'-0"	X		APPROACH APRON - TIE
▲	T815	X	3	0	21'-11"	X	X	SOUTH APPROACH APRON - LONGIT. - BOT.
▲	T416	X	2	0	20'-1"		X	SOUTH APPROACH APRON - LONGIT. - TOP
▲	T817	X	0	3	20'-9"	X	X	NORTH APPROACH APRON - LONGIT. - BOT.
▲	T418	X	0	2	18'-11"		X	NORTH APPROACH APRON - LONGIT. - TOP

NOTE: ALL DIMENSIONS IN THE BAR BENDS ARE OUT TO OUT.

▲ BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
T815	1 SERIES OF 3	21'-6" TO 22'-3"
T416	1 SERIES OF 2	19'-8" TO 20'-5"
T817	1 SERIES OF 3	20'-4" TO 21'-1"
T418	1 SERIES OF 2	18'-6" TO 19'-3"

LEGEND:

△ PIPE UNDERDRAIN WRAPPED 6-INCH AT APPROACH APRON, LOCATED ONLY ON UPHILL SIDE OF APRON FOOTING. SLOPE 0.5% MIN. TO USH 41 CLOSED MEDIAN DRAINAGE SYSTEM.

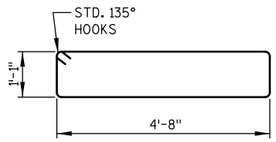
□ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.

○ PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.

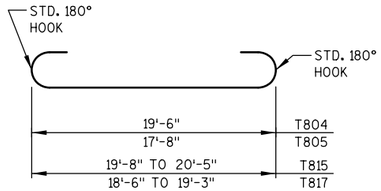
∗ PAVING NOTCH MEASURED NORMAL TO ABUTMENT.

◥ SEE R-05-212 AND R-05-213 RETAINING WALL PLANS FOR ADDITIONAL DETAILS PAID FOR UNDER RETAINING WALLS R-05-212 AND R-05-213

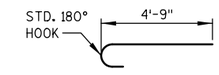
■ 1¼" COUSRE AGGREGATE BASE COURSE. SEE ROADWAY PLANS



T501



T804, T805, T815, T817



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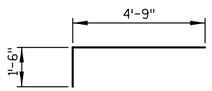

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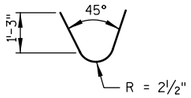

T414

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY	AJW	PLANS CK'D.	DJW

APPROACH APRON DETAILS

SHEET 25 OF 28
1981

8

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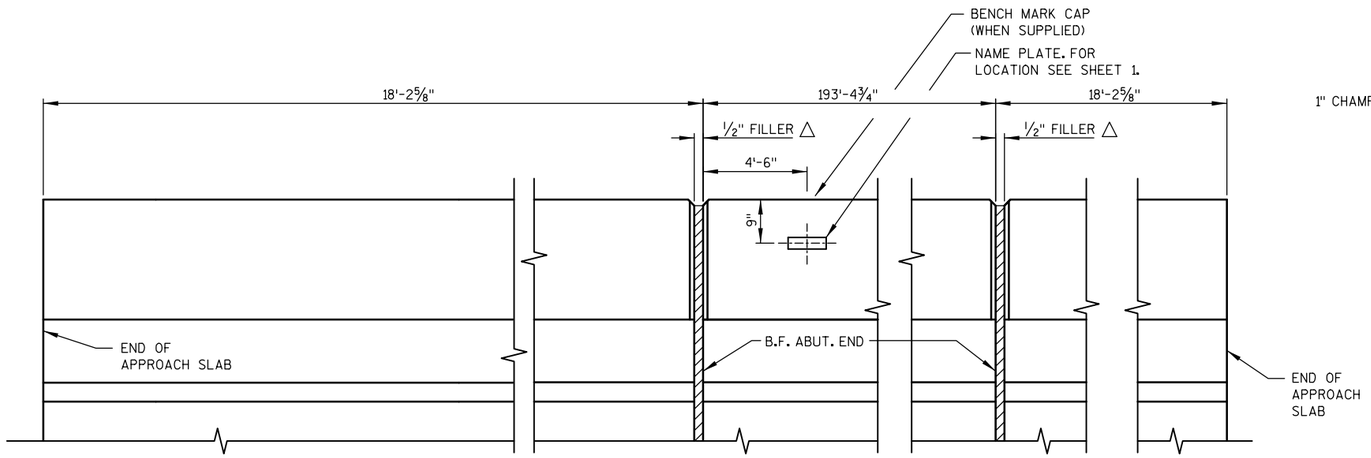
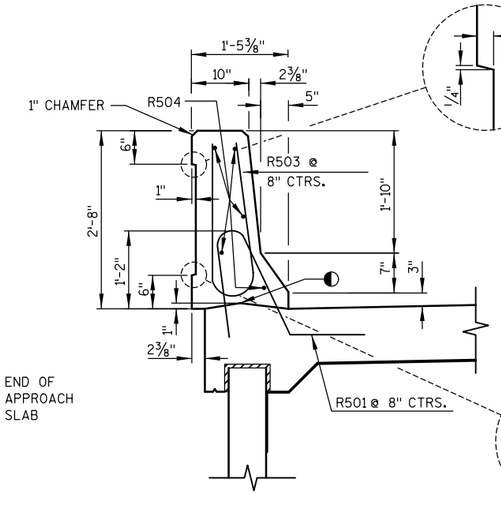
STATE PROJECT NUMBER

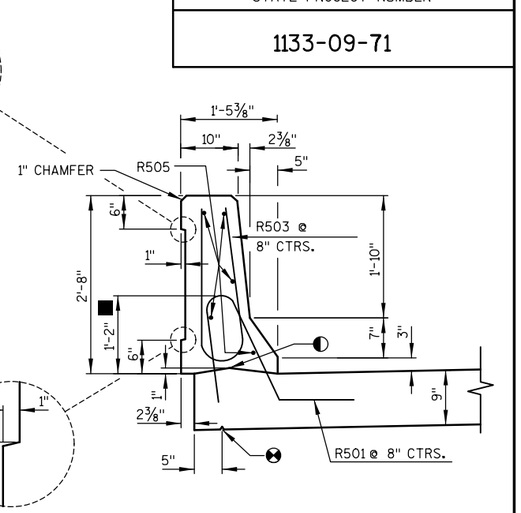
1133-09-71



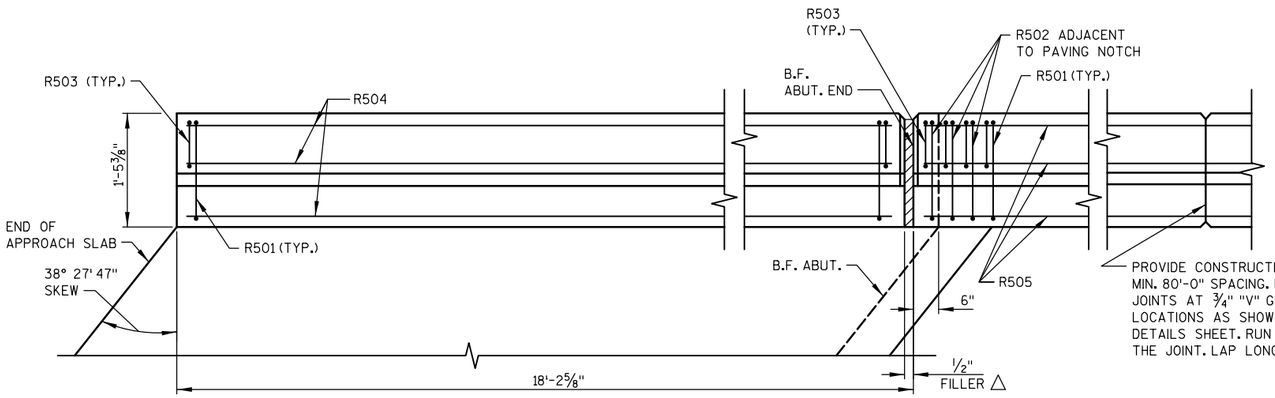
INSIDE ELEVATION



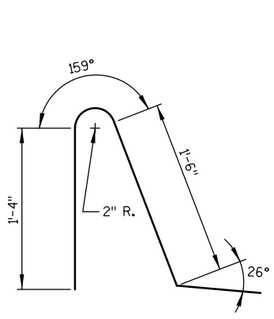
SECTION THRU PARAPET ON APRON



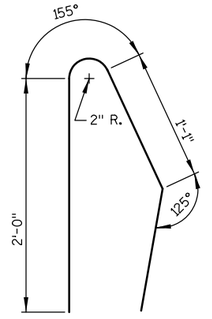
SECTION THRU PARAPET ON BRIDGE



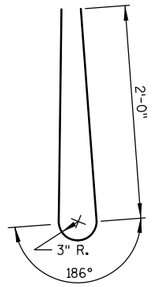
PLAN



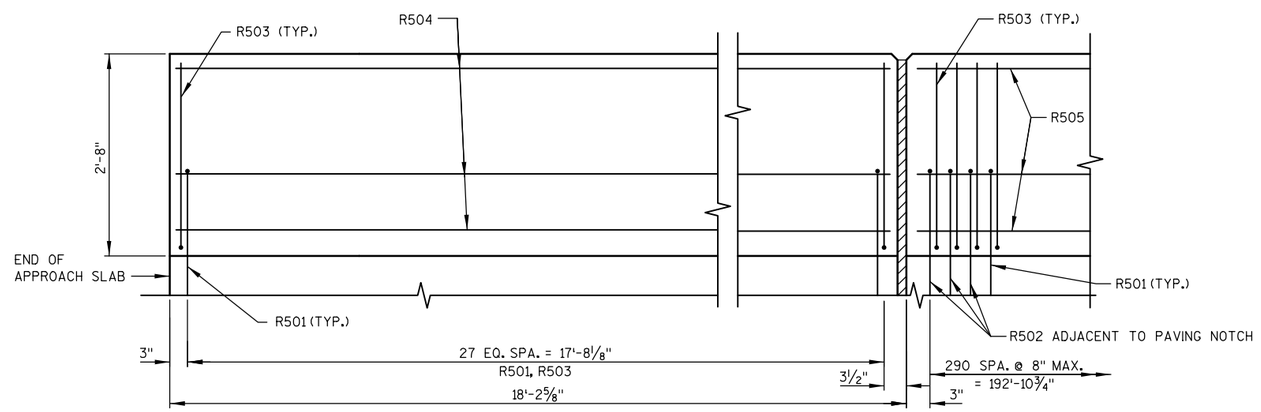
R501



R502



R503



OUTSIDE ELEVATION

LEGEND

◐ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.

⊗ ¾" V-GROOVE. EXTEND V-GROOVE TO THE FILLET ADJACENT TO THE ABUTMENTS.

△ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN ⅛" BELOW SURFACE OF CONCRETE.

■ THIS DIMENSION SHALL ALSO BE USED WITH R502 BARS.

COATED:
SOUTH APPROACH APRON = 360 LBS.
SUPERSTRUCTURE = 3,770 LBS.
NORTH APPROACH APRON = 360 LBS.

BILL OF BARS

MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
R501	341	4'-2"	X	X	PARAPET - VERT.
R502	6	4'-7"	X	X	PARAPET - VERT. - AT ENDS OF BRIDGE
R503	347	4'-10"	X	X	PARAPET - VERT.
R504	10	17'-10"		X	PARAPET - HORIZ. - AT APPROACH APRON
R505	20	49'-7"		X	PARAPET - HORIZ. - SUPERSTRUCTURE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

SLOPED FACE PARAPET 'LF' (MODIFIED)

SHEET 26 OF 28

1982

8

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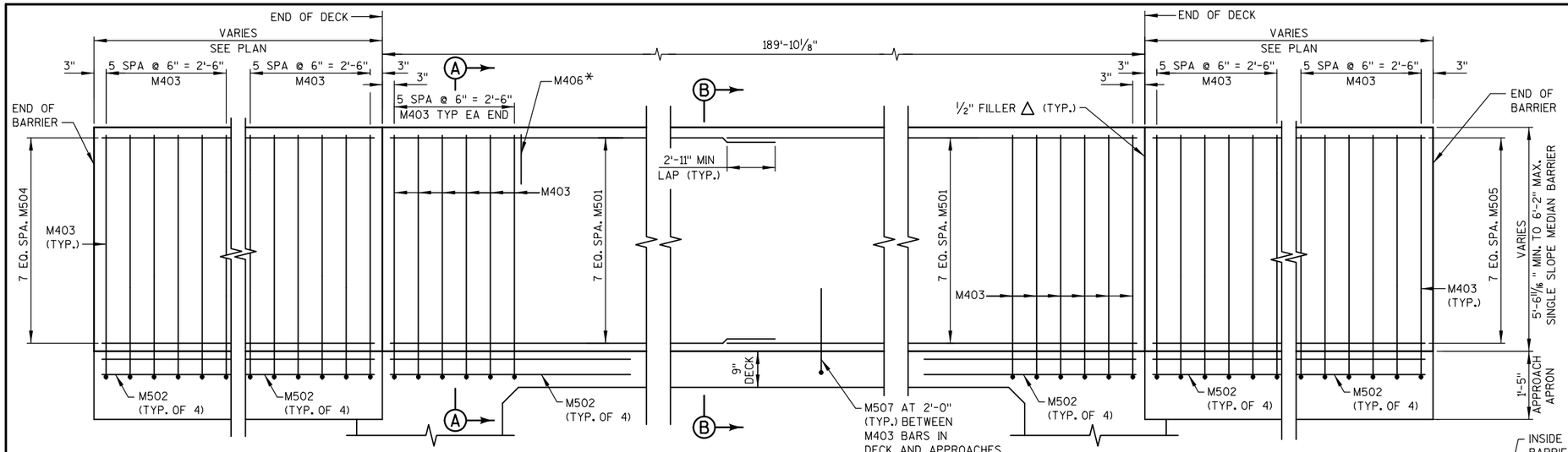
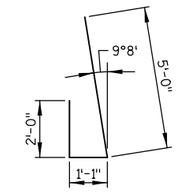
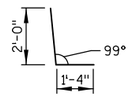
STATE PROJECT NUMBER
1133-09-71





M403



M506

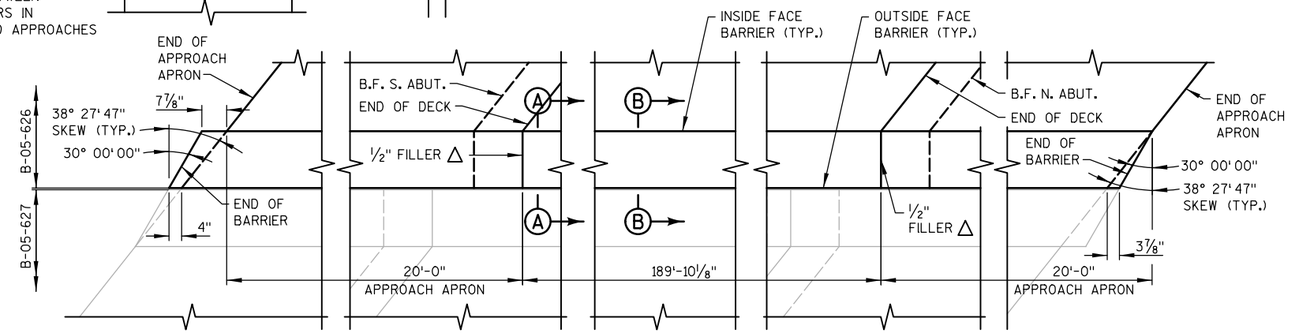
NOTES

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINFORCEMENT THRU THE JOINT. LAP LONGITUDINAL BARS A MIN. OF 2'-11". MIN. JOINT SPACING OF 80'-0". DEFINE CONSTRUCTION JOINT WITH A ¾" 'V' GROOVE.

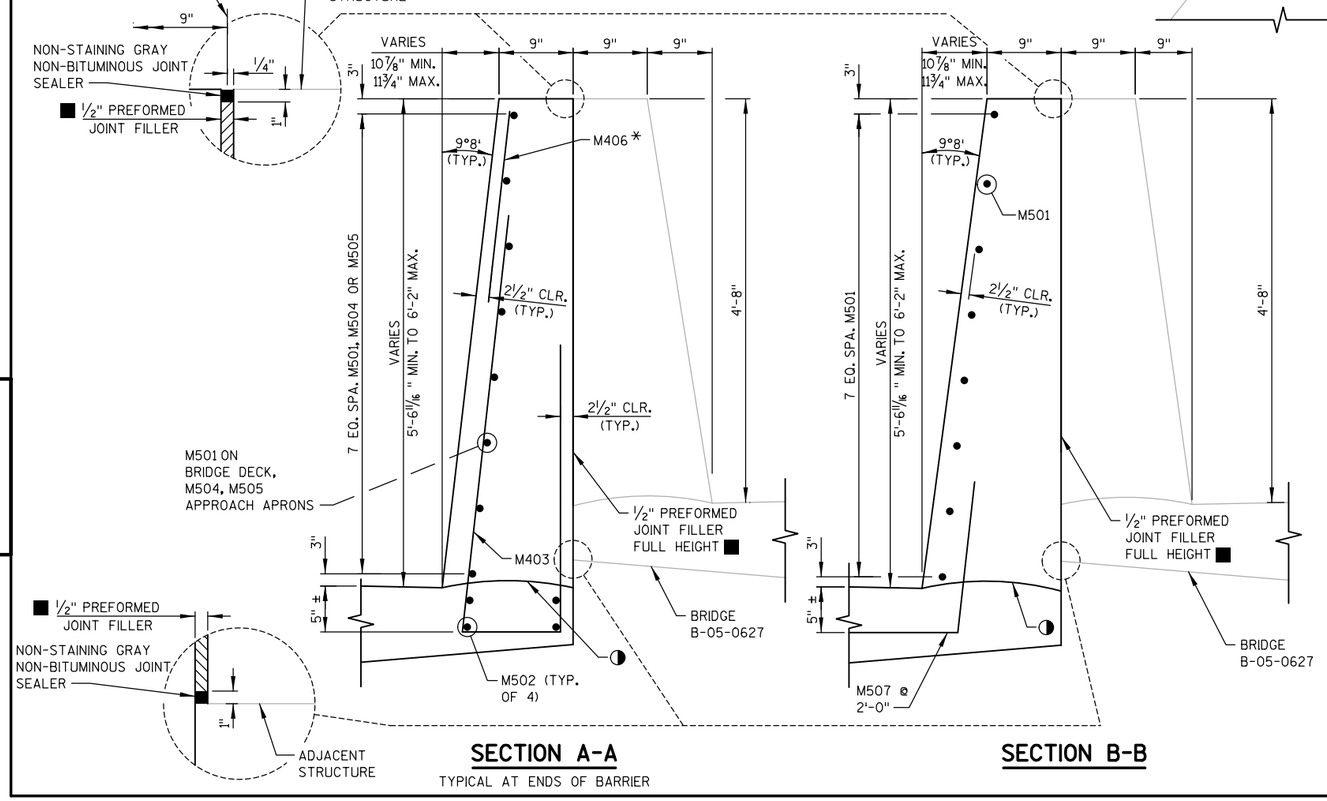
ADJACENT STRUCTURE (B-05-627) WILL BE CONSTRUCTED PRIOR TO B-05-626. ALIGN TOP OF B-05-626 SINGLE SLOPE MEDIAN BARRIER WITH TOP OF B-05-627 BARRIER AS SHOWN.

OUTSIDE ELEVATION

(LOOKING WEST)



PLAN



SECTION A-A

TYPICAL AT ENDS OF BARRIER

SECTION B-B

COATED:
SOUTH APPROACH APRON = 330 LBS.
SUPERSTRUCTURE = 2,110 LBS.
NORTH APPROACH APRON = 320 LBS.

BILL OF BARS

BAR MARK	COAT	NO.	LENGTH	BENT	LOCATION
M501	X	32	49'-8"		MEDIAN BARRIER HORIZ. AT DECK
M502	X	24	5'-0"		MEDIAN BARRIER HORIZ. AT ENDS (IN DECK OR APPROACH APRON)
M403	X	36	7'-11"	X	MEDIAN BARRIER VERT. AT ENDS (IN DECK OR APPROACH APRON)
M504	X	8	20'-2"		MEDIAN BARRIER HORIZ. AT SOUTH APPROACH APRON
M505	X	8	19'-8"		MEDIAN BARRIER HORIZ. AT NORTH APPROACH APRON
M406	X	36	3'-6"		MEDIAN BARRIER VERT. *
M507	X	109	3'-3"	X	MEDIAN BARRIER VERT.

LEGEND

* LAP ONTO M403 BARS.

◐ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.

■ FASTEN ½" PREFORMED JOINT FILLER TO OUTSIDE OF B-05-627 WITH 1½" LONG GALVANIZED CONCRETE NAILS SPACED 2'-0" O.C. MAX. HORIZONTAL/VERTICAL.

△ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HELD DOWN ⅛" BELOW SURFACE OF CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

SINGLE SLOPE MEDIAN BARRIER

SHEET 27 OF 28

1983

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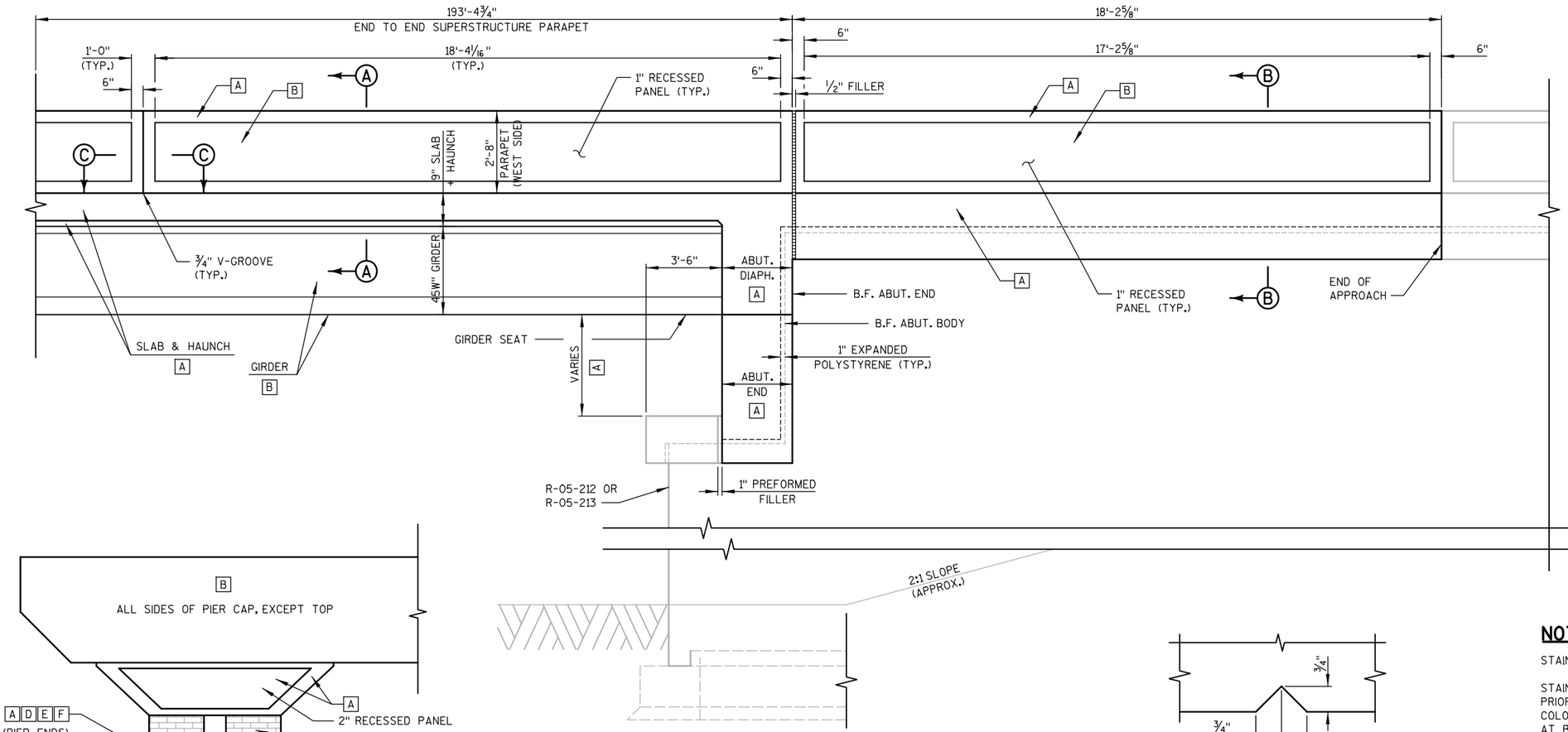
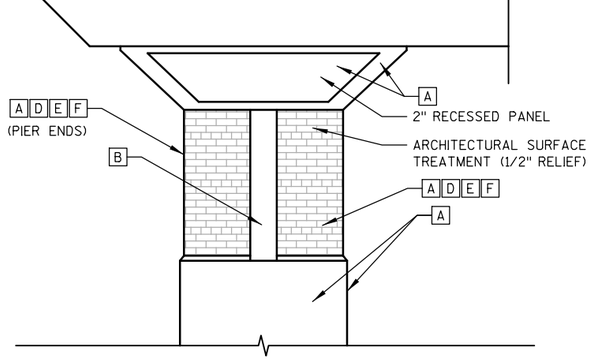
STATE PROJECT NUMBER
1133-09-71

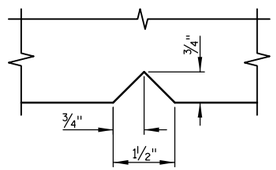




PIER ELEVATION

OUTSIDE ELEVATION OF PARAPET

(SOUTHWEST CORNER AT SOUTH ABUTMENT SHOWN, NORTH ABUTMENT SIMILAR)



SECTION C-C

¾" "V" GROOVE

NOTES

STAIN TO 1'-0" BELOW FINISHED GRADE.

STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

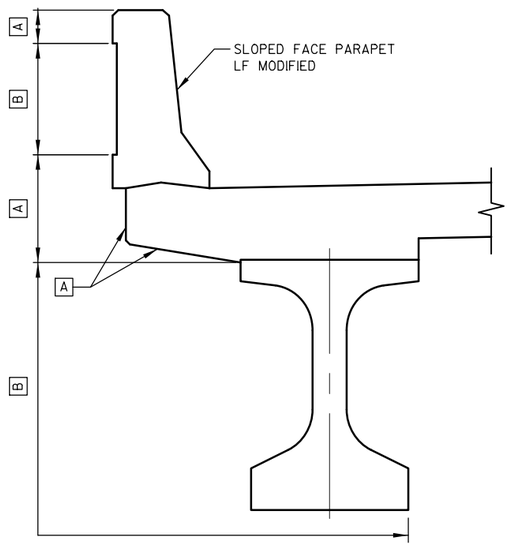
THE COST OF BRICK PATTERN FORMLINER TREATMENT IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT." SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

STAIN FRONT FACE OF ABUTMENTS AND END DIAPHRAGMS FROM 1-FOOT BELOW GRADE TO UNDERSIDE OF DECK, INCLUDING END DIAPHRAGM FACE BETWEEN GIRDERS.

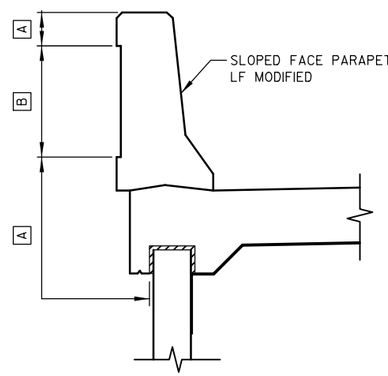
SEE SPECIAL PROVISIONS FOR STAIN COLORS.

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE AND BOTTOM OF EXTERIOR CONC. GIRDER, PIER CAP
C	ACCENT COLOR #2	NOT USED
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	NOT USED



SECTION A-A



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-626

DRAWN BY AJW | PLANS CK'D. DJW

AESTHETIC DETAILS

SHEET 28 OF 28

1984

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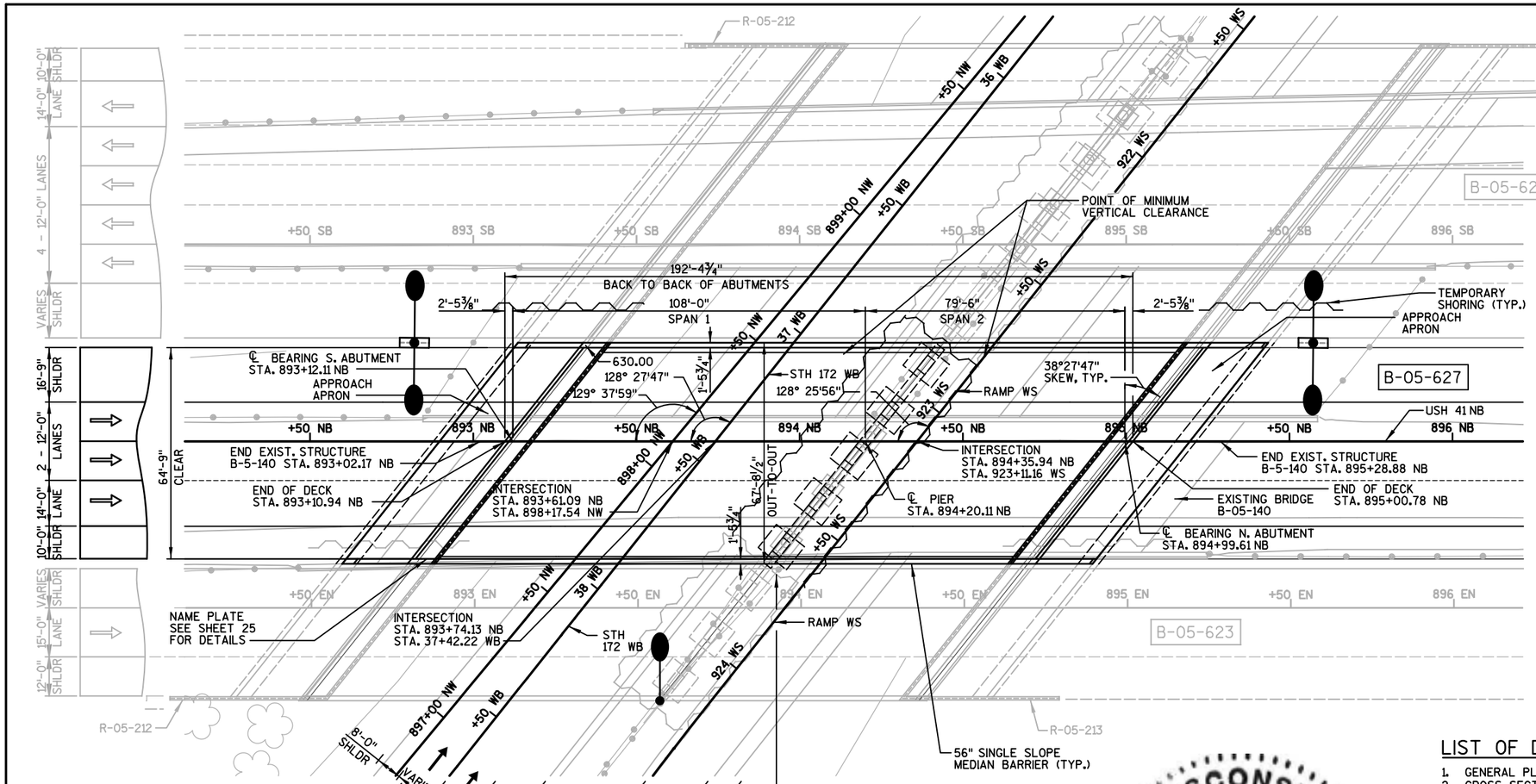
STATE PROJECT NUMBER

1133-09-71



BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER 608-266-8489

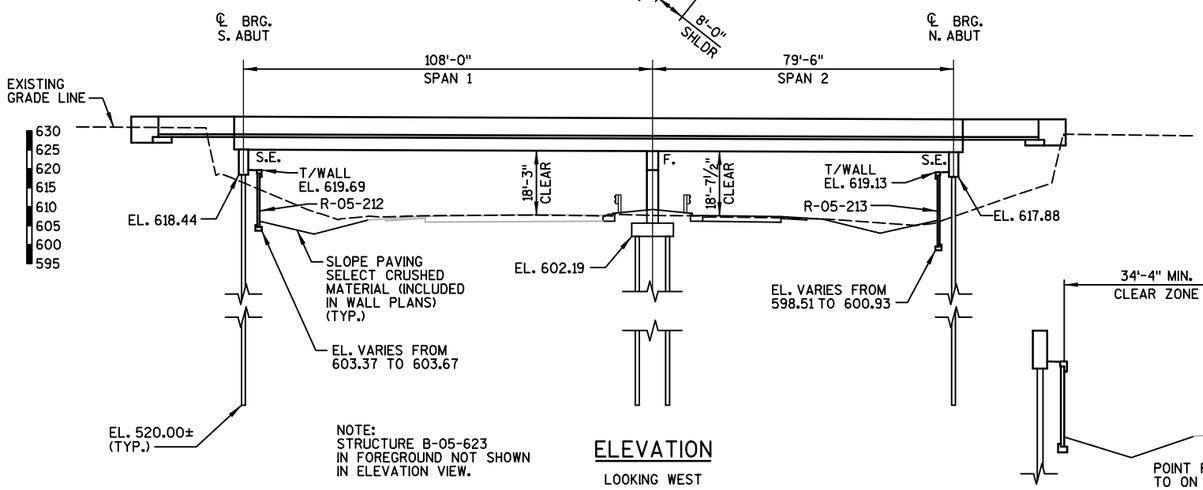
CONSULTANT CONTACT:
DAVID WALKER 608-251-4843

NE REGION CONTACT:
KURT PETERS 920-492-2213

PLAN

2 SPAN - 45W" PRESTRESSED GIRDERS

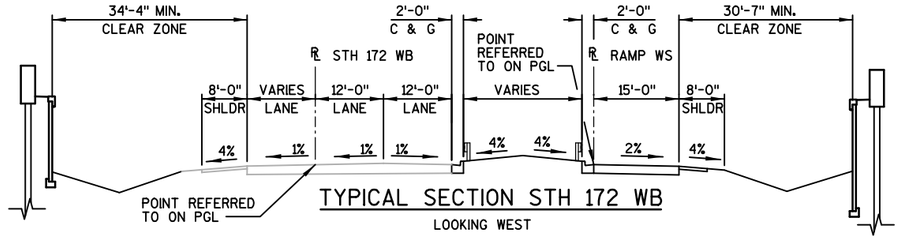
N



NOTE:
STRUCTURE B-05-623 IN FOREGROUND NOT SHOWN IN ELEVATION VIEW.

ELEVATION

LOOKING WEST



TYPICAL SECTION STH 172 WB

LOOKING WEST

DESIGN DATA

LIVE LOAD:
DESIGN LOAD HL-93
INVENTORY RATING FACTOR 1.19
OPERATING RATING FACTOR 1.55
MAX. STD. PERMIT VEHICLE LOAD ... 250 KIPS

THE STRUCTURE IS DESIGNED FOR A 1½" SACRIFICIAL WEARING SURFACE PLACED AT INITIAL CONSTRUCTION INTEGRAL WITH THE DECK. THE DESIGN DOES NOT PROVIDE FOR ADDITIONAL LOADS DUE TO FUTURE WEARING SURFACE.

ULTIMATE DESIGN STRESSES:
CONCRETE MASONRY (HPC) .....f'c = 4000 PSI

HIGH STRENGTH BAR STEEL
REINFORCEMENT GRADE 60 .....fy = 60,000 PSI

45W-INCH PRESTRESSED GIRDERS
CONCRETE MASONRY .....f'c = 8000 PSI

PRESTRESSING STRANDS = 0.6 INCH DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 PSI

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON STEEL PILING, HP 12-INCH X 53 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS **
** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 105 LONG AT SOUTH ABUTMENT.
ESTIMATED 105 LONG AT NORTH ABUTMENT.

PIER TO BE SUPPORTED ON STEEL PILING, HP 12-INCH X 53 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS **
** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 85'LONG AT PIER.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC DATA USH 41 NB

ADT = 27,300 (2015)
= 34,800 (2035)
DESIGN SPEED = 70 MPH

TRAFFIC DATA USH 41 SB

ADT = 37,900 (2015)
= 47,300 (2035)
DESIGN SPEED = 70 MPH

TRAFFIC DATA STH 172 WB

ADT = 27,100 (2015)
= 38,300 (2035)
DESIGN SPEED = 60 MPH

TRAFFIC DATA RAMP 'WS'

ADT = 11,000 (2015)
= 12,300 (2035)
DESIGN SPEED = 55 MPH

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. CONSTRUCTION STAGING-1
5. CONSTRUCTION STAGING-2
6. CONSTRUCTION STAGING-3
7. CONSTRUCTION STAGING-4
8. SOUTH ABUTMENT
9. SOUTH ABUTMENT DETAILS
10. NORTH ABUTMENT
11. NORTH ABUTMENT DETAILS
12. ABUTMENT AND PIER DETAILS
13. PIER
14. PIER FOUNDATION
15. PIER DETAILS
16. 45W PRESTRESSED GIRDER DETAILS-1
17. 45W PRESTRESSED GIRDER DETAILS-2
18. STEEL DIAPHRAGMS
19. SUPERSTRUCTURE PLAN
20. SUPERSTRUCTURE SECTION
21. SUPERSTRUCTURE DETAILS-1
22. SUPERSTRUCTURE DETAILS-2
23. APPROACH APRON
24. APPROACH APRON DETAILS
25. SINGLE SLOPE MEDIAN BARRIER
26. AESTHETIC DETAILS

WISCONSIN
KEITH R. BEHREND
E-42073
MADISON
WI
PROFESSIONAL ENGINEER
Keith R. Behrend
1-30-13

NO.	DATE	REVISION	BY

STRAND ASSOCIATES®
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608)-251-4843
(608) 251-8655 FAX
WWW.STRAND.COM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Ducheck KAR — 02/13/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-05-627

NB USH 41 OVER STH 172 WB

COUNTY	TOWN/CITY/VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
KRB	DDR	AJW	DJW

GENERAL PLAN

SHEET 1 OF 26
1985

8

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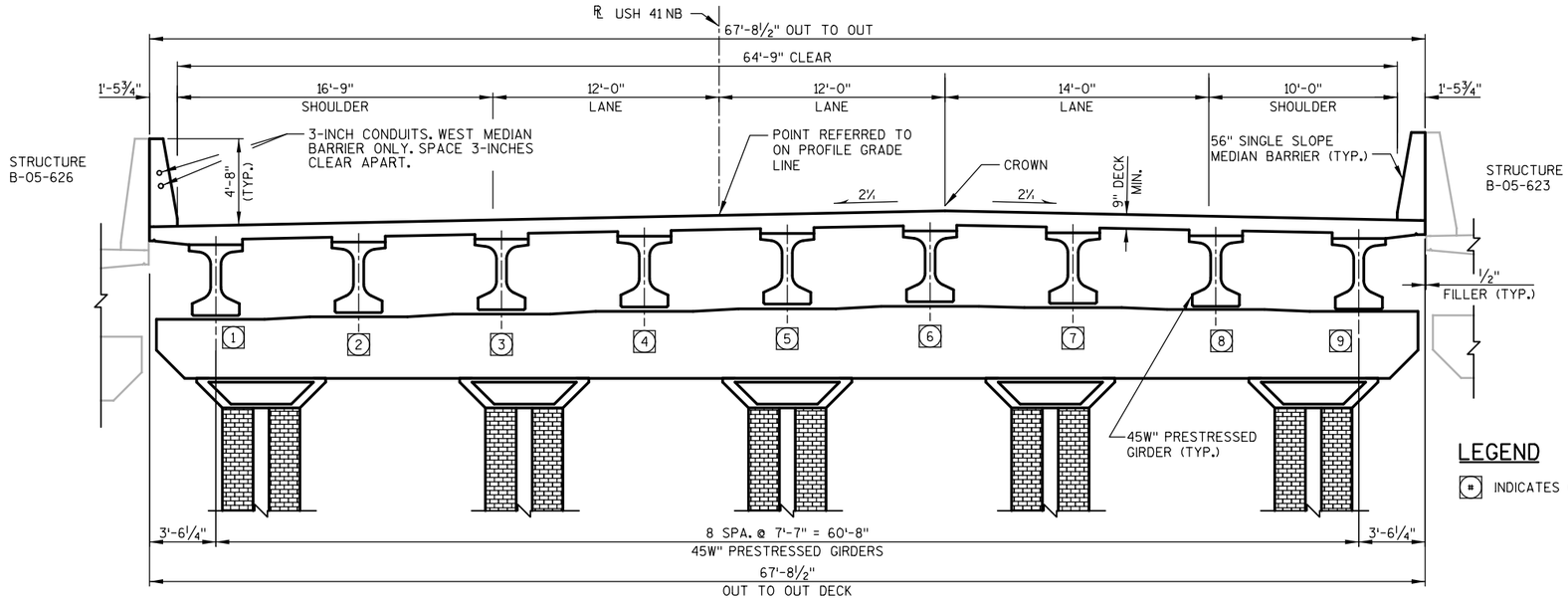
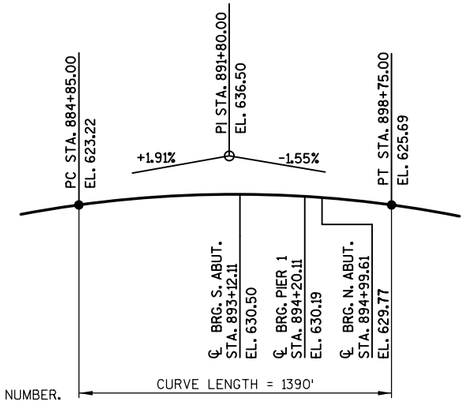
STATE PROJECT NUMBER
1133-09-71



LEGEND

(n) INDICATES GIRDER NUMBER.



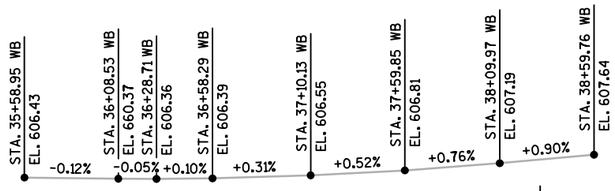
PROFILE GRADE LINE USH 41 NB

BENCH MARKS

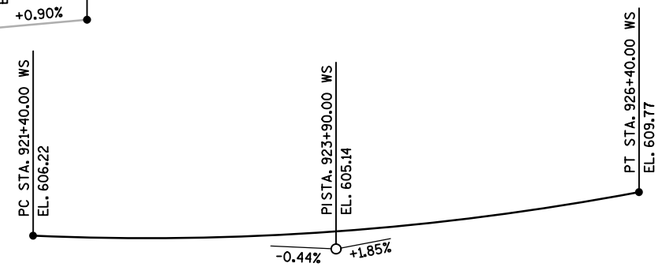
NO.	STATION	DESCRIPTION	ELEVATION
525	N/A	CHISELED "X" ON FIRE HYDRANT BURY BOLT ON A DEAD END CUL-DE-SAC OF SPRINGHURST DR. 55' FROM A MANHOLE COVER TO FIRE HYDRANT AT THE EAST END OF THE ROUND-A-BOUT.	648.93
526	N/A	CHISELED "X" ON FIRE HYDRANT BURY BOLT IN THE NORTHEAST QUADRANT OF TIMBER LN. & COMMANCHE AVE. BY A PARKING LOT ENTRANCE TO THE PARK. 35' NORTH OF THE ℄ OF TIMBER LN. & 25' WEST OF THE ℄ OF THE WEST ENTRANCE TO THE PARK.	629.88
528	N/A	CHISELED "X" ON FIRE HYDRANT BURY BOLT IN THE NORTHWEST QUADRANT OF GERHARDT LN. & NORTH RD. 65' WEST OF THE ℄ OF NORTH RD. AND 35' NORTH OF THE ℄ OF GERHARDT LN.	626.81

TYPICAL SECTION

(LOOKING NORTH)



EXISTING PROFILE GRADE LINE STH 172 WB



PROFILE GRADE LINE STH 172 RAMP WS

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SOUTH ABUT.	NORTH ABUT.	PIER 1	SUPER.	SOUTH APPROACH APRON	NORTH APPROACH APRON	TOTALS
203.0200.713	REMOVING OLD STRUCTURE STA. 894+04.16 'NB'	LS	--	--	--	--	--	--	1
203.0225.S.713	DEBRIS CONTAINMENT STRUCTURE B-05-140	LS	--	--	--	--	--	--	1
206.1000.713	EXCAVATION FOR STRUCTURES BRIDGES B-05-627	LS	--	--	--	--	--	--	1
206.6000.S	TEMPORARY SHORING	SF	1300	2250	1150	--	--	--	4700
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	--	--	1597	168	168	1933
502.6110	MASONRY ANCHORS TYPE S 3/4-INCH	EACH	4	4	--	--	--	--	8
503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH	LF	--	--	--	1694	--	--	1694
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	5560	5570	3170	--	--	--	14300
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	--	--	28220	106340	15920	15920	166400
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	9	9	18	--	--	--	36
506.4000.713	STEEL DIAPHRAGMS B-05-627	EACH	--	--	--	24	--	--	24
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	16	16	--	--	--	--	32
550.0500	PILE POINTS	EACH	12	12	27	--	--	--	51
550.1120	PILING STEEL HP 12-INCH X 53 LB.	LF	1260	1260	2295	--	--	--	4815
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	87	87	--	--	87	87	348
652.0135	CONDUIT RIGID METALLIC 3-INCH	LF	--	--	--	20	40	41	101
652.0235	CONDUIT RIGID NON-METALLIC SCH 40 3-INCH	LF	--	--	--	360	--	--	360
SPV.0035.700	HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES	CY	72	71	153	586	102	102	1086
SPV.0085.700	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	--	--	--	2350	--	--	2350
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	--	--	588	--	--	--	588
SPV.0165.501	STAINING CONCRETE	SF	589	578	1618	555	--	--	3340
SPV.0165.502	STAINING CONCRETE BRICK	SF	--	--	588	--	--	--	588
SPV.0165.700	LONGITUDINAL GROOVING BRIDGE DECK	SF	--	--	--	12292	1294	1294	14880
	NON-BID ITEMS								
	FILLER	SIZE	--	--	--	--	--	--	½" & ¾"
	CORK	SIZE	--	--	--	--	--	--	¾"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES.
ALL STATIONS AND ELEVATIONS ARE IN FEET.

ALL DETAILS, MATERIALS AND FABRICATION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE SPECIFICATIONS OF THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153, TYPE I, II, OR III, OR M213.

AT THE BACKFACE OF ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE EXISTING STRUCTURE, B-05-140, IS A TWO SPAN STEEL DECK GIRDER STRUCTURE WITH AN OVERALL WIDTH OF 43.8 FEET TO 47.0 FEET AND AN OVERALL LENGTH OF 231.3 FEET. THE BRIDGE WILL BE REMOVED IN STAGES FOR CONSTRUCTION OF STRUCTURE B-05-627 AND B-05-623. THE BRIDGE SHALL BE REMOVED MIN. 2'-0" BELOW GRADE.

TEMPORARY SUPPORT OF STRUCTURE B-05-140 IS REQUIRED. SEE SHEET 4 FOR DETAILS.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING CONCRETE TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

9" MINIMUM DECK THICKNESS INCLUDES 3½" COVER TO TOP LAYER OF STEEL REINFORCEMENT.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEETS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

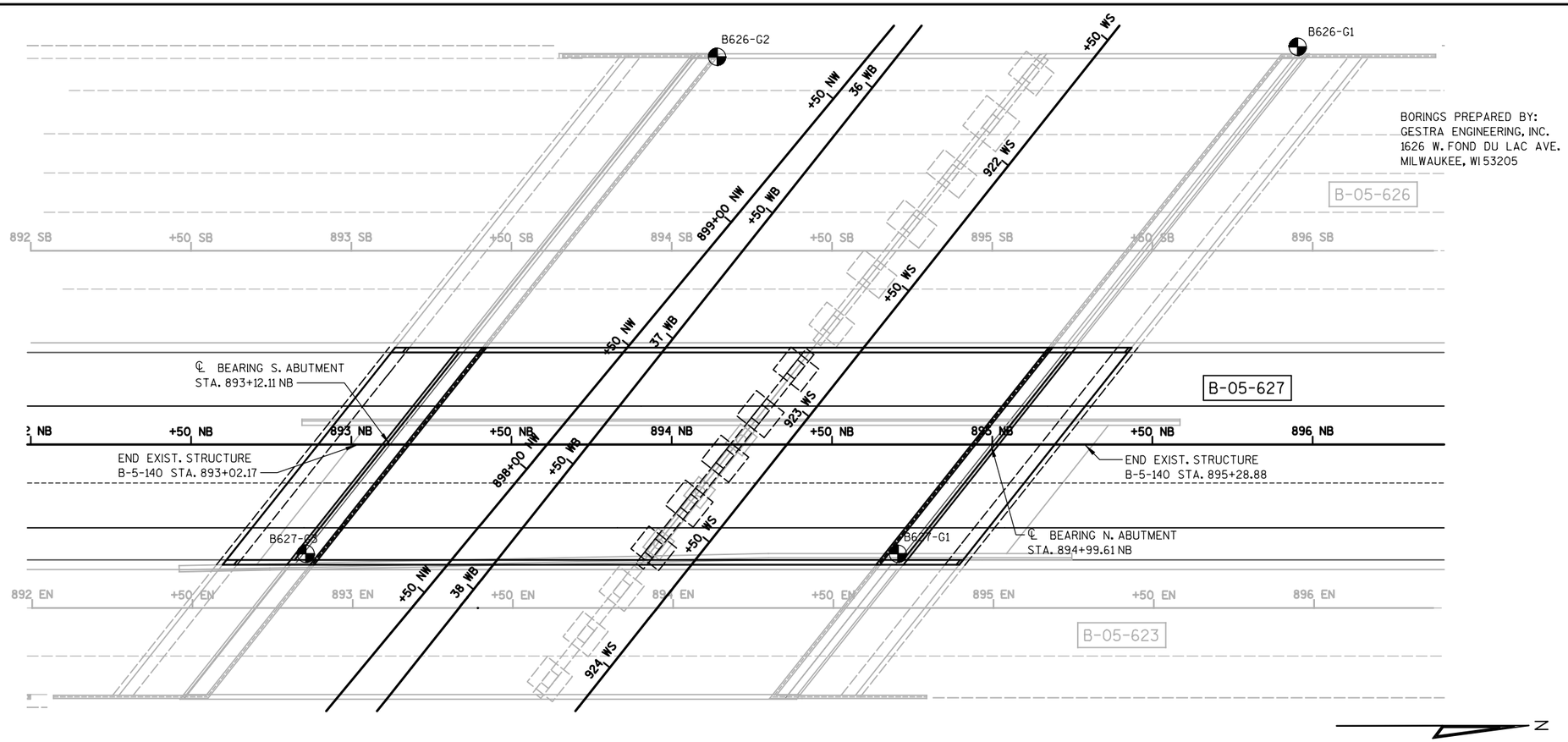
DRAWN BY AJW | PLANS CK'D. DJW

CROSS SECTION & QUANTITIES

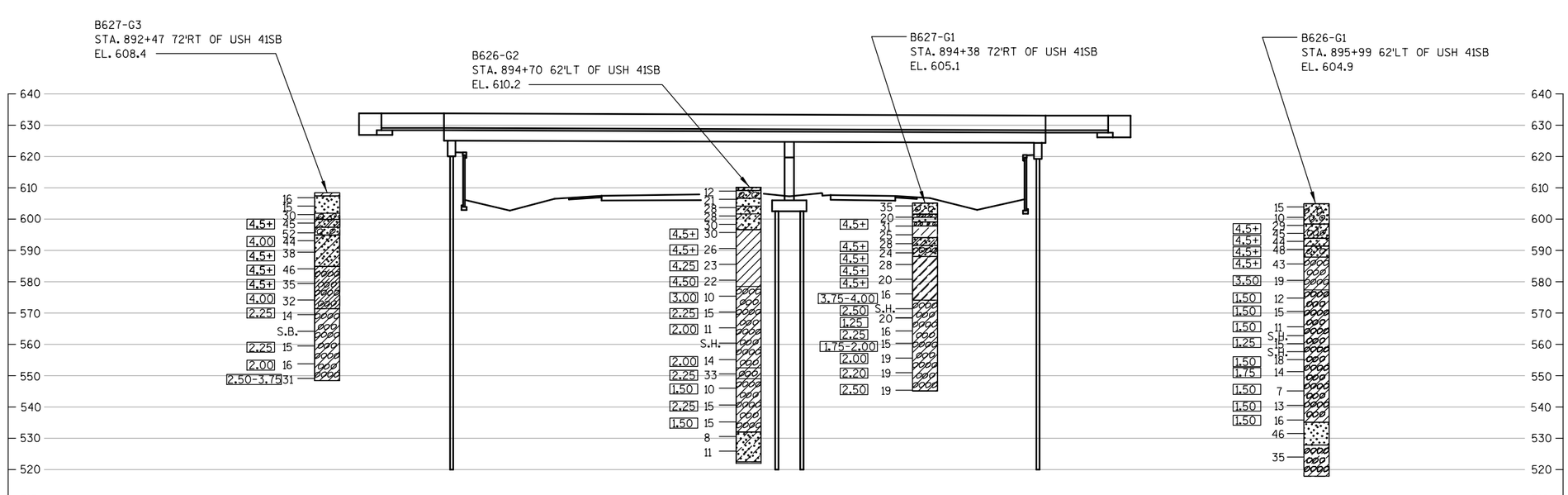
SHEET 2 OF 26
1986

8

8



BORINGS PREPARED BY:
GESTRA ENGINEERING, INC.
1626 W. FOND DU LAC AVE.
MILWAUKEE, WI 53205



STATE PROJECT NUMBER

1133-09-71

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE, SAND, PEAT, LIMESTONE, GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
ELEV.
STA.
UNCONFINED STRENGTH → 7.7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

SUBSURFACE EXPLORATION

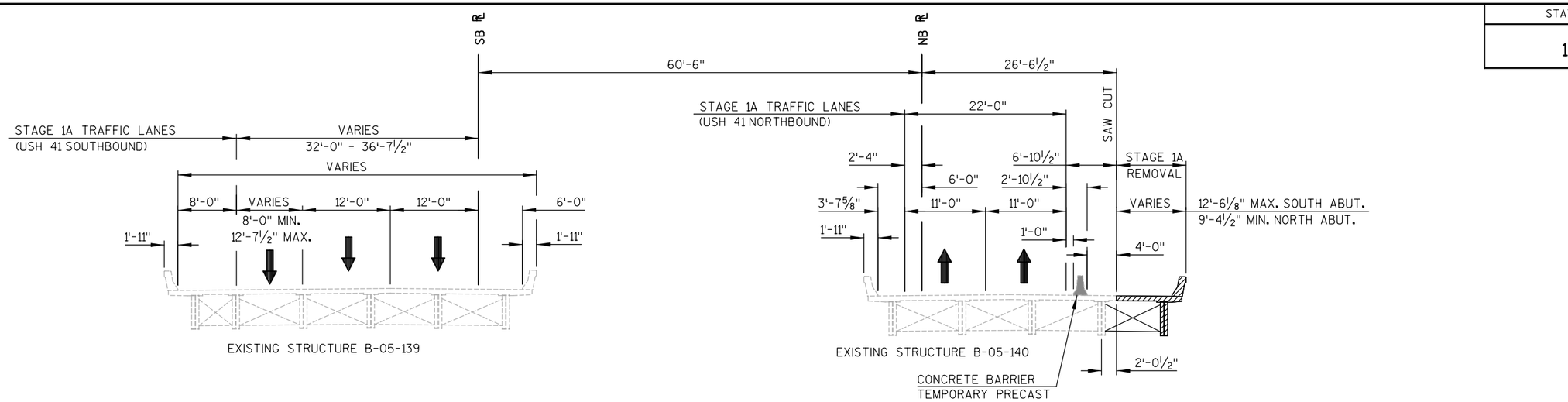
SHEET 3 OF 26
1987

FILE=
SCALE =

8

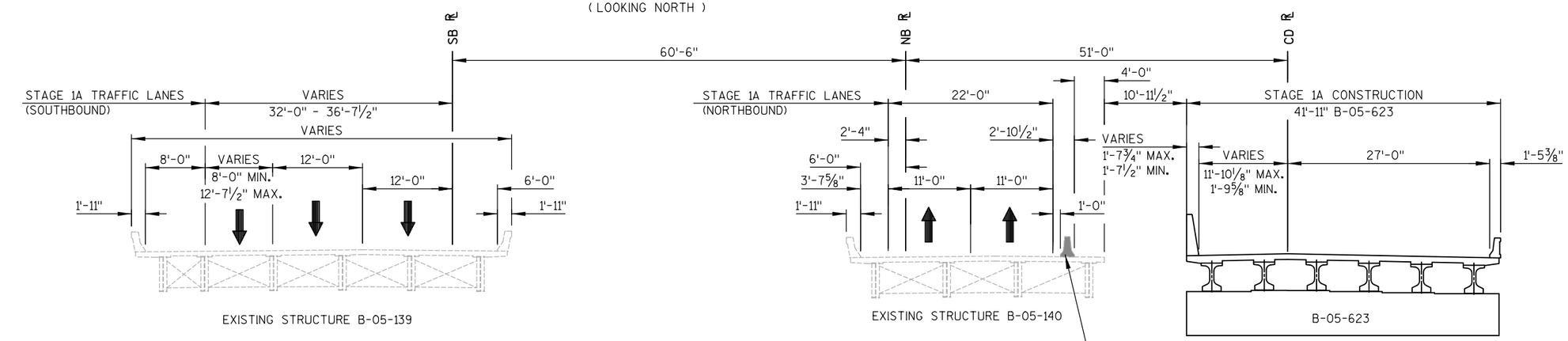
8

STATE PROJECT NUMBER
1133-09-71



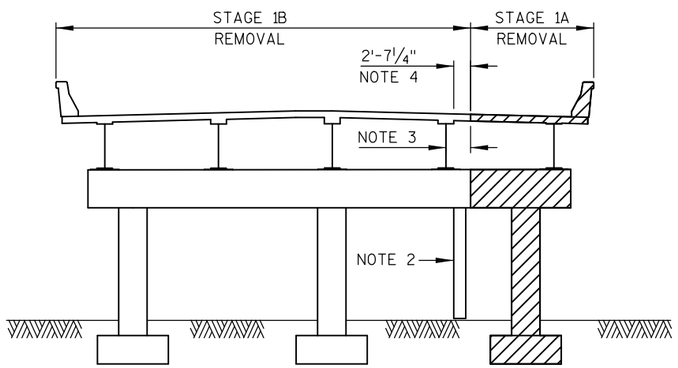
STAGE 1A - PHASE ML-2 AND ML-3 - TRAFFIC AND REMOVAL

(LOOKING NORTH)



STAGE 1A - PHASE ML-2 AND ML-3 - TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)



TEMPORARY SUPPORT EXISTING STRUCTURE B-05-140

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.
2. TEMPORARY SUPPORT OF THE B-05-140 PIER CAP IS REQUIRED. THE CONTRACTOR IS TO DESIGN A TEMPORARY SUPPORT SYSTEM FOR USE DURING STAGED REMOVAL (CONSTRUCTION) OF THE BRIDGE. THE PROPOSED SUPPORT SYSTEM SHALL BE SUBMITTED TO THE DEPARTMENT FOR ACCEPTANCE.
3. DIMENSION AS REQUIRED BY CONTRACTOR FOR CONCRETE REMOVAL.
4. DIMENSION TAKEN PARALLEL TO PIER CAP.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

CONSTRUCTION STAGING - 1

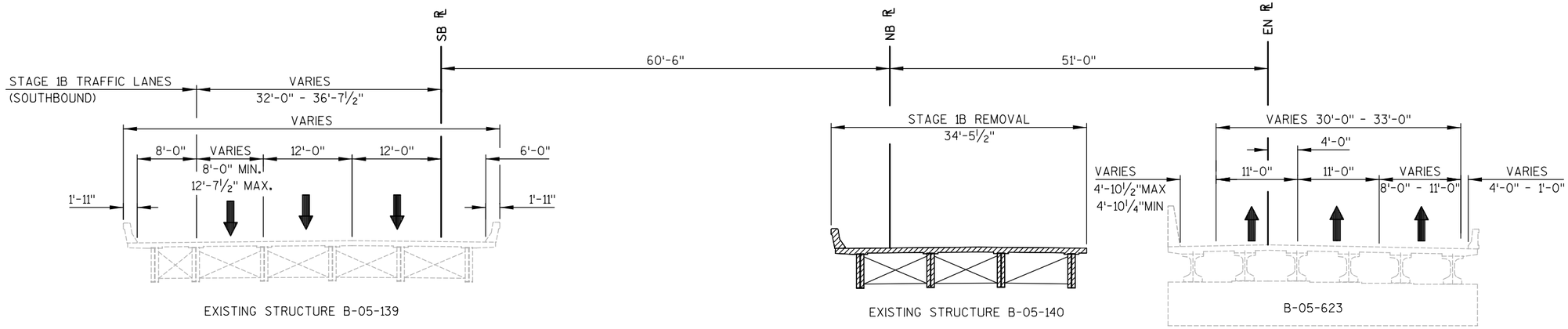
SHEET 4 OF 26

1988

8

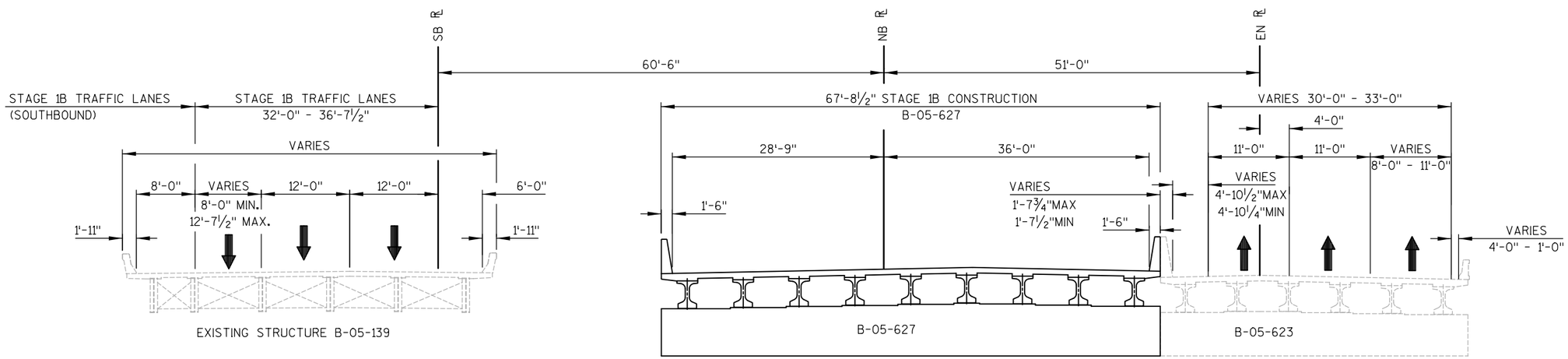
8

STATE PROJECT NUMBER
1133-09-71



STAGE 1B - TRAFFIC AND REMOVAL

(LOOKING NORTH)



STAGE 1B - TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY	AJW	PLANS CK'D.	DJW

CONSTRUCTION STAGING - 2

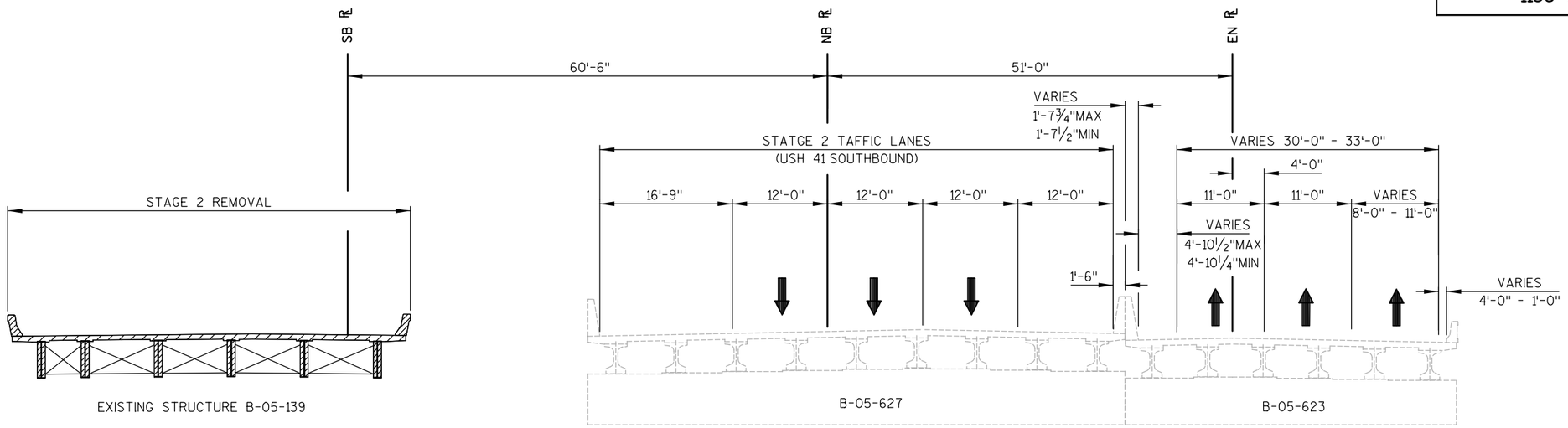
SHEET 5 OF 26

1989

8

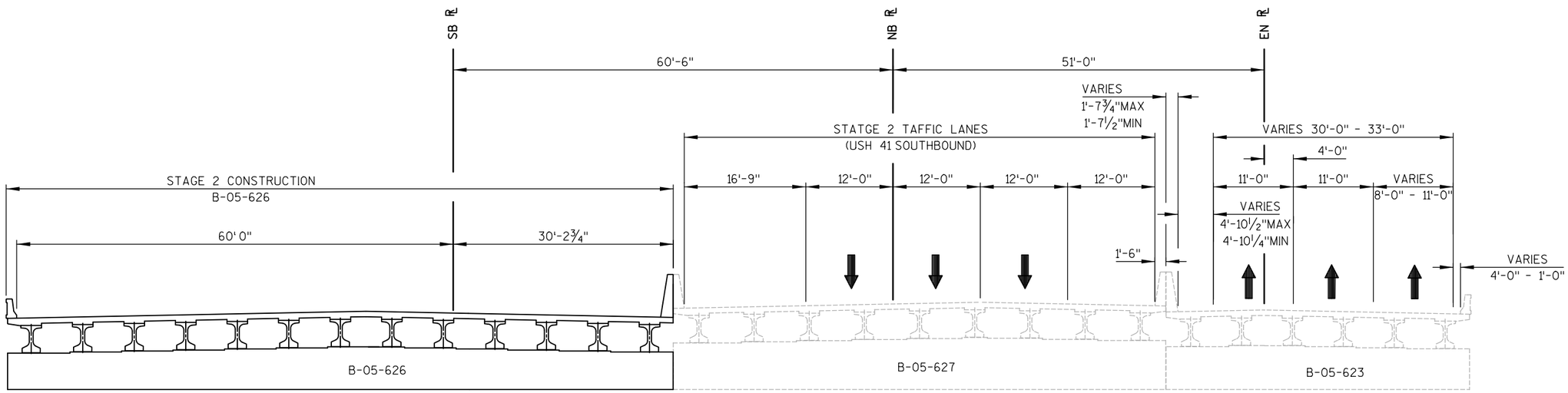
8

STATE PROJECT NUMBER
1133-09-71



STAGE 2 - PHASE ML-1 REMOVAL

(LOOKING NORTH)



STAGE 2 - PHASE ML-2 - CONSTRUCTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

CONSTRUCTION STAGING - 3

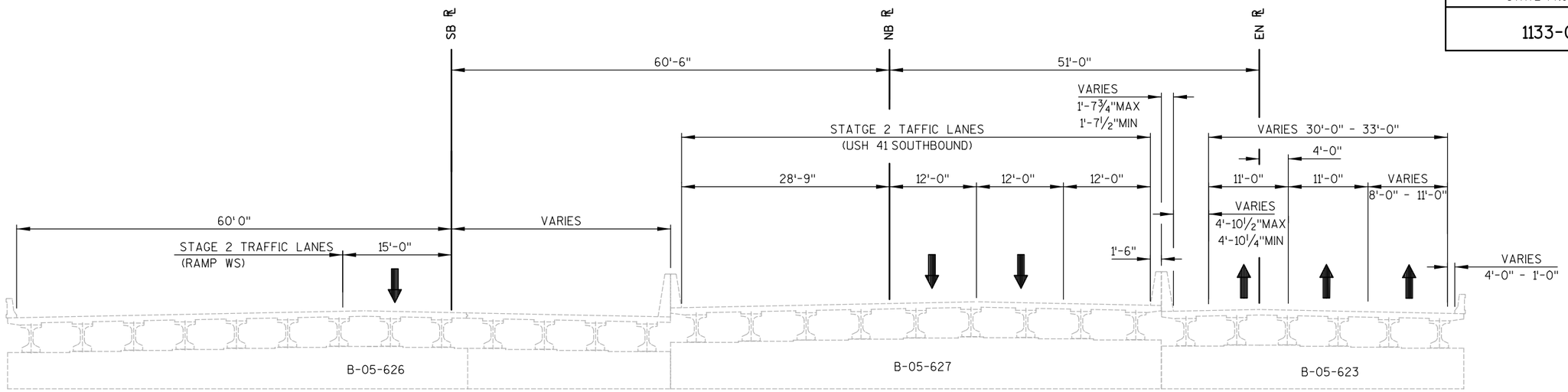
SHEET 6 OF 26

1990

8

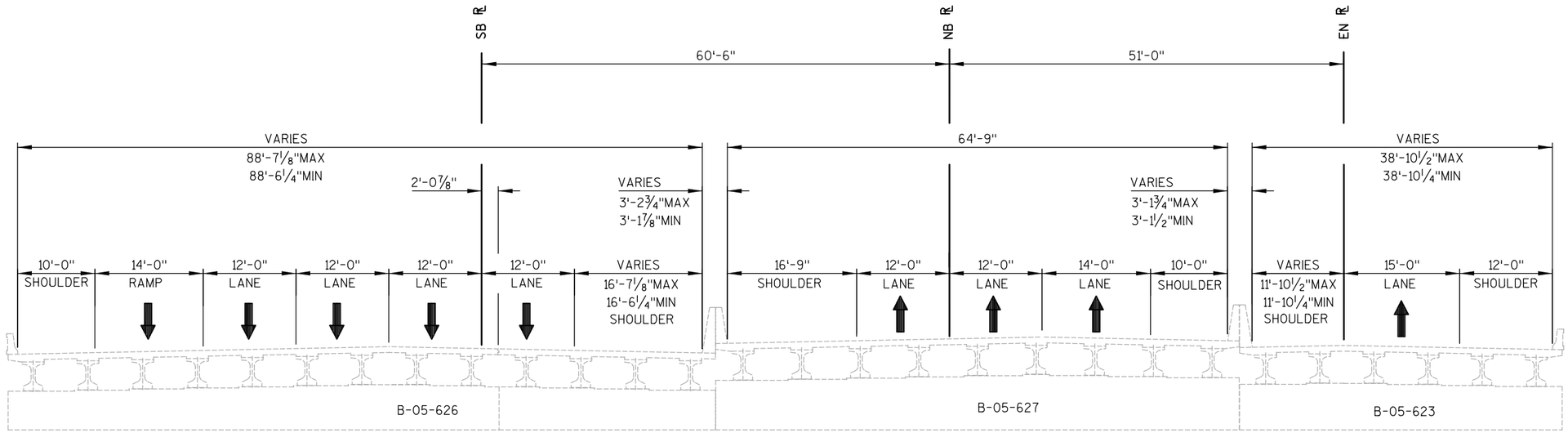
8

STATE PROJECT NUMBER
1133-09-71



STAGE 2 - PHASE ML-2 - TRAFFIC

(LOOKING NORTH)



FINAL CROSS SECTION

(LOOKING NORTH)

NOTES:

1. DIMENSIONS ARE PERPENDICULAR TO REFERENCE LINE UNLESS NOTED OTHERWISE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

CONSTRUCTION STAGING - 4

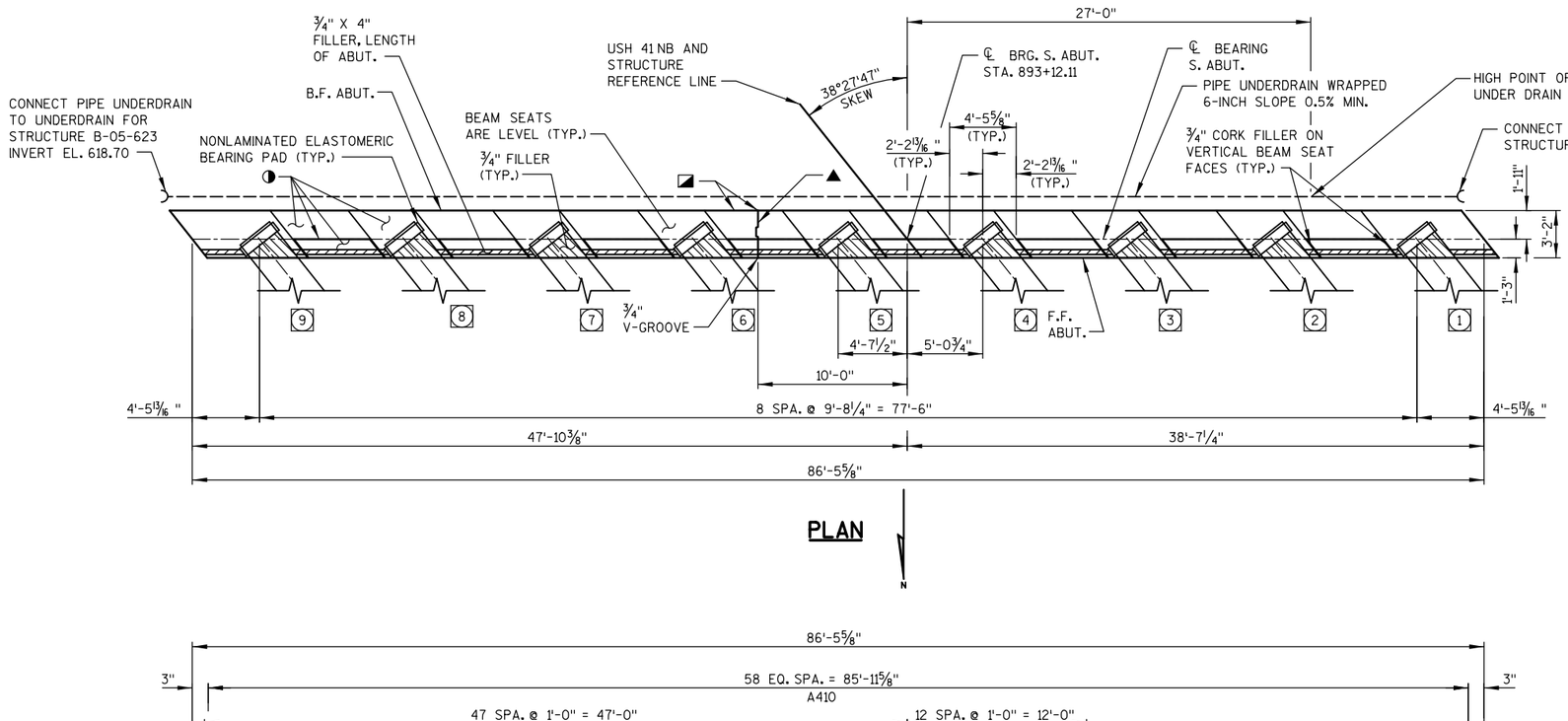
SHEET 7 OF 26

1991

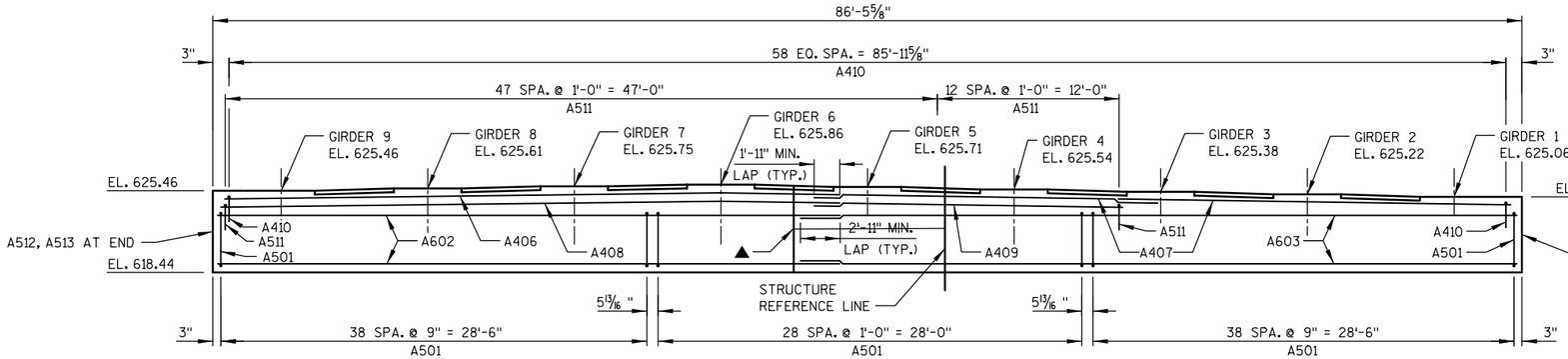
8

8

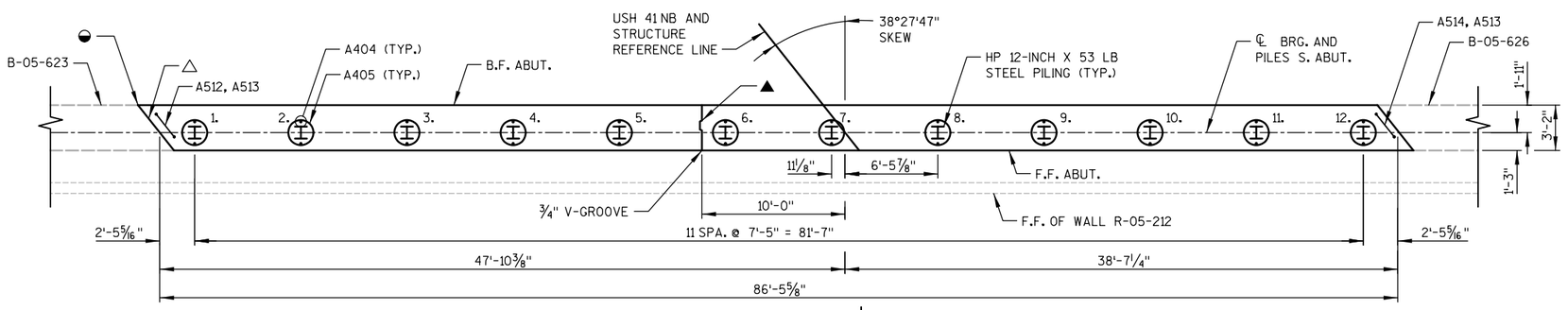
STATE PROJECT NUMBER
1133-09-71



PLAN



ELEVATION
(LOOKING SOUTH)



PILE PLAN

LEGEND

- STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- VERTICAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 8". RUN BAR STEEL THRU JOINT. SEAL JOINT WITH 18" RUBBERIZED MEMBRANE WATERPROOFING. SEE SHEET 14 FOR ALTERNATE CONSTRUCTION JOINT DETAIL.
- 18" RUBBERIZED MEMBRANE WATERPROOFING AT VERTICAL JOINT WHERE B-05-627 ABUTS B-05-623.
- 1/2" FILLER. EXTEND FULL HEIGHT OF ABUTMENT. SEAL EXPOSED SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP. EXTEND SEALER 6" BELOW FINISHED GRADE.
- (#) INDICATES GIRDER NUMBER.

NOTES

SEE SHEET 12 FOR PILE SPLICE DETAILS.

ADJUST A501 BARS TO AVOID INTERFERENCE WITH PILES.

SEE SHEET 9 FOR REINFORCING DETAILS.

ABUTMENTS TO BE SUPPORTED ON HP 12-INCH X 53 LB STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH IS 105 FEET.

SEE SHEET 9 FOR ABUTMENT FALL PROTECTION DETAIL.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

SOUTH ABUTMENT

SHEET 8 OF 26
1992

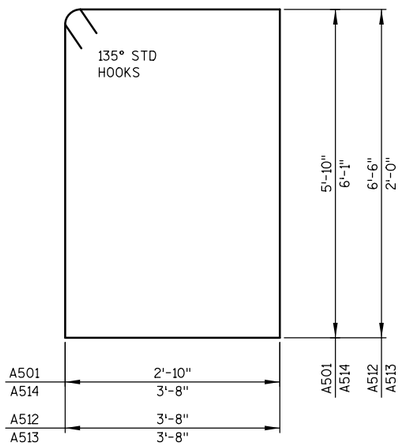
STATE PROJECT NUMBER
1133-09-71

SOUTH ABUTMENT BILL OF BARS

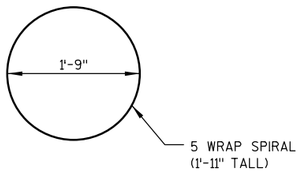
UNCOATED: 5,560 LBS

MARK	NO.	LENGTH	BENT	COAT	LOCATION
A501	107	17'-11"	X		BODY - VERT. -STIRRUPS
A602	18	42'-0"			BODY - HORIZ. - FF/BF, TOP/BOT
A603	18	47'-0"			BODY - HORIZ. - FF/BF, TOP/BOT
A404	24	2'-3"			BODY - PILES - VERT.
A405	12	28'-0"	X		BODY - PILES - VERT.
A406	2	41'-0"			BODY - TOP - HORIZ.
A407	4	24'-6"			BODY - TOP - HORIZ.
A408	3	41'-0"			BODY - TOP - HORIZ.
A409	3	20'-0"			BODY - TOP - HORIZ.
A410	59	4'-5"	X		BODY - TOP - VERT.
A511	60	6'-7"	X		BODY - TOP - VERT.
A512	1	20'-11"	X		BODY - VERT. - STIRRUP - EAST END
A513	2	11'-11"	X		BODY - VERT. - STIRRUP - ENDS
A514	1	20'-1"	X		BODY - VERT. - STIRRUP - WEST END

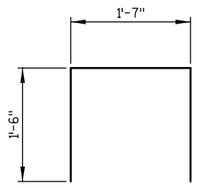
NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



A501, A512, A513, A514



A405



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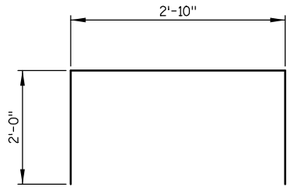
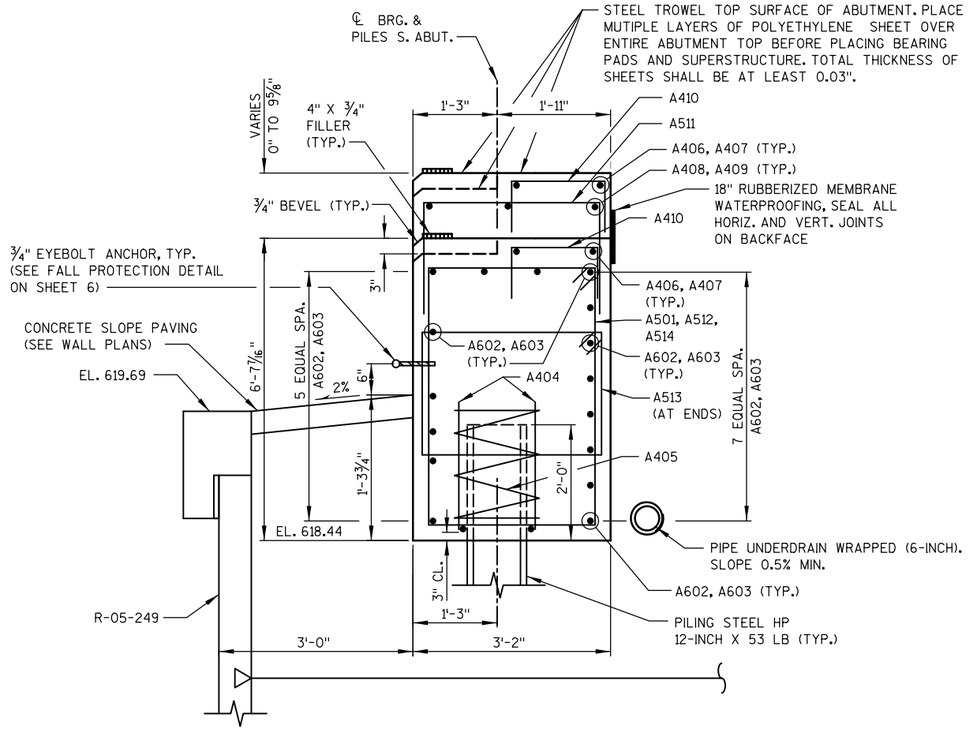
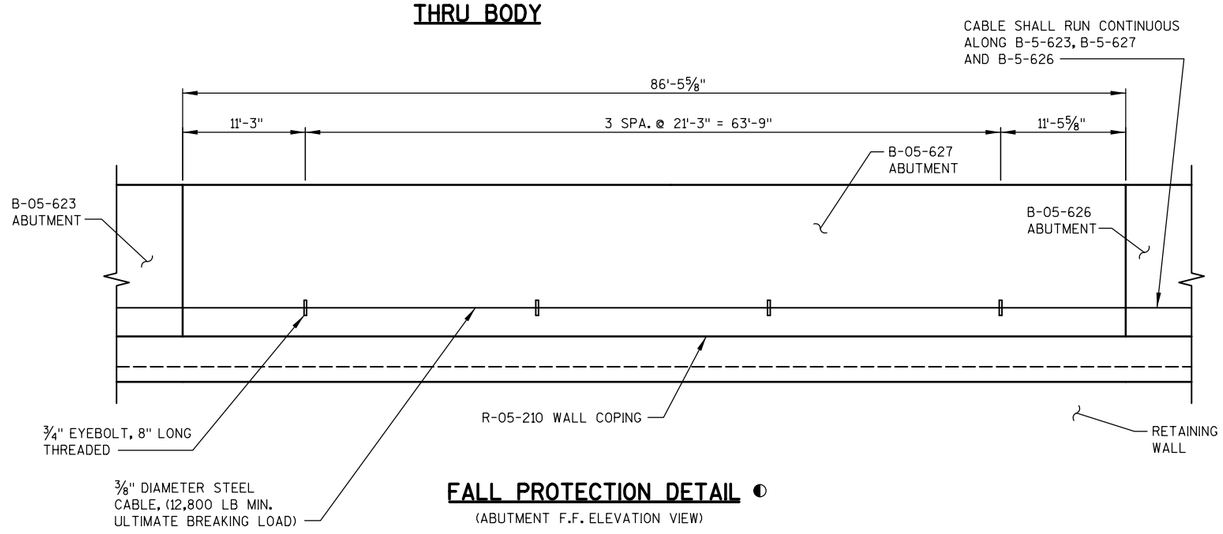


A511



TYPICAL SECTION THRU BODY



FALL PROTECTION DETAIL ◐

(ABUTMENT F.F. ELEVATION VIEW)

◐ NOTES:

ALL LABOR AND MATERIAL (EYE BOLTS, CABLE, AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4-INCH.

ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.

USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.

MASONRY ANCHORS TYPE S 3/4-INCH. MIN. ULTIMATE PULLOUT CAPACITY OF 26 KIPS. FOR ADHESIVE ANCHORS, EMBED A MINIMUM OF 7" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

SOUTH ABUTMENT DETAILS

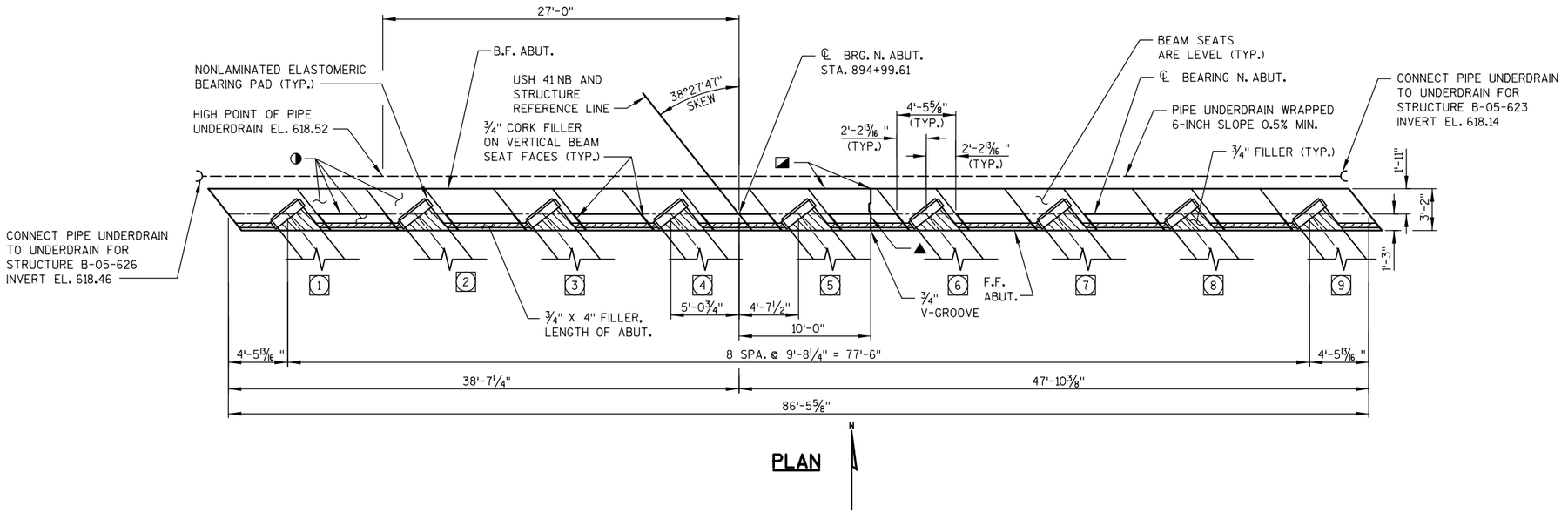
SHEET 9 OF 26

1993

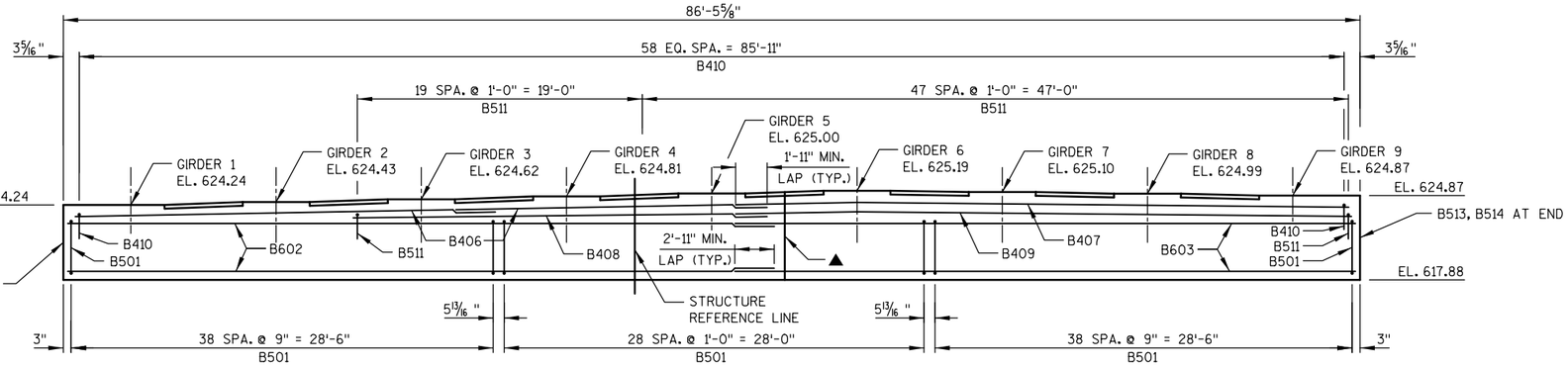
8

8

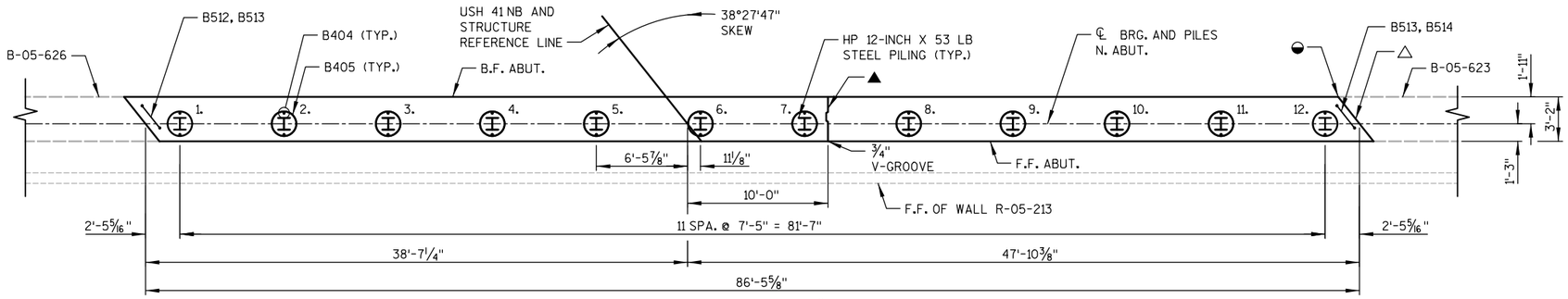
STATE PROJECT NUMBER
1133-09-71



PLAN



ELEVATION
(LOOKING NORTH)



PILE PLAN

LEGEND

- ◑ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ◪ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ▲ VERTICAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 8". RUN BAR STEEL THRU JOINT. SEAL JOINT WITH 18" RUBBERIZED MEMBRANE WATERPROOFING. SEE SHEET 14 FOR ALTERNATE CONSTRUCTION JOINT DETAIL.
- ◒ 18" RUBBERIZED MEMBRANE WATERPROOFING AT VERTICAL JOINT WHERE B-05-627 ABUTS B-05-623.
- △ ½" FILLER. EXTEND FULL HEIGHT OF ABUTMENT. SEAL EXPOSED SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP. EXTEND SEALER 6" BELOW FINISHED GRADE.
- (#) INDICATES GIRDER NUMBER.

NOTES

SEE SHEET 12 FOR PILE SPLICE DETAILS.

ADJUST B501 BARS TO AVOID INTERFERENCE WITH PILES.

SEE SHEET 11 FOR REINFORCING DETAILS.

ABUTMENTS TO BE SUPPORTED ON HP 12-INCH X 53 LB STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH IS 105 FEET.

SEE SHEET 11 FOR ABUTMENT FALL PROTECTION DETAIL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

NORTH ABUTMENT

SHEET 10 OF 26
1994

8

8

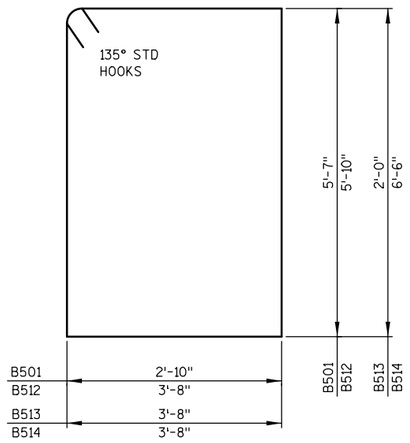
STATE PROJECT NUMBER
1133-09-71

NORTH ABUTMENT BILL OF BARS

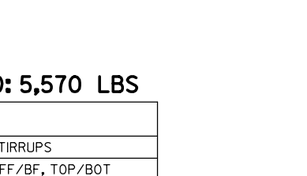
UNCOATED: 5,570 LBS

MARK	NO.	LENGTH	BENT	COAT	LOCATION
B501	107	17'-5"	X		BODY - VERT. -STIRRUPS
B602	18	47'-0"			BODY - HORIZ. - FF/BF, TOP/BOT
B603	18	42'-0"			BODY - HORIZ. - FF/BF, TOP/BOT
B404	24	2'-3"			BODY - PILES - VERT.
B405	12	28'-0"	X		BODY - PILES - VERT.
B406	4	24'-6"			BODY - TOP - HORIZ.
B407	2	41'-0"			BODY - TOP - HORIZ.
B408	3	28'-0"			BODY - TOP - HORIZ.
B409	3	41'-0"			BODY - TOP - HORIZ.
B410	59	4'-5"	X		BODY - TOP - VERT.
B511	67	6'-7"	X		BODY - TOP - VERT.
B512	1	19'-7"	X		BODY - VERT. - STIRRUP - WEST END
B513	2	11'-11"	X		BODY - VERT. - STIRRUP - ENDS
B514	1	20'-11"	X		BODY - VERT. - STIRRUP - EAST END

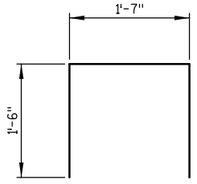
NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



B501, B512, B513, B514



B405



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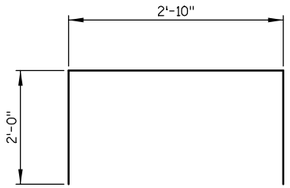

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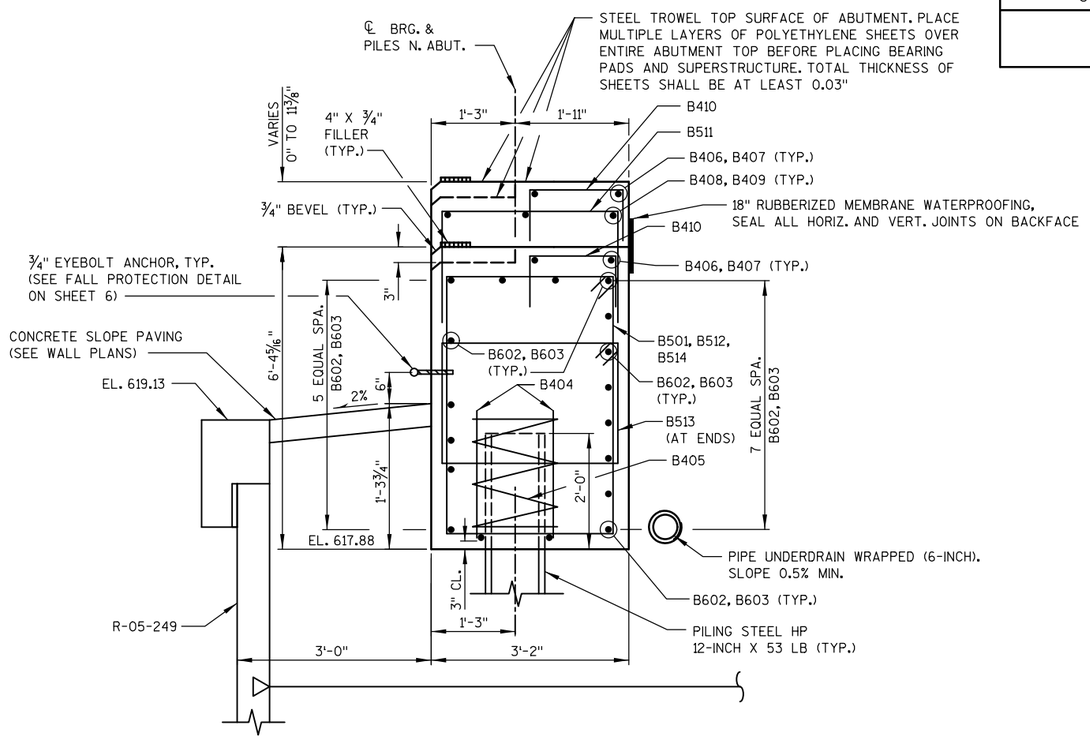
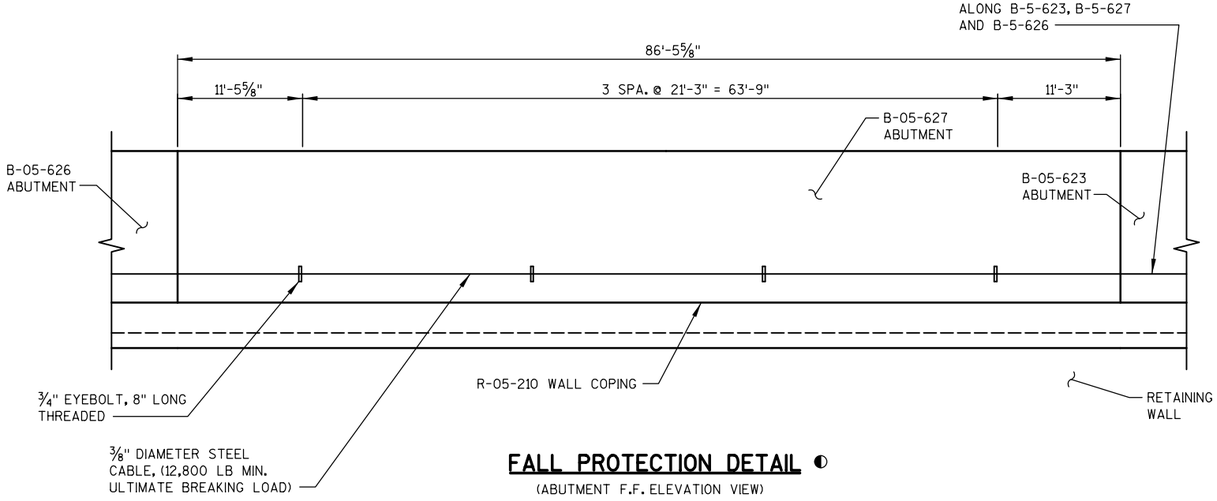


TYPICAL SECTION THRU BODY



FALL PROTECTION DETAIL ◐

(ABUTMENT F.F. ELEVATION VIEW)

◐ NOTES:

ALL LABOR AND MATERIAL (EYE BOLTS, CABLE, AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4-INCH.

ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.

USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.

MASONRY ANCHORS TYPE S 3/4-INCH. MIN. ULTIMATE PULLOUT CAPACITY OF 26 KIPS. FOR ADHESIVE ANCHORS, EMBED A MINIMUM OF 7" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

NORTH ABUTMENT DETAILS

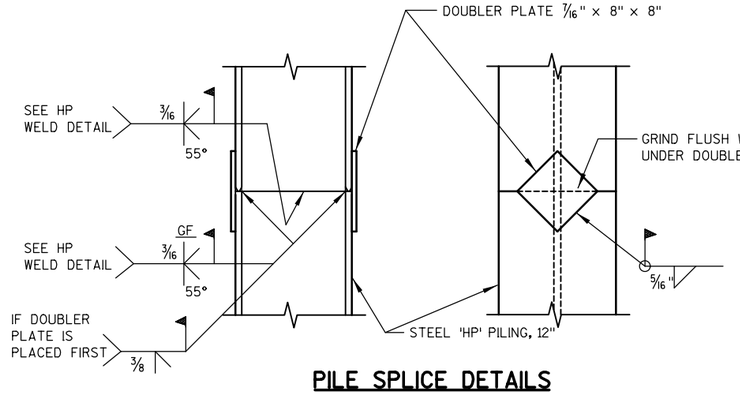
SHEET 11 OF 26

1995

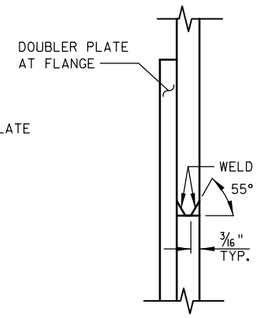
8

8

STATE PROJECT NUMBER
1133-09-71



PILE SPLICE DETAILS

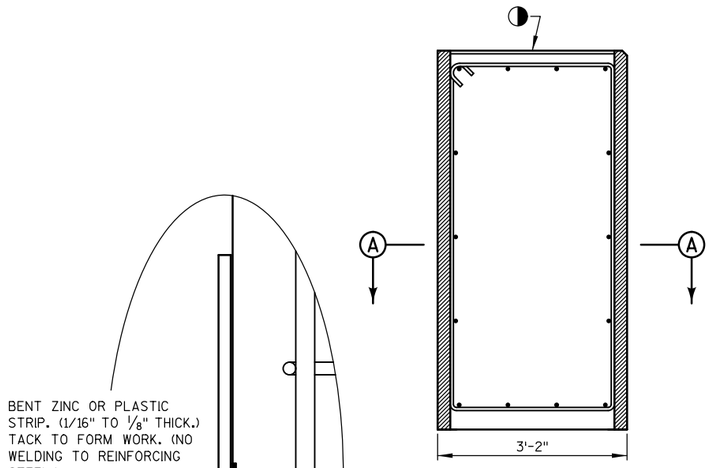


HP WELD DETAIL

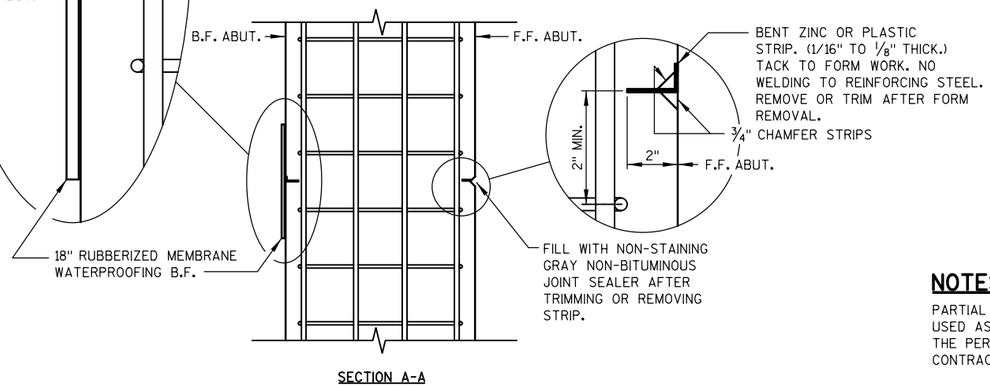
FLANGE SHOWN, WEB SIMILAR

PILE SPLICE NOTES

GRINDING MAY BE USED IN LIEU OF BACKGOUGING.

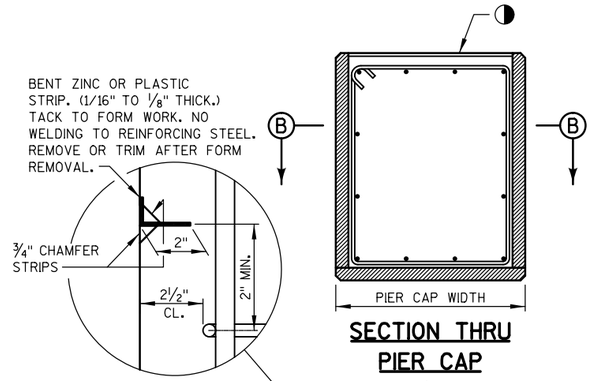


SECTION THRU ABUTMENT BODY



SECTION A-A

ALTERNATE CONSTRUCTION JOINT AT ABUTMENT



SECTION THRU PIER CAP

SECTION B-B

ALTERNATE CONSTRUCTION JOINT AT PIER CAP

NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

ABUTMENT AND PIER DETAILS

SHEET 12 OF 26

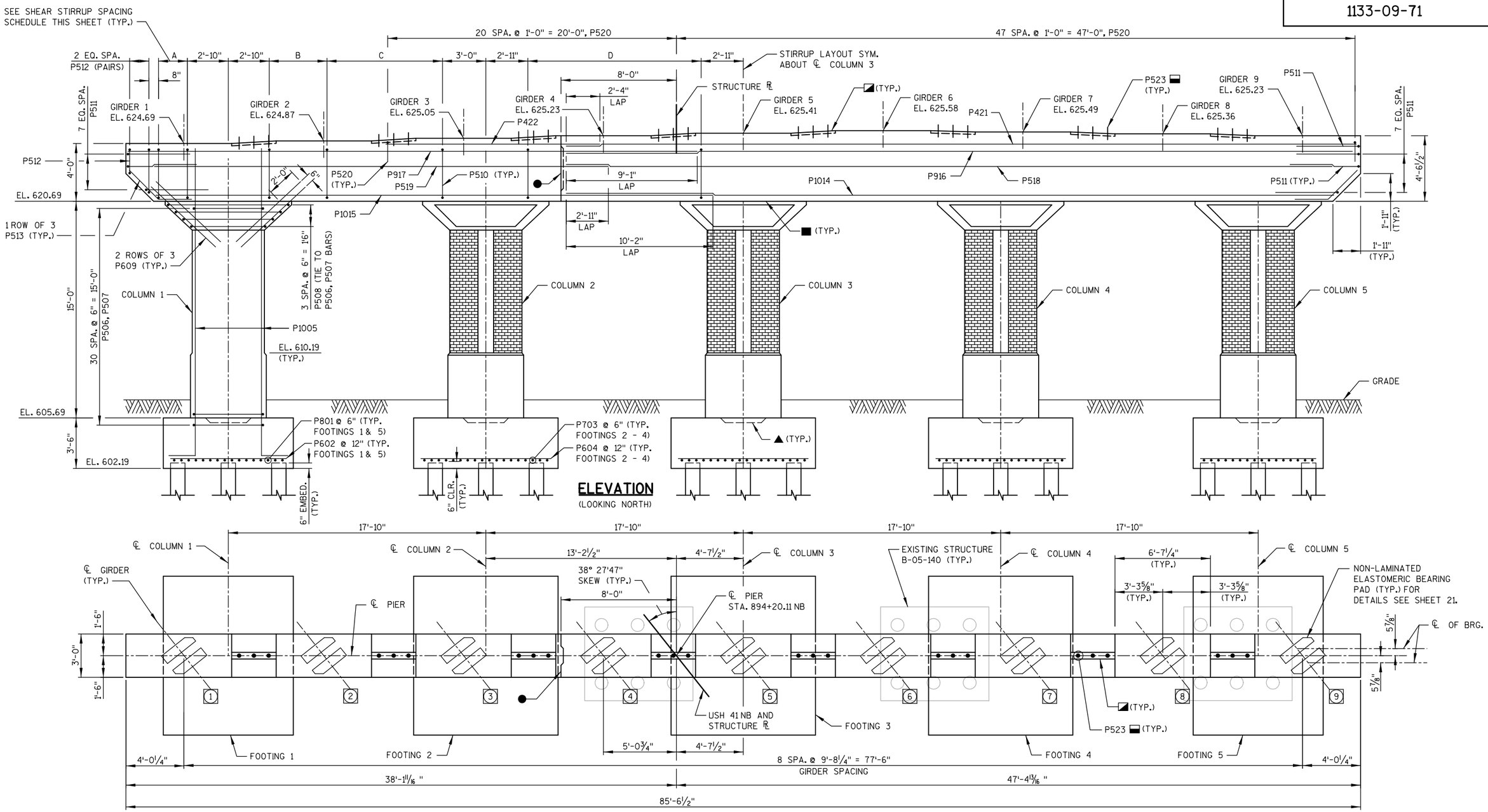
1996

8

8

STATE PROJECT NUMBER

1133-09-71



LEGEND

- ◪ KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2"X6".
- ⊛ INDICATES GIRDER NUMBER.
- ▬ P523 BARS @ 1'-0" CENTERS BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED 1'-0" INTO CONCRETE.
- ● VERTICAL CONSTRUCTION JOINT FORMED BY A BEVELED 2"X6"X2'-6" KEYWAY. SEE SHEET 12 FOR ALTERNATE CONSTRUCTION JOINT DETAIL.
- ▲ CONSTRUCTION JOINT FORMED BY BEVELED 3"X1'-3"X2'-6" KEYWAY.
- ■ CONSTRUCTION JOINT. STRIKE OFF AND LEAVE ROUGH.

PLAN

N

NOTES

GIRDER ELEVATIONS GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF THE PIER. BEAM SEATS SHALL BE LEVEL.

SEE SHEET 14 FOR BAR DETAILS.

ARCHITECTURAL SURFACE TREATMENT AND REVEALS NOT SHOWN ON COLUMN 1 FOR CLARITY.

SHEAR STIRRUP SPACING

A	3 SPA. @ 8" = 2'-0", P510 (PAIRS)
B	6 SPA. @ 8" = 4'-0", P510 (PAIRS)
C	8 SPA. @ 1'-0" = 8'-0", P510 (PAIRS)
D	12 SPA. @ 1'-0" = 12'-0", P510 (PAIRS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

PIER

SHEET 13 OF 26
1997

8

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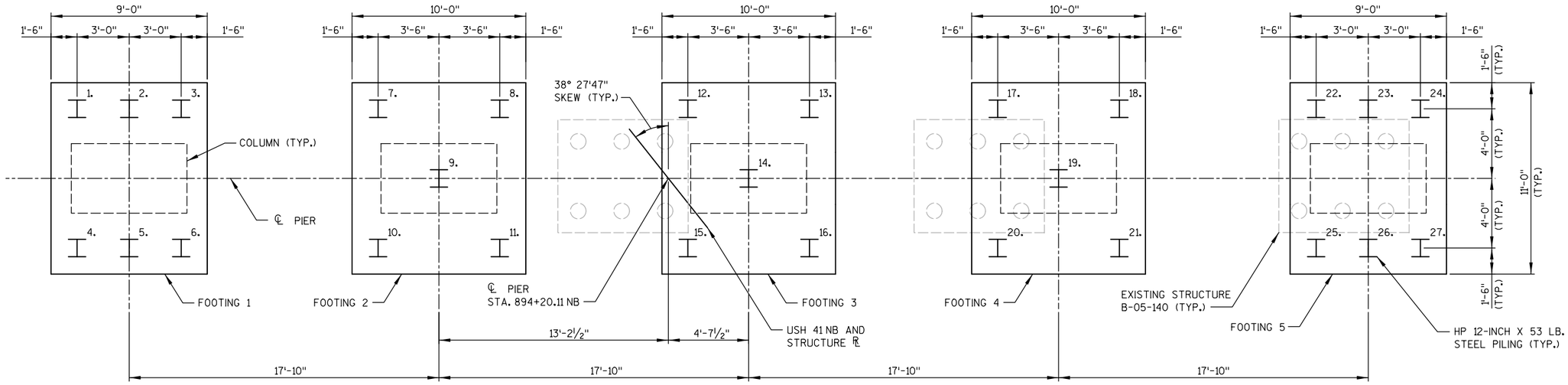
STATE PROJECT NUMBER
1133-09-71



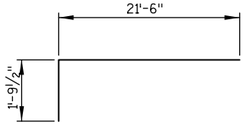
FOUNDATION PLAN

PIER 1
BILL OF BARS

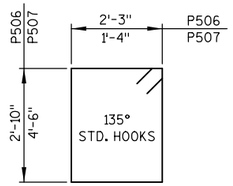
UNCOATED: 3,170 LBS.
COATED: 28,220 LBS.

MARK	NO.	LENGTH	BENT	COAT	LOCATION
P801	36	10'-8"			FOOTINGS 1 & 5 - HORIZ.
P602	24	8'-8"			FOOTINGS 1 & 5 - HORIZ.
P703	60	10'-8"			FOOTINGS 2 - 4 - HORIZ.
P604	36	9'-8"			FOOTINGS 2 - 4 - HORIZ.
P1005	140	23'-0"	X	X	FOOTINGS AND COLUMNS - VERT.
P506	310	10'-9"	X	X	COLUMNS - STIRRUPS
P507	155	12'-3"	X	X	COLUMNS - STIRRUPS
▲ P508	20	17'-10"	X	X	COLUMNS - STIRRUPS - TOP
P609	60	7'-0"		X	COLUMNS - TOP
P510	128	11'-5"	X	X	CAP - STIRRUPS
P511	17	11'-8"	X	X	CAP - HORIZ. - ENDS
▲ P512	12	9'-4"	X	X	CAP - STIRRUPS - ENDS
P513	6	5'-0"	X	X	CAP - HORIZ. - ENDS
P1014	6	53'-3"		X	CAP - HORIZ. - BOTTOM
P1015	6	38'-5"		X	CAP - HORIZ. - BOTTOM
P916	6	55'-2"		X	CAP - HORIZ. - TOP
P917	6	39'-3"		X	CAP - HORIZ. - TOP
P518	12	53'-5"		X	CAP - HORIZ. - SIDES
P519	12	31'-0"		X	CAP - HORIZ. - SIDES
P520	68	6'-4"	X	X	CAP - VERT. - TOP
P421	4	53'-5"		X	CAP - HORIZ. - TOP
P422	4	14'-6"		X	CAP - HORIZ. - TOP
P523	24	2'-0"		X	CAP - DOWELS - TOP

NOTE: THE FIRST ONE OR TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. DIMENSIONS FOR BENDING ARE OUT TO OUT OF BAR.



P1005



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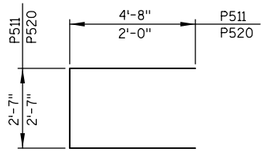

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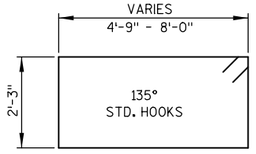

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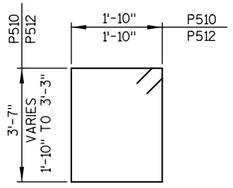
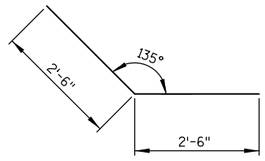


P510, P512



P513

▲ BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
P508	5 SERIES OF 4	14'-7" TO 21'-1"
P512	4 SERIES OF 3	7'-11" TO 10'-9"

NOTES

PIER TO BE SUPPORTED ON HP 12-INCH X 53 LB. STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH 85 FT EACH.

EXISTING PILING SHALL NOT BE INCORPORATED INTO THE NEW WORK. EXISTING PILING SHALL BE CUT AT OR BELOW THE BOTTOM OF THE NEW FOOTING.

SEE SHEET 12 FOR PILE SPLICE DETAILS.

THE EXISTING PILE LOCATIONS ARE BASED ON THE ORIGINAL PLANS FOR B-05-138. THE ENGINEER SHALL APPROVE ALL ADJUSTMENTS IF THE EXISTING PILE LOCATIONS DO NOT MATCH THE LOCATIONS SHOWN ON THE PLANS. NOTIFY ENGINEER IF EXISTING PILE SPACING TO NEW PILE IS LESS THAN 2.25 FT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

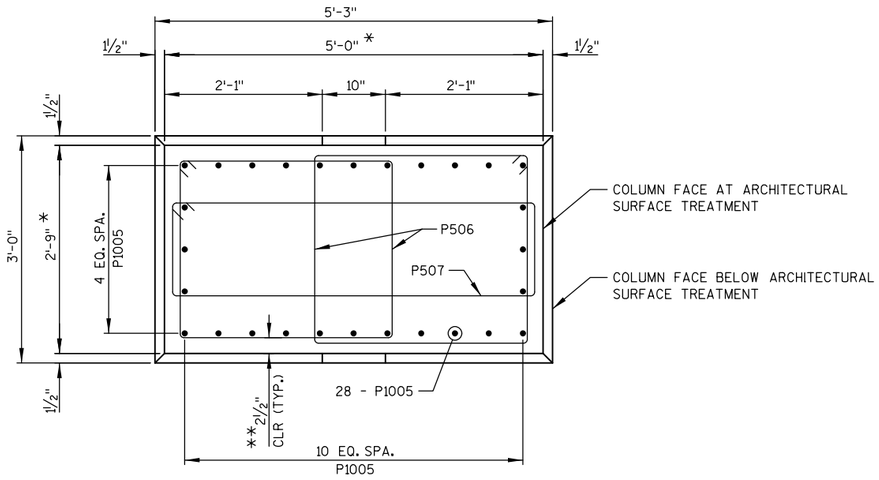
PIER FOUNDATION

SHEET 14 OF 26
1998

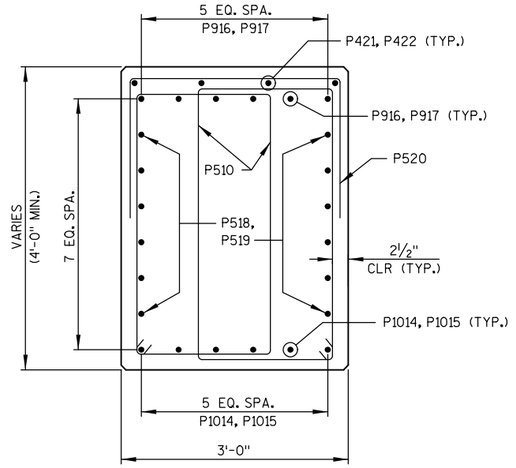
8

8

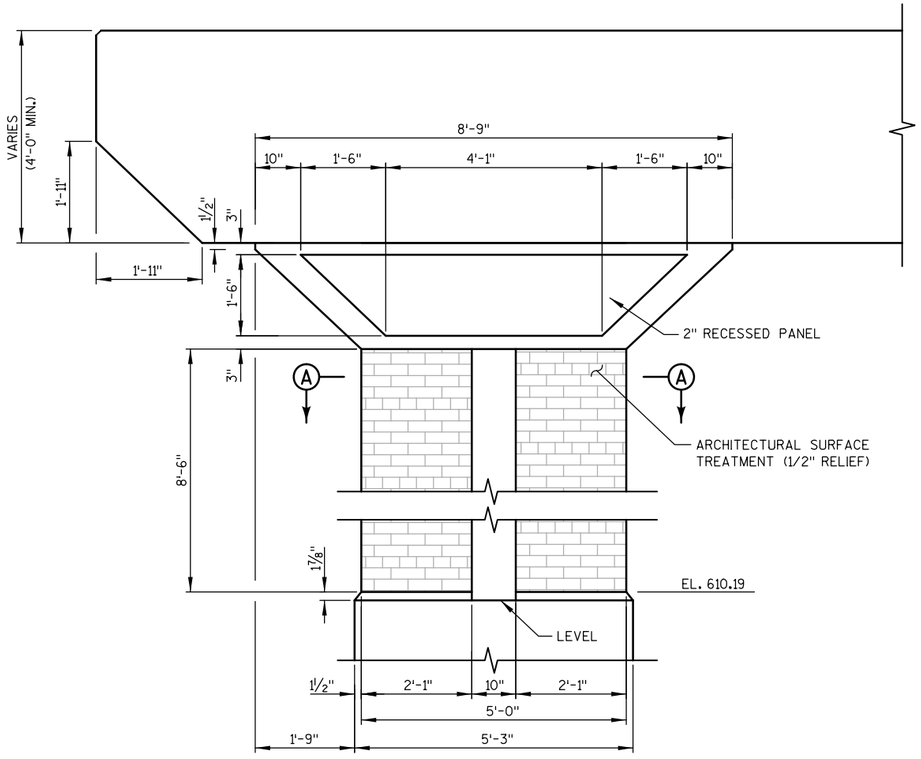
STATE PROJECT NUMBER
1133-09-71



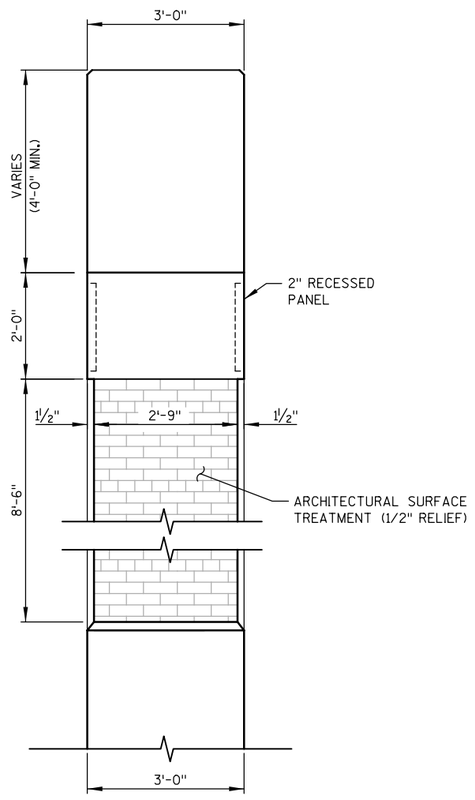
PIER COLUMN SECTION A-A



SECTION THRU PIER CAP



PIER ELEVATION



PIER END ELEVATION

NOTES

SEE SHEET 14 FOR REINFORCING DETAILS.

SEE SHEET 26 FOR ARCHITECTURAL SURFACE TREATMENT AND CONCRETE STAINING REQUIREMENTS.

LEGEND

* DIMENSION IS TAKEN TO OUTER FACE OF ARCHITECTURAL SURFACE TREATMENT.

** 2½" CLEAR DISTANCE IS FROM INSIDE OF ARCHITECTURAL SURFACE TREATMENT RELIEF (3" FROM OUTSIDE OF FACE RELIEF).

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

PIER DETAILS

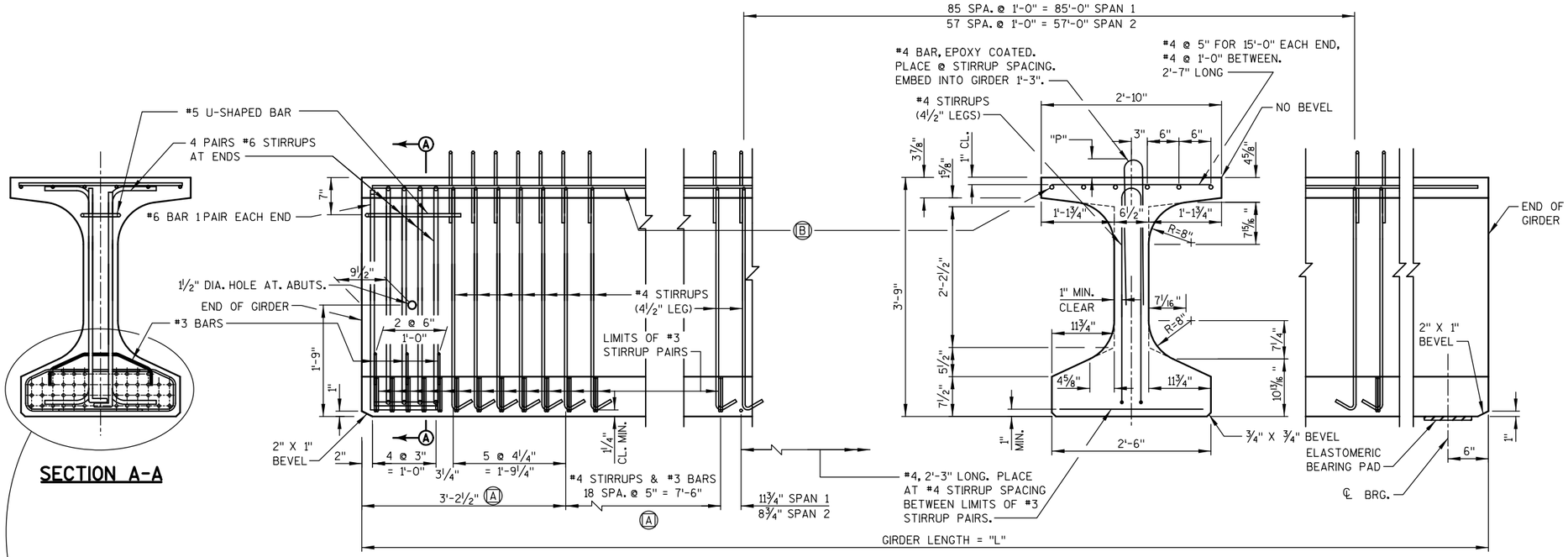
SHEET 15 OF 26

1999

8

8

STATE PROJECT NUMBER
1133-09-71

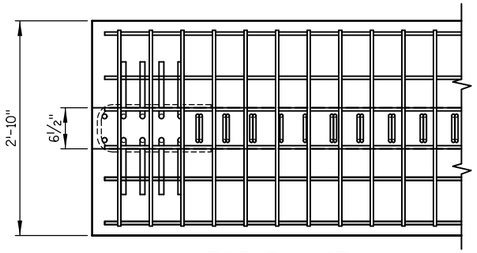


SECTION A-A

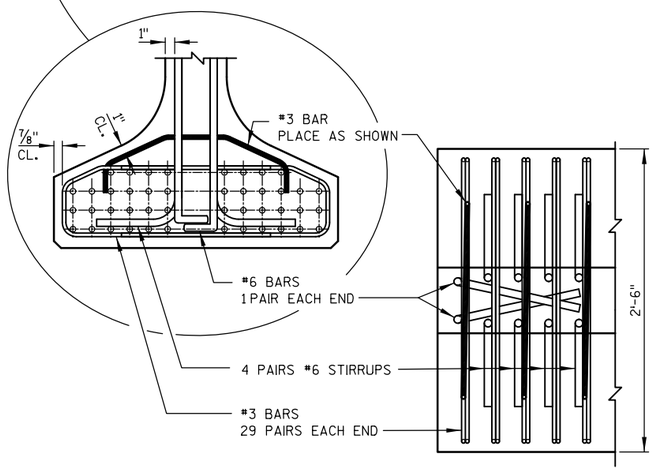
SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

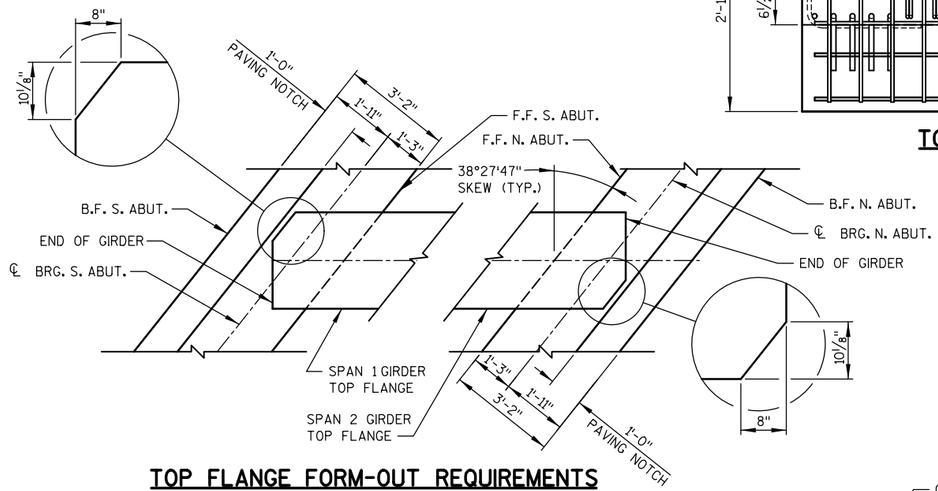
Ⓑ 6 #5 BARS, FULL LENGTH, MIN. LAP = 2'-5"



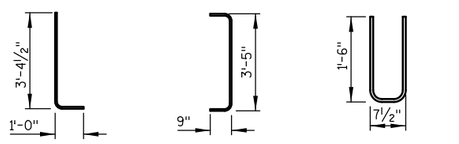
TOP FLANGE

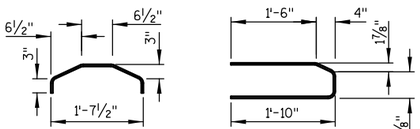


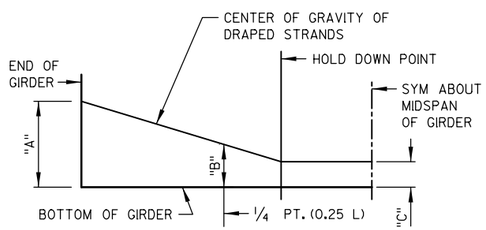
BOTTOM FLANGE



TOP FLANGE FORM-OUT REQUIREMENTS







DRAPED STRAND PROFILE

*MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.)									CONC. STRGTH. f'c (P.S.I.)	"P" (IN.) 1ST ⅓ OF GIRDER	"P" (IN.) MID ⅓ OF GIRDER	"P" (IN.) END ⅓ OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN						UNDRAPED PATTERN	
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10						TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1, 9	108'-4½"	0.79	1.51	2.08	2.45	2.58	2.45	2.08	1.51	0.79	8000	8	7	8	0.60	40	6800	39	13.50	16.50	5		
1	2-8	108'-4½"	0.80	1.52	2.08	2.43	2.55	2.43	2.08	1.52	0.80	8000	8	7	8	0.60	40	6800	39	13.50	16.50	5		
2	1, 9	79'-10½"	0.23	0.44	0.61	0.71	0.75	0.71	0.61	0.44	0.23	8000	8	8	8	0.60							20	6800
2	2-8	79'-10½"	0.24	0.45	0.60	0.70	0.73	0.70	0.60	0.45	0.24	8000	8	8	8	0.60							20	6800

GIRDER NOTES

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

PRESTRESSING STRANDS SHALL BE 0.6"Φ - 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, THE FOLLOWING OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT CHIEF, (608) 266-5161.

FORM-OUT CORNER OF TOP FLANGE AT ABUTMENTS TO MEET CLEARANCE REQUIREMENTS. SEE DETAIL THIS SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

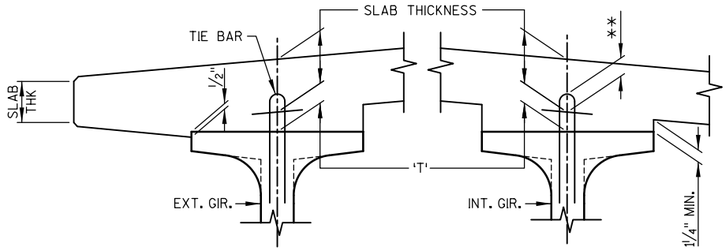
45W" PRESTRESSED GIRDER DETAILS-1 2000

SHEET 16 OF 26

8

8

STATE PROJECT NUMBER
1133-09-71



SLAB HAUNCH DETAIL

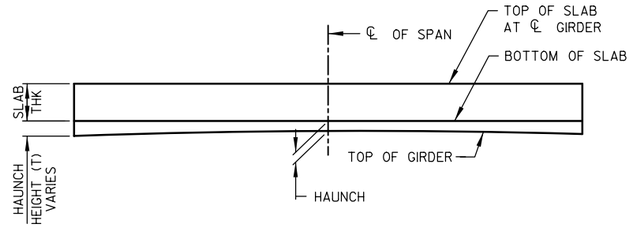
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3⅜" WAS USED IN THE QUANTITY "HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES".

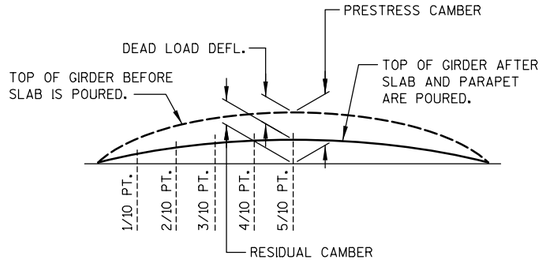


ELEVATION

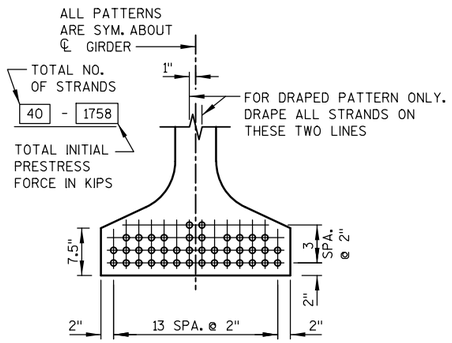
THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT

SPAN	CAMBER (IN.)
1	4.48
2	1.23

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

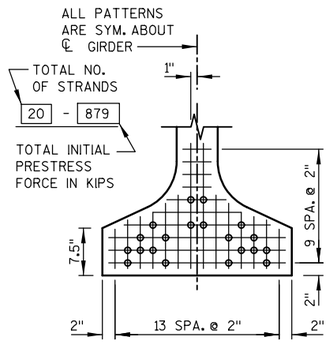


CAMBER AND DEFLECTION DIAGRAM



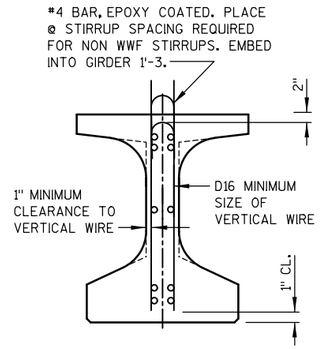
TYP. STRAND PATTERN

(SPAN 1)



TYP. STRAND PATTERN

(SPAN 2)



SECTION THRU GIRDER

SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

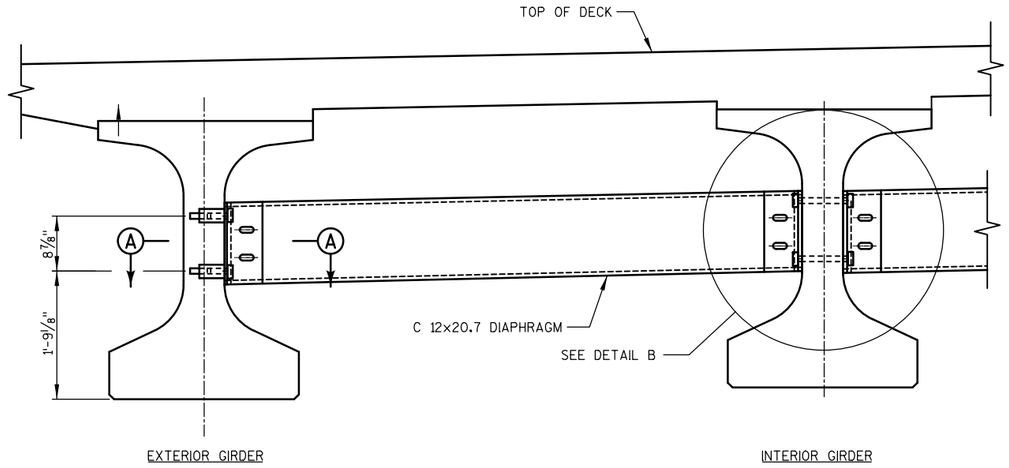
45W" PRESTRESSED GIRDER DETAILS-2

SHEET 17 OF 26

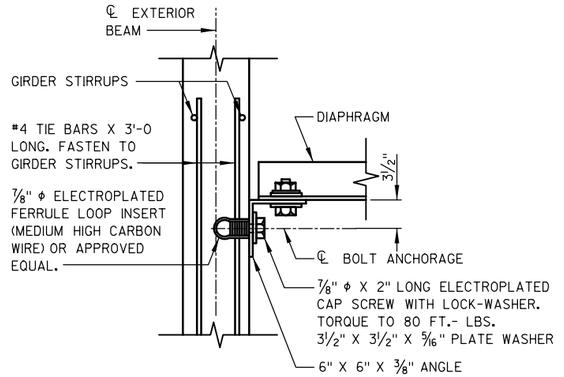
2001

STATE PROJECT NUMBER

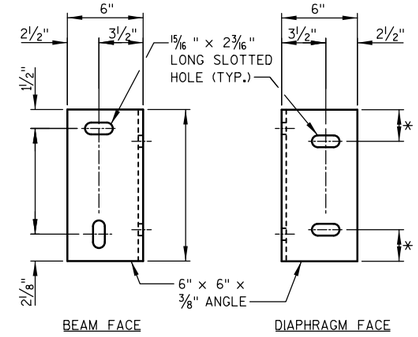
1133-09-71



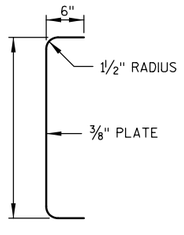
PART TRANSVERSE SECTION AT DIAPHRAGM



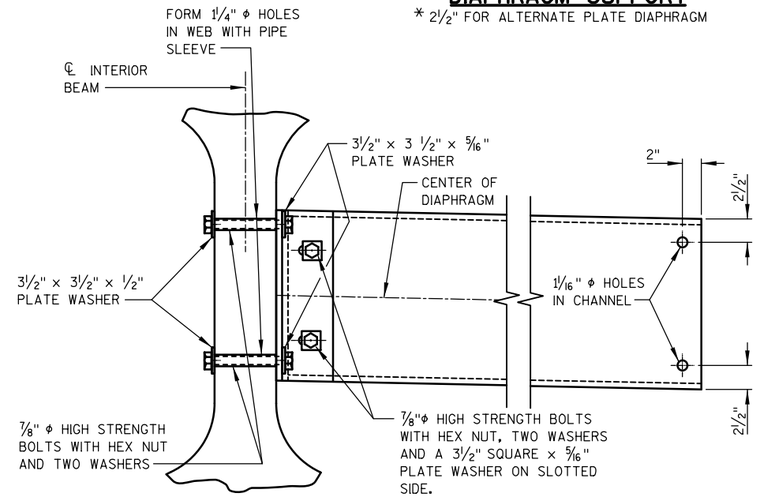
SECTION A-A
(FOR EXTERIOR ATTACHMENT)



DIAPHRAGM SUPPORT
* 2½" FOR ALTERNATE PLATE DIAPHRAGM

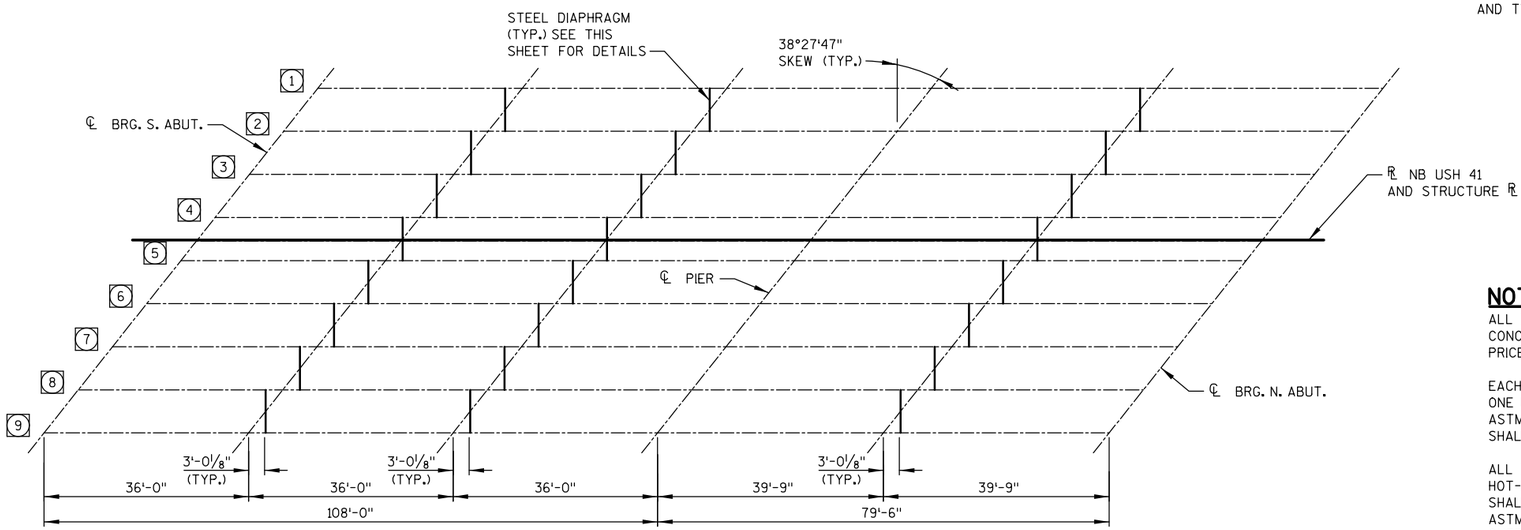


SECTION THRU ALTERNATE DIAPHRAGM



(FOR STAGGERED DIAPHRAGM)

DETAIL B



PLAN
(SHOWING DIAPHRAGM LAYOUT)

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-05-627", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT. ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

SEE THIS SHEET FOR DIAPHRAGM LAYOUT.

LEGEND

(#) INDICATES GIRDER NUMBER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

STEEL DIAPHRAGM

SHEET 18 OF 26

2002

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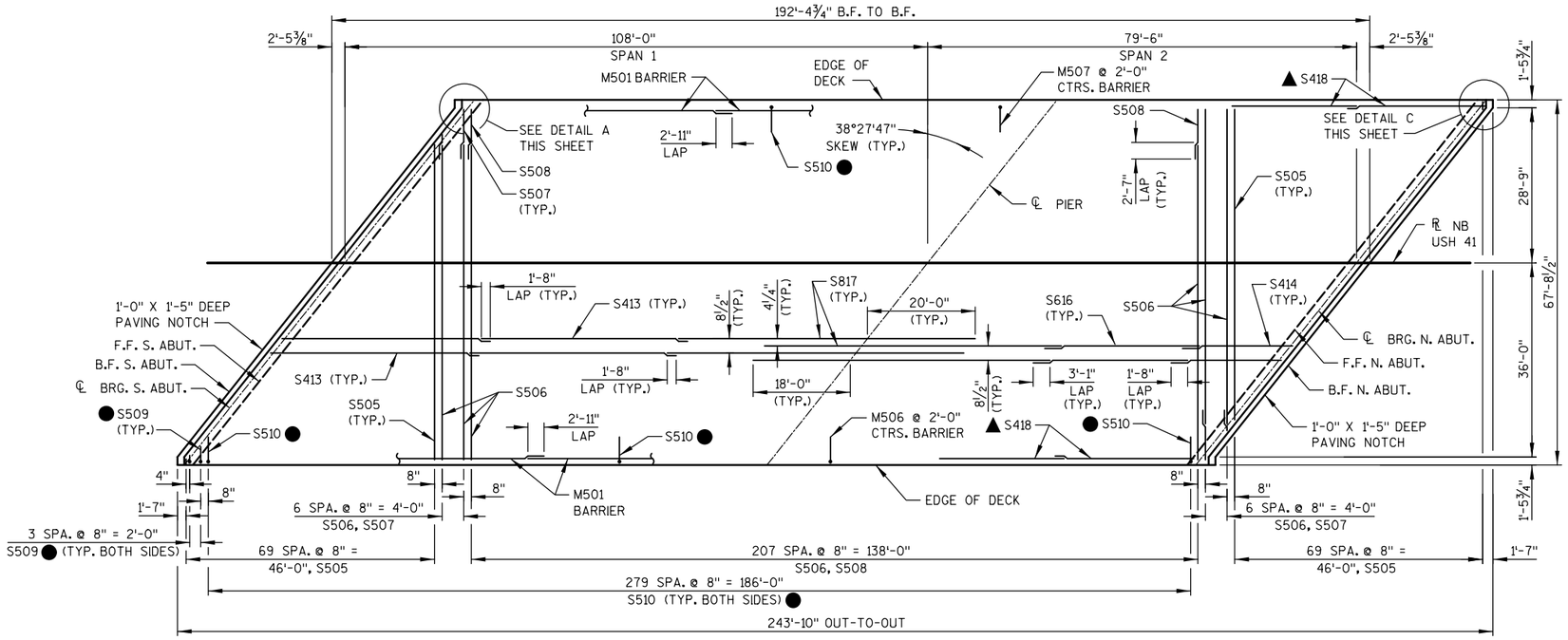
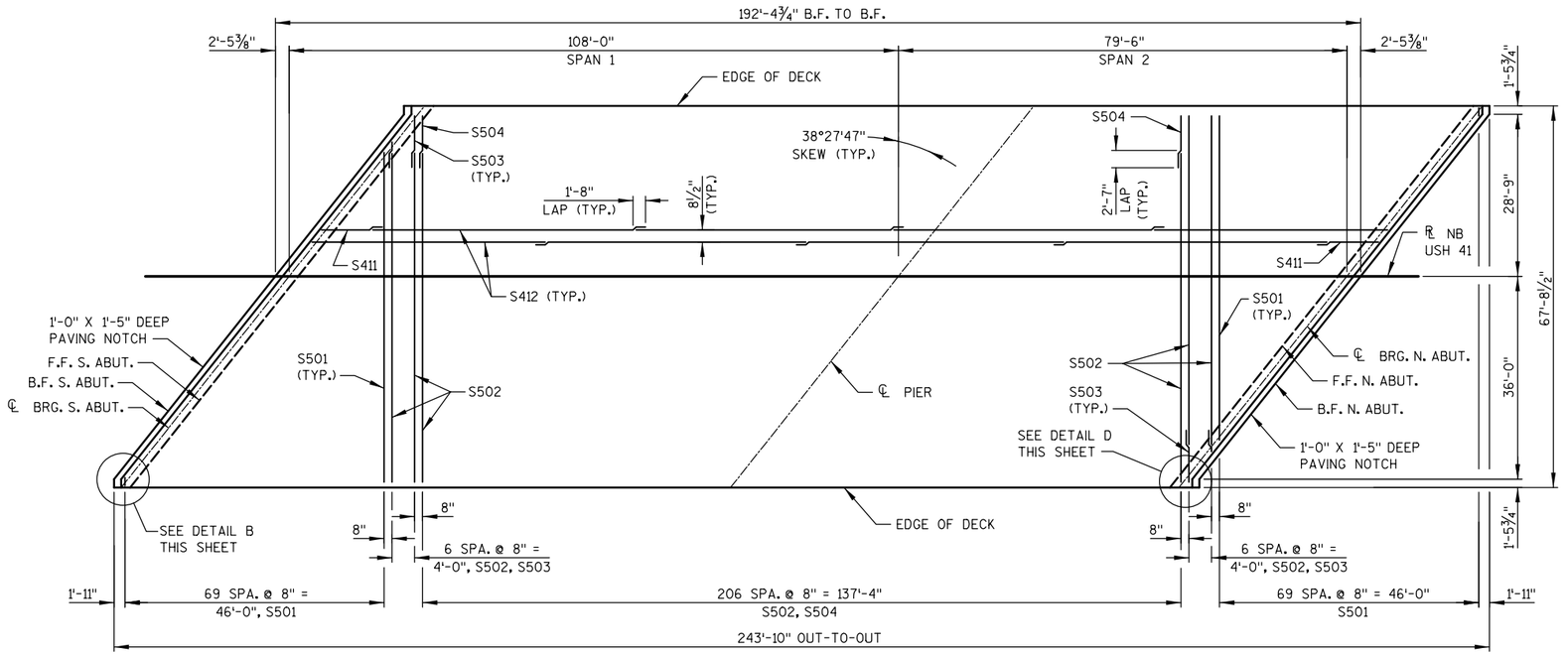
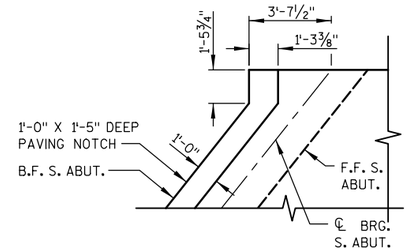
STATE PROJECT NUMBER
1133-09-71



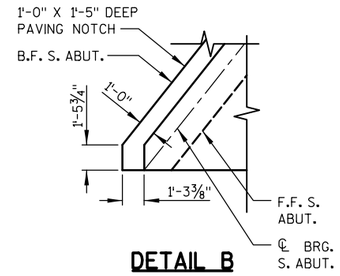
PLAN
(SHOWING TOP MAT SLAB REINFORCING)



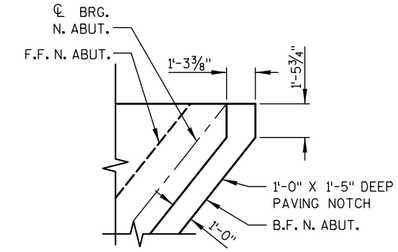
PLAN
(SHOWING BOTTOM MAT SLAB REINFORCING)



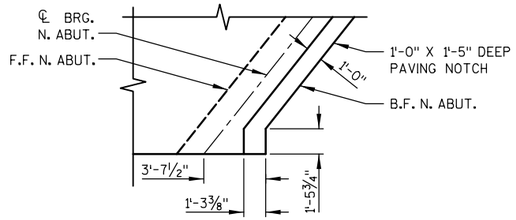
DETAIL A



DETAIL B



DETAIL C



DETAIL D

LEGEND

- ● LOCATE BARS BETWEEN TOP MAT TRANSVERSE REINFORCEMENT.
- ▲ LAP THESE BARS ONTO S817 BARS AT EDGES OF DECK. PROVIDE MIN. 1'-8" LAPS.

NOTES

SEE SHEET 22 FOR BAR DETAILS AND TOP OF DECK ELEVATIONS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE PLAN

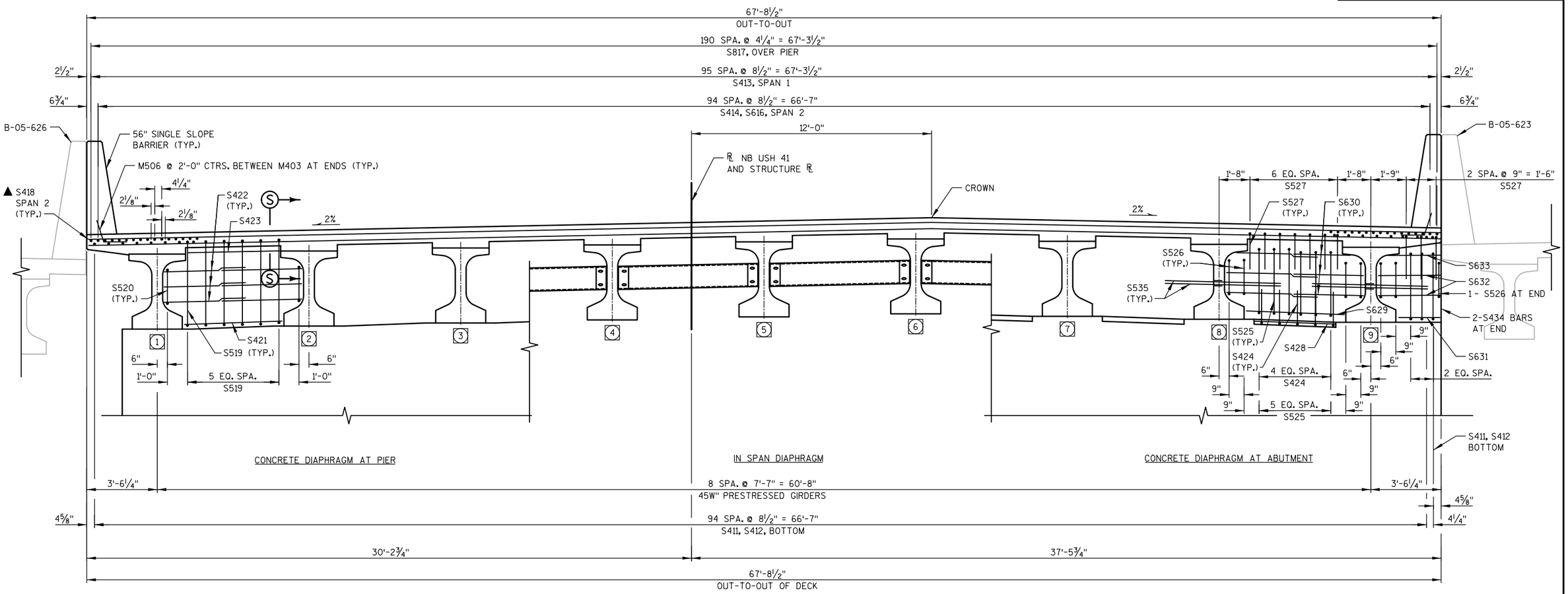
SHEET 19 OF 26

2003

8

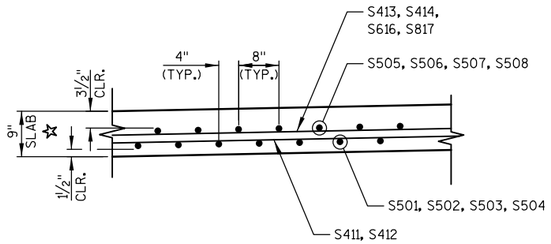
8

STATE PROJECT NUMBER
1133-09-71



CROSS SECTION THRU DECK

(LOOKING NORTH)



SECTION S-S

NOTES

SEE SHEET 25 FOR BARRIER REINFORCING.

LEGEND

☆ STRUCTURE IS DESIGNED FOR A 1½" WEARING SURFACE PLACED AT INITIAL CONSTRUCTION, INTEGRAL WITH THE DECK. THE DESIGN DOES NOT PROVIDE FOR ADDITIONAL LOADS DUE TO A FUTURE WEARING SURFACE.

▲ LAP THESE BARS ONTO S817 BARS AT EDGES OF DECK. PROVIDE MIN. 1'-8" LAPS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

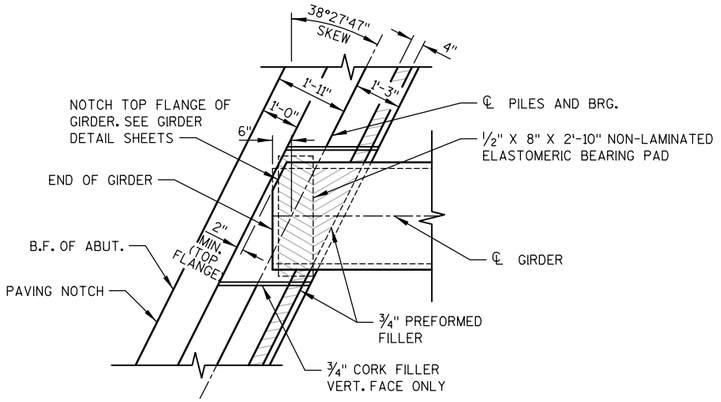
STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

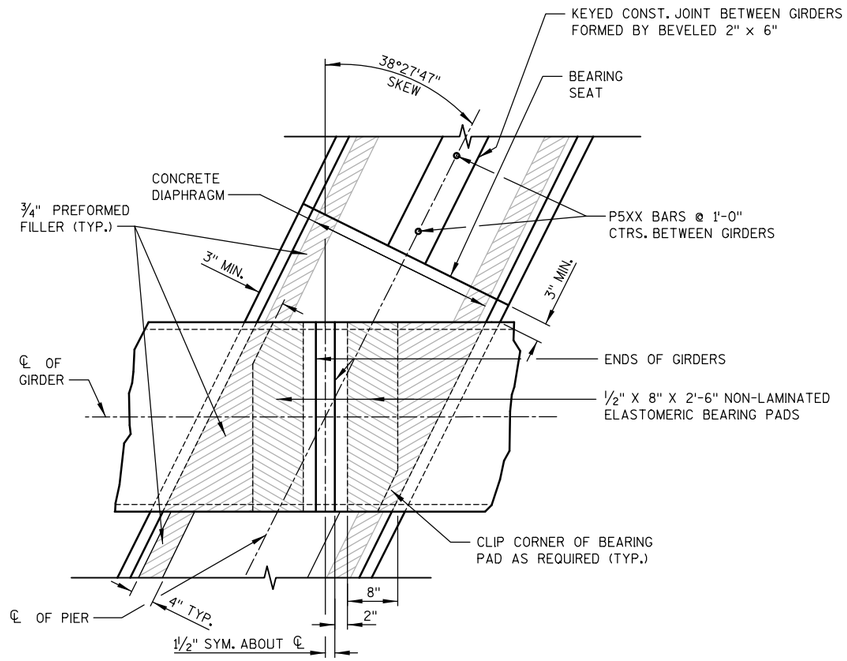
SUPERSTRUCTURE SECTION | SHEET 20 OF 26

2004

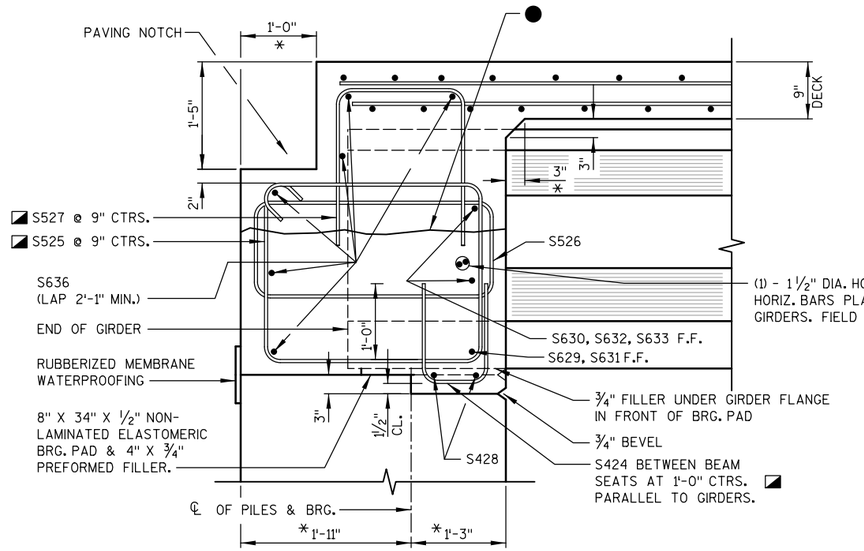
STATE PROJECT NUMBER
1133-09-71



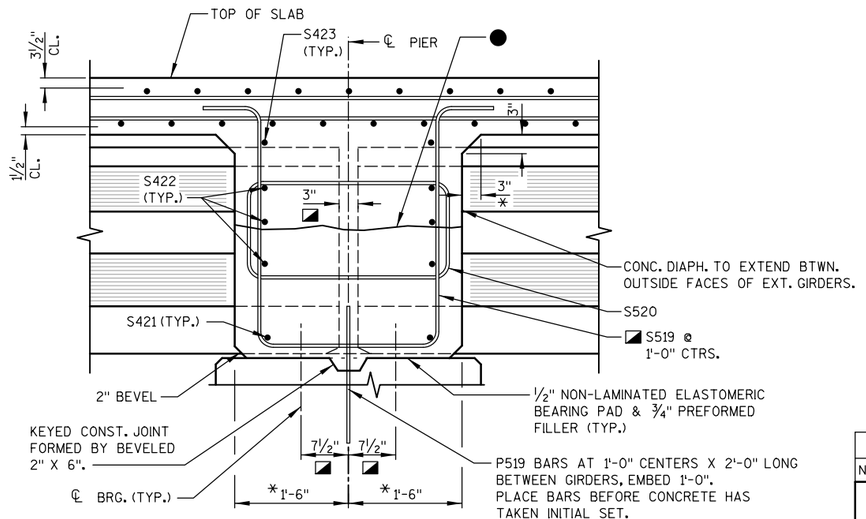
BEARING PAD AT ABUTMENT



BEARING PAD AT PIER



PRESTRESSED GIRDER WITH SEMI-EXPANSION SEAT AT ABUTMENT



DIAPHRAGM AT PIER

NOTES

SEE SHEET 22 FOR REINFORCING DETAILS.

SPACE S421, S422 AND S423 MAX. 1'-6" O.C. VERTICALLY.

LEGEND

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

◪ DIMENSION IS TAKEN PARALLEL TO GIRDER.

● OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE DETAILS-1

SHEET 21 OF 26

2005

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8

STATE PROJECT NUMBER
1133-09-71

SUPERSTRUCTURE BILL OF BARS

COATED: 103,020 LBS.

	MARK	NO.	LENGTH	BENT	COAT	LOCATION
▲	S501	140	30'-10"		X	SLAB - TRANSVERSE - BOTTOM
	S502	221	60'-0"		X	SLAB - TRANSVERSE - BOTTOM
▲	S503	14	5'-9"		X	SLAB - TRANSVERSE - BOTTOM
	S504	207	10'-0"		X	SLAB - TRANSVERSE - BOTTOM
▲	S505	140	30'-5"		X	SLAB - TRANSVERSE - TOP
	S506	222	60'-0"		X	SLAB - TRANSVERSE - TOP
▲	S507	14	5'-4"		X	SLAB - TRANSVERSE - TOP
	S508	208	10'-0"		X	SLAB - TRANSVERSE - TOP
▲	S509	8	3'-8"	X	X	SLAB - TRANSVERSE - TOP - EDGE OF DECK
	S510	560	5'-6"	X	X	SLAB - TRANSVERSE - TOP - EDGE OF DECK
	S411	96	16'-2"		X	SLAB - LONGITUDINAL - BOTTOM
	S412	384	45'-0"		X	SLAB - LONGITUDINAL - BOTTOM
	S413	192	38'-8"		X	SLAB - LONGITUDINAL - TOP - SPAN 1
	S414	95	20'-2"		X	SLAB - LONGITUDINAL - TOP - SPAN 2
						NOT USED
	S616	95	28'-1"		X	SLAB - LONGITUDINAL - TOP - SPAN 2
	S817	191	55'-0"		X	SLAB - LONGITUDINAL - TOP - OVER PIER
	S418	4	32'-0"		X	SLAB - LONGITUDINAL - TOP - EDGES OF DECK - SPAN 2
	S519	48	12'-10"	X	X	PIER DIAPHRAGM - VERT.
	S520	16	10'-11"	X	X	PIER DIAPHRAGM - VERT. - ADJACENT TO GIRDERS
	S421	16	6'-1"		X	PIER DIAPHRAGM - HORIZ.
	S422	96	5'-1"		X	PIER DIAPHRAGM - HORIZ.
	S423	16	5'-8"		X	PIER DIAPHRAGM - HORIZ.
	S424	80	3'-7"	X	X	ABUT. DIAPHRAGM - VERT. - ABUT. BODY NOTCH
	S525	96	13'-11"	X	X	ABUT. DIAPHRAGM - VERT.
	S526	76	11'-3"	X	X	ABUT. DIAPHRAGM - VERT. - ADJACENT TO GIRDERS & AT ENDS
	S527	124	7'-2"	X	X	ABUT. DIAPHRAGM - VERT. - PAVING NOTCH
	S428	32	4'-10"		X	ABUT. DIAPHRAGM - HORIZ. - ABUT. BODY NOTCH
	S629	16	6'-1"		X	ABUT. DIAPHRAGM - HORIZ. - F.F.
	S630	96	5'-5"		X	ABUT. DIAPHRAGM - HORIZ. - F.F.
	S631	4	2'-6"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - ENDS
	S632	8	3'-9"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - ENDS
	S633	4	3'-0"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - ENDS
	S434	8	4'-5"		X	ABUT. DIAPHRAGM - VERT. - ENDS
	S535	36	6'-0"		X	ABUT. DIAPHRAGM - HORIZ. - THRU GIRDERS
	S636	36	30'-1"		X	ABUT. DIAPHRAGM - HORIZ. - B.F., SLAB

NOTE: THE FIRST ONE OR TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.
DIMENSIONS FOR BENDING ARE OUT TO OUT OF BAR.

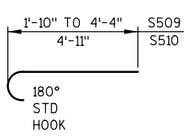
▲ BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S501	2 SERIES OF 70	1'-10" TO 59'-9"
S503	2 SERIES OF 7	3'-2" TO 8'-3"
S505	2 SERIES OF 70	1'-5" TO 59'-4"
S507	2 SERIES OF 7	2'-9" TO 7'-10"
S509	2 SERIES OF 4	2'-5" TO 4'-11"

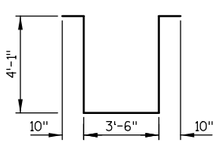
TOP OF DECK ELEVATIONS AT ℄ GIRDERS

LOCATION	WEST EDGE OF DECK		GIRDER NUMBER 1		2		3		4		REFERENCE LINE		5	
	30'-2 3/4" LT		26'-8 1/2" LT		19'-1 1/2" LT		11'-6 1/2" LT		3'-11 1/2" LT		0		3'-7 1/2" RT	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
C/L BRG S ABUT	893+36.12	629.86	893+33.33	629.93	893+27.30	630.10	893+21.28	630.26	893+15.25	630.42	893+12.11	630.50	893+09.23	630.58
0.1 L POINT	893+46.92	629.83	893+44.13	629.91	893+38.10	630.07	893+32.08	630.24	893+26.05	630.40	893+22.91	630.49	893+20.03	630.56
0.2 L POINT	893+57.72	629.80	893+54.93	629.88	893+48.90	630.05	893+42.88	630.21	893+36.85	630.38	893+33.71	630.47	893+30.83	630.54
0.3 L POINT	893+68.52	629.78	893+65.73	629.85	893+59.70	630.02	893+53.68	630.19	893+47.65	630.36	893+44.51	630.44	893+41.63	630.52
0.4 L POINT	893+79.32	629.74	893+76.53	629.82	893+70.50	629.99	893+64.48	630.16	893+58.45	630.33	893+55.31	630.42	893+52.43	630.50
0.5 L POINT	893+90.12	629.71	893+87.33	629.79	893+81.30	629.96	893+75.28	630.13	893+69.25	630.30	893+66.11	630.39	893+63.23	630.47
0.6 L POINT	894+00.92	629.67	893+98.13	629.75	893+92.10	629.92	893+86.08	630.09	893+80.05	630.27	893+76.91	630.35	893+74.03	630.44
0.7 L POINT	894+11.72	629.63	894+08.93	629.71	894+02.90	629.88	893+96.88	630.06	893+90.85	630.23	893+87.71	630.32	893+84.83	630.40
0.8 L POINT	894+22.52	629.58	894+19.73	629.66	894+13.70	629.84	894+07.68	630.02	894+01.65	630.19	893+98.51	630.28	893+95.63	630.36
0.9 L POINT	894+33.32	629.54	894+30.53	629.62	894+24.50	629.80	894+18.48	629.97	894+12.45	630.15	894+09.31	630.24	894+06.43	630.32
C/L PIER 1	894+44.12	629.49	894+41.33	629.57	894+35.30	629.75	894+29.28	629.93	894+23.25	630.10	894+20.11	630.20	894+17.23	630.28
0.1 L POINT	894+52.07	629.45	894+49.28	629.53	894+43.25	629.71	894+37.23	629.89	894+31.20	630.07	894+28.06	630.16	894+25.18	630.25
0.2 L POINT	894+60.02	629.41	894+57.23	629.49	894+51.20	629.67	894+45.18	629.85	894+39.15	630.03	894+36.01	630.13	894+33.13	630.21
0.3 L POINT	894+67.97	629.36	894+65.18	629.45	894+59.15	629.63	894+53.13	629.82	894+47.10	630.00	894+43.96	630.09	894+41.08	630.18
0.4 L POINT	894+75.92	629.32	894+73.13	629.41	894+67.10	629.59	894+61.08	629.77	894+55.05	629.96	894+51.91	630.05	894+49.03	630.14
0.5 L POINT	894+83.87	629.28	894+81.08	629.36	894+75.05	629.55	894+69.03	629.73	894+63.00	629.92	894+59.86	630.01	894+56.98	630.10
0.6 L POINT	894+91.82	629.23	894+89.03	629.32	894+83.00	629.50	894+76.98	629.69	894+70.95	629.87	894+67.81	629.97	894+64.93	630.06
0.7 L POINT	894+99.77	629.18	894+96.98	629.27	894+90.95	629.46	894+84.93	629.64	894+78.90	629.83	894+75.76	629.93	894+72.88	630.01
0.8 L POINT	895+07.72	629.13	895+04.93	629.22	894+98.90	629.41	894+92.88	629.60	894+86.85	629.78	894+83.71	629.88	894+80.83	629.97
0.9 L POINT	895+15.67	629.08	895+12.88	629.17	895+06.85	629.36	895+00.83	629.55	894+94.80	629.74	894+91.66	629.83	894+88.78	629.92
C/L BRG N ABUT	895+23.62	629.03	895+20.83	629.12	895+14.80	629.31	895+08.78	629.50	895+02.75	629.69	894+99.61	629.79	894+96.73	629.88

LOCATION	GIRDER NUMBER 6		CROWN		7		8		9		EAST EDGE OF DECK	
	11'-2 1/2" RT		12'-0" RT		18'-9 1/2" RT		26'-4 1/2" RT		33'-11 1/2" RT		37'-5 3/4" RT	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
C/L BRG S ABUT	893+03.21	630.74	893+02.58	630.76	892+97.18	630.63	892+91.16	630.48	892+85.13	630.34	892+82.34	630.27
0.1 L POINT	893+14.01	630.72	893+13.38	630.74	893+07.98	630.61	893+01.96	630.47	892+95.93	630.32	892+93.14	630.26
0.2 L POINT	893+24.81	630.71	893+24.18	630.72	893+18.78	630.60	893+12.76	630.45	893+06.73	630.31	893+03.94	630.25
0.3 L POINT	893+35.61	630.69	893+34.98	630.70	893+29.58	630.58	893+23.56	630.44	893+17.53	630.30	893+14.74	630.23
0.4 L POINT	893+46.41	630.66	893+45.78	630.68	893+40.38	630.56	893+34.36	630.42	893+28.33	630.28	893+25.54	630.21
0.5 L POINT	893+57.21	630.64	893+56.58	630.65	893+51.18	630.53	893+45.16	630.39	893+39.13	630.25	893+36.34	630.19
0.6 L POINT	893+68.01	630.61	893+67.38	630.62	893+61.98	630.50	893+55.96	630.37	893+49.93	630.23	893+47.14	630.17
0.7 L POINT	893+78.81	630.57	893+78.18	630.59	893+72.78	630.47	893+66.76	630.34	893+60.73	630.20	893+57.94	630.14
0.8 L POINT	893+89.61	630.54	893+88.98	630.56	893+83.58	630.44	893+77.56	630.31	893+71.53	630.17	893+68.74	630.11
0.9 L POINT	894+00.41	630.50	893+99.78	630.52	893+94.38	630.40	893+88.36	630.27	893+82.33	630.14	893+79.54	630.08
C/L PIER 1	894+11.21	630.46	894+10.58	630.48	894+05.18	630.36	893+99.16	630.23	893+93.13	630.10	893+90.34	630.04
0.1 L POINT	894+19.16	630.43	894+18.53	630.44	894+13.13	630.33	894+07.11	630.20	894+01.08	630.07	893+98.29	630.01
0.2 L POINT	894+27.11	630.39	894+26.48	630.41	894+21.08	630.30	894+15.06	630.17	894+09.03	630.04	894+06.24	629.98
0.3 L POINT	894+35.06	630.36	894+34.43	630.38	894+29.03	630.26	894+23.01	630.14	894+16.98	630.01	894+14.19	629.95
0.4 L POINT	894+43.01	630.32	894+42.38	630.34	894+36.98	630.23	894+30.96	630.10	894+24.93	629.98	894+22.14	629.92
0.5 L POINT	894+50.96	630.28	894+50.33	630.30	894+44.93	630.19	894+38.91	630.07	894+32.88	629.94	894+30.09	629.88
0.6 L POINT	894+58.91	630.24	894+58.28	630.26	894+52.88	630.15	894+46.86	630.03	894+40.83	629.91	894+38.04	629.85
0.7 L POINT	894+66.86	630.20	894+66.23	630.22	894+60.83	630.11	894+54.81	629.99	894+48.78	629.87	894+45.99	629.81
0.8 L POINT	894+74.81	630.16	894+74.18	630.18	894+68.78	630.07	894+62.76	629.95	894+56.73	629.83	894+53.94	629.77
0.9 L POINT	894+82.76	630.11	894+82.13	630.13	894+76.73	630.03	894+70.71	629.91	894+64.68	629.79	894+61.89	629.73
C/L BRG N ABUT	894+90.71	630.06	894+90.08	630.08	894+84.68	629.98	894+78.66	629.86	894+72.63	629.74	894+69.84	629.69



S509, S510



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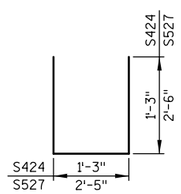

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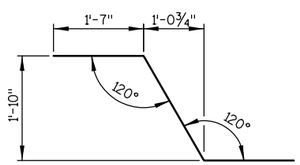

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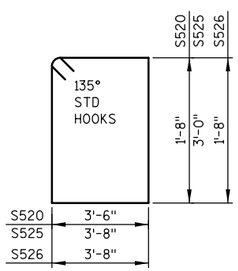


S520, S525, S526

NOTES

SEE APPROACH APRON AND APPROACH APRON DETAILS SHEETS FOR PLACEMENT OF SS901 BARS.

STAINLESS STEEL BILL OF BARS

2,350 LBS.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
SS901		138	5'-0"	X		CONC. DIAPH. @ ABUTS. TO APPROACH APRON

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

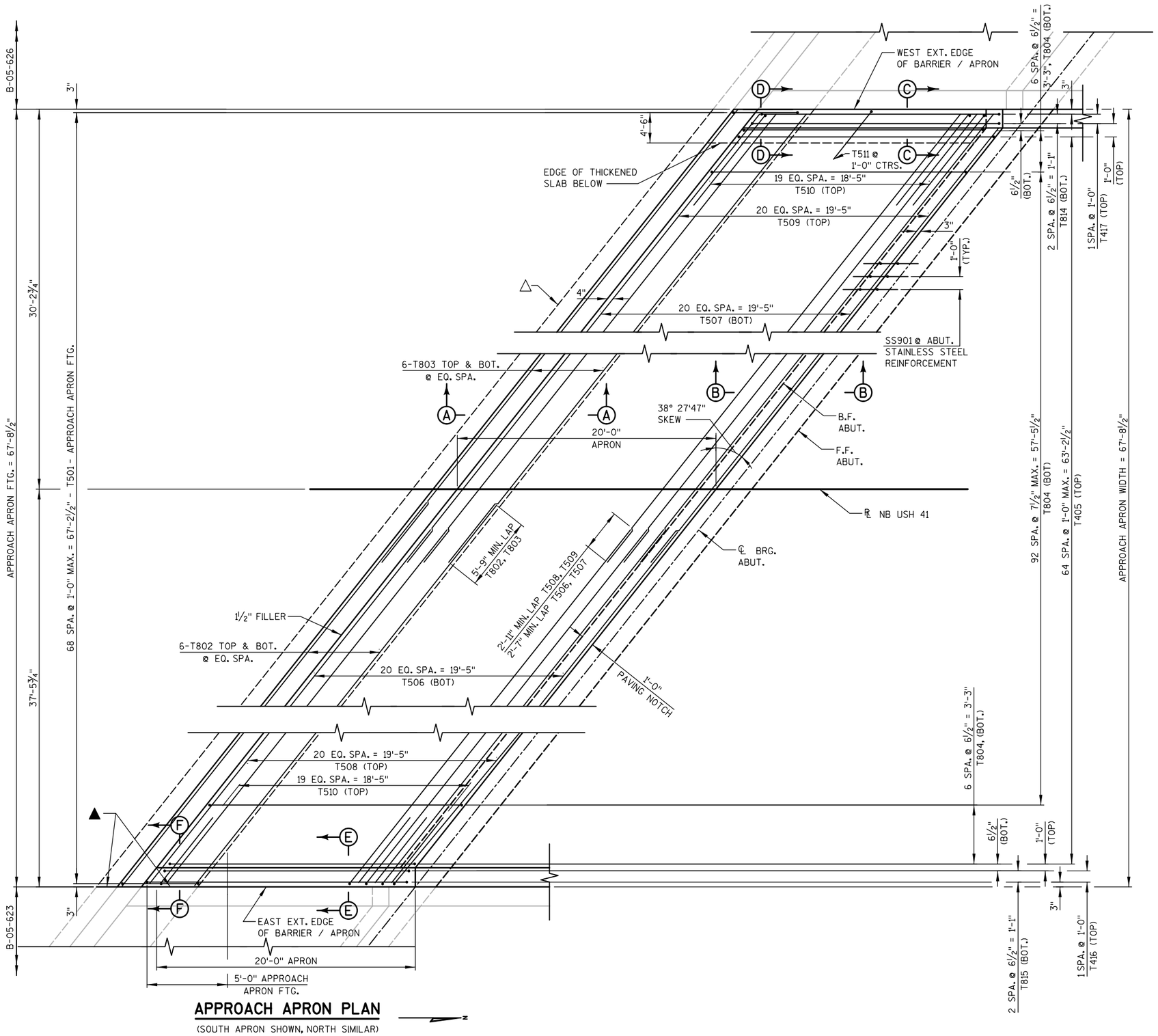
DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE DETAILS-2

SHEET 22 OF 26

2006

STATE PROJECT NUMBER
1133-09-71



APPROACH APRON PLAN

(SOUTH APRON SHOWN, NORTH SIMILAR)

LEGEND

△ PIPE UNDERDRAIN WRAPPED 6-INCH AT APPROACH APRON. LOCATED ONLY ON UPHILL SIDE OF APRON FOOTING. SLOPE 0.5% MIN. TO USH 41 CLOSED MEDIAN DRAINAGE SYSTEM.

▲ PLACE ½" FILLER BETWEEN EDGE OF B-05-623 APPROACH APRON FOOTING AND SLAB AND EDGE OF B-05-627 APPROACH APRON FOOTING AND SLAB.

DESIGN DATA:

ALLOWABLE SOIL BEARING PRESSURE:	2,000 P.S.F.
CONCRETE STRENGTH f'c:	4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60, fy:	60,000 P.S.I.

NOTES

SEE SHEET 24 FOR DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

APPROACH APRON 2007

8

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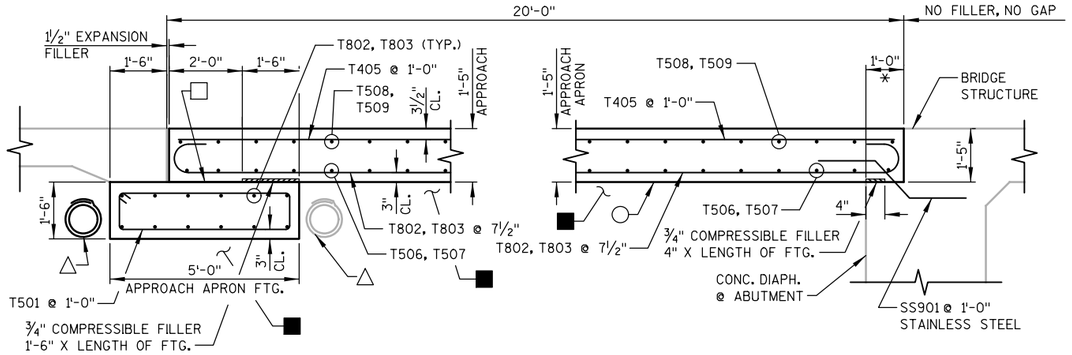
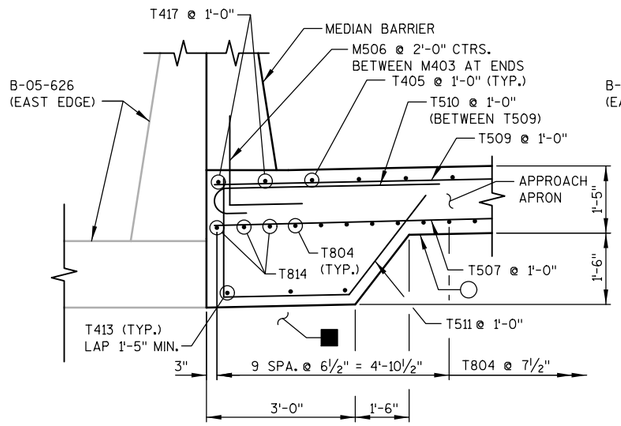


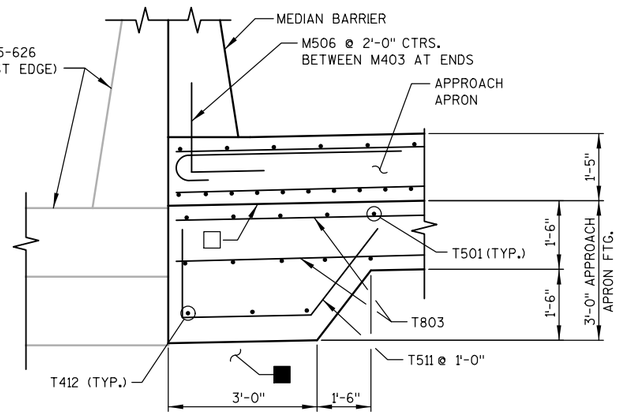
SECTION A-A

SECTION B-B

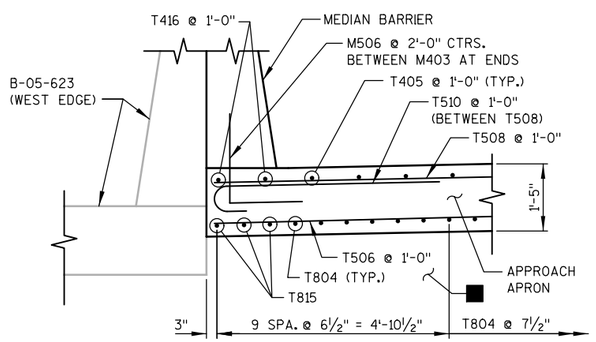
SECTION THRU APPROACH APRON



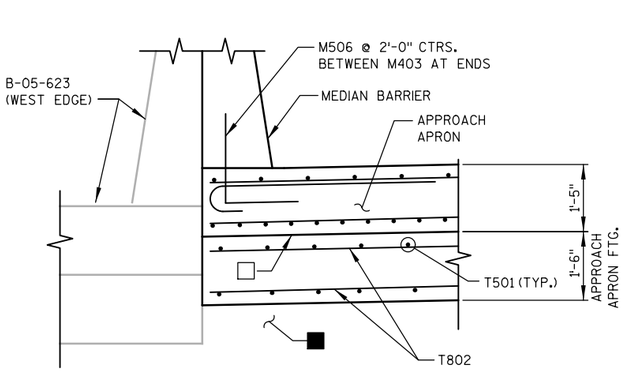
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

STATE PROJECT NUMBER

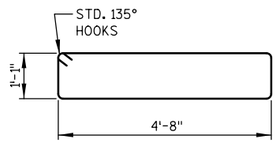
1133-09-71

COATED:
SOUTH APPROACH APRON = 15,410 LBS.
NORTH APPROACH APRON = 15,410 LBS.

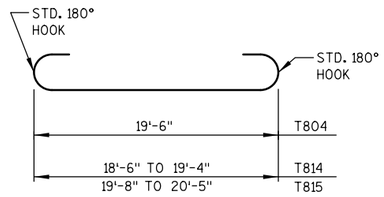
BILL OF BARS

BAR MARK	COAT	NO. REQ'D. S. APRON	NO. REQ'D. N. APRON	LENGTH	BENT	BAR SERIES	LOCATION
T501	X	69	69	12'-1"	X		FOOTING - STIRRUPS
T802	X	12	12	60'-0"			FOOTING - HORIZONTAL
T803	X	12	12	31'-1"			FOOTING - HORIZONTAL
T804	X	105	105	21'-4"	X		APPROACH APRON - LONGIT. - BOT.
T405	X	65	65	19'-6"			APPROACH APRON - LONGIT. - TOP
T506	X	21	21	60'-0"			APPROACH APRON - TRANS. - BOT.
T507	X	21	21	29'-2"			APPROACH APRON - TRANS. - BOT.
T508	X	21	21	60'-0"			APPROACH APRON - TRANS. - TOP
T509	X	21	21	28'-10"			APPROACH APRON - TRANS. - TOP
T510	X	40	40	5'-4"	X		APPROACH APRON - TRANS. - TOP
T511	X	24	24	9'-3"	X		FOOTING & APPROACH APRON - THICKENED WEST EDGE
T412	X	3	3	4'-8"			FOOTING - THICKENED WEST EDGE
T413	X	6	6	8'-9"			APPROACH APRON - THICKENED WEST EDGE
▲ T814	X	3	3	20'-9"	X	X	APPROACH APRON - LONGIT. - BOT.
▲ T815	X	3	3	21'-11"	X	X	APPROACH APRON - LONGIT. - BOT.
▲ T416	X	2	2	20'-1"		X	APPROACH APRON - LONGIT. - TOP
▲ T417	X	2	2	18'-11"		X	APPROACH APRON - LONGIT. - TOP

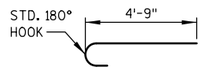
NOTE: ALL DIMENSIONS IN THE BAR BENDS ARE OUT TO OUT.



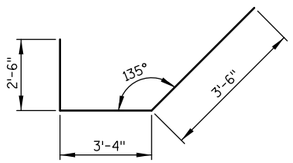
T501



T804, T814, T815



T510



T511

▲ BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
T814	2 SERIES OF 3	20'-4" TO 21'-2"
T815	2 SERIES OF 3	21'-6" TO 22'-3"
T416	2 SERIES OF 2	19'-8" TO 20'-5"
T417	2 SERIES OF 2	18'-6" TO 19'-4"

LEGEND

△ PIPE UNDERDRAIN WRAPPED 6-INCH AT APPROACH APRON. LOCATED ONLY ON UPHILL SIDE OF APRON FOOTING. SLOPE 0.5% MIN. TO USH 41 CLOSED MEDIAN DRAINAGE SYSTEM.

□ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.

○ PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.

⁎ PAVING NOTCH MEASURED NORMAL TO ABUTMENT

■ 1¼" COURSE AGGREGATE BASE COURSE. SEE ROADWAY PLANS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

APPROACH APRON DETAILS

SHEET 24 OF 26

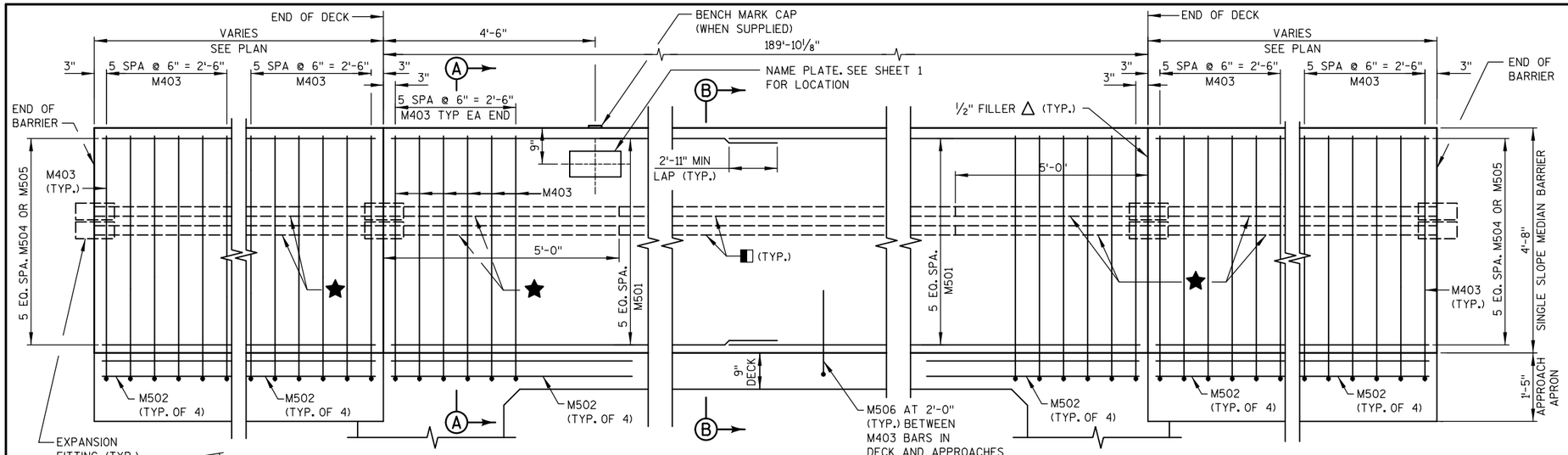
2008

8

8

STATE PROJECT NUMBER

1133-09-71

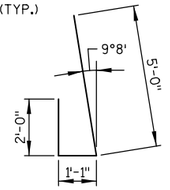


INSIDE ELEVATION

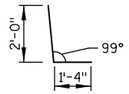
(LOOKING WEST)

LEGEND

- ◐ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- ■ FASTEN ½" PREFORMED JOINT FILLER TO OUTSIDE OF B-05-623 WITH 1½" LONG GALVANIZED CONCRETE NAILS SPACED 2'-0" O.C. MAX. HORIZONTAL/VERTICAL.
- ★ "CONDUIT RIGID METALLIC 3-INCH." PLACE IN WEST BARRIER ON EACH APPROACH APRON AND FOR 5'-0" AT BOTH ENDS OF WEST BARRIER ON BRIDGE.
- ◧ "CONDUIT RIGID NON-METALLIC SCHEDULE 40 3-INCH." PLACE IN WEST BARRIER ON BRIDGE BETWEEN METALLIC CONDUIT.
- △ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEE AND HOLD DOWN ⅛" BELOW SURFACE OF CONCRETE.



M403



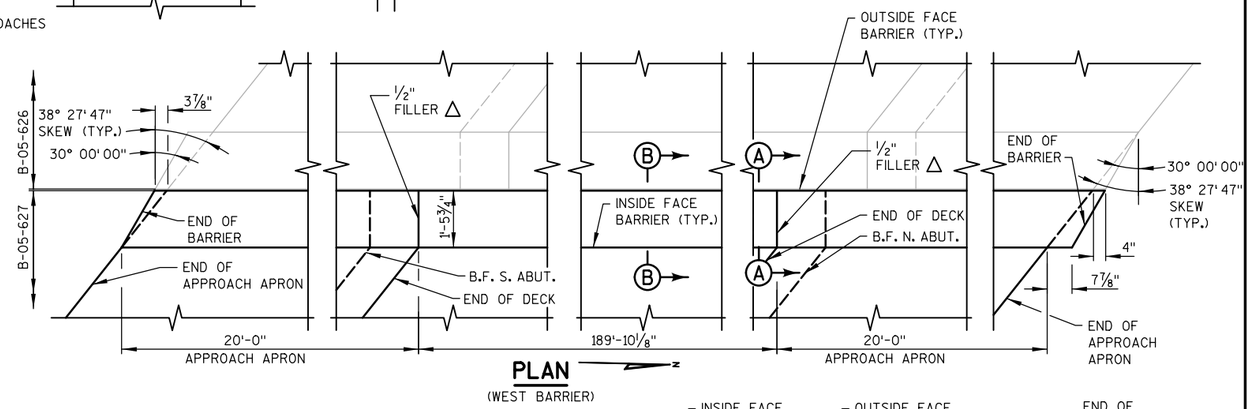
M506

NOTES

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINFORCEMENT THRU THE JOINT. LAP LONGITUDINAL BARS A MIN. OF 2'-11". MIN. JOINT SPACING OF 80'-0". DEFINE CONSTRUCTION JOINT WITH A ¾" 'V' GROOVE.

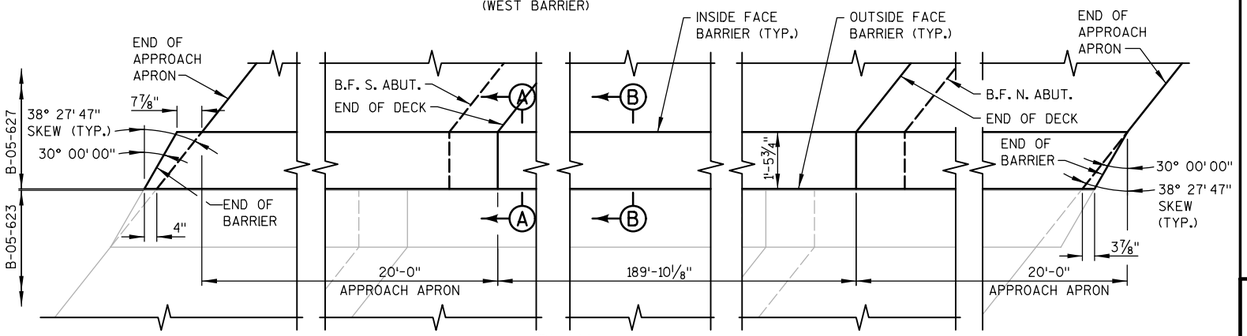
ADJACENT STRUCTURE B-05-623 WILL BE CONSTRUCTED PRIOR TO B-05-627. ALIGN TOP OF B-05-627 56" SINGLE SLOPE MEDIAN BARRIER WITH TOP OF B-05-623 BARRIER AS SHOWN.

ADJACENT STRUCTURE B-05-626 WILL BE CONSTRUCTED AFTER B-05-627.



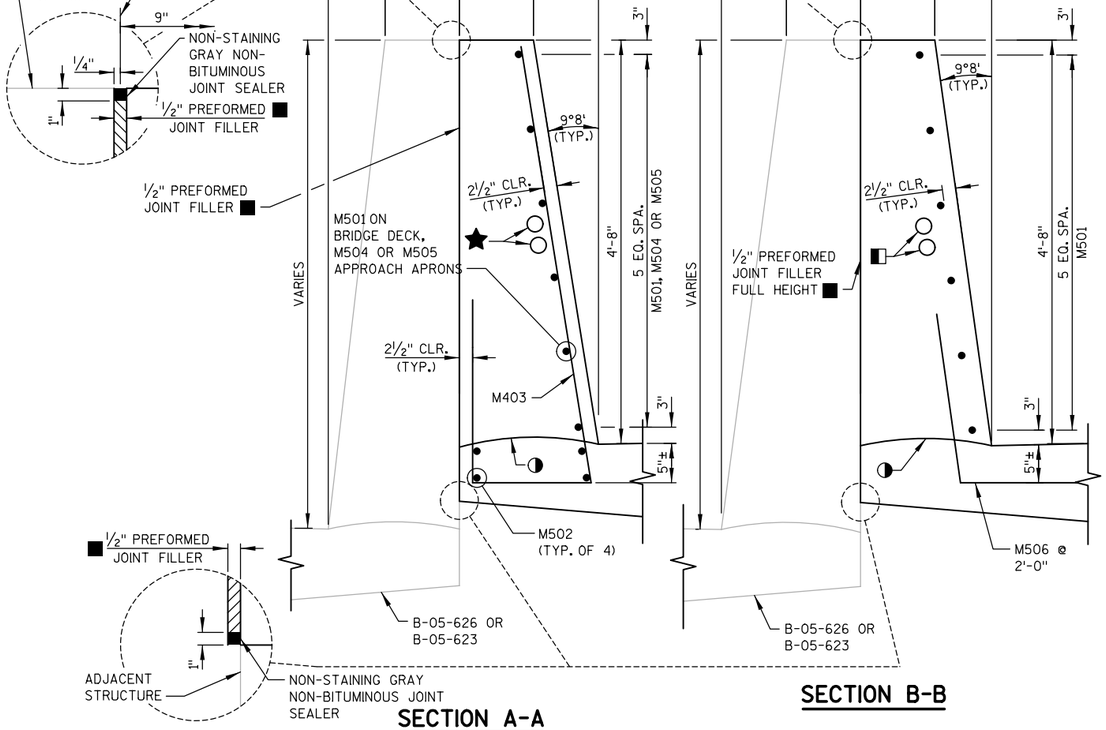
PLAN

(WEST BARRIER)



PLAN

(EAST BARRIER)



SECTION A-A

TYPICAL AT ENDS OF BARRIER

SECTION B-B

BILL OF BARS

BAR MARK	COAT	NO.	LENGTH	BENT	LOCATION
M501	X	48	49'-8"		MEDIAN BARRIER HORIZ. AT DECK
M502	X	48	5'-0"		MEDIAN BARRIER HORIZ. AT ENDS (IN DECK OR APPROACH APRON)
M403	X	72	7'-11"	X	MEDIAN BARRIER VERT. AT ENDS (IN DECK OR APPROACH APRON)
M504	X	12	20'-2"		MEDIAN BARRIER HORIZ. AT SE AND NW APPROACH APRONS
M505	X	12	19'-6"		MEDIAN BARRIER HORIZ. AT SW AND NE APPROACH APRONS
M506	X	216	3'-3"	X	MEDIAN BARRIER VERT.

COATED:
SOUTH APPROACH APRON = 510 LBS.
SUPERSTRUCTURE = 3,320 LBS.
NORTH APPROACH APRON = 510 LBS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

SINGLE SLOPE MEDIAN BARRIER

SHEET 25 OF 26

2009

8

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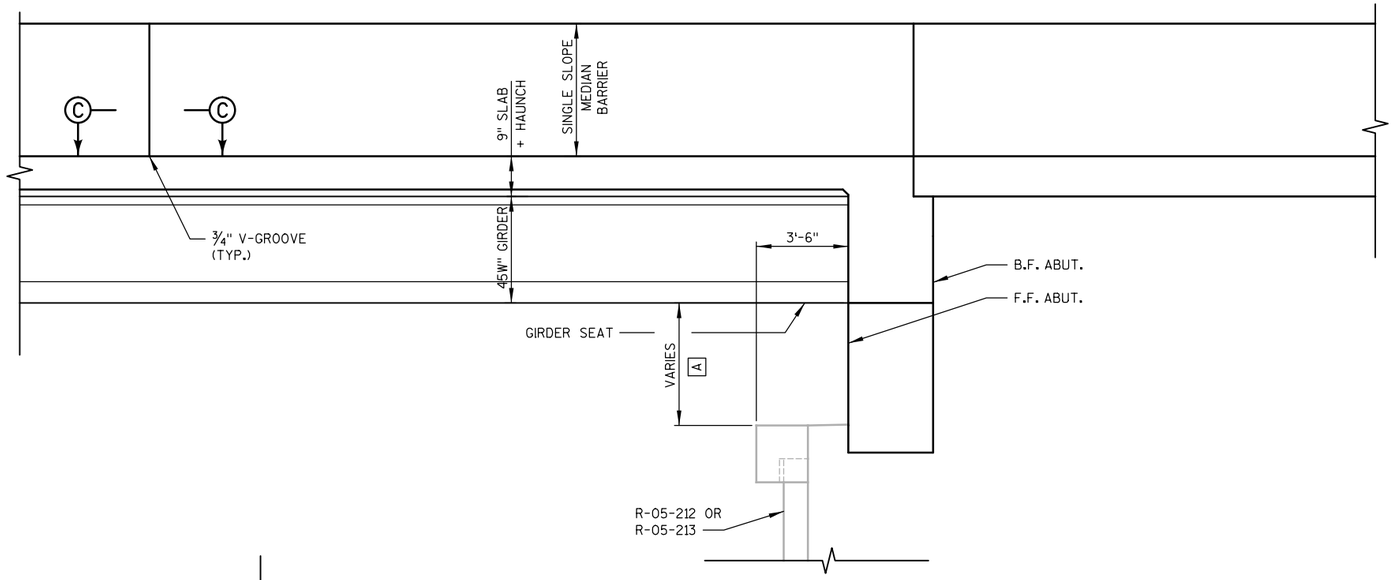
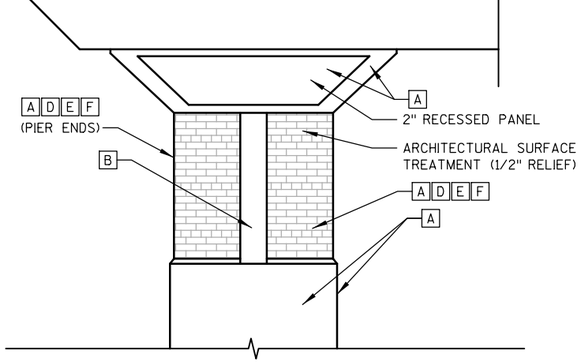
STATE PROJECT NUMBER
1133-09-71

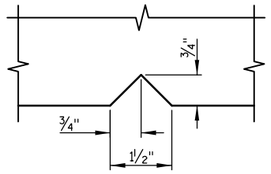


LONGITUDINAL SECTION THRU ABUTMENT

(NORTH ABUTMENT SHOWN, SOUTH ABUTMENT SIMILAR)



PIER ELEVATION



SECTION C-C

¾" "V" GROOVE

NOTES

STAIN TO 1'-0" BELOW FINISHED GRADE.

STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

THE COST OF BRICK PATTERN FORMLINER TREATMENT IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT." SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

STAIN FRONT FACE OF ABUTMENTS AND END DIAPHRAGMS FROM 1-FOOT BELOW GRADE TO UNDERSIDE OF DECK, INCLUDING END DIAPHRAGM FACE BETWEEN GIRDERS.

SEE SPECIAL PROVISIONS FOR STAIN COLORS.

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE AND BOTTOM OF EXTERIOR CONC. GIRDER, PIER CAP
C	ACCENT COLOR #2	NOT USED
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	NOT USED

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-627

DRAWN BY AJW | PLANS CK'D. DJW

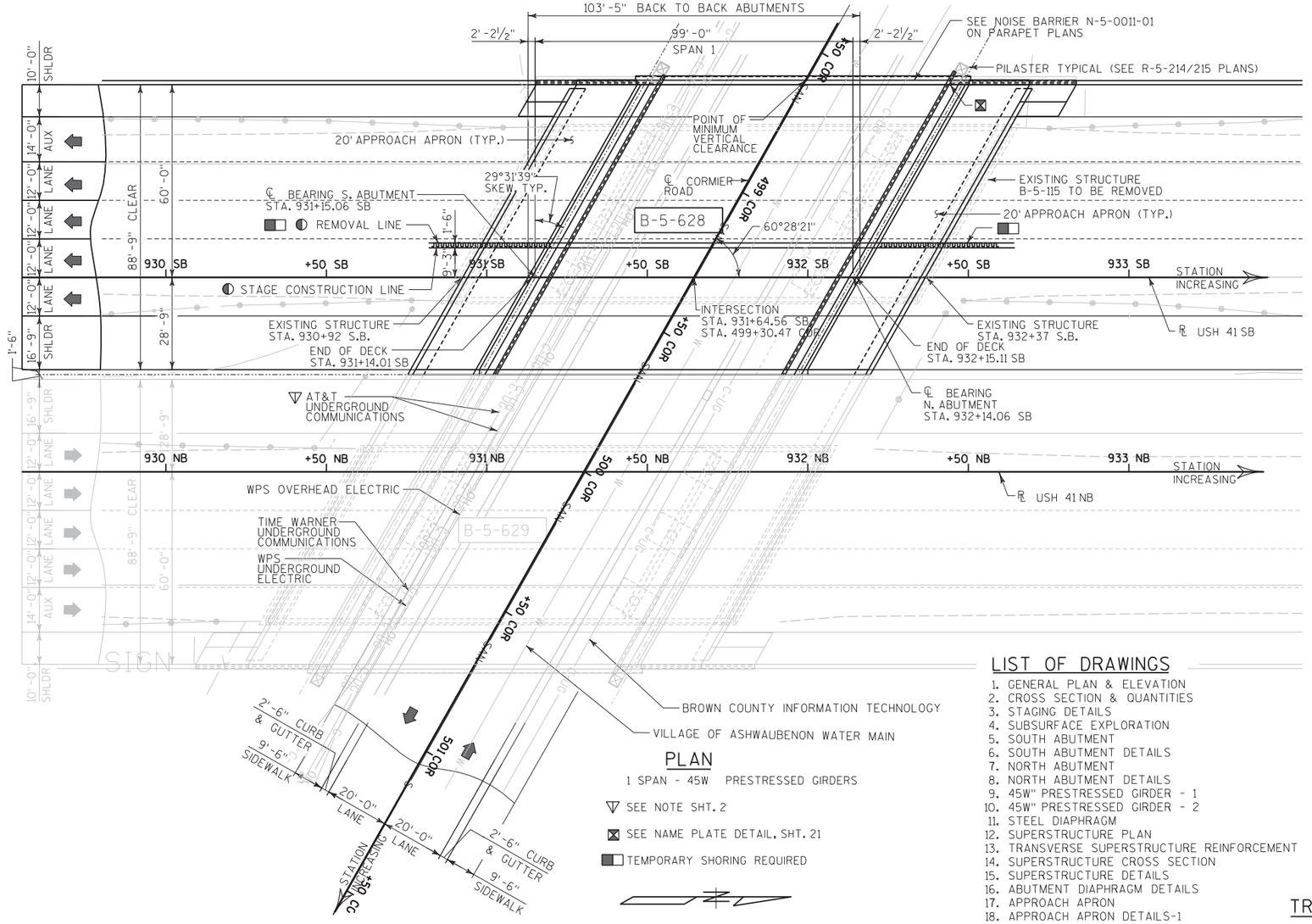
AESTHETIC DETAILS

SHEET 26 OF 26

2010

STATE PROJECT NUMBER

1133-09-71



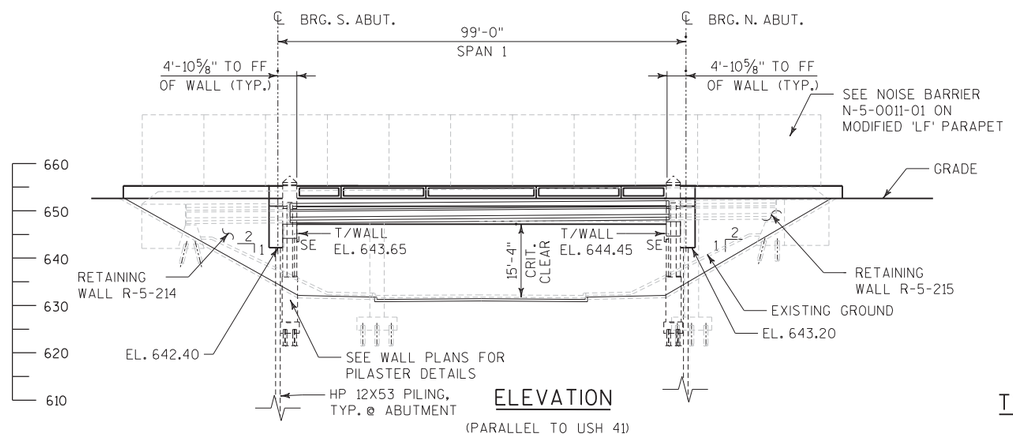
PLAN

1 SPAN - 45W PRESTRESSED GIRDERS

▽ SEE NOTE SHT. 2

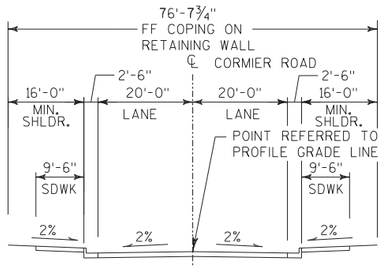
⊠ SEE NAME PLATE DETAIL, SHT. 21

▬ TEMPORARY SHORING REQUIRED



ELEVATION

(PARALLEL TO USH 41)



TYPICAL SECTION THRU CORMIER ROAD

(LOOKING WEST)

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION & QUANTITIES
3. STAGING DETAILS
4. SUBSURFACE EXPLORATION
5. SOUTH ABUTMENT
6. SOUTH ABUTMENT DETAILS
7. NORTH ABUTMENT
8. NORTH ABUTMENT DETAILS
9. 45W" PRESTRESSED GIRDER - 1
10. 45W" PRESTRESSED GIRDER - 2
11. STEEL DIAPHRAGM
12. SUPERSTRUCTURE PLAN
13. TRANSVERSE SUPERSTRUCTURE REINFORCEMENT
14. SUPERSTRUCTURE CROSS SECTION
15. SUPERSTRUCTURE DETAILS
16. ABUTMENT DIAPHRAGM DETAILS
17. APPROACH APRON
18. APPROACH APRON DETAILS-1
19. APPROACH APRON DETAILS-2
20. 56" SINGLE SLOPE BARRIER
21. PARAPET LF MODIFIED
22. NOISE WALL ANCHORAGE ON BRIDGE
23. PARAPET TYPE 'LF' MODIFIED APRON
24. AESTHETIC DETAILS - 1
25. AESTHETIC DETAILS - 2

DESIGN DATA

LIVE LOAD:
- DESIGN LOAD HL-93
- INVENTORY RATING FACTOR 1.20
- OPERATING RATING FACTOR 1.56
- WIS-SPV RATING ..... 200 KIPS

THE STRUCTURE IS DESIGNED FOR A 1½" SACRIFICIAL WEARING SURFACE PLACED AT INITIAL CONSTRUCTION INTEGRAL WITH THE DECK. THE DESIGN DOES NOT PROVIDE FOR ADDITIONAL LOADS DUE TO FUTURE WEARING SURFACE.

ULTIMATE DESIGN STRESSES

CONCRETE MASONRY (HPC) .....f'c = 4,000 PSI

HIGH STRENGTH BAR STEEL REINFORCEMENT GRADE 60 .....fy = 60,000 PSI

45W-INCH PRESTRESSED GIRDERS
CONCRETE MASONRY .....f'c = 8,000 PSI

PRESTRESSING STRANDS = 0.6 INCH DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 PSI

NOISE BARRIER

MAXIMUM HEIGHT ABOVE ROADWAY BARRIER.....VARIES, 13.0 FEET MAX.
MAXIMUM POST SPACING.....10 FEET
NOISE BARRIER DEAD LOAD.....50 PSF
NOISE BARRIER DESIGN WIND LOAD.....42 PSF

STRUCTURE DESIGNED FOR MAX. WALL HEIGHT OF 13 FT. DESIGNER SHOULD BE NOTIFIED IF WALL HEIGHT EXCEEDS DESIGN HEIGHT.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 12X53 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 100'-0" LONG AT NORTH ABUTMENT. ESTIMATED 90'-0" LONG AT SOUTH ABUTMENT.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

EXISTING ABUTMENT PILING SHALL BE CUT-OFF AT THE BOTTOM OF WALL ELEVATION FOR R-5-214 AND R-5-215. THIS WORK TO BE INCLUDED IN THE "REMOVING OLD STRUCTURE" BID ITEM.

THE EXISTING ABUTMENTS HAVE BATTERED PILES IN THE FRONT ROW. IF IT IS DETERMINED THAT THE BATTERED PILING WILL CONFLICT WITH THE PROPOSED PILING, THE ENGINEER SHALL BE NOTIFIED TO DETERMINE A REVISED PILE SPACING.

◐ SEE STAGING PLAN SHT. 3

TRAFFIC DATA USH 41 NB

ADT = 45,700 (2015)
= 59,500 (2035)
RDS = 70 MPH

TRAFFIC DATA USH 41 SB

ADT = 45,900 (2015)
= 59,600 (2035)
RDS = 70 MPH

TRAFFIC DATA CORMIER ROAD

ADT = 11,400 (2015)
= 14,100 (2035)
RDS = 35 MPH

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

NE REGION CONTACT:
KURT PETERS (920) 492-2213

CONSULTANT CONTACT:
JOHN RUBLEIN (608) 229-1434

WISCONSIN ★ JOHN F. RUBLEIN E-38700 MADISON WI ★ PROFESSIONAL ENGINEER

4/8/13

NO.	DATE	REVISION	BY

DAAR ENGINEERING, INC.
www.daarcorp.com
Madison, WI 53703
608-249-0148

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/09/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-5-628

USH 41 SB OVER CORMIER ROAD

COUNTY	VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
ACT	JFR	TRW	JFR

GENERAL PLAN AND ELEVATION

SHEET 1 OF 25

2011

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DATE: 4/8/2013

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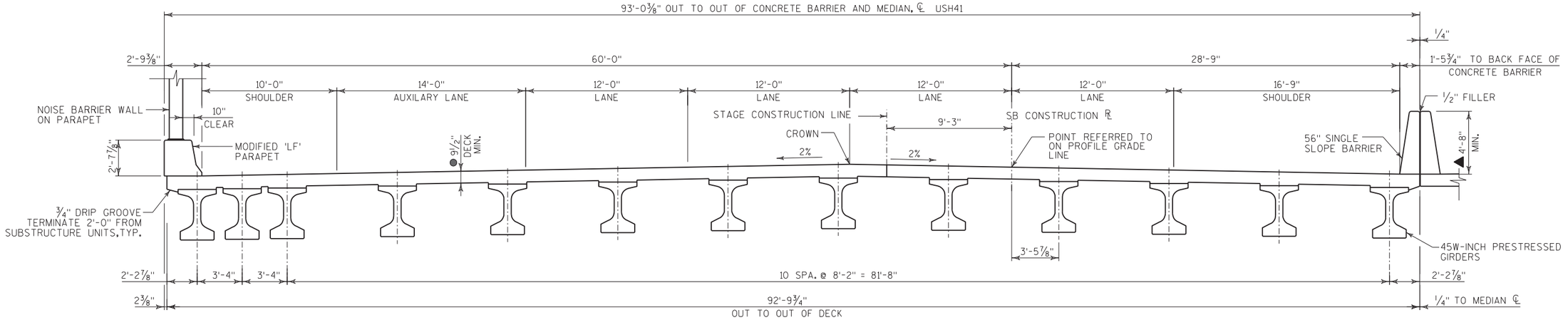
STATE PROJECT NUMBER
1133-09-71



TYPICAL SECTION

(LOOKING NORTH)

BENCH MARKS

NO.	STATION/OFFSET	DESCRIPTION	ELEVATION
528A	934+30.33 NB 479.31' LT	CHISELED "X" ON A FIRE HYDRANT BURY BOLT ON COMIER RD., 275' WEST OF THE ℄ OF NORTH RD. & 25' NORTH OF THE ℄ OF CORMIER RD.	642.72
550	929+76.91 NB 325.21' RT	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE NORTHEAST QUADRANT OF PILGRIM WAY & CORMIER RD. 25' NORTH OF CORMIER RD. & 90' EAST OF THE ℄ OF PILGRIM WAY.	629.65

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SOUTH APPROACH APRON	SOUTH ABUT.	NORTH ABUT.	NORTH APPROACH APRON	SUPER.	TOTALS
203.0200.714	REMOVING OLD STRUCTURE STA. 931SB+64.56	LS	-	-	-	-	-	1
203.0225.S.714	DEBRIS CONTAINMENT STRUCTURE B-05-115	LS	-	-	-	-	-	1
206.1000.714	EXCAVATION FOR STRUCTURE, BRIDGES B-05-628	LS	-	-	-	-	-	1
206.6010.S	TEMPORARY SHORING	SF	-	465	413	-	-	878
210.0100	BACKFILL STRUCTURE	CY	-	181	179	-	-	360
502.3200	PROTECTIVE SURFACE TREATMENT	SY	218	-	-	218	1103	1539
502.6110	MASONRY ANCHORS TYPE S 3/4-INCH	EACH	-	18	18	-	-	36
503.0146	PRESTRESSED GRIDER TYPE 145W-INCH	LF	-	-	-	-	1300	1300
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	-	6825	6605	-	-	13430
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	19893	-	-	19893	64065	103860
505.0908	BAR COUPLERS NO. 8	EACH	12	-	-	12	-	24
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	-	13	13	-	-	26
506.4000.714	STEEL DIAPHRAGMS B-05-628	EACH	-	-	-	-	24	24
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-	22	22	-	-	44
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	-	1440	1600	-	-	3040
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	208	104	104	208	-	624
SPV.0035.700	HPC MASONRY STRUCTURES	CY	126	77	75	126	434	837
SPV.0060.701	ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES	EACH	2	-	-	2	11	15
SPV.0085.700	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGE	LB	1513	-	-	1513	-	3026
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	-	46	28	-	-	74
SPV.0165.501	STAINING CONCRETE	SF	45	634	628	45	1285	2637
SPV.0165.502	STAINING CONCRETE BRICK	SF	-	46	28	-	-	74
SPV.0165.700	LONGITUDINAL GROOVING BRIDGE DECK	SF	-	-	-	-	8974	8974
	NON-BID ITEMS							
	FILLER	SIZE	----	----	----	----	----	½" & ¾"

ALL ITEMS ARE CATEGORY 2150

LEGEND

● 9½" DECK THICKNESS INCLUDES A 1½" SACRIFICIAL WEARING SURFACE PLACED INTEGRAL WITH THE DECK AT INITIAL CONSTRUCTION.

▲ TOP OF MEDIAN BARRIERS FOR B-5-628 AND B-5-629 TO BE AT SAME ELEVATION, HOLD AT HIGHER ELEVATION, SEE B-5-629 PLANS.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES.

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NAVD88 DATUM.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED. THE TOP LAYER OF REINFORCEMENT IN THE DECK SHALL BE PLACED WITH 3½" CLEAR CONCRETE COVER.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

THE MINIMUM CONCRETE HAUNCH SHALL BE 2" FOR DESIGN CALCULATIONS AND THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE DEPTH OF 2⅝" WHICH IS THE MAXIMUM QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

CONCRETE FOR ABUTMENT AND PIER DIAPHRAGMS SHALL BE PLACED WITH THE DECK CONCRETE. NO OPTIONAL CONSTRUCTION JOINT WILL BE PERMITTED.

THE EXISTING STRUCTURE, B-05-115, IS A THREE SPAN PRESTRESSED GIRDER STRUCTURE WITH AN OVERALL WIDTH OF 55'-10" AND AN OVERALL LENGTH OF 146'-7¼" AND IS TO BE REMOVED AS PART OF THE CONSTRUCTION OF STRUCTURE B-05-628.

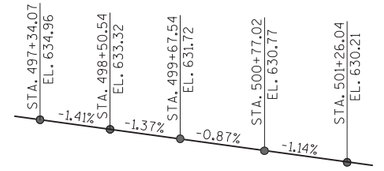
PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE ROADWAY DECK, THE TOPS AND ROADWAY FACES OF THE BRIDGE PARAPETS. PARAPETS ON THE APPROACH APRON SHALL BE SEALED ON ALL SURFACES. DO NOT SEAL SURFACES WHERE THE PLANS OR SPECIAL PROVISIONS REQUIRE STAINING OR OTHER TREATMENT.

EXISTING TEMPORARY SHORING LEFT IN PLACE SHALL BE REMOVED. THIS WORK IS INCIDENTAL TO THE BID ITEM "REMOVING OLD STRUCTURE STA. 931SB+64.56".

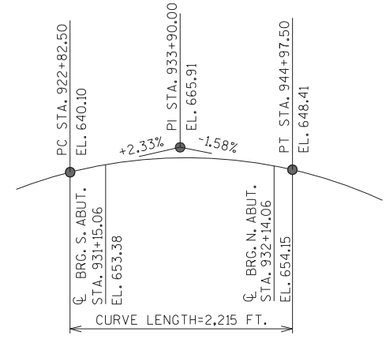
FOR UTILITY OWNERSHIP AND CONTACT INFORMATION, SEE ROADWAY PLANS.

STRUCTURE BACKFILL AND CONCRETE SLOPE PAVING DETAILS AND QUANTITIES ARE INCLUDED WITH THE RETAINING WALLS AT THE ABUTMENTS.

▽ AT&T UNDERGROUND COMMUNICATIONS FACILITIES LYING ALONG THE NORTH SIDE OF THE SOUTH PIER FOOTINGS OF B-05-115 ARE TO REMAIN IN SERVICE THROUGH CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING THESE FACILITIES DURING EXECUTION OF THE WORK.



PROFILE GRADE LINE CORMIER ROAD



PROFILE GRADE LINE USH 41 SB

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY TRW | PLANS CK'D. JFR

CROSS SECTION & QUANTITIES

SHEET 2 OF 25

2012

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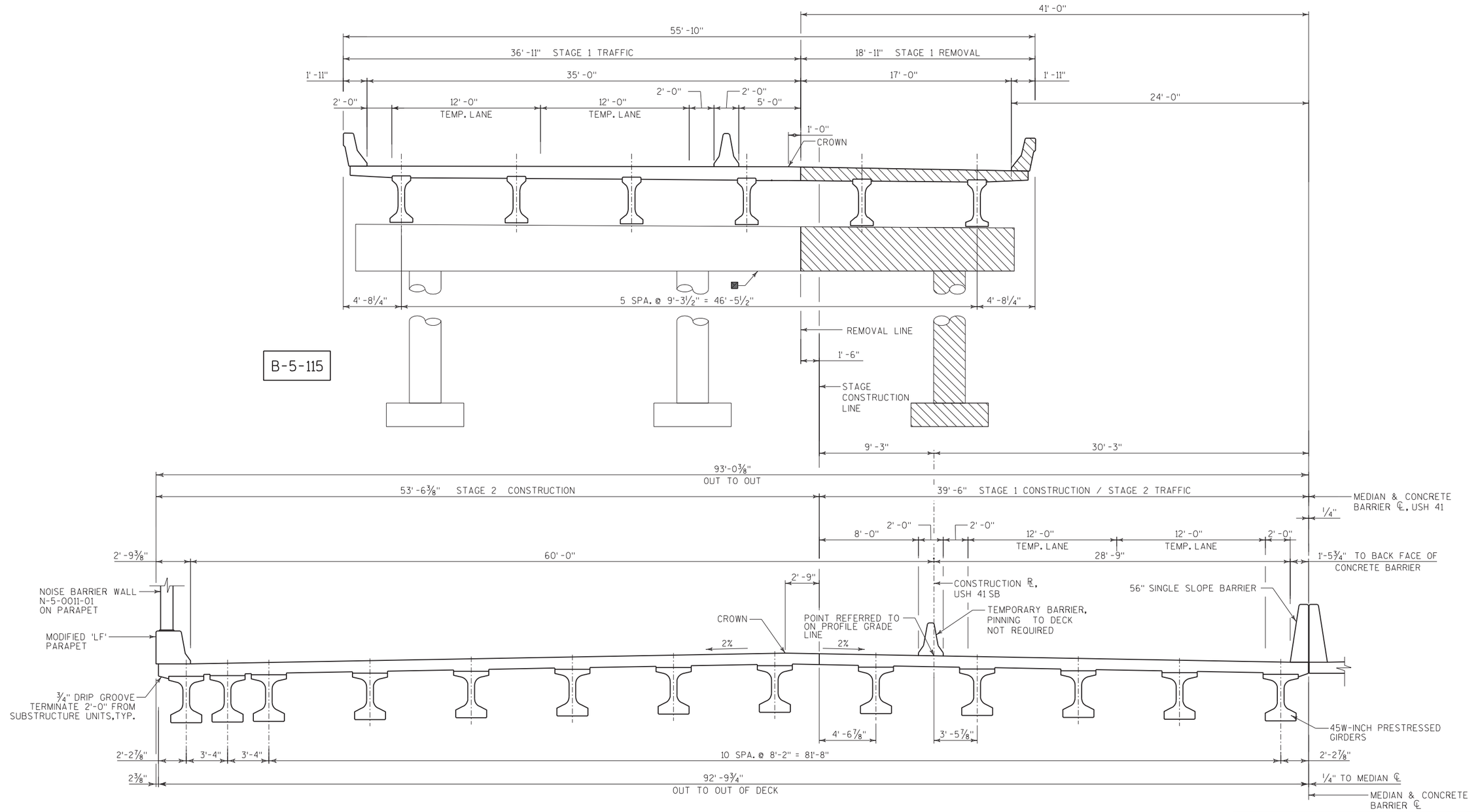
STATE PROJECT NUMBER

1133-09-71



B-5-115

B-5-628

TYPICAL STAGING SECTION

(LOOKING NORTH)

LEGEND

▨ TEMPORARY SUPPORT OF THE DECK AND PIER IS REQUIRED. THE CONTRACTOR IS TO DESIGN A TEMPORARY SUPPORT SYSTEM FOR USE DURING THE STAGED REMOVAL OF BRIDGE B-5-115. THE PROPOSED SUPPORT SYSTEM DESIGN SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF WISCONSIN, AND SUBMITTED TO THE DEPARTMENT FOR APPROVAL PRIOR TO INSTALLATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY TRW | PLANS CK'D. JFR

STAGING DETAILS

SHEET 3 OF 25

2013

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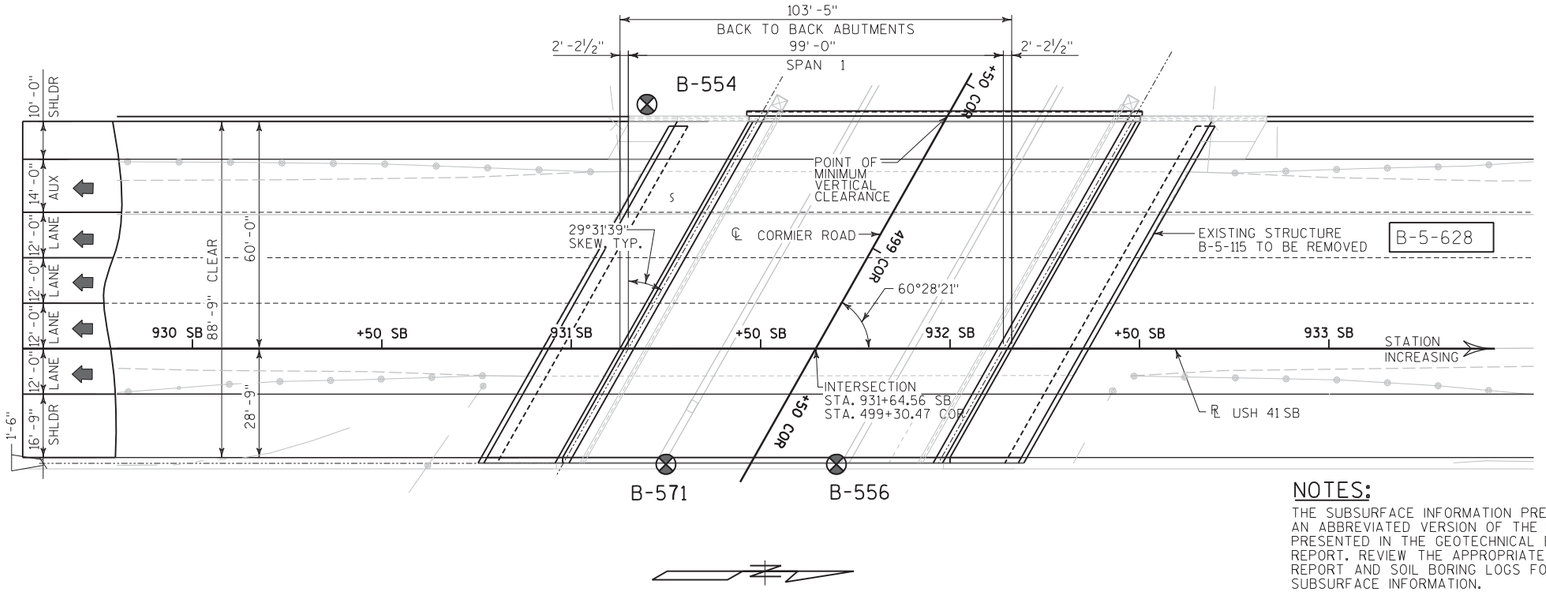


PLAN

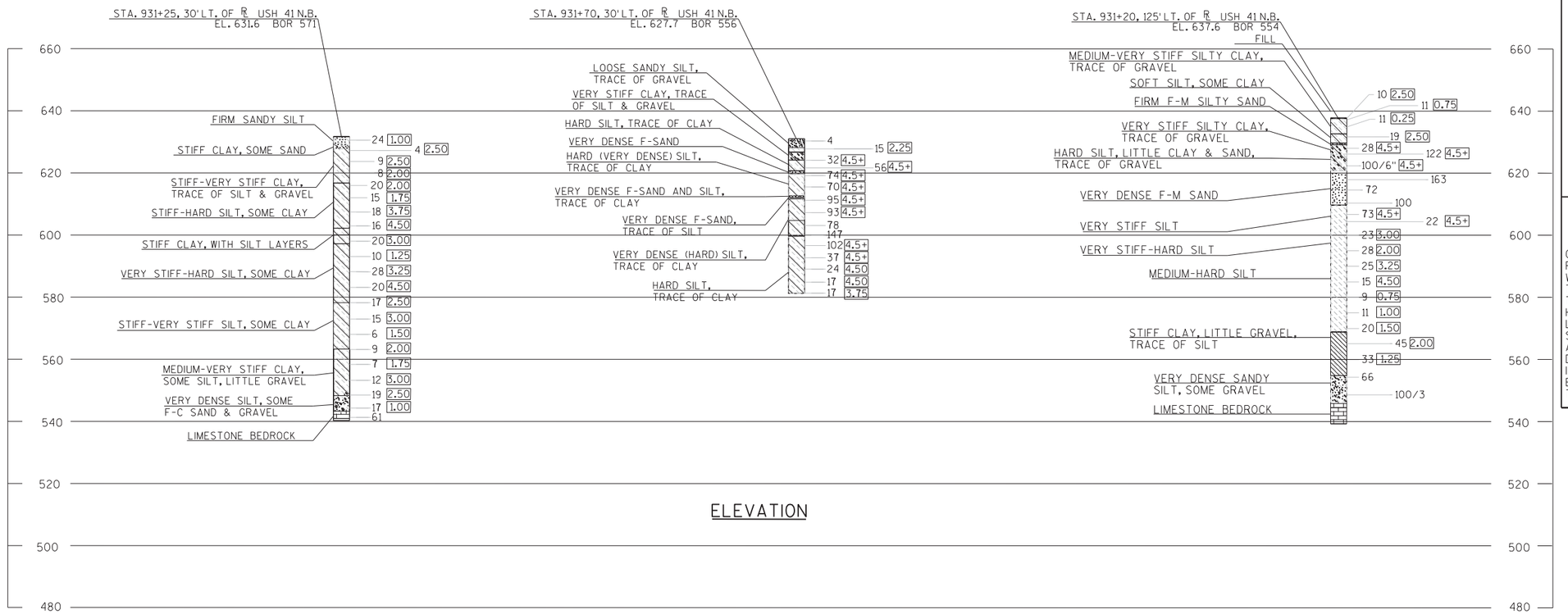
NOTES:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

⊗ DENOTES SOIL BORING LOCATION

SOIL BORING COMPLETED BY:
WISDOT. NO GROUNDWATER OBSERVATIONS WERE TAKEN.

SOIL BORING TAKEN:
BOR-B-554 - 5/21/2008
BOR-B-556 - 5/28/2008
BOR-B-571 - 3/25-26/2009



ELEVATION

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STATE PROJECT NUMBER

1133-09-71

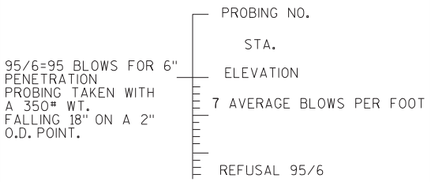
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

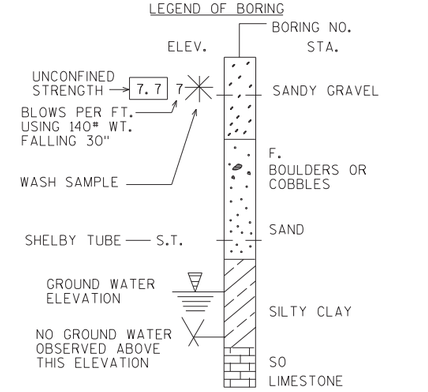
MATERIAL SYMBOLS

TOPSOIL, SAND, GRAVEL, SILT, PEAT, CLAY, SANDSTONE, LIMESTONE, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY TRW | PLANS CK'D. JFR

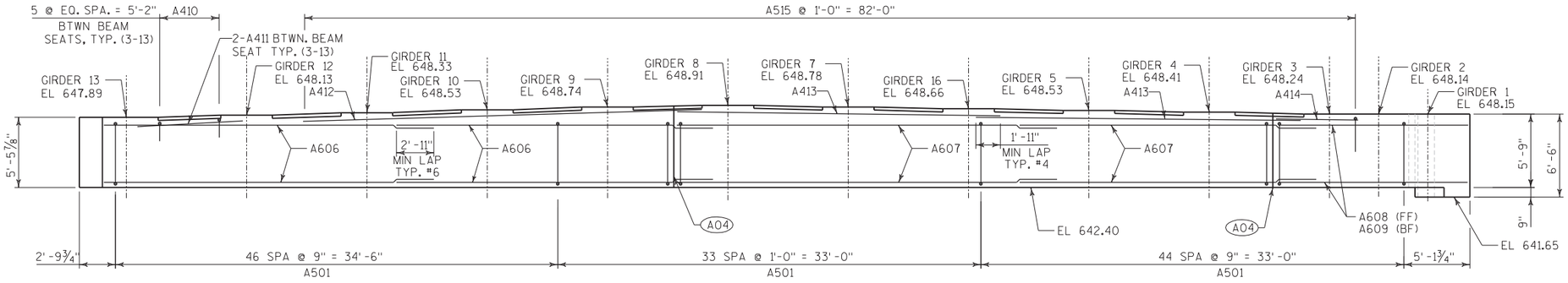
SUBSURFACE EXPLORATION

SHEET 4 OF 25
2014

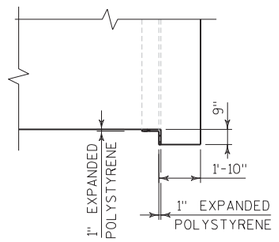
FILE SCALE = 40:0 ' :" / IN.

STATE PROJECT NUMBER

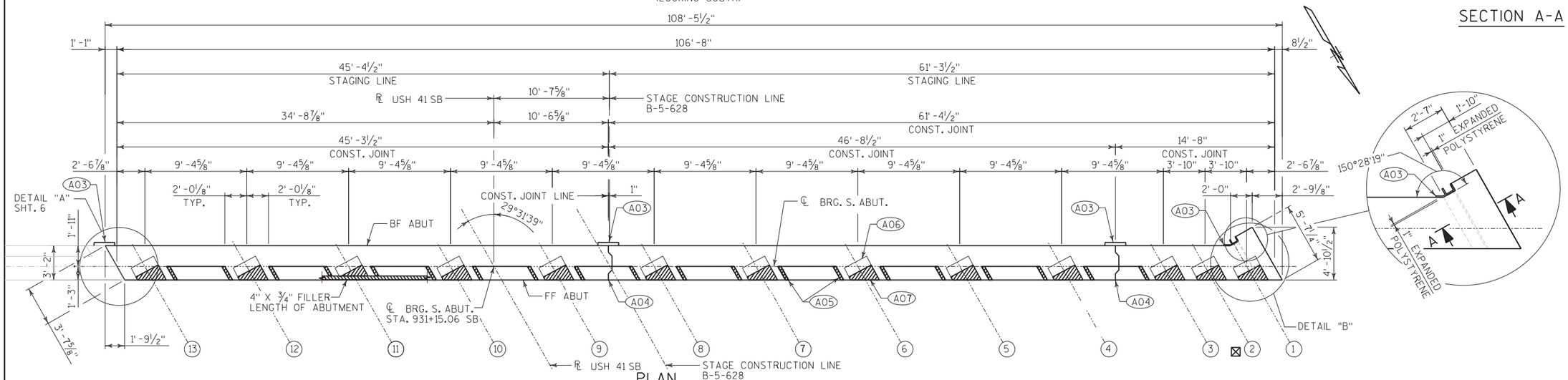
1133-09-71



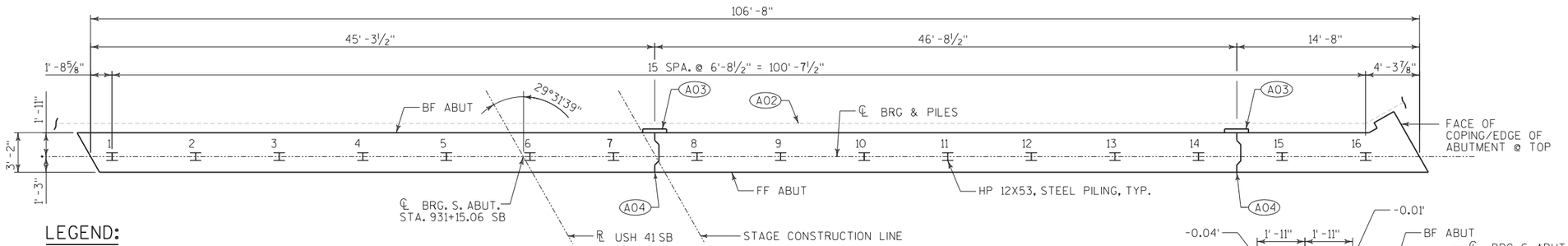
ELEVATION
(LOOKING SOUTH)



SECTION A-A



PLAN



PILE PLAN

LEGEND:

(A02) PIPE UNDERDRAIN, WRAPPED 6-INCH. SLOPE 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT END AND CAP UPPER END. THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THE DETAIL SHOWN ON SHEET 6. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS SHEET METAL SCREWS AND SHALL BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH". SEE R-5-214 PLANS.

(A03) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACKFACE.

(A04) KEYED CONST JOINT FORMED BY BEVELED 2" X 8" WITH ¾" V-GROOVE. SEE SHEET 6 FOR ALTERNATE CONSTRUCTION JOINT DETAIL. RUN BAR STEEL THRU JOINT.

(A05) ¾" CORK FILLER ON VERT BEAM SEAT FACES THAT RUN PARALLEL TO GIRDER, TYP.

(A06) ½"x8"x2'-10" NON-LAMINATED ELASTIC BEARING PAD.

(A07) ¾" PREFORMED FILLER (TYP.).

NOTES:

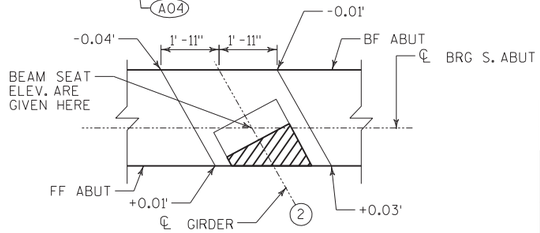
SEE SHEET 15 FOR BEARING DETAIL.

SEE SHEET 6 FOR DETAIL "A" AND "B".

SEE SHEET 6 FOR BILL OF BARS AND BENDING DIAGRAMS.

SEE SHEET 6 FOR PILE SPLICE DETAILS.

ABUTMENTS TO BE SUPPORTED ON HP 12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 90'-0" LONG.



⊠ SLOPED BEAM SEAT DETAIL

ONLY GIRDER 2, S. ABUT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY TRW | PLANS CK'D. MH

SOUTH ABUTMENT

SHEET 5 OF 25

2015

FILE=

SCALE =

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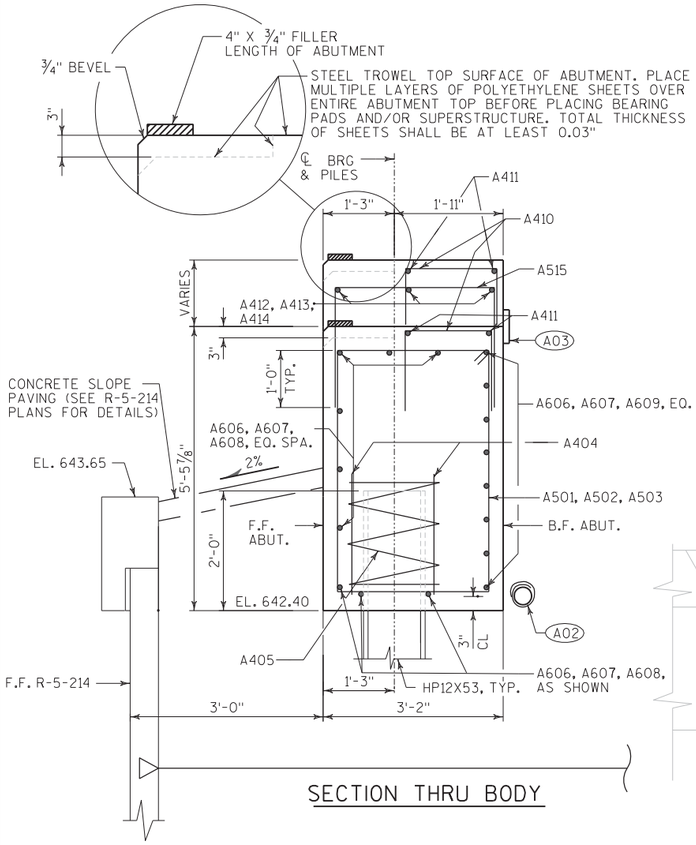
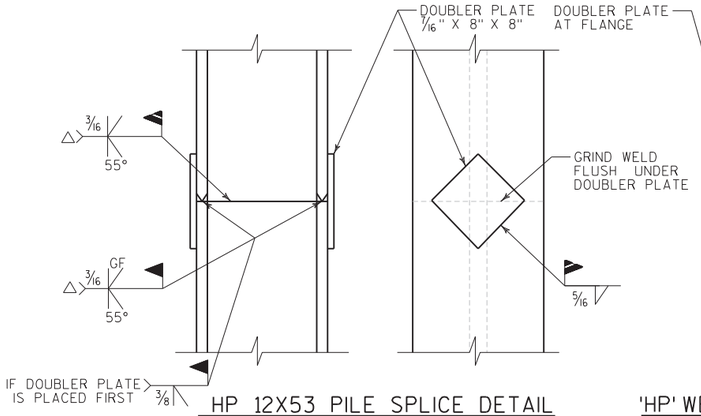
STATE PROJECT NUMBER

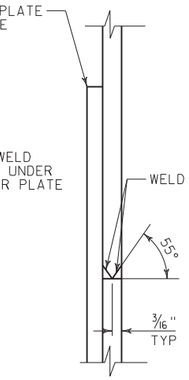
1133-09-71



SECTION THRU BODY

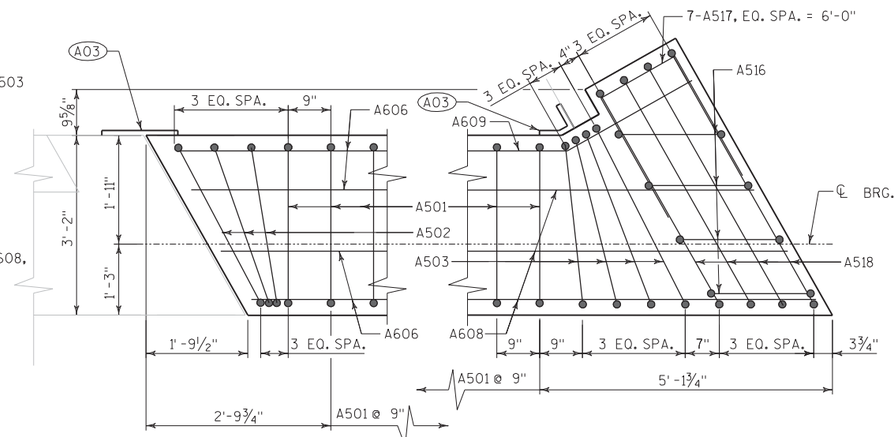


HP 12X53 PILE SPLICE DETAIL



'HP' WELD DETAIL

FLANGE SHOWN, WEB SIMILAR



EAST END DETAIL "A"

WEST END DETAIL "B"

LEGEND

- USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY ½" DEEP.
- DIMENSIONS ARE APPROXIMATE, GRATE TO BE SIZED TO FIT INTO A PIPE COUPLING. ORIENT SHIELD SO SLOTS ARE VERTICAL.
- (A02) PIPE UNDERDRAIN, WRAPPED 6-INCH. SLOPE 0.5% MIN TO R-5-214 RISER CONNECTION. TIE ABUTMENT UNDERDRAIN TO APPROACH APRON FOOTING UNDERDRAINS AT ENDS. SEE R-5-214 PLANS.
- (A03) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACKFACE.

NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

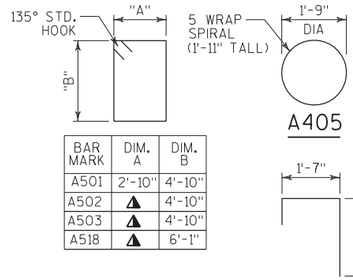
VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD AND TO ENSURE PROPER CONCRETE CONSOLIDATION.

SEE SHEET 5 FOR DETAIL "A" AND "B" LOCATION.

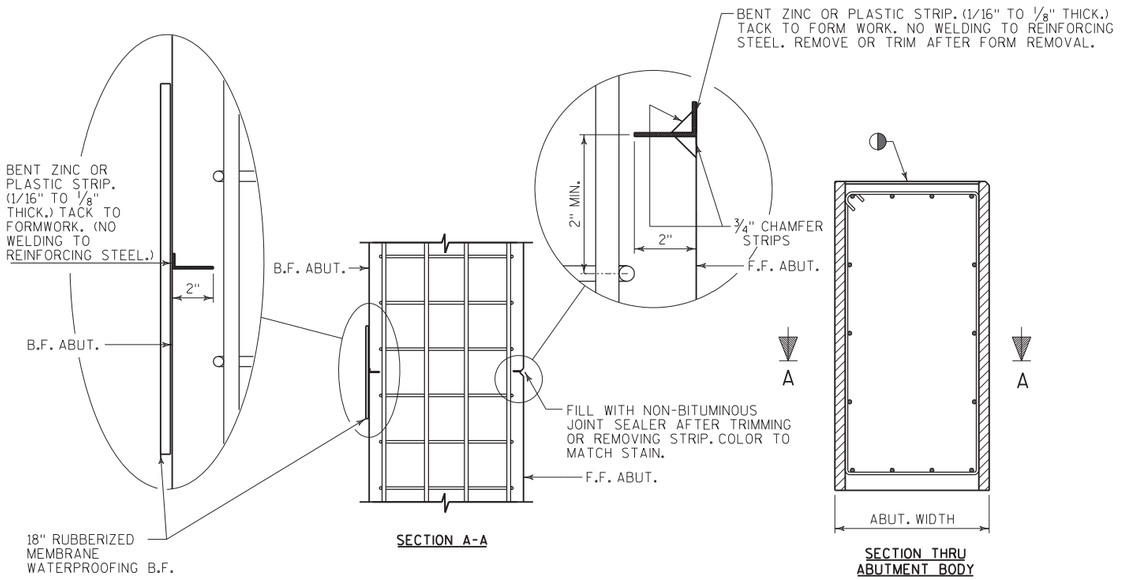
SEE SHEET 5 FOR ABUTMENT PLAN AND ELEVATION.

SEE SHEET 15 FOR BEARING PAD DETAIL.



BAR MARK	DIM. A	DIM. B
A501	2'-10"	4'-10"
A502	▲	4'-10"
A503	▲	4'-10"
A518	▲	6'-1"

BAR MARK	DIM. A	DIM. B
A410	1'-7"	1'-10"
A515	2'-10"	2'-5"
A517	1'-5"	2'-5"



SECTION A-A

SECTION THRU ABUTMENT BODY

ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

BILL OF BARS

BAR MARK	COAT	NO REQ'D	LENGTH	BENT	BAR SERIES	LOCATION	
A501		124	15'-11"	X		ABUTMENT BODY STIRRUPS	VERTICAL
A502		3	16'-5"	X	▲	ABUTMENT BODY STIRRUPS @ EAST END	VERTICAL
A503		4	16'-7"	X	▲	ABUTMENT BODY STIRRUPS @ WEST END	VERTICAL
A404		32	2'-3"			ABUTMENT PILES - 2 PER PILE	VERTICAL
A405		16	28'-0"	X		ABUTMENT PILES - 1 PER PILE	VERTICAL
A606		34	26'-2"			ABUTMENT BODY	HORIZONTAL
A607		34	26'-10"			ABUTMENT BODY	HORIZONTAL
A608		9	13'-9"			ABUTMENT BODY - WEST END F.F.	HORIZONTAL
A609		8	11'-9"	X		ABUTMENT BODY - WEST END B.F.	HORIZONTAL
A410		50	5'-1"	X		ABUTMENT BODY - TOP BTWN SEATS 3-13	VERTICAL
A411		20	7'-5"			ABUTMENT BODY - BTWN SEATS 3-13	HORIZONTAL
A412		3	31'-0"			ABUTMENT BODY	HORIZONTAL
A413		6	25'-4"			ABUTMENT BODY	HORIZONTAL
A414		3	6'-3"			ABUTMENT BODY	HORIZONTAL
A515		83	7'-5"	X		ABUTMENT BODY	VERTICAL
A516		4	9'-8"	X		ABUTMENT BODY - WEST END	VERTICAL
A517		7	6'-0"	X		ABUTMENT BODY - WEST END	HORIZONTAL
A518		4	22'-3"	X	▲	ABUTMENT BODY - WEST END	VERTICAL

BAR SERIES ▲

BAR MARK	NO. REQ'D.	"A"	LENGTH	LOCATION
A502	1 SERIES OF 3	2'-11" TO 3'-3"	16'-1" TO 16'-9"	ABUTMENT EAST END
A503	1 SERIES OF 4	2'-10" TO 3'-6"	15'-11" TO 17'-3"	ABUTMENT WEST END
A518	1 SERIES OF 4	4'-4" TO 5'-2"	21'-5" TO 23'-1"	ABUTMENT WAST END

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY TRW | PLANS CK'D. JFR

SOUTH ABUTMENT DETAILS

SHEET 6 OF 25

2016

FILE=

SCALE =

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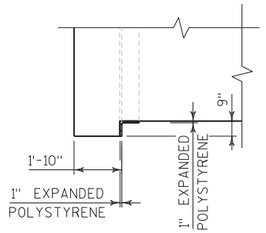
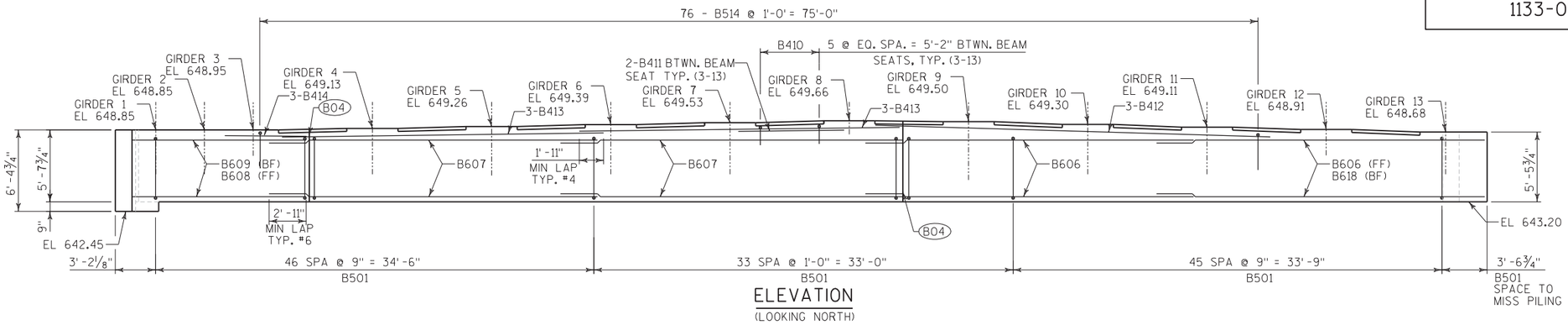
STATE PROJECT NUMBER

1133-09-71

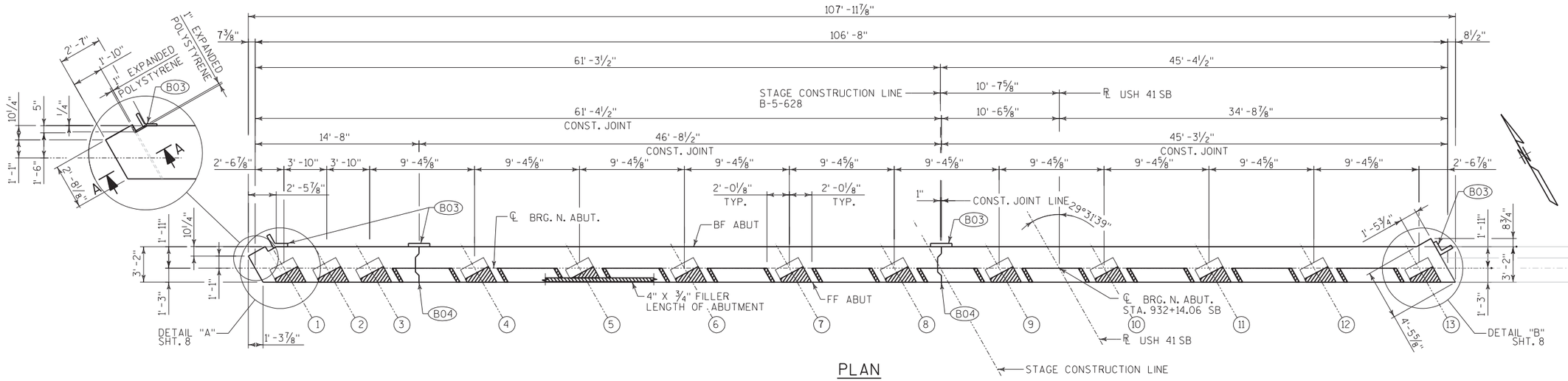


SECTION A-A

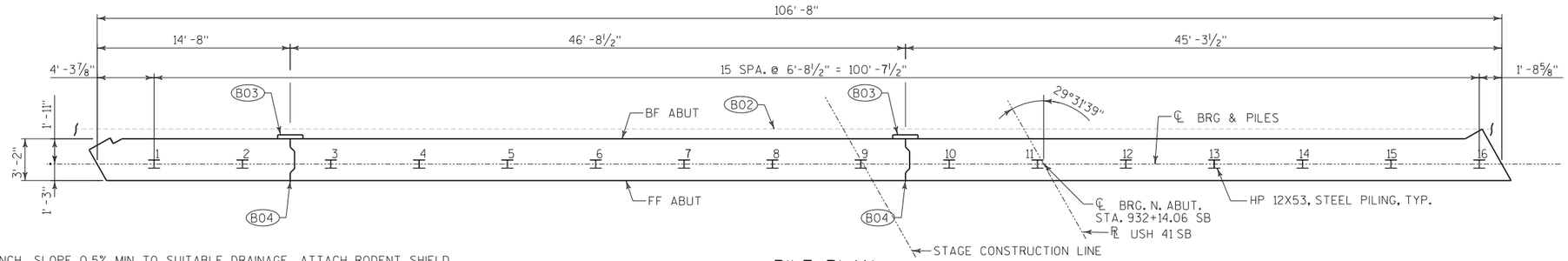


ELEVATION

(LOOKING NORTH)



PLAN



PILE PLAN

LEGEND:

(B02) PIPE UNDERDRAIN, WRAPPED 6-INCH. SLOPE 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT END AND CAP UPPER END. THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THE DETAIL SHOWN ON SHEET 6. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO.10 X 1-INCH STAINLESS SHEET METAL SCREWS AND SHALL BE INCLUDED IN THE PIPE UNDER-DRAIN BID ITEM. SEE R-5-215 PLANS.

(B03) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACKFACE.

(B04) KEYED CONST JOINT FORMED BY BEVELED 2" X 8" WITH ¾" V-GROOVE. SEE SHEET 6 FOR ALTERNATE CONSTRUCTION JOINT DETAIL.

(B05) ¾" CORK FILLER UP VERT BEAM SEAT FACES THAT RUN PARALLEL TO GIRDER, TYP.

(B06) ½"X8"X2'-10" NON- LAMINATED ELASTIC BEARING PAD.

(B07) ¾" PREFORMED FILLER (TYP.).

NOTES:

SEE SHEET 15 FOR BEARING DETAIL.

SEE SHEET 8 FOR DETAIL "A" AND "B".

SEE SHEET 8 FOR BILL OF BARS AND BENDING DIAGRAMS.

SEE SHEET 8 FOR PILE SPLICE DETAILS.

ABUTMENTS TO BE SUPPORTED ON HP 12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 100'-0" LONG.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY TRW | PLANS CK'D. JFR

NORTH ABUTMENT

SHEET 7 OF 25

2017

FILE=

SCALE =

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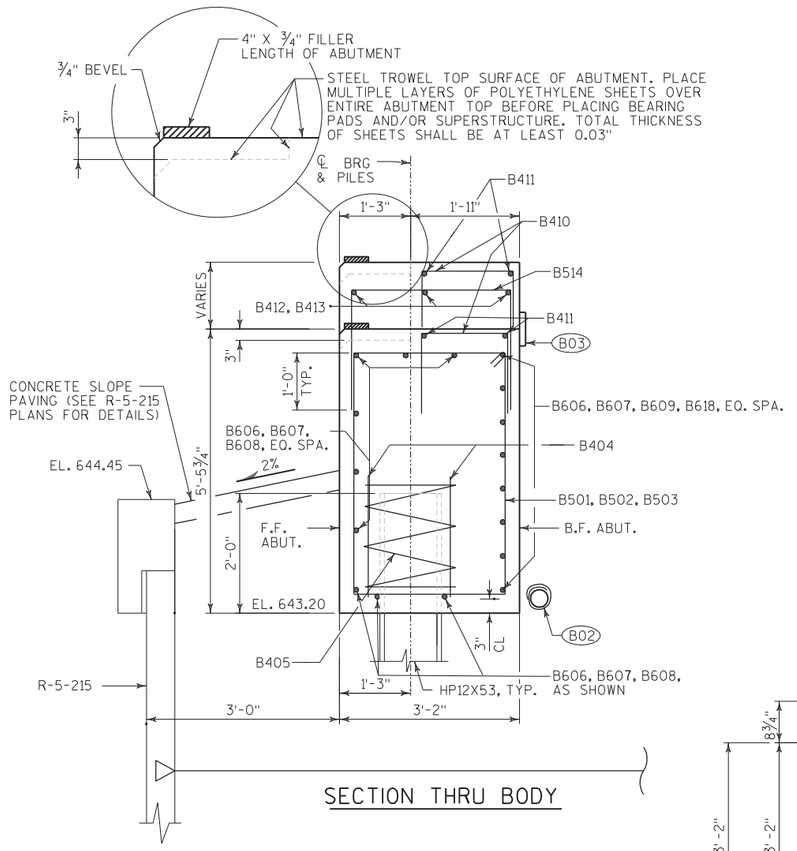
STATE PROJECT NUMBER

1133-09-71



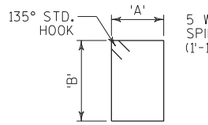
SECTION THRU BODY

BILL OF BARS

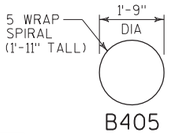
BAR MARK	COAT	NO REQ'D	LENGTH	BENT	BAR SERIES	LOCATION	
B501		126	15'-11"	X		ABUTMENT BODY STIRRUPS	VERTICAL
B502		4	18'-3"	X	◭	ABUTMENT BODY STIRRUPS @ WEST END	VERTICAL
B503		4	17'-4"	X	◭	ABUTMENT BODY STIRRUPS @ EAST END	VERTICAL
B404		32	2'-3"			ABUTMENT PILES - 2 PER PILE	VERTICAL
B405		16	28'-0"	X		ABUTMENT PILES - 1PER PILE	VERTICAL
B606		26	25'-11"			ABUTMENT BODY - EAST END	HORIZONTAL
B607		34	26'-10"			ABUTMENT BODY	HORIZONTAL
B608		9	13'-7"			ABUTMENT BODY - WEST END F.F.	HORIZONTAL
B609		8	13'-3"	X		ABUTMENT BODY - WEST END B.F.	HORIZONTAL
B410		50	5'-1"	X		ABUTMENT BODY - TOP BTWN SEATS 3-13	VERTICAL
B411		20	7'-5"			ABUTMENT BODY - BTWN SEATS 3-13	HORIZONTAL
B412		3	30'-9"			ABUTMENT BODY	HORIZONTAL
B413		6	24'-1"			ABUTMENT BODY	HORIZONTAL
B514		76	6'-7"	X		ABUTMENT BODY	VERTICAL
B515		1	7'-11"	X		ABUTMENT BODY	VERTICAL
B516		1	6'-11"	X		ABUTMENT BODY	VERTICAL
B517		7	5'-2"	X		ABUTMENT BODY - WEST END	HORIZONTAL
B618		8	24'-1"	X		ABUTMENT BODY - EAST END	HORIZONTAL

BAR SERIES ◭

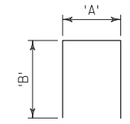
BAR MARK	NO. REQ'D.	"A"	LENGTH	LOCATION
B502	1 SERIES OF 4	2'-5" TO 3'-3"	17'-5" TO 19'-1"	ABUTMENT WEST END
B503	1 SERIES OF 4	3-1" TO 3'-11"	16'-5" TO 18'-1"	ABUTMENT EAST END



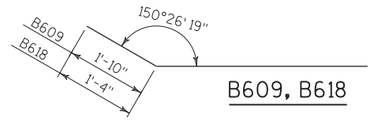
BAR MARK	DIM. A	DIM. B
B501	2'-10"	4'-10"
B502	◭	6'-0"
B503	◭	4'-10"



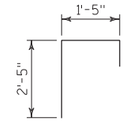
B405



BAR MARK	DIM. A	DIM. B
B410	1'-7"	1'-10"
B514	2'-10"	2'-0"
B515	4'-10"	1'-8"
B516	4'-10"	1'-2"



B609, B618



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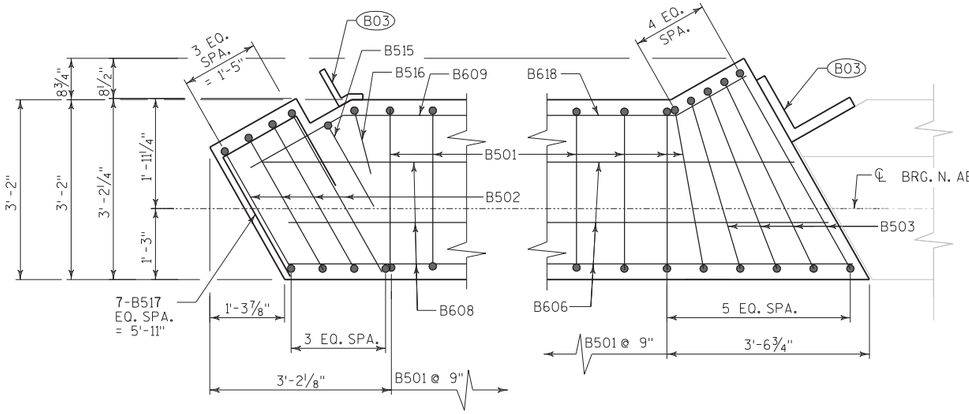


LEGEND

(B02) PIPE UNDERDRAIN, WRAPPED 6-INCH. SLOPE 0.5% MIN TO R-5-215 RISER CONNECTION. TIE ABUTMENT UNDERDRAIN TO APPROACH APRON FOOTING UNDERDRAINS AT ENDS. SEE R-5-215 PLANS.

(B03) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACKFACE.

NOTES

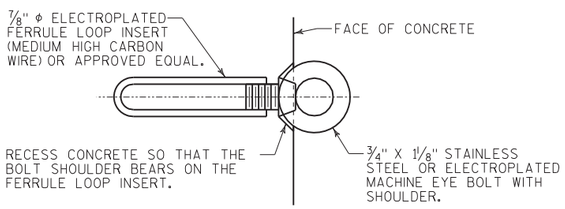
MASONRY ANCHORS TYPE S 3/4-INCH, MIN. PULLOUT CAPACITY OF 26 KIPS. FOR ADHESIVE ANCHORS EMBEDDED A MIN. OF 7" IN CONCRETE.

SEE SHEET 7 FOR DETAIL "A" AND ""B" LOCATION.

SEE SHEET 7 FOR ABUTMENT PLAN AND ELEVATION.

SEE SHEET 15 FOR BEARING PAD DETAIL.

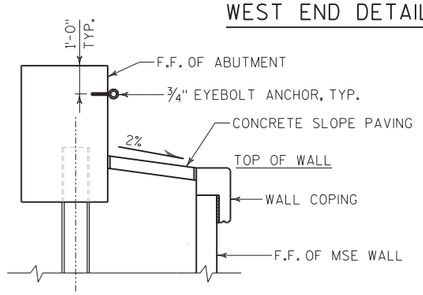
SEE SHHET 6 FOR ALTERNATE CONST. JOINT DETAILS.



EYE BOLT DETAIL

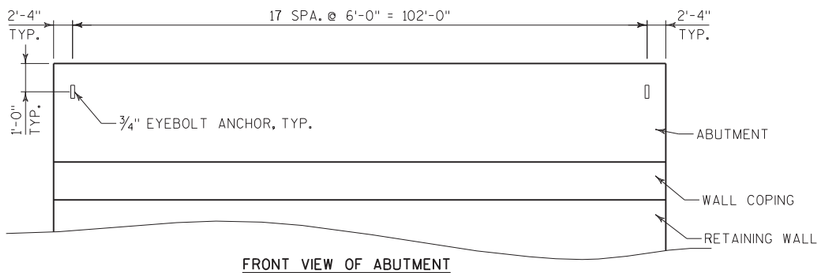
ONE EYE BOLT AND ONE FERRULE LOOP INSERT TOGETHER COMPRISE A SINGLE UNIT TO BE PAID AS "MASONRY ANCHORS TYPE S ¾- INCH"

WEST END DETAIL "A"



CROSS SECTION THRU ABUTMENT AT MSE WALL

EAST END DETAIL "B"



FRONT VIEW OF ABUTMENT

FALL PROTECTION DETAILS

(TYPICAL BOTH ABUTMENTS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY TRW | PLANS CK'D. JFR

NORTH ABUTMENT DETAILS

SHEET 8 OF 25

2018

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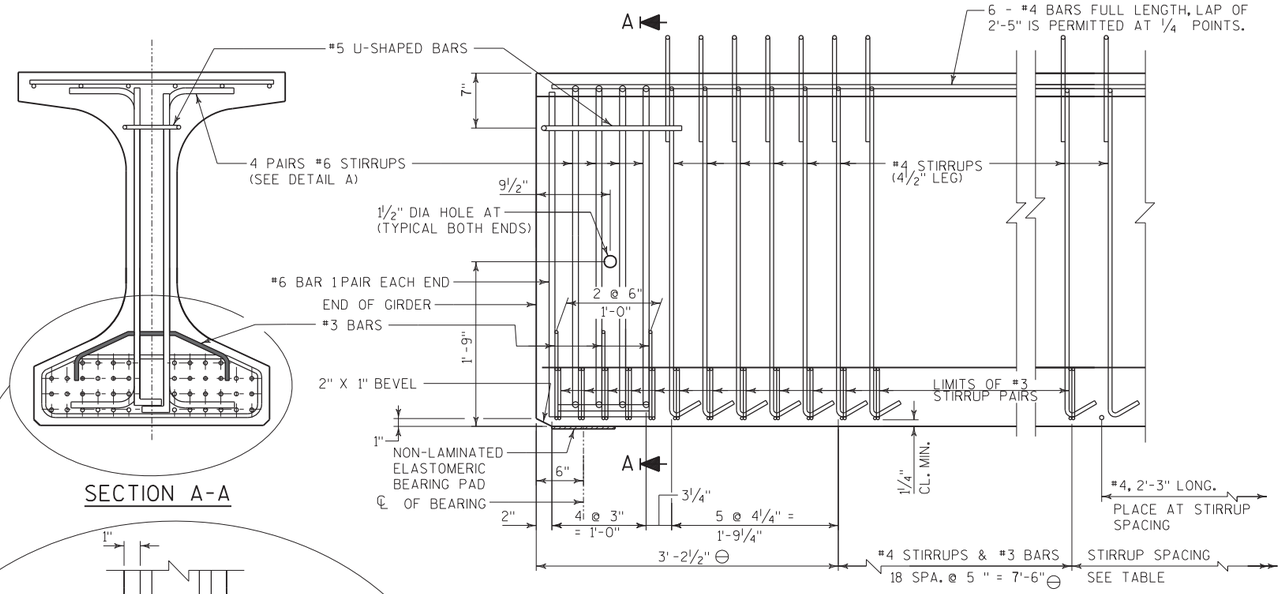
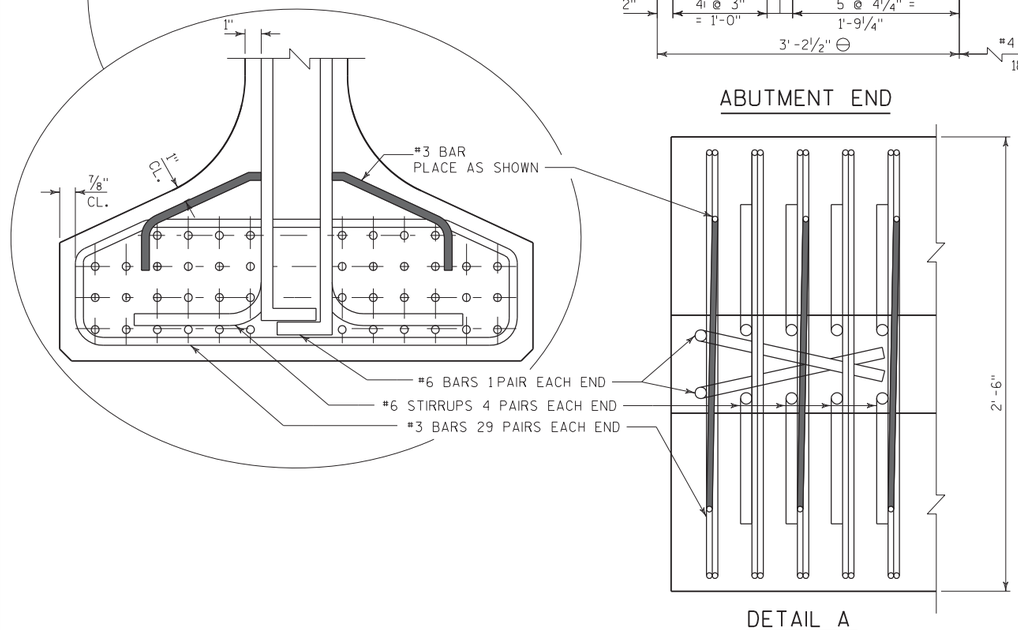
STATE PROJECT NUMBER

1133-09-71



SECTION A-A



ABUTMENT END

DETAIL A
BOTTOM FLANGE

GIRDER NOTES

THE GIRDERS SHALL BE PROVED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, THE FOLLOWING OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT CHIEF. (608)266-5161.

ALL ITEMS SHOWN SHALL BE INCLUDED IN THE BID ITEM "PRESTRESSED GIRDER TYPE I 45W-INCH."

⊖ DETAIL TYPICAL AT EACH END

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

GIRDER DATA

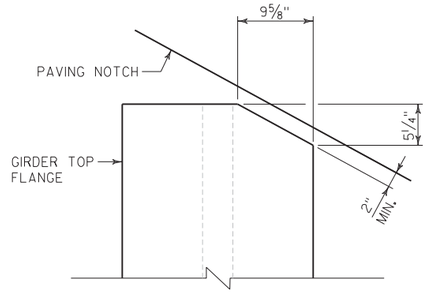
GIRDER NO.	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	CONC. STRGTH. f'c (P.S.I.)	"P"	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"
1	100'-0"	0.5"	1.0"	1.3"	1.6"	1.7"	8000	7"	0.6	34	6800	40	13¾"	16¾"	5
2	100'-0"	0.3"	0.6"	0.8"	1.0"	1.1"	8000	7"	0.6	34	6800	40	13¾"	16¾"	5
3	100'-0"	0.5"	1.0"	1.3"	1.5"	1.6"	8000	7"	0.6	34	6800	40	13¾"	16¾"	5
4-12	100'-0"	0.6"	1.3"	1.6'	2.0"	2.2"	8000	7"	0.6	34	6800	40	13¾"	16¾"	5
13	100'-0"	0.5"	1.1"	1.3"	1.7"	1.7"	8000	7"	0.6	34	6800	40	13¾"	16¾"	5

* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

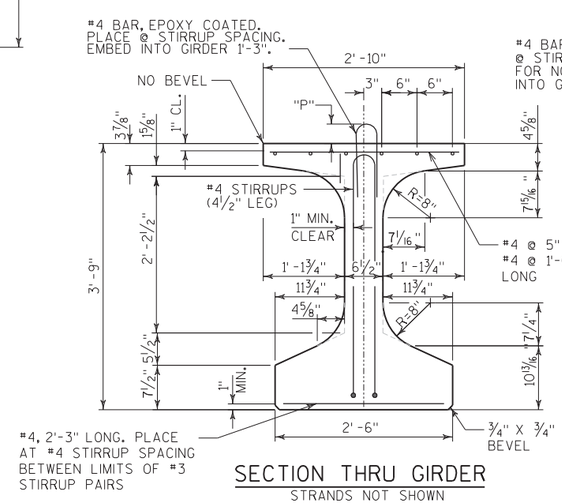
STIRRUP SPACING

LOCATION	BAR SIZE	SPACING
FROM END TO 10'-8½"	AS SHOWN	AS SHOWN
FROM 10'-8½" TO 89'-3½"	#4	12"

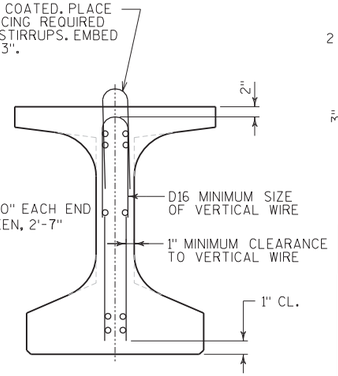
SPACING IS SYMMETRIC ABOUT MIDSPAN OF GIRDER



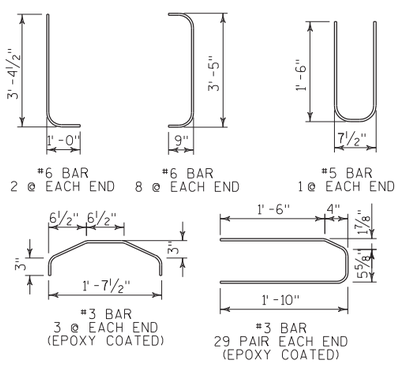
FORM OUT TOP FLANGE DETAIL @ ABUTMENT ENDS



SECTION THRU GIRDER
STRANDS NOT SHOWN



SECTION THRU GIRDER
SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY TRW | PLANS CK'D. JFR

45W" PRESTRESSED GIRDER - 1

SHEET 9 OF 25

2019

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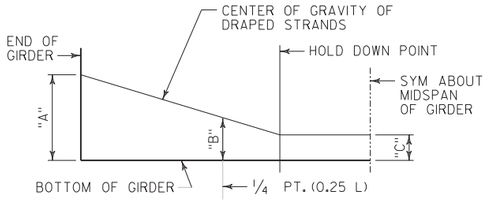
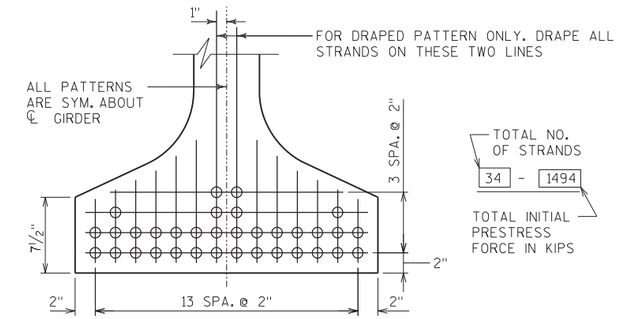
SCALE =

STATE PROJECT NUMBER
1133-09-71

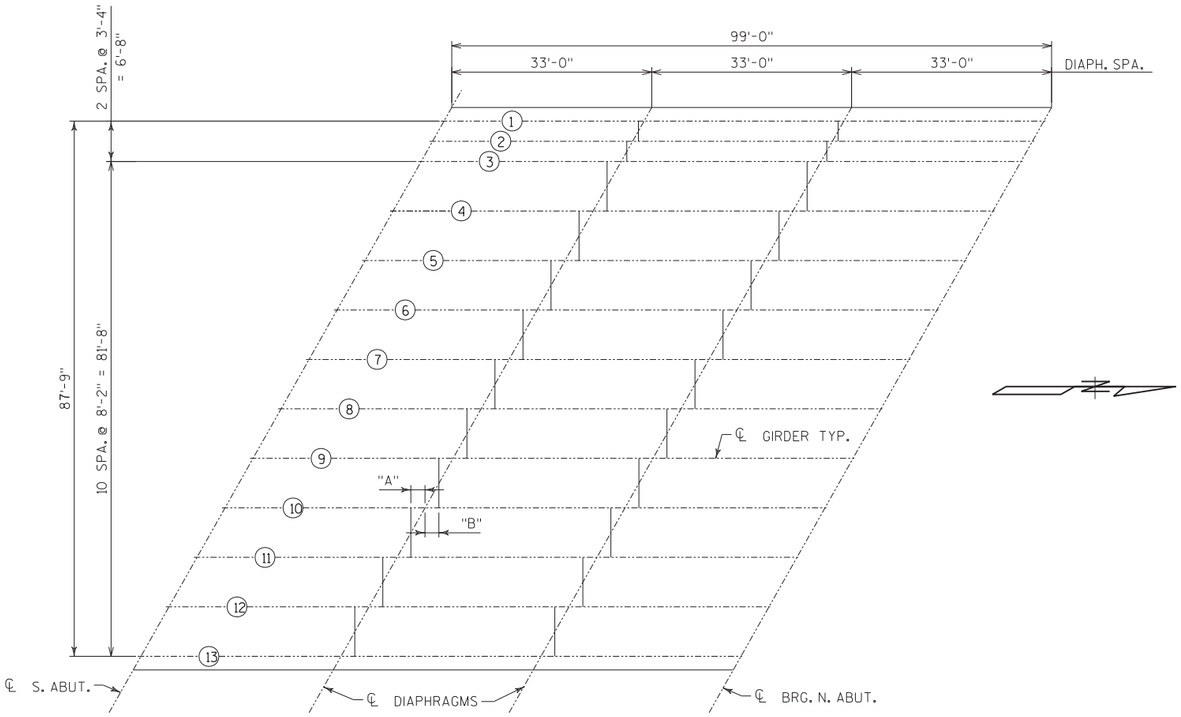


DRAPED STRAND PROFILE

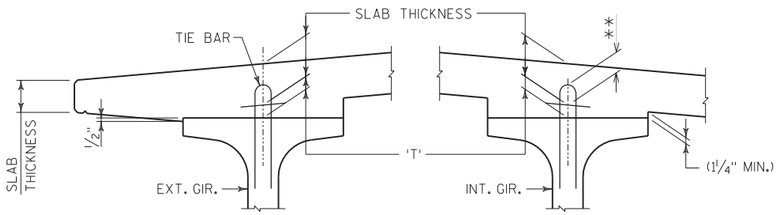


TYP. STRAND PATTERN @ ℄ OF SPAN

0.6" DIA. STRANDS



FRAMING PLAN



SLAB HAUNCH DETAIL

IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

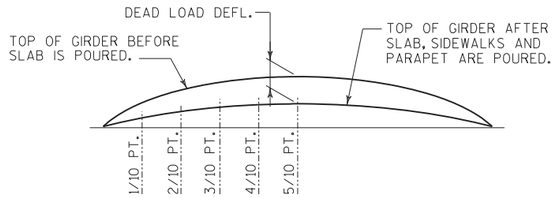
TOP OF DECK ELEV. AT FINAL GRADE
\- TOP OF GIRDER ELEVATION
\+ DEAD LOAD DEFLECTION
\- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	3.5

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



DEAD LOAD DEFLECTION DIAGRAM

DIAPHRAGM OFFSET DIM.

GIRDER	"A"	"B"
1	11⅜"	-
2	11⅜"	11⅜"
3	2'-3¾"	11⅜"
4-12	2'-3¾"	2'-3¾"
13	-	2'-3¾"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY TRW | PLANS CK'D. JFR

45W" PRESTRESSED GIRDER - 2

SHEET 10 OF 25

2020

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FILE = SCALE =

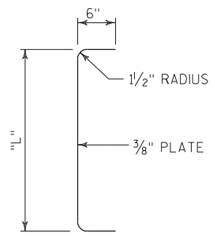
STATE PROJECT NUMBER

1133-09-71

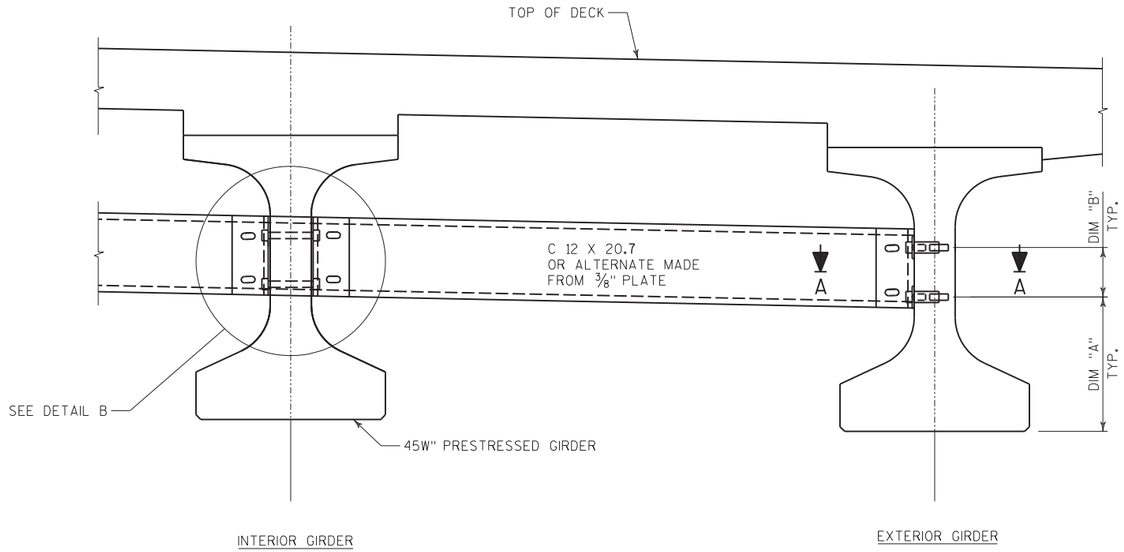
TABLE

GIRDER HEIGHT	DIM "A"	DIM "B"	DIM "L"	* DIM "X"
45W"	1'-9 1/8"	8 7/8"	1'-0 1/2"	2 3/4"

* DIM "X" = 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM.



SECTION THRU ALTERNATE DIAPHRAGM



PART TRANSVERSE SECTION AT DIAPHRAGM

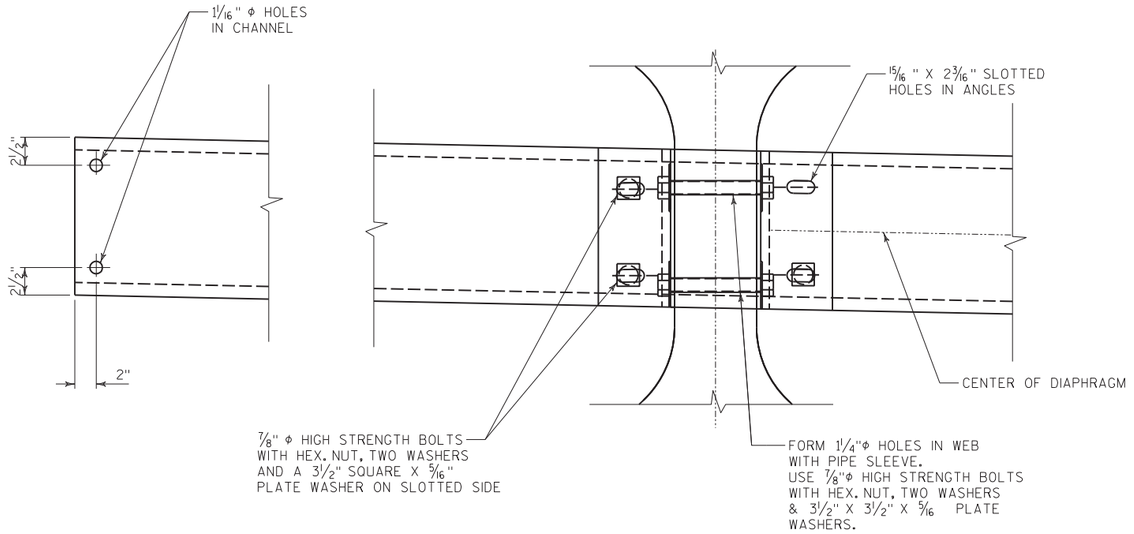
NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-5-628", EACH.

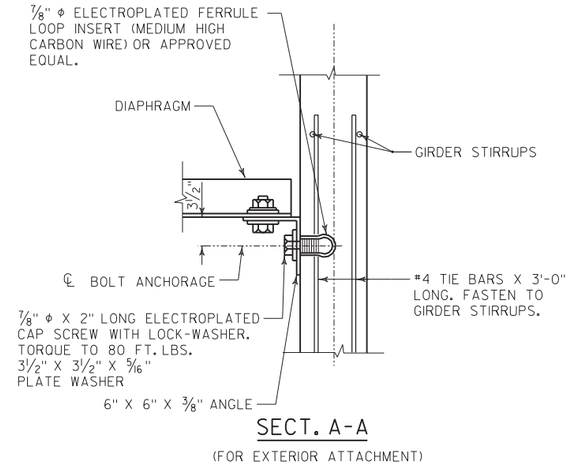
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

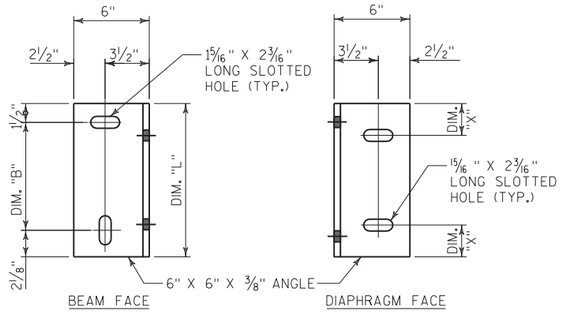


DETAIL B



SECT. A-A

(FOR EXTERIOR ATTACHMENT)



DIAPHRAGM SUPPORT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY TRW | PLANS CK'D. JFR

STEEL DIAPHRAGM

SHEET 11 OF 25

2021

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STATE PROJECT NUMBER
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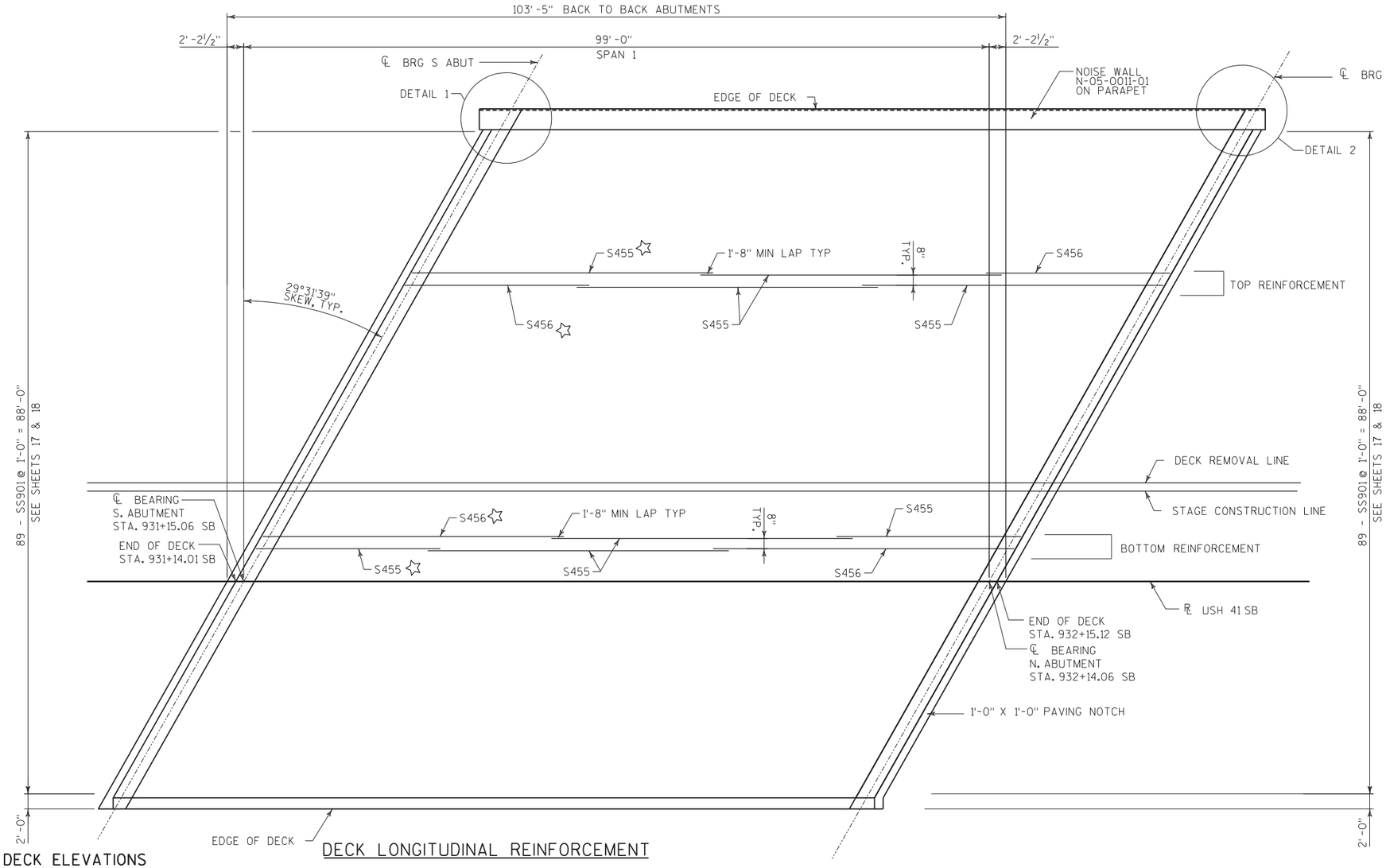
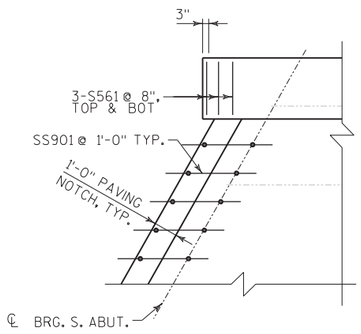


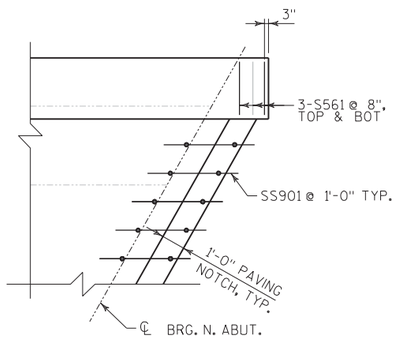
DECK LONGITUDINAL REINFORCEMENT

TOP OF DECK ELEVATIONS

LOCATION	S. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	N. ABUT.
G1	652.95	653.03	653.10	653.18	653.25	653.32	653.39	653.46	653.53	653.59	653.65
FF PARAPET	652.95	653.02	653.10	653.18	653.25	653.32	653.39	653.46	653.52	653.59	653.65
G2	652.99	653.07	653.15	653.22	653.30	653.37	653.44	653.51	653.57	653.64	653.70
G3	653.04	653.12	653.20	653.28	653.35	653.42	653.49	653.56	653.63	653.69	653.76
G4	653.17	653.25	653.33	653.40	653.48	653.55	653.62	653.69	653.76	653.83	653.89
G5	653.29	653.38	653.45	653.53	653.61	653.68	653.75	653.82	653.89	653.96	654.02
G6	653.42	653.50	653.58	653.66	653.74	653.81	653.88	653.95	654.02	654.09	654.16
G7	653.54	653.63	653.71	653.79	653.86	653.94	654.01	654.08	654.15	654.22	654.29
G8	653.67	653.75	653.83	653.91	653.99	654.07	654.14	654.21	654.29	654.35	654.42
Crown	653.68	653.76	653.85	653.93	654.00	654.08	654.15	654.23	654.30	654.37	654.44
G9	653.50	653.58	653.67	653.75	653.83	653.90	653.98	654.05	654.12	654.19	654.26
PLG USH 41 SB	653.38	653.47	653.55	653.63	653.71	653.79	653.86	653.94	654.01	654.08	654.15
G10	653.30	653.38	653.46	653.55	653.63	653.70	653.78	653.85	653.93	654.00	654.07
G11	653.09	653.18	653.26	653.34	653.42	653.50	653.58	653.66	653.73	653.80	653.87
G12	652.89	652.98	653.06	653.14	653.22	653.30	653.38	653.46	653.53	653.60	653.67
G13	652.69	652.77	652.86	652.94	653.02	653.10	653.18	653.26	653.33	653.41	653.48
FF PARAPET	652.67	652.75	652.84	652.92	653.00	653.08	653.16	653.24	653.32	653.39	653.46



DETAIL 1



DETAIL 2

LEGEND:

☆ ALTERNATE BARS S455 & S456 AS SHOWN TO RANDOMIZE SPLICE LOCATION.

NOTES

1. ALL TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED PERPENDICULAR TO THE GIRDERS. SEE SHEET 13.
2. THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.
3. THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY | PLANS CK'D. JFR

SUPERSTRUCTURE PLAN

SHEET 12 OF 25

2022

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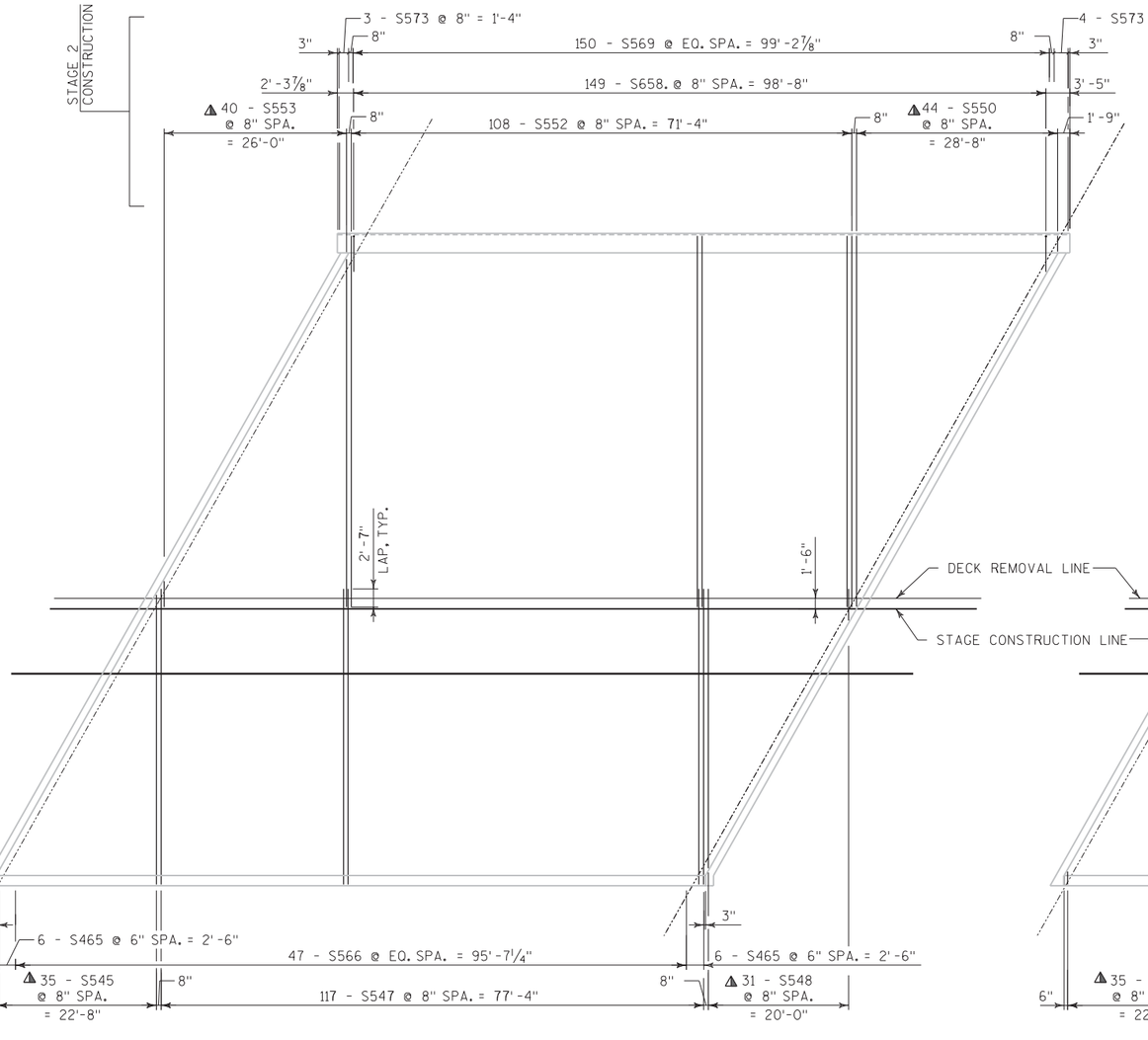
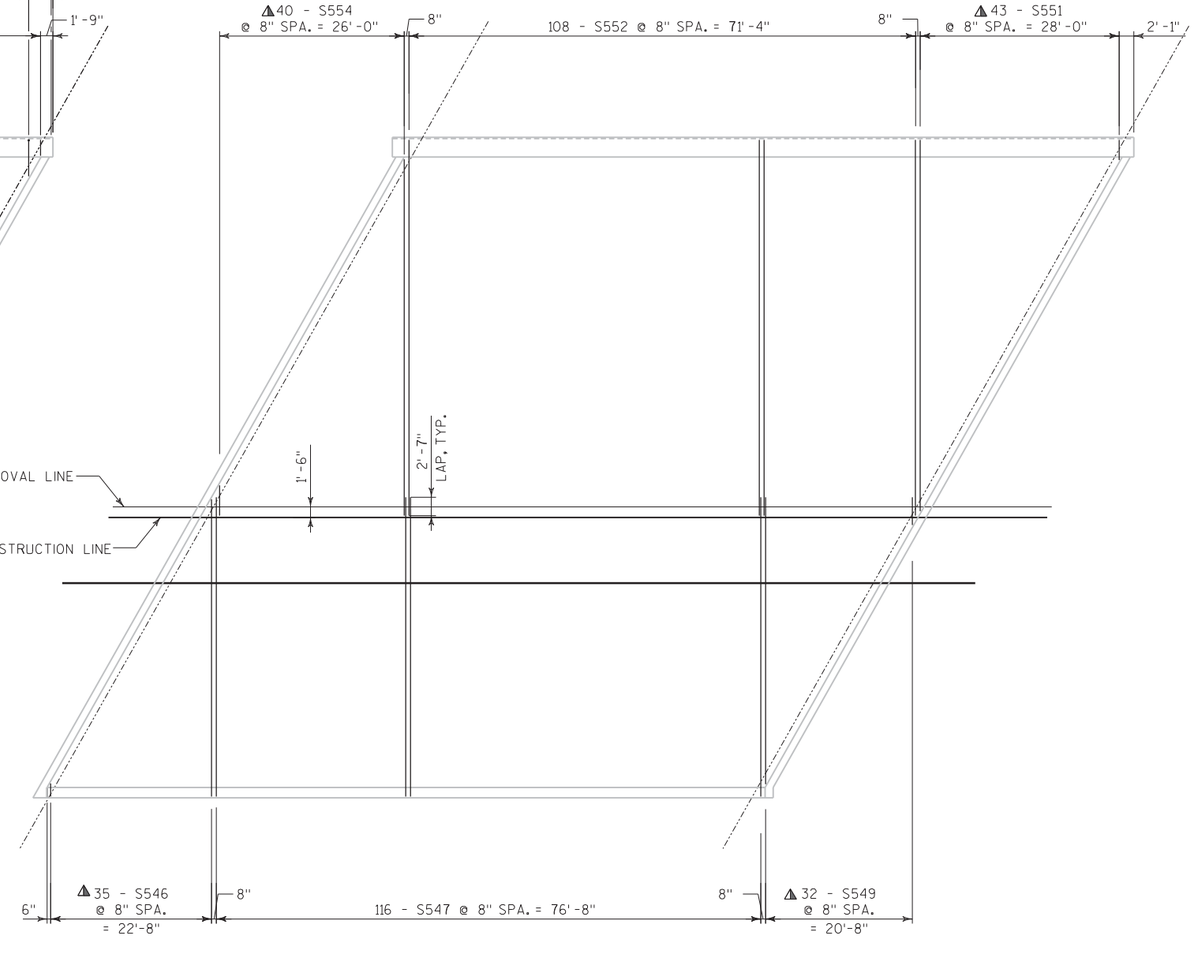
SCALE = 16:0 " : " / IN.

STATE PROJECT NUMBER
1133-090-72



TOP TRANSVERSE REINFORCEMENT



BOTTOM TRANSVERSE REINFORCEMENT

LEGEND:

⚠ BAR SERIES, SEE REINFORCEMENT TABLE ON SHEET 14 FOR LENGTHS.

NOTES

1. ALL TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED PERPENDICULAR TO THE GIRDERS.
2. THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.
3. THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAINS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS. (SEE SHEET 12)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY	TRW	PLANS CK'D.	JFR

TRANSVERSE SUPERSTRUCTURE REINFORCEMENT

SHEET 13 OF 25

2023

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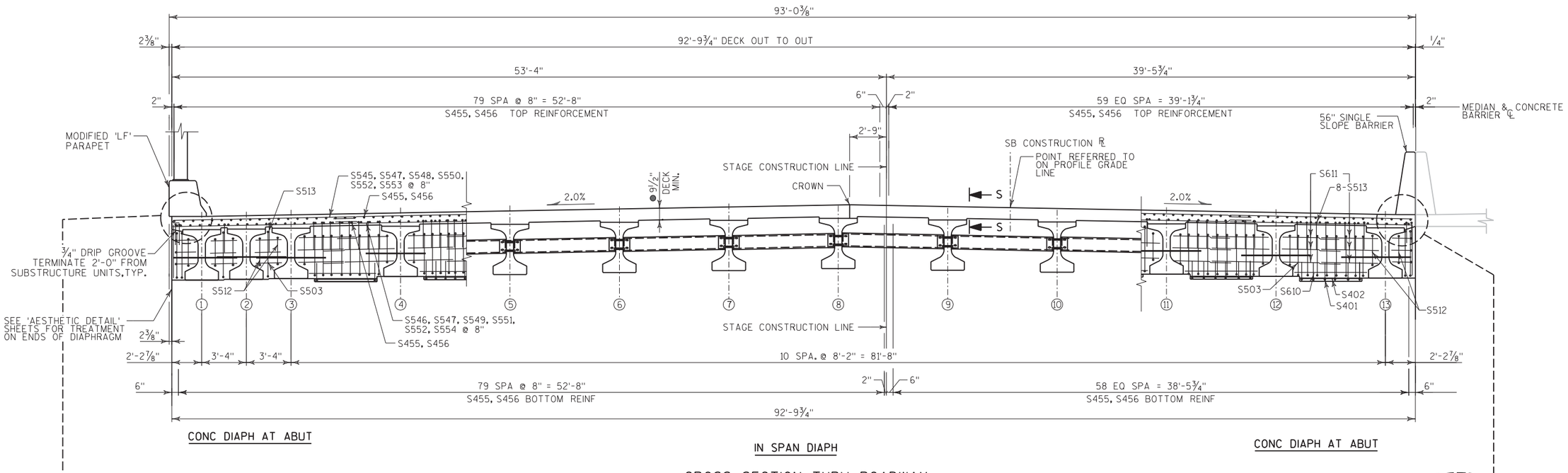
SCALE = 21:4 " : " / IN.

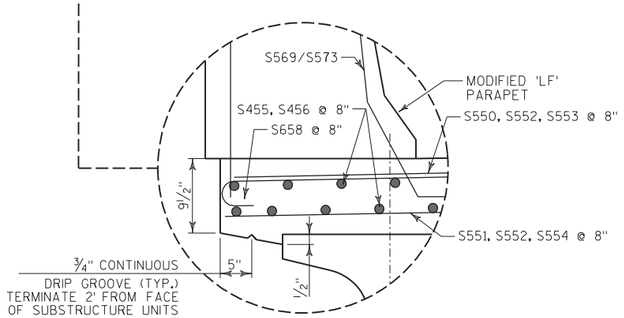
STATE PROJECT NUMBER

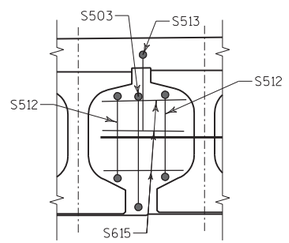
1133-09-71



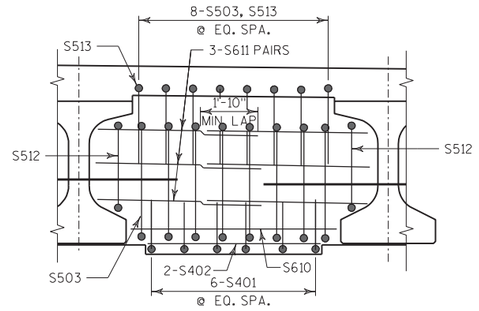
CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

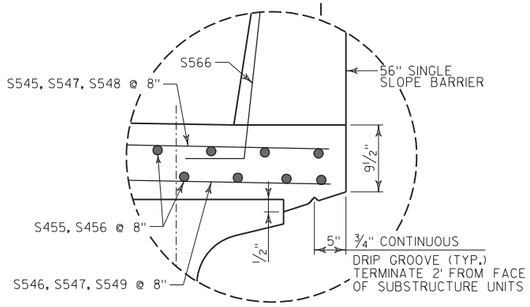




TYP. SECTION BTWN BEAMS 1-3

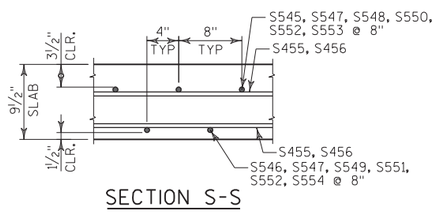


TYP. SECTION BTWN BEAMS 3-13



ABUTMENT DIAPHRAGM DETAILS

(SEE SHT. 16 FOR DIAPHRAGM END DETAILS)



SECTION S-S

LEGEND

● 9½" DECK THICKNESS INCLUDES A 1½" SACRIFICIAL WEARING SURFACE PLACED INTEGRAL WITH THE DECK AT INITIAL CONSTRUCTION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY TRW | PLANS CK'D. JFR

SUPERSTRUCTURE CROSS SECTION

SHEET 14 OF 25

2024

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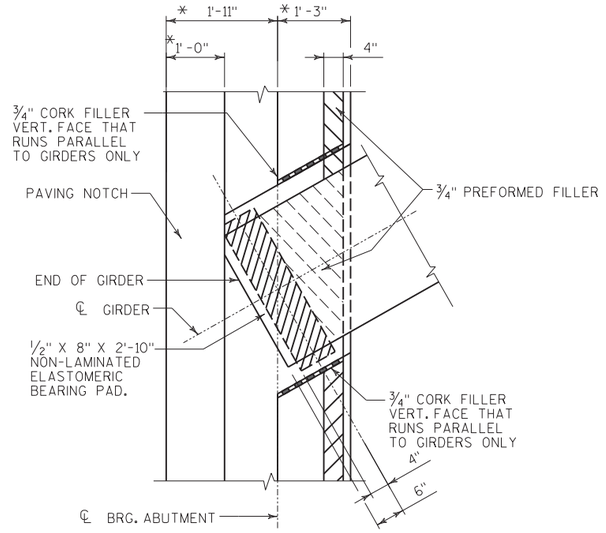
FILE=

SCALE =

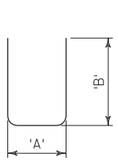
STATE PROJECT NUMBER

1133-09-71

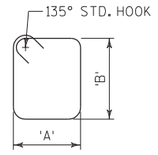


AT ABUTMENTS

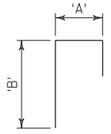
BEARING PAD DETAILS



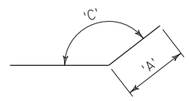
BAR MARK	DIM. 'A'	DIM. 'B'
S401	1'-0"	1'-4"
S513	2'-1"	2'-0"
S520	2'-11"	2'-6"
S525	2'-7"	2'-0"
S526	1'-5"	2'-0"
S529	2'-11"	2'-0"
S530	1'-8"	2'-0"
S671	2'-1"	1'-0"



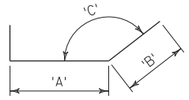
BAR MARK	DIM. 'A'	DIM. 'B'
S503	3'-3"	2'-11"
S512	3'-3"	2'-2"
S518	4'-10"	3'-8"
S519	2'-5"	3'-8"
S527	5'-2"	3'-8"
S528	2'-9"	3'-8"
S472	1'-4"	1'-5"



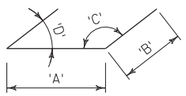
BAR MARK	DIM. 'A'	DIM. 'B'
S522	1'-5"	4'-0"
S524	1'-5"	2'-5"



BAR MARK	DIM. 'A'	ANGLE 'C'
S605	1'-4"	150°28'21"
S606	2'-0"	150°28'21"



BAR MARK	DIM. 'A'	DIM. 'B'	ANGLE 'C'
S616	2'-5'	1'-10"	119° 31' 30"



BAR MARK	DIM. 'A'	DIM. 'B'	ANGLE 'C'	ANGLE 'D'
S617	3'-3"	1'-10"	119° 31' 30"	60° 28' 21"
S532	3'-3"	9"	119° 31' 30"	60° 28' 21"

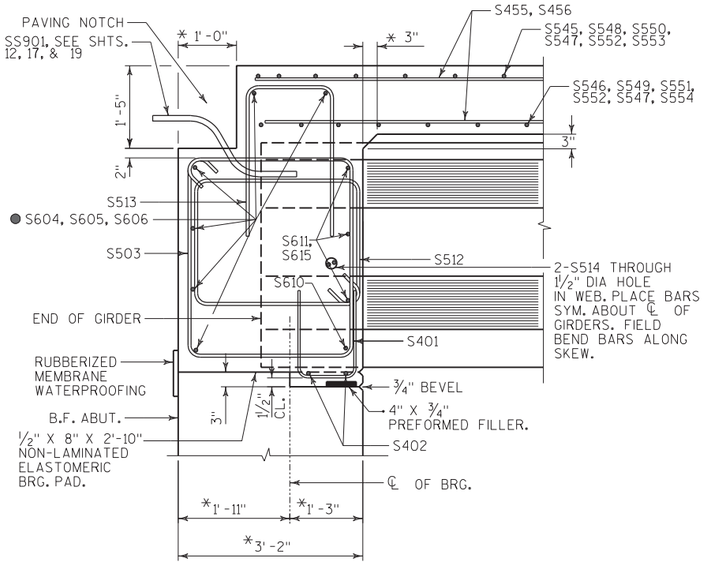
BAR SERIES ◭

MARK	NO. REQ'D	LENGTH	LOCATION
S545	1 SET OF 35	1'-3" TO 41'-4"	SLAB - SE, TOP
S546	1 SET OF 35	1'-10" TO 41'-10"	SLAB - SE, BOT
S548	1 SET OF 31	4'-6" TO 41'-0"	SLAB - NE, TOP
S549	1 SET OF 32	3'-11" TO 40'-5"	SLAB - NE, BOT
S550	1 SET OF 44	2'-3" TO 52'-10"	SLAB - NW, TOP
S551	1 SET OF 43	2'-10" TO 52'-3"	SLAB - NW, BOT
S553	1 SET OF 40	3'-8" TO 49'-7"	SLAB - SW, TOP
S554	1 SET OF 40	4'-3" TO 50'-2"	SLAB - SW, BOT

BUNDLE AND TAG EACH SERIES SEPARATELY

BILL OF BARS

BAR MARK	COAT	NO.	LENGTH	BENT	BAR SERIES	LOCATION	
S401	X	120	3'-6"	X		ABUT DIAPHRAGM @ NOTCH	VERTICAL
S402	X	40	5'-0"	-		ABUT DIAPHRAGM @ NOTCH	HORIZONTAL
S503	X	168	12'-11"	X		ABUT DIAPHRAGM -N&S STIRRUPS	VERTICAL
S604	X	132	12'-5"	-		ABUT DIAPHRAGM	HORIZONTAL
S605	X	6	4'-5"	X		ABUT DIAPHRAGM - NE/SE	HORIZONTAL
S606	X	9	5'-5"	X		ABUT DIAPHRAGM - NW/SW	HORIZONTAL
-	-	-	-	-		-	-
-	-	-	-	-		-	-
-	-	-	-	-		-	-
S610	X	20	6'-1"	-		ABUT DIAPHRAGM - N&S BOTT. FF BTWN 3 TO 13	HORIZONTAL
S611	X	120	5'-2"	-		ABUT DIAPHRAGM - N&S FF BTWN 3 TO 13	HORIZONTAL
S512	X	52	11'-5"	X		ABUT DIAPHRAGM - N&S GIRDER STIRRUPS	VERTICAL
S513	X	168	5'-10"	X		ABUT DIAPHRAGM - N&S STIRRUPS	VERTICAL
S514	X	52	6'-0"	-		ABUT DIAPHRAGM - THRU GIRDER	HORIZONTAL
S615	X	12	2'-10"	-		ABUT DIAPHRAGM - N&S FF BTWN 1 TO 3	HORIZONTAL
S616	X	3	5'-7"	X		ABUT DIAPHRAGM - NW	HORIZONTAL
S617	X	6	6'-7"	X		ABUT DIAPHRAGM - SW/SE	HORIZONTAL
S518	X	1	17'-7"	X		ABUT DIAPHRAGM - SW	VERTICAL
S519	X	1	12'-1"	X		ABUT DIAPHRAGM - NW	VERTICAL
S520	X	2	7'-8"	X		ABUT DIAPHRAGM - NE	VERTICAL
S621	X	3	7'-4"	X		ABUT DIAPHRAGM - NE	HORIZONTAL
S522	X	4	7'-4"	X		ABUT DIAPHRAGM - SW	HORIZONTAL
S423	X	12	4'-5"	-		ABUT DIAPHRAGM - ENDS	VERTICAL
S524	X	4	5'-9"	X		ABUT DIAPHRAGM - NW	HORIZONTAL
S525	X	1	6'-4"	X		ABUT DIAPHRAGM - NE	VERTICAL
S526	X	1	5'-2"	X		ABUT DIAPHRAGM - SE	VERTICAL
S527	X	1	18'-3"	X		ABUT DIAPHRAGM - SW	VERTICAL
S528	X	1	13'-5"	X		ABUT DIAPHRAGM - NW	VERTICAL
S529	X	1	6'-8"	X		ABUT DIAPHRAGM - NE	VERTICAL
S530	X	1	5'-5"	X		ABUT DIAPHRAGM - SE	VERTICAL
S531	X	1	6'-4"	X		ABUT DIAPHRAGM - NE	HORIZONTAL
S532	X	1	5'-7"	X		ABUT DIAPHRAGM - SE	HORIZONTAL
-	-	-	-	-		-	-
-	-	-	-	-		-	-
S545	X	35	21'-4"	-	◭	SLAB - EAST EDGE, TOP	TRANSVERSE
S546	X	35	21'-11"	-	◭	SLAB - EAST EDGE, BOTT	TRANSVERSE
S547	X	233	42'-2"	-		SLAB - EAST EDGE, TOP & BOTT	TRANSVERSE
S548	X	31	22'-3"	-	◭	SLAB - EAST EDGE, TOP	TRANSVERSE
S549	X	32	22'-2"	-	◭	SLAB - EAST EDGE, BOTT	TRANSVERSE
S550	X	44	27'-2"	-	◭	SLAB - WEST EDGE, TOP	TRANSVERSE
S551	X	43	27'-7"	-	◭	SLAB - WEST EDGE, BOTT	TRANSVERSE
S552	X	216	52'-11"	-		SLAB - WEST EDGE, TOP & BOTT	TRANSVERSE
S553	X	40	26'-8"	-	◭	SLAB - WEST EDGE, TOP	TRANSVERSE
S554	X	40	27'-3"	-	◭	SLAB - WEST EDGE, BOTT	TRANSVERSE
S455	X	558	40'-0"	-		SLAB - TOP & BOTT	LONGITUDINAL
S456	X	279	27'-9"	-		SLAB - TOP & BOTT	LONGITUDINAL
-	-	-	-	-		-	-
S658	X	149	5'-9"	X		SLAB - WEST EDGE	LONGITUDINAL
-	-	-	-	-		-	-
-	-	-	-	-		-	-
S561	X	12	2'-3"	-		SLAB - SW/NW ENDS, TOP & BOTT	TRANSVERSE
-	-	-	-	-		-	-
-	-	-	-	-		-	-
-	-	-	-	-		-	-
S465	X	12	8'-2"	X		PARAPET - EAST EDGE	VERTICAL
S566	X	47	3'-3"	X		PARAPET - EAST EDGE	VERTICAL
S567	X	8	5'-0"	-		PARAPET - EAST EDGE	HORIZONTAL
S568	X	24	27'-4"	-		PARAPET - EAST EDGE	HORIZONTAL
S569	X	150	8'-3"	X		PARAPET - WEST EDGE	VERTICAL
S570	X	32	28'-3"	-		PARAPET - WEST EDGE	HORIZONTAL
S671	X	88	3'-9"	X		PARAPET - WEST EDGE NOISE WALL ANCH.	VERTICAL
S472	X	44	6'-2"	X		PARAPET - WEST EDGE NOISE WALL ANCH.	HORIZONTAL
S573	X	7	7'-5"	X		PARAPET - WEST EDGE ENDS	VERTICAL
S574	X	23	4'-4"	-		PARAPET - EAST EDGE	VERTICAL



DIAPHRAGM AT ABUTMENTS

PART LONGITUDINAL SECTION

(BETWEEN GIRDERS, TYP.)

LEGEND

* DIMENSIONS ARE NORMAL TO ℄ OF SUBSTRUCTURE UNITS

● LAP BARS 3'-1" MIN.

◐ HORIZ. CONSTRUCTION JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH

⊠ CONSTRUCTION JOINTS REQUIRED IN BARRIERS. RUN BAR STEEL THROUGH JOINTS. MAX. JOINT SPACING = 27'-0". DEFINE JOINT USING ¾" TROWELED V-GROOVE ON TOP AND BOTH FACES. SPACE JOINTS UNIFORMLY.

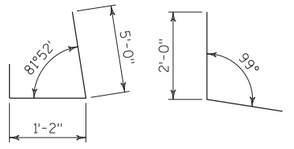
NOTES

ALL VERTICAL BAR STEEL REINFORCMENT IN CONCRETE DIAPHRAGMS SHALL BE PLACED PARALLEL TO THE GIRDERS.

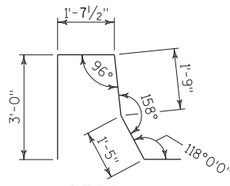
SLAB AND ABUT. DIAPHS. TO BE PLACED TOGETHER. NO JOINT ALLOWED BETWEEN.

BAR MARK	DIM. 'A'
S658	5'-1"

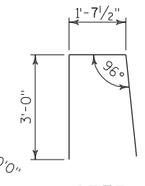
BAR MARK	DIM. 'A'	DIM. 'B'	ANGLE 'C'
S621	4'-0"	1'-10"	60°28'21"
S531	4'-0"	9"	60°28'21"



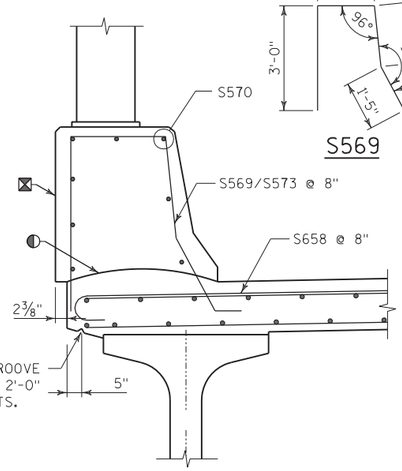
S465 S566



S569

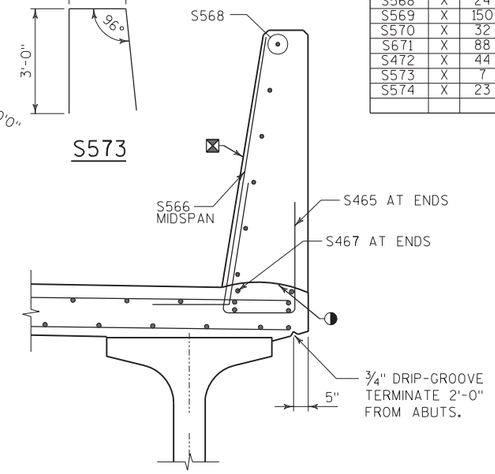


S573



SECTION THRU MODIFIED "LF" PARAPET

(SEE SHEET 21 FOR REINFORCEMENT DETAILS)



SECTION THRU 56" SINGLE SLOPE BARRIER

(SEE SHEET 20 FOR REINFORCEMENT DETAILS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY TRW | PLANS CK'D. JFR

SUPERSTRUCTURE DETAILS

SHEET 15 OF 25

2025

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FILE= SCALE =

STATE PROJECT NUMBER

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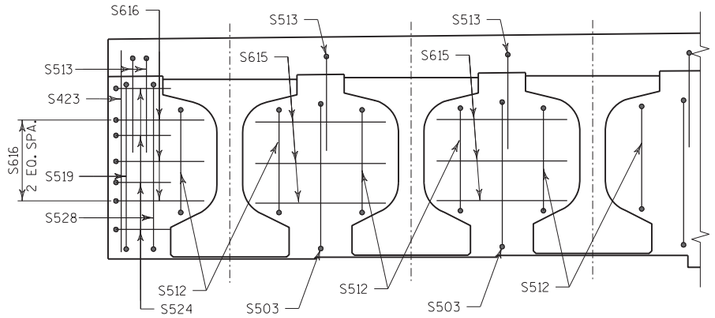
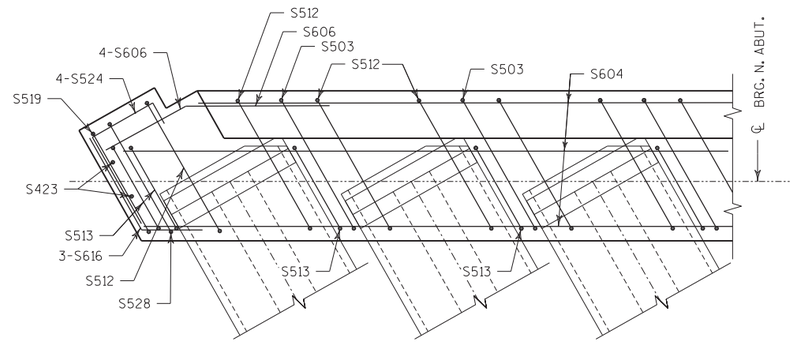
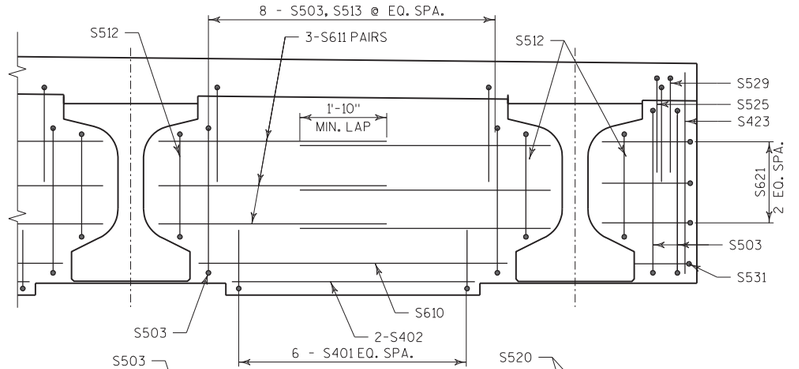
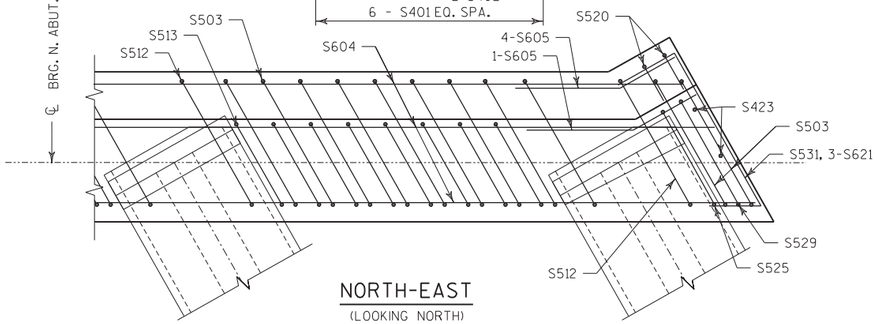




NORTH-WEST

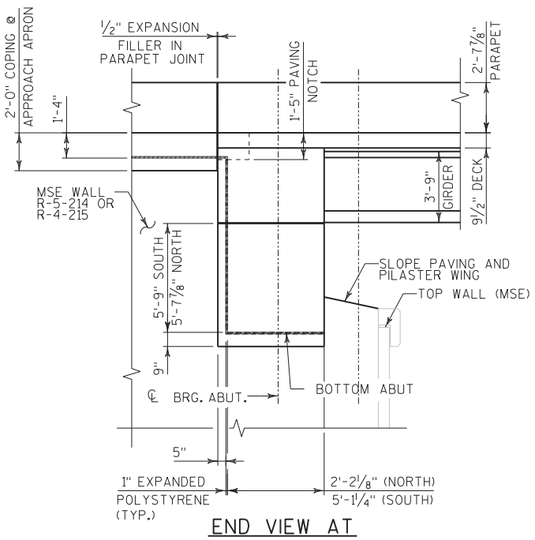
(LOOKING NORTH)





NORTH-EAST

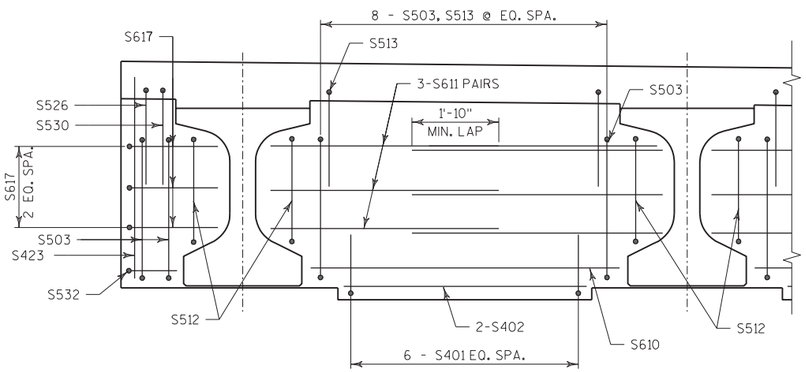
(LOOKING NORTH)

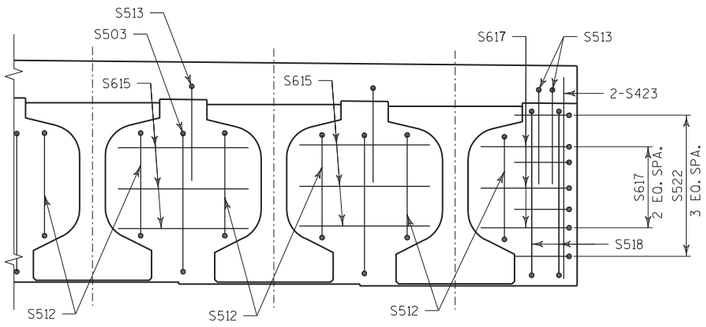


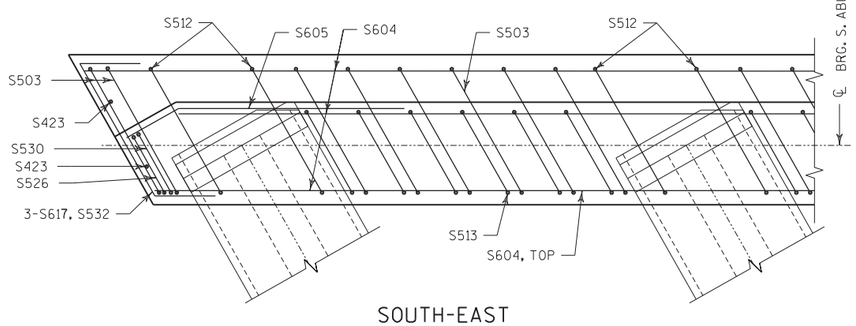
END VIEW AT

ABUTMENT DIAPHARGM

(TYPICAL AT WEST EDGE OF BRIDGE, 2 LOCATIONS.)
LOOKING NORMAL TO USH 41 ℄

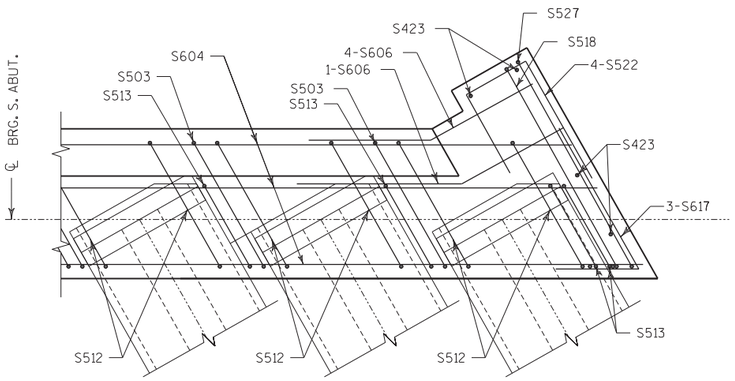






SOUTH-EAST

(LOOKING SOUTH)



SOUTH-WEST

(LOOKING SOUTH)

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY TRW | PLANS CK'D. JFR

ABUTMENT DIAPHRAGM DETAILS

SHEET 16 OF 25

2026

FILE=

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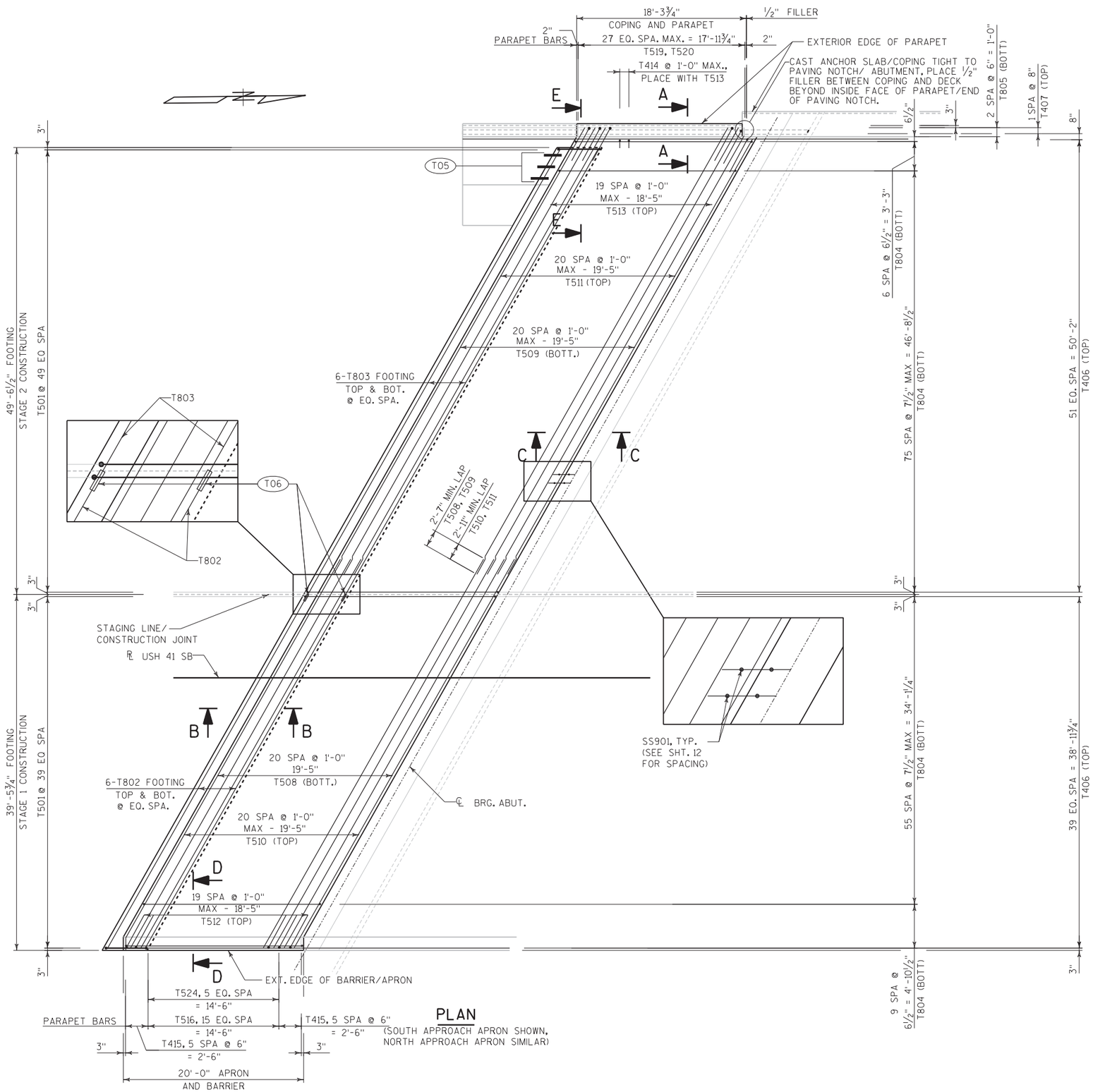
STATE PROJECT NUMBER

1133-09-71



PLAN
(SOUTH APPROACH APRON SHOWN, NORTH APPROACH APRON SIMILAR)

DESIGN DATA:

ALLOWABLE SOIL BEARING PRESSURE:	2,000 P.S.F.
CONCRETE STRENGTH f'c:	4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60, fy:	60,000 P.S.I.

NOTES AND LEGEND:

(T05) PLACE (3) -¾" ϕ (SMOOTH) DOWEL BARS, 1'-6" LONG BTWN. SEGMENTS, AT APPROACH PANEL INTERFACE WITH ANCHOR SLAB EMBEDDED 9", SPACE EQUALLY, 6" MIN. CLEAR FROM EDGE, 1'-6" MIN. SPACING. USE APPROVED DEBONDER ON ½ OF BAR LENGTH. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. COST OF ITEMS ARE INCLUDED IN BID ITEM "CONCRETE MASONRY RETAINING WALLS." SEE R-05-214/215 PLANS. (SEE SHEET 18.)

(T06) # 8 BAR COUPLER TO BE USED IN FOOTING SEE DETAIL ON SHT. 19.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY TRW | PLANS CK'D. JFR

APPROACH APRON

SHEET 17 OF 25

2027

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STATE PROJECT NUMBER
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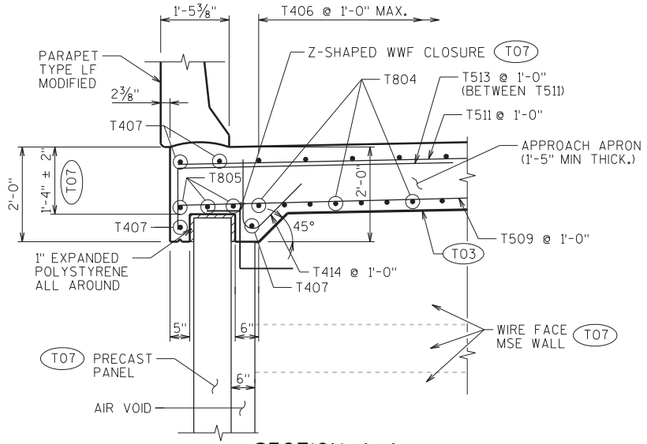
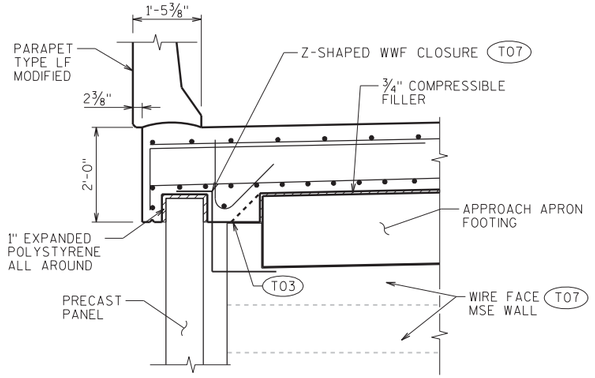


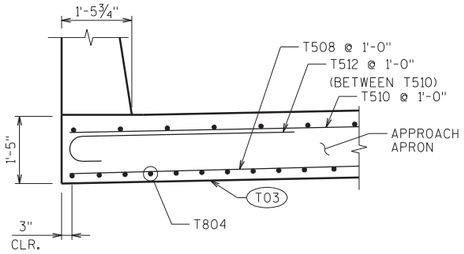
SECTION A-A

(AT MSE WINGWALLS)

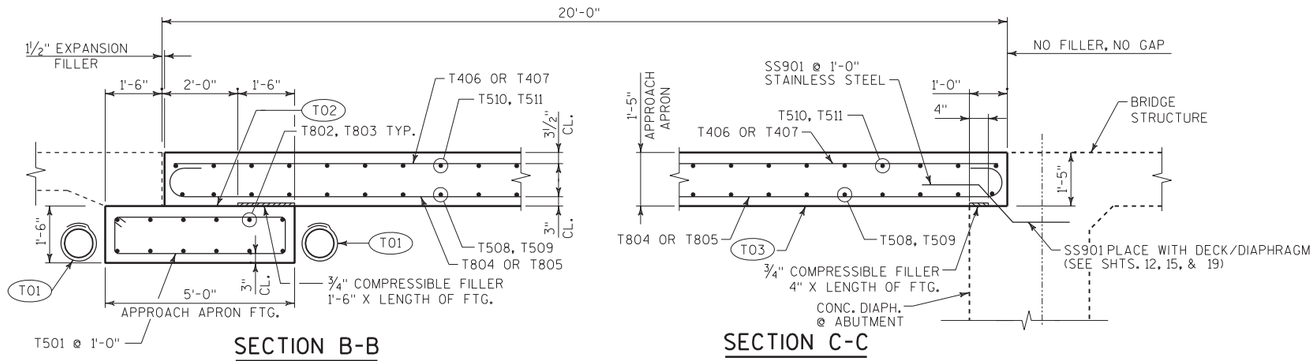


SECTION E-E

(AT MSE WINGWALLS)



SECTION D-D



SECTION B-B

SECTION C-C

TRANSVERSE SECTION THRU APPROACH APRON

NOTES AND LEGEND:

- (T01) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SCREEN REQUIRED.
- (T02) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.
- (T03) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.
- (T07) SEE R-05-214/215 PLANS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY TRW | PLANS CK'D. JFR

APPROACH APRON DETAILS-1

SHEET 18 OF 25

2028

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FILE =

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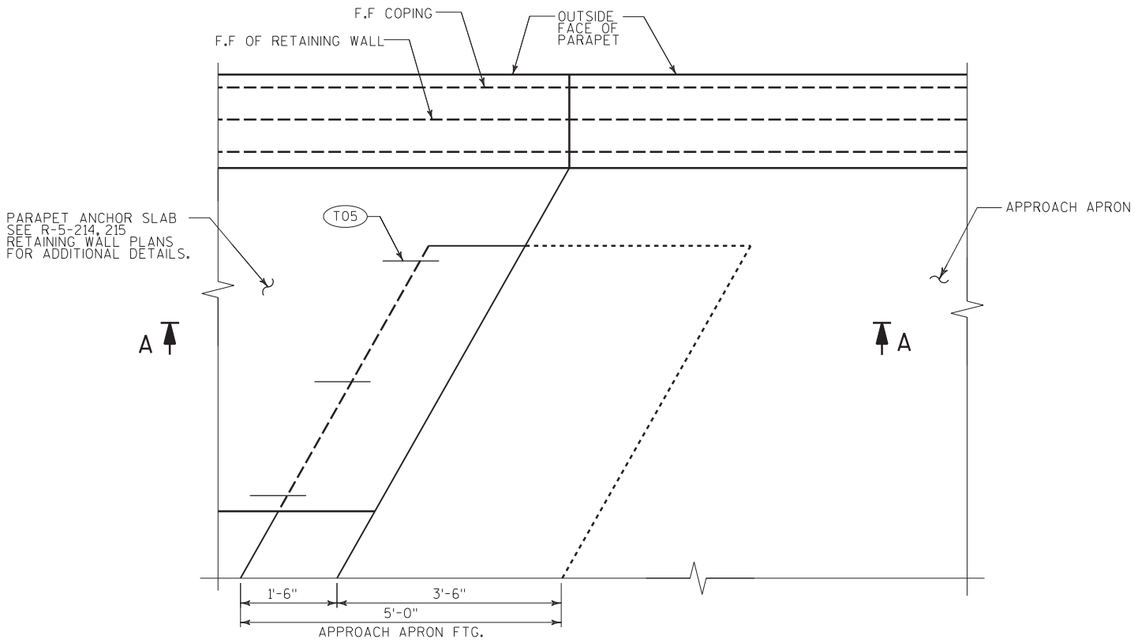
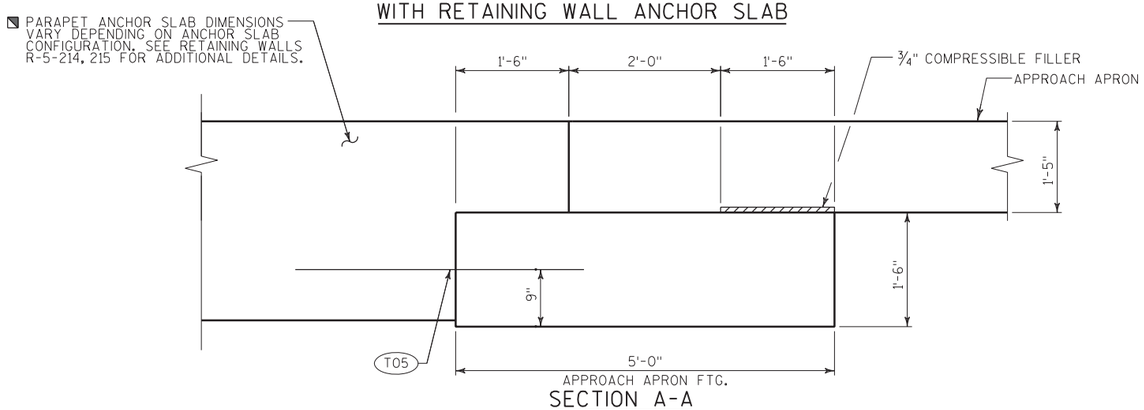
STATE PROJECT NUMBER

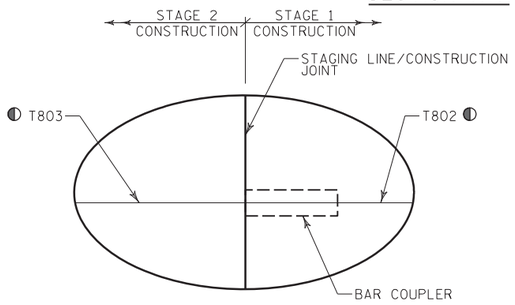
1133-09-71



PLAN AT APPROACH APRON INTERFACE WITH RETAINING WALL ANCHOR SLAB



SECTION A-A



BAR COUPLER DETAILS

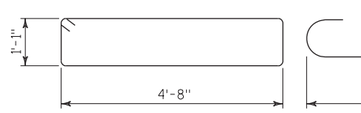
◐ BAR LENGTH HAS BEEN COMPUTED TO ℄ OF VERTICAL CONSTRUCTION JOINT AND SHALL BE MODIFIED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.

(T05) PLACE (3) -¾" ϕ (SMOOTH) DOWEL BARS, 1'-6" LONG BTWN. SEGMENTS, AND AT APPROACH PANEL INTERFACE EMBEDDED 9", SPACE EQUALLY, 6" MIN. CLEAR FROM EDGE, 1'-6" MIN. SPACING. USE APPROVED DEBONDER ON ½ OF BAR LENGTH. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. COST OF ITEMS ARE INCLUDED IN BID ITEM "CONCRETE MASONRY RETAINING WALLS." SEE R-05-214/215 PLANS.

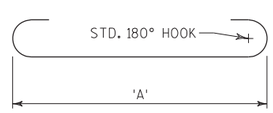
BILL OF BARS

BAR MARK	COAT	NO. REQ'D. S. APRON	NO. REQ'D. N. APRON	LENGTH	BENT	LOCATION	
T501	X	90	90	12'-1"	X	FOOTING - STIRRUPS	VERTICAL
T802	X	12	12	45'-1"		FOOTING - TOP & BOTT, EAST END	HORIZONTAL
T803	X	12	12	56'-8"		FOOTING - TOP & BOTT, WEST END	HORIZONTAL
T804	X	147	147	21'-4"	X	APPROACH APRON - LONGIT. BOTT.	HORIZONTAL
T805	X	3	3	19'-8"	X	APPROACH APRON - LONGIT. WEST EDGE	HORIZONTAL
T406	X	92	92	19'-6"		APPROACH APRON - LONGIT. TOP	HORIZONTAL
T407	X	4	4	17'-10"		APPROACH APRON - LONGIT. TOP WEST EDGE	HORIZONTAL
T508	X	21	21	49'-11"		APPROACH APRON - TRANS. EAST BOTT	HORIZONTAL
T509	X	21	21	57'-3"		APPROACH APRON - TRANS. WEST BOTT	HORIZONTAL
T510	X	21	21	50'-3"		APPROACH APRON - TRANS. EAST TOP	HORIZONTAL
T511	X	21	21	57'-3"		APPROACH APRON - TRANS. WEST TOP	HORIZONTAL
T512	X	20	20	5'-4"	X	APPROACH APRON - TRANS. TOP EAST END	HORIZONTAL
T513	X	20	20	6'-2"	X	APPROACH APRON - TRANS. TOP WEST END	HORIZONTAL
T414	X	20	20	3'-0"	X	APPROACH APRON - TRANS. WEST EDGE	VERTICAL
T415	X	12	12	8'-2"	X	EAST PARAPET	VERTICAL
T516	X	14	14	2'-9"	X	EAST PARAPET	VERTICAL
T517	X	6	6	19'-6"		EAST PARAPET	HORIZONTAL
T518	X	8	8	5'-0"		EAST PARAPET IN ANCHOR SLAB	HORIZONTAL
T519	X	28	28	5'-8"	X	WEST PARAPET	VERTICAL
T520	X	28	28	4'-10"	X	WEST PARAPET	VERTICAL
T521	X	5	5	17'-11"		WEST PARAPET	HORIZONTAL
T422	X	32	32	1'-8"	X	WEST PARAPET - AT NOISE BARRIER ANCHOR	
T423	X	8	8	3'-3"	X	WEST PARAPET - AT NOISE BARRIER ANCHOR	
T524	X	4	4	4'-4"		EAST PARAPET	VERTICAL

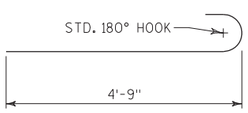
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE. ALL DIMENSIONS IN THE BAR BENDS ARE OUT TO OUT.



T501

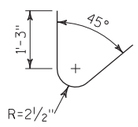


BAR MARK	DIM. 'A'
T804	19'-6"
T805	17'-10"



T512

T513



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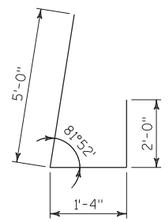
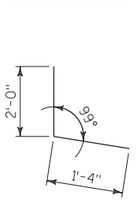


T415



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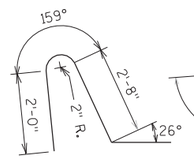

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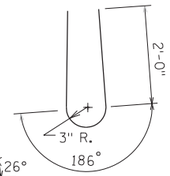

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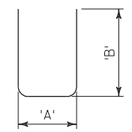
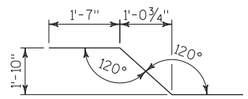


BAR MARK	DIM. 'A'	DIM. 'B'
T422	6"	8"
T423	5"	1'-6"



SS901

STAINLESS STEEL BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
SS901		178	5'-0"	X	CONC. DIAPH. @ ABUTS TO APPROACH APRON

NOTE:

SEE PARAPET DETAILS SHEET 22.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY TRW | PLANS CK'D. JFR

APPROACH APRON DETAILS-2

SHEET 19 OF 25

2029

SCALE = 2:0 " : " / IN.

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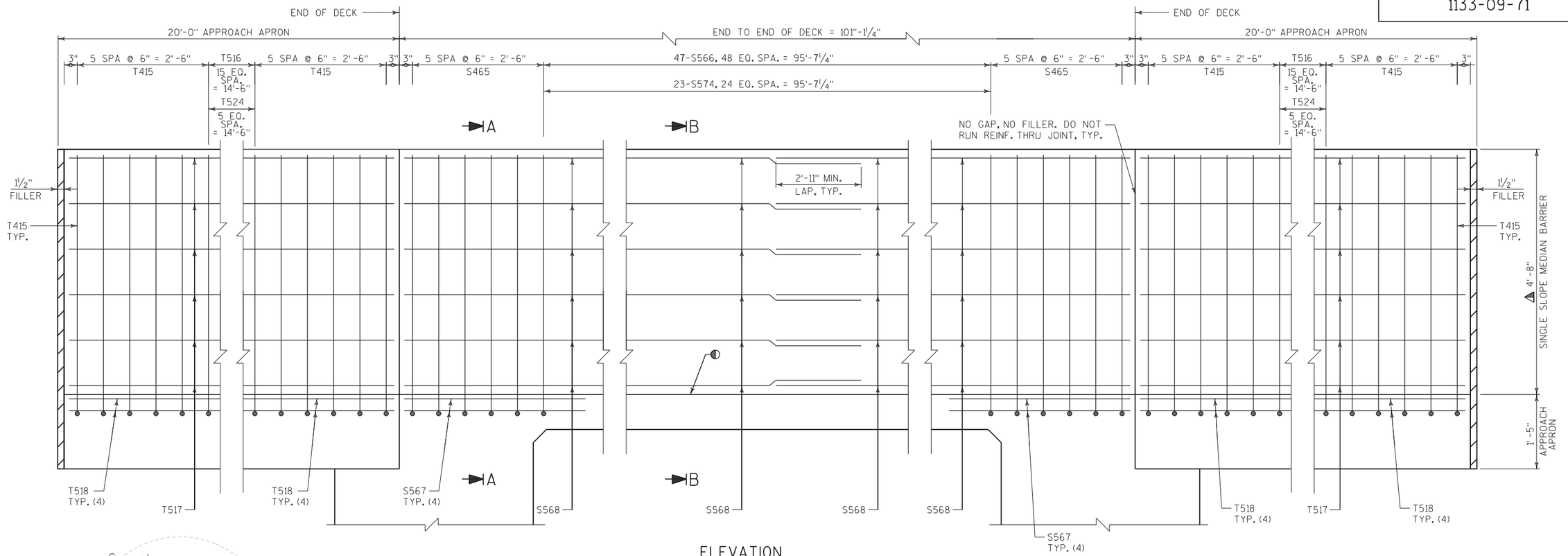
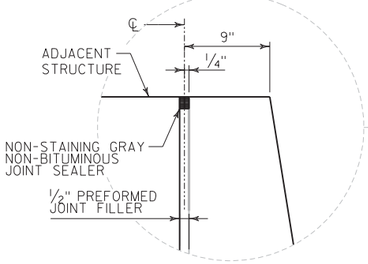
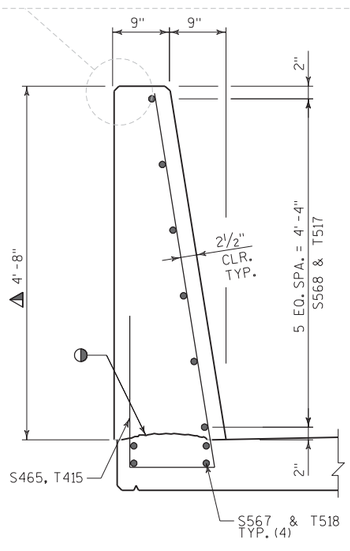
STATE PROJECT NUMBER

1133-09-71



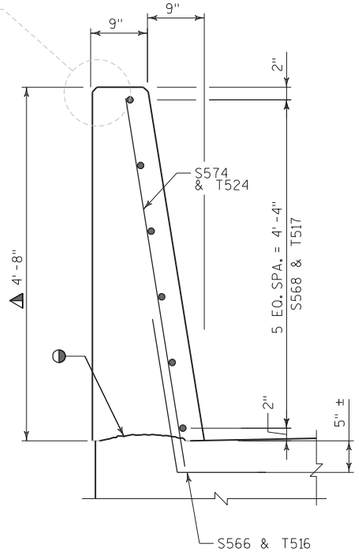
ELEVATION





SECTION A-A

TYPICAL AT ENDS OF BARRIER



SECTION B-B

(BRIDGE & APRONS)

NOTES

◐ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN. VERTICAL CONTRACTION JOINT NOT REQUIRED IN BARRIER ON APRON, SEE SHEET 15 FOR CONTRACTION JOINT REQUIREMENTS ON BRIDGE FOR BARRIER.

⚠ BARRIER HEIGHT TO MATCH WITH B-5-629, USE HIGHER ELEVATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY TRW | PLANS CK'D. JFR

56" SINGLE SLOPED BARRIER

SHEET 20 OF 25
2030

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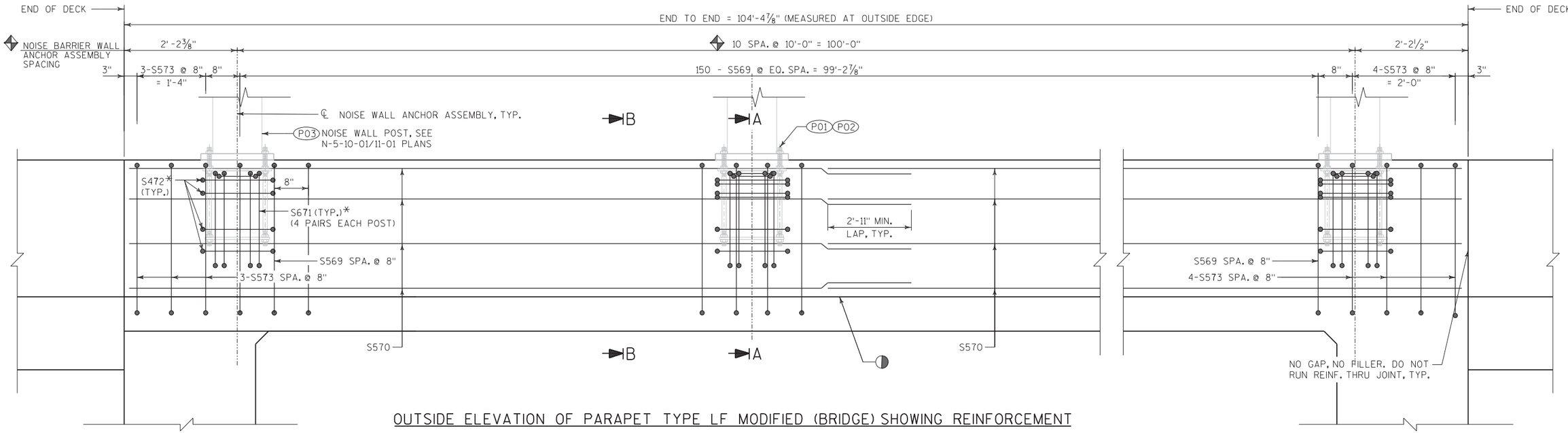
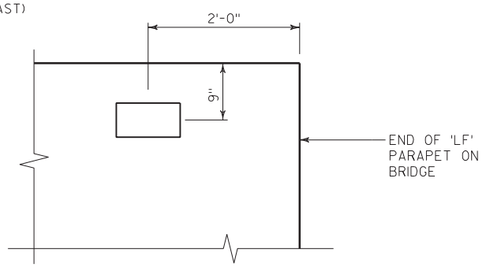
STATE PROJECT NUMBER

1133-09-71



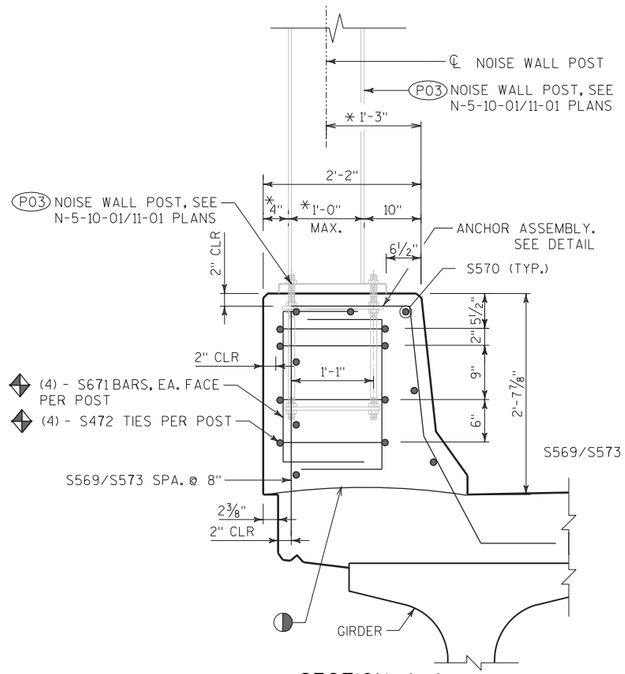
OUTSIDE ELEVATION OF PARAPET TYPE LF MODIFIED (BRIDGE) SHOWING REINFORCEMENT

(LOOKING EAST)



NAME PLATE DETAIL

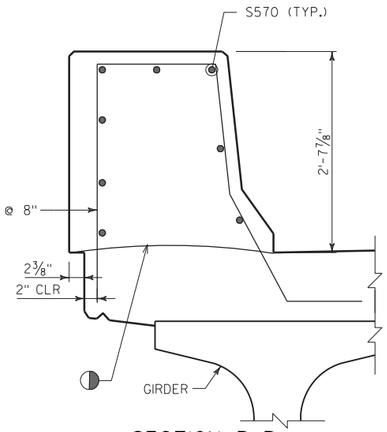
(SEE SHT. 1 FOR LOCATION)



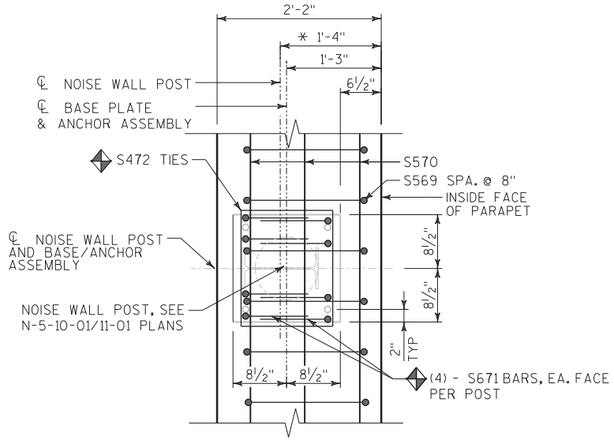
SECTION A-A

SECTION VIEW

TYPICAL AT EACH POST LOCATION



SECTION B-B



PLAN VIEW AT TOP OF PARAPET

NOTES:

- ◑ CONSTRUCTION JOINT. STRIKE OFF AND LEAVE ROUGH AS SHOWN. SEE SHEET 15 FOR PARAPET CONTRACTION JOINT REQUIREMENTS.
- (P01) EXACT LOCATION AND SPACING OF EMBEDDED ANCHOR ASSEMBLY NOISE BARRIER TO BE COORDINATED WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.
- (P02) BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES" INCLUDES ANCHORAGES AT EACH POST LOCATION.
- (P03) NOT A BRIDGE ITEM NOISE BARRIER PANELS, POSTS, SUPPORT BRACKETS AND TOP OF PARAPET CONNECTION TO BE DESIGNED AND INSTALLED BY OTHERS.
- ◈ EXACT LOCATION AND SPACING OF S472 AND S671 BARS TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.
- * DIMENSION IS BASED ON 12" DEEP POST. ADJUST DIMENSION FOR OTHER POST SIZES.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY TRW | PLANS CK'D. JFR

PARAPET 'LF' MODIFIED

SHEET 21 OF 25

2031

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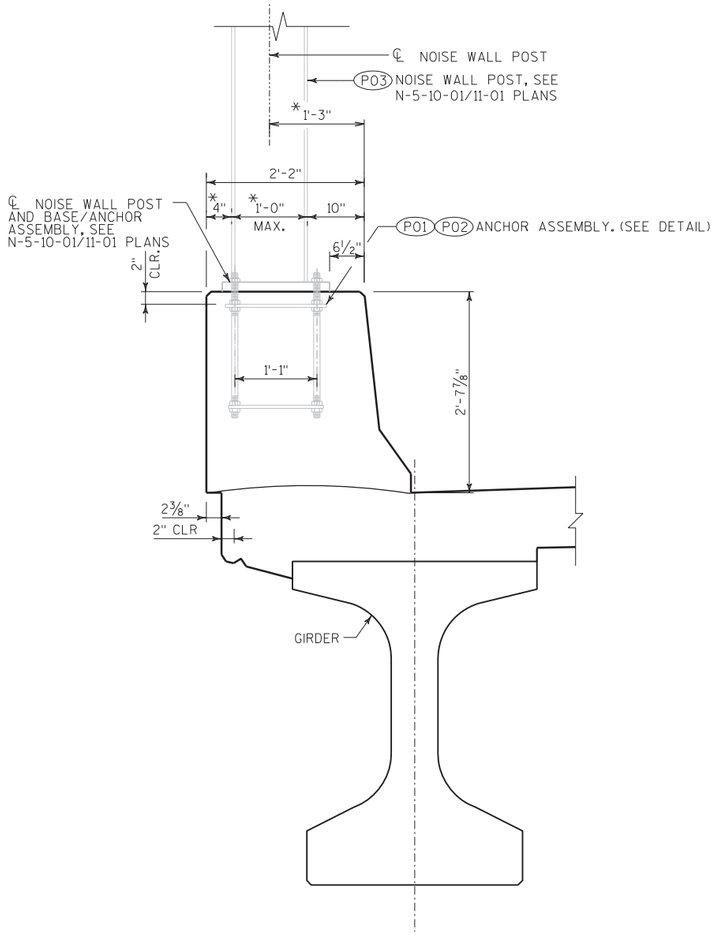
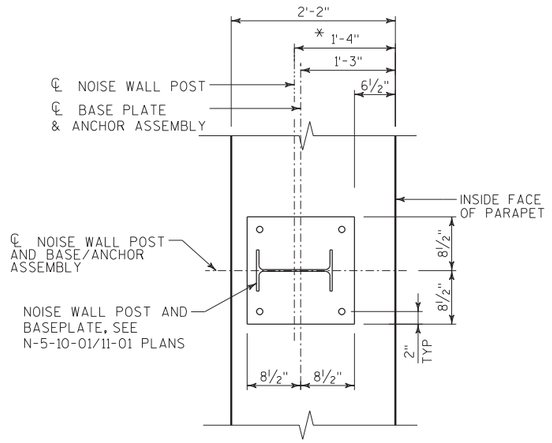
STATE PROJECT NUMBER

1133-09-71

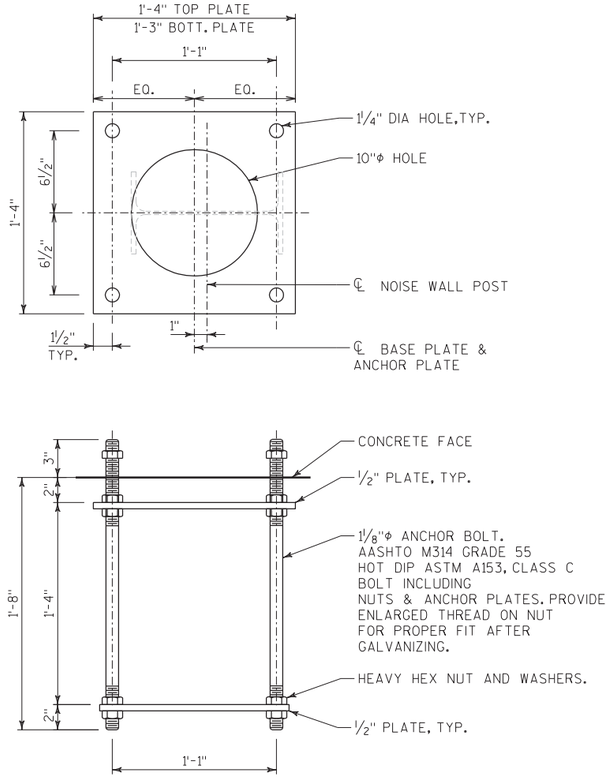


TYPICAL SECTION (BRIDGE)

LOOKING NORTH
(TYPICAL EACH POST LOCATION)



PLAN VIEW AT TOP OF PARAPET



ANCHOR ASSEMBLY

NOTES:

(P01) EXACT LOCATION AND SPACING OF EMBEDDED ANCHOR ASSEMBLY NOISE BARRIER TO BE COORDINATED WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.

(P02) BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES" INCLUDES ANCHORAGES AT EACH POST LOCATION.

(P03) NOT A BRIDGE ITEM NOISE BARRIER PANELS, POSTS, SUPPORT BRACKETS AND TOP OF PARAPET CONNECTION TO BE DESIGNED AND INSTALLED BY OTHERS.

* DIMENSION IS BASED ON 12" DEEP POST. ADJUST DIMENSION FOR OTHER POST SIZES.

SEE REINFORCEMENT FOR NOISE BARRIER ANCHORAGE ON SHEET 19.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY TRW | PLANS CK'D. JFR

NOISE WALL ANCHORAGE ON BRIDGE

SHEET 22 OF 25
2032

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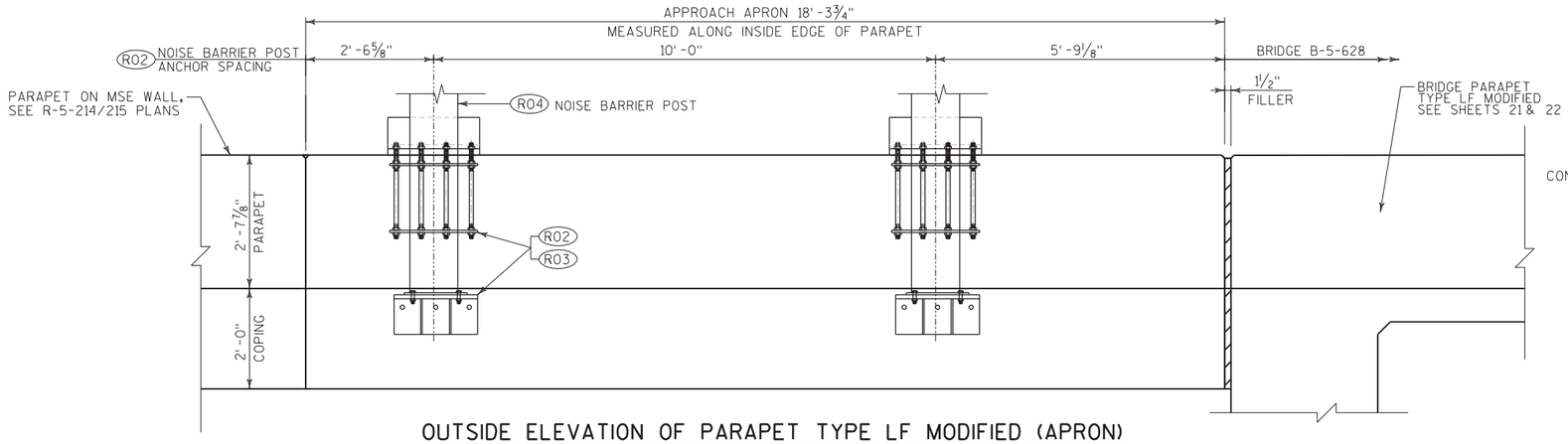
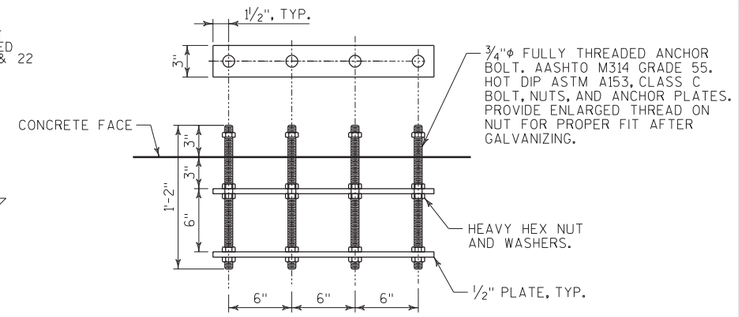
STATE PROJECT NUMBER

1133-09-71



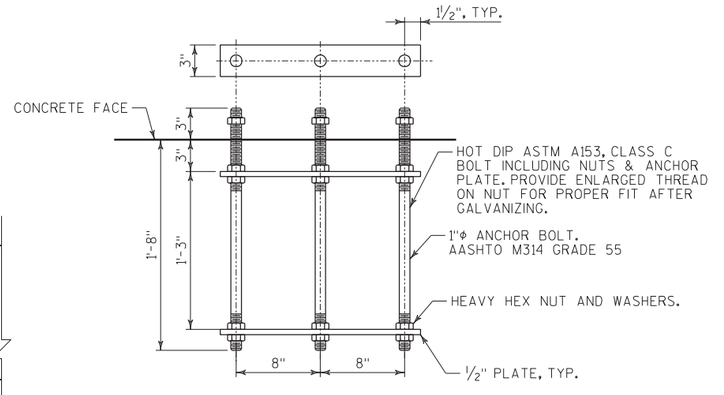
OUTSIDE ELEVATION OF PARAPET TYPE LF MODIFIED (APRON)

LOOKING EAST (NORTH APRON SHOWN, SOUTH APRON SIMILAR)



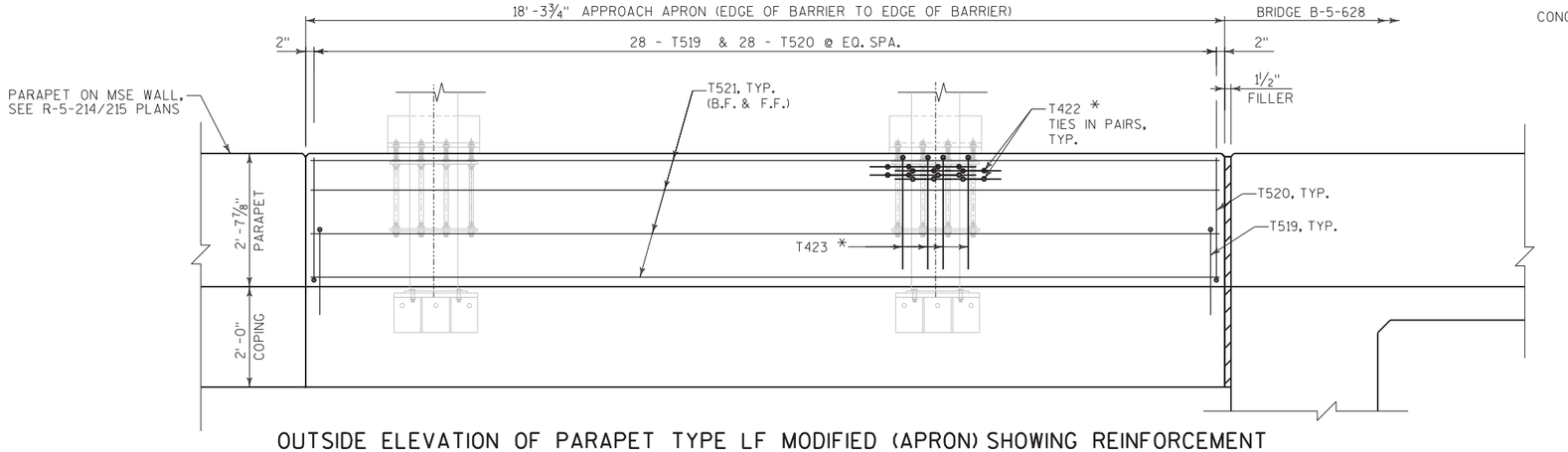
ELEVATION

TOP ANCHOR BOLT ASSEMBLY



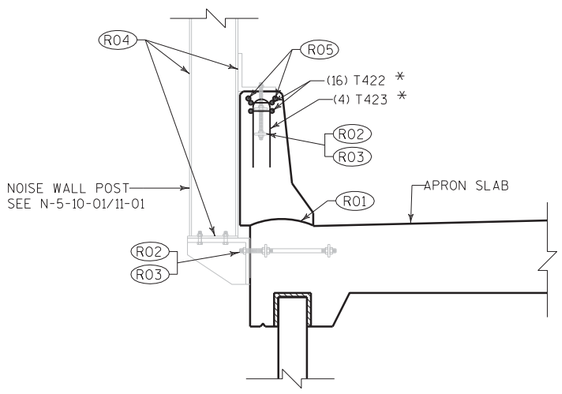
PLAN

BOTTOM ANCHOR BOLT ASSEMBLY



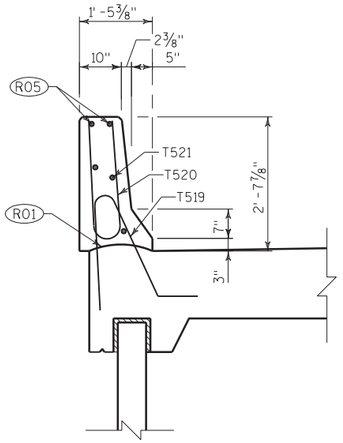
OUTSIDE ELEVATION OF PARAPET TYPE LF MODIFIED (APRON) SHOWING REINFORCEMENT

LOOKING EAST (NORTH APRON SHOWN, SOUTH APRON SIMILAR)

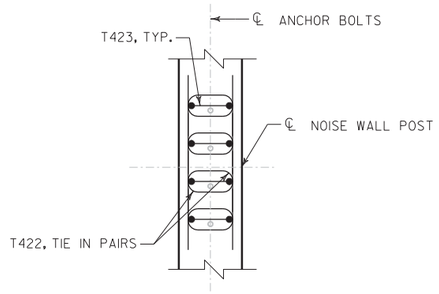


SECTION AT NOISE BARRIER

TYPICAL EACH POST LOCATION



SECTION THRU PARAPET



TOP VIEW AT PARAPET

LEGEND:

(R01) CONSTRUCTION JOINT STRIKE OFF AND LEAVE ROUGH AS SHOWN.

(R02) EXACT LOCATION AND SPACING OF NOISE BARRIER EMBEDDED ANCHOR ASSEMBLY TO BE COORDINATED AND COINCIDE WITH THE NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.

(R03) BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES" INCLUDES UPPER AND LOWER ANCHORAGES AT EACH POST LOCATION.

(R04) NOT A BRIDGE ITEM, NOISE BARRIER PANELS, POSTS, SUPPORT BRACKETS, TOP OF PARAPET CONNECTION AND SIDE OF APRON CONNECTION TO BE DESIGNED AND INSTALLED BY OTHERS.

(R05) ONLY THESE TWO BARS TO BE PLACED OUTSIDE OF THE VERTICAL REINFORCEMENT TO AVOID THE ANCHOR BOLTS/PLATES FROM THE NOISE BARRIER POSTS. PLACE BARS WITH 2" CLEAR FROM TOP, BACK AND FRONT FACES OF THE PARAPET. ALL OTHER HORIZONTAL BARS IN THE PARAPET ARE TO BE PLACED INSIDE THE VERTICAL REINFORCEMENT AS SHOWN.

* EXACT LOCATION AND SPACING OF T422 AND T423 BARS TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACNG AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY	TRW	PLANS CK'D.	JFR

PARAPET TYPE LF MODIFIED APRON

SHEET 23 OF 25

2033

SCALE = 2:0 ' :" / IN.

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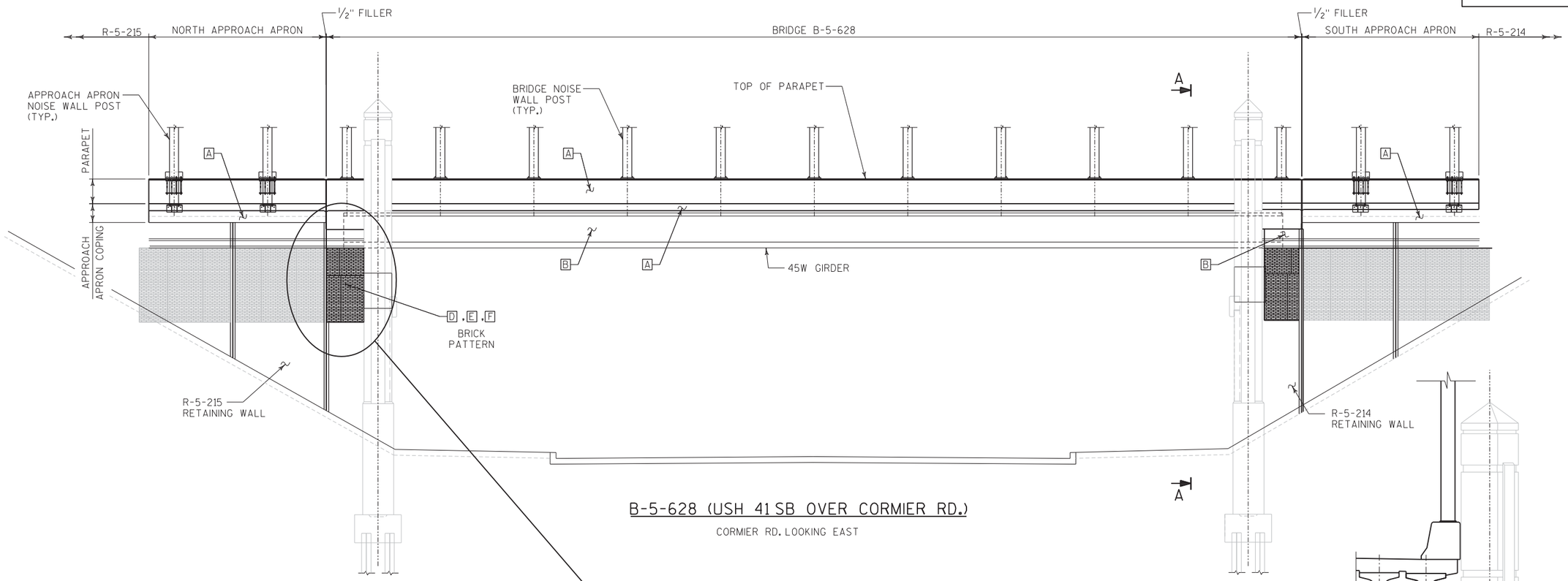
STATE PROJECT NUMBER
1133-09-71



B-5-628 (USH 41 SB OVER CORMIER RD.)

CORMIER RD. LOOKING EAST

NOTES

DO NOT STAIN TOP OR INSIDE FACE OF BRIDGE PARAPETS.

STAIN VERTICAL EDGE OF DECK, UNDERSIDE OF DECK OVERHANG, AND EXTERIOR FACE & BOTTOM OF EXTERIOR GIRDER TO THE LIMITS SHOWN.

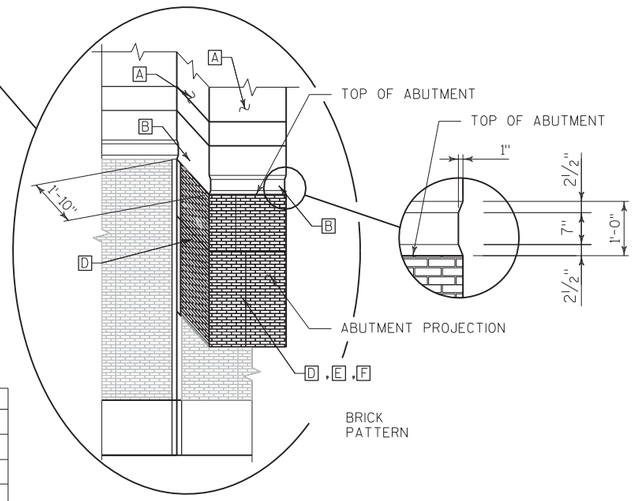
STAIN UNDERSIDE OF APRON COPING.

SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER. BRICK PATTERN FORMLINER AREAS AT WEST ENDS OF ABUTMENTS PAIN FOR UNDER "ARCHITECTURAL SURFACE TREATMENT". SEE THIS SHEET FOR ADDITIONAL END OF ABUTMENT DETAILS AND CONCRETE SCHEDULE.

STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

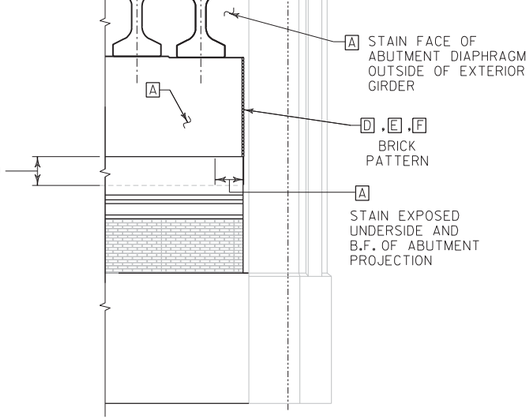
CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION	NOTES
A	BASE COLOR	BRIDGE PARAPETS	EXTERIOR, DO NOT STAIN TOP OR INSIDE FACE
		APRON COPING	STAIN EXTERIOR & UNDERSIDE
		APRON PARAPETS	NO STAIN
		DECK	WEST EDGE & UNDERSIDE OF OVERHANG
		DIAPHRAGMS	EXTERIOR FACE, F.F. OUTSIDE OF EXTERIOR GIRDER & EXPOSED B.F.
		ABUTMENT	F.F., EXPOSED UNDERSIDE & WEST END
B	ACCENT COLOR #1	BRIDGE GIRDERS, DIAPRAGHMS & ABUTMENTS	REVEALS, OUTSIDE & BOTTOM OF WEST CONC. GIRDER
D	ACCENT COLOR #3	BRIDGE ABUTMENT ENDS	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRIDGE ABUTMENT ENDS	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRIDGE ABUTMENT ENDS	BRICK COLOR (15% OF BRICK)



ABUTMENT PROJECTION

(NORTH AND SOUTH SIMILAR)



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY	TRW	PLANS CK'D.	JFR

AESTHETIC DETAILS-1

SHEET 24 OF 25
2034

SCALE = 1:5 3/4 " :" / IN.

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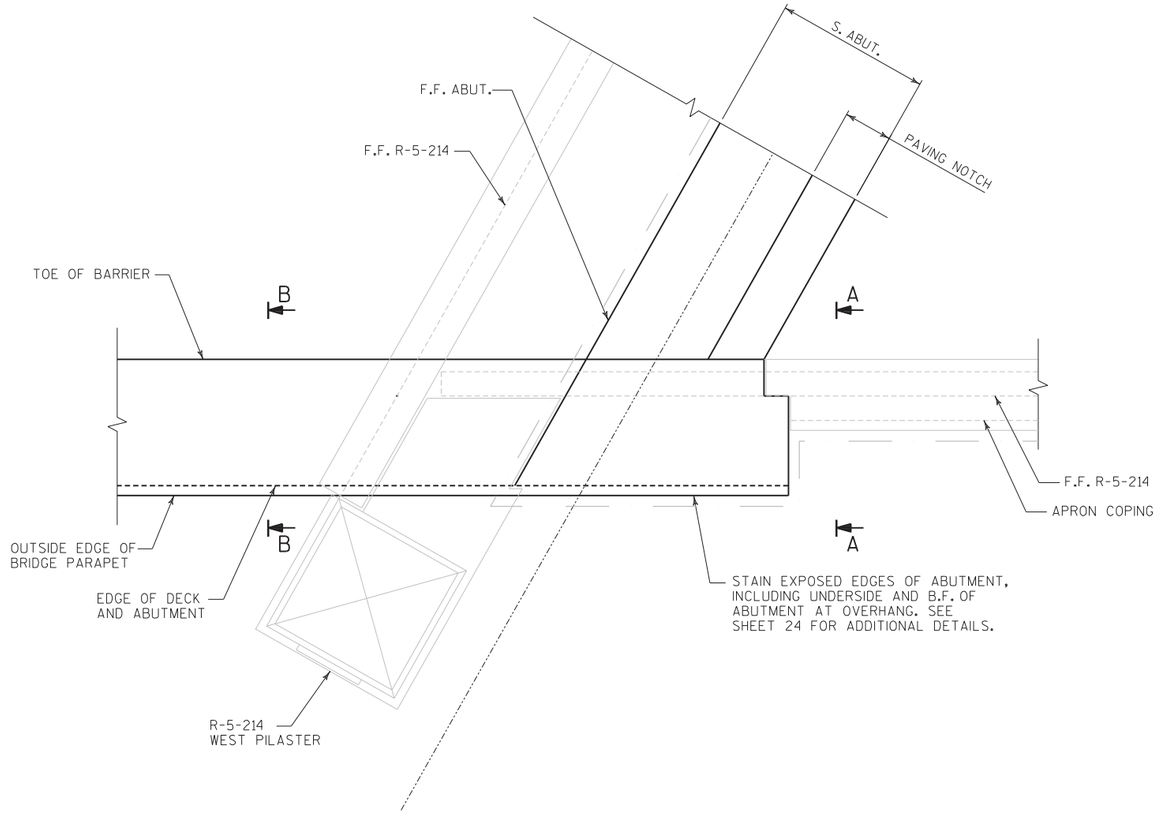
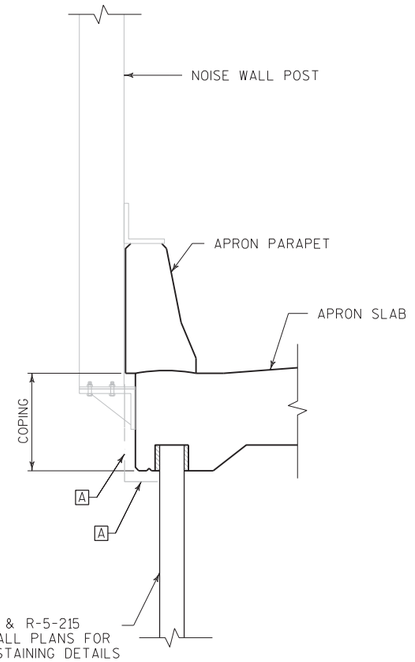
STATE PROJECT NUMBER
1133-09-71



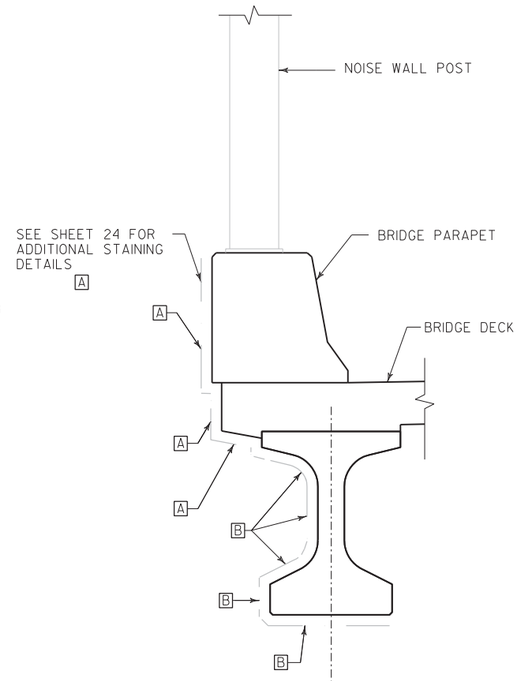
PLAN (WEST CORNER SOUTH ABUTMENT)

(WEST CORNER NORTH ABUTMENT SIMILAR)



SECTION A-A

(LOOKING NORTH)



SECTION B-B

(LOOKING NORTH)

LEGEND

INDICATES PERIMETER OF STAINED SURFACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-628

DRAWN BY TRW | PLANS CK'D. JFR

AESTHETIC DETAILS-2

SHEET 25 OF 25

2035

SCALE = 1:8 7/8 " :" / IN.

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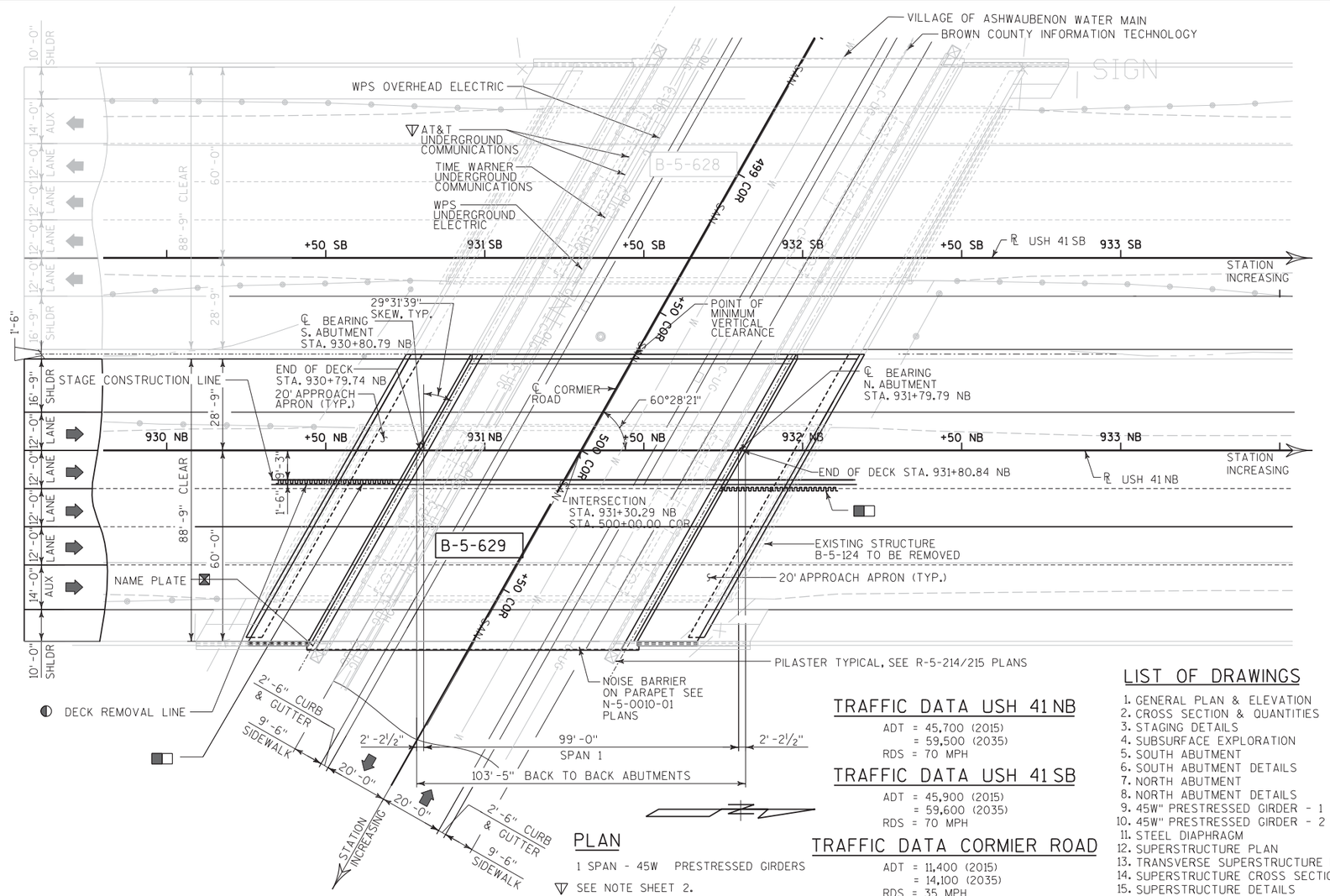


PLAN

1 SPAN - 45W PRESTRESSED GIRDERS

▽ SEE NOTE SHEET 2.

⊠ SEE NAME PLATE DETAIL SHT. 21

TEMPORARY SHORING REQUIRED

TRAFFIC DATA USH 41 NB

ADT = 45,700 (2015)
= 59,500 (2035)
RDS = 70 MPH

TRAFFIC DATA USH 41 SB

ADT = 45,900 (2015)
= 59,600 (2035)
RDS = 70 MPH

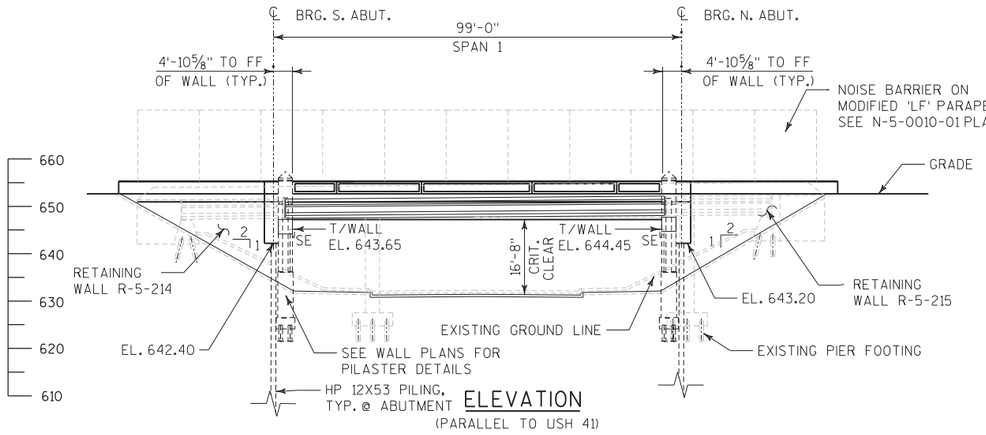
TRAFFIC DATA CORMIER ROAD

ADT = 11,400 (2015)
= 14,100 (2035)
RDS = 35 MPH

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

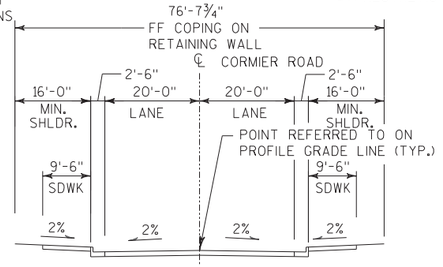
NE REGION CONTACT:
KURT PETERS (920) 492-2213

CONSULTANT CONTACT:
JOHN RUBLEIN (608) 229-1434



ELEVATION

(PARALLEL TO USH 41)



TYPICAL SECTION THRU CORMIER ROAD

(LOOKING WEST)

DESIGN DATA

LIVE LOAD:
DESIGN LOAD HL-93
INVENTORY RATING FACTOR 1.20
OPERATING RATING FACTOR 1.56
WIS-SPV RATING ..... 200 KIPS

THE STRUCTURE IS DESIGNED FOR A 1½" SACRIFICIAL WEARING SURFACE PLACED AT INITIAL CONSTRUCTION INTEGRAL WITH THE DECK. THE DESIGN DOES NOT PROVIDE FOR ADDITIONAL LOADS DUE TO FUTURE WEARING SURFACE.

ULTIMATE DESIGN STRESSES

CONCRETE MASONRY (HPC) .....f'c = 4,000 PSI

HIGH STRENGTH BAR STEEL
REINFORCEMENT GRADE 60 .....fy = 60,000 PSI

45W-INCH PRESTRESSED GIRDERS
CONCRETE MASONRY .....f'c = 8,000 PSI

PRESTRESSING STRANDS = 0.6 INCH DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 PSI

NOISE BARRIER

MAXIMUM HEIGHT ABOVE ROADWAY BARRIER.....VARIES, 13.0 FEET MAX.
MAXIMUM POST SPACING.....10 FEET
NOISE BARRIER DEAD LOAD.....50 PSF
DESIGN WIND LOAD.....42 PSF

STRUCTURE DESIGNED FOR MAX. WALL HEIGHT OF 13 FT. DESIGNER SHOULD BE NOTIFIED IF WALL HEIGHT EXCEEDS DESIGN HEIGHT.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 12X53 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 100'-0" LONG AT NORTH ABUTMENT.
ESTIMATED 90'-0" LONG AT SOUTH ABUTMENT.

THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

EXISTING ABUTMENT PILING SHALL BE CUT-OFF AT THE BOTTOM OF WALL ELEVATION FOR R-5-214 AND R-5-215. THIS WORK TO BE INCLUDED IN THE "REMOVING OLD STRUCTURE" BID ITEM.

THE EXISTING ABUTMENTS HAVE BATTERED PILES IN THE FRONT ROW. IF IT IS DETERMINED THAT THE BATTERED PILES WILL CONFLICT WITH THE PROPOSED PILES, THE ENGINEER SHALL BE NOTIFIED TO DETERMINE A REVISED PILE SPACING.

◐ SEE STAGING PLAN SHEET 3.

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION & QUANTITIES
3. STAGING DETAILS
4. SUBSURFACE EXPLORATION
5. SOUTH ABUTMENT
6. SOUTH ABUTMENT DETAILS
7. NORTH ABUTMENT
8. NORTH ABUTMENT DETAILS
9. 45W" PRESTRESSED GIRDER - 1
10. 45W" PRESTRESSED GIRDER - 2
11. STEEL DIAPHRAGM
12. SUPERSTRUCTURE PLAN
13. TRANSVERSE SUPERSTRUCTURE REINFORCEMENT
14. SUPERSTRUCTURE CROSS SECTION
15. SUPERSTRUCTURE DETAILS
16. ABUTMENT DIAPHRAGM DETAILS
17. APPROACH APRON
18. APPROACH APRON DETAILS-1
19. APPROACH APRON DETAILS-2
20. 56" SINGLE SLOPE BARRIER
21. PARAPET LF MODIFIED
22. NOISE WALL ANCHORAGE ON BRIDGE
23. PARAPET TYPE 'LF' MODIFIED APRON
24. AESTHETIC DETAILS - 1
25. AESTHETIC DETAILS - 2

JOHN F. RUBLEIN E-38700 MADISON WI
WISCONSIN PROFESSIONAL ENGINEER
4/22/13

STATE PROJECT NUMBER

1133-09-71

NO.	DATE	REVISION	BY

DAAR ENGINEERING, INC.
www.daarcorp.com
Madison, WI 53703
608-249-9149

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR 04/22/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-5-629

USH 41 NB OVER CORMIER ROAD

COUNTY	VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
ACT	JFR	TRW	JFR

GENERAL PLAN AND ELEVATION

SHEET 1 OF 25

FILE= SCALE = 40:0 ' : " / IN.

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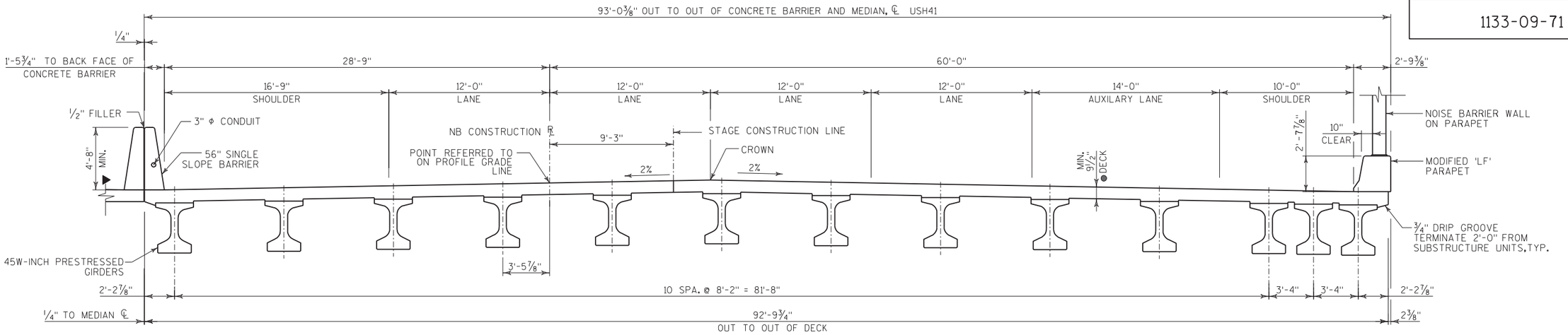
I.D.

DATE: 4/22/2013

STATE PROJECT NUMBER

1133-09-71



BENCH MARKS

NO.	STATION/OFFSET	DESCRIPTION	ELEVATION
528A	934+30.33 NB 479.31' LT	CHISELED "X" ON A FIRE HYDRANT BURY BOLT ON COMIER RD., 275' WEST OF THE ℄ OF NORTH RD. & 25' NORTH OF THE ℄ OF CORMIER RD.	642.72
550	929+76.91 NB 325.21' RT	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE NORTHEAST QUADRANT OF PILGRIM WAY & CORMIER RD. 25' NORTH OF CORMIER RD. & 90' EAST OF THE ℄ OF PILGRIM WAY.	629.65

TYPICAL SECTION

(LOOKING NORTH)

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SOUTH APPROACH APRON	SOUTH ABUT.	NORTH ABUT.	NORTH APPROACH APRON	SUPER.	TOTALS
203.0200.715	REMOVING OLD STRUCTURE STA. 931NB+30.29	LS	-	-	-	-	-	1
203.0225.S.715	DEBRIS CONTAINMENT STRUCTURE B-05-124	LS	-	-	-	-	-	1
206.1000.S.715	EXCAVATION FOR STRUCTURE, BRIDGES B-05-629	LS	-	-	-	-	-	1
206.6010.S	TEMPORARY SHORING	SF	-	316	313	-	-	629
210.01	BACKFILL STRUCTURE	CY	-	166	164	-	-	330
502.32	PROTECTIVE SURFACE TREATMENT	SY	218	-	-	218	1103	1539
502.611	MASONRY ANCHORS TYPE S 3/4-INCH	EACH	-	18	18	-	-	36
503.0146	PRESTRESSED GRIDER TYPE I45W-INCH	LF	-	-	-	-	1300	1300
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	-	6712	6801	-	-	13520
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	19893	-	-	19893	63956	103750
505.0908	BAR COUPLERS NO. 8	EACH	12	-	-	12	-	24
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	-	13	13	-	-	26
506.4000.715	STEEL DIAPHRAGMS B-05-629	EACH	-	-	-	-	24	24
516.05	RUBBERIZED MEMBRANE WATERPROOFING	SY	-	21	21	-	-	42
550.112	PILING STEEL HP 12-INCH X 53 LB	LF	-	1440	1600	-	-	3040
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	208	104	104	208	-	624
652.0135	CONDUIT RIGID METALLIC 3-INCH	LF	20	-	-	20	10	50
652.0235	CONDUIT RIGID NON-METALLIC SCHEDULE 40 3-INCH	LF	-	-	-	-	93	93
SPV.0035.700	HPC MASONRY STRUCTURES	CY	126	72	71	126	434	828
SPV.0060.701	ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES	EACH	2	-	-	2	11	15
SPV.0085.700	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGE	LB	1513	-	-	1513	-	3026
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	-	25	43	-	-	68
SPV.0165.501	STAINING CONCRETE	SF	45	585	580	45	1290	2544
SPV.0165.502	STAINING CONCRETE BRICK	SF	-	25	43	-	-	68
SPV.0165.700	LONGITUDINAL GROOVING BRIDGE DECK	SF	-	-	-	-	8974	8974
	NON-BID ITEMS							
	FILLER	SIZE	----	----	----	----	----	1/2" & 3/4"

ALL ITEMS ARE CATEGORY 2140

LEGEND

● 9 1/2" DECK THICKNESS INCLUDES A 1 1/2" SACRIFICIAL WEARING SURFACE PLACED INTEGRAL WITH THE DECK AT INITIAL CONSTRUCTION.

▲ TOP OF MEDIAN BARRIERS FOR B-5-628 AND B-5-629 TO BE AT SAME ELEVATION, HOLD AT HIGHER ELEVATION, SEE B-5-628 PLANS.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN ON NOTED.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

THE MINIMUM CONCRETE HAUNCH SHALL BE 2" FOR DESIGN CALCULATIONS AND THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE DEPTH OF 2 1/8" WHICH IS THE MAXIMUM QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE CONCRETE FOR ABUTMENT AND PIER DIAPHRAGMS SHALL BE PLACED WITH THE DECK CONCRETE. NO OPTIONAL CONSTRUCTION JOINT WILL BE PERMITTED.

THE EXISTING STRUCTURE, B-05-124, IS A THREE SPAN PRESTRESSED GIRDER STRUCTURE WITH AN OVERALL WIDTH OF 55'-10" AND AN OVERALL LENGTH OF 151'-7 1/4" AND IS TO BE REMOVED AS PART OF THE CONSTRUCTION OF STRUCTURE B-05-629.

9 1/2" MINIMUM DECK THICKNESS INCLUDES 3 1/2" COVER TO TOP LAYER OF STEEL REINFORCEMENT.

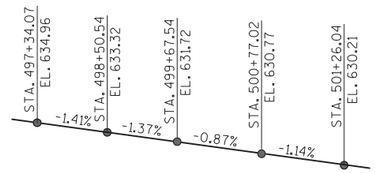
PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE ROADWAY DECK, THE TOPS AND ROADWAY FACES OF THE BRIDGE PARAPETS. PARAPETS ON THE APPROACH APRON SHALL BE SEALED ON ALL SURFACES. DO NOT SEAL SURFACES WHERE THE PLANS OR SPECIAL PROVISIONS REQUIRE STAINING OR OTHER TREATMENT.

EXISTING TEMPORARY SHORING LEFT IN PLACE SHALL BE REMOVED AND IS INCIDENTAL TO THE BID ITEM "REMOVING OLD STRUCTURE".

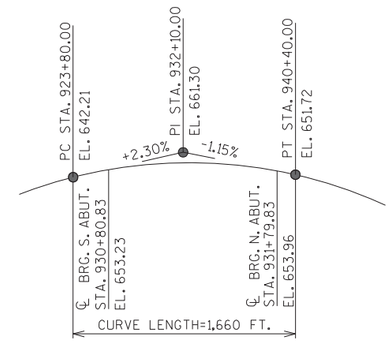
FOR UTILITY OWNERSHIP AND CONTACT INFORMATION, SEE ROADWAY PLANS.

STRUCTURE BACKFILL AND CONCRETE SLOPE PAVING DETAILS AND QUANTITIES ARE INCLUDED WITH THE RETAINING WALLS AT THE ABUTMENTS.

▽ AT&T UNDERGROUND COMMUNICATIONS FACILITIES ARE TO REMAIN IN SERVICE THROUGH CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING THESE FACILITIES DURING EXECUTION OF THE WORK.



PROFILE GRADE LINE CORMIER ROAD



PROFILE GRADE LINE USH 41 NB

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

DRAWN BY TRW | PLANS CK'D. JFR

CROSS SECTION & QUANTITIES

SHEET 2 OF 25

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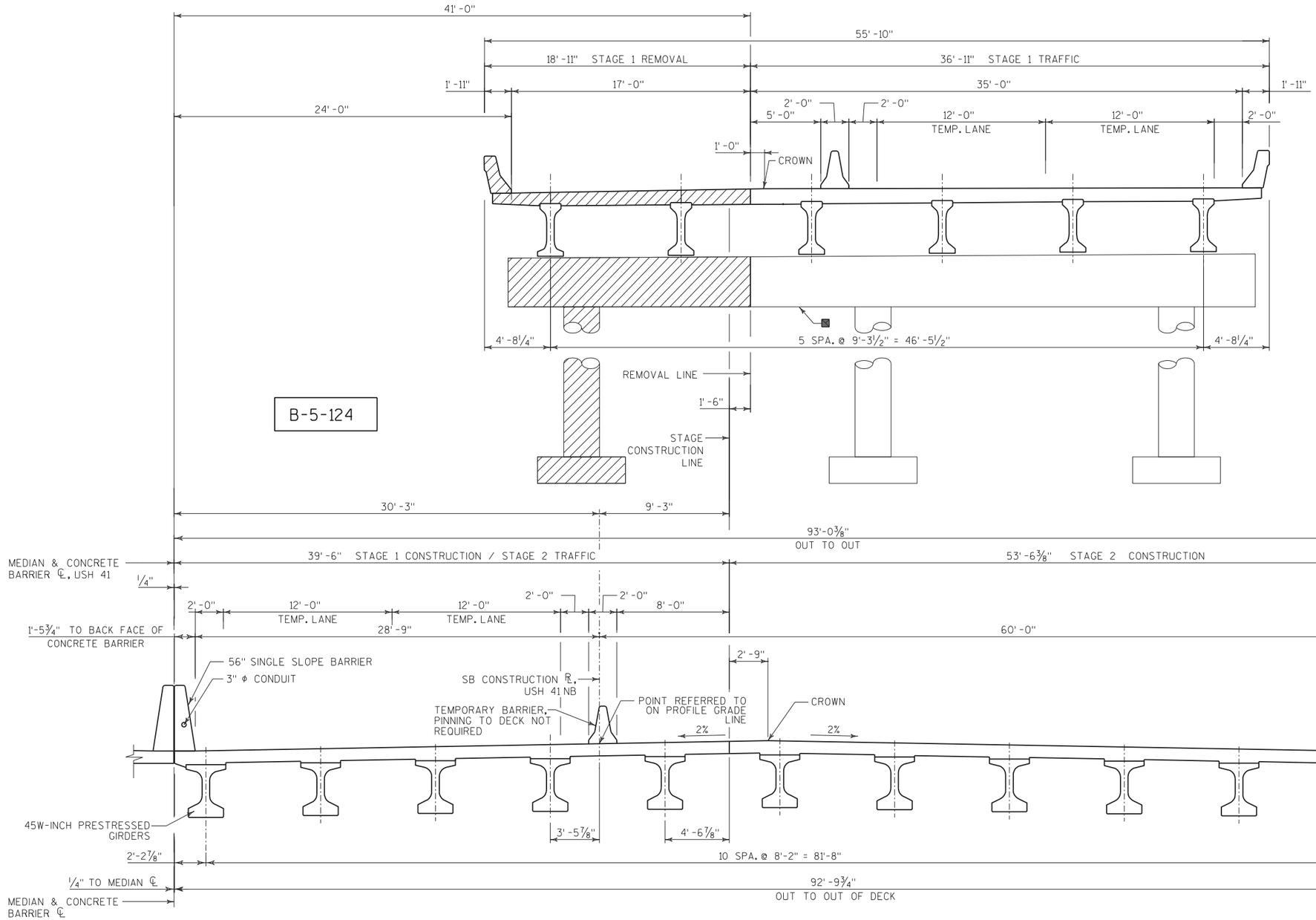
STATE PROJECT NUMBER

1133-09-71



B-5-124

B-5-629

TYPICAL STAGING SECTION

(LOOKING NORTH)

LEGEND

■ TEMPORARY SUPPORT OF THE DECK AND PIER IS REQUIRED. THE CONTRACTOR IS TO DESIGN A TEMPORARY SUPPORT SYSTEM FOR USE DURING THE STAGED REMOVAL OF THE BRIDGE B-5-124. THE PROPOSED SUPPORT SYSTEM DESIGN SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF WISCONSIN AND SUBMITTED TO THE DEPARTMENT FOR APPROVAL PRIOR TO INSTALLATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

DRAWN BY TRW | PLANS CK'D. JFR

STAGING DETAILS

SHEET 3 OF 25

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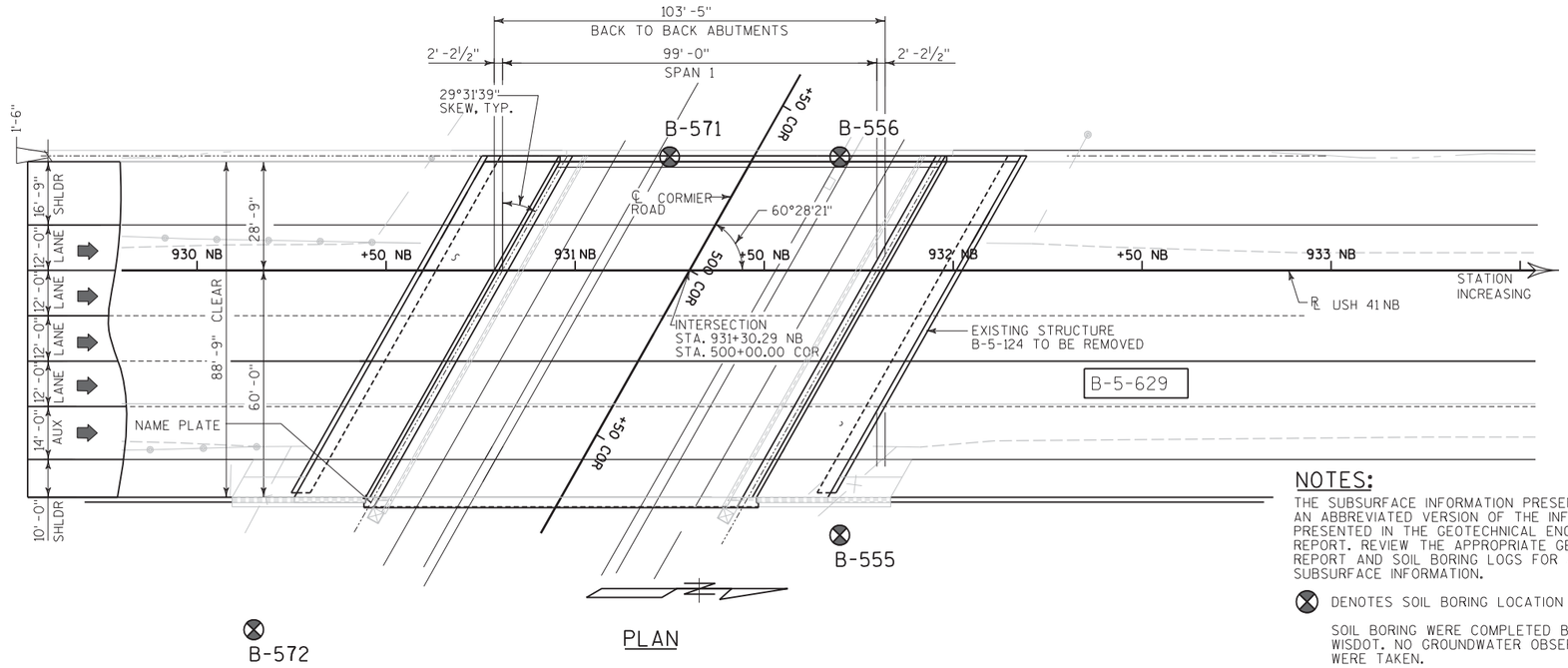


PLAN

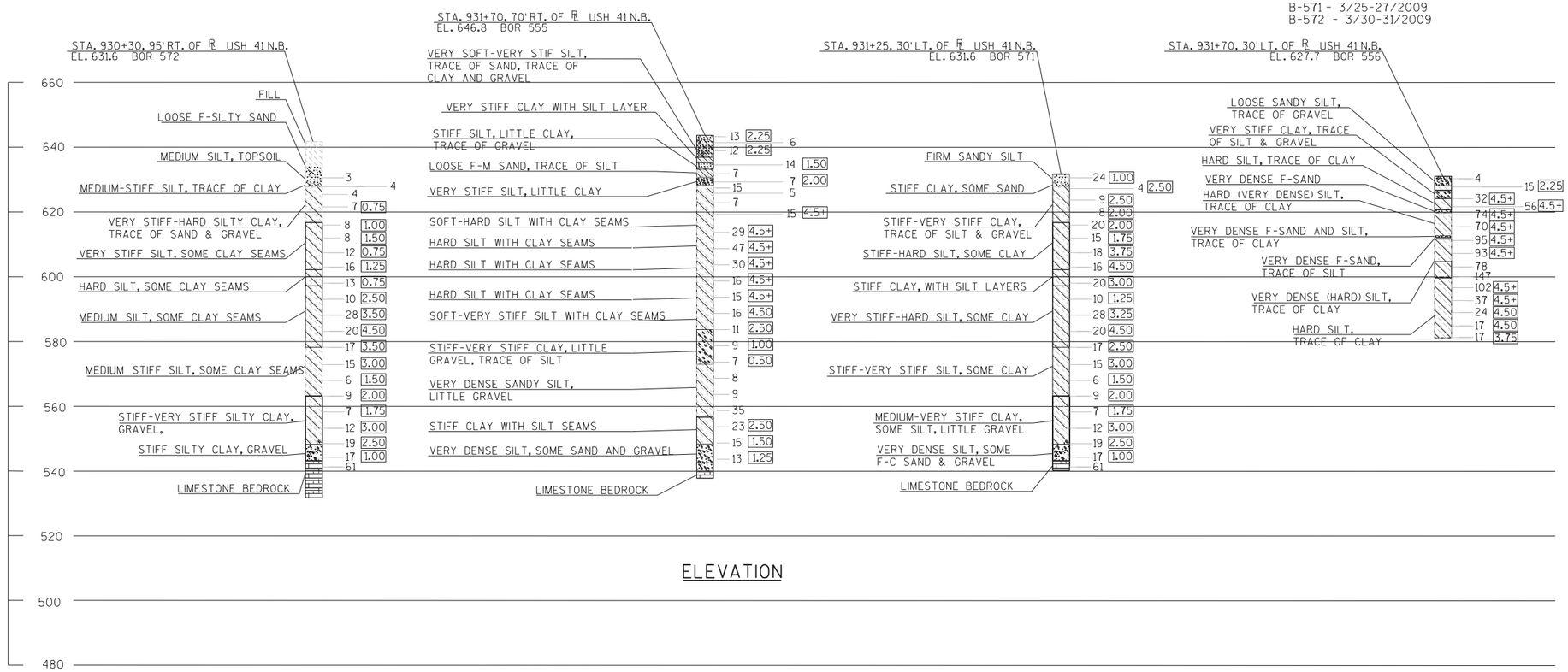
NOTES:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

⊗ DENOTES SOIL BORING LOCATION

SOIL BORING WERE COMPLETED BY WISDOT. NO GROUNDWATER OBSERVATIONS WERE TAKEN.

SOIL BORING TAKEN:
B-555 - 5/28-6/2/2008
B-556 - 5/28/2008
B-571 - 3/25-27/2009
B-572 - 3/30-31/2009



ELEVATION

STATE PROJECT NUMBER

1133-09-71

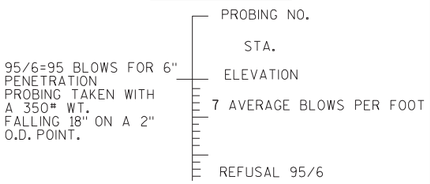
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

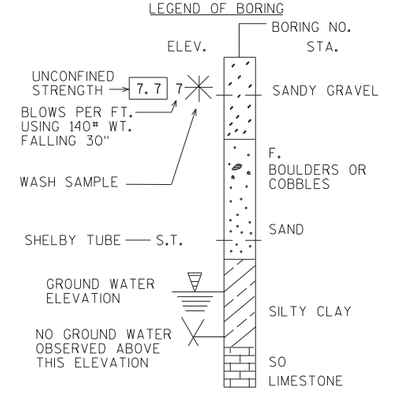
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

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SUBSURFACE EXPLORATION

SHEET 4 OF 25

FILE SCALE = 40:0 ' :" / IN.

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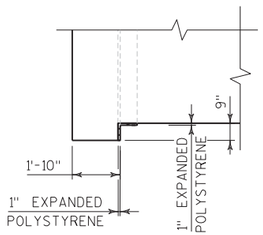
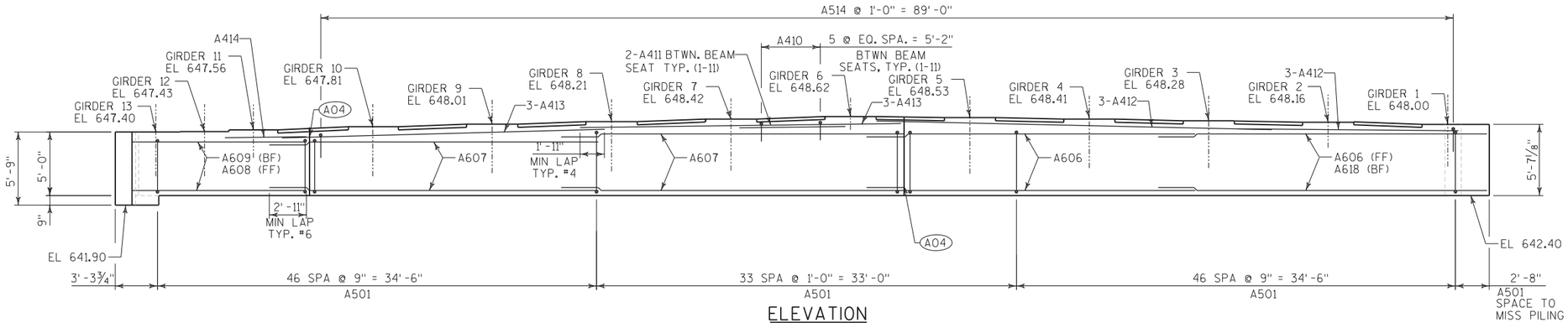
STATE PROJECT NUMBER

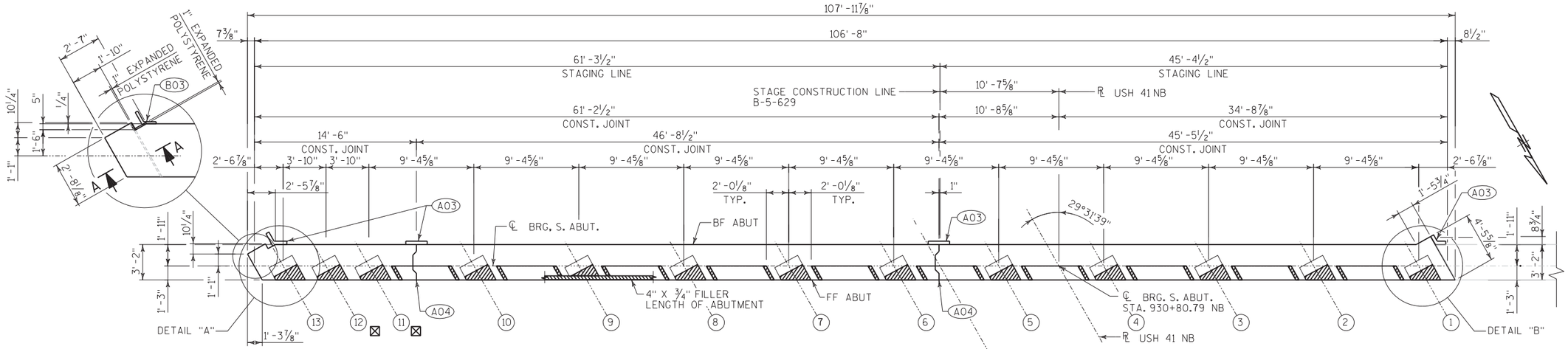
1133-09-71



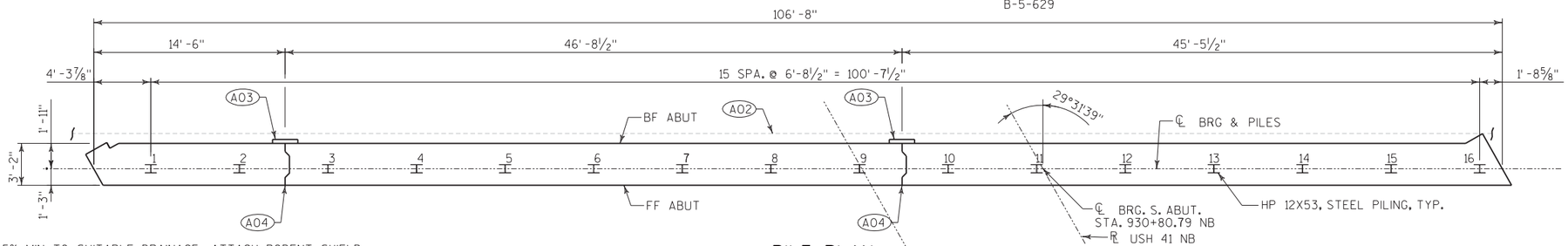
SECTION A-A



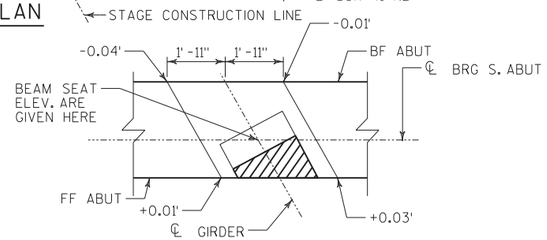
ELEVATION
(LOOKING SOUTH)



PLAN



PILE PLAN



⊠ SLOPED BEAM SEAT DETAIL
ONLY GIRDER 11 & 12, S. ABUT

LEGEND:

(A02) PIPE UNDERDRAIN, WRAPPED 6-INCH. SLOPE 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT END AND CAP UPPER END. THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THE DETAIL SHOWN ON SHEET 8. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS SHEET METAL SCREWS AND SHALL BE INCLUDED IN THE PIPE UNDER-DRAIN BID ITEM. SEE R-5-214 PLANS.

(A03) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACKFACE.

(A04) KEYED CONST JOINT FORMED BY BEVELED 2" X 8" WITH 3/4" V-GROOVE. SEE SHEET 8 FOR ALTERNATE CONSTRUCTION JOINT DETAIL.

(A05) 3/4" CORK FILLER ON VERT BEAM SEAT FACES THAT RUN PARALLEL TO GIRDER, TYP.

(A06) 1/2"X8"X2'-10" NON- LAMINATED ELASTIC BEARING PAD.

(A07) 3/4" PREFORMED FILLER (TYP.).

NOTES:

SEE SHEET 15 FOR BEARING DETAIL.

SEE SHEET 6 FOR DETAIL "A" AND "B".

SEE SHEET 6 FOR BILL OF BARS AND BENDING DIAGRAMS.

SEE SHEET 6 FOR PILE SPLICE DETAILS.

ABUTMENTS TO BE SUPPORTED ON HP 12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 90'-0" LONG.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

DRAWN BY TRW | PLANS CK'D. JFR

SOUTH ABUTMENT

SHEET 5 OF 25

FILE =
SCALE =

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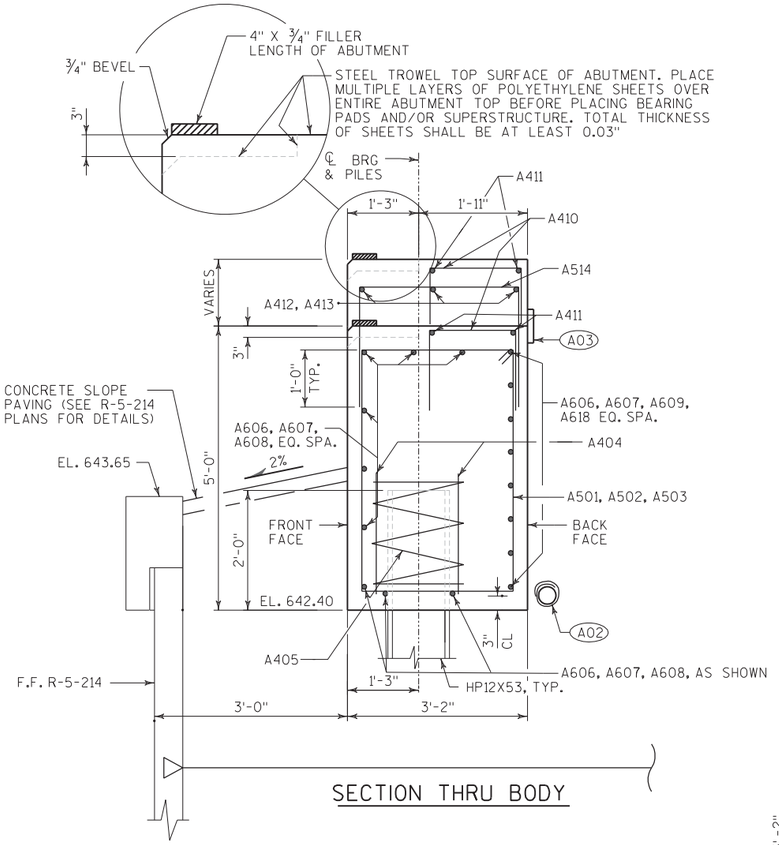
STATE PROJECT NUMBER

1133-09-71



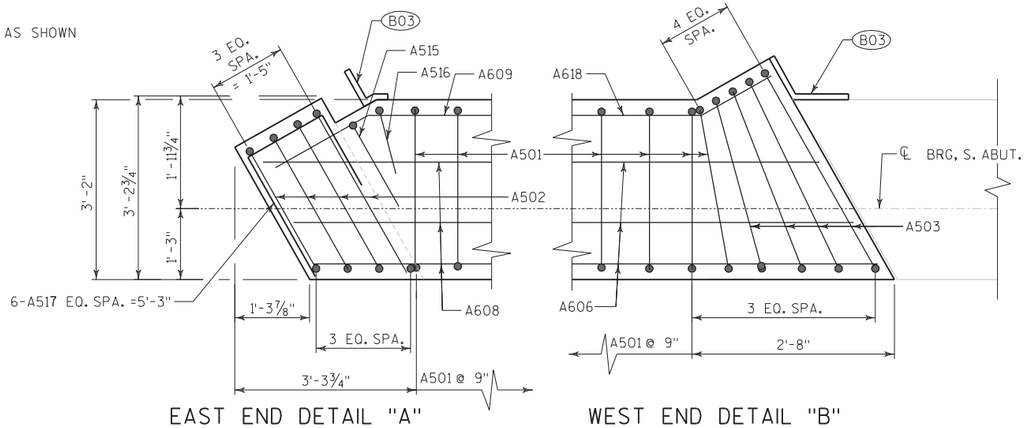
SECTION THRU BODY

BILL OF BARS

BAR MARK	COAT	NO REQ'D	LENGTH	BENT	BAR SERIES	LOCATION	
A501		126	14'-11"	X		ABUTMENT BODY STIRRUPS	VERTICAL
A502		4	16'-5"	X	▲	ABUTMENT BODY STIRRUPS @ EAST END	VERTICAL
A503		4	17'-4"	X	▲	ABUTMENT BODY STIRRUPS @ WEST END	VERTICAL
A404		32	2'-3"			ABUTMENT PILES - 2 PER PILE	VERTICAL
A405		16	28'-0"	X		ABUTMENT PILES - 1 PER PILE	VERTICAL
A606		26	25'-11"			ABUTMENT BODY	HORIZONTAL
A607		34	26'-10"			ABUTMENT BODY	HORIZONTAL
A608		9	13'-5"			ABUTMENT BODY - EAST END F.F.	HORIZONTAL
A609		8	13'-1"	X		ABUTMENT BODY - EAST END B.F.	HORIZONTAL
A410		50	5'-1"	X		ABUTMENT BODY - TOP BTWN SEATS 1-11	VERTICAL
A411		20	7'-5"			ABUTMENT BODY - BTWN SEATS 1-11	HORIZONTAL
A412		6	25'-1"			ABUTMENT BODY	HORIZONTAL
A413		6	23'-5"			ABUTMENT BODY	HORIZONTAL
A514		90	7'-11"	X		ABUTMENT BODY	HORIZONTAL
A515		1	7'-5"	X		ABUTMENT BODY - EAST END	VERTICAL
A516		1	6'-5"	X		ABUTMENT BODY - EAST END	VERTICAL
A517		6	5'-2"	X		ABUTMENT BODY - EAST END	HORIZONTAL
A618		8	24'-1"	X		ABUTMENT BODY - WEST END	HORIZONTAL

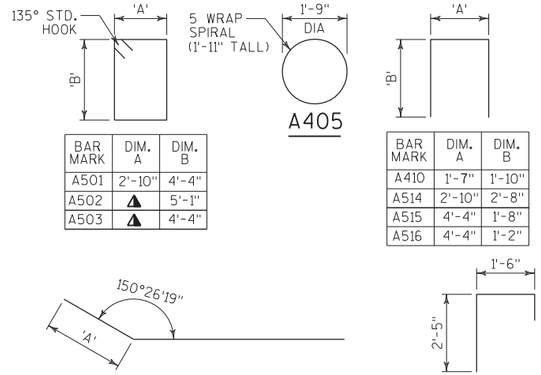
BAR SERIES ▲

BAR MARK	NO. REQ'D.	"A"	LENGTH	LOCATION
A502	1 SERIES OF 4	2'-5" TO 3'-3"	15'-7" TO 17'-5"	ABUTMENT EAST END
A503	1 SERIES OF 4	3'-1" TO 3'-11"	16'-5" TO 18'-1"	ABUTMENT WEST END



EAST END DETAIL "A"

WEST END DETAIL "B"



BAR MARK	DIM. A	DIM. B
A501	2'-10"	4'-4"
A502	▲	5'-1"
A503	▲	4'-4"

BAR MARK	DIM. A	DIM. B
A410	1'-7"	1'-10"
A514	2'-10"	2'-8"
A515	4'-4"	1'-8"
A516	4'-4"	1'-2"

BAR MARK	DIM. A
A609	1'-10"
A618	1'-4"

LEGEND

(A02) PIPE UNDERDRAIN, WRAPPED 6-INCH. SLOPE 0.5% MIN TO R-5-214 RISER CONNECTION. TIE ABUTMENT UNDERDRAIN TO APPROACH APRON FOOTING UNDERDRAINS AT ENDS. SEE R-5-214 PLANS.

(A03) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACKFACE.

NOTES

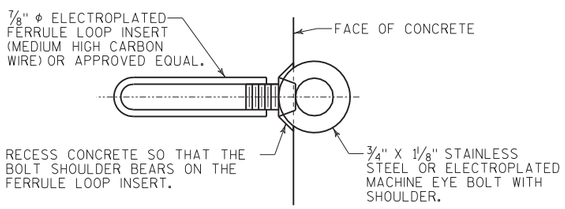
MASONRY ANCHORS TYPE S 3/4-INCH, MIN. PULLOUT CAPACITY OF 26 KIPS FOR ADHESIVE ANCHORS EMBEDDED A MIN. OF 7" IN CONCRETE.

SEE SHEET 5 FOR DETAIL "A" AND "B" LOCATION.

SEE SHEET 5 FOR ABUTMENT PLAN AND ELEVATION.

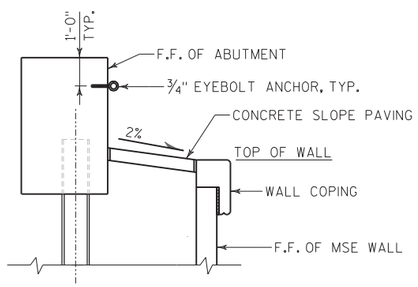
SEE SHEET 15 FOR BEARING PAD DETAIL.

SEE SHEET 8 FOR ALTERNATE CONST. JOINT DETAILS.

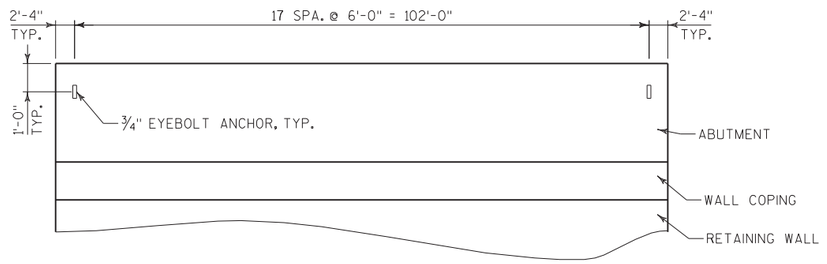


EYE BOLT DETAIL

ONE EYE BOLT AND ONE FERRULE LOOP INSERT TOGETHER COMPRISE A SINGLE UNIT TO BE PAID AS "MASONRY ANCHORS TYPE S ¾- INCH"



CROSS SECTION THRU ABUTMENT AT MSE WALL



FRONT VIEW OF ABUTMENT

FALL PROTECTION DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

DRAWN BY TRW | PLANS CK'D. JFR

SOUTH ABUTMENT DETAILS

SHEET 6 OF 25

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STATE PROJECT NUMBER

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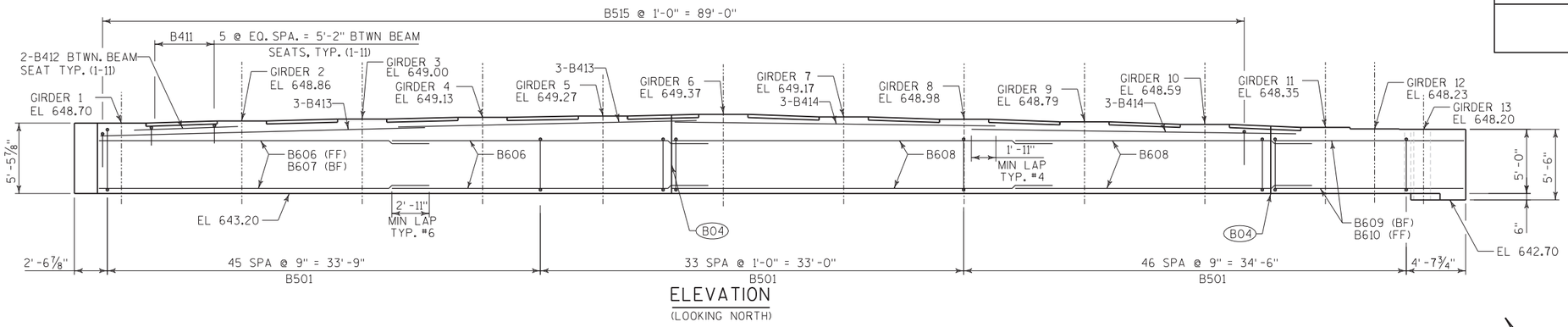
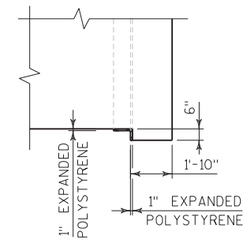
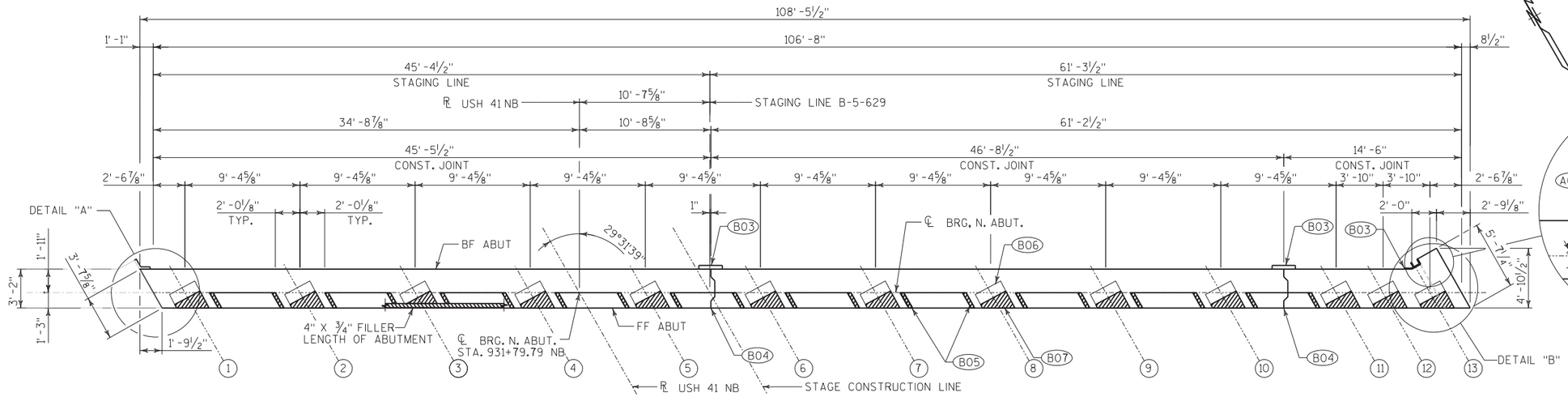


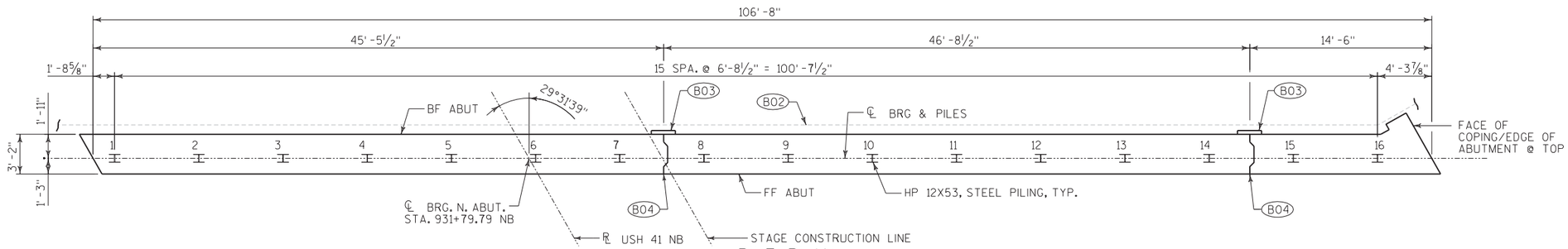
ELEVATION
(LOOKING NORTH)



SECTION A-A



PLAN



PILE PLAN

LEGEND:

(B02) PIPE UNDERDRAIN, WRAPPED 6-INCH. SLOPE 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT END AND CAP UPPER END. THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THE DETAIL SHOWN ON SHEET 8. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS SHEET METAL SCREWS AND SHALL BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH". SEE R-5-215 PLANS.

(B03) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACKFACE.

(B04) KEYED CONST JOINT FORMED BY BEVELED 2" X 8" WITH ¾" V-GROOVE. SEE SHEET 8 FOR ALTERNATE CONSTRUCTION JOINT DETAIL. RUN BAR STEEL THRU JOINT.

(B05) ¾" CORK FILLER UP VERT BEAM SEAT FACES THAT RUN PARALLEL TO GIRDER, TYP.

(B06) ½"x8"x2'-10" NON-LAMINATED ELASTIC BEARING PAD.

(B07) ¾" PREFORMED FILLER (TYP.).

NOTES:

SEE SHEET 15 FOR BEARING DETAIL.

SEE SHEET 8 FOR DETAIL "A" AND "B".

SEE SHEET 8 FOR BILL OF BARS AND BENDING DIAGRAMS.

SEE SHEET 8 FOR PILE SPLICE DETAILS.

ABUTMENTS TO BE SUPPORTED ON HP 12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 100'-0" LONG.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

DRAWN BY TRW | PLANS CK'D. MH

NORTH ABUTMENT

SHEET 7 OF 25

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STATE PROJECT NUMBER

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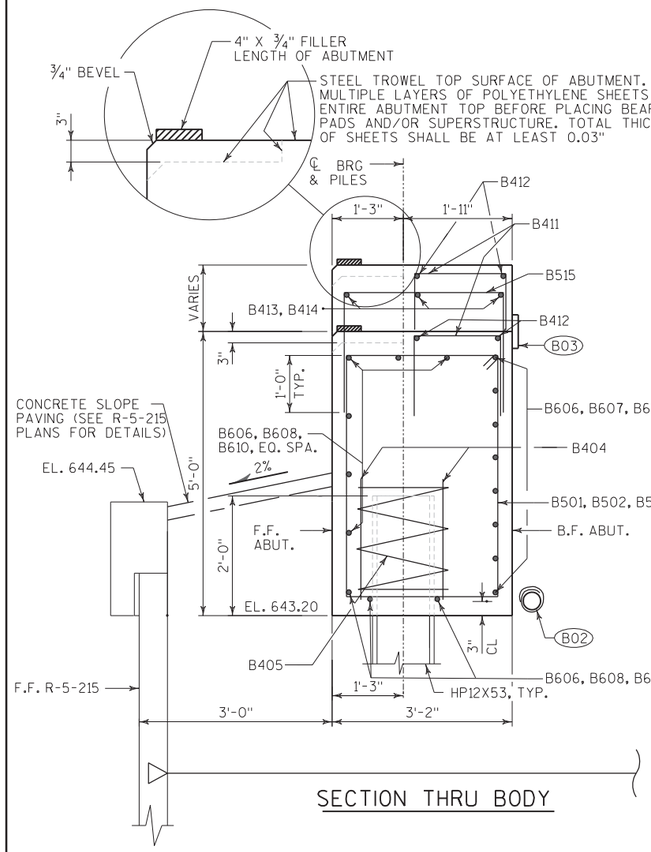
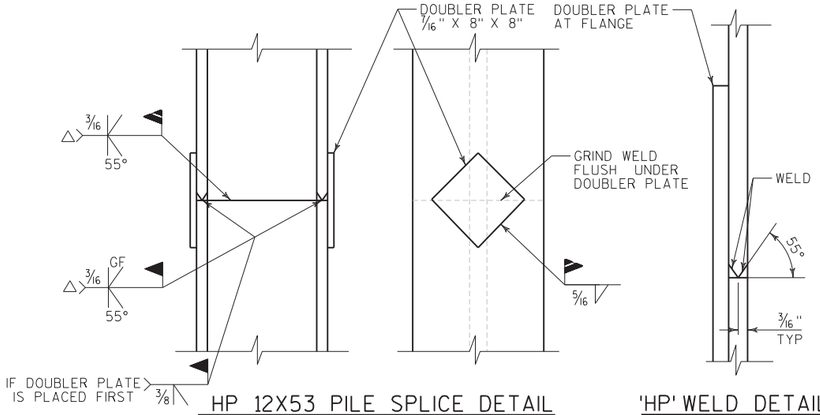


SECTION THRU BODY

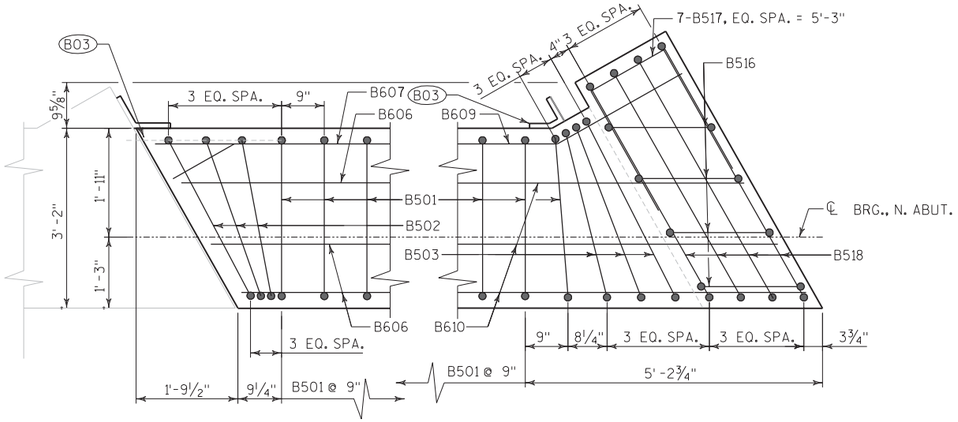


HP 12X53 PILE SPLICE DETAIL

△ SEE HP WELD DETAIL

'HP' WELD DETAIL

FLANGE SHOWN, WEB SIMILAR



WEST END DETAIL "A"

EAST END DETAIL "B"

LEGEND

- USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY ½" DEEP.
- DIMENSIONS ARE APPROXIMATE. GRATE TO BE SIZED TO FIT INTO A PIPE COUPLING. ORIENT SHIELD SO SLOTS ARE VERTICAL.
- (B02) PIPE UNDERDRAIN, WRAPPED 6-INCH. SLOPE 0.5% MIN TO R-5-215 RISER CONNECTION. TIE ABUTMENT UNDERDRAIN TO APPROACH APRON FOOTING UNDERDRAINS AT ENDS. SEE R-5-215 PLANS.
- (B03) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACKFACE.

NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

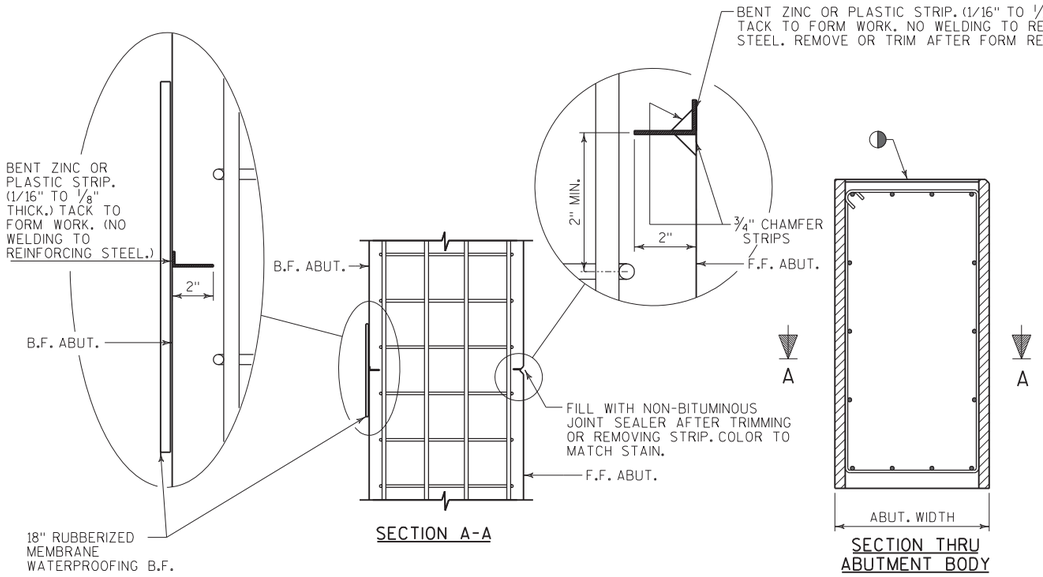
VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD AND TO ENSURE PROPER CONCRETE CONSOLIDATION.

SEE SHEET 7 FOR DETAIL "A" AND "B" LOCATION.

SEE SHEET 7 FOR ABUTMENT PLAN AND ELEVATION.

SEE SHEET 15 FOR BEARING PAD DETAIL.



SECTION A-A

SECTION THRU ABUTMENT BODY

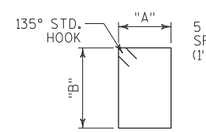
ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

BILL OF BARS

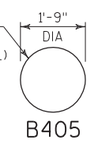
BAR MARK	COAT	NO REQ'D	LENGTH	BENT	BAR SERIES	LOCATION	
B501		125	14'-11"	X		ABUTMENT BODY STIRRUPS	VERTICAL
B502		3	14'-8"	X	◭	ABUTMENT BODY STIRRUPS @ WEST END	VERTICAL
B503		3	15'-9"	X	◭	ABUTMENT BODY STIRRUPS @ EAST END	VERTICAL
B404		32	2'-3"			ABUTMENT PILES - 2 PER PILE	VERTICAL
B405		16	28'-0"	X		ABUTMENT PILES - 1 PER PILE	VERTICAL
B606		26	25'-11"			ABUTMENT BODY - WEST END	HORIZONTAL
B607		8	26'-3"	X		ABUTMENT BODY - WEST END B.F.	HORIZONTAL
B608		34	26'-10"			ABUTMENT BODY	HORIZONTAL
B609		8	11'-7"	X		ABUTMENT BODY - EAST END	HORIZONTAL
B610		9	13'-7"			ABUTMENT BODY - EAST END B.F.	VERTICAL
B411		50	5'-1"	X		ABUTMENT BODY - TOP BTWN SEATS 1-11	HORIZONTAL
B412		20	7'-5"			ABUTMENT BODY - BTWN SEATS 1-11	HORIZONTAL
B413		6	24'-10"			ABUTMENT BODY	HORIZONTAL
B414		6	23'-4"			ABUTMENT BODY	VERTICAL
B515		90	7'-9"	X		ABUTMENT BODY	VERTICAL
B516		4	8'-11"	X		ABUTMENT BODY - EAST END	VERTICAL
B517		7	6'-0"	X		ABUTMENT BODY - EAST END	HORIZONTAL
B618		4	20'-5"	X	◭	ABUTMENT BODY - EAST END	HORIZONTAL

BAR SERIES ◭

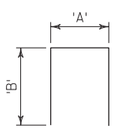
BAR MARK	NO. REQ'D.	"A"	LENGTH	LOCATION
B502	1 SERIES OF 3	2'-6" TO 2'-11"	14'-3" TO 15'-1"	ABUTMENT WEST END
B503	1 SERIES OF 3	3'-0" TO 3'-6"	15'-3" TO 16'-3"	ABUTMENT EAST END
B518	1 SERIES OF 4	4'-4" TO 5'-2"	19'-7" TO 21'-3"	ABUTMENT EAST END



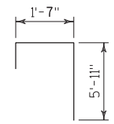
BAR MARK	DIM. A	DIM. B
B501	2'-10"	4'-4"
B502	◭	4'-4"
B503	◭	4'-4"
B518	◭	5'-2"



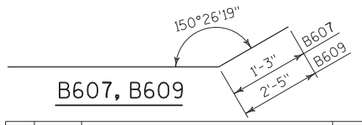
B405



BAR MARK	DIM. A	DIM. B
B411	1'-7"	1'-10"
B515	2'-10"	2'-7"
B517	1'-5"	2'-5"



B516



B607, B609

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

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NORTH ABUTMENT DETAILS

SHEET 8 OF 25

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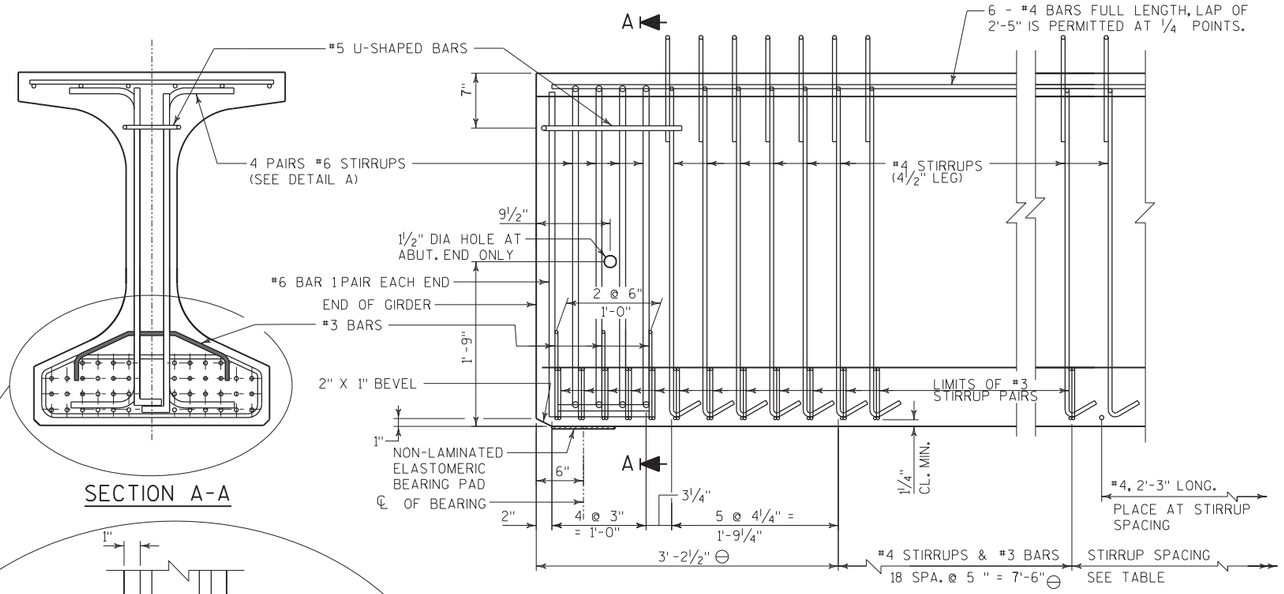
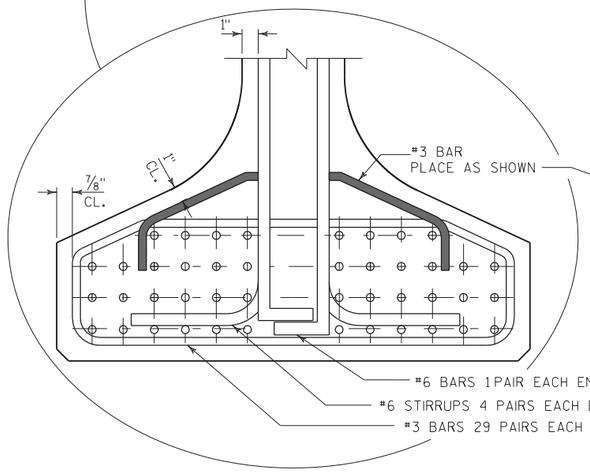
STATE PROJECT NUMBER

1133-09-71



SECTION A-A



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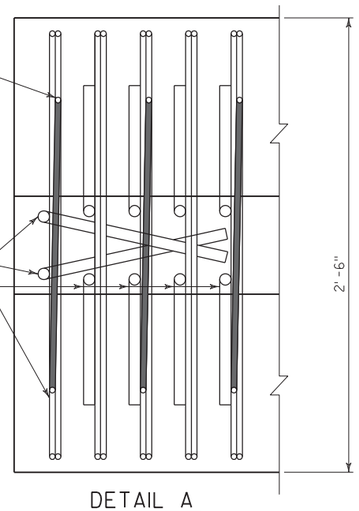


DETAIL A
BOTTOM FLANGE

GIRDER NOTES

THE GIRDERS SHALL BE PROVED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, THE FOLLOWING OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT CHIEF. (608)266-5161.

ALL ITEMS SHOWN SHALL BE INCLUDED IN THE BID ITEM "PRESTRESSED GIRDER TYPE I 45W-INCH."

⊖ DETAIL TYPICAL AT EACH END

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

GIRDER DATA

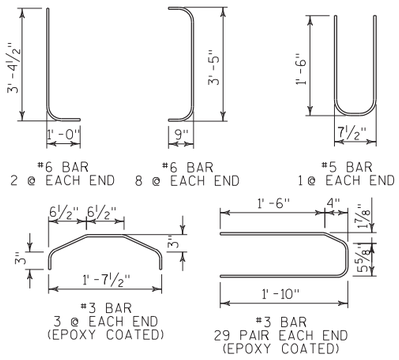
GIRDER NO.	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	CONC. STRGTH. f'c (P.S.I.)	"P"	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"
1	100'-0"	0.5"	1.1"	1.4"	1.7"	1.7"	8000	7"	0.6	34	6800	40	13 3/4"	16 3/4"	5
2-10	100'-0"	0.7"	1.3"	1.7"	2.0"	2.2"	8000	7"	0.6	34	6800	40	13 3/4"	16 3/4"	5
11	100'-0"	0.5"	1.0"	1.3"	1.5"	1.6"	8000	7"	0.6	34	6800	40	13 3/4"	16 3/4"	5
12	100'-0"	0.3"	0.6"	0.9"	1.0"	1.1"	8000	7"	0.6	34	6800	40	13 3/4"	16 3/4"	5
13	100'-0"	0.5"	1.0"	1.4"	1.6"	1.7"	8000	7"	0.6	34	6800	40	13 3/4"	16 3/4"	5

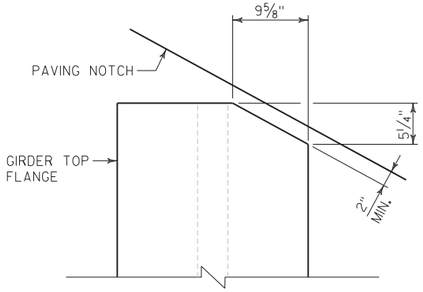
* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

STIRRUP SPACING

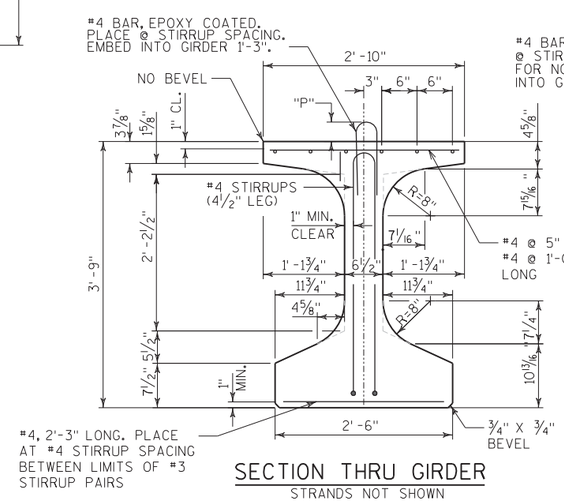
LOCATION	BAR SIZE	SPACING
FROM END TO 10'-8 1/2"	AS SHOWN	AS SHOWN
FROM 10'-8 1/2" TO 89'-3 1/2"	#4	12"

SPACING IS SYMMETRIC ABOUT MIDSPAN OF GIRDER

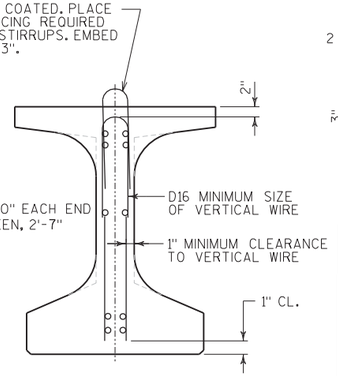




FORM OUT TOP FLANGE DETAIL @ ABUTMENT ENDS



SECTION THRU GIRDER
STRANDS NOT SHOWN



SECTION THRU GIRDER
SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

DRAWN BY TRW | PLANS CK'D. JFR

45W" PRESTRESSED GIRDER - 1

SHEET 9 OF 25

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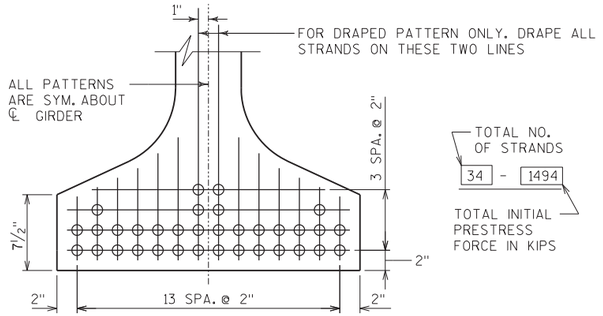
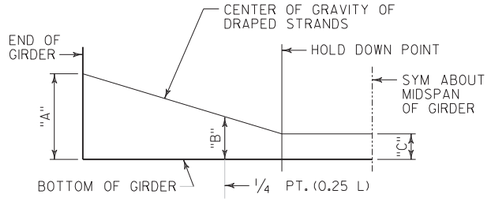
STATE PROJECT NUMBER

1133-09-71

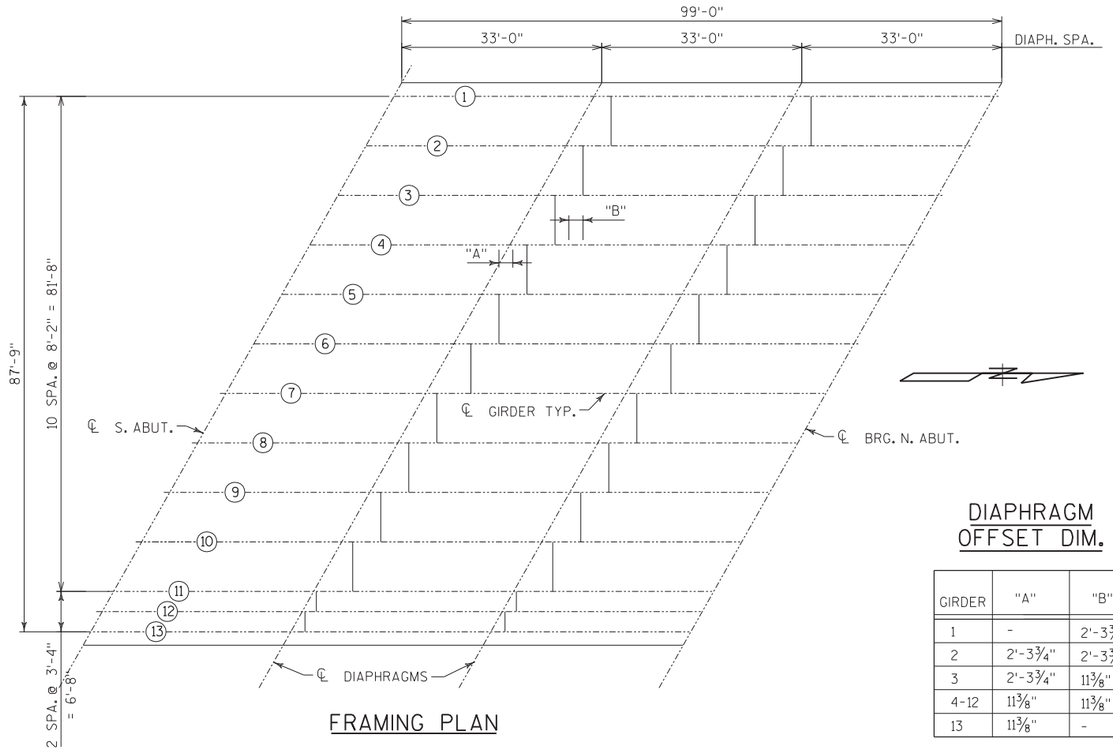


TYP. STRAND PATTERN

0.6" DIA. STRANDS



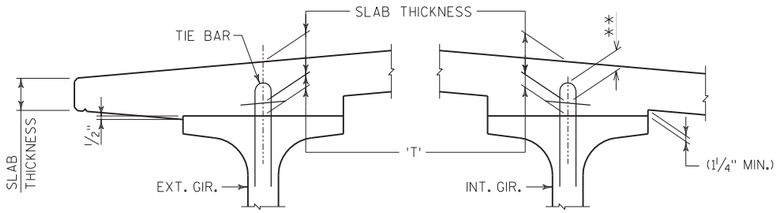
DRAPED STRAND PROFILE



FRAMING PLAN

DIAPHRAGM OFFSET DIM.

GIRDER	"A"	"B"
1	-	2'-3 3/4"
2	2'-3 3/4"	2'-3 3/4"
3	2'-3 3/4"	11 3/8"
4-12	11 3/8"	11 3/8"
13	11 3/8"	-



SLAB HAUNCH DETAIL

IF 1 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

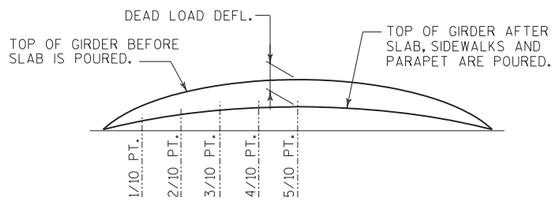
TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	3.5

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



DEAD LOAD DEFLECTION DIAGRAM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

DRAWN BY TRW | PLANS CK'D. JFR

45W" PRESTRESSED GIRDER - 2

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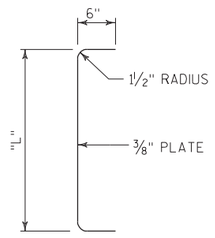
STATE PROJECT NUMBER

1133-09-71

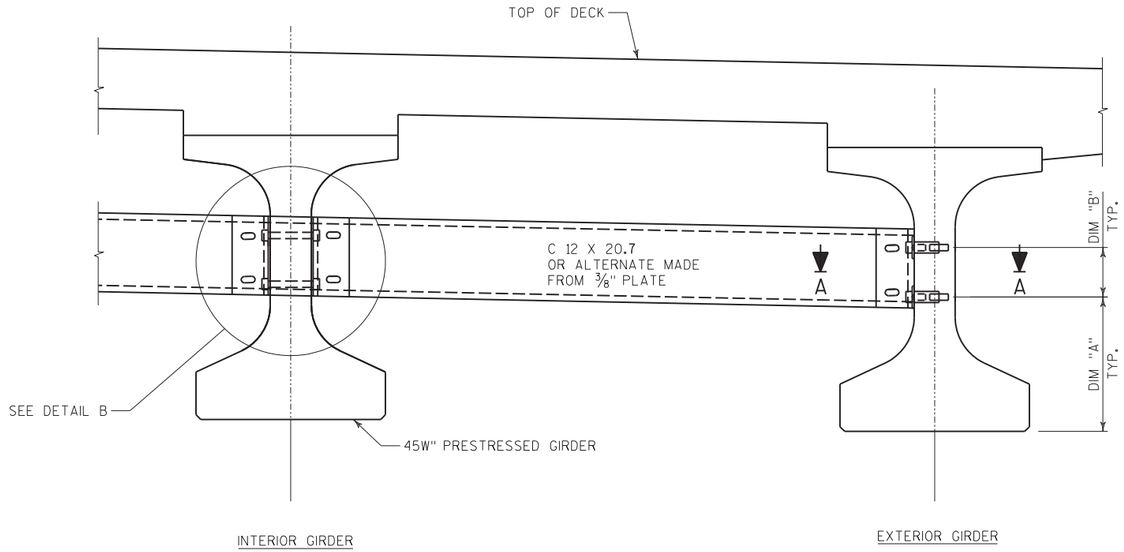
TABLE

GIRDER HEIGHT	DIM "A"	DIM "B"	DIM "L"	* DIM "X"
45W"	1'-9 1/8"	8 7/8"	1'-0 1/2"	2 3/4"

* DIM "X" = 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM.



SECTION THRU ALTERNATE DIAPHRAGM



PART TRANSVERSE SECTION AT DIAPHRAGM

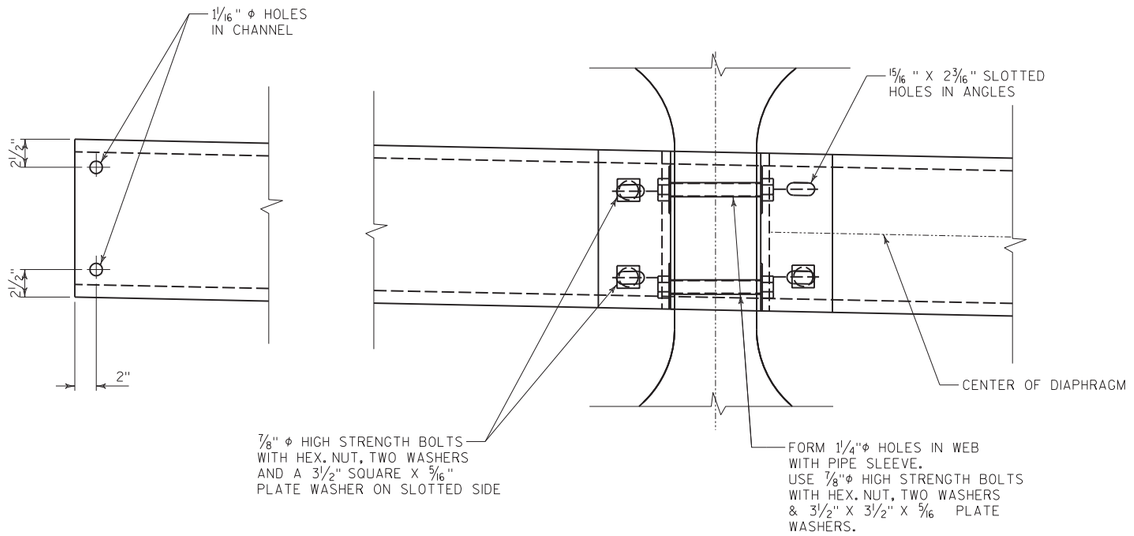
NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-5-629", EACH.

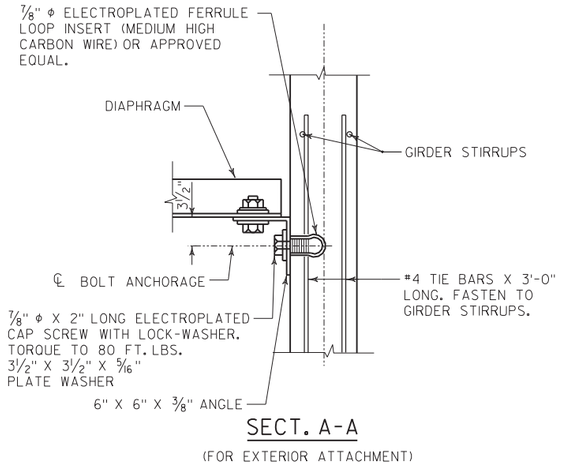
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

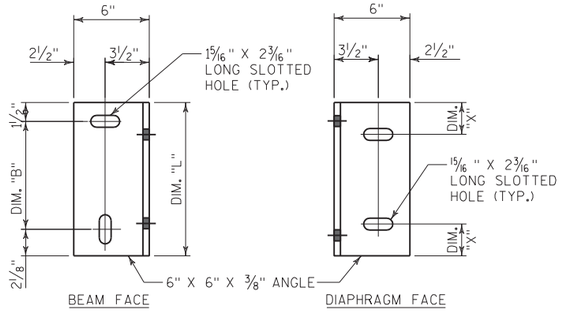


DETAIL B



SECT. A-A

(FOR EXTERIOR ATTACHMENT)



DIAPHRAGM SUPPORT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

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STEEL DIAPHRAGM

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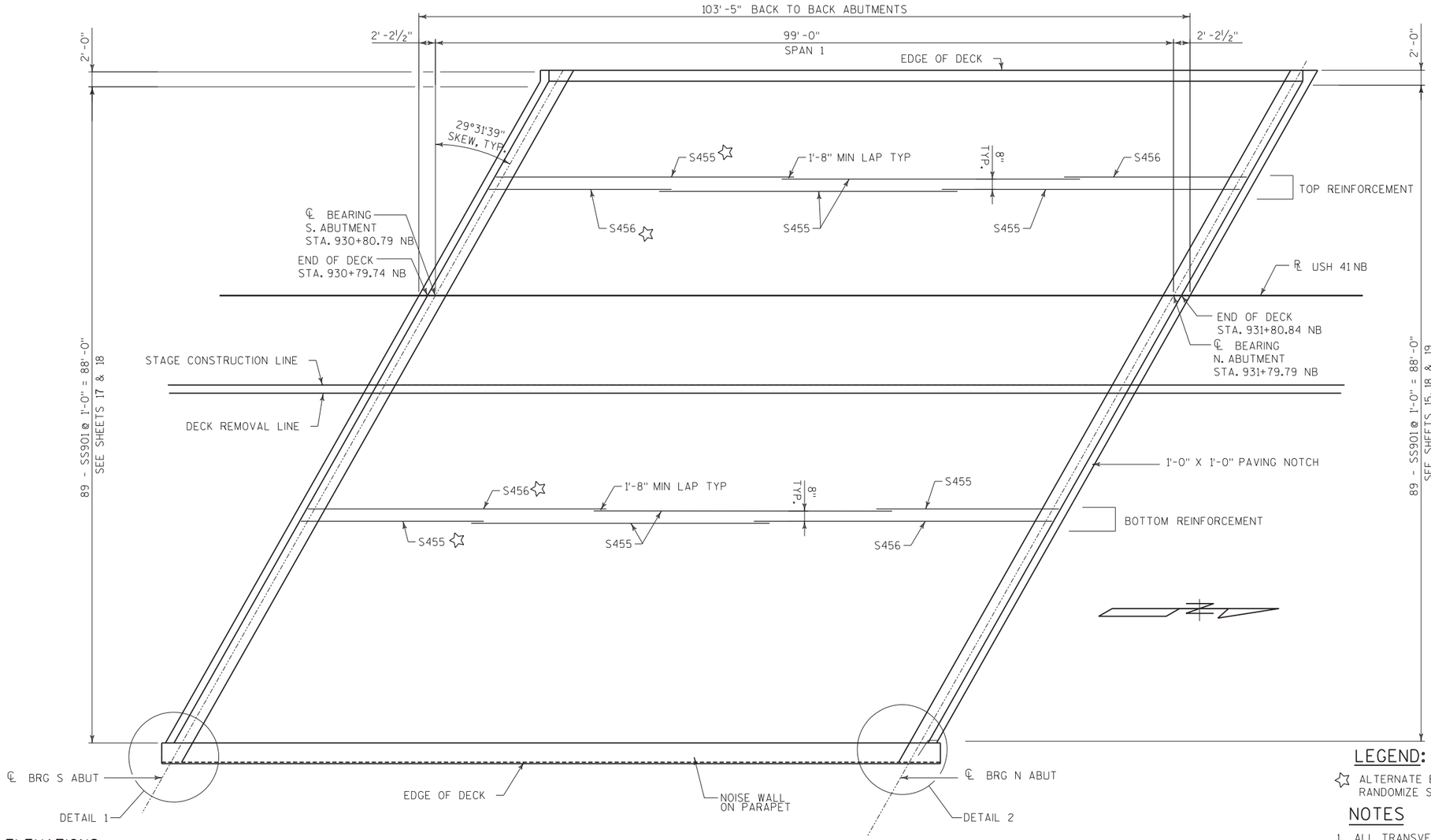
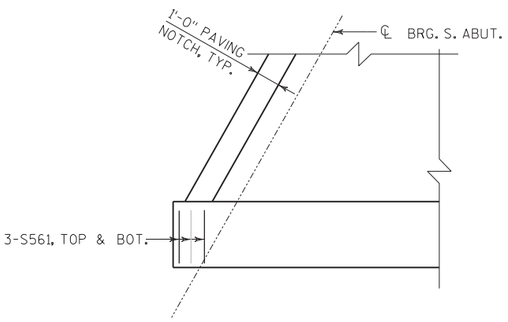
STATE PROJECT NUMBER

1133-090-72

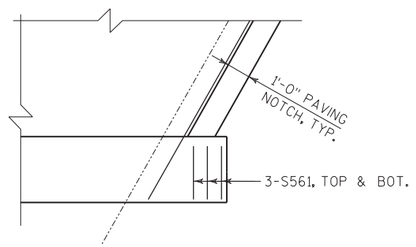


TOP OF DECK ELEVATIONS

LOCATION	S. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	N. ABUT.
FF PARAPET	652.78	652.86	652.93	653.01	653.08	653.15	653.22	653.29	653.35	653.42	653.48
G1	652.79	652.87	652.95	653.02	653.09	653.16	653.23	653.30	653.36	653.43	653.49
G2	652.92	653.00	653.07	653.15	653.22	653.29	653.36	653.43	653.50	653.56	653.62
G3	653.04	653.12	653.20	653.28	653.35	653.42	653.50	653.56	653.63	653.70	653.76
G4	653.17	653.25	653.33	653.40	653.48	653.55	653.63	653.70	653.76	653.83	653.89
PLG USH 41 NB	653.22	653.30	653.38	653.46	653.54	653.61	653.68	653.75	653.82	653.89	653.95
G5	653.29	653.37	653.45	653.53	653.61	653.68	653.76	653.83	653.90	653.96	654.03
Crown	653.40	653.48	653.57	653.65	653.72	653.80	653.87	653.94	654.01	654.08	654.15
G6	653.38	653.46	653.55	653.63	653.70	653.78	653.85	653.92	653.99	654.06	654.13
G7	653.18	653.26	653.34	653.42	653.50	653.58	653.65	653.73	653.80	653.87	653.93
G8	652.97	653.06	653.14	653.22	653.30	653.38	653.46	653.53	653.60	653.67	653.74
G9	652.77	652.86	652.94	653.02	653.10	653.18	653.26	653.33	653.41	653.48	653.54
G10	652.56	652.65	652.74	652.82	652.90	652.98	653.06	653.13	653.21	653.28	653.35
G11	652.36	652.45	652.53	652.62	652.70	652.78	652.86	652.94	653.01	653.08	653.15
G12	652.28	652.36	652.45	652.54	652.62	652.70	652.78	652.86	652.93	653.00	653.07
FF PARAPET	652.20	652.29	652.38	652.46	652.55	652.63	652.71	652.78	652.86	652.93	653.00
G13	652.20	652.29	652.38	652.46	652.54	652.63	652.70	652.78	652.86	652.93	653.00



DETAIL 1



DETAIL 2

LEGEND:

☆ ALTERNATE BARS S455 & S456 AS SHOWN TO RANDOMIZE SPLICE LOCATION.

NOTES

1. ALL TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED PERPENDICULAR TO THE GIRDERS. SEE SHEET 13.
2. THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.
3. THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

DRAWN BY | PLANS CK'D. JFR

SUPERSTRUCTURE PLAN

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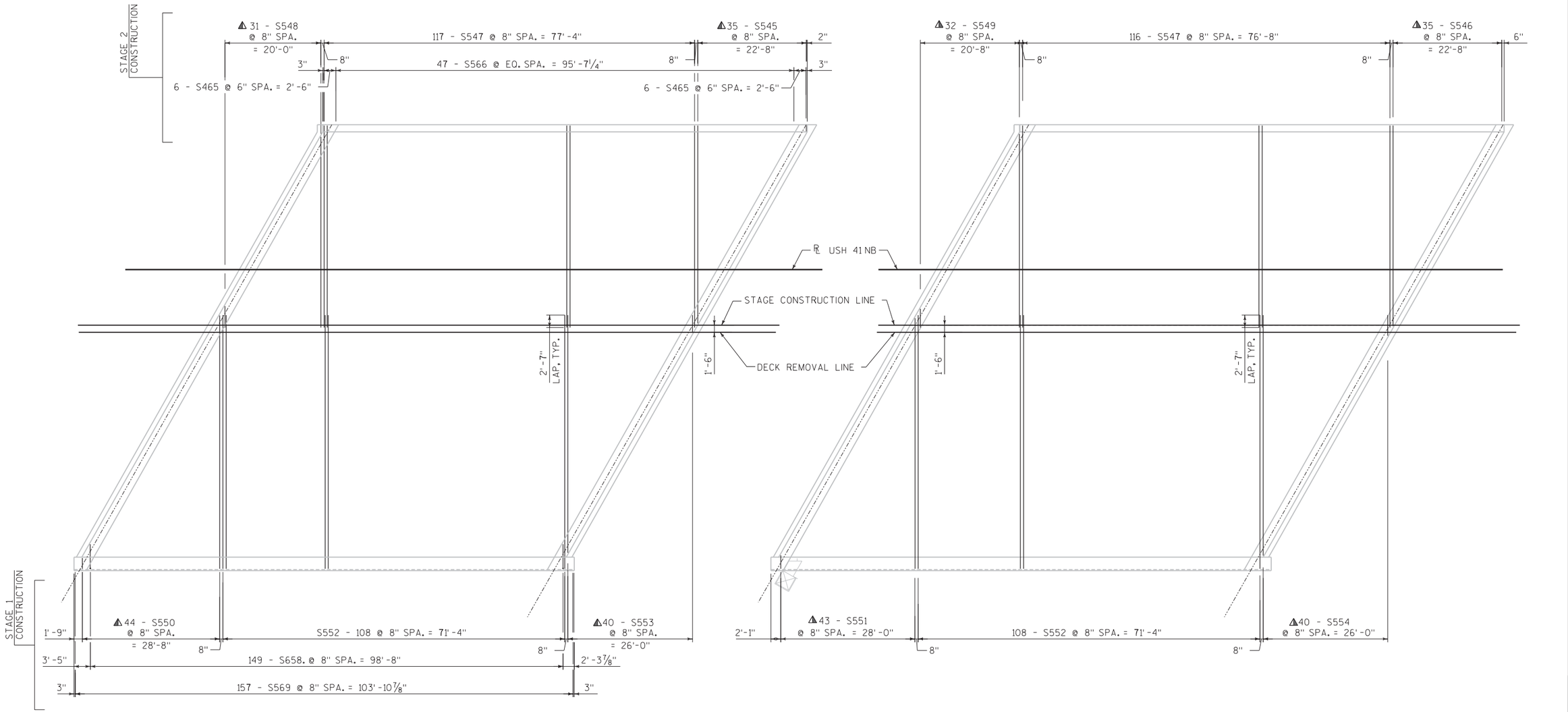
SCALE = 16:0 " : " / IN.

STATE PROJECT NUMBER
1133-090-72



TOP TRANSVERSE REINFORCEMENT

BOTTOM TRANSVERSE REINFORCEMENT

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LEGEND:

⚠ BAR SERIES, SEE REINFORCEMENT TABLE ON SHEET 14 FOR LENGTHS.

NOTES

1. ALL TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED PERPENDICULAR TO THE GIRDERS.
2. THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.
3. THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS. (SEE SHEET 12)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

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TRANSVERSE SUPERSTRUCTURE REINFORCEMENT

SHEET 13 OF 25

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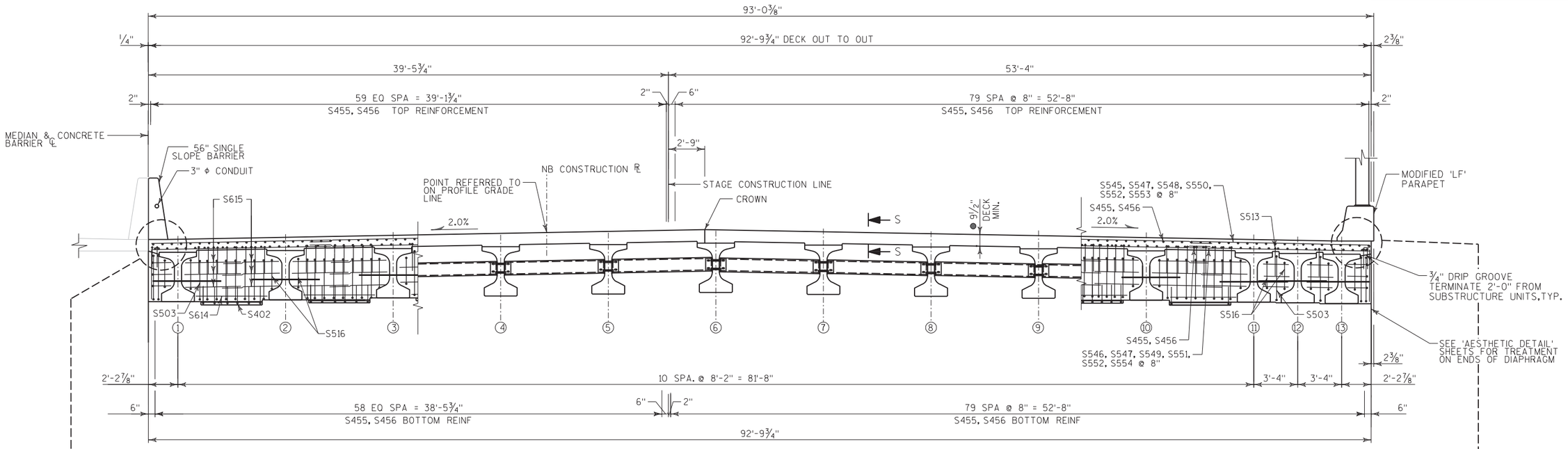
STATE PROJECT NUMBER
1133-09-71



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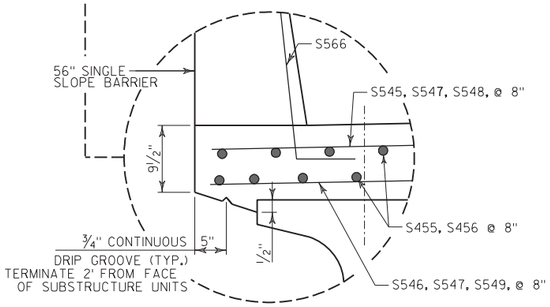
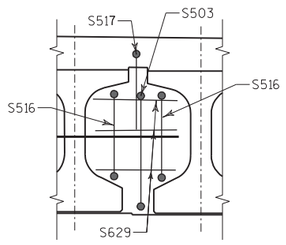
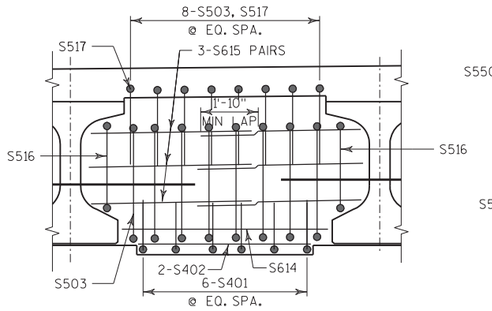
CROSS SECTION THRU ROADWAY

(LOOKING NORTH)





TYP. SECTION BTWN BEAMS 11-13



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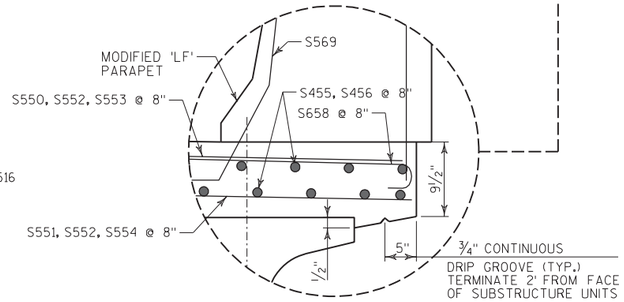
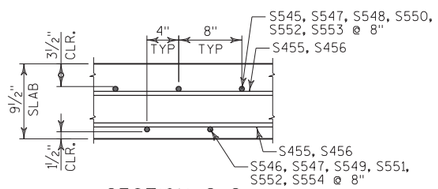


ABUTMENT DIAPHRAGM DETAILS

(SEE SHT. 16 FOR DIAPHRAGM END DETAILS)



SECTION S-S

LEGEND

- 9 1/2" DECK THICKNESS INCLUDES A 1 1/2" SACRIFICIAL WEARING SURFACE PLACED INTEGRAL WITH THE DECK AT INITIAL CONSTRUCTION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

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SUPERSTRUCTURE CROSS SECTION

SHEET 14 OF 25

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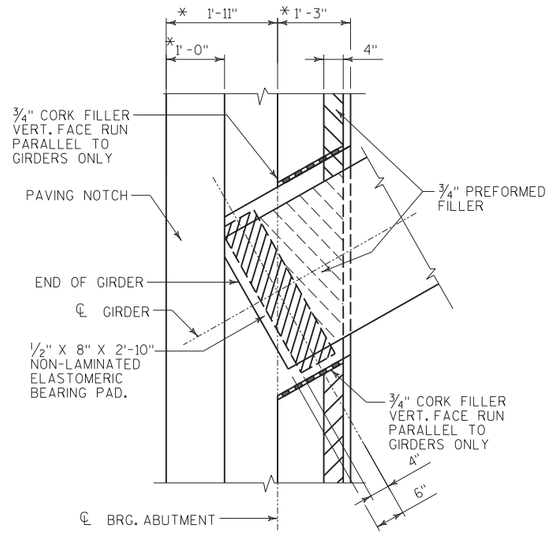
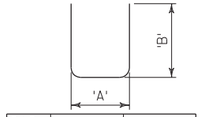
STATE PROJECT NUMBER

1133-09-71

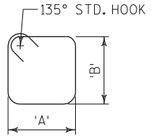


AT ABUTMENTS

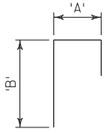
BEARING PAD DETAILS



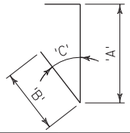
BAR MARK	DIM. 'A'	DIM. 'B'
S401	1'-0"	1'-4"
S517	2'-1"	2'-0"
S518	2'-11"	1'-8"
S519	1'-5"	2'-0"
S521	2'-7"	2'-0"
S671	2'-1"	1'-0"



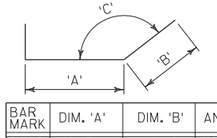
BAR MARK	DIM. 'A'	DIM. 'B'
S503	3'-3"	2'-11"
S510	2'-5"	3'-8"
S511	2'-8"	3'-8"
S516	3'-3"	2'-2"
S522	2'-6"	3'-8"
S523	2'-10"	3'-8"
S527	4'-10"	3'-8"
S528	5'-2"	3'-8"
S472	1'-4"	1'-6"



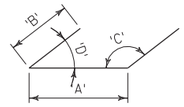
BAR MARK	DIM. 'A'	DIM. 'B'
S508	1'-5"	2'-5"
S526	1'-5"	4'-0"



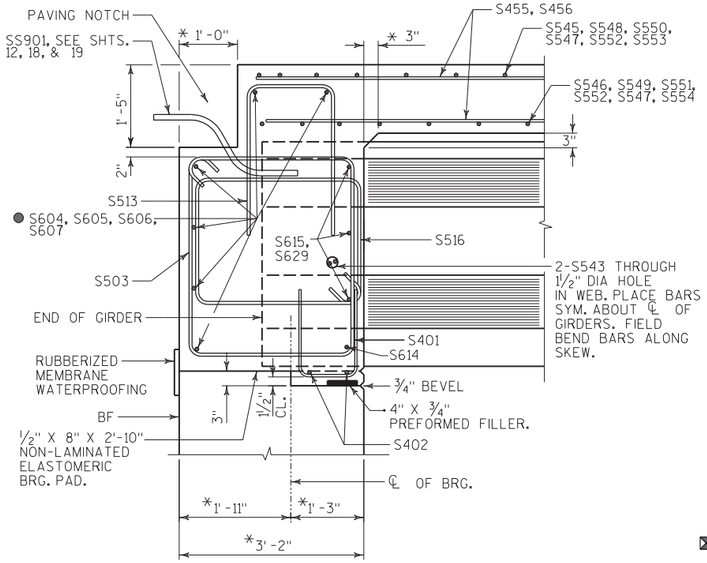
BAR MARK	DIM. 'A'	DIM. 'B'	ANGLE 'C'
S523	4'-0"	9"	60°28'21"
S624	4'-0"	1'-10"	60°28'21"



BAR MARK	DIM. 'A'	DIM. 'B'	ANGLE 'C'
S609	2'-5"	1'-10"	119° 31' 39"

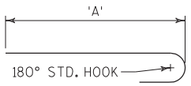


BAR MARK	DIM. 'A'	DIM. 'B'	ANGLE 'C'	ANGLE 'D'
S512	3'-3"	9"	119° 31' 39"	60° 28' 21"
S613	3'-3"	1'-10"	119° 31' 39"	60° 28' 21"
S525	3'-3"	1'-10"	119° 31' 39"	60° 28' 21"

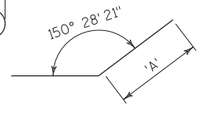


DIAPHRAGM AT ABUTMENTS PART LONGITUDINAL SECTION

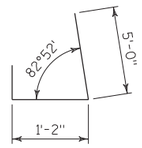
(BETWEEN GIRDERS, TYP.)



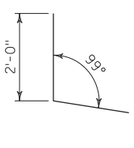
BAR MARK	DIM. 'A'
S658	5'-1"



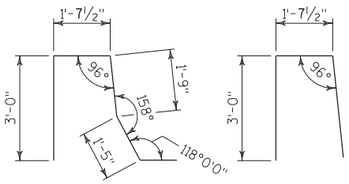
BAR MARK	DIM. 'A'
S606	1'-4"
S607	2'-0"



S465

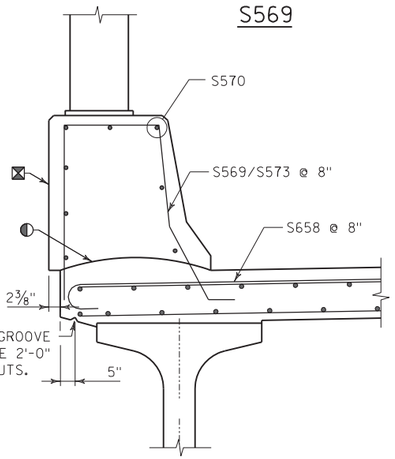


S566



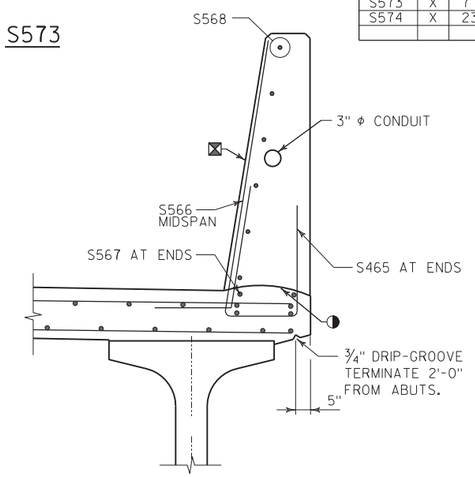
S569

S573



SECTION THRU MODIFIED "LF" PARAPET

(SEE SHEET 21 FOR REINFORCEMENT DETAILS)



SECTION THRU 56" SINGLE SLOPE BARRIER

(SEE SHEET 20 FOR REINFORCEMENT DETAILS)

LEGEND

* DIMENSIONS ARE NORMAL TO ℄ OF SUBSTRUCTURE UNITS

● LAP BARS 3'-1" MIN.

◐ HORIZ. CONSTRUCTION JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH

⊠ CONSTRUCTION JOINTS REQUIRED IN BARRIERS. RUN BAR STEEL THROUGH JOINTS. MAX. JOINT SPACING = 27'-0". DEFINE JOINT USING ¾" TROWELED V-GROOVE ON TOP AND BOTH FACES. SPACE JOINTS UNIFORMLY.

NOTES

ALL VERTICAL BAR STEEL REINFORCMENT IN CONCRETE DIAPHRAGMS SHALL BE PLACED PARALLEL TO THE GIRDERS.

SLAB AND ABUT. DIAPHS. TO BE PLACED TOGETHER. NO JOINT ALLOWED BETWEEN.

BILL OF BARS

BAR MARK	COAT	NO.	LENGTH	BENT	BAR SERIES	LOCATION	
S401	X	120	3'-6"	X		ABUT DIAPHRAGM @ NOTCH	VERTICAL
S402	X	40	5'-0"	-		ABUT DIAPHRAGM @ NOTCH	HORIZONTAL
S503	X	166	12'-11"	X		ABUT DIAPHRAGM -N&S STIRRUPS	VERTICAL
S604	X	132	12'-4"	-		ABUT DIAPHRAGM	HORIZONTAL
S605	X	2	4'-7"	-		ABUT DIAPHRAGM -SW/NW TOP END	HORIZONTAL
S606	X	9	5'-1"	X		ABUT DIAPHRAGM -SE/NE	HORIZONTAL
S607	X	6	4'-5"	X		ABUT DIAPHRAGM - SW/NW	HORIZONTAL
S508	X	4	5'-1"	X		ABUT DIAPHRAGM - SE	HORIZONTAL
S609	X	3	5'-4"	X		ABUT DIAPHRAGM - SE	HORIZONTAL
S510	X	1	12'-7"	X		ABUT DIAPHRAGM - SE	VERTICAL
S511	X	1	13'-3"	X		ABUT DIAPHRAGM - SE	VERTICAL
S512	X	1	5'-7"	X		ABUT DIAPHRAGM - SW	HORIZONTAL
S613	X	6	6'-7"	X		ABUT DIAPHRAGM - SW/NE	HORIZONTAL
S614	X	20	6'-1"	-		ABUT DIAPHRAGM - N&S FF BTWN 1 TO 11	HORIZONTAL
S615	X	120	5'-2"	-		ABUT DIAPHRAGM - N&S FF BTWN 1 TO 11	HORIZONTAL
S516	X	52	11'-5"	X		ABUT DIAPHRAGM - 2 PER GIRDER	VERTICAL
S517	X	170	5'-10"	X		ABUT DIAPHRAGM - N&S	VERTICAL
S518	X	3	6'-0"	X		ABUT DIAPHRAGM - NW	VERTICAL
S519	X	1	5'-3"	X		ABUT DIAPHRAGM - NW	VERTICAL
S420	X	10	4'-5"	-		ABUT DIAPHRAGM - ENDS	VERTICAL
S521	X	1	5'-4"	X		ABUT DIAPHRAGM - NW	VERTICAL
S522	X	1	12'-11"	X		ABUT DIAPHRAGM - NW	VERTICAL
S523	X	1	13'-7"	X		ABUT DIAPHRAGM - NW	VERTICAL
S624	X	3	5'-5"	X		ABUT DIAPHRAGM - NW	HORIZONTAL
S525	X	1	4'-2"	X		ABUT DIAPHRAGM - NW	HORIZONTAL
S526	X	4	6'-8"	X		ABUT DIAPHRAGM - NE	HORIZONTAL
S527	X	1	17'-7"	X		ABUT DIAPHRAGM - NE	VERTICAL
S528	X	1	18'-3"	X		ABUT DIAPHRAGM - NE	VERTICAL
S629	X	12	2'-10"	-		ABUT DIAPHRAGM - N&S FF BTWN 11 TO 13	HORIZONTAL
-	-	-	-	-		-	-
S543	X	52	6'-0"	-		ABUT DIAPHRAM - THRU GIRDERS	HORIZONTAL
-	-	-	-	-		-	-
S545	X	35	21'-4"	-	◭	SLAB - NW EDGE, TOP	TRANSVERSE
S546	X	35	21'-11"	-	◭	SLAB - NW EDGE BOTT	TRANSVERSE
S547	X	233	42'-2"	-		SLAB - WEST EDGE, TOP & BOTT	TRANSVERSE
S548	X	31	22'-9"	-	◭	SLAB - SW TOP	TRANSVERSE
S549	X	32	22'-2"	-	◭	SLAB - SW, BOTT	TRANSVERSE
S550	X	44	27'-2"	-	◭	SLAB - SE EDGE, TOP	TRANSVERSE
S551	X	43	27'-7"	-	◭	SLAB - SE EDGE, BOTT	TRANSVERSE
S552	X	216	52'-11"	-		SLAB - EAST EDGE, TOP & BOTT	TRANSVERSE
S553	X	40	26'-8"	-	◭	SLAB - NE EDGE, TOP	TRANSVERSE
S554	X	40	27'-3"	-	◭	SLAB - NE BOTT	TRANSVERSE
S455	X	556	40'-0"	-		SLAB - TOP & BOTT	LONGITUDINAL
S456	X	278	27'-5"	-		SLAB - TOP & BOTT	LONGITUDINAL
-	-	-	-	-		-	-
S658	X	149	5'-11"	X		SLAB - WEST EDGE	TRANSVERSE
-	-	-	-	-		-	-
S561	X	12	2'-3"	-		SLAB - SW & NW ENDS, TOP	TRANSVERSE
-	-	-	-	-		-	-
S465	X	12	8'-2"	X		PARAPET - WEST EDGE	VERTICAL
S566	X	47	3'-3"	X		PARAPET - WEST EDGE	VERTICAL
S567	X	8	5'-0"	-		PARAPET - WEST EDGE	HORIZONTAL
S568	X	24	27'-4"	-		PARAPET - WEST EDGE	HORIZONTAL
S569	X	150	8'-3"	X		PARAPET - EAST EDGE	VERTICAL
S570	X	32	28'-3"	-		PARAPET - EAST EDGE	HORIZONTAL
S671	X	88	3'-9"	X		PARAPET - EAST EDGE NOISE WALL ANCHOR	VERTICAL
S472	X	44	6'-2"	X		PARAPET - EAST EDGE NOISE WALL ANCHOR	VERTICAL
S573	X	7	7'-5"	X		PARAPET - EAST EDGE ENDS	VERTICAL
S574	X	23	4'-4"	-		PARAPET - WEST EDGE	VERTICAL

BAR SERIES ◭

MARK	NO. REQ'D	LENGTH	LOCATION
S545	1 SERIES OF 35	1'-3" TO 41'-4"	SLAB - NW TOP
S546	1 SERIES OF 35	1'-10" TO 41'-10"	SLAB - NW BOTT
S548	1 SERIES OF 31	4'-6" TO 41'-0"	SLAB - SW TOP
S549	1 SERIES OF 32	3'-11" TO 40'-5"	SLAB - SW BOTT
S550	1 SERIES OF 44	2'-3" TO 52'-10"	SLAB - SE TOP
S551	1 SERIES OF 43	2'-10" TO 52'-3"	SLAB - SE BOTT
S553	1 SERIES OF 40	3'-8" TO 49'-7"	SLAB - NE TOP
S554	1 SERIES OF 40	4'-3" TO 50'-2"	SLAB - NE BOTT

BUNDLE AND TAG EACH SERIES SEPARATELY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

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SUPERSTRUCTURE DETAILS

SHEET 15 OF 25

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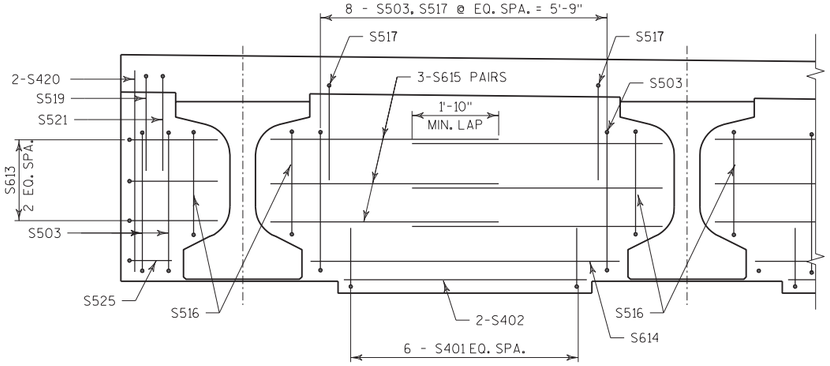
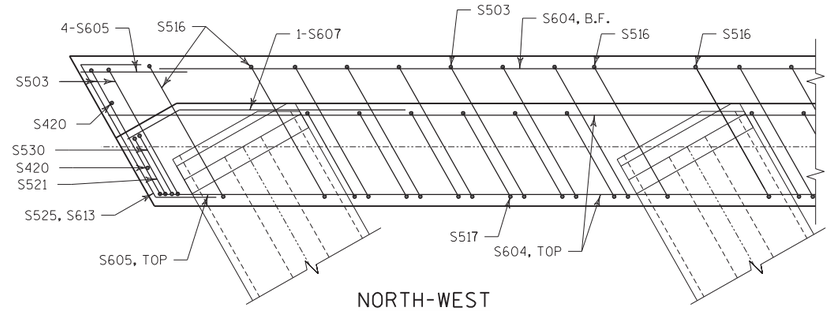
STATE PROJECT NUMBER

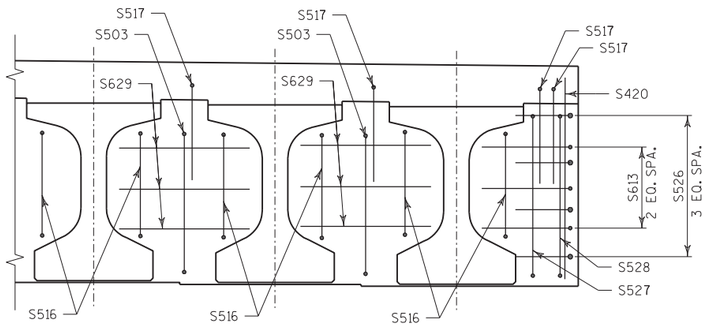
1133-09-71

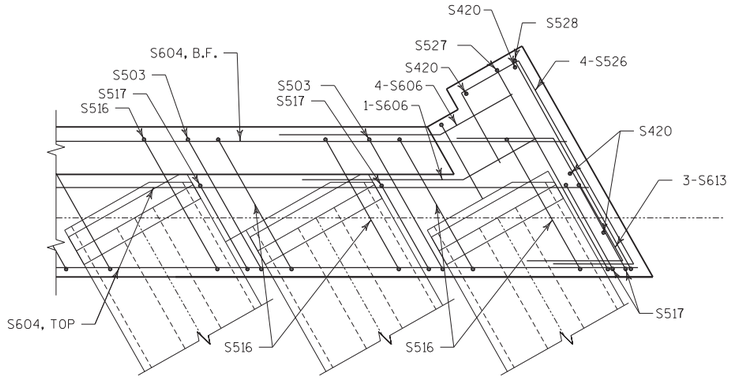




NORTH-WEST

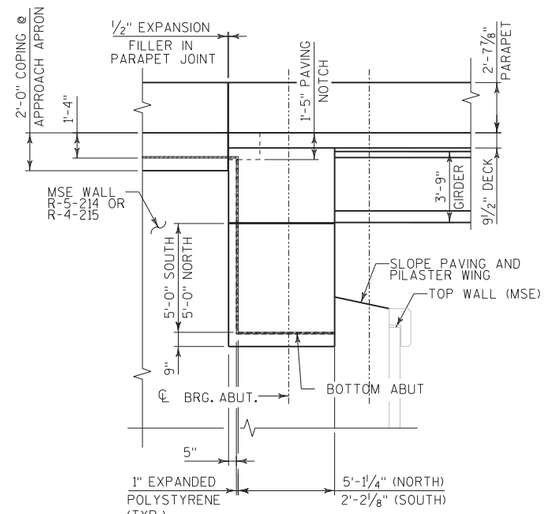
(LOOKING NORTH)





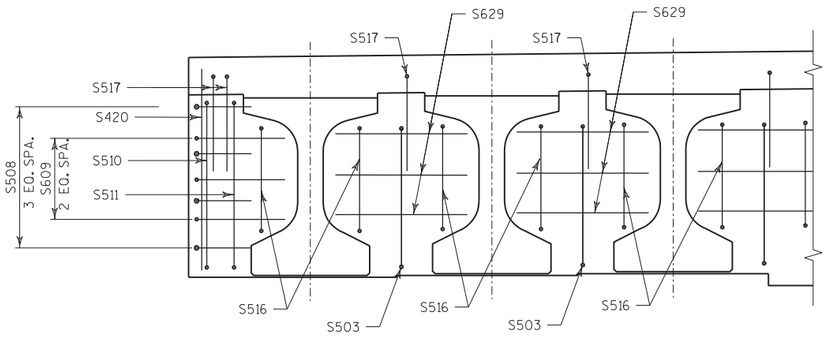
NORTH-EAST

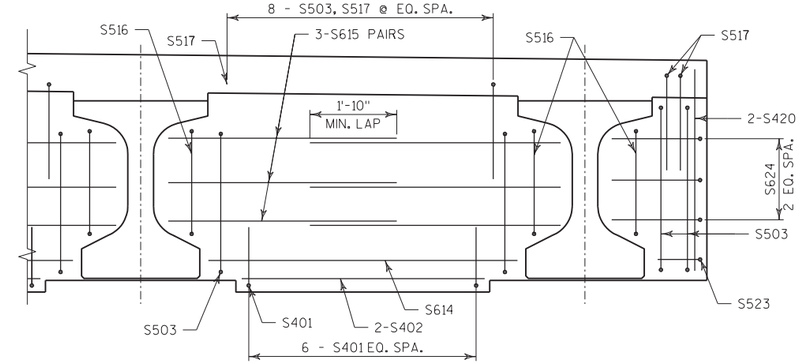
(LOOKING NORTH)

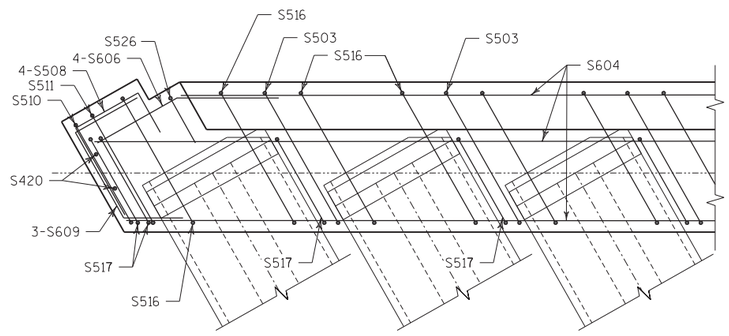


END VIEW AT ABUTMENT DIAPHARGM

(TYPICAL AT WEST EDGE OF BRIDGE, 2 LOCATIONS.)
LOOKING NORMAL TO USH 41 ℄

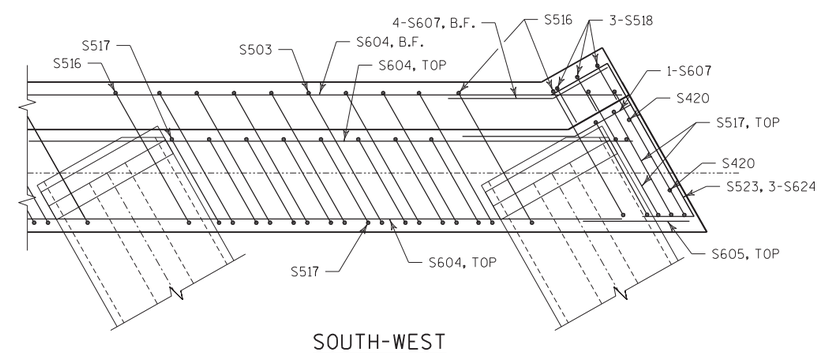






SOUTH-EAST

(LOOKING SOUTH)



SOUTH-WEST

(LOOKING SOUTH)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

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ABUTMENT DIAPHRAGM DETAILS

SHEET 16 OF 25

FILE=

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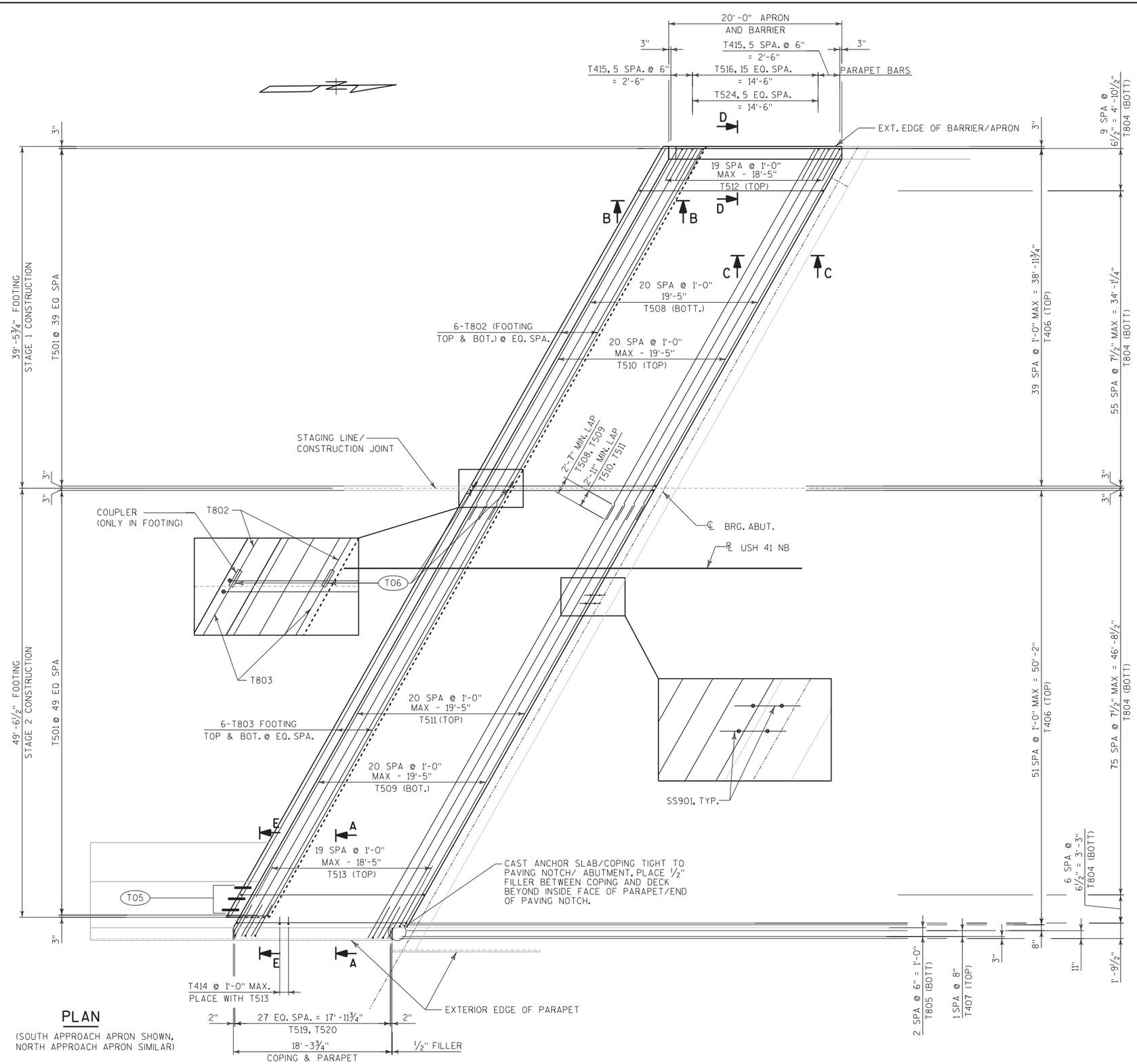
STATE PROJECT NUMBER

1133-09-71



PLAN

(SOUTH APPROACH APRON SHOWN, NORTH APPROACH APRON SIMILAR)

DESIGN DATA:

ALLOWABLE SOIL BEARING PRESSURE:	2,000 P.S.F.
CONCRETE STRENGTH f'c:	4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60, fy:	60,000 P.S.I.

NOTES AND LEGEND:

(T05) PLACE (3) -¾" ϕ (SMOOTH) DOWEL BARS, 1'-6" LONG BTWN. SEGMENTS, AT APPROACH PANEL INTERFACE WITH ANCHOR SLABS EMBEDDED 9", SPACE EQUALLY, 6" MIN. CLEAR FROM EDGE, 1'-6" MIN. SPACING. USE APPROVED DEBONDER ON ½ OF BAR LENGTH. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. COST OF ITEMS ARE INCLUDED IN BID ITEM "CONCRETE MASONRY RETAINING WALLS." SEE R-05-214/215 PLANS. (SEE SHEET 18.)

(T06) # 8 BAR COUPLER TO BE USED IN FOOTING SEE DETAIL ON SHT. 19.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

DRAWN BY TRW | PLANS CK'D. JFR

APPROACH APRON

SHEET 17 OF 25

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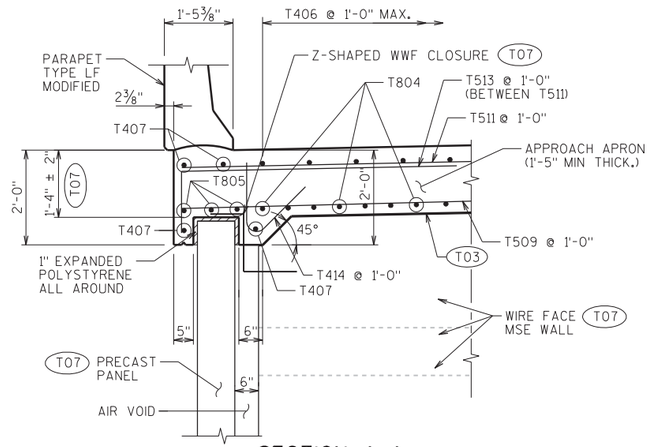
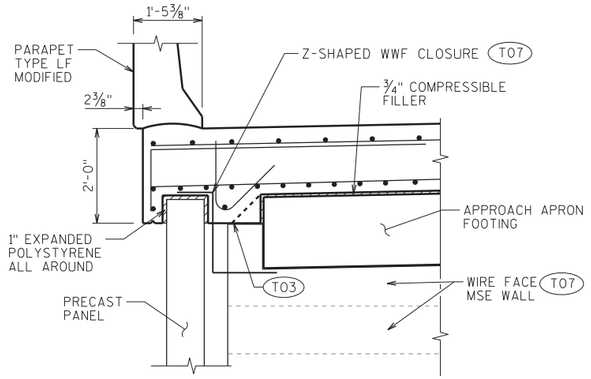


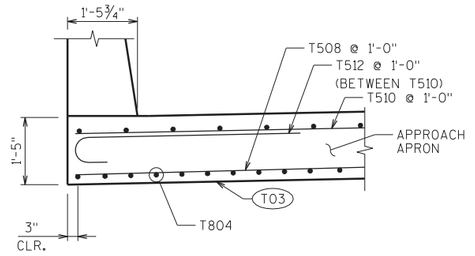
SECTION A-A

(AT MSE WINGWALLS)

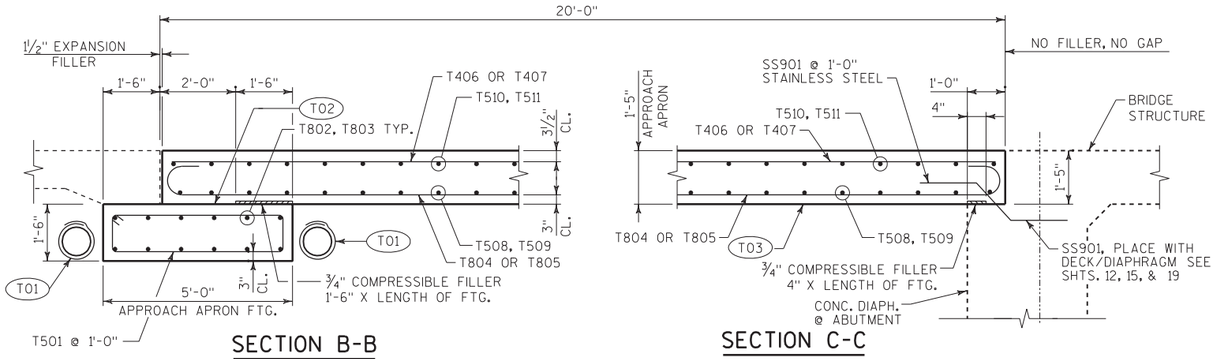


SECTION E-E

(AT MSE WINGWALLS)



SECTION D-D



SECTION B-B

SECTION C-C

TRANSVERSE SECTION THRU APPROACH APRON

NOTES AND LEGEND:

- (T01) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SCREEN REQUIRED.
- (T02) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.
- (T03) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.
- (T07) SEE R-05-214/215 PLANS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

DRAWN BY TRW | PLANS CK'D. JFR

APPROACH APRON DETAILS-1

SHEET 18 OF 25

FILE =

SCALE =

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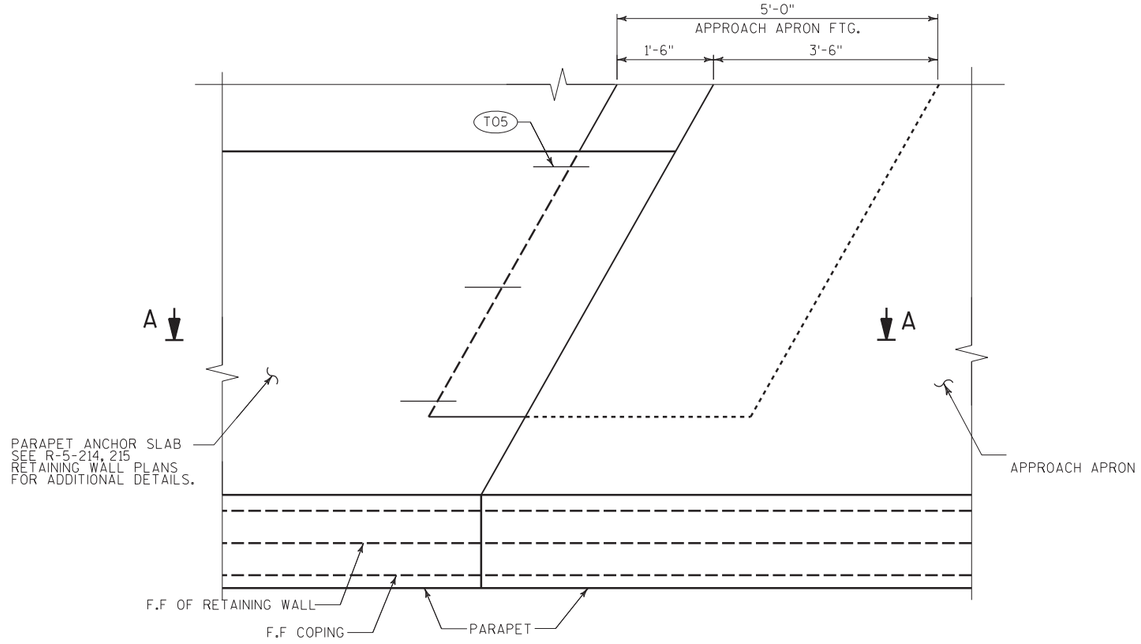
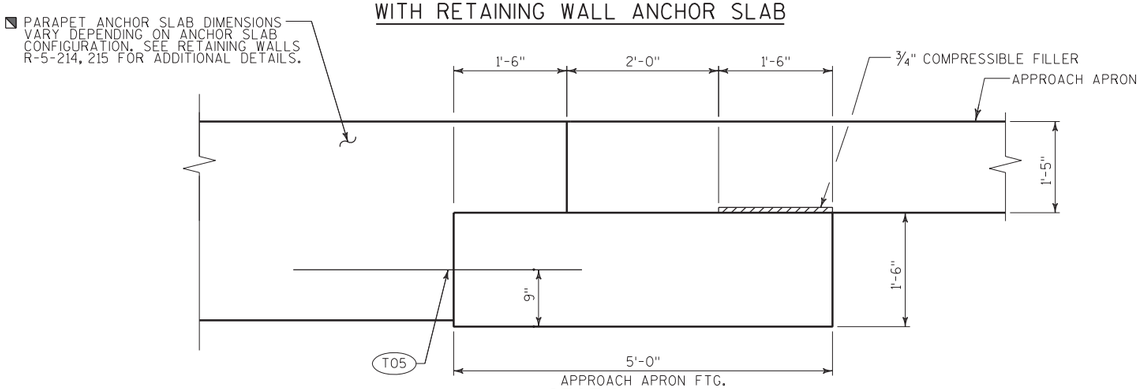
STATE PROJECT NUMBER

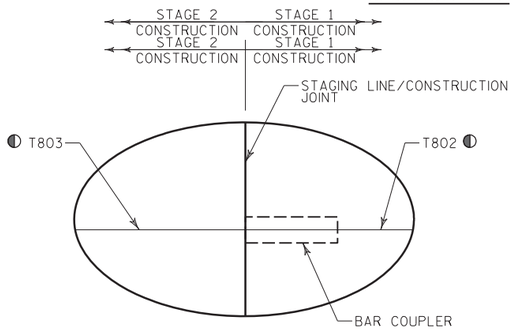
1133-09-71



PLAN AT APPROACH APRON INTERFACE WITH RETAINING WALL ANCHOR SLAB



SECTION A-A



BAR COUPLER DETAILS

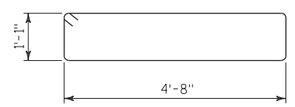
◐ BAR LENGTH HAS BEEN COMPUTED TO ℄ OF VERTICAL CONSTRUCTION JOINT AND SHALL BE MODIFIED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.

(T05) PLACE (3) -¾" Φ (SMOOTH) DOWEL BARS, 1'-6" LONG BTWN. SEGMENTS, AND AT APPROACH PANEL INTERFACE EMBEDDED 9", SPACE EQUALLY, 6" MIN. CLEAR FROM EDGE, 1'-6" MIN. SPACING. USE APPROVED DEBONDER ON ½ OF BAR LENGTH. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. COST OF ITEMS ARE INCLUDED IN BID ITEM "CONCRETE MASONRY RETAINING WALLS." SEE R-05-214/215 PLANS.

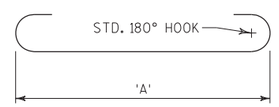
BILL OF BARS

BAR MARK	COAT	NO. REQ'D. S. APRON	NO. REQ'D. N. APRON	LENGTH	BENT	LOCATION	
T501	X	90	90	12'-1"	X	FOOTING - STIRRUPS	VERTICAL
T802	X	12	12	45'-1"		FOOTING - TOP & BOTT, WEST END	HORIZONTAL
T803	X	12	12	56'-8"		FOOTING - TOP & BOTT, EAST END	HORIZONTAL
T804	X	147	147	21'-4"	X	APPROACH APRON - LONGIT. BOTT.	HORIZONTAL
T805	X	3	3	19'-8"	X	APPROACH APRON - LONGIT. EAST EDGE	HORIZONTAL
T406	X	92	92	19'-6"		APPROACH APRON - LONGIT. TOP	HORIZONTAL
T407	X	4	4	17'-10"		APPROACH APRON - LONGIT. TOP EAST EDGE	HORIZONTAL
T508	X	21	21	49'-11"		APPROACH APRON - TRANS. WEST BOTT	HORIZONTAL
T509	X	21	21	57'-3"		APPROACH APRON - TRANS. EAST BOTT	HORIZONTAL
T510	X	21	21	50'-3"		APPROACH APRON - TRANS. WEST TOP	HORIZONTAL
T511	X	21	21	57'-3"		APPROACH APRON - TRANS. EAST TOP	HORIZONTAL
T512	X	20	20	5'-4"	X	APPROACH APRON - TRANS. TOP WEST END	HORIZONTAL
T513	X	20	20	6'-2"	X	APPROACH APRON - TRANS. TOP EAST END	HORIZONTAL
T414	X	20	20	3'-0"	X	APPROACH APRON - TRANS. EAST EDGE	VERTICAL
T415	X	12	12	8'-2"	X	WEST PARAPET	VERTICAL
T516	X	14	14	2'-9"	X	WEST PARAPET	VERTICAL
T517	X	6	6	19'-6"		WEST PARAPET	HORIZONTAL
T518	X	8	8	5'-0"		WEST PARAPET - IN ANCHOR SLAB	HORIZONTAL
T519	X	28	28	5'-8"	X	EAST PARAPET	VERTICAL
T520	X	28	28	4'-10"	X	EAST PARAPET	VERTICAL
T521	X	5	5	17'-11"		EAST PARAPET	HORIZONTAL
T422	X	32	32	1'-8"	X	EAST PARAPET - AT NOISE BARRIER ANCHOR	
T423	X	8	8	3'-3"	X	EAST PARAPET - AT NOISE BARRIER ANCHOR	
T524	X	4	4	4'-4"		WEST PARAPET	VERTICAL

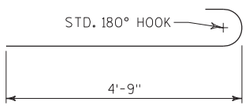
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE. ALL DIMENSIONS IN THE BAR BENDS ARE OUT TO OUT.



T501

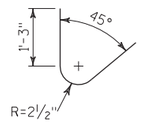


BAR MARK	DIM. 'A'
T804	19'-6"
T805	17'-10"

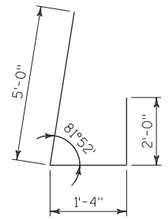


T512

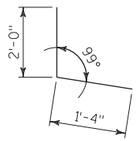
T513



T414



T415



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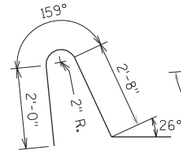

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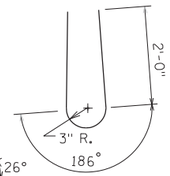

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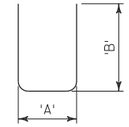
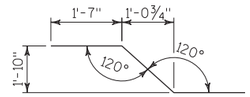


BAR MARK	DIM. 'A'	DIM. 'B'
T422	6"	8"
T423	5"	1'-6"



SS901

STAINLESS STEEL BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
SS901		178	5'-0"	X	CONC. DIAPH. @ ABUTS TO APPROACH APRON

NOTE:

SEE PARAPET DETAILS SHEET 22.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

DRAWN BY TRW | PLANS CK'D. JFR

APPROACH APRON DETAILS-2

SHEET 19 OF 25

SCALE = 2:0 ' :" / IN.

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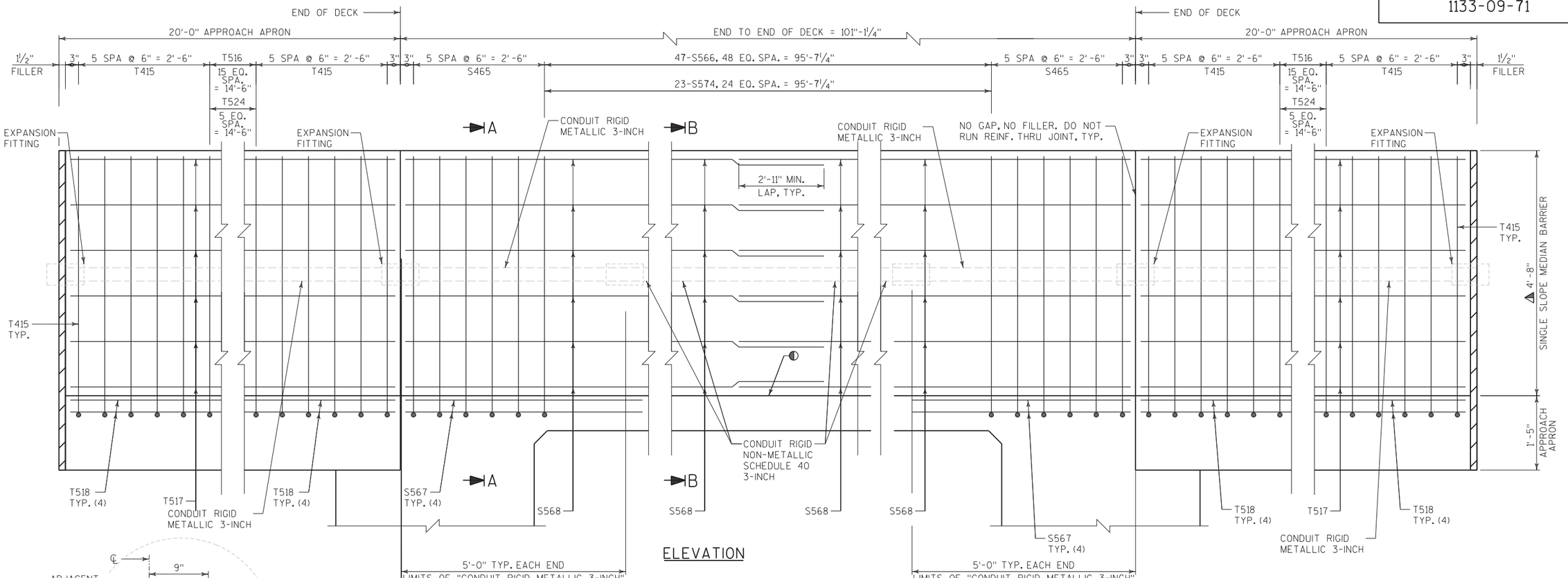
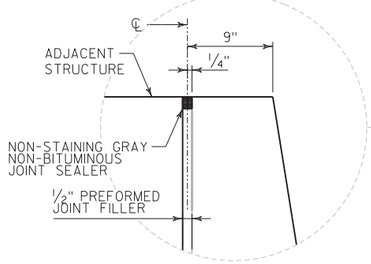
4/22/2013

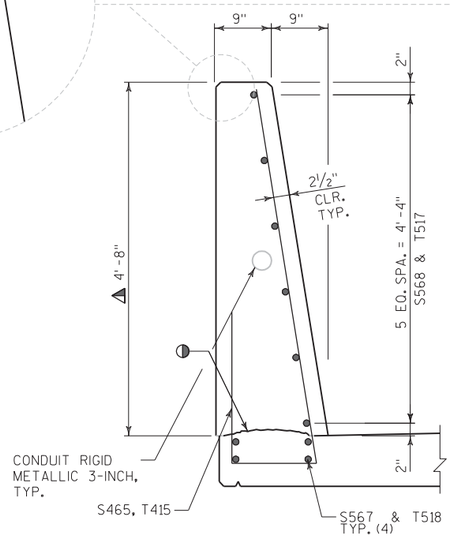
STATE PROJECT NUMBER

1133-09-71



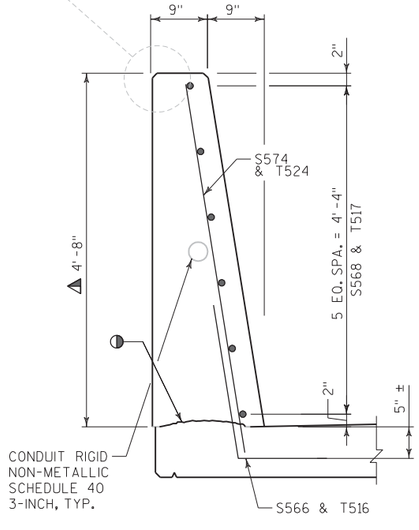
ELEVATION





SECTION A-A

TYPICAL AT ENDS OF BARRIER



SECTION B-B

(BRIDGE & APRONS)

NOTES

◐ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN. VERTICAL CONTRACTION JOINT NOT REQUIRED IN BARRIER ON APRON, SEE SHEET 15 FOR CONTRACTION JOINT REQUIREMENTS FOR BRIDGE BARRIER.

USE "CONDUIT RIGID METALLIC 3-INCH" IN BARRIER ON APPROACH APRONS AND FOR 5' AT ENDS OF BARRIER ON BRIDGE.

USE "CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH" BETWEEN METALLIC CONDUIT IN BARRIER ON BRIDGE.

APPROVED MANUFACTURER OR EQUIVALENT EXPANSION FITTING O-Z/GEDNEY TYPE AX-8-300 AND BONDING JUMPER (1½" TOTAL CONDUIT MOVEMENT).

⚠ BARRIER HEIGHT TO MATCH WITH B-5-628, USE HIGHER ELEVATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

DRAWN BY TRW | PLANS CK'D. JFR

56" SINGLE SLOPED BARRIER

SHEET 20 OF 25

SCALE = 2:0 ' :" / IN.

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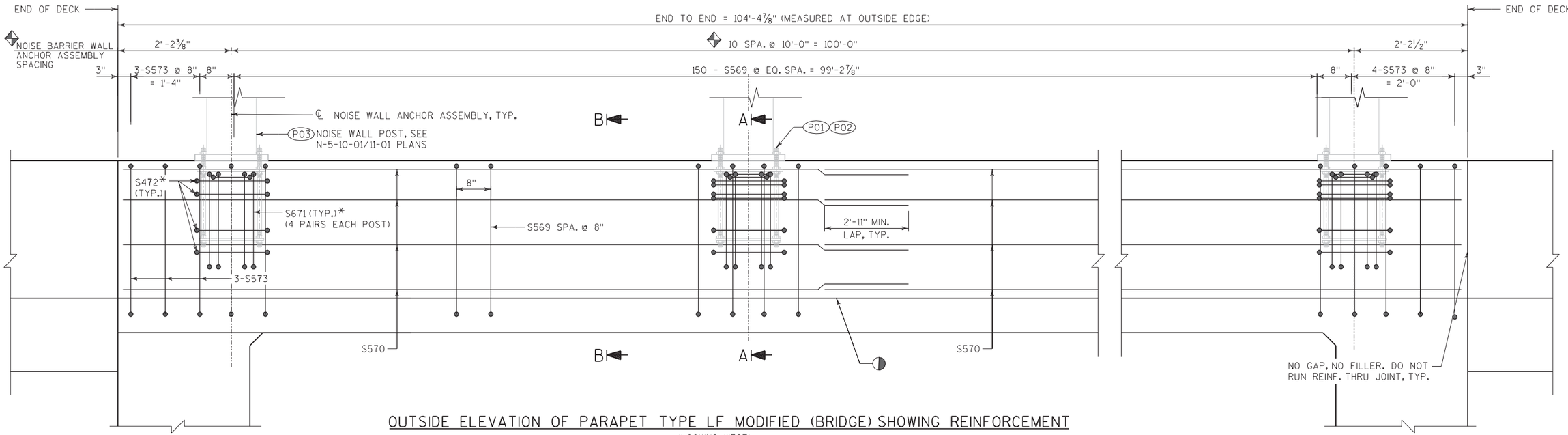
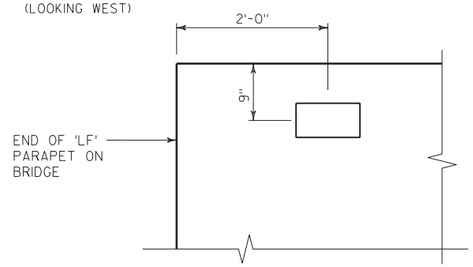
STATE PROJECT NUMBER
1133-09-71



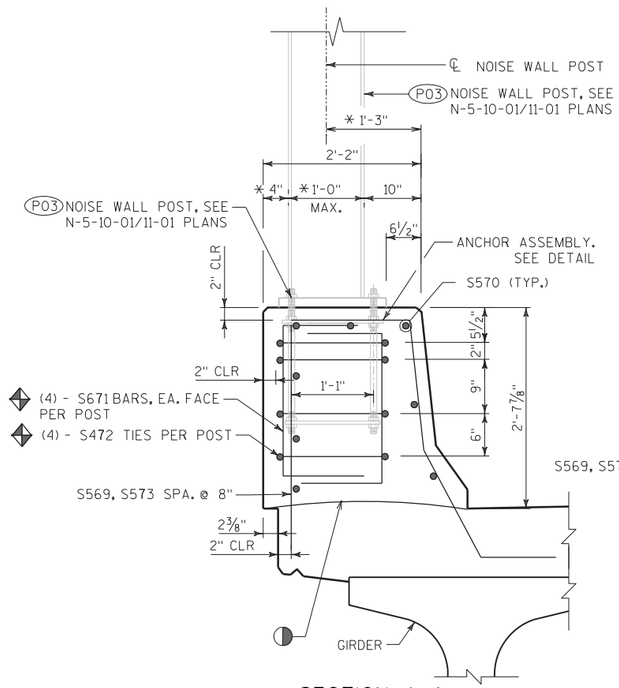
OUTSIDE ELEVATION OF PARAPET TYPE LF MODIFIED (BRIDGE) SHOWING REINFORCEMENT

(LOOKING WEST)



NAME PLATE DETAIL

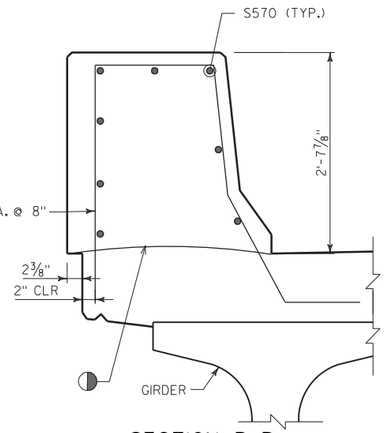
(SEE SHT. 1 FOR LOCATION)



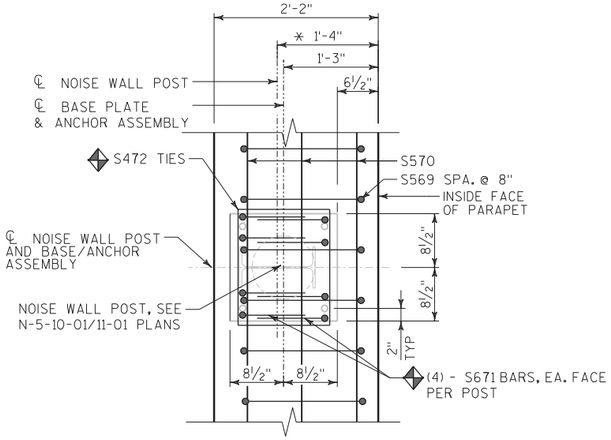
SECTION A-A

SECTION VIEW

TYPICAL AT EACH POST LOCATION



SECTION B-B



PLAN VIEW AT TOP OF PARAPET

NOTES:

- ◑ CONSTRUCTION JOINT. STRIKE OFF AND LEAVE ROUGH AS SHOWN. SEE SHEET 15 FOR PARAPET CONTRACTION JOINT REQUIREMENTS.
- (P01) EXACT LOCATION AND SPACING OF EMBEDDED ANCHOR ASSEMBLY NOISE BARRIER TO BE COORDINATED WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.
- (P02) BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES" INCLUDES ANCHORAGES AT EACH POST LOCATION.
- (P03) NOT A BRIDGE ITEM NOISE BARRIER PANELS, POSTS, SUPPORT BRACKETS AND TOP OF PARAPET CONNECTION TO BE DESIGNED AND INSTALLED BY OTHERS.
- ◆ EXACT LOCATION AND SPACING OF S472 AND S671 BARS TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.
- * DIMENSION IS BASED ON 12" DEEP POST. ADJUST DIMENSION FOR OTHER POST SIZES.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

DRAWN BY TRW | PLANS CK'D. JFR

PARAPET 'LF' MODIFIED

SHEET 21 OF 25

SCALE = 2:0 ' :" / IN.

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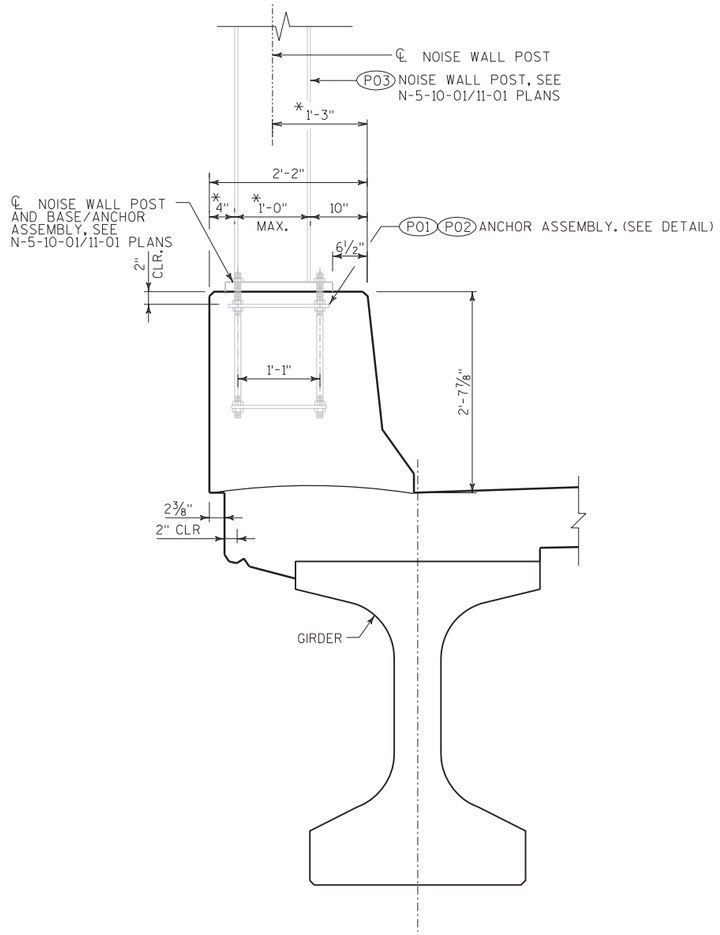
8

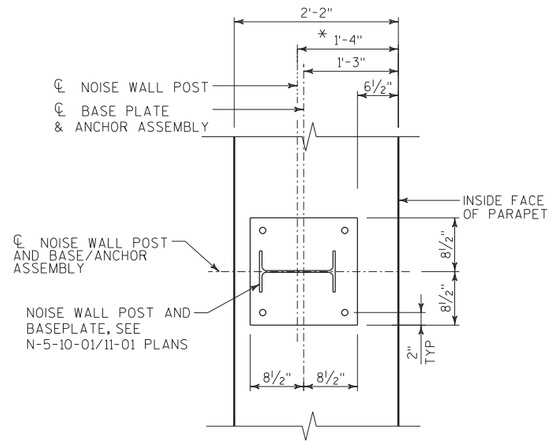
STATE PROJECT NUMBER

1133-09-71

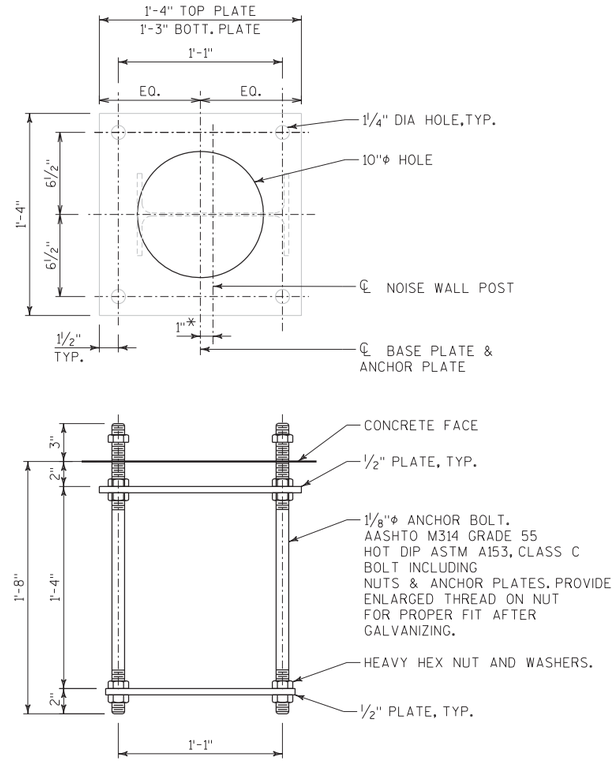


TYPICAL SECTION (BRIDGE)

LOOKING SOUTH
(TYPICAL EACH POST LOCATION)



PLAN VIEW AT TOP OF PARAPET



ANCHOR ASSEMBLY

NOTES:

(P01) EXACT LOCATION AND SPACING OF EMBEDDED ANCHOR ASSEMBLY NOISE BARRIER TO BE COORDINATED WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.

(P02) BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES" INCLUDES ANCHORAGES AT EACH POST LOCATION.

(P03) NOT A BRIDGE ITEM NOISE BARRIER PANELS, POSTS, SUPPORT BRACKETS AND TOP OF PARAPET CONNECTION TO BE DESIGNED AND INSTALLED BY OTHERS.

* DIMENSION IS BASED ON 12" DEEP POST. ADJUST DIMENSION FOR OTHER POST SIZES.

SEE REINFORCEMENT FOR NOISE BARRIER ANCHORAGE ON SHEET 19.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

DRAWN BY TRW | PLANS CK'D. JFR

NOISE WALL ANCHORAGE ON BRIDGE

SHEET 22 OF 25

SCALE = 2:0 " : " / IN.

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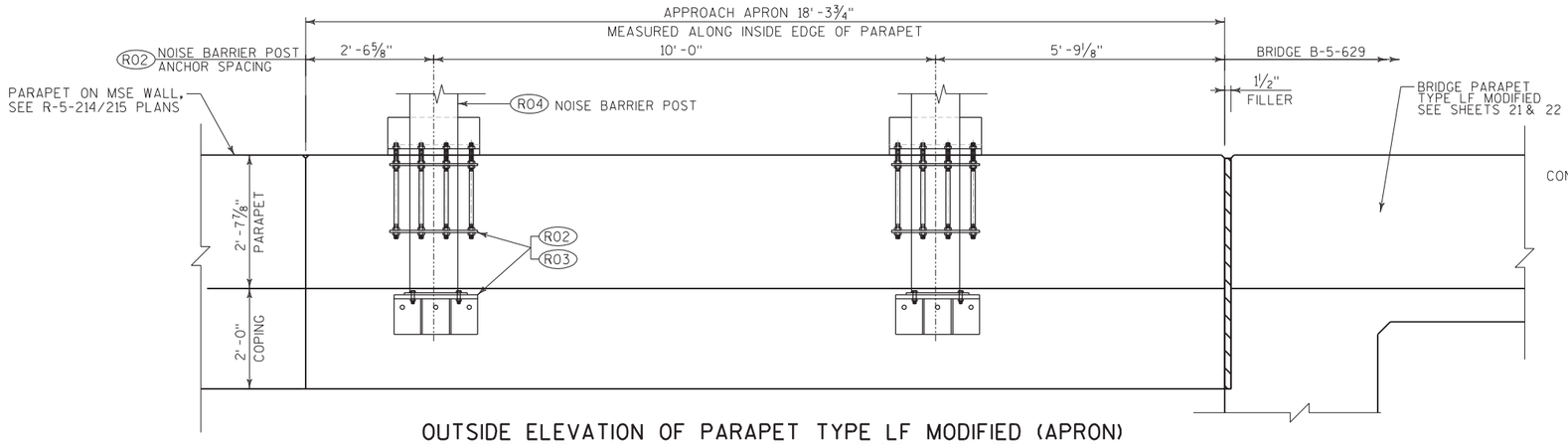
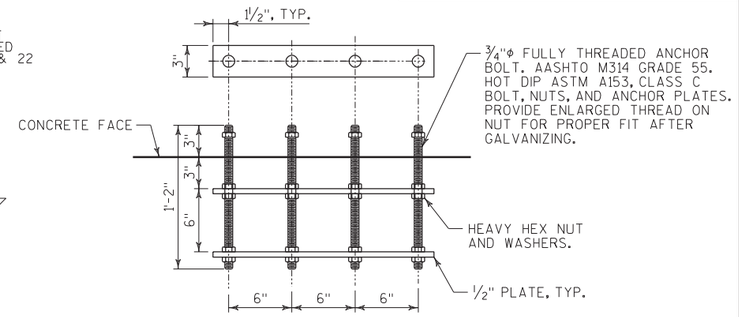
STATE PROJECT NUMBER

1133-09-71



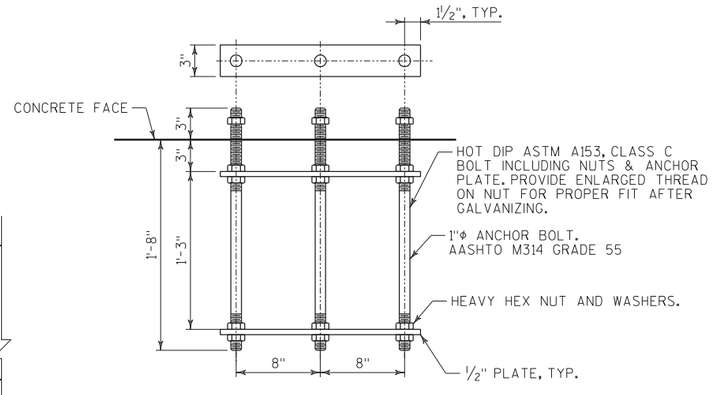
OUTSIDE ELEVATION OF PARAPET TYPE LF MODIFIED (APRON)

LOOKING WEST (SOUTH APRON SHOWN, NORTH APRON SIMILAR)



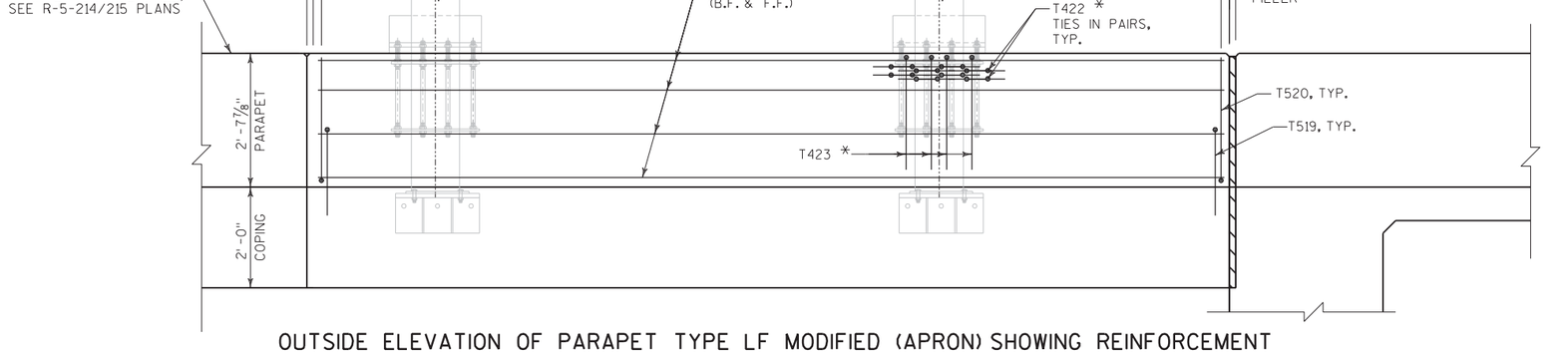
ELEVATION

TOP ANCHOR BOLT ASSEMBLY



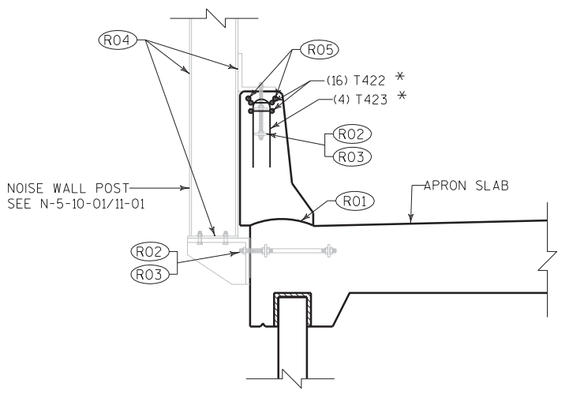
PLAN

BOTTOM ANCHOR BOLT ASSEMBLY



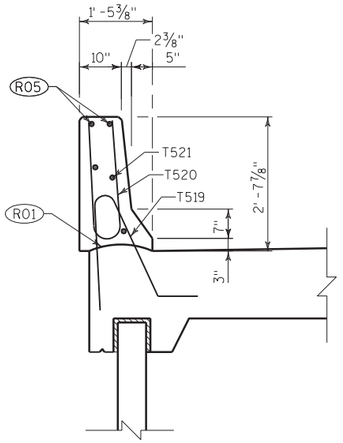
OUTSIDE ELEVATION OF PARAPET TYPE LF MODIFIED (APRON) SHOWING REINFORCEMENT

LOOKING WEST (SOUTH APRON SHOWN, NORTH APRON SIMILAR)

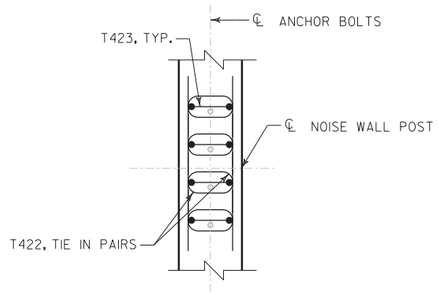


SECTION AT NOISE BARRIER

TYPICAL EACH POST LOCATION



SECTION THRU PARAPET



TOP VIEW AT PARAPET

LEGEND:

(R01) CONSTRUCTION JOINT STRIKE OFF AND LEAVE ROUGH AS SHOWN.

(R02) EXACT LOCATION AND SPACING OF NOISE BARRIER EMBEDDED ANCHOR ASSEMBLY TO BE COORDINATED AND COINCIDE WITH THE NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.

(R03) BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES" INCLUDES UPPER AND LOWER ANCHORAGES AT EACH POST LOCATION.

(R04) NOT A BRIDGE ITEM, NOISE BARRIER PANELS, POSTS, SUPPORT BRACKETS, TOP OF PARAPET CONNECTION AND SIDE OF APRON CONNECTION TO BE DESIGNED AND INSTALLED BY OTHERS.

(R05) ONLY THESE TWO BARS TO BE PLACED OUTSIDE OF THE VERTICAL REINFORCEMENT TO AVOID THE ANCHOR BOLTS/PLATES FROM THE NOISE BARRIER POSTS. PLACE BARS WITH 2" CLEAR FROM TOP, BACK AND FRONT FACES OF THE PARAPET. ALL OTHER HORIZONTAL BARS IN THE PARAPET ARE TO BE PLACED INSIDE THE VERTICAL REINFORCEMENT AS SHOWN.

* EXACT LOCATION AND SPACING OF T422 AND T423 BARS TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACNG AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

DRAWN BY TRW | PLANS CK'D. JFR

PARAPET TYPE LF MODIFIED APRON

SHEET 23 OF 25

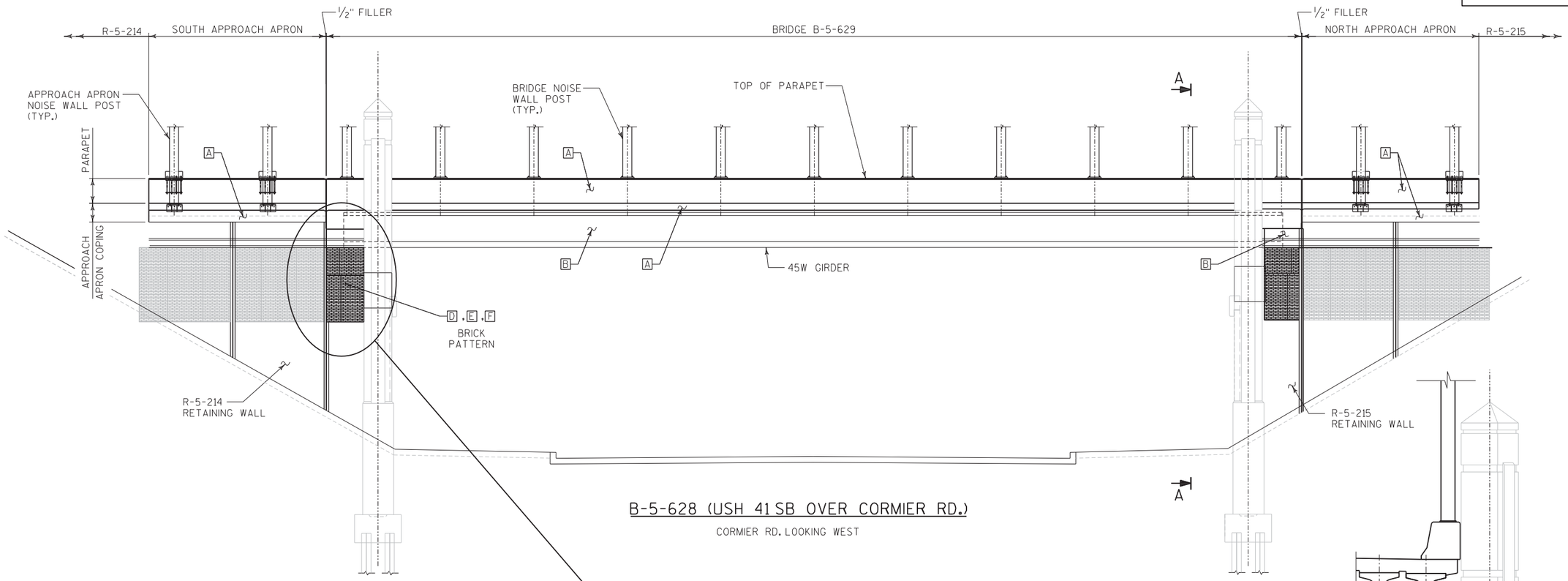
8

8

SCALE = 2:0 ' :" / IN.

STATE PROJECT NUMBER

1133-09-71



B-5-628 (USH 41 SB OVER CORMIER RD.)

CORMIER RD. LOOKING WEST

NOTES

DO NOT STAIN TOP OR INSIDE FACE OF BRIDGE PARAPETS.

STAIN VERTICAL EDGE OF DECK, UNDERSIDE OF DECK OVERHANG, AND EXTERIOR FACE & BOTTOM OF EXTERIOR GIRDER TO THE LIMITS SHOWN.

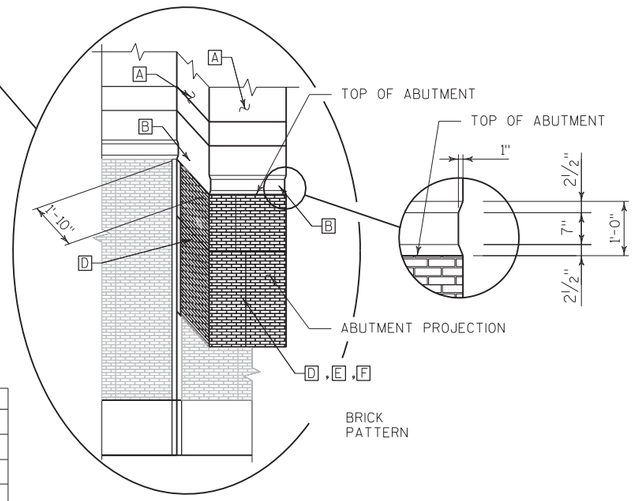
STAIN UNDERSIDE OF APRON COPING.

SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER. BRICK PATTERN FORMLINER AREAS AT WEST ENDS OF ABUTMENTS PAIN FOR UNDER "ARCHITECTURAL SURFACE TREATMENT". SEE THIS SHEET FOR ADDITIONAL END OF ABUTMENT DETAILS AND CONCRETE SCHEDULE.

STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

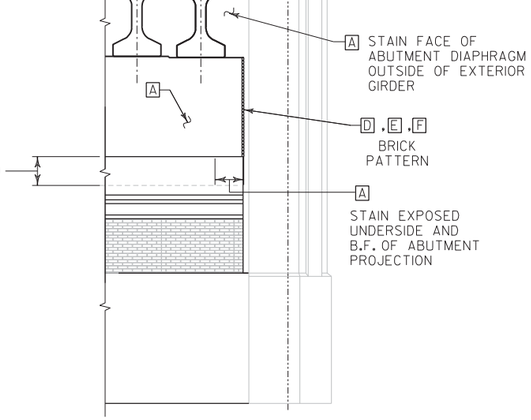
CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION	NOTES
A	BASE COLOR	BRIDGE PARAPETS	EXTERIOR, DO NOT STAIN TOP OR INSIDE FACE
		APRON COPING	STAIN EXTERIOR & UNDERSIDE
		APRON PARAPETS	NO STAIN
		DECK	EAST EDGE & UNDERSIDE OF OVERHANG
		DIAPHRAGMS	EXTERIOR FACE, F.F. OUTSIDE OF EXTERIOR GIRDER & EXPOSED B.F.
		ABUTMENT	F.F., EXPOSED UNDERSIDE & EAST END
B	ACCENT COLOR #1	BRIDGE GIRDERS, DIAPRAGHMS & ABUTMENTS	REVEALS, OUTSIDE & BOTTOM OF EAST CONC. GIRDER
D	ACCENT COLOR #3	BRIDGE ABUTMENT ENDS	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRIDGE ABUTMENT ENDS	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRIDGE ABUTMENT ENDS	BRICK COLOR (15% OF BRICK)



ABUTMENT PROJECTION

(NORTH AND SOUTH SIMILAR)



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-629

DRAWN BY TRW | PLANS CK'D. JFR

AESTHETIC DETAILS-1

SHEET 24 OF 25

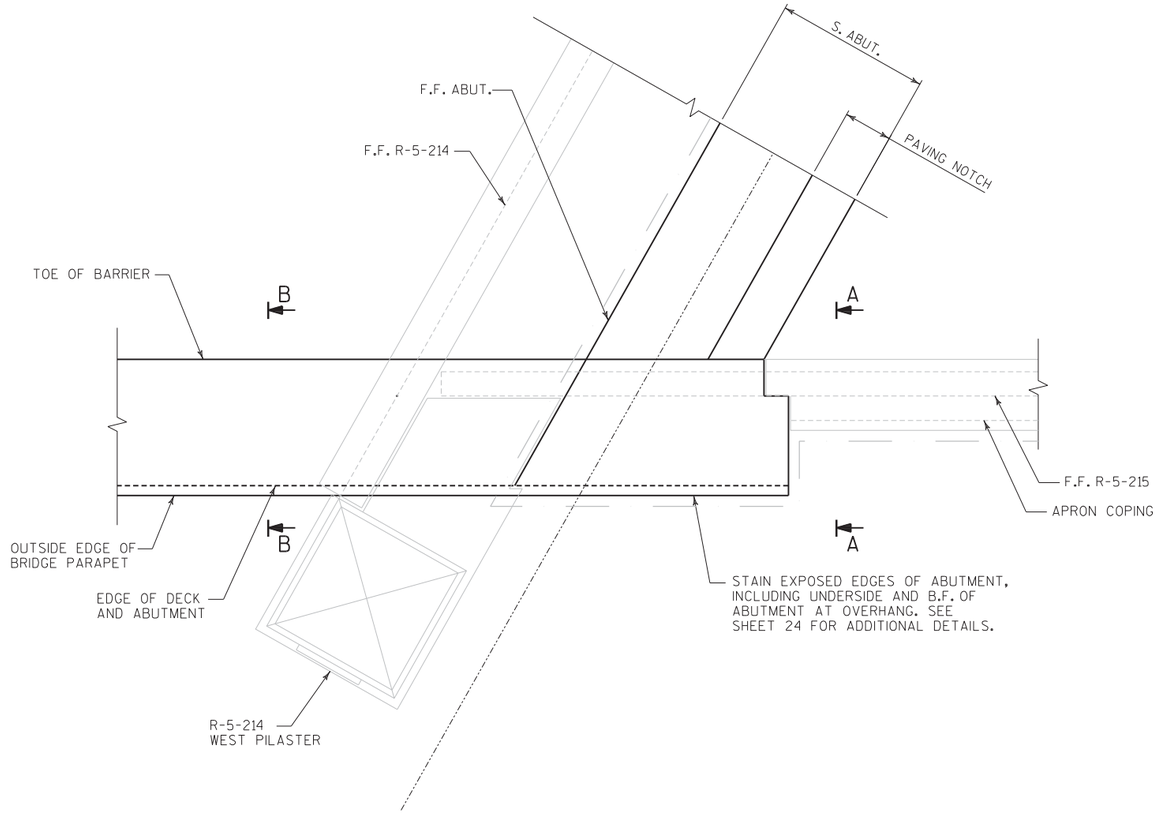
SCALE = 1:5 3/4 " : " / IN.

8

8

STATE PROJECT NUMBER

1133-09-71

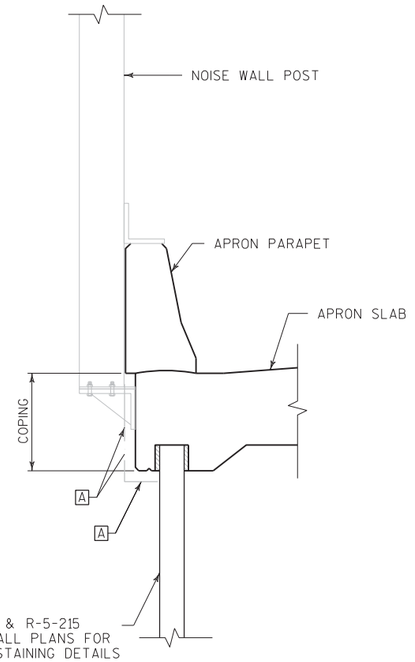


PLAN (EAST CORNER NORTH ABUTMENT)

(EAST CORNER SOUTH ABUTMENT SIMILAR)

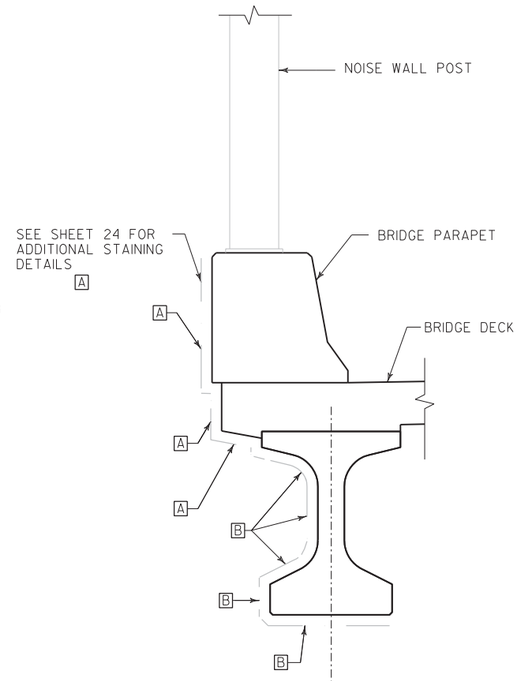
LEGEND

INDICATES PERIMETER OF STAINED SURFACE



SECTION A-A

(LOOKING NORTH)



SECTION B-B

(LOOKING NORTH)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

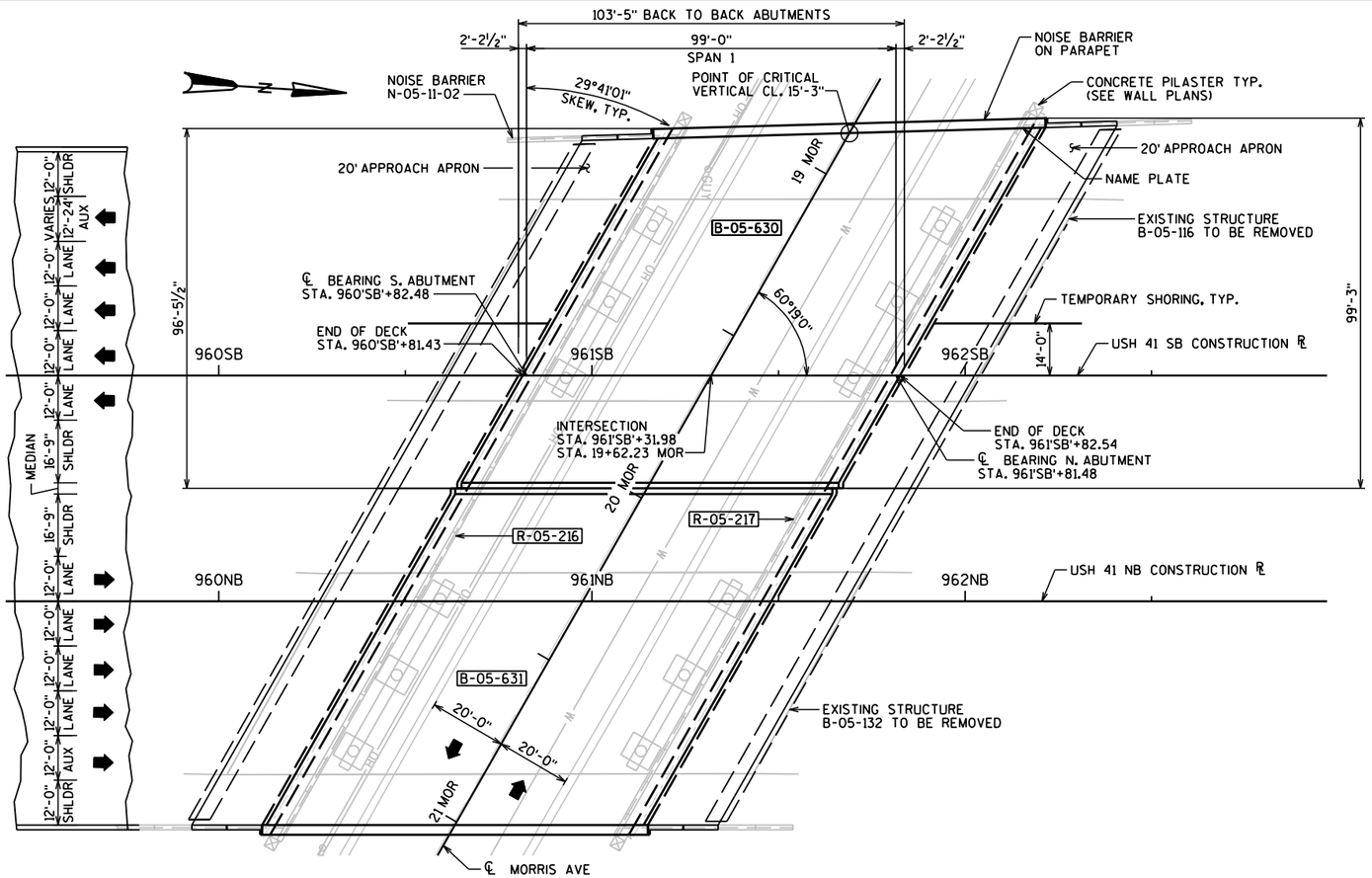
STRUCTURE B-5-629

DRAWN BY TRW | PLANS CK'D. JFR

AESTHETIC DETAILS-2

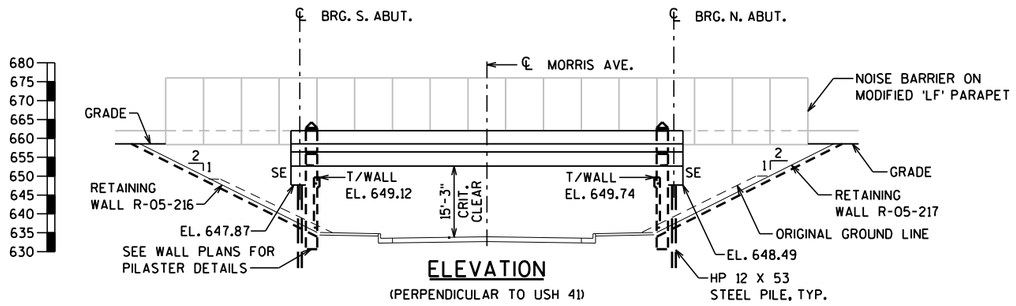
SHEET 25 OF 25

SCALE = 1:8 7/8 " :" / IN.



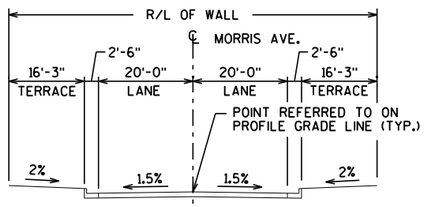
PLAN

(SINGLE-SPAN, 45W PRESTRESSED GIRDER STRUCTURE)



ELEVATION

(PERPENDICULAR TO USH 41)



TYPICAL SECTION THRU MORRIS AVENUE

(LOOKING WEST)

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. STAGING DETAILS
4. SUBSURFACE EXPLORATION
5. TEMPORARY SHORING
6. SOUTH ABUTMENT
7. SOUTH ABUTMENT DETAILS
8. NORTH ABUTMENT
9. NORTH ABUTMENT DETAILS
10. FALL PROTECTION
11. 45W" PRESTRESSED GIRDER
12. SUPERSTRUCTURE LAYOUT
13. STEEL DIAPHRAGMS
14. SUPERSTRUCTURE REINFORCEMENT
15. SUPERSTRUCTURE CROSS SECTION
16. SUPERSTRUCTURE DETAILS 1
17. SUPERSTRUCTURE DETAILS 2
18. SOUTH APPROACH APRON
19. NORTH APPROACH APRON
20. APPROACH APRON DETAILS
21. PARAPET TYPE LF MODIFIED BRIDGE
22. SINGLE SLOPE BARRIER
23. NOISE WALL ANCHORAGE ON BRIDGE
24. PARAPET TYPE LF MODIFIED APRON
25. NOISE WALL ANCHORAGE ON APRON
26. AESTHETIC DETAILS 1
27. AESTHETIC DETAILS 2

TRAFFIC DATA USH 41

ADT = 73,400 (2009)
= 102,400 (2032)
RDS = 70 MPH

TRAFFIC DATA MORRIS AVENUE

ADT = 3,000 (2003)
= 3,400 (2032)
RDS = 30 MPH

CONSULTANT CONTACT

KRISTOFER OLSON
OMNNI ASSOCIATES, INC.
(920) 735-6900

BRIDGE OFFICE CONTACT

WILLIAM DREHER
(608) 266-8489

WISCONSIN
KRISTOFER R. OLSON
E-35236
APPLETON, WI
PROFESSIONAL ENGINEER

4/4/13

STATE PROJECT NUMBER
1133-03-77

DESIGN DATA

LIVE LOAD:
DESIGN LOAD HL-93
INVENTORY RATING FACTOR 1.18
OPERATING RATING FACTOR 1.57
WIS-SPV RATING ..... 250 KIPS

THE STRUCTURE IS DESIGNED FOR A 1½" SACRIFICIAL WEARING SURFACE PLACED AT INITIAL CONSTRUCTION INTEGRAL WITH THE DECK. THE DESIGN DOES NOT PROVIDE FOR ADDITIONAL LOADS DUE TO FUTURE WEARING SURFACE.

ULTIMATE DESIGN STRESSES:
CONCRETE MASONRY (HPC) .....f'c = 4,000 PSI

HIGH STRENGTH BAR STEEL
REINFORCEMENT GRADE 60 .....fy = 60,000 PSI

45W-INCH PRESTRESSED GIRDERS
CONCRETE MASONRY .....f'c = 8,000 PSI

PRESTRESSING STRANDS = 0.6 INCH DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 PSI

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 12 X 53 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 90'LONG AT SOUTH ABUTMENT.
ESTIMATED 90'LONG AT NORTH ABUTMENT.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

EXISTING ABUTMENT PILING SHALL BE CUT-OFF AT THE BOTTOM OF WALL ELEVATION FOR R-05-216 AND R-05-217. THIS WORK TO BE INCLUDED IN THE "REMOVING OLD STRUCTURE" BID ITEM.

NOISE BARRIER

MAX. HEIGHT ABOVE ROADWAY ..... 15'-0"
MAX. POST SPACING ..... 10'-0"
MAX. NOISE BARRIER DEAD LOAD ..... 50 PSF
WIND PRESSURE ON NOISE BARRIER
(NORMAL TO EITHER DIRECTION ..... 42 PSF

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/19/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-05-630

USH 41 SB OVER MORRIS AVE

COUNTY	VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO LRFD DESIGN SPEC. 5th EDITION — LOAD HL-93

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
KRO	JAW	BRE	KRO

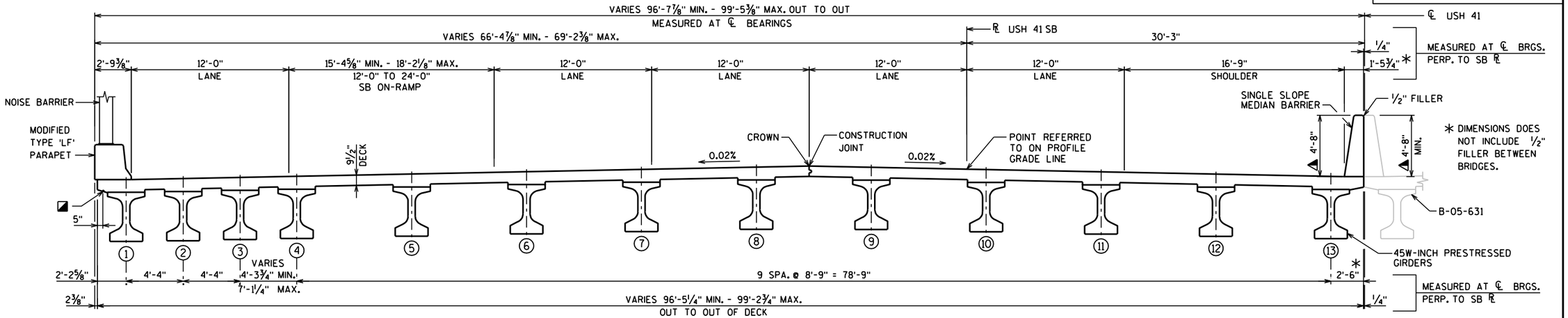
GENERAL PLAN

SHEET 1 OF 27

8

8

STATE PROJECT NUMBER
1133-03-77



TYPICAL SECTION

(LOOKING NORTH)

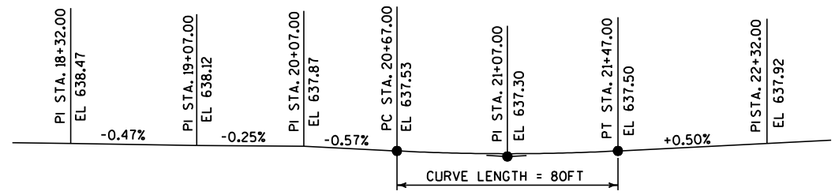
BENCH MARKS

NO.	DESCRIPTION	ELEV.
529	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE SOUTHWEST QUADRANT OF SANTA BARBARA DR. & EMINENCE ST. 35' WEST OF THE SANTA BARBARA DR. AND 25' NORTH OF PRIVATE ENTRANCE 1351.	646.43
530	CHISELED "X" ON A FIRE HYDRANT BURY BOLT ON THE WEST SIDE OF HILLTOP RD. 155' NORTH OF THE INTERSECTION OF MORRIS AVE. & HILLTOP DR. 35' FEET WEST OF THE CENTERLINE OF HILLTOP DR.	644.33
551	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE NORTHWEST QUADRANT OF MORRIS AVE & ARGONNE ST. 40' NORTH OF MORRIS AVE. & 60' WEST OF ARGONNE ST.	640.59

LEGEND

◪ ¾" V-GROOVE. EXTEND V-GROOVE TO 3" FROM FRONT FACE OF ABUTMENT DIAPHRAGM.

◭ TOP OF BARRIERS TO BE AT SAME ELEVATION, HOLD AT HIGHER ELEVATION.



EXISTING PROFILE GRADE LINE MORRIS AVENUE

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	SOUTH ABUT.	NORTH ABUT.	APPROACH APRONS	TOTALS
203.0200.716	REMOVING OLD STRUCTURE STA. 961SB+30	LS	-----	-----	-----	-----	1
203.0225.S.716	DEBRIS CONTAINMENT STRUCTURE B-5-116	LS	-----	-----	-----	-----	1
206.1000.716	EXCAVATION FOR STRUCTURES, BRIDGES B-5-630	LS	-----	-----	-----	-----	1
206.6000.S	TEMPORARY SHORING	SF	-----	1,120	1,140	-----	2,260
210.0100	BACKFILL STRUCTURE	CY	-----	443	430	-----	872
502.3200	PROTECTIVE SURFACE TREATMENT	SY	1,172	-----	-----	224	1,396
502.6110	MASONRY ANCHORS TYPE S 3/4-INCH	EACH	-----	5	5	-----	10
503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH	LF	1,305	-----	-----	-----	1,305
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	65,170	5,600	5,680	46,520	122,970
505.0904	BAR COUPLERS NO. 4	EACH	-----	4	4	-----	8
505.0905	BAR COUPLERS NO. 5	EACH	300	-----	-----	84	384
505.0906	BAR COUPLERS NO. 6	EACH	20	14	14	-----	48
505.0908	BAR COUPLERS NO. 8	EACH	-----	-----	-----	24	24
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	26	-----	-----	-----	26
506.4000.716	STEEL DIAPHRAGMS B-05-630	EACH	24	-----	-----	-----	24
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-----	25	26	-----	50
550.1120	PILING STEEL DELIVERED AND DRIVEN HP 12-INCH X 53 LB	LF	-----	1,440	1,440	-----	2,880
604.0400	SLOPE PAVING CONCRETE	SY	-----	28	29	-----	56
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	-----	115	115	-----	230
SPV.0035.700	HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES	CY	473	72	73	255	872
SPV.0060.701	ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES	EACH	14	-----	-----	-----	14
SPV.0085.700	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	-----	-----	-----	-----	0
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	-----	28	13	-----	41
SPV.0165.501	STAINING CONCRETE	SF	2,730	-----	-----	-----	2,730
SPV.0165.502	STAINING CONCRETE BRICK	SF	-----	28	13	-----	41
SPV.0165.700	LONGITUDINAL GROOVING BRIDGE DECK	SF	9,174	-----	-----	3,631	12,805
	NON-BID ITEMS						
	JOINT FILLER	SIZE	-----	-----	-----	-----	½"&¾"
	CORK FILLER	SIZE	-----	-----	-----	-----	¾"
	EXPANDED POLYSTRENE 1-INCH	SIZE	-----	-----	-----	-----	1"

GENERAL NOTES:

DRAWING SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED. THE TOP LAYER OF BAR STEEL REINFORCEMENT IN THE DECK SHALL BE PLACED WITH 3½" OF CLEAR COVER.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

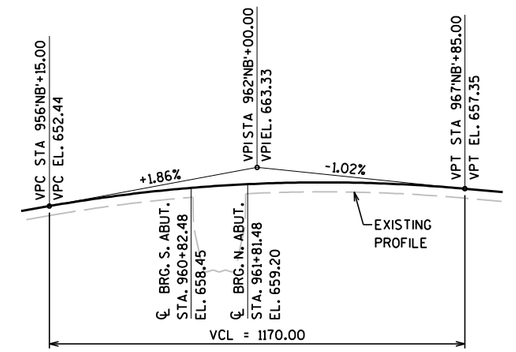
THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE DEPTH OF 3", WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

EXISTING BRIDGE B-05-116 IS A THREE SPAN PRESTRESSED GIRDER BRIDGE WITH AN OVERALL WIDTH OF 55'-10" AND AN OVERALL LENGTH OF 143'-7¼".

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING CONCRETE TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE FOLLOWING COMPLETED SURFACES: TOP OF DECK SLAB, TOPS OF APPROACH APRONS, TOP AND INSIDE FACES OF MEDIAN BARRIER AND EXTERIOR PARAPETS ON BOTH THE BRIDGE DECK AND APROACH APRONS.

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).



PROFILE GRADE LINE - SOUTHBOUND USH 41

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

DRAWN BY BRE | PLANS CK'D. KRO

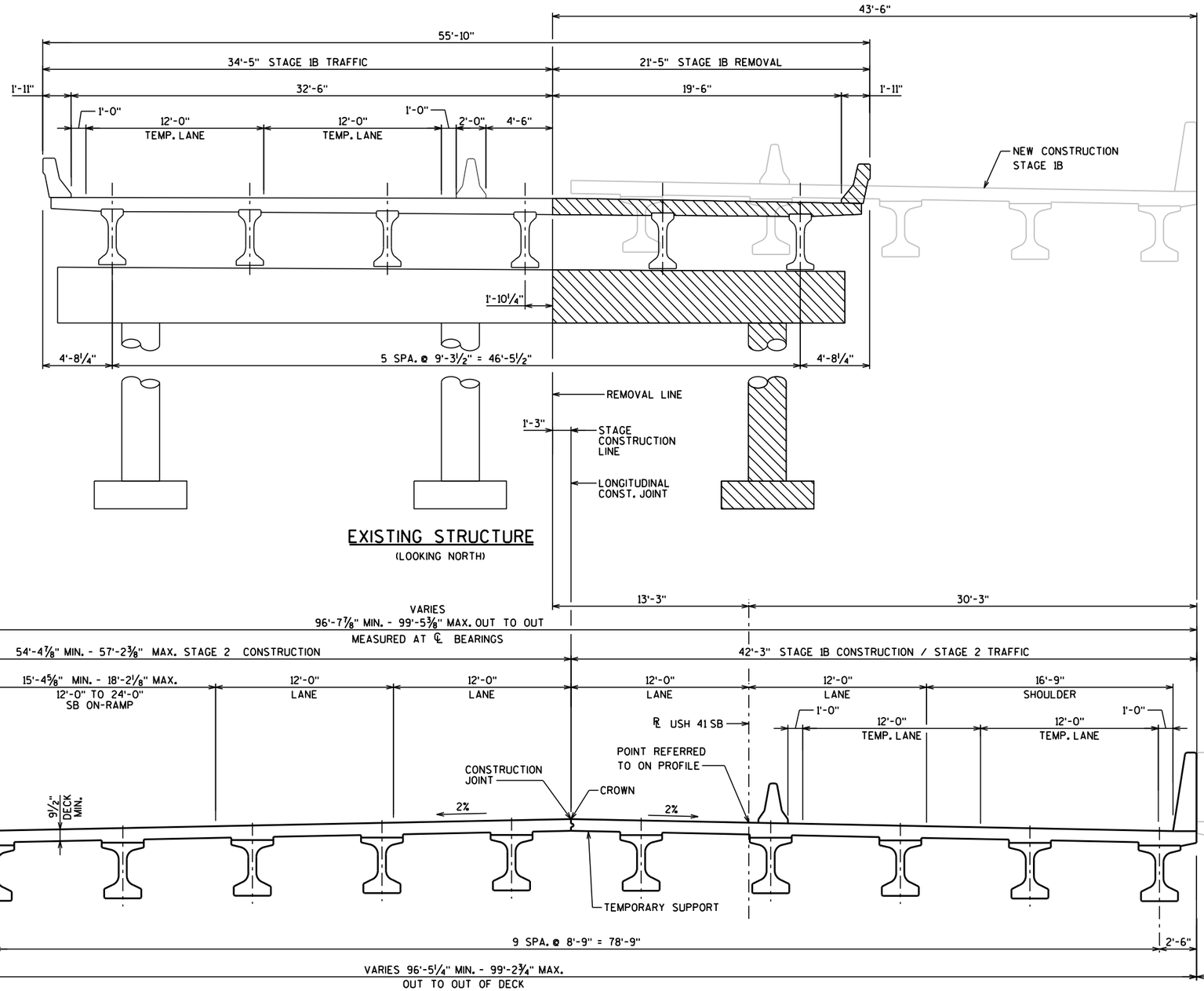
CROSS SECTION & QUANTITIES

SHEET 2 OF 27

8

8

STATE PROJECT NUMBER
1133-03-77



CROSS SECTION
(LOOKING NORTH)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

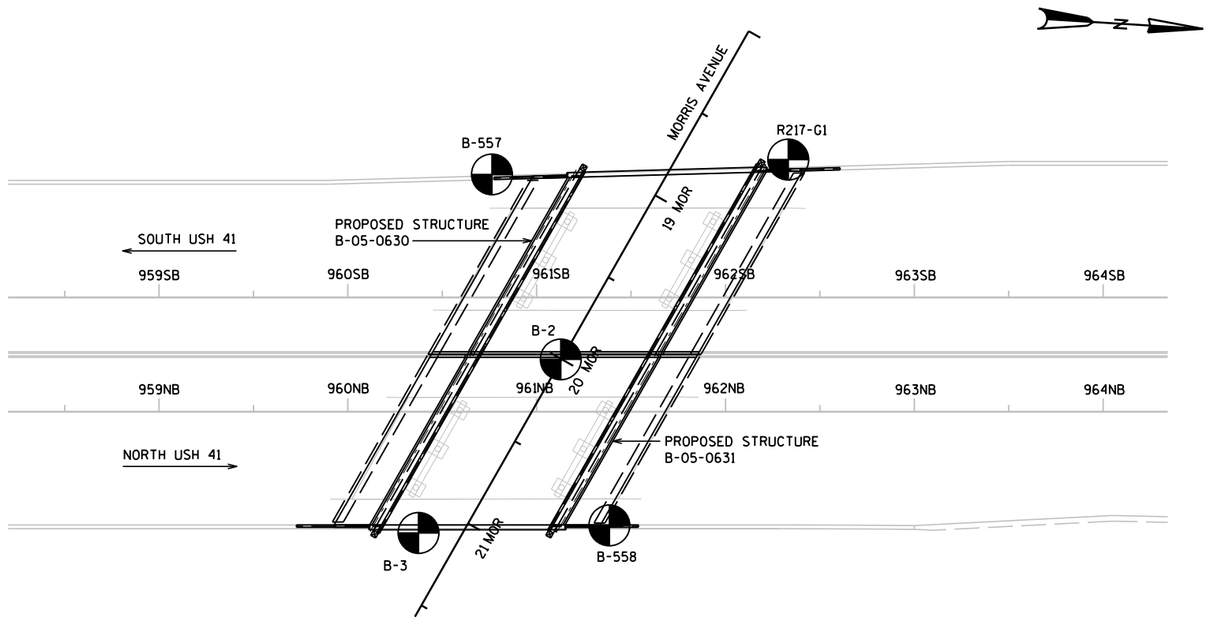
STRUCTURE B-05-630

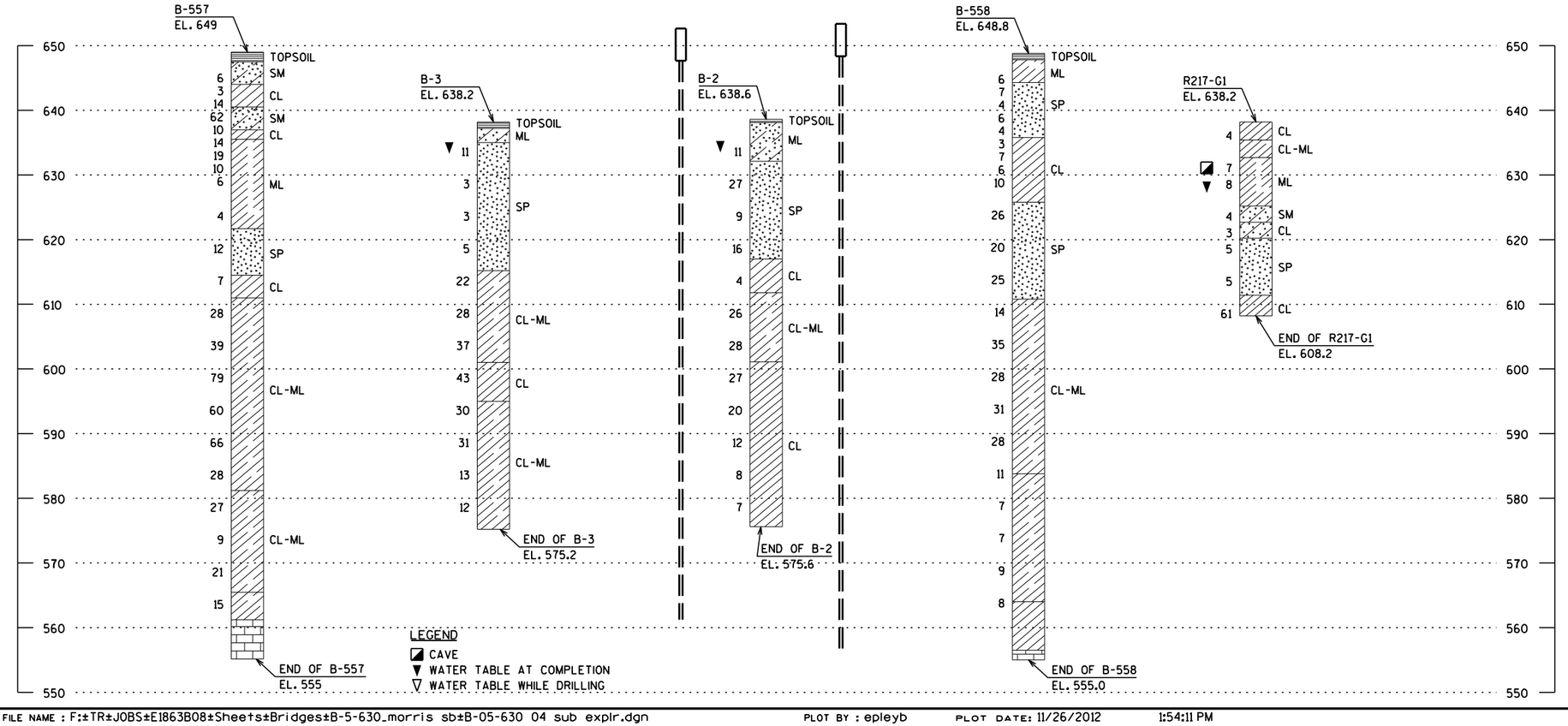
DRAWN BY BRE | PLANS CK'D. KRO

STAGING DETAILS

SHEET 3 OF 27

STATE PROJECT NUMBER
1133-03-77





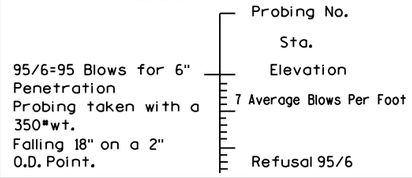
ABBREVIATIONS

F — Fine M — Medium C — Coarse
Ws — Weathered So — Sound

MATERIAL SYMBOLS

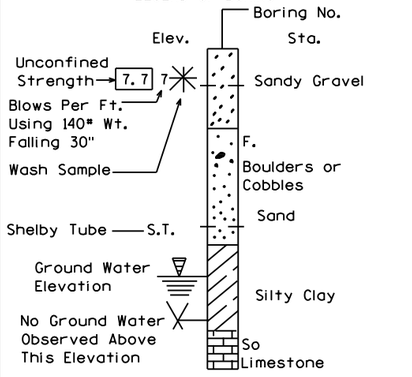
Topsoil, Silt, Sandstone
Sand, Peat, Limestone
Gravel, Clay, Igneous Rock

LEGEND OF PROBING



95/6=95 Blows for 6" Penetration
Probing taken with a 350#wt.
Falling 18" on a 2" O.D. Point.

LEGEND OF BORING



Unless otherwise specified, the blows per foot at the locations indicated are based on driving a O.D. x 1. 4" I.D. split spoon sampler with a 140# hammer having a free fall of 30". The blow count is taken in undisturbed soil immediately below a cased or open hole eliminating side friction on the drive pipe.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

To obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing. The data presented herein represents the findings of the subsurface explorations made. However, because the depths investigated are limited and the area of the borings and/or soundings is very small in relation to the entire area, the Division of Highways does not warrant conditions below the depths investigated or that the classification of material encountered in these investigations is necessarily typical of the entire site.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

DRAWN BY BRE | PLANS CK'D. KRO

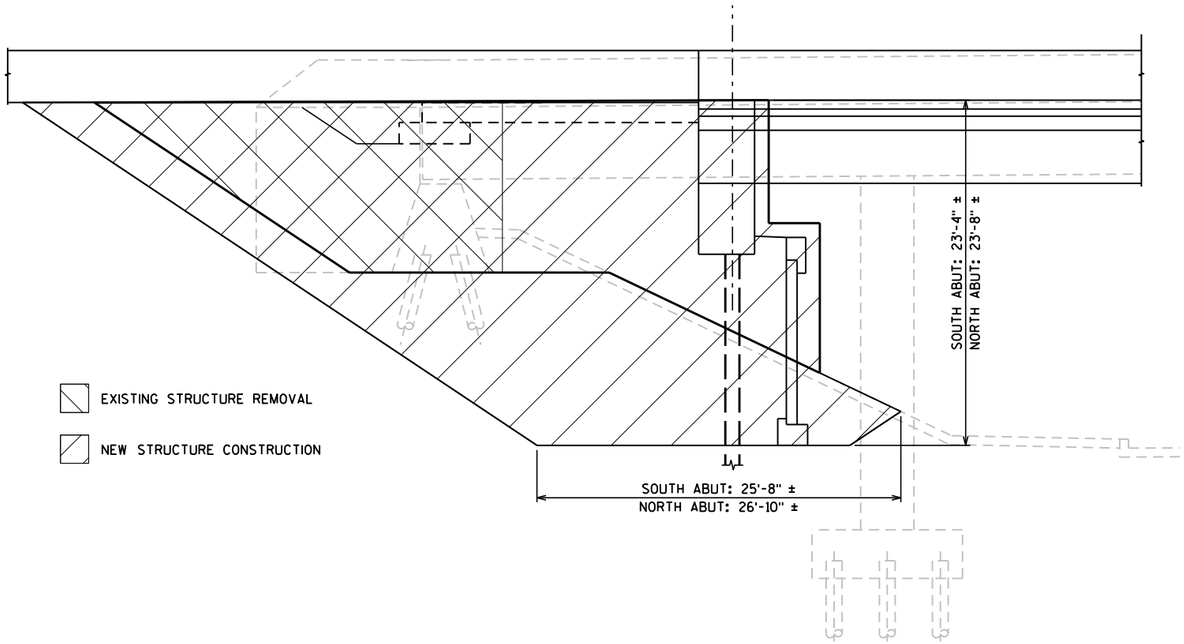
SUBSURFACE EXPLORATION

SHEET 4 OF 27

8

8

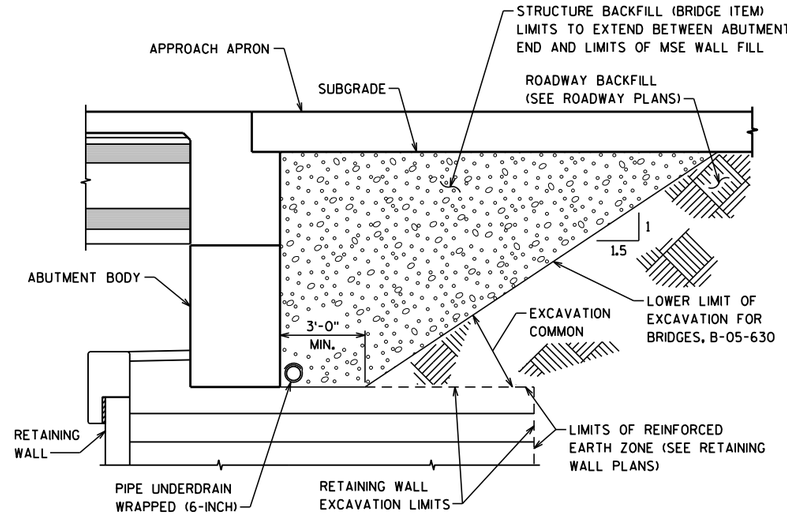
STATE PROJECT NUMBER
1133-03-77



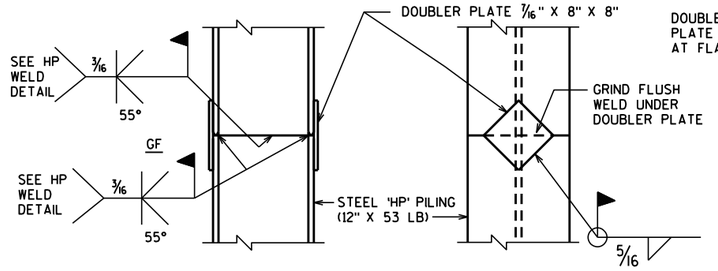
TEMPORARY SHORING TYPICAL ELEVATION

SOUTH ABUTMENT: 1120 SF
NORTH ABUTMENT: 1140 SF

(QUANTITY INCLUDES BOTH EXISTING STRUCTURE REMOVAL AND NEW STRUCTURE CONSTRUCTION.)

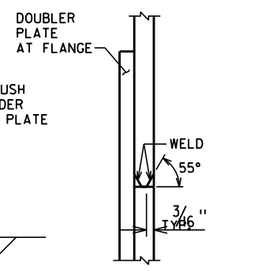


BACKFILL / EXCAVATION DETAIL



STEEL 'HP' SHAPES

STEEL 'HP' PILE MATERIAL SHALL BE A.S.T.M. DESIGNATION A36.



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

DRAWN BY: BRE | PLANS CK'D.: KRO

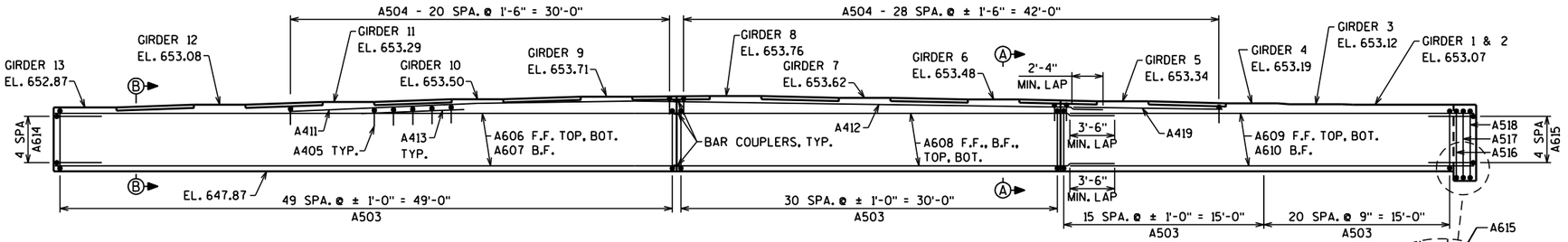
TEMPORARY SHORING

SHEET 5 OF 27

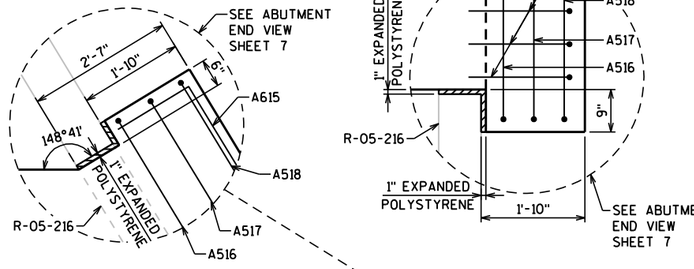
8

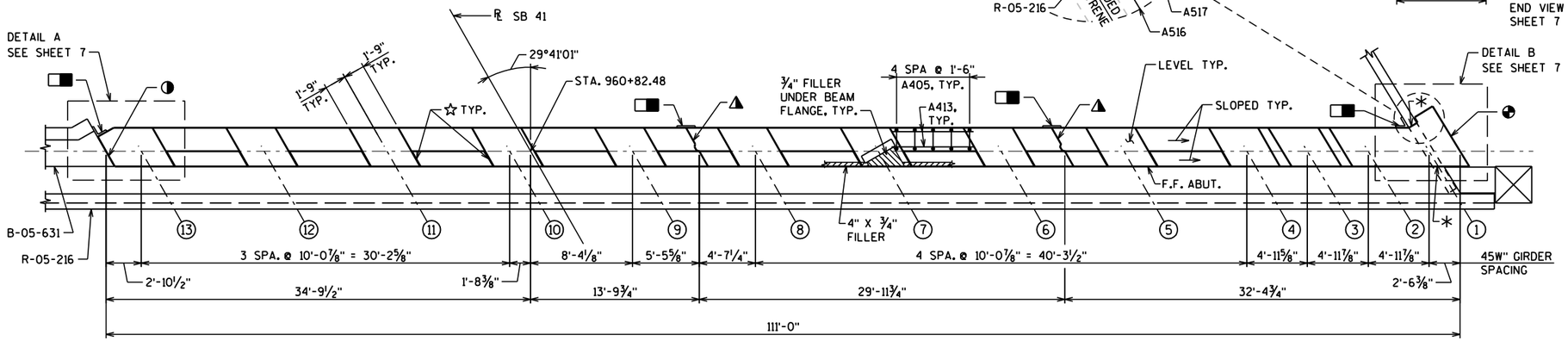
8

STATE PROJECT NUMBER
1133-03-77

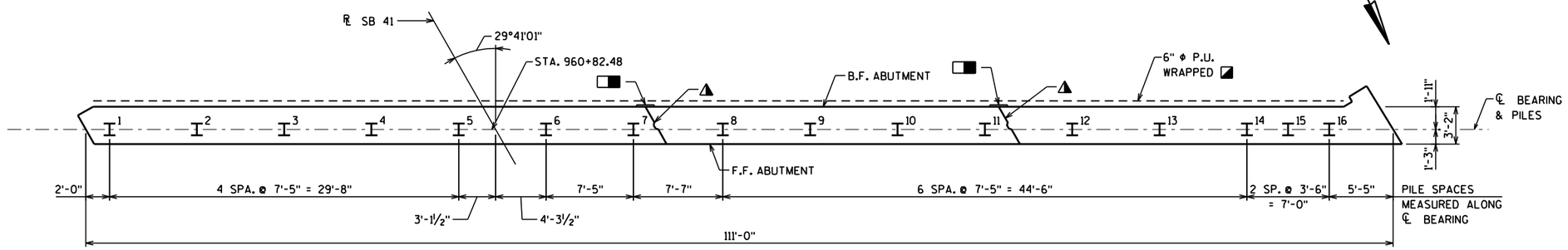


ELEVATION





PLAN



PILE PLAN

LEGEND

- ½" FILLER NOT INCLUDED IN ABUTMENT LENGTH, SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- VERTICAL CONSTRUCTION JOINT KEYWAY FORMED BY A BEVELED 2" X 8" NOTCH. USE ¾" "V" GROOVE JOINT @ THE FRONT FACE OF ABUTMENT.
- ☆ ¾" CORK FILLER ON VERTICAL FACES THAT RUN PARALLEL TO THE GIRDER.
- ✳ 1" EXPANDED POLYSTYRENE FILLER BETWEEN ABUTMENT AND RETAINING WALL.
- PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.
- IMPRINTED BRICK PATTERN, SEE SHEET 27.

SEE SHEET 7 FOR BILL OF BARS AND BAR BENDING DIAGRAMS.

PILE NOTE

SOUTH ABUTMENT TO BE SUPPORTED ON HP 12 X 53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE. ESTIMATED LENGTH = 90' AT SOUTH ABUTMENT. FOR PILE SPLICE DETAILS, SEE SHEET 5.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

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SOUTH ABUTMENT

SHEET 6 OF 27

8

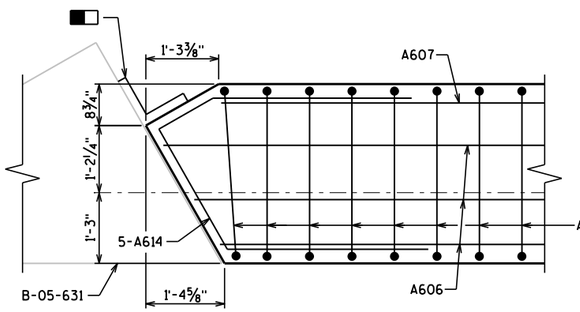
8

STATE PROJECT NUMBER
1133-03-77

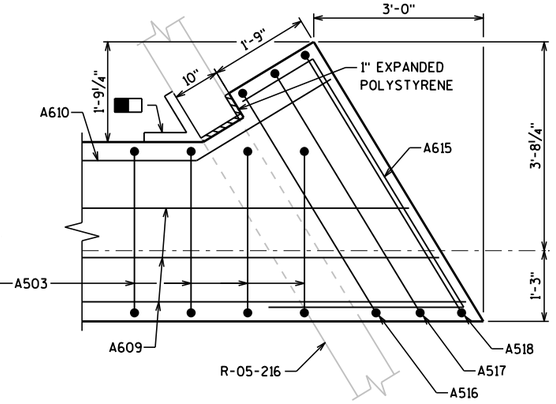
BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
A401	X	32	2'-3"		BODY - TWO PER PILE
A402	X	16	28'-0"	X	BODY - ONE PER PILE
A503	X	117	14'-11"	X	BODY - STIRRUPS
A504	X	50	6'-9"	X	BODY - VERTICAL, TOP
A405	X	45	3'-11"	X	BODY - VERTICAL, BTW. BEAM SEATS
⬡ A606	X	9	48'-5"		BODY - HORIZONTAL (STAGE 1)
⬡ A607	X	5	46'-11"		BODY - HORIZONTAL (STAGE 1)
⬡ A608	X	14	36'-8"		BODY - HORIZONTAL (STAGE 2)
A609	X	9	32'-0"		BODY - HORIZONTAL (STAGE 2)
A610	X	5	31'-6"	X	BODY - HORIZONTAL (STAGE 2)
⬡ A411	X	4	30'-0"		BODY - HORIZONTAL, TOP
⬡ A412	X	4	32'-6"		BODY - HORIZONTAL, TOP
A413	X	18	8'-0"		BODY - HORIZONTAL, BTW. BEAM SEATS
A614	X	5	10'-5"	X	BODY - HORIZONTAL, EAST END
A615	X	5	9'-11"	X	BODY - HORIZONTAL, WEST END
A516	X	1	20'-9"	X	BODY - STIRRUPS, WEST END
A517	X	1	21'-3"	X	BODY - STIRRUPS, WEST END
A518	X	1	22'-0"	X	BODY - STIRRUPS, WEST END
A419	X	4	11'-10"		BODY - HORIZONTAL, TOP

⬡ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.



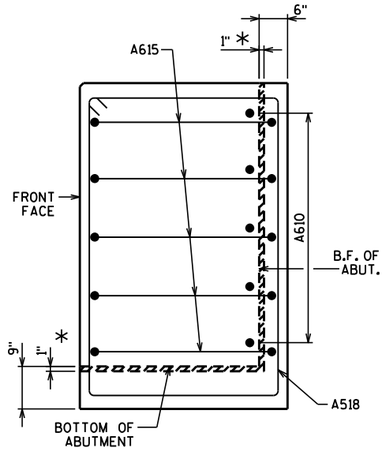
DETAIL A



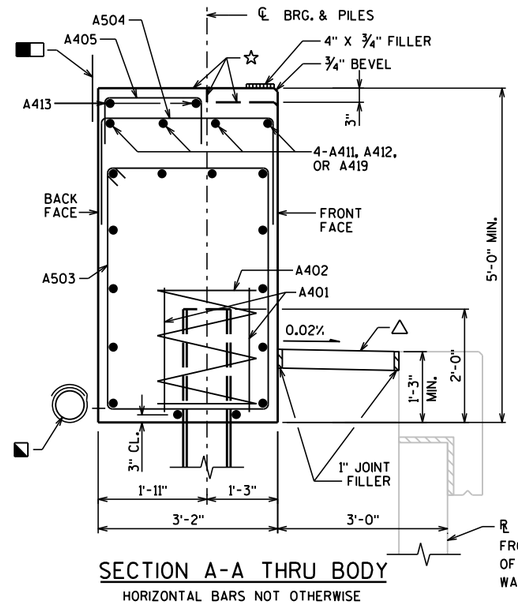
DETAIL B

LEGEND

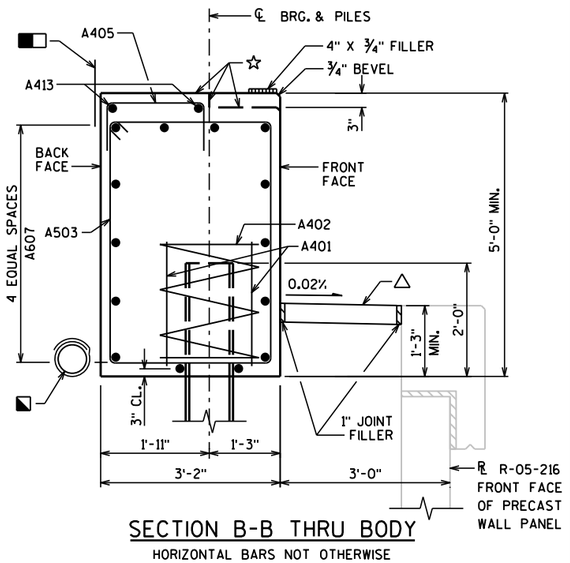
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ☆ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03"
- ✳ 1" EXPANDED POLYSTYRENE FILLER BETWEEN ABUTMENT AND RETAINING WALL.
- ◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.
- ◪ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.
- △ SLOPE PAVING CONCRETE, MINIMUM 4" THICKNESS. PLACE CONSTRUCTION JOINTS EVERY 10' MAXIMUM. SEE SLOPE PAVING CONSTRUCTION JOINT DETAIL.



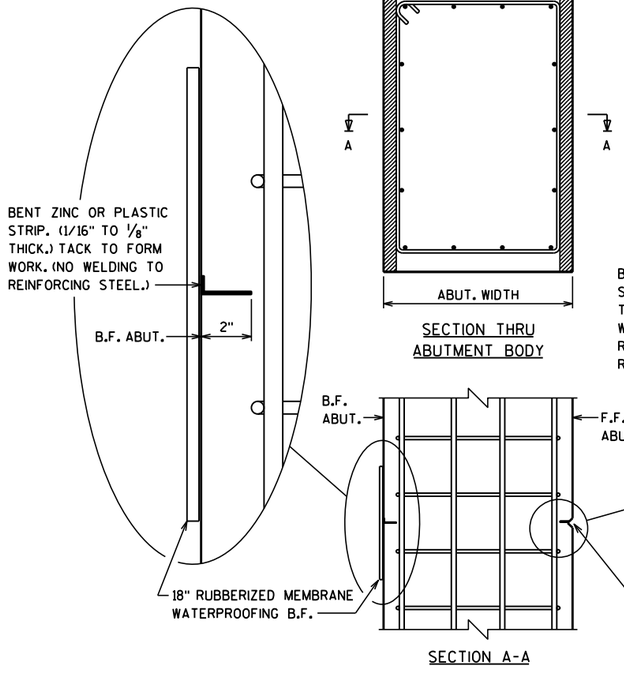
ABUTMENT END VIEW
(WEST END ONLY)



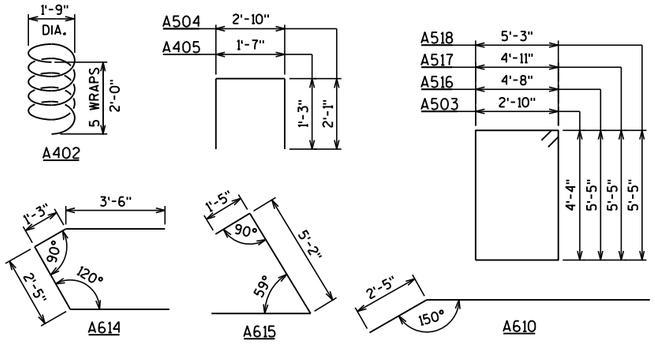
SECTION A-A THRU BODY
HORIZONTAL BARS NOT OTHERWISE IDENTIFIED ARE A608 BARS



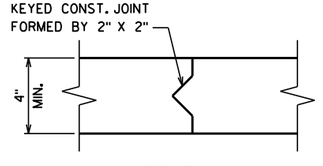
SECTION B-B THRU BODY
HORIZONTAL BARS NOT OTHERWISE IDENTIFIED ARE A606 BARS



ALTERNATE CONSTRUCTION JOINT AT ABUTMENT



BAR BENDING DIAGRAMS



SLOPE PAVING CONSTRUCTION JOINT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

DRAWN BY: BRE | PLANS CK'D.: KRO

SOUTH ABUTMENT DETAILS

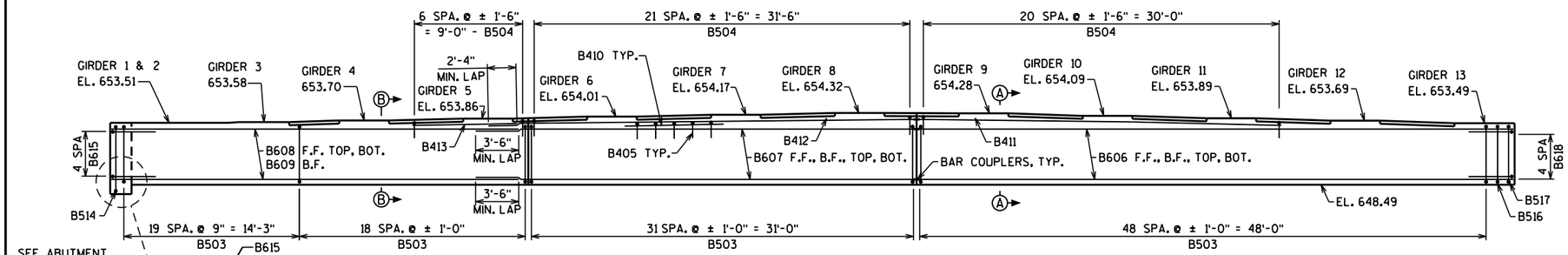
SHEET 7 OF 27

8

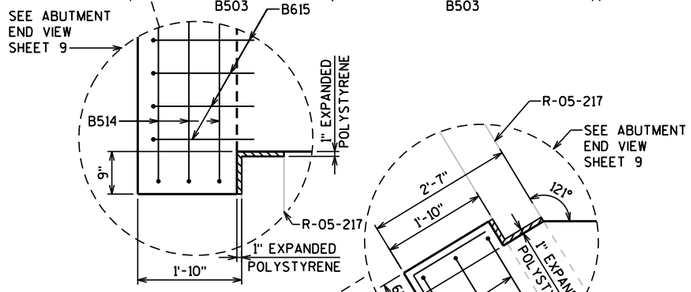
8

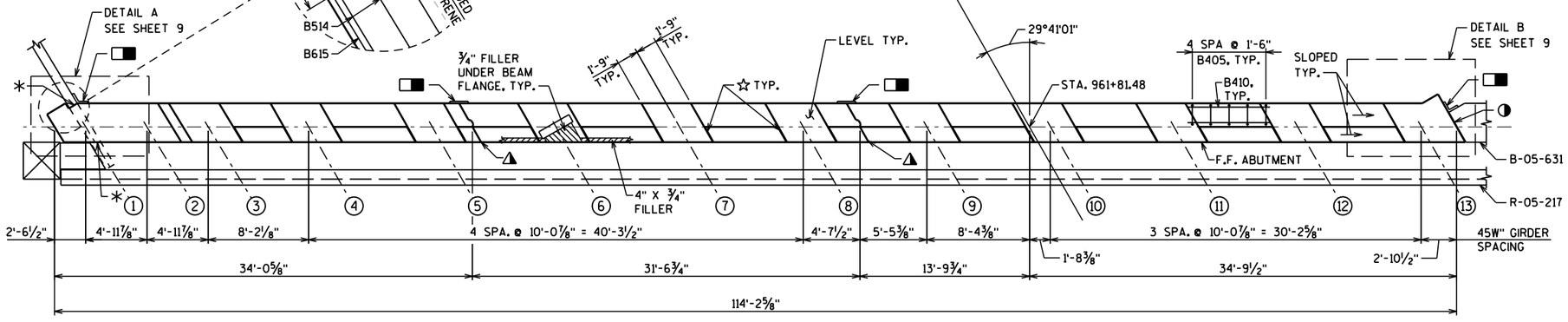
FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Bridges±B-5-630_morris sb±B-05-630 07 s abut det.dgn PLOT BY : epleyb PLOT DATE: 4/3/2013 3:47:04 PM

STATE PROJECT NUMBER
1133-03-77

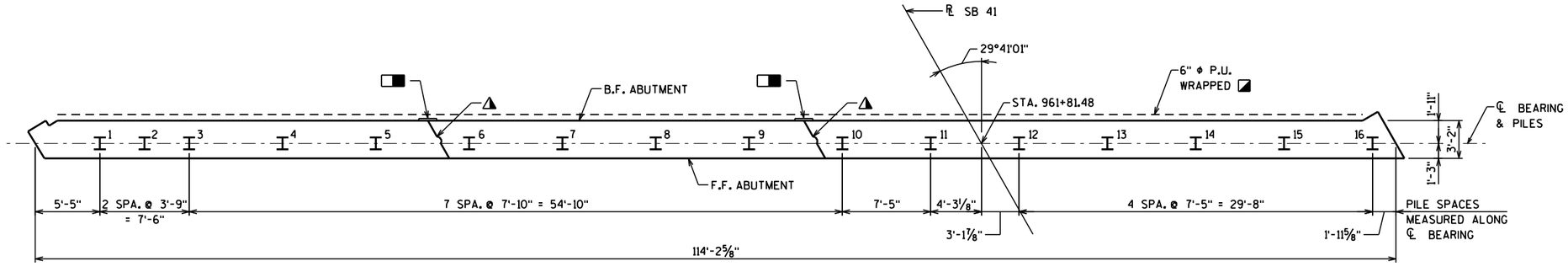


ELEVATION





PLAN



PILE PLAN

LEGEND

- ½" FILLER NOT INCLUDED IN ABUTMENT LENGTH, SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- VERTICAL CONSTRUCTION JOINT KEYWAY FORMED BY A BEVELED 2" X 8" NOTCH. USE ¾" "V" GROOVE JOINT @ THE FRONT FACE OF ABUTMENT.
- ☆ ¾" CORK FILLER ON VERTICAL FACES THAT RUN PARALLEL TO THE GIRDER.
- ✱ 1" EXPANDED POLYSTYRENE FILLER BETWEEN ABUTMENT AND RETAINING WALL.
- PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.
- IMPRINTED BRICK PATTERN, SEE SHEET 27.

SEE SHEET 9 FOR BILL OF BARS AND BAR BENDING DIAGRAMS.

PILE NOTE

NORTH ABUTMENT TO BE SUPPORTED ON HP 12 X 53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE. ESTIMATED LENGTH = 90' AT NORTH ABUTMENT. FOR PILE SPLICE DETAILS, SEE SHEET 5.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

DRAWN BY BRE | PLANS CK'D. KRO

NORTH ABUTMENT

SHEET 8 OF 27

8

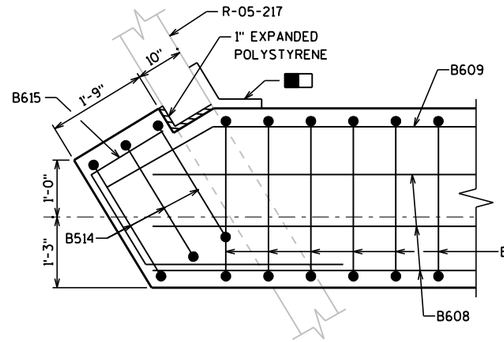
8

STATE PROJECT NUMBER
1133-03-77

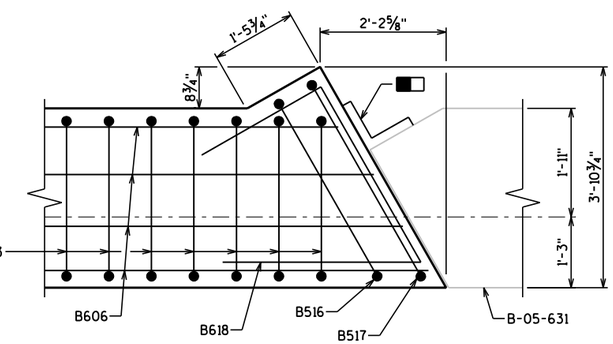
BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
B401	X	32	2'-3"		BODY - TWO PER PILE
B402	X	16	28'-0"	X	BODY - ONE PER PILE
B503	X	119	14'-11"	X	BODY - STIRRUPS
B504	X	50	6'-9"	X	BODY - VERTICAL, TOP
B405	X	53	3'-11"	X	BODY - VERTICAL, BTW. BEAM SEATS
⬡ B606	X	14	48'-5"		BODY - HORIZONTAL (STAGE 1)
⬡ B607	X	14	35'-3"		BODY - HORIZONTAL (STAGE 2)
B608	X	9	33'-8"		BODY - HORIZONTAL (STAGE 2)
B609	X	5	33'-5"	X	BODY - HORIZONTAL (STAGE 2)
B410	X	22	8'-0"		BODY - HORIZONTAL, BTW. BEAM SEATS
⬡ B411	X	4	29'-8"		BODY - HORIZONTAL, TOP
⬡ B412	X	4	34'-0"		BODY - HORIZONTAL, TOP
B413	X	4	9'-2"		BODY - HORIZONTAL, TOP
B514	X	3	16'-3"	X	BODY - STIRRUPS, WEST END
B615	X	5	7'-2"	X	BODY - HORIZONTAL, WEST END
B516	X	1	16'-5"	X	BODY - STIRRUPS, EAST END
B517	X	1	17'-3"	X	BODY - STIRRUPS, EAST END
B618	X	5	9'-7"	X	BODY - HORIZONTAL, EAST END

⬡ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.



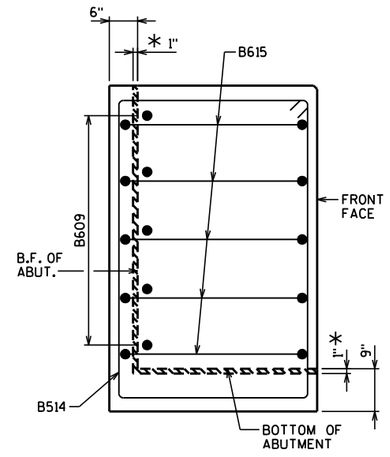
DETAIL A



DETAIL B

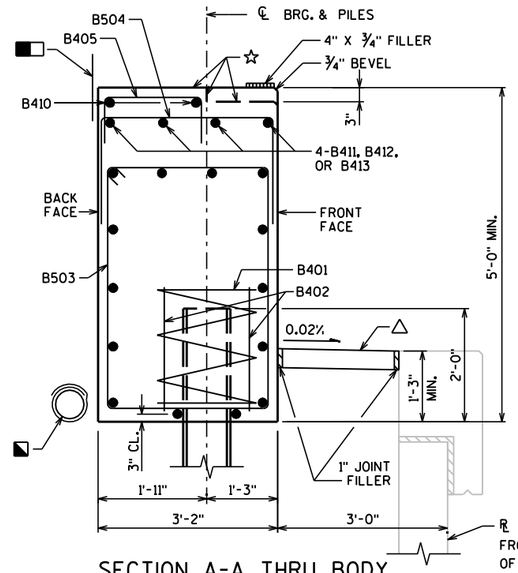
LEGEND

- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ☆ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03"
- ✳ 1" EXPANDED POLYSTYRENE FILLER BETWEEN ABUTMENT AND RETAINING WALL.
- ◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.
- ◪ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.
- △ SLOPE PAVING CONCRETE, MINIMUM 4" THICKNESS. PLACE CONSTRUCTION JOINTS EVERY 10' MAXIMUM. SEE SLOPE PAVING CONSTRUCTION JOINT DETAIL.



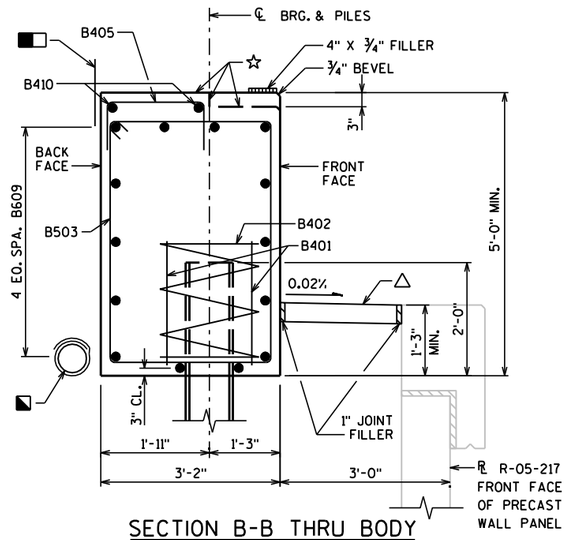
ABUTMENT END VIEW

(WEST END ONLY)



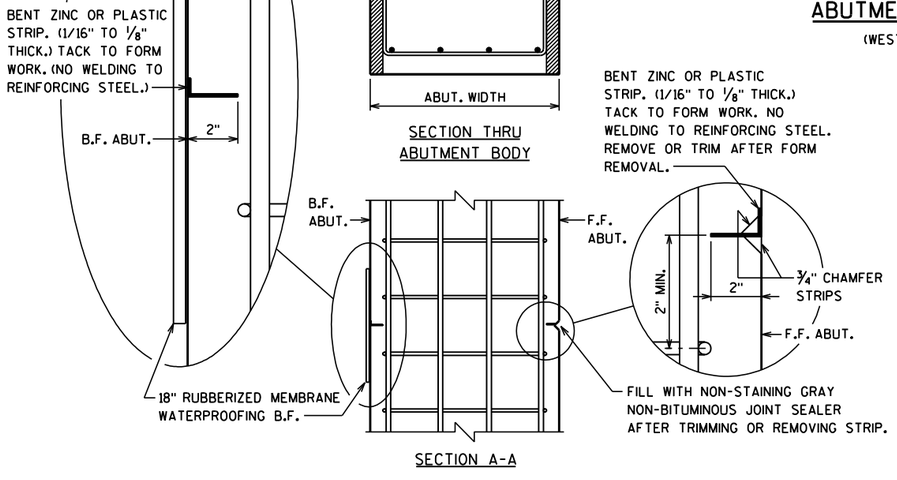
SECTION A-A THRU BODY

HORIZONTAL BARS NOT OTHERWISE IDENTIFIED ARE B606 BARS

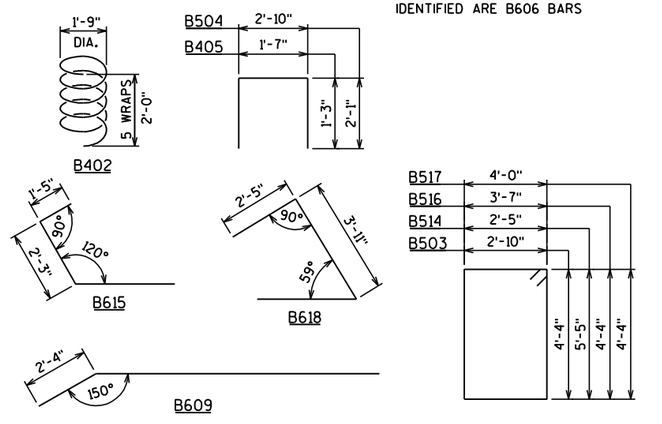


SECTION B-B THRU BODY

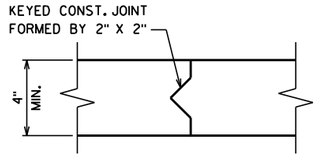
HORIZONTAL BARS NOT OTHERWISE IDENTIFIED ARE B608 BARS



ALTERNATE CONSTRUCTION JOINT AT ABUTMENT



BAR BENDING DIAGRAMS



SLOPE PAVING CONSTRUCTION JOINT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

DRAWN BY BRE | PLANS CK'D. KRO

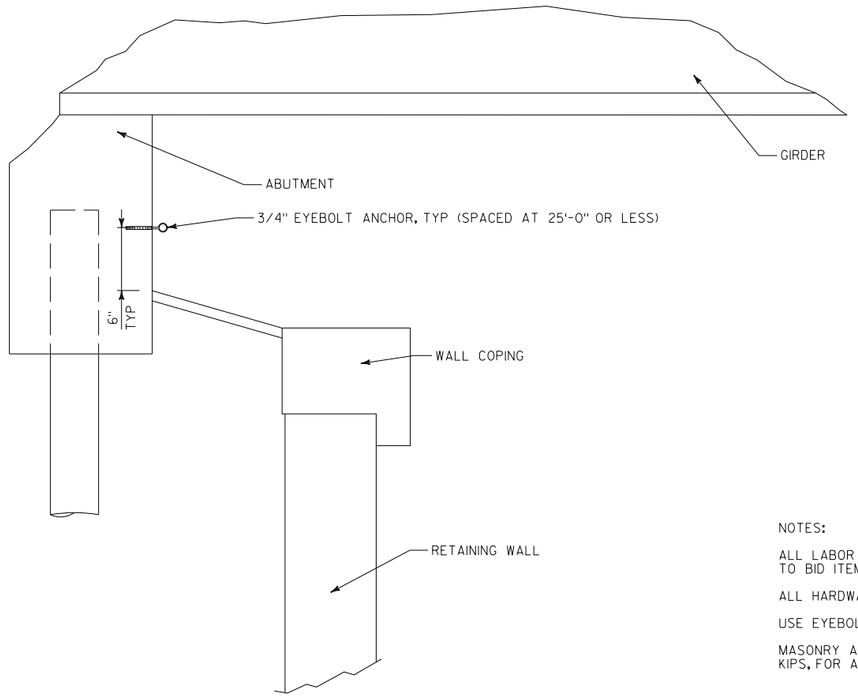
NORTH ABUTMENT DETAILS

SHEET 9 OF 27

8

8

STATE PROJECT NUMBER
1133-03-77



NOTES:

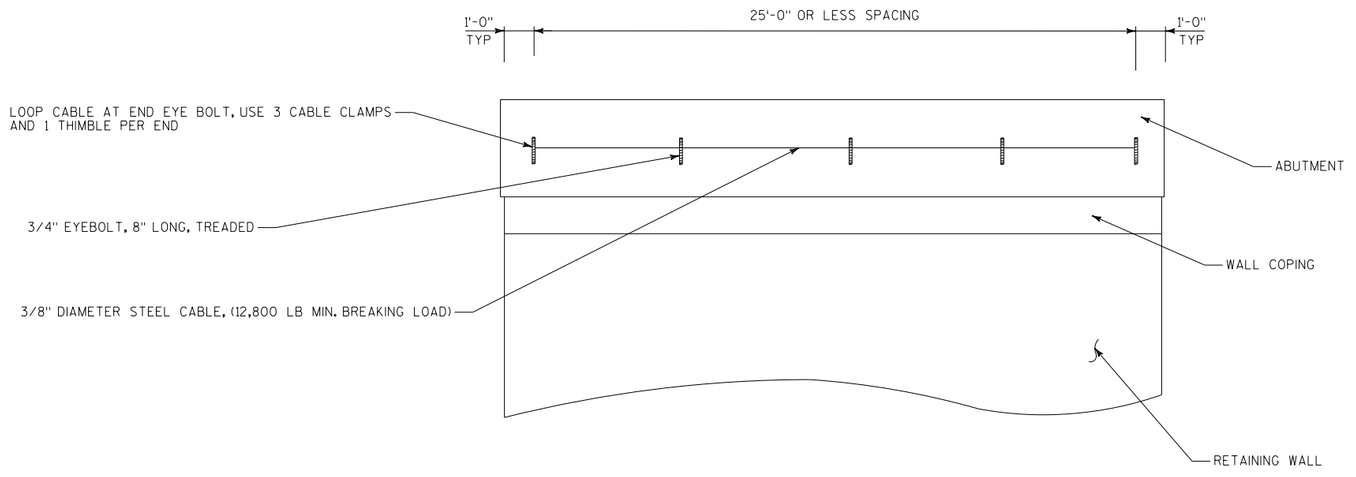
ALL LABOR AND MATERIAL (EYE BOLTS, CABLE, AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4 - INCH"

ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.

USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.

MASONRY ANCHORS TYPE S 3/4 - INCH, MIN. PULLOUT CAPACITY OF 26 KIPS, FOR ADHESIVE ANCHORS EMBEDDED A MIN. OF 7" IN CONCRETE.

SECTION



FRONT VIEW OF ABUTMENT

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

DRAWN BY BRE | PLANS CK'D. KRO

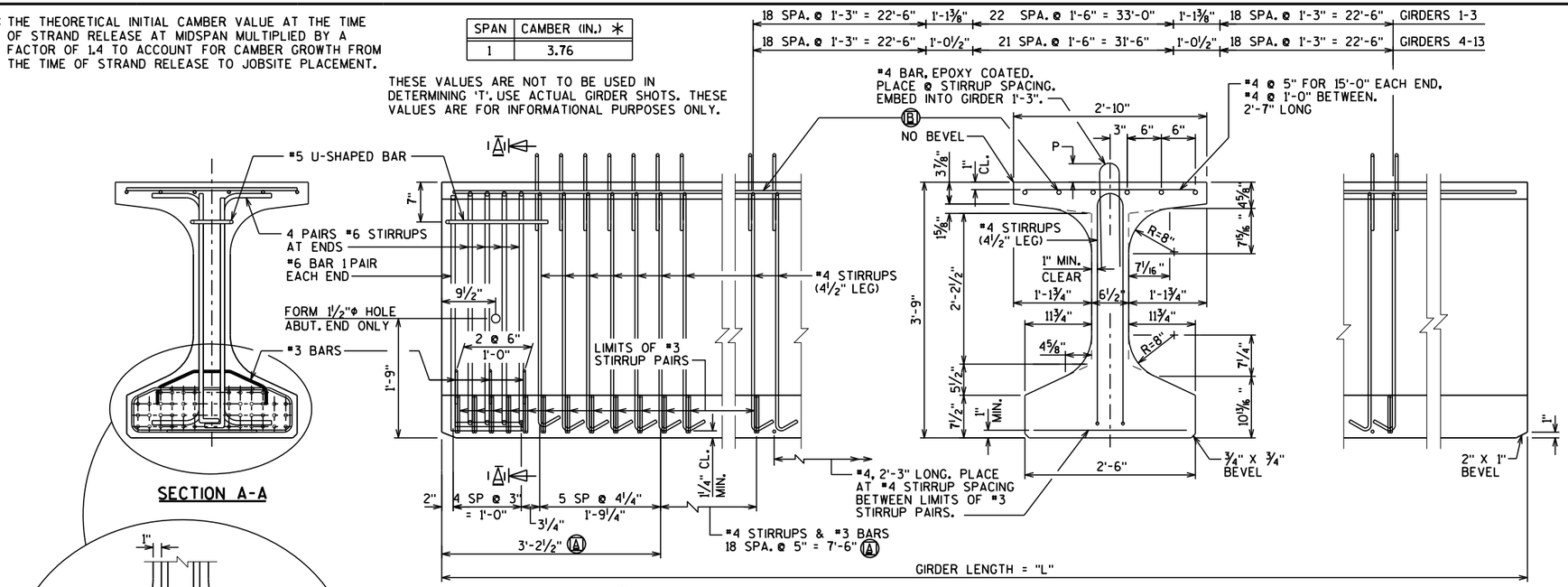
FALL PROTECTION

SHEET 10 OF 27

* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	3.76

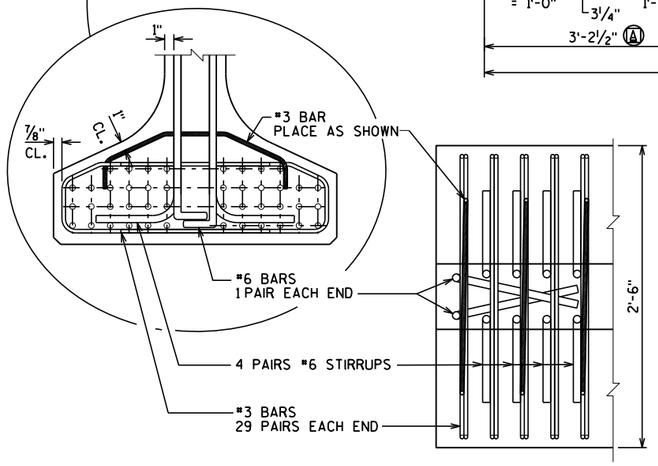
THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T'. USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



SECTION A-A

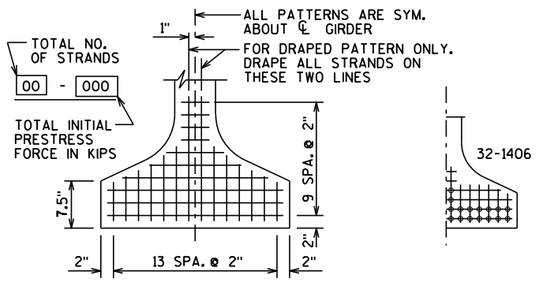
(A) DETAIL TYP. AT EACH END

(B) 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"

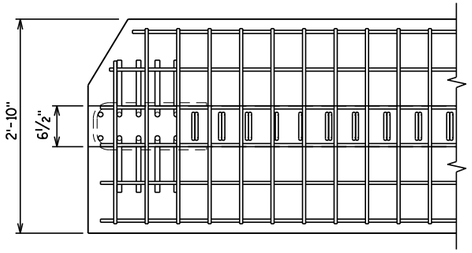


BOTTOM FLANGE

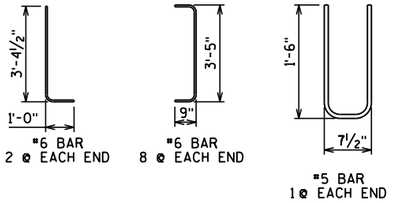
SIDE VIEW & TYP. SECTION IN SPAN

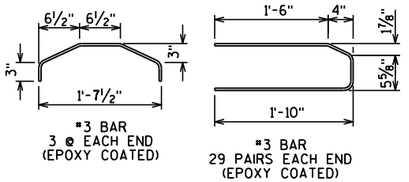


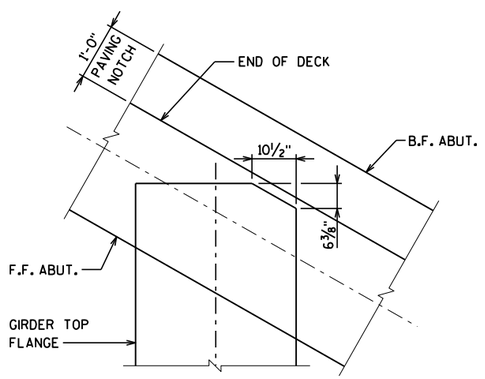
TYP. STRAND PATTERN



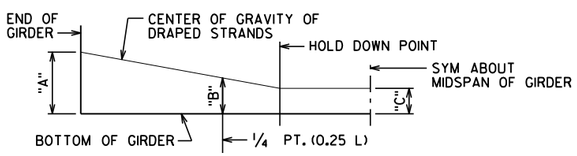
TOP FLANGE



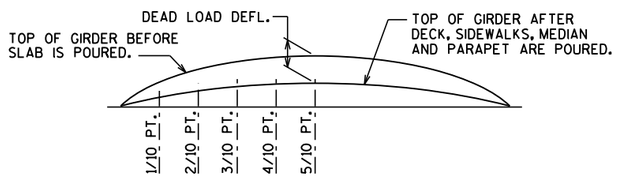




TOP FLANGE COPING DETAIL AT ABUTMENT ENDS



DRAPED STRAND PROFILE



DEAD LOAD DEFLECTION DIAGRAM

* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" IST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1-3	101.64'	0.6	1.2	1.7	1.9	2.0	1.9	1.7	1.2	0.6	8,000	8"	7"	8"	0.6	30	6,800	40	13¾"	16¾"	5	---	---
1	4-13	100.0'	0.6	1.2	1.7	1.9	2.0	1.9	1.7	1.2	0.6	8,000	8"	7"	8"	0.6	30	6,800	40	13¾"	16¾"	5	---	---

GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

PRESTRESSING STRANDS SHALL BE 0.6"Φ - 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO APPLICATION OF THE SEALER.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, 1 OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT CHIEF, (608)266-5161.

STATE PROJECT NUMBER
1133-03-77

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

DRAWN BY BRE | PLANS CK'D. KRO

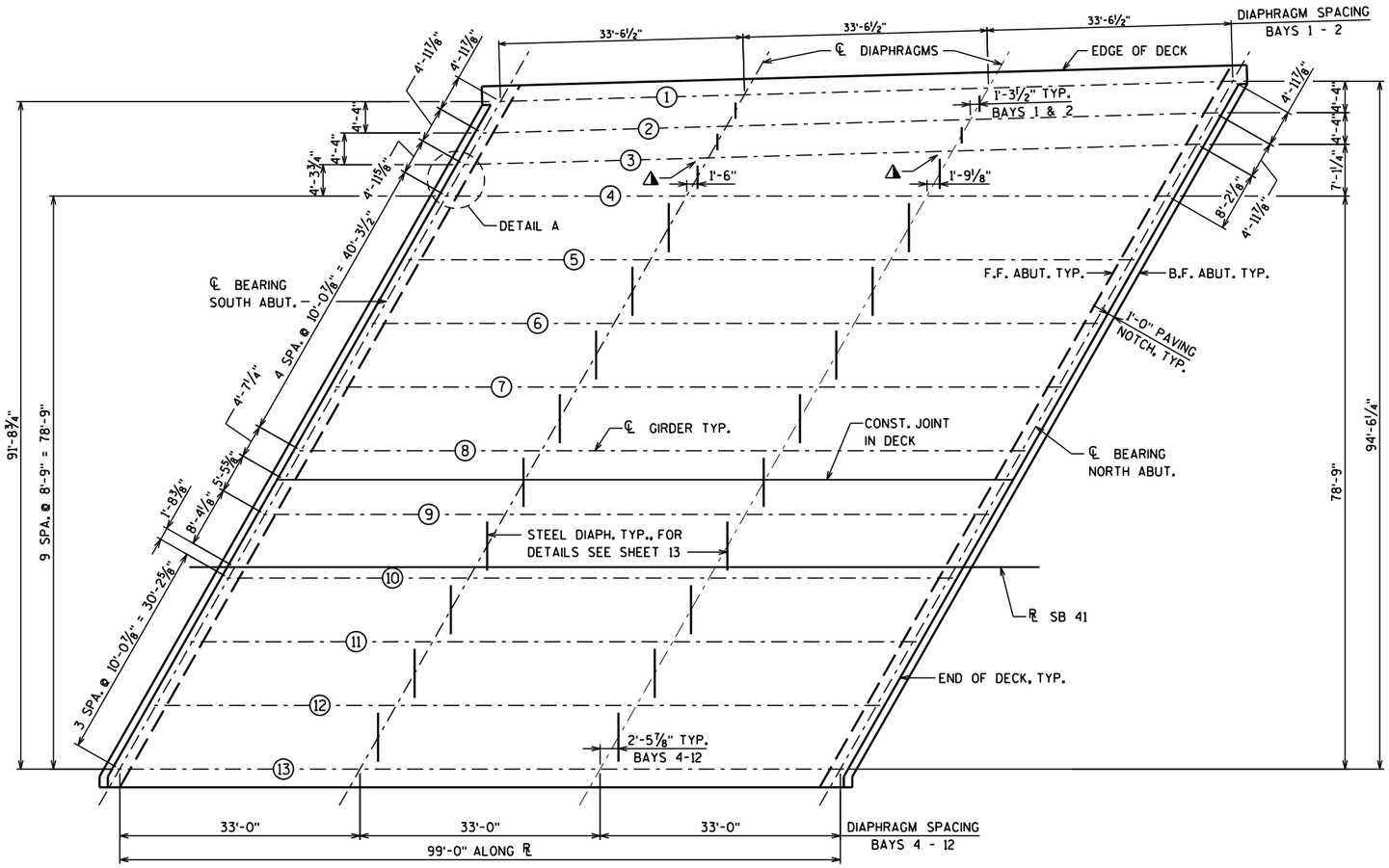
45W" PRESTRESSED GIRDER

SHEET 11 OF 27

8

8

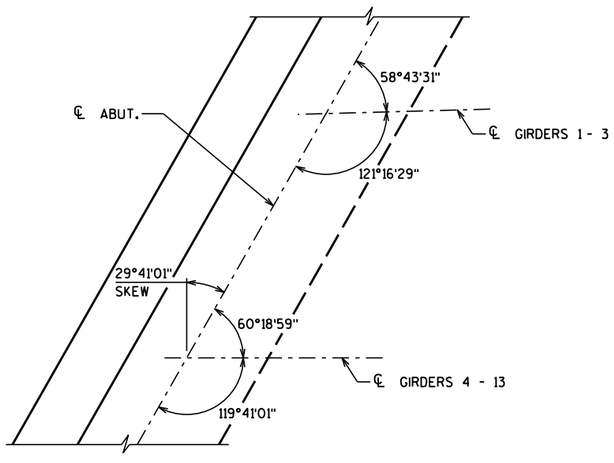
STATE PROJECT NUMBER
1133-03-77



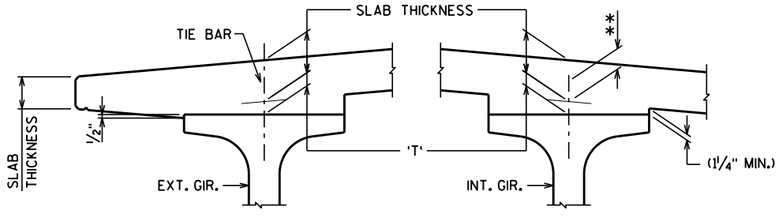
FRAMING PLAN

NOTES

⚠ INSIDE ANGLE AT CONNECTION BETWEEN DIAPHRAGM AND INSIDE OF GIRDER 3 IS 88.4°. MODIFY DIAPHRAGM SUPPORT ANGLE AS NECESSARY TO FIT CONNECTION. SEE SHEET 13 FOR MORE DETAILS. ALL OTHER DIAPHRAGM CONNECTIONS ARE PERPENDICULAR.



DETAIL A



SLAB HAUNCH DETAIL

IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

DRAWN BY BRE | PLANS CK'D. KRO

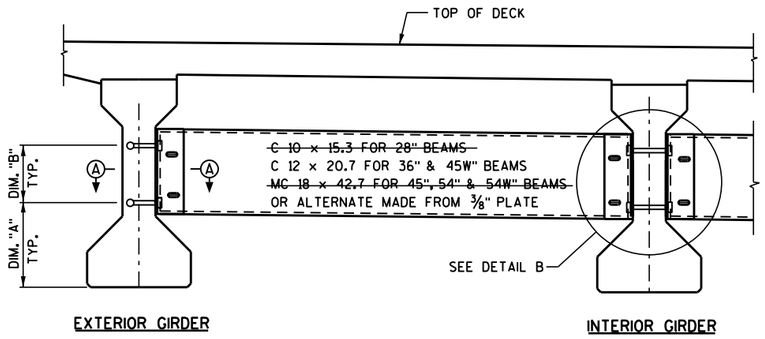
SUPERSTRUCTURE LAYOUT

SHEET 12 OF 27

8

8

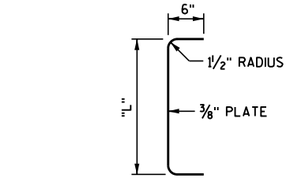
STATE PROJECT NUMBER
1133-03-77



PART TRANSVERSE SECTION AT DIAPHRAGM

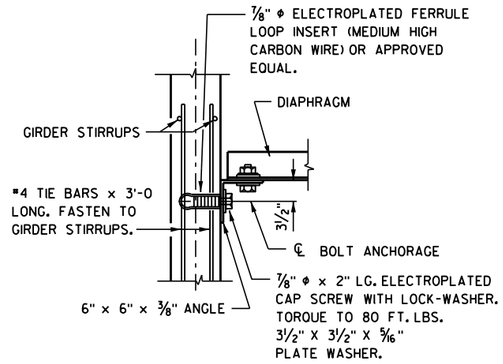
TABLE

GIRDER HEIGHT	DIM. "A"	DIM. "B"	DIM. "L"	* DIM. "X"
~~28"~~	~~1'-0 7/8"~~	~~5 7/8"~~	~~9 1/2"~~	~~2 1/4"~~
~~36"~~	~~1'-2 7/8"~~	~~9 7/8"~~	~~1'-1 1/2"~~	~~3 1/4"~~
~~45"~~	~~1'-5 3/8"~~	~~1'-1 7/8"~~	~~1'-5 1/2"~~	~~2 1/4"~~
45W"	1'-9 1/8"	8 7/8"	1'-0 1/2"	2 3/4"
~~54"~~	~~1'-7 7/8"~~	~~1'-5 7/8"~~	~~1'-9 1/2"~~	~~4 1/4"~~
~~54W"~~	~~1'-9 1/8"~~	~~1'-5 7/8"~~	~~1'-9 1/2"~~	~~4 1/4"~~



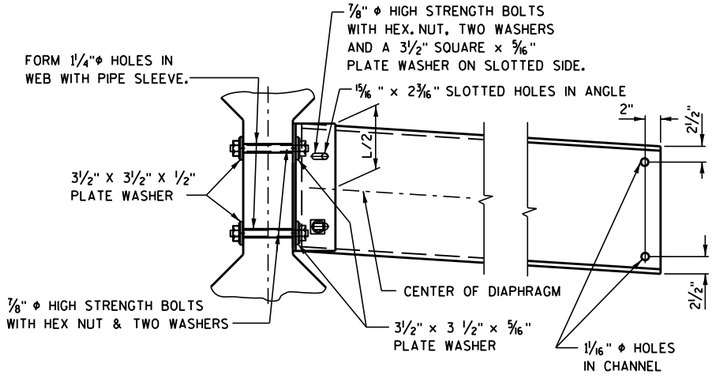
SECTION THRU ALTERNATE DIAPHRAGM

*DIM "X" = 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM



SECT. A-A

(FOR EXTERIOR ATTACHMENT)



DETAIL B

(FOR STAGGERED DIAPHRAGMS)

NOTES

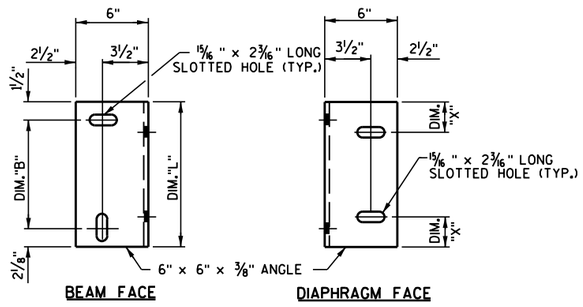
ALL DIAPHRAGM MATERIAL AND CORED HOLES SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS, B-05-630", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.



DIAPHRAGM SUPPORT

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

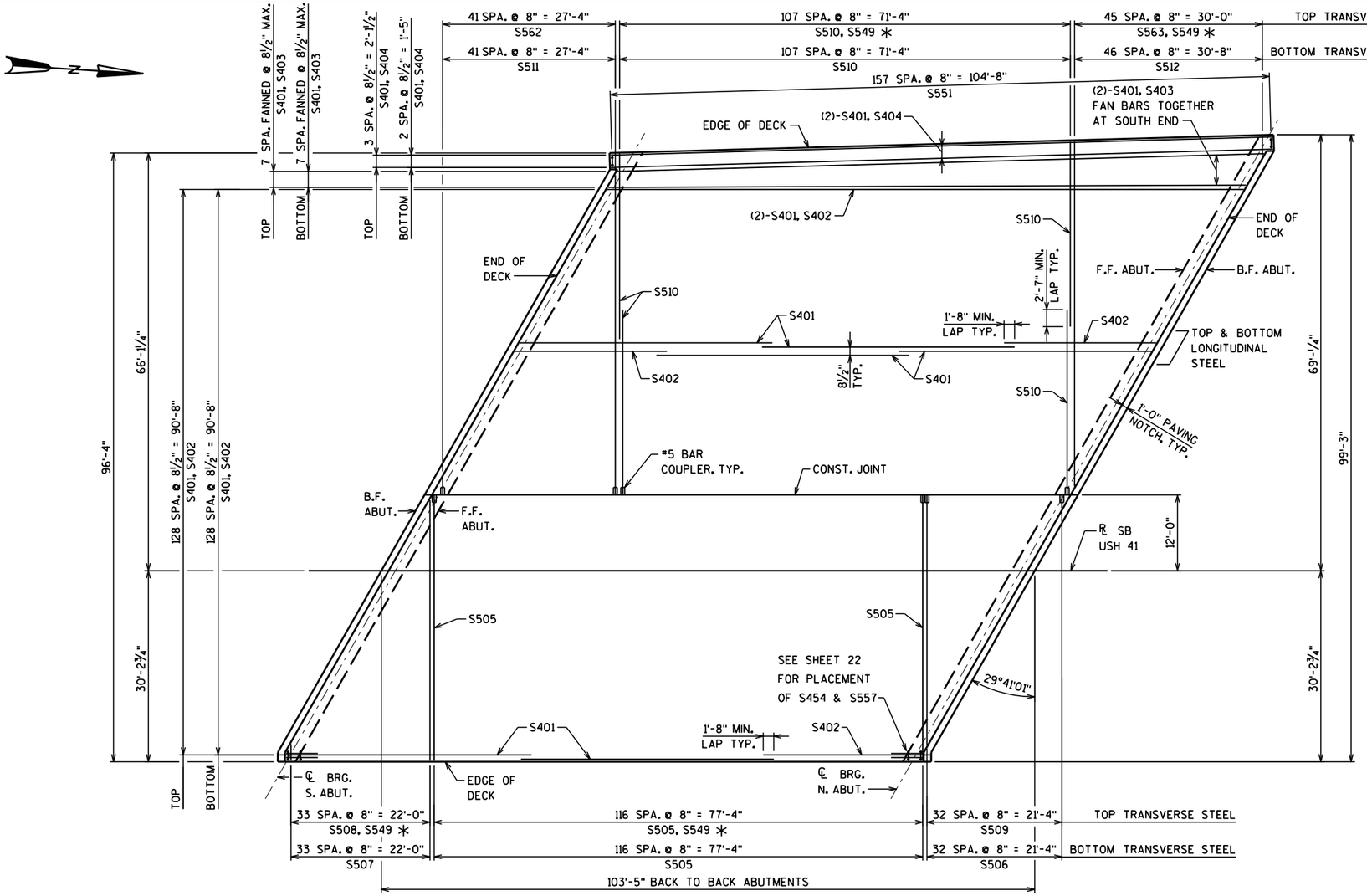
STRUCTURE B-05-630

DRAWN BY BRE | PLANS CK'D. KRO

STEEL DIAPHRAGMS

SHEET 13 OF 27

STATE PROJECT NUMBER
1133-03-77



SUPERSTRUCTURE PLAN

TOP OF DECK ELEVATIONS

LOCATION	S. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	N. ABUT.
GIRDER 1	657.90	657.95	658.01	658.06	658.10	658.15	658.19	658.23	658.27	658.31	658.34
W. FLOW LINE	657.90	657.96	658.01	658.06	658.11	658.16	658.20	658.24	658.28	658.31	658.35
GIRDER 2	657.97	658.02	658.08	658.13	658.18	658.22	658.27	658.31	658.35	658.38	658.42
GIRDER 3	658.04	658.10	658.15	658.20	658.25	658.30	658.34	658.38	658.42	658.46	658.49
GIRDER 4	658.11	658.17	658.23	658.29	658.34	658.40	658.45	658.49	658.54	658.58	658.62
GIRDER 5	658.25	658.32	658.38	658.44	658.49	658.54	658.60	658.64	658.69	658.73	658.78
GIRDER 6	658.40	658.46	658.52	658.58	658.64	658.69	658.75	658.80	658.84	658.89	658.93
GIRDER 7	658.54	658.60	658.67	658.73	658.78	658.84	658.89	658.95	658.99	659.04	659.08
GIRDER 8	658.68	658.75	658.81	658.87	658.93	658.99	659.04	659.10	659.14	659.19	659.24
CROWN	658.74	658.81	658.87	658.94	659.00	659.06	659.11	659.16	659.21	659.26	659.31
GIRDER 9	658.63	658.70	658.76	658.83	658.89	658.94	659.00	659.05	659.11	659.15	659.20
R/L	658.45	658.52	658.59	658.65	658.72	658.78	658.83	658.89	658.94	658.99	659.04
GIRDER 10	658.42	658.49	658.55	658.62	658.68	658.74	658.80	658.85	658.90	658.95	659.00
GIRDER 11	658.21	658.28	658.35	658.41	658.47	658.54	658.59	658.65	658.70	658.75	658.80
GIRDER 12	658.00	658.07	658.14	658.20	658.27	658.33	658.39	658.45	658.50	658.55	658.60
GIRDER 13	657.78	657.86	657.93	658.00	658.06	658.12	658.19	658.24	658.30	658.35	658.40
E. FLOW LINE	657.75	657.83	657.90	657.97	658.03	658.10	658.16	658.22	658.27	658.33	658.38

* LAP S549 ONTO EVERY TRANSVERSE BAR IN THE TOP MAT BETWEEN THE ABUTMENTS AS SHOWN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

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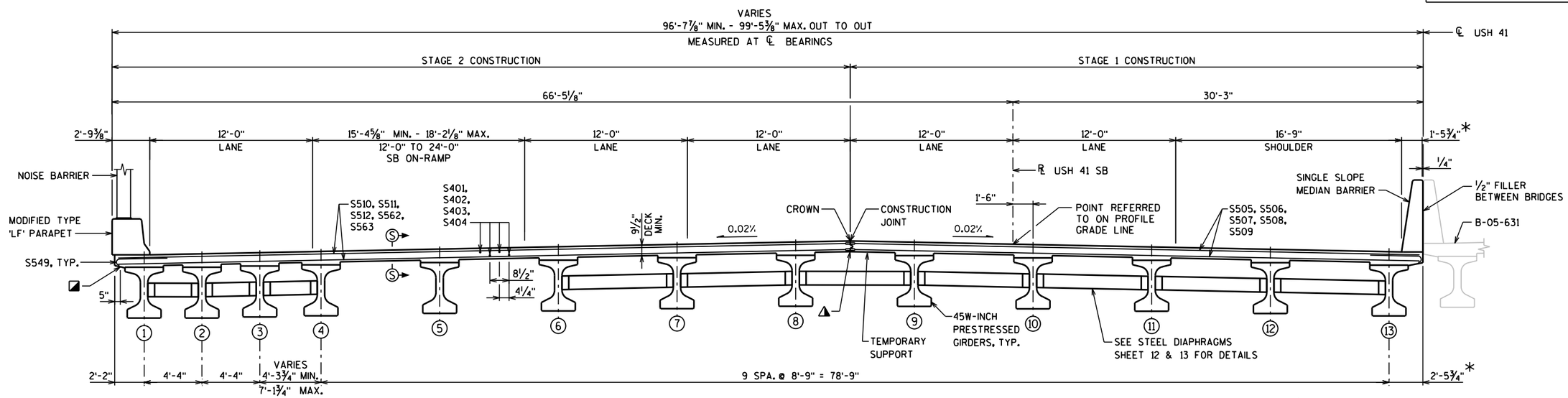
SUPERSTRUCTURE REINFORCEMENT

SHEET 14 OF 27

8

8

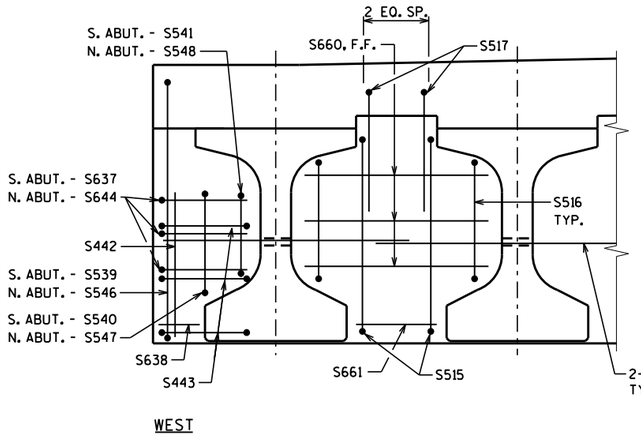
STATE PROJECT NUMBER
1133-03-77



CROSS SECTION

(LOOKING NORTH)

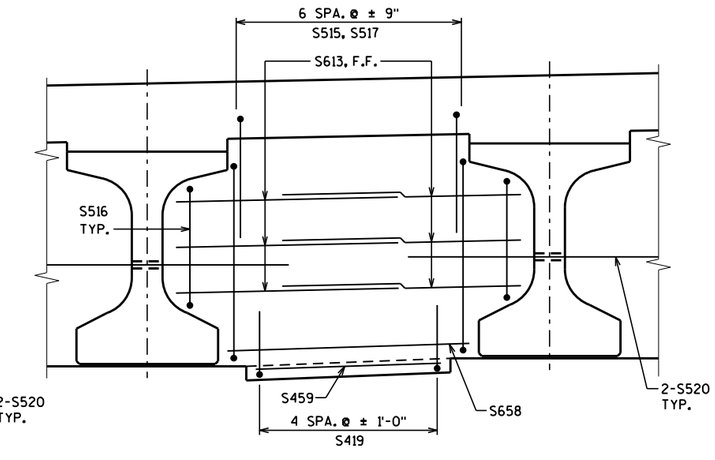
* DIMENSIONS DOES NOT INCLUDE ½" FILLER BETWEEN BRIDGES.



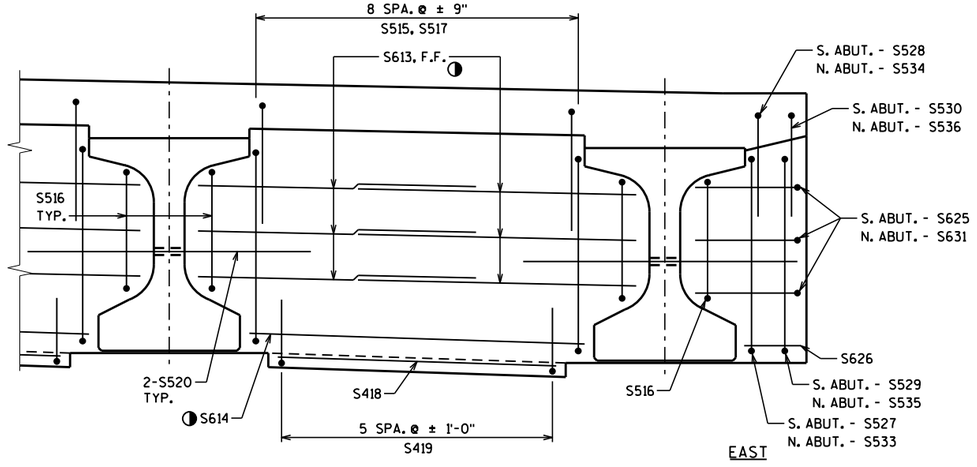
WEST

BETWEEN GIRDERS 1 & 4 SOUTH ABUTMENT

BETWEEN GIRDERS 1 & 3 NORTH ABUTMENT



BETWEEN GIRDERS 3 & 4 NORTH ABUTMENT



EAST

TYPICAL INTERIOR

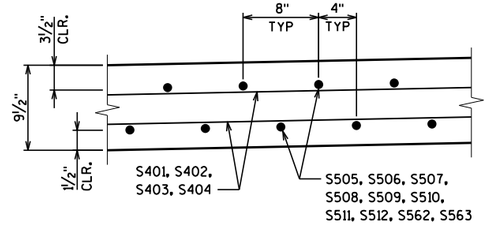
DIAPHRAGM AT ABUTMENT

◑ FIELD CUT S613 & S614 AT CONSTRUCTION JOINT AND USE #6 BAR COUPLER

◪ ¾" V-GROOVE. EXTEND V-GROOVE TO 3" FROM FRONT FACE OF ABUTMENT DIAPHRAGM.

◭ LONGITUDINAL CONSTRUCTION JOINT KEYWAY FORMED BY A SURFACE BEVELED 2" X 2". CENTER KEYWAY BETWEEN MATS.

◑ FIELD CUT S613 AT CONSTRUCTION JOINT AND USE #6 BAR COUPLER



SECTION S-S

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

DRAWN BY BRE | PLANS CK'D. KRO

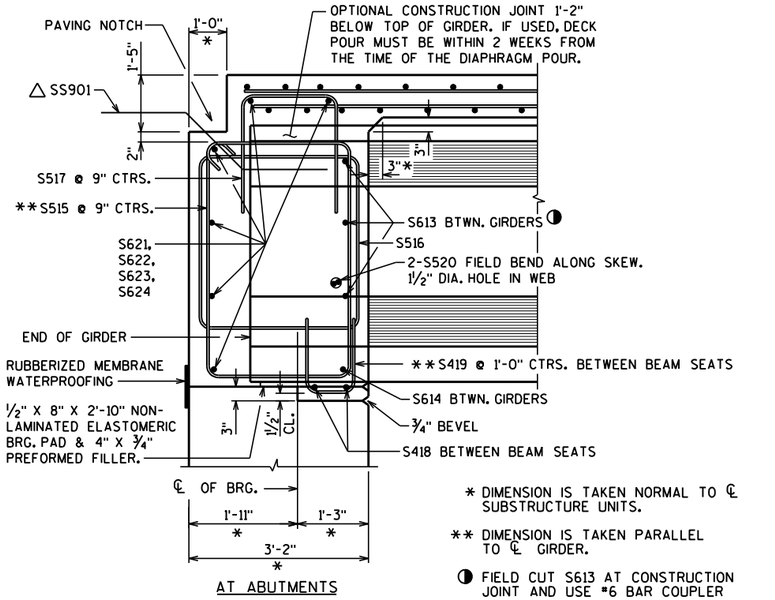
SUPERSTRUCTURE CROSS SECTION

SHEET 15 OF 27

8

8

STATE PROJECT NUMBER
1133-03-77



AT ABUTMENTS

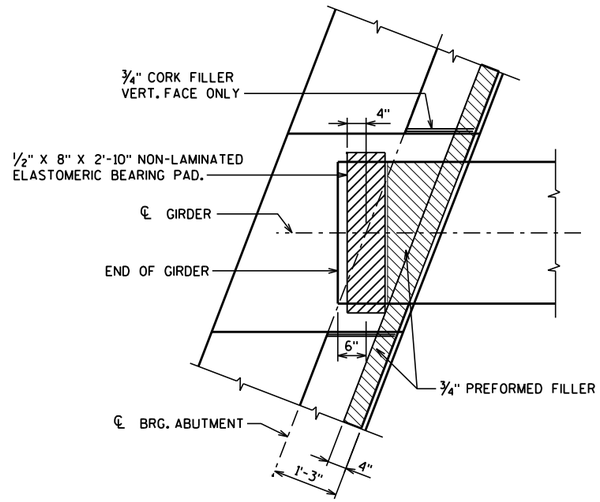
PART LONGIT. SECTION

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

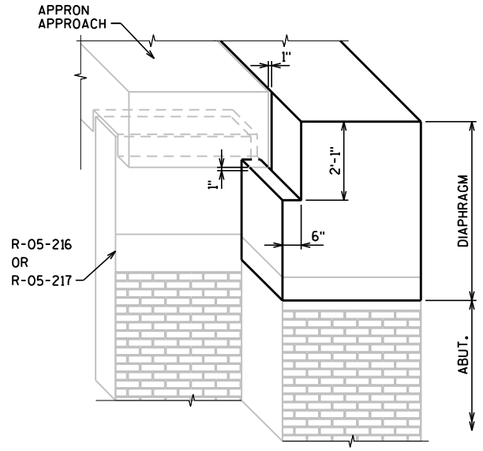
** DIMENSION IS TAKEN PARALLEL TO ℄ GIRDER.

◑ FIELD CUT S613 AT CONSTRUCTION JOINT AND USE #6 BAR COUPLER

△ SPACE SS901 BARS @ 1'-0", TO MISS GIRDER WEBS, SEE SHEETS 18 & 19 FOR ADDITIONAL PLACEMENT INFORMATION

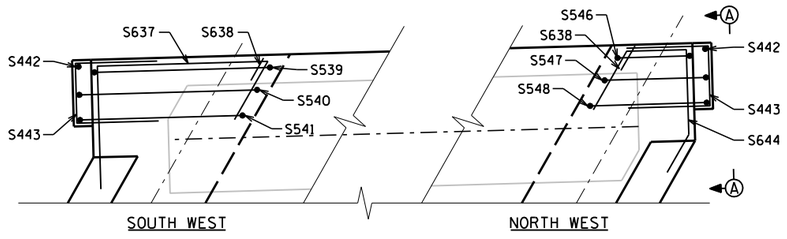


BEARING PAD DETAIL

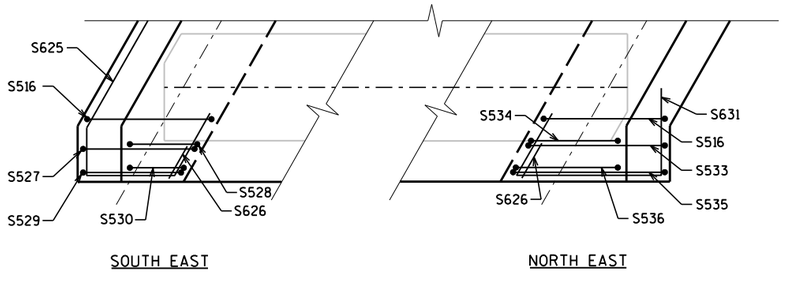


ISOMETRIC VIEW - DIAPHRAGM END

BARRIERS NOT SHOWN FOR CLARITY

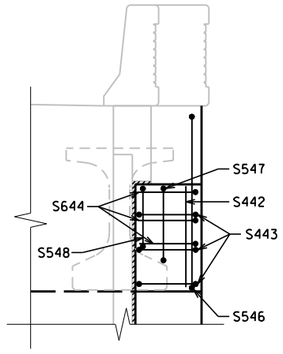


SOUTH WEST NORTH WEST



SOUTH EAST NORTH EAST

DIAPHRAGM CORNERS



SECTION A-A

TYPICAL AT WEST END OF DIAPHRAGMS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

DRAWN BY BRE | PLANS CK'D. KRO

SUPERSTRUCTURE DETAILS 1

SHEET 16 OF 27

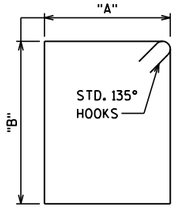
8

8

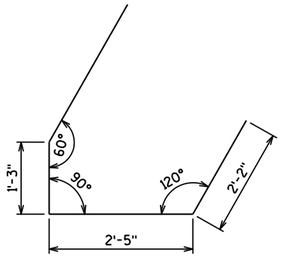
STATE PROJECT NUMBER
1133-03-77

BILL OF BARS

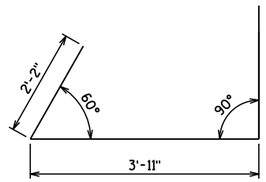
	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	SERIES	LOCATION
	S401	X	562	40'-0"			SLAB - LONG. TOP & BOT.
	S402	X	258	24'-1"			SLAB - LONG. TOP & BOT.
	S403	X	16	25'-9"			SLAB - LONG. TOP & BOT.
	S404	X	7	28'-2"			SLAB - LONG. TOP & BOT.
☆	S505	X	234	42'-0"			SLAB - TRANS. TOP & BOT.
☆	S506	X	33	21'-4"		X	SLAB - TRANS. BOTTOM, N.E.
	S507	X	34	21'-4"		X	SLAB - TRANS. BOTTOM, S.E.
	S508	X	34	21'-11"		X	SLAB - TRANS. TOP, S.E.
☆	S509	X	33	20'-10"		X	SLAB - TRANS. TOP, N.E.
☆	S510	X	432	29'-4"			SLAB - TRANS. TOP & BOT.
☆	S511	X	42	26'-1"		X	SLAB - TRANS. BOTTOM, S.W.
	S512	X	47	28'-8"		X	SLAB - TRANS. BOTTOM, N.W.
◑	S613	X	114	5'-7"			ABUT. DIAPH. HORIZONTAL, F.F.
◑	S614	X	18	6'-9"			ABUT. DIAPH. HORIZONTAL, F.F. BOTTOM
	S515	X	184	13'-1"	X		ABUTMENT DIAPH. VERTICAL
	S516	X	50	10'-9"	X		ABUTMENT DIAPH. VERTICAL
	S517	X	184	6'-8"	X		ABUTMENT DIAPH. VERTICAL TOP
	S418	X	36	5'-6"			ABUTMENT DIAPH. HORIZ. BTW. BEAM SEATS
	S419	X	113	3'-3"	X		ABUTMENT DIAPH. VERT. BTW. BEAM SEATS
	S520	X	52	6'-0"			ABUTMENT DIAPH. HORIZ. THRU GIRDERS
☆	S621	X	6	46'-9"			ABUTMENT DIAPH. HORIZ., S. ABUT. STAGE 1
☆	S622	X	12	32'-9"			ABUTMENT DIAPH. HORIZ., S. ABUT. STAGE 2
☆	S623	X	6	48'-3"			ABUTMENT DIAPH. HORIZ., N. ABUT. STAGE 1
☆	S624	X	12	33'-0"			ABUTMENT DIAPH. HORIZ., N. ABUT. STAGE 2
	S625	X	3	8'-11"	X		ABUTMENT DIAPH. HORIZ. S.E. CORNER
	S626	X	2	1'-1"			ABUTMENT DIAPH. HORIZ. S.E. & N.E. COR., BOT.
	S527	X	1	12'-11"	X		ABUTMENT DIAPH. VERT. S.E. CORNER
	S528	X	1	6'-1"	X		ABUTMENT DIAPH. VERT. S.E. CORNER, TOP
	S529	X	1	11'-11"	X		ABUTMENT DIAPH. VERT. S.E. CORNER
	S530	X	1	5'-8"	X		ABUTMENT DIAPH. VERT. S.E. CORNER, TOP
	S631	X	3	9'-2"	X		ABUTMENT DIAPH. HORIZ. N.E. CORNER
	S533	X	1	14'-1"	X		ABUTMENT DIAPH. VERT. N.E. CORNER
	S534	X	1	6'-8"	X		ABUTMENT DIAPH. VERT. N.E. CORNER, TOP
	S535	X	1	14'-11"	X		ABUTMENT DIAPH. VERT. N.E. CORNER
	S536	X	1	7'-1"	X		ABUTMENT DIAPH. VERT. N.E. CORNER, TOP
	S637	X	3	9'-8"	X		ABUTMENT DIAPH. HORIZ. S.W. CORNER
	S638	X	2	0'-8"			ABUTMENT DIAPH. HORIZ. S.W. & N.W. COR., BOT.
	S539	X	1	18'-7"	X		ABUTMENT DIAPH. VERT. S.W. CORNER
	S540	X	1	13'-11"	X		ABUTMENT DIAPH. VERT. S.W. CORNER
	S541	X	1	12'-5"	X		ABUTMENT DIAPH. VERT. S.W. CORNER
	S442	X	2	2'-4"			ABUTMENT DIAPH. HORIZ. S.W. & N.W. CORNER
	S443	X	6	5'-7"	X		ABUTMENT DIAPH. HORIZ. S.W. & N.W. CORNER
	S644	X	3	9'-0"	X		ABUTMENT DIAPH. HORIZ. N.W. CORNER
	S546	X	1	12'-7"	X		ABUTMENT DIAPH. VERT. N.W. CORNER
	S547	X	1	9'-11"	X		ABUTMENT DIAPH. VERT. N.W. CORNER
	S548	X	1	10'-1"	X		ABUTMENT DIAPH. VERT. N.W. CORNER
	S549	X	290	4'-7"	X		SLAB TRANSVERSE EDGE OF DECK
	S550	X	24	36'-11"			PARAPET LONGITUDINAL
	S551	X	158	8'-6"	X		PARAPET VERTICAL
	S652	X	80	4'-7"	X		PARAPET VERTICAL AT WALL POST
	S453	X	40	6'-10"	X		PARAPET HORIZ. AT WALL POST
	S454	X	12	8'-0"	X		MEDIAN BARRIER VERTICAL
	S555	X	47	3'-3"	X		MEDIAN BARRIER VERTICAL
	S556	X	12	51'-11"			MEDIAN BARRIER HORIZONTAL
	S557	X	8	5'-0"			MEDIAN BARRIER HORIZONTAL IN DECK
	S658	X	1	4'-8"			NORTH ABUTMENT DIAPH. HORIZ. BTW. GIRD. 3 & 4
	S459	X	1	3'-3"			NORTH ABUTMENT DIAPH. HORIZ. BTW. GIRD. 3 & 4
	S660	X	15	3'-8"			ABUTMENT DIAPH. HORIZ. AT CLOSE SPACING
	S661	X	5	1'-8"			ABUTMENT DIAPH. HORIZ. AT CLOSE SPACING
☆	S562	X	42	26'-7"		X	SLAB - TRANS. TOP, S.W.
	S563	X	46	28'-8"		X	SLAB - TRANS. TOP, N.W.



BAR MARK	DIM "A"	DIM "B"
S515	3'-3"	3'-0"
S516	3'-3"	1'-10"
S527	3'-0"	3'-2"
S529	2'-6"	3'-2"
S533	3'-7"	3'-2"
S535	4'-0"	3'-2"
S539	4'-10"	4'-2"
S540	4'-10"	1'-10"
S541	4'-5"	1'-6"
S546	1'-10"	4'-2"
S547	2'-10"	1'-10"
S548	3'-3"	1'-6"
S453	1'-7"	1'-7"



S625



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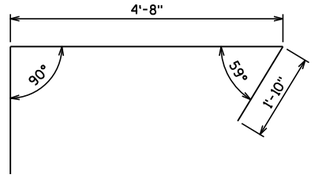

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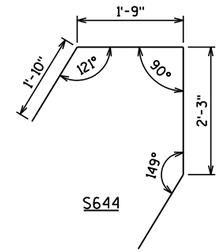

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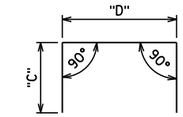
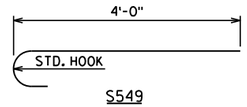


BAR MARK	DIM "C"	DIM "D"
S517	2'-5"	2'-1"
S419	1'-3"	0'-11"
S528	2'-3"	1'-10"
S530	2'-3"	1'-5"
S534	2'-3"	2'-5"
S536	2'-3"	2'-10"
S443	2'-2"	1'-5"
S652	1'-5"	2'-1"



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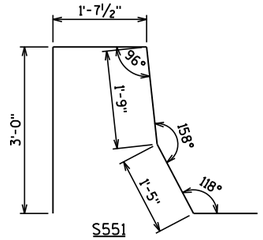

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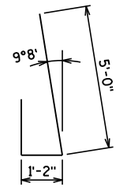

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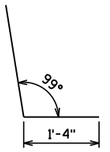

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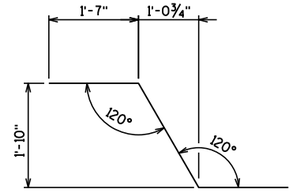


SS901

BAR BEND DIAGRAMS

NOTES:

☆ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.

◑ FIELD CUT S613 & S614 AT CONSTRUCTION JOINT AND USE #6 BAR COUPLER.

BAR SERIES

BAR NO.	NO. REQ'D.	LENGTH
S506	1 SERIES OF 33	2'-7" TO 40'-1"
S507	1 SERIES OF 34	2'-0" TO 40'-8"
S508	1 SERIES OF 34	2'-8" TO 41'-2"
S509	1 SERIES OF 33	2'-2" TO 39'-6"
S511	1 SERIES OF 42	2'-2" TO 50'-0"
S512	1 SERIES OF 47	2'-2" TO 55'-2"
S562	1 SERIES OF 42	2'-7" TO 50'-7"
S563	1 SERIES OF 46	2'-9" TO 54'-7"

STAINLESS STEEL BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
SS901		217	5'-0"	X	CONC. DIAPH. @ ABUTS. TO APPROACH APRON

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

DRAWN BY BRE | PLANS CK'D. KRO

SUPERSTRUCTURE DETAILS 2

SHEET 17 OF 27

8

8

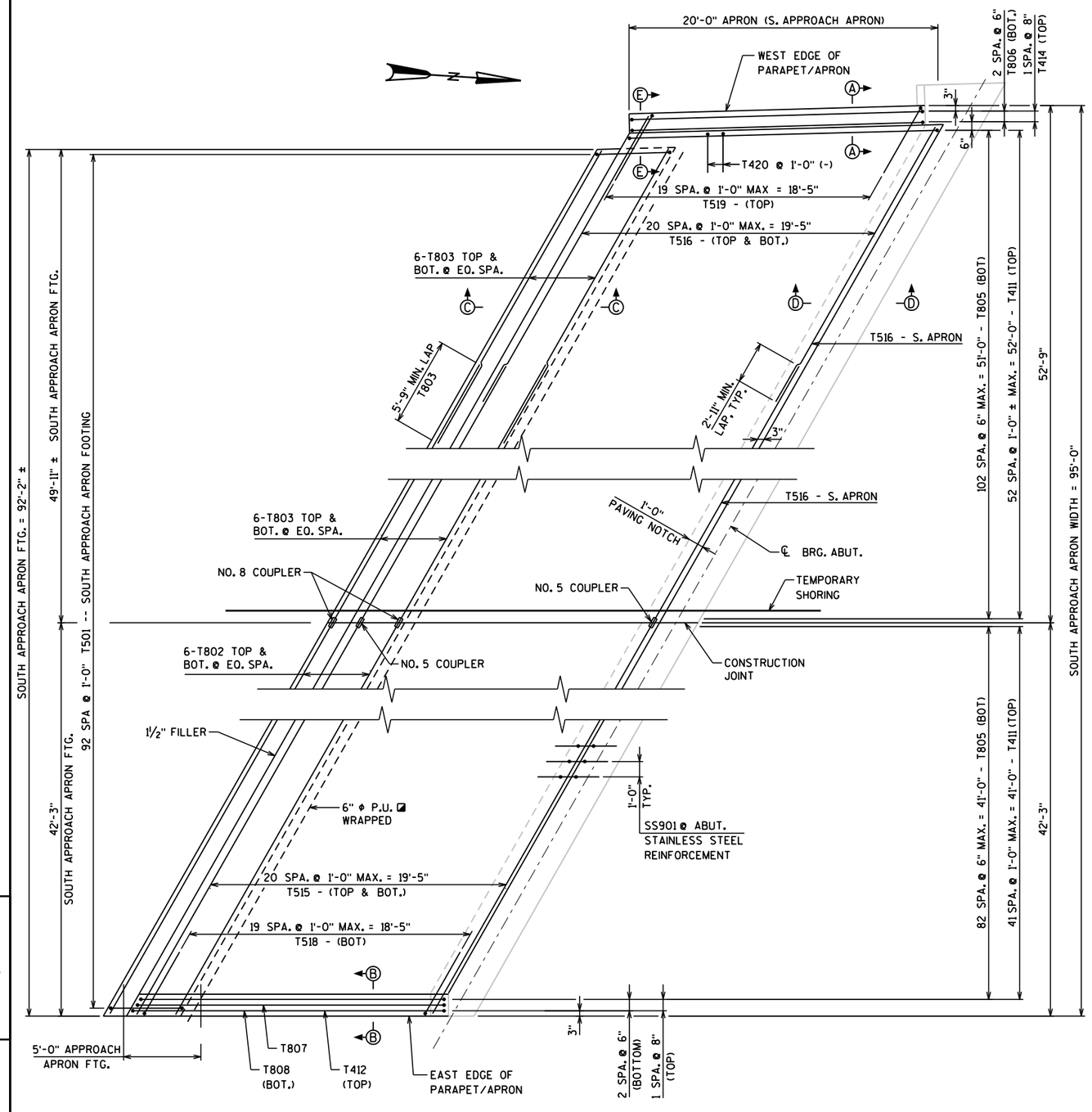
STATE PROJECT NUMBER
1133-03-77

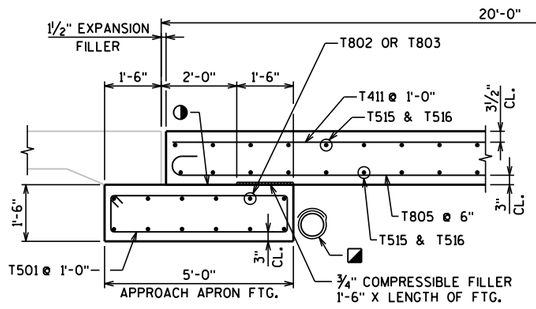
NOTES:

- ◪ PIPE UNDERDRAIN WRAPPED 6-INCH AT APPROACH APRON, LOCATED ONLY ON UPHILL SIDE OF APRON FOOTING. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.
- ◑ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.
- ◭ PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.
- ✳ PAVING NOTCH MEASURED NORMAL TO ABUTMENT.

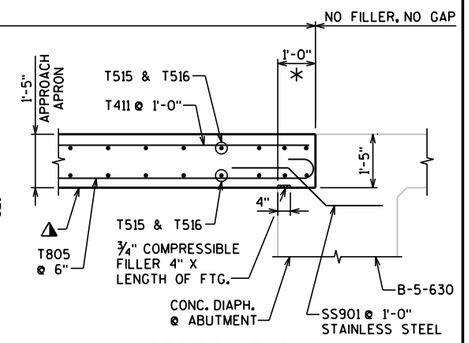
DESIGN DATA:

ALLOWABLE SOIL BEARING PRESSURE:	2,000 P.S.F.
CONCRETE STRENGTH f'c:	4,000 P.S.I.
BAR STEEL REINF., GRADE 60, fy:	60,000 P.S.I.



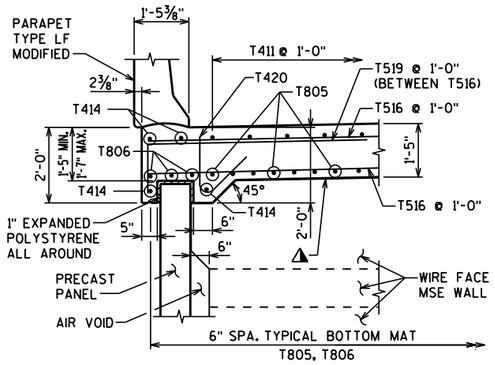


SECTION C-C

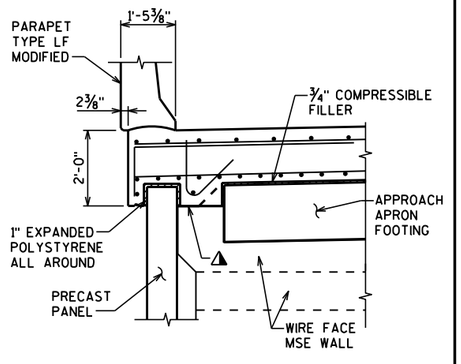


SECTION D-D

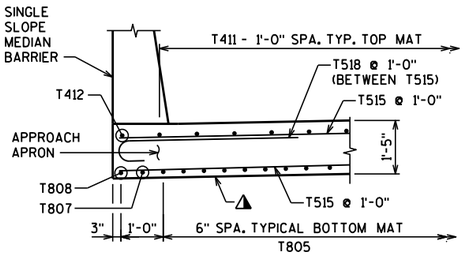
TRANSVERSE SECTION THRU APPROACH APRON



SECTION A-A



SECTION E-E



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

DRAWN BY: BRE | PLANS CK'D.: KRO

SOUTH APPROACH APRON

SHEET 18 OF 27

8

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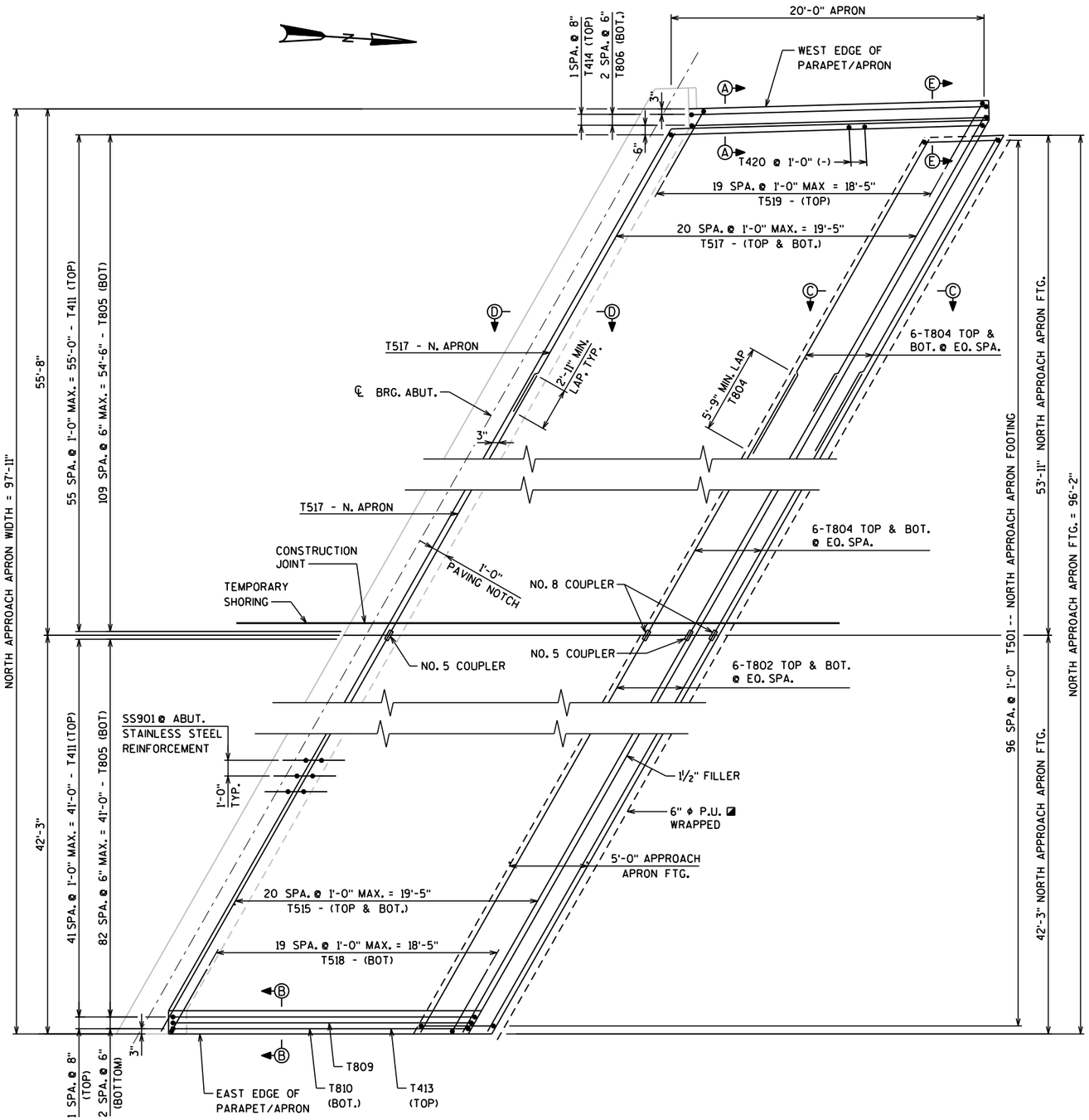
STATE PROJECT NUMBER
1133-03-77

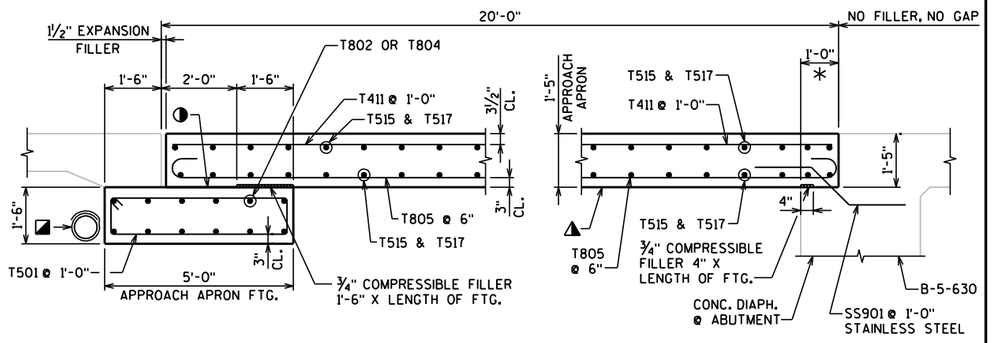
NOTES:

- ◪ PIPE UNDERDRAIN WRAPPED 6-INCH AT APPROACH APRON, LOCATED ONLY ON UPHILL SIDE OF APRON FOOTING. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.
- ◑ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.
- ◭ PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.
- ✳ PAVING NOTCH MEASURED NORMAL TO ABUTMENT.

DESIGN DATA:

ALLOWABLE SOIL BEARING PRESSURE:	2,000 P.S.F.
CONCRETE STRENGTH f'c:	4,000 P.S.I.
BAR STEEL REINF., GRADE 60, fy:	60,000 P.S.I.

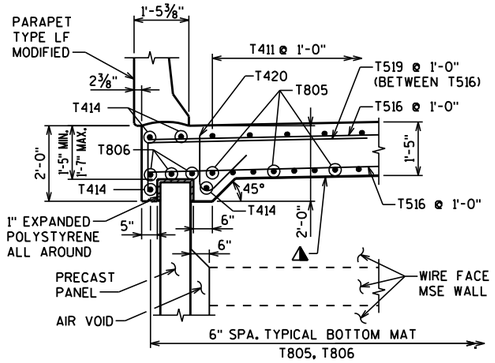




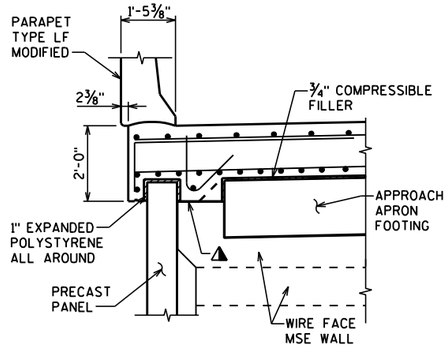
SECTION C-C

SECTION D-D

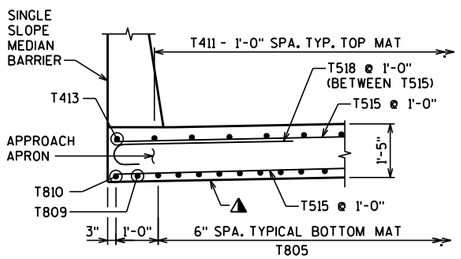
TRANSVERSE SECTION THRU APPROACH APRON



SECTION A-A



SECTION E-E



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

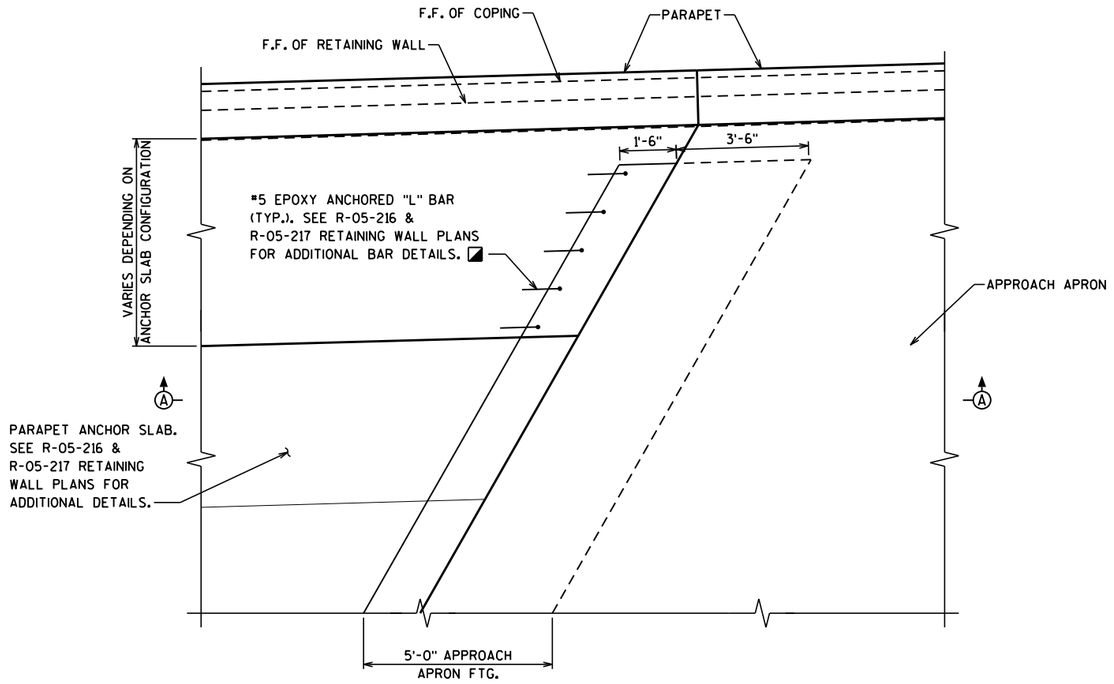
DRAWN BY: BRE | PLANS CK'D.: KRO

NORTH APPROACH APRON

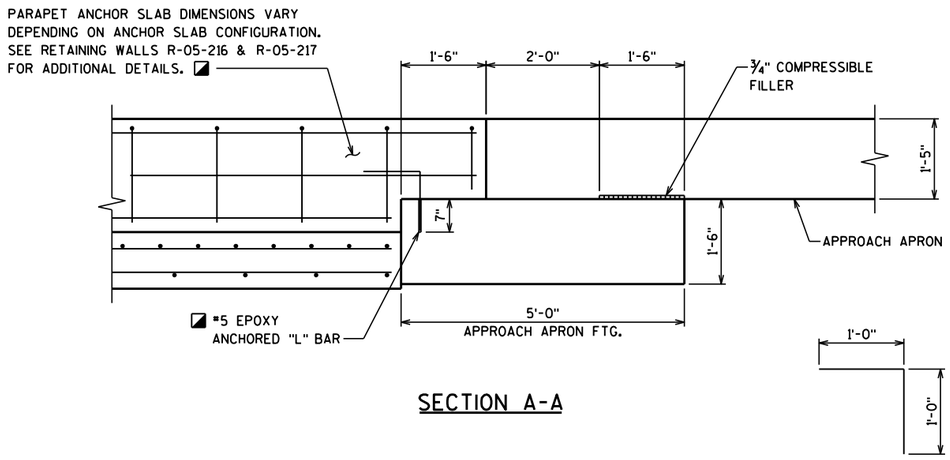
SHEET 19 OF 27

8

8



PLAN AT APPROACH APRON INTERFACE WITH RETAINING WALL ANCHOR SLAB



SECTION A-A

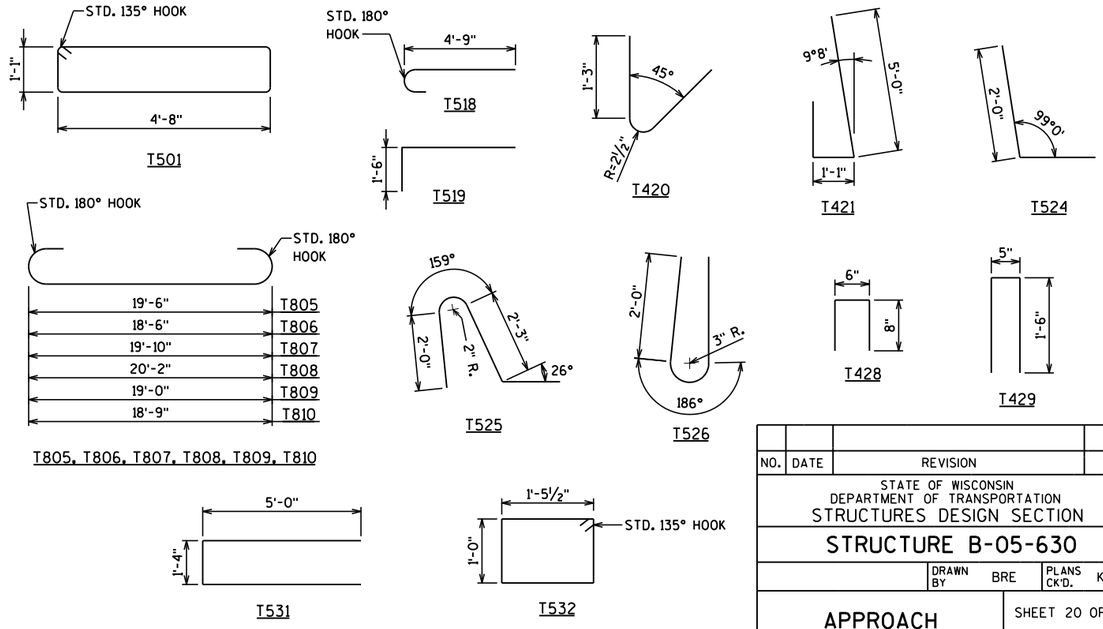
#5 EPOXY ANCHORED "L" BAR

SEE R-05-216 & R-05-217 RETAINING WALL PLANS FOR ADDITIONAL DETAILS PAID FOR UNDER RETAINING WALL R-05-216 & R-05-217

☆ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.

BILL OF BARS

	BAR MARK	COAT	SOUTH QTY.	NORTH QTY.	LENGTH	BENT	LOCATION
	T501	X	93	97	12'-1"	X	FOOTING - STIRRUPS
☆	T802	X	12	12	48'-4"		FOOTING - HORIZONTAL
☆	T803	X	24	0	31'-7"		FOOTING - HORIZONTAL
☆	T804	X	0	24	33'-10"		FOOTING - HORIZONTAL
	T805	X	186	193	21'-4"	X	APPROACH APRON - LONGIT. - BOT.
	T806	X	3	3	20'-4"	X	APPROACH APRON - LONGIT. - BOT.
	T807	X	1	0	21'-8"	X	APPROACH APRON - TRANS. - BOT.
	T808	X	1	0	22'-0"	X	APPROACH APRON - TRANS. - BOT.
	T809	X	0	1	20'-10"	X	APPROACH APRON - TRANS. - BOT.
	T810	X	0	1	20'-7"	X	APPROACH APRON - TRANS. - BOT.
	T411	X	95	98	19'-7"		APPROACH APRON - LONGIT. - TOP
	T412	X	1	0	20'-4"		APPROACH APRON - LONGIT. - TOP
	T413	X	0	1	18'-11"		APPROACH APRON - LONGIT. - TOP
	T414	X	4	4	18'-9"		APPROACH APRON - TRANS. - TOP
☆	T515	X	42	42	48'-5"		APPROACH APRON - TRANS. - TOP & BOT.
☆	T516	X	84	0	31'-9"		APPROACH APRON - TRANS. - TOP & BOT.
☆	T517	X	0	84	33'-8"		APPROACH APRON - TRANS. - TOP & BOT.
	T518	X	20	20	5'-4"	X	APPROACH APRON - TRANS. - TOP
	T519	X	19	19	6'-2"	X	APPROACH APRON - TRANS. - TOP
	T420	X	20	20	3'-0"	X	APPROACH APRON - TIE
	T421	X	12	12	8'-0"	X	MEDIAN PARAPET VERT.
	T522	X	6	6	19'-4"		MEDIAN PARAPET ON APPROACH APRON
	T523	X	8	8	5'-0"		MEDIAN EDGE OF APPROACH APRON
	T524	X	8	8	3'-3"	X	MEDIAN PARAPET VERT.
	T525	X	29	29	5'-9"	X	EXTERIOR PARAPET VERTICAL
	T526	X	29	29	4'-10"	X	EXTERIOR PARAPET VERTICAL
	T527	X	7	7	18'-6"		EXTERIOR PARAPET HORIZONTAL
	T428	X	32	32	1'-8"	X	EXTERIOR PARAPET AT POST - HORIZ.
	T429	X	8	8	3'-3"	X	EXTERIOR PARAPET AT POST - VERT.
	T430	X	16	16	2'-0"		EXTERIOR PARAPET AT POST
	T531	X	8	8	11'-1"	X	EXTERIOR PARAPET AT POST
	T532	X	12	12	5'-6"	X	EXTERIOR PARAPET AT POST



BAR BENDING DIAGRAMS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

DRAWN BY BRE | PLANS CK'D. KRO

APPROACH APRON DETAILS

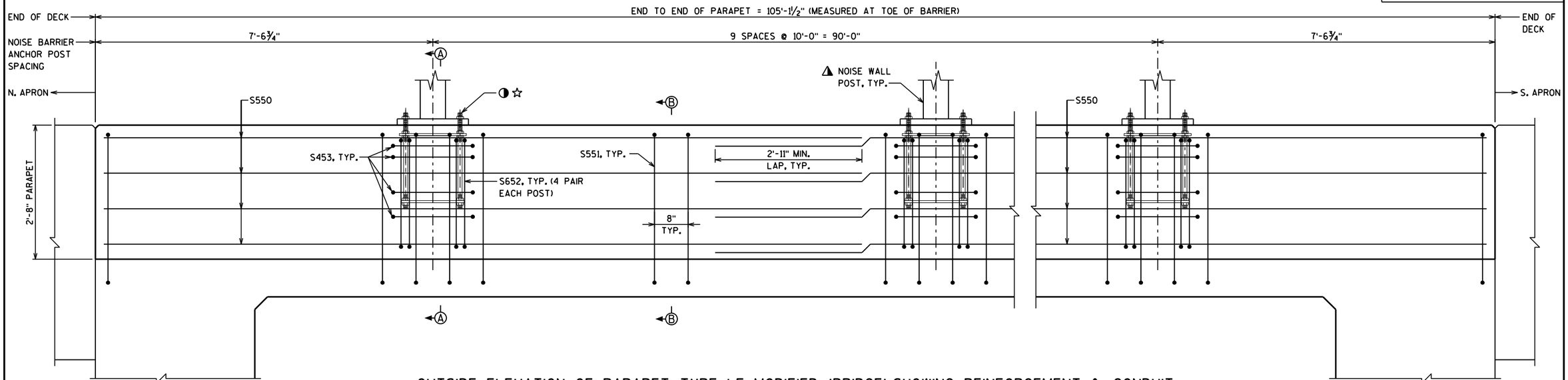
SHEET 20 OF 27

STATE PROJECT NUMBER
1133-03-77

8

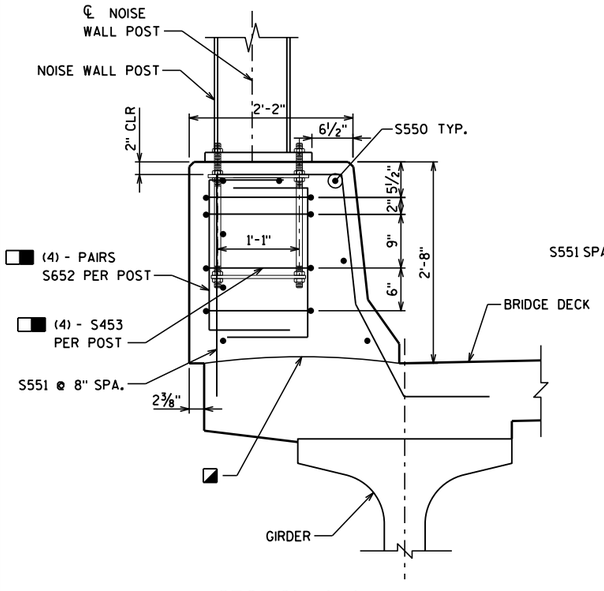
8

STATE PROJECT NUMBER
1133-03-77

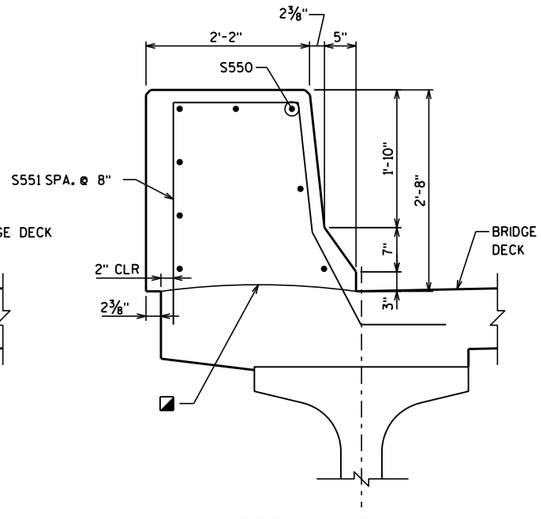


OUTSIDE ELEVATION OF PARAPET TYPE LF MODIFIED (BRIDGE) SHOWING REINFORCEMENT & CONDUIT

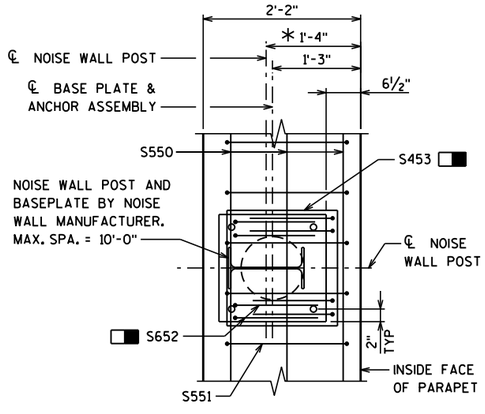
LOOKING EAST



SECTION A-A



SECTION B-B



PLAN VIEW AT TOP OF PARAPET

NOTES

- CONSTRUCTION JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- EXACT LOCATION AND SPACING OF EMBEDDED ANCHOR ASSEMBLY NOISE BARRIER TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.
- ☆ BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES" INCLUDES ANCHORAGES AT EACH POST LOCATION.
- ⚠ NOT A BRIDGE ITEM. NOISE BARRIER PANELS, POSTS, SUPPORT BRACKETS AND TOP OF PARAPET CONNECTION TO BE DESIGNED AND INSTALLED BY OTHERS.
- EXACT LOCATION AND SPACING OF S453 AND S652 BARS TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.
- * DIMENSION IS BASED ON 12 INCH DEEP POST. ADJUST DIMENSION FOR OTHER POST SIZES.

OPTIONAL VERTICAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN HORIZONTAL BAR REINFORCEMENT THRU THE JOINT. LAP LONGITUDINAL BARS A MIN. OF 2'-11". IF JOINTS ARE USED, THE JOINT SPACING SHOULD BE NO LESS THAN 80'-0". DEFINE CONSTRUCTION JOINT WITH A ¾" 'V' GROVE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

DRAWN BY BRE | PLANS CK'D. KRO

PARAPET TYPE LF MODIFIED BRIDGE

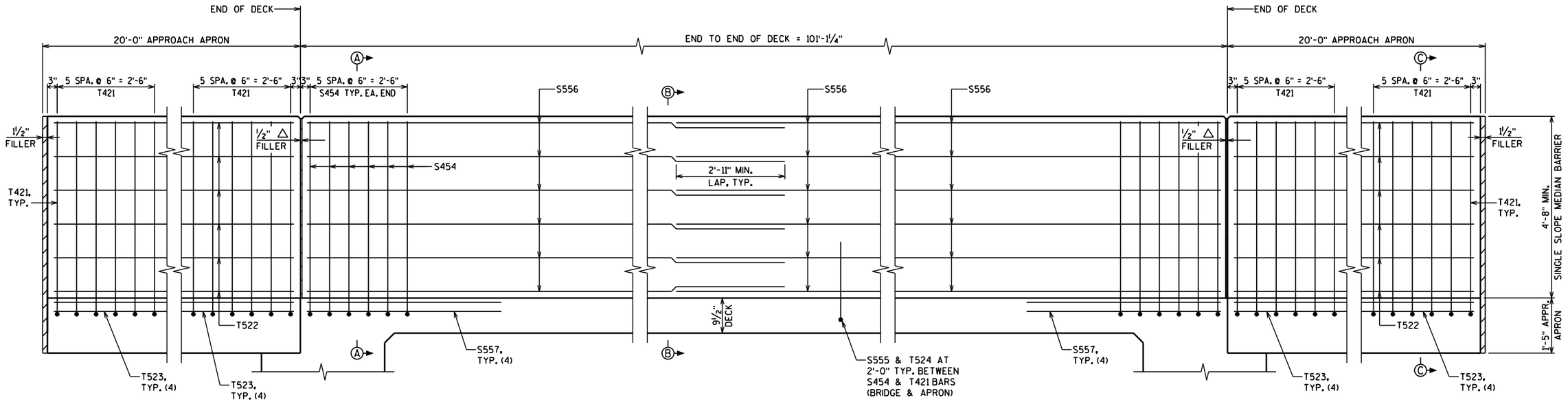
SHEET 21 OF 27

8

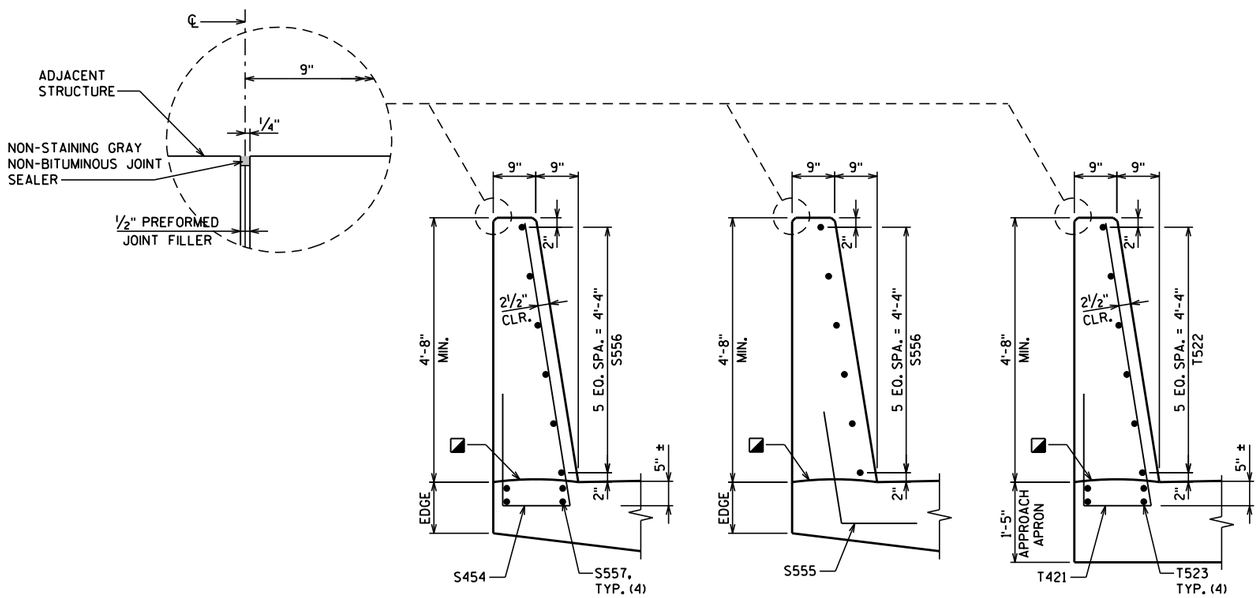
8

FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Bridges±B-5-630_morris sb±B-05-630 21para bridge.dgn PLOT BY : epleyb PLOT DATE: 11/26/2012 1:54:28 PM

STATE PROJECT NUMBER
1133-03-77



ELEVATION



SECTION A-A
TYPICAL AT ENDS OF BARRIER

SECTION B-B
(BRIDGE & APRONS)

SECTION C-C
(APPROACH APRONS)

NOTES:

OPTIONAL VERTICAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINFORCEMENT THRU THE JOINT. LAP LONGITUDINAL BARS A MIN. OF 2'-11". MIN. JOINT SPACING OF 80'-0". DEFINE CONSTRUCTION JOINT WITH A ¾" 'V' GROOVE.

◪ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.

△ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN ⅛" BELOW SURFACE OF CONCRETE.

TOP OF BARRIER ELEVATIONS ARE CALCULATED FROM PROFILE GRADE LINES. IF GRADE LINE ELEVATIONS VARY FROM PLAN THE BARRIER ELEVATIONS SHALL BE ADJUSTED ACCORDINGLY. TOP OF BARRIER SHOULD MATCH THE TOP OF BARRIER OF THE ADJACENT STRUCTURE (B-05-631), WHILE MAINTAINING THE MINIMUM BARRIER HEIGHT.

TOP OF BARRIER ELEVATION TABLE

LOCATION	EAST EDGE OF DECK 28'-9" RT.	
	STATION	ELEVATION
END OF SOUTH APPROACH APRON	960+44.18	662.41
SOUTH APRON MIDPOINT	960+54.18	662.48
C/L BEARING SOUTH ABUTMENT	960+65.24	662.57
0.1 POINT	960+75.14	662.64
0.2 POINT	960+85.04	662.71
0.3 POINT	960+94.94	662.78
0.4 POINT	961+04.84	662.84
0.5 POINT	961+14.74	662.90
0.6 POINT	961+24.64	662.96
0.7 POINT	961+34.54	663.02
0.8 POINT	961+44.44	663.08
0.9 POINT	961+54.34	663.13
C/L BEARING NORTH ABUTMENT	961+64.24	663.18
NORTH APRON MIDPOINT	961+75.29	663.24
END OF NORTH APPROACH APRON	961+85.29	663.28

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

DRAWN BY BRE | PLANS CK'D. KRO

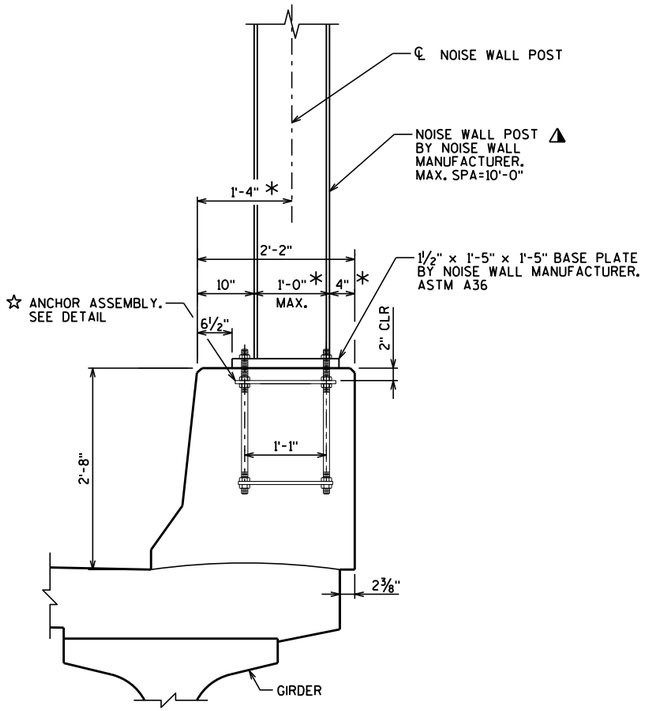
SINGLE SLOPE MEDIAN BARRIER

SHEET 22 OF 27

8

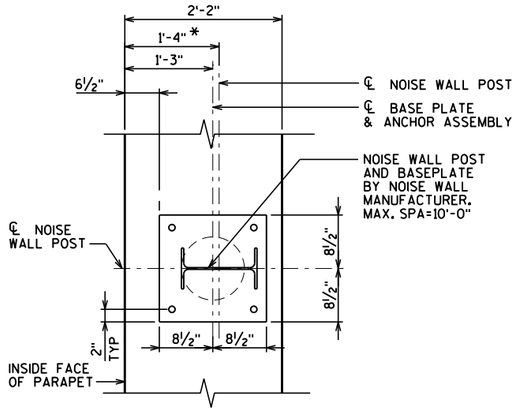
8

STATE PROJECT NUMBER
1133-03-77

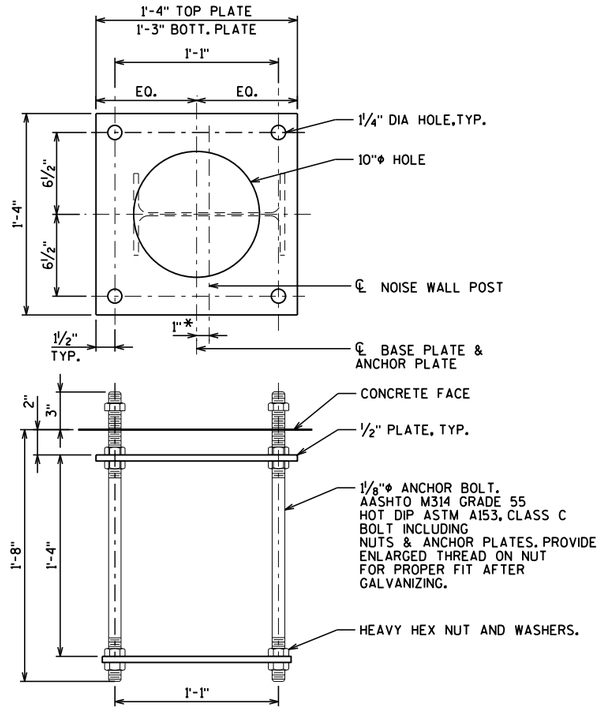


NOISE WALL ON BRIDGE PARAPET

SECTION VIEW
TYPICAL AT EACH POST LOCATION



PLAN VIEW AT TOP OF PARAPET



ANCHOR BOLT ASSEMBLY

NOTES

☆ BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES" INCLUDES ANCHORAGES AT EACH POST LOCATION.

⚠ NOT A BRIDGE ITEM. NOISE BARRIER PANELS, POSTS, SUPPORT BRACKETS AND TOP OF PARAPET CONNECTION TO BE DESIGNED AND INSTALLED BY OTHERS.

* DIMENSION IS BASED ON 12 INCH DEEP POST. ADJUST DIMENSION FOR OTHER POST SIZES.

REINFORCEMENT FOR DEVELOPING THE NOISE BARRIER ANCHORAGE IS SHOWN ON SHEET 21.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

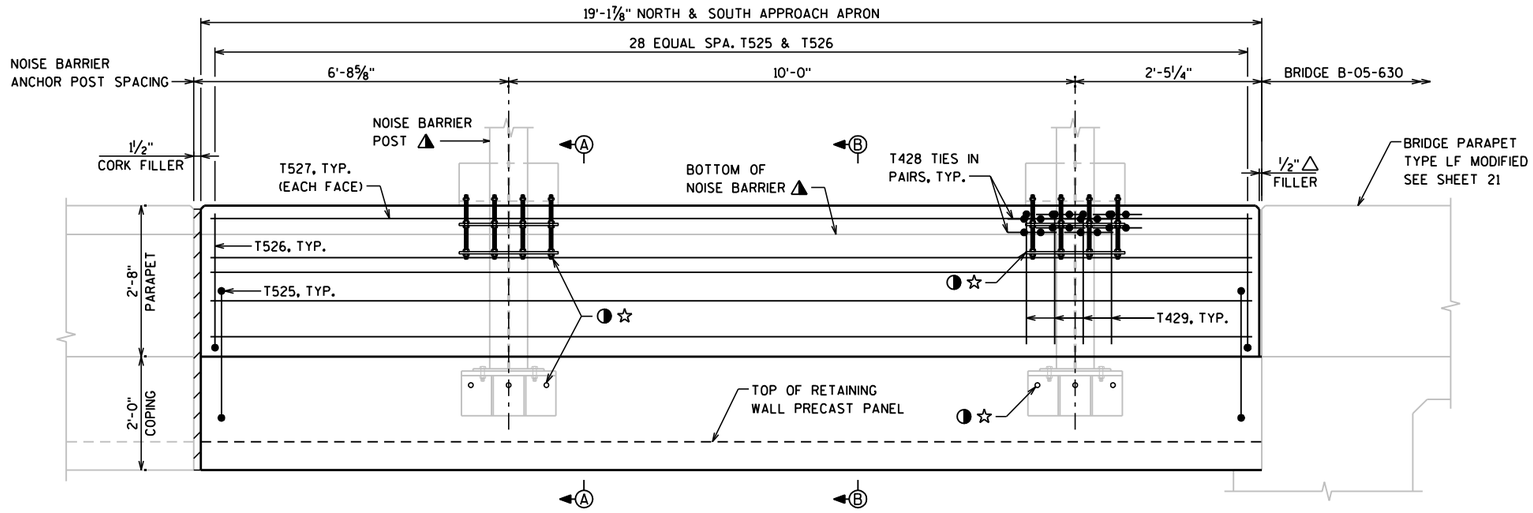
DRAWN BY BRE | PLANS CK'D. KRO

NOISE WALL ANCHORAGE ON BRIDGE

SHEET 23 OF 27

FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Bridges±B-5-630_morris sb±B-05-630 23 noise bridge.dgn PLOT BY : epleyb PLOT DATE: 11/26/2012 1:54:30 PM

STATE PROJECT NUMBER
1133-03-77

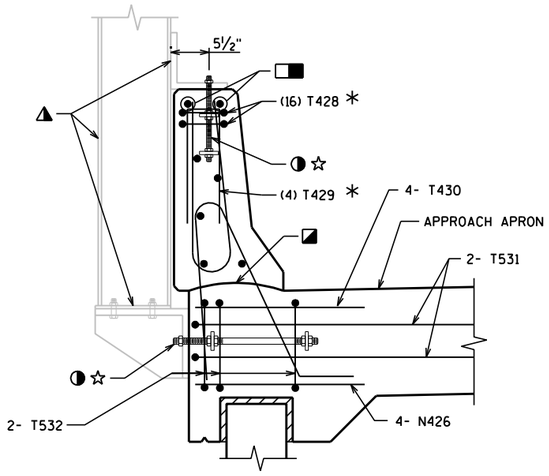


OUTSIDE ELEVATION OF PARAPET TYPE LF MODIFIED (APRON)

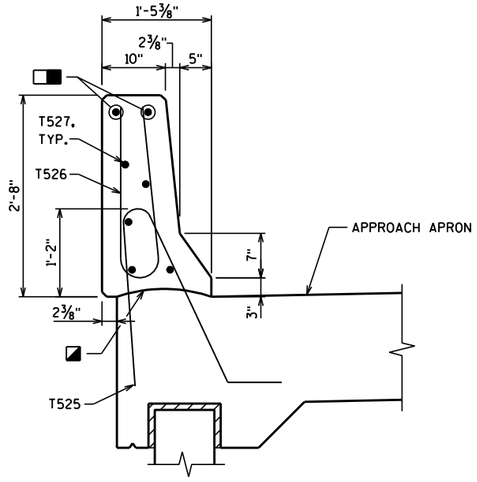
LOOKING EAST (NORTH APRON SHOWN, SOUTH APRON SIMILAR)

NOTES

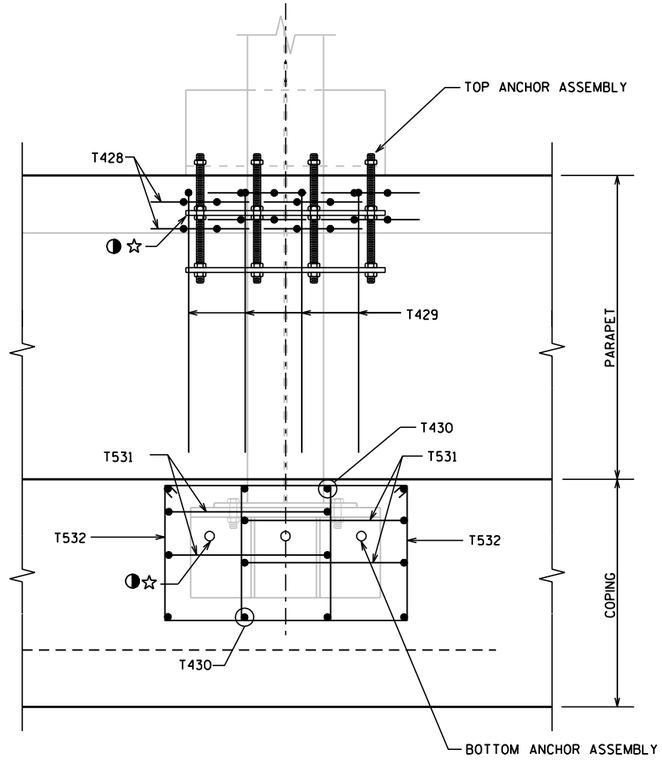
- CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.
- EXACT LOCATION AND SPACING OF EMBEDDED ANCHOR ASSEMBLY NOISE BARRIER TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.
- ☆ BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES" INCLUDES ANCHORAGES AT EACH POST LOCATION.
- ◭ NOT A BRIDGE ITEM. NOISE BARRIER PANELS, POSTS, SUPPORT BRACKETS AND TOP OF PARAPET CONNECTION TO BE DESIGNED AND INSTALLED BY OTHERS.
- ONLY THESE TWO BARS TO BE PLACED OUTSIDE OF THE VERTICAL REINFORCEMENT TO AVOID THE ANCHOR BOLTS/PLATES FROM THE NOISE BARRIER POSTS. PLACE BARS WITH 2" CLEAR FROM TOP, BACK, AND FRONT FACES OF THE PARAPET. ALL OTHER HORIZONTAL BARS IN THE PARAPET ARE TO BE PLACED INSIDE THE VERTICAL REINFORCEMENT AS SHOWN.
- * EXACT LOCATION AND SPACING OF T428 AND T429 BARS TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.
- △ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN 1/8" BELOW SURFACE OF CONCRETE.



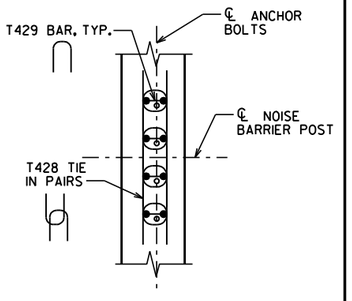
SECTION A-A



SECTION B-B



ELEVATION AT NOISE BARRIER



TOP VIEW AT PARAPET

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

DRAWN BY BRE | PLANS CK'D. KRO

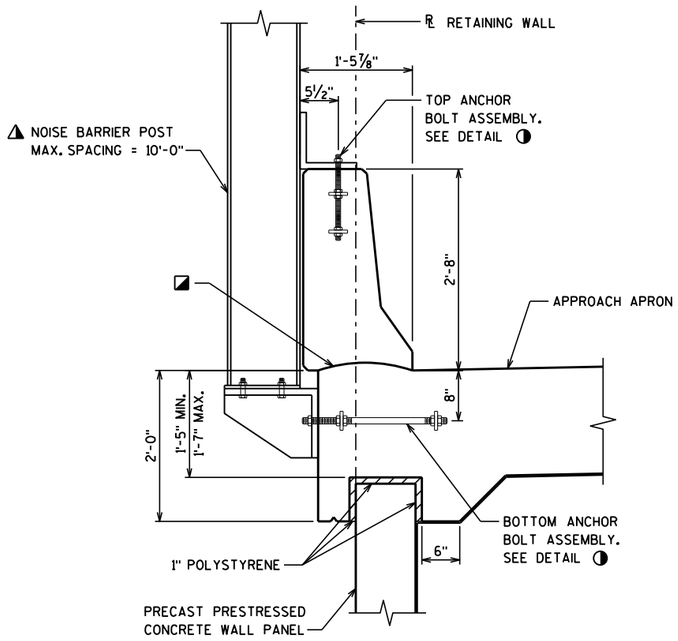
PARAPET TYPE LF MODIFIED APRON

SHEET 24 OF 27

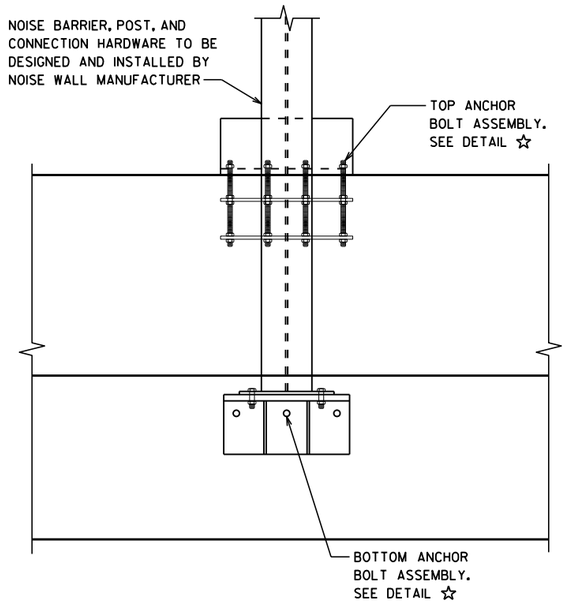
8

8

STATE PROJECT NUMBER
1133-03-77

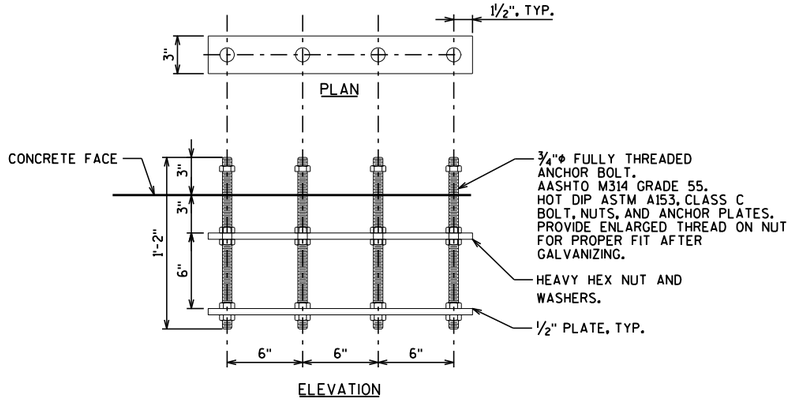


TRANSVERSE SECTION AT APPROACH APRON

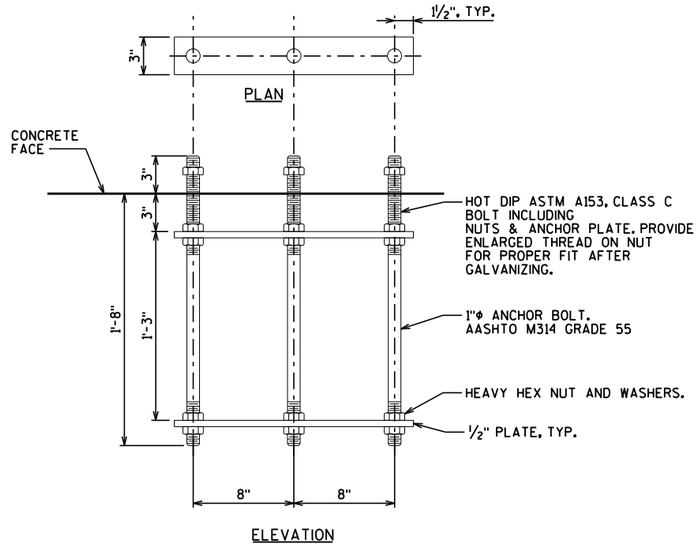


ELEVATION AT NOISE BARRIER POST

TYPICAL AT EACH POST LOCATION



TOP ANCHOR BOLT ASSEMBLY



BOTTOM ANCHOR BOLT ASSEMBLY

NOTES

◪ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.

◑ EXACT LOCATION AND SPACING OF EMBEDDED ANCHOR ASSEMBLY NOISE BARRIER TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.

☆ BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES" INCLUDES UPPER AND LOWER ANCHORAGES AT EACH POST LOCATION.

⚠ NOT A BRIDGE ITEM. NOISE BARRIER PANELS, POSTS, SUPPORT BRACKETS AND TOP OF PARAPET CONNECTION TO BE DESIGNED AND INSTALLED BY OTHERS.

REINFORCEMENT FOR DEVELOPING THE NOISE BARRIER ANCHORAGE IS SHOWN ON SHEET 24.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

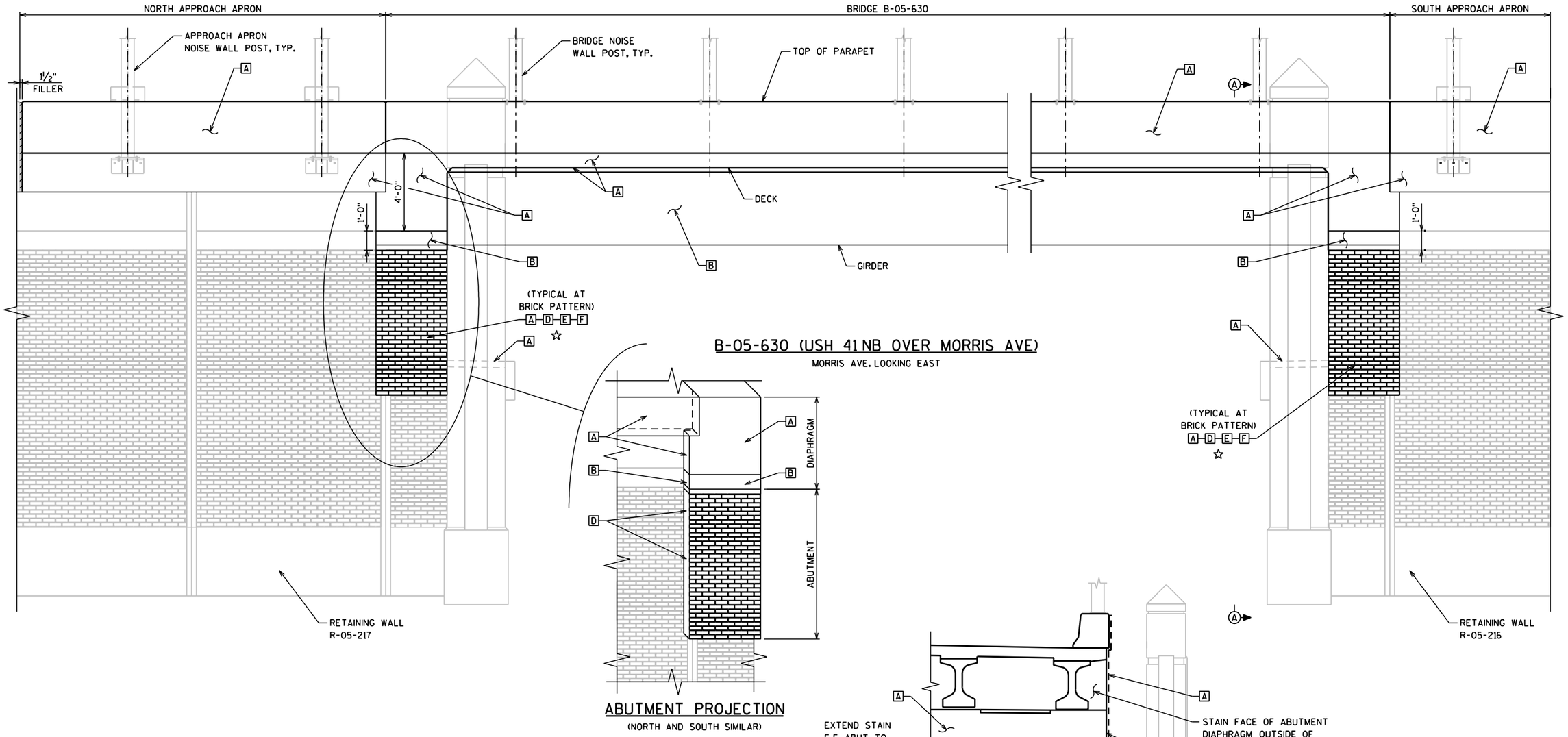
DRAWN BY BRE | PLANS CK'D. KRO

NOISE BARRIER ANCHORAGE ON APRONS

SHEET 25 OF 27

FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Bridges±B-5-630_morris sb±B-05-630 25 noise apron.dgn PLOT BY : epleyb PLOT DATE: 11/26/2012 1:54:32 PM

STATE PROJECT NUMBER
1133-03-77

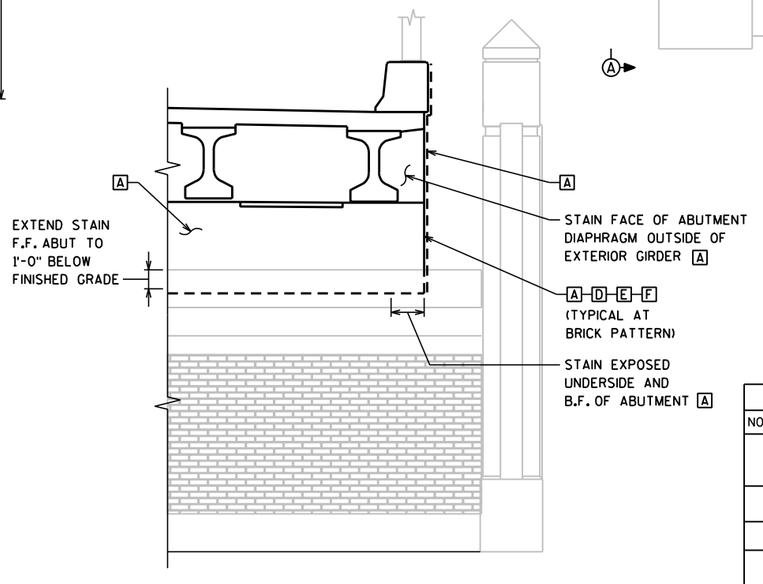


B-05-630 (USH 41 NB OVER MORRIS AVE)

MORRIS AVE. LOOKING EAST

ABUTMENT PROJECTION

(NORTH AND SOUTH SIMILAR)



SECTION A-A

CONCRETE STAINING SCHEDULE

	MARK	COLOR	LOCATION
☆	A	BASE COLOR	BRIDGES, PARAPETS, WALLS
	B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER
	C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT
	D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
	E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
	F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)

SEE SPECIAL PROVISIONS FOR STAIN COLORS.

NOTES

☆ STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

DRAWN BY BRE | PLANS CK'D. KRO

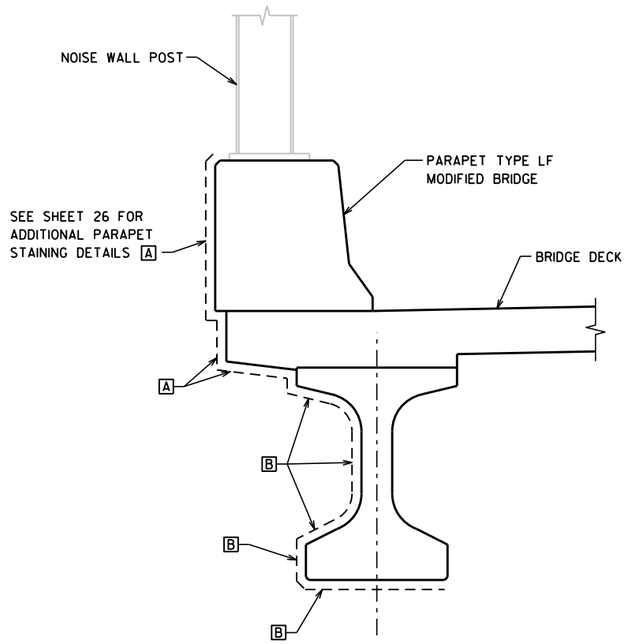
AESTHETIC DETAILS 1

SHEET 26 OF 27

8

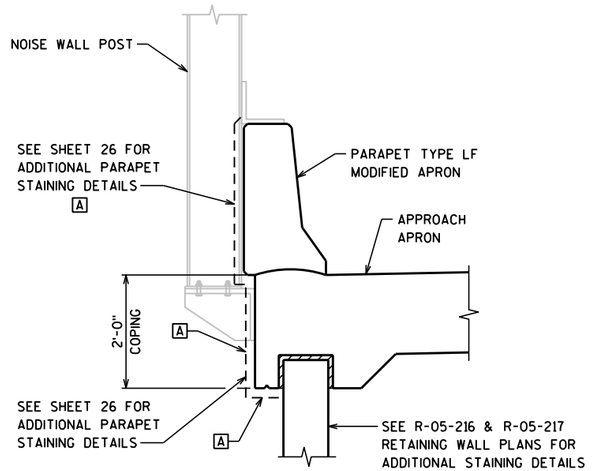
8

STATE PROJECT NUMBER
1133-03-77



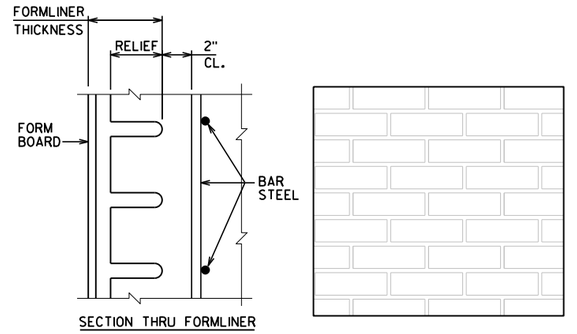
PARTIAL SECTION THRU ROADWAY (BRIDGE)

(LOOKING NORTH)



PARTIAL SECTION THRU ROADWAY (APPROACH APRONS)

(LOOKING NORTH)



ARCHITECTURAL SURFACE TREATMENT
RECTANGULAR BRICK

REFER TO SPECIAL PROVISIONS FOR
DISCRIPTION OF BRICK PATTERN.

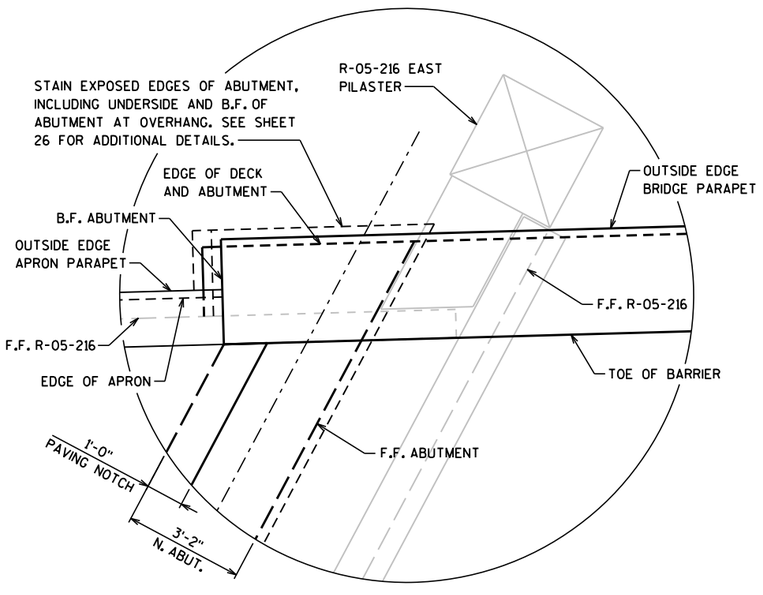
NOTES

DO NOT STAIN TOP OR INSIDE FACE OF BRIDGE OR APPROACH APRON PARAPETS.

STAIN VERTICAL EDGE OF DECK, UNDERSIDE OF DECK OVERHANG, AND EXTERIOR FACE & BOTTOM OF EXTERIOR GIRDER TO THE LIMITS SHOWN.

STAIN UNDERSIDE OF APRON COPING.

SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER. BRICK PATTERN FORMLINER AREAS AT EAST ENDS OF ABUTMENTS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT". SEE SHEET 26 FOR ADDITIONAL END OF ABUTMENT DETAILS AND CONCRETE STAINING SCHEDULE.



WEST CORNER SOUTH ABUTMENT

PLAN VIEW (WEST CORNER NORTH ABUTMENT SIMILAR)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-630

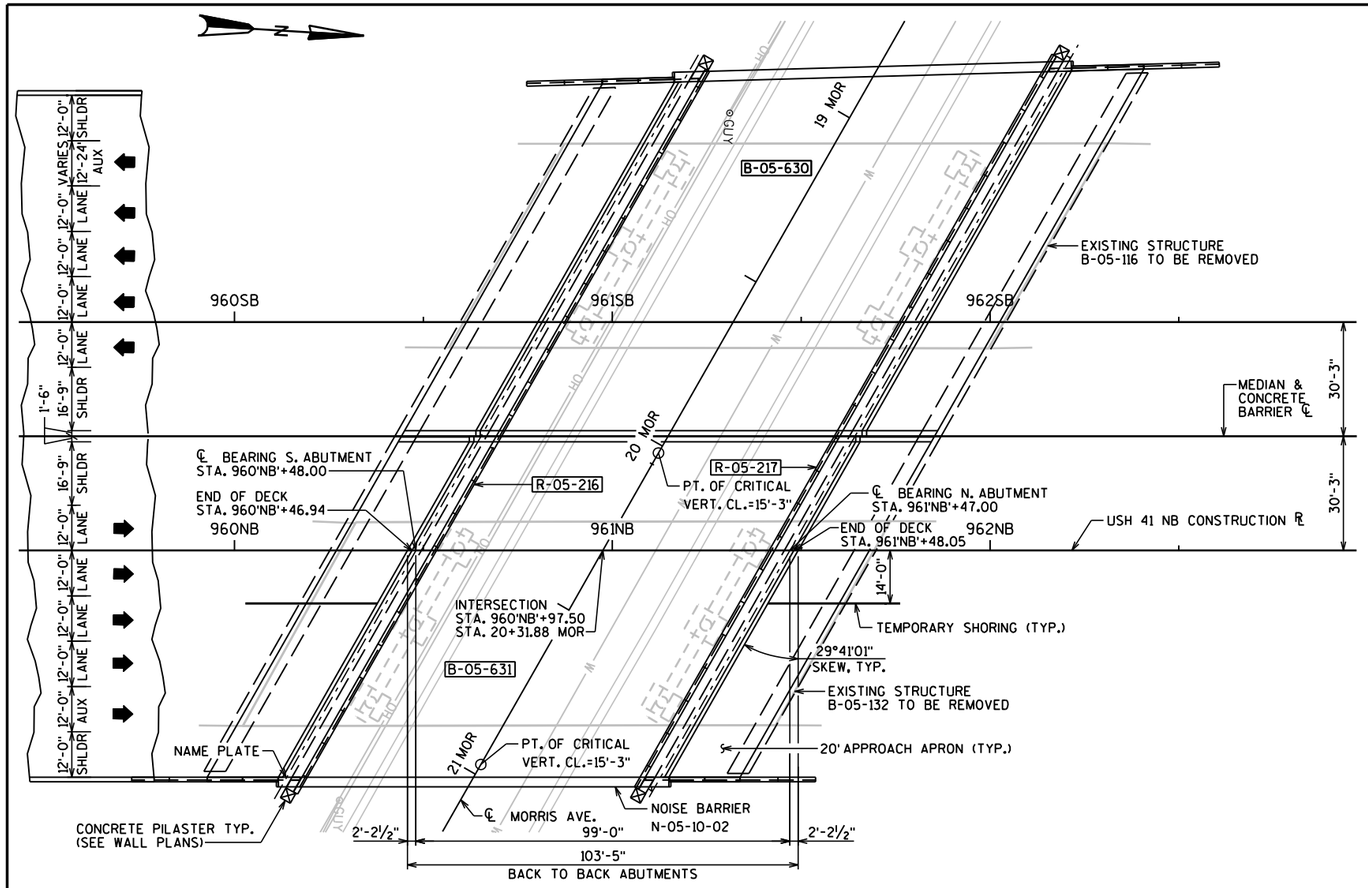
DRAWN BY BRE | PLANS CK'D. KRO

AESTHETIC DETAILS 2

SHEET 27 OF 27

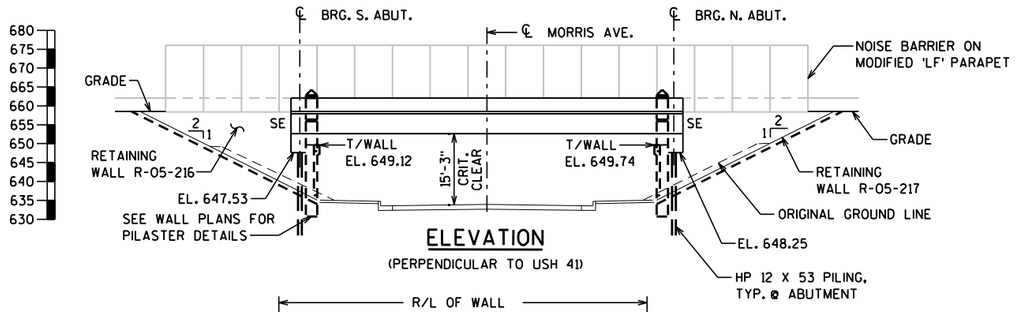
FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Bridges±B-5-630_morris sb±B-05-630 27 aesthetic 2.dgn PLOT BY : epleyb PLOT DATE: 11/26/2012 1:54:34 PM

STATE PROJECT NUMBER
1133-03-77



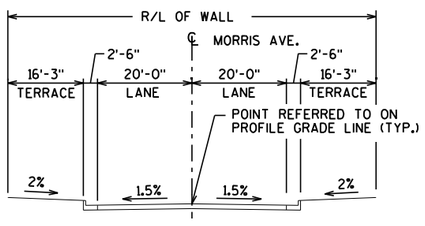
PLAN

(SINGLE-SPAN, 45W PRESTRESSED GIRDER STRUCTURE)



ELEVATION

(PERPENDICULAR TO USH 41)



TYPICAL SECTION THRU MORRIS AVENUE

(LOOKING WEST)

DESIGN DATA

LIVE LOAD:
- DESIGN LOAD HL-93
- INVENTORY RATING FACTOR 1.18
- OPERATING RATING FACTOR 1.57
- WIS-SPV RATING ..... 250 KIPS

THE STRUCTURE IS DESIGNED FOR A 1½" SACRIFICIAL WEARING SURFACE PLACED AT INITIAL CONSTRUCTION INTEGRAL WITH THE DECK. THE DESIGN DOES NOT PROVIDE FOR ADDITIONAL LOADS DUE TO FUTURE WEARING SURFACE.

ULTIMATE DESIGN STRESSES:
- CONCRETE MASONRY (HPC) .....f'c = 4,000 PSI

HIGH STRENGTH BAR STEEL
- REINFORCEMENT GRADE 60 .....fy = 60,000 PSI

45W-INCH PRESTRESSED GIRDERS
- CONCRETE MASONRY .....f'c = 8,000 PSI

PRESTRESSING STRANDS = 0.6 INCH DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 PSI

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES, & PROFILE
3. STAGING DETAILS
4. SUBSURFACE EXPLORATION
5. TEMPORARY SHORING
6. SOUTH ABUTMENT
7. SOUTH ABUTMENT DETAILS
8. NORTH ABUTMENT
9. NORTH ABUTMENT DETAILS
10. FALL PROTECTION
11. 45W" PRESTRESSED GIRDER DETAILS
12. SUPERSTRUCTURE LAYOUT
13. STEEL DIAPHRAGMS
14. SUPERSTRUCTURE
15. SUPERSTRUCTURE CROSS SECTION
16. SUPERSTRUCTURE DETAILS 1
17. SUPERSTRUCTURE DETAILS 2
18. APPROACH APRON
19. APPROACH APRON DETAILS
20. PARAPET TYPE LF MODIFIED BRIDGE
21. SINGLE SLOPE MEDIAN BARRIER
22. NOISE WALL ANCORAGE BRIDGE
23. PARAPET TYPE LF MODIFIED APRON
24. NOISE WALL ANCORAGE APRONS
25. AESTHETIC DETAILS 1
26. AESTHETIC DETAILS 2

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 12 X 53 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 90' LONG AT SOUTH ABUTMENT.
ESTIMATED 90' LONG AT NORTH ABUTMENT.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

EXISTING ABUTMENT PILING SHALL BE CUT-OFF AT THE BOTTOM OF WALL ELEVATION FOR R-05-216 AND R-05-217. THIS WORK TO BE INCLUDED IN THE "REMOVING OLD STRUCTURE" BID ITEM.

NOISE BARRIER

- MAX. HEIGHT ABOVE ROADWAY ..... 15'-0"
- MAX. POST SPACING ..... 10'-0"
- MAX. NOISE BARRIER DEAD LOAD ..... 50 PSF
- WIND PRESSURE ON NOISE BARRIER (NORMAL TO EITHER DIRECTION ..... 42 PSF

TRAFFIC DATA USH 41

ADT = 73,400 (2009)
= 102,400 (2032)
RDS = 70 MPH

TRAFFIC DATA MORRIS AVENUE

ADT = 3,000 (2003)
= 3,400 (2032)
RDS = 30 MPH

CONSULTANT CONTACT

KRISTOFER OLSON
OMNNI ASSOCIATES, INC.
(920) 735-6900

BRIDGE OFFICE CONTACT

WILLIAM DREHER
(608) 266-8489

WISCONSIN
KRISTOFER R. OLSON
E-35236
APPLETON, WI
PROFESSIONAL ENGINEER
4/4/13

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/19/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-05-631

STH 41 NB OVER MORRIS AVE

COUNTY	VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO LRFD DESIGN SPEC. 5th EDITION — LOAD HL-93

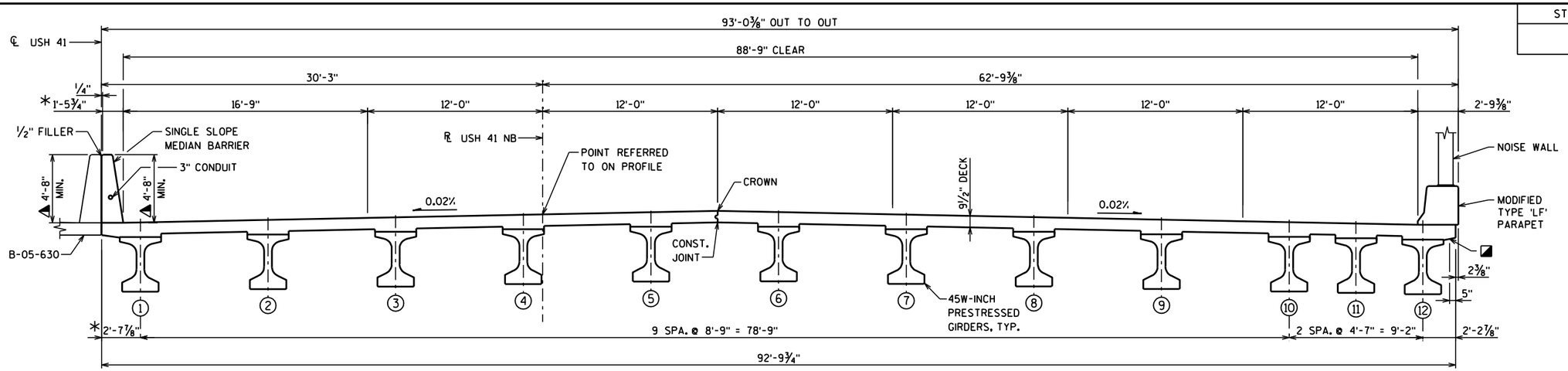
DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
KRO	JAW	BRE	KRO

GENERAL PLAN

SHEET 1 OF 26

FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Bridges±B-5-631_morris nb±B-05-631 01 gp.dgn PLOT BY : olsonk PLOT DATE: 4/4/2013 2:08:56 PM

STATE PROJECT NUMBER
1133-03-77



BENCH MARKS

NO.	DESCRIPTION	ELEV.
529	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE SOUTHWEST QUADRANT OF SANTA BARBARA DR. & EMINENCE ST. 35' WEST OF THE SANTA BARBARA DR. AND 25' NORTH OF PRIVATE ENTRANCE 1351.	646.43
530	CHISELED "X" ON A FIRE HYDRANT BURY BOLT ON THE WEST SIDE OF HILLTOP RD. 155' NORTH OF THE INTERSECTION OF MORRIS AVE. & HILLTOP DR. 35' FEET WEST OF THE CENTERLINE OF HILLTOP DR.	644.33
551	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE NORTHWEST QUADRANT OF MORRIS AVE & ARGONNE ST. 40' NORTH OF MORRIS AVE. & 60' WEST OF ARGONNE ST.	640.59

LEGEND

▲ TOP OF BARRIERS TO BE AT SAME ELEVATION, HOLD AT HIGHER ELEVATION.

◪ ¾" V-GROOVE. EXTEND V-GROOVE TO 3" FROM FRONT FACE OF ABUTMENT DIAPHRAGM.

* DIMENSIONS DOES NOT INCLUDE 1"2" FILLER BETWEEN BRIDGES.

CROSS SECTION

(LOOKING NORTH)

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	SUPER.	SOUTH ABUT.	NORTH ABUT.	APPROACH APRONS	TOTALS
203.0200.717	REMOVING OLD STRUCTURE STA 961+00	LS	-----	-----	-----	-----	1
203.0225.S.717	DEBRIS CONTAINMENT STRUCTURE B-5-132	LS	-----	-----	-----	-----	1
206.1000.717	EXCAVATION FOR STRUCTURES, BRIDGES B-05-631	LS	-----	-----	-----	-----	1
206.6000.S	TEMPORARY SHORING	SF	-----	1,130	1,150	-----	2,280
210.0100	BACKFILL STRUCTURE	CY		416	376	-----	793
502.3200	PROTECTIVE SURFACE TREATMENT	SY	1,114	-----	-----	434	1,548
502.6110	MASONRY ANCHORS TYPE S 3/4-INCH	EACH	-----	5	5	-----	10
503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH	LF	1,200	-----	-----	-----	1,200
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	60,860	5,500	5,490	43,950	115,800
505.0904	BAR COUPLERS NO. 4	EACH	-----	4	4	-----	8
505.0905	BAR COUPLERS NO. 5	EACH	299	-----	-----	84	383
505.0906	BAR COUPLERS NO. 6	EACH	20	14	14	-----	48
505.0908	BAR COUPLERS NO. 8	EACH	-----	-----	-----	24	24
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	24	-----	-----	-----	24
506.4000.717	STEEL DIAPHRAGMS B-05-631	EACH	22	-----	-----	-----	22
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-----	24	24	-----	47
550.1120	PILING STEEL DELIVERED AND DRIVEN HP 12-INCH X 53 LB	LF	-----	1,350	1,350	-----	2,700
604.0400	SLOPE PAVING CONCRETE	SY	-----	26	26	-----	53
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	-----	115	115	-----	230
652.0135	CONDUIT RIGID METALLIC 3-INCH	LF	10	-----	-----	40	50
652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	LF	91	-----	-----	-----	91
SPV.0035.700	HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES	CY	448	70	70	241	829
SPV.0060.701	ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES	EACH	14	-----	-----	-----	14
SPV.0085.700	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	3,430	-----	-----	-----	3,430
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	-----	13	28	-----	41
SPV.0165.501	STAINING CONCRETE	SF	2,646	-----	-----	-----	2,646
SPV.0165.502	STAINING CONCRETE BRICK	SF	-----	13	28	-----	41
SPV.0165.700	LONGITUDINAL GROOVING BRIDGE DECK	SF	8,670	-----	-----	3,430	12,100
	NON-BID ITEMS						
	JOINT FILLER	SIZE	-----	-----	-----	-----	½"&¾"
	CORK FILLER	SIZE	-----	-----	-----	-----	¾"
	EXPANDED POLYSTRENE 1-INCH	SIZE	-----	-----	-----	-----	1"

GENERAL NOTES:

DRAWING SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED. THE TOP LAYER OF BAR STEEL REINFORCEMENT IN THE DECK SHALL BE PLACED WITH 3½" OF CLEAR COVER.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

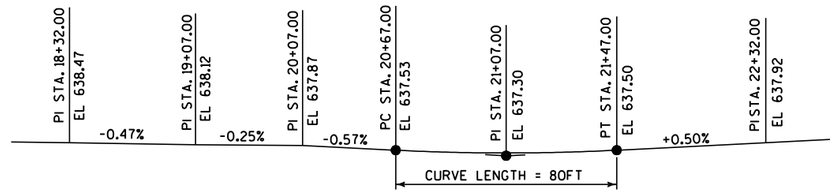
THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE DEPTH OF 3", WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

EXISTING BRIDGE B-05-132 IS A THREE SPAN PRESTRESSED GIRDER BRIDGE WITH AN OVERALL WIDTH OF 55'-10" AND AN OVERALL LENGTH OF 143'-7¼".

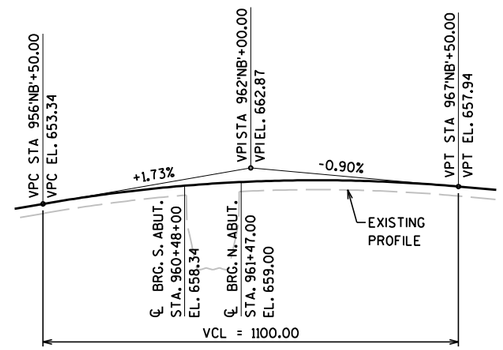
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING CONCRETE TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE FOLLOWING COMPLETED SURFACES: TOP OF DECK SLAB, TOPS OF APPROACH APRONS, TOP AND INSIDE FACES OF MEDIAN BARRIER AND EXTERIOR PARAPETS ON BOTH THE BRIDGE DECK AND APROACH APRONS.

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).



EXISTING PROFILE GRADE LINE MORRIS AVENUE



PROFILE GRADE LINE - NORTHBOUND USH 41

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-631

DRAWN BY BRE | PLANS CK'D. KRO

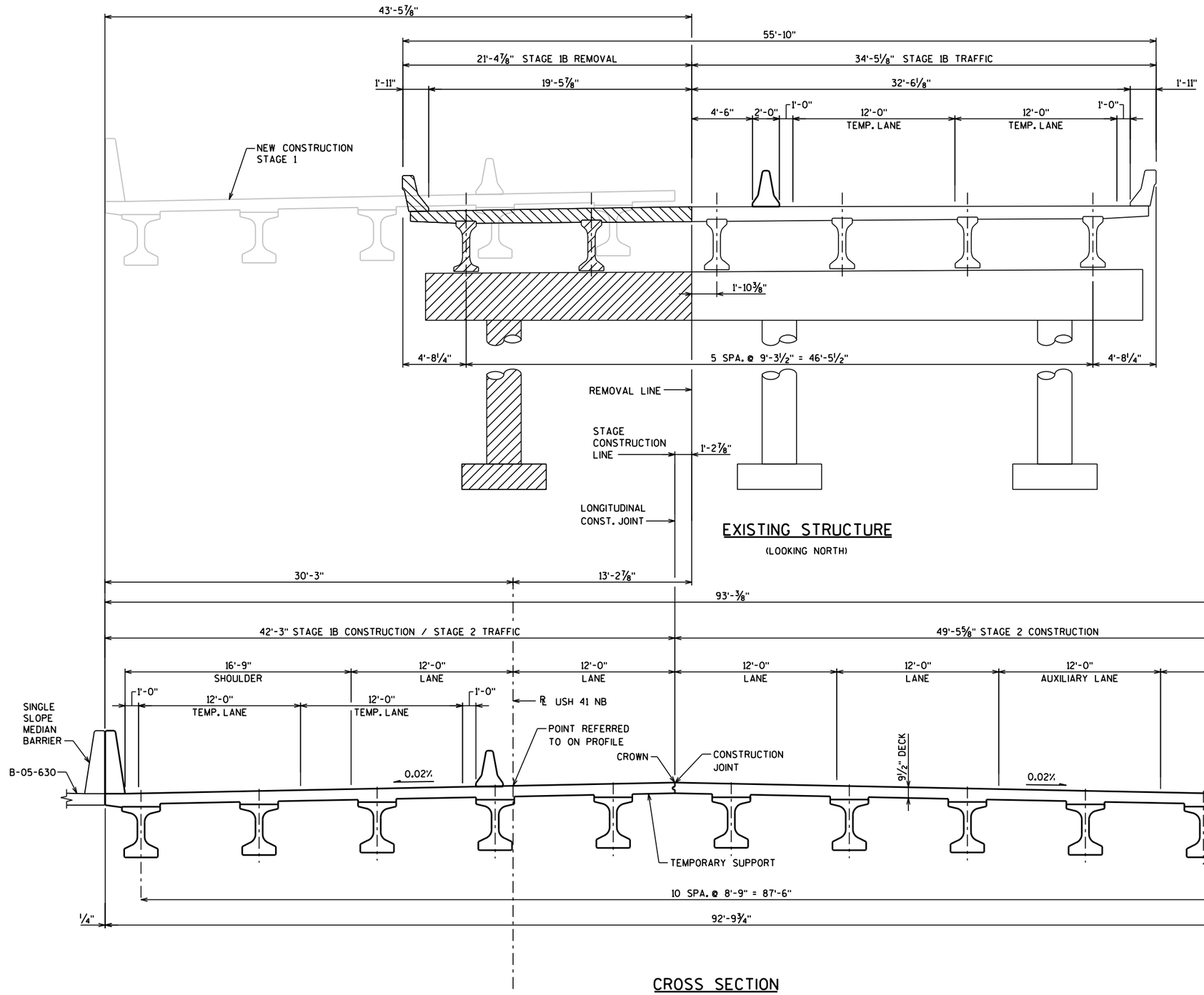
CROSS SECTION, QUANTITIES, & PROFILE

SHEET 2 OF 26

8

8

STATE PROJECT NUMBER
1133-03-77



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-631

DRAWN BY BRE | PLANS CK'D. KRO

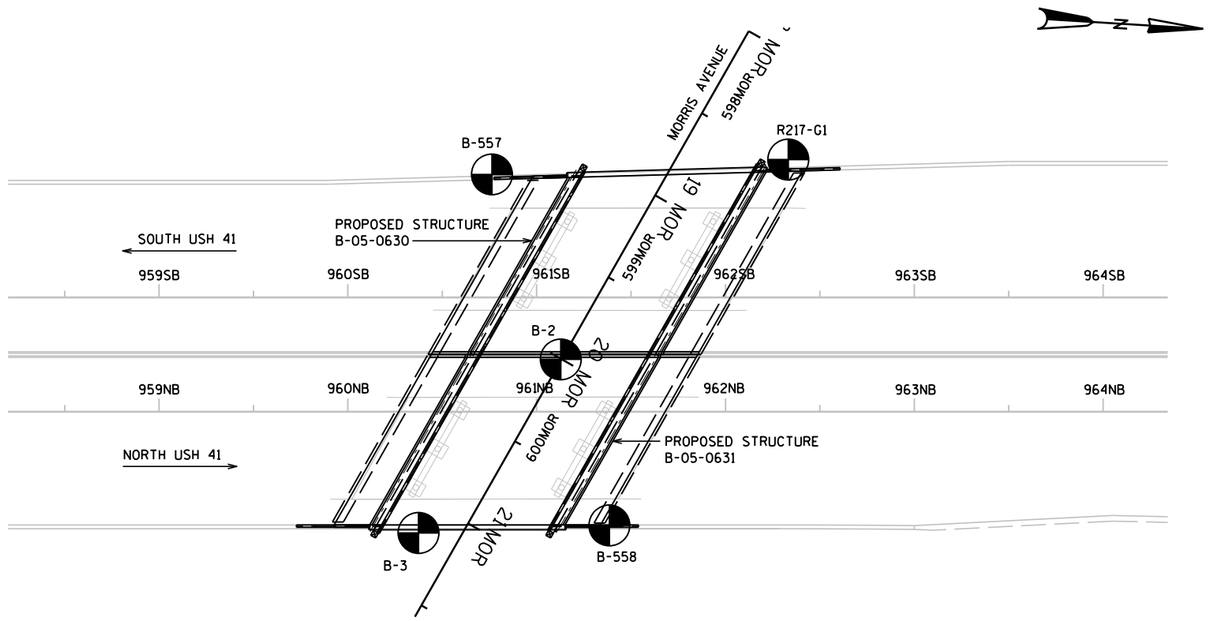
STAGING DETAILS

SHEET 3 OF 26

8

8

STATE PROJECT NUMBER
1133-03-77



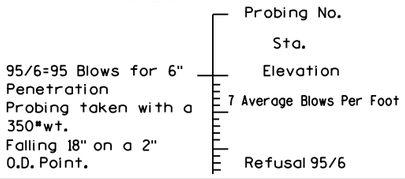
ABBREVIATIONS

F — Fine M — Medium C — Coarse
Ws — Weathered So — Sound

MATERIAL SYMBOLS

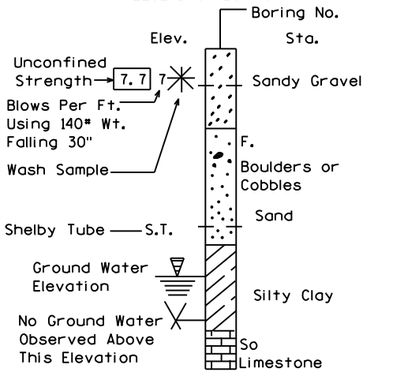
Topsoil, Silt, Sandstone
Sand, Peat, Limestone
Gravel, Clay, Igneous Rock

LEGEND OF PROBING



95/6=95 Blows for 6" Penetration
Probing taken with a 350#wt.
Falling 18" on a 2" O.D. Point.

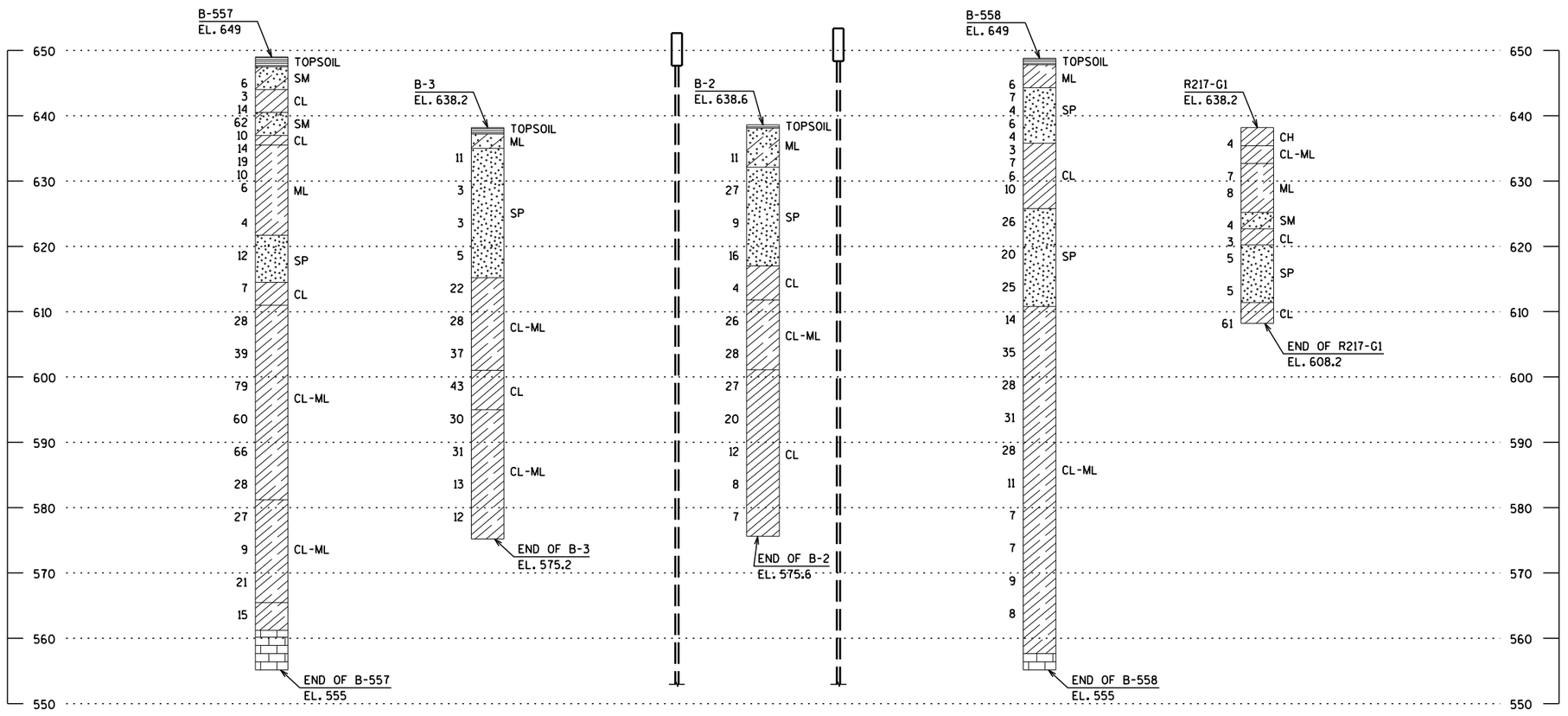
LEGEND OF BORING



Unless otherwise specified, the blows per foot at the locations indicated are based on driving a O.D. x 1. 4" I.D. split spoon sampler with a 140# hammer having a free fall of 30". The blow count is taken in undisturbed soil immediately below a cased or open hole eliminating side friction on the drive pipe.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

To obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing. The data presented herein represents the findings of the subsurface explorations made. However, because the depths investigated are limited and the area of the borings and/or soundings is very small in relation to the entire area, the Division of Highways does not warrant conditions below the depths investigated or that the classification of material encountered in these investigations is necessarily typical of the entire site.



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-631

DRAWN BY BRE PLANS CK'D. KRO

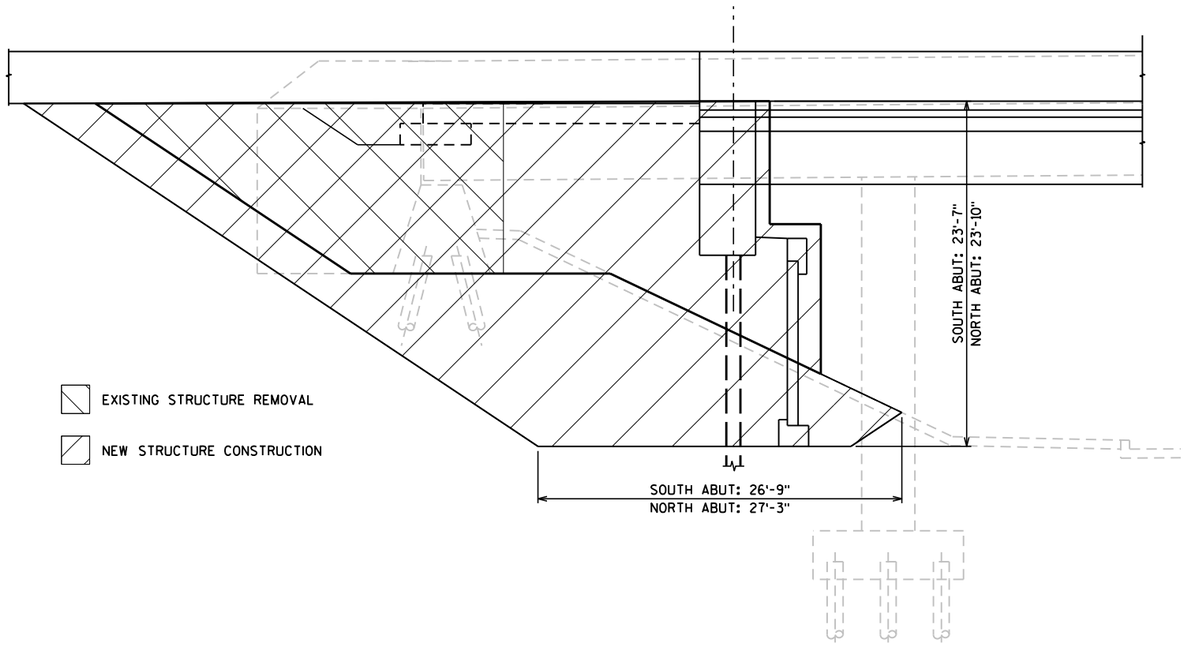
SUBSURFACE EXPLORATION

SHEET 4 OF 26

8

8

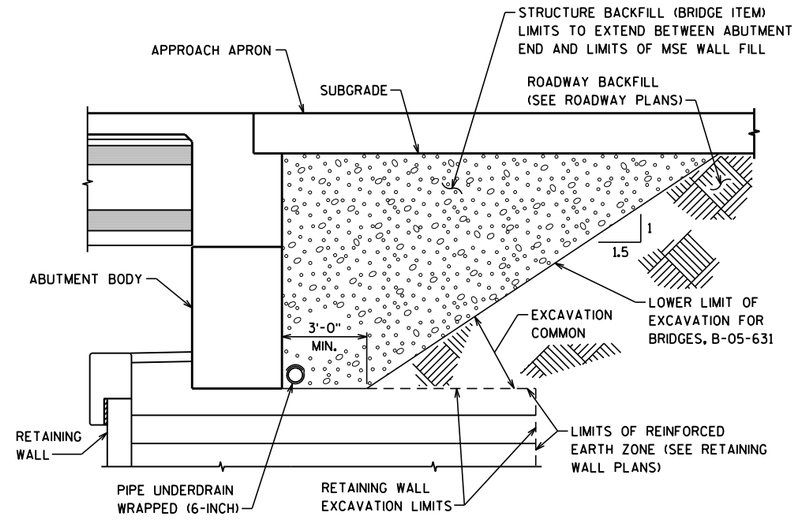
STATE PROJECT NUMBER
1133-03-77



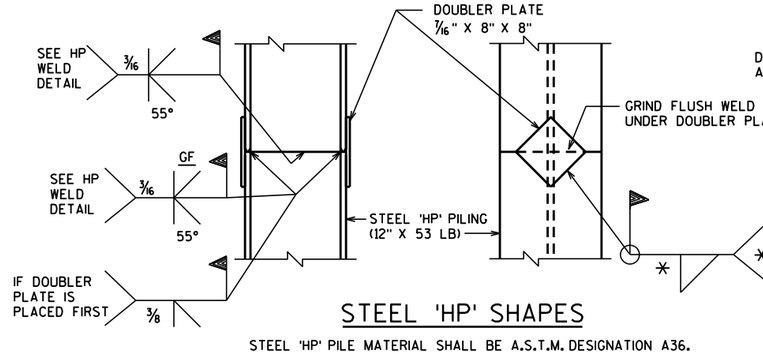
TEMPORARY SHORING TYPICAL ELEVATION

SOUTH ABUTMENT: 1130 SF
NORTH ABUTMENT: 1150 SF

(QUANTITY INCLUDES BOTH EXISTING STRUCTURE REMOVAL AND NEW STRUCTURE CONSTRUCTION.)

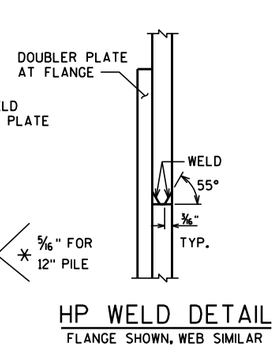


BACKFILL / EXCAVATION DETAIL



STEEL 'HP' SHAPES

STEEL 'HP' PILE MATERIAL SHALL BE A.S.T.M. DESIGNATION A36.



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-631

DRAWN BY: BRE | PLANS CK'D.: KRO

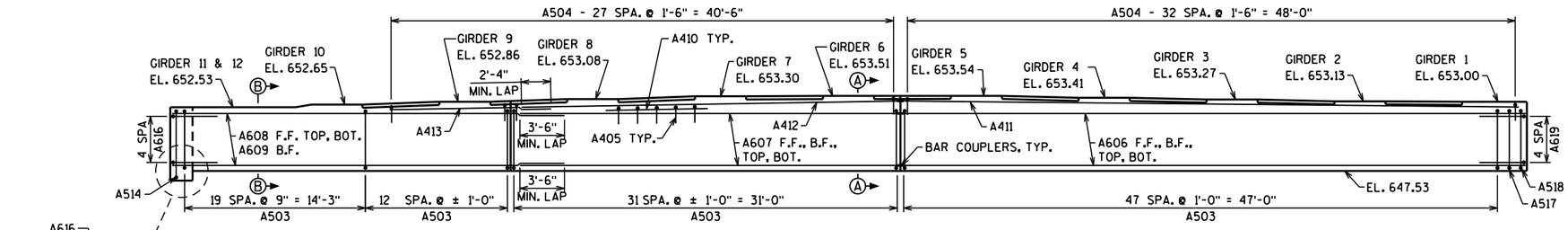
TEMPORARY SHORING

SHEET 5 OF 26

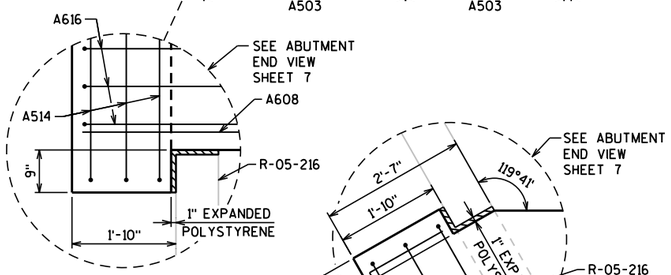
8

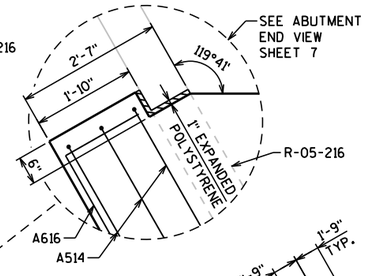
8

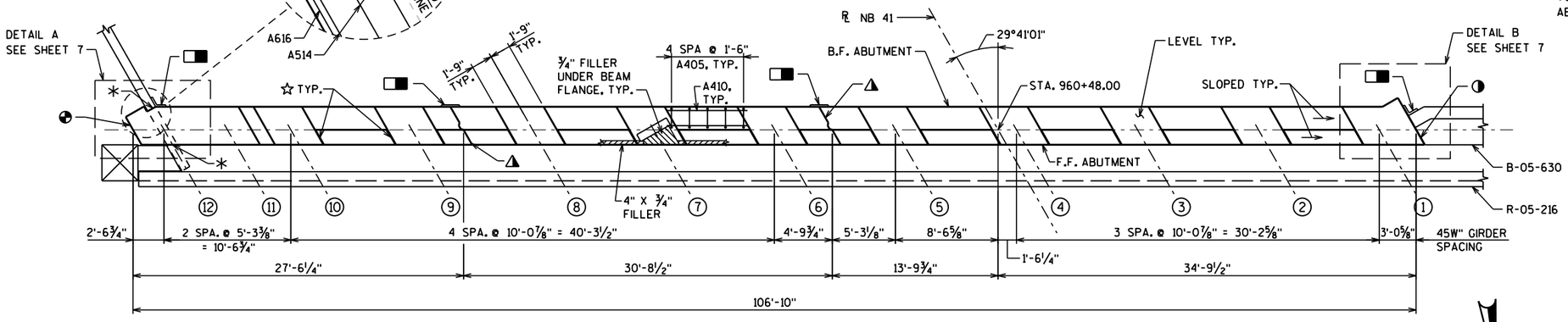
STATE PROJECT NUMBER
1133-03-77



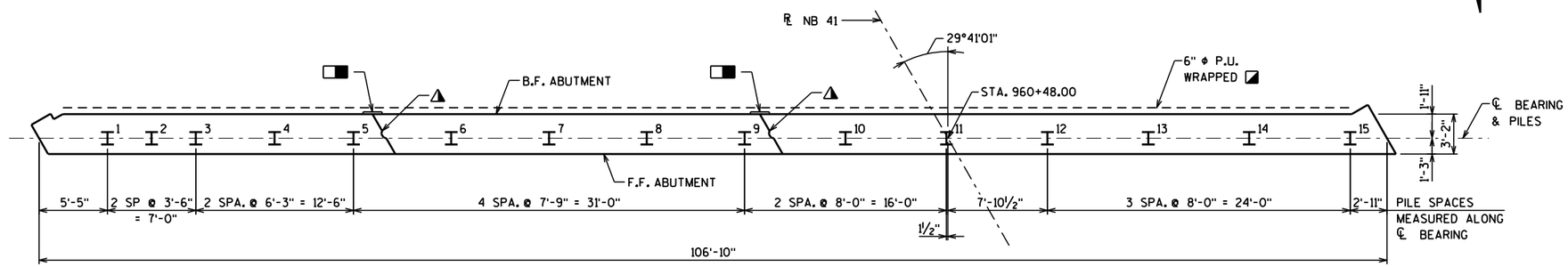
ELEVATION







PLAN



PILE PLAN

LEGEND

- ½" FILLER NOT INCLUDED IN ABUTMENT LENGTH, SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- VERTICAL CONSTRUCTION JOINT KEYWAY FORMED BY A BEVELED 2" X 8" NOTCH. USE ¾" "V" GROOVE JOINT @ THE FRONT FACE OF ABUTMENT.
- ☆ ¾" CORK FILLER ON VERTICAL FACES THAT RUN PARALLEL TO THE GIRDER.
- ✳ 1" EXPANDED POLYSTYRENE FILLER BETWEEN ABUTMENT AND RETAINING WALL.
- IMPRINTED BRICK PATTERN. SEE SHEET 26.
- PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.

SEE SHEET 7 FOR BILL OF BARS AND BAR BENDING DIAGRAMS.

PILE NOTE

SOUTH ABUTMENT TO BE SUPPORTED ON HP 12 X 53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE. ESTIMATED LENGTH = 90' AT SOUTH ABUTMENT. FOR PILE SPLICE DETAILS, SEE SHEET 5.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-631

DRAWN BY BRE | PLANS CK'D. KRO

SOUTH ABUTMENT

SHEET 6 OF 26

8

8

STATE PROJECT NUMBER
1133-03-77

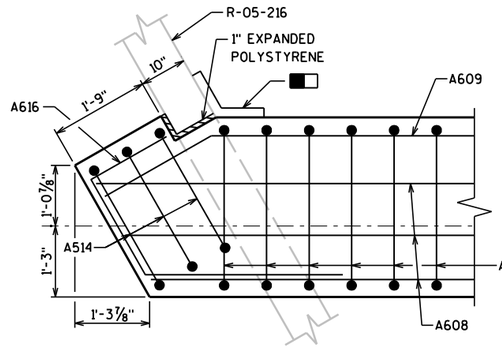
BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
A401	X	30	2'-3"		BODY - PILES
A402	X	15	28'-0"	X	BODY - PILES
A503	X	112	14'-11"	X	BODY - VERTICAL
A504	X	61	6'-9"	X	BODY - VERTICAL (U BAR AT TOP)
A405	X	50	3'-11"	X	BODY - VERTICAL (BTW BEAM SEATS)
⬡ A606	X	14	48'-5"		BODY - HORIZONTAL (STAGE 1)
⬡ A607	X	14	30'-6"		BODY - HORIZONTAL (STAGE 2)
A608	X	9	30'-11"		BODY - HORIZONTAL (STAGE 2)
A609	X	5	30'-8"	X	BODY - HORIZONTAL (STAGE 2)
A410	X	20	8'-1"		BODY - HORIZONTAL (BTW BEAM SEATS)
⬡ A411	X	4	48'-2"		BODY - HORIZONTAL TOP (STAGE 1)
⬡ A412	X	4	30'-6"		BODY - HORIZONTAL TOP (STAGE 2)
A413	X	4	12'-10"		BODY - HORIZONTAL TOP (STAGE 2)
A514	X	3	16'-3"	X	BODY - VERT. EAST END OF ABUTMENT
A616	X	5	7'-2"	X	BODY - HORIZ. EAST END OF ABUTMENT
A517	X	1	16'-5"	X	BODY - VERT. WEST END OF ABUTMENT
A518	X	1	17'-3"	X	BODY - VERT. WEST END OF ABUTMENT
A619	X	5	9'-8"	X	BODY - HORIZ. WEST END OF ABUTMENT

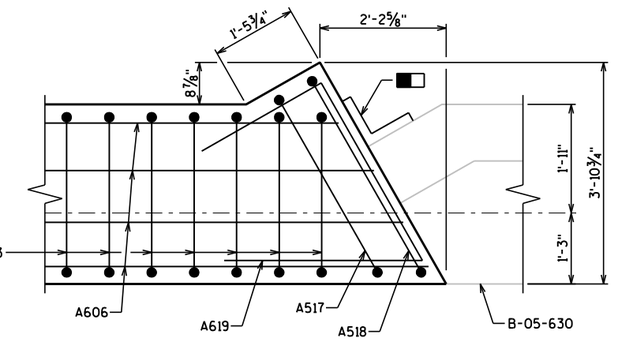
⬡ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.

LEGEND

- ▬ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ☆ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03"
- ✳ 1" EXPANDED POLYSTYRENE FILLER BETWEEN ABUTMENT AND RETAINING WALL.
- ◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.
- ◪ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.
- △ SLOPE PAVING CONCRETE, MINIMUM 4" THICKNESS. PLACE CONSTRUCTION JOINTS EVERY 10' MAXIMUM. SEE SLOPE PAVING CONSTRUCTION JOINT DETAIL.



DETAIL A



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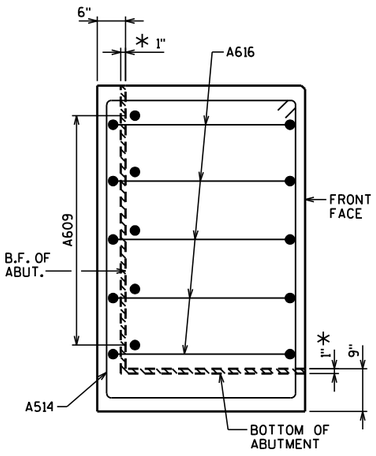
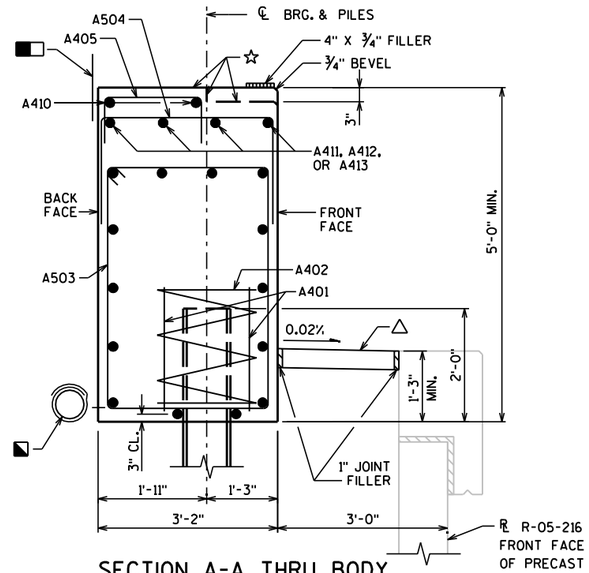


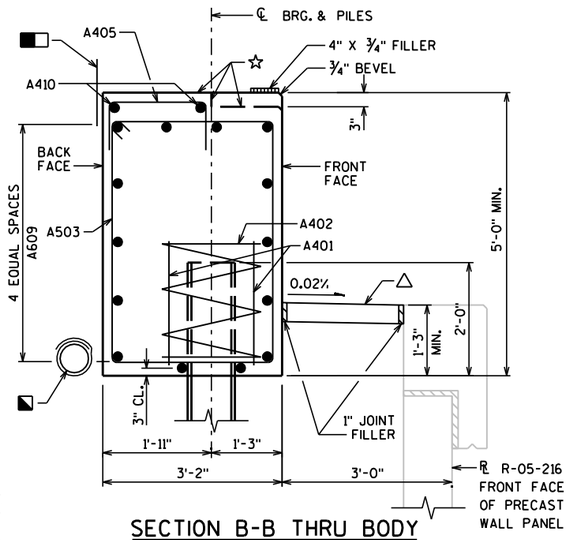
ABUTMENT END VIEW

(EAST END ONLY)



SECTION A-A THRU BODY

HORIZONTAL BARS NOT OTHERWISE IDENTIFIED ARE A606 OR A607 BARS



SECTION B-B THRU BODY

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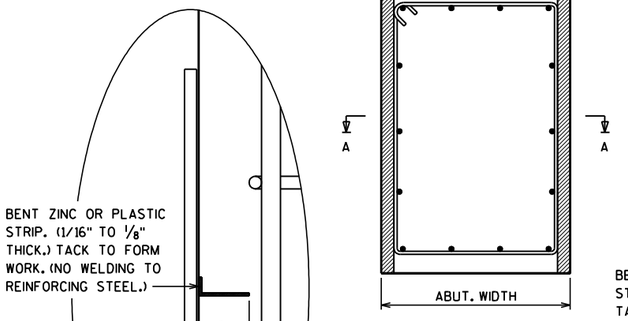
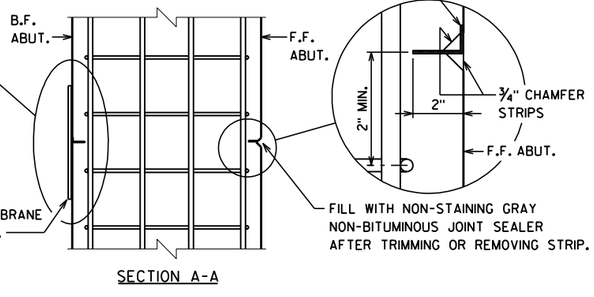
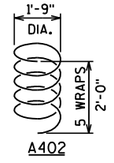


SECTION THRU ABUTMENT BODY

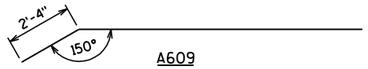


SECTION A-A

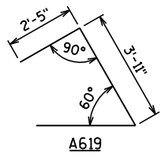
ALTERNATE CONSTRUCTION JOINT AT ABUTMENT



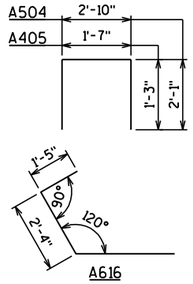
A402



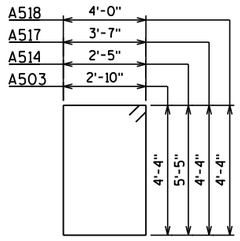
A609



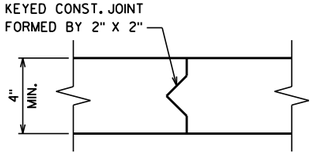
A619



A616



BAR BENDING DIAGRAMS



SLOPE PAVING CONSTRUCTION JOINT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-631

DRAWN BY BRE | PLANS CK'D. KRO

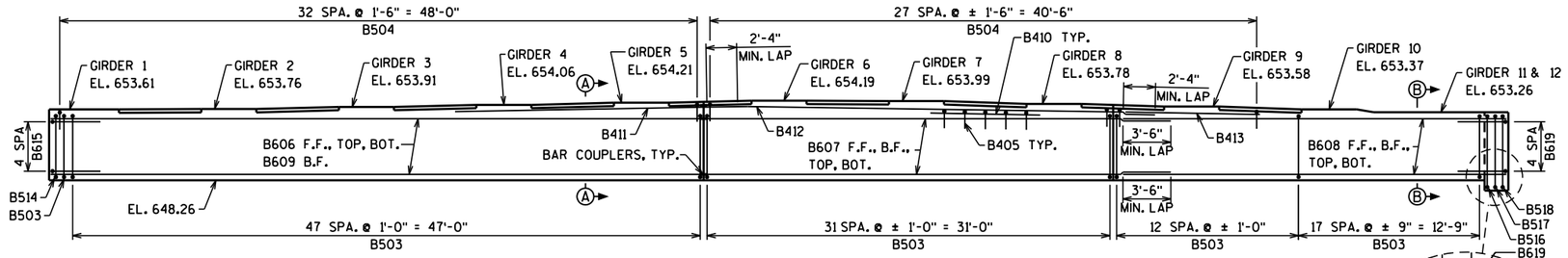
SOUTH ABUTMENT DETAILS

SHEET 7 OF 26

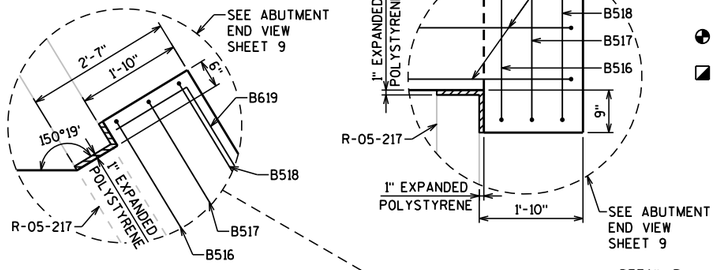
8

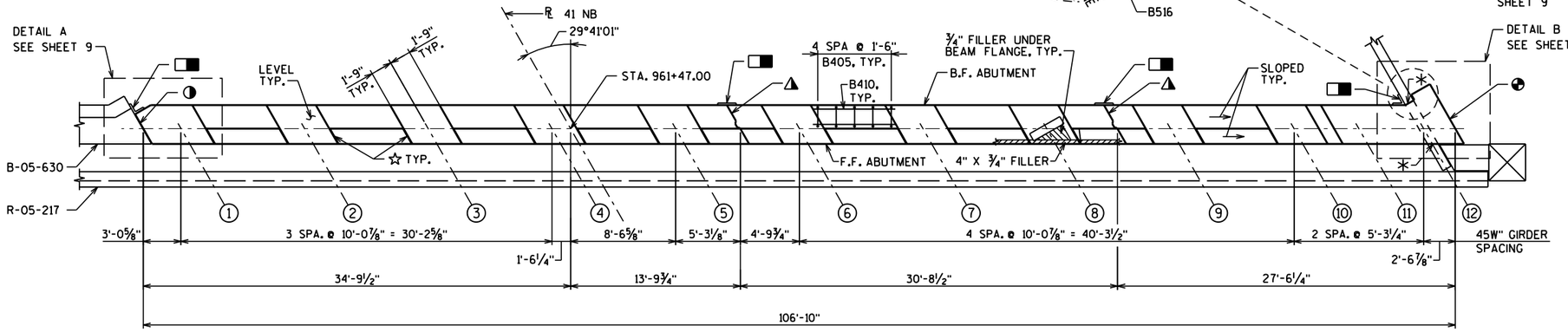
8

STATE PROJECT NUMBER
1133-03-77

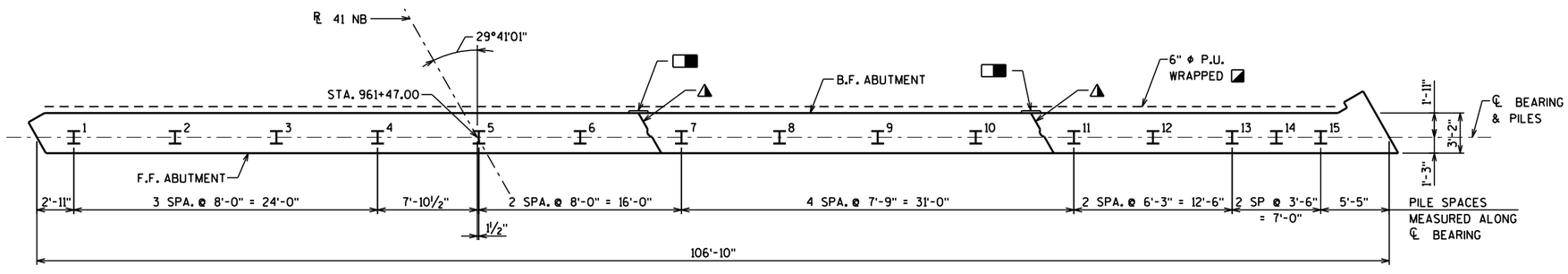


ELEVATION





PLAN



PILE PLAN

LEGEND

- ◑ ½" FILLER NOT INCLUDED IN ABUTMENT LENGTH, SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ◭ VERTICAL CONSTRUCTION JOINT KEYWAY FORMED BY A BEVELED 2" X 8" NOTCH. USE ¾" "V" GROOVE JOINT @ THE FRONT FACE OF ABUTMENT.
- ☆ ¾" CORK FILLER ON VERTICAL FACES THAT RUN PARALLEL TO THE GIRDER.
- ✳ 1" EXPANDED POLYSTYRENE FILLER BETWEEN ABUTMENT AND RETAINING WALL.
- ◕ IMPRINTED BRICK PATTERN. SEE SHEET 26.
- ◪ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.

SEE SHEET 9 FOR BILL OF BARS AND BAR BENDING DIAGRAMS.

PILE NOTE

NORTH ABUTMENT TO BE SUPPORTED ON HP 12 X 53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE. ESTIMATED LENGTH = 90' AT NORTH ABUTMENT. FOR PILE SPLICE DETAILS, SEE SHEET 5.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
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NORTH ABUTMENT

SHEET 8 OF 26

8

8

STATE PROJECT NUMBER
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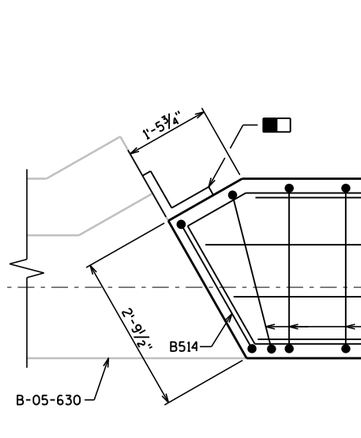
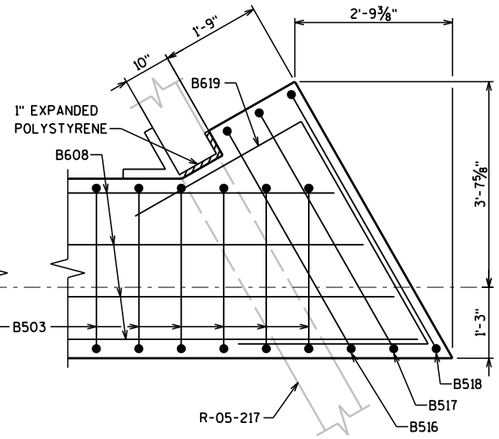
BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
B401	X	30	2'-3"		BODY - PILES
B402	X	15	28'-0"	X	BODY - PILES
B503	X	110	14'-11"	X	BODY - VERTICAL
B504	X	61	6'-9"	X	BODY - VERTICAL (U BAR AT TOP)
B405	X	50	3'-11"	X	BODY - VERTICAL (BTW BEAM SEATS)
⬡ B606	X	9	48'-4"		BODY - HORIZONTAL (STAGE 1)
⬡ B607	X	14	34'-5"		BODY - HORIZONTAL (STAGE 2)
B608	X	14	27'-2"		BODY - HORIZONTAL (STAGE 2)
⬡ B609	X	5	46'-11"		BODY - HORIZONTAL (STAGE 1)
B410	X	20	8'-1"		BODY - HORIZONTAL (BTW BEAM SEATS)
⬡ B411	X	4	46'-8"		BODY - HORIZONTAL TOP (STAGE 1)
⬡ B412	X	4	33'-3"		BODY - HORIZONTAL TOP (STAGE 2)
B413	X	4	10'-6"		BODY - HORIZONTAL TOP (STAGE 2)
B514	X	1	14'-3"	X	BODY - VERT. WEST END OF ABUTMENT
B615	X	5	10'-6"	X	BODY - HORIZ. WEST END OF ABUTMENT
B516	X	1	20'-1"	X	BODY - VERT. EAST END OF ABUTMENT
B517	X	1	20'-11"	X	BODY - VERT. EAST END OF ABUTMENT
B518	X	1	21'-9"	X	BODY - VERT. EAST END OF ABUTMENT
B619	X	5	11'-4"	X	BODY - HORIZ. EAST END OF ABUTMENT

⬡ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.



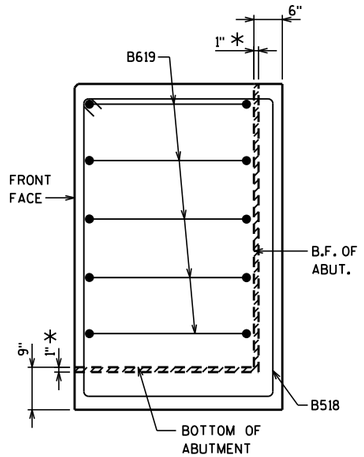
DETAIL A



DETAIL B

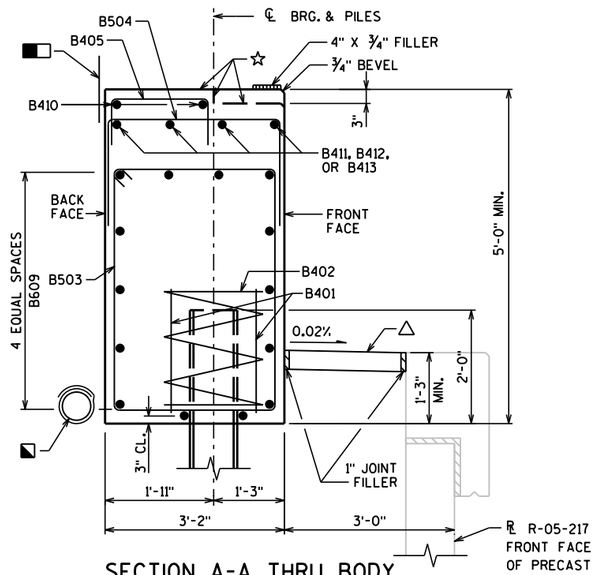
LEGEND

- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ☆ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03"
- ✳ 1" EXPANDED POLYSTYRENE FILLER BETWEEN ABUTMENT AND RETAINING WALL.
- ◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.
- ◪ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.
- △ SLOPE PAVING CONCRETE, MINIMUM 4" THICKNESS. PLACE CONSTRUCTION JOINTS EVERY 10' MAXIMUM. SEE SLOPE PAVING CONSTRUCTION JOINT DETAIL.



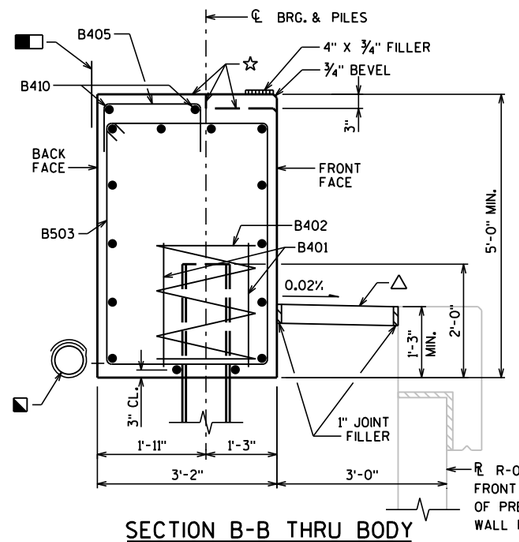
ABUTMENT END VIEW

(EAST END ONLY)



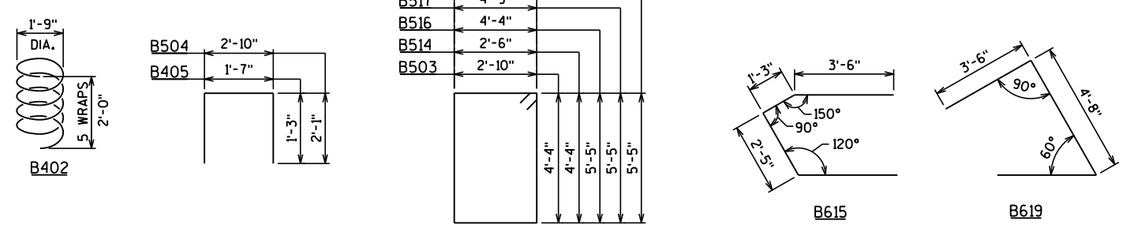
SECTION A-A THRU BODY

HORIZONTAL BARS NOT OTHERWISE IDENTIFIED ARE B606 BARS

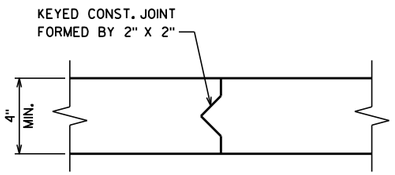


SECTION B-B THRU BODY

HORIZONTAL BARS NOT OTHERWISE IDENTIFIED ARE B608 BARS



BAR BENDING DIAGRAMS



SLOPE PAVING CONSTRUCTION JOINT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-631

DRAWN BY BRE | PLANS CK'D. KRO

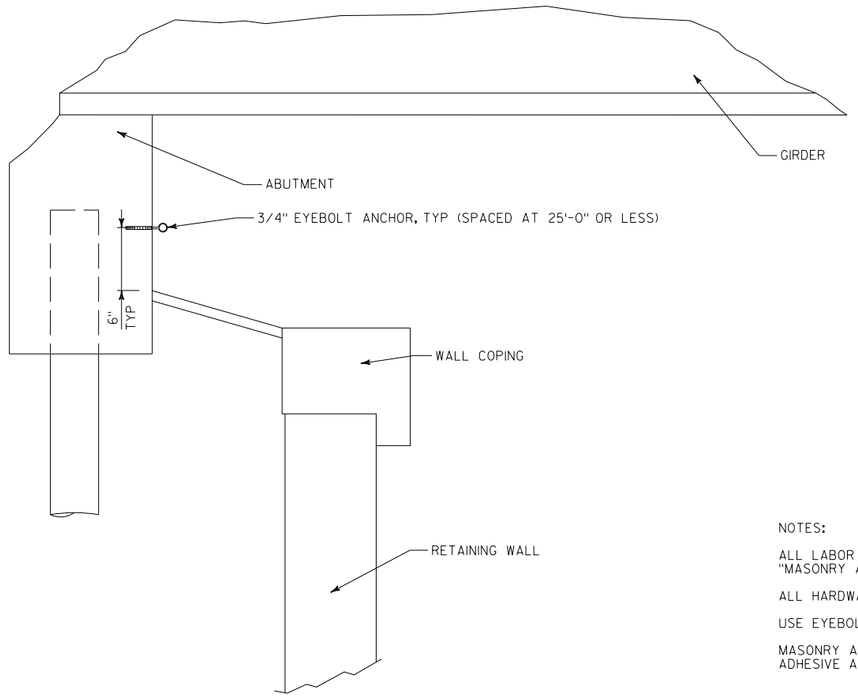
NORTH ABUTMENT DETAILS

SHEET 9 OF 26

8

FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Bridges±B-5-631_morris nb±B-05-63109 n abut det.dgn PLOT BY : epleyb PLOT DATE: 11/26/2012 3:48:38 PM

STATE PROJECT NUMBER
1133-03-77



SECTION

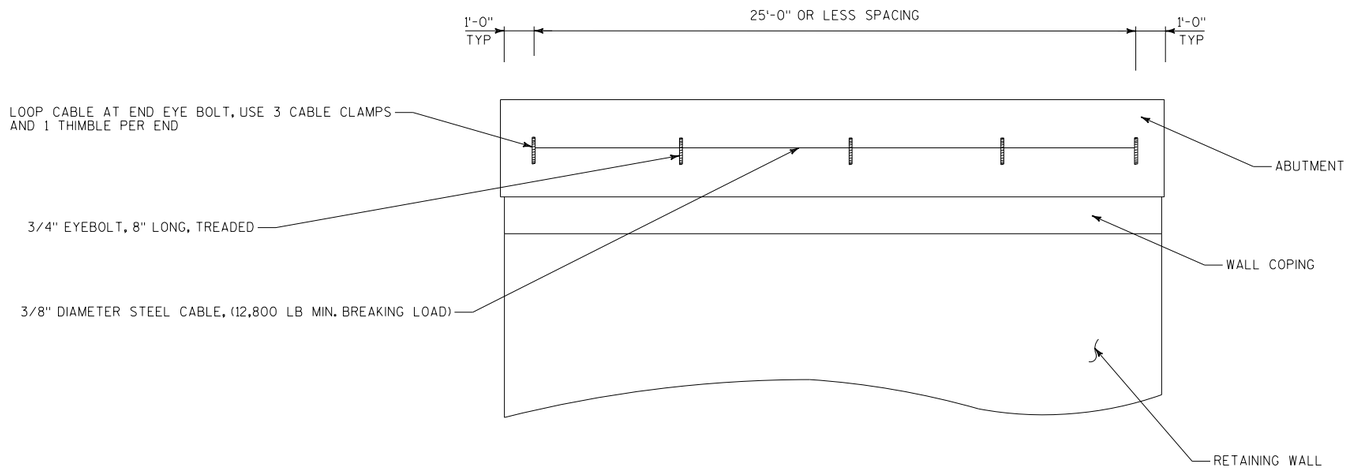
NOTES:

ALL LABOR AND MATERIAL (EYE BOLTS, CABLE, AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4 - INCH"

ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.

USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.

MASONRY ANCHORS TYPE S 3/4 - INCH, MIN. PULLOUT CAPACITY OF 26 KIPS, FOR ADHESIVE ANCHORS EMBEDDED A MIN. OF 7" IN CONCRETE.



FRONT VIEW OF ABUTMENT

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-631

DRAWN BY BRE | PLANS CK'D. KRO

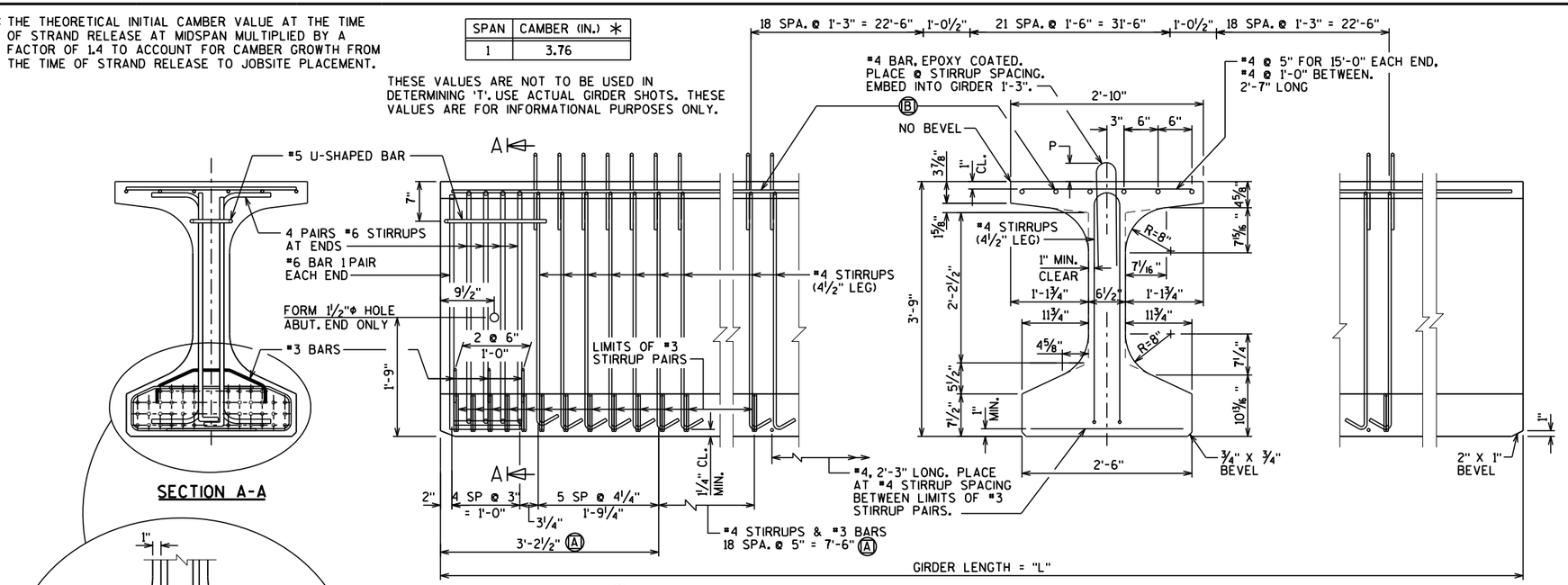
FALL PROTECTION

SHEET 10 OF 26

* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

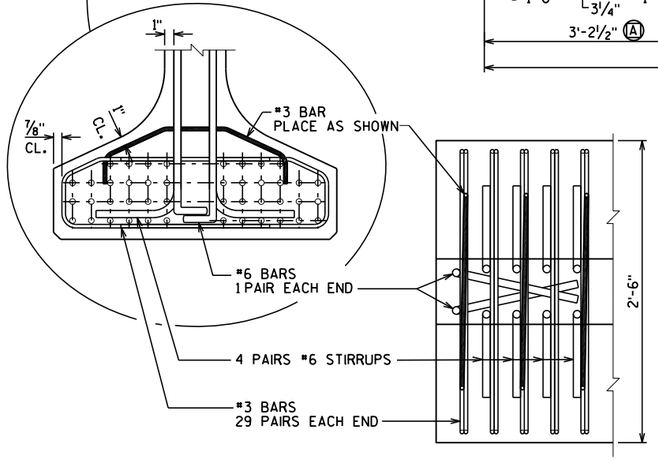
SPAN	CAMBER (IN.) *
1	3.76

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T'. USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



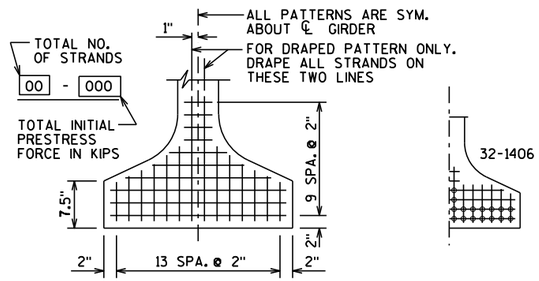
(A) DETAIL TYP. AT EACH END

(B) 6 *4 BARS, FULL LENGTH, MIN. LAP = 1'-11"

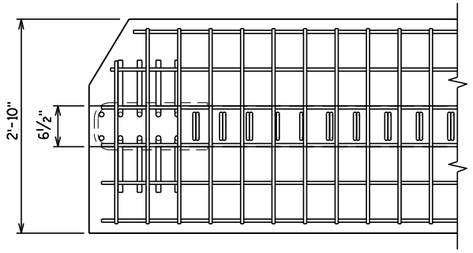


BOTTOM FLANGE

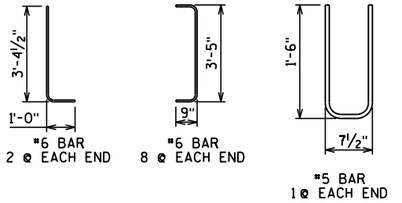
SIDE VIEW & TYP. SECTION IN SPAN

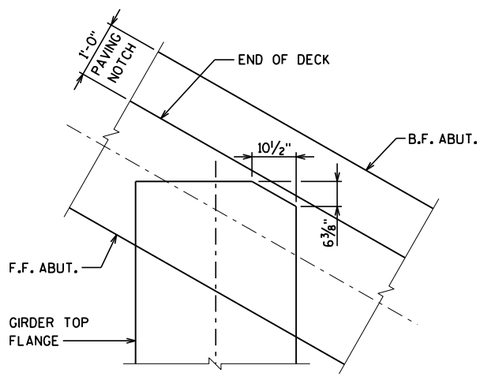


TYP. STRAND PATTERN

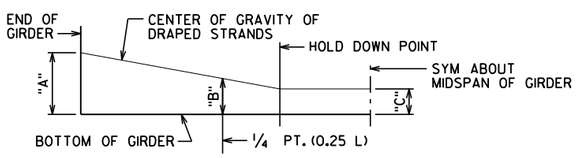


TOP FLANGE

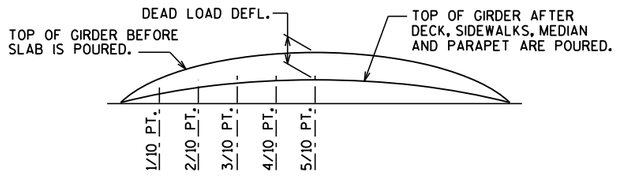




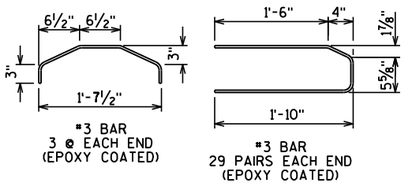
TOP FLANGE COPING DETAIL AT ABUTMENT ENDS



DRAPED STRAND PROFILE



DEAD LOAD DEFLECTION DIAGRAM



* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1ST ⅓ OF GIRDER	"P" MID ⅓ OF GIRDER	"P" END ⅓ OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	ALL	100.0'	0.56	1.09	1.48	1.72	1.81	1.72	1.48	1.09	0.56	8,000	8"	7"	8"	0.6	32	6,800	40	13½"	16½"	5	---	---
2-9	ALL	100.0'	0.67	1.3	1.78	2.06	2.17	2.06	1.78	1.3	0.67	8,000	8"	7"	8"	0.6	32	6,800	40	13½"	16½"	5	---	---
10	ALL	100.0'	0.55	1.05	1.44	1.67	1.75	1.67	1.44	1.05	0.55	8,000	8"	7"	8"	0.6	32	6,800	40	13½"	16½"	5	---	---
11	ALL	100.0'	0.49	0.95	1.3	1.51	1.59	1.51	1.3	0.95	0.49	8,000	8"	7"	8"	0.6	32	6,800	40	13½"	16½"	5	---	---
12	ALL	100.0'	0.61	1.18	1.61	1.88	1.97	1.88	1.61	1.18	0.61	8,000	8"	7"	8"	0.6	32	6,800	40	13½"	16½"	5	---	---

STATE PROJECT NUMBER
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GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

PRESTRESSING STRANDS SHALL BE 0.6"Φ - 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO APPLICATION OF THE SEALER.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR *4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE *4 STIRRUPS, 1 OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT CHIEF, (608)266-5161.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-631

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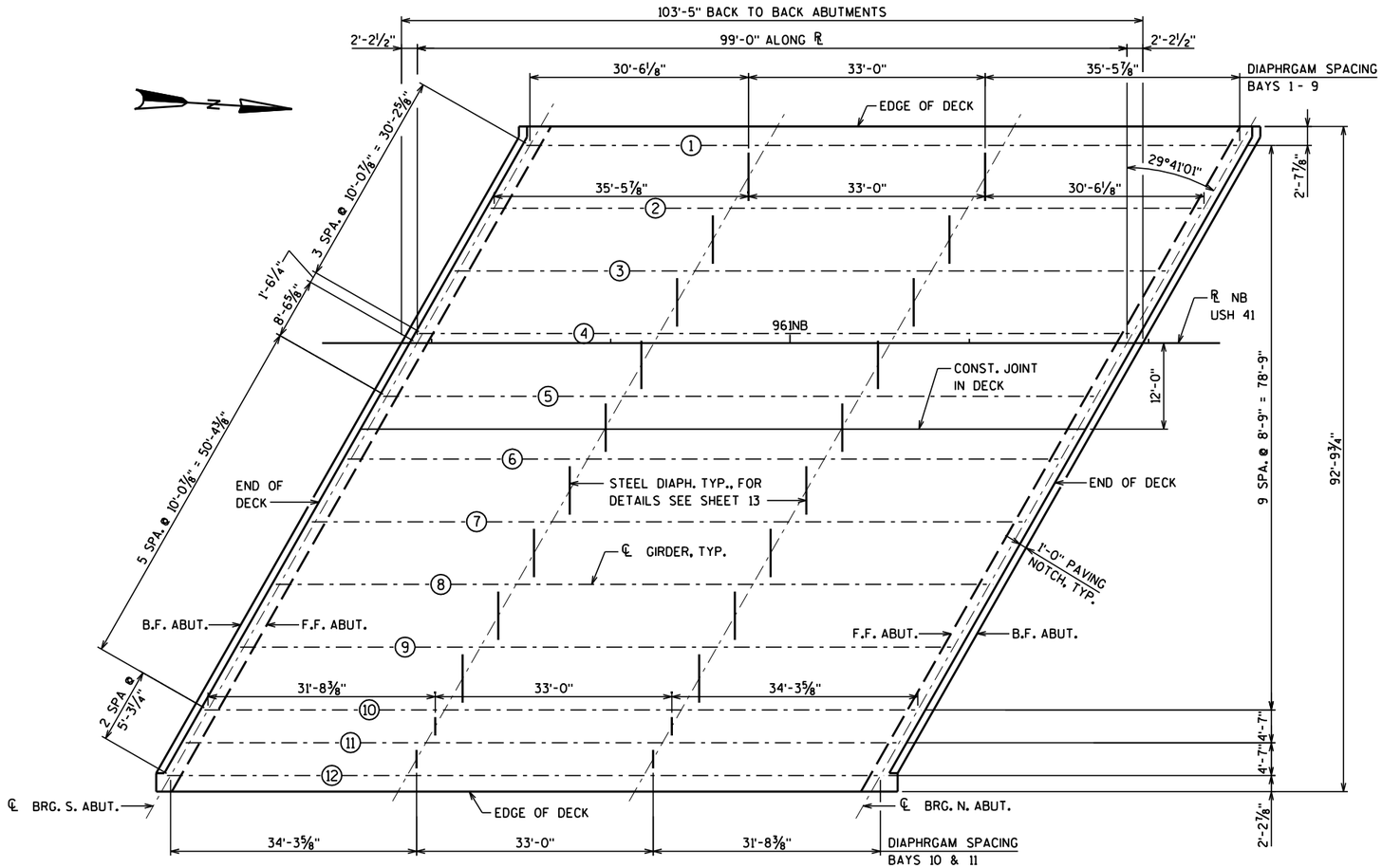
45W" PRESTRESSED GIRDER DETAILS

SHEET 11 OF 26

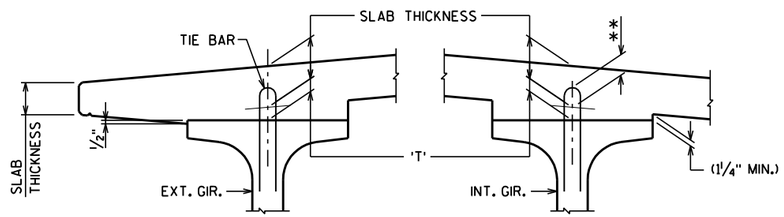
8

8

STATE PROJECT NUMBER
1133-03-77



SUPERSTRUCTURE PLAN



SLAB HAUNCH DETAIL

IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-631

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SUPERSTRUCTURE LAYOUT

SHEET 12 OF 26

8

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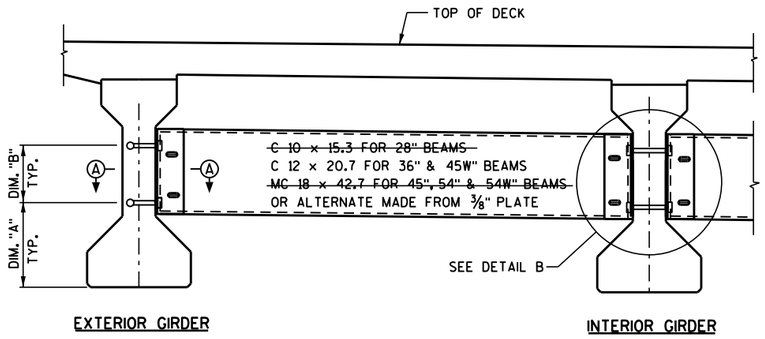
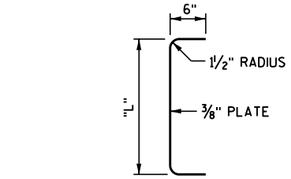


PART TRANSVERSE SECTION AT DIAPHRAGM

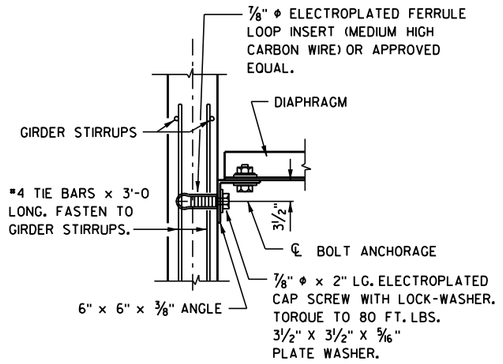
TABLE

GIRDER HEIGHT	DIM. "A"	DIM. "B"	DIM. "L"	* DIM. "X"
~~28"~~	~~1'-0 7/8"~~	~~5 7/8"~~	~~9 1/2"~~	~~2 1/4"~~
~~36"~~	~~1'-2 7/8"~~	~~9 7/8"~~	~~1'-1 1/2"~~	~~3 1/4"~~
~~45"~~	~~1'-5 3/8"~~	~~1'-1 7/8"~~	~~1'-5 1/2"~~	~~2 1/4"~~
45W"	1'-9 1/8"	8 7/8"	1'-0 1/2"	2 3/4"
~~54"~~	~~1'-7 7/8"~~	~~1'-5 7/8"~~	~~1'-9 1/2"~~	~~4 1/4"~~
~~54W"~~	~~1'-9 1/8"~~	~~1'-5 7/8"~~	~~1'-9 1/2"~~	~~4 1/4"~~



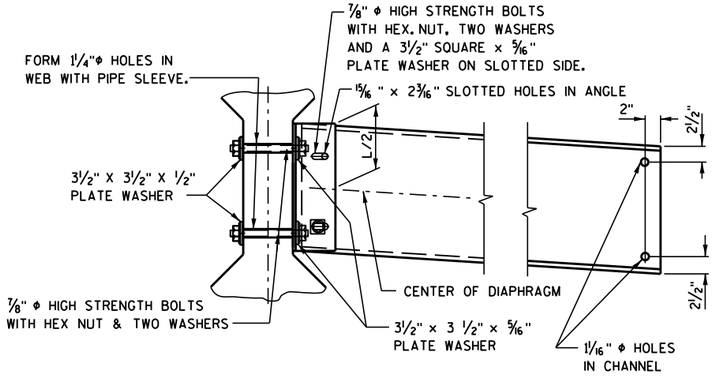
SECTION THRU ALTERNATE DIAPHRAGM

*DIM "X" = 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM



SECT. A-A

(FOR EXTERIOR ATTACHMENT)



DETAIL B

(FOR STAGGERED DIAPHRAGMS)

NOTES

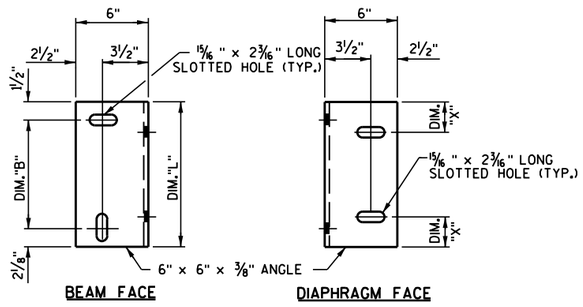
ALL DIAPHRAGM MATERIAL AND CORED HOLES SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS, B-05-631", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.



DIAPHRAGM SUPPORT

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-631

DRAWN BY BRE | PLANS CK'D. KRO

STEEL DIAPHRAGMS

SHEET 13 OF 26

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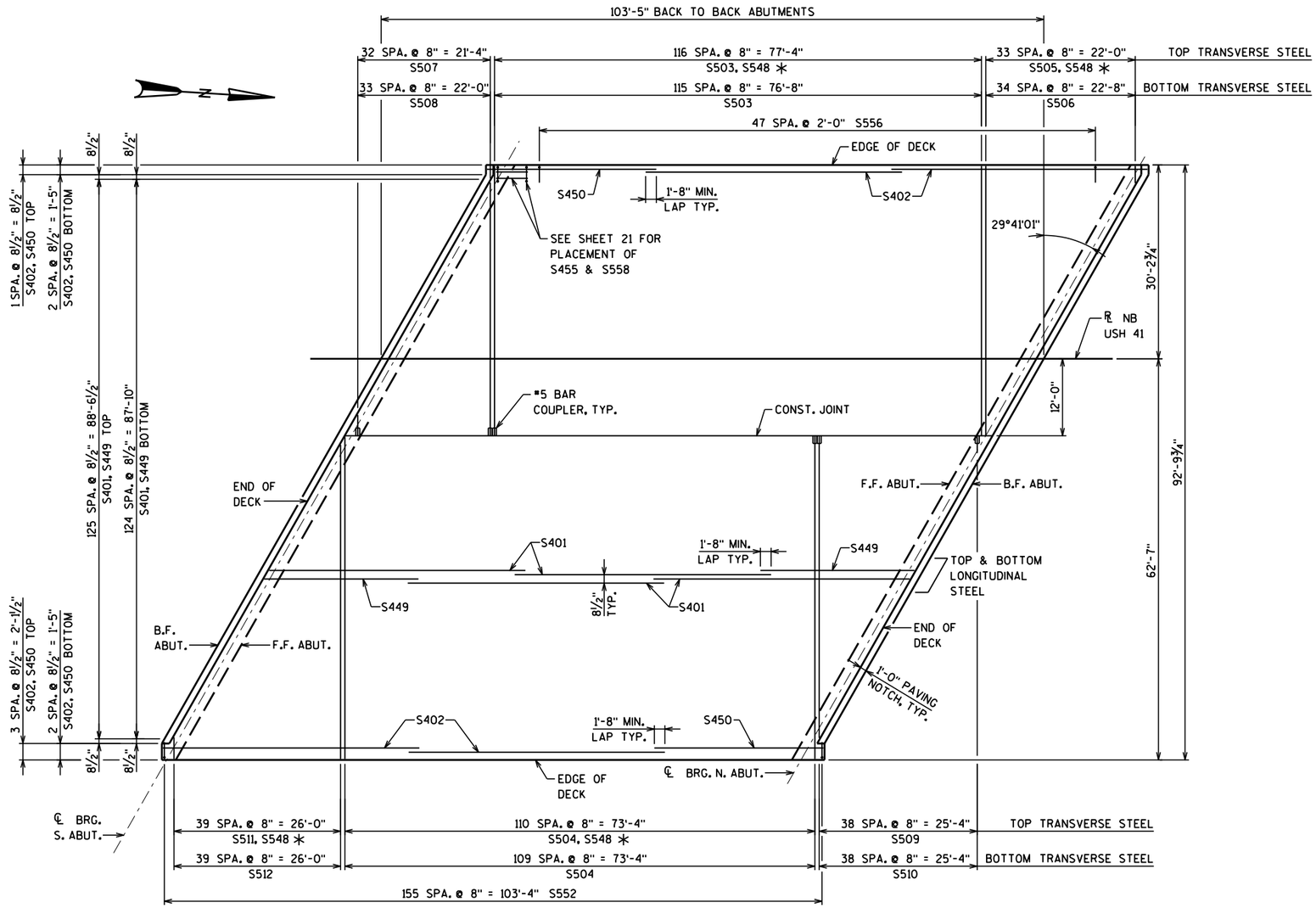

SUPERSTRUCTURE PLAN

* LAP S548 ONTO EVERY TRANSVERSE BAR IN THE TOP MAT BETWEEN THE ABUTMENTS AS SHOWN.

TOP OF DECK ELEVATIONS

LOCATION	S. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	N. ABUT.
W. FLOW LINE	657.89	657.97	658.04	658.10	658.17	658.23	658.29	658.35	658.41	658.46	658.51
GIRDER 1	657.91	657.99	658.06	658.12	658.19	658.25	658.31	658.37	658.43	658.48	658.53
GIRDER 2	658.05	658.12	658.20	658.26	658.33	658.39	658.46	658.52	658.57	658.63	658.68
GIRDER 3	658.19	658.26	658.33	658.40	658.47	658.54	658.60	658.66	658.72	658.78	658.83
GIRDER 4	658.32	658.40	658.47	658.54	658.61	658.68	658.74	658.81	658.87	658.92	658.98
R/L	658.34	658.42	658.49	658.57	658.63	658.70	658.77	658.83	658.89	658.95	659.00
GIRDER 5	658.46	658.54	658.61	658.68	658.75	658.82	658.89	658.95	659.01	659.07	659.13
CROWN	658.53	658.61	658.68	658.76	658.83	658.90	658.96	659.03	659.09	659.15	659.20
GIRDER 6	658.43	658.51	658.58	658.66	658.73	658.80	658.86	658.93	658.99	659.05	659.11
GIRDER 7	658.21	658.29	658.37	658.44	658.52	658.59	658.65	658.72	658.78	658.84	658.90
GIRDER 8	658.00	658.08	658.16	658.23	658.31	658.38	658.45	658.51	658.58	658.64	658.70
GIRDER 9	657.78	657.86	657.94	658.02	658.09	658.17	658.24	658.30	658.37	658.43	658.49
GIRDER 10	657.56	657.65	657.73	657.80	657.88	657.95	658.03	658.09	658.16	658.23	658.29
GIRDER 11	657.45	657.53	657.61	657.69	657.77	657.84	657.92	657.99	658.05	658.12	658.18
GIRDER 12	657.34	657.43	657.51	657.59	657.66	657.74	657.81	657.88	657.95	658.02	658.08
E. FLOW LINE	657.34	657.43	657.51	657.59	657.67	657.74	657.81	657.88	657.95	658.02	658.08

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-631

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SUPERSTRUCTURE

SHEET 14 OF 26

8

FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Bridges±B-5-631_morris nb±B-05-631 14 super reinf.dgn PLOT BY : epleyb PLOT DATE: 4/4/2013 10:47:41 AM

STATE PROJECT NUMBER
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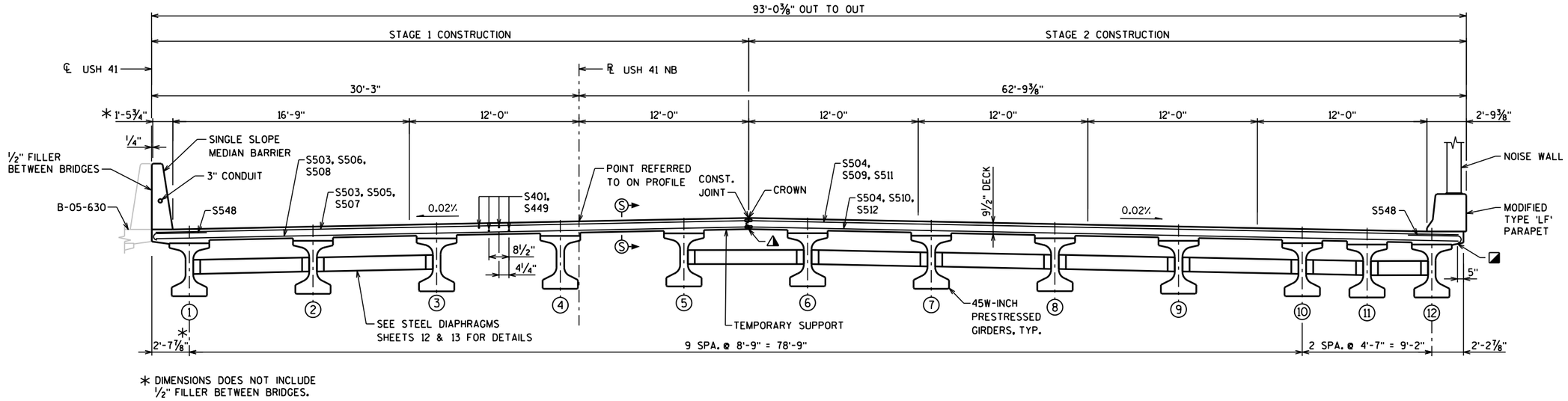
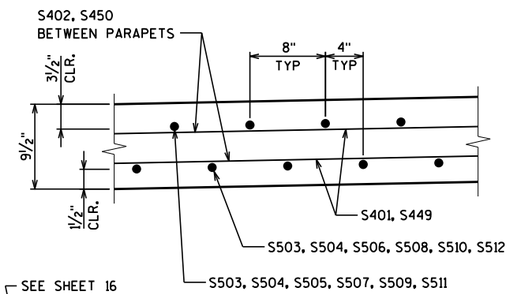


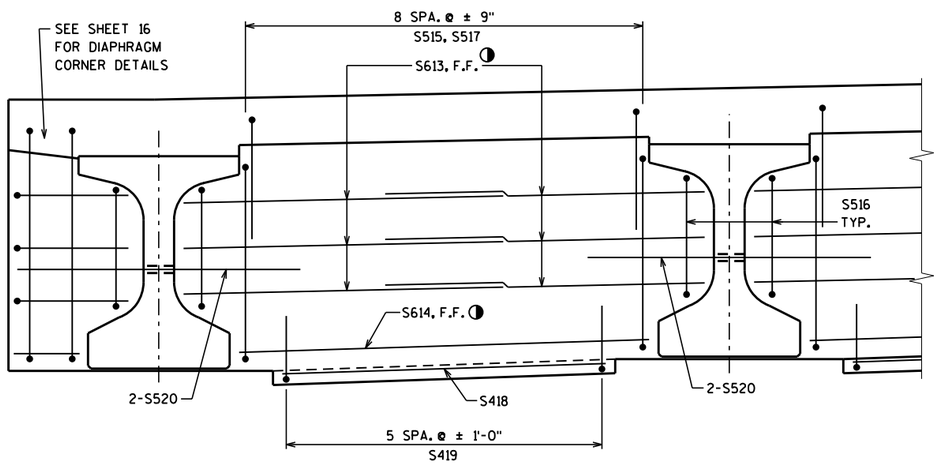
* DIMENSIONS DOES NOT INCLUDE 1/2" FILLER BETWEEN BRIDGES.

CROSS SECTION

(LOOKING NORTH)

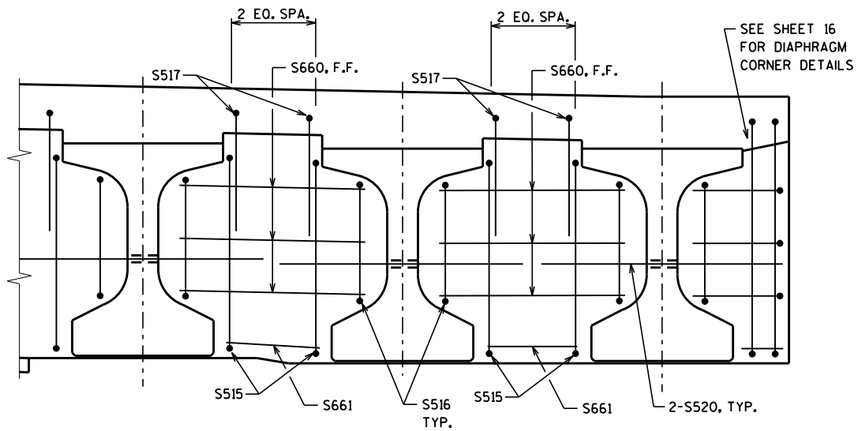


SECTION S-S



DIAPHRAGM AT ABUTMENT

BETWEEN GIRDERS 1 THRU 10



DIAPHRAGM AT ABUTMENT

BETWEEN GIRDERS 10 THRU 12

◪ 3/4" V-GROOVE. EXTEND V-GROOVE TO 3" FROM FRONT FACE OF ABUTMENT DIAPHRAGM.

⚠ LONGITUDINAL CONSTRUCTION JOINT KEYWAY FORMED BY A SURFACE BEVELED 2" X 2". CENTER KEYWAY BETWEEN MATS.

◑ FIELD CUT S613 & S614 AT CONSTRUCTION JOINT AND USE #6 BAR COUPLER.

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STRUCTURE B-05-631

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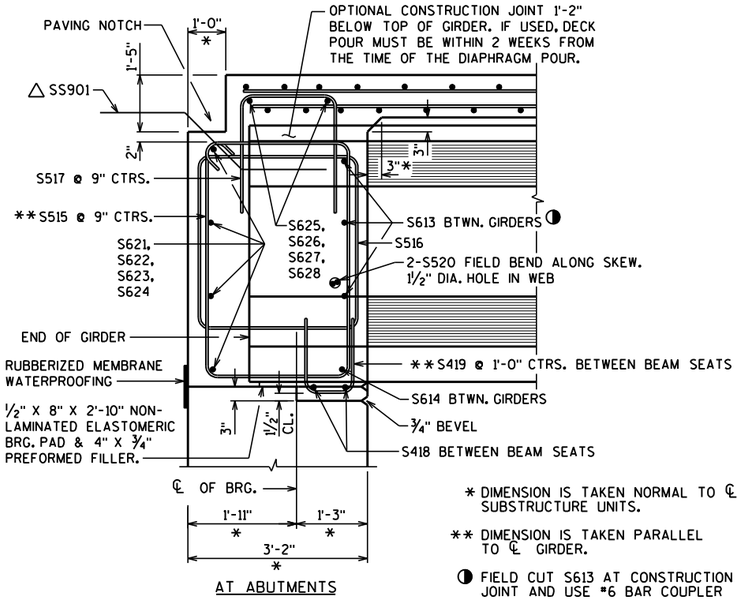
SUPERSTRUCTURE CROSS SECTION

SHEET 15 OF 26

8

8

STATE PROJECT NUMBER
1133-03-77



AT ABUTMENTS

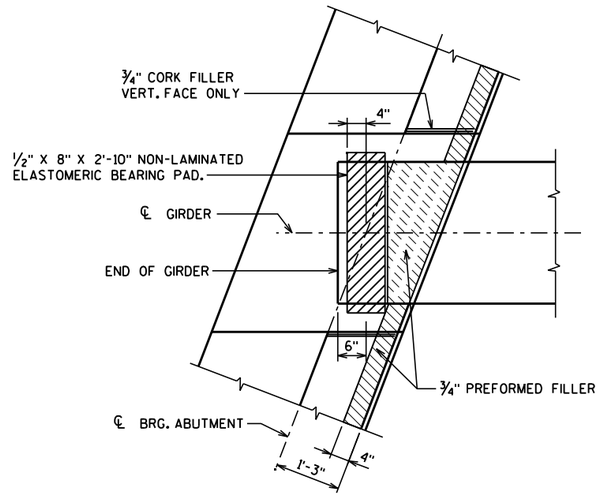
PART LONGIT. SECTION

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

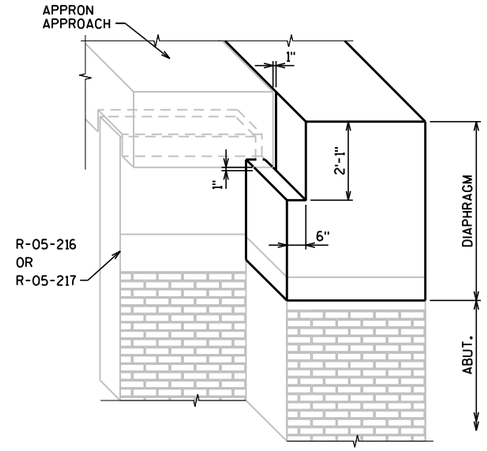
** DIMENSION IS TAKEN PARALLEL TO ℄ GIRDER.

◑ FIELD CUT S613 AT CONSTRUCTION JOINT AND USE #6 BAR COUPLER

△ SPACE SS901 BARS @ 1'-0", TO MISS GIRDER WEBS, SEE SHEET 17 FOR ADDITIONAL PLACEMENT INFORMATION

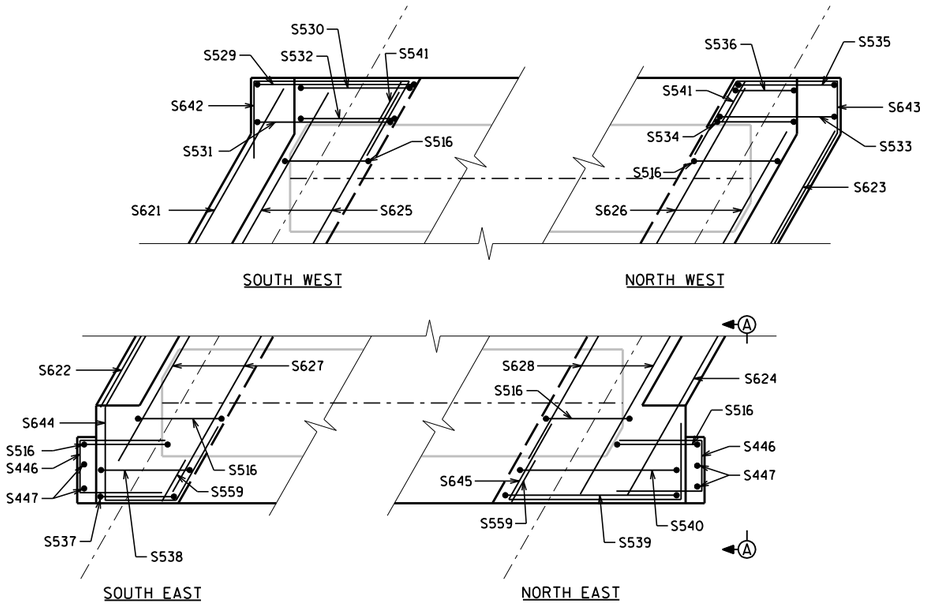


BEARING PAD DETAIL

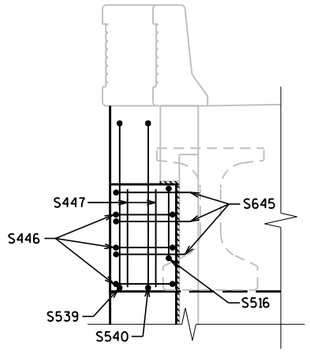


ISOMETRIC VIEW - DIAPHRAGM END

BARRIERS NOT SHOWN FOR CLARITY



DIAPHRAGM CORNERS



SECTION A-A

TYPICAL AT EAST END OF DIAPHRAGMS.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-631

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SUPERSTRUCTURE DETAILS 1

SHEET 16 OF 26

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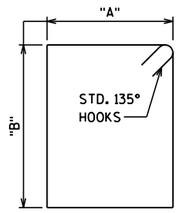
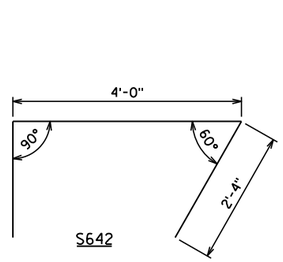
BILL OF BARS

	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	SERIES	LOCATION
	S401	X	502	40'-0"			SLAB TOP & BOT. LONGITUDINAL
	S402	X	24	40'-0"			SLAB TOP & BOT. LONGITUDINAL
☆	S503	X	233	42'-0"			SLAB TOP & BOT. TRANSVERSE
☆	S504	X	221	50'-5"			SLAB TOP & BOT. TRANSVERSE
	S505	X	34	21'-8"		△	SLAB TOP TRANSVERSE N.W.
	S506	X	35	21'-9"		△	SLAB BOT. TRANSVERSE N.W.
☆	S507	X	33	20'-11"		△	SLAB TOP TRANSVERSE S.W.
☆	S508	X	34	20'-11"		△	SLAB BOT. TRANSVERSE S.W.
☆	S509	X	39	24'-9"		△	SLAB TOP TRANSVERSE N.E.
☆	S510	X	39	25'-4"		△	SLAB BOT. TRANSVERSE N.E.
	S511	X	40	26'-2"		△	SLAB TOP TRANSVERSE S.E.
	S512	X	40	26'-9"		△	SLAB BOT. TRANSVERSE S.E.
◑	S613	X	108	5'-7"			ABUT. DIAPH. HORIZONTAL, F.F.
◑	S614	X	18	6'-9"			ABUT. DIAPH. HORIZONTAL, F.F. BOTTOM
	S515	X	174	13'-1"	X		ABUTMENT DIAPH. VERTICAL
	S516	X	50	10'-9"	X		ABUTMENT DIAPH. VERTICAL
	S517	X	174	6'-8"	X		ABUTMENT DIAPH. VERTICAL TOP
	S418	X	36	5'-6"			ABUTMENT DIAPH. HORIZ. BTW. BEAM SEATS
	S419	X	108	3'-3"	X		ABUTMENT DIAPH. VERT. BTW. BEAM SEATS
	S520	X	48	6'-0"			ABUTMENT DIAPH. HORIZ. THRU GIRDERS
☆	S621	X	4	48'-5"			ABUTMENT DIAPH. HORIZ. B.F., S. ABUT. STAGE 1
☆	S622	X	4	55'-3"			ABUTMENT DIAPH. HORIZ. B.F., S. ABUT. STAGE 2
☆	S623	X	4	46'-11"			ABUTMENT DIAPH. HORIZ. B.F., N. ABUT. STAGE 1
☆	S624	X	4	58'-0"			ABUTMENT DIAPH. HORIZ. B.F., N. ABUT. STAGE 2
☆	S625	X	2	48'-2"			ABUTMENT DIAPH. HORIZ. TOP, S. ABUT. STAGE 1
☆	S626	X	2	46'-11"			ABUTMENT DIAPH. HORIZ. TOP, N. ABUT. STAGE 1
☆	S627	X	2	57'-3"			ABUTMENT DIAPH. HORIZ. TOP, S. ABUT. STAGE 2
☆	S628	X	2	58'-0"			ABUTMENT DIAPH. HORIZ. TOP, N. ABUT. STAGE 2
	S529	X	1	14'-7"	X		ABUTMENT DIAPH. VERT. S.W. CORNER
	S530	X	1	7'-1"	X		ABUTMENT DIAPH. VERT. S.W. CORNER
	S531	X	1	13'-7"	X		ABUTMENT DIAPH. VERT. S.W. CORNER
	S532	X	1	6'-7"	X		ABUTMENT DIAPH. VERT. S.W. CORNER
	S533	X	1	12'-7"	X		ABUTMENT DIAPH. VERT. N.W. CORNER
	S534	X	1	6'-1"	X		ABUTMENT DIAPH. VERT. N.W. CORNER
	S535	X	1	11'-7"	X		ABUTMENT DIAPH. VERT. N.W. CORNER
	S536	X	1	5'-7"	X		ABUTMENT DIAPH. VERT. N.W. CORNER
	S537	X	1	13'-9"	X		ABUTMENT DIAPH. VERT. S.E. CORNER
	S538	X	1	14'-3"	X		ABUTMENT DIAPH. VERT. S.E. CORNER
	S539	X	1	19'-1"	X		ABUTMENT DIAPH. VERT. N.E. CORNER
	S540	X	1	18'-7"	X		ABUTMENT DIAPH. VERT. N.E. CORNER
	S541	X	2	1'-1"			ABUTMENT DIAPH. BOTTOM CORNERS
	S642	X	3	8'-1"	X		ABUTMENT DIAPH. HORIZ. S.W. CORNER
	S643	X	3	9'-4"	X		ABUTMENT DIAPH. HORIZ. N.W. CORNER
	S644	X	3	9'-3"	X		ABUTMENT DIAPH. HORIZ. S.E. CORNER
	S645	X	3	8'-9"	X		ABUTMENT DIAPH. HORIZ. N.E. CORNER
	S446	X	6	5'-9"	X		ABUTMENT DIAPH. HORIZ. AT END
	S447	X	4	2'-4"			ABUTMENT DIAPH. VERT. AT END
	S548	X	288	4'-7"	X		SLAB TRANSVERSE EDGE OF DECK
	S449	X	251	24'-1"			SLAB TOP & BOT. LONGITUDINAL
	S450	X	12	26'-5"			SLAB TOP & BOT. LONGITUDINAL EDGE OF DECK
	S551	X	16	53'-0"			PARAPET LONGITUDINAL
	S552	X	156	8'-3"	X		PARAPET VERTICAL
	S653	X	80	4'-7"	X		PARAPET VERTICAL AT NOISE BARRIER POST
	S454	X	40	6'-9"	X		PARAPET HORIZ. AT NOISE BARRIER POST
	S455	X	12	8'-0"	X		MEDIAN BARRIER VERTICAL
	S556	X	48	3'-3"	X		MEDIAN BARRIER VERTICAL
	S557	X	12	53'-0"			MEDIAN BARRIER HORIZONTAL
	S558	X	8	5'-0"			MEDIAN BARRIER HORIZONTAL IN DECK
	S559	X	2	0'-9"			ABUTMENT DIAPH. BOTTOM CORNERS
	S660	X	12	3'-3"			ABUTMENT DIAPHRAGM HORIZ. BTW. GIRDER 10-12
	S661	X	4	1'-7"			ABUTMENT DIAPHRAGM HORIZ. BTW. GIRDER 10-12



BAR MARK	DIM "A"	DIM "B"
S515	3'-3"	3'-0"
S516	3'-3"	1'-10"
S529	4'-0"	3'-0"
S531	3'-6"	3'-0"
S533	3'-0"	3'-0"
S535	2'-6"	3'-0"
S537	2'-5"	4'-2"
S538	2'-8"	4'-2"
S539	5'-1"	4'-2"
S540	4'-10"	4'-2"
S454	1'-7"	1'-7"



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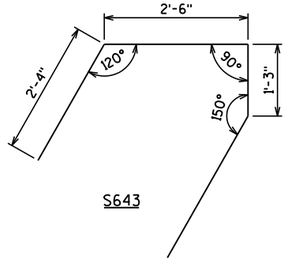

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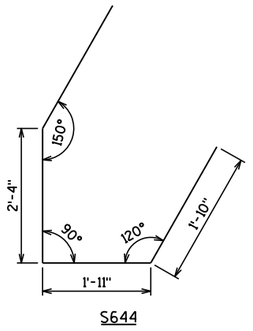

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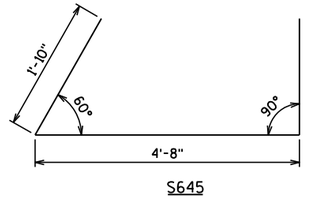

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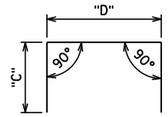
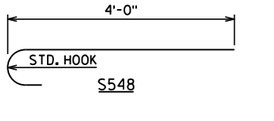


BAR MARK	DIM "C"	DIM "D"
S517	2'-5"	2'-1"
S419	1'-3"	0'-11"
S530	2'-3"	2'-10"
S532	2'-3"	2'-4"
S534	2'-3"	1'-10"
S536	2'-3"	1'-4"
S446	2'-3"	1'-5"
S653	1'-5"	2'-1"



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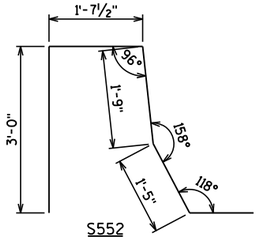

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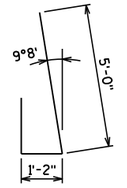

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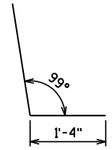


S556

NOTES:

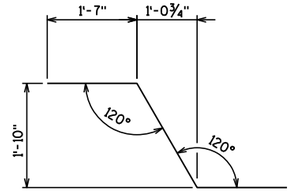
☆ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.

◑ FIELD CUT S613 & S614 AT CONSTRUCTION JOINT AND USE #6 BAR COUPLER (4 CORNERS TOTAL)

BAR SERIES

BAR NO.	NO. REQ'D.	LENGTH
S505	1 SERIES OF 34	2'-4" TO 41'-0"
S506	1 SERIES OF 35	1'-10" TO 41'-8"
S507	1 SERIES OF 33	2'-2" TO 39'-8"
S508	1 SERIES OF 34	1'-8" TO 40'-2"
S509	1 SERIES OF 39	2'-6" TO 47'-0"
S510	1 SERIES OF 39	3'-1" TO 47'-7"
S511	1 SERIES OF 40	3'-4" TO 49'-0"
S512	1 SERIES OF 40	3'-11" TO 49'-7"

BAR BEND DIAGRAMS



SS901

STAINLESS STEEL BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
SS901		202	5'-0"	X	CONC. DIAPH. @ ABUTS. TO APPROACH APRON

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DRAWN BY BRE | PLANS CK'D. KRO

SUPERSTRUCTURE DETAILS 2

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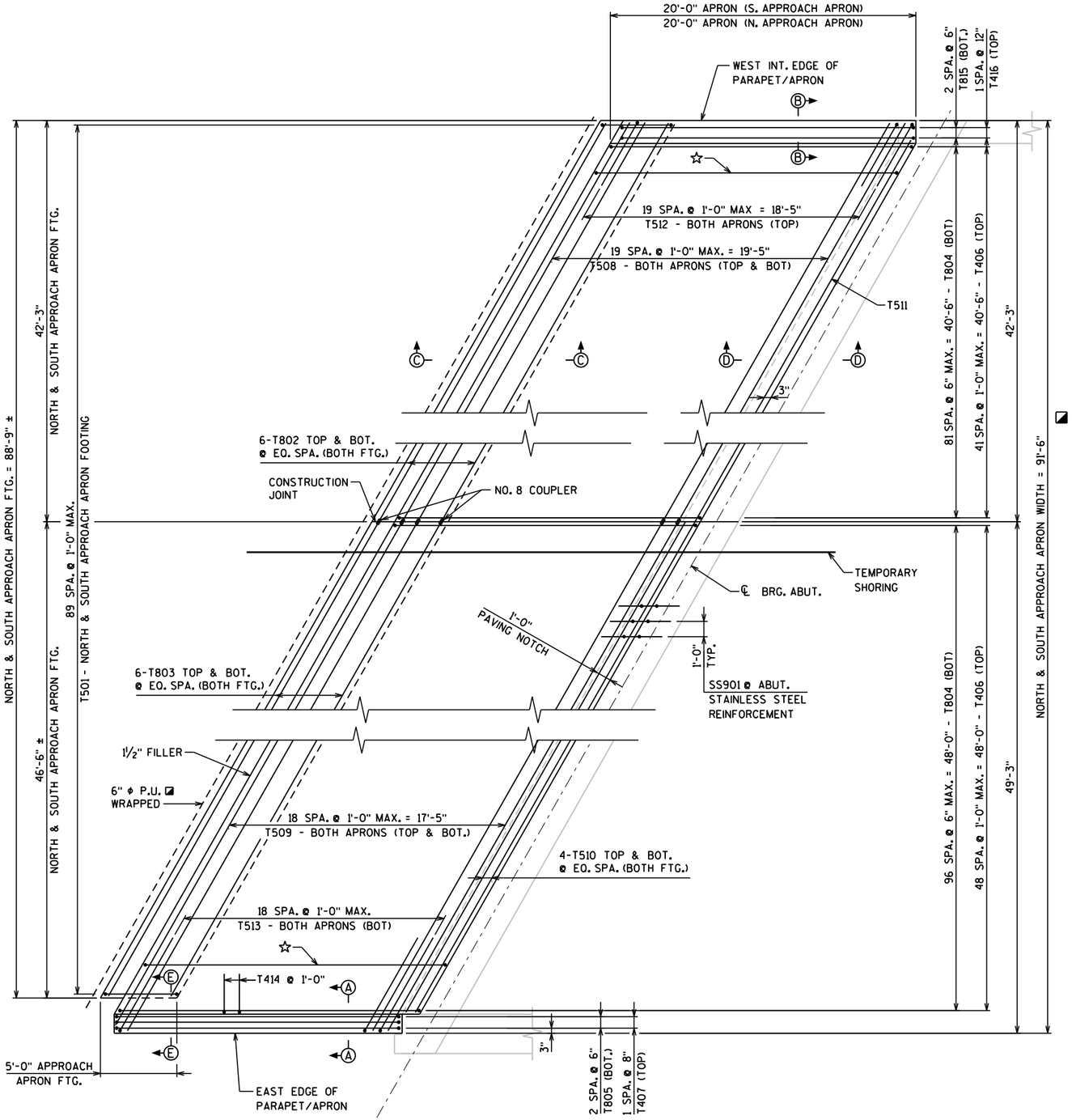

NOTES:

- ◪ PIPE UNDERDRAIN WRAPPED 6-INCH AT APPROACH APRON, LOCATED ONLY ON UPHILL SIDE OF APRON FOOTING. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.
- ◑ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.
- ◭ PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.
- ∗ PAVING NOTCH MEASURED NORMAL TO ABUTMENT
- ☆ PROVIDE (3) ADDITIONAL T804 BARS IN OUTSIDE 3'-4" OF APRON (TYP. EACH SIDE).

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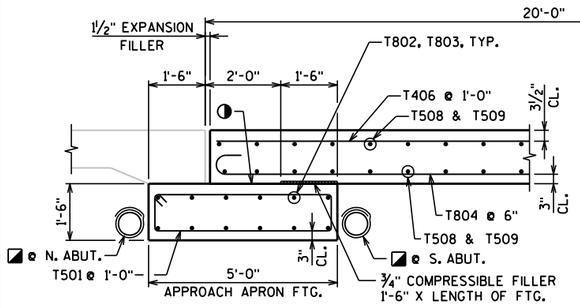
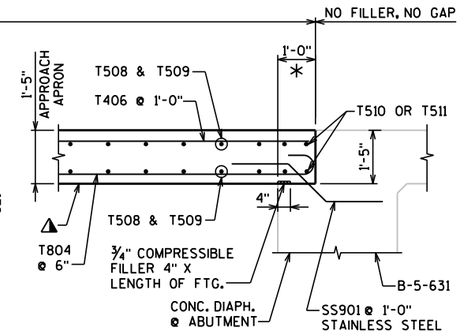
DESIGN DATA:

ALLOWABLE SOIL BEARING PRESSURE:	2,000 P.S.F.
CONCRETE STRENGTH f'c:	4,000 P.S.I.
BAR STEEL REINF., GRADE 60, fy:	60,000 P.S.I.



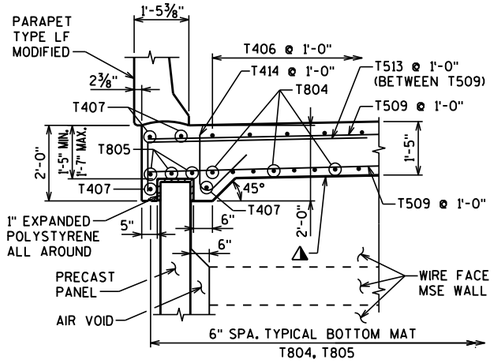
SECTION C-C



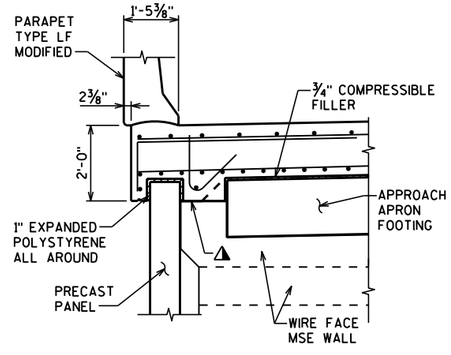
SECTION D-D

TRANSVERSE SECTION THRU APPROACH APRON

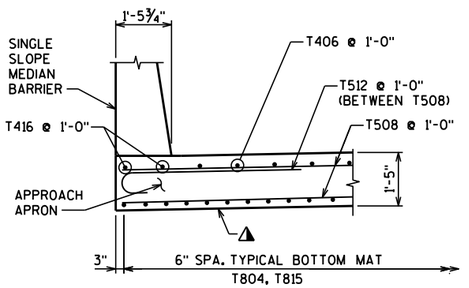
(SOUTH APRON SHOWN, NORTH APRON SIMILAR)



SECTION A-A



SECTION E-E



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-631

DRAWN BY: BRE | PLANS CK'D.: KRO

APPROACH APRON

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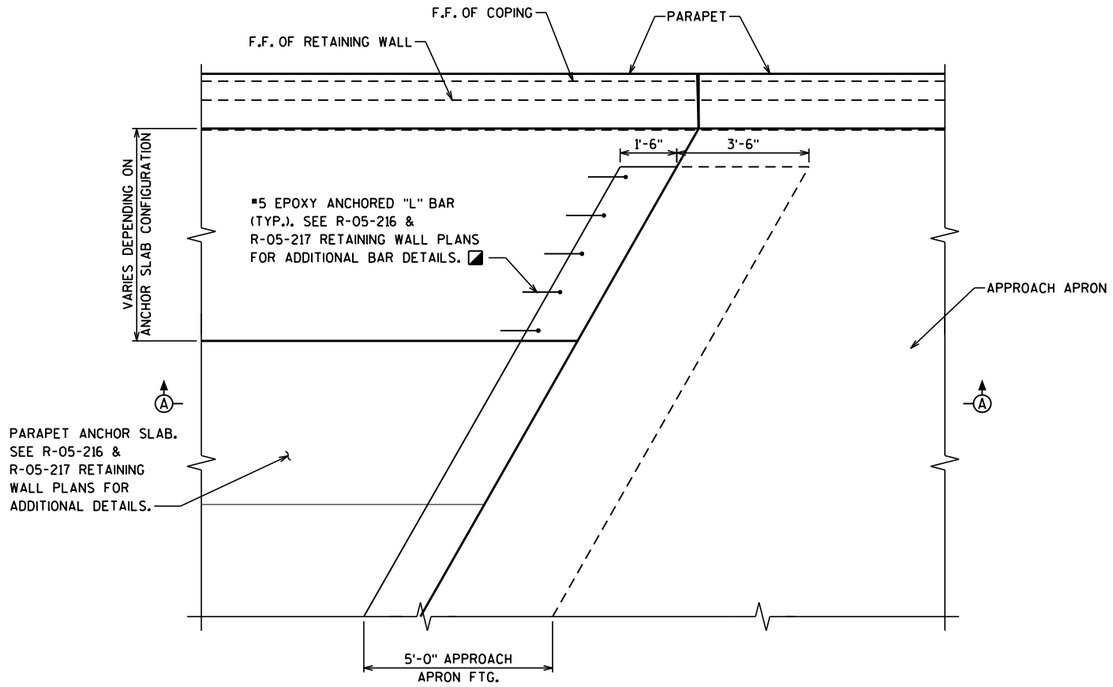
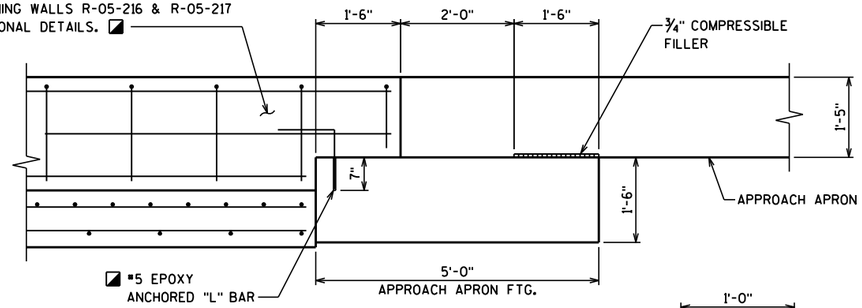
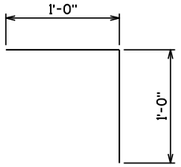


PLAN AT APPROACH APRON INTERFACE WITH RETAINING WALL ANCHOR SLAB

PARAPET ANCHOR SLAB DIMENSIONS VARY DEPENDING ON ANCHOR SLAB CONFIGURATION. SEE RETAINING WALLS R-05-216 & R-05-217 FOR ADDITIONAL DETAILS.



SECTION A-A



#5 EPOXY ANCHORED "L" BAR

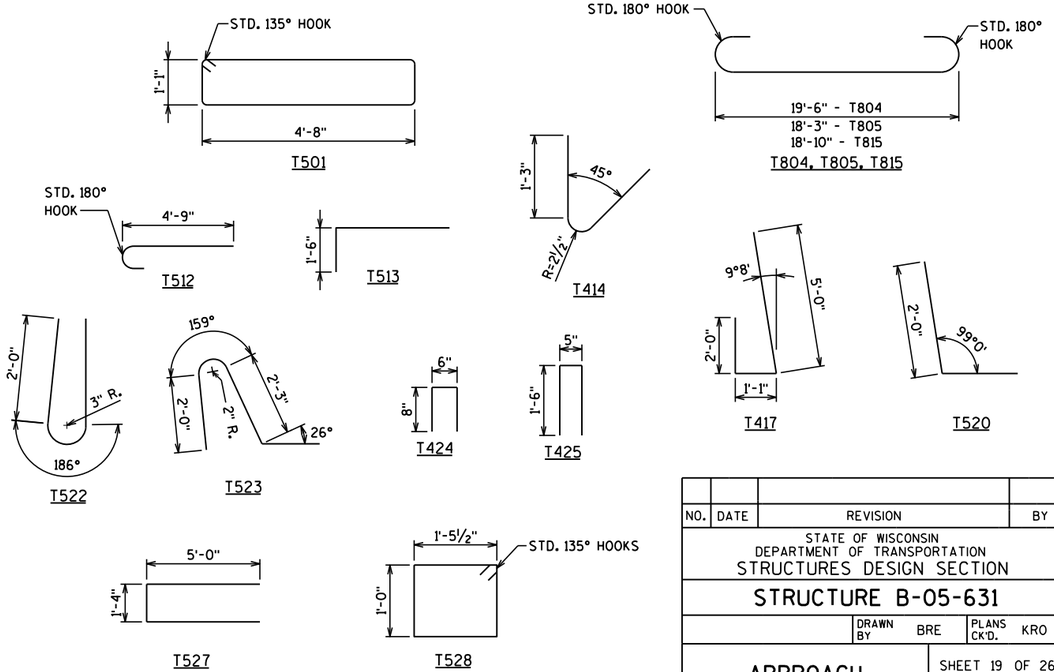
◪ SEE R-05-216 & R-05-217 RETAINING WALL PLANS FOR ADDITIONAL DETAILS PAID FOR UNDER RETAINING WALL R-05-216 & R-05-217

BILL OF BARS

BAR MARK	COAT	SOUTH APRON	NORTH APRON	LENGTH	BENT	LOCATION
T501	X	90	90	12'-1"	X	FOOTING - STIRRUPS
☆ T802	X	12	12	48'-5"		FOOTING - HORIZONTAL
☆ T803	X	12	12	53'-3"		FOOTING - HORIZONTAL
T804	X	179	179	21'-4"	X	APPROACH APRON - LONGIT. - BOT.
T805	X	3	3	20'-1"	X	APPROACH APRON - LONGIT. - BOT.
T406	X	91	91	19'-6"		APPROACH APRON - LONGIT. - TOP
T407	X	4	4	18'-3"		APPROACH APRON - LONGIT. AT MSE WALL PANEL
☆ T508	X	40	40	48'-5"		APPROACH APRON - TRANS. - TOP & BOT.
☆ T509	X	38	38	56'-3"		APPROACH APRON - TRANS. - TOP & BOT.
☆ T510	X	4	4	54'-10"		APPROACH APRON - TRANS. - TOP & BOT.
☆ T511	X	2	2	46'-10"		APPROACH APRON - TRANS. - TOP & BOT.
T512	X	20	20	5'-4"	X	APPROACH APRON - TRANS. - TOP
T513	X	19	19	6'-2"	X	APPROACH APRON - TRANS. - TOP
T414	X	21	21	3'-0"	X	APPROACH APRON - TIE
T815	X	3	3	20'-8"	X	APPROACH APRON - LONGIT. - BOT.
T416	X	2	2	18'-10"		APPROACH APRON - LONGIT. - TOP
T417	X	13	13	8'-0"	X	MEDIAN BARRIER VERT.
T518	X	6	6	19'-4"		MEDIAN BARRIER ON APPROACH APRON
T519	X	8	8	5'-0"		MEDIAN BARRIER OF APPROACH APRON
T520	X	8	8	3'-3"	X	MEDIAN BARRIER & APRON SLAB, TRANS., VERT.
T521	X	7	7	18'-5"		EXTERIOR PARAPET HORIZONTAL
T522	X	29	29	4'-10"	X	EXTERIOR PARAPET VERTICAL
T523	X	29	29	5'-9"	X	EXTERIOR PARAPET VERTICAL
T424	X	32	32	1'-8"	X	EXTERIOR PARAPET AT POST - HORIZ.
T425	X	8	8	3'-3"	X	EXTERIOR PARAPET AT POST - VERT.
T426	X	16	16	2'-0"		EXTERIOR PARAPET AT POST
T527	X	8	8	11'-1"	X	EXTERIOR PARAPET AT POST
T528	X	12	12	5'-6"	X	EXTERIOR PARAPET AT POST

☆ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.

BAR BEND DIAGRAMS



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-631

DRAWN BY BRE | PLANS CK'D. KRO

APPROACH APRON DETAILS

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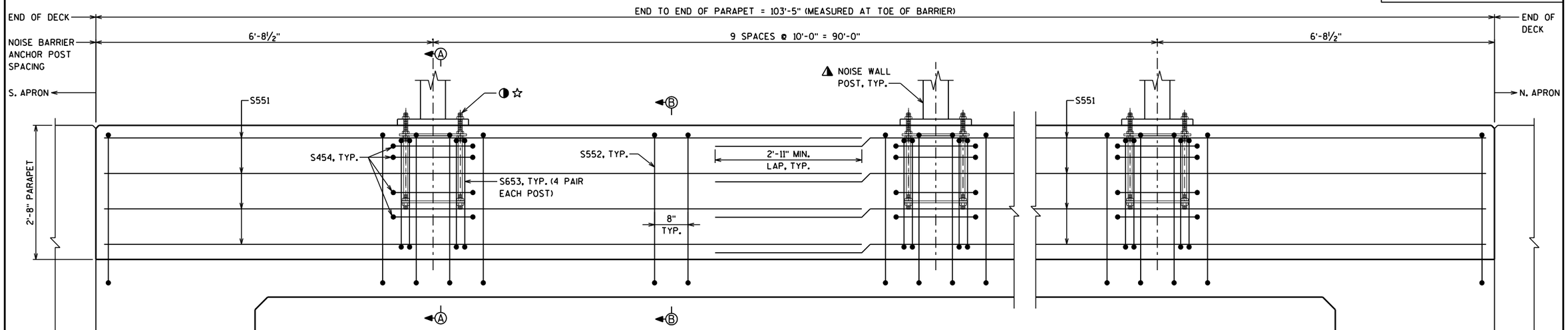
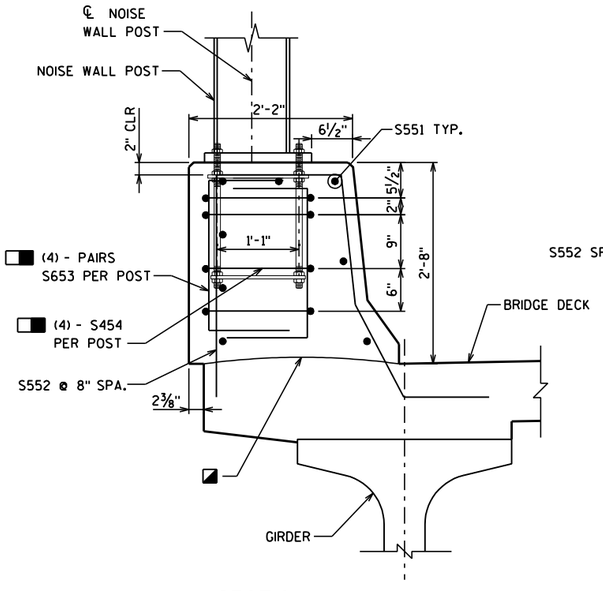
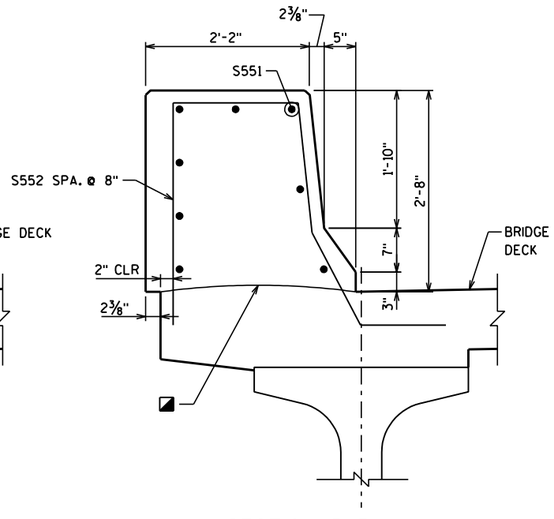


ELEVATION OF PARAPET TYPE LF MODIFIED (BRIDGE) SHOWING REINFORCEMENT

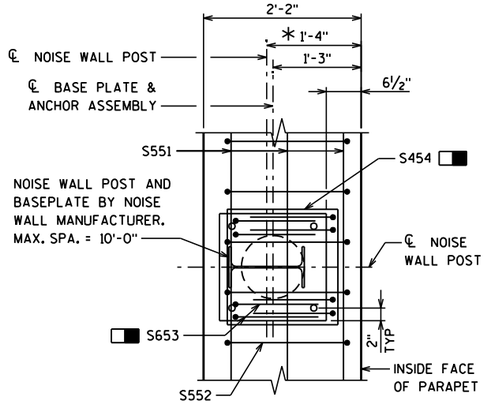
LOOKING WEST



SECTION A-A



SECTION B-B



PLAN VIEW AT TOP OF PARAPET

NOTES

- CONSTRUCTION JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- EXACT LOCATION AND SPACING OF EMBEDDED ANCHOR ASSEMBLY NOISE BARRIER TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.
- ☆ BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES" INCLUDES ANCHORAGES AT EACH POST LOCATION.
- ⚠ NOT A BRIDGE ITEM. NOISE BARRIER PANELS, POSTS, SUPPORT BRACKETS AND TOP OF PARAPET CONNECTION TO BE DESIGNED AND INSTALLED BY OTHERS.
- EXACT LOCATION AND SPACING OF S454 AND S653 BARS TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.
- * DIMENSION IS BASED ON 12 INCH DEEP POST. ADJUST DIMENSION FOR OTHER POST SIZES.

  OPTIONAL VERTICAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN HORIZONTAL BAR REINFORCEMENT THRU THE JOINT. LAP LONGITUDINAL BARS A MIN. OF 2'-11". IF JOINTS ARE USED, THE JOINT SPACING SHOULD BE NO LESS THAN 80'-0". DEFINE CONSTRUCTION JOINT WITH A ¾" 'V' GROVE.

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PARAPET TYPE LF MODIFIED BRIDGE

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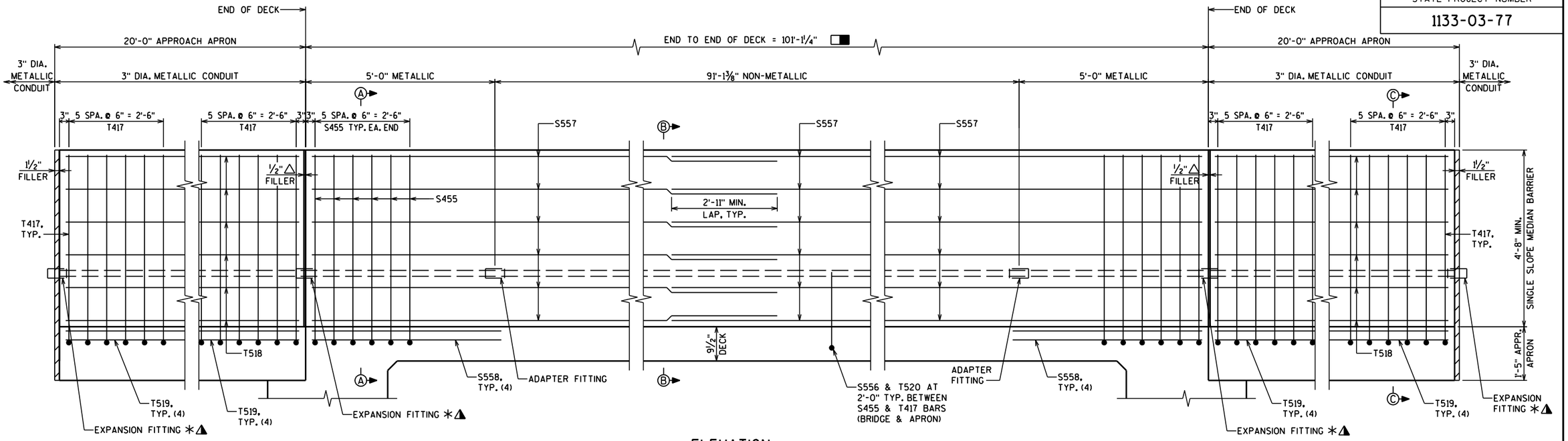
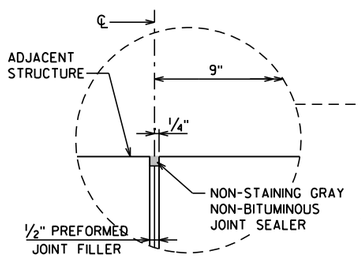
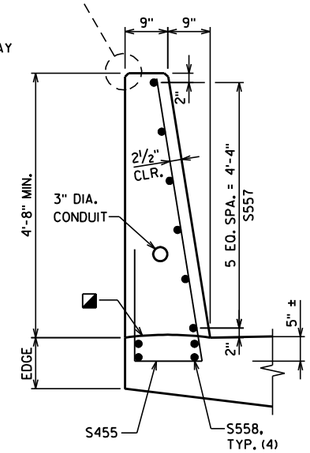
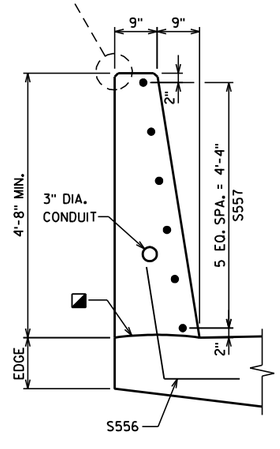


ELEVATION

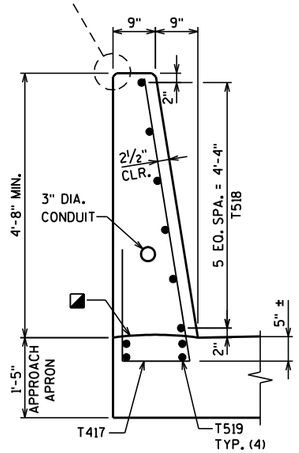




SECTION A-A
TYPICAL AT ENDS OF BARRIER



SECTION B-B
(BRIDGE & APRONS)



SECTION C-C
(APPROACH APRONS)

TOP OF BARRIER ELEVATION TABLE

LOCATION	WEST EDGE OF DECK 28'-9" LT.	
	STATION	ELEVATION
END OF SOUTH APPROACH APRON	960+44.18	662.41
SOUTH APRON MIDPOINT	960+54.18	662.48
C/L BEARING SOUTH ABUTMENT	960+65.24	662.57
0.1 POINT	960+75.14	662.64
0.2 POINT	960+85.04	662.71
0.3 POINT	960+94.94	662.78
0.4 POINT	961+04.84	662.84
0.5 POINT	961+14.74	662.90
0.6 POINT	961+24.64	662.96
0.7 POINT	961+34.54	663.02
0.8 POINT	961+44.44	663.08
0.9 POINT	961+54.34	663.13
C/L BEARING NORTH ABUTMENT	961+64.24	663.18
NORTH APRON MIDPOINT	961+75.29	663.24
END OF NORTH APPROACH APRON	961+85.29	663.28

NOTES:

OPTIONAL VERTICAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINFORCEMENT THRU THE JOINT. LAP LONGITUDINAL BARS A MIN. OF 2'-11". MIN. JOINT SPACING OF 80'-0". DEFINE CONSTRUCTION JOINT WITH A ¾" 'V' GROOVE.

◪ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.

⚠ POSITION MOVABLE END OF CONDUIT INSIDE EXPANSION FITTING, SUCH THAT IT WILL HAVE THE SAME ALLOWANCE FOR MOVEMENT (EXPANSION/CONTRACTION/DEFLECTION) AS THE EXPANSION DEVICE SET IN PLACE IN THE DECK BELOW IT. TAKE CARE TO INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT.

∗ AT EACH SEMI-EXPANSION OR EXPANSION JOINT, USE AN APPROVED EXPANSION FITTING. RUN CONDUIT STRAIGHT THROUGH (WITHOUT A FITTING) AT EACH FIXED JOINT.

◨ USE 3" DIA. RIGID NON-METALLIC CONDUIT EXCEPT AT EXPANSION FITTING. AT EXPANSION FITTING USE RIGID METALLIC CONDUIT 5'-0" INTO PARAPET ON DECK SIDE.

△ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1"2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN ⅛" BELOW SURFACE OF CONCRETE.

TOP OF BARRIER ELEVATIONS ARE CALCULATED FROM PROFILE GRADE LINES. IF GRADE LINE ELEVATIONS VARY FROM PLAN THE BARRIER ELEVATIONS SHALL BE ADJUSTED ACCORDINGLY. TOP OF BARRIER SHOULD MATCH THE TOP OF BARRIER OF THE ADJACENT STRUCTURE (B-05-630), WHILE MAINTAINING THE MINIMUM BARRIER HEIGHT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-631

DRAWN BY BRE | PLANS CK'D. KRO

SINGLE SLOPE MEDIAN BARRIER

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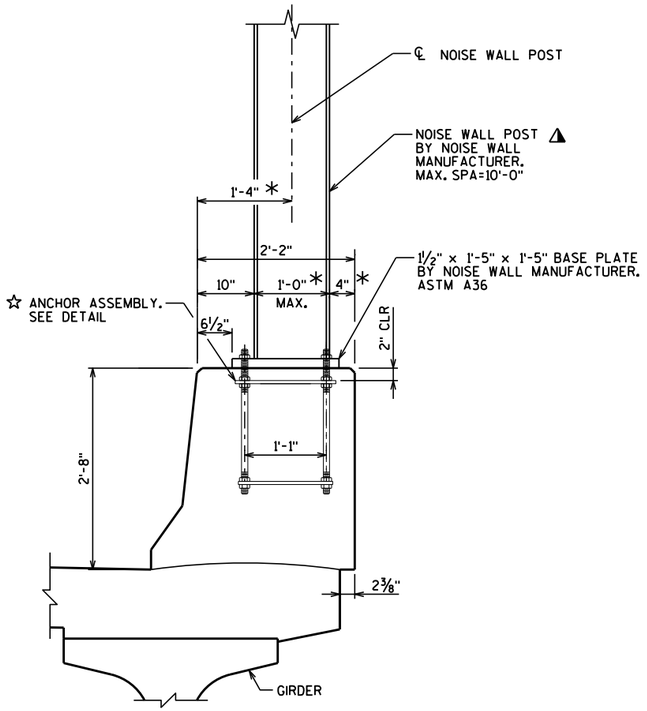
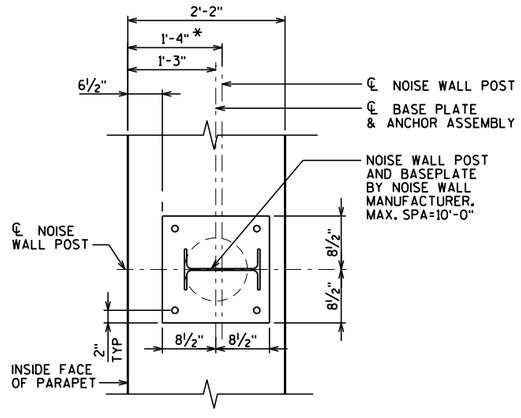
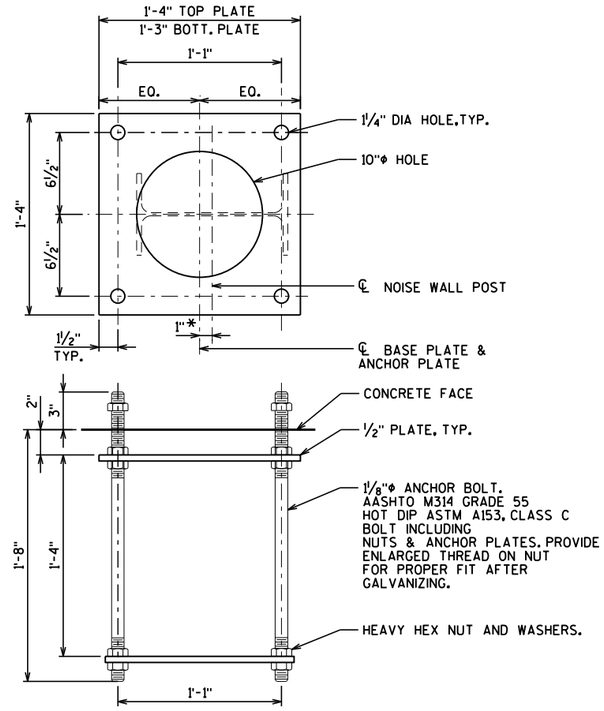


NOISE WALL ON BRIDGE PARAPET

SECTION VIEW
TYPICAL AT EACH POST LOCATION



PLAN VIEW AT TOP OF PARAPET



ANCHOR BOLT ASSEMBLY

NOTES

☆ BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES" INCLUDES ANCHORAGES AT EACH POST LOCATION.

⚠ NOT A BRIDGE ITEM. NOISE BARRIER PANELS, POSTS, SUPPORT BRACKETS AND TOP OF PARAPET CONNECTION TO BE DESIGNED AND INSTALLED BY OTHERS.

* DIMENSION IS BASED ON 12 INCH DEEP POST. ADJUST DIMENSION FOR OTHER POST SIZES.

REINFORCEMENT FOR DEVELOPING THE NOISE BARRIER ANCHORAGE IS SHOWN ON SHEET 20.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-631

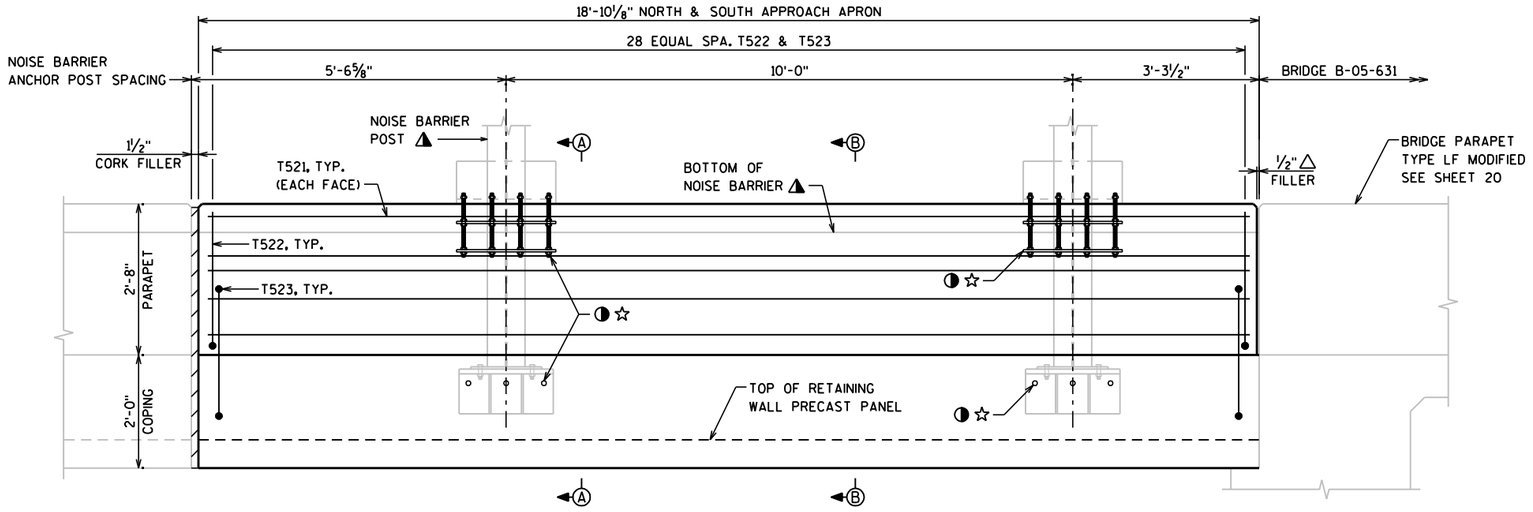
DRAWN BY BRE | PLANS CK'D. KRO

NOISE WALL ANCHORAGE BRIDGE

SHEET 22 OF 26

STATE PROJECT NUMBER

1133-03-77

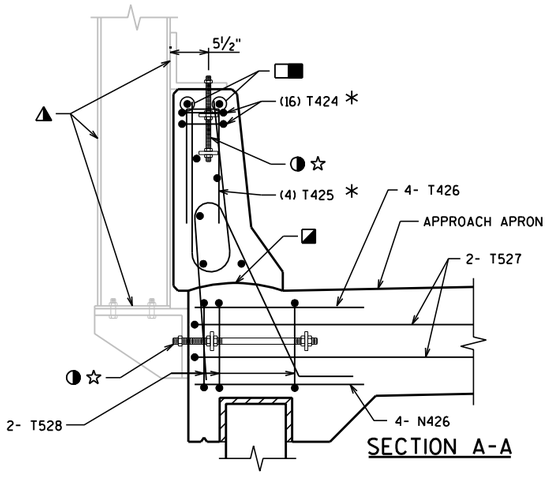


OUTSIDE ELEVATION OF PARAPET TYPE LF MODIFIED (APRON)

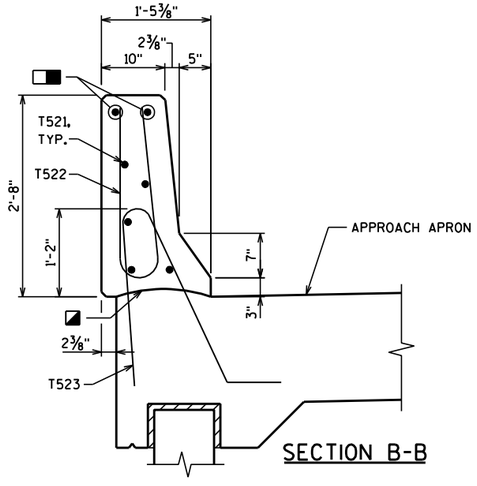
LOOKING WEST (SOUTH APRON SHOWN, NORTH APRON SIMILAR)

NOTES

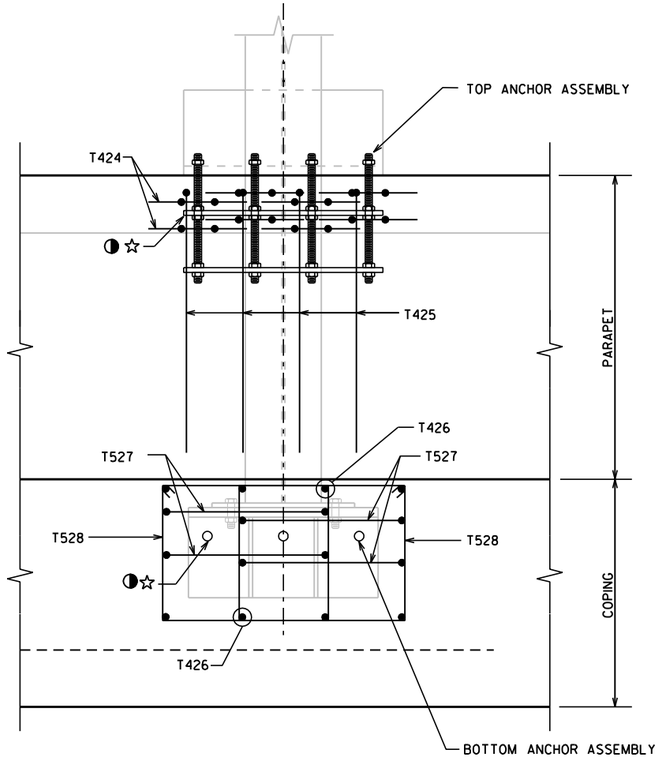
- CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.
- EXACT LOCATION AND SPACING OF EMBEDDED ANCHOR ASSEMBLY NOISE BARRIER TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.
- ☆ BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES" INCLUDES ANCHORAGES AT EACH POST LOCATION.
- ▲ NOT A BRIDGE ITEM. NOISE BARRIER PANELS, POSTS, SUPPORT BRACKETS AND TOP OF PARAPET CONNECTION TO BE DESIGNED AND INSTALLED BY OTHERS.
- ONLY THESE TWO BARS TO BE PLACED OUTSIDE OF THE VERTICAL REINFORCEMENT TO AVOID THE ANCHOR BOLTS/PLATES FROM THE NOISE BARRIER POSTS. PLACE BARS WITH 2" CLEAR FROM TOP, BACK, AND FRONT FACES OF THE PARAPET. ALL OTHER HORIZONTAL BARS IN THE PARAPET ARE TO BE PLACED INSIDE THE VERTICAL REINFORCEMENT AS SHOWN.
- ✳ EXACT LOCATION AND SPACING OF T424 AND T425 BARS TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.
- △ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1"2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN ⅛" BELOW SURFACE OF CONCRETE.



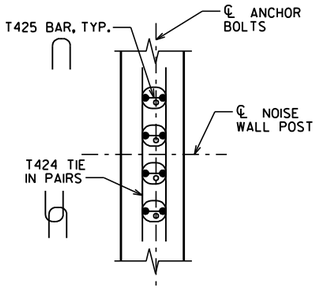
SECTION A-A



SECTION B-B



ELEVATION AT NOISE BARRIER



TOP VIEW AT PARAPET

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-631

DRAWN BY BRE | PLANS CK'D. KRO

PARAPET TYPE LF MODIFIED APRON

SHEET 23 OF 26

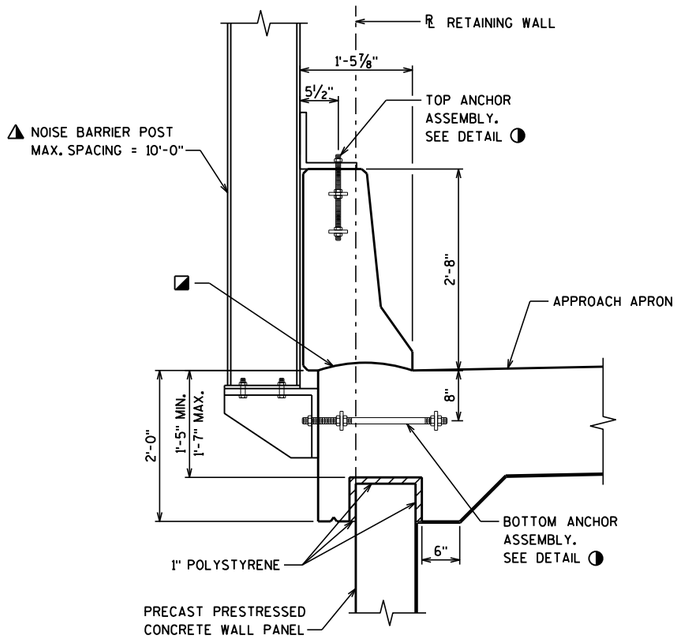
8

8

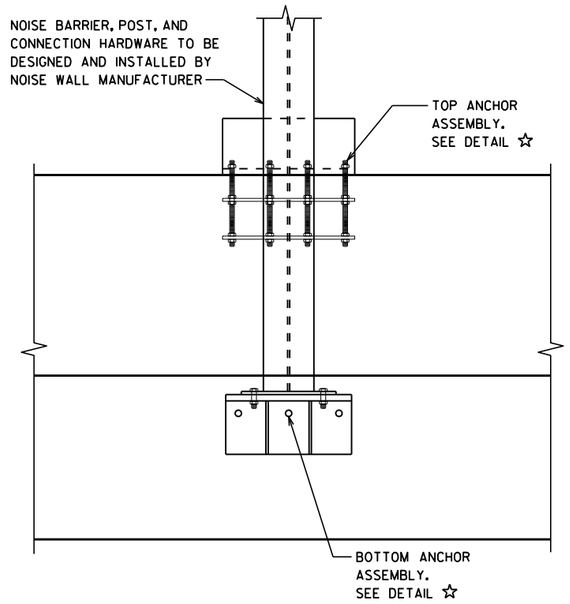
FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Bridges±B-5-631_morris nb±B-05-631 23 para apron.dgn PLOT BY : olsonk PLOT DATE: 11/26/2012 8:50:56 AM

STATE PROJECT NUMBER

1133-03-77

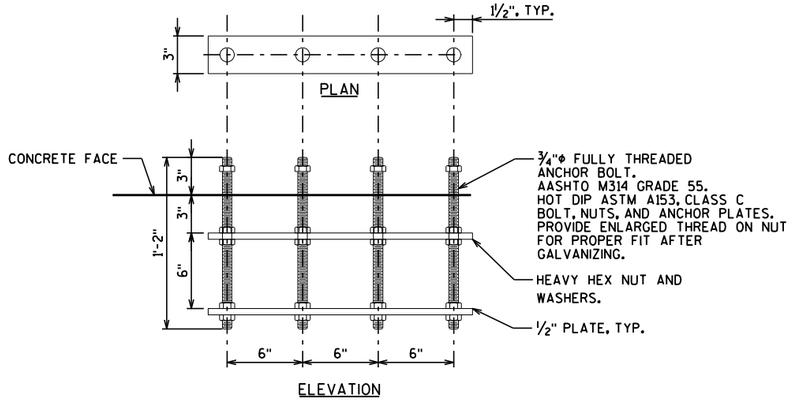


SECTION AT APPROACH APRON

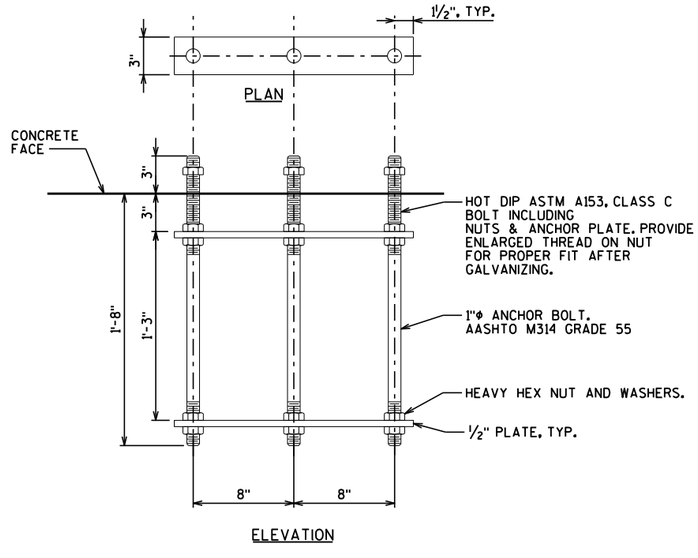


ELEVATION AT NOISE BARRIER POST

TYPICAL AT EACH POST LOCATION



TOP ANCHOR BOLT ASSEMBLY



BOTTOM ANCHOR BOLT ASSEMBLY

NOTES

◪ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.

◑ EXACT LOCATION AND SPACING OF EMBEDDED ANCHOR ASSEMBLY NOISE BARRIER TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.

☆ BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES" INCLUDES UPPER & LOWER ANCHORAGES AT EACH POST LOCATION.

⚠ NOT A BRIDGE ITEM. NOISE BARRIER PANELS, POSTS, SUPPORT BRACKETS AND TOP OF PARAPET CONNECTION TO BE DESIGNED AND INSTALLED BY OTHERS.

REINFORCEMENT FOR DEVELOPING THE NOISE BARRIER ANCHORAGE IS SHOWN ON SHEET 23.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-631

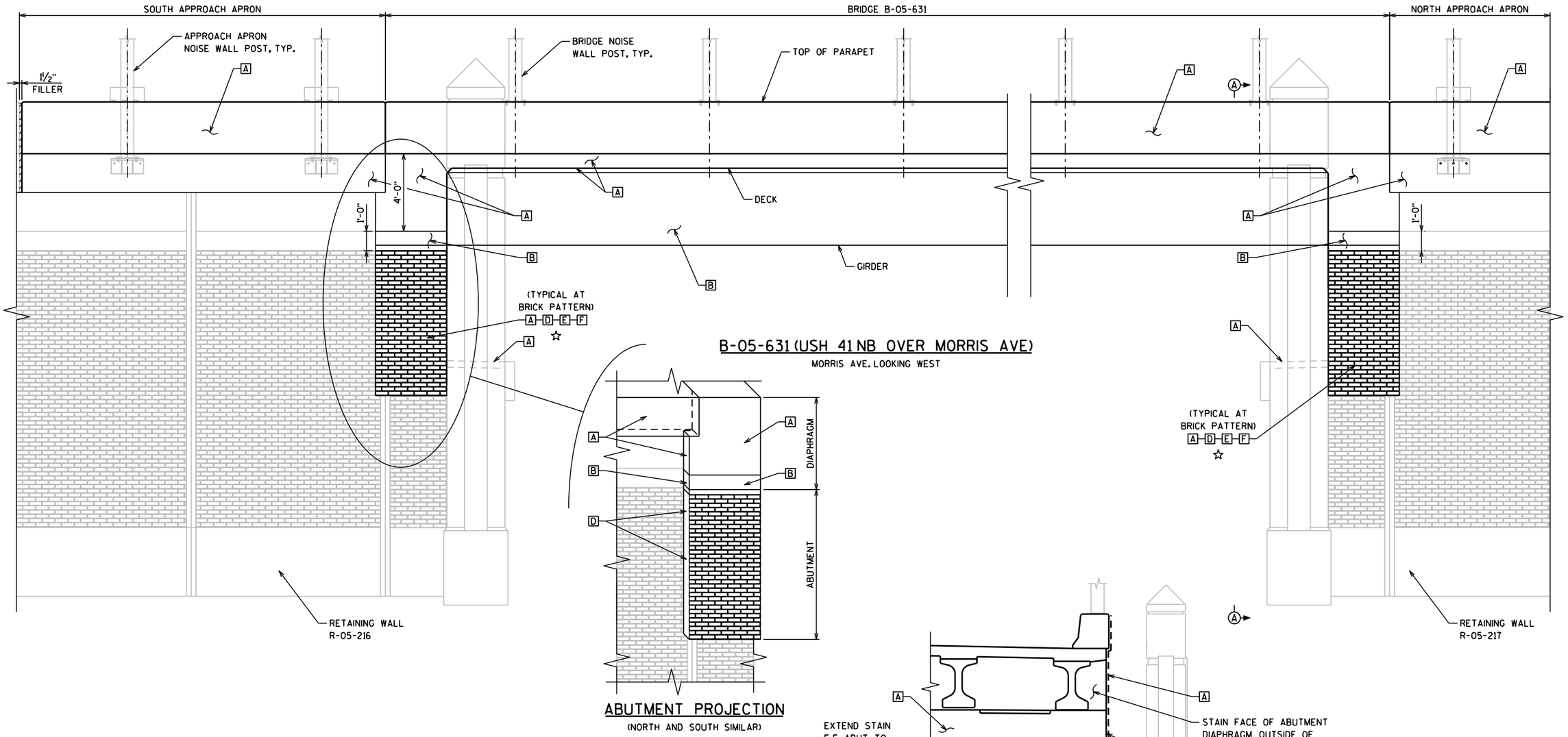
DRAWN BY BRE | PLANS CK'D. KRO

NOISE WALL ANCHORAGE APRONS

SHEET 24 OF 26

FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Bridges±B-5-631_morris nb±B-05-631 24 noise apron.dgn PLOT BY : epleyb PLOT DATE: 1/17/2013 10:00:21 AM

STATE PROJECT NUMBER
1133-03-77

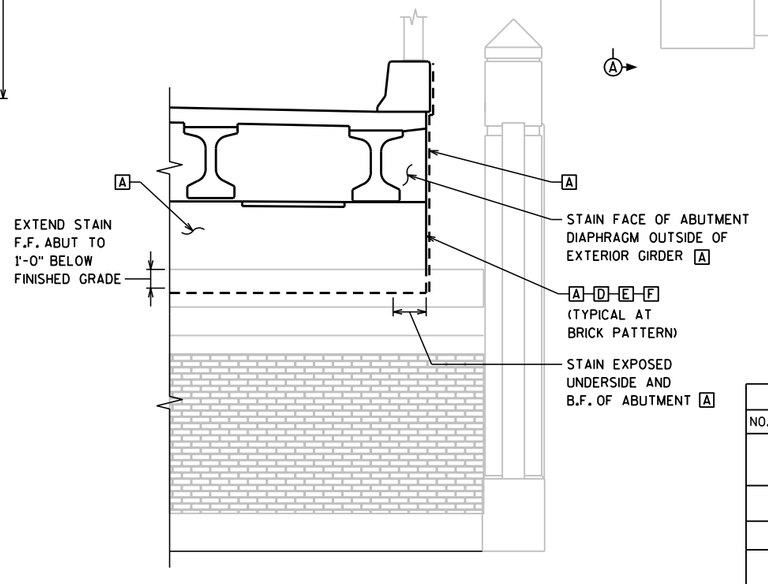


B-05-631 (USH 41 NB OVER MORRIS AVE)

MORRIS AVE. LOOKING WEST

ABUTMENT PROJECTION

(NORTH AND SOUTH SIMILAR)



SECTION A-A

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
☆ A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER
C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)

SEE SPECIAL PROVISIONS FOR STAIN COLORS.

NOTES

☆ STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-631

DRAWN BY BRE | PLANS CK'D. KRO

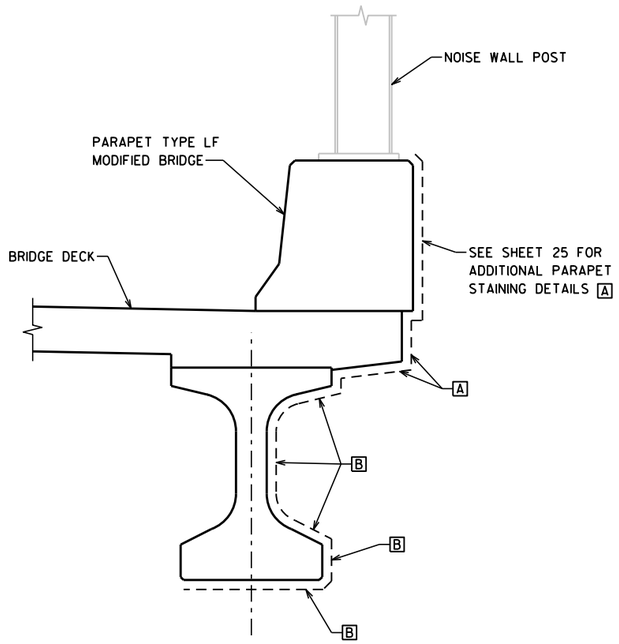
AESTHETIC DETAILS 1

SHEET 25 OF 26

8

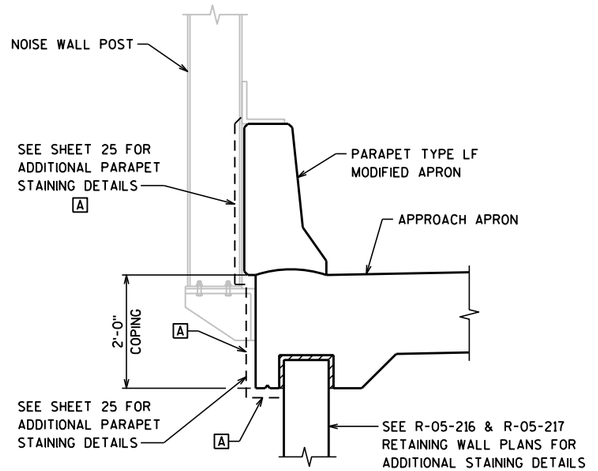
8

STATE PROJECT NUMBER
1133-03-77



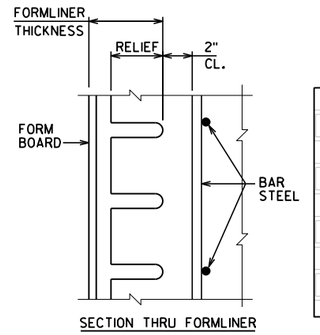
PARTIAL SECTION THRU ROADWAY (BRIDGE)

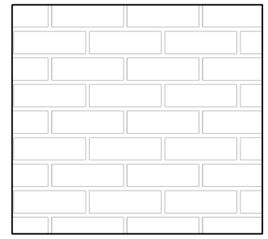
(LOOKING NORTH)



PARTIAL SECTION THRU ROADWAY (APPROACH APRONS)

(LOOKING SOUTH)





TYPICAL PATTERN

ARCHITECTURAL SURFACE TREATMENT
RECTANGULAR BRICK

REFER TO SPECIAL PROVISIONS FOR
DISCRIPTION OF BRICK PATTERN.

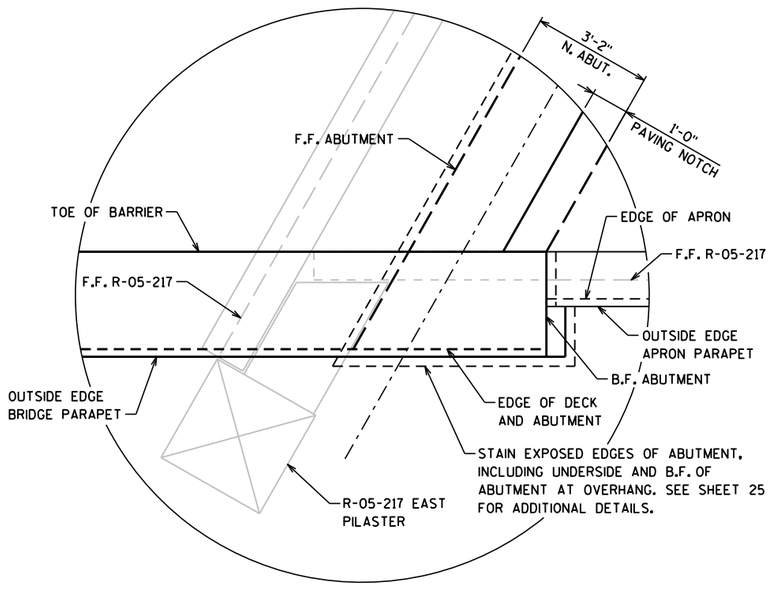
NOTES

DO NOT STAIN TOP OR INSIDE FACE OF BRIDGE OR APPROACH APRON PARAPETS.

STAIN VERTICAL EDGE OF DECK, UNDERSIDE OF DECK OVERHANG, AND EXTERIOR FACE & BOTTOM OF EXTERIOR GIRDER TO THE LIMITS SHOWN.

STAIN UNDERSIDE OF APRON COPING.

SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER. BRICK PATTERN FORMLINER AREAS AT EAST ENDS OF ABUTMENTS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT". SEE SHEET 25 FOR ADDITIONAL END OF ABUTMENT DETAILS AND CONCRETE STAINING SCHEDULE.



EAST CORNER NORTH ABUTMENT

PLAN VIEW (EAST CORNER SOUTH ABUTMENT SIMILAR)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

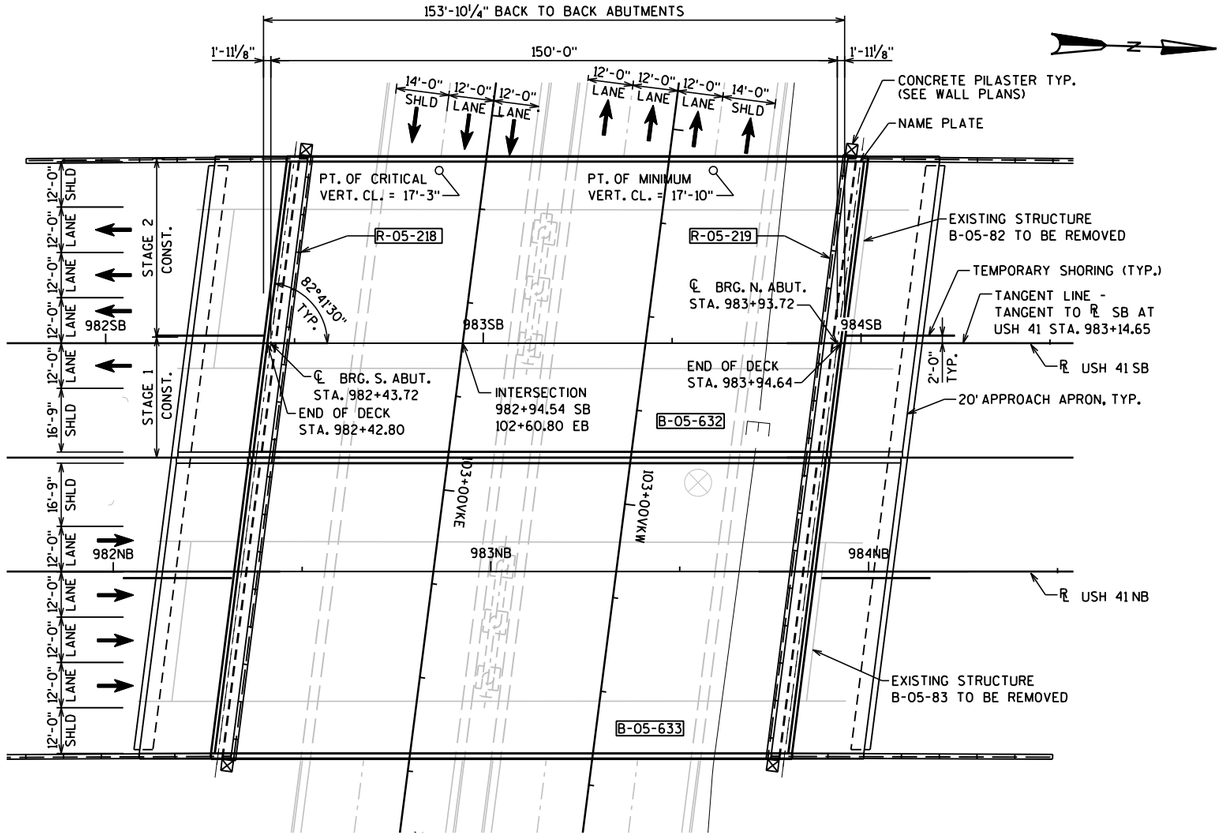
STRUCTURE B-05-631

DRAWN BY BRE | PLANS CK'D. KRO

AESTHETIC DETAILS 2

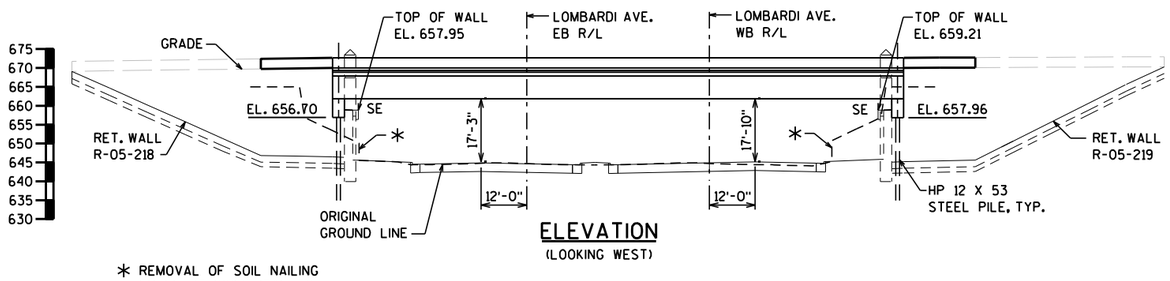
SHEET 26 OF 26

FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Bridges±B-5-631_morris nb±B-05-631 26 aesthetic 2.dgn
PLOT BY : epleyb PLOT DATE: 11/21/2012 7:58:11 PM



PLAN

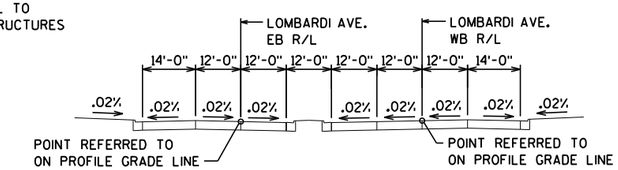
SINGLE SPAN - 72W" PRESTRESSED GIRDERS



ELEVATION

(LOOKING WEST)

* REMOVAL OF SOIL NAILING SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES



TYPICAL SECTION THRU LOMBARDI AVENUE

(LOOKING WEST)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING	HL-93
INVENTORY RATING FACTOR	RF = 1.24
OPERATING RATING FACTOR	RF = 1.61
WISCONSIN STANDARD PERMIT VEHICLE	250 (KIPS)

STRUCTURE IS DESIGNED FOR A 1½" SACRIFICIAL WEARING SURFACE PLACED AT INITIAL CONSTRUCTION INTEGRAL WITH THE DECK. THE DESIGN DOES NOT PROVIDE FOR ADDITIONAL LOADS DUE TO A FUTURE WEARING SURFACE.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY (HPC) 72W" PRESTRESSED GIRDERS	f'c = 4,000 P.S.I.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.
PRESTRESSED STRANDS - 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH	fy = 270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 12 X 53 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION.
ESTIMATED 90 FEET LONG AT SOUTH ABUTMENT.
ESTIMATED 85 FEET LONG AT NORTH ABUTMENT.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

EXISTING NORTH ABUTMENT PILING SHALL BE CUT-OFF AT THE BOTTOM OF WALL ELEVATION FOR R-05-219. THIS WORK TO BE INCLUDED IN THE "REMOVING OLD STRUCTURE" BID ITEM.

TRAFFIC VOLUME

USH 41	LOMBARDI AVE.
A.D.T. 100,400 (2035)	A.D.T. 33,700 (2035)
R.D.S.= 70 M.P.H.	R.D.S.= 40 M.P.H.

CURVE DATA

SB USH 41

P.I. = STA 987+69.75
△ = 6°04'20"
T = 1217.19
L = 2432.10
R = 22,948.56
S.E.= NC
P.C.= STA 975SB+52.56
P.T.= STA 999SB+84.66

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. STAGING DETAILS
4. SUBSURFACE EXPLORATION
5. TEMPORARY SHORING
6. SOUTH ABUTMENT
7. SOUTH ABUTMENT DETAILS
8. NORTH ABUTMENT
9. NORTH ABUTMENT DETAILS
10. FALL PROTECTION
11. 72W" PRESTRESSED GIRDER
12. 72W" PRESTRESSED GIRDER DETAILS
13. 72W" STEEL DIAPHRAGMS
14. SUPERSTRUCTURE REINFORCEMENT
15. SUPERSTRUCTURE CROSS SECTION
16. SUPERSTRUCTURE DETAILS
17. APPROACH APRON
18. APPROACH APRON DETAILS
19. LF PARAPET
20. SINGLE SLOPE MEDIAN BARRIER
21. AESTHETIC DETAILS

CONSULTANT CONTACT

KRISTOFER OLSON
OMNNI ASSOCIATES, INC.
(920) 735-6900

BRIDGE OFFICE CONTACT

WILLIAM DREHER
(608) 266-8489

WISCONSIN
KRISTOFER R. OLSON
E-35236
APPLETON, WI
PROFESSIONAL ENGINEER

4-4-2013

STATE PROJECT NUMBER
1133-03-77

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/19/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-05-632

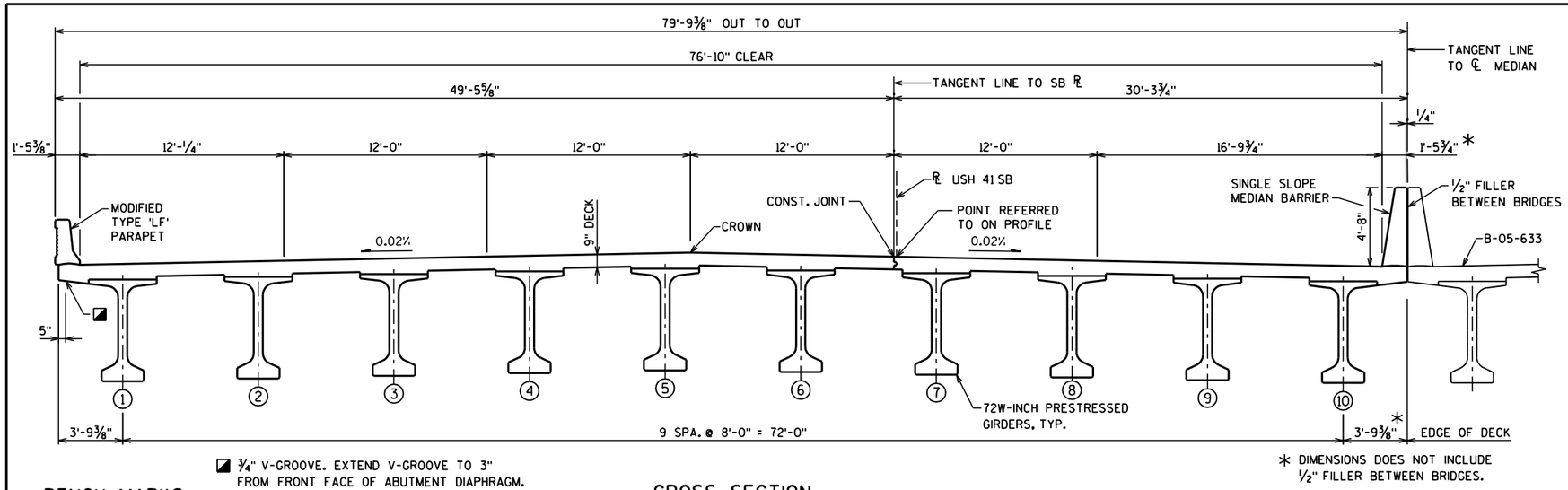
USH 41 SB OVER LOMBARDI AVENUE

COUNTY: BROWN	VILLAGE: ASHWAUBENON
DESIGN SPEC.: AASHTO LRFD DESIGN SPEC. 5th EDITION	LOAD: HL-93
DESIGNED BY: KRO	DESIGN CK'D.: JAW
DRAWN BY: BRE	PLANS CK'D.: KRO

GENERAL PLAN

SHEET 1 OF 21

FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Bridges±B-5-632_lombardi sb±B-05-632 01 gp.dgn
PLOT BY : olsonk
PLOT DATE: 4/4/2013 2:28:59 PM



◪ ¾" V-GROOVE. EXTEND V-GROOVE TO 3" FROM FRONT FACE OF ABUTMENT DIAPHRAGM.

* DIMENSIONS DOES NOT INCLUDE ½" FILLER BETWEEN BRIDGES.

CROSS SECTION

(LOOKING NORTH)

BENCH MARKS

NO.	DESCRIPTION	ELEV.
529	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE SOUTHWEST QUADRANT OF SANTA BARBARA DR. & EMINENCE ST. 35' WEST OF THE SANTA BARBARA DR. AND 25' NORTH OF PRIVATE ENTRANCE 1351.	646.43
530	CHISELED "X" ON A FIRE HYDRANT BURY BOLT ON THE WEST SIDE OF HILLTOP RD. 155' NORTH OF THE INTERSECTION OF MORRIS AVE. & HILLTOP DR. 35' FEET WEST OF THE CENTERLINE OF HILLTOP DR.	644.33
551	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE NORTHWEST QUADRANT OF MORRIS AVE & ARGONNE ST. 40' NORTH OF MORRIS AVE. & 60' WEST OF ARGONNE ST.	640.59

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	SUPER.	SOUTH ABUT.	NORTH ABUT.	APPROACH APRONS	TOTALS
203.0200.718	REMOVING OLD STRUCTURE STA 983+00	LS	-----	-----	-----	-----	1
203.0225.S.718	DEBRIS CONTAINMENT STRUCTURE B-5-82	LS	-----	-----	-----	-----	1
206.1000.718	EXCAVATION FOR STRUCTURES, BRIDGES B-05-632	LS	-----	-----	-----	-----	1
206.6000.S	TEMPORARY SHORING	SF	-----	1,560	1,770	-----	3,330
210.0100	BACKFILL STRUCTURE	CY	-----	414	419	-----	834
502.3200	PROTECTIVE SURFACE TREATMENT	SY	1,451	-----	-----	381	1,832
502.6110	MASONRY ANCHORS TYPE S 3/4-INCH	EA	-----	5	5	-----	10
503.0172	PRESTRESSED GIRDER TYPE I 72W-INCH	LF	1,510	-----	-----	-----	1,510
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	77,530	4,010	3,990	32,780	118,310
505.0904	BAR COUPLERS NO. 4	EA	-----	4	4	-----	8
505.0905	BAR COUPLERS NO. 5	EA	455	-----	-----	84	539
505.0906	BAR COUPLERS NO. 6	EA	30	14	14	-----	58
505.0908	BAR COUPLERS NO. 8	EA	-----	-----	-----	24	24
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	20	-----	-----	-----	20
506.4000.718	STEEL DIAPHRAGMS B-05-632	EACH	18	-----	-----	-----	18
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-----	19	19	-----	39
550.0500	PILE POINTS	EA	-----	16	16	-----	32
550.1120	PILING STEEL DELIVERED AND DRIVEN HP 12-INCH X 53 LB	LF	-----	1,440	1,360	-----	2,800
604.0400	SLOPE PAVING CONCRETE	SY	-----	20	20	-----	40
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	-----	90	90	-----	180
SPV.0035.700	HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES	CY	558	51	51	211	870
SPV.0085.700	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	2,620	-----	-----	-----	2,620
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	244	28	28	60	359
SPV.0165.501	STAINING CONCRETE	SF	2,351	23	23	186	2,583
SPV.0165.502	STAINING CONCRETE BRICK	SF	244	28	28	60	359
SPV.0165.700	LONGITUDINAL GROOVING BRIDGE DECK	SF	11,220	-----	-----	2,958	14,178
	NON-BID ITEMS						
	JOINT FILLER	SIZE	-----	-----	-----	-----	½"&¾"
	CORK FILLER	SIZE	-----	-----	-----	-----	¾"
	EXPANDED POLYSTRENE 1-INCH	SIZE	-----	-----	-----	-----	1"

GENERAL NOTES:

DRAWING SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED. THE TOP LAYER OF BAR STEEL REINFORCEMENT IN THE DECK SHALL BE PLACED WITH 3½" OF CLEAR COVER.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

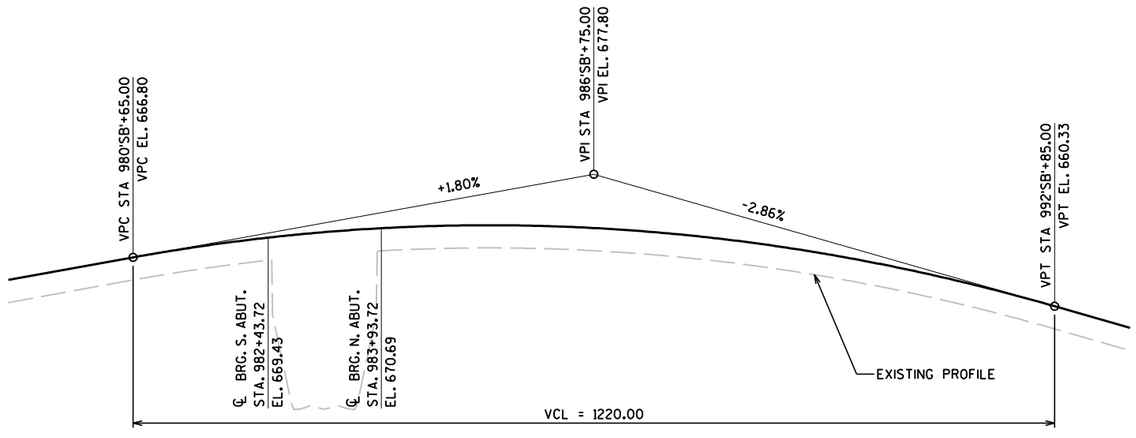
THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE DEPTH OF 3", WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

EXISTING BRIDGE B-05-82 IS A TWO SPAN PRESTRESSED GIRDER BRIDGE WITH AN OVERALL WIDTH OF 43'-10" AND AN OVERALL LENGTH OF 167'-10".

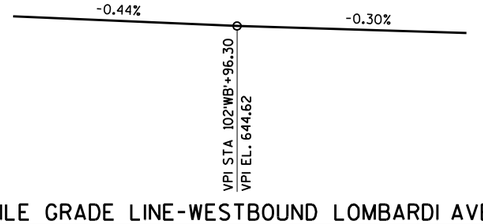
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING CONCRETE TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE FOLLOWING COMPLETED SURFACES: TOP OF DECK SLAB, TOPS OF APPROACH APRONS, TOP AND INSIDE FACES OF MEDIAN BARRIER AND EXTERIOR PARAPETS ON BOTH THE BRIDGE DECK AND APROACH APRONS.

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).



PROFILE GRADE LINE-SOUTHBOUND USH 41



PROFILE GRADE LINE-WESTBOUND LOMBARDI AVENUE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-632

DRAWN BY BRE | PLANS CK'D. KRO

CROSS SECTION, QUANTITIES, & PROFILE

SHEET 2 OF 21

STATE PROJECT NUMBER
1133-03-77

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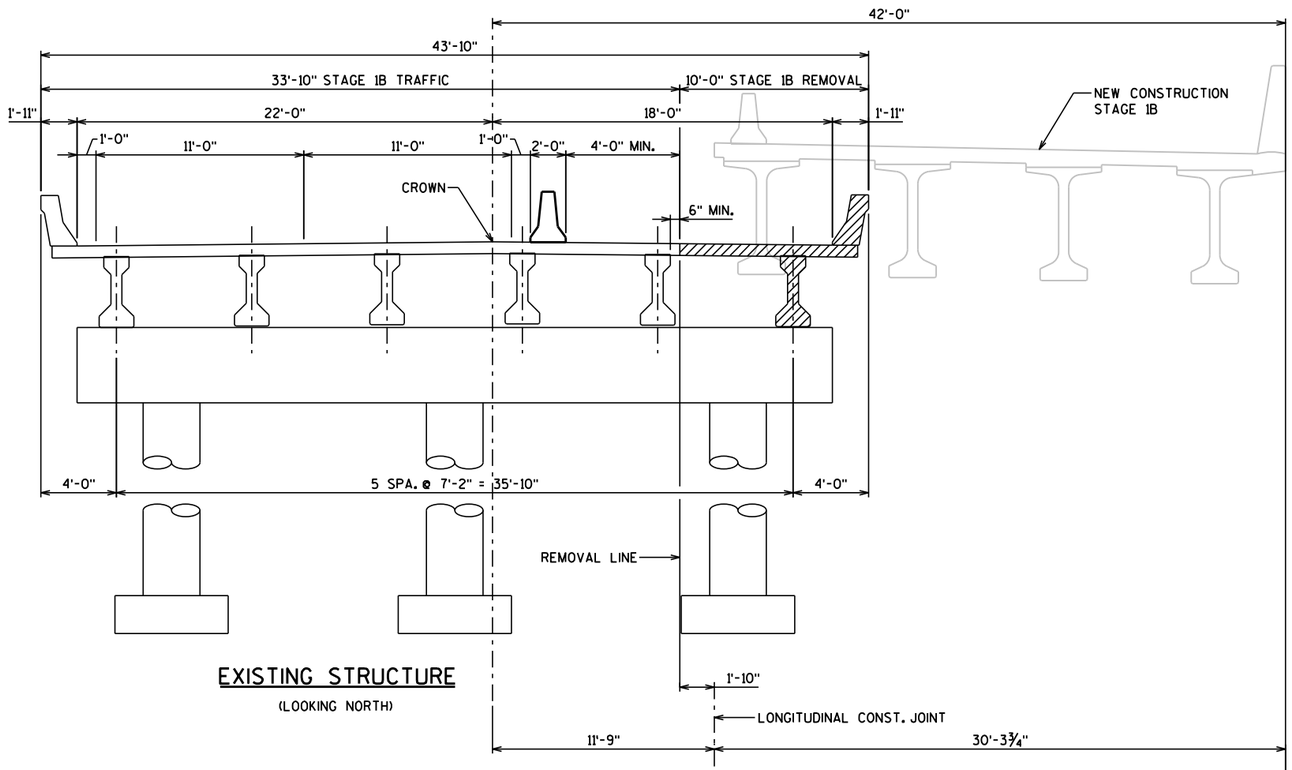
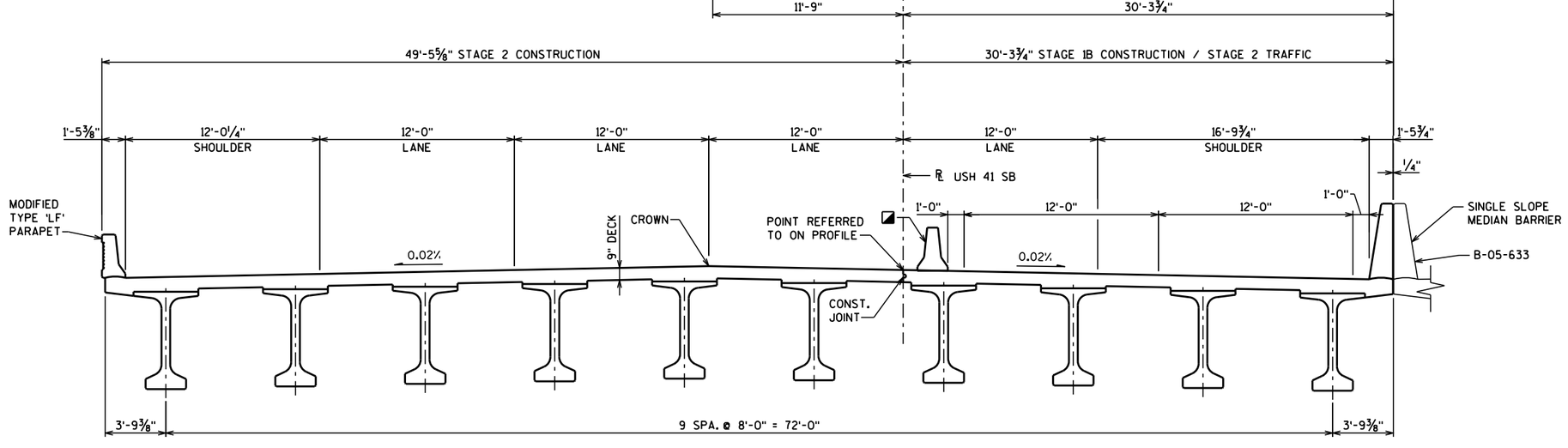
STATE PROJECT NUMBER

1133-03-77



EXISTING STRUCTURE

(LOOKING NORTH)



CROSS SECTION

(LOOKING NORTH)

◪ TEMPORARY BARRIER ANCHORED TO DECK

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-632

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STAGING DETAILS

SHEET 3 OF 21

STATE PROJECT NUMBER
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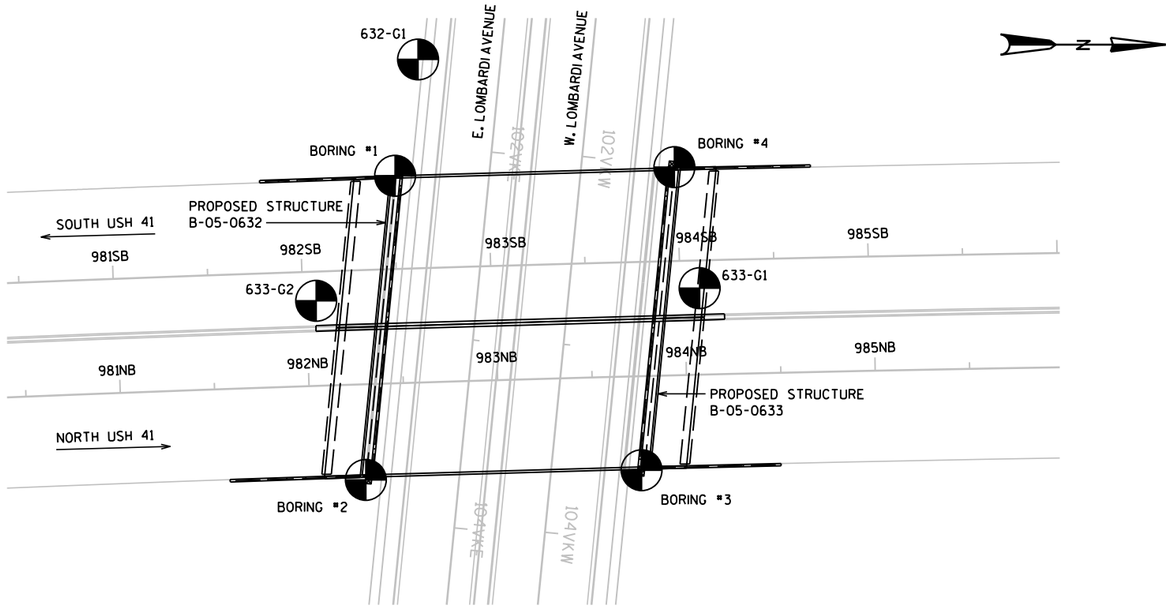


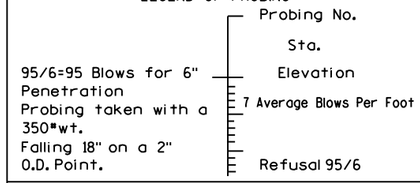
ABBREVIATIONS

F — Fine M — Medium C — Coarse
Ws — Weathered So — Sound

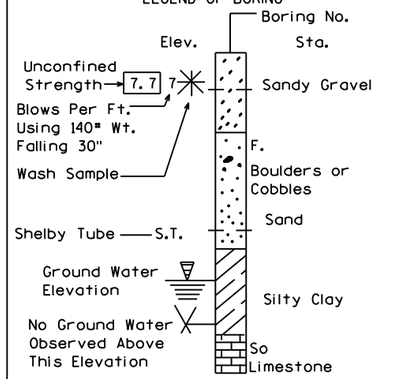
MATERIAL SYMBOLS

Topsoil, Silt, Sandstone
Sand, Peat, Limestone
Gravel, Clay, Igneous Rock

LEGEND OF PROBING



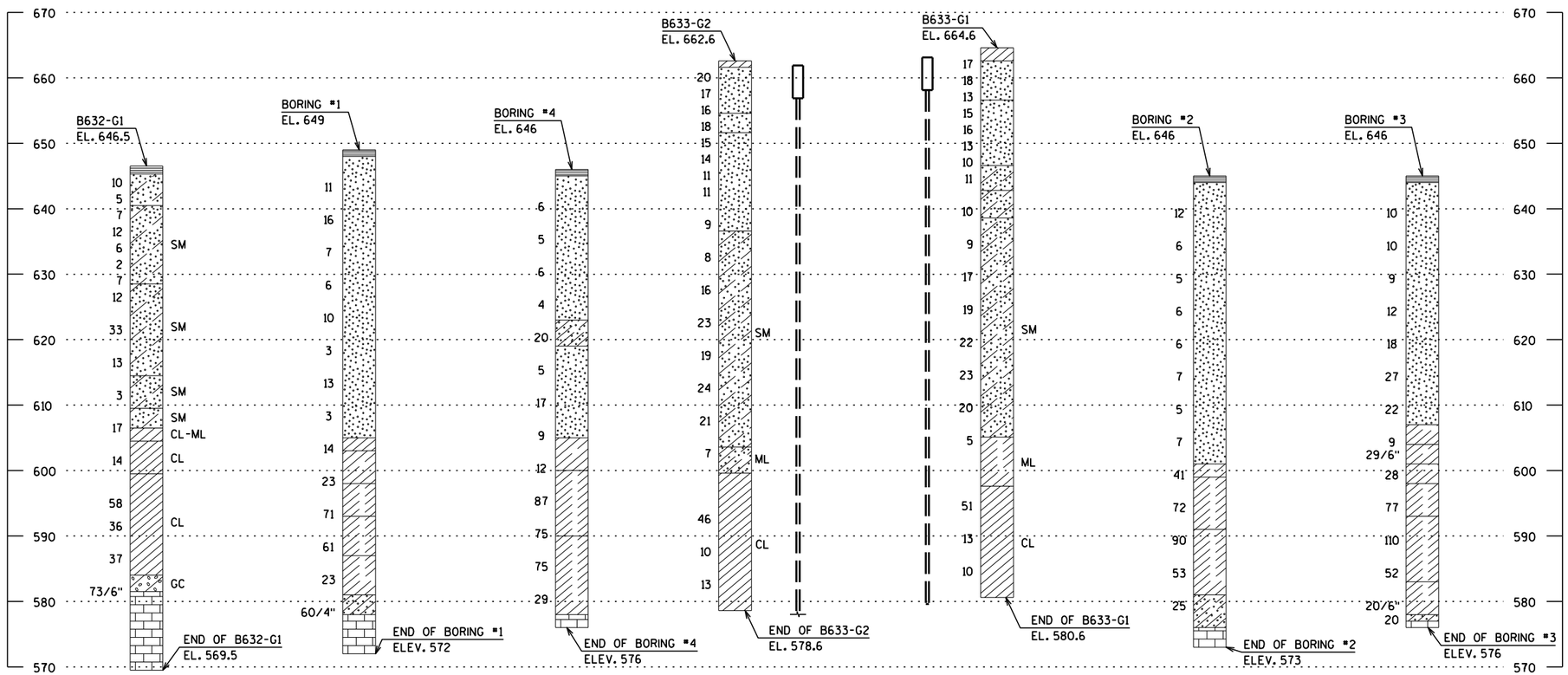
LEGEND OF BORING



Unless otherwise specified, the blows per foot at the locations indicated are based on driving a O.D.x1.4" I.D. split spoon sampler with a 140# hammer having a free fall of 30". The blow count is taken in undisturbed soil immediately below a cased or open hole eliminating side friction on the drive pipe.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

To obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing. The data presented herein represents the findings of the subsurface explorations made. However, because the depths investigated are limited and the area of the borings and/or soundings is very small in relation to the entire area, the Division of Highways does not warrant conditions below the depths investigated or that the classification of material encountered in these investigations is necessarily typical of the entire site.



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-632

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SUBSURFACE EXPLORATION

SHEET 4 OF 21

8

8

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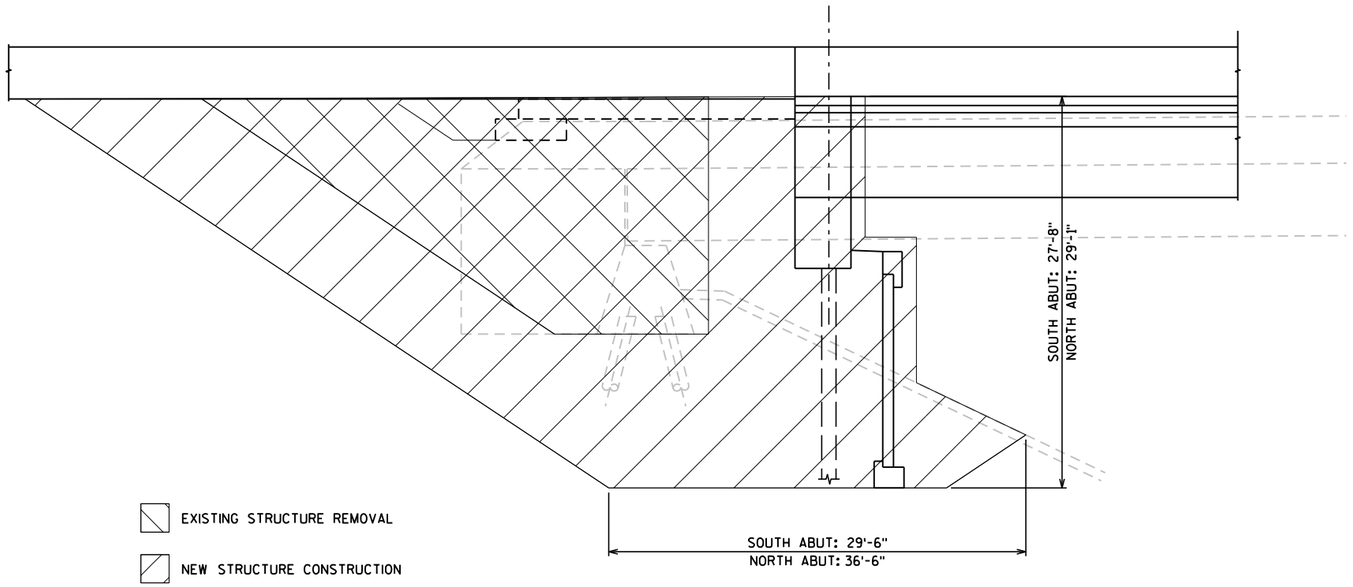
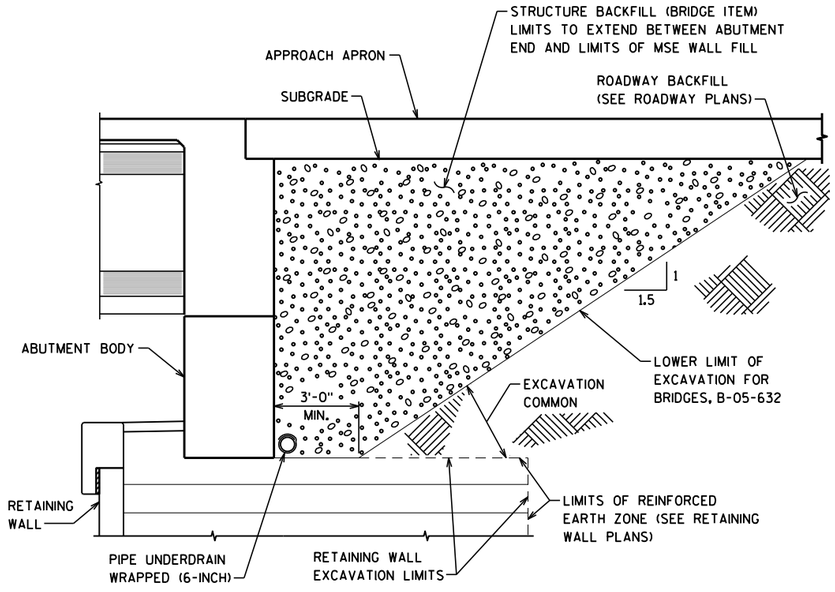
1133-03-77



TEMPORARY SHORING TYPICAL ELEVATION

SOUTH ABUTMENT: 1560 SF
NORTH ABUTMENT: 1770 SF

(QUANTITY INCLUDES BOTH EXISTING STRUCTURE REMOVAL AND NEW STRUCTURE CONSTRUCTION.)



BACKFILL / EXCAVATION DETAIL

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

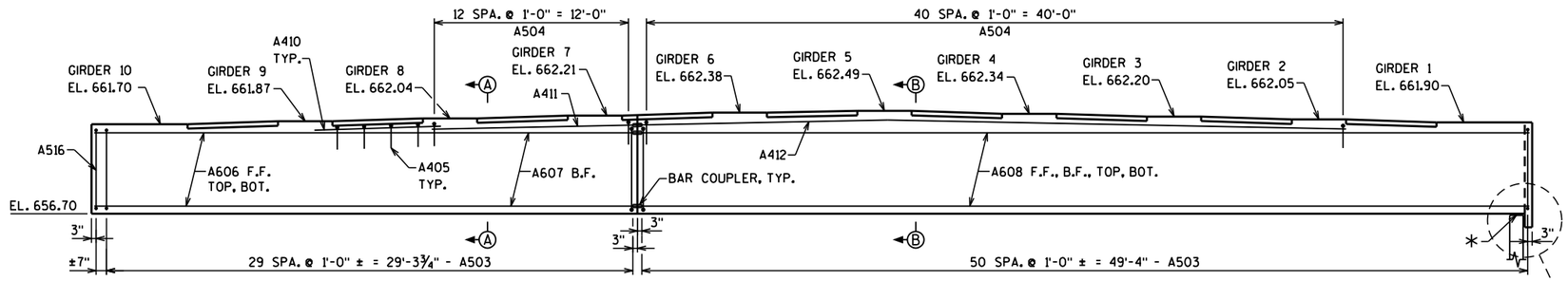
STRUCTURE B-05-632

DRAWN BY BRE | PLANS CK'D. KRO

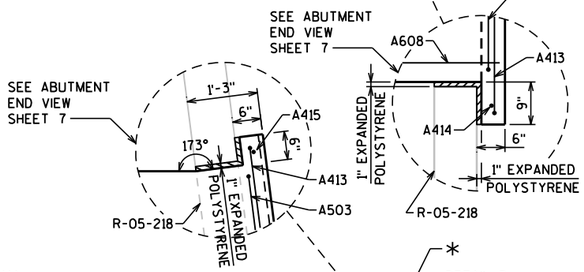
TEMPORARY SHORING

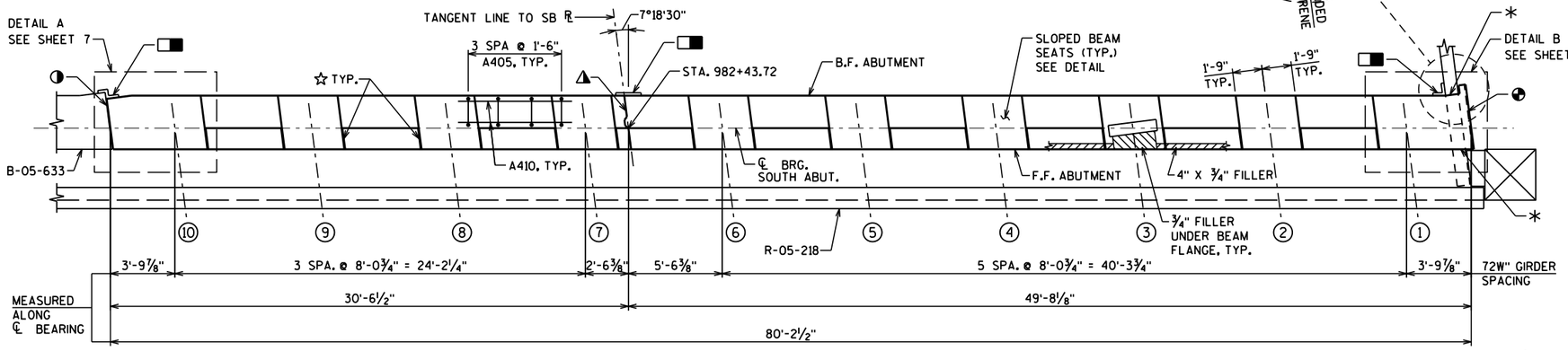
SHEET 5 OF 21

STATE PROJECT NUMBER
1133-03-77

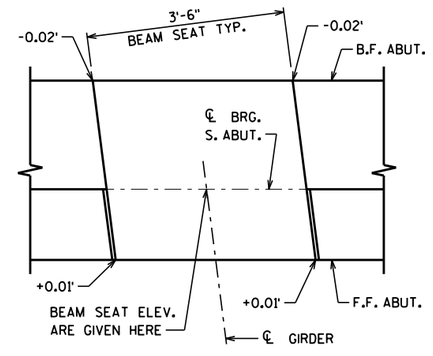


ELEVATION

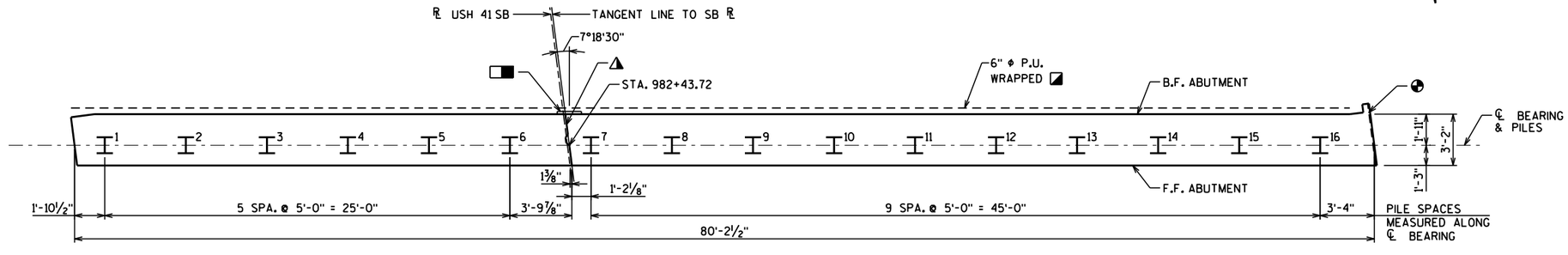




PLAN



SLOPED BEAM SEAT DETAIL



PILE PLAN

LEGEND

- ◑ ½" FILLER NOT INCLUDED IN ABUTMENT LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)
- ▬ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- △ VERTICAL CONSTRUCTION JOINT KEYWAY FORMED BY A BEVELED 2" X 8" NOTCH. USE ¾" "V" GROOVE JOINT @ THE FRONT FACE OF ABUTMENT.
- ☆ ¾" CORK FILLER ON VERTICAL FACES THAT RUN PARALLEL TO THE GIRDER.
- ✱ 1" EXPANDED POLYSTYRENE FILLER BETWEEN ABUTMENT AND RETAINING WALL.
- ◓ IMPRINTED BRICK PATTERN, SEE SHEET 21.
- ◪ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SOUTH SLOPES.

SEE SHEET 7 FOR BILL OF BARS AND BAR BENDING DIAGRAMS.

PILE NOTE

SOUTH ABUTMENT TO BE SUPPORTED ON HP 12 X 53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE. ESTIMATED LENGTH = 90' AT THE SOUTH ABUTMENT. FOR PILE SPLICE DETAILS, SEE SHEET 7.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-632

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SOUTH ABUTMENT

SHEET 6 OF 21

8

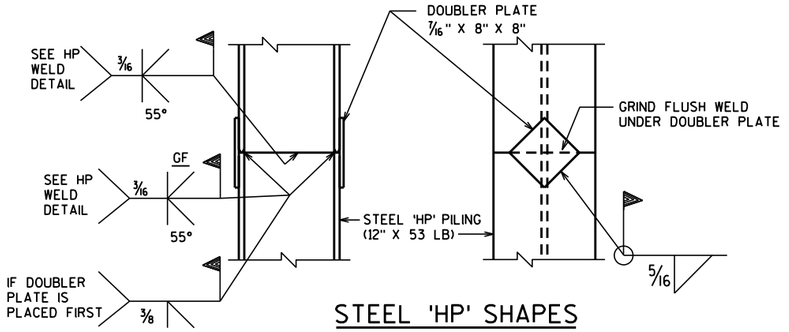
8

STATE PROJECT NUMBER
1133-03-77

BILL OF BARS

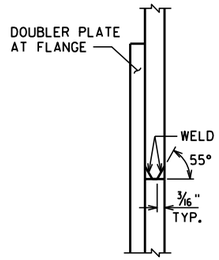
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
A401	X	32	2'-3"		BODY - PILES
A402	X	16	28'-0"	X	BODY - PILES
A503	X	81	14'-11"	X	BODY - STIRRUP
A504	X	54	6'-3"	X	BODY - VERTICAL TOP
A405	X	36	3'-11"	X	BODY - VERTICAL - BTW BEAM SEATS
⬡ A606	X	9	30'-4"		BODY - HORIZONTAL F.F., TOP & BOT.
⬡ A607	X	5	30'-4"	X	BODY - HORIZONTAL B.F.
⬡ A608	X	14	49'-4"		BODY - HORIZONTAL F.F., B.F., TOP & BOT.
A410	X	18	6'-7"		BODY - HORIZONTAL - BTW BEAM SEATS
⬡ A411	X	4	12'-3"		BODY - HORIZONTAL TOP
⬡ A412	X	4	40'-3"		BODY - HORIZONTAL TOP
A413	X	8	7'-3"	X	BODY - WEST END OF ABUTMENT
A414	X	1	3'-4"		BODY - HORIZ. WEST END OF ABUTMENT
A415	X	1	5'-5"		BODY - VERT. WEST END OF ABUTMENT
A516	X	1	14'-7"	X	BODY - STIRRUP EAST END OF ABUTMENT

⬡ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.



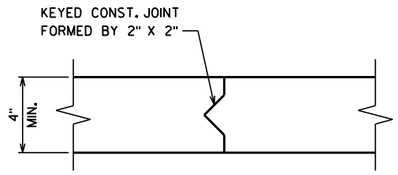
STEEL 'HP' SHAPES

STEEL 'HP' PILE MATERIAL SHALL BE A.S.T.M. DESIGNATION A36.

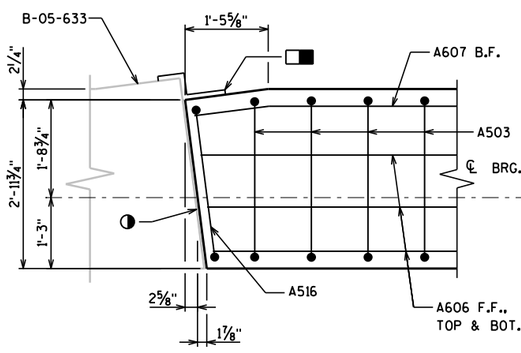


HP WELD DETAIL

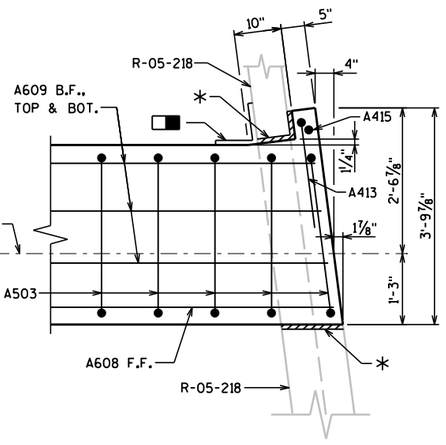
FLANGE SHOWN, WEB SIMILAR



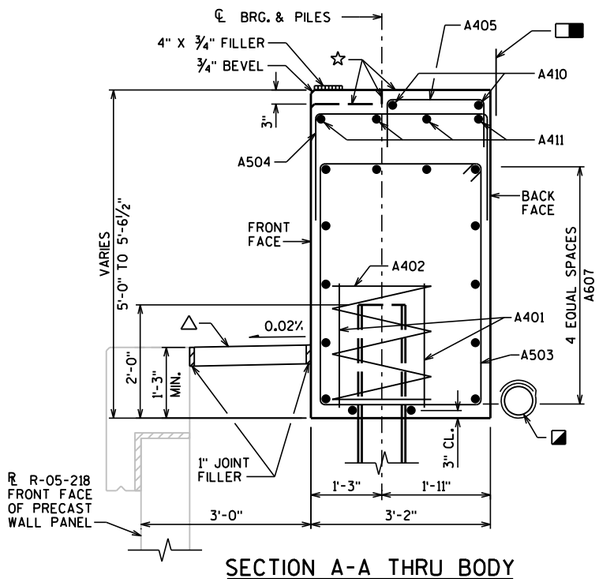
SLOPE PAVING CONSTRUCTION JOINT DETAIL



DETAIL A

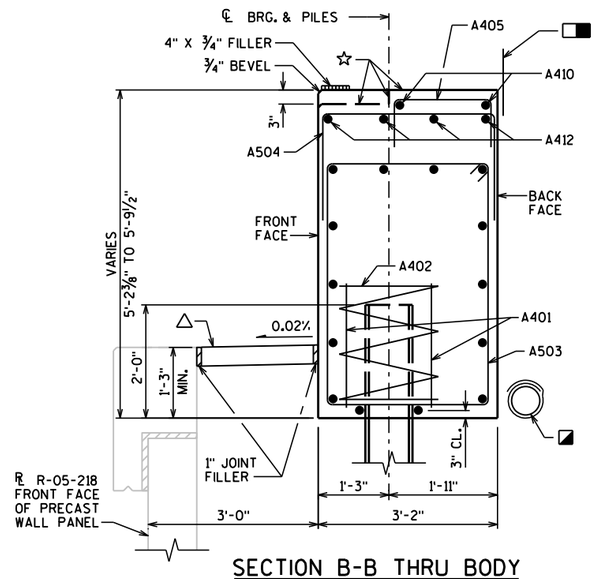


DETAIL B



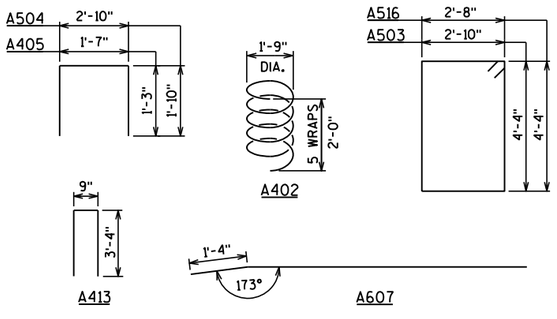
SECTION A-A THRU BODY

HORIZONTAL BARS NOT OTHERWISE IDENTIFIED ARE A606 BARS

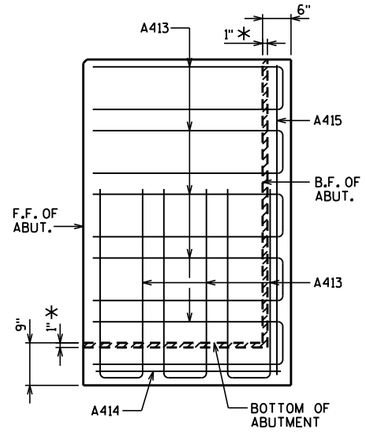


SECTION B-B THRU BODY

HORIZONTAL BARS NOT OTHERWISE IDENTIFIED ARE A608 BARS



BAR BENDING DIAGRAMS



ABUTMENT END VIEW

(WEST END ONLY)

LEGEND

◑ ½" FILLER NOT INCLUDED IN ABUTMENT LENGTH, SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)

▬ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

☆ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03"

* 1" EXPANDED POLYSTYRENE FILLER BETWEEN ABUTMENT AND RETAINING WALL.

◪ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.

△ SLOPE PAVING CONCRETE, MINIMUM 4" THICKNESS. PLACE CONSTRUCTION JOINTS EVERY 10' MAXIMUM. SEE SLOPE PAVING CONSTRUCTION JOINT DETAIL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-632

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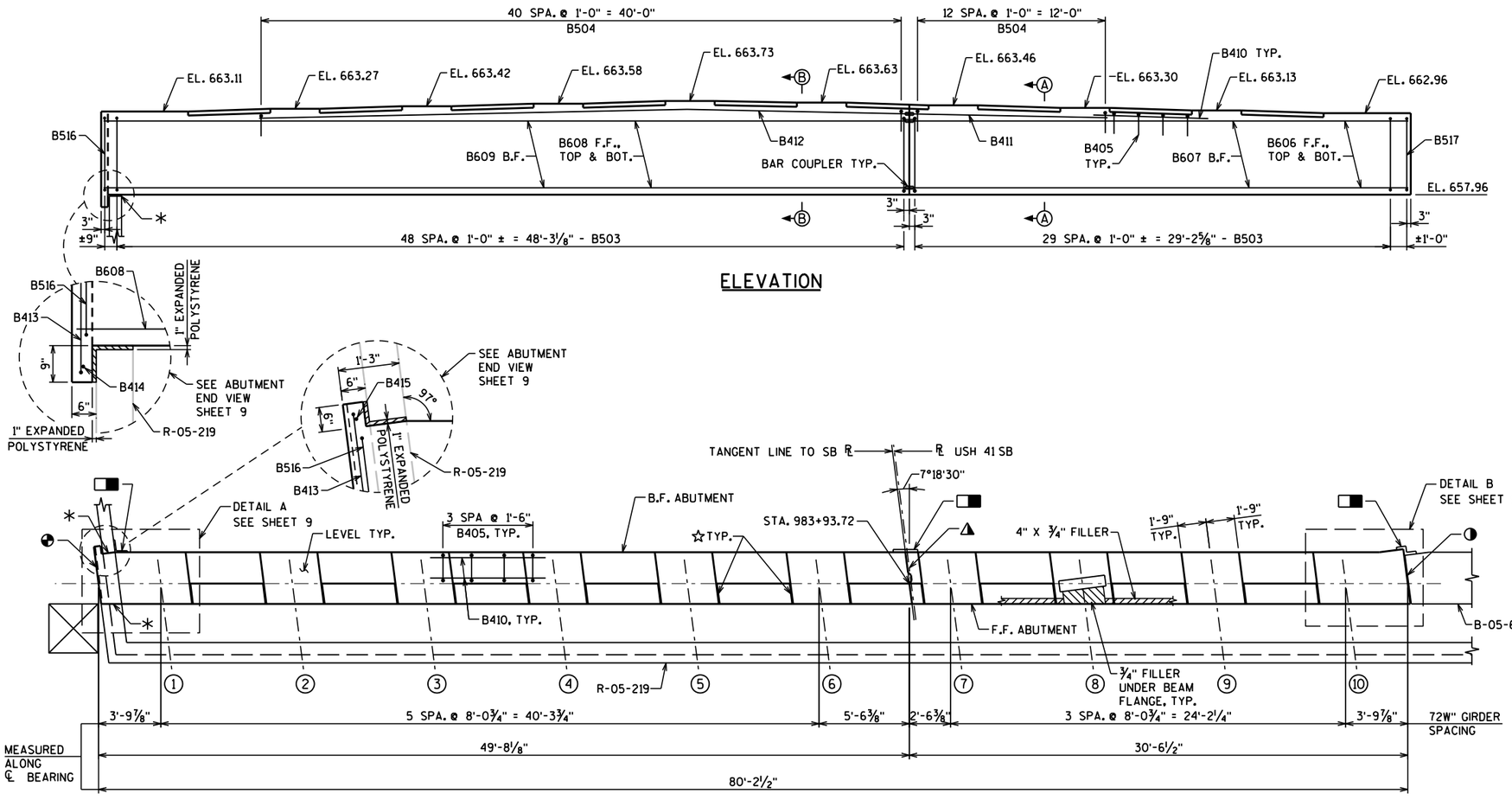
SOUTH ABUTMENT DETAILS

SHEET 7 OF 21

8

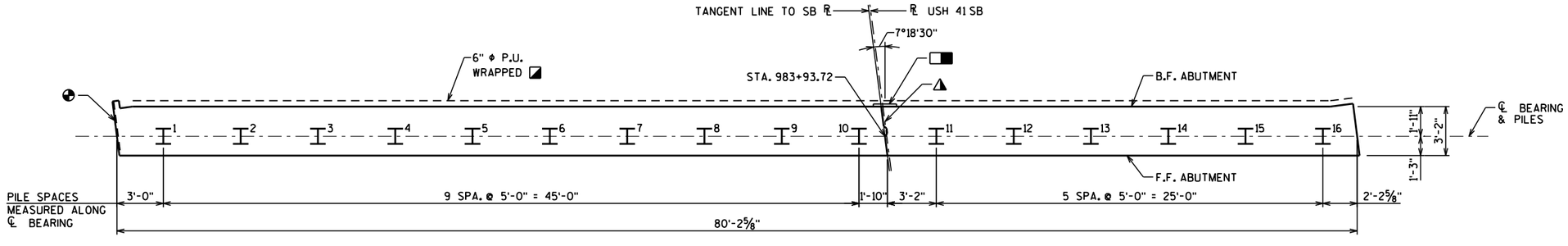
8

STATE PROJECT NUMBER
1133-03-77



ELEVATION

PLAN



PILE PLAN

LEGEND

- ◑ ½" FILLER NOT INCLUDED IN ABUTMENT LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)
- ▬ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ◭ VERTICAL CONSTRUCTION JOINT KEYWAY FORMED BY A BEVELED 2" X 8" NOTCH. USE ¾" "V" GROOVE JOINT @ THE FRONT FACE OF ABUTMENT.
- ☆ ¾" CORK FILLER ON VERTICAL FACES THAT RUN PARALLEL TO THE GIRDER.
- ✳ 1" EXPANDED POLYSTYRENE FILLER BETWEEN ABUTMENT AND RETAINING WALL.
- ◔ IMPRINTED BRICK PATTERN, SEE SHEET 21.
- ◪ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SOUTH SLOPES.

SEE SHEET 9 FOR BILL OF BARS AND BAR BENDING DIAGRAMS.

PILE NOTE

SOUTH ABUTMENT TO BE SUPPORTED ON HP 12 X 53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE. ESTIMATED LENGTH = 85' AT THE NORTH ABUTMENT. FOR PILE SPLICE DETAILS, SEE SHEET 9.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-632

DRAWN BY BRE | PLANS CK'D. KRO

NORTH ABUTMENT

SHEET 8 OF 21

8

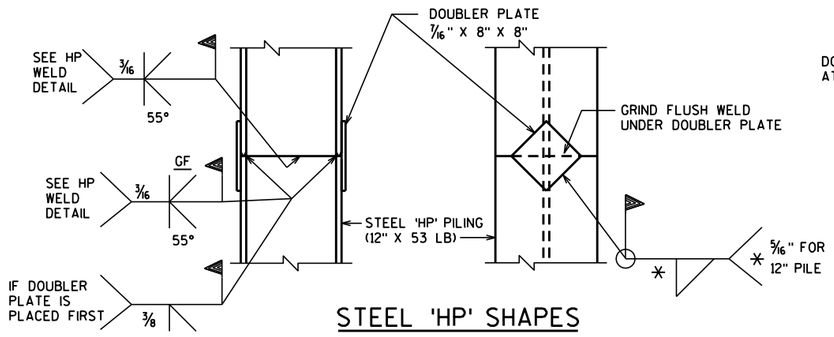
8

STATE PROJECT NUMBER
1133-03-77

BILL OF BARS

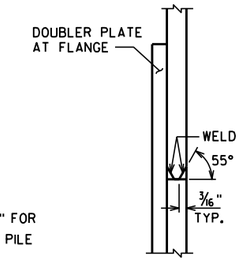
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
B401	X	32	2'-3"		BODY - PILES
B402	X	16	28'-0"	X	BODY - PILES
B503	X	79	14'-11"	X	BODY - STIRRUP
B504	X	54	6'-3"	X	BODY - VERTICAL TOP
B405	X	36	3'-11"	X	BODY - VERTICAL - BTW BEAM SEATS
⬡ B606	X	9	30'-4"		BODY - HORIZONTAL F.F., TOP & BOT.
⬡ B607	X	5	30'-4"	X	BODY - HORIZONTAL B.F.
⬡ B608	X	9	49'-5"		BODY - HORIZONTAL F.F., TOP & BOT.
⬡ B609	X	5	49'-5"	X	BODY - HORIZONTAL B.F.
B410	X	18	6'-7"		BODY - HORIZONTAL - BTW BEAM SEATS
⬡ B411	X	4	12'-3"		BODY - HORIZONTAL TOP
⬡ B412	X	4	40'-3"		BODY - HORIZONTAL TOP
B413	X	8	7'-3"	X	BODY - WEST END OF ABUTMENT
B414	X	1	3'-4"		BODY - HORIZ. WEST END OF ABUTMENT
B415	X	1	5'-5"		BODY - VERT. WEST END OF ABUTMENT
B516	X	1	14'-7"	X	BODY - VERTICAL WEST END OF ABUTMENT
B517	X	1	15'-3"	X	BODY - VERTICAL EAST END OF ABUTMENT

⬡ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.



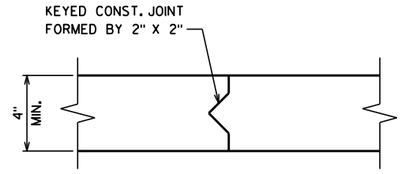
STEEL 'HP' SHAPES

STEEL 'HP' PILE MATERIAL SHALL BE A.S.T.M. DESIGNATION A36.

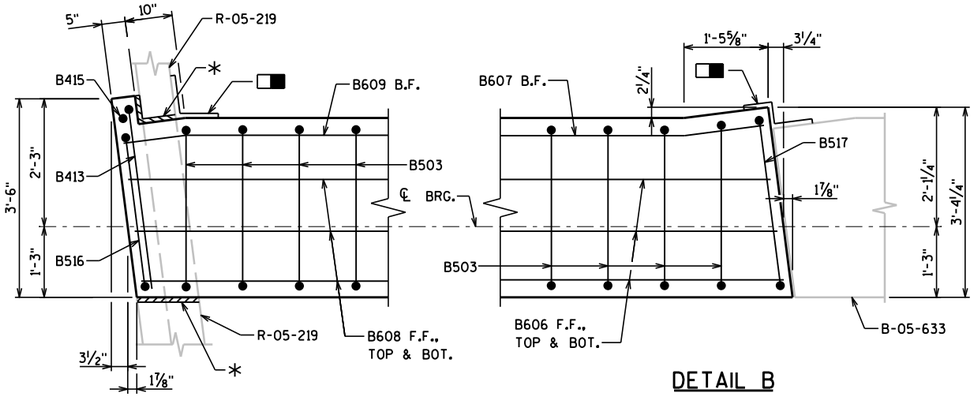


HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

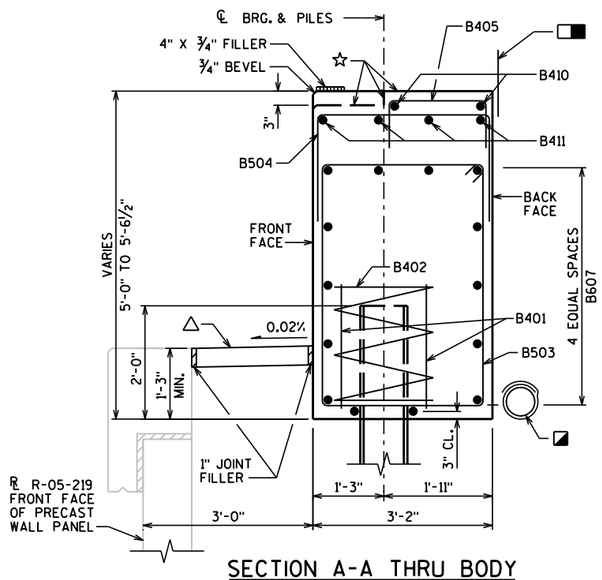


SLOPE PAVING CONSTRUCTION JOINT DETAIL



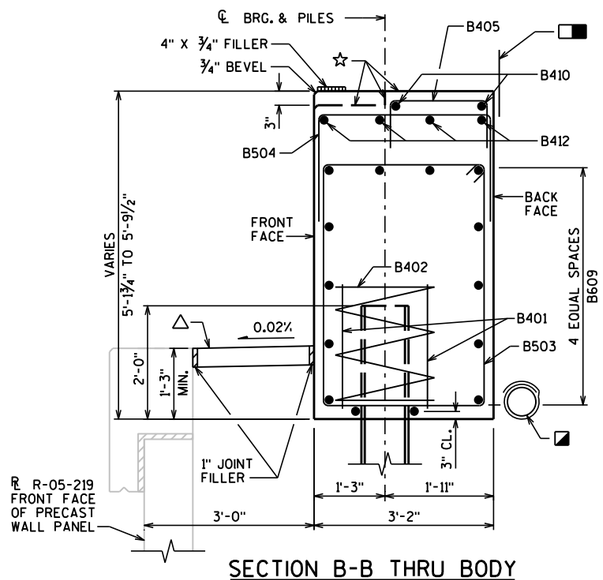
DETAIL A

DETAIL B



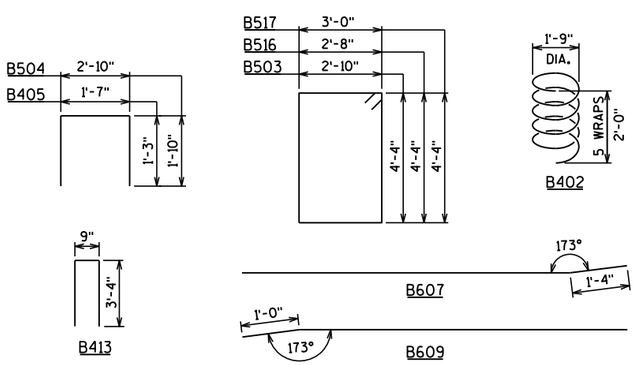
SECTION A-A THRU BODY

HORIZONTAL BARS NOT OTHERWISE IDENTIFIED ARE B606 BARS

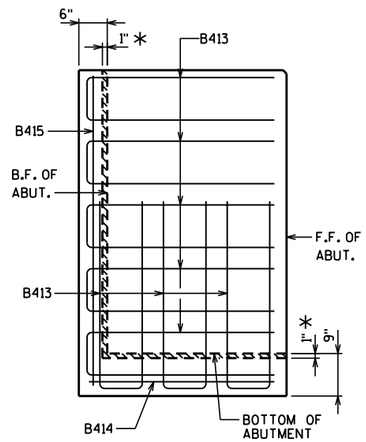


SECTION B-B THRU BODY

HORIZONTAL BARS NOT OTHERWISE IDENTIFIED ARE B608 BARS



BAR BENDING DIAGRAMS



ABUTMENT END VIEW

(WEST END ONLY)

LEGEND

◑ ½" FILLER NOT INCLUDED IN ABUTMENT LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)

▬ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

☆ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03"

* 1" EXPANDED POLYSTYRENE FILLER BETWEEN ABUTMENT AND RETAINING WALL.

◪ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.

△ SLOPE PAVING CONCRETE, MINIMUM 4" THICKNESS. PLACE CONSTRUCTION JOINTS EVERY 10' MAXIMUM. SEE SLOPE PAVING CONSTRUCTION JOINT DETAIL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-632

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NORTH ABUTMENT DETAILS

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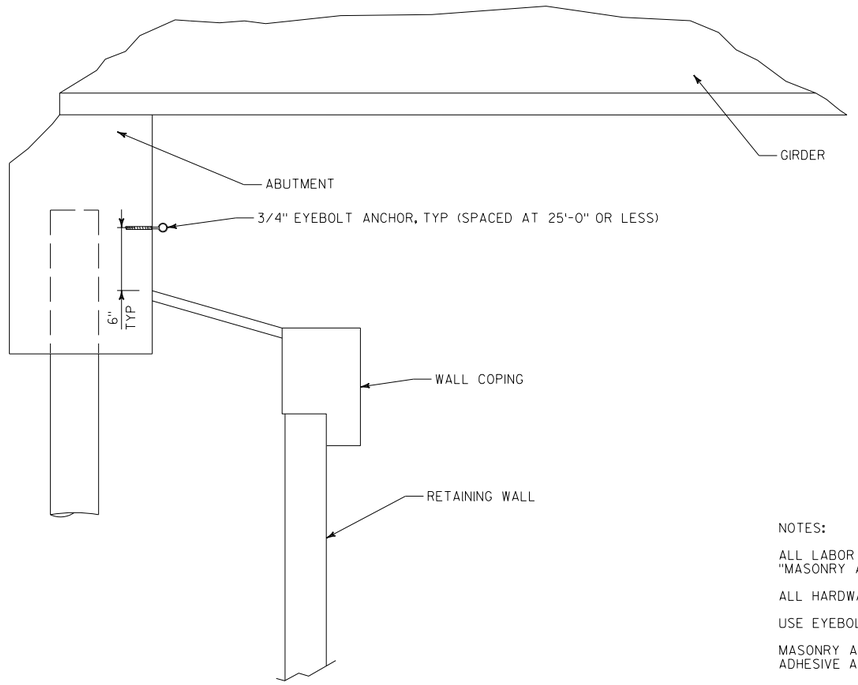


NOTES:

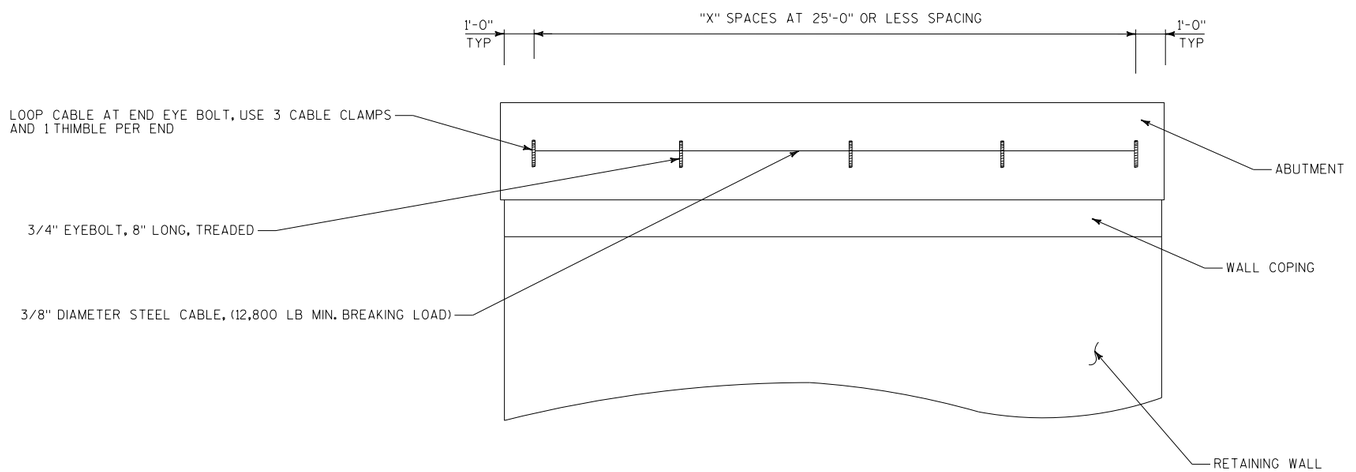
ALL LABOR AND MATERIAL (EYE BOLTS, CABLE, AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4 - INCH"

ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.

USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.

MASONRY ANCHORS TYPE S ¾-INCH, MIN. PULLOUT CAPACTIY OF 26 KIPS, FOR ADHESIVE ANCHORS EMBEDDED A MIN. OF 7" IN CONCRETE.

SECTION



FRONT VIEW OF ABUTMENT

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DEPARTMENT OF TRANSPORTATION
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STRUCTURE B-05-632

DRAWN BY BRE | PLANS CK'D. KRO

FALL PROTECTION

SHEET 10 OF 21

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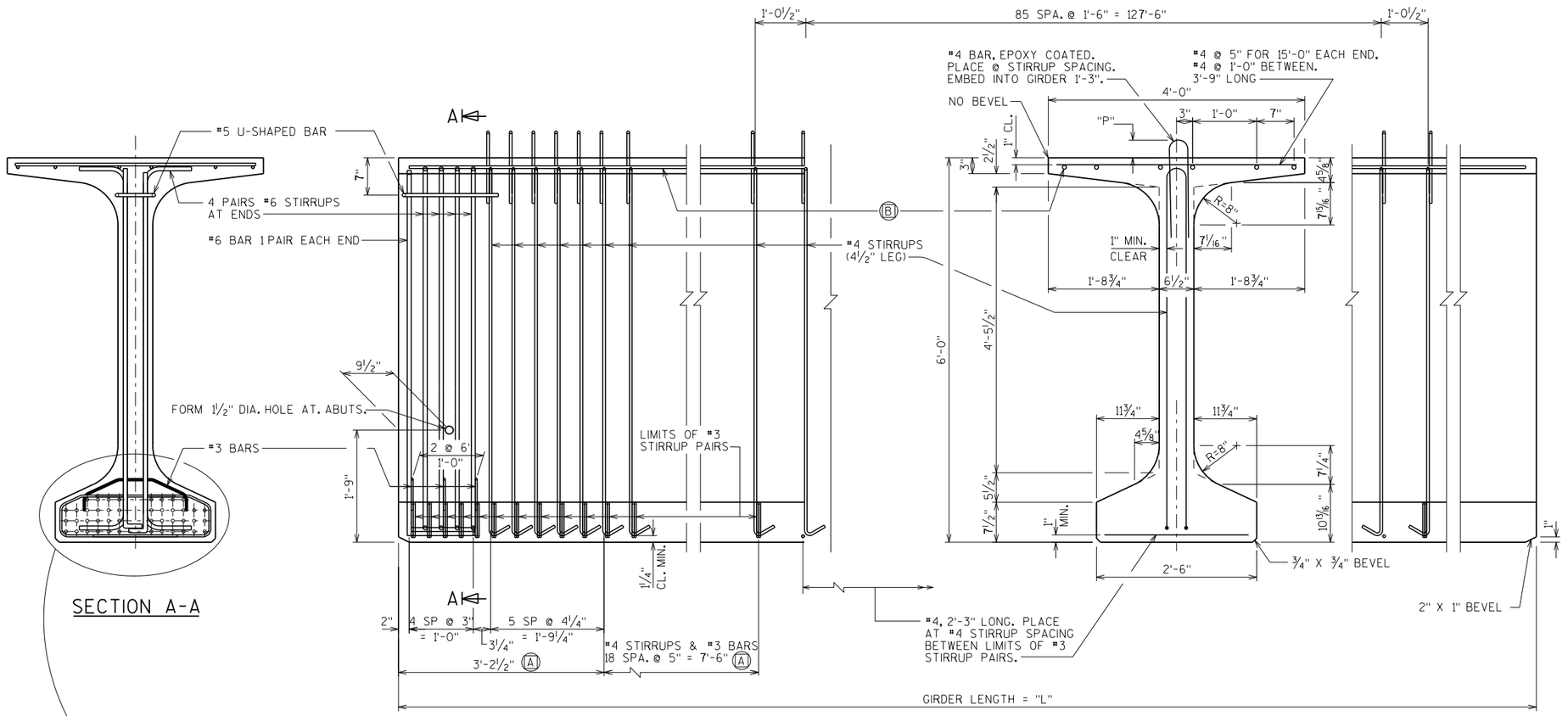
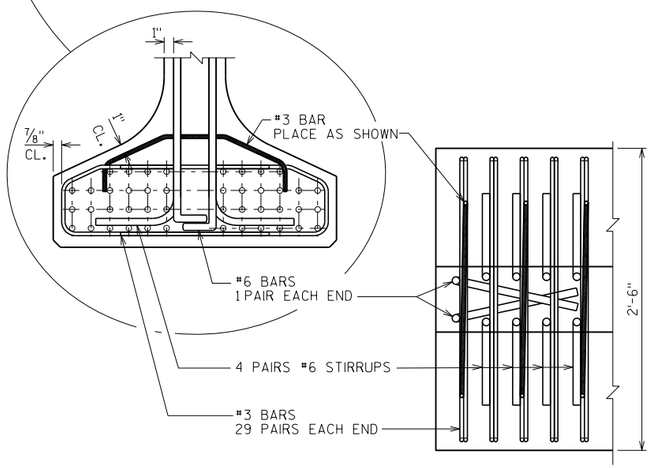


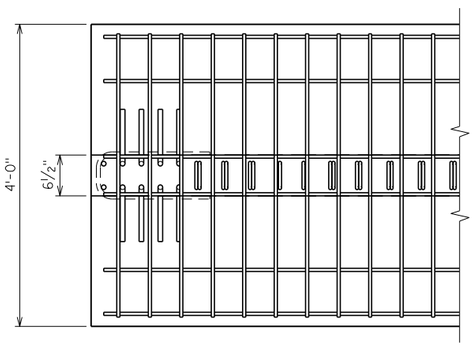
SIDE VIEW & TYP. SECTION IN SPAN

(A) DETAIL TYP. AT EACH END

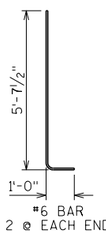
(B) (6) - #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"



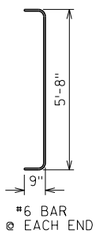
BOTTOM FLANGE



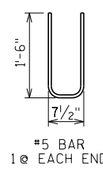
TOP FLANGE



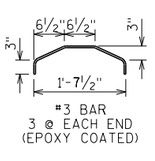
#6 BAR
2 @ EACH END



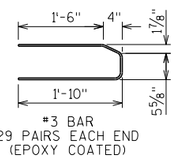
#6 BAR
8 @ EACH END



#5 BAR
1 @ EACH END



#3 BAR
3 @ EACH END
(EPOXY COATED)



#3 BAR
29 PAIRS EACH END
(EPOXY COATED)

GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

PRESTRESSING STRANDS SHALL BE 0.6"Φ - 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO APPLICATION OF THE SEALER.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, ONE OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT CHIEF, (608) 266-5161.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-632

DRAWN BY BRE | PLANS CK'D. KRO

72W" PRESTRESSED GIRDER

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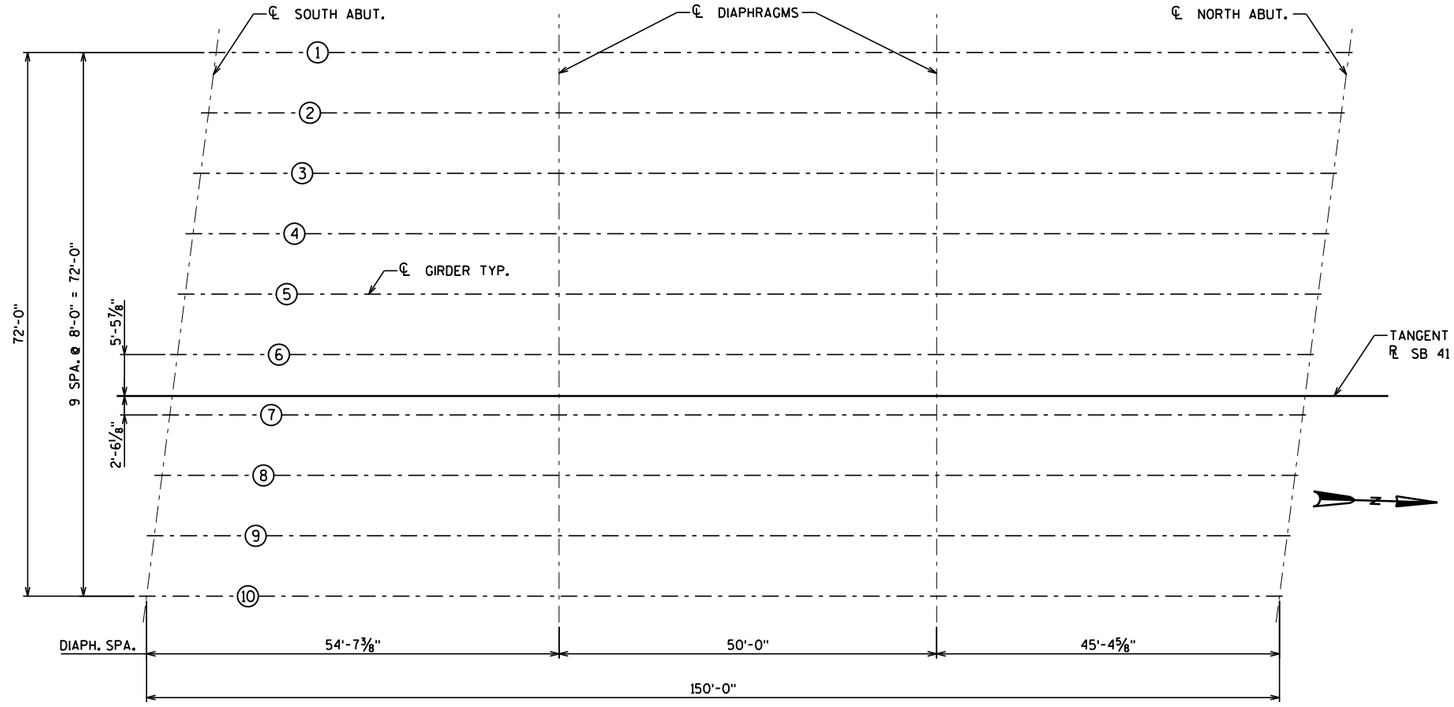
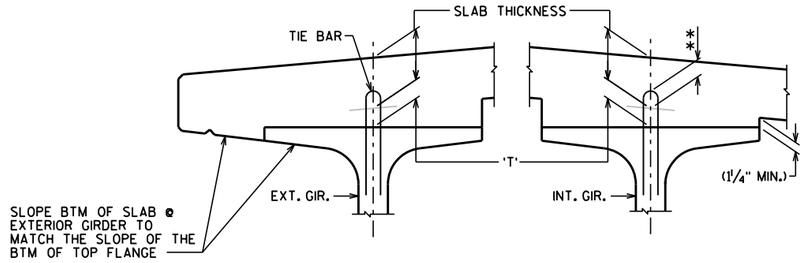


FRAMING PLAN



SLAB HAUNCH DETAIL

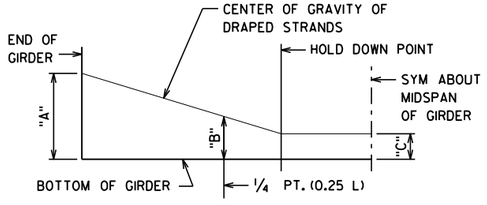
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

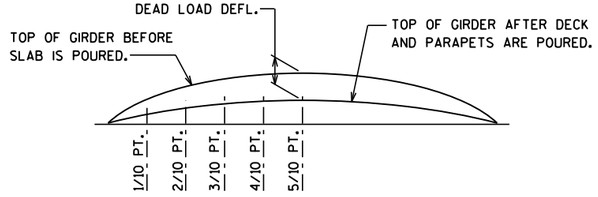
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

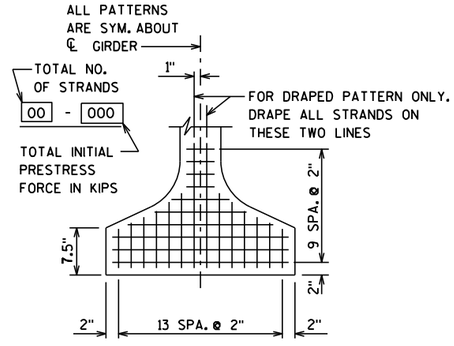
NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



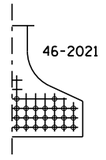
DRAPED STRAND PROFILE



DEAD LOAD DEFLECTION DIAGRAM



TYP. STRAND PATTERN



ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1ST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	ALL	151.0'	0.89	1.71	2.35	2.76	2.90	2.76	2.35	1.71	0.89	8,000	8"	7"	8"	0.6	46	6,800	67"	20.5"	23.5"	5"	---	---

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-632

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72W" PRESTRESSED GIRDER DETAILS

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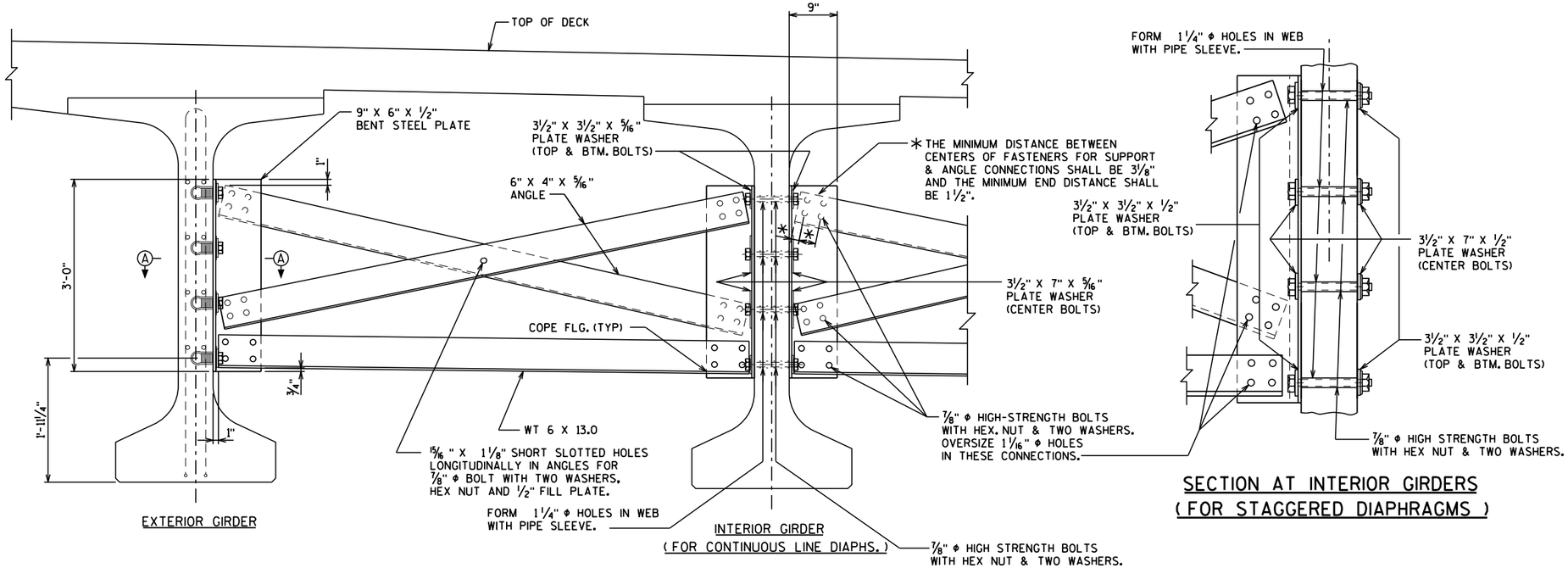
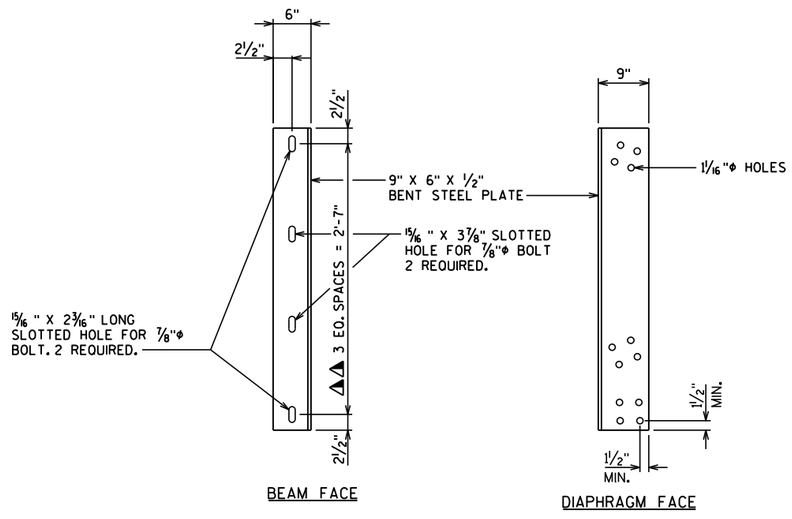


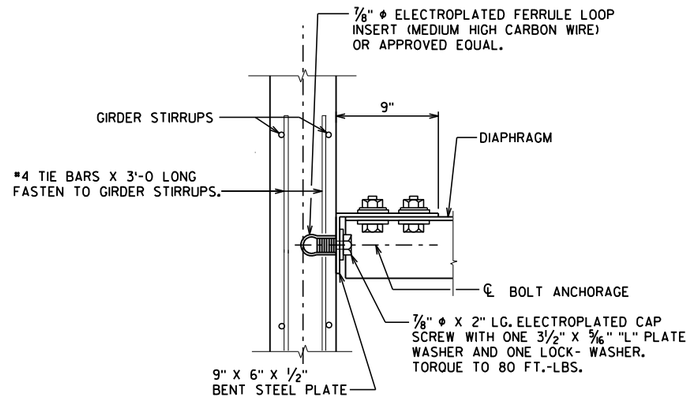
PART TRANSVERSE SECTION AT DIAPHRAGM

SECTION AT INTERIOR GIRDERS (FOR STAGGERED DIAPHRAGMS)



DIAPHRAGM SUPPORT

△△ BOLT HOLES SHALL BE SPACED SO AS TO MISS PRESTRESSED STRANDS IN CONCRETE BEAMS.



SECT. A-A

(FOR EXTERIOR ATTACHMENT)

"L" = 3 1/2": TOP AND BOTTOM BOLTS
"L" = 7": CENTER BOLTS

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-05-632", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

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STATE OF WISCONSIN
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STRUCTURE B-05-632

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72W" STEEL DIAPHRAGMS

SHEET 13 OF 21

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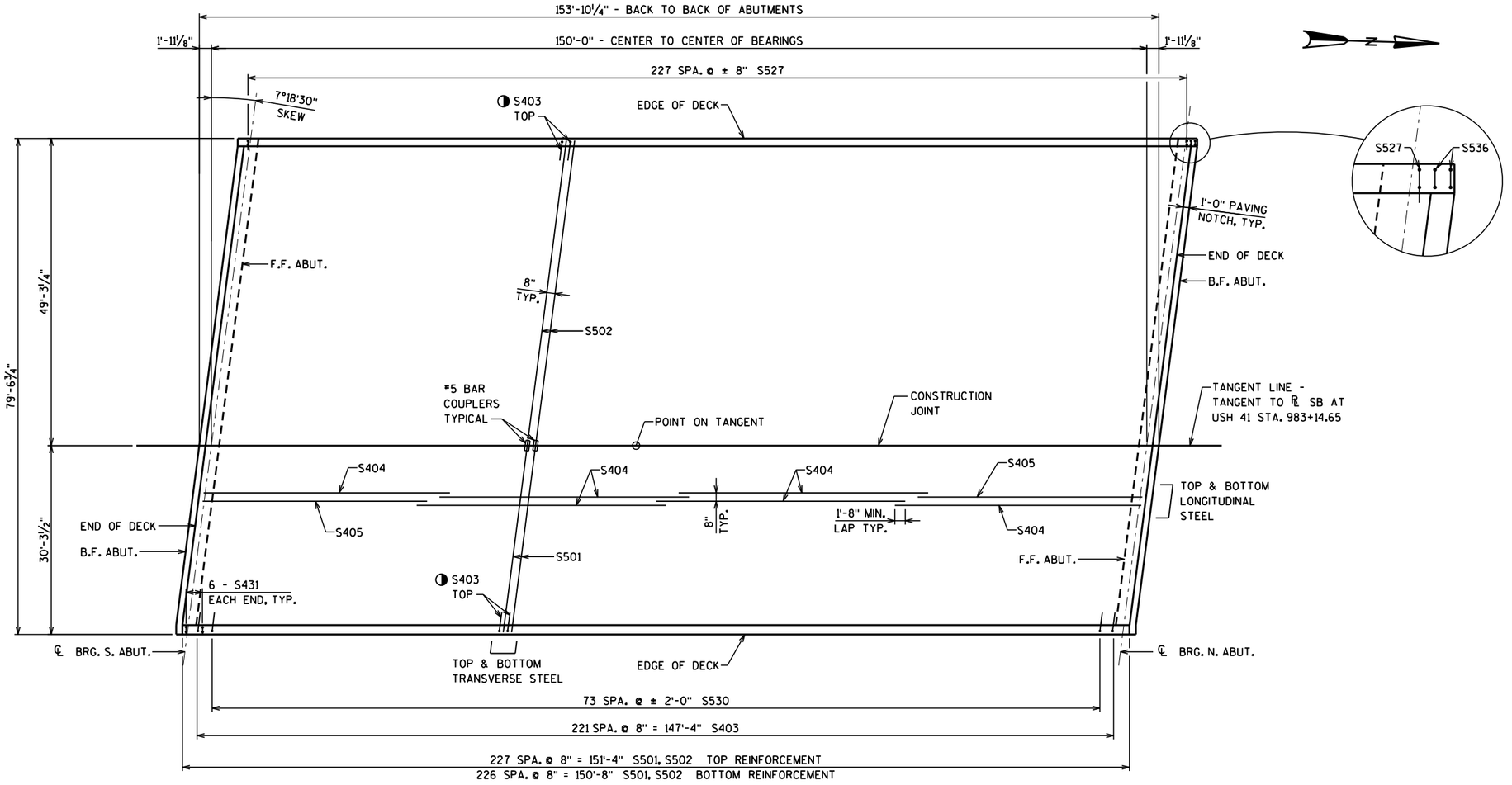

NOTES:

◑ LAP S403 ONTO EVERY TRANSVERSE BAR IN THE TOP MAT AS SHOWN

TOP OF DECK ELEVATIONS

LOCATION	S.ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	N.ABUT.
W. EDGE	669.00	669.16	669.31	669.45	669.59	669.71	669.83	669.94	670.04	670.13	670.21
GIRDER 1	669.04	669.21	669.36	669.50	669.63	669.76	669.88	669.99	670.09	670.18	670.26
GIRDER 2	669.19	669.35	669.51	669.65	669.79	669.91	670.03	670.14	670.24	670.33	670.42
GIRDER 3	669.34	669.50	669.66	669.80	669.94	670.06	670.18	670.29	670.39	670.49	670.57
GIRDER 4	669.49	669.65	669.81	669.95	670.09	670.22	670.33	670.44	670.55	670.64	670.72
GIRDER 5	669.64	669.80	669.96	670.10	670.24	670.37	670.49	670.60	670.70	670.79	670.88
CROWN	669.67	669.83	669.98	670.13	670.27	670.40	670.52	670.63	670.73	670.82	670.91
GIRDER 6	669.53	669.69	669.85	669.99	670.13	670.26	670.38	670.49	670.59	670.69	670.77
GIRDER 7	669.36	669.52	669.68	669.82	669.96	670.09	670.21	670.32	670.43	670.52	670.61
GIRDER 8	669.18	669.35	669.51	669.65	669.79	669.92	670.04	670.16	670.26	670.35	670.44
GIRDER 9	669.01	669.18	669.33	669.48	669.62	669.75	669.87	669.99	670.09	670.19	670.28
GIRDER 10	668.84	669.01	669.16	669.31	669.45	669.58	669.71	669.82	669.93	670.02	670.11
E. EDGE	668.79	668.96	669.12	669.26	669.40	669.54	669.66	669.77	669.88	669.97	670.06

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STRUCTURE B-05-632

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SUPERSTRUCTURE REINFORCEMENT

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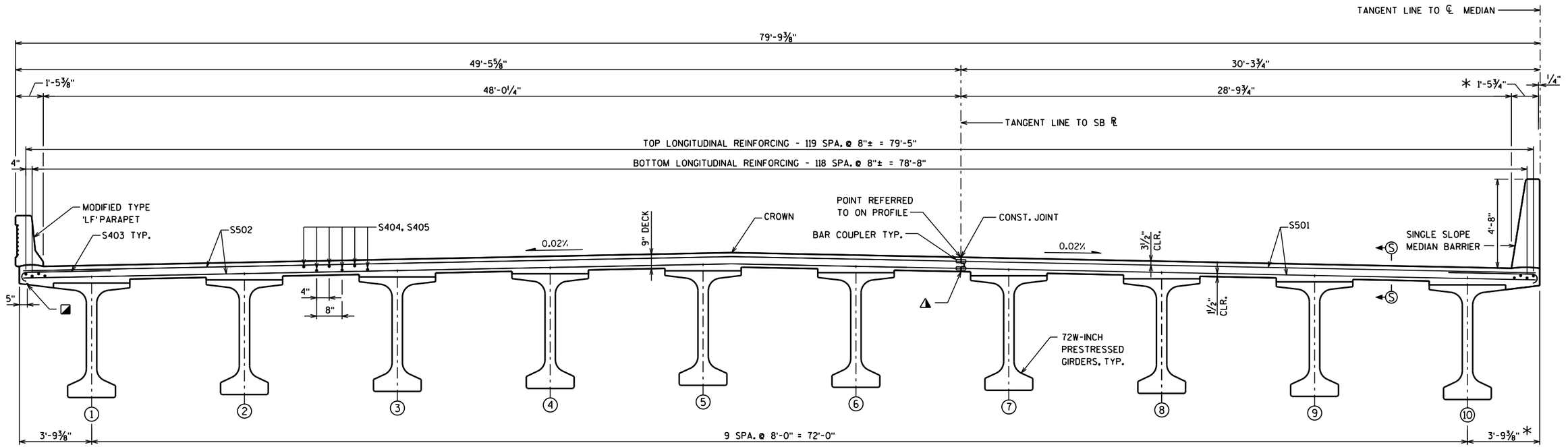


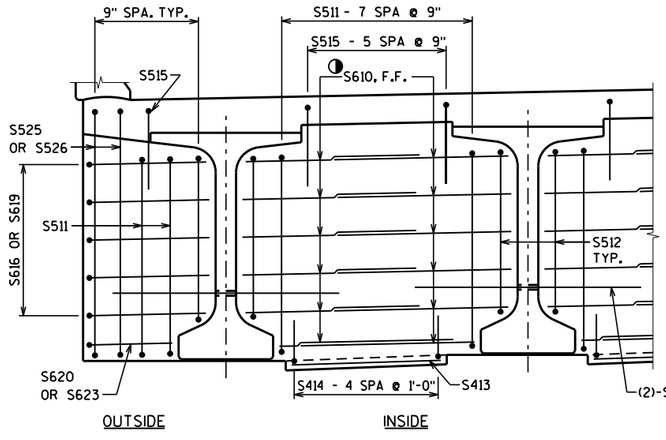
◪ ¾" CONTINUOUS DRIP GROOVE (TYP.) TERMINATE 2'-0" FROM FACE OF ABUTS.

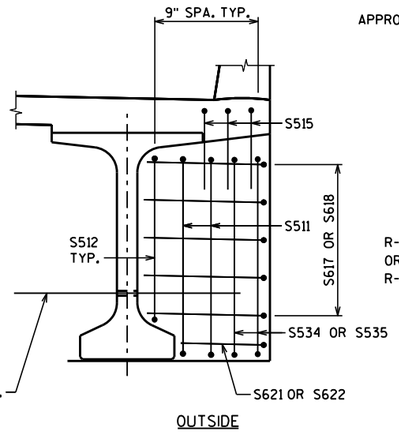
◭ LONGITUDINAL CONSTRUCTION JOINT KEYWAY FORMED BY A SURFACE BEVELED 2" X 2". CENTER KEYWAY BETWEEN MATS.

CROSS SECTION

(LOOKING NORTH)

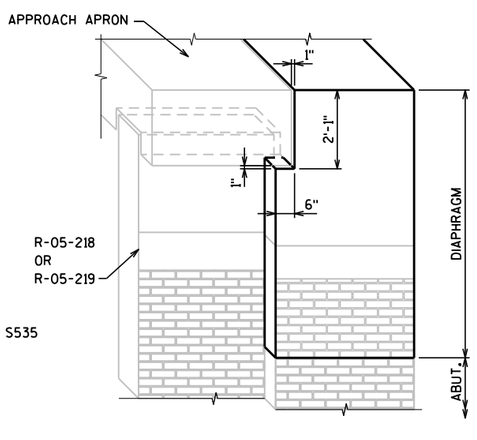
* DIMENSION DOES NOT INCLUDE ½" JOINT FILLER BETWEEN BRIDGES





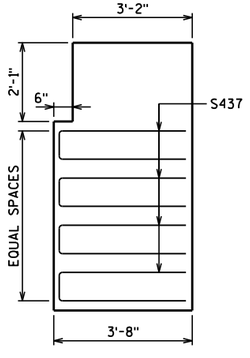
DIAPHRAGM AT ABUTMENT

◑ FIELD CUT S610 AT CONSTRUCTION JOINT AND USE #6 BAR COUPLER



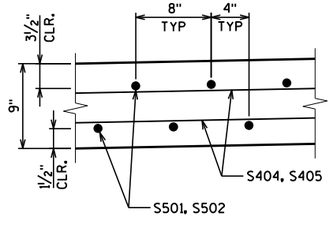
ISOMETRIC VIEW - DIAPHRAGM END

BARRIERS NOT SHOWN FOR CLARITY



DIAPHRAGM END VIEW

WEST END ONLY, BOTH DIAPHRAGMS



SECTION S-S

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-632

DRAWN BY BRE | PLANS CK'D. KRO

SUPERSTRUCTURE CROSS SECTION

SHEET 15 OF 21

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STATE PROJECT NUMBER
1133-03-77

BILL OF BARS

	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
☆	S501	X	455	30'-4"		SLAB TOP & BOT. TRANSVERSE
☆	S502	X	455	49'-6"		SLAB TOP & BOT. TRANSVERSE
	S403	X	444	5'-2"	X	SLAB TOP AT DECK OVERHANG
	S404	X	717	40'-0"		SLAB TOP & BOT. LONGITUDINAL
	S405	X	239	36'-6"		SLAB TOP & BOT. LONGITUDINAL
☆	S606	X	9	29'-0"		ABUTMENT DIAPH. HORIZONTAL B.F., S.E.
☆	S607	X	9	49'-6"		ABUTMENT DIAPH. HORIZONTAL B.F., S.W.
☆	S608	X	9	30'-4"		ABUTMENT DIAPH. HORIZONTAL B.F., N.E.
☆	S609	X	9	48'-5"		ABUTMENT DIAPH. HORIZONTAL B.F., N.W.
◑	S610	X	216	4'-8"		ABUTMENT DIAPH. HORIZONTAL F.F.
	S511	X	152	16'-11"	X	ABUTMENT DIAPH. STIRRUPS
	S512	X	40	14'-11"	X	ABUTMENT DIAPH. STIRRUPS
	S413	X	36	3'-11"		ABUT. DIAPH. HORIZONTAL, BEAM SEATS
	S414	X	90	3'-5"	X	ABUT. DIAPH. VERTICAL BEAM SEATS
	S515	X	116	6'-5"	X	ABUTMENT DIAPH. VERTICAL TOP
	S616	X	5	8'-10"	X	ABUTMENT DIAPH. HORIZONTAL END, S.W.
	S617	X	5	8'-6"	X	ABUTMENT DIAPH. HORIZONTAL ENDS, S.E.
	S618	X	5	8'-10"	X	ABUTMENT DIAPH. HORIZONTAL ENDS, N.E.
	S619	X	5	8'-6"	X	ABUTMENT DIAPH. HORIZONTAL ENDS, N.W.
	S620	X	1	7'-0"	X	ABUTMENT DIAPH. HORIZ. ENDS BOTTOM, S.W.
	S621	X	1	6'-10"	X	ABUTMENT DIAPH. HORIZ. ENDS BOTTOM, S.E.
	S622	X	1	7'-4"	X	ABUTMENT DIAPH. HORIZ. ENDS BOTTOM, N.E.
	S623	X	1	6'-11"	X	ABUTMENT DIAPH. HORIZ. ENDS BOTTOM, N.W.
	S524	X	40	6'-0"		ABUTMENT DIAPH. HORIZ. THRU GIRDERS
	S525	X	2	19'-7"	X	ABUTMENT DIAPH. STIRRUPS, S.W. END
	S526	X	2	19'-3"	X	ABUTMENT DIAPH. STIRRUPS, N.W. END
	S527	X	227	4'-2"	X	WEST PARAPET VERTICAL
	S528	X	231	4'-10"	X	WEST PARAPET VERTICAL
	S529	X	25	33'-1"		WEST PARAPET HORIZONTAL
	S530	X	72	3'-3"	X	EAST PARAPET VERTICAL
	S431	X	12	8'-0"	X	EAST PARAPET VERTICAL
	S532	X	8	5'-0"		EAST EDGE OF DECK, EACH END
	S533	X	18	52'-6"		EAST PARAPET, HORIZONTAL F.F.
	S534	X	2	16'-7"	X	ABUTMENT DIAPH. STIRRUPS SE
	S535	X	2	17'-3"	X	ABUTMENT DIAPH. STIRRUPS NE
	S536	X	4	4'-7"	X	WEST PARAPET ENDS, VERTICAL
	S437	X	8	6'-7"	X	ABUTMENT DIAPH. WEST END

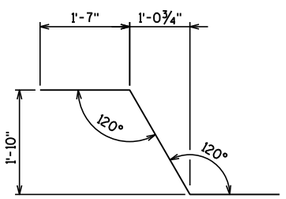
☆ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.

◑ FIELD CUT S610 AT CONSTRUCTION JOINT AND USE #6 BAR COUPLER

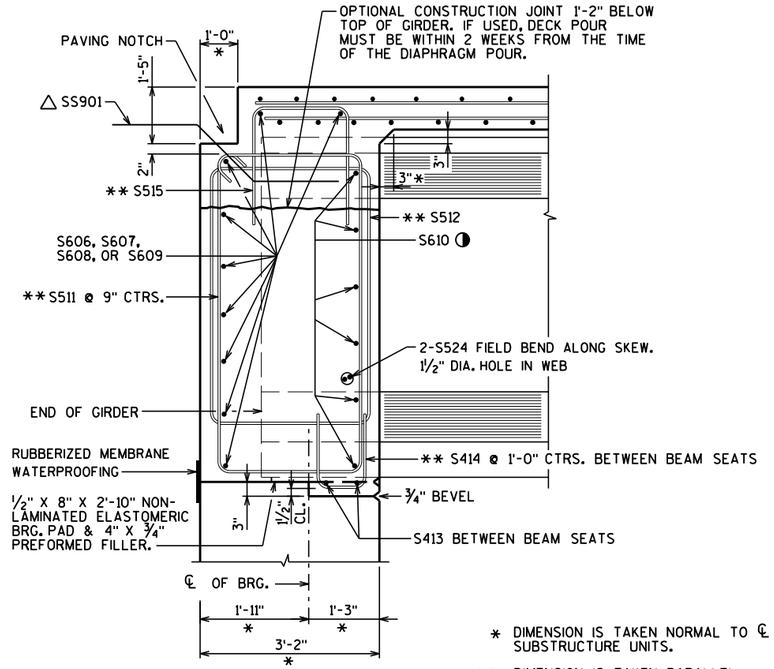
STAINLESS STEEL BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
SS901		154	5'-0"	X	CONC. DIAPH. @ ABUTS. TO APPROACH APRON

△ SPACE SS901 BARS @ 1'-0", TO MISS GIRDER WEBS. SEE SHEET 17 FOR ADDITIONAL PLACEMENT INFORMATION



SS901

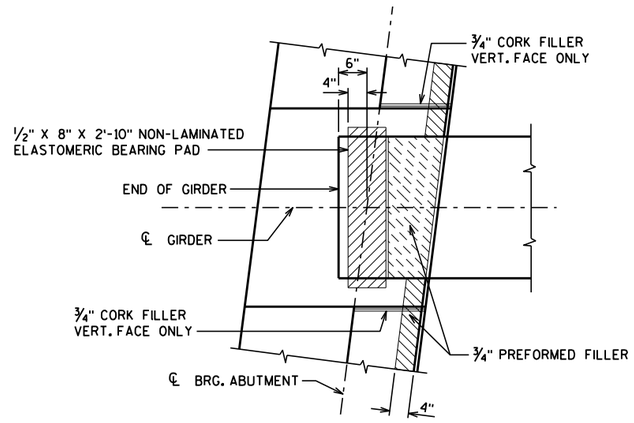


AT ABUTMENTS

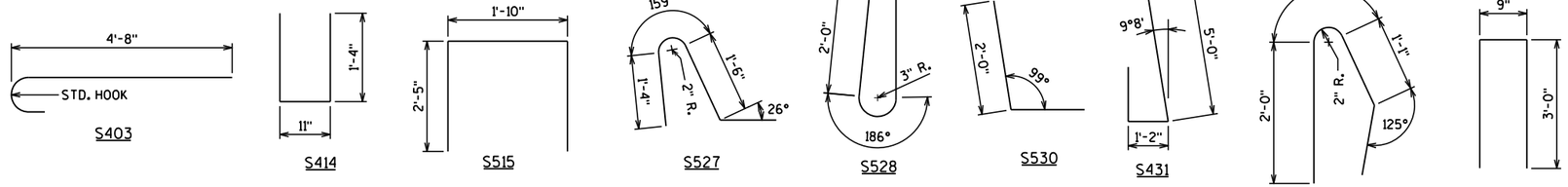
PART LONGIT. SECTION

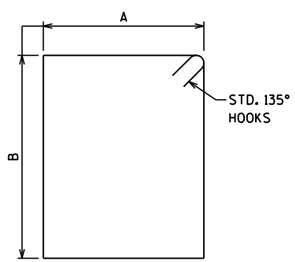
* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

** DIMENSION IS TAKEN PARALLEL TO ℄ GIRDER.



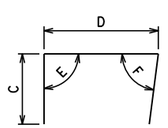
BEARING PAD DETAIL





S511, S512, S525, S526, S534, S535

BAR MARK	DIM "A"	DIM "B"
S511	2'-10"	5'-4"
S512	2'-10"	4'-4"
S525	2'-11"	6'-7"
S526	2'-9"	6'-7"
S534	2'-8"	5'-4"
S535	3'-0"	5'-4"



BAR MARK	DIM "C"	DIM "D"	ANGLE "E"	ANGLE "F"
S616	3'-1"	3'-0"	90°	83°
S617	3'-1"	2'-8"	97°	86°
S618	3'-1"	3'-0"	90°	83°
S619	3'-1"	2'-8"	97°	85°
S620	2'-2"	3'-0"	90°	83°
S621	2'-3"	2'-8"	97°	86°
S622	2'-3"	3'-0"	90°	83°
S623	2'-2"	2'-8"	97°	85°

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-632

DRAWN BY BRE | PLANS CK'D. KRO

SUPERSTRUCTURE DETAILS

SHEET 16 OF 21

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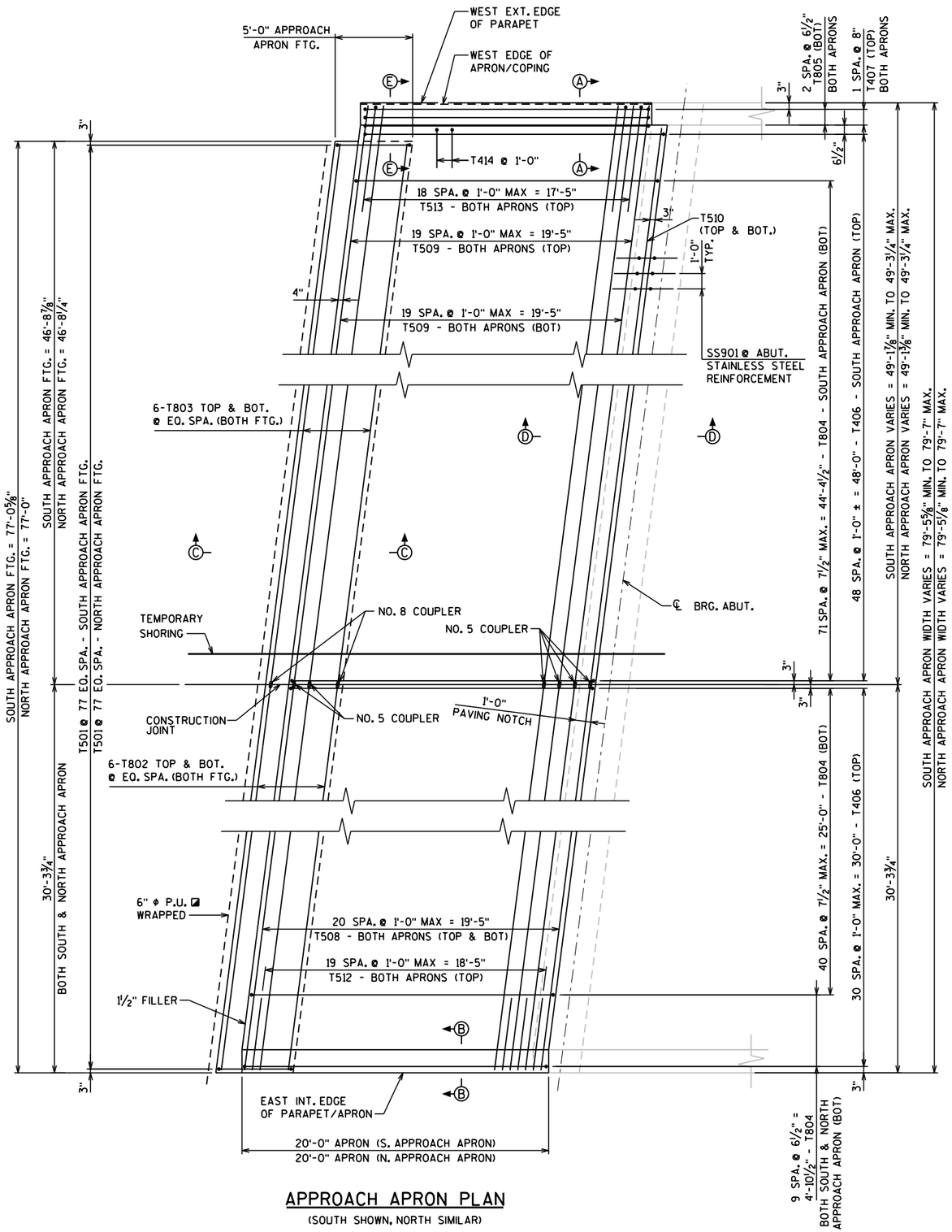


APPROACH APRON PLAN

(SOUTH SHOWN, NORTH SIMILAR)

NOTES:

◪ PIPE UNDERDRAIN WRAPPED 6-INCH AT APPROACH APRON, LOCATED ONLY ON UPHILL SIDE OF APRON FOOTING. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.

◑ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.

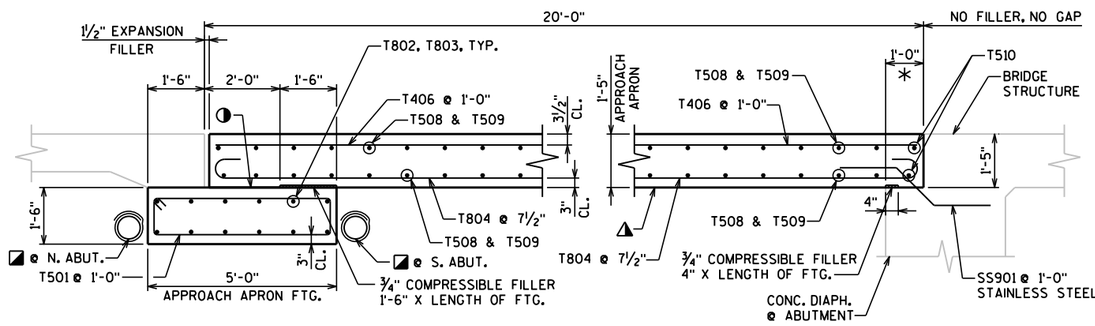
◭ PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.

✳ PAVING NOTCH MEASURED NORMAL TO ABUTMENT

STATE PROJECT NUMBER
1133-03-77

DESIGN DATA:

ALLOWABLE SOIL BEARING PRESSURE:	2,000 P.S.F.
CONCRETE STRENGTH f'c:	4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60, fy:	60,000 P.S.I.

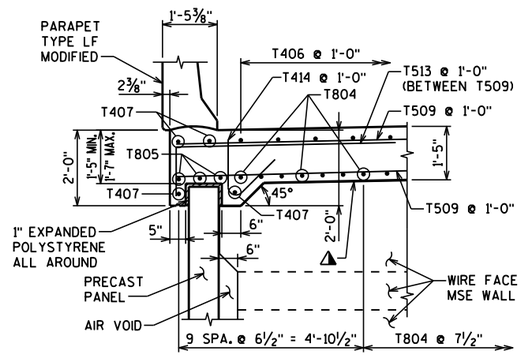


SECTION C-C

SECTION D-D

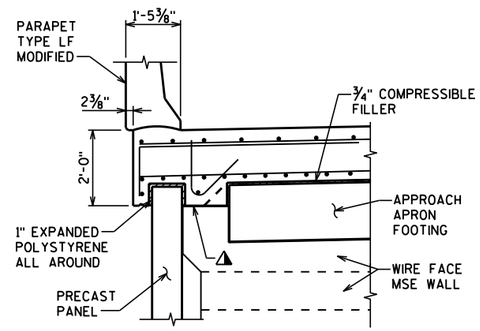
TRANSVERSE SECTION THRU APPROACH APRON

(SOUTH APRON SHOWN, NORTH APRON SIMILAR)



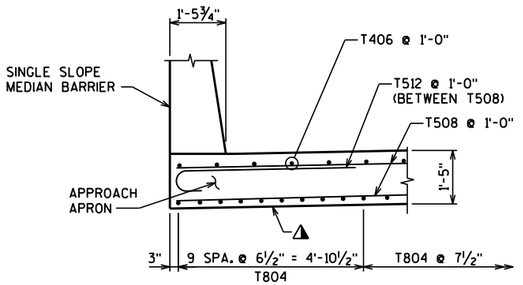
SECTION A-A

(AT MSE WINGWALLS)



SECTION E-E

(AT MSE WINGWALLS)



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-632

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APPROACH APRON

SHEET 17 OF 21

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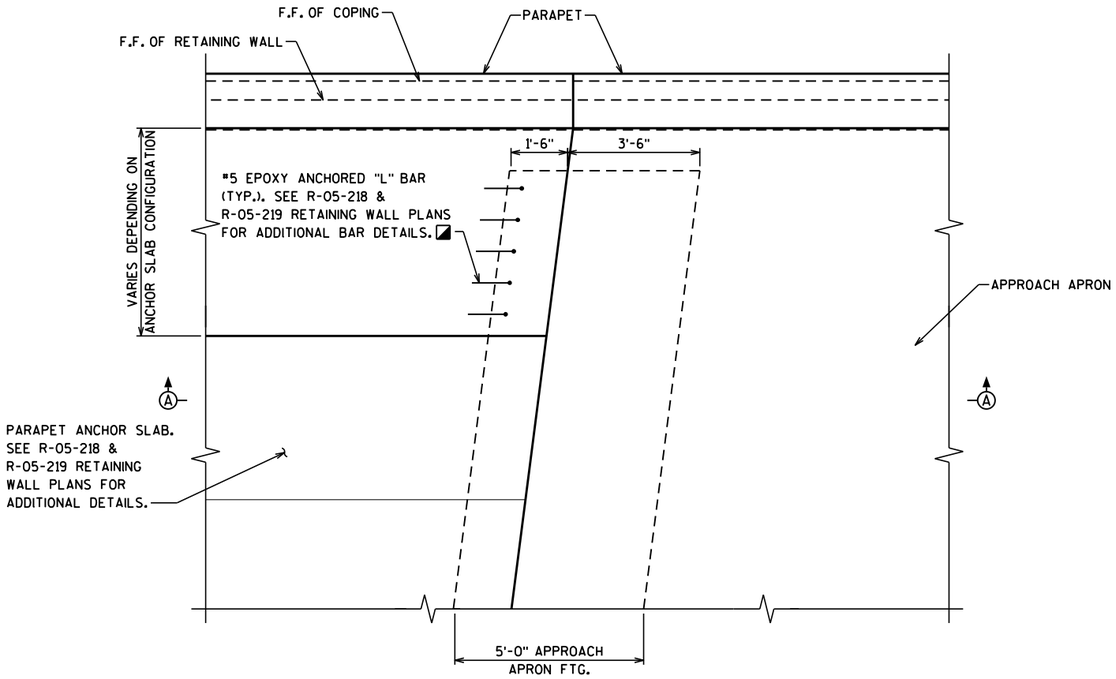
STATE PROJECT NUMBER
1133-03-77

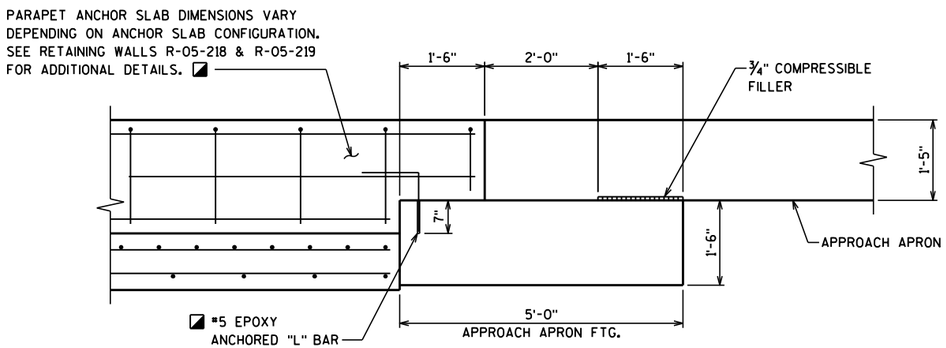


PLAN AT APPROACH APRON INTERFACE WITH RETAINING WALL ANCHOR SLAB

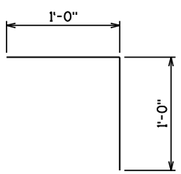
BILL OF BARS

	BAR MARK	COAT	SOUTH APRON	NORTH APRON	LENGTH	BENT	LOCATION
	T501	X	78	78	12'-1"	X	FOOTING - STIRRUPS
*	T802	X	12	12	30'-4"		FOOTING - HORIZONTAL
*	T803	X	12	12	46'-11"		FOOTING - HORIZONTAL
	T804	X	128	128	21'-4"	X	APPROACH APRON - LONGIT. - BOT.
	T805	X	3	3	20'-3"	X	APPROACH APRON - LONGIT. - BOT.
	T406	X	80	80	19'-6"		APPROACH APRON - LONGIT. - TOP
	T407	X	4	4	18'-5"		APPROACH APRON - LONGIT. AT MSE WALL PANEL
*	T508	X	42	42	30'-4"		APPROACH APRON - TRANS. - TOP & BOT.
*	T509	X	40	40	49'-4"		APPROACH APRON - TRANS. - TOP & BOT.
*	T510	X	2	2	48'-3"		APPROACH APRON - TRANS. - TOP & BOT.
	T512	X	20	20	5'-4"	X	APPROACH APRON - TRANS. - TOP
	T513	X	19	19	6'-2"	X	APPROACH APRON - TRANS. - TOP
	T414	X	21	21	3'-0"	X	APPROACH APRON - TIE
	T415	X	12	12	8'-0"	X	EAST PARAPET VERT.
	T516	X	6	6	19'-7"		EAST PARAPET ON APPROACH APRON
	T517	X	8	8	5'-0"		EAST EDGE OF APPROACH APRON
	T518	X	8	8	3'-3"	X	EAST PARAPET VERT.
	T519	X	29	29	4'-2"	X	WEST PARAPET VERTICAL
	T520	X	29	29	4'-10"	X	WEST PARAPET VERTICAL
	T521	X	5	5	18'-6"		WEST PARAPET HORIZONTAL

* COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.

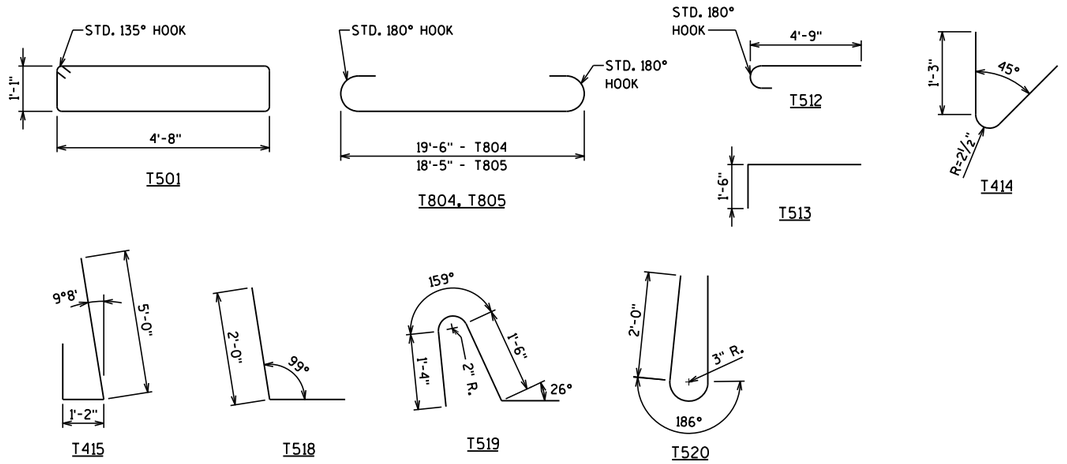


SECTION A-A



#5 EPOXY ANCHORED "L" BAR

SEE R-05-218 & R-05-219 RETAINING WALL PLANS FOR ADDITIONAL DETAILS PAID FOR UNDER RETAINING WALL R-05-218 & R-05-219



BAR BEND DIAGRAMS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-632

DRAWN BY BRE | PLANS CK'D. KRO

APPROACH APRON DETAILS

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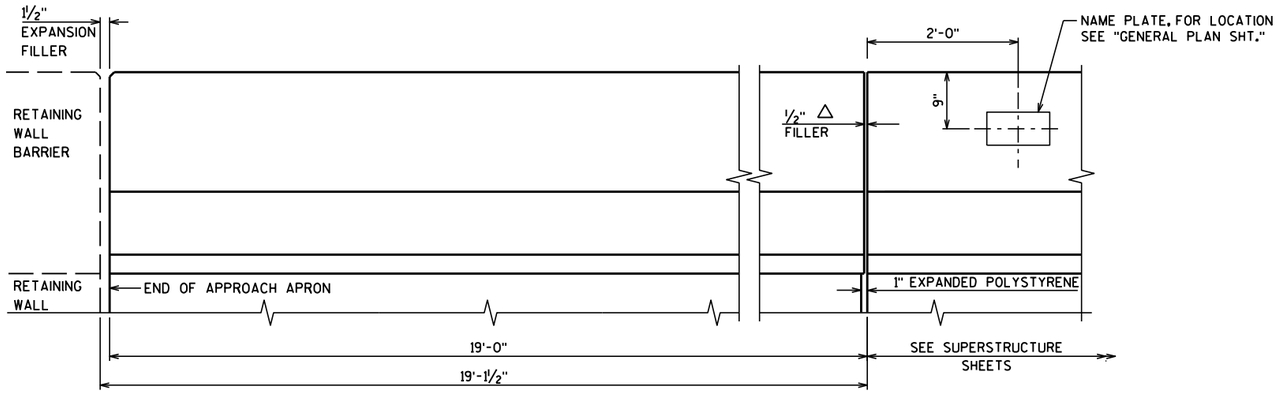
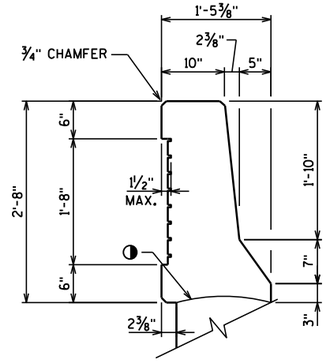
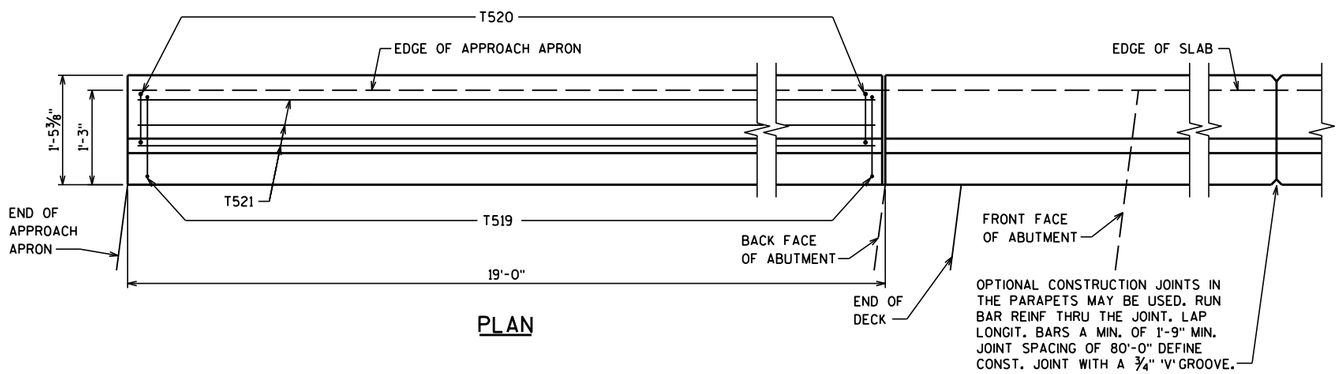
1133-03-77



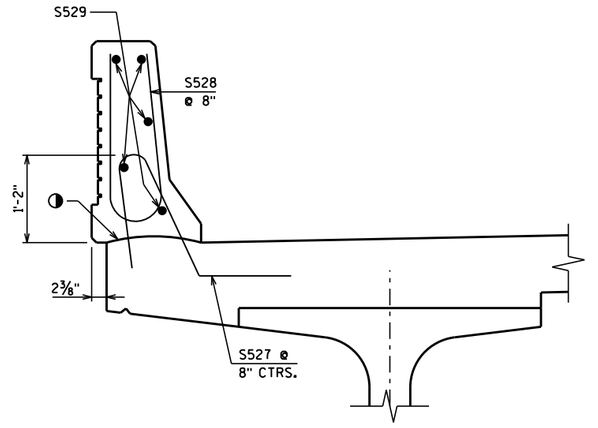
INSIDE ELEVATION



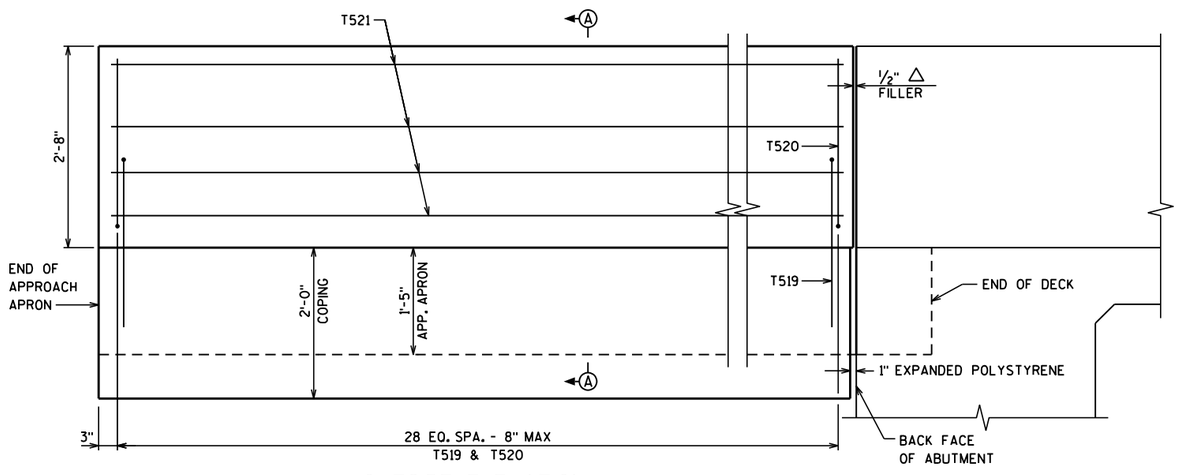
PARAPET DIMENSIONS



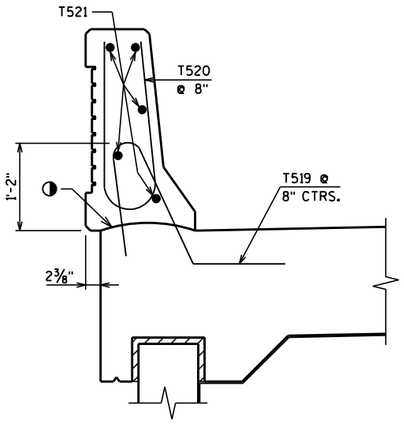
PLAN



SECTION THRU PARAPET ON BRIDGE



OUTSIDE ELEVATION



SECTION A-A

◑ CONST. JOINT - STRIKE OFF AS SHOWN.

SEE SHEET 22 FOR AESTHETIC DETAILS ON PARAPETS.

△ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN ⅛" BELOW SURFACE OF CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-632

DRAWN BY: BRE | PLANS CK'D.: KRO

SLOPED FACE PARAPET TYPE "LF" MODIFIED

SHEET 19 OF 21

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STATE PROJECT NUMBER
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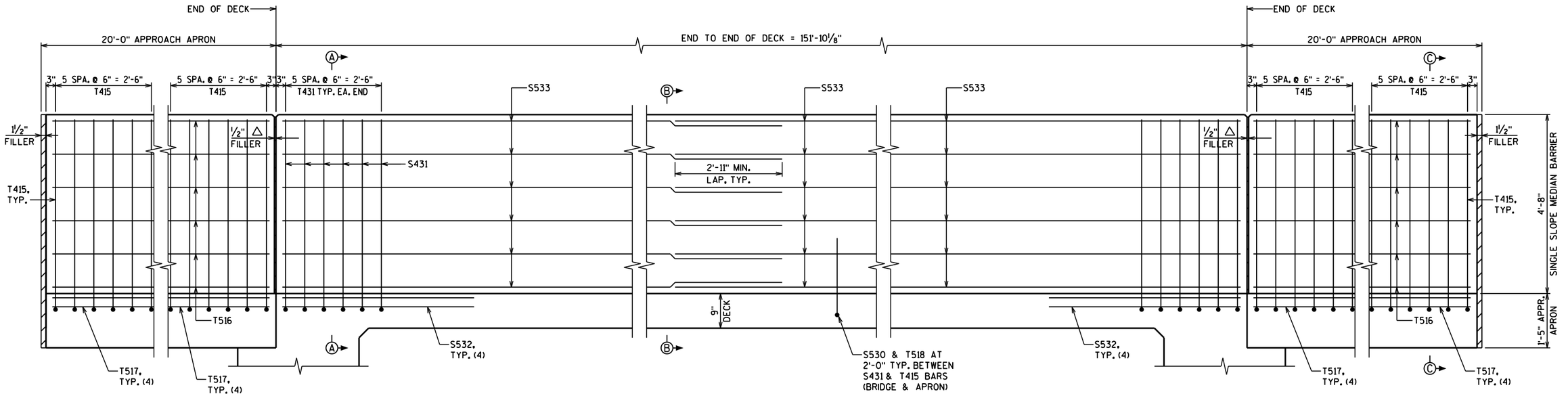
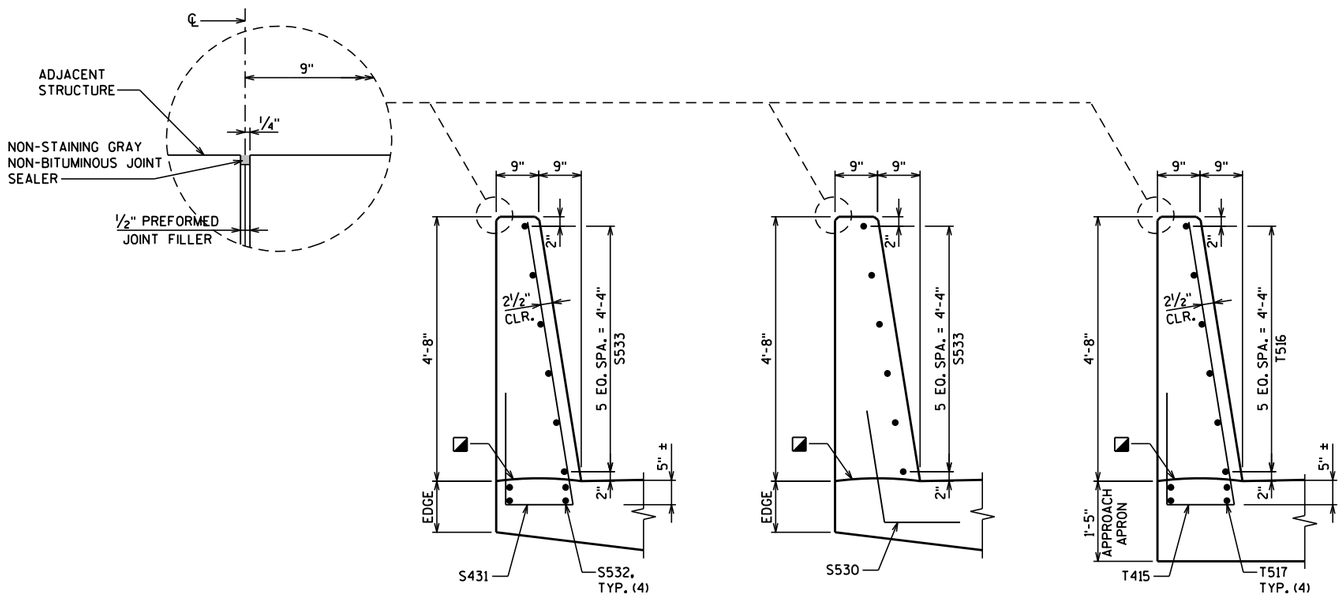


ELEVATION



SECTION A-A
TYPICAL AT ENDS OF BARRIER

SECTION B-B
(BRIDGE & APRONS)

SECTION C-C
(APPROACH APRONS)

△ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN ⅛" BELOW SURFACE OF CONCRETE.

TOP OF BARRIER ELEVATION TABLE

NOTE: SB STATIONING USED IN TABLE

LOCATION	EAST EDGE OF DECK 28'-9" RT.	
	SB STATION	ELEVATION
END OF SOUTH APPROACH APRON	982+18.93	673.21
SOUTH APRON MIDPOINT	982+28.93	673.33
C/L BEARING SOUTH ABUTMENT	982+39.85	673.46
0.1 POINT	982+54.85	673.62
0.2 POINT	982+69.85	673.78
0.3 POINT	982+84.85	673.93
0.4 POINT	982+99.85	674.07
0.5 POINT	983+14.85	674.20
0.6 POINT	983+29.85	674.32
0.7 POINT	983+44.85	674.44
0.8 POINT	983+59.85	674.54
0.9 POINT	983+74.85	674.64
C/L BEARING NORTH ABUTMENT	983+89.85	674.73
NORTH APRON MIDPOINT	984+00.77	674.79
END OF NORTH APPROACH APRON	984+10.77	674.84

NOTES:

OPTIONAL VERTICAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINFORCEMENT THRU THE JOINT. LAP LONGITUDINAL BARS A MIN. OF 2'-11". MIN. JOINT SPACING OF 80'-0". DEFINE CONSTRUCTION JOINT WITH A ¾" 'V' GROOVE.

◪ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.

TOP OF BARRIER ELEVATIONS ARE CALCULATED FROM PROFILE GRADE LINES. IF GRADE LINE ELEVATIONS VARY FROM PLAN THE BARRIER ELEVATIONS SHALL BE ADJUSTED ACCORDINGLY. TOP OF BARRIER SHOULD MATCH THE TOP OF BARRIER OF THE ADJACENT STRUCTURE (B-05-633), WHILE MAINTAINING THE MINIMUM BARRIER HEIGHT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-632

DRAWN BY BRE | PLANS CK'D. KRO

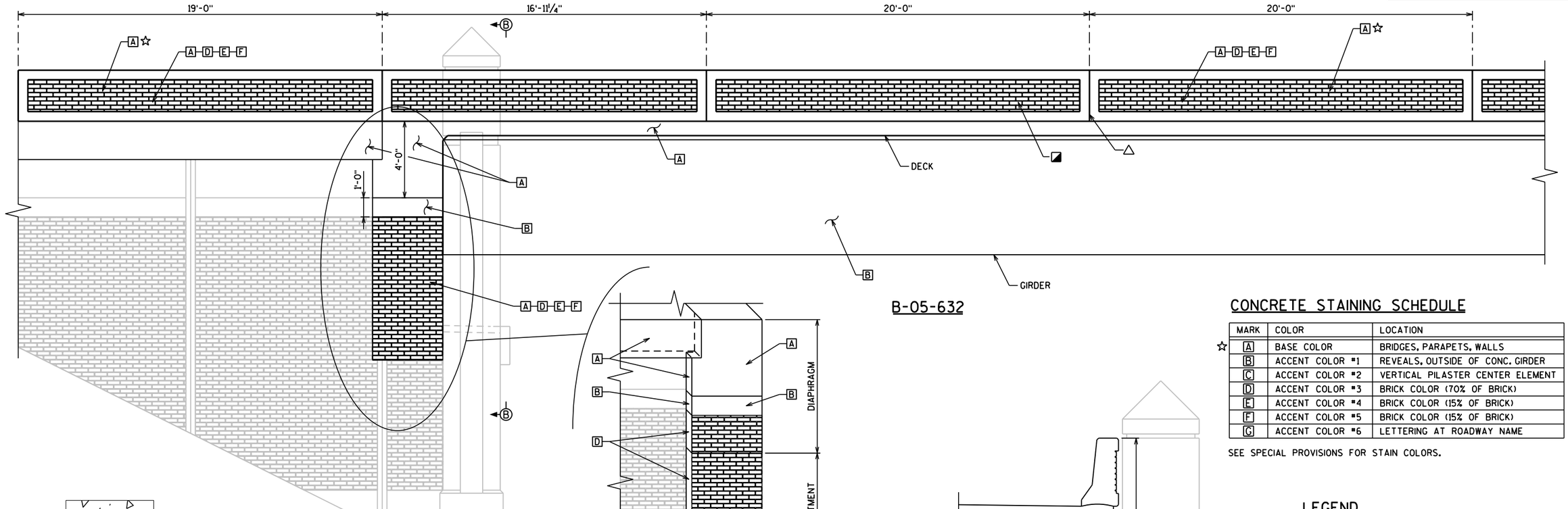
SINGLE SLOPE MEDIAN BARRIER

SHEET 20 OF 21

8

8

STATE PROJECT NUMBER
1133-03-77



B-05-632

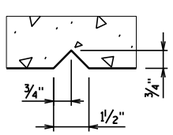
CONCRETE STAINING SCHEDULE

	MARK	COLOR	LOCATION
☆	A	BASE COLOR	BRIDGES, PARAPETS, WALLS
	B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER
	C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT
	D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
	E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
	F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
	G	ACCENT COLOR #6	LETTERING AT ROADWAY NAME

SEE SPECIAL PROVISIONS FOR STAIN COLORS.

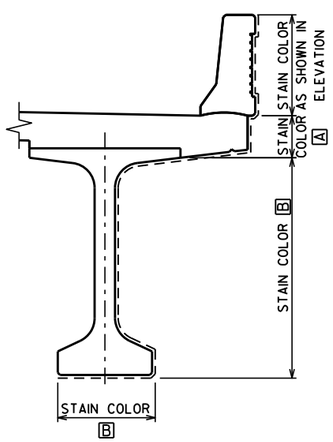
LEGEND

- ◪ RECESSED PANEL WITH IMPRINTED BRICK PATTERN (TYP.)
- △ ¾" "V" GROOVE (TYP.)
- ☆ STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".
- ◑ SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE)

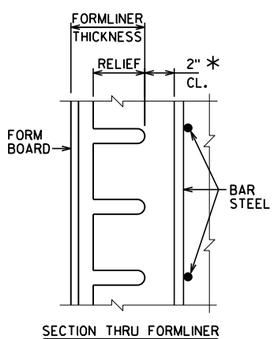


SECTION A-A

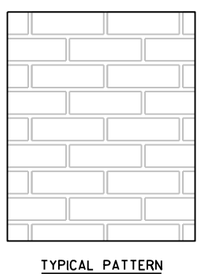
¾" "V" GROOVE



OUTSIDE GIRDER



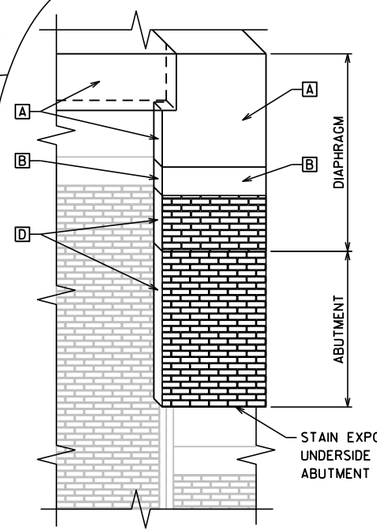
SECTION THRU FORMLINER



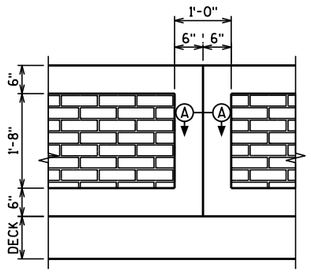
TYPICAL PATTERN

ARCHITECTURAL SURFACE TREATMENT
RECTANGULAR BRICK

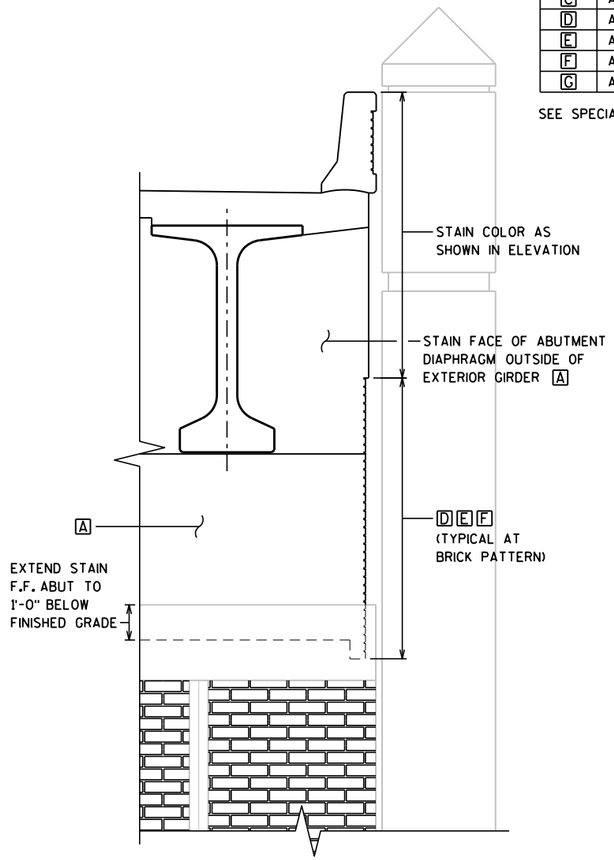
REFER TO SPECIAL PROVISIONS FOR DISCRIPTION OF BRICK PATTERN.



ABUTMENT PROJECTION



TYPICAL PARAPET DIMENSIONS



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-632

DRAWN BY BRE | PLANS CK'D. KRO

AESTHETIC DETAILS

SHEET 21 OF 21

8

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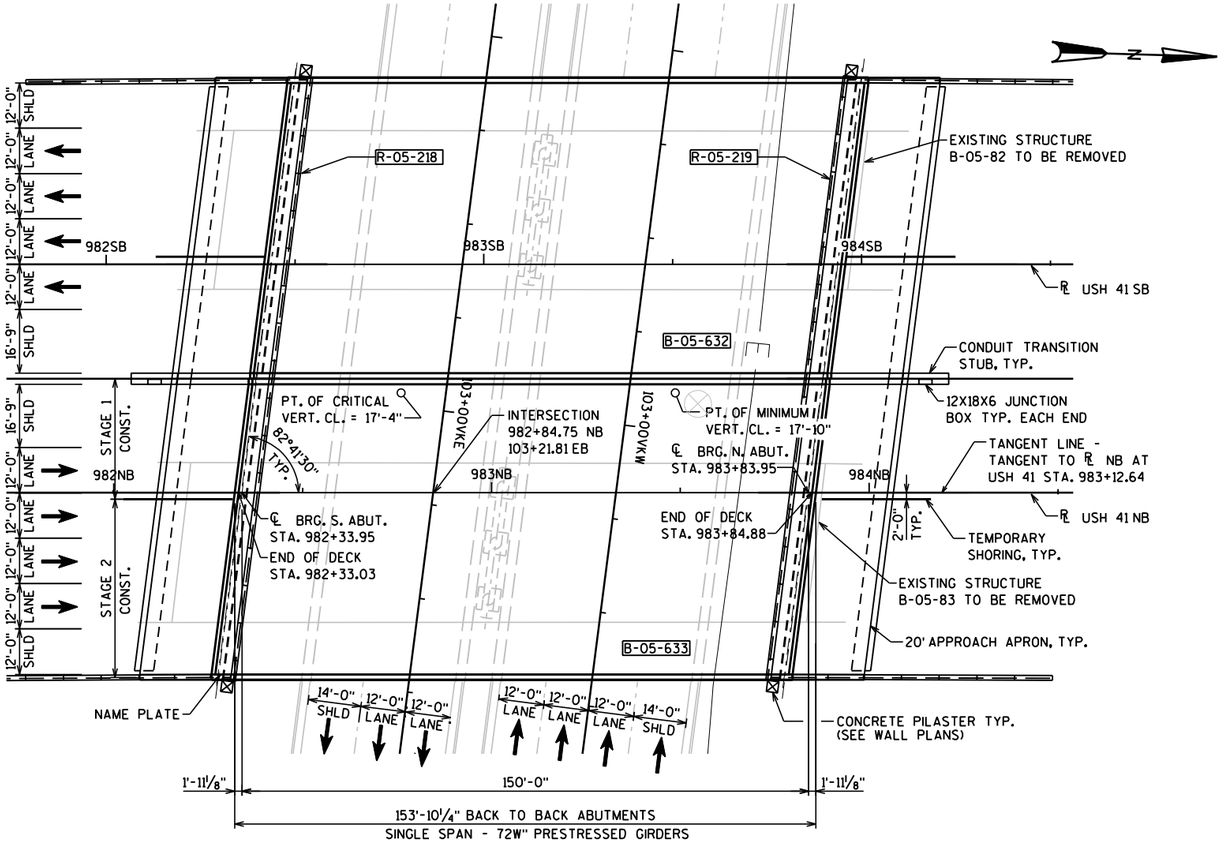
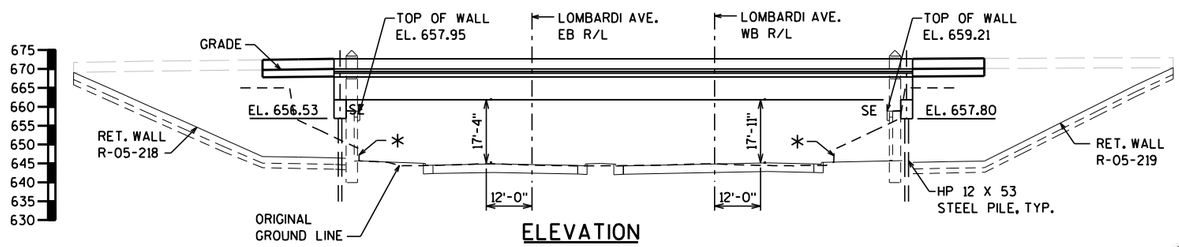


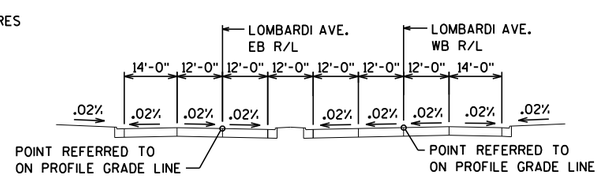
PLAN



ELEVATION

(LOOKING WEST)

* REMOVAL OF SOIL NAILING SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES



TYPICAL SECTION THRU LOMBARDI AVENUE

(LOOKING WEST)

WISCONSIN
KRISTOFER R. OLSON
E-35236
APPLETON, WI
PROFESSIONAL ENGINEER

4-4-2013

DESIGN DATA

LIVE LOAD:

DESIGN LOADING	HL-93
INVENTORY RATING FACTOR	RF = 1.24
OPERATING RATING FACTOR	RF = 1.61
WISCONSIN STANDARD PERMIT VEHICLE	250 (KIPS)

STRUCTURE IS DESIGNED FOR A 1½" SACRIFICIAL WEARING SURFACE PLACED AT INITIAL CONSTRUCTION INTEGRAL WITH THE DECK. THE DESIGN DOES NOT PROVIDE FOR ADDITIONAL LOADS DUE TO A FUTURE WEARING SURFACE.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY (HPC)	f'c = 4,000 P.S.I.
72W" PRESTRESSED	
GIRDERS CONCRETE MASONRY	f'c = 8,000 P.S.I.
HIGH STRENGTH BAR STEEL	
REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.
PRESTRESSED STRANDS - 0.6" DIA.	
WITH ULTIMATE TENSILE STRENGTH	fy = 270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 12 X 53 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION.
ESTIMATED 90 FEET LONG AT SOUTH ABUTMENT.
ESTIMATED 85 FEET LONG AT NORTH ABUTMENT.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

EXISTING NORTH ABUTMENT PILING SHALL BE CUT-OFF AT THE BOTTOM OF WALL ELEVATION FOR R-05-219. THIS WORK TO BE INCLUDED IN THE "REMOVING OLD STRUCTURE" BID ITEM.

TRAFFIC VOLUME

USH 41	LOMBARDI AVE.
A.D.T. 100,400 (2035)	A.D.T. 33,700 (2035)
R.D.S.= 70 M.P.H.	R.D.S.= 40 M.P.H.

CURVE DATA

NB USH 41

P.I. = STA 987+66.54
△ = 6°04'20"
T = 1213.98
L = 2425.69
R = 22,888.06
S.E.= NC
P.C.= STA 975NB+52.56
P.T.= STA 999NB+78.25

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. STAGING DETAILS
4. SUBSURFACE EXPLORATION
5. TEMPORARY SHORING
6. SOUTH ABUTMENT
7. SOUTH ABUTMENT DETAILS
8. NORTH ABUTMENT
9. NORTH ABUTMENT DETAILS
10. FALL PROTECTION
11. 72W" PRESTRESSED GIRDER
12. 72W" PRESTRESSED GIRDER DETAILS
13. 72W" STEEL DIAPHRAGMS
14. SUPERSTRUCTURE REINFORCEMENT
15. SUPERSTRUCTURE CROSS SECTION
16. SUPERSTRUCTURE DETAILS
17. APPROACH APRON
18. APPROACH APRON DETAILS
19. LF PARAPET
20. BARRIER TYPE S56
21. CONDUIT TRANSITION STUB
22. AESTHETIC DETAILS

CONSULTANT CONTACT

KRISTOFER OLSON
OMNNI ASSOCIATES, INC.
(920) 735-6900

BRIDGE OFFICE CONTACT

WILLIAM DREHER
(608) 266-8489

STATE PROJECT NUMBER
1133-03-77

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/19/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-05-633

USH 41 NB OVER LOMBARDI AVENUE

COUNTY: BROWN	VILLAGE: ASHWAUBENON
DESIGN SPEC.: AASHTO LRFD DESIGN SPEC. 5th EDITION	LOAD: HL-93
DESIGNED BY: KRO / DESIGN CK'D.: JAW / DRAWN BY: BRE / PLANS CK'D.: KRO	

GENERAL PLAN

SHEET 1 OF 22

8

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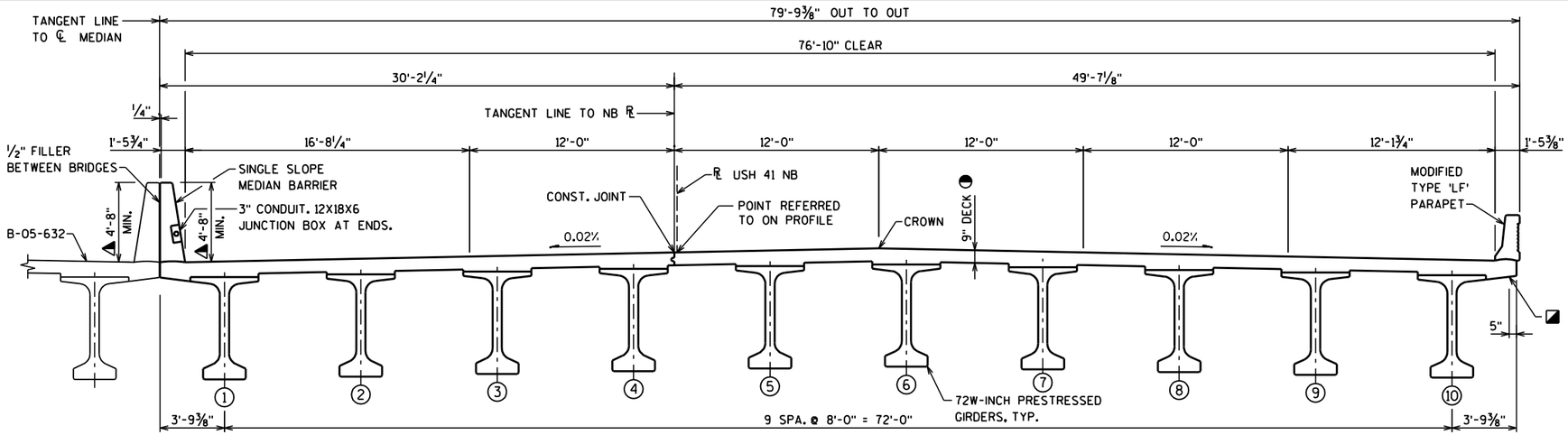


CROSS SECTION
(LOOKING NORTH)

BENCH MARKS

NO.	DESCRIPTION	ELEV.
529	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE SOUTHWEST QUADRANT OF SANTA BARBARA DR. & EMINENCE ST. 35' WEST OF THE SANTA BARBARA DR. AND 25' NORTH OF PRIVATE ENTRANCE 1351.	646.43
530	CHISELED "X" ON A FIRE HYDRANT BURY BOLT ON THE WEST SIDE OF HILLTOP RD. 155' NORTH OF THE INTERSECTION OF MORRIS AVE. & HILLTOP DR. 35' FEET WEST OF THE CENTERLINE OF HILLTOP DR.	644.33
551	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE NORTHWEST QUADRANT OF MORRIS AVE & ARGONNE ST. 40' NORTH OF MORRIS AVE. & 60' WEST OF ARGONNE ST.	640.59

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	SUPER.	SOUTH ABUT.	NORTH ABUT.	APPROACH APRONS	TOTALS
203.0200.719	REMOVING OLD STRUCTURE STA 983+00	LS	-----	-----	-----	-----	1
203.0225.S.719	DEBRIS CONTAINMENT STRUCTURE B-5-83	LS	-----	-----	-----	-----	1
206.1000.719	EXCAVATION FOR STRUCTURES, BRIDGES B-5-633	LS	-----	-----	-----	-----	1
206.6000.S	TEMPORARY SHORING	SF	-----	1,580	1,770	-----	3,350
210.0100	BACKFILL STRUCTURE	CY	-----	404	410	-----	814
502.3200	PROTECTIVE SURFACE TREATMENT	SY	1,451	-----	-----	381	1,832
502.6110	MASONRY ANCHORS TYPE S 3/4-INCH	EA	-----	5	5	-----	10
503.0172	PRESTRESSED GIRDER TYPE I 72W-INCH	LF	1,510	-----	-----	-----	1,510
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	77,530	3,900	3,910	33,540	118,880
505.0904	BAR COUPLERS NO. 4	EA	-----	4	4	-----	8
505.0905	BAR COUPLERS NO. 5	EA	455	-----	-----	84	539
505.0906	BAR COUPLERS NO. 6	EA	30	14	14	-----	58
505.0908	BAR COUPLERS NO. 8	EA	-----	-----	-----	24	24
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	20	-----	-----	-----	20
506.4000.719	STEEL DIAPHRAGMS B-05-633	EACH	18	-----	-----	-----	18
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-----	19	19	-----	39
550.0500	PILE POINTS	EA	-----	16	16	-----	32
550.1120	PILING STEEL DELIVERED AND DRIVEN HP 12-INCH X 53 LB	LF	-----	1,440	1,360	-----	2,800
604.0400	SLOPE PAVING CONCRETE	SY	-----	20	20	-----	40
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	-----	90	90	-----	180
652.0135	CONDUIT RIGID METALLIC 3-INCH	LF	10	-----	-----	80	90
652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	LF	142	-----	-----	-----	142
653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	-----	-----	-----	2	2
SPV.0035.700	HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES	CY	556	51	51	218	876
SPV.0085.700	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	2,620	-----	-----	-----	2,620
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	244	28	28	60	359
SPV.0165.501	STAINING CONCRETE	SF	2,351	23	23	186	2,583
SPV.0165.502	STAINING CONCRETE BRICK	SF	244	28	28	60	359
SPV.0165.700	LONGITUDINAL GROOVING BRIDGE DECK	SF	11,210	-----	-----	2,958	14,168
	NON-BID ITEMS						
	FILLER	SIZE	-----	-----	-----	-----	½"&¾"
	CORK FILLER	SIZE	-----	-----	-----	-----	¾"
	EXPANDED POLYSTRENE 1-INCH	SIZE	-----	-----	-----	-----	1"

LEGEND

◪ ¾" V-GROOVE. EXTEND V-GROOVE TO 3" FROM FRONT FACE OF ABUTMENT DIAPHRAGM.

◑ 9" DECK THICKNESS INCLUDES A 1½" SACRIFICIAL WEARING SURFACE PLACED INTEGRAL WITH THE DECK AT INITIAL CONSTRUCTION.

⚠ TOP OF BARRIERS TO BE AT SAME ELEVATION, HOLD AT HIGHER ELEVATION. SEE SHEET 20 FOR MORE ELEVATION INFORMATION.

GENERAL NOTES:

DRAWING SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED. THE TOP LAYER OF BAR STEEL REINFORCEMENT IN THE DECK SHALL BE PLACED WITH 3½" OF CLEAR COVER.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

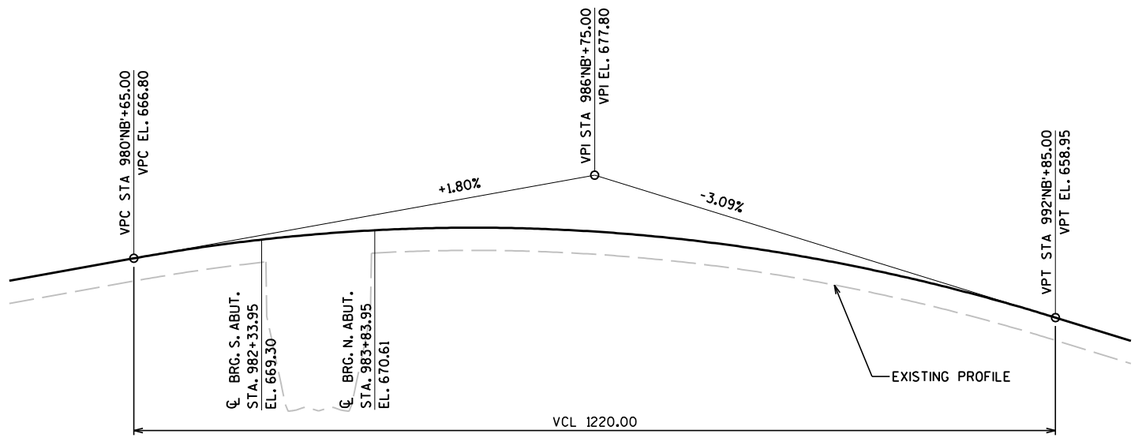
THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE DEPTH OF 3", WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

EXISTING BRIDGE B-05-83 IS A TWO SPAN PRESTRESSED GIRDER BRIDGE WITH AN OVERALL WIDTH OF 43'-10" AND AN OVERALL LENGTH OF 167'-10".

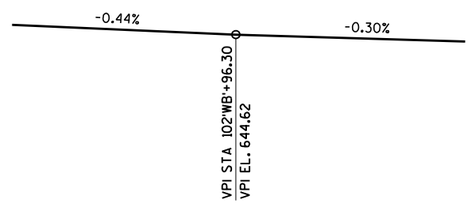
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING CONCRETE TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE FOLLOWING COMPLETED SURFACES: TOP OF DECK SLAB, TOPS OF APPROACH APRONS, TOP AND INSIDE FACES OF MEDIAN BARRIER AND EXTERIOR PARAPETS ON BOTH THE BRIDGE DECK AND APROACH APRONS.

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).



PROFILE GRADE LINE-NORTHBOUND USH 41



PROFILE GRADE LINE-WESTBOUND LOMBARDI AVENUE

STATE PROJECT NUMBER
1133-03-77

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-633

DRAWN BY BRE | PLANS CK'D. KRO

CROSS SECTION, QUANTITIES, & PROFILE

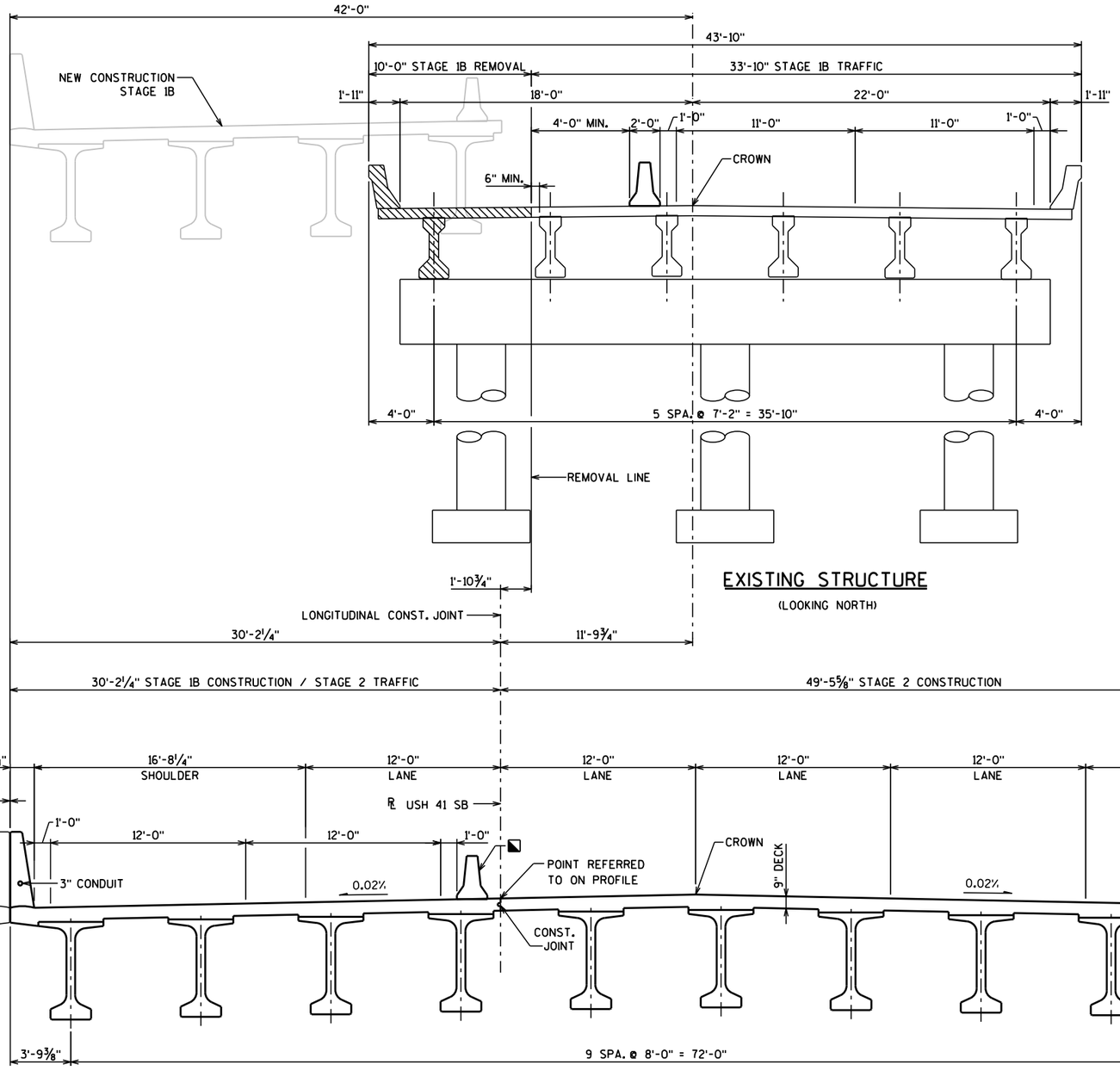
SHEET 2 OF 22

8

8

STATE PROJECT NUMBER

1133-03-77



EXISTING STRUCTURE

(LOOKING NORTH)

CROSS SECTION

(LOOKING NORTH)

◪ TEMPORARY BARRIER ANCHORED TO DECK

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

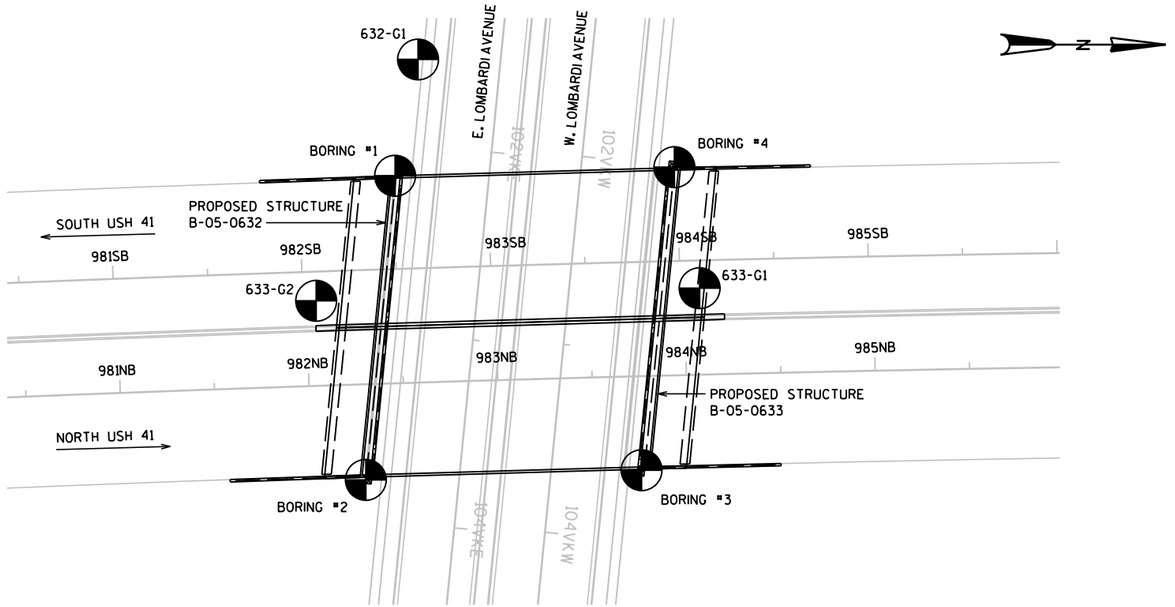
STRUCTURE B-05-633

DRAWN BY BRE | PLANS CK'D. KRO

STAGING DETAILS

SHEET 3 OF 22

STATE PROJECT NUMBER
1133-03-77



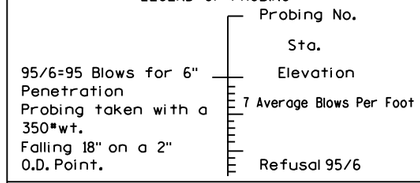
ABBREVIATIONS

F — Fine M — Medium C — Coarse
Ws — Weathered So — Sound

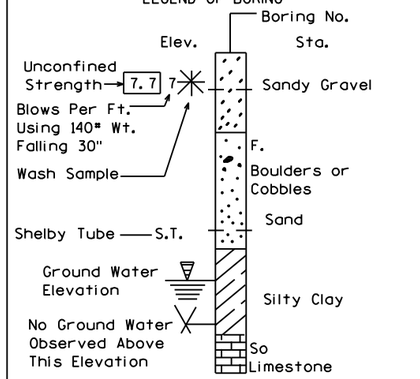
MATERIAL SYMBOLS

Topsoil, Silt, Sandstone
Sand, Peat, Limestone
Gravel, Clay, Igneous Rock

LEGEND OF PROBING



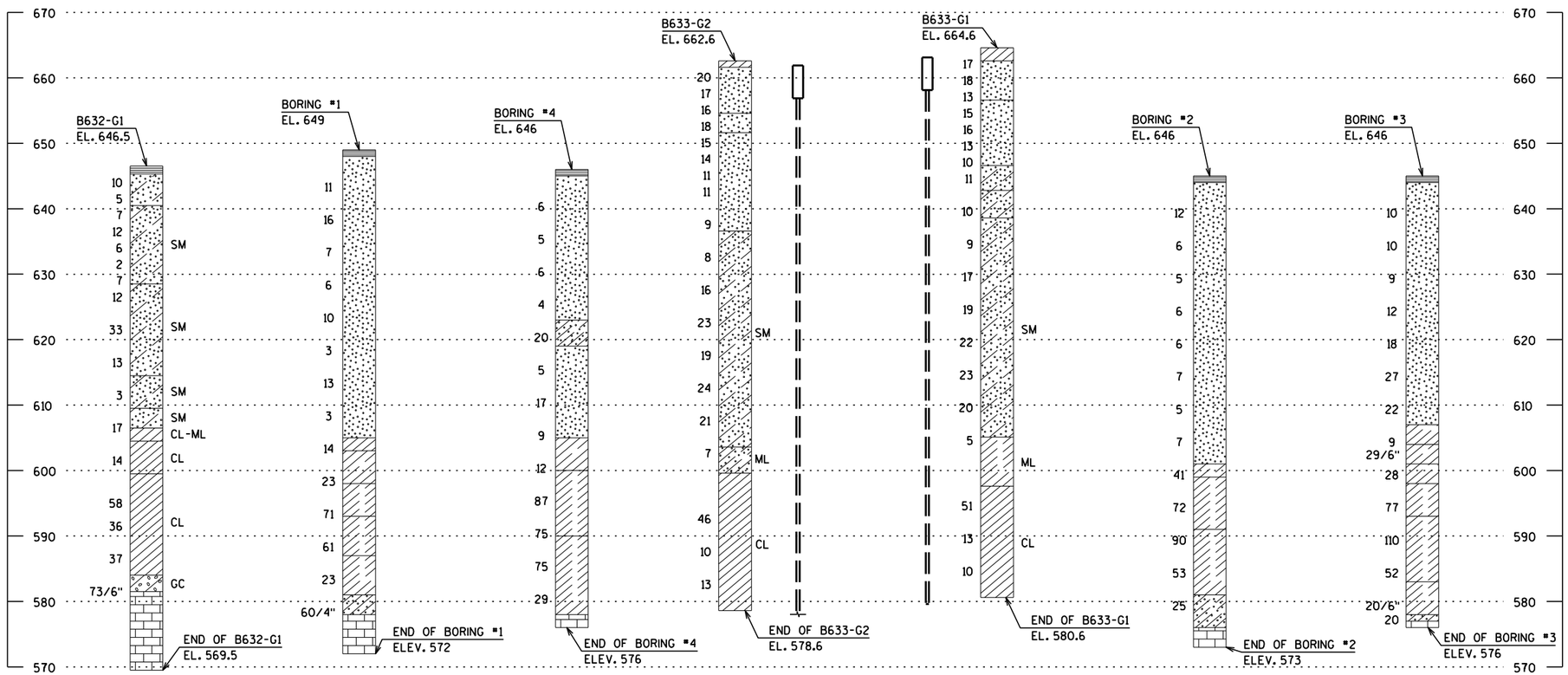
LEGEND OF BORING



Unless otherwise specified, the blows per foot at the locations indicated are based on driving a O.D.x1.4" I.D. split spoon sampler with a 140# hammer having a free fall of 30". The blow count is taken in undisturbed soil immediately below a cased or open hole eliminating side friction on the drive pipe.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

To obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing. The data presented herein represents the findings of the subsurface explorations made. However, because the depths investigated are limited and the area of the borings and/or soundings is very small in relation to the entire area, the Division of Highways does not warrant conditions below the depths investigated or that the classification of material encountered in these investigations is necessarily typical of the entire site.



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-633

DRAWN BY BRE PLANS CK'D. KRO

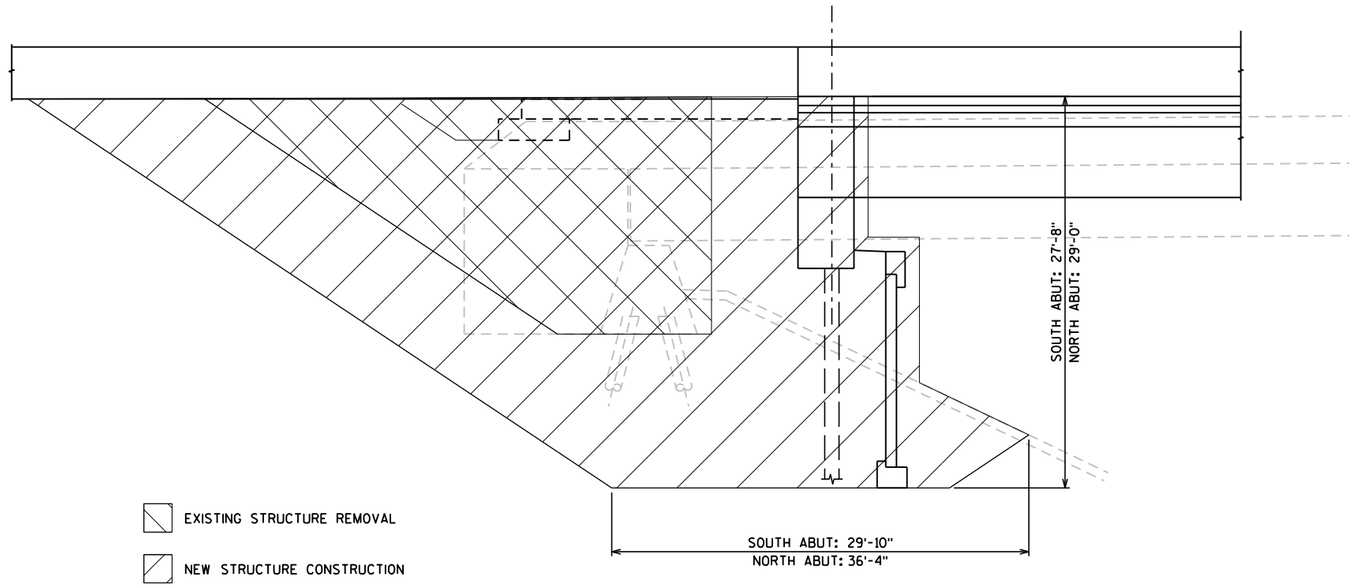
SUBSURFACE EXPLORATION

SHEET 4 OF 22

8

8

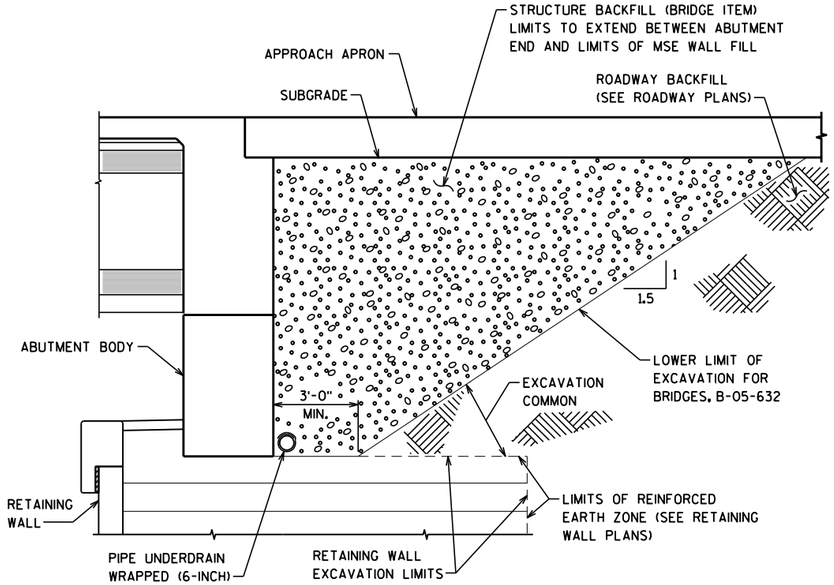
STATE PROJECT NUMBER
1133-03-77



TEMPORARY SHORING TYPICAL ELEVATION

SOUTH ABUTMENT: 1580 SF
NORTH ABUTMENT: 1770 SF

(QUANTITY INCLUDES BOTH EXISTING STRUCTURE REMOVAL AND NEW STRUCTURE CONSTRUCTION.)



BACKFILL / EXCAVATION DETAIL

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-633

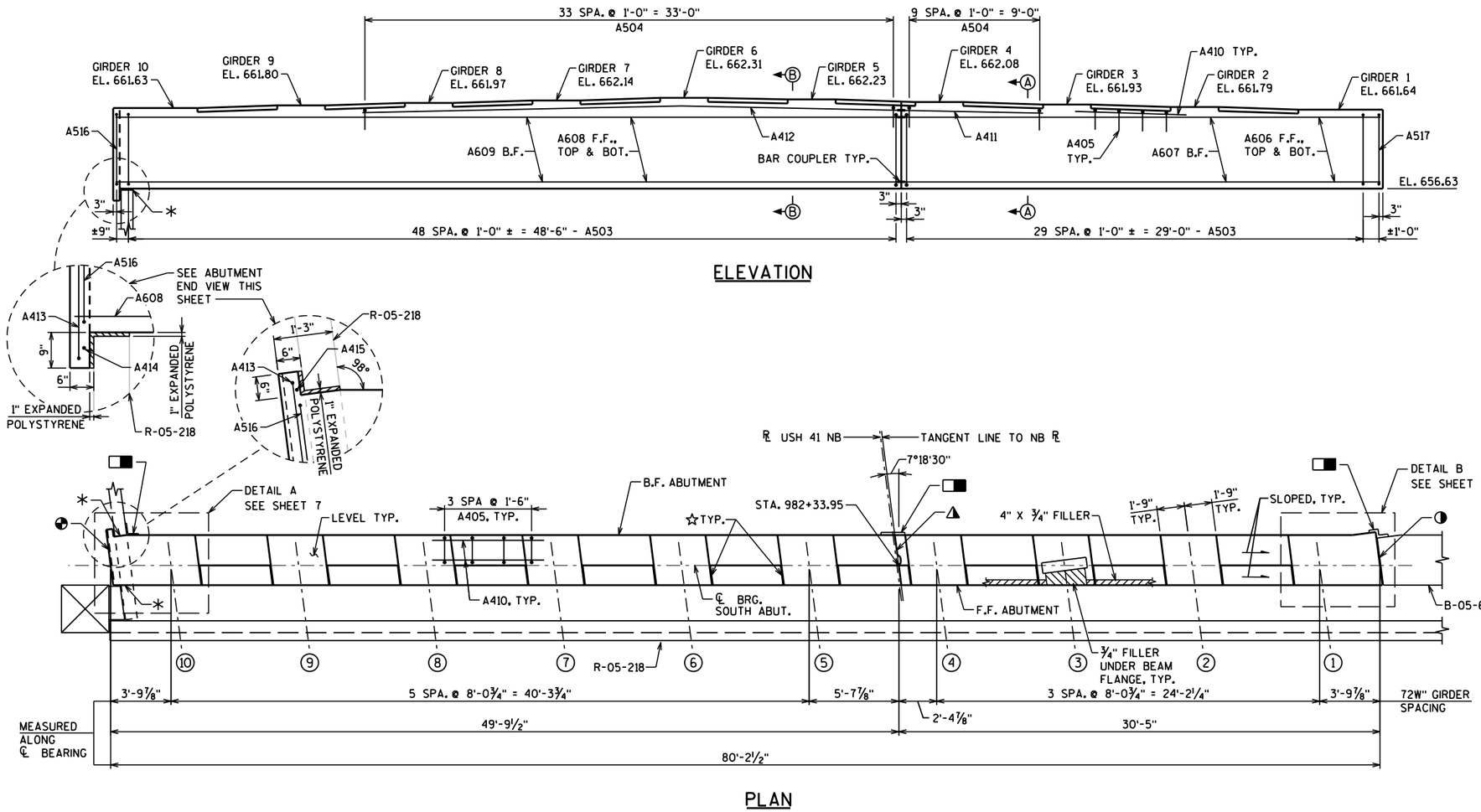
DRAWN BY BRE | PLANS CK'D. KRO

TEMPORARY SHORING

SHEET 5 OF 22

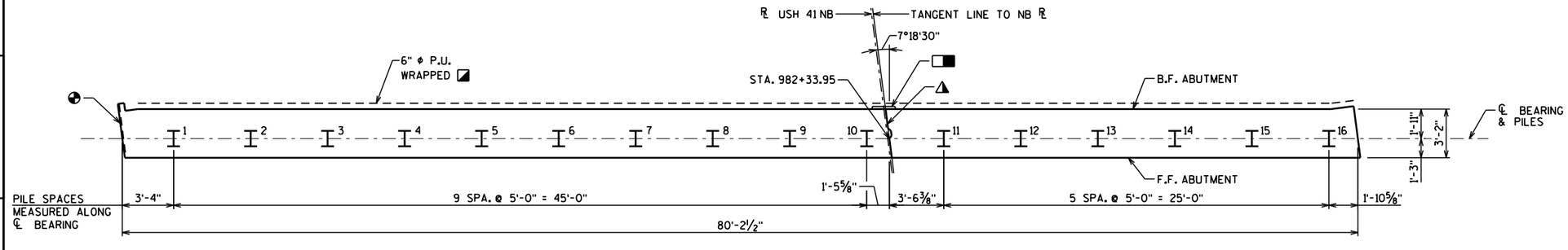
FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Bridges±B-5-633_lombardi nb±B-05-633 05 temp shor.dgn PLOT BY : epleyb PLOT DATE: 11/19/2012 1:20:54 PM

STATE PROJECT NUMBER
1133-03-77



ELEVATION

PLAN



PILE PLAN

LEGEND

- ◑ ½" FILLER NOT INCLUDED IN ABUTMENT LENGTH, SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)
- ▬ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ◭ VERTICAL CONSTRUCTION JOINT KEYWAY FORMED BY A BEVELED 2" X 8" NOTCH. USE ¾" "V" GROOVE JOINT @ THE FRONT FACE OF ABUTMENT.
- ☆ ¾" CORK FILLER ON VERTICAL FACES THAT RUN PARALLEL TO THE GIRDER.
- ✳ 1" EXPANDED POLYSTYRENE FILLER BETWEEN ABUTMENT AND RETAINING WALL.
- ◔ IMPRINTED BRICK PATTERN, SEE SHEET 22.
- ◪ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.

SEE SHEET 7 FOR BILL OF BARS AND BAR BENDING DIAGRAMS.

PILE NOTE

SOUTH ABUTMENT TO BE SUPPORTED ON HP 12 X 53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE. ESTIMATED LENGTH = 90' AT THE SOUTH ABUTMENT. FOR PILE SPLICE DETAILS, SEE SHEET 7.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-633

DRAWN BY BRE | PLANS CK'D. KRO

SOUTH ABUTMENT

SHEET 6 OF 22

8

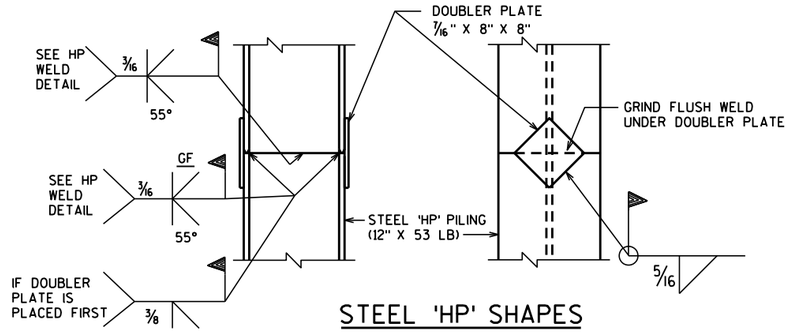
8

STATE PROJECT NUMBER
1133-03-77

BILL OF BARS

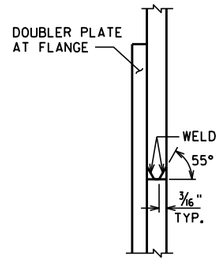
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
A401	X	32	2'-3"		BODY - PILES
A402	X	16	28'-0"	X	BODY - PILES
A503	X	79	14'-11"	X	BODY - STIRRUP
A504	X	44	6'-3"	X	BODY - VERTICAL TOP
A405	X	36	3'-11"	X	BODY - VERTICAL - BTW BEAM SEATS
⬡ A606	X	9	30'-3"		BODY - HORIZONTAL F.F., TOP & BOT.
⬡ A607	X	5	30'-3"	X	BODY - HORIZONTAL B.F.
⬡ A608	X	9	49'-4"		BODY - HORIZONTAL F.F., TOP & BOT.
⬡ A609	X	5	49'-4"	X	BODY - HORIZONTAL B.F.
A410	X	18	6'-7"		BODY - HORIZONTAL - BTW BEAM SEATS
⬡ A411	X	4	9'-3"		BODY - HORIZONTAL TOP
⬡ A412	X	4	33'-3"		BODY - HORIZONTAL TOP
A413	X	8	7'-3"	X	BODY - EAST END OF ABUTMENT
A414	X	1	3'-4"		BODY - HORIZ. EAST END OF ABUTMENT
A415	X	1	5'-5"		BODY - VERT. EAST END OF ABUTMENT
A516	X	1	14'-7"	X	BODY - VERTICAL EAST END OF ABUTMENT
A517	X	1	15'-3"	X	BODY - VERTICAL WEST END OF ABUTMENT

⬡ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.



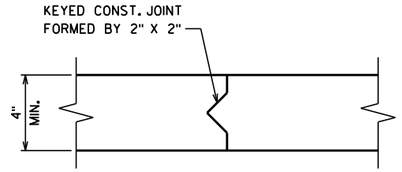
STEEL 'HP' SHAPES

STEEL 'HP' PILE MATERIAL SHALL BE A.S.T.M. DESIGNATION A36.

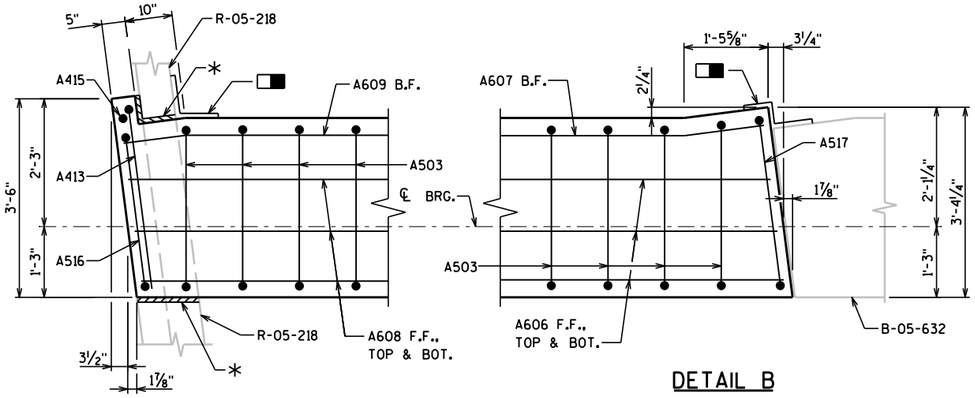


HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

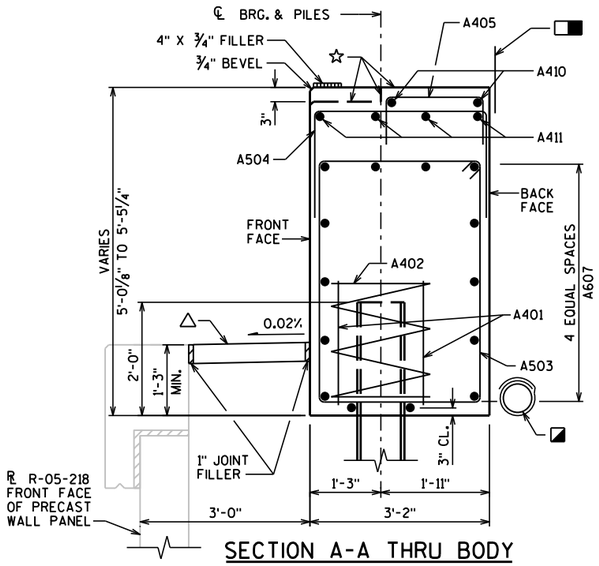


SLOPE PAVING CONSTRUCTION JOINT DETAIL



DETAIL A

DETAIL B

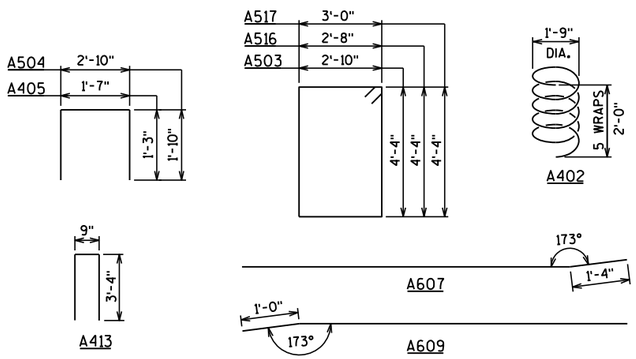


SECTION A-A THRU BODY

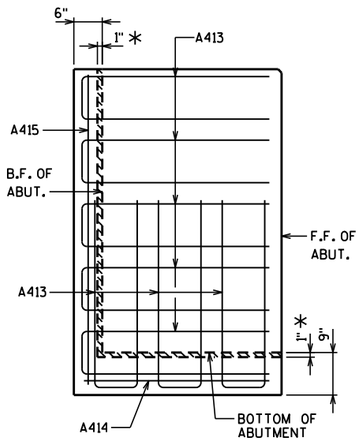
HORIZONTAL BARS NOT OTHERWISE IDENTIFIED ARE A606 BARS

SECTION B-B THRU BODY

HORIZONTAL BARS NOT OTHERWISE IDENTIFIED ARE A608 BARS



BAR BENDING DIAGRAMS



ABUTMENT END VIEW

(EAST END ONLY)

LEGEND

- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ☆ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03"
- * 1" EXPANDED POLYSTYRENE FILLER BETWEEN ABUTMENT AND RETAINING WALL.
- ◪ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.
- △ SLOPE PAVING CONCRETE, MINIMUM 4" THICKNESS. PLACE CONSTRUCTION JOINTS EVERY 10' MAXIMUM. SEE SLOPE PAVING CONSTRUCTION JOINT DETAIL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-633

DRAWN BY BRE | PLANS CK'D. KRO

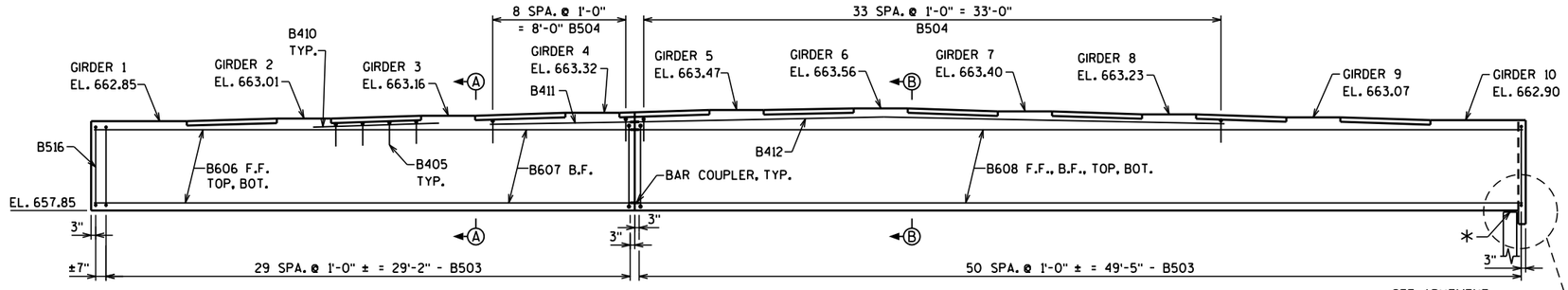
SOUTH ABUTMENT DETAILS

SHEET 7 OF 22

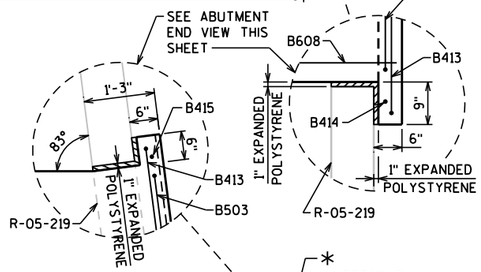
8

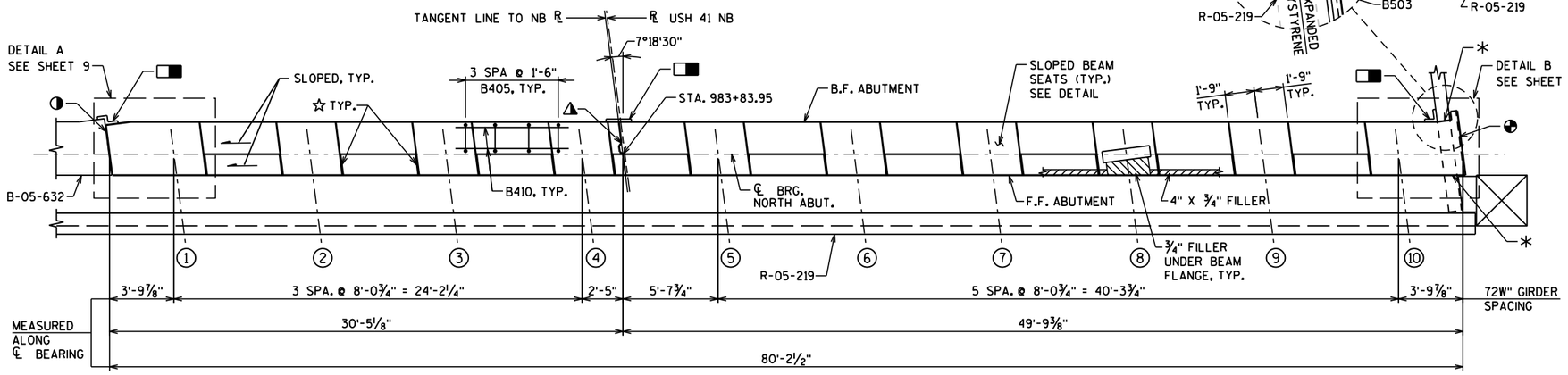
8

STATE PROJECT NUMBER
1133-03-77

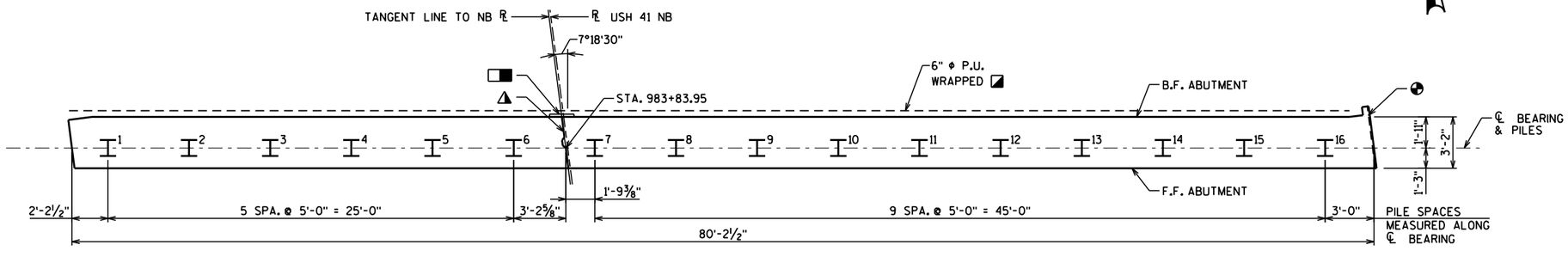


ELEVATION





PLAN



PILE PLAN

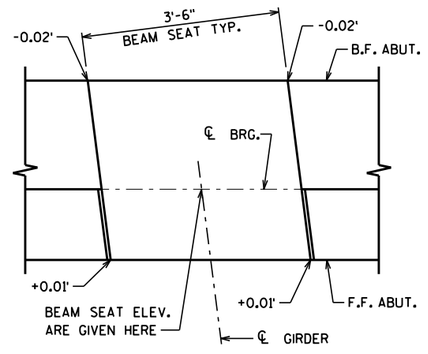
LEGEND

- ◑ ½" FILLER NOT INCLUDED IN ABUTMENT LENGTH, SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)
- ▬ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ◭ VERTICAL CONSTRUCTION JOINT KEYWAY FORMED BY A BEVELED 2" X 8" NOTCH. USE ¾" "V" GROOVE JOINT @ THE FRONT FACE OF ABUTMENT.
- ☆ ¾" CORK FILLER ON VERTICAL FACES THAT RUN PARALLEL TO THE GIRDER.
- ✳ 1" EXPANDED POLYSTYRENE FILLER BETWEEN ABUTMENT AND RETAINING WALL.
- ◔ IMPRINTED BRICK PATTERN, SEE SHEET 22.
- ◪ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.

SEE SHEET 9 FOR BILL OF BARS AND BAR BENDING DIAGRAMS.

PILE NOTE

SOUTH ABUTMENT TO BE SUPPORTED ON HP 12 X 53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE. ESTIMATED LENGTH = 85' AT THE NORTH ABUTMENT. FOR PILE SPLICE DETAILS, SEE SHEET 9.



SLOPED BEAM SEAT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-633

DRAWN BY BRE | PLANS CK'D. KRO

NORTH ABUTMENT

SHEET 8 OF 22

8

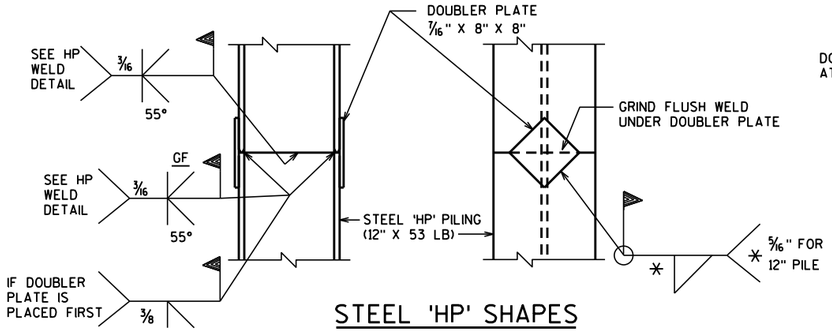
8

STATE PROJECT NUMBER
1133-03-77

BILL OF BARS

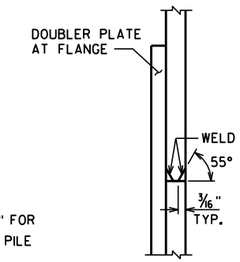
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
B401	X	32	2'-3"		BODY - PILES
B402	X	16	28'-0"	X	BODY - PILES
B503	X	81	14'-11"	X	BODY - STIRRUP
B504	X	43	6'-3"	X	BODY - VERTICAL TOP
B405	X	36	3'-11"	X	BODY - VERTICAL - BTW BEAM SEATS
⬡ B606	X	9	30'-3"		BODY - HORIZONTAL F.F., TOP & BOT.
⬡ B607	X	5	30'-3"	X	BODY - HORIZONTAL B.F.
⬡ B608	X	14	49'-7"		BODY - HORIZONTAL F.F., B.F., TOP & BOT.
B410	X	18	6'-7"		BODY - HORIZONTAL - BTW BEAM SEATS
⬡ B411	X	4	8'-6"		BODY - HORIZONTAL TOP
⬡ B412	X	4	33'-3"		BODY - HORIZONTAL TOP
B413	X	8	7'-3"	X	BODY - EAST END OF ABUTMENT
B414	X	1	3'-4"		BODY - HORIZ. EAST END OF ABUTMENT
B415	X	1	5'-5"		BODY - VERT. EAST END OF ABUTMENT
B516	X	1	14'-7"	X	BODY - STIRRUP WEST END OF ABUTMENT

⬡ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.



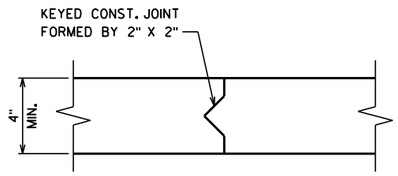
STEEL 'HP' SHAPES

STEEL 'HP' PILE MATERIAL SHALL BE A.S.T.M. DESIGNATION A36.

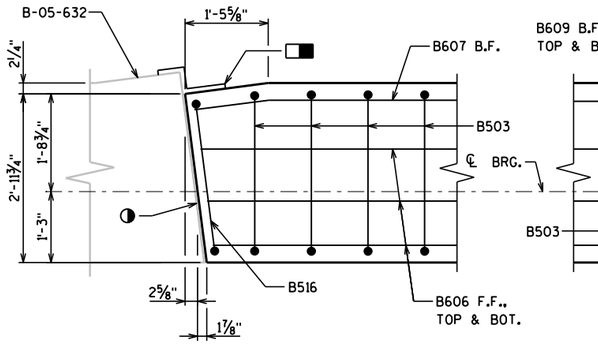


HP WELD DETAIL

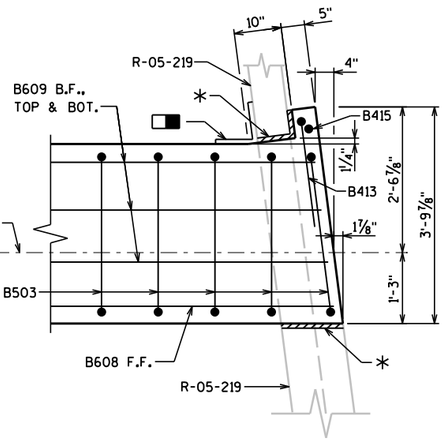
FLANGE SHOWN, WEB SIMILAR



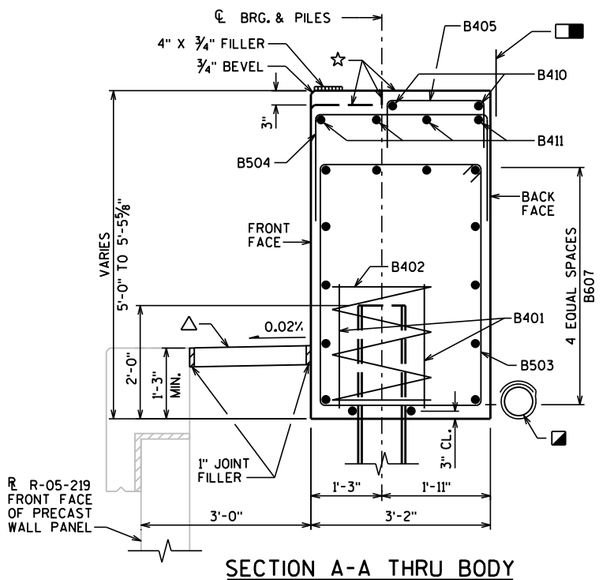
SLOPE PAVING CONSTRUCTION JOINT DETAIL



DETAIL A

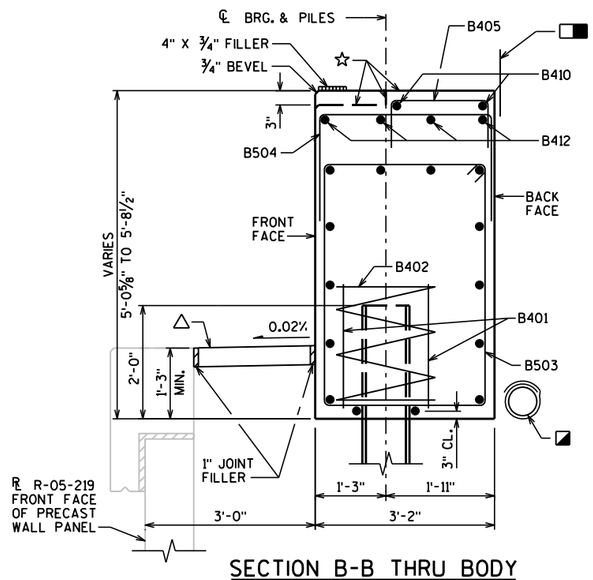


DETAIL B



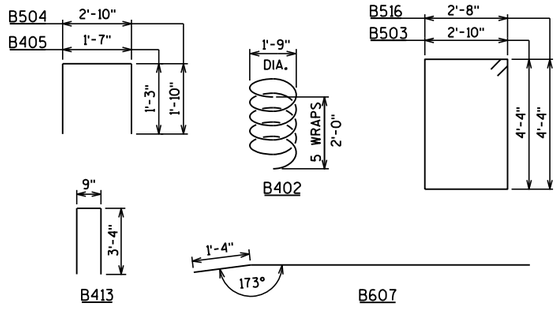
SECTION A-A THRU BODY

HORIZONTAL BARS NOT OTHERWISE IDENTIFIED ARE B606 BARS

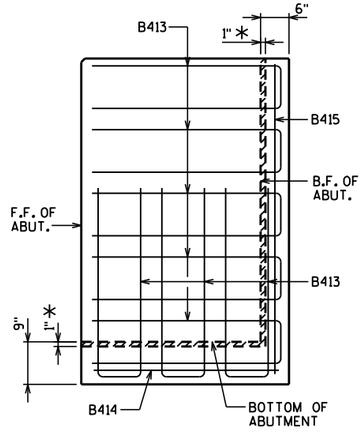


SECTION B-B THRU BODY

HORIZONTAL BARS NOT OTHERWISE IDENTIFIED ARE B608 BARS



BAR BENDING DIAGRAMS



ABUTMENT END VIEW

(EAST END ONLY)

LEGEND

- ▬◪ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ☆ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03"
- ✱ 1" EXPANDED POLYSTYRENE FILLER BETWEEN ABUTMENT AND RETAINING WALL.
- ◪ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.
- △ SLOPE PAVING CONCRETE, MINIMUM 4" THICKNESS. PLACE CONSTRUCTION JOINTS EVERY 10' MAXIMUM. SEE SLOPE PAVING CONSTRUCTION JOINT DETAIL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-633

DRAWN BY BRE | PLANS CK'D. KRO

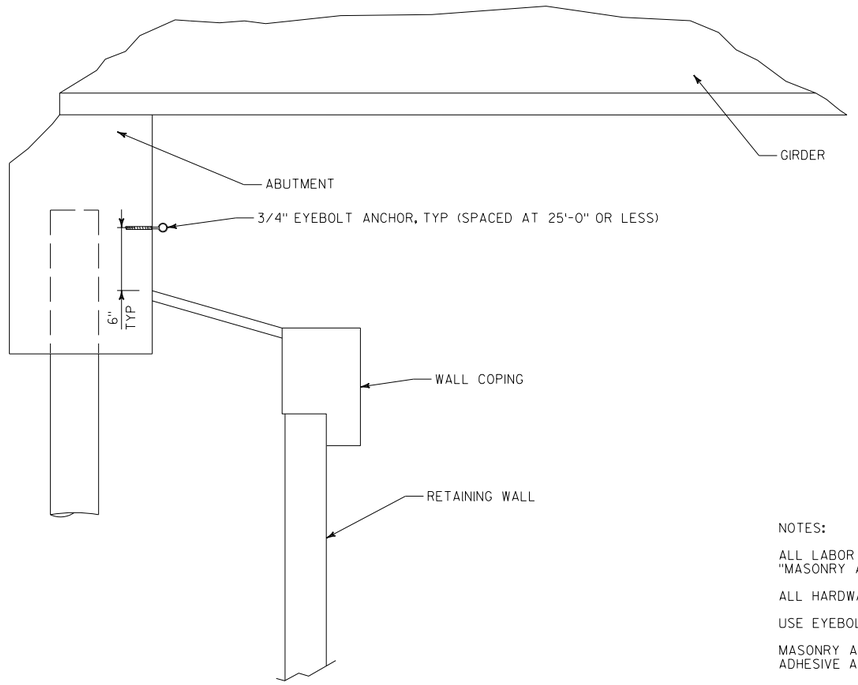
NORTH ABUTMENT DETAILS

SHEET 9 OF 22

8

8

STATE PROJECT NUMBER
1133-03-77



NOTES:

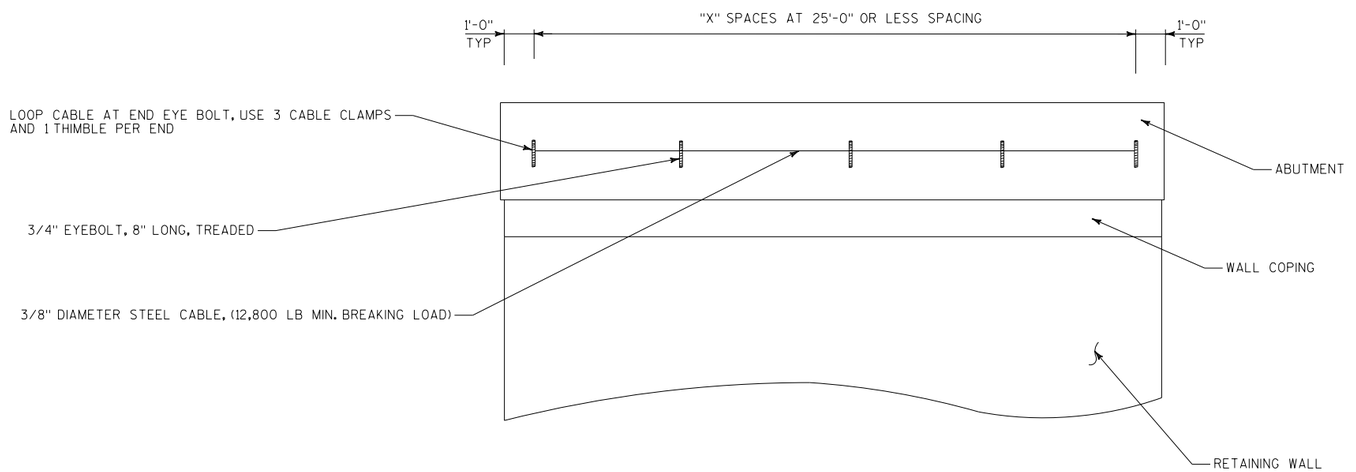
ALL LABOR AND MATERIAL (EYE BOLTS, CABLE, AND CLAMPS) INCIDENTAL TO BID ITEM "MASONRY ANCHORS TYPE S 3/4 - INCH"

ALL HARDWARE AND CABLE TO BE GALVANIZED OR STAINLESS STEEL.

USE EYEBOLTS FOR TYPE S ANCHOR HARDWARE.

MASONRY ANCHORS TYPE S ¾-INCH, MIN. PULLOUT CAPACTIY OF 26 KIPS, FOR ADHESIVE ANCHORS EMBEDDED A MIN. OF 7" IN CONCRETE.

SECTION



FRONT VIEW OF ABUTMENT

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

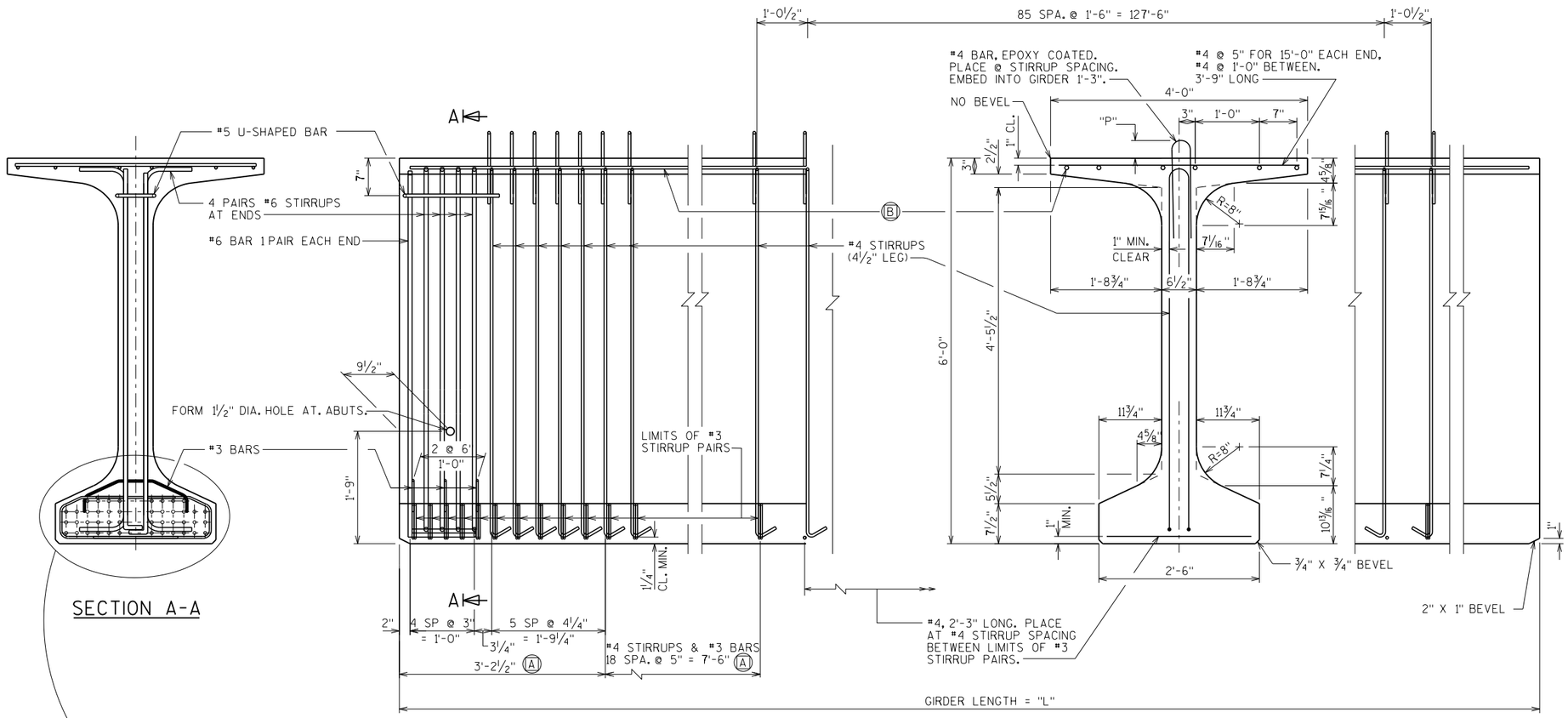
STRUCTURE B-05-633

DRAWN BY BRE | PLANS CK'D. KRO

FALL PROTECTION

SHEET 10 OF 22

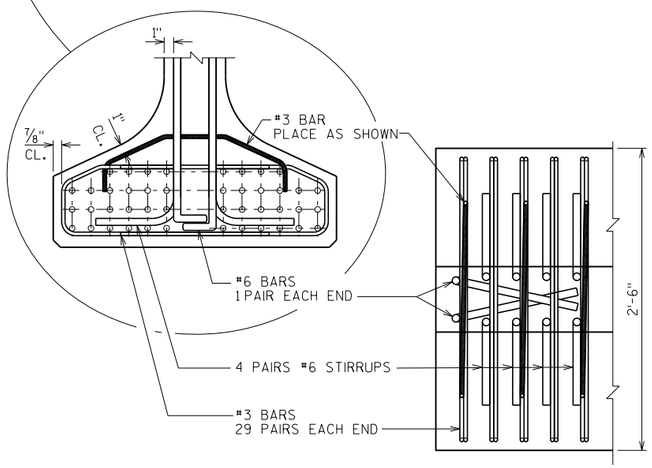
STATE PROJECT NUMBER
1133-03-77



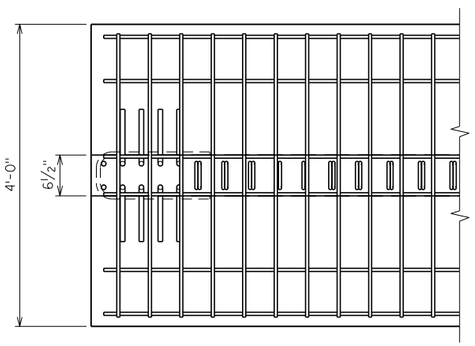
SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

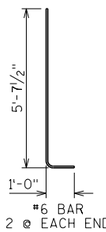
Ⓑ (6) - #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"



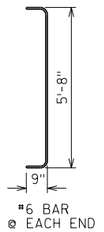
BOTTOM FLANGE



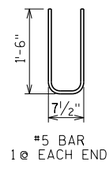
TOP FLANGE



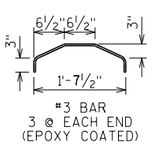
#6 BAR
2 @ EACH END



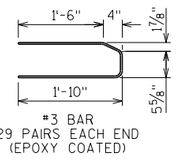
#6 BAR
8 @ EACH END



#5 BAR
1 @ EACH END



#3 BAR
3 @ EACH END
(EPOXY COATED)



#3 BAR
29 PAIRS EACH END
(EPOXY COATED)

GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

PRESTRESSING STRANDS SHALL BE 0.6"Φ - 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO APPLICATION OF THE SEALER.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, ONE OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT CHIEF, (608) 266-5161.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-633

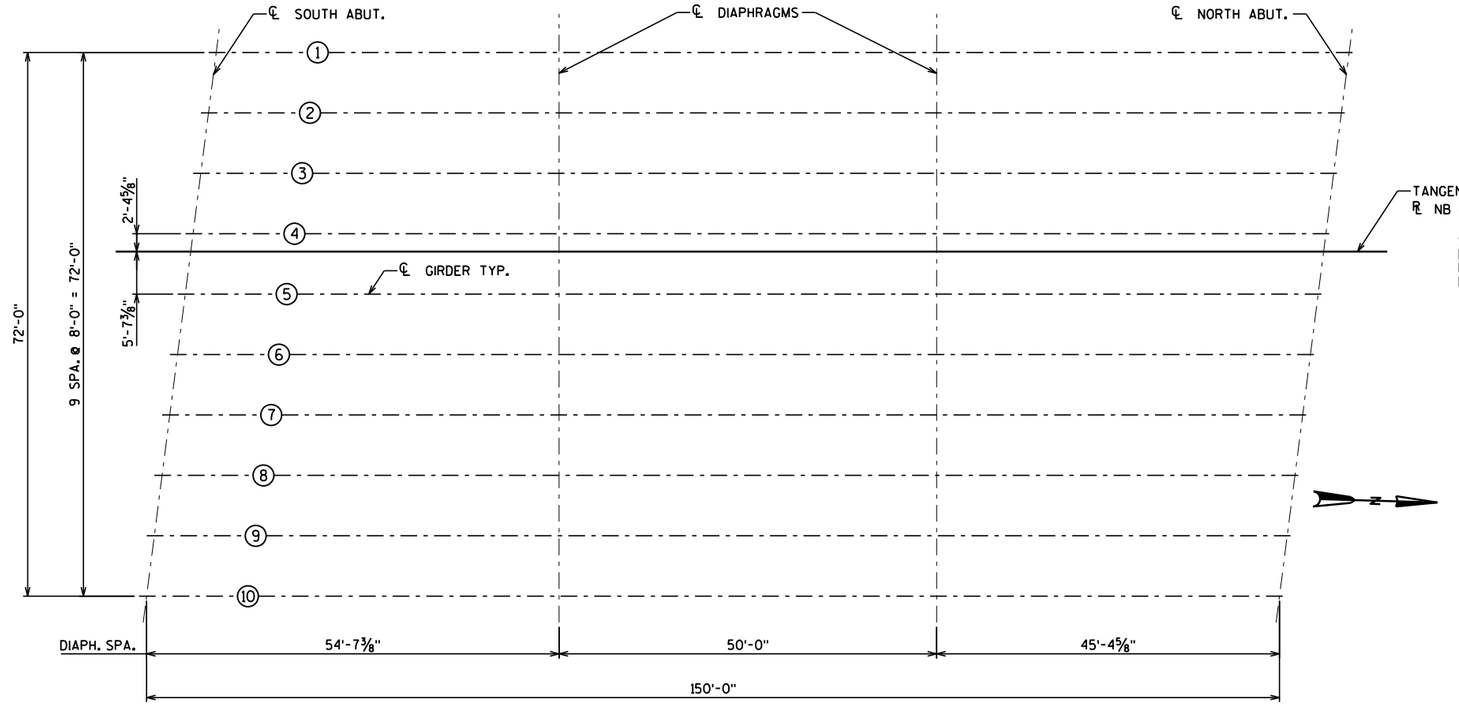
DRAWN BY BRE | PLANS CK'D. KRO

72W" PRESTRESSED GIRDER

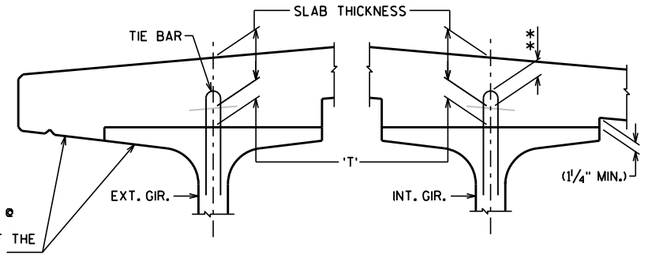
SHEET 11 OF 22

STATE PROJECT NUMBER

1133-03-77



FRAMING PLAN



SLAB HAUNCH DETAIL

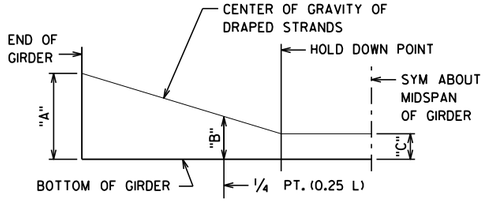
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

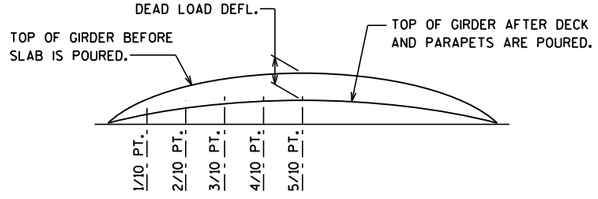
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

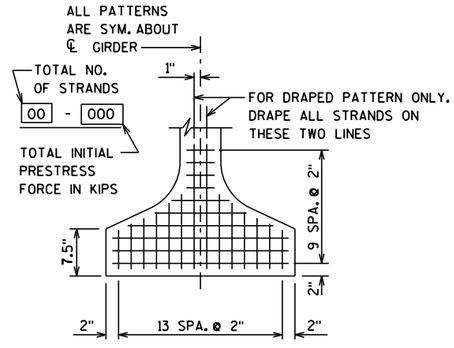
NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



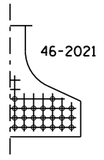
DRAPED STRAND PROFILE



DEAD LOAD DEFLECTION DIAGRAM



TYP. STRAND PATTERN



ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.)									CONC. STRGTH. f'c (p.s.i.)	"P" 1ST ⅓ OF GIRDER	"P" MID ⅓ OF GIRDER	"P" END ⅓ OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN						UNDRAPED PATTERN	
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10						TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	ALL	151.0'	0.89	1.71	2.35	2.76	2.90	2.76	2.35	1.71	0.89	8,000	8"	7"	8"	0.6	46	6,800	67"	20.5"	23.5"	5"	---	---

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-633

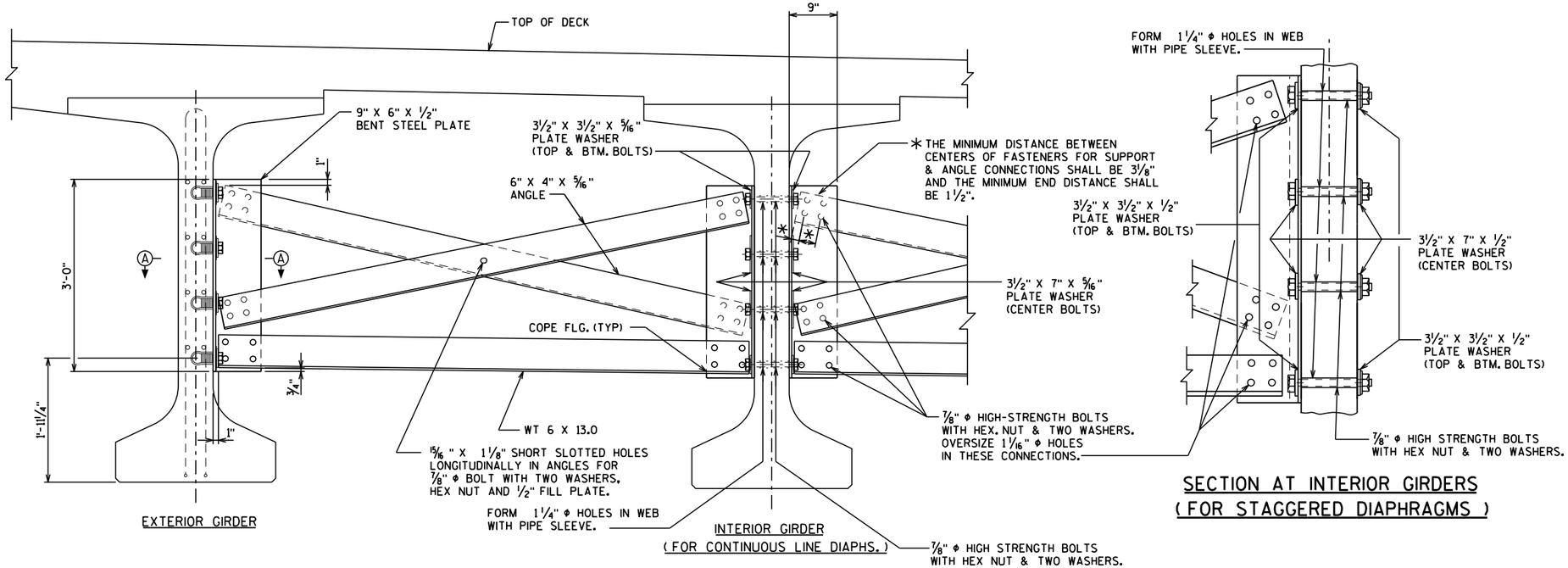
DRAWN BY BRE | PLANS CK'D. KRO

72W" PRESTRESSED GIRDER DETAILS

SHEET 12 OF 22

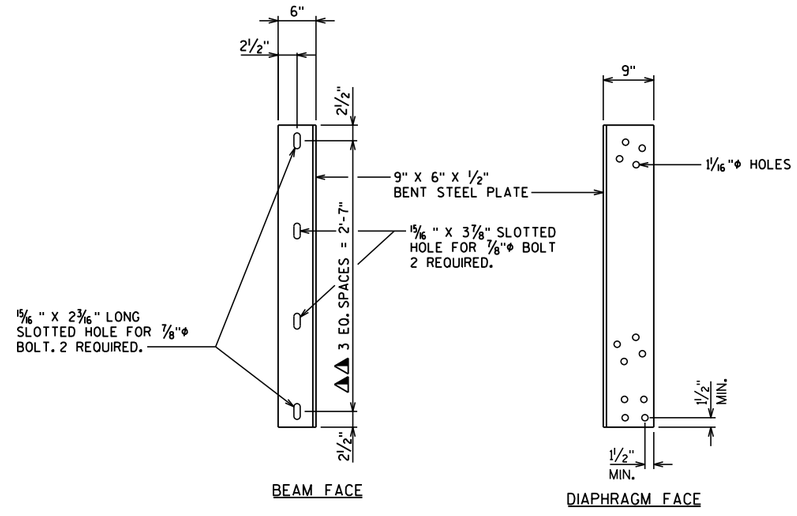
FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Bridges±B-5-633_lombardi nb±B-05-633 12 72W girder det.dgn PLOT BY : epleyb PLOT DATE: 11/19/2012 1:21:01 PM

STATE PROJECT NUMBER
1133-03-77



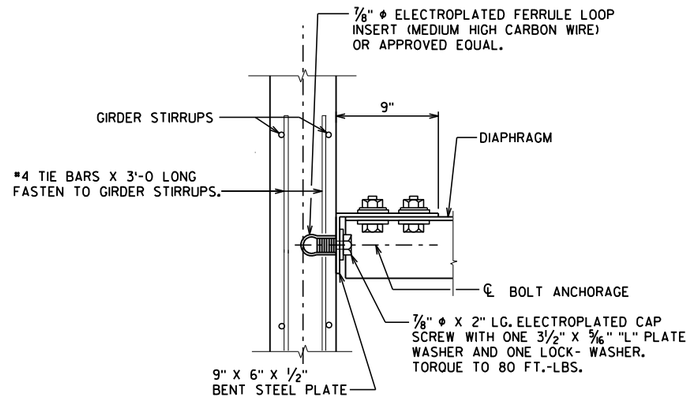
PART TRANSVERSE SECTION AT DIAPHRAGM

SECTION AT INTERIOR GIRDERS (FOR STAGGERED DIAPHRAGMS)



DIAPHRAGM SUPPORT

△△ BOLT HOLES SHALL BE SPACED SO AS TO MISS PRESTRESSED STRANDS IN CONCRETE BEAMS.



SECT. A-A

(FOR EXTERIOR ATTACHMENT)

"L" = 3 1/2": TOP AND BOTTOM BOLTS
"L" = 7": CENTER BOLTS

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-05-633", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-633

DRAWN BY BRE | PLANS CK'D. KRO

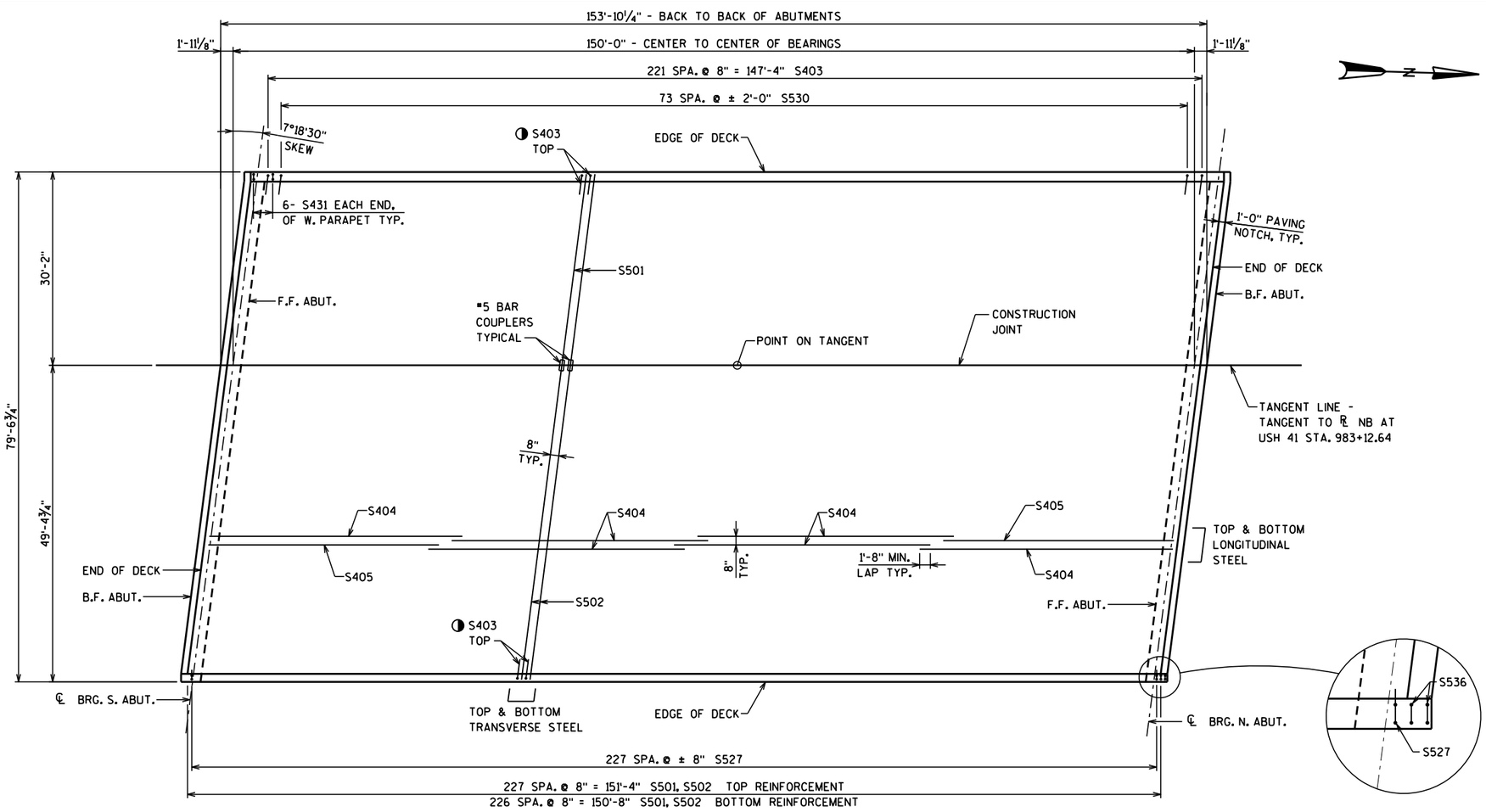
72W" STEEL DIAPHRAGMS

SHEET 13 OF 22

8

8

STATE PROJECT NUMBER
1133-03-77



NOTES:

◑ LAP S403 ONTO EVERY TRANSVERSE BAR IN THE TOP MAT AS SHOWN

TOP OF DECK ELEVATIONS

LOCATION	S.ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	N.ABUT.
W. EDGE	668.74	668.90	669.06	669.20	669.33	669.46	669.58	669.69	669.78	669.87	669.96
GIRDER 1	668.78	668.95	669.10	669.24	669.38	669.50	669.62	669.73	669.83	669.92	670.00
GIRDER 2	668.93	669.09	669.25	669.39	669.53	669.66	669.77	669.88	669.98	670.07	670.15
GIRDER 3	669.08	669.24	669.40	669.54	669.68	669.81	669.93	670.04	670.14	670.23	670.31
GIRDER 4	669.23	669.39	669.55	669.69	669.83	669.96	670.08	670.19	670.29	670.38	670.46
GIRDER 5	669.38	669.54	669.70	669.84	669.98	670.11	670.23	670.34	670.44	670.54	670.62
CROWN	669.50	669.66	669.82	669.96	670.10	670.23	670.35	670.46	670.56	670.66	670.74
GIRDER 6	669.46	669.63	669.78	669.93	670.07	670.20	670.32	670.43	670.53	670.62	670.71
GIRDER 7	669.29	669.46	669.61	669.76	669.90	670.03	670.15	670.26	670.36	670.46	670.54
GIRDER 8	669.12	669.28	669.44	669.59	669.73	669.86	669.98	670.09	670.20	670.29	670.38
GIRDER 9	668.95	669.11	669.27	669.42	669.56	669.69	669.81	669.93	670.03	670.13	670.21
GIRDER 10	668.77	668.94	669.10	669.25	669.39	669.52	669.65	669.76	669.86	669.96	670.05
E. EDGE	668.72	668.89	669.05	669.20	669.34	669.47	669.59	669.71	669.81	669.91	669.99

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-633

DRAWN BY BRE | PLANS CK'D. KRO

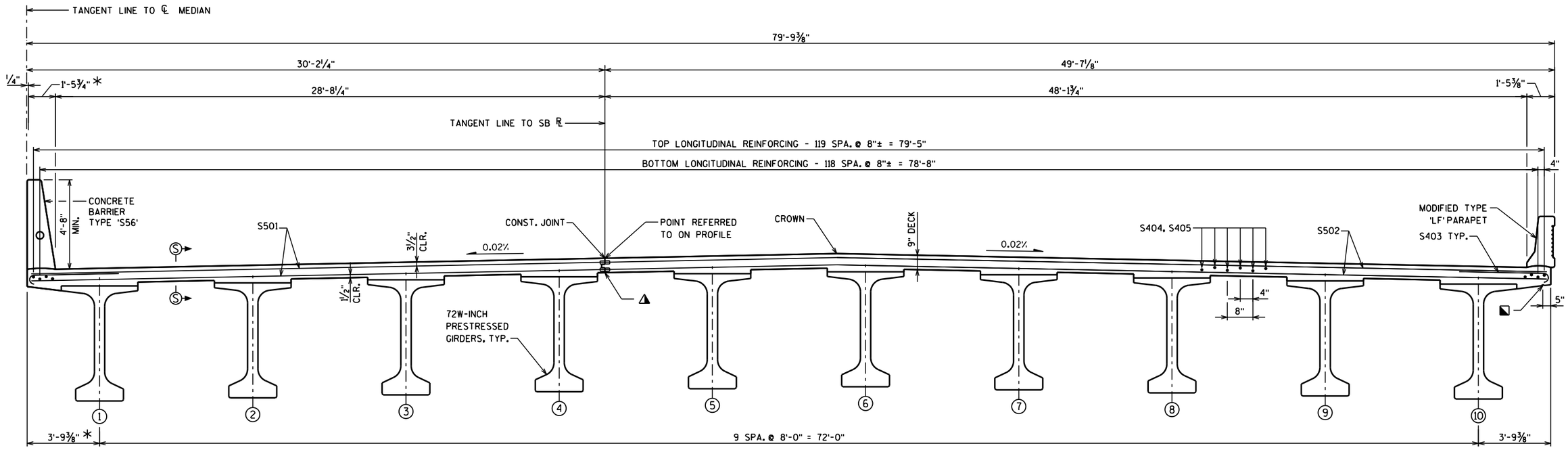
SUPERSTRUCTURE REINFORCEMENT

SHEET 14 OF 22

8

FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Bridges±B-5-633_lombardi nb±B-05-633 14 super reinf.dgn PLOT BY : epleyb PLOT DATE: 11/19/2012 1:21:03 PM

STATE PROJECT NUMBER
1133-03-77



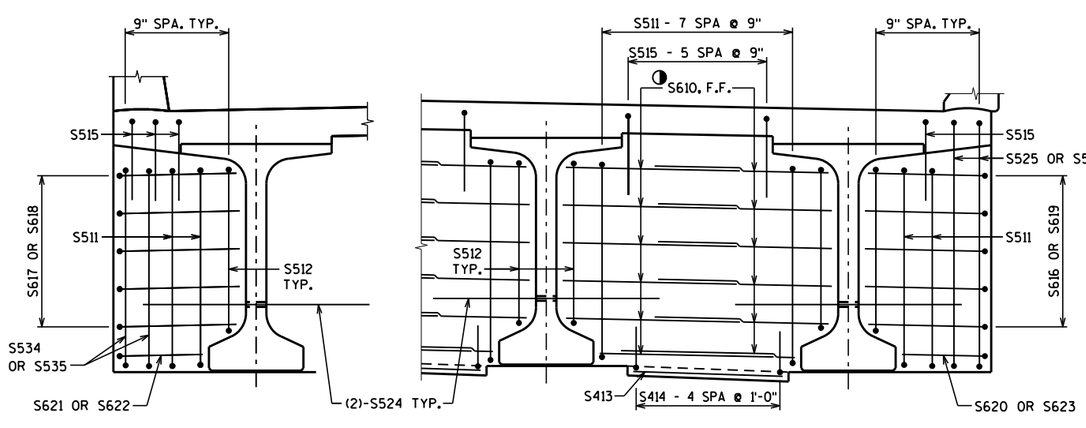
CROSS SECTION

(LOOKING NORTH)

* DIMENSION DOES NOT INCLUDE 1/2" JOINT FILLER BETWEEN BRIDGES

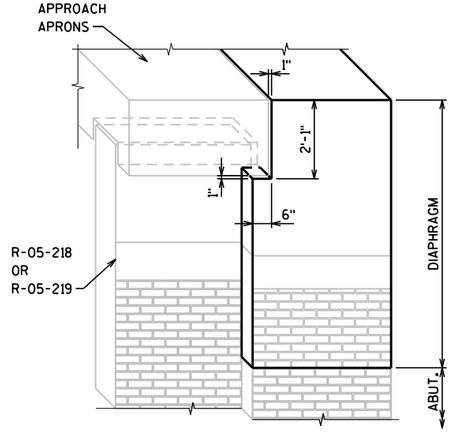
◪ 3/4" CONTINUOUS DRIP GROOVE (TYP.) TERMINATE 2'-0" FROM FACE OF ABUTS.

◭ LONGITUDINAL CONSTRUCTION JOINT KEYWAY FORMED BY A SURFACE BEVELED 2" X 2". CENTER KEYWAY BETWEEN MATS.



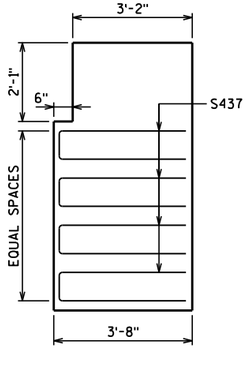
DIAPHRAGM AT ABUTMENTS

◑ FIELD CUT S610 AT CONSTRUCTION JOINT AND USE #6 BAR COUPLER



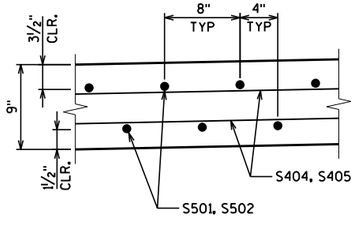
ISOMETRIC VIEW - DIAPHRAGM END

BARRIERS NOT SHOWN FOR CLARITY



DIAPHRAGM END VIEW

EAST END ONLY, BOTH DIAPHRAGMS



SECTION S-S

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-633

DRAWN BY BRE | PLANS CK'D. KRO

SUPERSTRUCTURE CROSS SECTION

SHEET 15 OF 22

8

8

STATE PROJECT NUMBER
1133-03-77

BILL OF BARS

	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
☆	S501	X	455	30'-3"		SLAB TOP & BOT. TRANSVERSE
☆	S502	X	455	49'-7"		SLAB TOP & BOT. TRANSVERSE
	S403	X	444	5'-2"	X	SLAB TOP AT DECK OVERHANG
	S404	X	717	40'-0"		SLAB TOP & BOT. LONGITUDINAL
	S405	X	239	36'-6"		SLAB TOP & BOT. LONGITUDINAL
☆	S606	X	9	48'-6"		ABUTMENT DIAPH. HORIZONTAL B.F., S.E.
☆	S607	X	9	30'-3"		ABUTMENT DIAPH. HORIZONTAL B.F., S.W.
☆	S608	X	9	49'-7"		ABUTMENT DIAPH. HORIZONTAL B.F., N.E.
☆	S609	X	9	28'-11"		ABUTMENT DIAPH. HORIZONTAL B.F., N.W.
◑	S610	X	216	4'-8"		ABUTMENT DIAPH. HORIZONTAL F.F.
	S511	X	152	16'-11"	X	ABUTMENT DIAPH. STIRRUPS
	S512	X	40	14'-11"	X	ABUTMENT DIAPH. STIRRUPS
	S413	X	36	3'-11"		ABUT. DIAPH. HORIZONTAL, BEAM SEATS
	S414	X	90	3'-5"	X	ABUT. DIAPH. VERTICAL BEAM SEATS
	S515	X	116	6'-5"	X	ABUTMENT DIAPH. VERTICAL TOP
	S616	X	5	8'-10"	X	ABUTMENT DIAPH. HORIZONTAL END, N.E.
	S617	X	5	8'-6"	X	ABUTMENT DIAPH. HORIZONTAL ENDS, N.W.
	S618	X	5	8'-10"	X	ABUTMENT DIAPH. HORIZONTAL ENDS, S.W.
	S619	X	5	8'-6"	X	ABUTMENT DIAPH. HORIZONTAL ENDS, S.E.
	S620	X	1	7'-0"	X	ABUTMENT DIAPH. HORIZ. ENDS BOTTOM, N.E.
	S621	X	1	6'-10"	X	ABUTMENT DIAPH. HORIZ. ENDS BOTTOM, N.W.
	S622	X	1	7'-4"	X	ABUTMENT DIAPH. HORIZ. ENDS BOTTOM, S.W.
	S623	X	1	6'-11"	X	ABUTMENT DIAPH. HORIZ. ENDS BOTTOM, S.E.
	S524	X	40	6'-0"		ABUTMENT DIAPH. HORIZ. THRU GIRDERS
	S525	X	2	19'-7"	X	ABUTMENT DIAPH. STIRRUPS, N.E. END
	S526	X	2	19'-3"	X	ABUTMENT DIAPH. STIRRUPS, S.E. END
	S527	X	227	4'-2"	X	EAST PARAPET VERTICAL
	S528	X	231	4'-10"	X	EAST PARAPET VERTICAL
	S529	X	25	33'-1"		EAST PARAPET HORIZONTAL
	S530	X	72	3'-3"	X	WEST PARAPET VERTICAL
	S431	X	12	8'-0"	X	WEST PARAPET VERTICAL
	S532	X	8	5'-0"		WEST EDGE OF DECK, EACH END
	S533	X	18	52'-6"		WEST PARAPET, HORIZONTAL F.F.
	S534	X	2	16'-7"	X	ABUTMENT DIAPH. STIRRUPS SE
	S535	X	2	17'-3"	X	ABUTMENT DIAPH. STIRRUPS NE
	S536	X	4	4'-7"	X	EAST PARAPET ENDS, VERTICAL
	S437	X	8	6'-7"	X	ABUTMENT DIAPH. EAST END

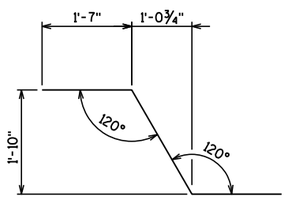
☆ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.

◑ FIELD CUT S610 AT CONSTRUCTION JOINT AND USE #6 BAR COUPLER

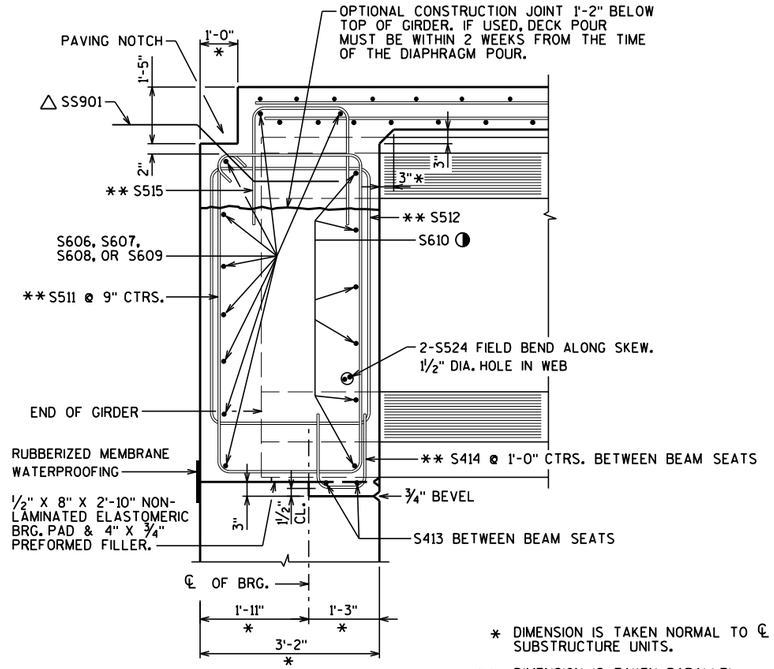
STAINLESS STEEL BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
SS901		154	5'-0"	X	CONC. DIAPH. @ ABUTS. TO APPROACH APRON

△ SPACE SS901 BARS @ 1'-0", TO MISS GIRDER WEBS, SEE SHEET 17 FOR ADDITIONAL PLACEMENT INFORMATION



SS901

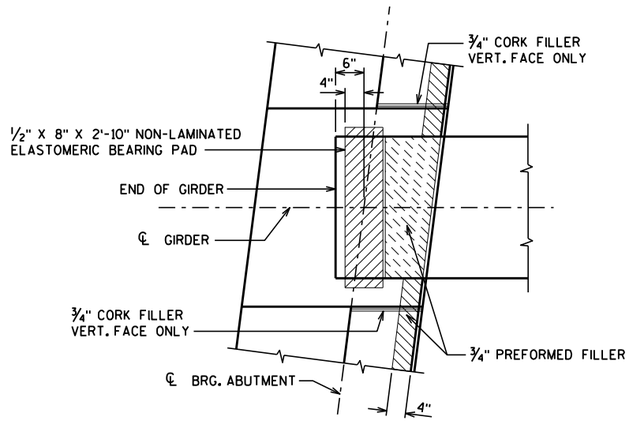


AT ABUTMENTS

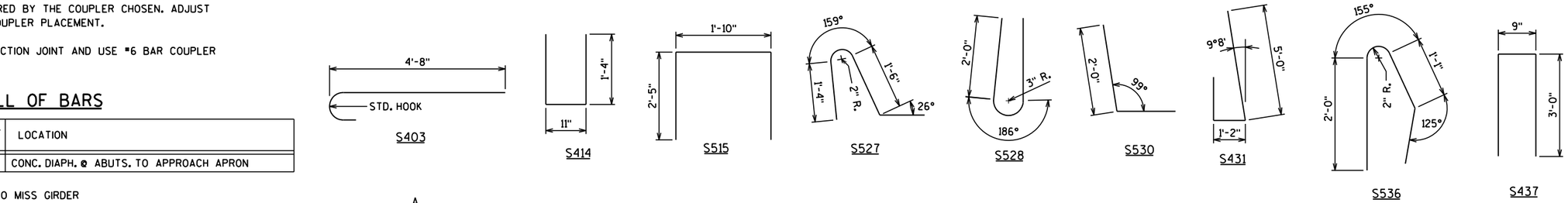
PART LONGIT. SECTION

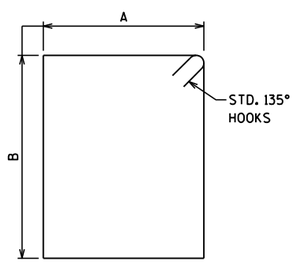
* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

** DIMENSION IS TAKEN PARALLEL TO ℄ GIRDER.



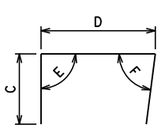
BEARING PAD DETAIL





S511, S512, S525, S526, S534, S535

BAR MARK	DIM "A"	DIM "B"
S511	2'-10"	5'-4"
S512	2'-10"	4'-4"
S525	2'-11"	6'-7"
S526	2'-9"	6'-7"
S534	2'-8"	5'-4"
S535	3'-0"	5'-4"



BAR MARK	DIM "C"	DIM "D"	ANGLE "E"	ANGLE "F"
S616	3'-1"	3'-0"	90°	83°
S617	3'-1"	2'-8"	97°	86°
S618	3'-1"	3'-0"	90°	83°
S619	3'-1"	2'-8"	97°	85°
S620	2'-2"	3'-0"	90°	83°
S621	2'-3"	2'-8"	97°	86°
S622	2'-3"	3'-0"	90°	83°
S623	2'-2"	2'-8"	97°	85°

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-633

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SUPERSTRUCTURE DETAILS

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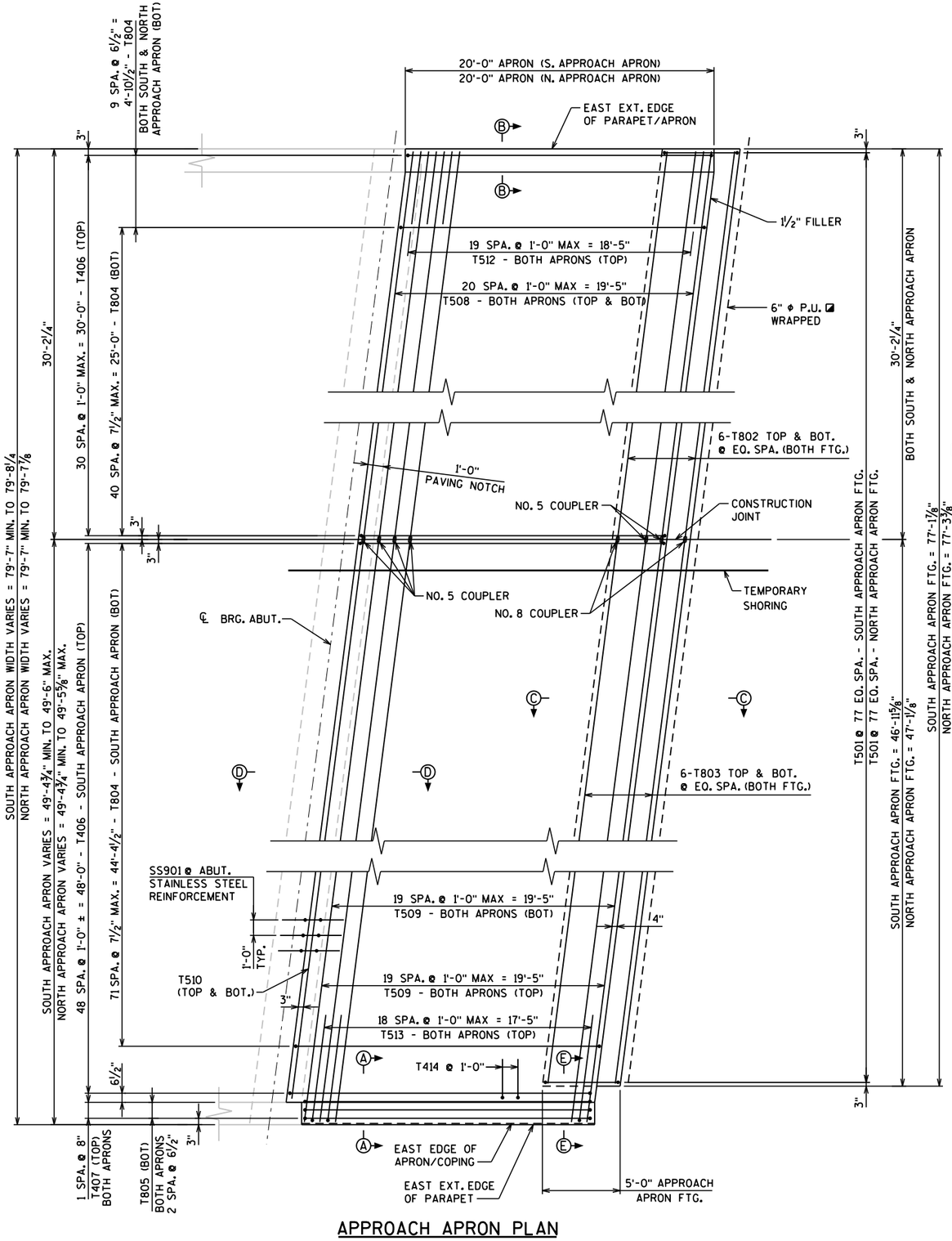
STATE PROJECT NUMBER
1133-03-77

NOTES:

- ◪ PIPE UNDERDRAIN WRAPPED 6-INCH AT APPROACH APRON, LOCATED ONLY ON UPHILL SIDE OF APRON FOOTING. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.
- ◑ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.
- ◭ PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.
- ✳ PAVING NOTCH MEASURED NORMAL TO ABUTMENT

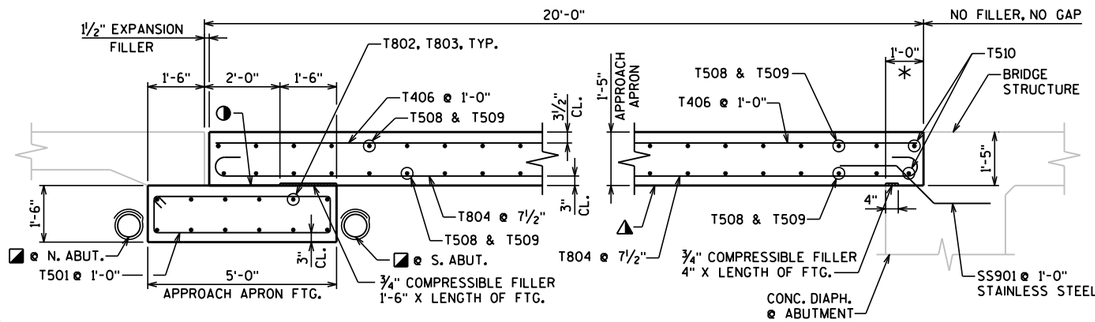
DESIGN DATA:

ALLOWABLE SOIL BEARING PRESSURE:	2,000 P.S.F.
CONCRETE STRENGTH f'c:	4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60, fy:	60,000 P.S.I.



APPROACH APRON PLAN

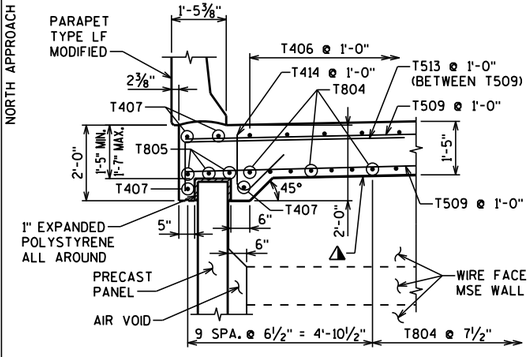
(NORTH SHOWN, SOUTH SIMILAR)



SECTION C-C SECTION D-D

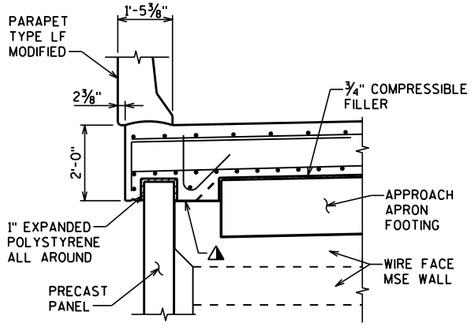
TRANSVERSE SECTION THRU APPROACH APRON

(NORTH APRON SHOWN, SOUTH APRON SIMILAR)



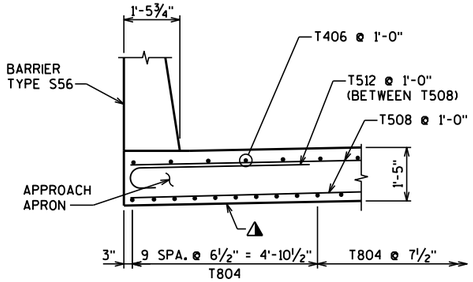
SECTION A-A

(AT MSE WINGWALLS)



SECTION E-E

(AT MSE WINGWALLS)



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

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APPROACH APRON

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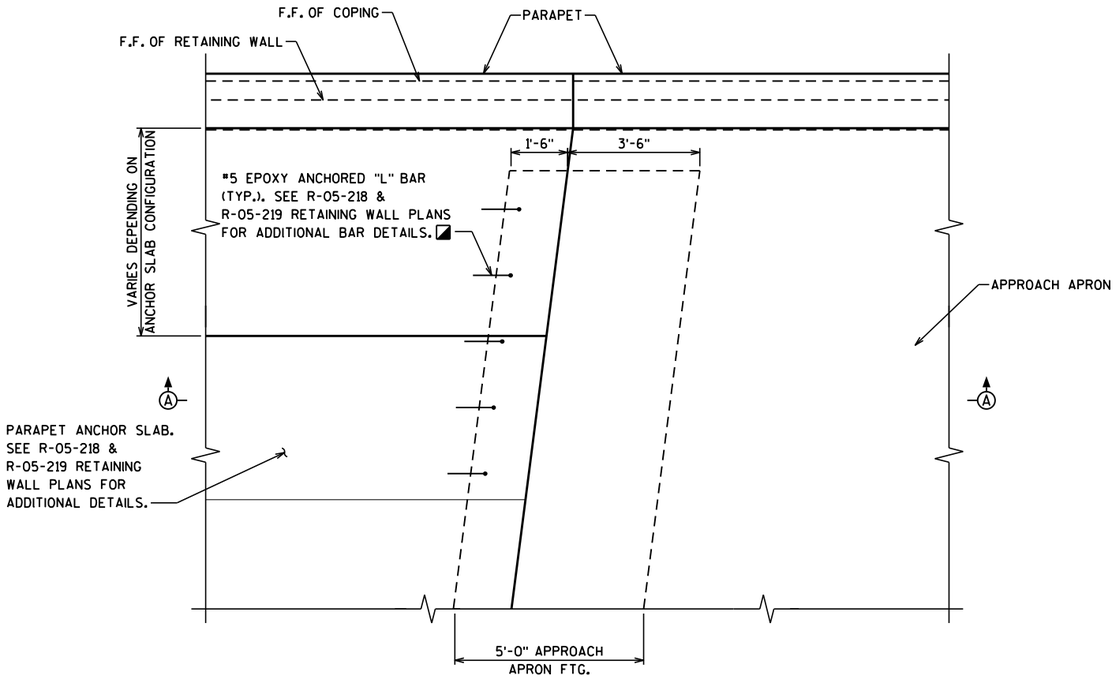
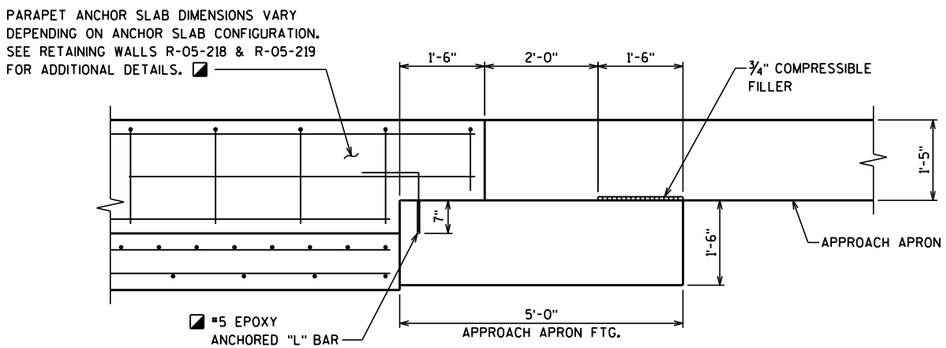


PLAN AT APPROACH APRON INTERFACE WITH RETAINING WALL ANCHOR SLAB

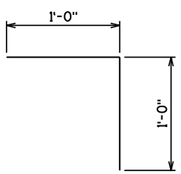
BILL OF BARS

	BAR MARK	COAT	SOUTH APRON	NORTH APRON	LENGTH	BENT	LOCATION
	T501	X	78	78	12'-1"	X	FOOTING - STIRRUPS
*	T802	X	12	12	30'-3"		FOOTING - HORIZONTAL
*	T803	X	12	12	47'-0"		FOOTING - HORIZONTAL
	T804	X	128	128	21'-4"	X	APPROACH APRON - LONGIT. - BOT.
	T805	X	3	3	20'-3"	X	APPROACH APRON - LONGIT. - BOT.
	T406	X	80	80	19'-6"		APPROACH APRON - LONGIT. - TOP
	T407	X	4	4	18'-5"		APPROACH APRON - LONGIT. AT MSE WALL PANEL
*	T508	X	42	42	30'-4"		APPROACH APRON - TRANS. - TOP
*	T509	X	40	40	49'-5"		APPROACH APRON - TRANS. - TOP & BOT.
*	T510	X	2	2	48'-3"		APPROACH APRON - TRANS. - TOP & BOT.
	T512	X	20	20	5'-4"	X	APPROACH APRON - TRANS. - TOP
	T513	X	19	19	6'-2"	X	APPROACH APRON - TRANS. - TOP
	T414	X	21	21	3'-0"	X	APPROACH APRON - TIE
	T415	X	12	12	8'-0"	X	WEST PARAPET & APRON SLAB, TRANS., VERT.
	T516	X	6	6	19'-7"		WEST PARAPET ON APPROACH APRON
	T517	X	8	8	5'-0"		WEST EDGE OF APPROACH APRON
	T518	X	8	8	3'-3"	X	WEST PARAPET & APRON SLAB, TRANS., VERT.
	T519	X	29	29	4'-2"	X	EAST PARAPET & DECK TRANSVERSE, VERTICAL
	T520	X	29	29	4'-10"	X	EAST PARAPET VERTICAL
	T521	X	5	5	18'-6"	X	EAST PARAPET HORIZONTAL

* COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.

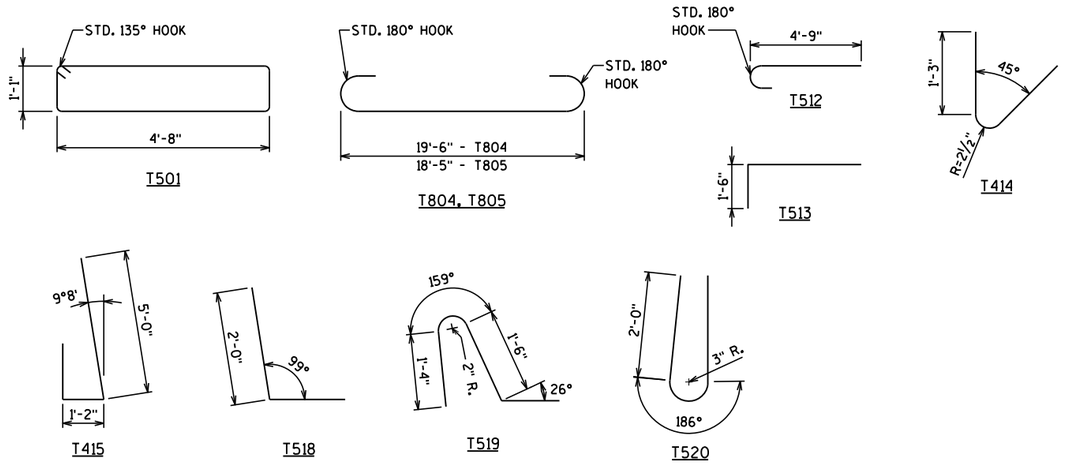


SECTION A-A



#5 EPOXY ANCHORED "L" BAR

SEE R-05-218 & R-05-219 RETAINING WALL PLANS FOR ADDITIONAL DETAILS PAID FOR UNDER RETAINING WALL R-05-218 & R-05-219



BAR BEND DIAGRAMS

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-633

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APPROACH APRON DETAILS

SHEET 18 OF 22

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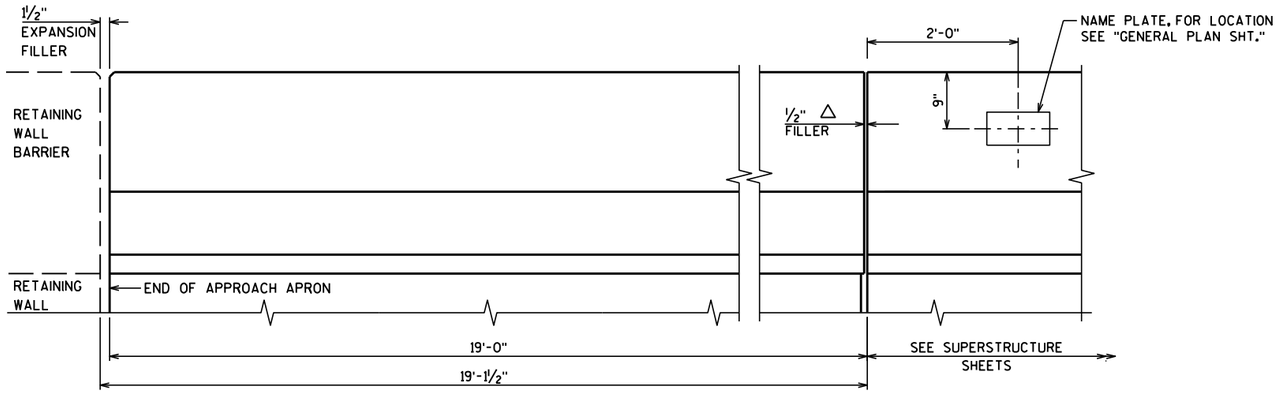
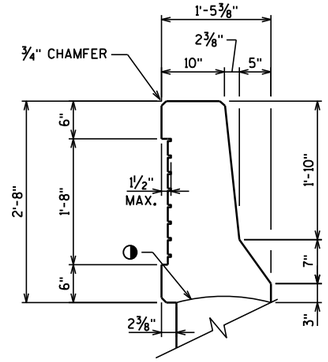
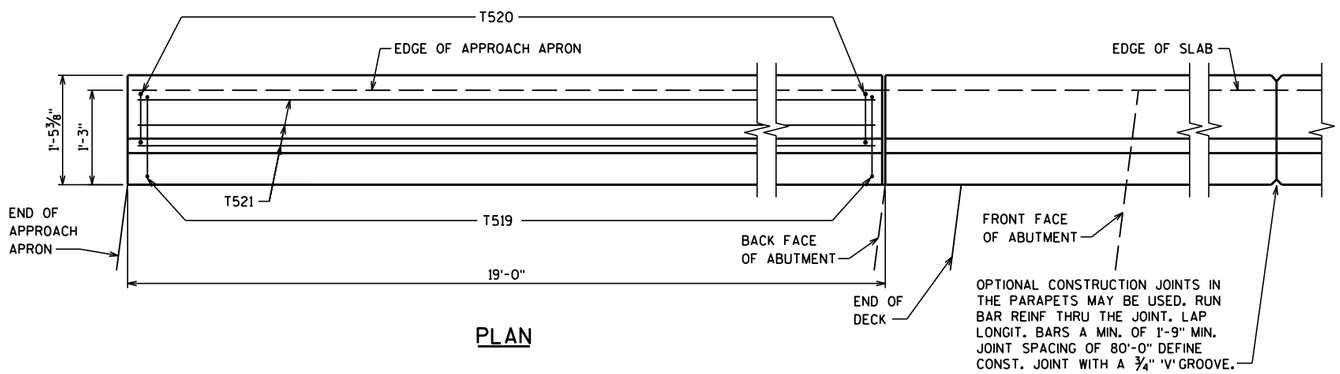


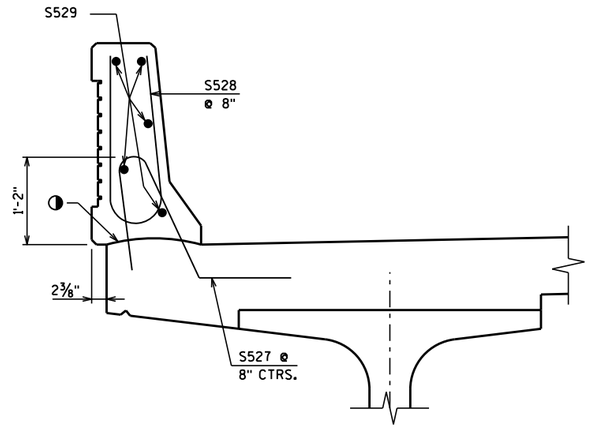
INSIDE ELEVATION



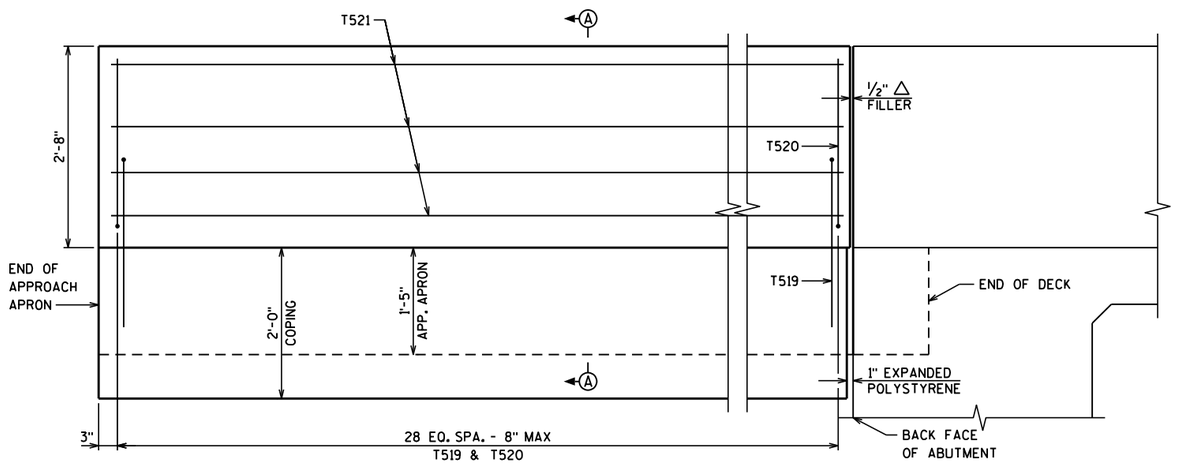
PARAPET DIMENSIONS



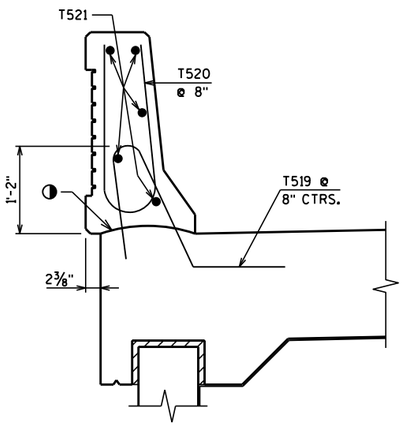
PLAN



SECTION THRU PARAPET ON BRIDGE



OUTSIDE ELEVATION



SECTION A-A

◑ CONST. JOINT - STRIKE OFF AS SHOWN.

SEE SHEET 22 FOR AESTHETIC DETAILS ON PARAPETS.

△ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1"2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN 1"8" BELOW SURFACE OF CONCRETE.

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SLOPED FACE PARAPET TYPE "LF" MODIFIED

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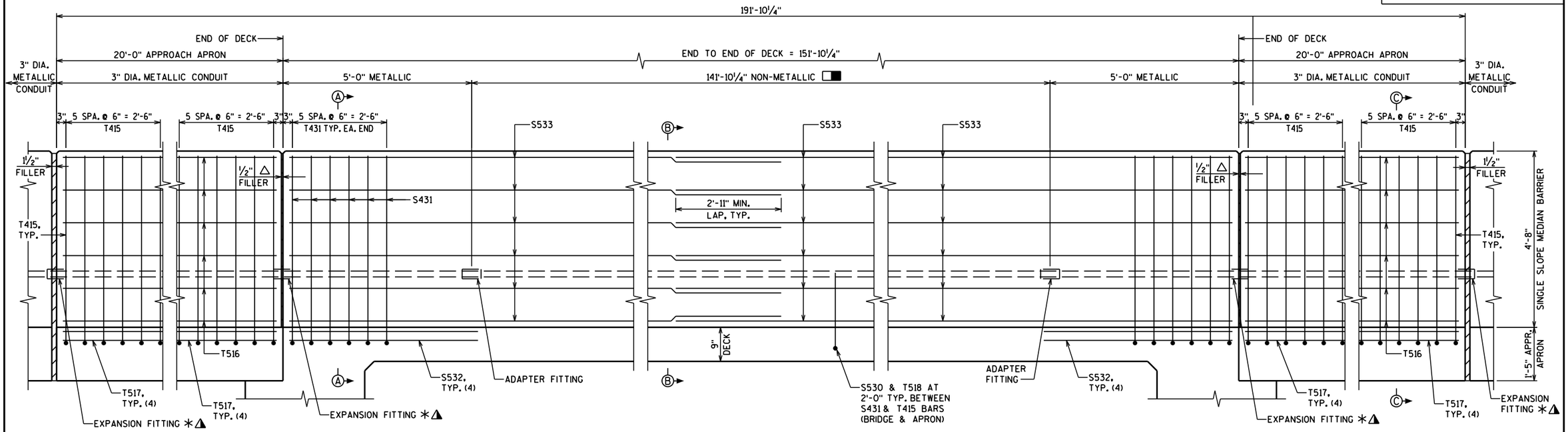
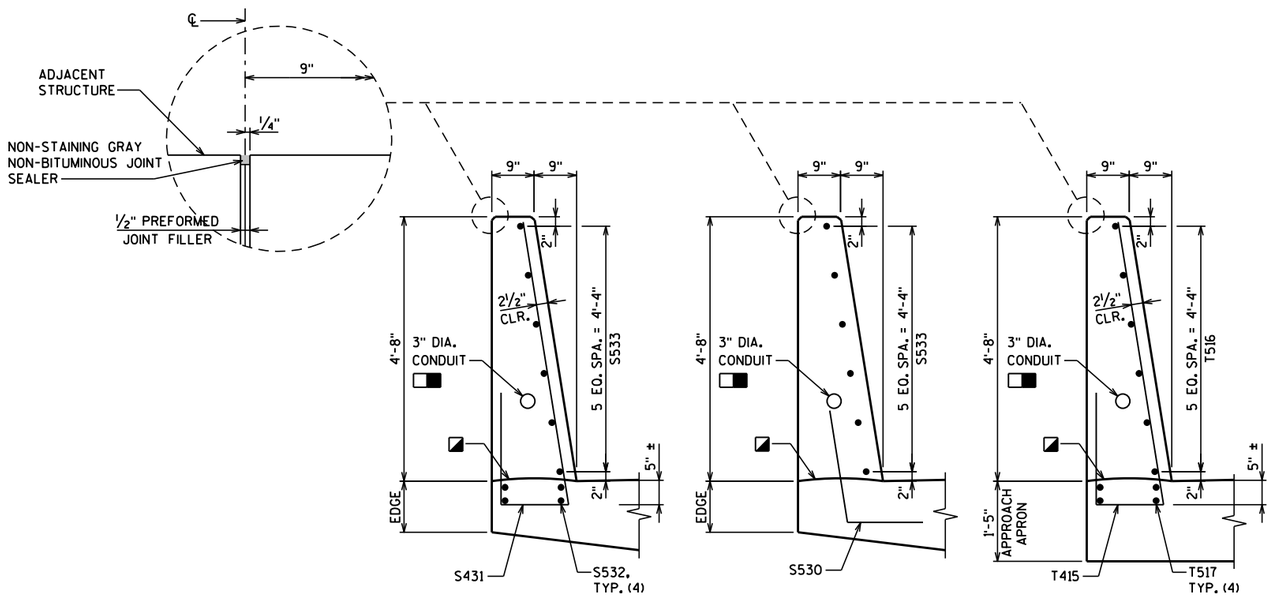


ELEVATION



SECTION A-A
TYPICAL AT ENDS OF BARRIER

SECTION B-B
(BRIDGE & APRONS)

SECTION C-C
(APPROACH APRONS)

△ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN ⅛" BELOW SURFACE OF CONCRETE.

TOP OF BARRIER ELEVATION TABLE

NOTE: NB STATIONING USED IN TABLE

LOCATION	WEST EDGE OF DECK 28'-9" RT.	
	NB STATION	ELEVATION
END OF CONDUIT TRANSITION	982+04.6	673.06
END OF SOUTH APPROACH APRON	982+17.11	673.21
SOUTH APRON MIDPOINT	982+27.11	673.33
C/L BEARING SOUTH ABUTMENT	982+37.84	673.46
0.1 POINT	982+52.84	673.62
0.2 POINT	982+67.84	673.78
0.3 POINT	982+82.84	673.93
0.4 POINT	982+97.84	674.07
0.5 POINT	983+12.84	674.20
0.6 POINT	983+27.84	674.32
0.7 POINT	983+42.84	674.44
0.8 POINT	983+57.84	674.54
0.9 POINT	983+72.84	674.64
C/L BEARING NORTH ABUTMENT	983+87.84	674.73
NORTH APRON MIDPOINT	983+98.86	674.79
END OF NORTH APPROACH APRON	984+08.58	674.84
END OF CONDUIT TRANSITION	984+21.08	674.89

NOTES:

OPTIONAL VERTICAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINFORCEMENT THRU THE JOINT. LAP LONGITUDINAL BARS A MIN. OF 2'-11". MIN. JOINT SPACING OF 80'-0". DEFINE CONSTRUCTION JOINT WITH A ¾" 'V' GROOVE.

◪ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.

◭ POSITION MOVABLE END OF CONDUIT INSIDE EXPANSION FITTING, SUCH THAT IT WILL HAVE THE SAME ALLOWANCE FOR MOVEMENT (EXPANSION/CONTRACTION/DEFLECTION) AS THE EXPANSION DEVICE SET IN PLACE IN THE DECK BELOW IT. TAKE CARE TO INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT.

✱ AT EACH SEMI-EXPANSION OR EXPANSION JOINT, USE AN APPROVED EXPANSION FITTING. RUN CONDUIT STRAIGHT THROUGH (WITHOUT A FITTING) AT EACH FIXED JOINT.

◨ USE 3" DIA. RIGID NON-METALLIC CONDUIT EXCEPT AT EXPANSION FITTING. AT EXPANSION FITTING USE RIGID METALLIC CONDUIT 5'-0" INTO PARAPET ON DECK SIDE.

TOP OF BARRIER ELEVATIONS ARE CALCULATED FROM PROFILE GRADE LINES. IF GRADE LINE ELEVATIONS VARY FROM PLAN THE BARRIER ELEVATIONS SHALL BE ADJUSTED ACCORDINGLY. TOP OF BARRIER SHOULD MATCH THE TOP OF BARRIER OF THE ADJACENT STRUCTURE (B-05-632), WHILE MAINTAINING THE MINIMUM BARRIER HEIGHT.

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BARRIER TYPE S56

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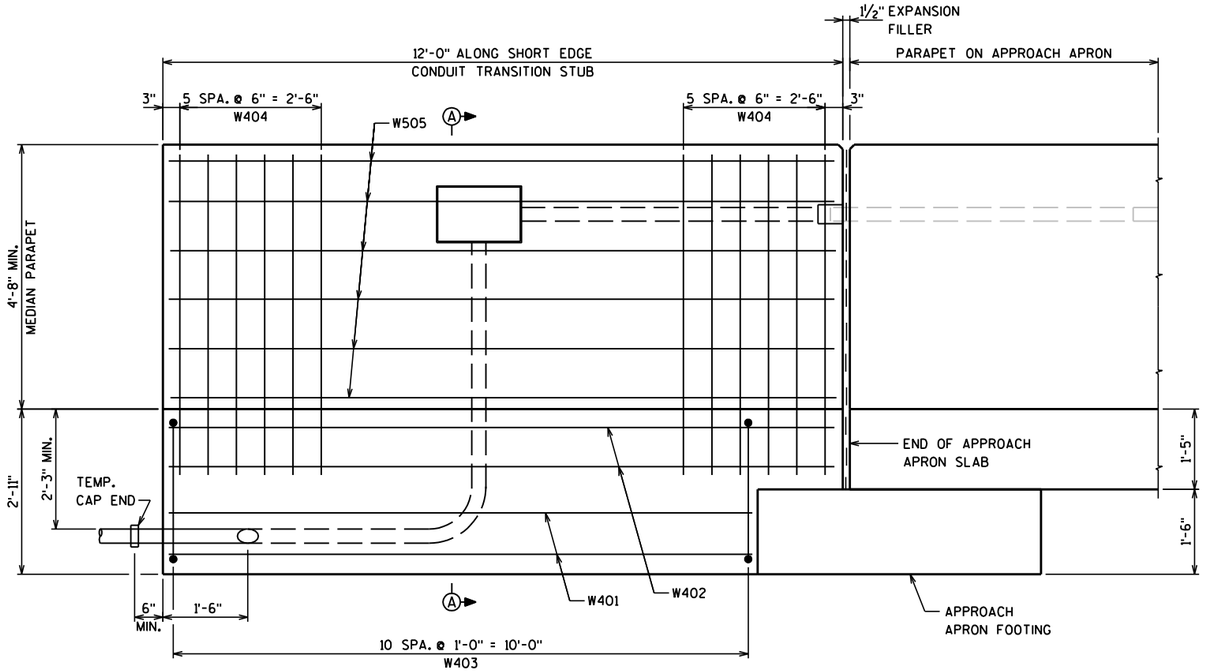
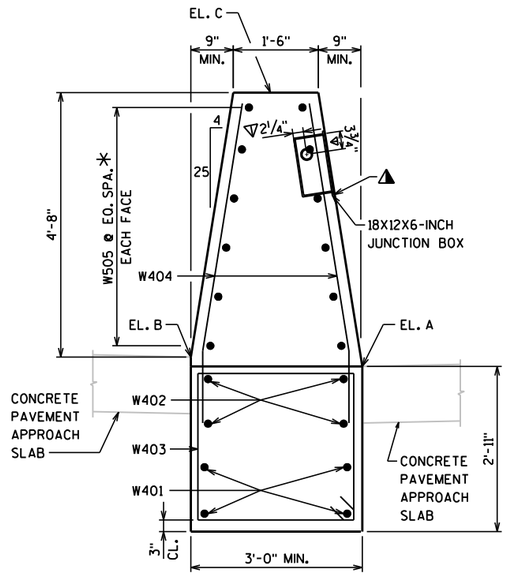


CONDUIT TRANSITION STUB ELEVATION

AT MEDIAN PARAPET



SECTION A-A

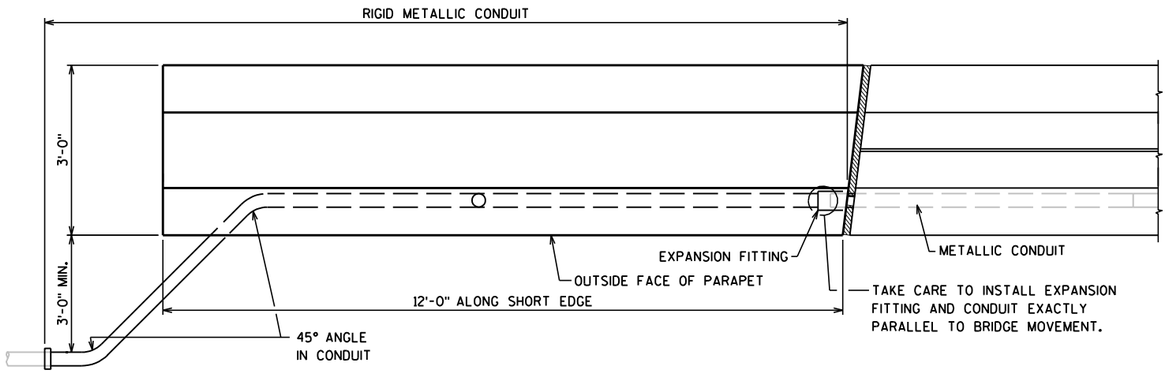
(LOOKING NORTH)

NOTES:

▲ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.

▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.

✳ CUT BARS AS REQUIRED TO ACCOMMODATE JUNCTION BOX.

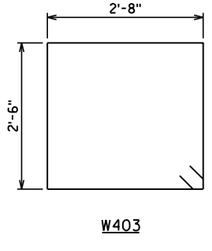


CONDUIT TRANSITION STUB PLAN

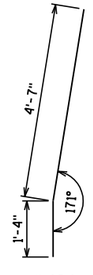
LOCATION	NB STA.	EL. A	EL. B	EL. C
END OF S. CONDUIT TRANSITION	982+04.6	668.35	668.39	673.06
END OF SOUTH APPROACH APRON	982+16.92	668.50	668.54	673.21
END OF NORTH APPROACH APRON	984+08.76	670.05	670.17	674.84
END OF N. CONDUIT TRANSITION	984+21.08	670.10	670.23	674.89

BILL OF BARS

BAR MARK	COAT	SOUTH	NORTH	LENGTH	BENT	LOCATION
W401	X	4	4	10'-0"		FOOTING HORIZONTAL
W402	X	4	4	11'-6"		FOOTING HORIZONTAL
W403	X	11	11	10'-10"	X	FOOTING STIRRUP
W404	X	12	12	5'-11"	X	STUB PARAPET VERTICAL
W505	X	12	12	11'-5"		STUB PARAPET HORIZONTAL



W403



W404

BAR BENDS

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STRUCTURE B-05-633

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CONDUIT TRANSITION STUB

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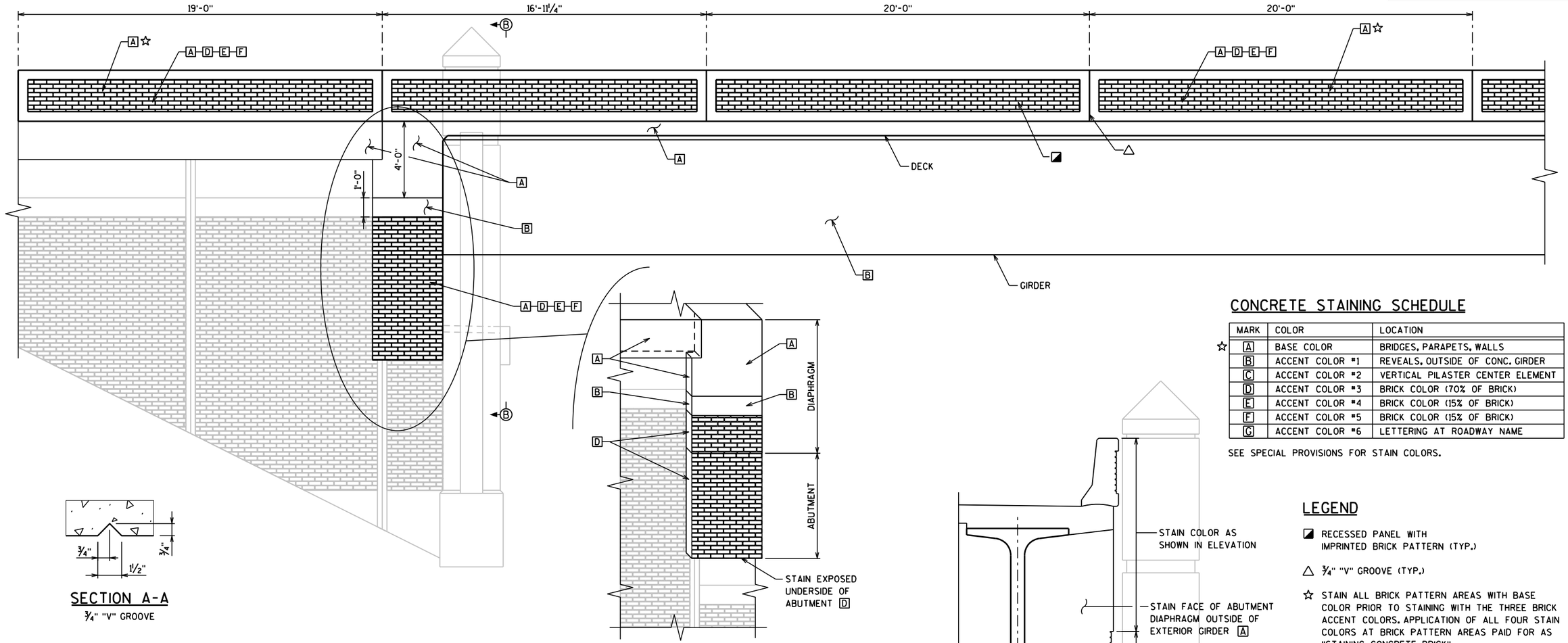


CONCRETE STAINING SCHEDULE

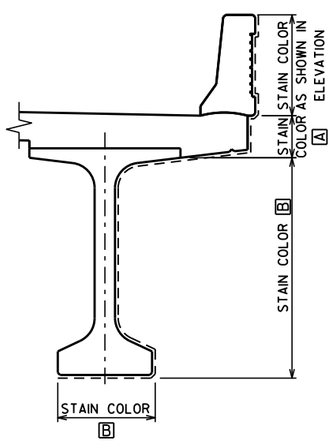
	MARK	COLOR	LOCATION
☆	A	BASE COLOR	BRIDGES, PARAPETS, WALLS
	B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER
	C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT
	D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
	E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
	F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
	G	ACCENT COLOR #6	LETTERING AT ROADWAY NAME

SEE SPECIAL PROVISIONS FOR STAIN COLORS.

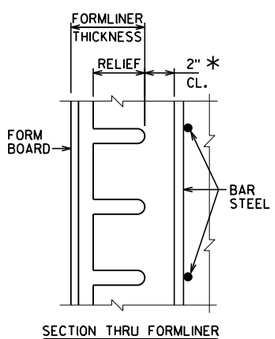
LEGEND

- ◪ RECESSED PANEL WITH IMPRINTED BRICK PATTERN (TYP.)
- △ ¾" "V" GROOVE (TYP.)
- ☆ STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".
- ◑ SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE)

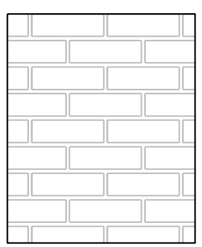
SECTION A-A
¾" "V" GROOVE



OUTSIDE GIRDER



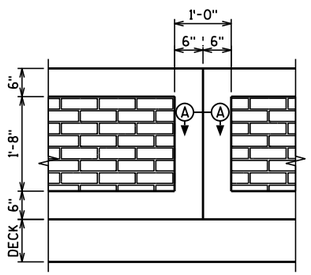
SECTION THRU FORMLINER



TYPICAL PATTERN

ARCHITECTURAL SURFACE TREATMENT
RECTANGULAR BRICK

REFER TO SPECIAL PROVISIONS FOR DISCRIPTION OF BRICK PATTERN.



TYPICAL PARAPET DIMENSIONS

SECTION B-B

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-05-633

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AESTHETIC DETAILS

SHEET 22 OF 22

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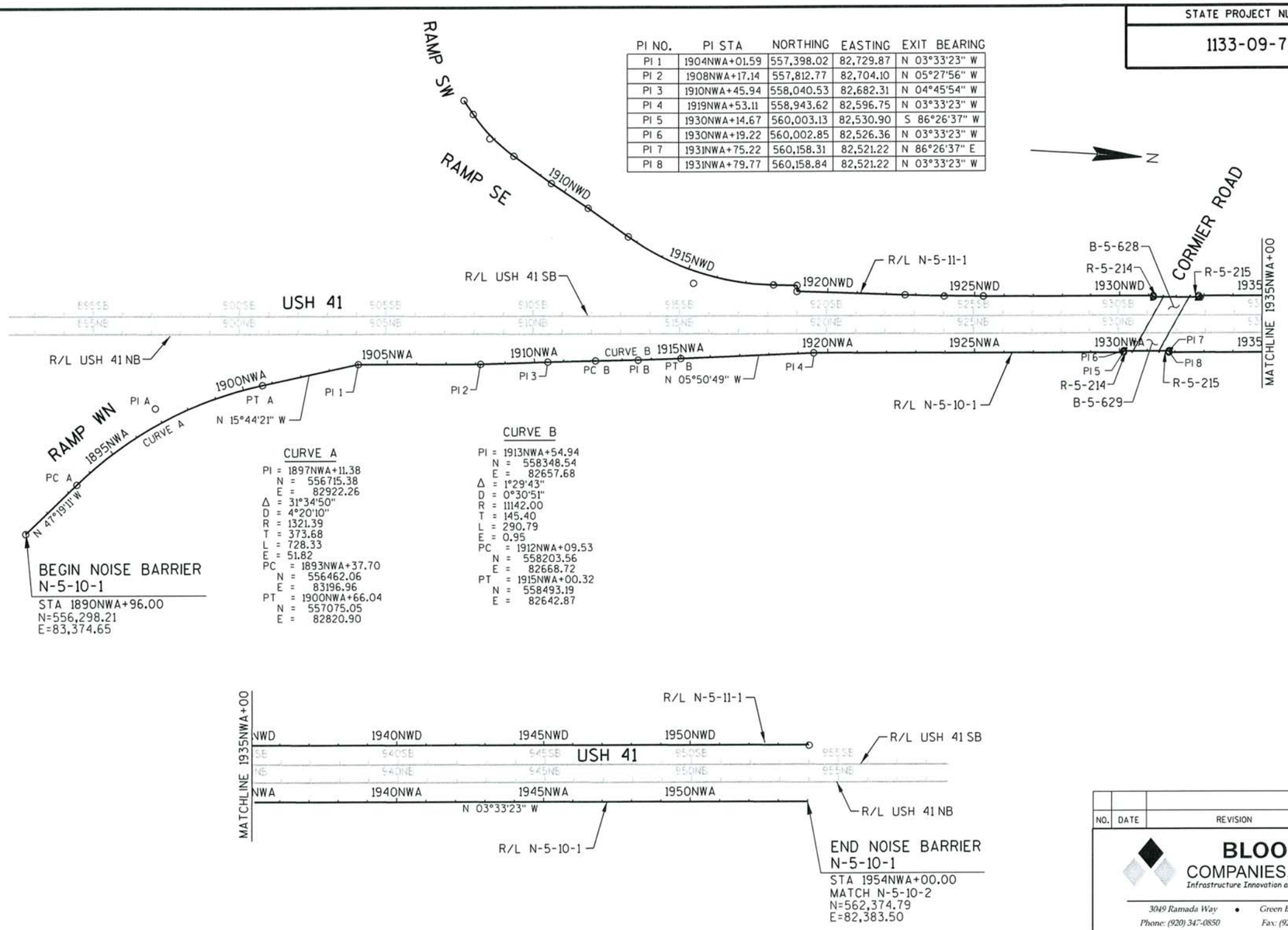
STATE PROJECT NUMBER

1133-09-71

LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES AND AESTHETIC DETAILS
3. CONNECTION DETAILS
4. CONSTRUCTION DETAILS 1
5. CONSTRUCTION DETAILS 2
6. SUBSURFACE EXPLORATION 1
7. SUBSURFACE EXPLORATION 2
8. SUBSURFACE EXPLORATION 3
9. SUBSURFACE EXPLORATION 4
10. SUBSURFACE EXPLORATION 5
11. SUBSURFACE EXPLORATION 6
12. NOISE BARRIER PLAN AND PROFILE 1
13. NOISE BARRIER PLAN AND PROFILE 2
14. NOISE BARRIER PLAN AND PROFILE 3
15. NOISE BARRIER PLAN AND PROFILE 4
16. NOISE BARRIER PLAN AND PROFILE 5
17. NOISE BARRIER PLAN AND PROFILE 6

PI NO.	PI STA	NORTHING	EASTING	EXIT BEARING
PI 1	1904NWA+01.59	557,398.02	82,729.87	N 03°33'23" W
PI 2	1908NWA+17.14	557,812.77	82,704.10	N 05°27'56" W
PI 3	1910NWA+45.94	558,040.53	82,682.31	N 04°45'54" W
PI 4	1919NWA+53.11	558,943.62	82,596.75	N 03°33'23" W
PI 5	1930NWA+14.67	560,003.13	82,530.90	S 86°26'37" W
PI 6	1930NWA+19.22	560,002.85	82,526.36	N 03°33'23" W
PI 7	1931NWA+75.22	560,158.31	82,521.22	N 86°26'37" E
PI 8	1931NWA+79.77	560,158.84	82,521.22	N 03°33'23" W



CURVE A

PI = 1897NWA+11.38
N = 556715.38
E = 82922.26
Δ = 31°34'50"
D = 4°20'10"
R = 1321.39
T = 373.68
L = 728.33
E = 51.82
PC = 1893NWA+37.70
N = 556462.06
E = 83196.96
PT = 1900NWA+66.04
N = 557075.05
E = 82820.90

CURVE B

PI = 1913NWA+54.94
N = 558348.54
E = 82657.68
Δ = 1°29'43"
D = 0°30'51"
R = 11142.00
T = 145.40
L = 290.79
E = 0.95
PC = 1912NWA+09.53
N = 558203.56
E = 82668.72
PT = 1915NWA+00.32
N = 558493.19
E = 82642.87

BEGIN NOISE BARRIER
N-5-10-1
STA 1890NWA+96.00
N=556,298.21
E=83,374.65

END NOISE BARRIER
N-5-10-1
STA 1954NWA+00.00
MATCH N-5-10-2
N=562,374.79
E=82,383.50

GENERAL NOTES

1) DRAWINGS SHALL NOT BE SCALED.

2) THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS AND SHOP DRAWINGS FOR THE NOISE BARRIER IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE NOISE BARRIER MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-10-1".

3) PLANS, ELEVATIONS AND DETAILS SHOWN ARE INTENDED TO INDICATE LOCATIONS, LENGTHS, HEIGHTS AND DETAILS COMMON TO THE SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

4) THE NOISE BARRIER IS TO BE DESIGNED USING THE PROPOSED GROUND ELEVATION AT NOISE BARRIER R/L LINE AND ACOUSTICAL LINE.

5) ALL NOISE BARRIERS SHALL BE DESIGNED IN ACCORDANCE WITH THE 1989 GUIDE SPECIFICATIONS FOR STRUCTURAL DESIGN OF SOUND BARRIERS, INCLUDING THE 1992 AND 2002 INTERIM'S BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS.

6) THE FOLLOWING DESIGN WIND PRESSURES SHALL BE USED IN ACCORDANCE WITH THE SPECIAL PROVISIONS:
32 P.S.F. FOR GROUND MOUNTED BARRIERS
42 P.S.F. FOR STRUCTURE MOUNTED BARRIERS

7) MAXIMUM UNIT WEIGHT OF STRUCTURE MOUNTED NOISE BARRIER 50 P.S.F.

8) NOISE BARRIERS MOUNTED ON RETAINING WALLS REQUIRE THE COMPLETE ROADWAY PAVEMENT STRUCTURE (OR EQUIVALENT EARTH FILL) OVER THE TOP OF THE MOMENT SLAB TO RESIST DESIGN WIND PRESSURE. LIMIT ERECTION OF PANELS TO 2/3 THE HEIGHT OF THE ACOUSTICAL LINE PRIOR TO PLACEMENT OF PAVEMENT.

9) INCLUDE THE COST OF THE COATING OF STEEL POSTS AND CONNECTIONS UNDER THE BID ITEM "NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-10-1"

10) A PORTION OF THE NOISE BARRIER WILL BE MOUNTED ON STRUCTURES. SEE STRUCTURE PLANS B-5-629, R-5-214, R-5-215 FOR NOISE BARRIER ANCHORAGE DETAILS AND LOCATIONS.

STRUCTURES DESIGN CONTACTS

BUREAU OF STRUCTURES:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
MICHELLE GARRIGAN (920) 347-0850

WISCONSIN
MICHELLE M. GARRIGAN
E-31966
GREEN BAY, WIS.
PROFESSIONAL ENGINEER
11-30-12

NO.	DATE	REVISION	BY

BLOOM COMPANIES, LLC
Infrastructure Innovation and Ingenuity
3049 Ramada Way • Green Bay, WI 54304
Phone: (920) 347-0850 Fax: (920) 347-0851

ACCEPTED William C. Dreher KAR 04/03/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE N-5-10-1

USH 41 NB, STH 172 TO STA 1954NWA+00

COUNTY	BROWN	VILLAGE	ASHWAUBENON
DESIGN SPEC.	AASHTO STD SPECS 2002	LOAD	N/A
DESIGNED BY	CE	DESIGN CK'D.	AS
DRAWN BY	CMF	PLANS CK'D.	MG

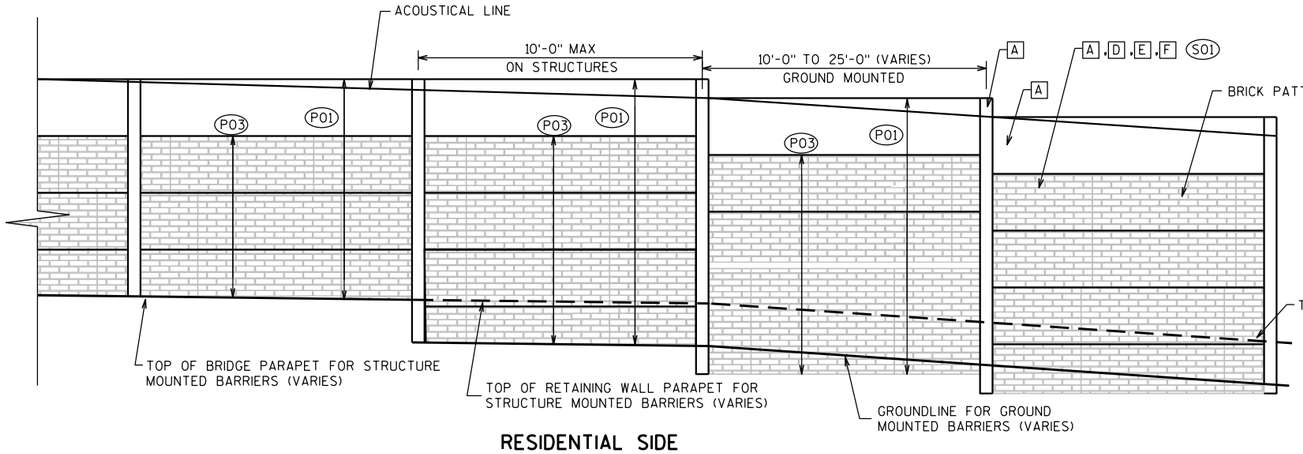
GENERAL PLAN

SHEET 1 OF 17

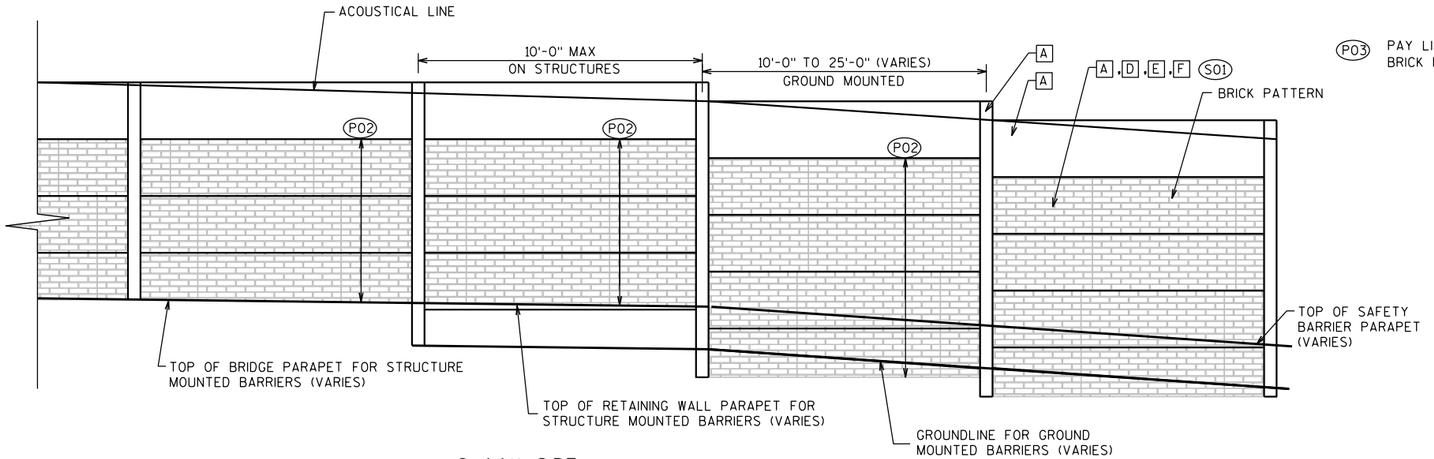
8

8

STATE PROJECT NUMBER
1133-09-71



RESIDENTIAL SIDE



HIGHWAY SIDE

S01 STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF BASE COLOR A INCIDENTAL TO NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE). APPLICATION OF ACCENT COLORS D, E, & F AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

P01 PAY LIMITS OF NOISE BARRIER SINGLE SIDED SOUND ABSORPTIVE (STRUCTURE) (SOUND ABSORPTIVE MATERIAL FACES HIGHWAY)

P02 PAY LIMITS OF STAINING CONCRETE BRICK FOR HIGHWAY SIDE

P03 PAY LIMITS OF STAINING CONCRETE BRICK FOR RESIDENTIAL SIDE

TOTAL ESTIMATE OF QUANTITIES

BID ITEM NO.	BID ITEM	UNIT	TOTAL
531.0200.S.900	NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-10-1	SF	94.000
SPV.0060.900	FIRE DEPARTMENT CONNECTORS	EACH	1
SPV.0060.903	FIRE HYDRANT SIGN MOUNTING	EACH	2
SPV.0060.904	MAINTENANCE DOOR	EACH	1
SPV.0165.502	STAINING CONCRETE BRICK	SF	150.000

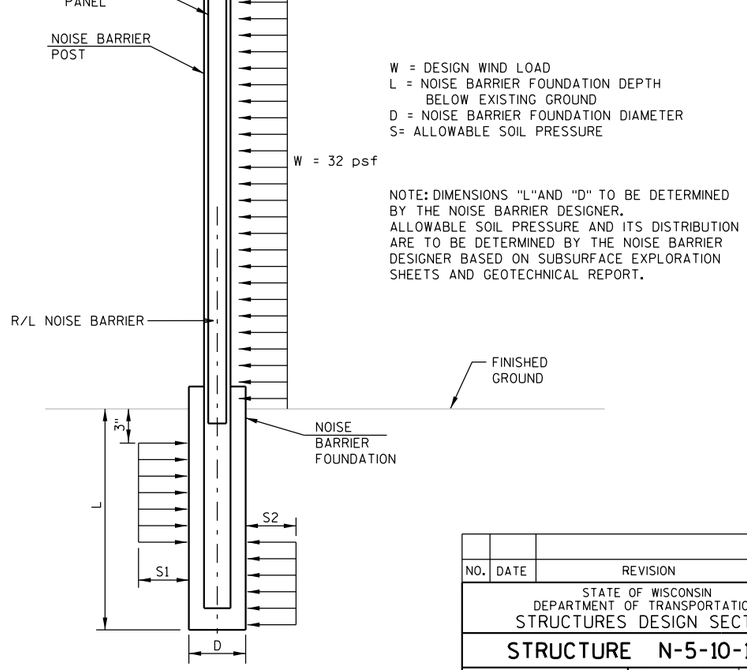
CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
~~B~~	~~ACCENT COLOR #1~~	~~REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS~~
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~

NOTES

1) STEP PANELS A MINIMUM OF 1' AND A MAXIMUM OF 3'. WHEN MORE THAN ONE PANEL MUST STEP CONSECUTIVELY, KEEP THE STEP INCREMENT THE SAME FOR EACH SEGMENT OF STEPPING PANELS.

2) ADJUST VERTICAL PLACEMENT OF PANELS TO MAXIMIZE HORIZONTAL RUNS, KEEPING THE TOP OF PANELS AT THE SAME ELEVATION.



GROUND MOUNTED NOISE BARRIER LOADING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-1

DRAWN BY CMF | PLANS CK'D. MG

QUANTITIES AND AESTHETIC DETAILS

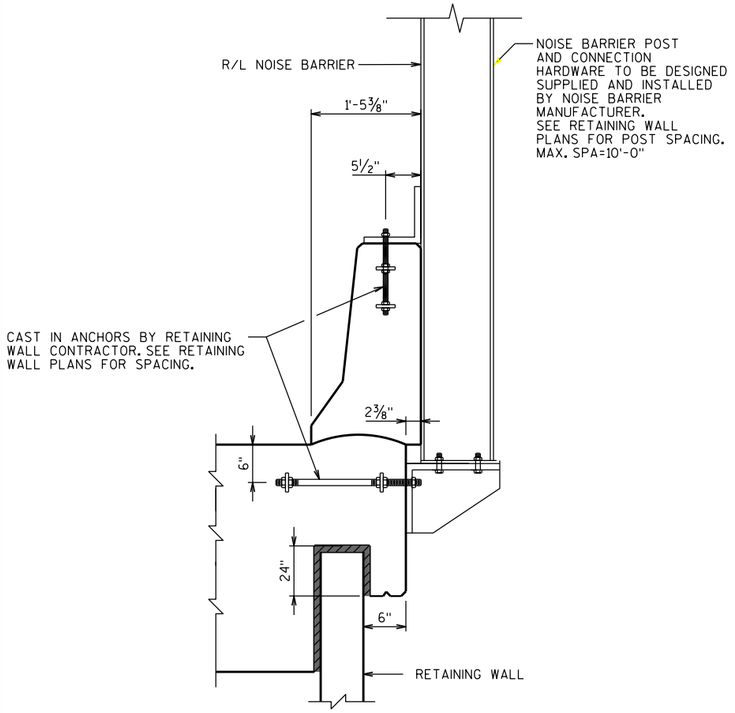
SHEET 2 OF 17

2158

8

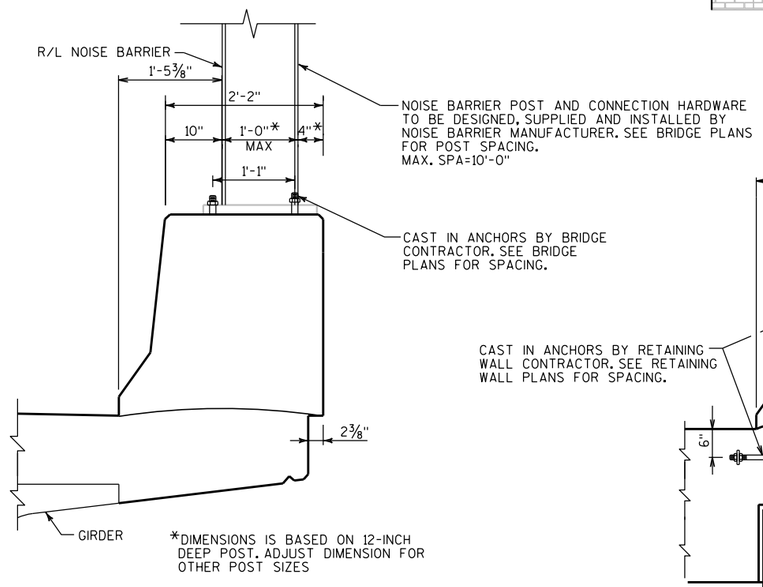
8

STATE PROJECT NUMBER
1133-09-71



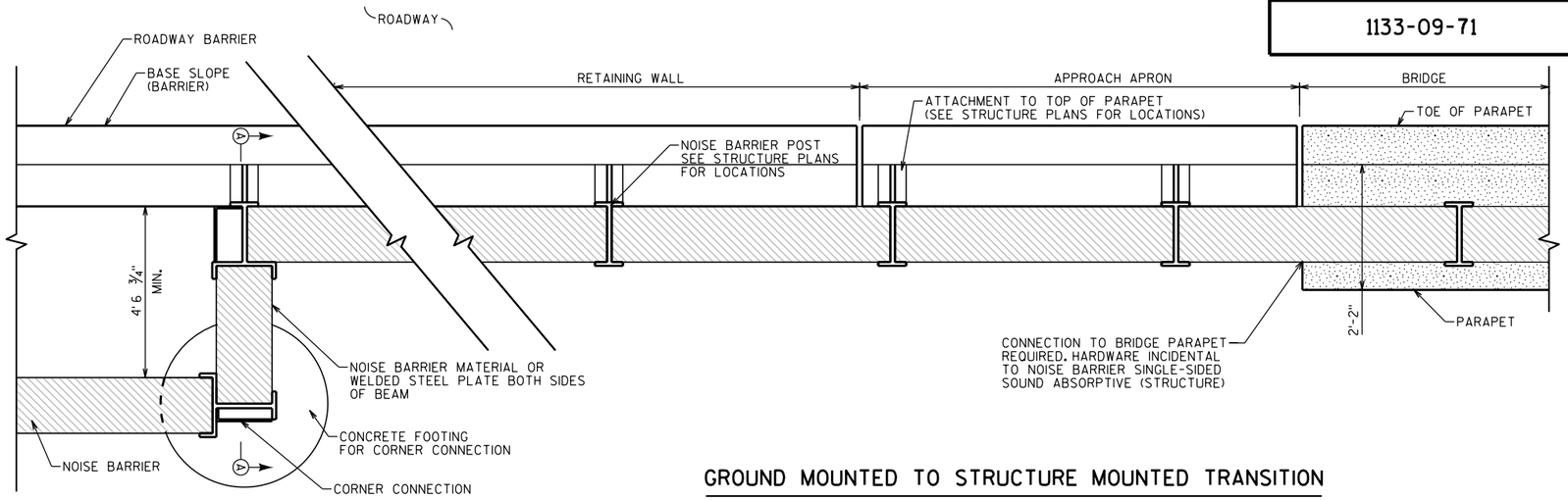
NOISE BARRIER ON RETAINING WALL

SECTION VIEW
TYPICAL AT EACH POST LOCATION



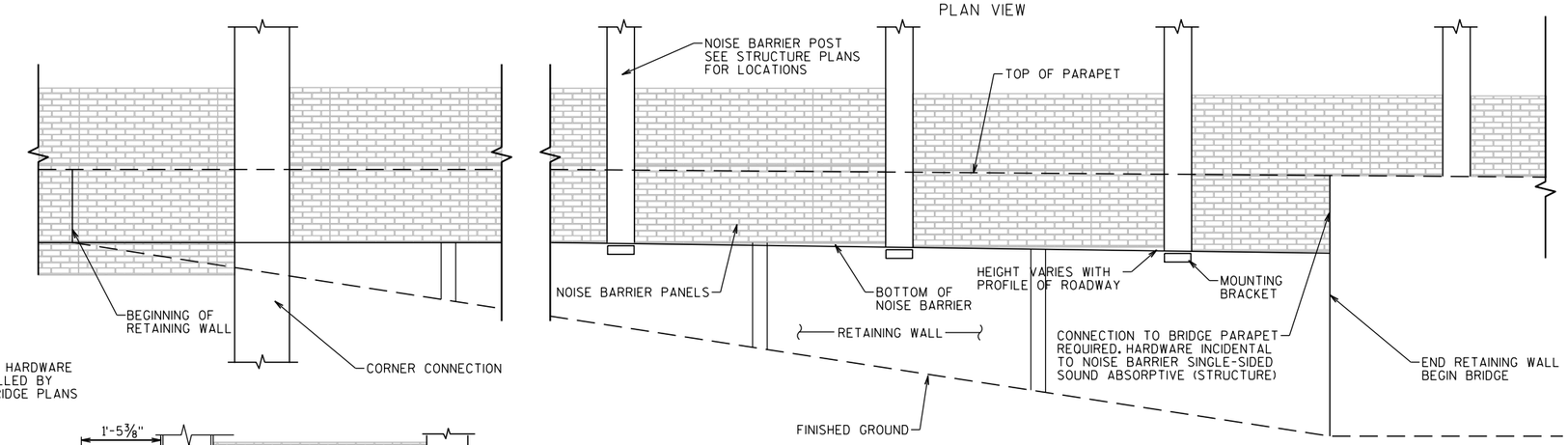
NOISE BARRIER ON BRIDGE PARAPET

SECTION VIEW
TYPICAL AT EACH POST LOCATION



GROUND MOUNTED TO STRUCTURE MOUNTED TRANSITION

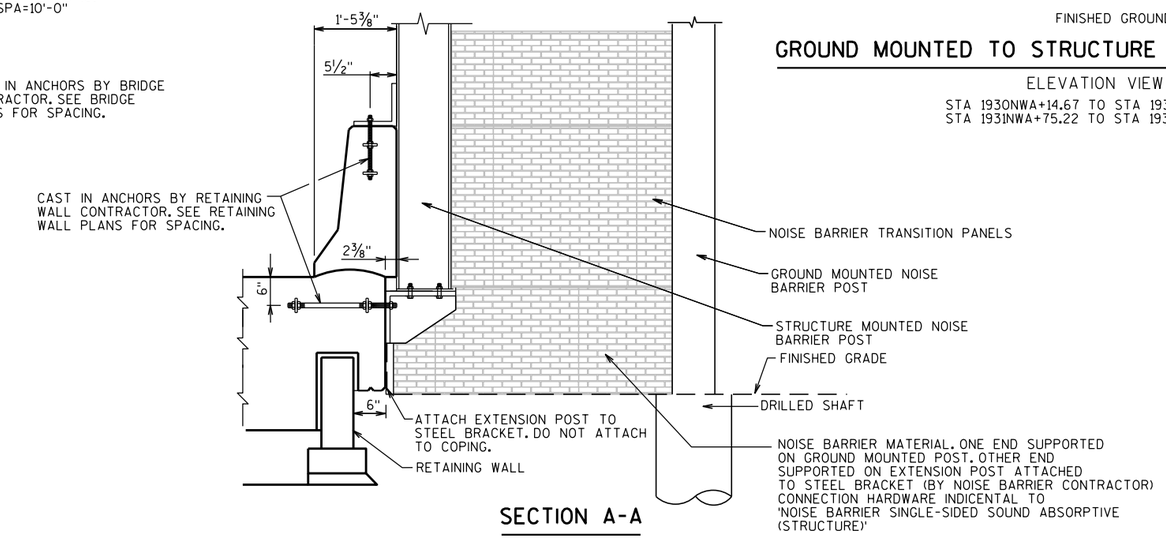
PLAN VIEW



GROUND MOUNTED TO STRUCTURE MOUNTED TRANSITION

ELEVATION VIEW

STA 1930NWA+14.67 TO STA 1930NWA+19.22
STA 1931NWA+75.22 TO STA 1931NWA+79.77



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-1

DRAWN BY CMF | PLANS CK'D. MG

CONNECTION DETAILS

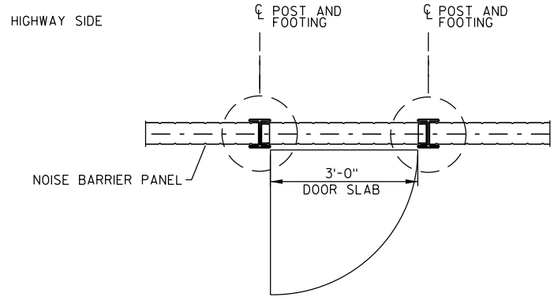
SHEET 3 OF 17

2159

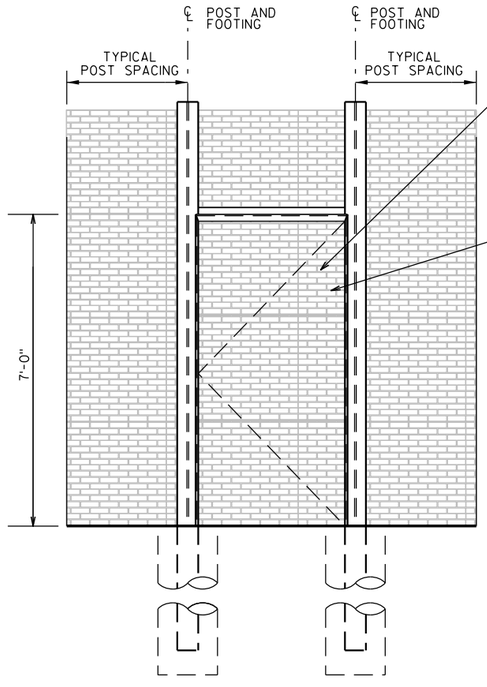
8

8

STATE PROJECT NUMBER
1133-09-71



DOOR PLAN



MAINTENANCE DOOR TO HAVE SAME AESTHETIC TREATMENT AS NOISE BARRIER PANELS. BRICK PATTERN INCIDENTAL TO MAINTENANCE DOOR

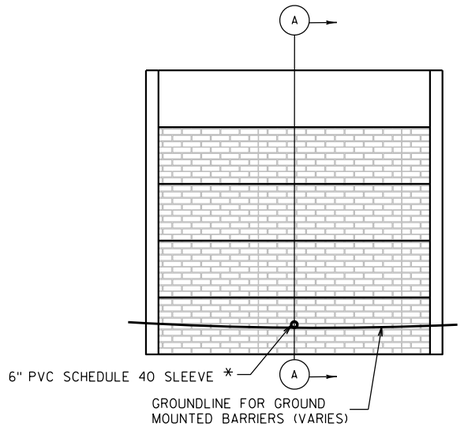
STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF BASE COLOR A INDICENTAL TO MAINTENANCE DOOR. APPLICATION OF ACCENT COLORS D, E, & F AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

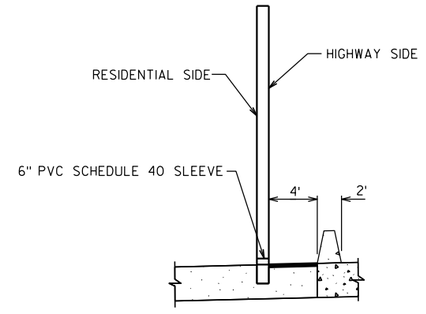
MAINTENANCE DOOR

STA 1929NWA+50

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
~~B~~	~~ACCENT COLOR #1~~	~~REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS~~
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~





SECTION A-A

NOTES

1)* WEEP HOLE OPENING AND 6" PVC SCHEDULE 40 SLEEVE ARE INCIDENTAL TO NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE)

2) EXPOXY 6" PVC SCHEDULE 40 SLEEVE INTO BORED WEEP HOLE IN NOISE WALL

3) ENGINEER WILL FIELD VERIFY HEIGHT AND LOCATION OF WEEP HOLE SO THAT THE INVERT IS AT THE LOW POINT

WEEP HOLE

STA 1905NWA+95
STA 1949NWA+05

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-1

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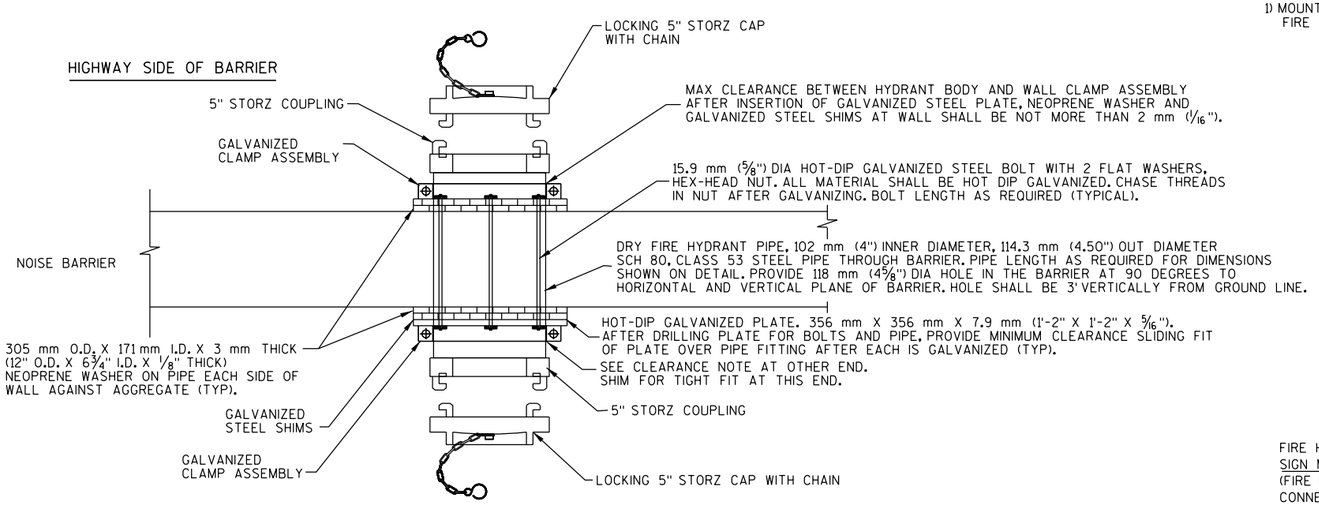
CONSTRUCTION DETAILS 1

SHEET 4 OF 17

2160



MATERIALS AND SPECIFICATIONS:

STEEL PLATE	ASTM A36-84a
BOLTS	ASTM A30-86a GRADE
PIPE	ASTM A53-84a SEAMLESS GRADE B
GALVANIZING	ASTM A123-84 HOT-DIP FOR STEEL PLATE, ETC. ASTM A153-87 HOT-DIP GALVANIZED CLASS C FOR HARDWARE, BOLTS, ETC.

NOTES

1) TIP CONNECTOR SLIGHTLY TOWARD HIGHWAY SIDE OF WALL TO PROVIDE DRAINAGE.

2) SEE FIRE HYDRANT LOCATION/HOSE ACCESS CONSTRUCTION DETAIL FOR PLACEMENT OF SIGNS

FIRE DEPARTMENT CONNECTOR

APPROXIMATE STA 1906NWA+50

NOTES

1) DISTANCE FROM GROUND TO FIRE DEPARTMENT CONNECTOR SHALL BE 3 FEET. DISTANCE FROM TOP OF PARAPET TO STANDPIPE SHALL BE 6 INCHES. THE FIRE DEPARTMENT CONNECTOR SHALL BE CENTERED BETWEEN THE POSTS.

2) 4 5/8" HOLE SHALL BE FORMED IN THE SHOP DURING PANEL FABRICATION.

3) HOLE SHALL NOT BE CLOSER THAN 6" TO ANY EDGE OF THE BARRIER PANEL.

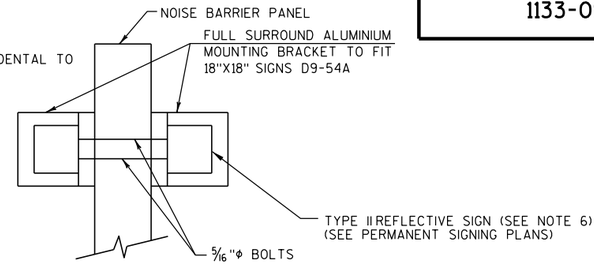
4) STAINLESS STEEL ANCHOR BOLTS OR APPROVED EQUIVALENT. BOLTS INDICENTAL TO SIGN REFLECTIVE TYPE 2.

5) TWO STANDARD SIGNS D9-54 WILL BE FURNISHED PER STATION BY THE ROADWAY CONTRACTOR. ONE SIGN SHALL BE INSTALLED ON EACH SIDE OF THE BARRIER. SIGNS TO BE PAID FOR AS SIGN REFLECTIVE TYPE 2 UNDER ROADWAY ITEMS.

6) STANDARD SIGNS D9-54A WILL BE FURNISHED PER STATION BY THE ROADWAY CONTRACTOR. SIGN SHALL BE ATTACHED TO THE NOISE BARRIER PANEL ON EACH SIDE NEAR THE TOP OF THE BARRIER. SIGNS TO BE PAID FOR AS SIGN REFLECTIVE TYPE 2 UNDER ROADWAY ITEMS. MOUNTING BRACKET TO BE PAID FOR UNDER FIRE HYDRANT SIGN MOUNTING UNDER ROADWAY ITEMS, SEE SPECIAL PROVISIONS.

NOTE

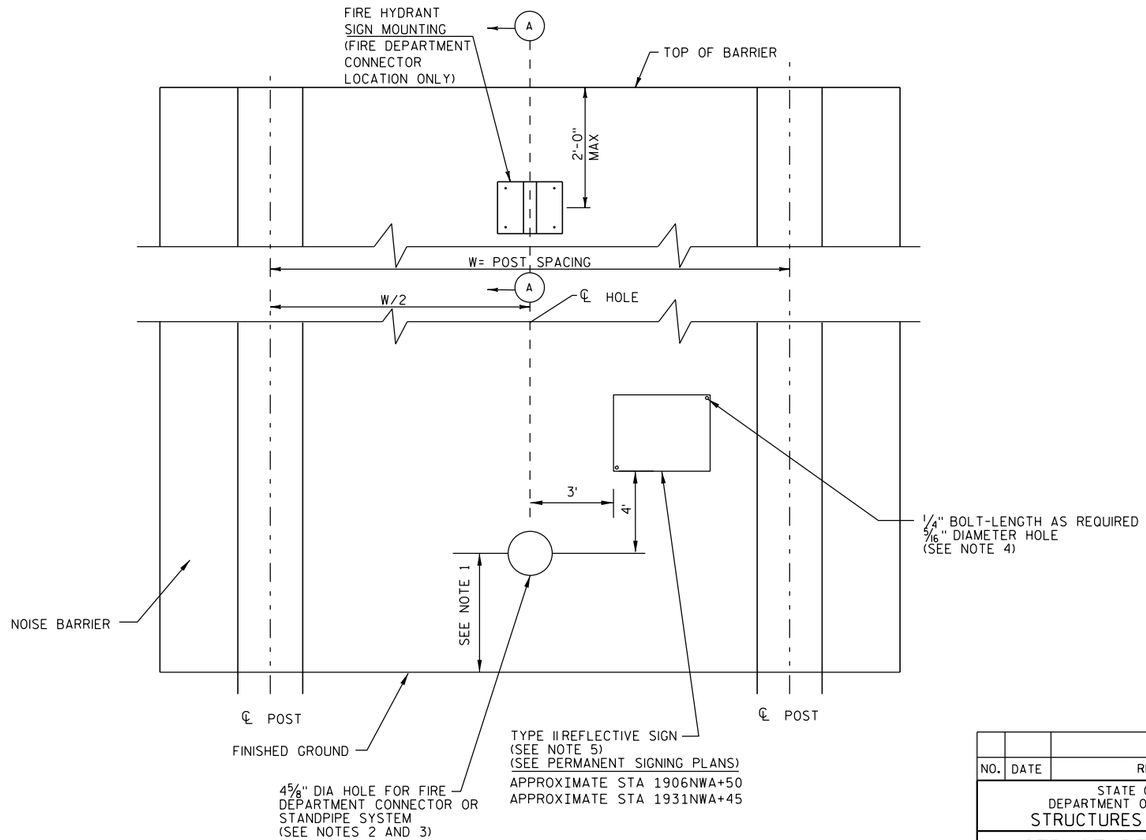
1) MOUNTING BOLTS, BRACKETS, ARE INCIDENTAL TO FIRE HYDRANT SIGN MOUNTING



SECTION A-A

FIRE HYDRANT SIGN MOUNTING

(TYPICAL AT FIRE DEPARTMENT CONNECTOR LOCATIONS)
APPROXIMATE STA 1906NWA+50



FIRE HYDRANT LOCATION/HOSE ACCESS DETAIL

(TYPICAL AT ALL FIRE HYDRANT PENETRATIONS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-1

DRAWN BY CMF | PLANS CK'D. MG

CONSTRUCTION DETAILS 2

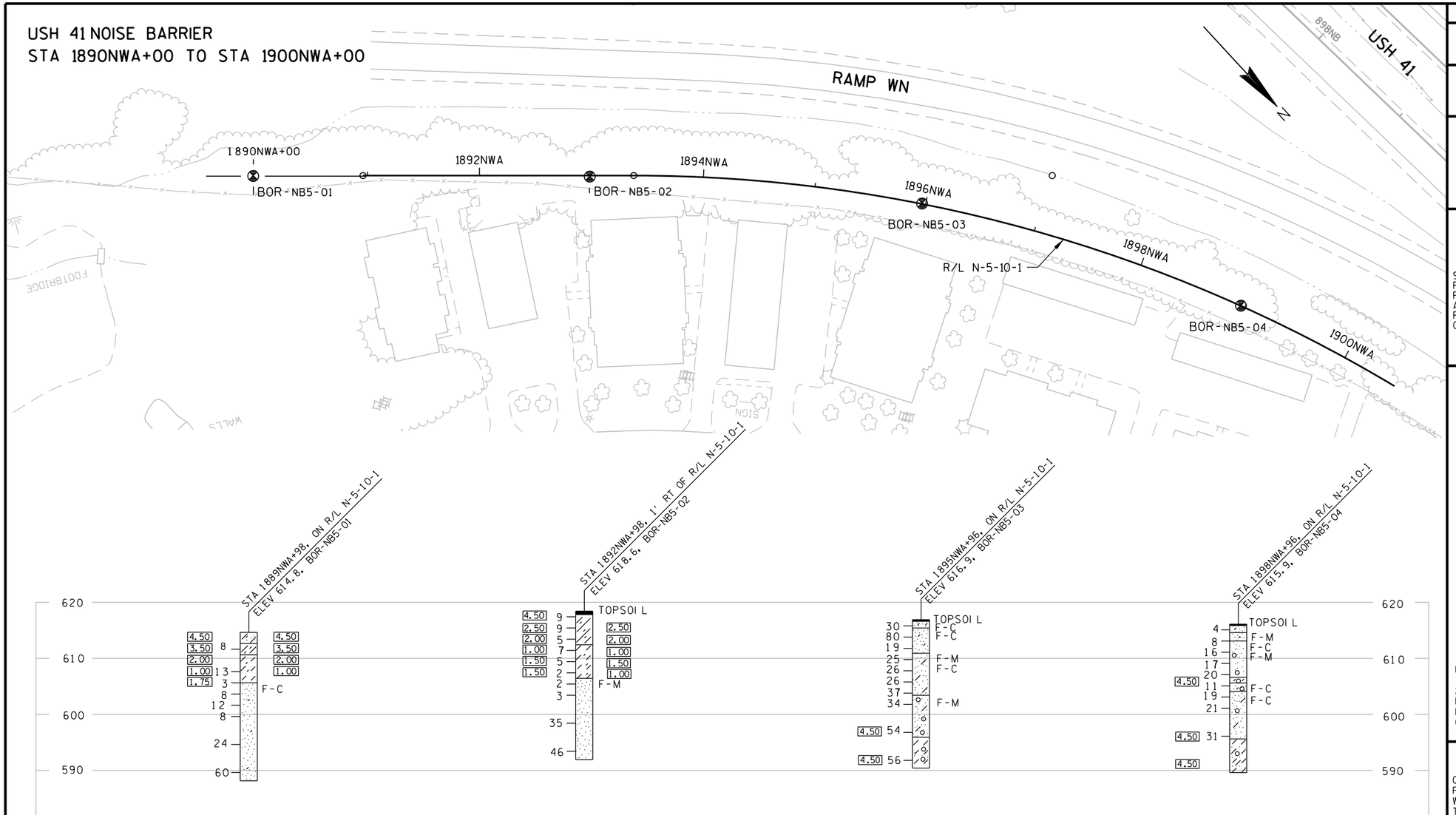
SHEET 5 OF 17

8

8

FILE NAME : F:\BM1-1726A\GS_11330984EB\0984\N-05-0010-01\bl_021002_cd.DGN PLOT DATE : 19-NOV-2012 12:27 PLOT BY : cfranzen PLOT NAME : PLOT SCALE : 100:1

USH 41 NOISE BARRIER
STA 1890NWA+00 TO STA 1900NWA+00



THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION DATED AUG 6, 2010. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

STATE PROJECT NUMBER

1133-09-71

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
ELEV.
STA.
UNCONFINED STRENGTH → 7.7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-1

DRAWN BY CMF | PLANS CK'D. MG

SUBSURFACE EXPLORATION 1

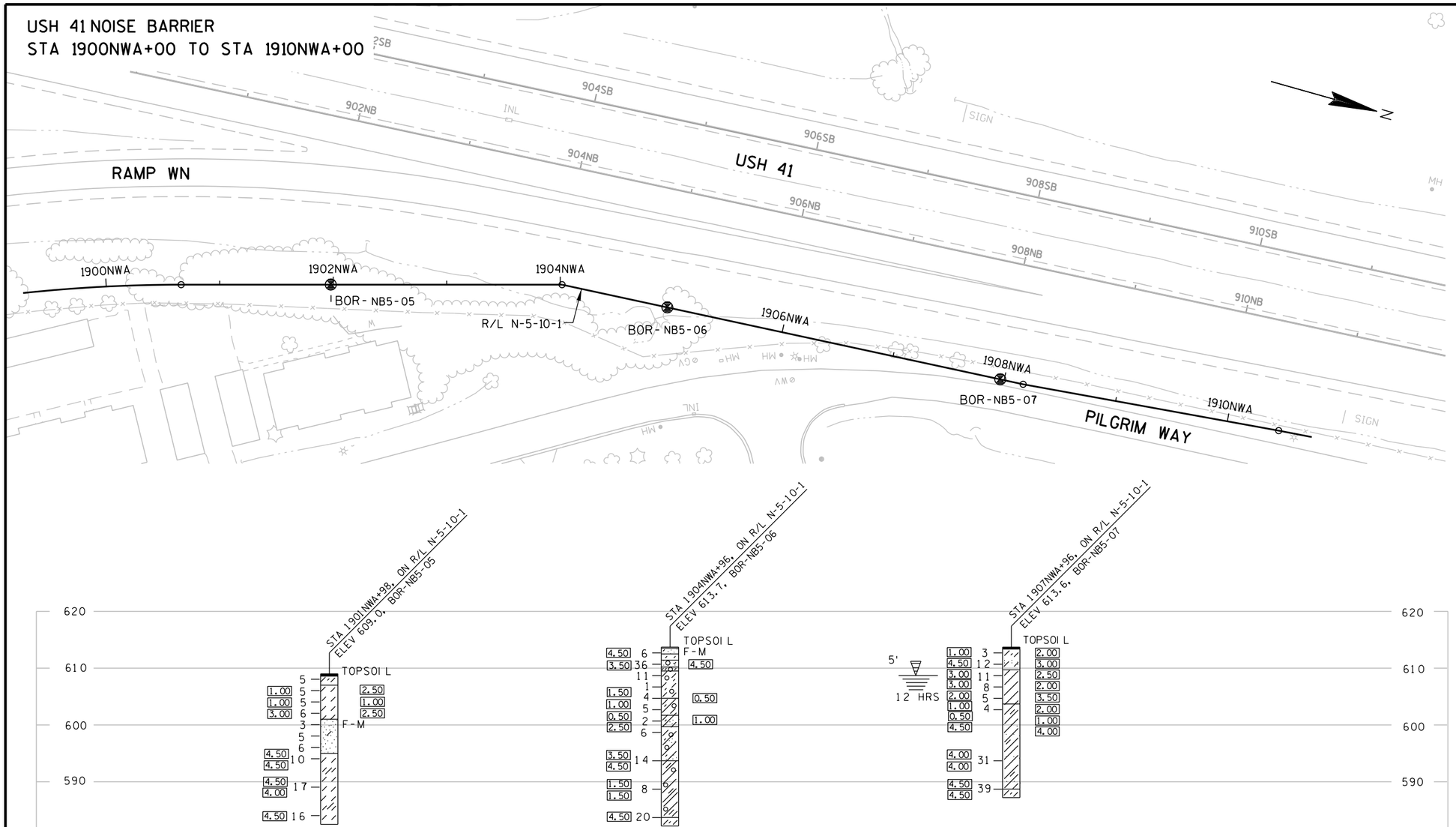
SHEET 6 OF 17

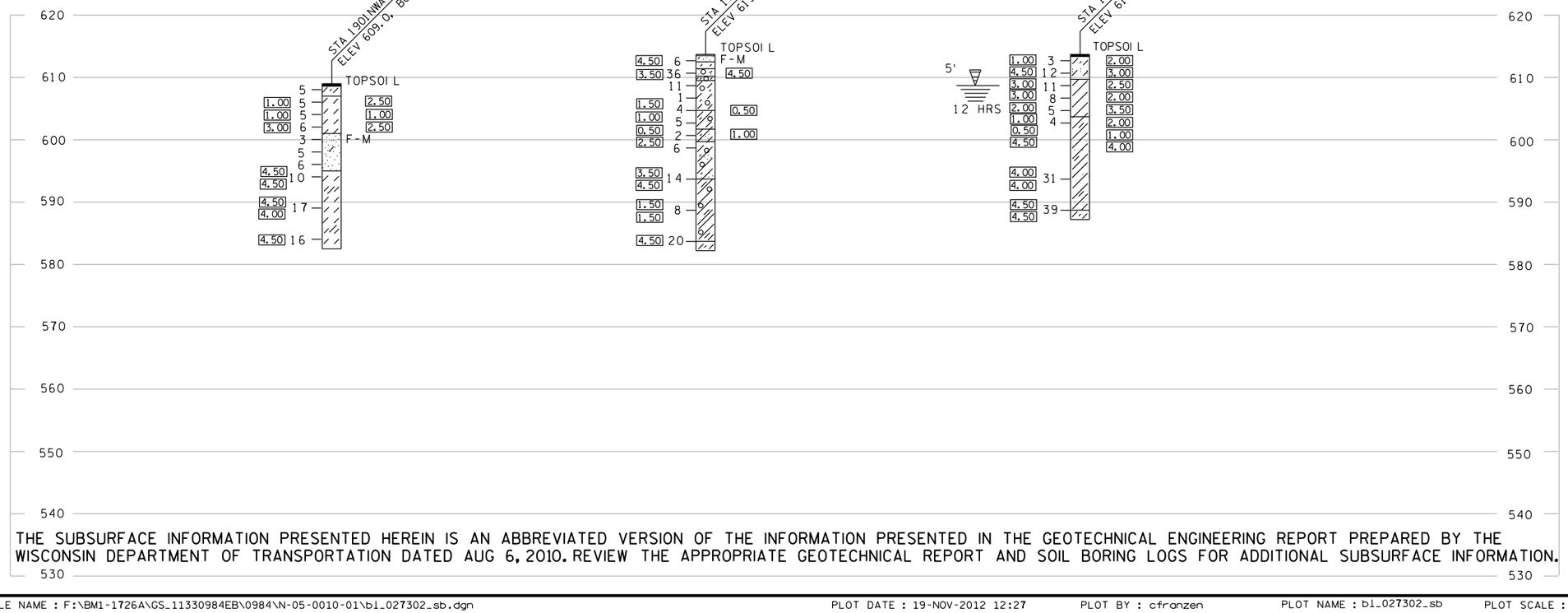
2162

8

8

USH 41 NOISE BARRIER
STA 1900NWA+00 TO STA 1910NWA+00





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STATE PROJECT NUMBER

1133-09-71

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
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MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
STA.
ELEV.
UNCONFINED STRENGTH → 7.7 7
SANDY GRAVEL
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
F. BOULDERS OR COBBLES
SHELBY TUBE — S.T.
SAND
GROUND WATER ELEVATION
SILTY CLAY
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-1

DRAWN BY CMF PLANS CK'D. MG

SUBSURFACE EXPLORATION 2

SHEET 7 OF 17

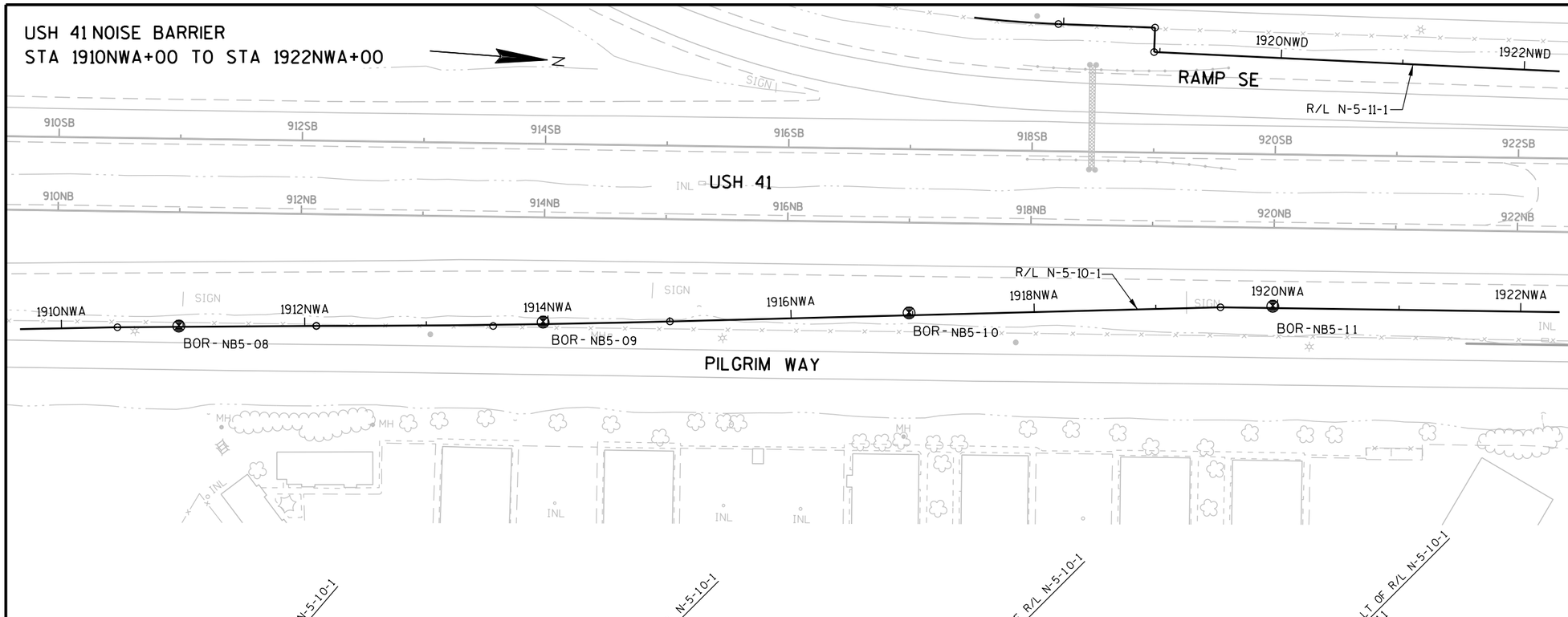
2163

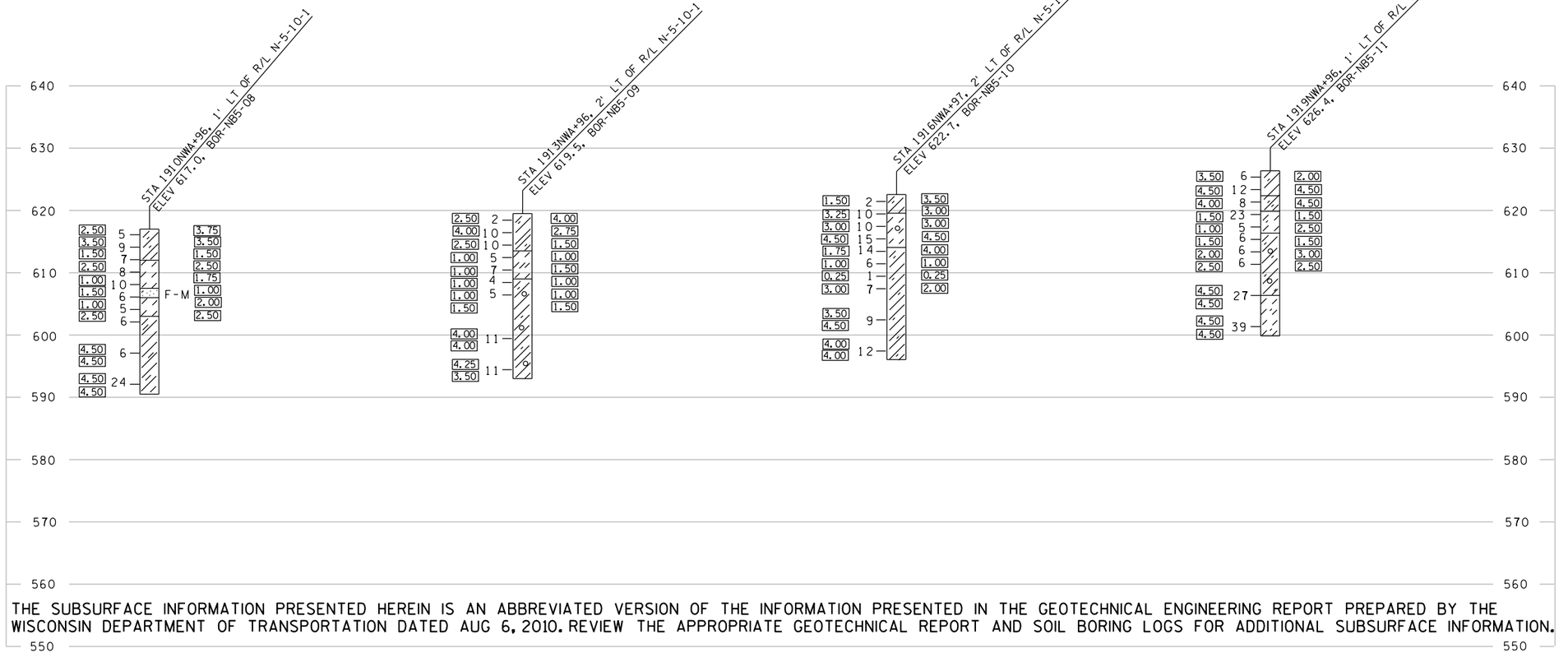
8

8

FILE NAME : F:\BM1-1726A\GS_11330984EB\0984\N-05-0010-01\b1_027302_sb.dgn PLOT DATE : 19-NOV-2012 12:27 PLOT BY : cfranzen PLOT NAME : b1_027302_sb PLOT SCALE : 100:1

USH 41 NOISE BARRIER
STA 1910NWA+00 TO STA 1922NWA+00





THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION DATED AUG 6, 2010. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

STATE PROJECT NUMBER

1133-09-71

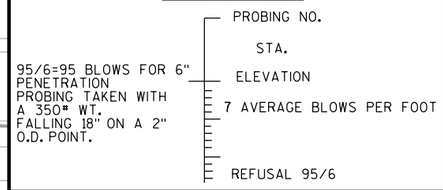
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

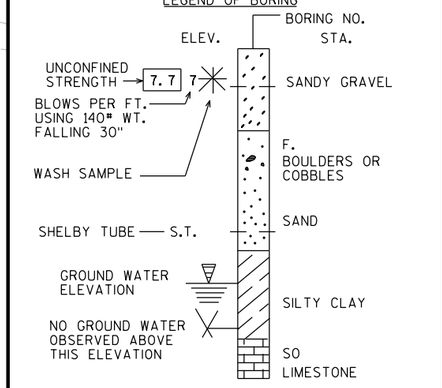
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



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SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-1

DRAWN BY CMF | PLANS CK'D. MG

SUBSURFACE EXPLORATION 3

SHEET 8 OF 17

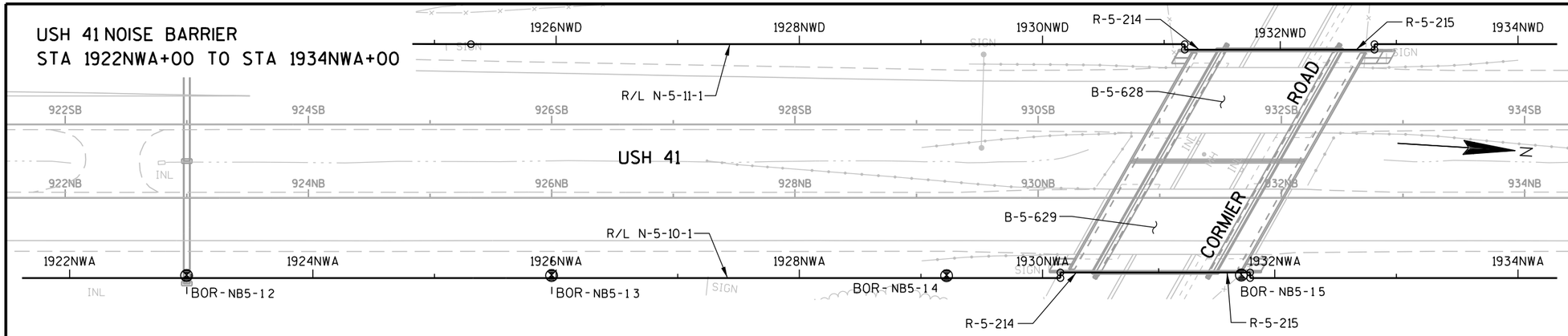
2164

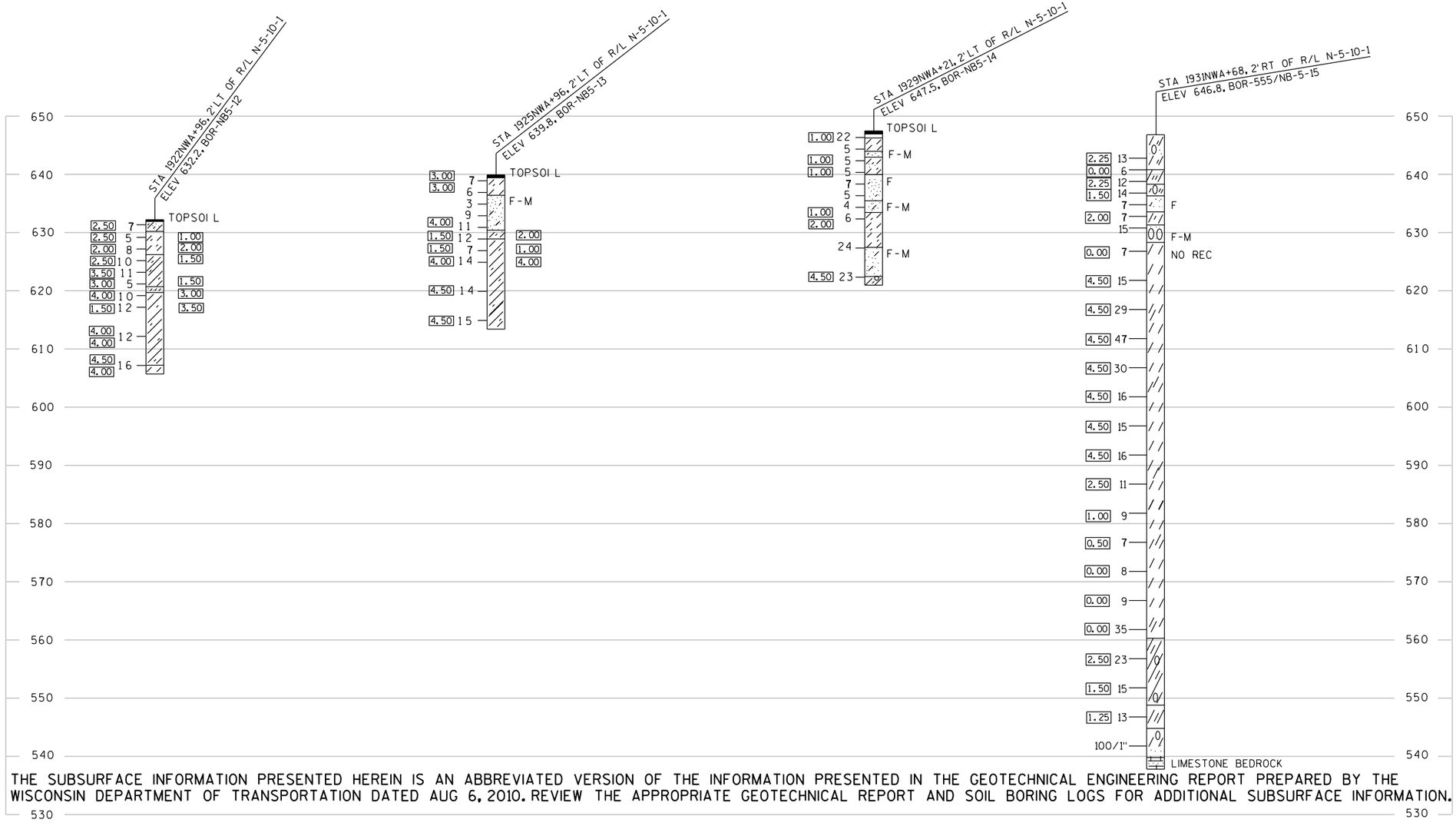
8

8

FILE NAME : F:\BM1-1726A\GS_11330984EB\0984\N-05-0010-01\bl_027303_sb.dgn PLOT DATE : 19-NOV-2012 12:27 PLOT BY : cfranzen PLOT NAME : bl_027303_sb PLOT SCALE : 100:1

USH 41 NOISE BARRIER
STA 1922NWA+00 TO STA 1934NWA+00





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STATE PROJECT NUMBER

1133-09-71

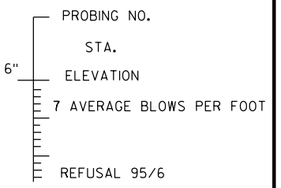
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

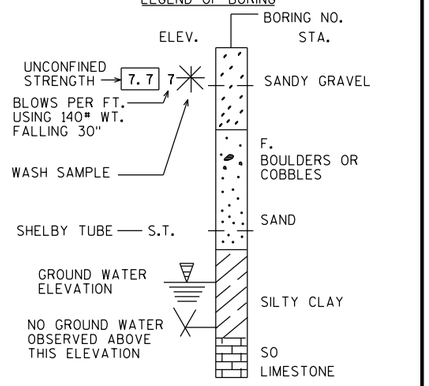
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-1

DRAWN BY CMF PLANS CK'D. MG

SUBSURFACE EXPLORATION 4

SHEET 9 OF 17

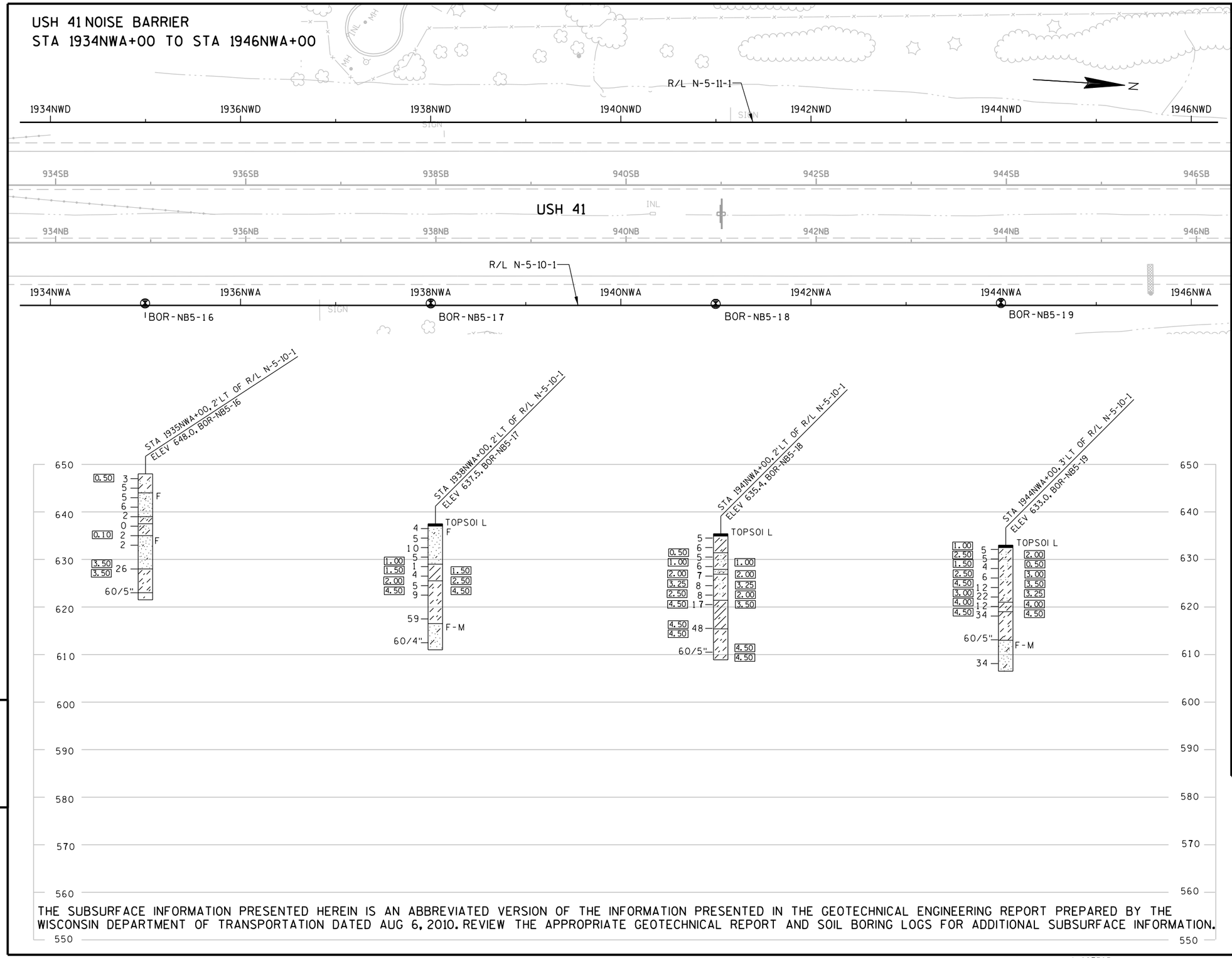
2165

8

8

FILE NAME : F:\BM1-1726A\GS_11330984EB\0984\N-05-0010-01\bl_027304_sb.dgn PLOT DATE : 19-NOV-2012 12:27 PLOT BY : cfranzen PLOT NAME : bl_027304_sb PLOT SCALE : 100:1

USH 41 NOISE BARRIER
STA 1934NWA+00 TO STA 1946NWA+00



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STATE PROJECT NUMBER

1133-09-71

ABBREVIATIONS

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WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

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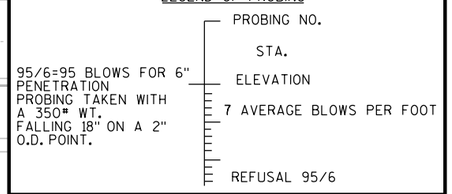
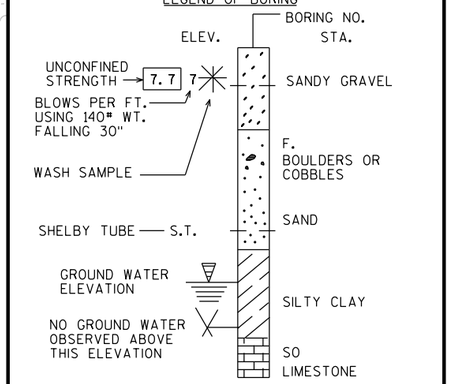
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-1

DRAWN BY CMF | PLANS CK'D. MG

SUBSURFACE EXPLORATION 5

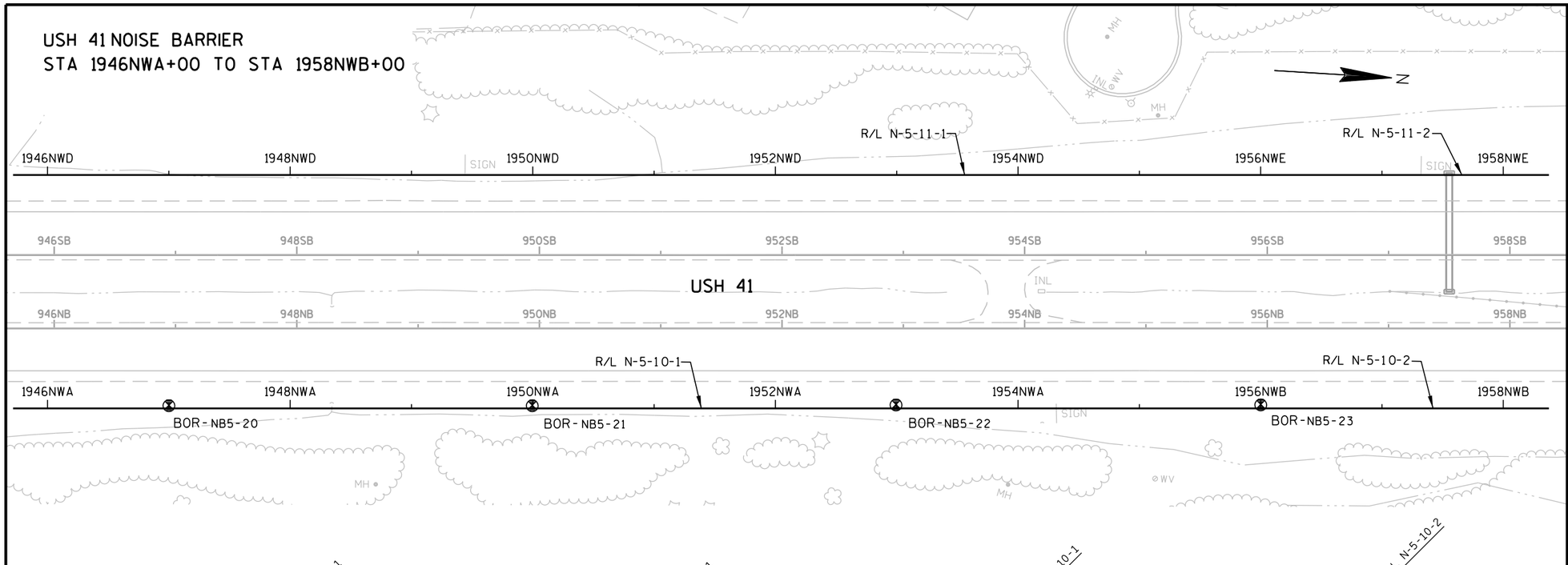
SHEET 10 OF 17

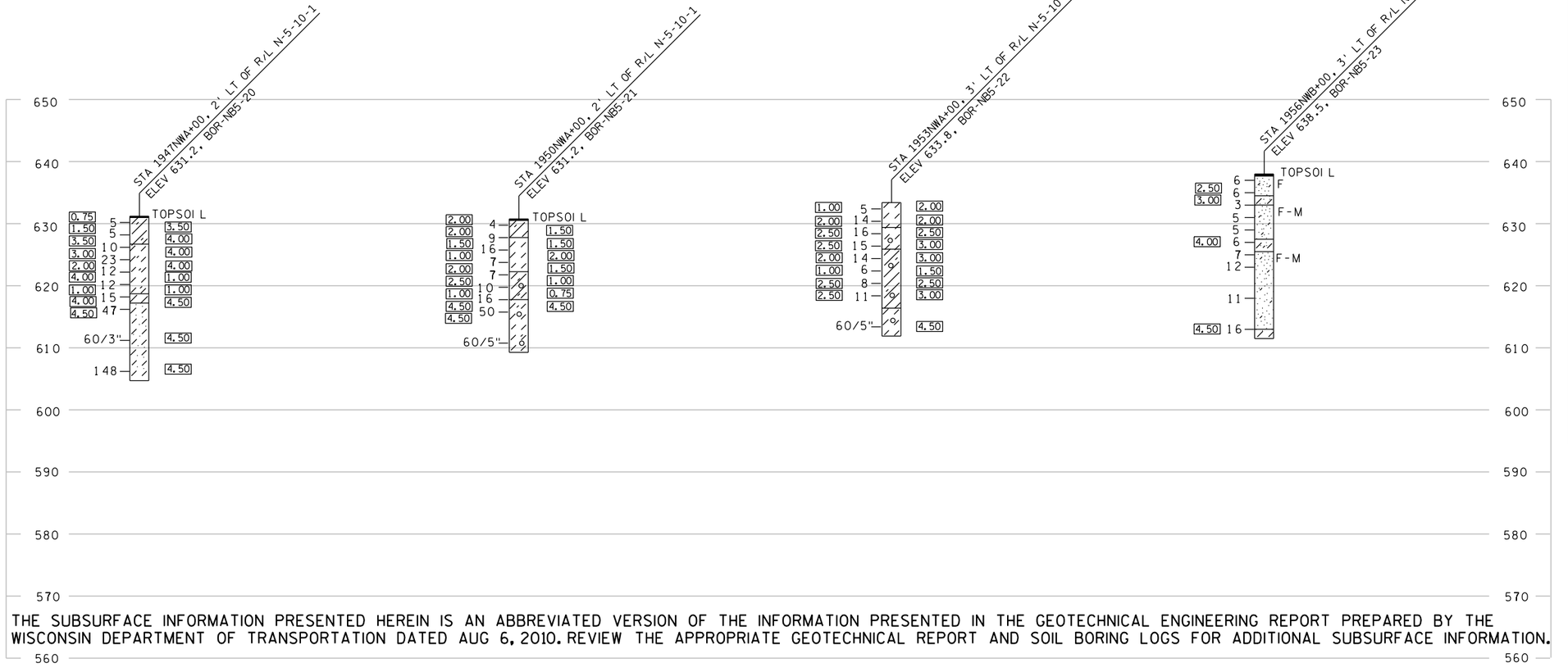
2166

8

8

USH 41 NOISE BARRIER
STA 1946NWA+00 TO STA 1958NWB+00





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STATE PROJECT NUMBER

1133-09-71

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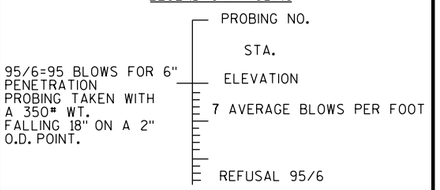
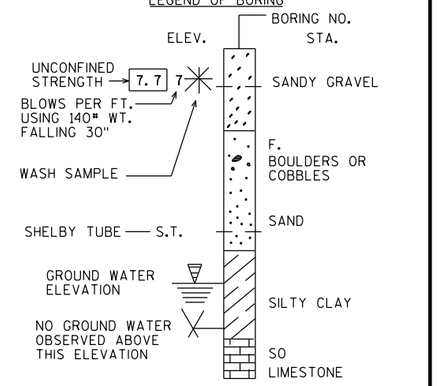
LEGEND OF PROBING



LEGEND OF BORING



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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-1

DRAWN BY CMF | PLANS CK'D. MG

SUBSURFACE EXPLORATION 6

SHEET 11 OF 17

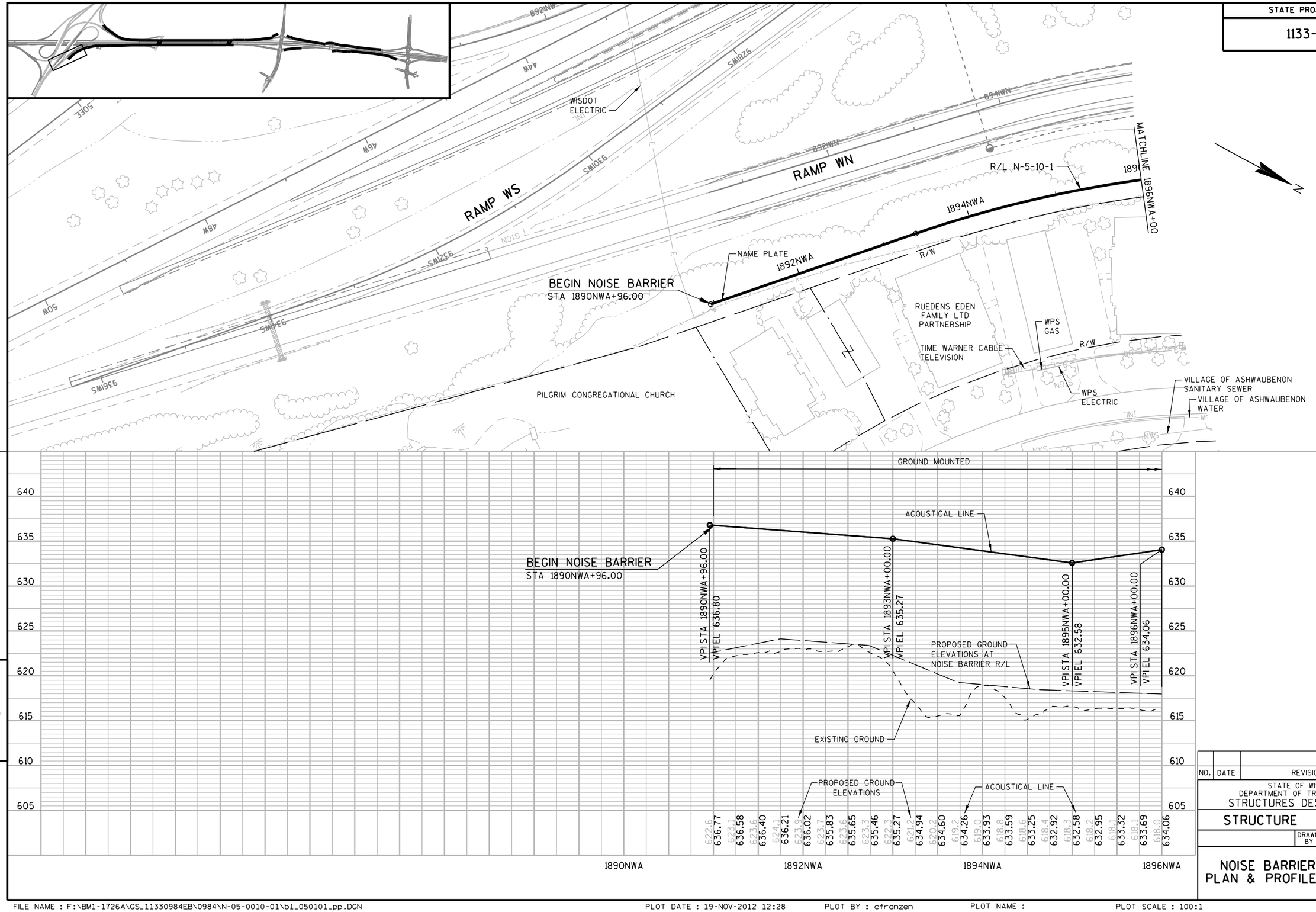
2167

8

8

FILE NAME : F:\BM1-1726A\GS_11330984EB\0984\N-05-0010-01\b1_027306_sb.dgn PLOT DATE : 19-NOV-2012 12:27 PLOT BY : cfranzen PLOT NAME : b1_027306_sb PLOT SCALE : 100:1

STATE PROJECT NUMBER
1133-09-71



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-1

DRAWN BY CMF | PLANS CK'D. MG

NOISE BARRIER PLAN & PROFILE 1

SHEET 12 OF 17

2168

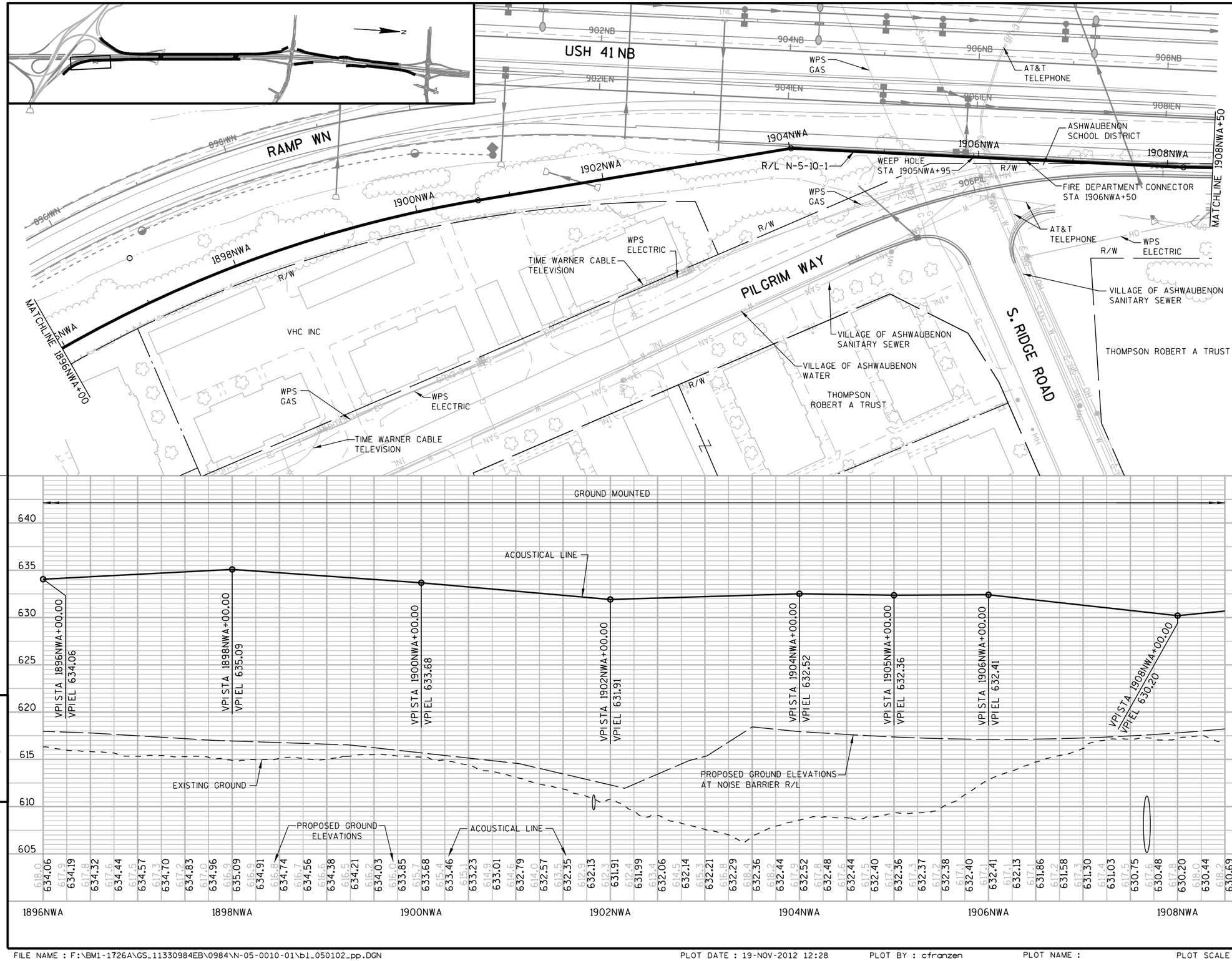
8

8

FILE NAME : F:\BM1-1726A\GS_11330984EB\0984\N-05-0010-01\bl_050101_pp.DGN PLOT DATE : 19-NOV-2012 12:28 PLOT BY : cfranzen PLOT NAME : PLOT SCALE : 100:1

STATE PROJECT NUMBER

1133-09-71



8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-1

DRAWN BY CMF | PLANS CK'D. MG

NOISE BARRIER
PLAN & PROFILE 2

SHEET 13 OF 17

2169

FILE NAME : F:\BM1-1726A\GS_11330984EB\0984\N-05-0010-01\bl_050102_pp.DGN

PLOT DATE : 19-NOV-2012 12:28

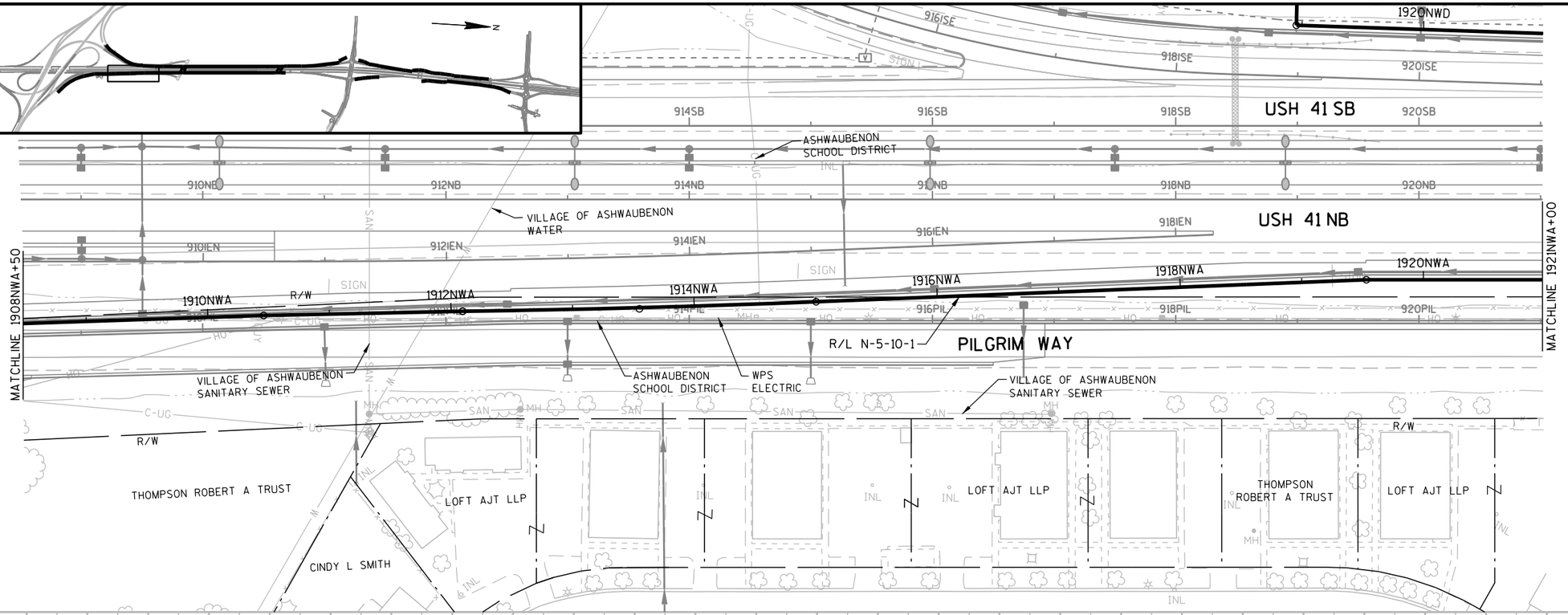
PLOT BY : cfranzen

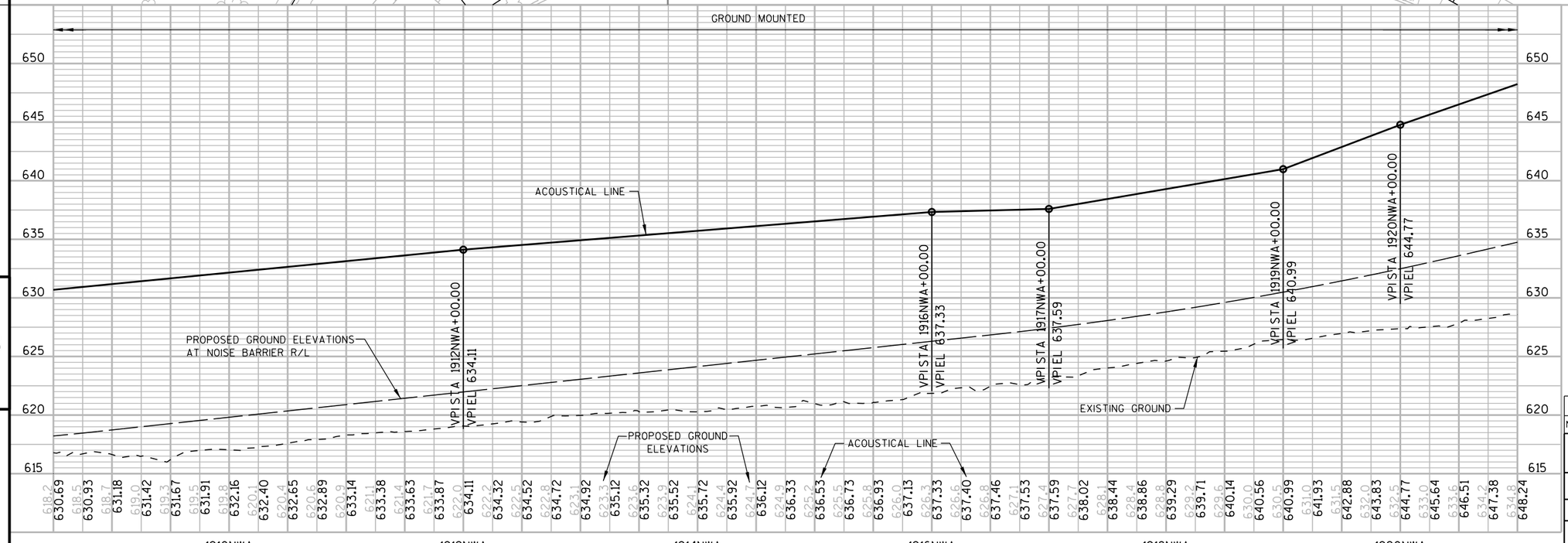
PLOT NAME :

PLOT SCALE : 100:1

STATE PROJECT NUMBER

1133-09-71





8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-1

DRAWN BY CMF | PLANS CK'D. MG

NOISE BARRIER PLAN & PROFILE 3

SHEET 14 OF 17

2170

FILE NAME : F:\BM1-1726A\GS_11330984EB\0984\N-05-0010-01\b1_050103_pp.DGN

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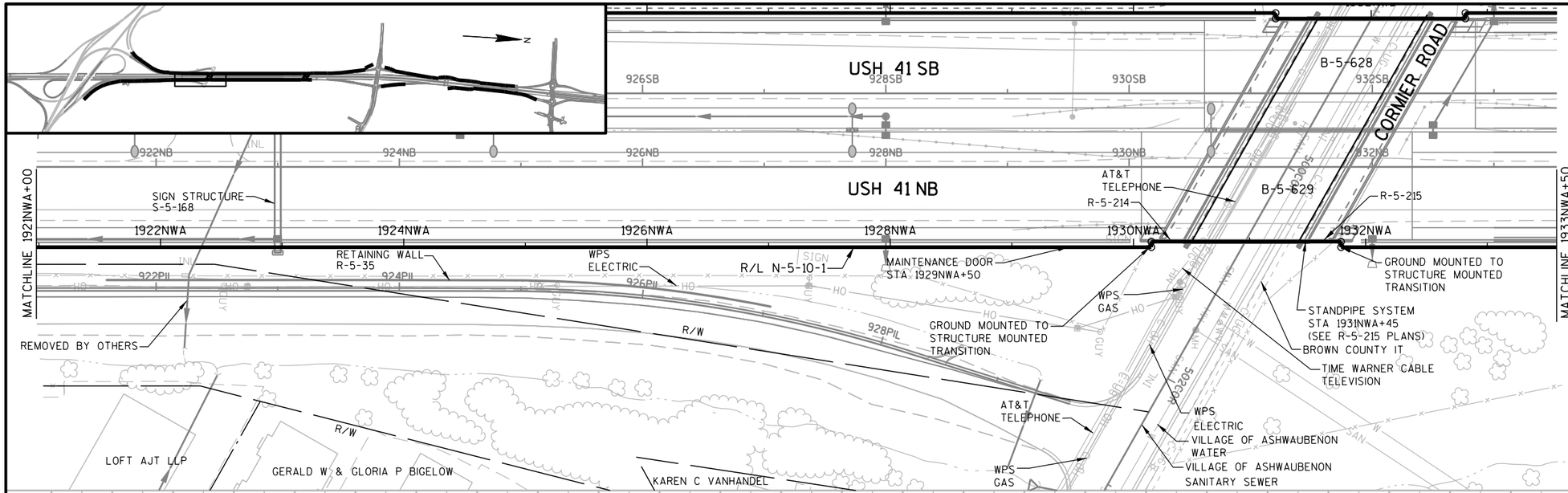
PLOT BY : cfranzen

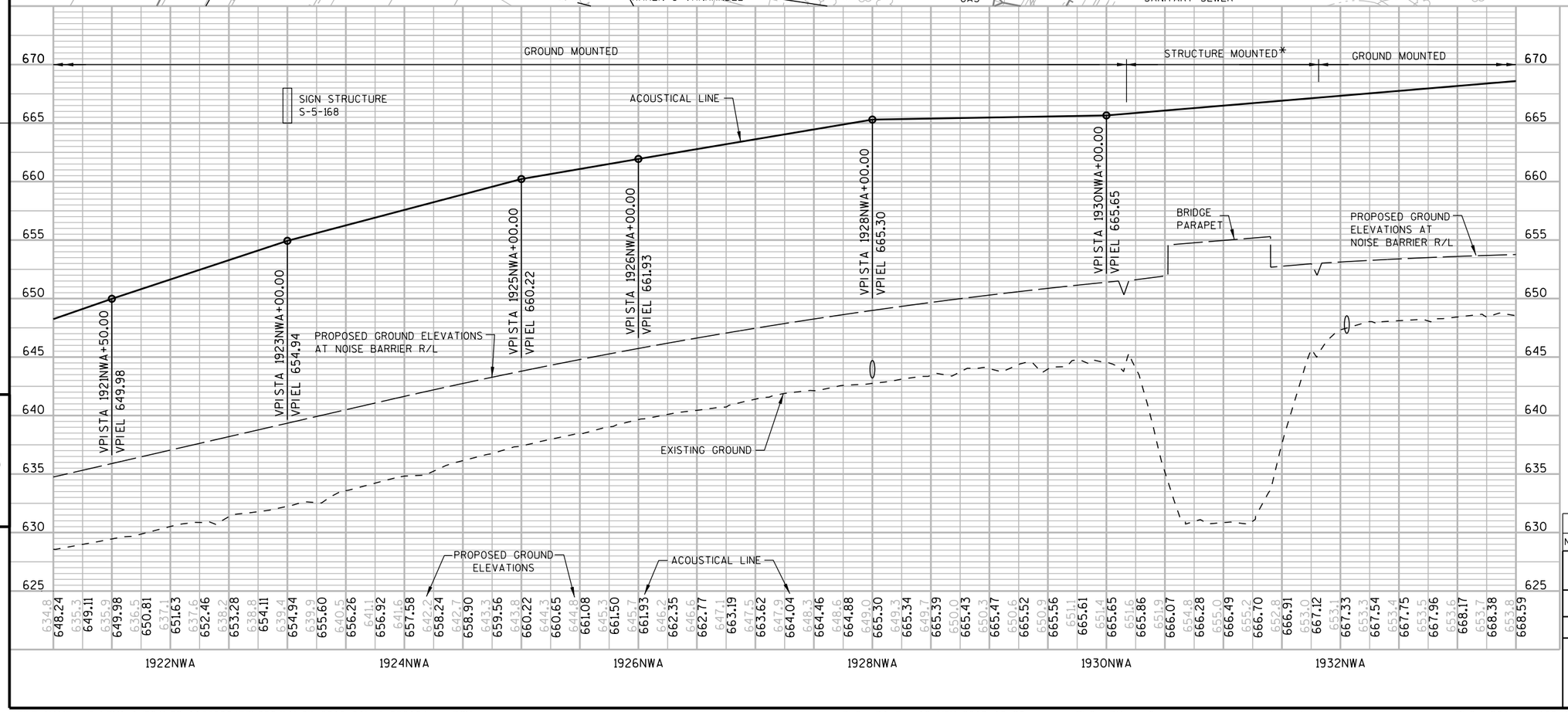
PLOT NAME :

PLOT SCALE : 100:1

STATE PROJECT NUMBER

1133-09-71





*

R-5-214 STA 1930NWA+19.22 TO STA 1930NWA+45.02

B-5-629 STA 1930NWA+45.02 TO STA 1931NWA+49.42

R-5-215 STA 1931NWA+49.42 TO STA 1931NWA+75.22

SEE STRUCTURE PLANS FOR POST ANCHORAGE LOCATIONS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-1

DRAWN BY CMF | PLANS CK'D. MG

NOISE BARRIER PLAN & PROFILE 4

SHEET 15 OF 17

2171

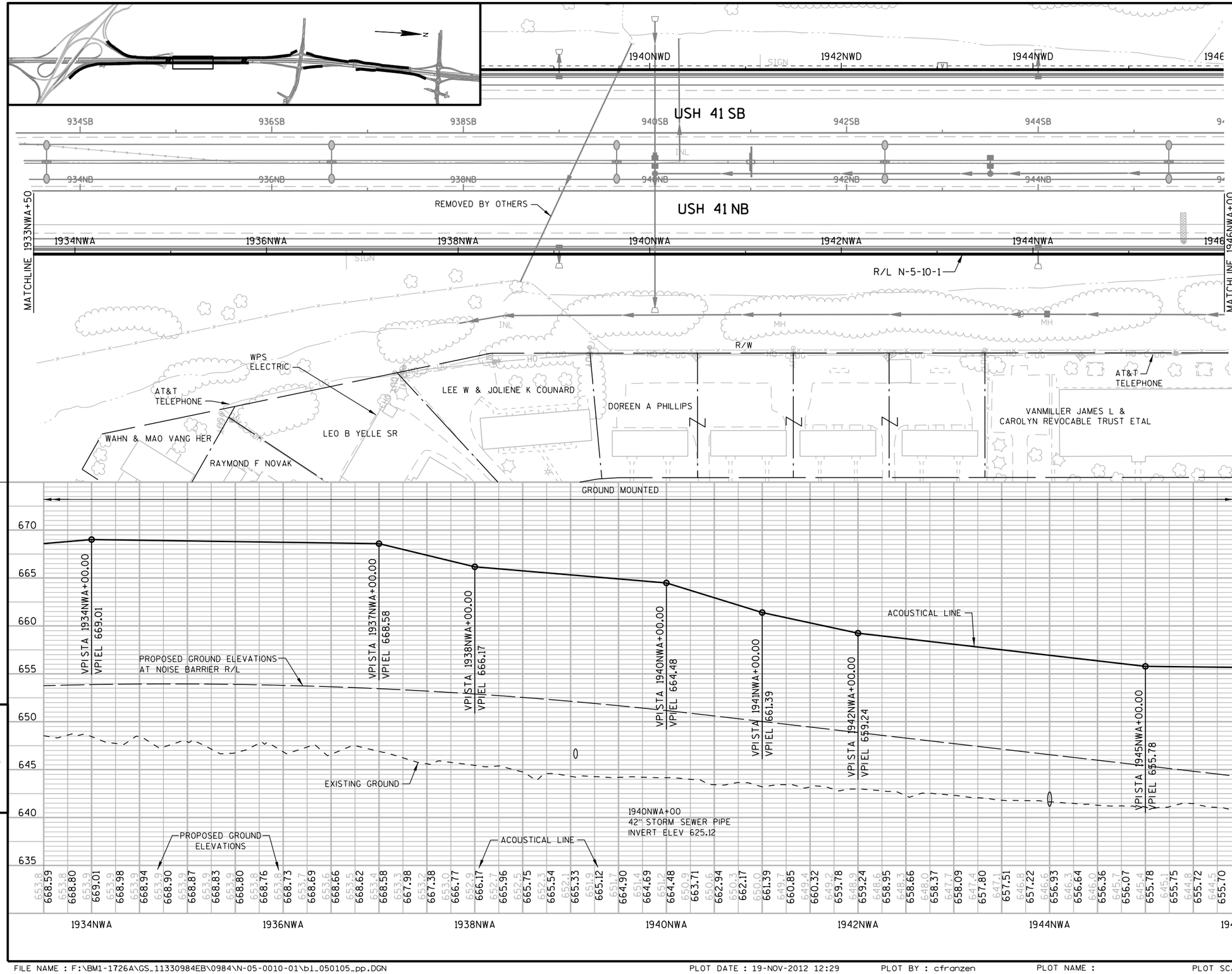
8

8

FILE NAME : F:\BM1-1726A\GS_11330984EB\0984\N-05-0010-01\b1_050104_pp.DGN PLOT DATE : 19-NOV-2012 12:28 PLOT BY : cfranzen PLOT NAME : PLOT SCALE : 100:1

STATE PROJECT NUMBER

1133-09-71



8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-1

DRAWN BY CMF | PLANS CK'D. MG

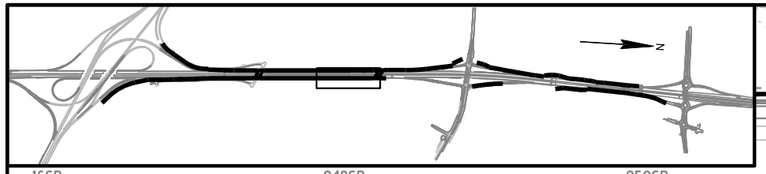
NOISE BARRIER PLAN & PROFILE 5

SHEET 16 OF 17

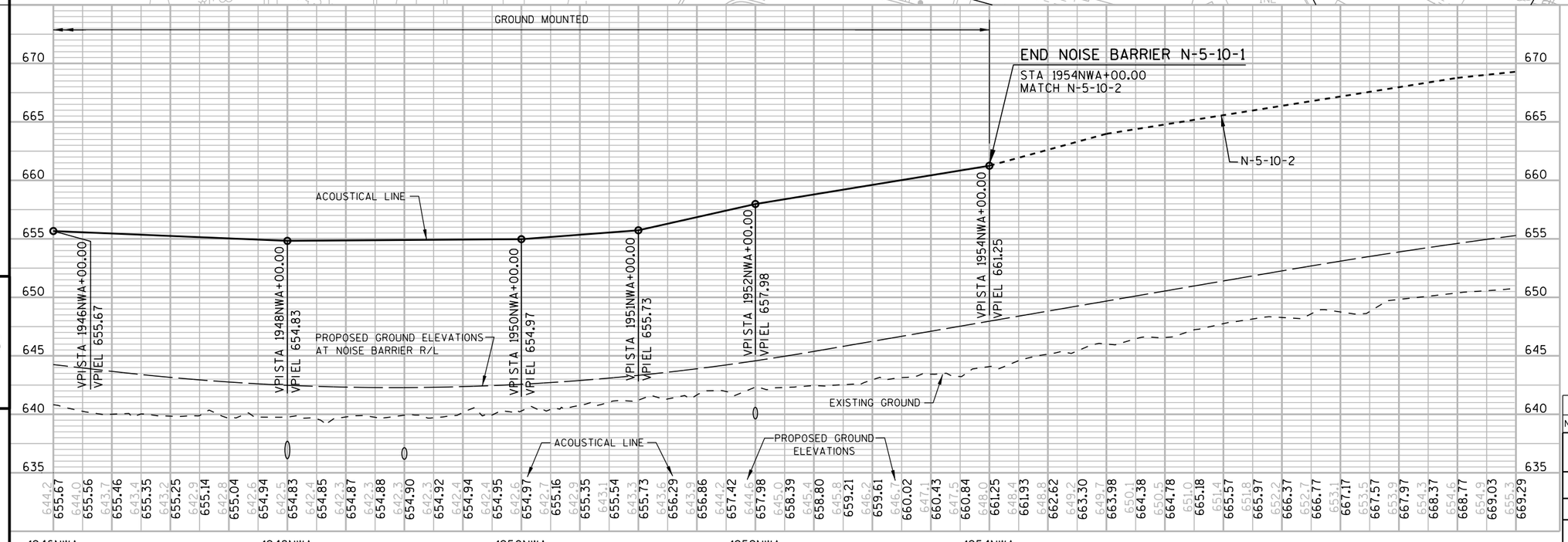
2172

FILE NAME : F:\BM1-1726A\GS_11330984EB\0984\N-05-0010-01\b1_050105_pp.DGN PLOT DATE : 19-NOV-2012 12:29 PLOT BY : cfranzen PLOT NAME : PLOT SCALE : 100:1

STATE PROJECT NUMBER
1133-09-71



USH 41 SB
USH 41 NB
MATCHLINE 1946NWA+00
1952NWD
1954NWD
1956NWE
1958NWE
SIGN STRUCTURE S-5-170
16SB 948SB 950SB 952SB 954SB 956SB 958SB 960SB
16NB 948NB 950NB 952NB 954NB 956NB 958NB 960NB
NWA 1948NWA 1950NWA 1952NWA 1954NWA 1956NWB 1958NWB 1960NWB
WEEP HOLE STA 1949NWA+05
R/L N-5-10-1
R/L N-5-10-2
END NOISE BARRIER N-5-10-1
STA 1954NWA+00.00
MATCH N-5-10-2
VILLAGE OF ASHWAUBENON SANITARY SEWER
WPS ELECTRIC
VILLAGE OF ASHWAUBENON WATER
R/W
AT&T TELEPHONE
DOUGLAS J SCHNEIDER
JANE M BIGELOW ETAL
MATTHEW L WATT
VANMILLER JAMES L & CAROLYN REVOCABLE TRUST ETAL
LA VERNE H SKARDA
LEO B YELLE SR
ALPINE RENTALS LLC
ECHO LANE
MORRIS AVENUE
60MOR
66MOR



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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-1

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NOISE BARRIER PLAN & PROFILE 6

SHEET 17 OF 17

2173

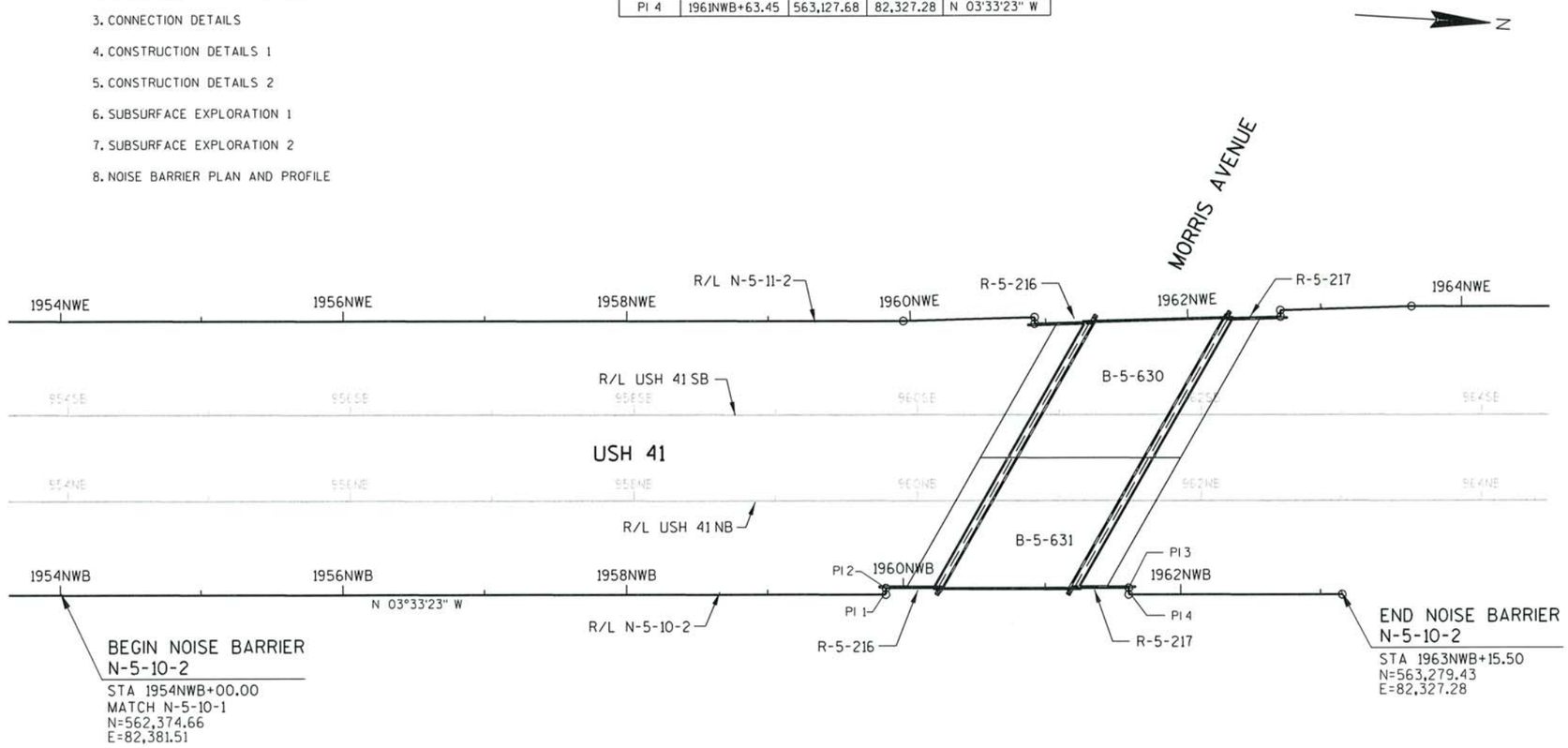
FILE NAME : F:\BM1-1726A\GS_11330984EB\0984\N-05-0010-01\bl_050106_pp.DGN
PLOT DATE : 19-NOV-2012 12:29
PLOT BY : cfranzen
PLOT NAME :
PLOT SCALE : 100:1

STATE PROJECT NUMBER
1133-03-77

LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES AND AESTHETIC DETAILS
3. CONNECTION DETAILS
4. CONSTRUCTION DETAILS 1
5. CONSTRUCTION DETAILS 2
6. SUBSURFACE EXPLORATION 1
7. SUBSURFACE EXPLORATION 2
8. NOISE BARRIER PLAN AND PROFILE

PI NO.	PI STA	NORTHING	EASTING	EXIT BEARING
PI 1	1959NWB+83.24	562,956.90	82,347.33	S 86°26'37" W
PI 2	1959NWB+87.79	562,956.62	82,342.78	N 03°33'23" W
PI 3	1961NWB+58.90	563,127.40	82,332.17	N 86°26'37" E
PI 4	1961NWB+63.45	563,127.68	82,327.28	N 03°33'23" W



GENERAL NOTES

1) DRAWINGS SHALL NOT BE SCALED.

2) THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS AND SHOP DRAWINGS FOR THE NOISE BARRIER IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE NOISE BARRIER MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-10-2".

3) PLANS, ELEVATIONS AND DETAILS SHOWN ARE INTENDED TO INDICATE LOCATIONS, LENGTHS, HEIGHTS AND DETAILS COMMON TO THE SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

4) THE NOISE BARRIER IS TO BE DESIGNED USING THE PROPOSED GROUND ELEVATION AT NOISE BARRIER R/L AND ACOUSTICAL LINE.

5) ALL NOISE BARRIERS SHALL BE DESIGNED IN ACCORDANCE WITH THE 1989 GUIDE SPECIFICATIONS FOR STRUCTURAL DESIGN OF SOUND BARRIERS, INCLUDING THE 1992 AND 2002 INTERIM'S BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS.

6) THE FOLLOWING DESIGN WIND PRESSURES SHALL BE USED IN ACCORDANCE WITH THE SPECIAL PROVISIONS:
32 P.S.F. FOR GROUND MOUNTED BARRIERS
42 P.S.F. FOR STRUCTURE MOUNTED BARRIERS.

7) MAXIMUM UNIT WEIGHT OF STRUCTURE MOUNTED NOISE BARRIER 50 P.S.F.

8) NOISE BARRIERS MOUNTED ON RETAINING WALLS REQUIRE THE COMPLETE ROADWAY PAVEMENT STRUCTURE (OR EQUIVALENT EARTH FILL) OVER THE TOP OF THE MOMENT SLAB TO RESIST DESIGN WIND PRESSURE. LIMIT ERECTION OF PANELS TO 2/3 THE HEIGHT OF THE ACOUSTICAL LINE PRIOR TO PLACEMENT OF PAVEMENT.

9) INCLUDE THE COST OF THE COATING OF STEEL POSTS AND CONNECTIONS UNDER THE BID ITEM "NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-10-2"

10) A PORTION OF THE NOISE BARRIER WILL BE MOUNTED ON STRUCTURES. SEE STRUCTURE B-5-631, R-5-216, R-5-217 PLANS FOR NOISE BARRIER ANCHORAGE DETAILS AND LOCATIONS.

STRUCTURES DESIGN CONTACTS

BUREAU OF STRUCTURES:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
MICHELLE GARRIGAN (920) 347-0850

WISCONSIN
MICHELLE M. GARRIGAN
E-31966
GREEN BAY, WIS.
PROFESSIONAL ENGINEER
11-30-12

NO.	DATE	REVISION	BY

BLOOM COMPANIES, LLC
Infrastructure Innovation and Ingenuity
3049 Ramada Way • Green Bay, WI 54304
Phone: (920) 347-0850 Fax: (920) 347-0851

ACCEPTED William C. Dreher KAR — CHIEF STRUCTURES DESIGN ENGINEER — 04/03/13 DATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE N-5-10-2

USH 41 NB, STA 1954NWB+00 TO MORRIS AVENUE

COUNTY	VILLAGE
BROWN	ASHWAUBENON

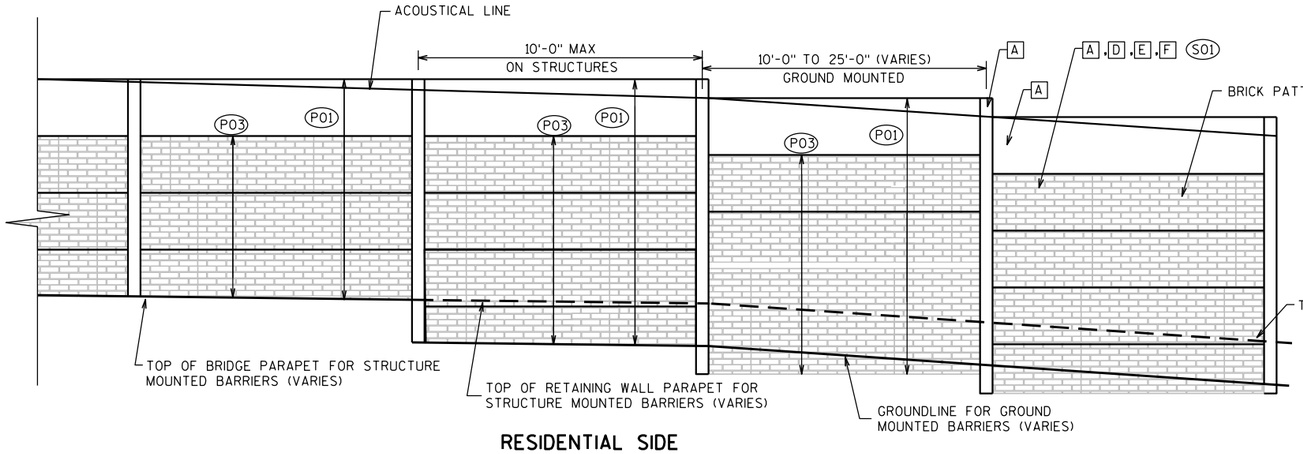
DESIGN SPEC.	LOAD
AASHTO STD SPECS 2002	N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CE	AS	CMF	MG

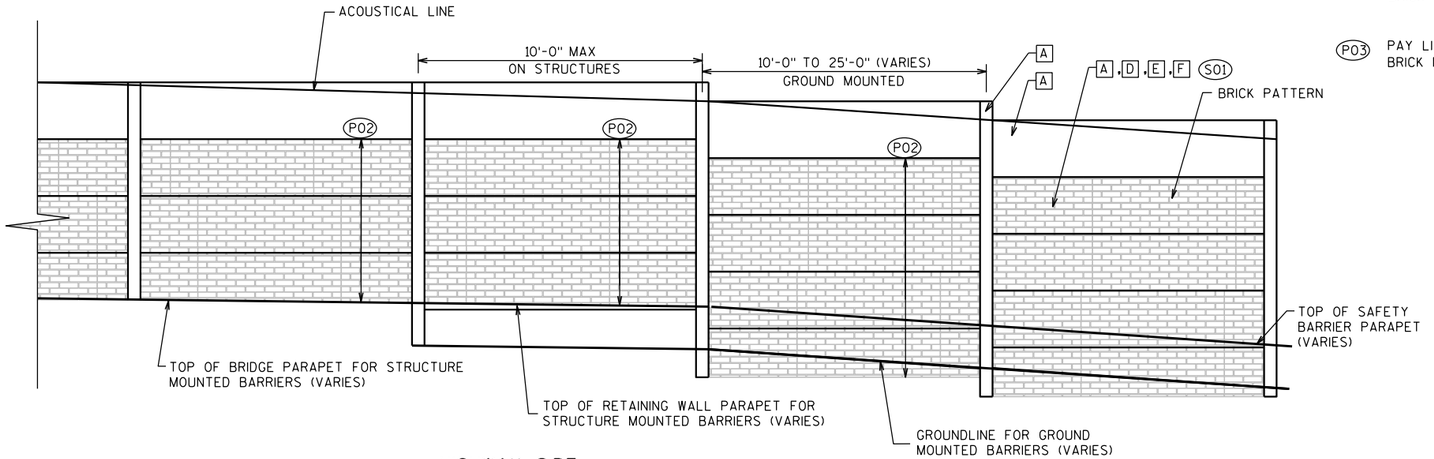
GENERAL PLAN

SHEET 1 OF 8

STATE PROJECT NUMBER
1133-03-77



RESIDENTIAL SIDE



HIGHWAY SIDE

(S01) STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF BASE COLOR A INCIDENTAL TO NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE). APPLICATION OF ACCENT COLORS D, E, & F AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

(P01) PAY LIMITS OF NOISE BARRIER SINGLE SIDED SOUND ABSORPTIVE (STRUCTURE) (SOUND ABSORPTIVE MATERIAL FACES HIGHWAY)

(P02) PAY LIMITS OF STAINING CONCRETE BRICK FOR HIGHWAY SIDE

(P03) PAY LIMITS OF STAINING CONCRETE BRICK FOR RESIDENTIAL SIDE

TOTAL ESTIMATE OF QUANTITIES

BID ITEM NO.	BID ITEM	UNIT	TOTAL
531.0200.S.902	NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-10-2	SF	14,000
SPV.0060.904	MAINTENANCE DOOR	EACH	1
SPV.0165.502	STAINING CONCRETE BRICK	SF	23,000

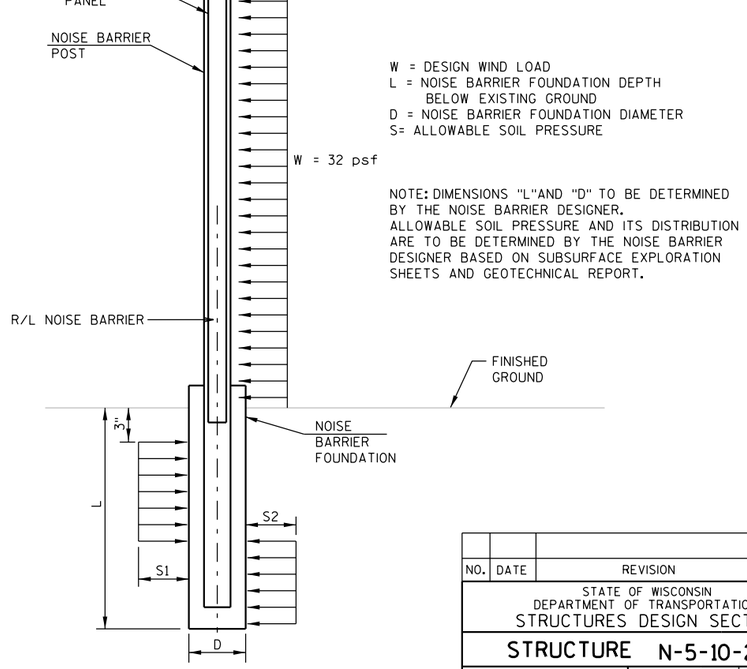
CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
~~B~~	~~ACCENT COLOR #1~~	~~REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS~~
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~

NOTES

1) STEP PANELS A MINIMUM OF 1' AND A MAXIMUM OF 3'. WHEN MORE THAN ONE PANEL MUST STEP CONSECUTIVELY, KEEP THE STEP INCREMENT THE SAME FOR EACH SEGMENT OF STEPPING PANELS.

2) ADJUST VERTICAL PLACEMENT OF PANELS TO MAXIMIZE HORIZONTAL RUNS, KEEPING THE TOP OF PANELS AT THE SAME ELEVATION.



GROUND MOUNTED NOISE BARRIER LOADING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-2

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QUANTITIES AND AESTHETIC DETAILS

SHEET 2 OF 8

2175

8

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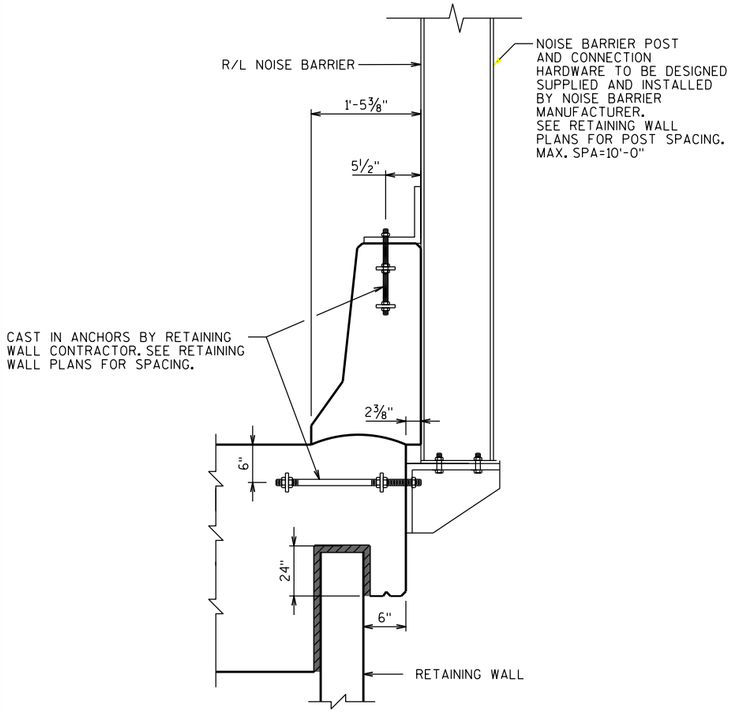
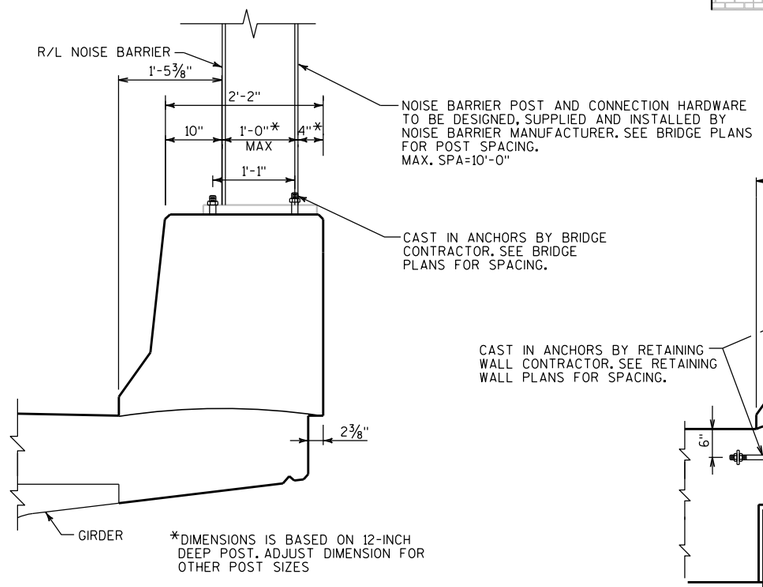
FILE NAME : F:\BM1-1726A\HN_11330481EB\0481\N-05-0010-02\bl_021002_cd.DGN PLOT DATE : 19-NOV-2012 13:21 PLOT BY : cfranzen PLOT NAME : PLOT SCALE : 100:1

STATE PROJECT NUMBER
1133-03-77



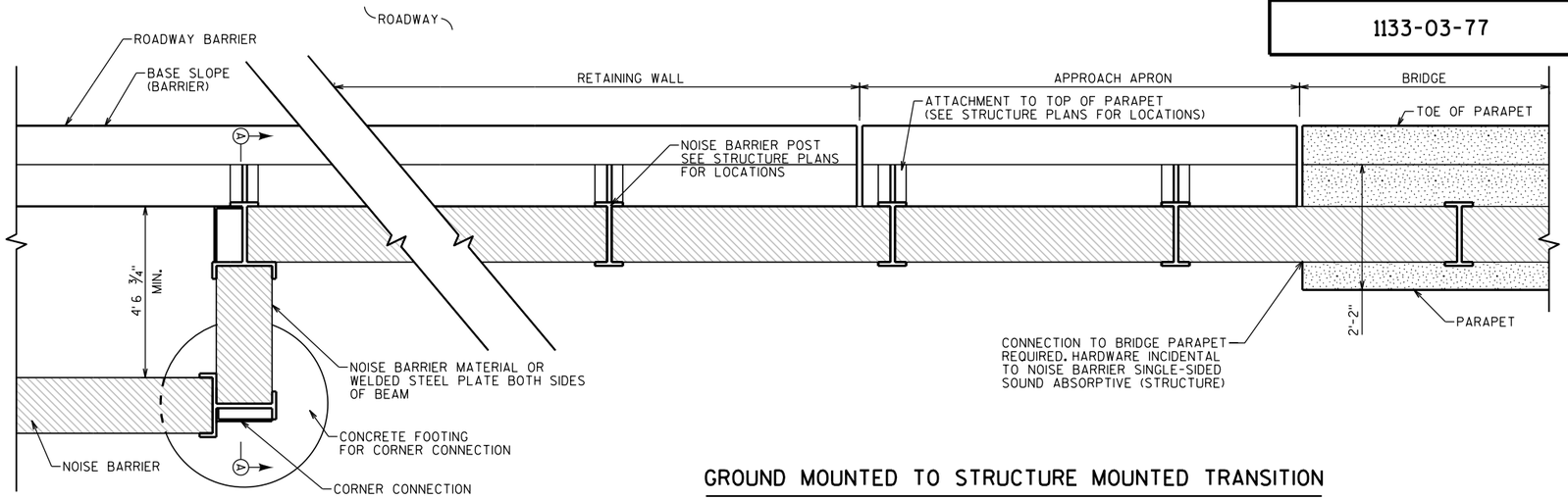
NOISE BARRIER ON RETAINING WALL

SECTION VIEW
TYPICAL AT EACH POST LOCATION



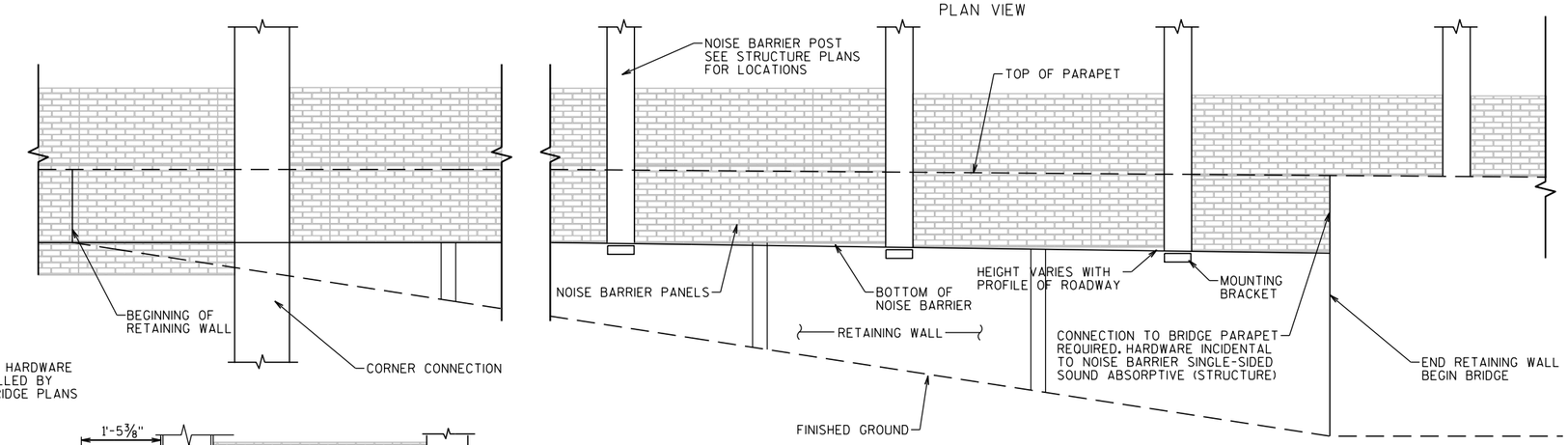
NOISE BARRIER ON BRIDGE PARAPET

SECTION VIEW
TYPICAL AT EACH POST LOCATION



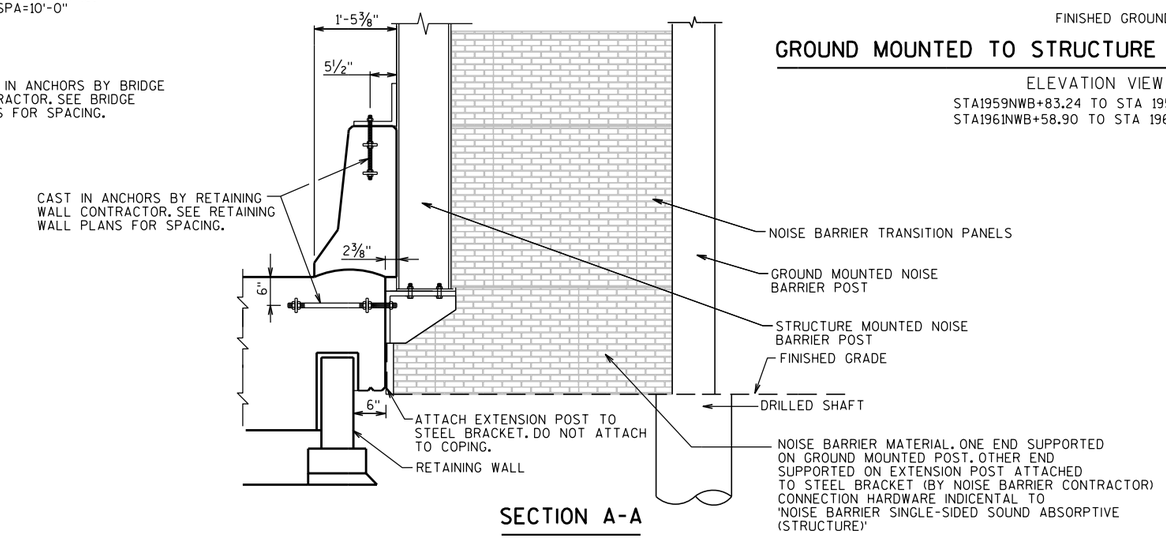
GROUND MOUNTED TO STRUCTURE MOUNTED TRANSITION

PLAN VIEW



GROUND MOUNTED TO STRUCTURE MOUNTED TRANSITION

ELEVATION VIEW
STA1959NWB+83.24 TO STA 1959NWB+87.79
STA1961NWB+58.90 TO STA 1961NWB+63.45



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-2

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CONNECTION DETAILS

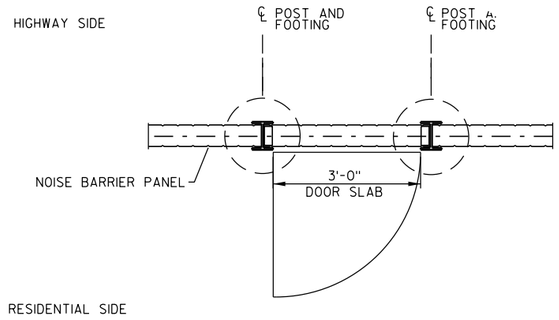
SHEET 3 OF 8

2176

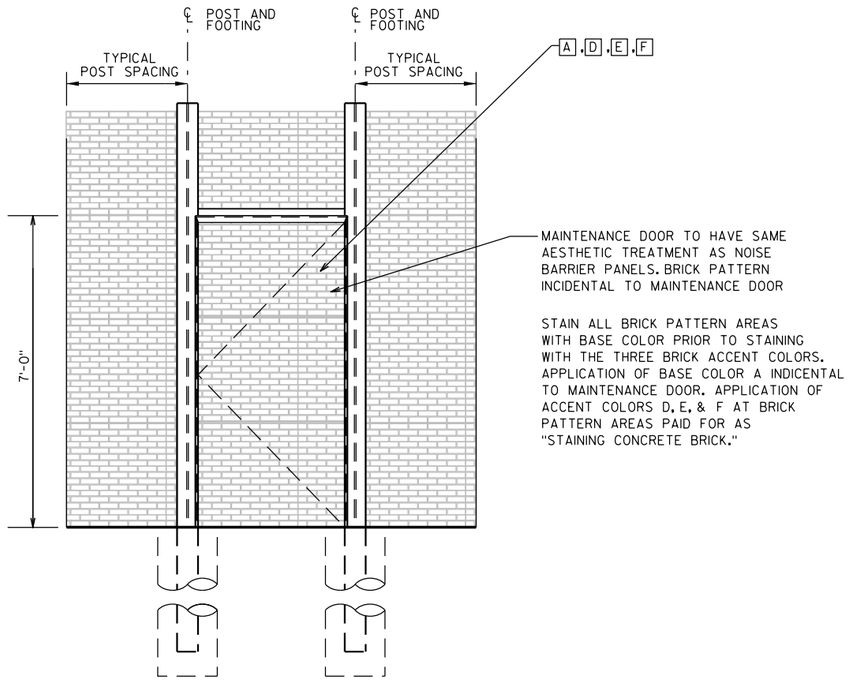
8

8

STATE PROJECT NUMBER
1133-03-77



DOOR PLAN



MAINTENANCE DOOR

STA 1959NWB+50

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
~~B~~	~~ACCENT COLOR #1~~	~~REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS~~
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
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F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-2

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CONSTRUCTION DETAILS 1

SHEET 4 OF 8

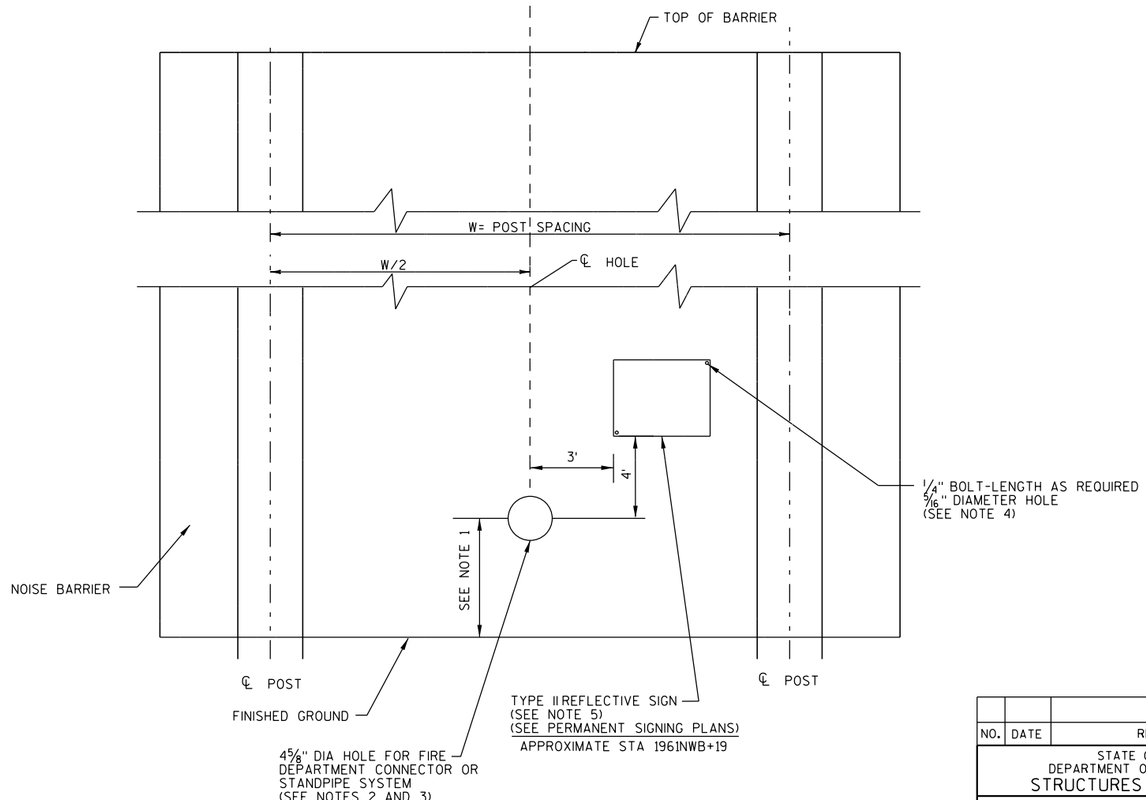
2177

8

8

FILE NAME : F:\BM1-1726A\HN_11330481EB\0481\N-05-0010-02\bl_021002_cd.DGN PLOT DATE : 19-NOV-2012 14:46 PLOT BY : cfranzen PLOT NAME : PLOT SCALE : 100:1

STATE PROJECT NUMBER
1133-03-77



FIRE HYDRANT LOCATION/HOSE ACCESS DETAIL

(TYPICAL AT ALL FIRE HYDRANT PENETRATIONS)

NOTES

1) DISTANCE FROM GROUND TO FIRE DEPARTMENT CONNECTOR SHALL BE 3 FEET. DISTANCE FROM TOP OF PARAPET TO STANDPIPE SHALL BE 6 INCHES. THE FIRE DEPARTMENT CONNECTOR SHALL BE CENTERED BETWEEN THE POSTS.

2) 4 5/8" HOLE SHALL BE FORMED IN THE SHOP DURING PANEL FABRICATION.

3) HOLE SHALL NOT BE CLOSER THAN 6" TO ANY EDGE OF THE BARRIER PANEL.

4) STAINLESS STEEL ANCHOR BOLTS OR APPROVED EQUIVALENT. BOLTS INDICENTAL TO SIGN REFLECTIVE TYPE 2.

5) TWO STANDARD SIGNS D9-54 WILL BE FURNISHED PER STATION BY THE ROADWAY CONTRACTOR. ONE SIGN SHALL BE INSTALLED ON EACH SIDE OF THE BARRIER. SIGNS TO BE PAID FOR AS SIGN REFLECTIVE TYPE 2 UNDER ROADWAY ITEMS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-2

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CONSTRUCTION DETAILS 2

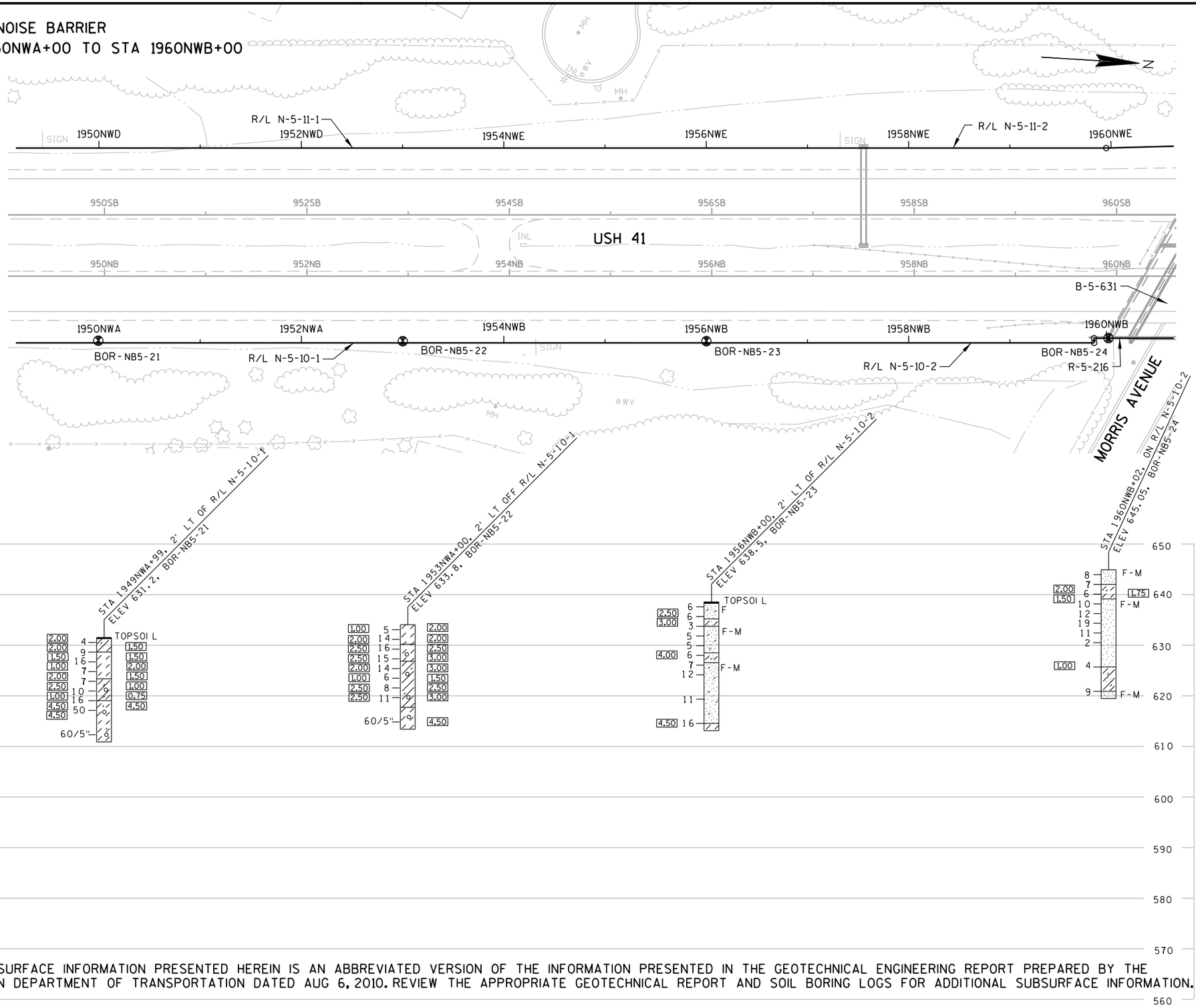
SHEET 5 OF 8

8

8

FILE NAME : F:\BM1-1726A\HN_11330481EB\0481\N-05-0010-02\bl_021002_cd.DGN PLOT DATE : 19-NOV-2012 13:21 PLOT BY : cfranzen PLOT NAME : PLOT SCALE : 100:1

USH 41 NOISE BARRIER
STA 1950NWA+00 TO STA 1960NWB+00



THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION DATED AUG 6, 2010. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

STATE PROJECT NUMBER

1133-03-77

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
ELEV.
STA.
UNCONFINED STRENGTH
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-2

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SUBSURFACE EXPLORATION 1

SHEET 6 OF 8

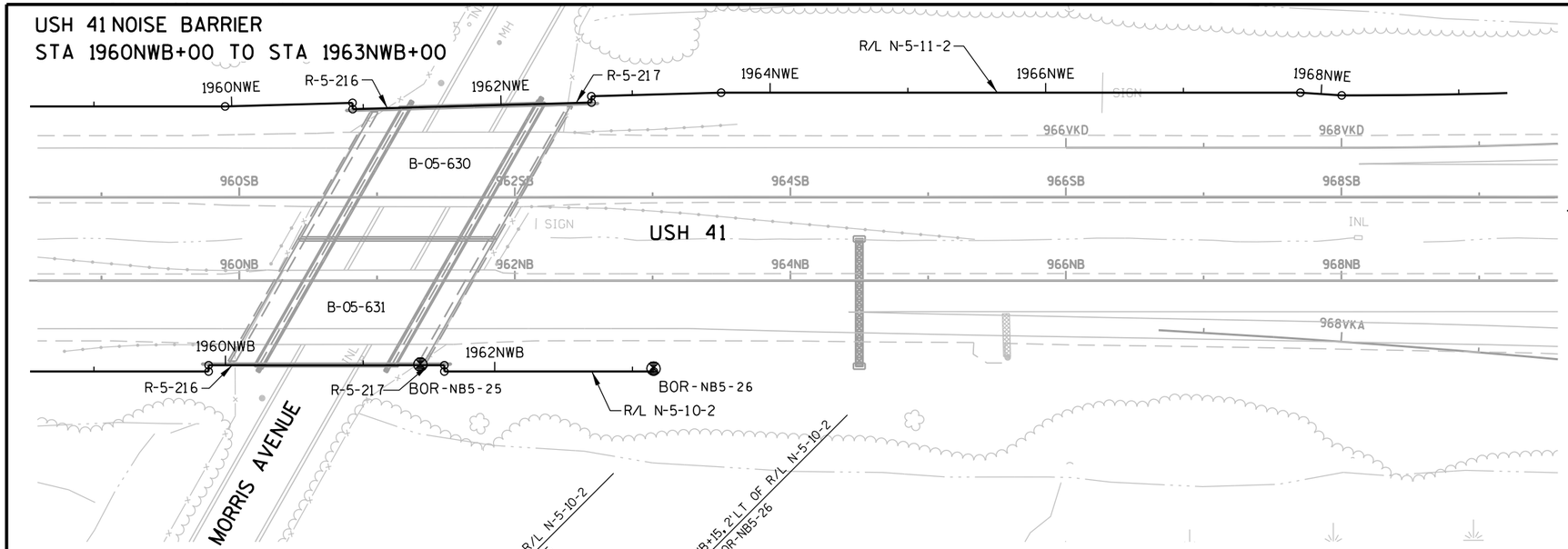
2179

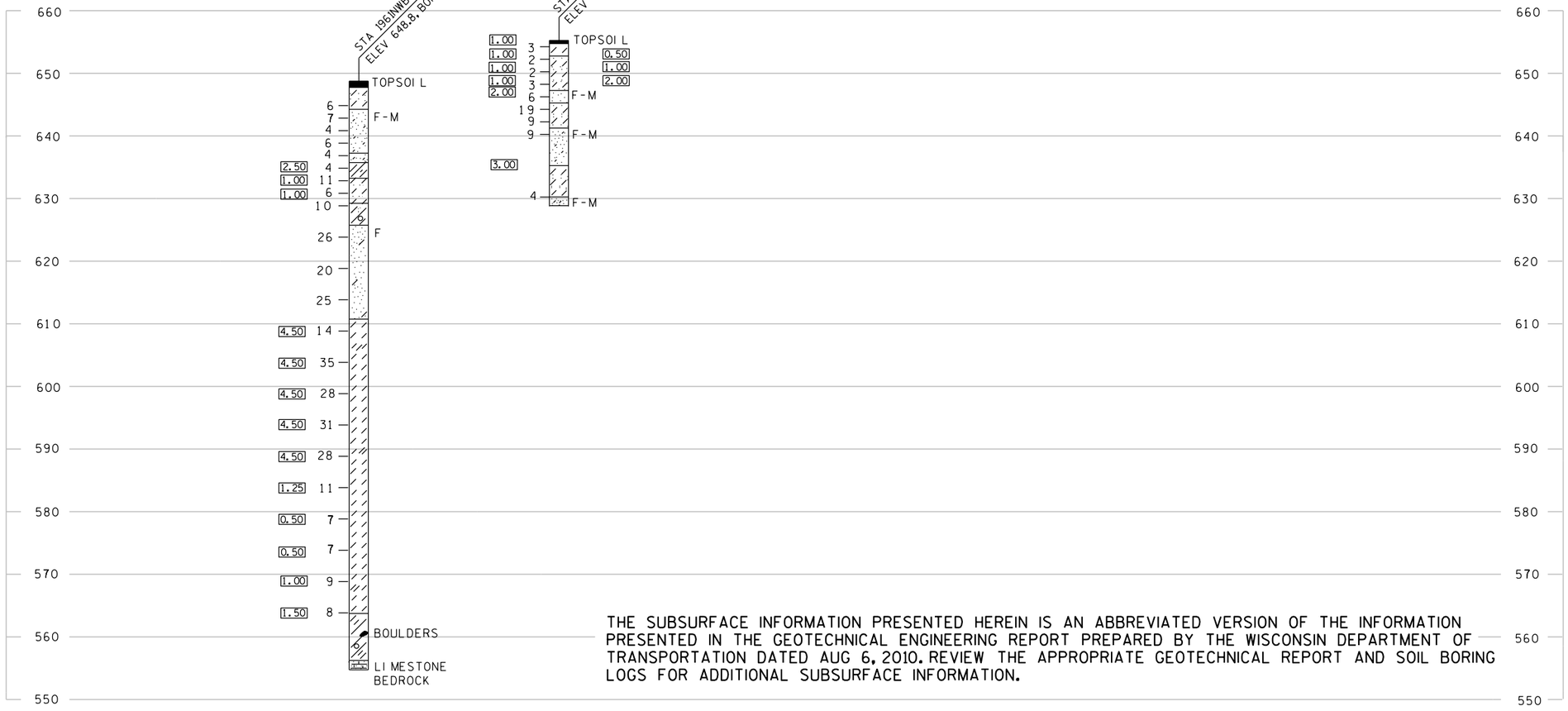
8

8

FILE NAME : F:\BM1-1726A\HN_11330481EB\0481\N-05-0010-02\bl_027301_sb.dgn PLOT DATE : 19-NOV-2012 13:22 PLOT BY : cfranzen PLOT NAME : bl_027301_sb PLOT SCALE : 100:1

USH 41 NOISE BARRIER
STA 1960NWB+00 TO STA 1963NWB+00





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STATE PROJECT NUMBER

1133-03-77

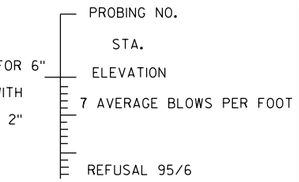
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

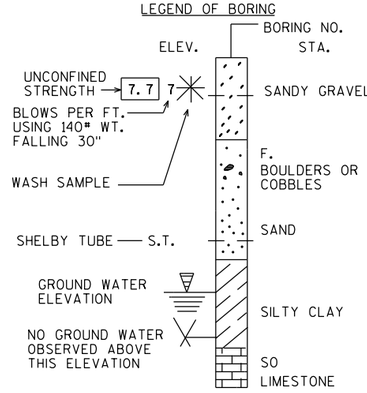
MATERIAL SYMBOLS

TOPSOIL, SAND, GRAVEL, SILT, PEAT, CLAY, SANDSTONE, LIMESTONE, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



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SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-2

DRAWN BY CMF PLANS CK'D. MG

SUBSURFACE EXPLORATION 2

SHEET 7 OF 8

2180

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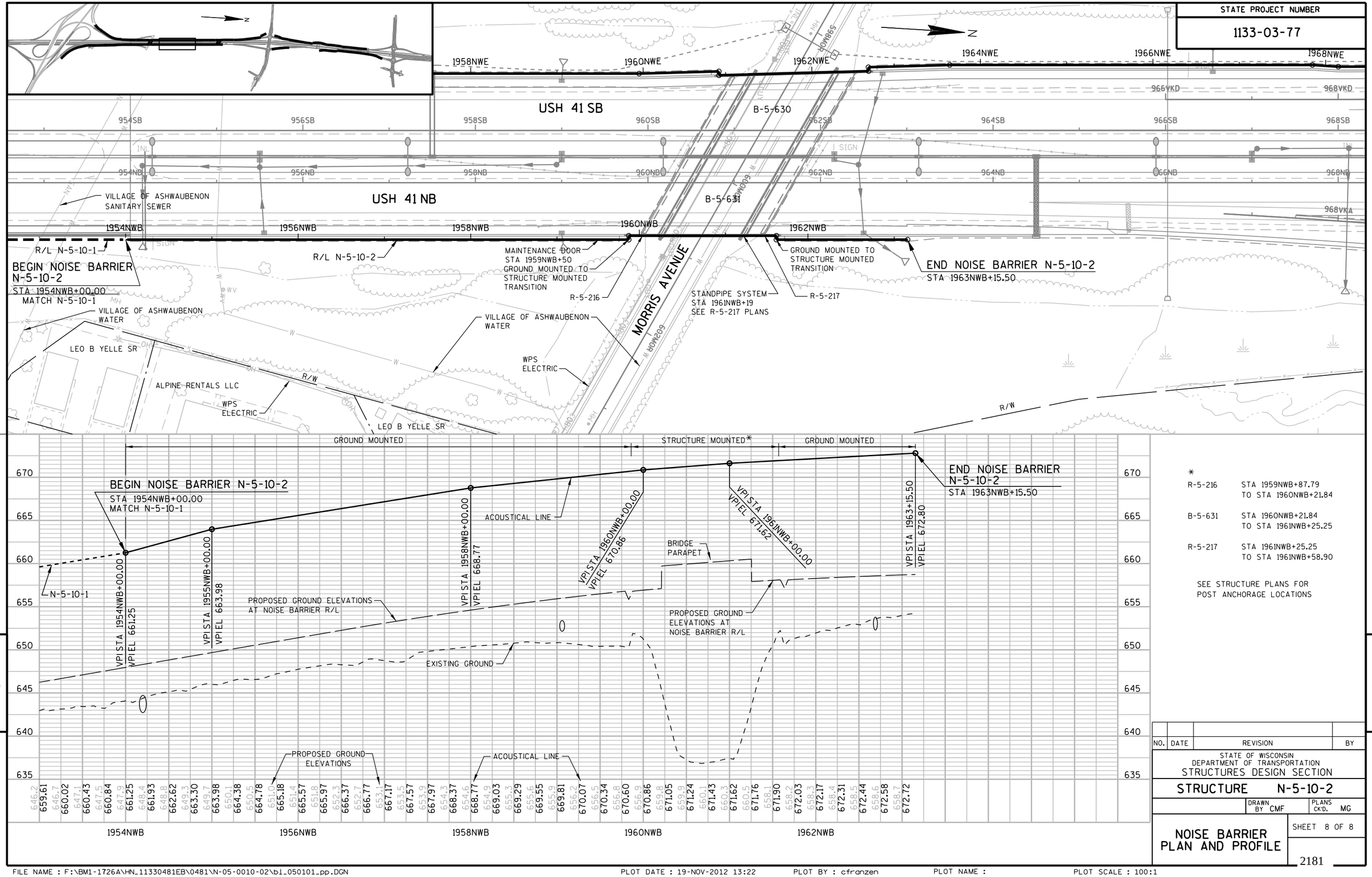
FILE NAME : F:\BM1-1726A\HN_11330481EB\0481\N-05-0010-02\bl_027302_sb.dgn PLOT DATE : 19-NOV-2012 13:22 PLOT BY : cfranzen PLOT NAME : bl_027302_sb PLOT SCALE : 100:1

STATE PROJECT NUMBER
1133-03-77



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R-5-216	STA 1959NWB+87.79 TO STA 1960NWB+21.84
B-5-631	STA 1960NWB+21.84 TO STA 1961NWB+25.25
R-5-217	STA 1961NWB+25.25 TO STA 1961NWB+58.90

SEE STRUCTURE PLANS FOR POST ANCHORAGE LOCATIONS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-10-2

DRAWN BY CMF | PLANS CK'D. MG

NOISE BARRIER PLAN AND PROFILE

SHEET 8 OF 8

2181

8

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FILE NAME : F:\BM1-1726A\HN_11330481EB\0481\N-05-0010-02\bl_050101_pp.DGN PLOT DATE : 19-NOV-2012 13:22 PLOT BY : cfranzen PLOT NAME : PLOT SCALE : 100:1

STATE PROJECT NUMBER

1133-09-71

LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES AND AESTHETIC DETAILS
3. CONNECTION DETAILS
4. CONSTRUCTION DETAILS 1
5. CONSTRUCTION DETAILS 2
6. SUBSURFACE EXPLORATION 1
7. SUBSURFACE EXPLORATION 2
8. SUBSURFACE EXPLORATION 3
9. SUBSURFACE EXPLORATION 4
10. SUBSURFACE EXPLORATION 5
11. NOISE BARRIER PLAN AND PROFILE 1
12. NOISE BARRIER PLAN AND PROFILE 2
13. NOISE BARRIER PLAN AND PROFILE 3
14. NOISE BARRIER PLAN AND PROFILE 4

GENERAL NOTES

1) DRAWINGS SHALL NOT BE SCALED.

2) THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS,DETAILS, SPECIFICATIONS AND SHOP DRAWINGS FOR THE NOISE BARRIER IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE NOISE BARRIER MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-11-1".

3) PLANS, ELEVATIONS AND DETAILS SHOWN ARE INTENDED TO INDICATE LOCATIONS, LENGTHS, HEIGHTS AND DETAILS COMMON TO THE SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

4) THE NOISE BARRIER IS TO BE DESIGNED USING THE PROPOSED GROUND ELEVATION AT NOISE BARRIER R/L AND ACOUSTICAL LINE.

5) ALL NOISE BARRIERS SHALL BE DESIGNED IN ACCORDANCE WITH THE 1989 GUIDE SPECIFICATIONS FOR STRUCTURAL DESIGN OF SOUND BARRIERS, INCLUDING THE 1992 AND 2002 INTERIM'S BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS.

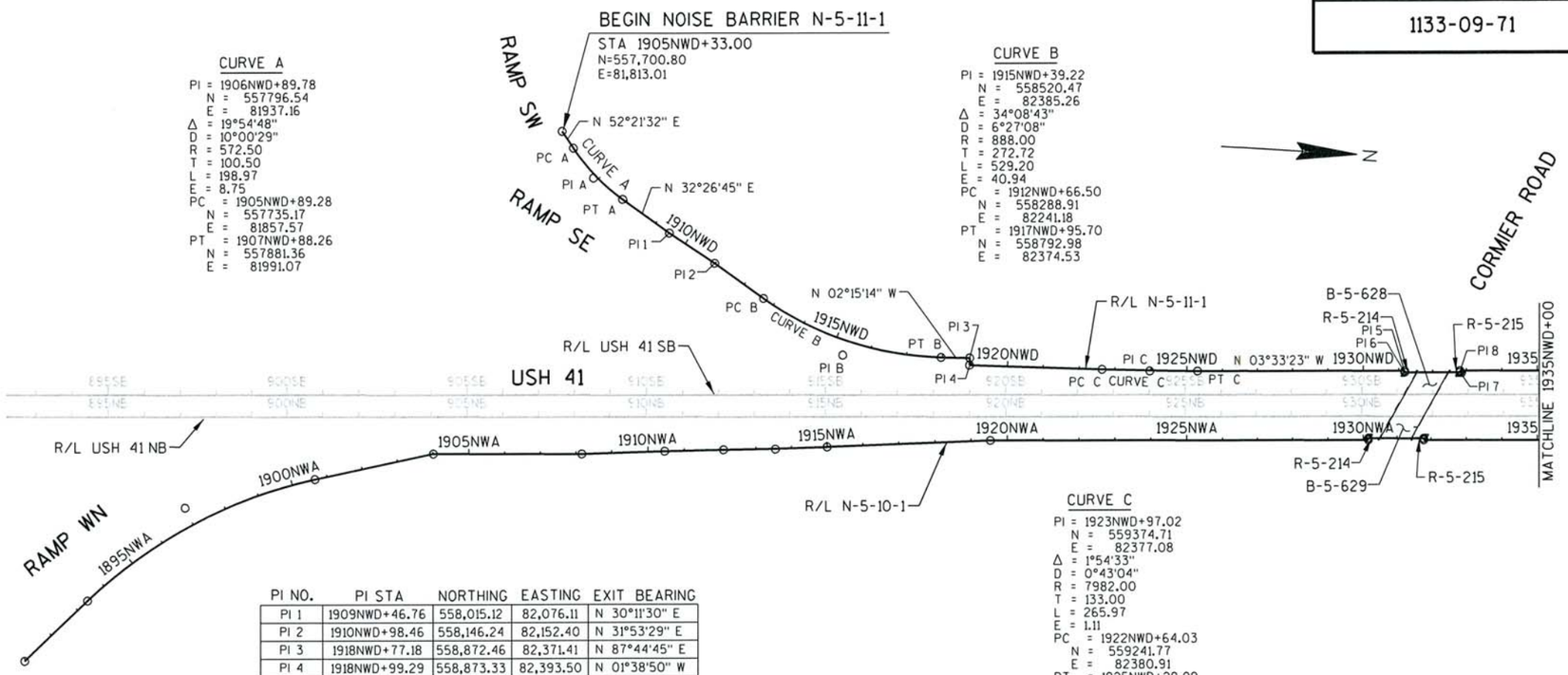
6) THE FOLLOWING DESIGN WIND PRESSURES SHALL BE USED IN ACCORDANCE WITH THE SPECIAL PROVISIONS:
32 P.S.F. FOR GROUND MOUNTED BARRIERS
42 P.S.F. FOR STRUCTURE MOUNTED BARRIERS

7) MAXIMUM UNIT WEIGHT OF STRUCTURE MOUNTED NOISE BARRIER 50 P.S.F.

8) NOISE BARRIERS MOUNTED ON RETAINING WALLS REQUIRE THE COMPLETE ROADWAY PAVEMENT STRUCTURE (OR EQUIVALENT EARTH FILL) OVER THE TOP OF THE MOMENT SLAB TO RESIST DESIGN WIND PRESSURE. LIMIT ERECTION OF PANELS TO 2/3 THE HEIGHT OF THE ACOUSTICAL LINE PRIOR TO PLACEMENT OF PAVEMENT.

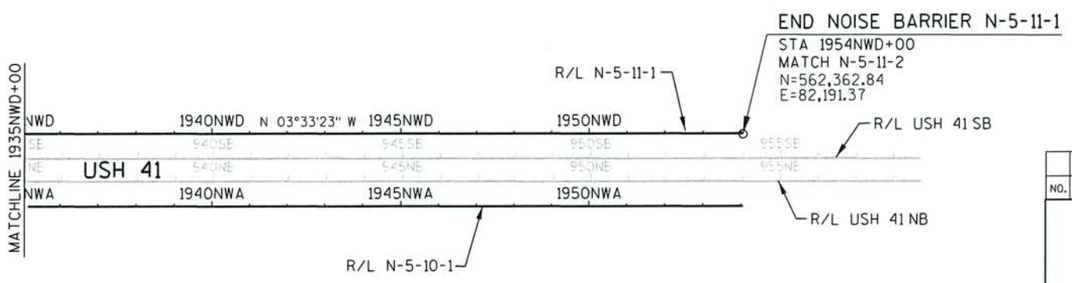
9) INCLUDE THE COST OF THE COATING OF STEEL POSTS AND CONNECTIONS UNDER THE BID ITEM "NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-11-1"

10) A PORTION OF THE NOISE BARRIER WILL BE MOUNTED ON STRUCTURES. SEE STRUCTURE PLANS B-5-628, R-5-214, R-5-215 FOR NOISE BARRIER ANCHORAGE DETAILS AND LOCATIONS.



PI NO.	PI STA	NORTHING	EASTING	EXIT BEARING
PI 1	1909NWD+46.76	558,015.12	82,076.11	N 30°11'30" E
PI 2	1910NWD+98.46	558,146.24	82,152.40	N 31°53'29" E
PI 3	1918NWD+77.18	558,872.46	82,371.41	N 87°44'45" E
PI 4	1918NWD+99.29	558,873.33	82,393.50	N 01°38'50" W
PI 5	1931NWD+16.91	560,093.23	82,332.43	N 86°26'37" E
PI 6	1931NWD+21.46	560,093.51	82,336.97	N 03°33'23" W
PI 7	1932NWD+77.46	560,249.21	82,327.30	S 86°26'37" W
PI 8	1932NWD+82.01	560,248.93	82,332.75	N 03°33'23" W

CURVE C
PI = 1923NWD+97.02
N = 559374.71
E = 82377.08
Δ = 1°54'33"
D = 0°43'04"
R = 7982.00
T = 133.00
L = 265.97
E = 1.11
PC = 1922NWD+64.03
N = 559241.77
E = 82380.91
PT = 1925NWD+29.99
N = 559507.44
E = 82368.83



N-5-

STRUCTURES DESIGN CONTACTS

BUREAU OF STRUCTURES:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
MICHELLE GARRIGAN (920) 347-0850

WISCONSIN
MICHELLE M. GARRIGAN
E-31966
GREEN BAY, WIS.
PROFESSIONAL ENGINEER
11-30-12

NO.	DATE	REVISION	BY

BLOOM COMPANIES, LLC
Infrastructure Innovation and Ingenuity
3049 Ramada Way • Green Bay, WI 54304
Phone: (920) 347-0850 Fax: (920) 347-0851

ACCEPTED William C. Dreher JCAR 04/03/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE N-5-11-1

USH 41 SB, STH 172 TO STA 1954NWD+00

COUNTY BROWN	VILLAGE ASHWAUBENON		
DESIGN SPEC. AASHTO STD SPECS 2002		LOAD N/A	
DESIGNED BY CE	DESIGN CK'D. AS	DRAWN BY CMF	PLANS CK'D. MG

GENERAL PLAN

SHEET 1 OF 14

8

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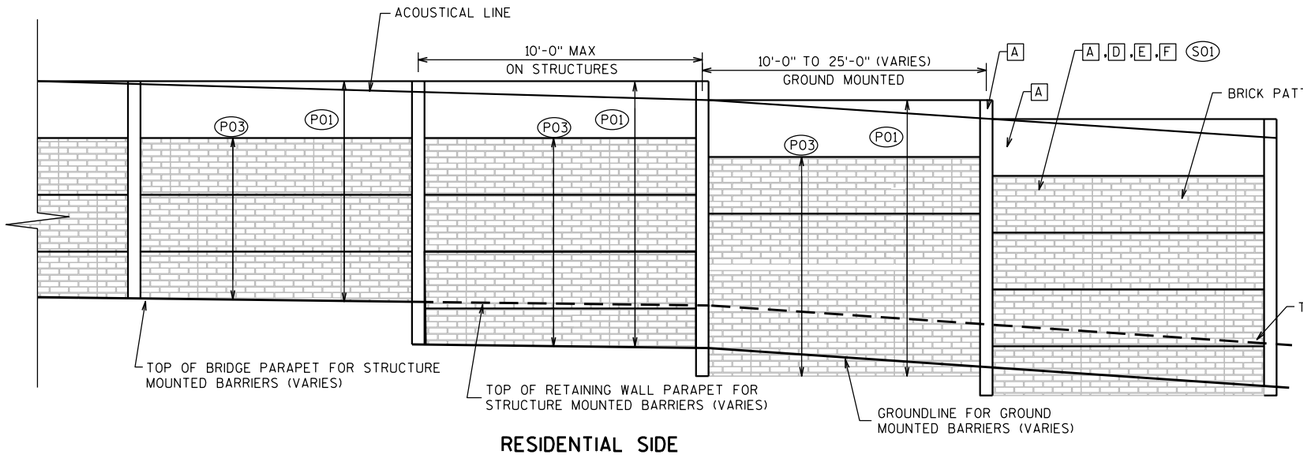
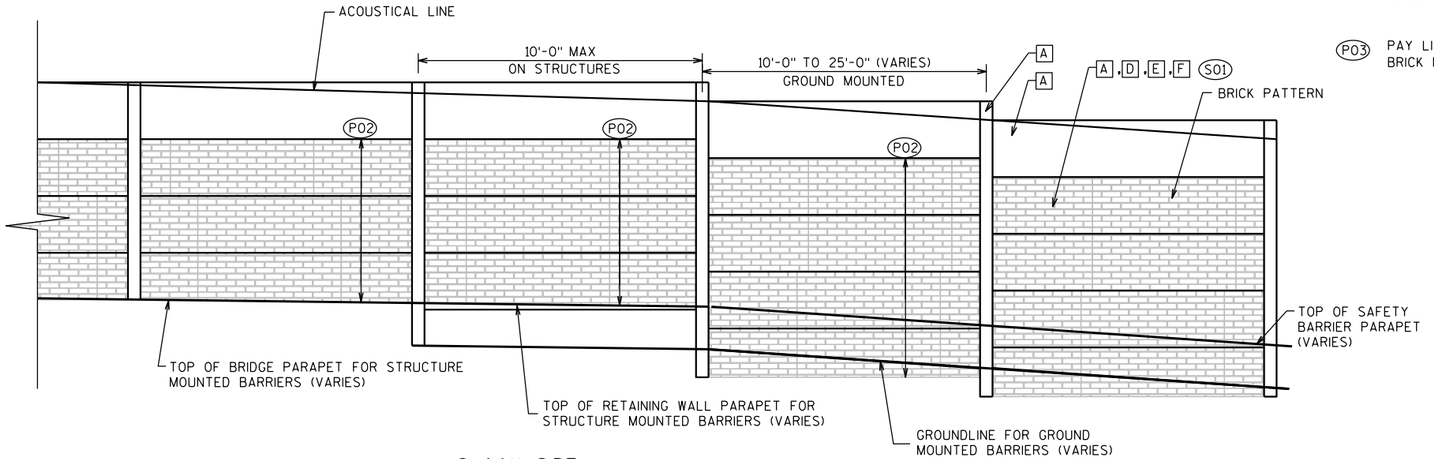
STATE PROJECT NUMBER
1133-09-71



RESIDENTIAL SIDE



HIGHWAY SIDE

(S01) STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF BASE COLOR A INCIDENTAL TO NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE). APPLICATION OF ACCENT COLORS D, E, & F AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

(P01) PAY LIMITS OF NOISE BARRIER SINGLE SIDED SOUND ABSORPTIVE (STRUCTURE) (SOUND ABSORPTIVE MATERIAL FACES HIGHWAY)

(P02) PAY LIMITS OF STAINING CONCRETE BRICK FOR HIGHWAY SIDE

(P03) PAY LIMITS OF STAINING CONCRETE BRICK FOR RESIDENTIAL SIDE

TOTAL ESTIMATE OF QUANTITIES

BID ITEM NO.	BID ITEM	UNIT	TOTAL
531.0200.S.901	NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-11-1	SF	73,000
SPV.0060.900	FIRE DEPARTMENT CONNECTORS	EACH	2
SPV.0060.903	FIRE HYDRANT SIGN MOUNTING	EACH	4
SPV.0060.904	MAINTENANCE DOOR	EACH	1
SPV.0165.502	STAINING CONCRETE BRICK	SF	117,000

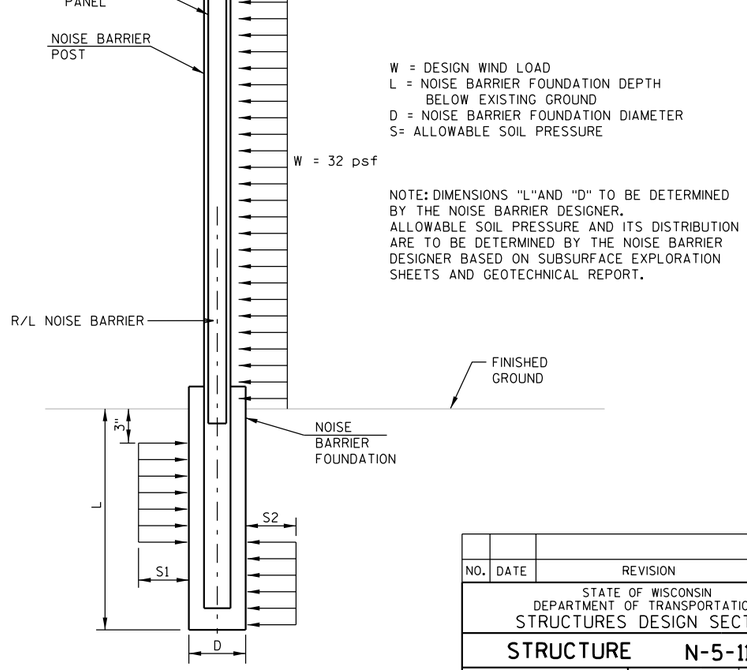
CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
~~B~~	~~ACCENT COLOR #1~~	~~REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS~~
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~

NOTES

1) STEP PANELS A MINIMUM OF 1' AND A MAXIMUM OF 3'. WHEN MORE THAN ONE PANEL MUST STEP CONSECUTIVELY, KEEP THE STEP INCREMENT THE SAME FOR EACH SEGMENT OF STEPPING PANELS.

2) ADJUST VERTICAL PLACEMENT OF PANELS TO MAXIMIZE HORIZONTAL RUNS, KEEPING THE TOP OF PANELS AT THE SAME ELEVATION.



GROUND MOUNTED NOISE BARRIER LOADING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-1

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QUANTITIES AND AESTHETIC DETAILS

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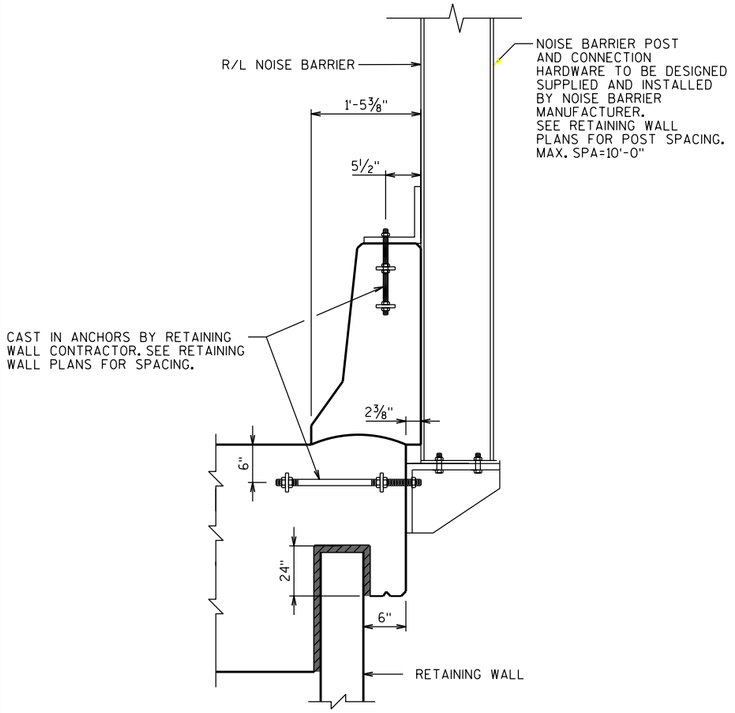
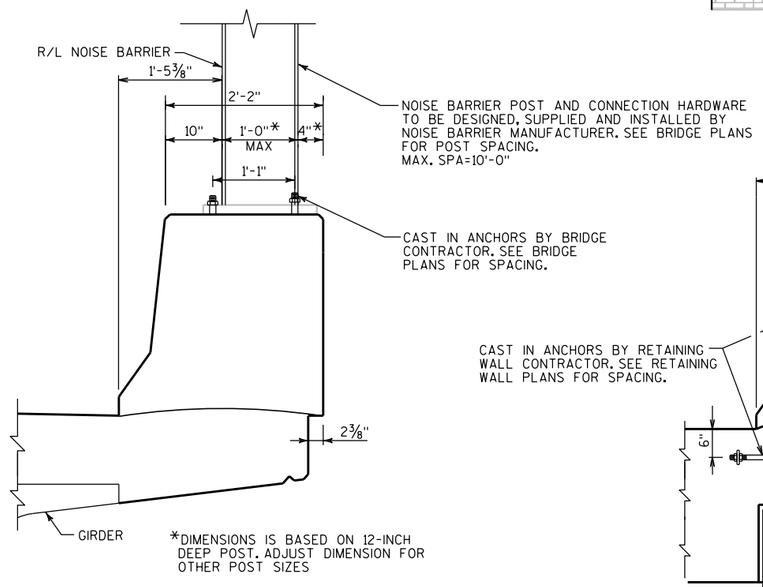
STATE PROJECT NUMBER
1133-09-71



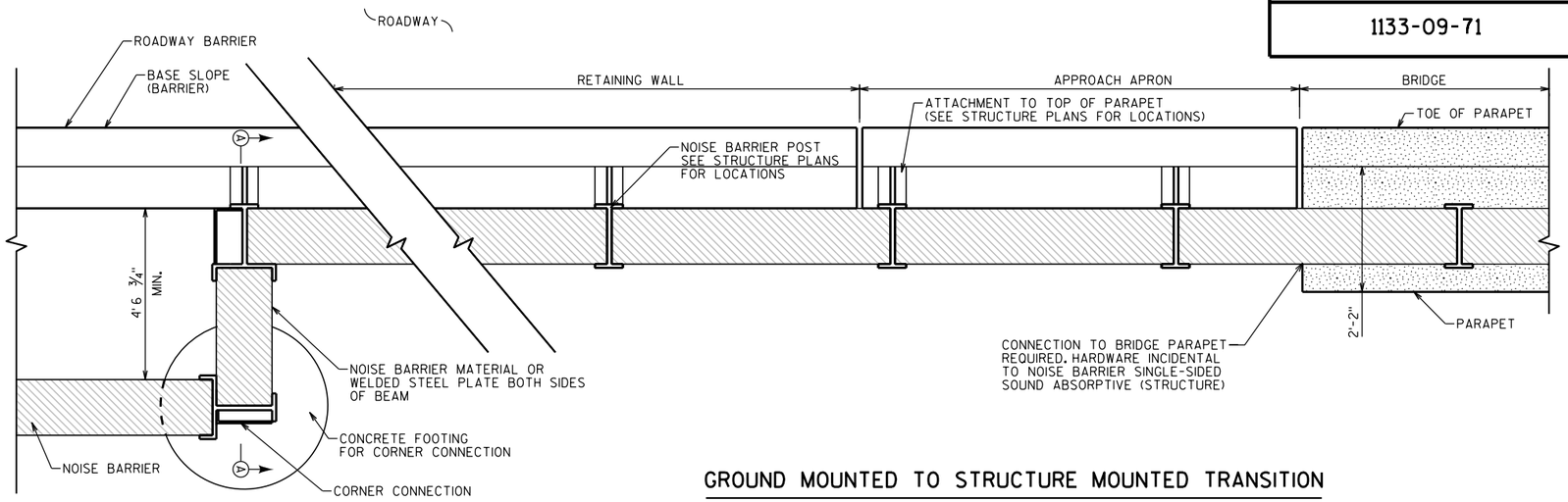
NOISE BARRIER ON RETAINING WALL

SECTION VIEW
TYPICAL AT EACH POST LOCATION



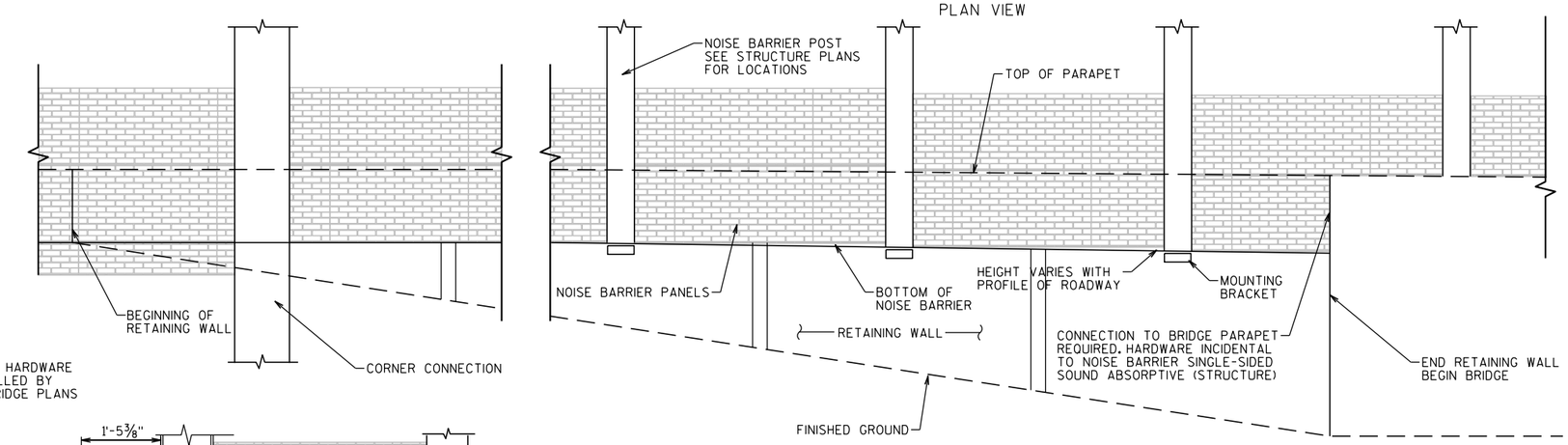
NOISE BARRIER ON BRIDGE PARAPET

SECTION VIEW
TYPICAL AT EACH POST LOCATION



GROUND MOUNTED TO STRUCTURE MOUNTED TRANSITION

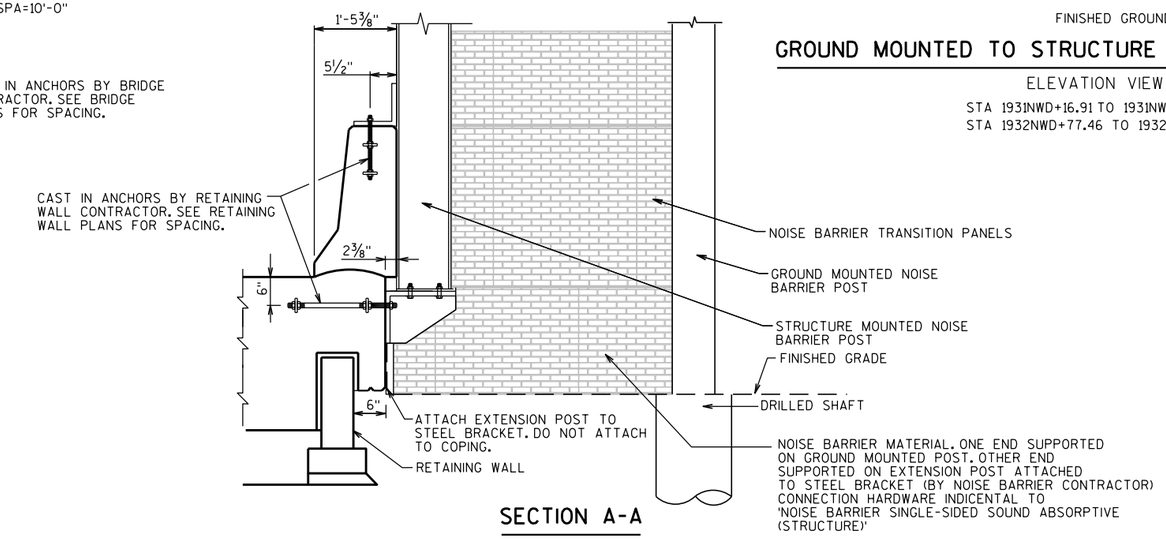
PLAN VIEW



GROUND MOUNTED TO STRUCTURE MOUNTED TRANSITION

ELEVATION VIEW

STA 1931NWD+16.91 TO 1931NWD+21.46
STA 1932NWD+77.46 TO 1932NWD+82.01



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-1

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CONNECTION DETAILS

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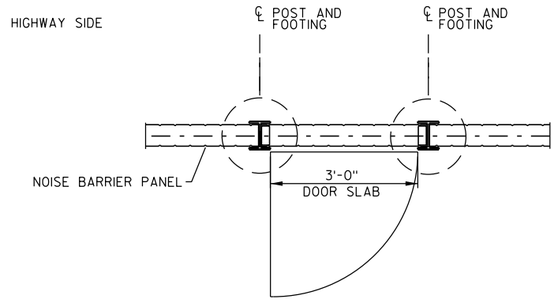
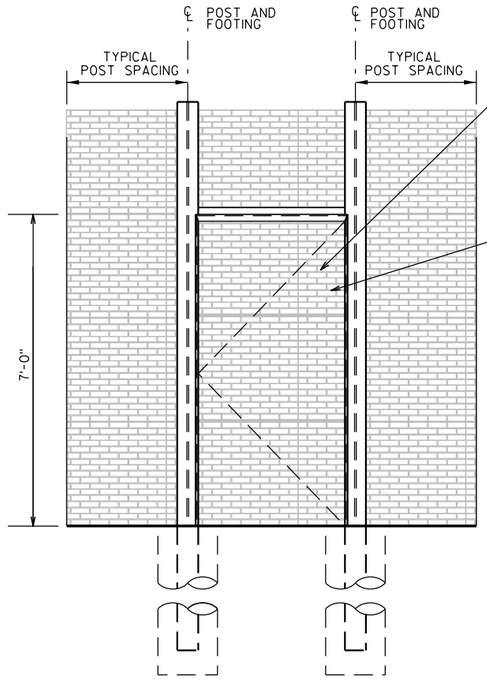
STATE PROJECT NUMBER
1133-09-71



DOOR PLAN



MAINTENANCE DOOR TO HAVE SAME AESTHETIC TREATMENT AS NOISE BARRIER PANELS. BRICK PATTERN INCIDENTAL TO MAINTENANCE DOOR

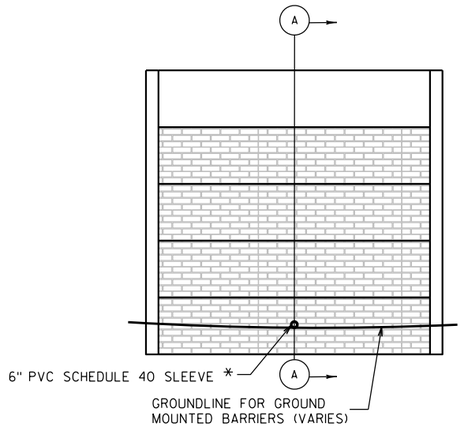
STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF BASE COLOR A INDICENTAL TO MAINTENANCE DOOR. APPLICATION OF ACCENT COLORS D, E, & F AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

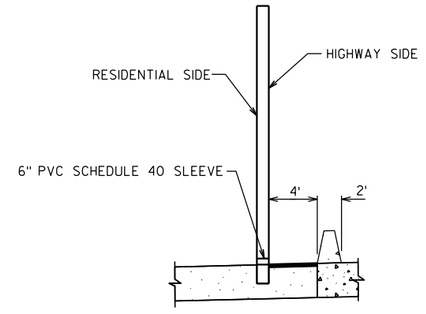
MAINTENANCE DOOR

STA 1930NWD+75

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
~~B~~	~~ACCENT COLOR #1~~	~~REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS~~
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~





SECTION A-A

NOTES

1)* WEEP HOLE OPENING AND 6" PVC SCHEDULE 40 SLEEVE ARE INCIDENTAL TO NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE)

2) EXPOXY 6" PVC SCHEDULE 40 SLEEVE INTO BORED WEEP HOLE IN NOISE WALL

3) ENGINEER WILL FIELD VERIFY HEIGHT AND LOCATION OF WEEP HOLE SO THAT THE INVERT IS AT THE LOW POINT

WEEP HOLE

STA 1949NWD+55

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-1

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CONSTRUCTION DETAILS 1

SHEET 4 OF 14

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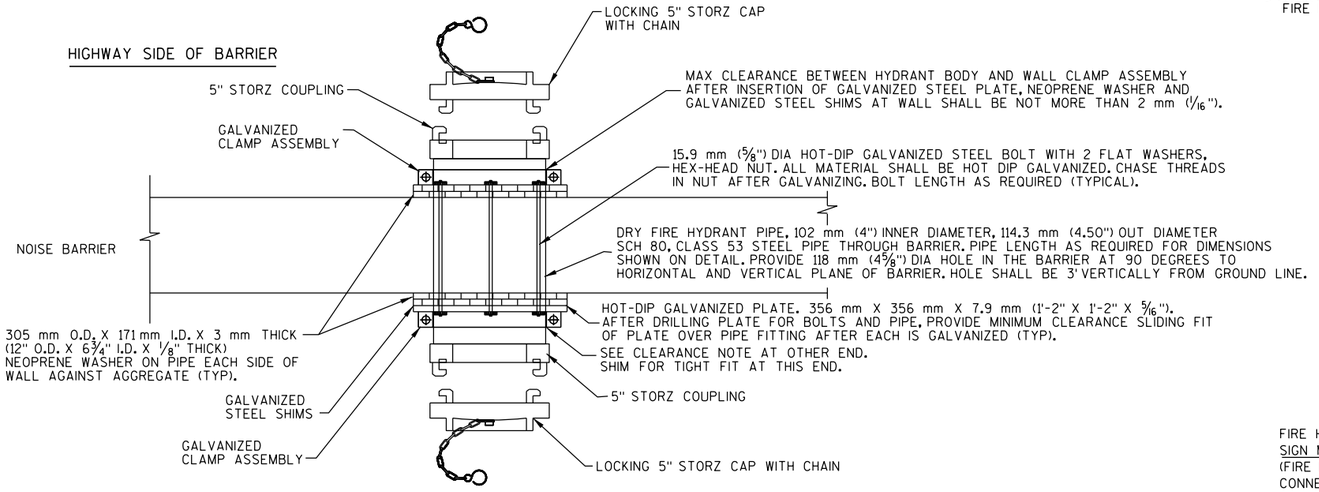


MATERIALS AND SPECIFICATIONS:

STEEL PLATE	ASTM A36-84a
BOLTS	ASTM A30-86a GRADE
PIPE	ASTM A53-84a SEAMLESS GRADE B
GALVANIZING	ASTM A123-84 HOT-DIP FOR STEEL PLATE, ETC. ASTM A153-87 HOT-DIP GALVANIZED CLASS C FOR HARDWARE, BOLTS, ETC.

NOTES

1) TIP CONNECTOR SLIGHTLY TOWARD HIGHWAY SIDE OF WALL TO PROVIDE DRAINAGE.
2) SEE FIRE HYDRANT LOCATION/HOSE ACCESS CONSTRUCTION DETAIL FOR PLACEMENT OF SIGNS

FIRE DEPARTMENT CONNECTOR

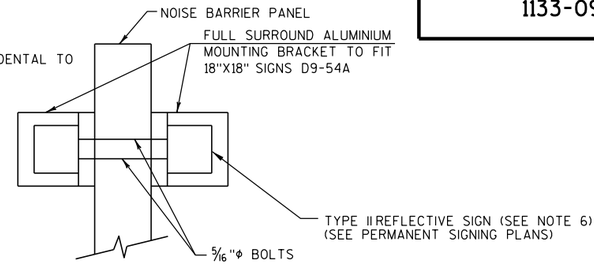
APPROXIMATE STA 1927NWD+50
APPROXIMATE STA 1937NWD+25

NOTES

1) DISTANCE FROM GROUND TO FIRE DEPARTMENT CONNECTOR SHALL BE 3 FEET. DISTANCE FROM TOP OF PARAPET TO STANDPIPE SHALL BE 6 INCHES. THE FIRE DEPARTMENT CONNECTOR SHALL BE CENTERED BETWEEN THE POSTS.
2) 4 5/8" HOLE SHALL BE FORMED IN THE SHOP DURING PANEL FABRICATION.
3) HOLE SHALL NOT BE CLOSER THAN 6" TO ANY EDGE OF THE BARRIER PANEL.
4) STAINLESS STEEL ANCHOR BOLTS OR APPROVED EQUIVALENT. BOLTS INDICENTAL TO SIGN REFLECTIVE TYPE 2.
5) TWO STANDARD SIGNS D9-54 WILL BE FURNISHED PER STATION BY THE ROADWAY CONTRACTOR. ONE SIGN SHALL BE INSTALLED ON EACH SIDE OF THE BARRIER. SIGNS TO BE PAID FOR AS SIGN REFLECTIVE TYPE 2 UNDER ROADWAY ITEMS.
6) STANDARD SIGNS D9-54A WILL BE FURNISHED PER STATION BY THE ROADWAY CONTRACTOR. SIGN SHALL BE ATTACHED TO THE NOISE BARRIER PANEL ON EACH SIDE NEAR THE TOP OF THE BARRIER. SIGNS TO BE PAID FOR AS SIGN REFLECTIVE TYPE 2 UNDER ROADWAY ITEMS. MOUNTING BRACKET TO BE PAID FOR UNDER FIRE HYDRANT SIGN MOUNTING UNDER ROADWAY ITEMS, SEE SPECIAL PROVISIONS.

NOTE

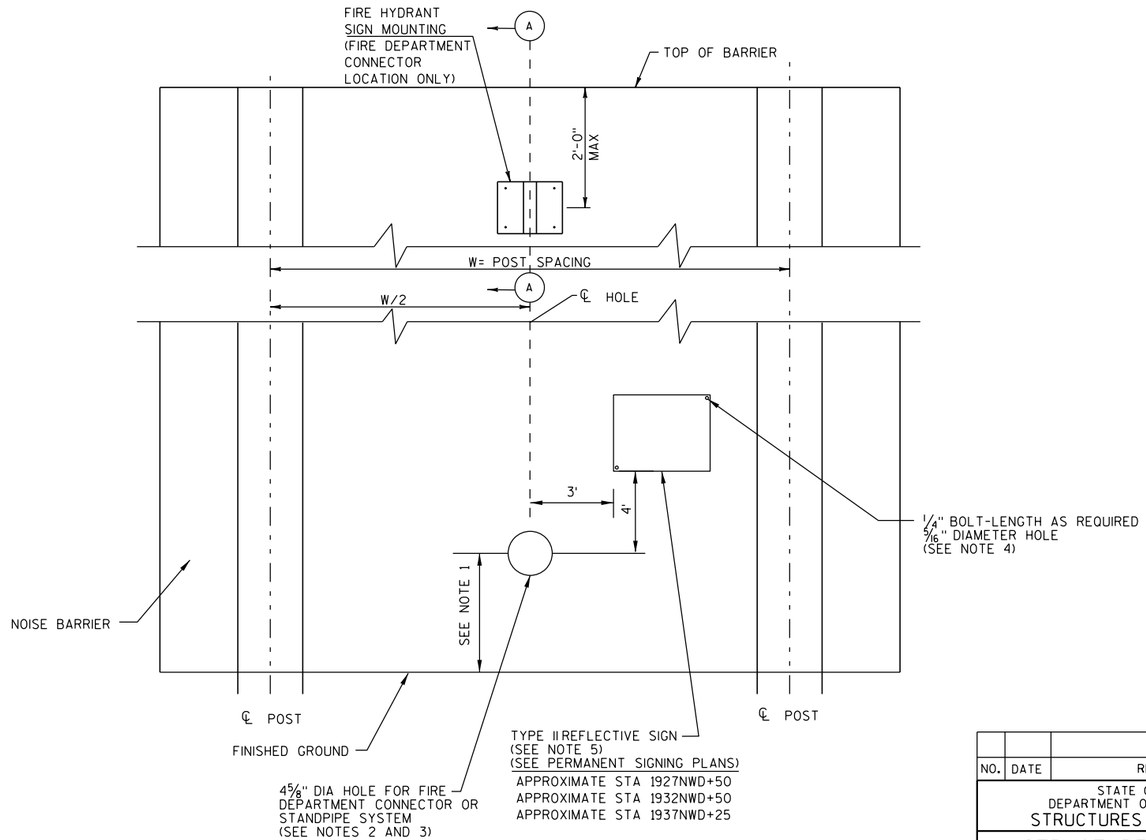
1) MOUNTING BOLTS, BRACKETS, ARE INCIDENTAL TO FIRE HYDRANT SIGN MOUNTING



SECTION A-A

FIRE HYDRANT SIGN MOUNTING

(TYPICAL AT FIRE DEPARTMENT CONNECTOR LOCATIONS)
APPROXIMATE STA 1927NWD+50
APPROXIMATE STA 1937NWD+25



FIRE HYDRANT LOCATION/HOSE ACCESS DETAIL

(TYPICAL AT ALL FIRE HYDRANT PENETRATIONS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-1

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CONSTRUCTION DETAILS 2

SHEET 5 OF 14

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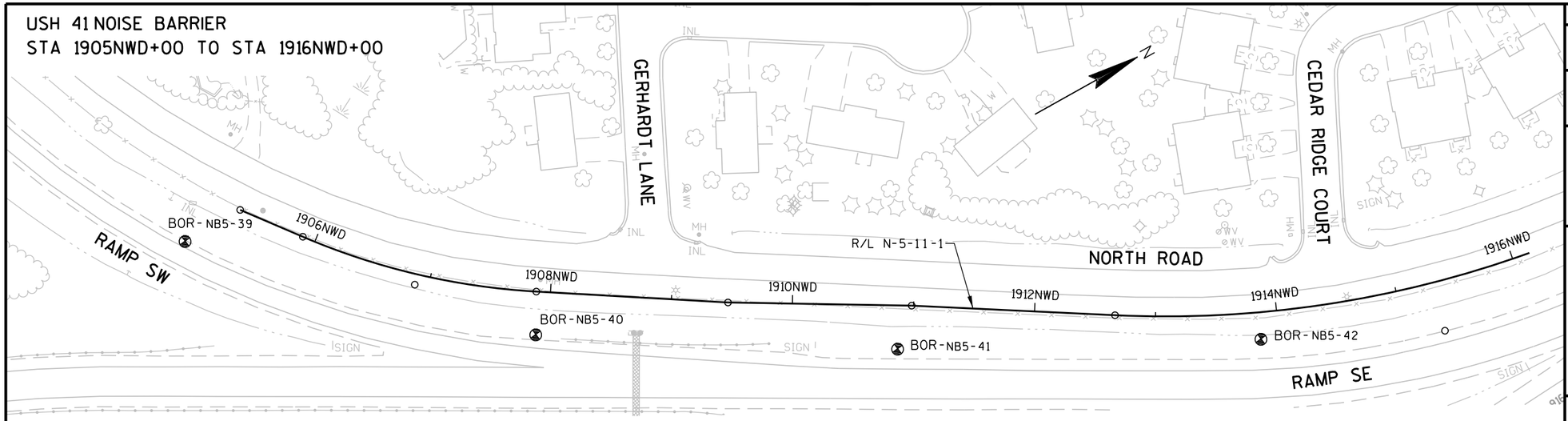
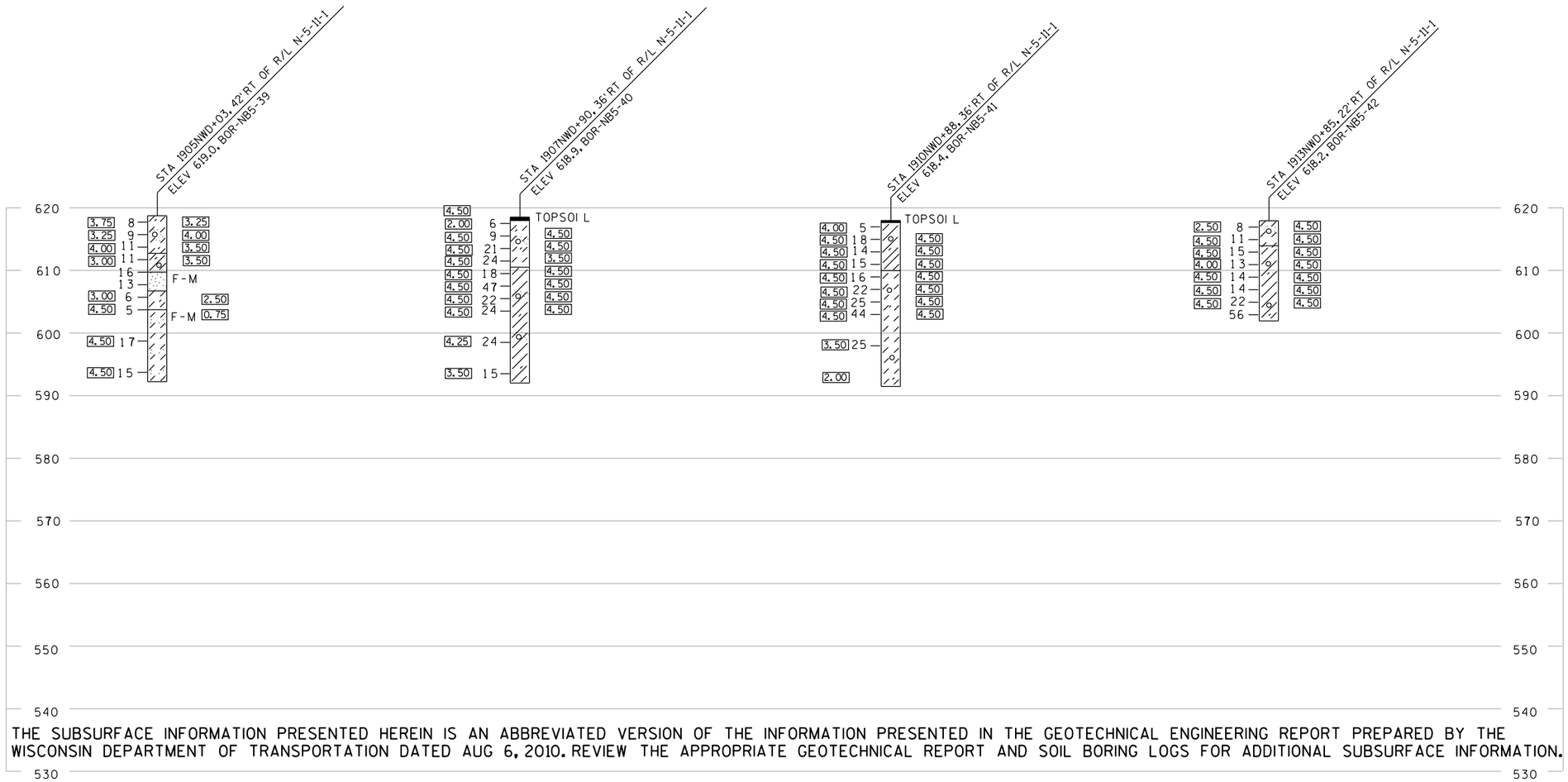
USH 41 NOISE BARRIER
STA 1905NWD+00 TO STA 1916NWD+00





THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION DATED AUG 6, 2010. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

STATE PROJECT NUMBER

1133-09-71

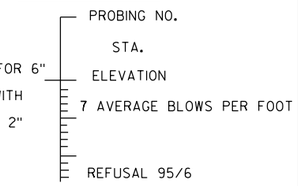
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

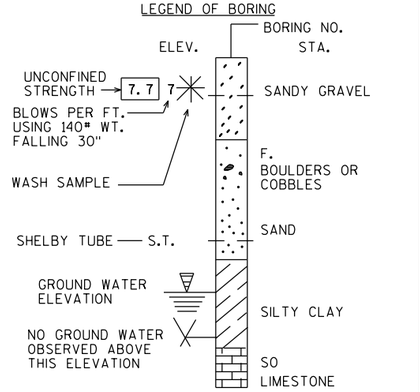
MATERIAL SYMBOLS

TOPSOIL SILT SANDSTONE
SAND PEAT LIMESTONE
GRAVEL CLAY IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-1

DRAWN BY CMF | PLANS CK'D. MG

SUBSURFACE EXPLORATION 1

SHEET 6 OF 14

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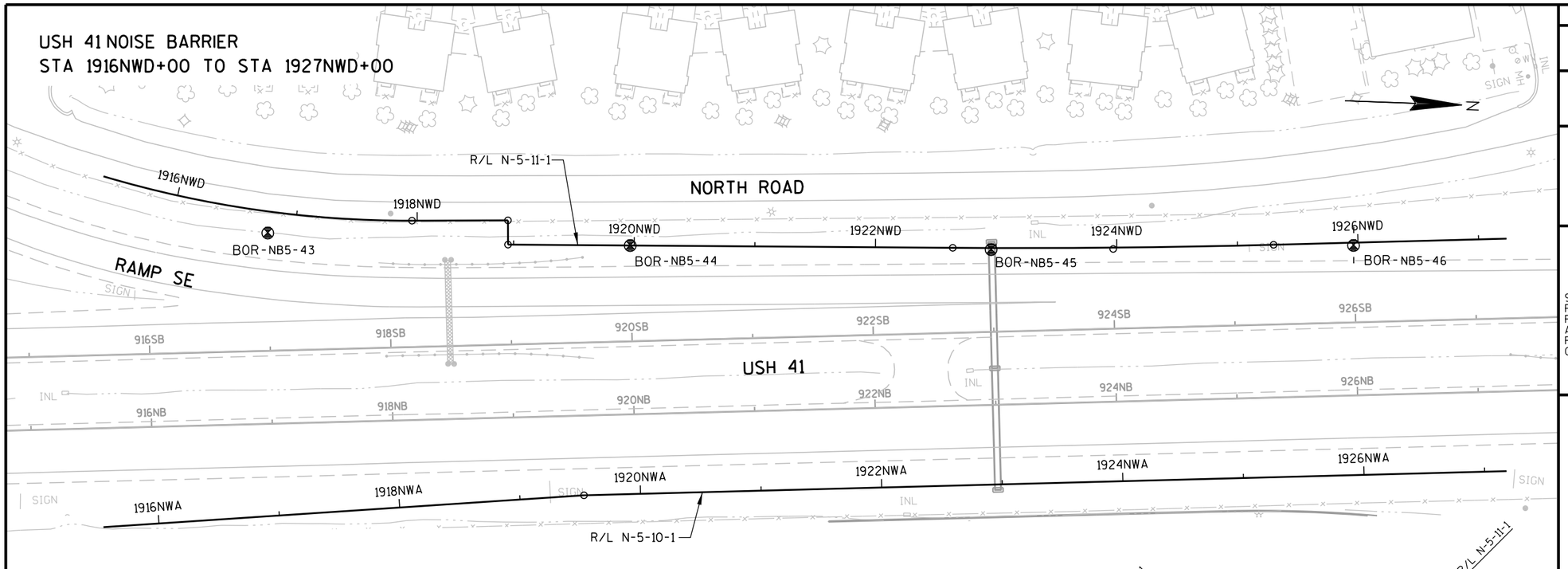
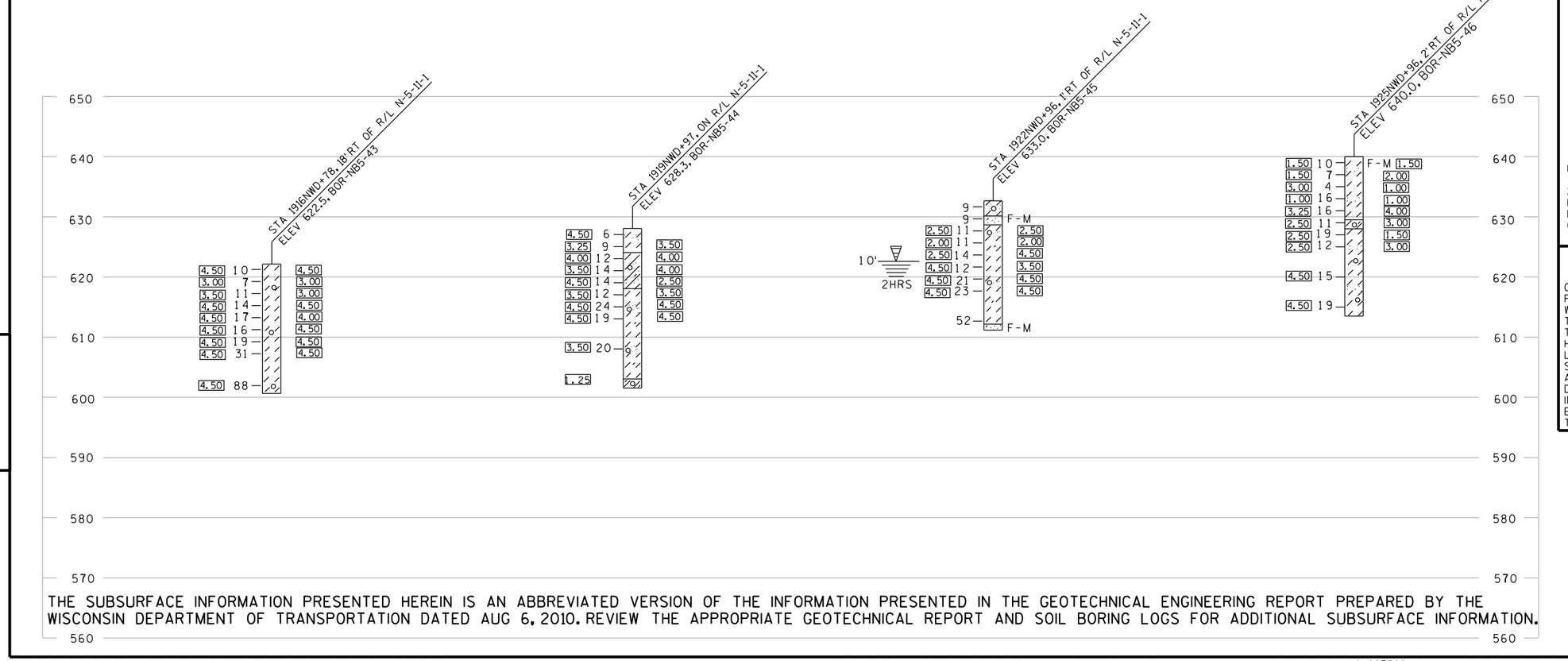
USH 41 NOISE BARRIER
STA 1916NWD+00 TO STA 1927NWD+00





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STATE PROJECT NUMBER

1133-09-71

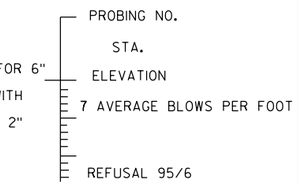
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

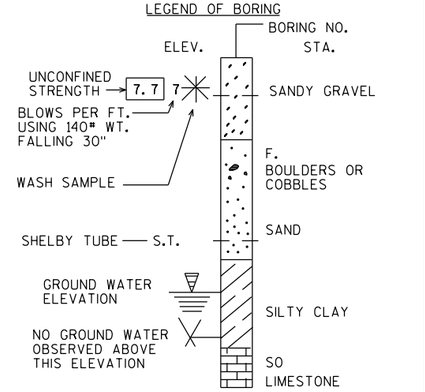
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-1

DRAWN BY CMF | PLANS CK'D. MG

SUBSURFACE EXPLORATION 2

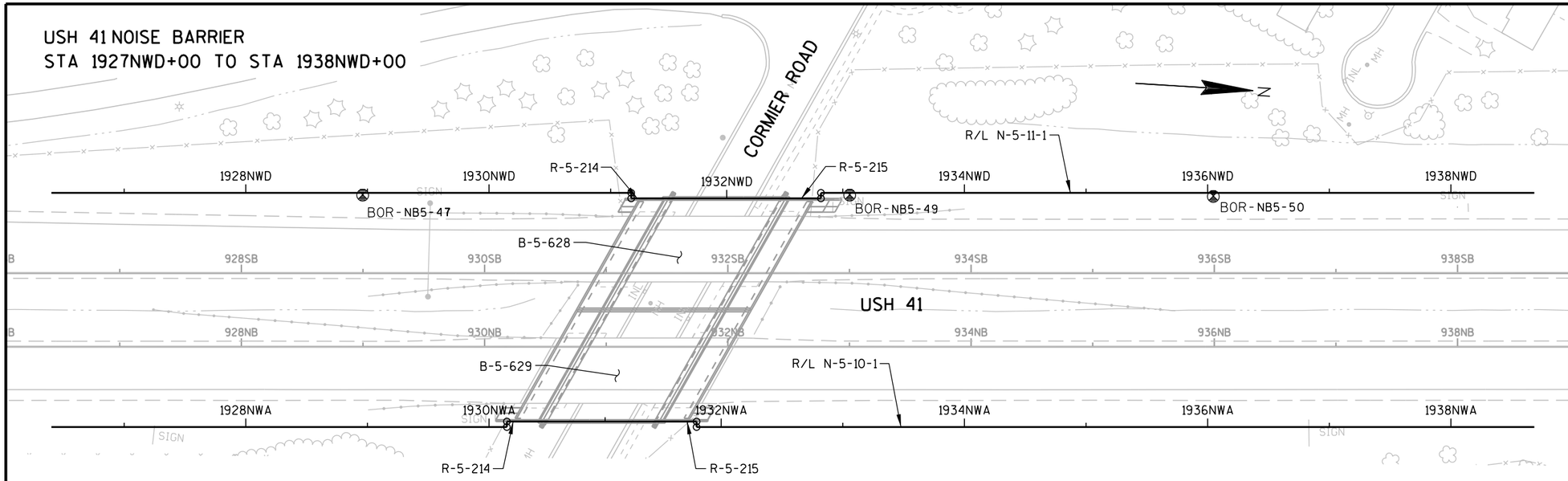
SHEET 7 OF 14

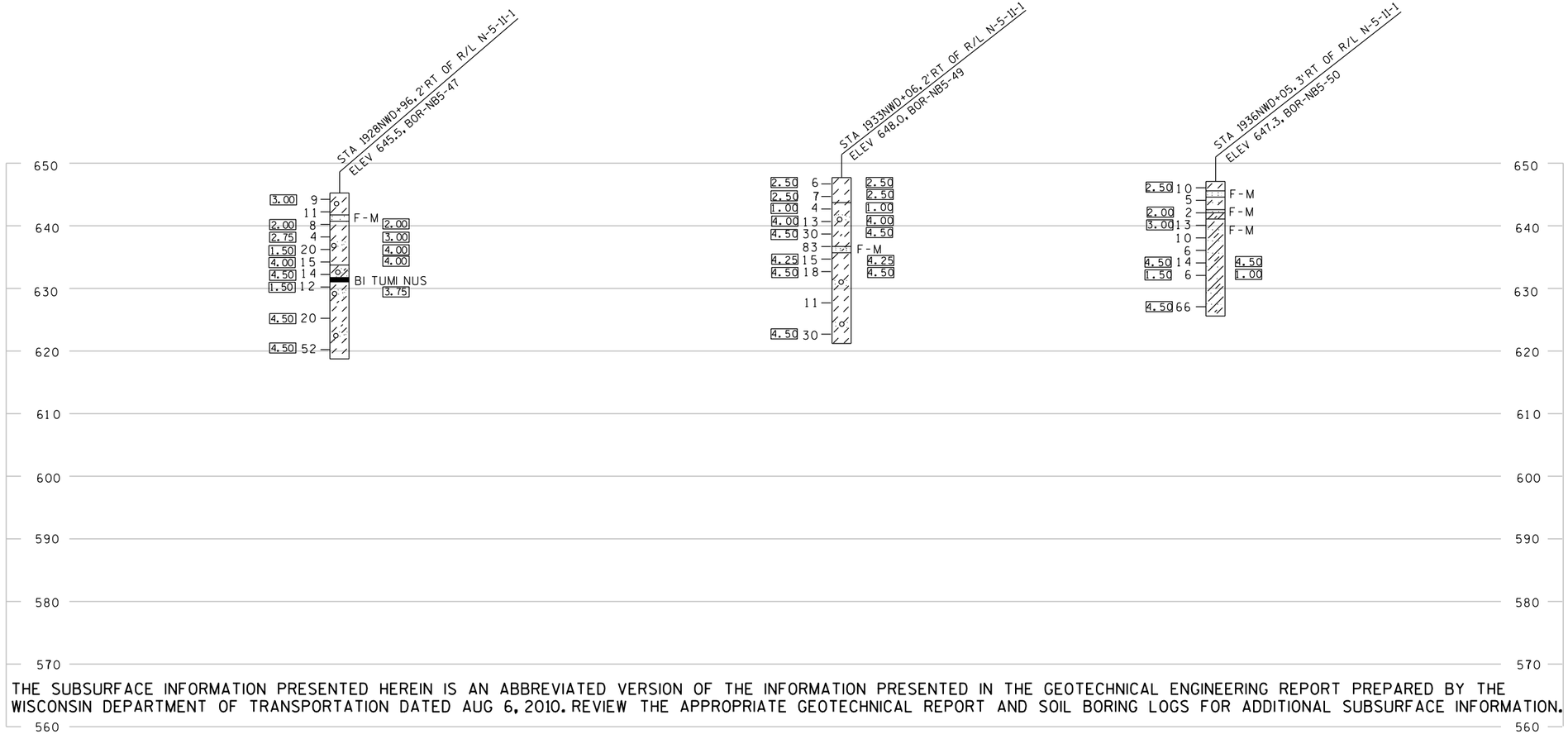
2188

8

8

USH 41 NOISE BARRIER
STA 1927NWD+00 TO STA 1938NWD+00





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STATE PROJECT NUMBER

1133-09-71

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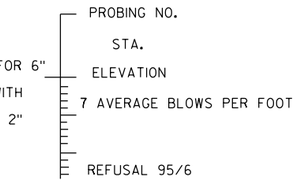
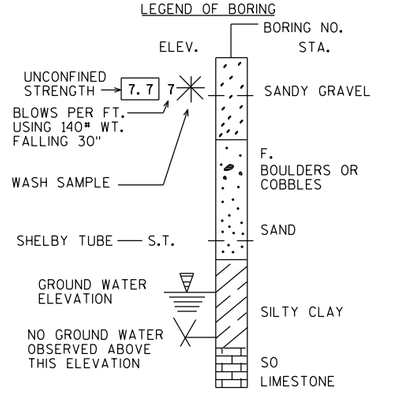
LEGEND OF PROBING



LEGEND OF BORING



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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-1

DRAWN BY CMF PLANS CK'D. MG

SUBSURFACE EXPLORATION 3

SHEET 8 OF 14

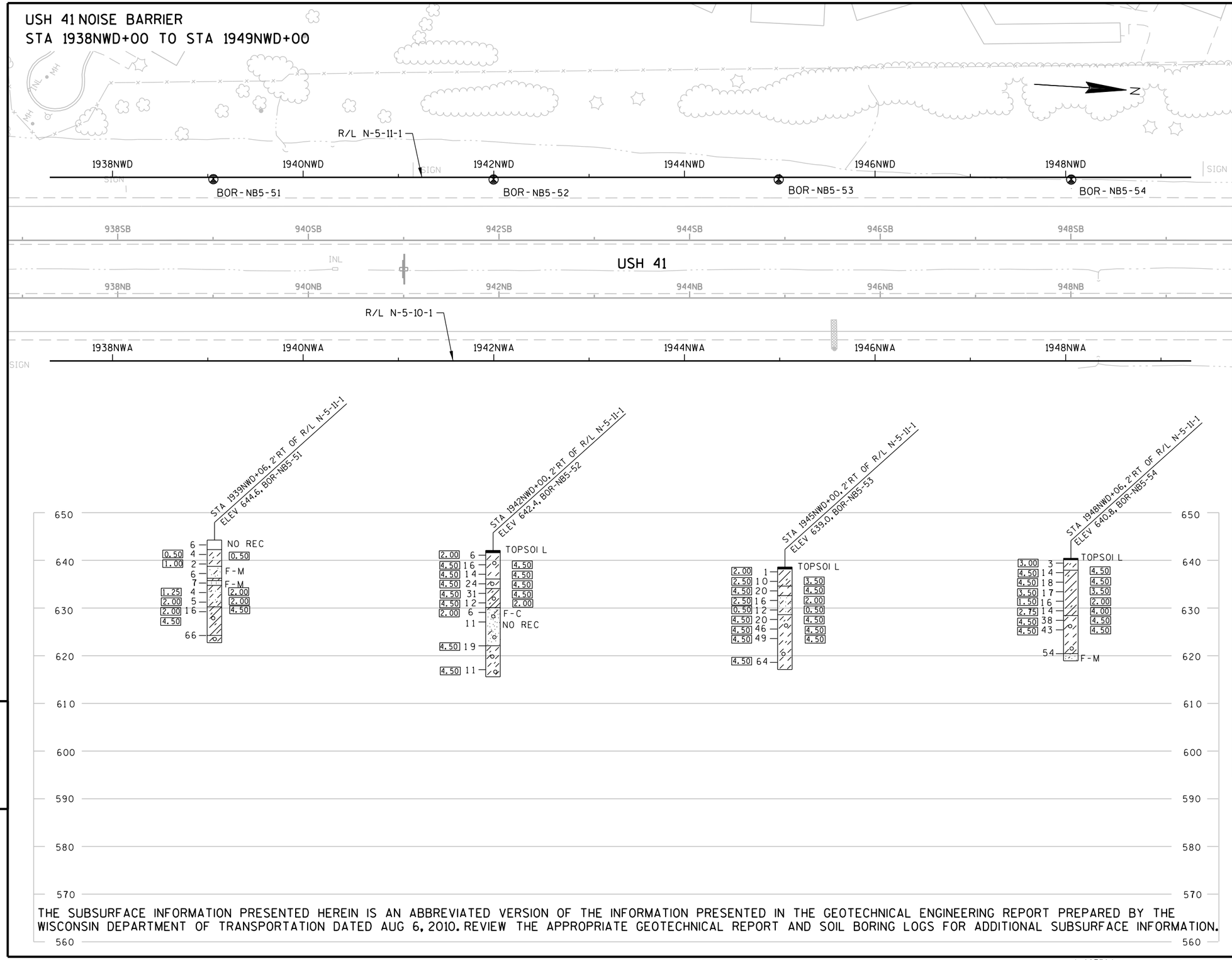
2189

8

8

FILE NAME : F:\BM1-1726A\GS_11330984EB\0984\N-05-0011-01\bl_027303_sb.dgn PLOT DATE : 19-NOV-2012 12:27 PLOT BY : cfranzen PLOT NAME : bl_027303_sb PLOT SCALE : 100:1

USH 41 NOISE BARRIER
STA 1938NWD+00 TO STA 1949NWD+00



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1133-09-71

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SAND, PEAT, LIMESTONE
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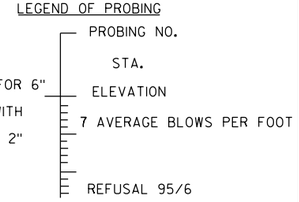
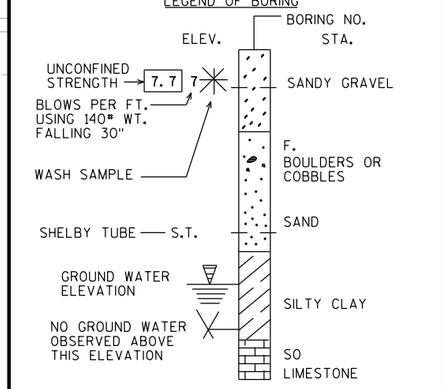
LEGEND OF PROBING



LEGEND OF BORING



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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-1

DRAWN BY CMF | PLANS CK'D. MG

SUBSURFACE EXPLORATION 4

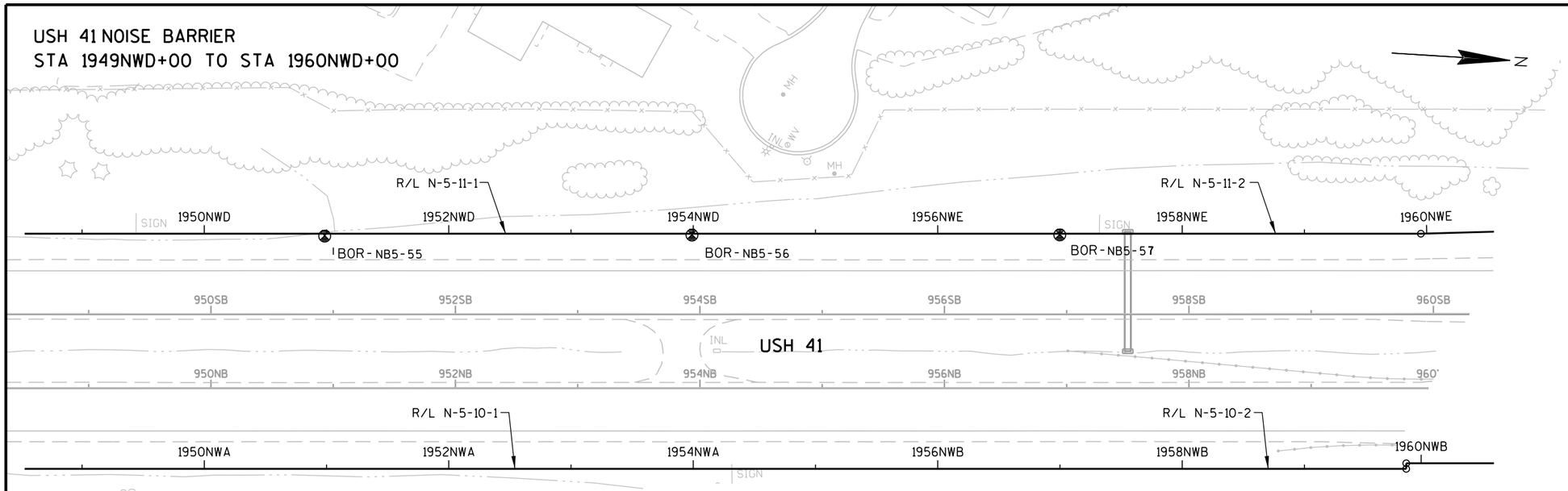
SHEET 9 OF 14

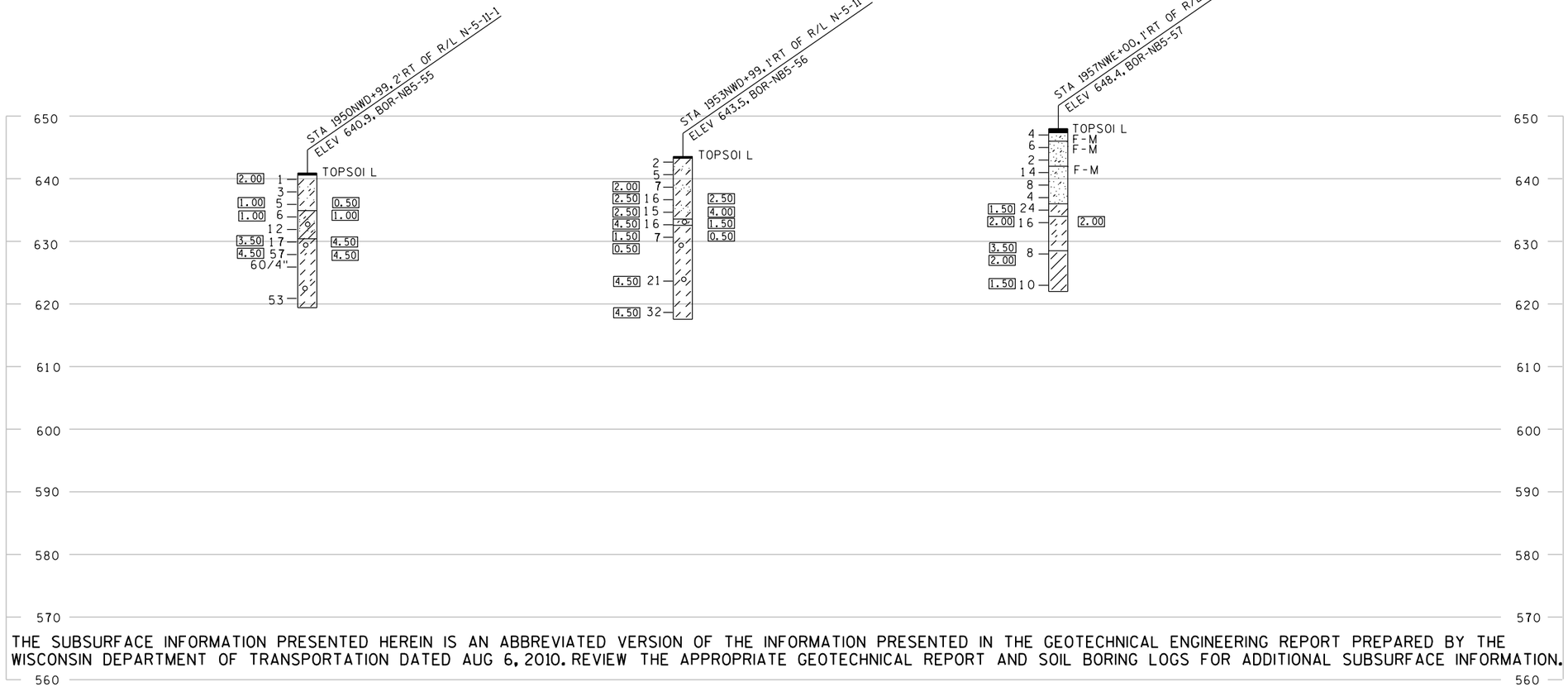
2190

8

8

USH 41 NOISE BARRIER
STA 1949NWD+00 TO STA 1960NWD+00





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1133-09-71

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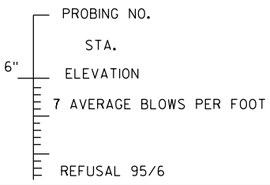
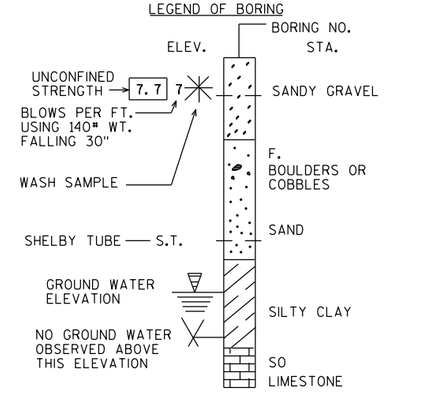


LEGEND OF BORING



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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-1

DRAWN BY CMF | PLANS CK'D. MG

SUBSURFACE EXPLORATION 5

SHEET 10 OF 14

2191

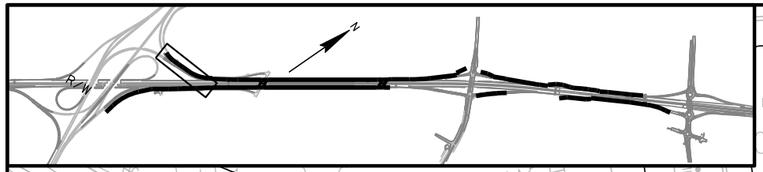
8

8

FILE NAME : F:\BM1-1726A\GS_11330984EB\0984\N-05-0011-01\bl_027305_sb.dgn PLOT DATE : 19-NOV-2012 12:28 PLOT BY : cfranzen PLOT NAME : bl_027305_sb PLOT SCALE : 100:1

STATE PROJECT NUMBER

1133-09-71



JEFFRY M & NANCY L NITKA

ELANE L LEROY

TIME WARNER CABLE TELEVISION

WPS ELECTRIC

ROBERT PETER & CAROL SCHULD III

R/W

CEDAR RIDGE COURT

MATCHLINE 1917NWD+00

VILLAGE OF ASHWAUBENON WATER MAIN

WPS ELECTRIC

GERHARDT LANE

906NOR 1906NWD

AT&T TELEPHONE

908NOR 1908NWD

910NOR 1910NWD

NORTH ROAD

912NOR 1912NWD

914NOR 1914NWD

916NOR 1916NWD

916ISE

904ISW

AT&T MANHOLE STA 1907NWD+88, 10' LT 7' X 13' BOX

R/L N-5-11-1

914ISE

RAMP SW

BEGIN NOISE BARRIER N-5-11-1

STA 1905NWD+33.00

912ISE

910ISE

908ISE

RAMP SE

VILLAGE OF ASHWAUBENON WATER MAIN

ASHWAUBENON SCHOOL DISTRICT

916SB

916NB

916EN

914SB

914NB

914EN

912SB

1914NWA

VILLAGE OF ASHWAUBENON SANITARY SEWER

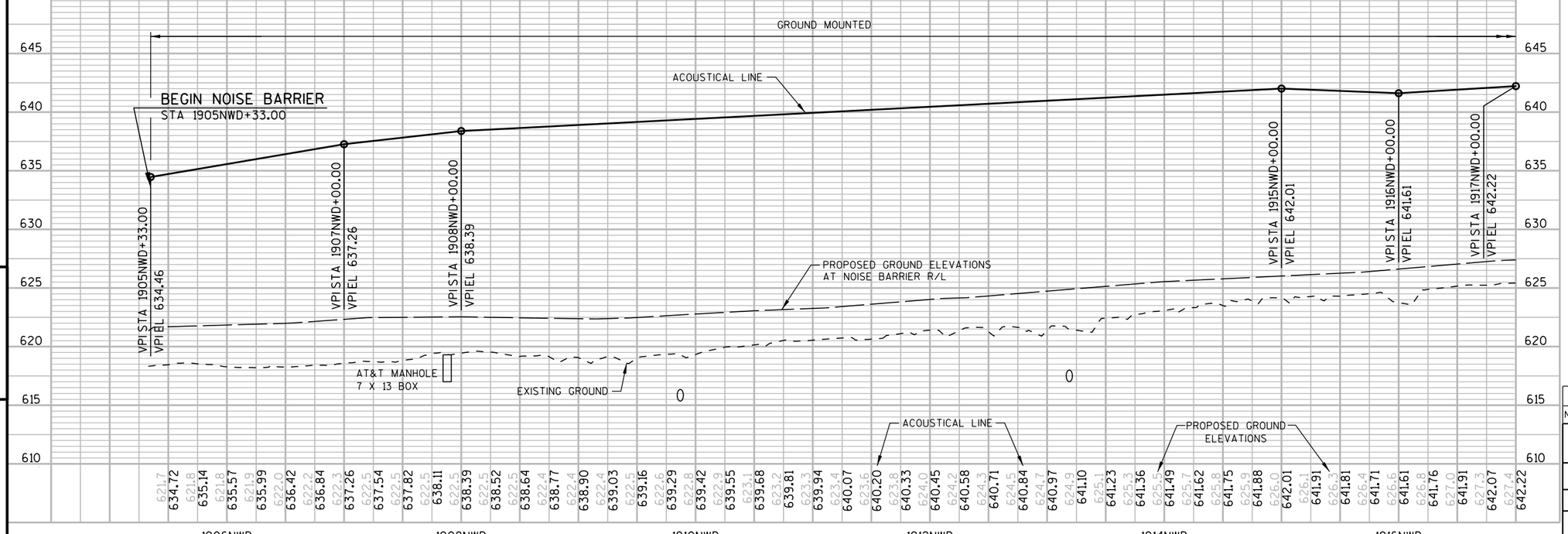
SAN

SAN

SAN

SAN

SAN



8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-1

DRAWN BY CMF | PLANS CK'D. MG

NOISE BARRIER PLAN & PROFILE 1

SHEET 11 OF 14

2192

FILE NAME : F:\BM1-1726A\GS_11330984EB\0984\N-05-0011-01\bl_050101_pp.DGN

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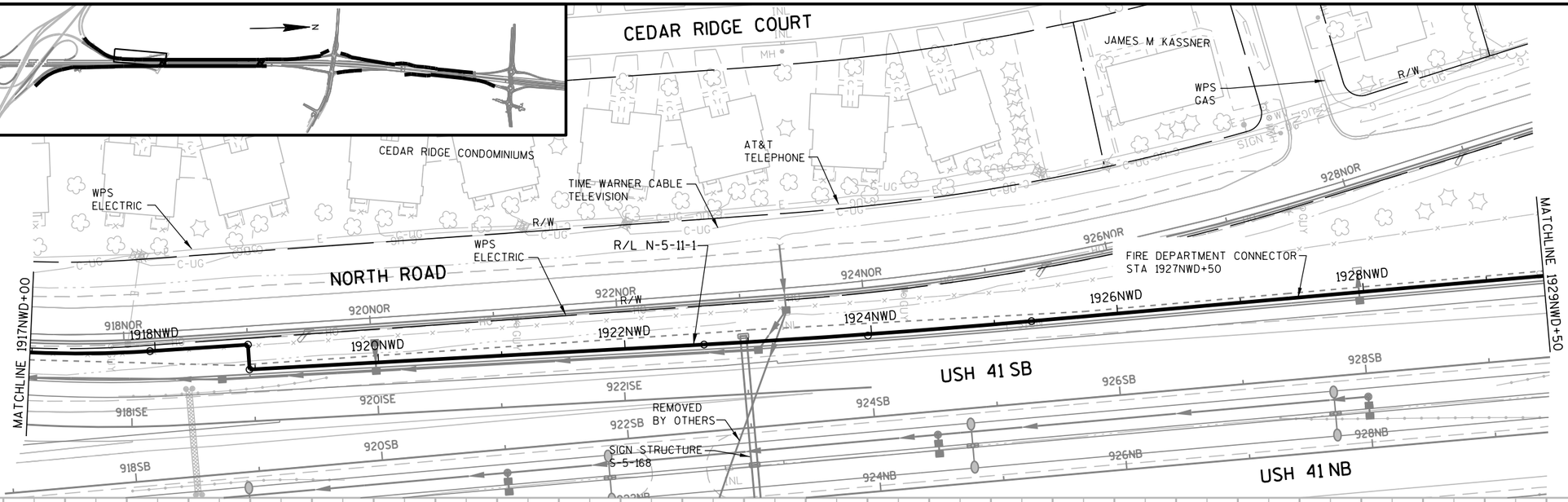
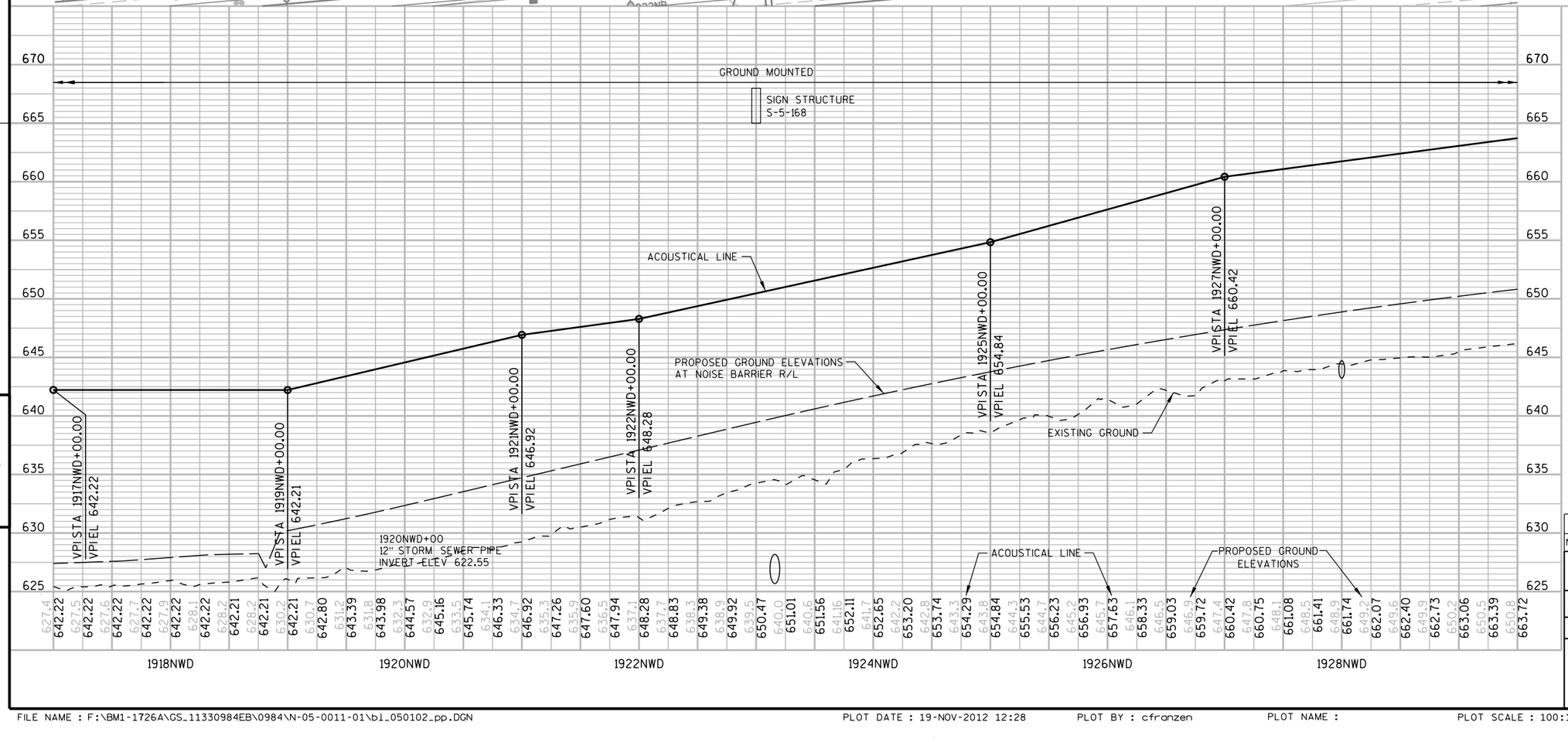
PLOT BY : cfranzen

PLOT NAME :

PLOT SCALE : 100:1

STATE PROJECT NUMBER
1133-09-71





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8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-1

DRAWN BY CMF | PLANS CK'D. MG

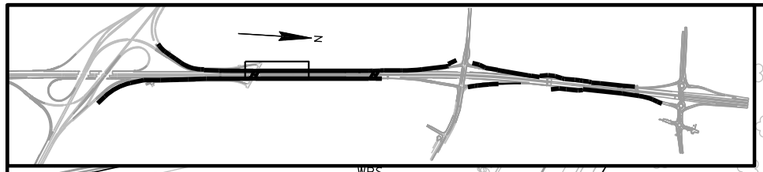
NOISE BARRIER PLAN & PROFILE 2

SHEET 12 OF 14

2193

FILE NAME : F:\BM1-1726A\GS_11330984EB\0984\N-05-0011-01\bl_050102_pp.DGN PLOT DATE : 19-NOV-2012 12:28 PLOT BY : cfranzen PLOT NAME : PLOT SCALE : 100:1

STATE PROJECT NUMBER
1133-09-71



VILLAGE OF ASHWAUBENON

LAURA L THAYER

ORLANDO DRIVE

KEVIN S & JEAN C TAYLOR

TROY W & LISA M BAUER

JOHN M & TAMMY S LEORQUIN

CHRI PAMELA

R/W

WPS ELECTRIC

WPS GAS

AT&T TELEPHONE

TIME WARNER CABLE TELEVISION

MAINTENANCE DOOR STA 1930NWD+75

CORMER ROAD

STANDPIPE SYSTEM STA 1932NWD+50 (SEE R-5-215 PLANS)

R-5-215

GROUND MOUNTED TO STRUCTURE MOUNTED TRANSITION

WPS ELECTRIC

FIRE DEPARTMENT CONNECTOR STA 1937NWD+25

VILLAGE OF ASHWAUBENON WATER MAIN

VILLAGE OF ASHWAUBENON SANITARY SEWER

WPS ELECTRIC

R/L N-5-11-1

MATCHLINE 1929NWD+50

MATCHLINE 1942NWD+00

1930NWD 1932NWD 1934NWD 1936NWD 1938NWD 1940NWD 1942

R-5-214

GROUND MOUNTED TO STRUCTURE MOUNTED TRANSITION

B-5-628

VILLAGE OF ASHWAUBENON WATER MAIN

USH 41 SB

REMOVED BY OTHERS

930SB 932SB 934SB 936SB 938SB 940SB 94

930NB 932NB 934NB 936NB 938NB 940NB 94

B-5-629

VILLAGE OF ASHWAUBENON SANITARY SEWER

USH 41 NB

1930NWA 1932NWA 1934NWA 1936NWA 1938NWA 1940NWA 1942N

R-5-214 R-5-215

ACOUSTICAL LINE

VPI STA 1930NWD+00.00 VPIEL 664.38

BRIDGE PARAPET

VPI STA 1932NWD+00.00 VPIEL 666.07

VPI STA 1935NWD+00.00 VPIEL 667.51

VPI STA 1936NWD+00.00 VPIEL 668.42

VPI STA 1937NWD+00.00 VPIEL 669.54

VPI STA 1938NWD+00.00 VPIEL 669.30

VPI STA 1940NWD+00.00 VPIEL 666.29

VPI STA 1942NWD+00.00 VPIEL 664.84

PROPOSED GROUND ELEVATIONS AT NOISE BARRIER R/L

PROPOSED GROUND ELEVATIONS AT NOISE BARRIER R/L

EXISTING GROUND

GROUND MOUNTED

GROUND MOUNTED

STRUCTURE MOUNTED*

ACOUSTICAL LINE

PROPOSED GROUND ELEVATIONS

665 660 655 650 645 640 635 630

650.8 663.72 651.1 664.05 651.4 664.38 651.6 664.59 651.9 664.80 652.1 665.01 652.4 665.22 652.6 665.44 655.4 655.65 655.7 665.86 655.8 666.07 656.0 666.19 656.2 666.31 653.4 666.43 653.5 666.55 653.6 666.67 653.8 666.79 653.9 666.91 654.0 667.03 654.0 667.15 654.1 667.27 654.2 667.39 654.2 667.51 654.3 667.74 654.3 667.96 654.3 668.19 654.3 668.42 654.3 668.70 654.3 668.98 654.3 669.26 654.2 669.54 654.2 669.48 654.1 669.42 654.1 669.36 654.0 669.30 653.9 668.92 653.8 668.55 653.7 668.17 653.5 667.80 653.4 667.42 653.3 667.05 653.1 666.67 652.9 666.29 652.7 666.11 652.6 665.93 652.4 665.75 652.1 665.56 651.9 665.38 651.7 665.20 651.4 665.02 651.2 664.84

1930NWD 1932NWD 1934NWD 1936NWD 1938NWD 1940NWD 1942NWD

* R-5-214 STA 1931NWD+21.46 TO STA 1931NWD+47.26

B-5-628 STA 1931NWD+47.26 TO STA 1932NWD+51.67

R-5-215 STA 1932NWD+51.67 TO STA 1932NWD+77.46

SEE STRUCTURE PLANS FOR POST ANCHORAGE LOCATIONS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-1

DRAWN BY CMF | PLANS CK'D. MG

NOISE BARRIER PLAN & PROFILE 3

SHEET 13 OF 14

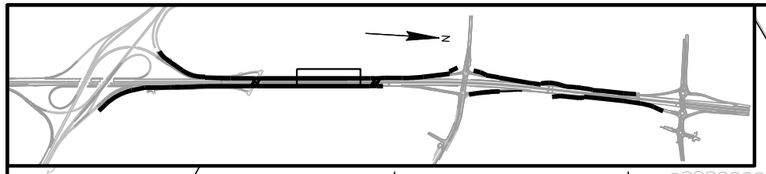
2194

8

8

FILE NAME : F:\BM1-1726A\GS_11330984EB\0984\N-05-0011-01\b1_050103_pp.DGN PLOT DATE : 30-NOV-2012 14:20 PLOT BY : cfranzen PLOT NAME : PLOT SCALE : 100:1

STATE PROJECT NUMBER
1133-09-71



CHARLES A & MARILYN J PERRY

MESA DRIVE

R/W

WPS ELECTRIC

END NOISE BARRIER N-5-11-1
STA 1954NWD+00.00
MATCH N-5-11-2

WEEP HOLE STA 1949NWD+55

R/L N-5-11-1

R/L N-5-11-2

MATCHLINE 1942NWD+00

1942NWD 1944NWD 1946NWD 1948NWD 1950NWD 1952NWD 1954NWD 1956NWE

VILLAGE OF ASHWAUBENON SANITARY SEWER

USH 41 SB

942SB 944SB 946SB 948SB 950SB 952SB 954SB 956SB

VILLAGE OF ASHWAUBENON WATER

USH 41 NB

VILLAGE OF ASHWAUBENON WATER

942NB 944NB 946NB 948NB 950NB 952NB 954NB 956NB

1942NWA 1944NWA 1946NWA 1948NWA 1950NWA 1952NWA 1954NWA 1956NWB

GROUND MOUNTED

END NOISE BARRIER N-5-11-1
STA 1954NWD+00.00
MATCH N-5-11-2

ACOUSTICAL LINE

N-5-11-2

VPI STA 1942NWD+00.00
VPI EL 664.84

VPI STA 1943NWD+00.00
VPI EL 664.52

PROPOSED GROUND ELEVATIONS AT NOISE BARRIER R/L

VPI STA 1947NWD+00.00
VPI EL 658.98

VPI STA 1949NWD+00.00
VPI EL 657.21

VPI STA 1950NWD+00.00
VPI EL 657.08

VPI STA 1951NWD+00.00
VPI EL 657.64

VPI STA 1952NWD+00.00
VPI EL 657.57

EXISTING GROUND

ACOUSTICAL LINE

PROPOSED GROUND ELEVATIONS

665 660 655 650 645 640 635 630

1942NWD	1944NWD	1946NWD	1948NWD	1950NWD	1952NWD	1954NWD
664.84	664.76	664.68	664.60	664.52	664.18	663.83
663.49	663.14	662.79	662.45	662.10	661.75	661.41
661.06	660.71	660.37	660.02	659.67	659.33	658.98
658.76	658.54	658.32	658.09	657.87	657.65	657.43
657.21	657.17	657.14	657.11	657.08	657.22	657.36
657.50	657.64	657.62	657.60	657.58	657.57	657.98
658.38	658.79	659.20	659.61	660.02	660.43	660.84
661.25	661.65					

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-1

DRAWN BY CMF | PLANS CK'D. MG

NOISE BARRIER PLAN & PROFILE 4

SHEET 14 OF 14

2195

FILE NAME : F:\BM1-1726A\GS_11330984EB\0984\N-05-0011-01\bl_050104_pp.DGN

PLOT DATE : 19-NOV-2012 17:27 PLOT BY : cfranzen PLOT NAME : PLOT SCALE : 100:1

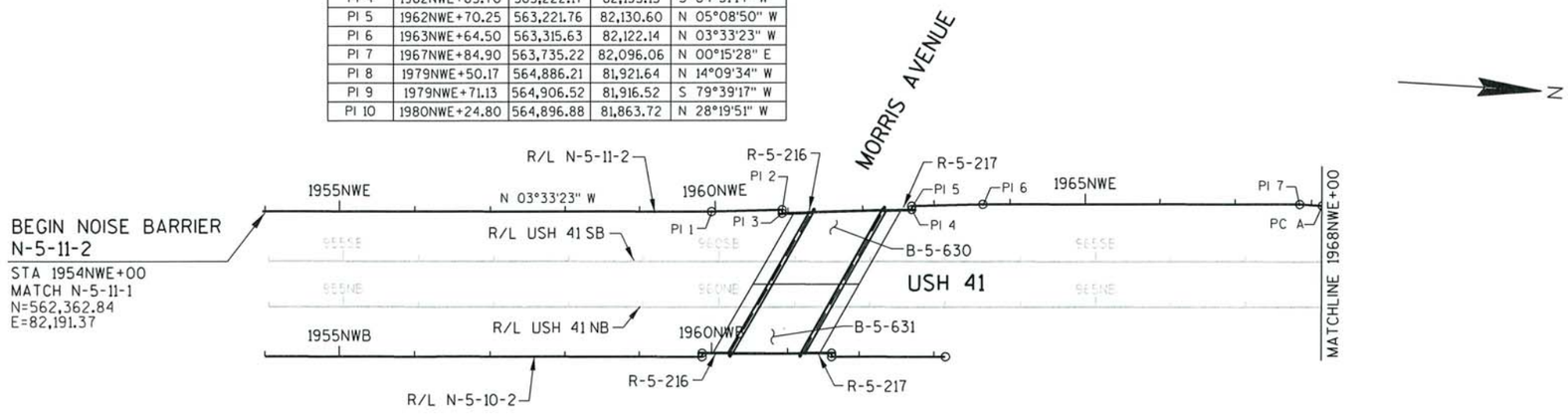
STATE PROJECT NUMBER

1133-03-77

LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES AND ASTHETIC DETAILS
3. CONNECTION DETAILS
4. CONSTRUCTION DETAILS 1
5. CONSTRUCTION DETAILS 2
6. SUBSURFACE EXPLORATION 1
7. SUBSURFACE EXPLORATION 2
8. SUBSURFACE EXPLORATION 3
9. NOISE BARRIER PLAN AND PROFILE 1
10. NOISE BARRIER PLAN AND PROFILE 2
11. NOISE BARRIER PLAN AND PROFILE 3

PI NO.	PI STA	NORTHING	EASTING	EXIT BEARING
PI 1	1959NWE+95.22	562,956.91	82,154.45	N 05°08'50" W
PI 2	1960NWE+87.71	563,049.03	82,146.16	N 84°51'10" E
PI 3	1960NWE+92.26	563,049.44	82,150.69	N 05°08'50" W
PI 4	1962NWE+65.70	563,222.17	82,135.13	S 84°51'14" W
PI 5	1962NWE+70.25	563,221.76	82,130.60	N 05°08'50" W
PI 6	1963NWE+64.50	563,315.63	82,122.14	N 03°33'23" W
PI 7	1967NWE+84.90	563,735.22	82,096.06	N 00°15'28" E
PI 8	1979NWE+50.17	564,886.21	81,921.64	N 14°09'34" W
PI 9	1979NWE+71.13	564,906.52	81,916.52	S 79°39'17" W
PI 10	1980NWE+24.80	564,896.88	81,863.72	N 28°19'51" W



GENERAL NOTES

1) DRAWINGS SHALL NOT BE SCALED.

2) THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS AND SHOP DRAWINGS FOR THE NOISE BARRIER IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE NOISE BARRIER MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-11-2".

3) PLANS, ELEVATIONS AND DETAILS SHOWN ARE INTENDED TO INDICATE LOCATIONS, LENGTHS, HEIGHTS AND DETAILS COMMON TO THE SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

4) THE NOISE BARRIER IS TO BE DESIGNED USING THE PROPOSED GROUND ELEVATION AT NOISE BARRIER R/L AND ACOUSTICAL LINE.

5) ALL NOISE BARRIERS SHALL BE DESIGNED IN ACCORDANCE WITH THE 1989 GUIDE SPECIFICATIONS FOR STRUCTURAL DESIGN OF SOUND BARRIERS, INCLUDING THE 1992 AND 2002 INTERIM'S BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS.

6) THE FOLLOWING DESIGN WIND PRESSURES SHALL BE USED IN ACCORDANCE WITH THE SPECIAL PROVISIONS:
32 P.S.F. FOR GROUND MOUNTED BARRIERS
42 P.S.F. FOR STRUCTURE MOUNTED BARRIERS

7) MAXIMUM UNIT WEIGHT OF STRUCTURE MOUNTED NOISE BARRIER 50 P.S.F.

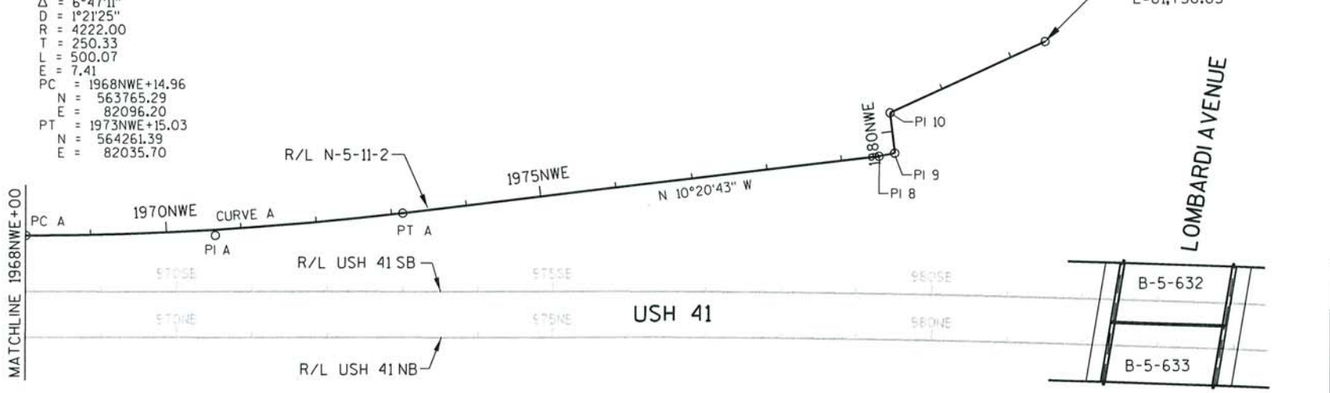
8) NOISE BARRIERS MOUNTED ON RETAINING WALLS REQUIRE THE COMPLETE ROADWAY PAVEMENT STRUCTURE (OR EQUIVALENT EARTH FILL) OVER THE TOP OF THE MOMENT SLAB TO RESIST DESIGN WIND PRESSURE. LIMIT ERECTION OF PANELS TO 2/3 THE HEIGHT OF THE ACOUSTICAL LINE PRIOR TO PLACEMENT OF PAVEMENT.

9) INCLUDE THE COST OF THE COATING OF STEEL POSTS AND CONNECTIONS UNDER THE BID ITEM "NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-11-2"

10) A PORTION OF THE NOISE BARRIER WILL BE MOUNTED ON STRUCTURES. SEE STRUCTURE B-5-630, R-5-216, R-5-217 PLANS FOR NOISE BARRIER ANCHORAGE DETAILS AND LOCATIONS.

CURVE A

PI = 1970NWE+65.29
N = 564015.13
E = 82080.66
Δ = 6°47'11"
D = 1°21'25"
R = 4222.00
T = 250.33
L = 500.07
E = 7.41
PC = 1968NWE+14.96
N = 563765.29
E = 82096.20
PT = 1973NWE+15.03
N = 564261.39
E = 82035.70



STRUCTURES DESIGN CONTACTS

BUREAU OF STRUCTURES:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
MICHELLE GARRIGAN (920) 347-0850

WISCONSIN
MICHELLE M. GARRIGAN
E-31966
GREEN BAY, WI
PROFESSIONAL ENGINEER
11-30-12

NO.	DATE	REVISION	BY

BLOOM COMPANIES, LLC
Infrastructure Innovation and Ingenuity
3049 Ramada Way • Green Bay, WI 54304
Phone: (920) 347-0850 Fax: (920) 347-0851

ACCEPTED William C. Dreher KAR 04/03/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE N-5-11-2

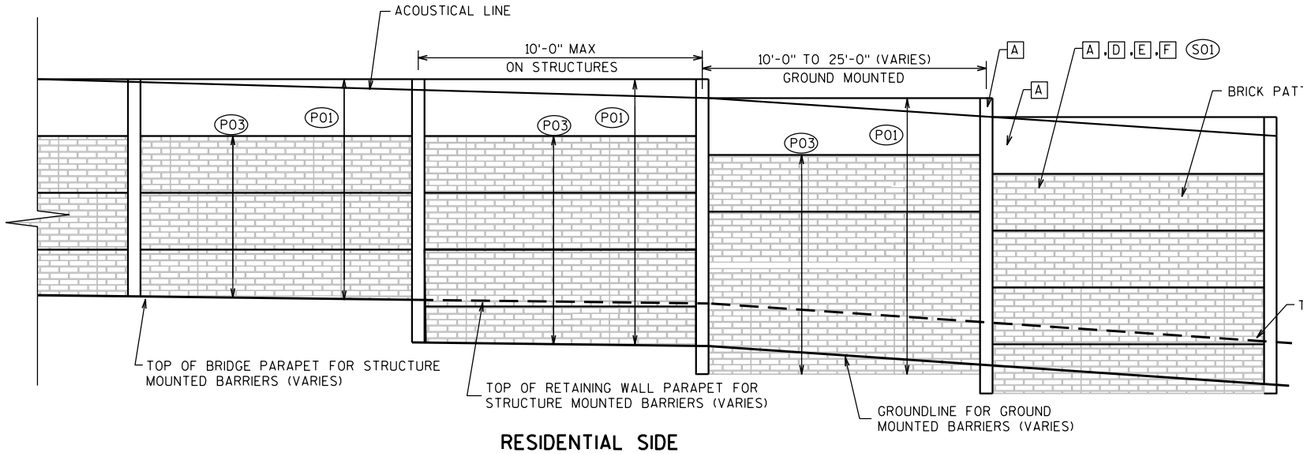
USH 41 SB, STA 954NWE+00 TO LOMBARDI AVENUE

COUNTY BROWN		VILLAGE ASHWAUBENON	
DESIGN SPEC. AASHTO STD SPECS 2002			LOAD N/A
DESIGNED BY CE	DESIGN CK'D. AS	DRAWN BY CMF	PLANS CK'D. MG

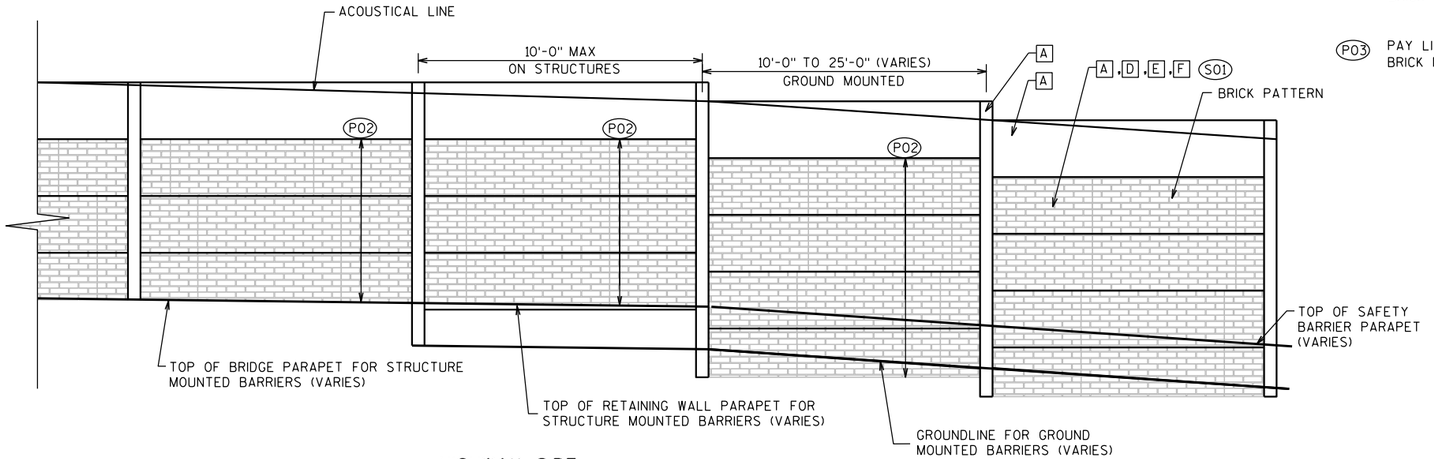
GENERAL PLAN

SHEET 1 OF 11

STATE PROJECT NUMBER
1133-03-77



RESIDENTIAL SIDE



HIGHWAY SIDE

S01 STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF BASE COLOR A INCIDENTAL TO NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE). APPLICATION OF ACCENT COLORS D, E, & F AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

P01 PAY LIMITS OF NOISE BARRIER SINGLE SIDED SOUND ABSORPTIVE (STRUCTURE) (SOUND ABSORPTIVE MATERIAL FACES HIGHWAY)

P02 PAY LIMITS OF STAINING CONCRETE BRICK FOR HIGHWAY SIDE

P03 PAY LIMITS OF STAINING CONCRETE BRICK FOR RESIDENTIAL SIDE

TOTAL ESTIMATE OF QUANTITIES

BID ITEM NO.	BID ITEM	UNIT	TOTAL
531.0200.S.903	NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-11-2	SF	49,000
SPV.0060.900	FIRE DEPARTMENT CONNECTORS	EACH	2
SPV.0060.903	FIRE HYDRANT SIGN MOUNTING	EACH	4
SPV.0060.904	MAINTENANCE DOOR	EACH	1
SPV.0165.502	STAINING CONCRETE BRICK	SF	81,000

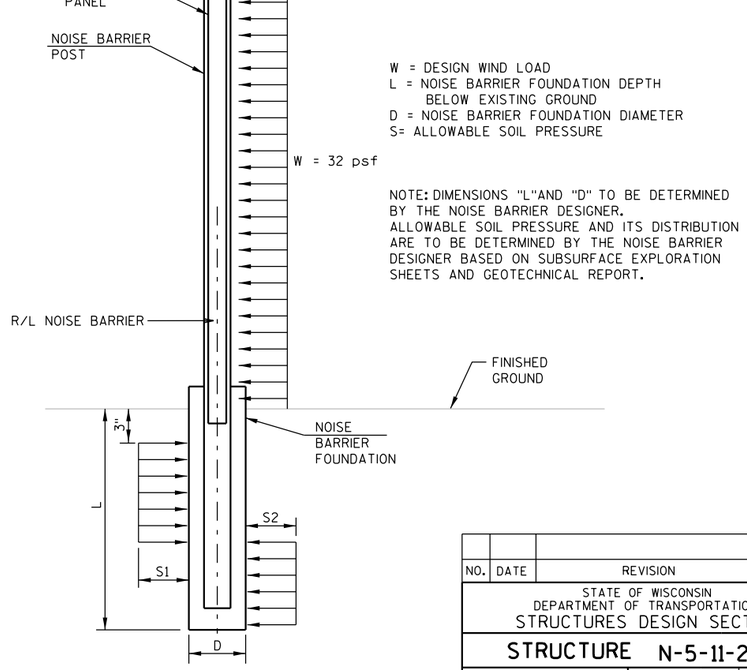
CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
~~B~~	~~ACCENT COLOR #1~~	~~REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS~~
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~

NOTES

1) STEP PANELS A MINIMUM OF 1' AND A MAXIMUM OF 3'. WHEN MORE THAN ONE PANEL MUST STEP CONSECUTIVELY, KEEP THE STEP INCREMENT THE SAME FOR EACH SEGMENT OF STEPPING PANELS.

2) ADJUST VERTICAL PLACEMENT OF PANELS TO MAXIMIZE HORIZONTAL RUNS, KEEPING THE TOP OF PANELS AT THE SAME ELEVATION.



GROUND MOUNTED NOISE BARRIER LOADING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-2

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QUANTITIES AND AESTHETIC DETAILS

SHEET 2 OF 11

2197

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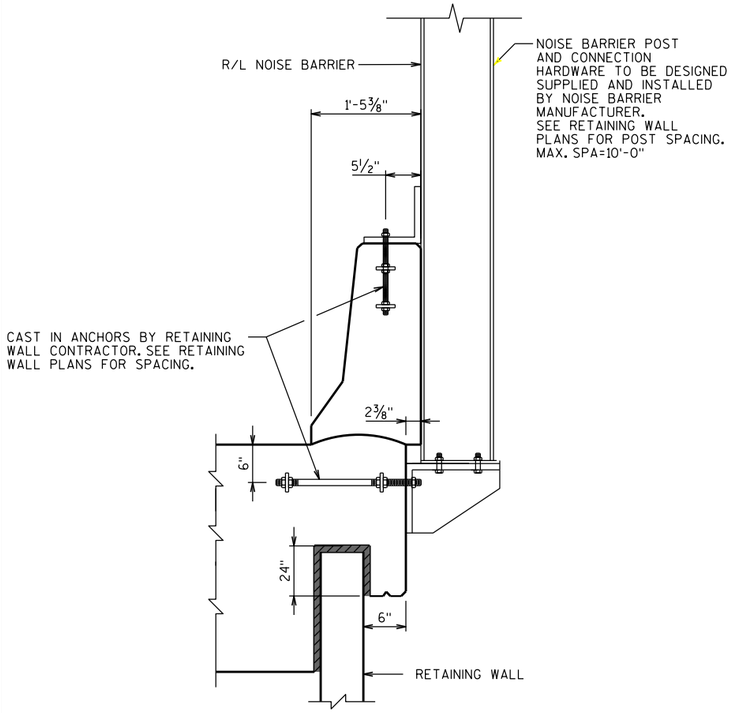
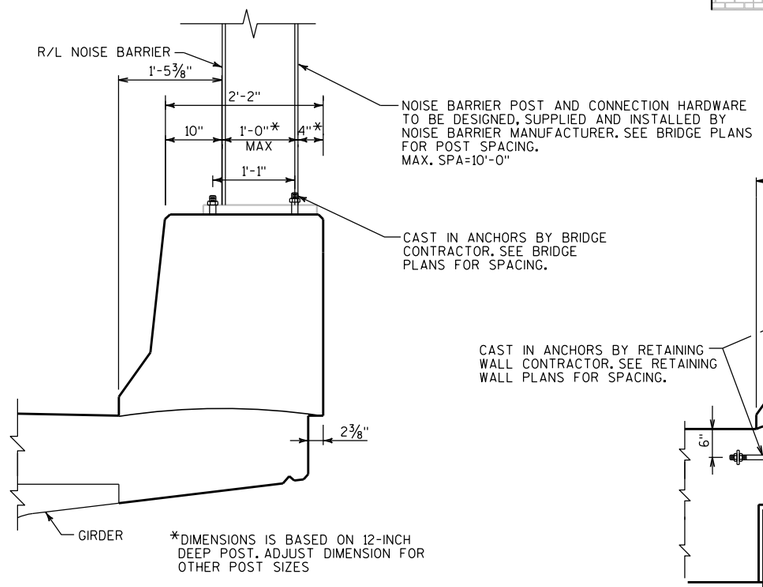
8

STATE PROJECT NUMBER
1133-03-77



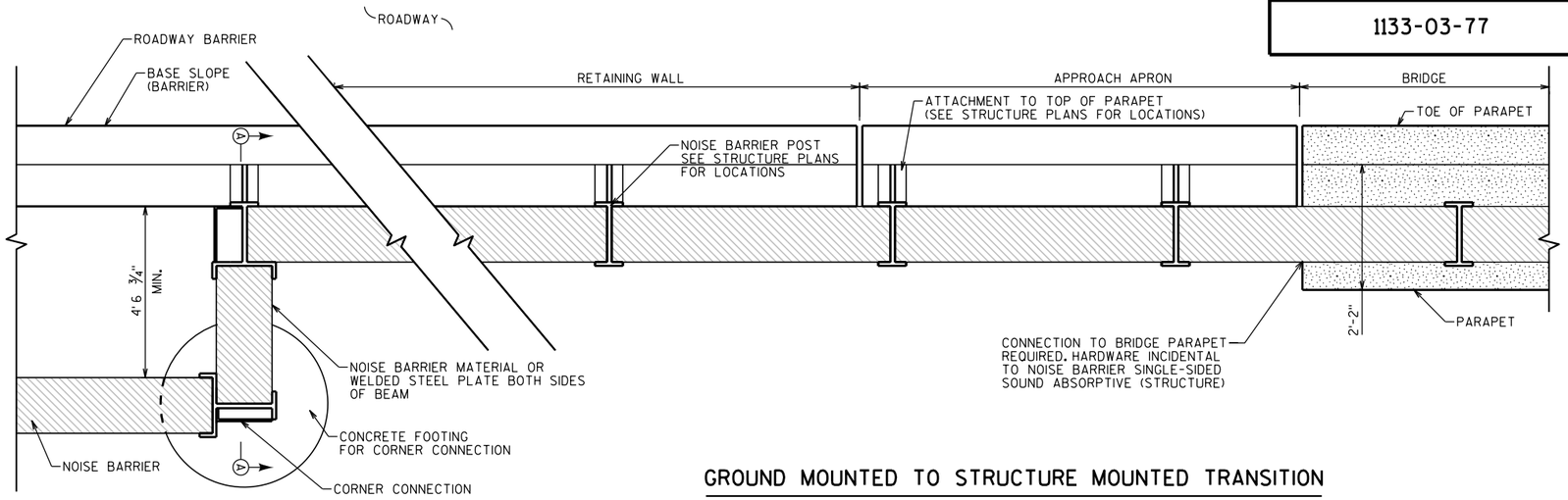
NOISE BARRIER ON RETAINING WALL

SECTION VIEW
TYPICAL AT EACH POST LOCATION



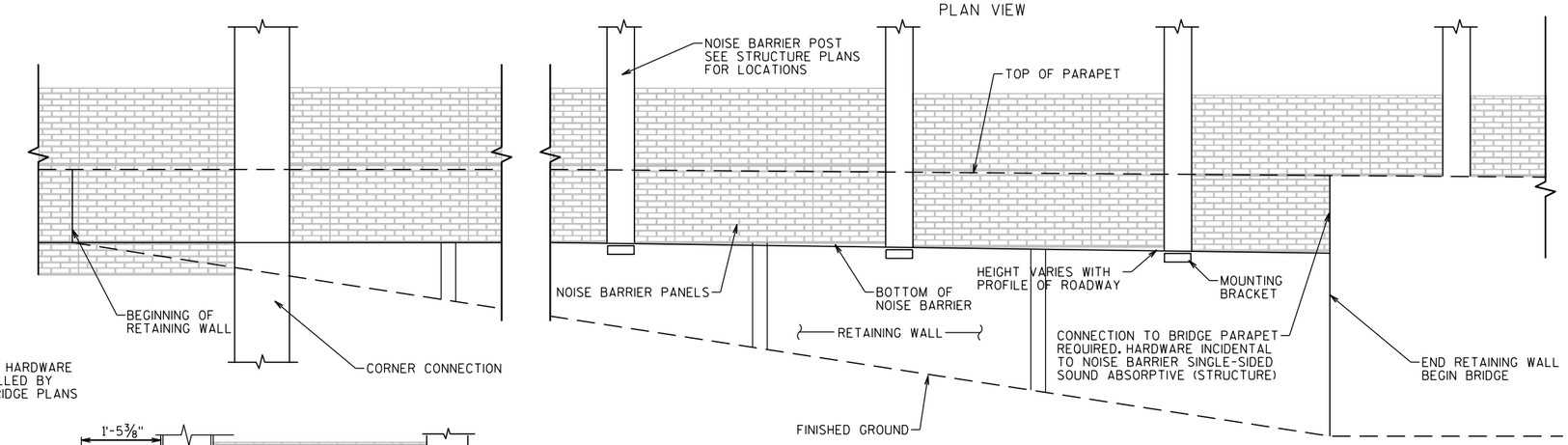
NOISE BARRIER ON BRIDGE PARAPET

SECTION VIEW
TYPICAL AT EACH POST LOCATION



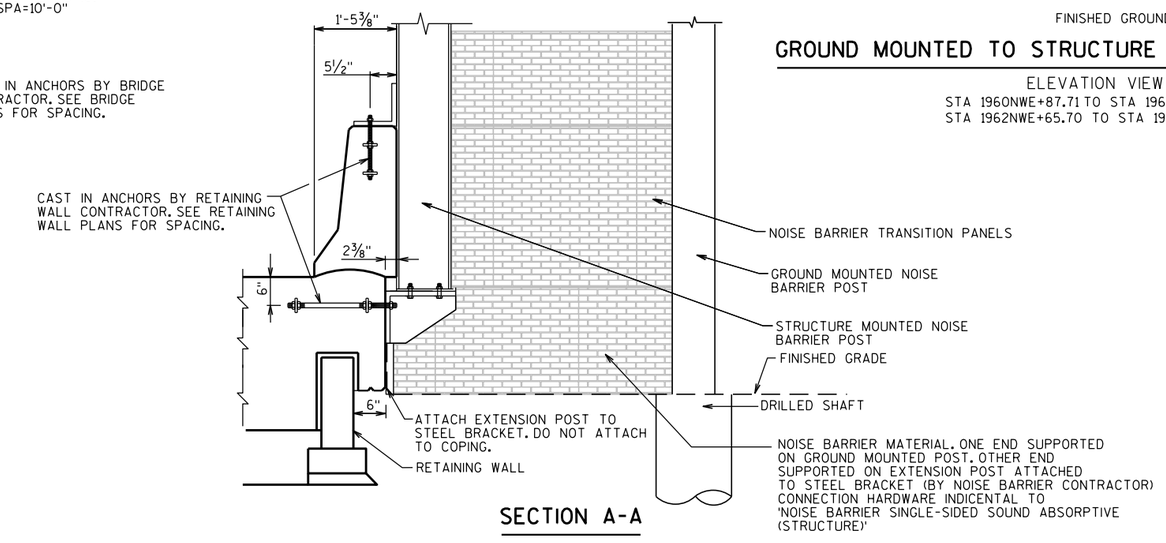
GROUND MOUNTED TO STRUCTURE MOUNTED TRANSITION

PLAN VIEW



GROUND MOUNTED TO STRUCTURE MOUNTED TRANSITION

ELEVATION VIEW
STA 1960NWE+87.71 TO STA 1960NWE+92.26
STA 1962NWE+65.70 TO STA 1962NWE+70.25



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-2

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CONNECTION DETAILS

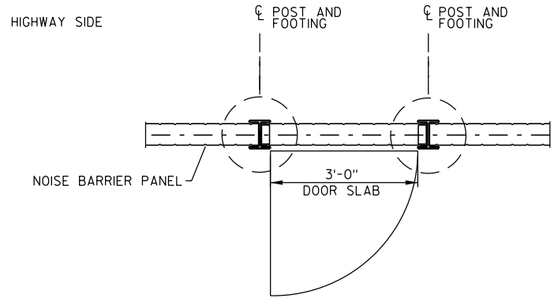
SHEET 3 OF 11

2198

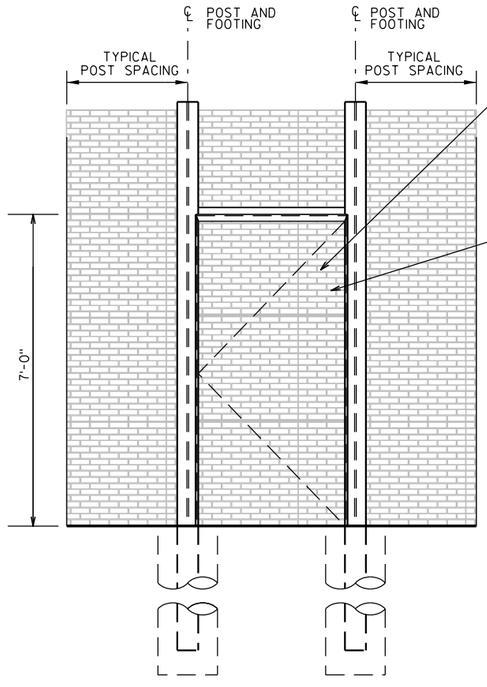
8

8

STATE PROJECT NUMBER
1133-03-77



DOOR PLAN



MAINTENANCE DOOR TO HAVE SAME AESTHETIC TREATMENT AS NOISE BARRIER PANELS. BRICK PATTERN INCIDENTAL TO MAINTENANCE DOOR

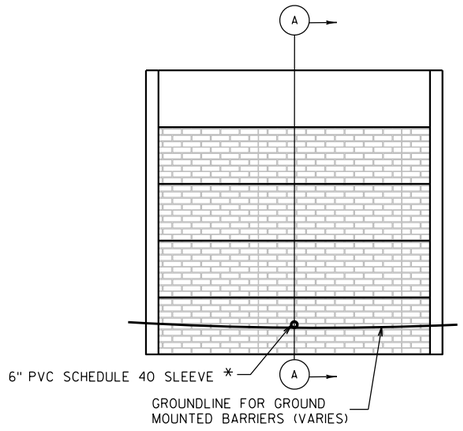
STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF BASE COLOR A INDICENTAL TO MAINTENANCE DOOR. APPLICATION OF ACCENT COLORS D, E, & F AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

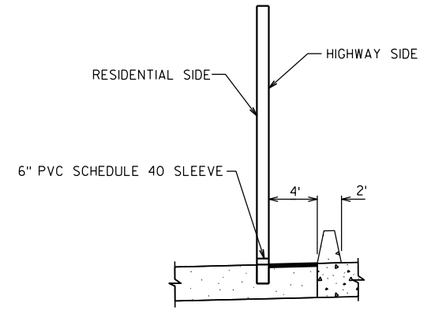
MAINTENANCE DOOR

STA 1963NWE+00

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
~~B~~	~~ACCENT COLOR #1~~	~~REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS~~
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~





SECTION A-A

NOTES

1)* WEEP HOLE OPENING AND 6" PVC SCHEDULE 40 SLEEVE ARE INCIDENTAL TO NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE)

2) EXPOXY 6" PVC SCHEDULE 40 SLEEVE INTO BORED WEEP HOLE IN NOISE WALL

3) ENGINEER WILL FIELD VERIFY HEIGHT AND LOCATION OF WEEP HOLE SO THAT THE INVERT IS AT THE LOW POINT

WEEP HOLE

STA 1972NWE+85

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-2

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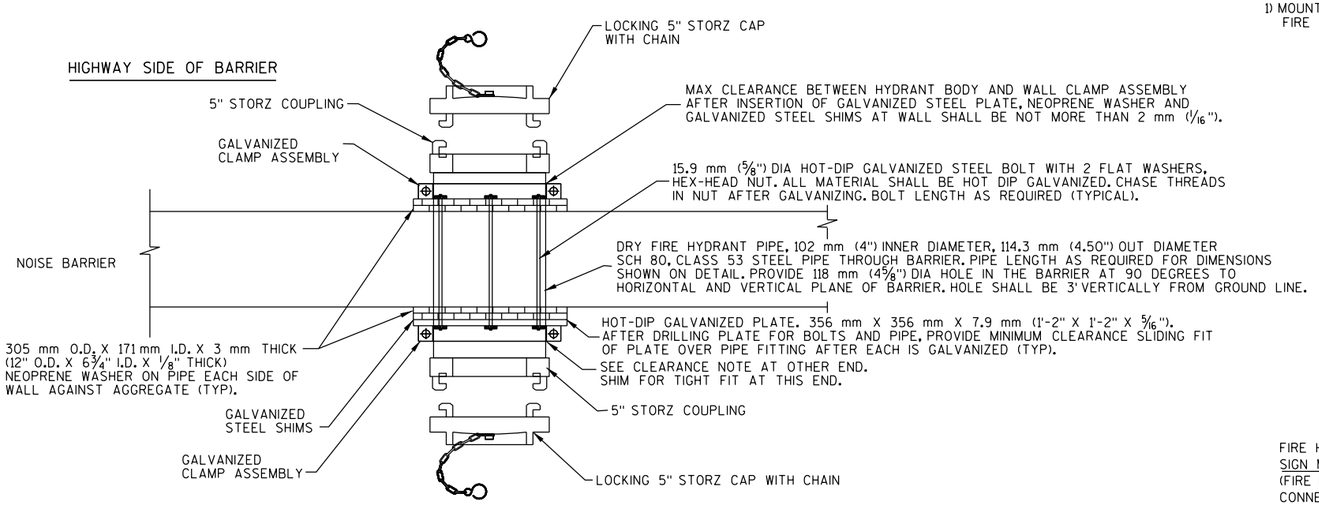
CONSTRUCTION DETAILS 1

SHEET 4 OF 11

2199



MATERIALS AND SPECIFICATIONS:

STEEL PLATE	ASTM A36-84a
BOLTS	ASTM A30-86a GRADE
PIPE	ASTM A53-84a SEAMLESS GRADE B
GALVANIZING	ASTM A123-84 HOT-DIP FOR STEEL PLATE, ETC. ASTM A153-87 HOT-DIP GALVANIZED CLASS C FOR HARDWARE, BOLTS, ETC.

NOTES

1) TIP CONNECTOR SLIGHTLY TOWARD HIGHWAY SIDE OF WALL TO PROVIDE DRAINAGE.

2) SEE FIRE HYDRANT LOCATION/HOSE ACCESS CONSTRUCTION DETAIL FOR PLACEMENT OF SIGNS

FIRE DEPARTMENT CONNECTOR

APPROXIMATE STA 1955NWE+00
APPROXIMATE STA 1978NWE+00

NOTES

1) DISTANCE FROM GROUND TO FIRE DEPARTMENT CONNECTOR SHALL BE 3 FEET. DISTANCE FROM TOP OF PARAPET TO STANDPIPE SHALL BE 6 INCHES. THE FIRE DEPARTMENT CONNECTOR SHALL BE CENTERED BETWEEN THE POSTS.

2) 4 5/8" HOLE SHALL BE FORMED IN THE SHOP DURING PANEL FABRICATION.

3) HOLE SHALL NOT BE CLOSER THAN 6" TO ANY EDGE OF THE BARRIER PANEL.

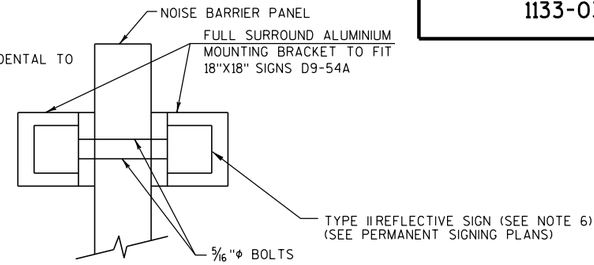
4) STAINLESS STEEL ANCHOR BOLTS OR APPROVED EQUIVALENT. BOLTS INDICENTAL TO SIGN REFLECTIVE TYPE 2.

5) TWO STANDARD SIGNS D9-54 WILL BE FURNISHED PER STATION BY THE ROADWAY CONTRACTOR. ONE SIGN SHALL BE INSTALLED ON EACH SIDE OF THE BARRIER. SIGNS TO BE PAID FOR AS SIGN REFLECTIVE TYPE 2 UNDER ROADWAY ITEMS.

6) STANDARD SIGNS D9-54A WILL BE FURNISHED PER STATION BY THE ROADWAY CONTRACTOR. SIGN SHALL BE ATTACHED TO THE NOISE BARRIER PANEL ON EACH SIDE NEAR THE TOP OF THE BARRIER. SIGNS TO BE PAID FOR AS SIGN REFLECTIVE TYPE 2 UNDER ROADWAY ITEMS. MOUNTING BRACKET TO BE PAID FOR UNDER FIRE HYDRANT SIGN MOUNTING UNDER ROADWAY ITEMS, SEE SPECIAL PROVISIONS.

NOTE

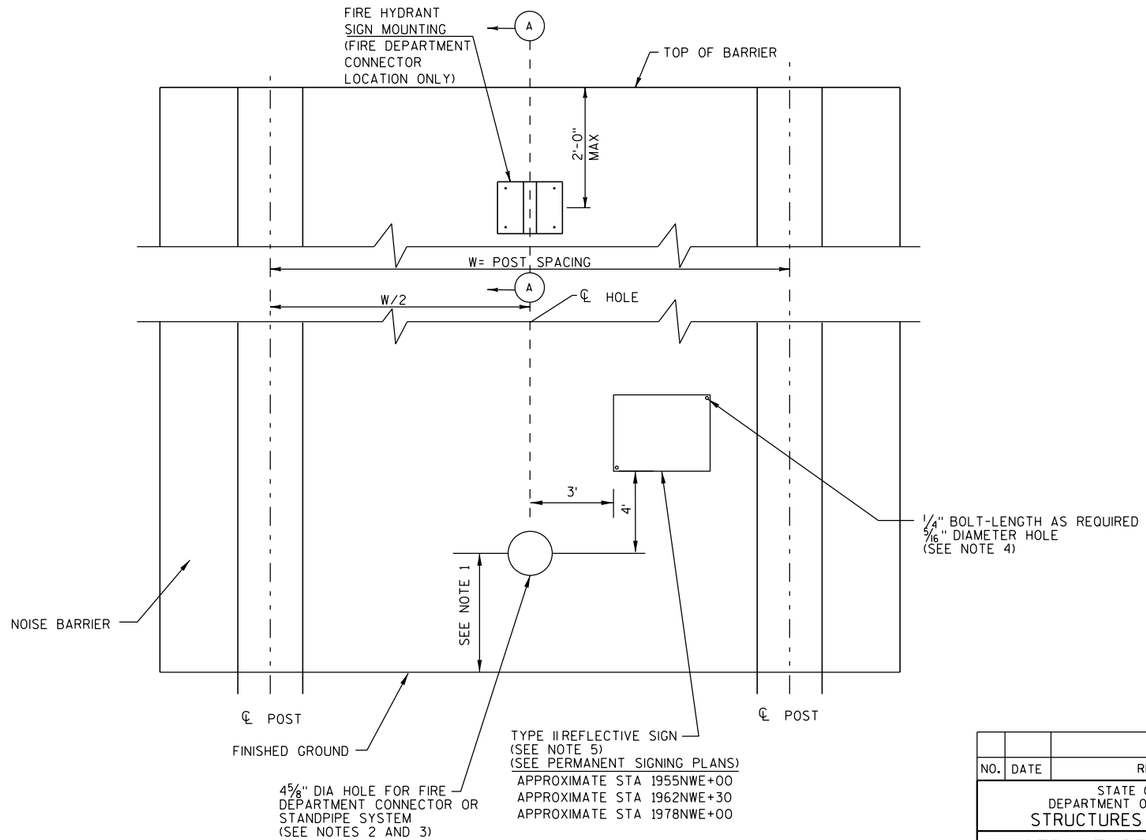
1) MOUNTING BOLTS, BRACKETS, ARE INCIDENTAL TO FIRE HYDRANT SIGN MOUNTING



SECTION A-A

FIRE HYDRANT SIGN MOUNTING

(TYPICAL AT FIRE DEPARTMENT CONNECTOR LOCATIONS)
APPROXIMATE STA 1955NWE+00
APPROXIMATE STA 1978NWE+00



FIRE HYDRANT LOCATION/HOSE ACCESS DETAIL

(TYPICAL AT ALL FIRE HYDRANT PENETRATIONS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-2

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CONSTRUCTION DETAILS 2

SHEET 5 OF 11

2200

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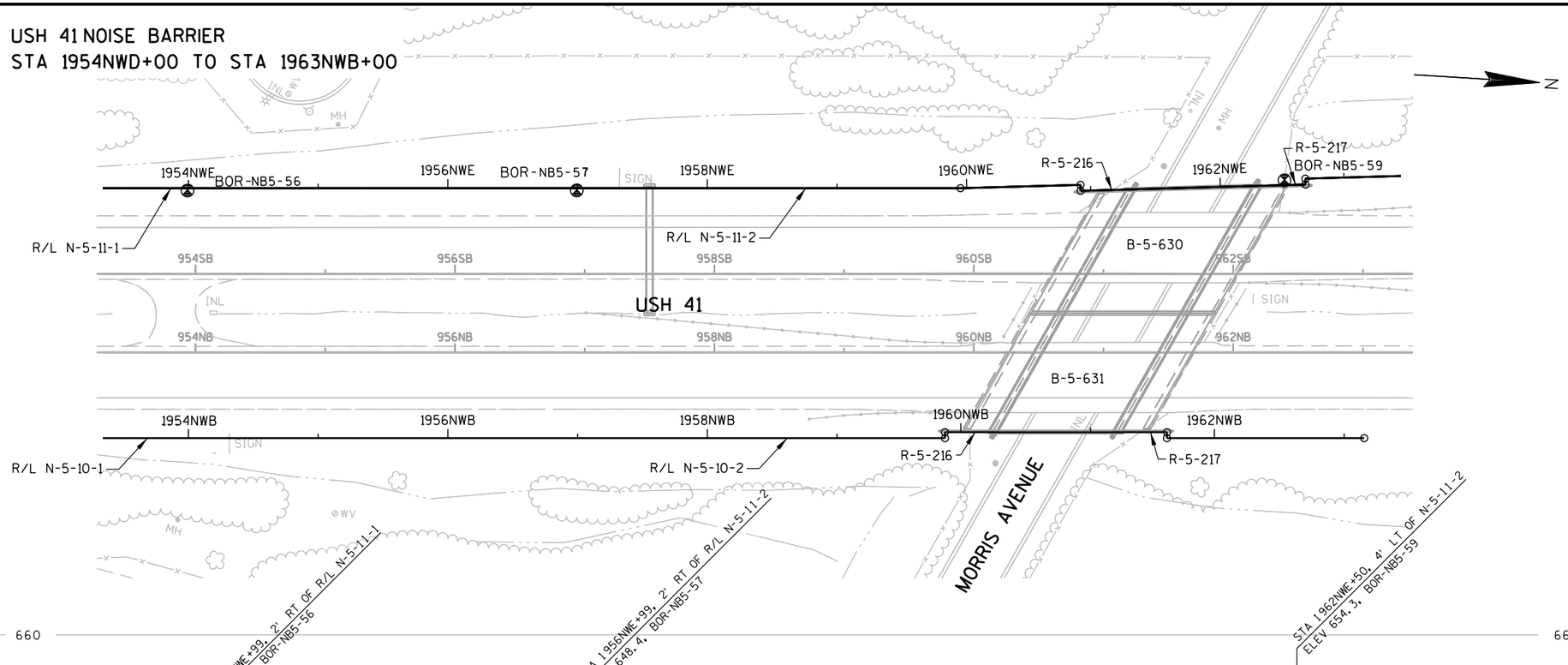
8

USH 41 NOISE BARRIER
STA 1954NWD+00 TO STA 1963NWB+00



THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION DATED AUG 6, 2010. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

STATE PROJECT NUMBER

1133-03-77

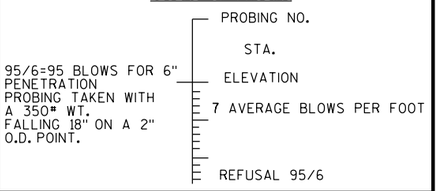
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

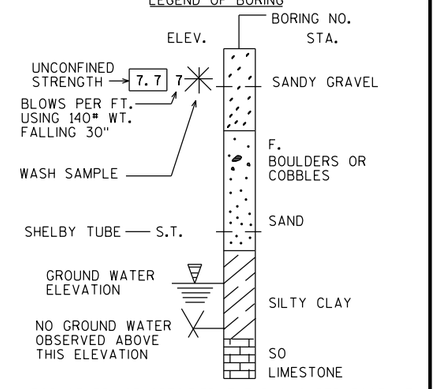
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-2

DRAWN BY CMF | PLANS CK'D. MG

SUBSURFACE EXPLORATION 1

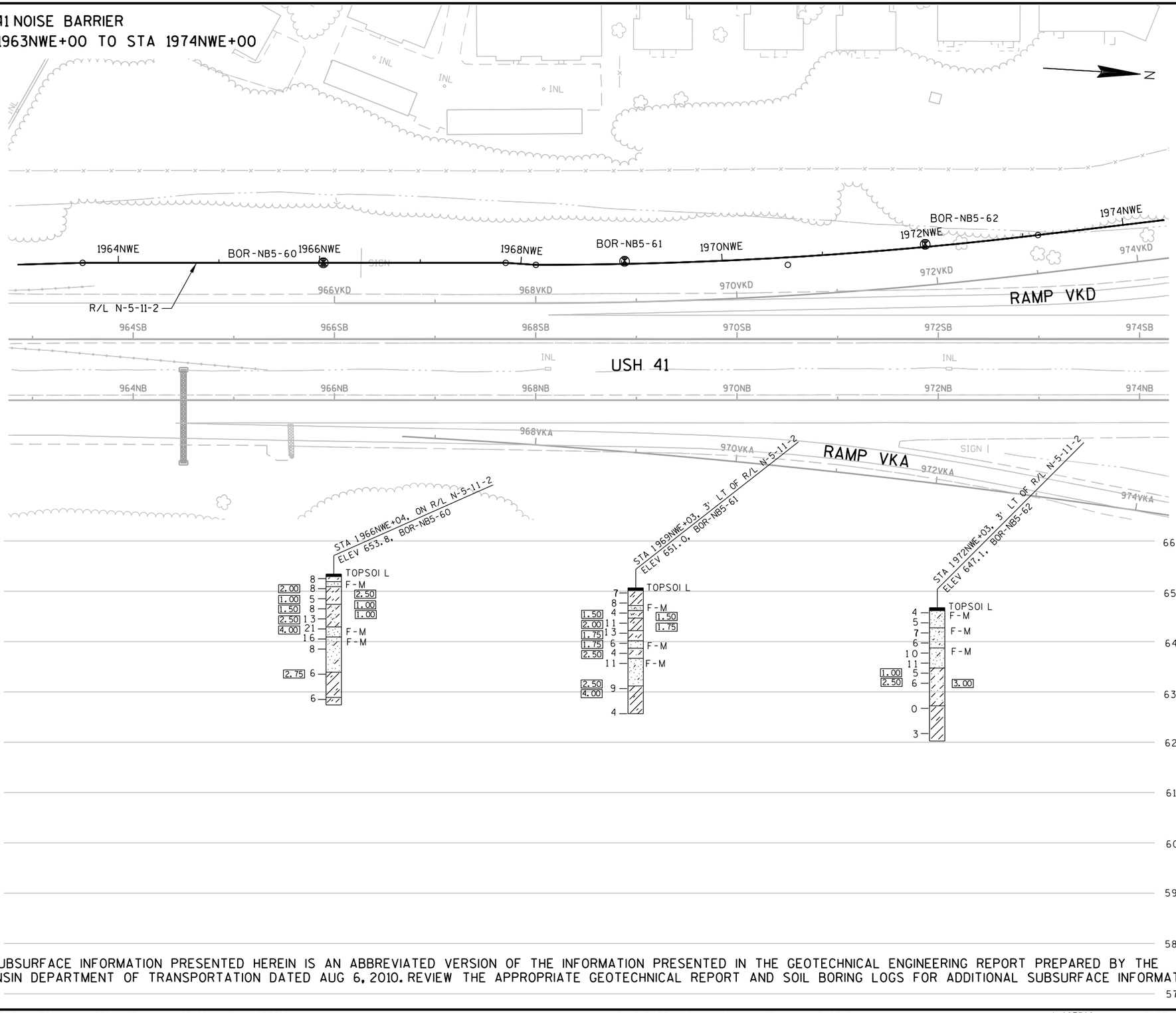
SHEET 6 OF 11

2201

8

8

USH 41 NOISE BARRIER
STA 1963NWE+00 TO STA 1974NWE+00



THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION DATED AUG 6, 2010. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

STATE PROJECT NUMBER

1133-03-77

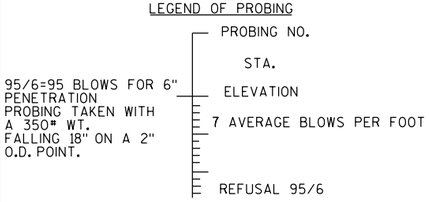
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

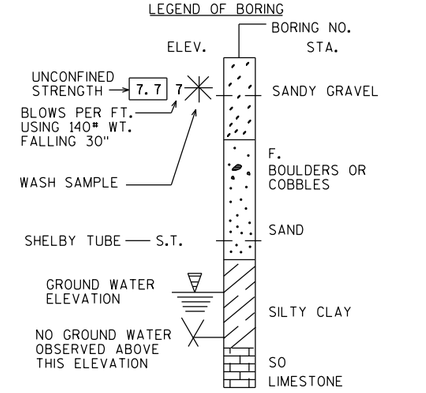
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-2

DRAWN BY CMF | PLANS CK'D. MG

SUBSURFACE EXPLORATION 2

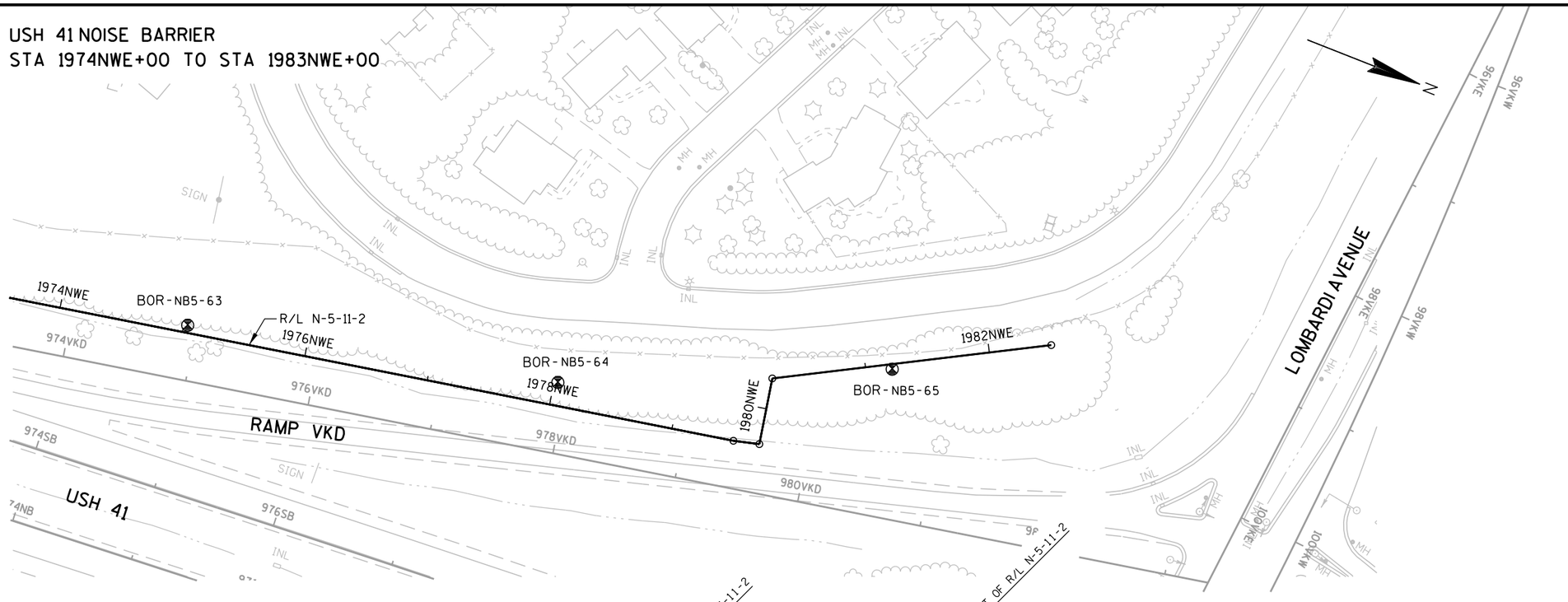
SHEET 7 OF 11

2202

8

8

USH 41 NOISE BARRIER
STA 1974NWE+00 TO STA 1983NWE+00



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STATE PROJECT NUMBER

1133-03-77

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
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TOPSOIL, SILT, SANDSTONE
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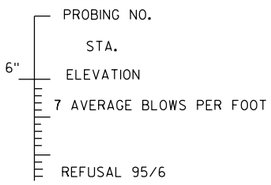
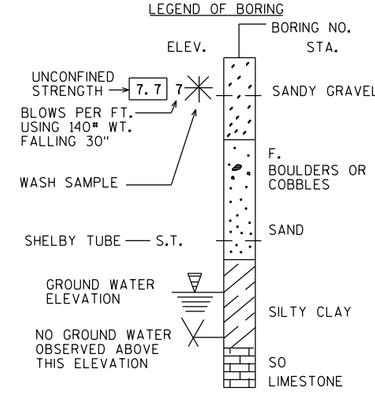
LEGEND OF PROBING



LEGEND OF BORING



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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-2

DRAWN BY CMF | PLANS CK'D. MG

SUBSURFACE EXPLORATION 3

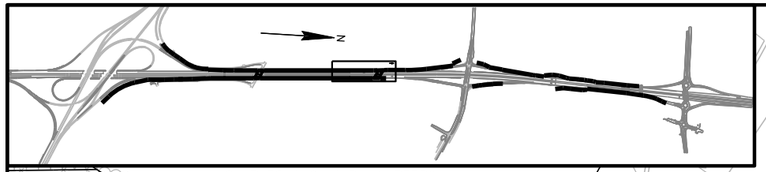
SHEET 8 OF 11

2203

8

8

STATE PROJECT NUMBER
1133-03-77



MESA DRIVE
GERALD C & GLORIA P BIGELOW
MERLE R & SHARON AERTS
R/W
CHARLES A & MARILYN PERRY
R/W
VILLAGE OF ASHWAUBENON SANITARY SEWER
VILLAGE OF ASHWAUBENON WATER
WPS ELECTRIC
VILLAGE OF ASHWAUBENON WATER
BEGIN NOISE BARRIER N-5-11-2
STA 1954NWE+00.00
MATCH N-5-11-1
R/L N-5-11-1
FIRE DEPARTMENT CONNECTOR STA 1955NWE+00
R/L N-5-11-2
GROUND MOUNTED TO STRUCTURE MOUNTED TRANSITION
VILLAGE OF ASHWAUBENON WATER
AT&T ELECTRIC
WPS ELECTRIC
MORRIS AVENUE
STANDPIPE SYSTEM STA 1962NWE+30 (SEE R-5-217 PLANS)
GROUND MOUNTED TO STRUCTURE MOUNTED TRANSITION
R-5-216
MAINTENANCE DOOR STA 1963NWE+00
MATCHLINE 1963NEW+00
1952NWD
1954NWE
1956NWE
1958NWE
1960NWE
1962NWE
SIGN STRUCTURE S-5-170
USH 41 SB
B-5-630
R-5-217
952SB
954SB
956SB
958SB
960SB
962SB
952NB
954NB
956NB
958NB
960NB
962NB
USH 41 NB
B-5-631
1952NWA
1952NWB
1956NWB
1958NWB
1960NWB
1962NWB
N

GROUND MOUNTED
STRUCTURE MOUNTED*
GROUND MOUNTED
SIGN STRUCTURE S-5-170
STA 1957NWE+55
BOTTOM TRUSS ELEV=679.43
ACOUSTICAL LINE
BEGIN NOISE BARRIER N-5-11-2
STA 1954NWE+00.00
MATCH N-5-11-1
N-5-11-1
VPI STA 1955NWE+00.00
VPI EL 662.47
VPI STA 1956NWE+00.00
VPI EL 665.12
VPI STA 1957NWE+00.00
VPI EL 666.76
VPI STA 1958NWE+00.00
VPI EL 669.07
VPI STA 1959NWE+00.00
VPI EL 670.53
VPI STA 1961NWE+75.00
VPI EL 672.00
BRIDGE PARAPET
PROPOSED GROUND ELEVATIONS AT NOISE BARRIER R/L
EXISTING GROUND
PROPOSED GROUND ELEVATIONS
ACOUSTICAL LINE

670 665 660 655 650 645 640 635

642.8 657.36 643.0 657.50 643.2 657.64 643.4 657.62 643.7 657.60 644.0 657.58 644.3 657.57 644.7 657.98 645.1 658.38 645.5 658.79 645.9 659.20 646.3 659.61 646.7 660.02 647.2 660.43 647.6 660.84 648.0 661.25 648.4 661.65 648.8 662.06 649.2 662.47 649.7 663.13 650.1 663.80 650.5 664.46 651.0 665.12 651.5 665.53 651.9 665.94 652.3 666.35 652.8 666.76 653.2 667.34 653.6 667.92 653.9 668.49 654.3 669.07 654.6 669.44 654.9 669.80 655.3 670.17 655.6 670.53 655.8 670.66 656.1 670.80 656.3 670.93 656.6 671.06 656.8 671.20 657.0 671.33 657.2 671.47 657.4 671.60 657.5 671.73 660.3 671.87 660.5 672.00 660.6 672.01 660.7 672.02 658.1 672.03 658.1 672.04 658.2 672.06

1952NWE 1954NWE 1956NWE 1958NWE 1960NWE 1962NWE

*

R-5-216 STA 1960NWE+92.26 TO STA 1961NWE+26.62

B-5-630 STA 1961NWE+26.62 TO STA 1962NWE+31.73

R-5-217 STA 1962NWE+31.73 TO STA 1962NWE+65.70

SEE STRUCTURE PLANS FOR POST ANCHORAGE LOCATIONS

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-2

DRAWN BY CMF | PLANS CK'D. MG

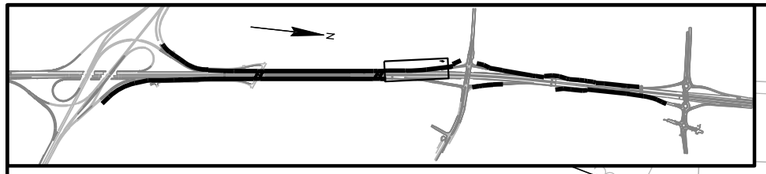
NOISE BARRIER PLAN & PROFILE 1

SHEET 9 OF 11

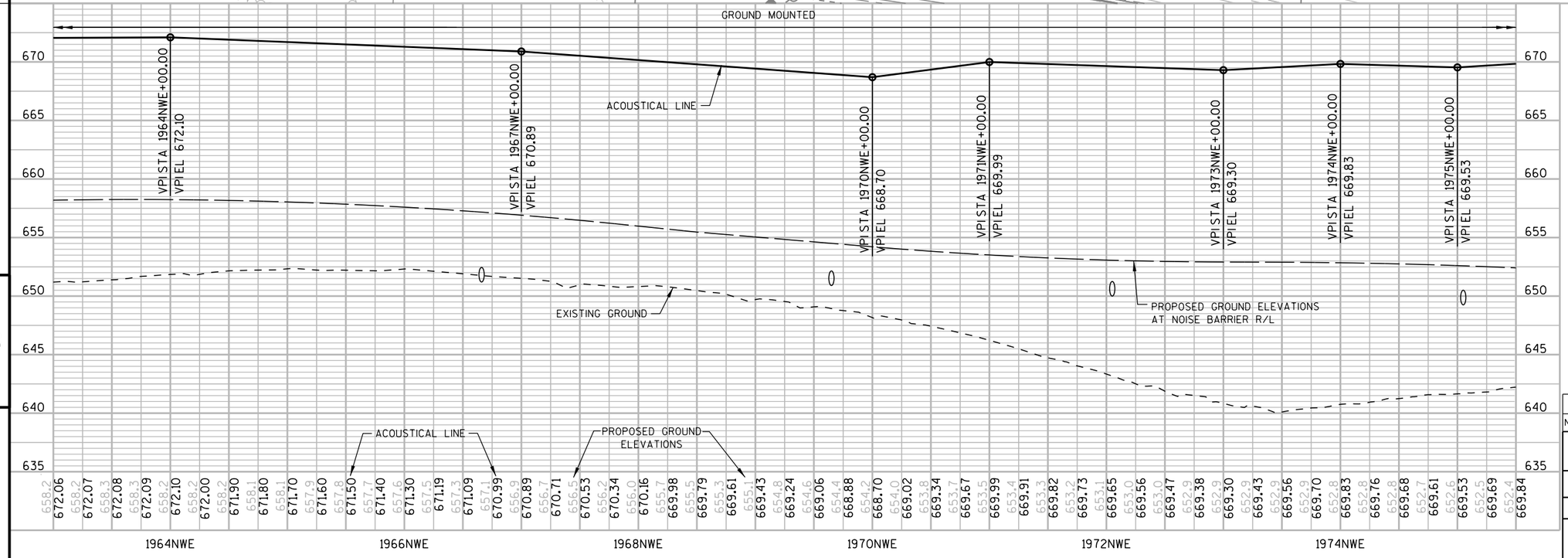
2204

FILE NAME : F:\BM1-1726A\HN_11330481EB\0481\N-05-0011-02\bl_050101_pp.DGN PLOT DATE : 19-NOV-2012 18:43 PLOT BY : cfranzen PLOT NAME : PLOT SCALE : 100:1

STATE PROJECT NUMBER
1133-03-77



GERALD C & GLORIA P BIGELOW
HOWARD JOHNSON
KEVEN M & DONNA J DIEDERICH
H & P SMEESTER FAMILY LP
DEAN & CLAUDIA J ROBERG
JJT PROPERTIES LLC
SIGN
R/W
N
MATCHLINE 1963NWE+00
MATCHLINE 1975NWE+50
MAINTENANCE DOOR STA 1963NWE+00
WEEP HOLE STA 1972NWE+85
1964NWE
1966NWE
1968NWE
R/L N-5-11-2
1970NWE
1972NWE
1974NWE
966VKD
968VKD
970VKD
972VKD
RAMP VKD
974VKD
964SB
966SB
968SB
970SB
USH 41 SB
972SB
974SB
964NB
966NB
968NB
970NB
USH 41 NB
972NB
974NB
968VKA
970VKA
972VKA
INL
SIGN



GROUND MOUNTED
VPI STA 1964NWE+00.00
VPI EL 672.10
VPI STA 1967NWE+00.00
VPI EL 670.89
VPI STA 1970NWE+00.00
VPI EL 668.70
VPI STA 1971NWE+00.00
VPI EL 669.99
VPI STA 1973NWE+00.00
VPI EL 669.30
VPI STA 1974NWE+00.00
VPI EL 669.83
VPI STA 1975NWE+00.00
VPI EL 669.53
ACOUSTICAL LINE
EXISTING GROUND
PROPOSED GROUND ELEVATIONS AT NOISE BARRIER R/L
ACOUSTICAL LINE
PROPOSED GROUND ELEVATIONS
670
665
660
655
650
645
640
635
1964NWE
1966NWE
1968NWE
1970NWE
1972NWE
1974NWE

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-2

DRAWN BY CMF | PLANS CK'D. MG

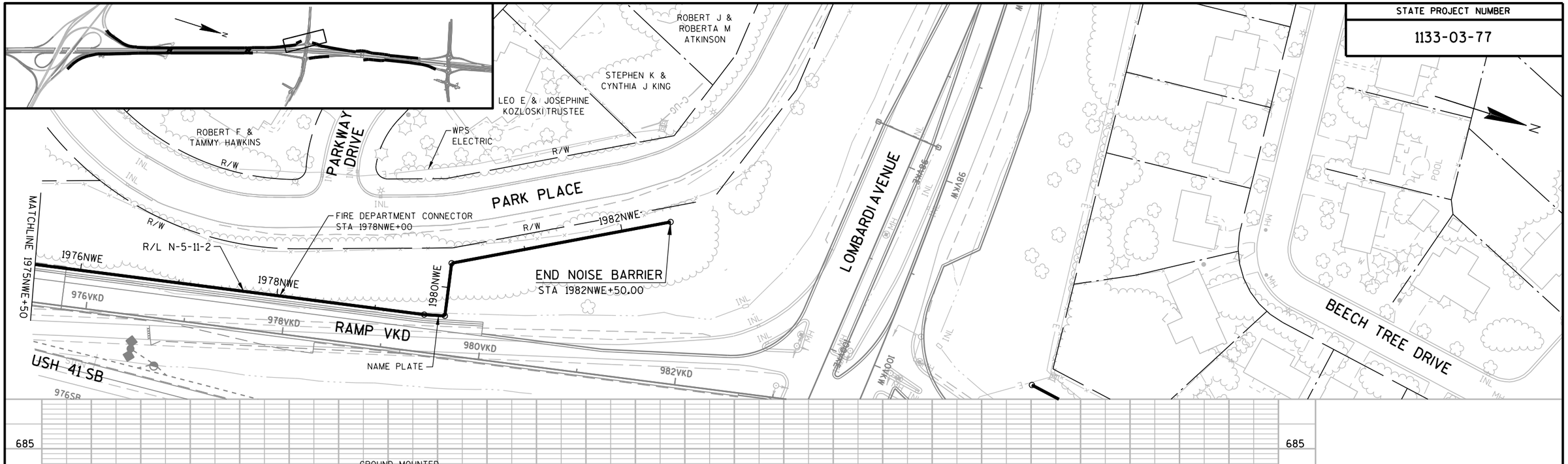
NOISE BARRIER PLAN & PROFILE 2

SHEET 10 OF 11

2205

FILE NAME : F:\BM1-1726A\HN_11330481EB\0481\N-05-0011-02\bl_050102_pp.DGN
PLOT DATE : 19-NOV-2012 18:43
PLOT BY : cfranzen
PLOT NAME :
PLOT SCALE : 100:1

STATE PROJECT NUMBER
1133-03-77



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-11-2

DRAWN BY CMF | PLANS CK'D. MG

NOISE BARRIER PLAN & PROFILE 3

SHEET 11 OF 11

2206

FILE NAME : F:\BM1-1726A\HN_11330481EB\0481\N-05-0011-02\bl_050103_pp.DGN
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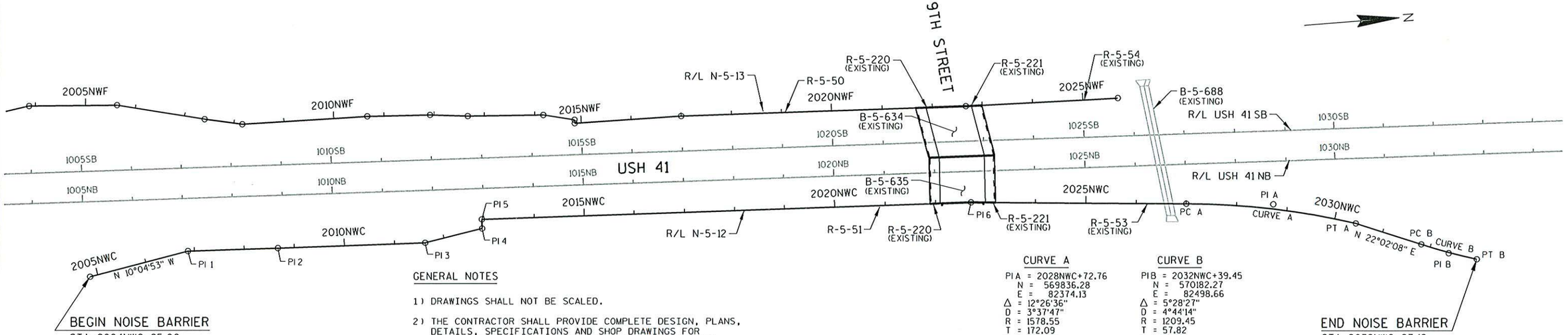
PLOT BY : cfranzen
PLOT NAME :
PLOT SCALE : 100:1

STATE PROJECT NUMBER
1133-03-77



BEGIN NOISE BARRIER
STA 2004NWC+85.00
N=567,474.15
E=82,333.71

END NOISE BARRIER
STA 2032NWC+97.18
N=570,237.69
E=82,515.14

CURVE A

PI A = 2028NWC+72.76
N = 569836.28
E = 82374.13
Δ = 12°26'36"
D = 3°37'47"
R = 1578.55
T = 172.09
L = 342.83
E = 9.35
PC A = 2027NWC+00.67
N = 569664.79
E = 82359.72
PT A = 2030NWC+43.50
N = 570000.64
E = 82425.14

CURVE B

PI B = 2032NWC+39.45
N = 570182.27
E = 82498.66
Δ = 5°28'27"
D = 4°44'14"
R = 1209.45
T = 57.82
L = 115.55
E = 1.38
PC B = 2031NWC+81.63
N = 570128.68
E = 82476.97
PT B = 2032NWC+97.18
N = 570237.69
E = 82515.14

PI NO.	PI STA	NORTHING	EASTING	EXIT BEARING
PI 1	2006NWC+87.52	567,673.55	82,298.26	N 02°33'06" E
PI 2	2008NWC+67.55	567,853.40	82,306.27	N 02°23'53" E
PI 3	2011NWC+61.58	568,147.17	82,318.58	N 09°35'51" W
PI 4	2012NWC+78.07	568,262.03	82,299.15	N 87°29'03" W
PI 5	2012NWC+96.26	568,262.83	82,280.99	N 02°30'57" E
PI 6	2022NWC+71.42	569,237.05	82,323.80	N 04°48'04" E

GENERAL NOTES

1) DRAWINGS SHALL NOT BE SCALED.

2) THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS AND SHOP DRAWINGS FOR THE NOISE BARRIER IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE NOISE BARRIER MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-12".

3) PLANS, ELEVATIONS AND DETAILS SHOWN ARE INTENDED TO INDICATE LOCATIONS, LENGTHS, HEIGHTS AND DETAILS COMMON TO THE SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

4) THE NOISE BARRIER IS TO BE DESIGNED USING THE PROPOSED GROUND ELEVATION AT NOISE BARRIER R/L AND ACOUSTICAL LINE.

5) ALL NOISE BARRIERS SHALL BE DESIGNED IN ACCORDANCE WITH THE 1989 GUIDE SPECIFICATIONS FOR STRUCTURAL DESIGN OF SOUND BARRIERS, INCLUDING THE 1992 AND 2002 INTERIM'S BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS.

6) THE FOLLOWING DESIGN WIND PRESSURES SHALL BE USED IN ACCORDANCE WITH THE SPECIAL PROVISIONS:
32 P.S.F. FOR GROUND MOUNTED BARRIERS
42 P.S.F. FOR STRUCTURE MOUNTED BARRIERS

7) MAXIMUM UNIT WEIGHT OF STRUCTURE MOUNTED NOISE BARRIER 50 P.S.F.

8) NOISE BARRIERS MOUNTED ON RETAINING WALLS REQUIRE THE COMPLETE ROADWAY PAVEMENT STRUCTURE (OR EQUIVALENT EARTH FILL) OVER THE TOP OF THE MOMENT SLAB TO RESIST DESIGN WIND PRESSURE. LIMIT ERECTION OF PANELS TO 2/3 THE HEIGHT OF THE ACOUSTICAL LINE PRIOR TO PLACEMENT OF PAVEMENT.

9) INCLUDE THE COST OF THE COATING OF STEEL POSTS AND CONNECTIONS UNDER THE BID ITEM "NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-12"

10) A PORTION OF THE NOISE BARRIER WILL BE MOUNTED ON STRUCTURES. SEE STRUCTURE PLAN R-5-51 FOR NOISE BARRIER ANCHORAGE DETAILS AND LOCATIONS.

11) STRUCTURE PLANS R-5-220, R-5-221, B-5-634, AND R-5-53 AVAILABLE UPON REQUEST FROM WISDOT. CONTRACTOR TO FIELD VERIFY EXACT LOCATIONS & ELEVATIONS OF EXISTING NOISE BARRIER POST ANCHORAGES PRIOR TO SUBMITTING SHOP DRAWINGS

LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES AND AESTHETIC DETAILS
3. AESTHETIC DETAILS
4. CONNECTION DETAILS 1
5. CONNECTION DETAILS 2
6. CONSTRUCTION DETAILS 1
7. CONSTRUCTION DETAILS 2
8. CONSTRUCTION DETAILS 3
9. CONSTRUCTION DETAILS 4
10. SUBSURFACE EXPLORATION 1
11. SUBSURFACE EXPLORATION 2
12. SUBSURFACE EXPLORATION 3
13. NOISE BARRIER PLAN AND PROFILE 1
14. NOISE BARRIER PLAN AND PROFILE 2
15. NOISE BARRIER PLAN AND PROFILE 3

STRUCTURES DESIGN CONTACTS

BUREAU OF STRUCTURES:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
MICHELLE GARRIGAN (920) 347-0850

WISCONSIN
MICHELLE M. GARRIGAN
E-31966
GREEN BAY, WIS.
PROFESSIONAL ENGINEER
1-23-13

NO.	DATE	REVISION	BY

BLOOM COMPANIES, LLC
Infrastructure Innovation and Ingenuity
3049 Ramada Way • Green Bay, WI 54304
Phone: (920) 347-0850 Fax: (920) 347-0851

ACCEPTED William C. Dreher KAR 04/03/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE N-5-12

USH 41 NB, STA 2004NWC+85 TO MASON STREET

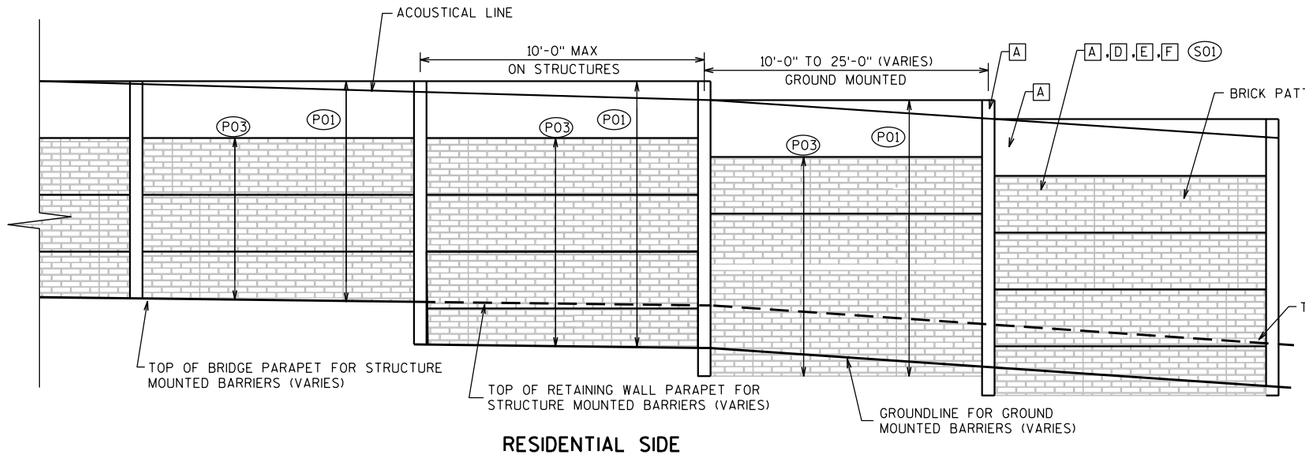
COUNTY BROWN	VILLAGE ASHWAUBENON
DESIGN SPEC. AASHTO STD SPECS 2002	LOAD N/A
DESIGNED BY CE / DESIGN CK'D. AS	DRAWN BY CMF / PLANS CK'D. MG

GENERAL PLAN

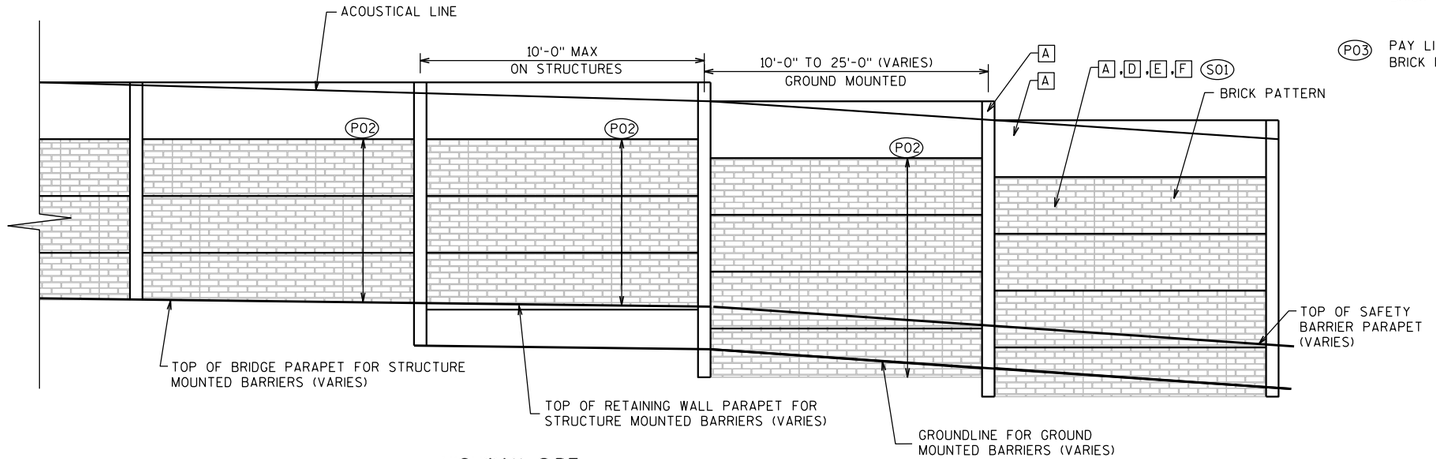
SHEET 1 OF 15

2207

STATE PROJECT NUMBER
1133-03-77



RESIDENTIAL SIDE



HIGHWAY SIDE

S01 STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF BASE COLOR A INCIDENTAL TO NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE). APPLICATION OF ACCENT COLORS D, E, & F AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

P01 PAY LIMITS OF NOISE BARRIER SINGLE SIDED SOUND ABSORPTIVE (STRUCTURE) (SOUND ABSORPTIVE MATERIAL FACES HIGHWAY)

P02 PAY LIMITS OF STAINING CONCRETE BRICK FOR HIGHWAY SIDE

P03 PAY LIMITS OF STAINING CONCRETE BRICK FOR RESIDENTIAL SIDE

TOTAL ESTIMATE OF QUANTITIES

BID ITEM NO.	BID ITEM	UNIT	TOTAL
531.0200.S.904	NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-12	SF	34,000
SPV.0060.900	FIRE DEPARTMENT CONNECTORS	EACH	2
SPV.0060.901	STANDPIPE SYSTEM	EACH	2
SPV.0060.903	FIRE HYDRANT SIGN MOUNTING	EACH	4
SPV.0165.502	STAINING CONCRETE BRICK	SF	49,000
SPV.0165.900	COMBINATION RETAINING WALLS AND NOISE BARRIERS SINGLE-SIDED SOUND ABSORPTIVE N-05-0012	SF	1,700

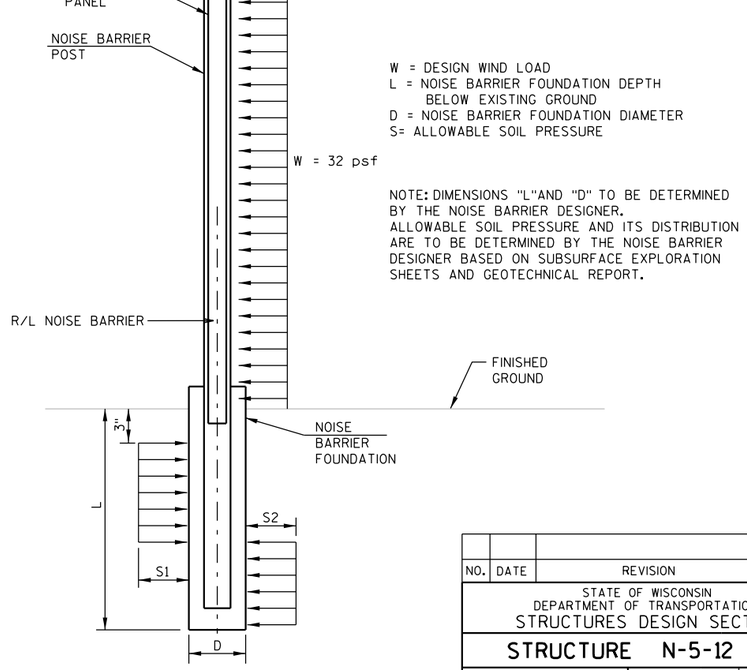
CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
~~B~~	~~ACCENT COLOR #1~~	~~REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS~~
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~

NOTES

1) STEP PANELS A MINIMUM OF 1' AND A MAXIMUM OF 3'. WHEN MORE THAN ONE PANEL MUST STEP CONSECUTIVELY, KEEP THE STEP INCREMENT THE SAME FOR EACH SEGMENT OF STEPPING PANELS.

2) ADJUST VERTICAL PLACEMENT OF PANELS TO MAXIMIZE HORIZONTAL RUNS, KEEPING THE TOP OF PANELS AT THE SAME ELEVATION.



GROUND MOUNTED NOISE BARRIER LOADING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-12

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QUANTITIES AND AESTHETIC DETAILS

SHEET 2 OF 15

2208

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8

STATE PROJECT NUMBER
1133-03-77

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
~~B~~	~~ACCENT COLOR #1~~	~~REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS~~
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~

NOTES

1) STEP PANELS A MINIMUM OF 1' AND A MAXIMUM OF 3'. WHEN MORE THAN ONE PANEL MUST STEP, KEEP THE STEP INCREMENT THE SAME FOR EACH SEGMENT OF STEPPING PANELS.

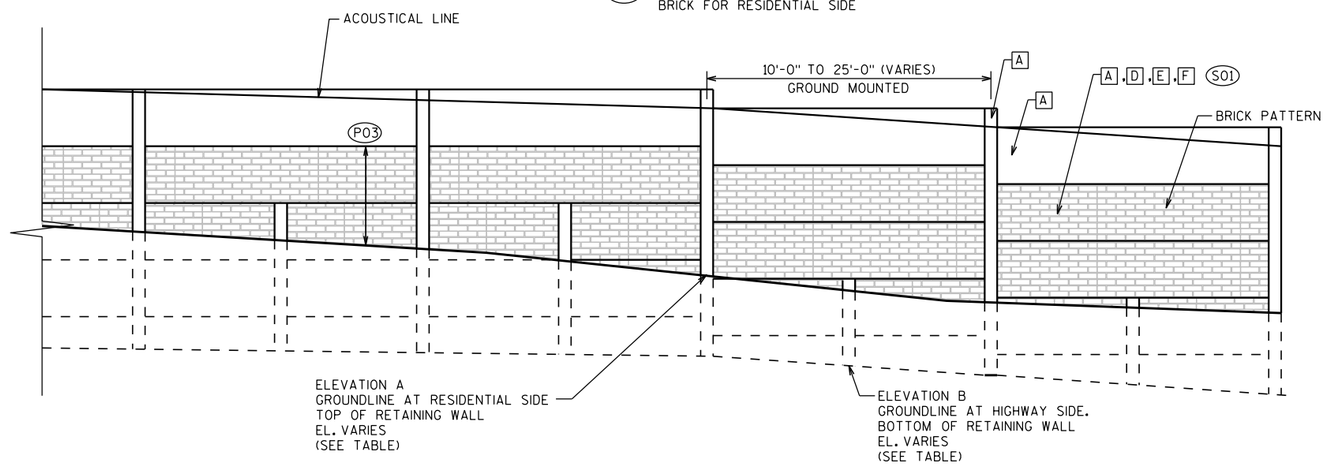
2) ADJUST VERTICAL PLACEMENT OF PANELS TO MAXIMIZE HORIZONTAL RUNS, KEEPING THE TOP OF PANELS AT THE SAME ELEVATION.

(S01) STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF BASE COLOR A INCIDENTAL TO NOISE BARRIER SINGLE SIDED SOUND ABSORPTIVE (STRUCTURE). APPLICATION OF ACCENT COLORS D, E, & F AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

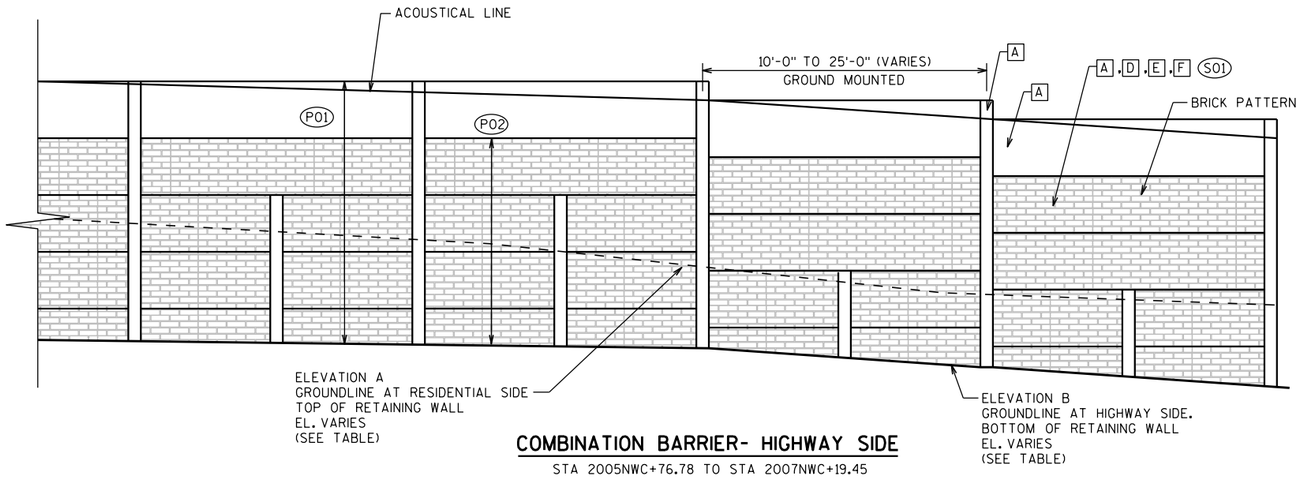
(P01) PAY LIMITS OF COMBINATION BARRIER

(P02) PAY LIMITS OF STAINING CONCRETE BRICK FOR HIGHWAY SIDE

(P03) PAY LIMITS OF STAINING CONCRETE BRICK FOR RESIDENTIAL SIDE



COMBINATION BARRIER- RESIDENTIAL SIDE



COMBINATION BARRIER- HIGHWAY SIDE

STA 2005NWC+76.78 TO STA 2007NWC+19.45

GEOMETRY TABLE

ROADWAY STATION	OFFSET TO REF. LINE COMBINATION BARRIER	ROADWAY REF. LINE	NOISE BARRIER STATION	ELEV. A	ELEV. B
1006+00.00	128.70' RT	US 41 NB	2005NWC+76.78	661.87	661.87
1006+15.00	125.35' RT	US 41 NB	2005NWC+92.15	661.23	661.08
1006+25.00	123.12' RT	US 41 NB	2006NWC+02.40	660.80	660.36
1006+50.00	117.53' RT	US 41 NB	2006NWC+28.02	659.73	658.48
1006+75.00	111.94' RT	US 41 NB	2006NWC+53.63	659.61	656.75
1007+00.00	106.36' RT	US 41 NB	2006NWC+79.25	659.48	658.85
1007+04.03	105.45' RT	US 41 NB	2006NWC+83.38	659.20	658.47
1007+25.00	104.57' RT	US 41 NB	2007NWC+04.45	657.75	657.74
1007+40.00	104.58' RT	US 41 NB	2007NWC+19.45	656.72	656.72

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-12

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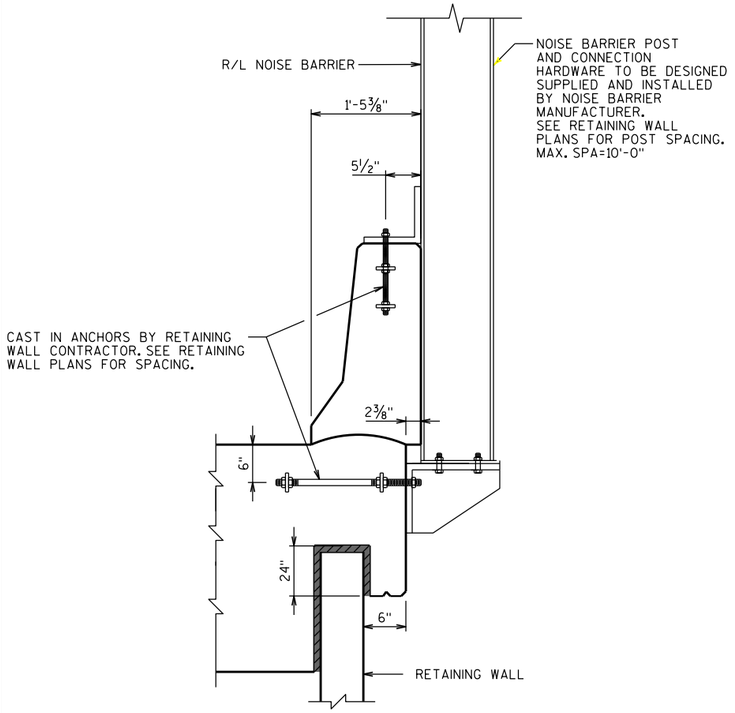
AESTHETIC DETAILS

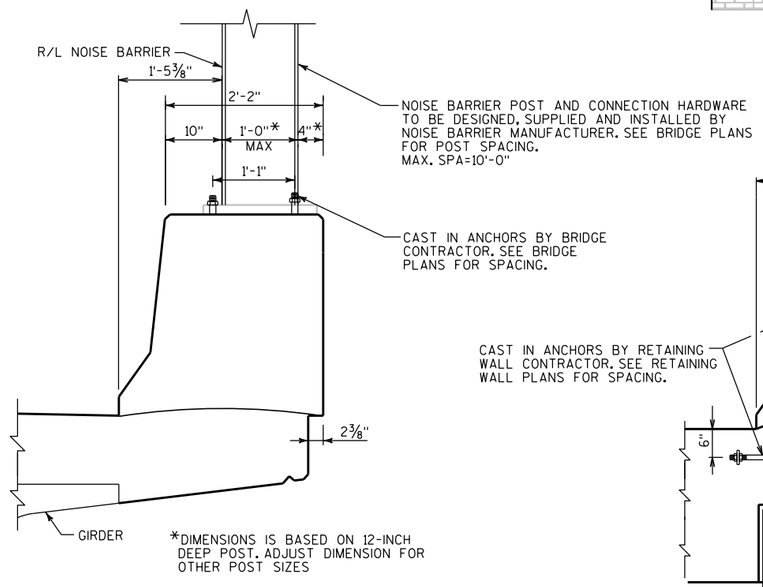
SHEET 3 OF 15

STATE PROJECT NUMBER
1133-03-77



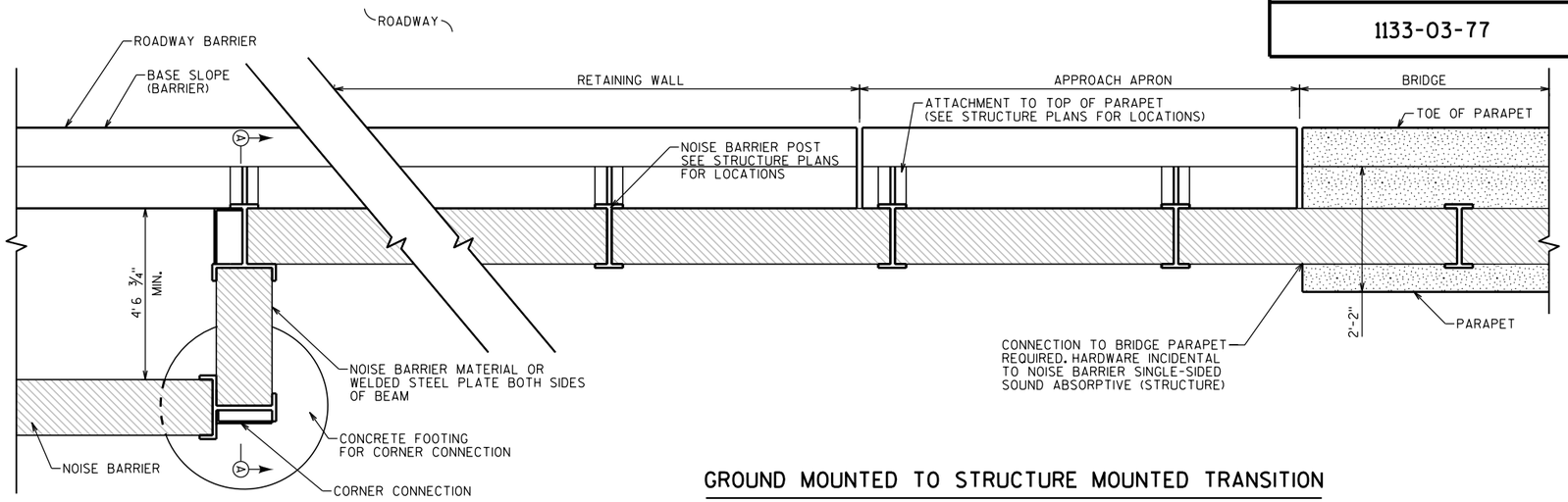
NOISE BARRIER ON RETAINING WALL

SECTION VIEW
TYPICAL AT EACH POST LOCATION



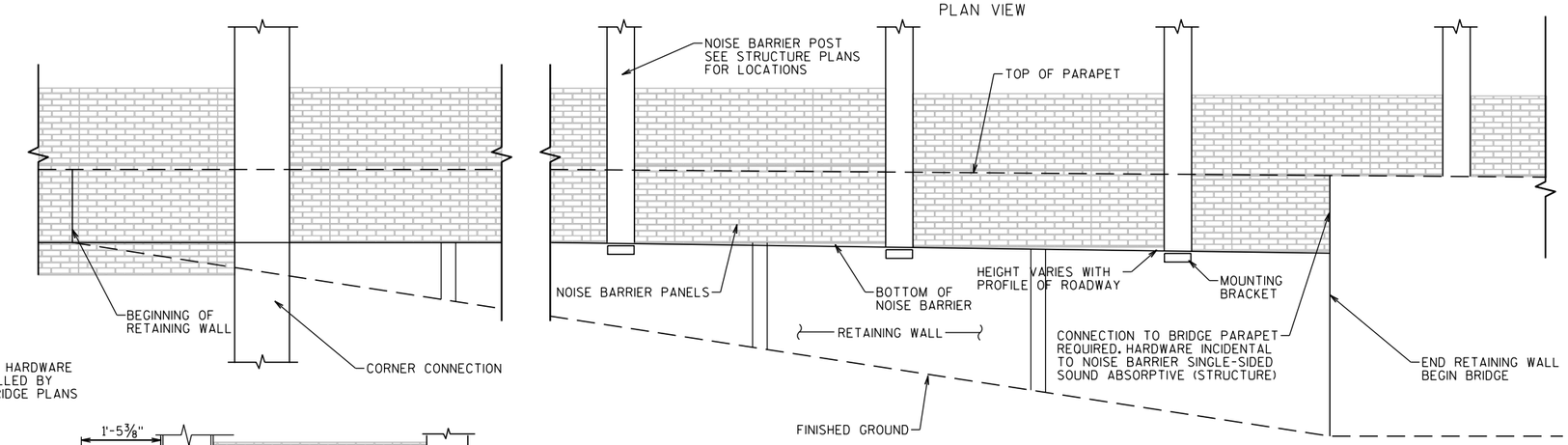
NOISE BARRIER ON BRIDGE PARAPET

SECTION VIEW
TYPICAL AT EACH POST LOCATION



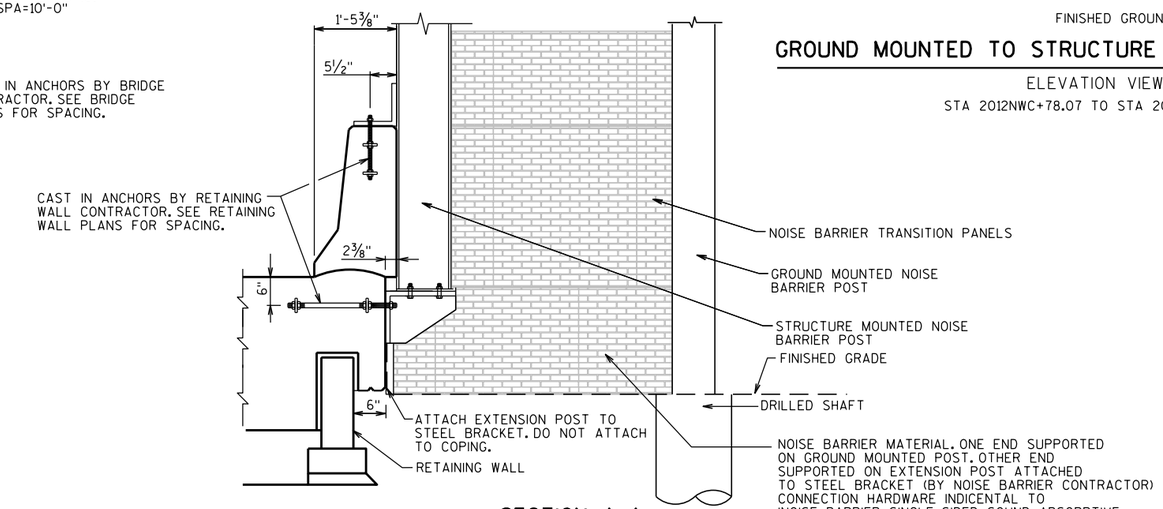
GROUND MOUNTED TO STRUCTURE MOUNTED TRANSITION

PLAN VIEW



GROUND MOUNTED TO STRUCTURE MOUNTED TRANSITION

ELEVATION VIEW
STA 2012NWC+78.07 TO STA 2012NWC+96.26



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-12

DRAWN BY CMF | PLANS CK'D. MG

CONNECTION DETAILS 1

SHEET 4 OF 15

2210

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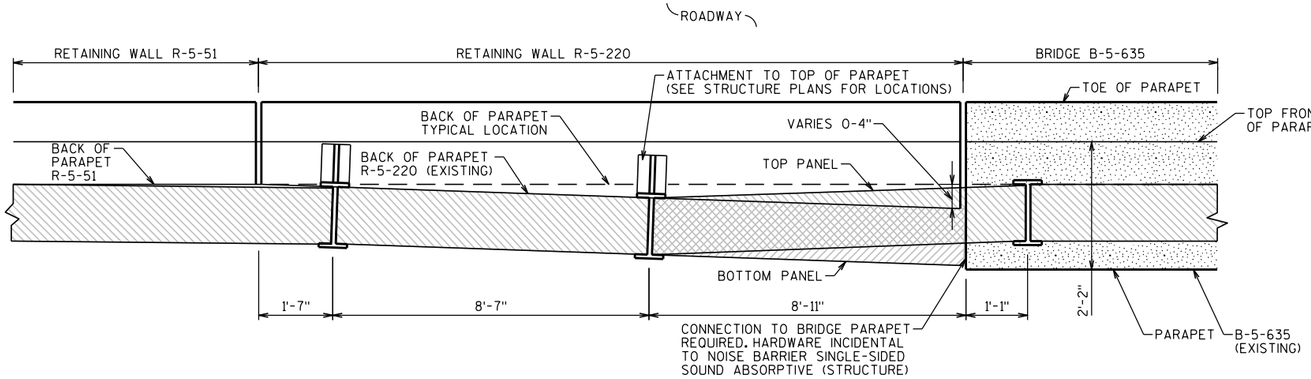
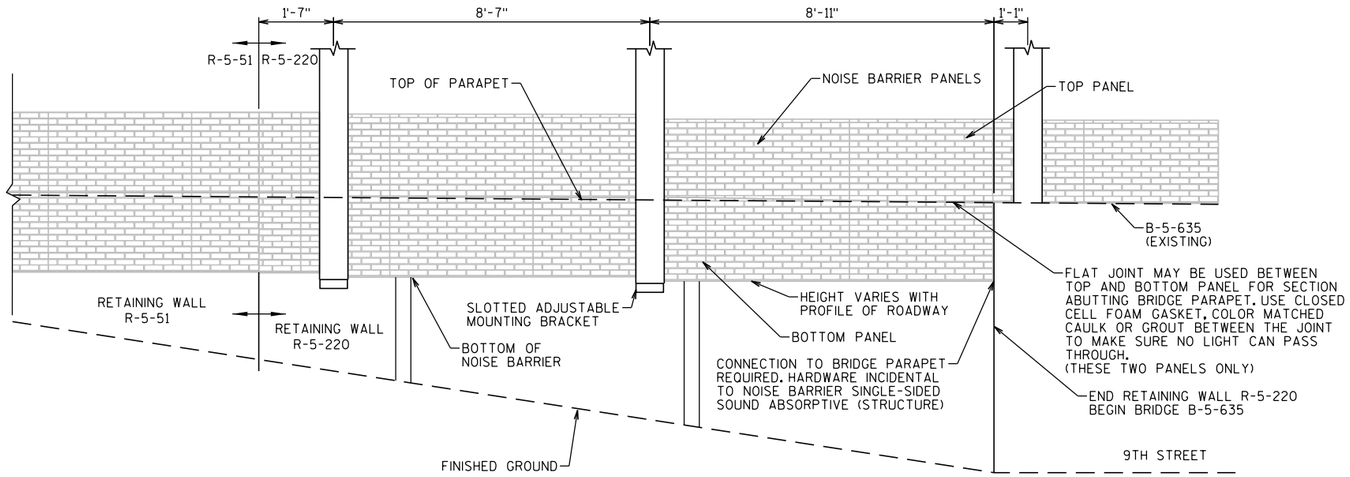
STATE PROJECT NUMBER
1133-03-77



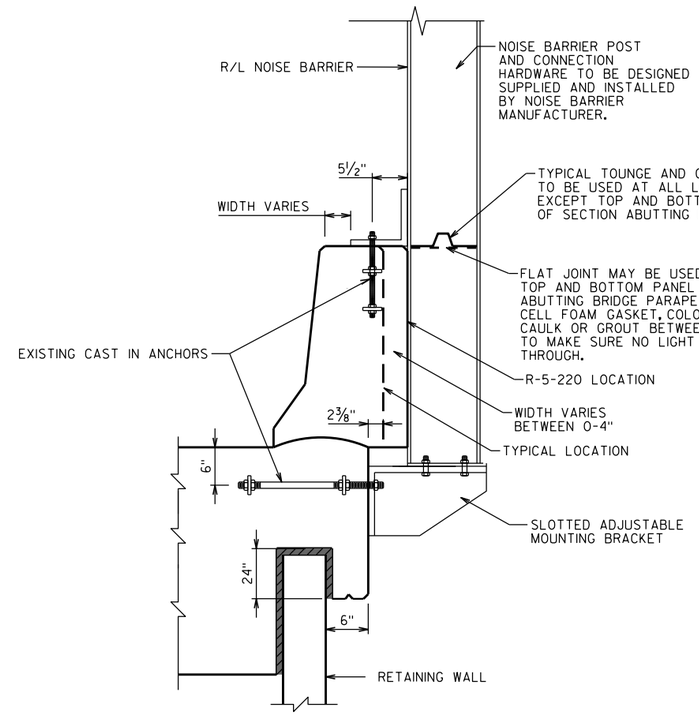
STRUCTURE TRANSITION OF R-5-51 TO R-5-220 TO B-5-635

PLAN VIEW



STRUCTURE TRANSITION OF R-5-51 TO R-5-220 TO B-5-635

ELEVATION VIEW



NOISE BARRIER ON RETAINING WALL

SECTION VIEW
R-5-220

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-12

DRAWN BY CMF | PLANS CK'D. MG

CONNECTION DETAILS 2

SHEET 5 OF 15

2211

8

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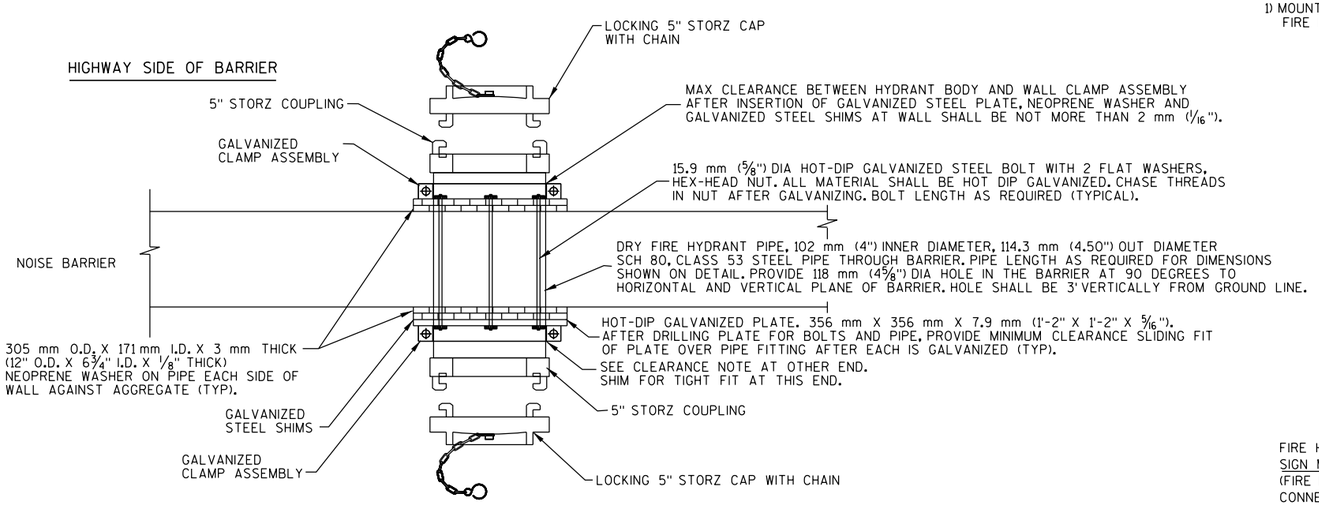


MATERIALS AND SPECIFICATIONS:

STEEL PLATE	ASTM A36-84a
BOLTS	ASTM A30-86a GRADE
PIPE	ASTM A53-84a SEAMLESS GRADE B
GALVANIZING	ASTM A123-84 HOT-DIP FOR STEEL PLATE, ETC. ASTM A153-87 HOT-DIP GALVANIZED CLASS C FOR HARDWARE, BOLTS, ETC.

NOTES

1) TIP CONNECTOR SLIGHTLY TOWARD HIGHWAY SIDE OF WALL TO PROVIDE DRAINAGE.

2) SEE FIRE HYDRANT LOCATION/HOSE ACCESS CONSTRUCTION DETAIL FOR PLACEMENT OF SIGNS

FIRE DEPARTMENT CONNECTOR

APPROXIMATE STA 2005NWC+75
APPROXIMATE STA 2012NWC+50

NOTES

1) DISTANCE FROM GROUND TO FIRE DEPARTMENT CONNECTOR SHALL BE 3 FEET. DISTANCE FROM TOP OF PARAPET TO STANDPIPE SHALL BE 6 INCHES. THE FIRE DEPARTMENT CONNECTOR SHALL BE CENTERED BETWEEN THE POSTS.

2) 4 5/8" HOLE SHALL BE FORMED IN THE SHOP DURING PANEL FABRICATION.

3) HOLE SHALL NOT BE CLOSER THAN 6" TO ANY EDGE OF THE BARRIER PANEL.

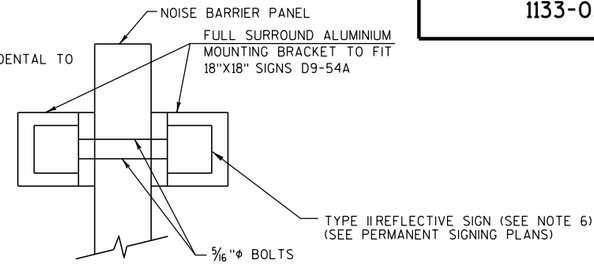
4) STAINLESS STEEL ANCHOR BOLTS OR APPROVED EQUIVALENT. BOLTS INDICENTAL TO SIGN REFLECTIVE TYPE 2.

5) TWO STANDARD SIGNS D9-54 WILL BE FURNISHED PER STATION BY THE ROADWAY CONTRACTOR. ONE SIGN SHALL BE INSTALLED ON EACH SIDE OF THE BARRIER. SIGNS TO BE PAID FOR AS SIGN REFLECTIVE TYPE 2 UNDER ROADWAY ITEMS.

6) STANDARD SIGNS D9-54A WILL BE FURNISHED PER STATION BY THE ROADWAY CONTRACTOR. SIGN SHALL BE ATTACHED TO THE NOISE BARRIER PANEL ON EACH SIDE NEAR THE TOP OF THE BARRIER. SIGNS TO BE PAID FOR AS SIGN REFLECTIVE TYPE 2 UNDER ROADWAY ITEMS. MOUNTING BRACKET TO BE PAID FOR UNDER FIRE HYDRANT SIGN MOUNTING UNDER ROADWAY ITEMS, SEE SPECIAL PROVISIONS.

NOTE

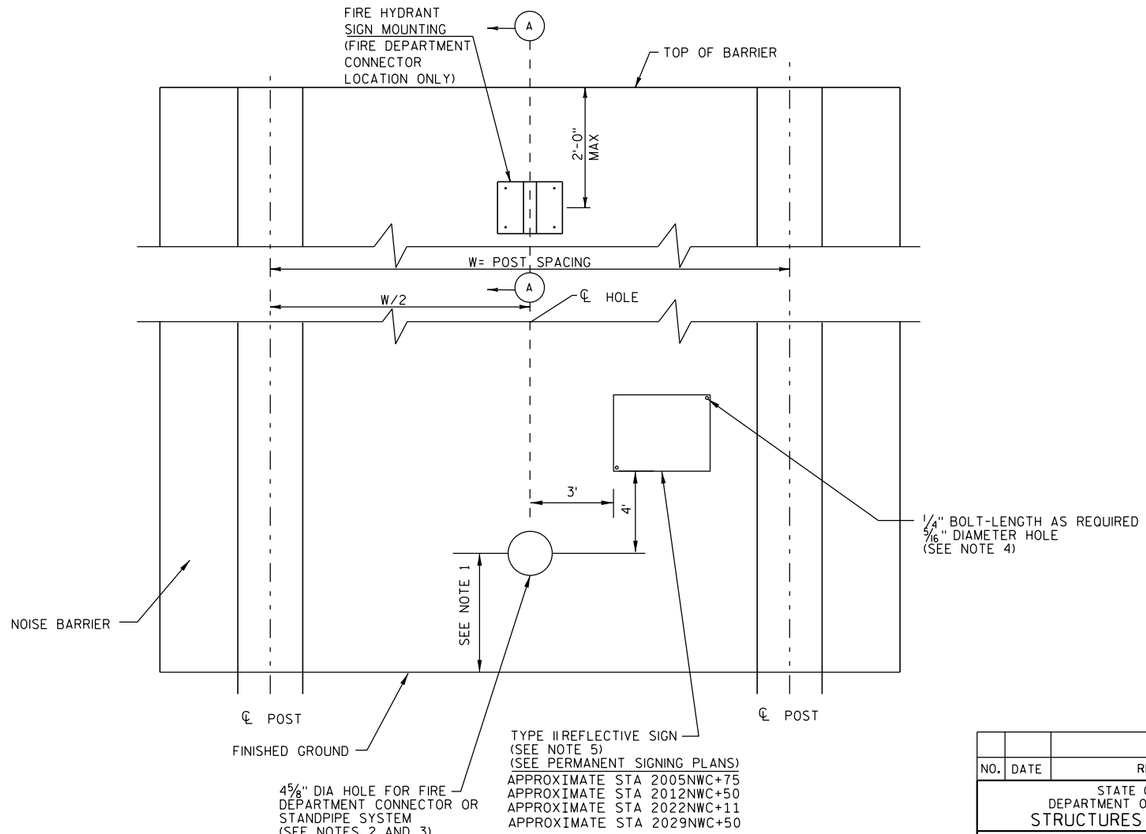
1) MOUNTING BOLTS, BRACKETS, ARE INCIDENTAL TO FIRE HYDRANT SIGN MOUNTING



SECTION A-A

FIRE HYDRANT SIGN MOUNTING

(TYPICAL AT FIRE DEPARTMENT CONNECTOR LOCATIONS)
APPROXIMATE STA 2005NWC+75
APPROXIMATE STA 2012NWC+50



FIRE HYDRANT LOCATION/HOSE ACCESS DETAIL

(TYPICAL AT ALL FIRE HYDRANT PENETRATIONS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-12

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CONSTRUCTION DETAILS 1

SHEET 6 OF 15

2212

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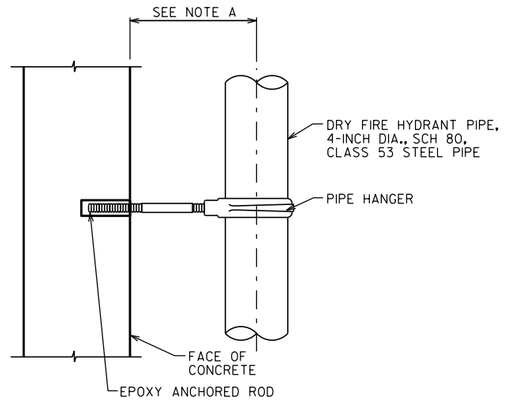
STATE PROJECT NUMBER
1133-03-77

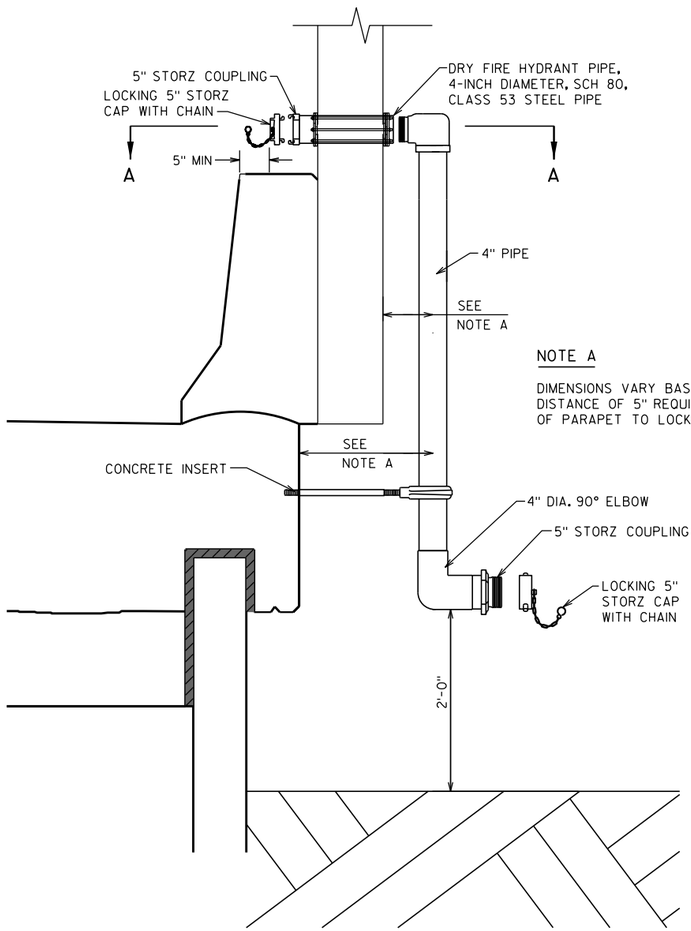
NOTES

PAINT 4" DIA. CLASS 53 STEEL PIPE WITH URETHANE PAINT PER SPV.0060.901 "STANDPIPE SYSTEM." PAINT COLOR TO BE BASKET BEIGE SW 6143.

PIPE, PIPE CLAMPS, HANGERS, ADHESIVE ANCHOR RODS, STORZ COUPLINGS, FITTINGS AND MISC. ITEMS ARE INCIDENTAL TO BID ITEM SPV.0060.901 "STANDPIPE SYSTEM."

PIPE TO BE SUPPORTED AT 8'-0" MAX.



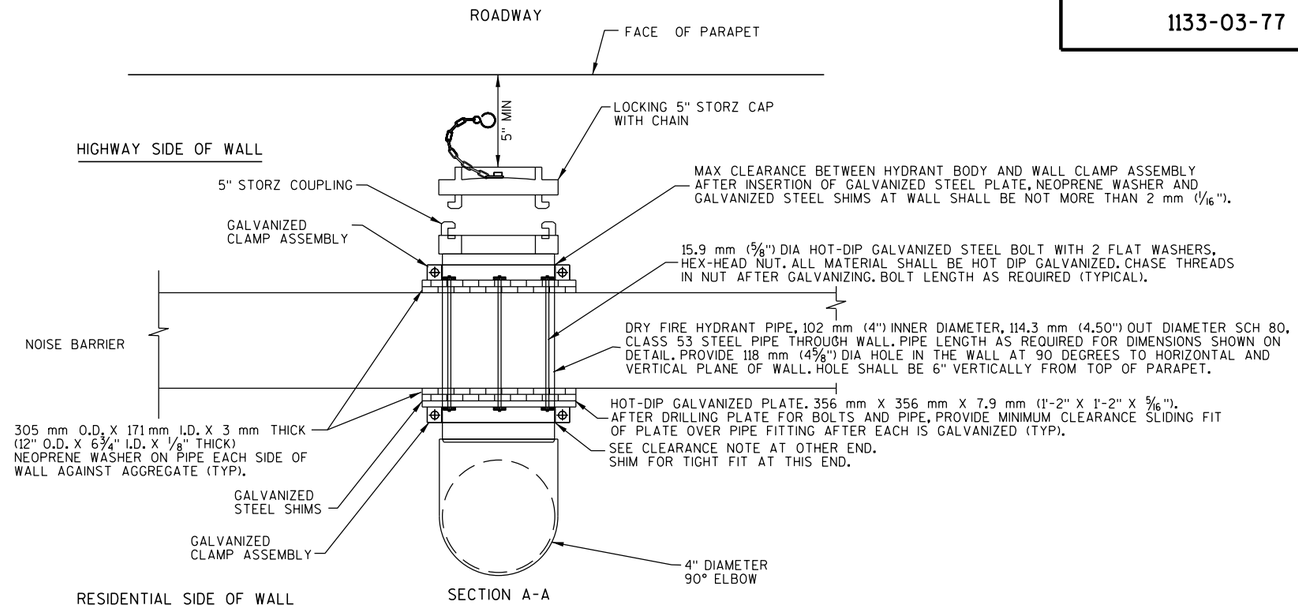


NOTE A

DIMENSIONS VARY BASED ON MINIMUM DISTANCE OF 5" REQUIRED FROM FACE OF PARAPET TO LOCKING STORZ CAP.

STANDPIPE SYSTEM

STA 2029NWC+50



SECTION A-A

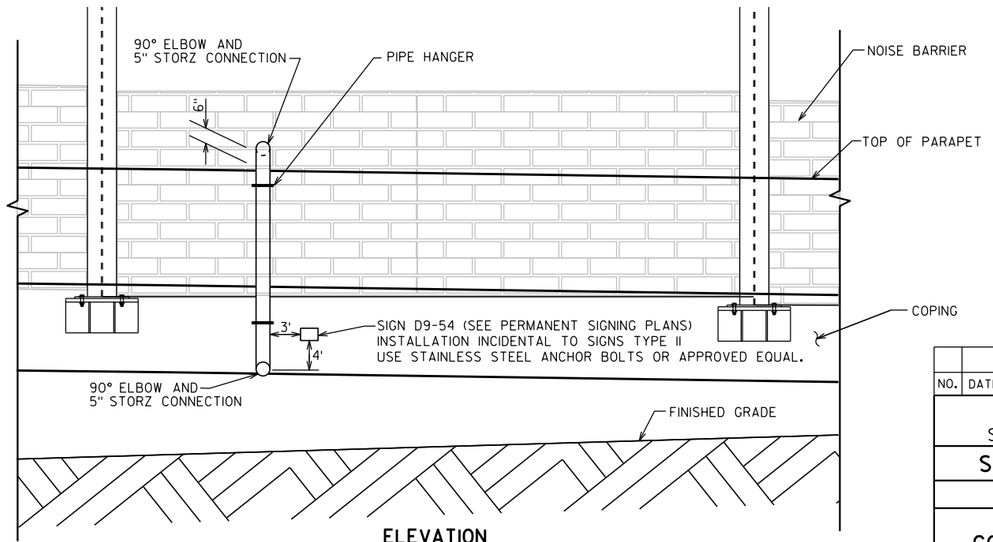
MATERIALS AND SPECIFICATIONS:

STEEL PLATE	ASTM A36-84a
BOLTS	ASTM A30-86a GRADE
PIPE	ASTM A53-84a SEAMLESS GRADE B
GALVANIZING	ASTM A123-84 HOT-DIP FOR STEEL PLATE, ETC. ASTM A153-87 HOT-DIP GALVANIZED CLASS C FOR HARDWARE, BOLTS, ETC.

NOTES

1) TIP CONNECTOR SLIGHTLY TOWARD HIGHWAY SIDE OF WALL TO PROVIDE DRAINAGE.

2) SEE FIRE HYDRANT LOCATION/HOSE ACCESS CONSTRUCTION DETAIL FOR PLACEMENT OF SIGNS



ELEVATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-12

DRAWN BY CMF | PLANS CK'D. MG

CONSTRUCTION DETAILS 2

SHEET 7 OF 15

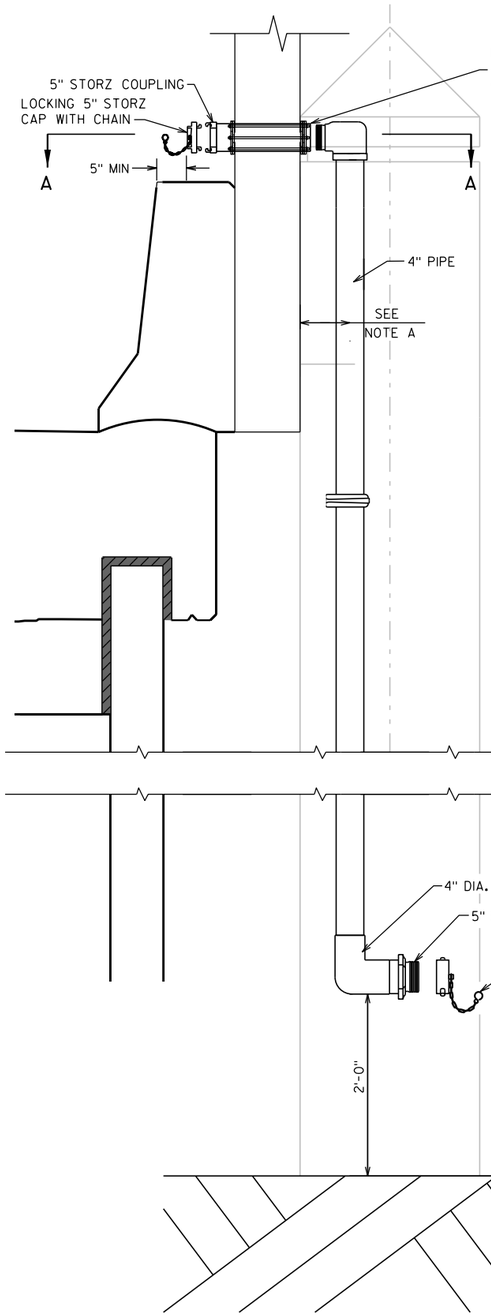
2213

8

8

FILE NAME : F:\BM1-1726A\HN_11330481EB\0482\N-05-0012\b1_021002_cd.DGN PLOT DATE : 17-JAN-2013 15:06 PLOT BY : cfranzen PLOT NAME : PLOT SCALE : 100:1

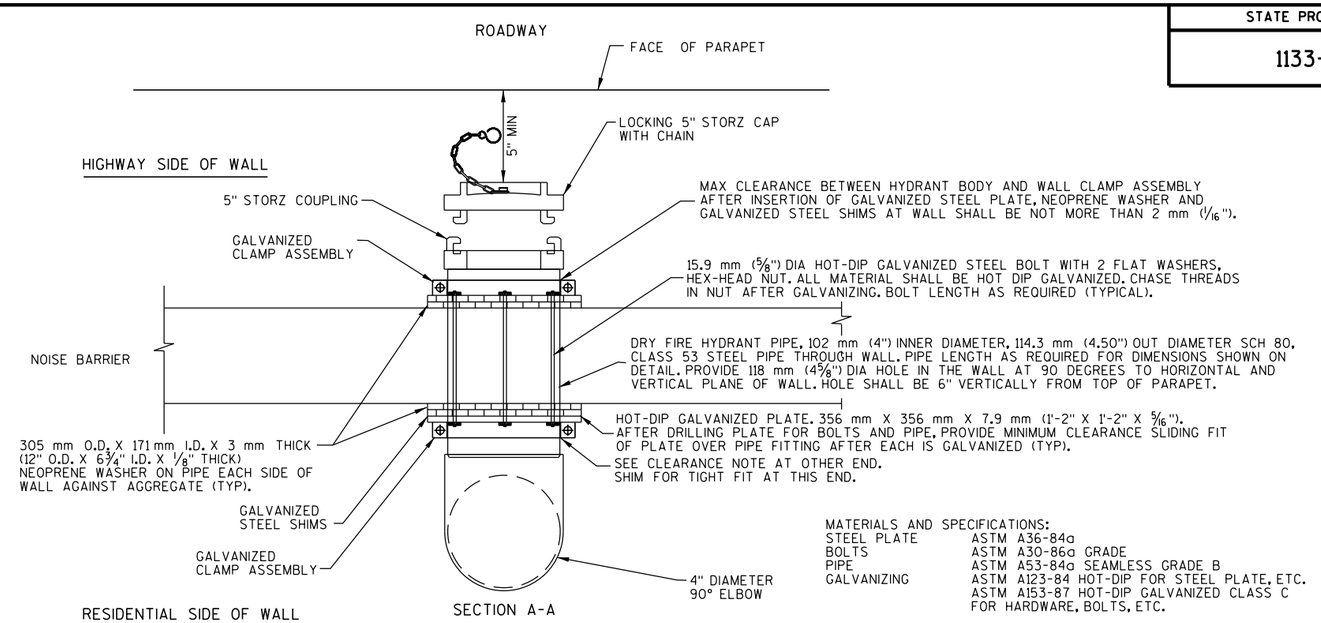
STATE PROJECT NUMBER
1133-03-77



DISCHARGE CONNECTION ELEVATION

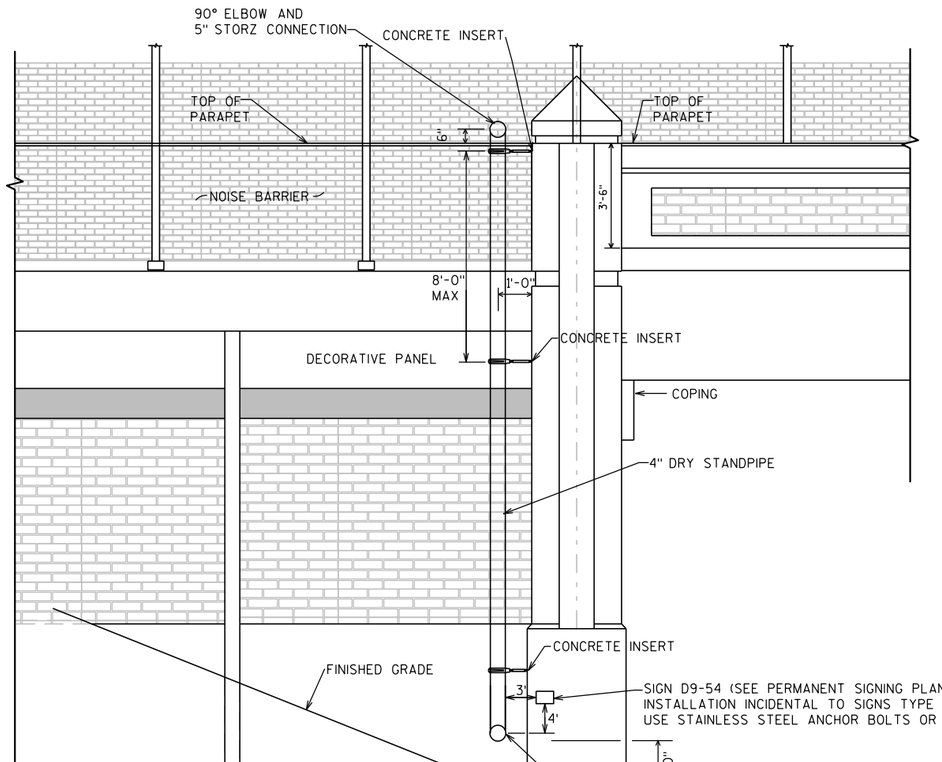
NOTE A

DIMENSIONS VARY BASED ON MINIMUM DISTANCE OF 5" REQUIRED FROM FACE OF PARAPET TO LOCKING STORZ CAP.



SECTION A-A

RESIDENTIAL SIDE OF WALL



STANDPIPE SYSTEM

STA 2022NWC+11

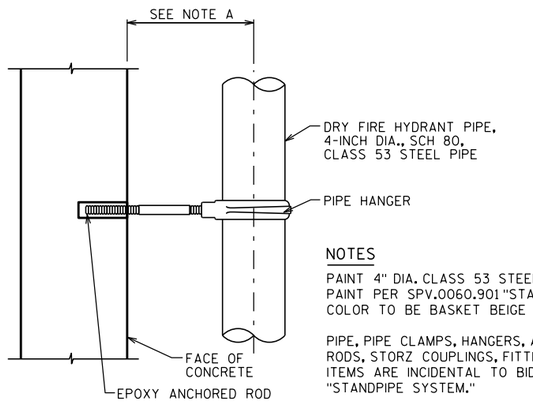
MATERIALS AND SPECIFICATIONS:

STEEL PLATE	ASTM A36-84a
BOLTS	ASTM A30-86a GRADE
PIPE	ASTM A53-84a SEAMLESS GRADE B
GALVANIZING	ASTM A123-84 HOT-DIP FOR STEEL PLATE, ETC. ASTM A153-87 HOT-DIP GALVANIZED CLASS C FOR HARDWARE, BOLTS, ETC.

NOTES

1) TIP CONNECTOR SLIGHTLY TOWARD HIGHWAY SIDE OF WALL TO PROVIDE DRAINAGE.

2) SEE FIRE HYDRANT LOCATION/HOSE ACCESS CONSTRUCTION DETAIL FOR PLACEMENT OF SIGNS



NOTES

PAINT 4" DIA. CLASS 53 STEEL PIPE WITH URETHANE PAINT PER SPV.0060.901 "STANDPIPE SYSTEM." PAINT COLOR TO BE BASKET BEIGE SW 6143.

PIPE, PIPE CLAMPS, HANGERS, ADHESIVE ANCHOR RODS, STORZ COUPLINGS, FITTINGS AND MISC. ITEMS ARE INCIDENTAL TO BID ITEM SPV.0060.901 "STANDPIPE SYSTEM."

PIPE TO BE SUPPORTED AT 8'-0" MAX.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-12

DRAWN BY CMF | PLANS CK'D. MG

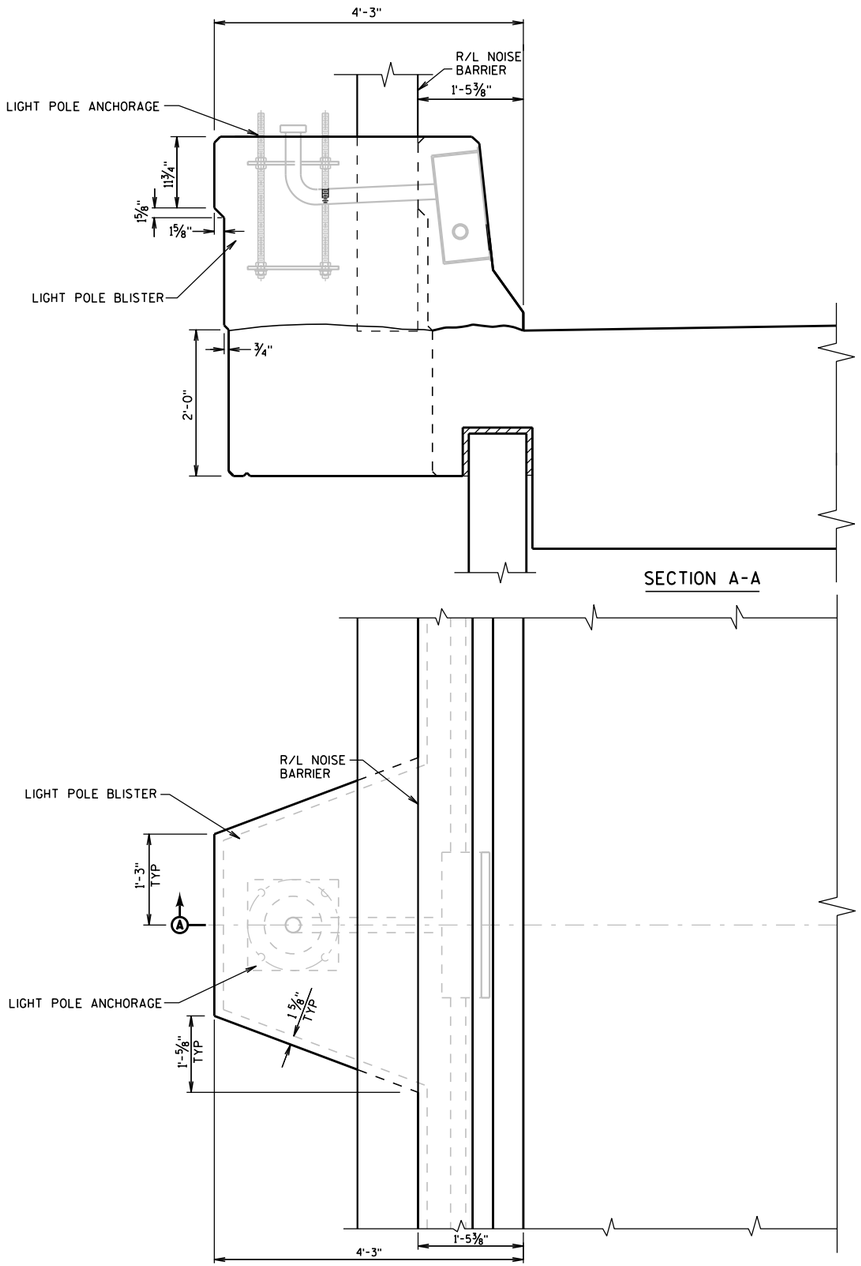
CONSTRUCTION DETAILS 3

SHEET 8 OF 15

2214

FILE NAME : F:\BM1-1726A\HN_11330481EB\0482\N-05-0012\b1_021002_cd.DGN PLOT DATE : 17-JAN-2013 15:06 PLOT BY : cfranzen PLOT NAME : PLOT SCALE : 100:1

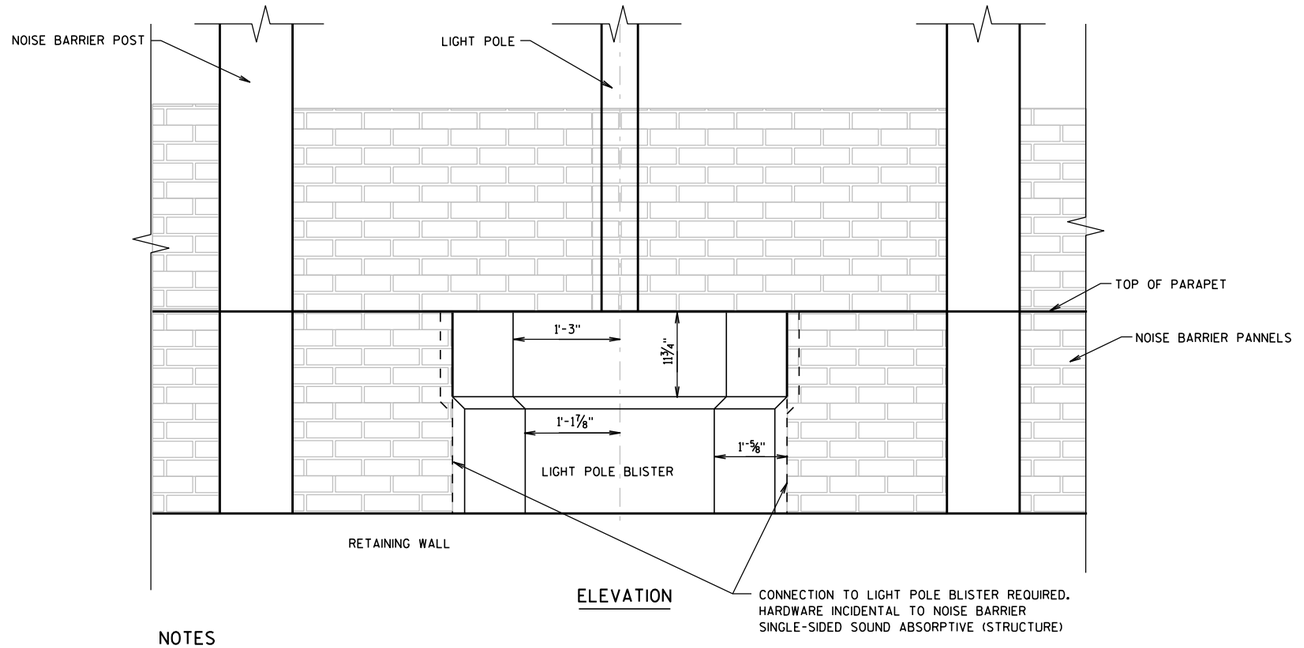
STATE PROJECT NUMBER
1133-03-77



SECTION A-A

LIGHT POLE BLISTER

APPROXIMATE STA 2023NWC+53
APPROXIMATE STA 2025NWC+83
APPROXIMATE STA 2028NWC+14
APPROXIMATE STA 2030NWC+34
APPROXIMATE STA 2032NWC+42



ELEVATION

NOTES

FIELD VERIFY NOISE BARRIER POST ANCHORAGE LOCATIONS AND LIGHT POLE BLISTER LOCATIONS

CONNECTION TO LIGHT POLE BLISTERS TO BE DESIGNED BY NOISE BARRIER MANUFACTURER. CONNECTION HARDWARE INCIDENTAL TO BID ITEM 'NOISE BARRIERS SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE'

DIMENSIONS FOR INFORMATION ONLY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-12

DRAWN BY CMF | PLANS CK'D. MG

CONSTRUCTION DETAILS 4

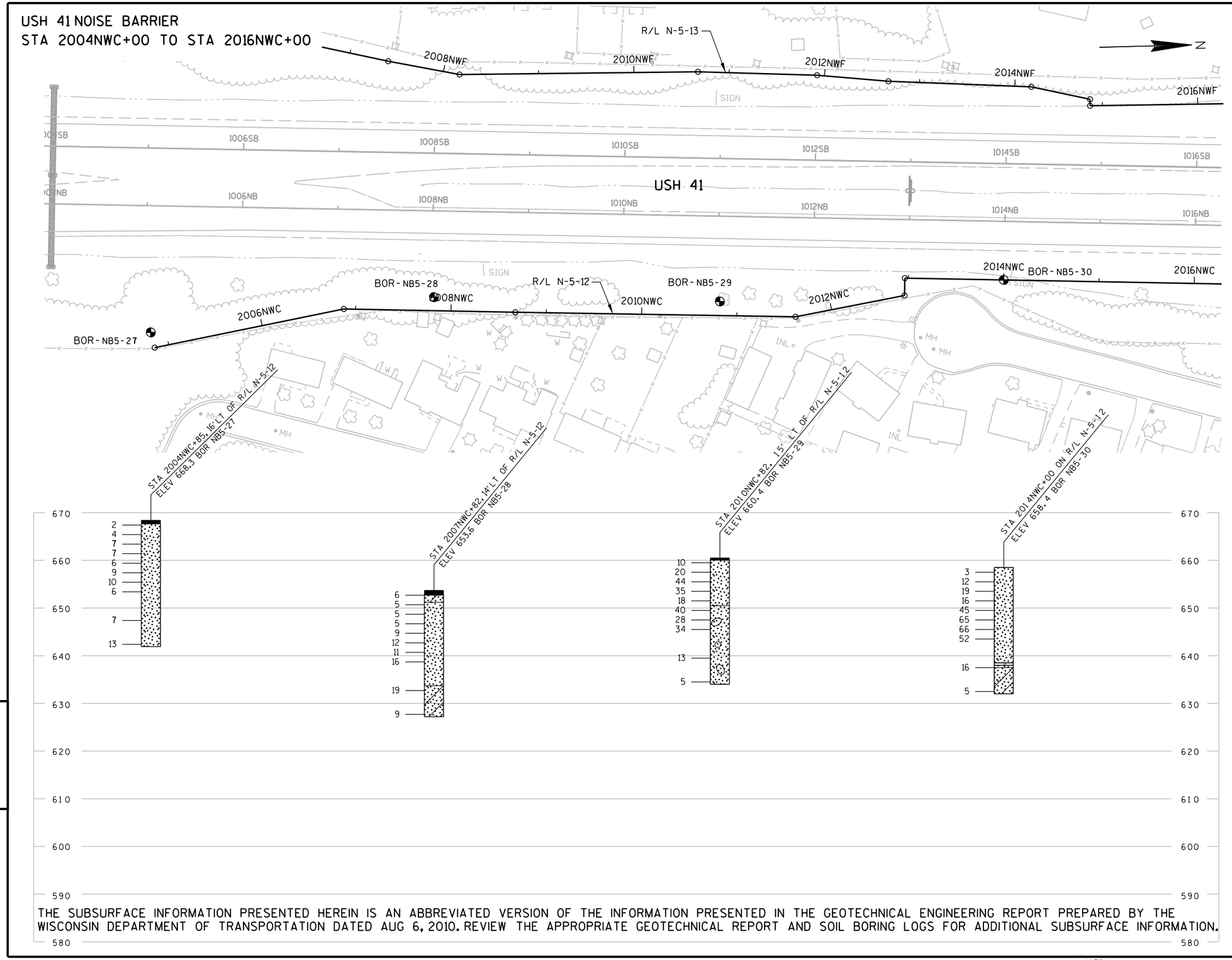
SHEET 9 OF 15

2215

8

8

USH 41 NOISE BARRIER
STA 2004NWC+00 TO STA 2016NWC+00



THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION DATED AUG 6, 2010. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

STATE PROJECT NUMBER

1133-03-77

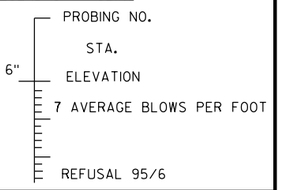
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

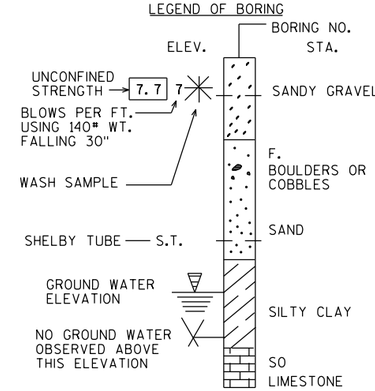
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-12

DRAWN BY CMF PLANS CK'D. MG

SUBSURFACE EXPLORATION 1

SHEET 10 OF 15

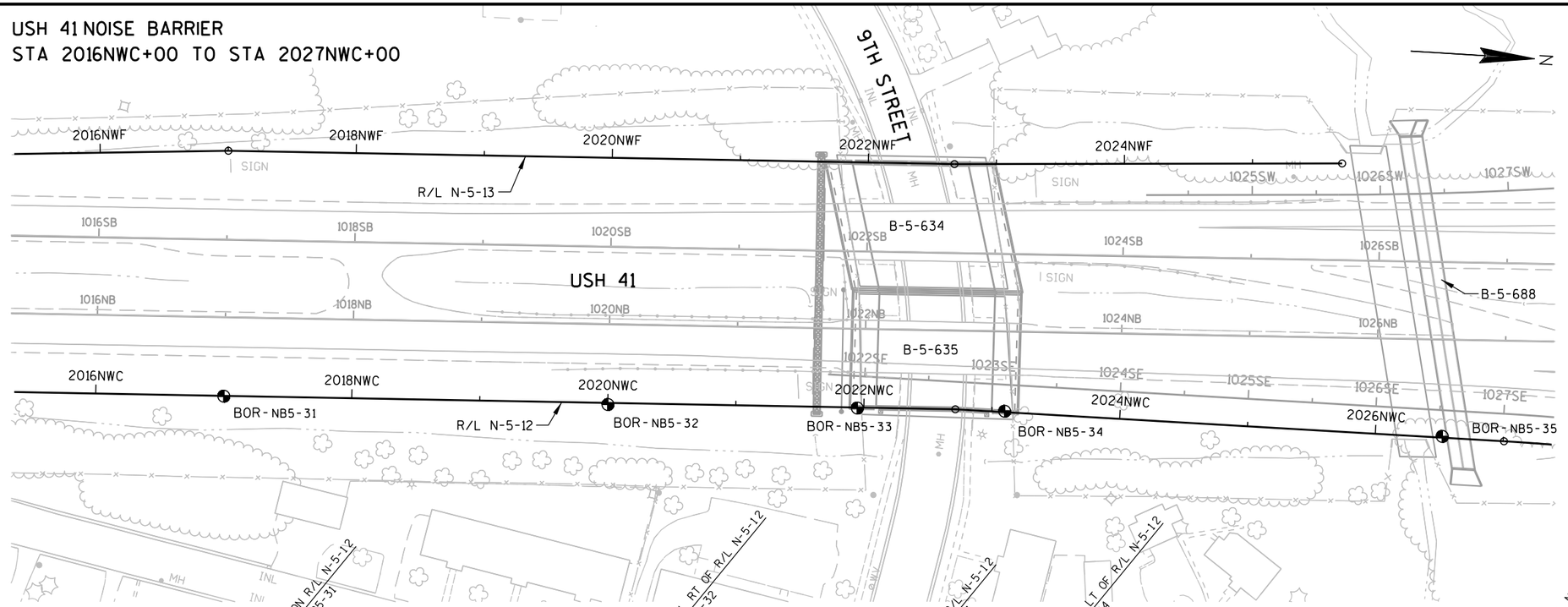
2216

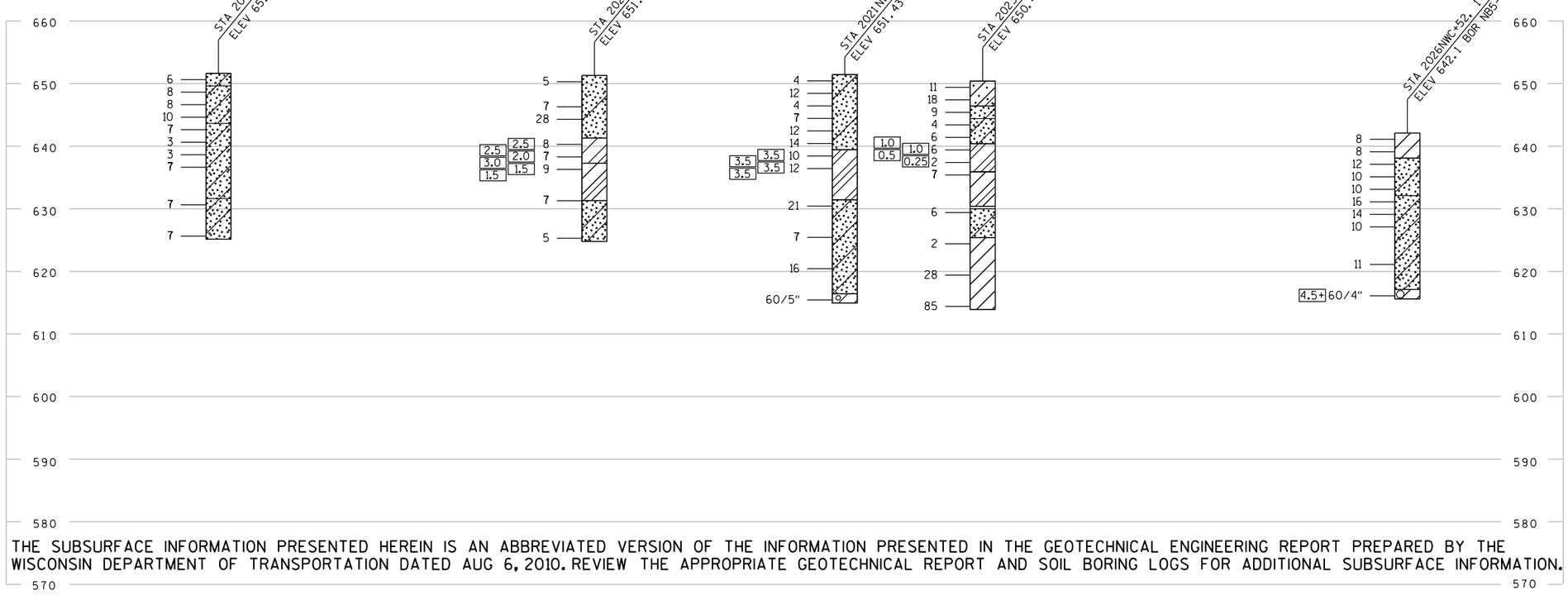
8

8

FILE NAME : F:\BM1-1726A\HN_11330481EB\0482\N-05-0012\bl_027301_sb.dgn PLOT DATE : 17-JAN-2013 15:06 PLOT BY : cfranzen PLOT NAME : bl_027301_sb PLOT SCALE : 100:1

USH 41 NOISE BARRIER
STA 2016NWC+00 TO STA 2027NWC+00





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STATE PROJECT NUMBER

1133-03-77

ABBREVIATIONS

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MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
ELEV.
STA.
UNCONFINED STRENGTH → 7.7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-12

DRAWN BY CMF | PLANS CK'D. MG

SUBSURFACE EXPLORATION 2

SHEET 11 OF 15

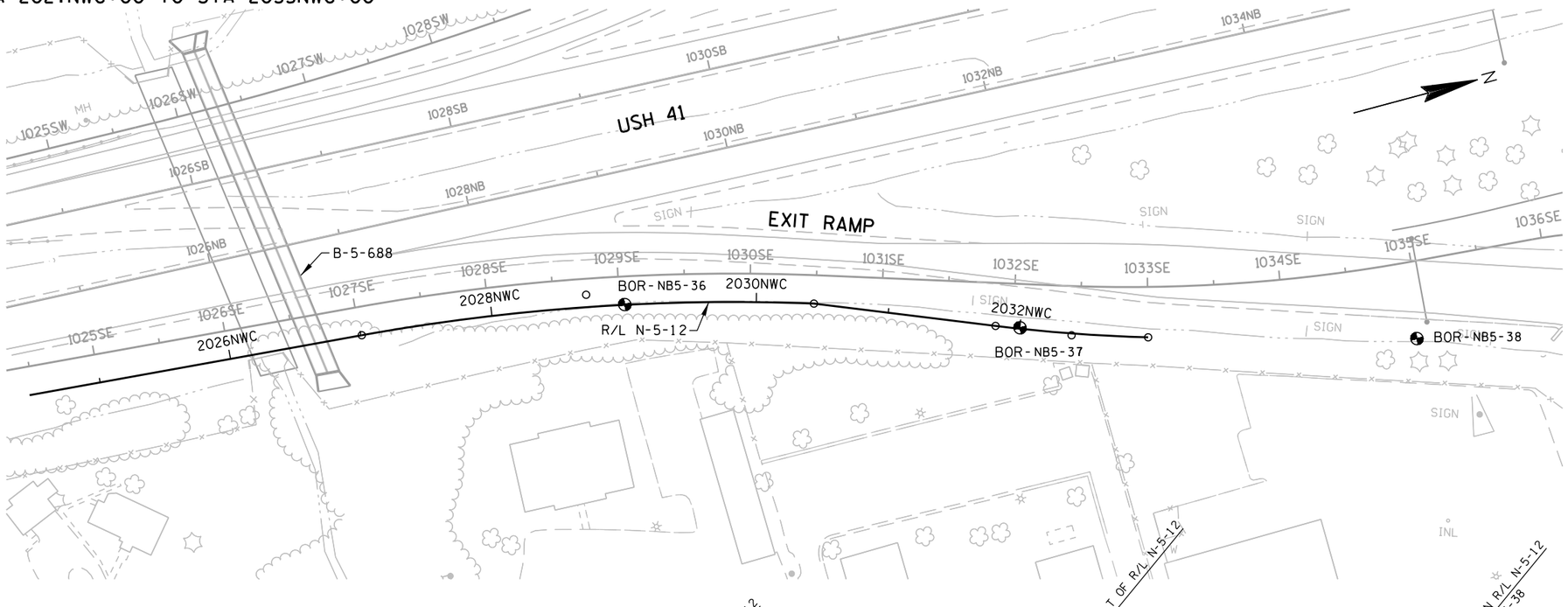
2217

8

8

FILE NAME : F:\BM1-1726A\HN_11330481EB\0482\N-05-0012\bl_027302_sb.dgn PLOT DATE : 17-JAN-2013 15:06 PLOT BY : cfranzen PLOT NAME : bl_027302_sb PLOT SCALE : 100:1

USH 41 NOISE BARRIER
STA 2027NWC+00 TO STA 2035NWC+00



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1133-03-77

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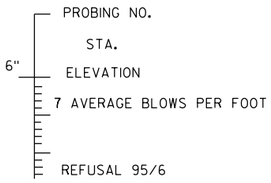
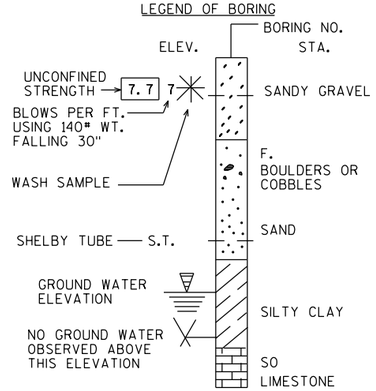
LEGEND OF PROBING



LEGEND OF BORING



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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-12

DRAWN BY CMF | PLANS CK'D. MG

SUBSURFACE EXPLORATION 3

SHEET 12 OF 15

2218

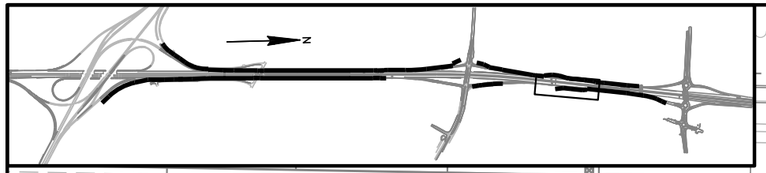
8

8

FILE NAME : F:\BM1-1726A\HN_11330481EB\0482\N-05-0012\bl_027303_sb.dgn PLOT DATE : 17-JAN-2013 15:07 PLOT BY : cfranzen PLOT NAME : bl_027303_sb PLOT SCALE : 100:1

STATE PROJECT NUMBER

1133-03-77



USH 41 SB

USH 41 NB

2008NWF

2010NWF

2012NWF

1006SB

1008SB

1010SB

1012SB

1002NB

1004NB

1006NB

1008NB

1010NB

1012NB

1002VKB

SIGN

WPS ELECTRIC

GROUND MOUNTED TO STRUCTURE MOUNTED TRANSITION

FIRE DEPARTMENT CONNECTOR STA 2012NWC+50

MATCHLINE 2013NWC+00

FIRE DEPARTMENT CONNECTOR STA 2005NWC+75

R/W

BEGIN NOISE BARRIER
STA 2004NWC+85.00

NAME PLATE

2006NWC

2008NWC

2010NWC

2012NWC

TLE

R/L N-5-12

AT&T TELEPHONE

BRUCE M KOLLMAN

MARVIN L & KAREN A KRAUSE

KEVIN J & GLORIA L SRENASKI

JAMES S & CHRISTINE A BAER

MICHAEL J & RITA M BOSTEDT

RONALD J AMBROSIUS ETAL

JAMES & HOLLY B STORM

RENE T KEHLER

CHRIS R CONRAD

SCOTT F JURANITCH ETAL

CITY OF GREEN BAY

JOHN MUIR PARK

BIEMERET ST

NELSON STREET

GEOFFREY T GIALDINI ETAL

GARY P & DEBRA C VANDENBUSH

N

GROUND MOUNTED

GROUND MOUNTED

COMBINATION BARRIER N-5-12
STA 2005NWC+76.78 TO 2007NWC+19.45

BEGIN NOISE BARRIER
STA 2004NWC+85.00

VPI STA 2004NWC+85.00
VPI EL 675.77

VPI STA 2006NWC+00.00
VPI EL 669.95

VPI STA 2007NWC+00.00
VPI EL 668.76

ACOUSTICAL LINE

VPI STA 2009NWC+00.00
VPI EL 669.74

VPI STA 2010NWC+00.00
VPI EL 670.30

VPI STA 2011NWC+00.00
VPI EL 670.86

VPI STA 2012NWC+00.00
VPI EL 670.94

TOP OF COMBINATION RETAINING WALL

EXISTING GROUND

BOTTOM OF COMBINATION RETAINING WALL

ACOUSTICAL LINE

PROPOSED GROUND ELEVATIONS AT NOISE BARRIER R/L

PROPOSED GROUND ELEVATIONS

685 680 675 670 665 660 655 650

2004NWC	2006NWC	2008NWC	2010NWC	2012NWC
664.7 675.01 664.3 673.75 663.1 672.48 661.9 671.22 660.9 669.95 659.8 669.65 659.0 669.35 658.5 669.35 658.1 668.76 656.1 668.88 654.9 669.00 653.8 669.12 654.6 669.25 655.5 669.37 657.4 669.49 659.4 669.61 659.7 669.74 659.8 669.88 660.0 670.02 660.2 670.16 660.3 670.30 660.5 670.44 660.6 670.58 660.8 670.72 661.0 670.86 661.1 670.88 661.1 670.90 661.0 670.92 660.6 670.94 660.2 671.27 660.9 671.60 661.5 671.94 661.8 672.27				

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-12

DRAWN BY CMF | PLANS CK'D. MG

NOISE BARRIER PLAN & PROFILE 1

SHEET 13 OF 15

2219

FILE NAME : F:\BM1-1726A\HN_11330481EB\0482\N-05-0012\bl_050101_pp.DGN

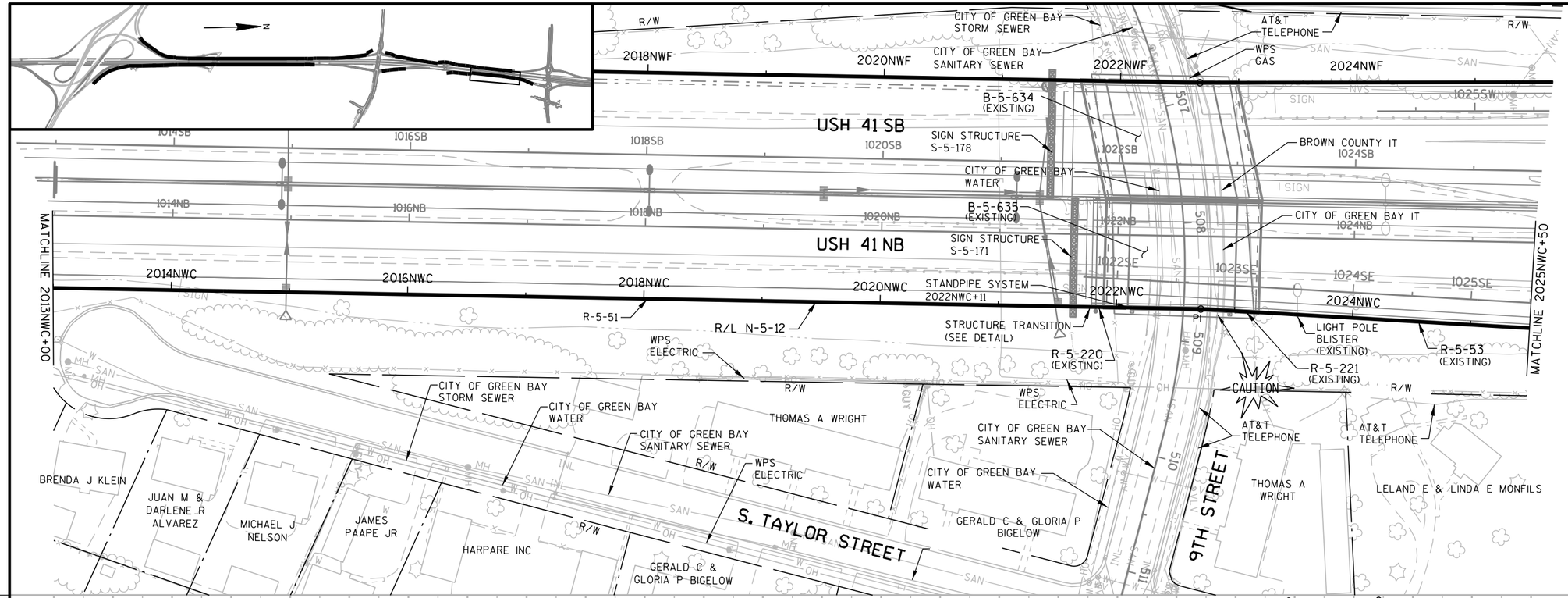
PLOT DATE : 22-JAN-2013 14:24

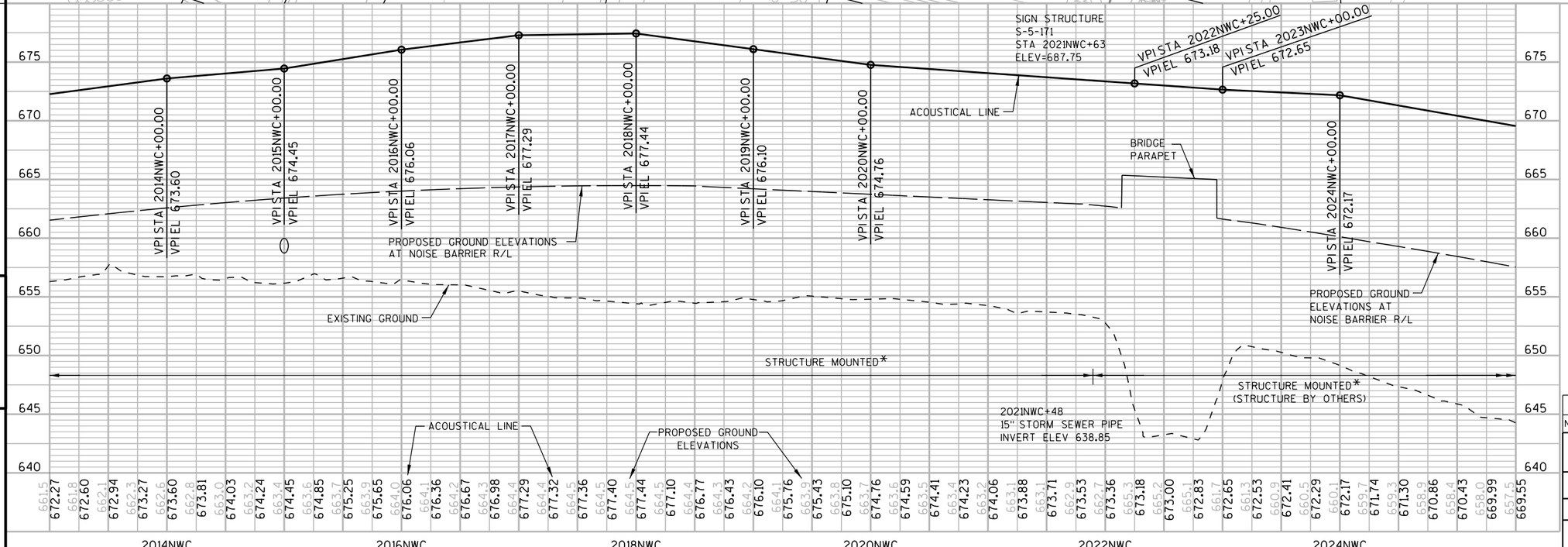
PLOT BY : cfranzen

PLOT NAME :

PLOT SCALE : 100:1

STATE PROJECT NUMBER
1133-03-77





* R-5-51 — STA 2012NWC+96.26 TO STA 2021NWC+89.51

R-5-220 (EXISTING) — STA 2021NWC+89.51 TO STA 2022NWC+08.42

B-5-635 (EXISTING) — STA 2022NWC+08.42 TO STA 2023NWC+00.84

R-5-221 (EXISTING) — STA 2023NWC+00.84 TO STA 2023NWC+19.89

R-5-53 (EXISTING) — STA 2023NWC+19.89 TO STA 2032NWC+97.18

SEE STRUCTURE PLANS FOR POST ANCHORAGE LOCATIONS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-12

DRAWN BY CMF | PLANS CK'D. MG

NOISE BARRIER PLAN & PROFILE 2

SHEET 14 OF 15

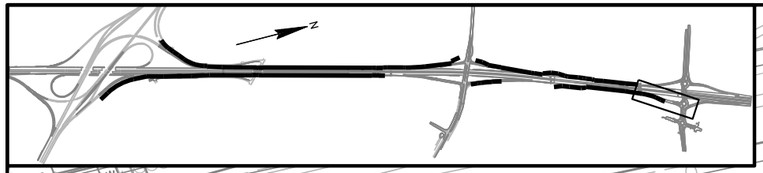
2220

8

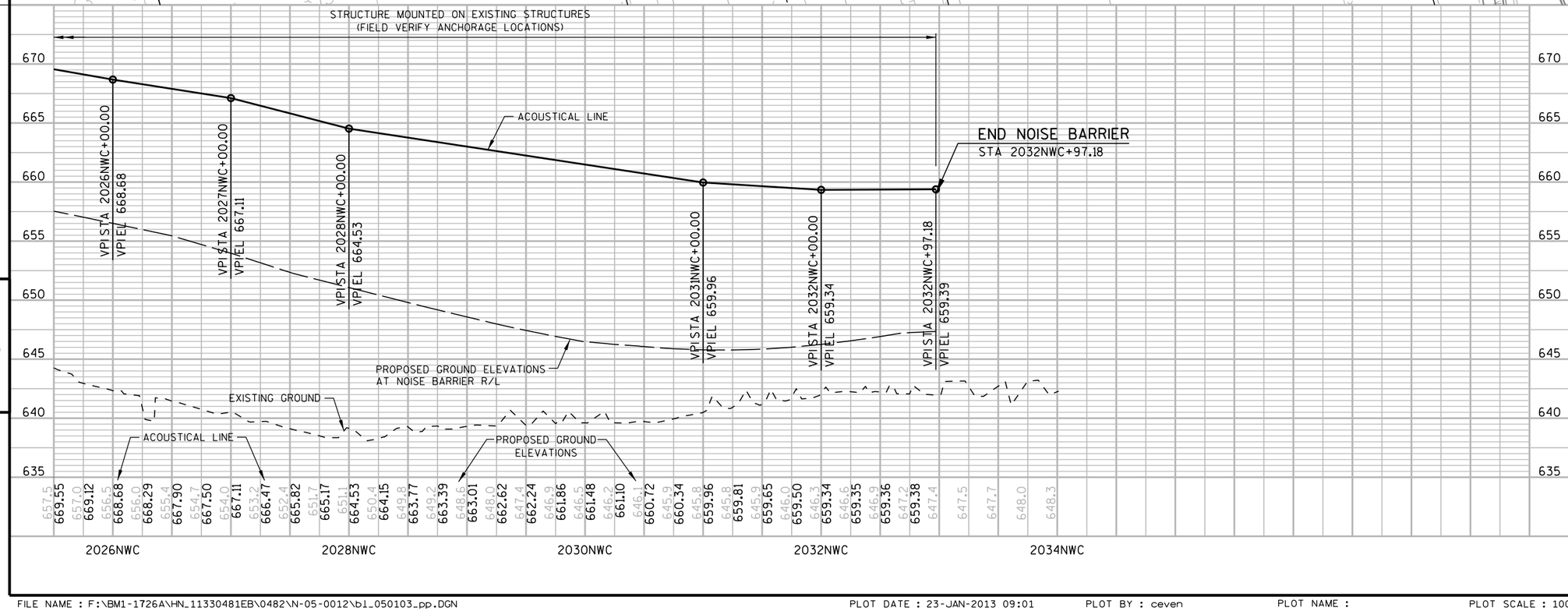
8

FILE NAME : F:\BM1-1726A\HN_11330481EB\0482\N-05-0012\b1_050102_pp.DGN PLOT DATE : 23-JAN-2013 10:55 PLOT BY : ceven PLOT NAME : PLOT SCALE : 100:1

STATE PROJECT NUMBER
1133-03-77



USH 41 SB
USH 41 NB
MASON STREET
RAMP SE
MATCHLINE 2025NWC+50
B-5-688 (EXISTING)
STANDPIPE SYSTEM STA 2029NWC+50
END NOISE BARRIER STA 2032NWC+97.18
CITY OF GREEN BAY WATER
TIME WARNER CABLE TELEVISION
WPS ELECTRIC
LIGHT POLE BLISTER (EXISTING)
R-5-53 (EXISTING)
R/L N-5-12
BEAVER DAM CREEK PRKWY
R/W
AT&T TELEPHONE
LELAND E & LINDA E MONFILS
GERALD C & GLORIA P BIGELOW
THOMAS A WRIGHT
SUAMICO INVESTMENT LTD PARTNERSHIP
CC GREEN BAY 98 LLC
2026NWC
2027NWC
2028NWC
2029NWC
2030NWC
2031NWC
2032NWC
2033NWC
2034NWC



* R-5-53 (EXISTING) STA 2023NWC+19.89 TO STA 2032NWC+97.18

SEE STRUCTURE PLANS FOR POST ANCHORAGE LOCATIONS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-12

DRAWN BY CMF | PLANS CK'D. MG

NOISE BARRIER PLAN & PROFILE 3

SHEET 15 OF 15

2221

8

8

FILE NAME : F:\BM1-1726A\HN_11330481EB\0482\N-05-0012\b1_050103_pp.DGN
PLOT DATE : 23-JAN-2013 09:01
PLOT BY : ceven
PLOT NAME :
PLOT SCALE : 100:1

STATE PROJECT NUMBER

1133-03-77

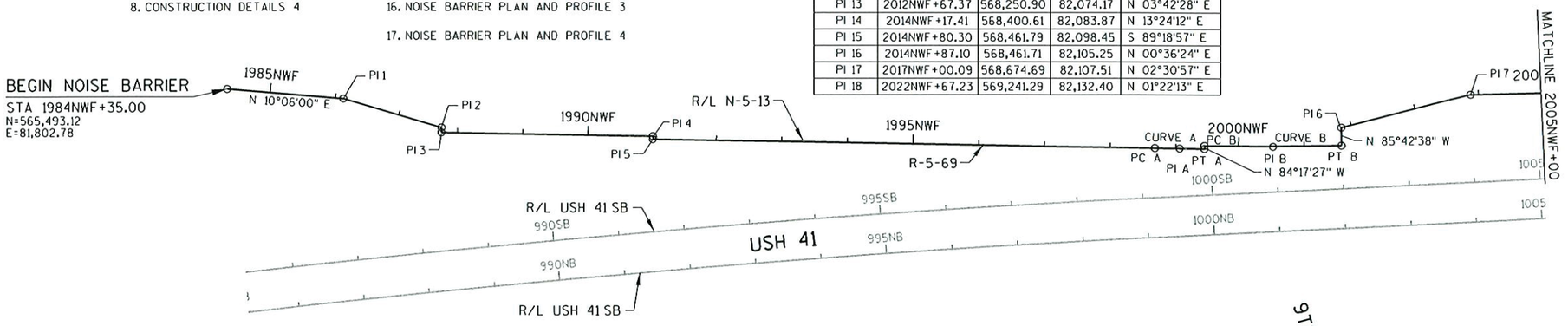
LIST OF DRAWINGS

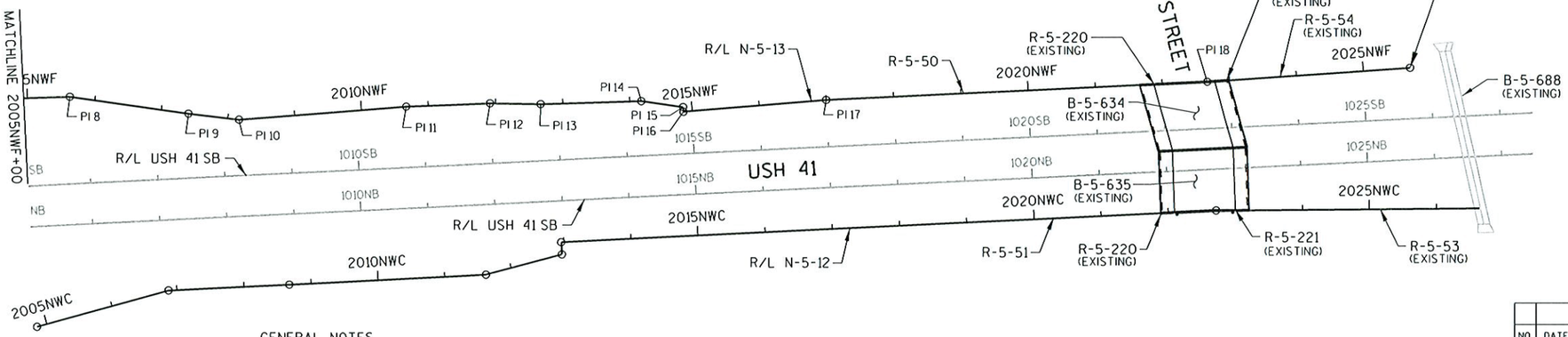
1. GENERAL PLAN
2. QUANTITIES AND AESTHETIC DETAILS
3. AESTHETIC DETAILS
4. CONNECTION DETAILS
5. CONSTRUCTION DETAILS 1
6. CONSTRUCTION DETAILS 2
7. CONSTRUCTION DETAILS 3
8. CONSTRUCTION DETAILS 4
9. CONSTRUCTION DETAILS 5
10. SUBSURFACE EXPLORATION 1
11. SUBSURFACE EXPLORATION 2
12. SUBSURFACE EXPLORATION 3
13. SUBSURFACE EXPLORATION 4
14. NOISE BARRIER PLAN AND PROFILE 1
15. NOISE BARRIER PLAN AND PROFILE 2
16. NOISE BARRIER PLAN AND PROFILE 3
17. NOISE BARRIER PLAN AND PROFILE 4

PI NO.	PI STA	NORTHING	EASTING	EXIT BEARING
PI 1	1986NWF+11.98	565,667.36	81,833.82	N 21°41'38" E
PI 2	1987NWF+68.25	565,812.56	81,891.58	S 83°40'12" E
PI 3	1987NWF+75.73	565,811.73	81,899.02	N 06°19'48" E
PI 4	1990NWF+98.93	566,132.93	81,934.65	S 83°40'12" E
PI 5	1991NWF+03.48	566,132.45	81,939.18	N 06°19'48" E
PI 6	2001NWF+84.64	567,178.21	82,017.91	N 08°51'56" W
PI 7	2003NWF+87.79	567,378.94	81,986.60	N 03°48'60" E
PI 8	2005NWF+62.80	567,553.56	81,998.25	N 13°27'59" E
PI 9	2007NWF+41.04	567,726.89	82,039.75	N 12°01'58" E
PI 10	2008NWF+17.09	567,801.28	82,055.61	N 00°48'40" E
PI 11	2010NWF+67.20	568,051.36	82,059.15	N 03°07'02" E
PI 12	2011NWF+92.21	568,176.19	82,065.95	N 06°16'52" E
PI 13	2012NWF+67.37	568,250.90	82,074.17	N 03°42'28" E
PI 14	2014NWF+17.41	568,400.61	82,083.87	N 13°24'12" E
PI 15	2014NWF+80.30	568,461.79	82,098.45	S 89°18'57" E
PI 16	2014NWF+87.10	568,461.71	82,105.25	N 00°36'24" E
PI 17	2017NWF+00.09	568,674.69	82,107.51	N 02°30'57" E
PI 18	2022NWF+67.23	569,241.29	82,132.40	N 01°22'13" E

CURVE A
PI = 1999NWF+05.82
N = 566929.90
E = 82027.64
Δ = 0°32'24"
D = 0°43'01"
R = 7990.55
T = 37.65
L = 75.30
E = 0.09
PC = 1998NWF+68.17
N = 566892.48
E = 82023.49
PT = 1999NWF+43.47
N = 566967.36
E = 82031.44

CURVE B
PI = 2000NWF+52.61
N = 567071.87
E = 82037.46
Δ = 1°30'02"
D = 0°43'03"
R = 7986.00
T = 104.59
L = 209.16
E = 0.68
PC = 1999NWF+48.03
N = 566967.82
E = 82026.91
PT = 2001NWF+57.18
N = 567176.16
E = 82045.29





GENERAL NOTES

1) DRAWINGS SHALL NOT BE SCALED.

2) THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS AND SHOP DRAWINGS FOR THE NOISE BARRIER IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE NOISE BARRIER MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-13".

3) PLANS, ELEVATIONS AND DETAILS SHOWN ARE INTENDED TO INDICATE LOCATIONS, LENGTHS, HEIGHTS AND DETAILS COMMON TO THE SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

4) THE NOISE BARRIER IS TO BE DESIGNED USING THE PROPOSED GROUND ELEVATION AT NOISE BARRIER R/L AND ACOUSTICAL LINE SHOWN.

5) ALL NOISE BARRIERS SHALL BE DESIGNED IN ACCORDANCE WITH THE 1989 GUIDE SPECIFICATIONS FOR STRUCTURAL DESIGN OF SOUND BARRIERS, INCLUDING THE 1992 AND 2002 INTERIM'S BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS.

6) THE FOLLOWING DESIGN WIND PRESSURES SHALL BE USED IN ACCORDANCE WITH THE SPECIAL PROVISIONS:
32 P.S.F. FOR GROUND MOUNTED BARRIERS
42 P.S.F. FOR STRUCTURE MOUNTED BARRIERS

7) MAXIMUM UNIT WEIGHT OF STRUCTURE MOUNTED NOISE BARRIER 50 P.S.F.

8) NOISE BARRIERS MOUNTED ON RETAINING WALLS REQUIRE THE COMPLETE ROADWAY PAVEMENT STRUCTURE (OR EQUIVALENT EARTH FILL) OVER THE TOP OF THE MOMENT SLAB TO RESIST DESIGN WIND PRESSURE. LIMIT ERECTION OF PANELS TO 2/3 THE HEIGHT OF THE ACOUSTICAL LINE PRIOR TO PLACEMENT OF PAVEMENT.

9) INCLUDE THE COST OF THE COATING OF STEEL POSTS AND CONNECTIONS UNDER THE BID ITEM "NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-13"

10) A PORTION OF THE NOISE BARRIER WILL BE MOUNTED ON STRUCTURES. SEE STRUCTURE PLANS R-5-50, AND R-5-69 FOR NOISE BARRIER ANCHORAGE DETAILS AND LOCATIONS.

11) STRUCTURE PLANS R-5-220, R-5-221, B-5-634 AND R-5-54 AVAILABLE UPON REQUEST FROM WISDOT. CONTRACTOR TO FIELD VERIFY EXACT LOCATIONS & ELEVATIONS OF EXISTING NOISE BARRIER POST ANCHORAGES PRIOR TO SUBMITTING SHOP DRAWINGS

STRUCTURES DESIGN CONTACTS

BUREAU OF STRUCTURES:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
MICHELLE GARRIGAN (920) 347-0850

WISCONSIN
MICHELLE M. GARRIGAN
E-31966
GREEN BAY, WIS.
PROFESSIONAL ENGINEER
1-31-13

NO.	DATE	REVISION	BY

BLOOM COMPANIES, LLC
Infrastructure Innovation and Ingenuity
3049 Ramada Way • Green Bay, WI 54304
Phone: (920) 347-0850 Fax: (920) 347-0851

ACCEPTED William C. Dreher SAR — CHIEF STRUCTURES DESIGN ENGINEER — 04/03/13 DATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE N-5-13

USH 41 SB, LOMBARDI AVE TO MASON ST

COUNTY	VILLAGE
BROWN	ASHWAUBENON

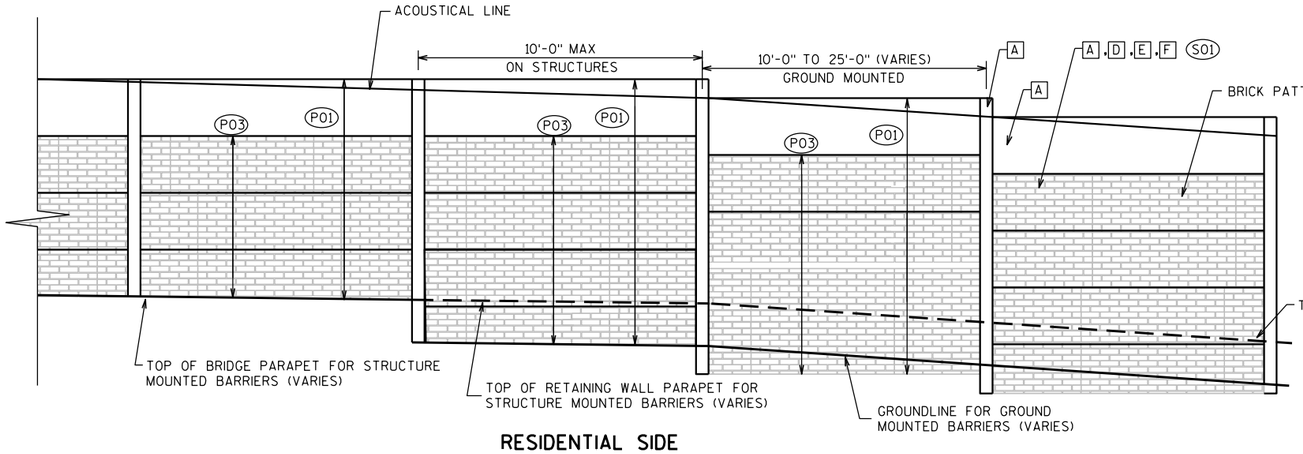
DESIGN SPEC. AASHTO STD SPECS 2002 LOAD N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CE	AS	CMF	MG

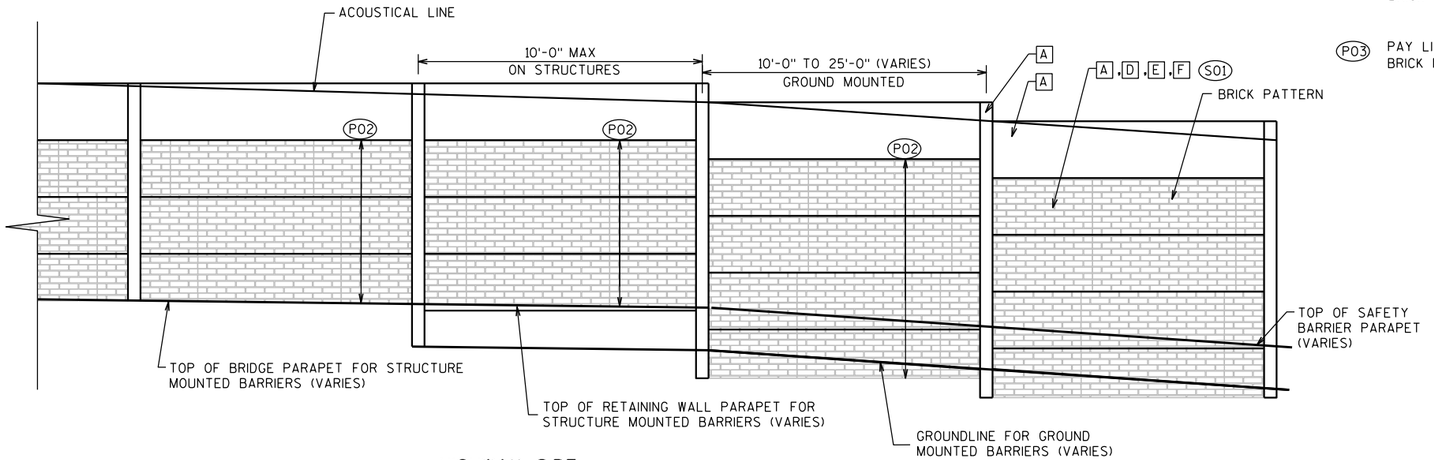
GENERAL PLAN

SHEET 1 OF 17

STATE PROJECT NUMBER
1133-03-77



RESIDENTIAL SIDE



HIGHWAY SIDE

S01 STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF BASE COLOR A INCIDENTAL TO NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE). APPLICATION OF ACCENT COLORS D, E, & F AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

P01 PAY LIMITS OF NOISE BARRIER SINGLE SIDED SOUND ABSORPTIVE (STRUCTURE) (SOUND ABSORPTIVE MATERIAL FACES HIGHWAY)

P02 PAY LIMITS OF STAINING CONCRETE BRICK FOR HIGHWAY SIDE

P03 PAY LIMITS OF STAINING CONCRETE BRICK FOR RESIDENTIAL SIDE

TOTAL ESTIMATE OF QUANTITIES

BID ITEM NO.	BID ITEM	UNIT	TOTAL
531.0200.S.905	NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-13	SF	55,000
SPV.0060.900	FIRE DEPARTMENT CONNECTORS	EACH	2
SPV.0060.901	STANDPIPE SYSTEM	EACH	3
SPV.0060.903	FIRE HYDRANT SIGN MOUNTING	EACH	4
SPV.0165.502	STAINING CONCRETE BRICK	SF	114,000
SPV.0165.901	COMBINATION RETAINING WALLS AND NOISE BARRIERS SINGLE-SIDED SOUND ABSORPTIVE N-5-13	SF	18,000

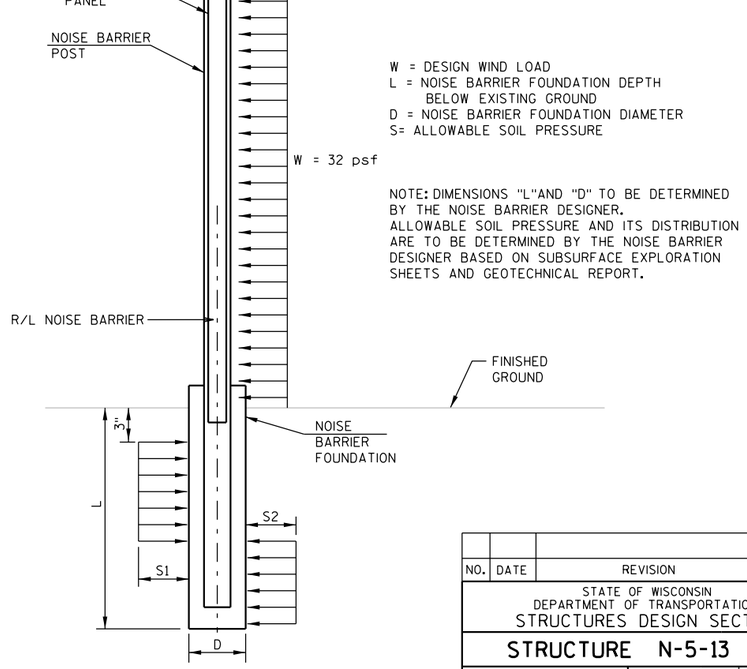
CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
~~B~~	~~ACCENT COLOR #1~~	~~REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS~~
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~

NOTES

1) STEP PANELS A MINIMUM OF 1' AND A MAXIMUM OF 3'. WHEN MORE THAN ONE PANEL MUST STEP CONSECUTIVELY, KEEP THE STEP INCREMENT THE SAME FOR EACH SEGMENT OF STEPPING PANELS.

2) ADJUST VERTICAL PLACEMENT OF PANELS TO MAXIMIZE HORIZONTAL RUNS, KEEPING THE TOP OF PANELS AT THE SAME ELEVATION.



GROUND MOUNTED NOISE BARRIER LOADING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-13

DRAWN BY CMF | PLANS CK'D. MG

QUANTITIES AND AESTHETIC DETAILS

SHEET 2 OF 17

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8

8

STATE PROJECT NUMBER
1133-03-77

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
~~B~~	~~ACCENT COLOR #1~~	~~REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS~~
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~

NOTES

1) STEP PANELS A MINIMUM OF 1' AND A MAXIMUM OF 3'. WHEN MORE THAN ONE PANEL MUST STEP, KEEP THE STEP INCREMENT THE SAME FOR EACH SEGMENT OF STEPPING PANELS.

2) ADJUST VERTICAL PLACEMENT OF PANELS TO MAXIMIZE HORIZONTAL RUNS, KEEPING THE TOP OF PANELS AT THE SAME ELEVATION.

(S01) STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF BASE COLOR A INCIDENTAL TO NOISE BARRIER SINGLE SIDED SOUND ABSORPTIVE (STRUCTURE). APPLICATION OF ACCENT COLORS D, E, & F AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

(P01) PAY LIMITS OF COMBINATION BARRIER

(P02) PAY LIMITS OF STAINING CONCRETE BRICK FOR HIGHWAY SIDE

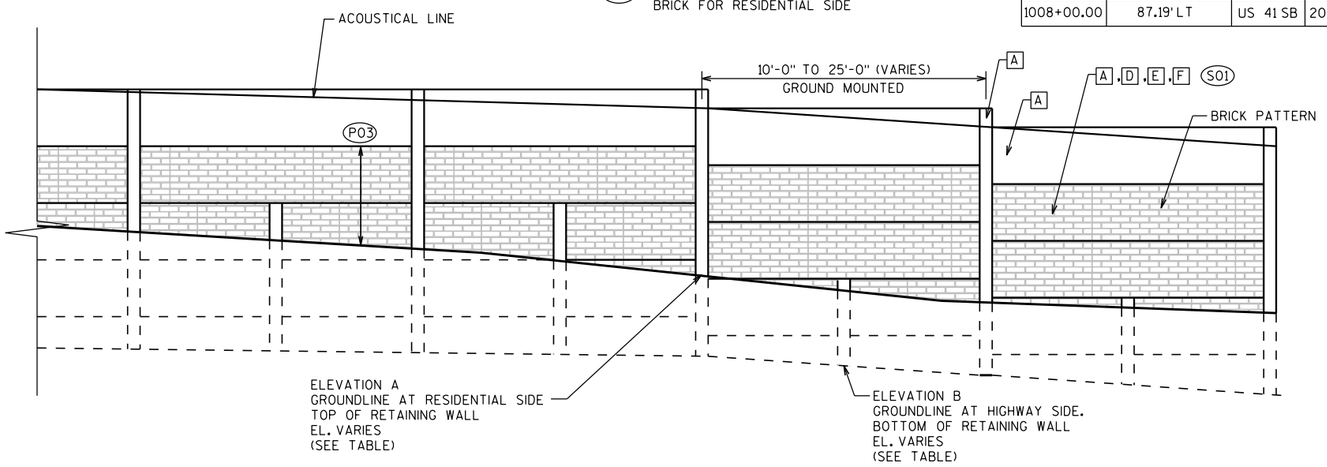
(P03) PAY LIMITS OF STAINING CONCRETE BRICK FOR RESIDENTIAL SIDE

GEOMETRY TABLE

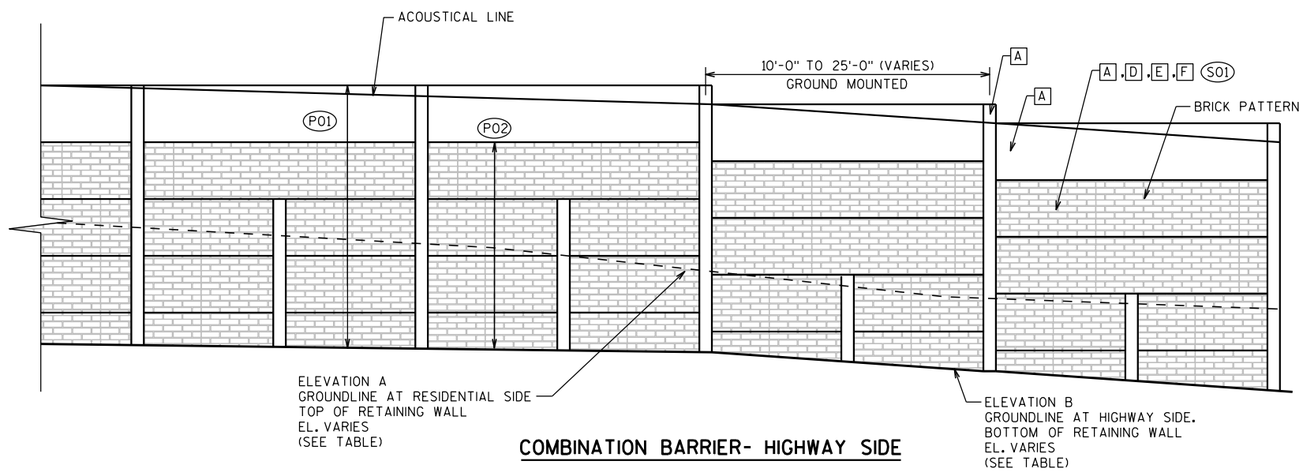
ROADWAY STATION	OFFSET TO REF LINE COMBINATION BARRIER	ROADWAY REF. LINE	NOISE BARRIER STATION	ELEV. A	ELEV. B
1005+00.00	131.08' LT	US 41 SB	2004NWF+87.75	665.73	665.73
1005+25.00	130.51' LT	US 41 SB	2005NWF+12.76	667.32	665.76
1005+50.00	129.95' LT	US 41 SB	2005NWF+37.76	667.06	665.78
1005+75.00	129.38' LT	US 41 SB	2005NWF+62.80	666.80	665.81
1006+00.00	124.62' LT	US 41 SB	2005NWF+88.23	664.98	664.13
1006+25.00	119.78' LT	US 41 SB	2006NWF+13.70	663.16	662.44
1006+50.00	114.94' LT	US 41 SB	2006NWF+39.16	662.60	660.76
1006+75.00	110.10' LT	US 41 SB	2006NWF+64.62	662.05	659.08
1007+00.00	105.27' LT	US 41 SB	2006NWF+90.09	661.49	657.40
1007+25.00	100.43' LT	US 41 SB	2007NWF+15.55	660.43	655.72
1007+50.00	95.59' LT	US 41 SB	2007NWF+41.02	659.07	654.04
1007+75.00	91.38' LT	US 41 SB	2007NWF+66.36	656.98	656.28
1008+00.00	87.19' LT	US 41 SB	2007NWF+91.71	654.90	654.90

GEOMETRY TABLE

ROADWAY STATION	OFFSET TO REF LINE COMBINATION BARRIER	ROADWAY REF. LINE	NOISE BARRIER STATION	ELEV. A	ELEV. B
1008+50.00	83.69' LT	US 41 SB	2008NWF+42.07	654.09	654.09
1008+75.00	84.44' LT	US 41 SB	2008NWF+67.08	655.25	654.68
1009+00.00	85.18' LT	US 41 SB	2008NWF+92.10	656.42	655.26
1009+25.00	85.92' LT	US 41 SB	2009NWF+17.11	657.58	655.85
1009+50.00	86.67' LT	US 41 SB	2009NWF+42.12	658.74	656.43
1009+75.00	87.41' LT	US 41 SB	2009NWF+67.13	660.15	657.02
1010+00.00	88.16' LT	US 41 SB	2009NWF+92.14	661.55	657.60
1010+25.00	88.90' LT	US 41 SB	2010NWF+17.15	662.96	658.19
1010+50.00	89.64' LT	US 41 SB	2010NWF+42.16	663.81	658.77
1010+75.00	90.39' LT	US 41 SB	2010NWF+67.17	664.53	659.35
1011+00.00	90.12' LT	US 41 SB	2010NWF+92.17	665.24	659.54
1011+25.00	89.86' LT	US 41 SB	2011NWF+17.18	664.93	659.72
1011+50.00	89.60' LT	US 41 SB	2011NWF+42.18	664.62	659.91
1011+75.00	89.34' LT	US 41 SB	2011NWF+67.18	664.30	660.09
1012+00.00	89.07' LT	US 41 SB	2011NWF+92.18	663.99	660.28
1012+25.00	87.44' LT	US 41 SB	2012NWF+17.23	663.68	659.90
1012+50.00	85.79' LT	US 41 SB	2012NWF+42.29	663.55	659.52
1012+75.00	84.15' LT	US 41 SB	2012NWF+67.34	663.43	659.15
1013+00.00	83.62' LT	US 41 SB	2012NWF+92.35	663.30	659.24
1013+25.00	83.10' LT	US 41 SB	2013NWF+17.35	663.18	659.33
1013+50.00	82.58' LT	US 41 SB	2013NWF+42.36	662.99	659.43
1013+75.00	82.06' LT	US 41 SB	2013NWF+67.36	662.80	660.36
1014+00.00	81.54' LT	US 41 SB	2013NWF+92.37	662.62	661.29
1014+07.60	81.38' LT	US 41 SB	2013NWF+99.97	662.56	660.20
1014+25.00	81.02' LT	US 41 SB	2014NWF+17.37	662.43	661.17
1014+50.00	76.28' LT	US 41 SB	2014NWF+42.83	662.24	660.86
1014+75.00	71.47' LT	US 41 SB	2014NWF+68.29	661.89	660.55
1014+87.10	69.15' LT	US 41 SB	2014NWF+87.10	661.73	660.41



COMBINATION BARRIER- RESIDENTIAL SIDE



COMBINATION BARRIER- HIGHWAY SIDE

STA 2004NWF+87.75 TO STA 2007NWF+91.71
STA 2008NWF+42.07 TO STA 2014NWF+87.10

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-13

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AESTHETIC DETAILS

SHEET 3 OF 17

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STATE PROJECT NUMBER
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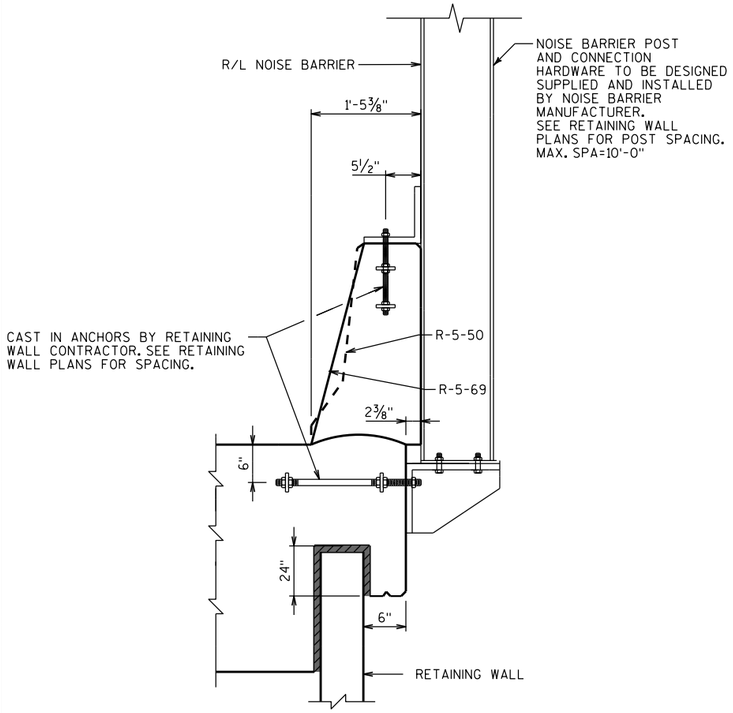
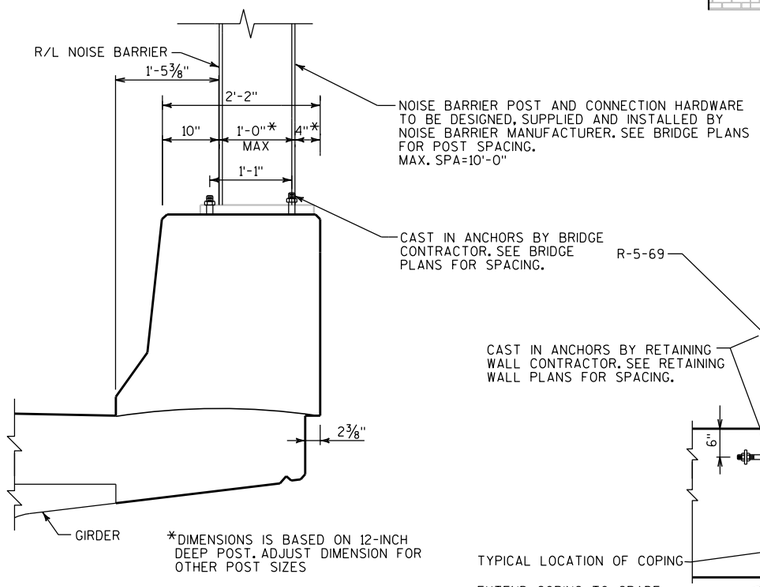


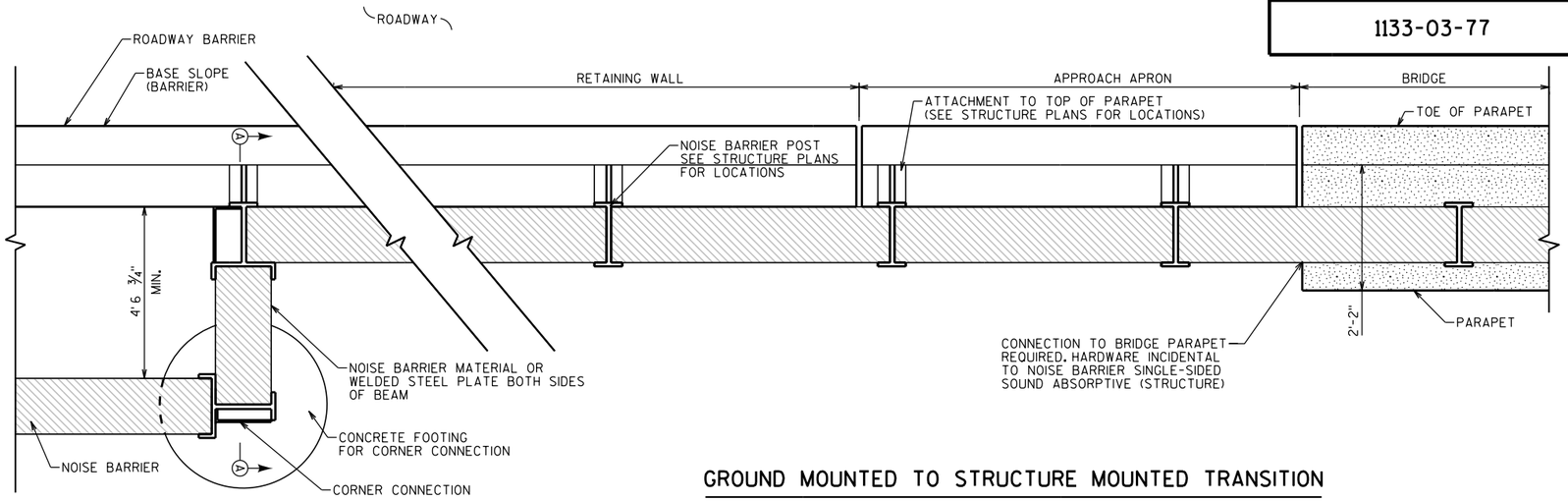
NOISE BARRIER ON RETAINING WALL

SECTION VIEW
TYPICAL AT EACH POST LOCATION



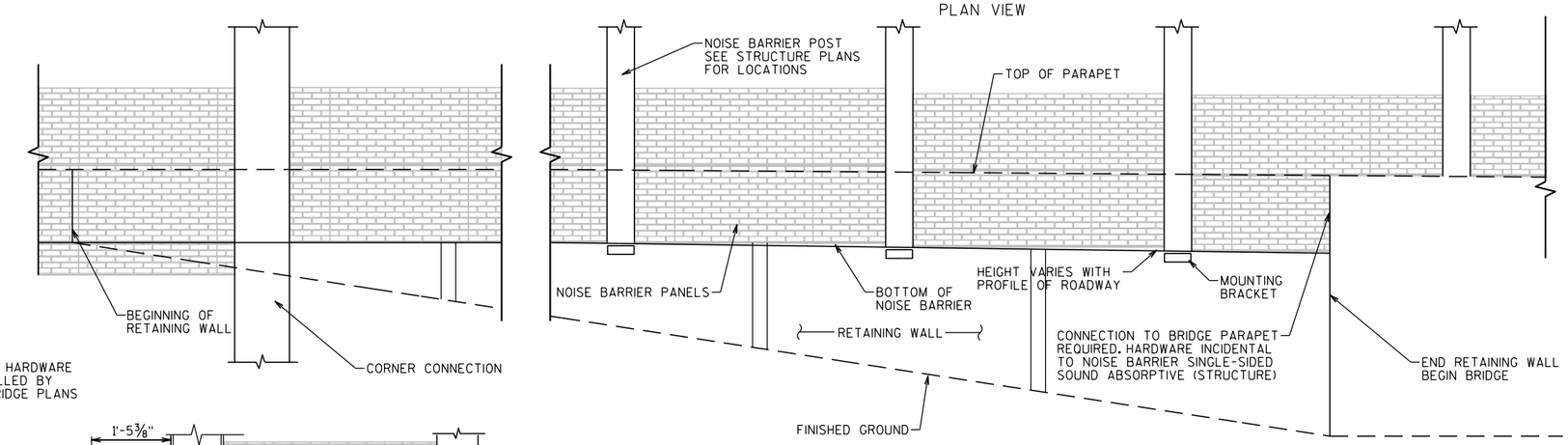
NOISE BARRIER ON BRIDGE PARAPET

SECTION VIEW
TYPICAL AT EACH POST LOCATION



GROUND MOUNTED TO STRUCTURE MOUNTED TRANSITION

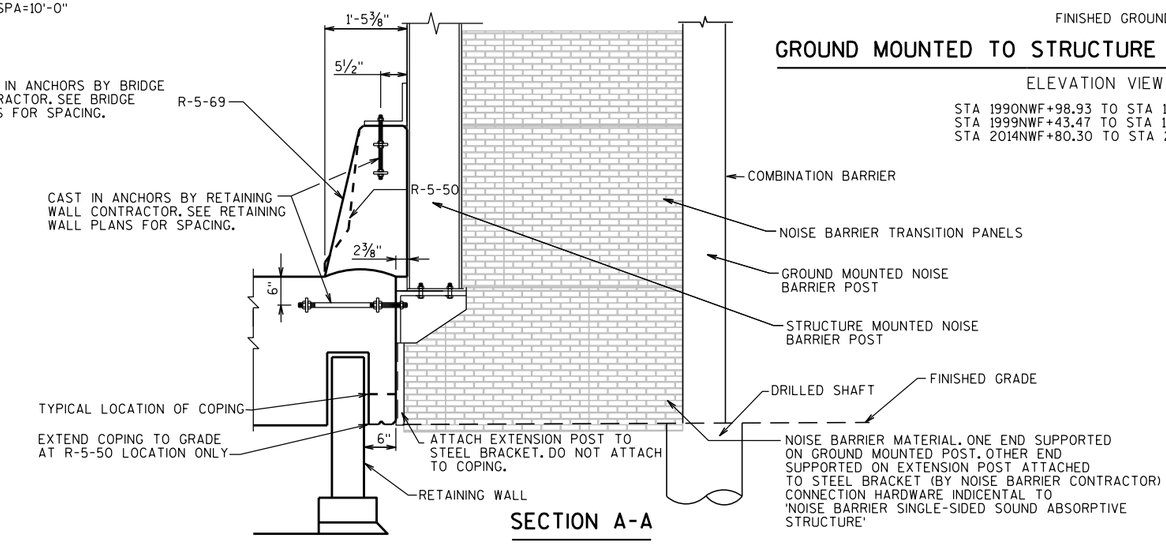
PLAN VIEW



GROUND MOUNTED TO STRUCTURE MOUNTED TRANSITION

ELEVATION VIEW

STA 1990NWF+98.93 TO STA 1991NWF+03.48
STA 1999NWF+43.47 TO STA 1999NWF+48.03
STA 2014NWF+80.30 TO STA 2014NWF+87.10



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-13

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CONNECTION DETAILS

SHEET 4 OF 17

2225

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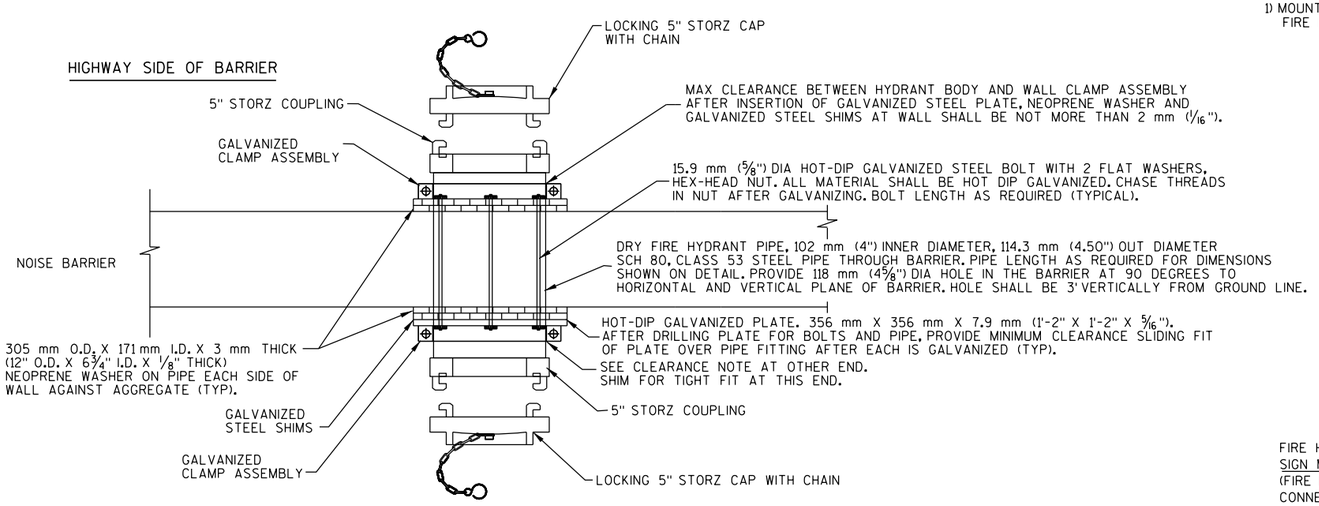


MATERIALS AND SPECIFICATIONS:

STEEL PLATE	ASTM A36-84a
BOLTS	ASTM A30-86a GRADE
PIPE	ASTM A53-84a SEAMLESS GRADE B
GALVANIZING	ASTM A123-84 HOT-DIP FOR STEEL PLATE, ETC. ASTM A153-87 HOT-DIP GALVANIZED CLASS C FOR HARDWARE, BOLTS, ETC.

NOTES

1) TIP CONNECTOR SLIGHTLY TOWARD HIGHWAY SIDE OF WALL TO PROVIDE DRAINAGE.
2) SEE FIRE HYDRANT LOCATION/HOSE ACCESS CONSTRUCTION DETAIL FOR PLACEMENT OF SIGNS

FIRE DEPARTMENT CONNECTOR

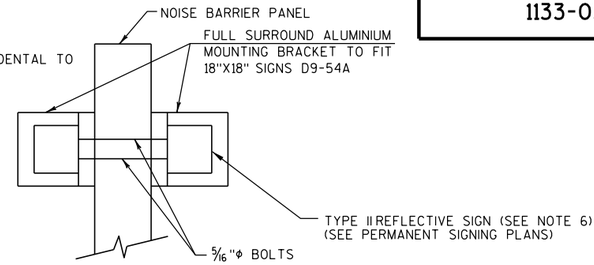
APPROXIMATE STA 1985NWF+50
APPROXIMATE STA 2008NWF+25

NOTES

1) DISTANCE FROM GROUND TO FIRE DEPARTMENT CONNECTOR SHALL BE 3 FEET. DISTANCE FROM TOP OF PARAPET TO STANDPIPE SHALL BE 6 INCHES. THE FIRE DEPARTMENT CONNECTOR SHALL BE CENTERED BETWEEN THE POSTS.
2) 4 5/8" HOLE SHALL BE FORMED IN THE SHOP DURING PANEL FABRICATION.
3) HOLE SHALL NOT BE CLOSER THAN 6" TO ANY EDGE OF THE BARRIER PANEL.
4) STAINLESS STEEL ANCHOR BOLTS OR APPROVED EQUIVALENT. BOLTS INDICENTAL TO SIGN REFLECTIVE TYPE 2.
5) TWO STANDARD SIGNS D9-54 WILL BE FURNISHED PER STATION BY THE ROADWAY CONTRACTOR. ONE SIGN SHALL BE INSTALLED ON EACH SIDE OF THE BARRIER. SIGNS TO BE PAID FOR AS SIGN REFLECTIVE TYPE 2 UNDER ROADWAY ITEMS.
6) STANDARD SIGNS D9-54A WILL BE FURNISHED PER STATION BY THE ROADWAY CONTRACTOR. SIGN SHALL BE ATTACHED TO THE NOISE BARRIER PANEL ON EACH SIDE NEAR THE TOP OF THE BARRIER. SIGNS TO BE PAID FOR AS SIGN REFLECTIVE TYPE 2 UNDER ROADWAY ITEMS. MOUNTING BRACKET TO BE PAID FOR UNDER FIRE HYDRANT SIGN MOUNTING UNDER ROADWAY ITEMS, SEE SPECIAL PROVISIONS.

NOTE

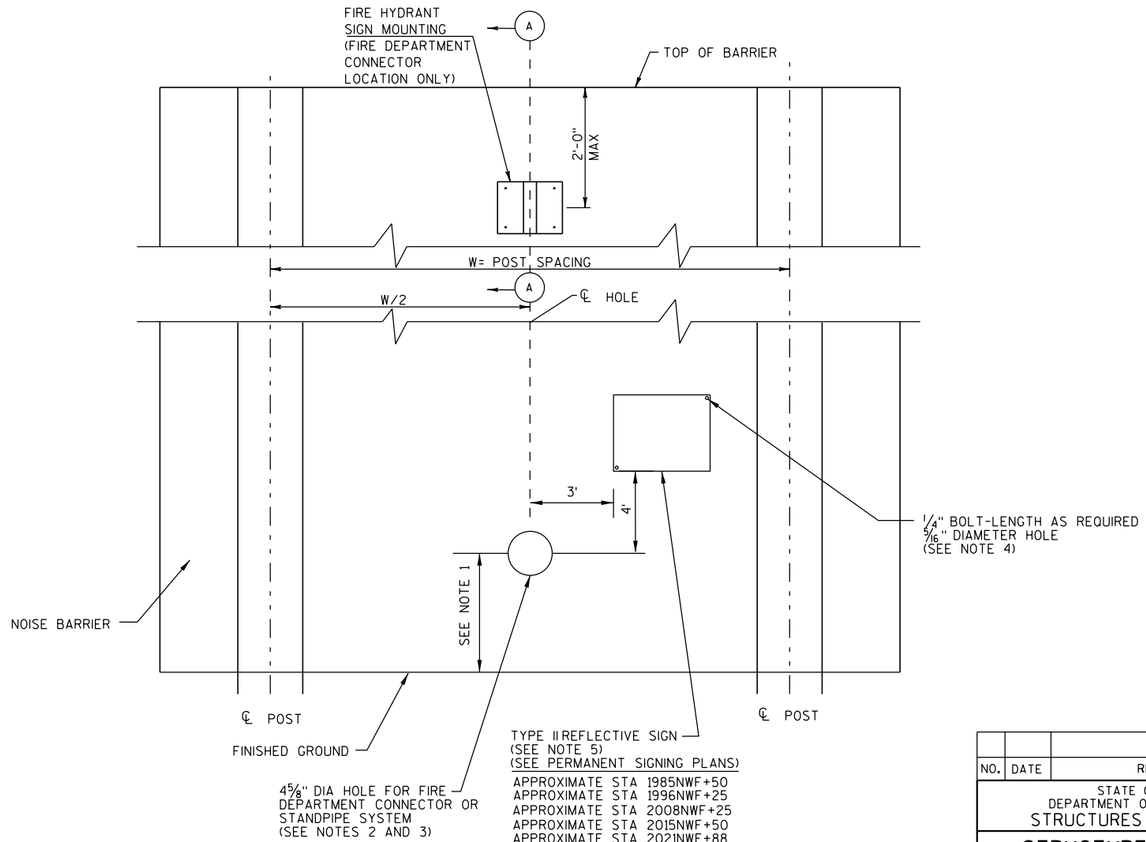
1) MOUNTING BOLTS, BRACKETS, ARE INCIDENTAL TO FIRE HYDRANT SIGN MOUNTING



SECTION A-A

FIRE HYDRANT SIGN MOUNTING

(TYPICAL AT FIRE DEPARTMENT CONNECTOR LOCATIONS)
APPROXIMATE STA 1985NWF+50
APPROXIMATE STA 2008NWF+25



FIRE HYDRANT LOCATION/HOSE ACCESS DETAIL

(TYPICAL AT ALL FIRE HYDRANT PENETRATIONS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-13

DRAWN BY CMF | PLANS CK'D. MG

CONSTRUCTION DETAILS 1

SHEET 5 OF 17

8

8

FILE NAME : F:\BM1-1726A\HN_11330481EB\0482\N-05-0013\bl_021002_cd.DGN
PLOT DATE : 31-JAN-2013 17:12
PLOT BY : cfranzen
PLOT NAME :
PLOT SCALE : 100:1

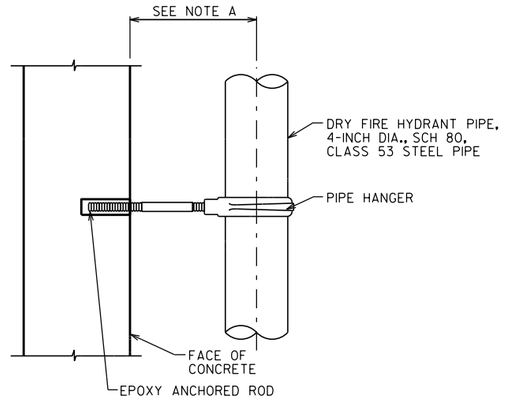
STATE PROJECT NUMBER
1133-03-77

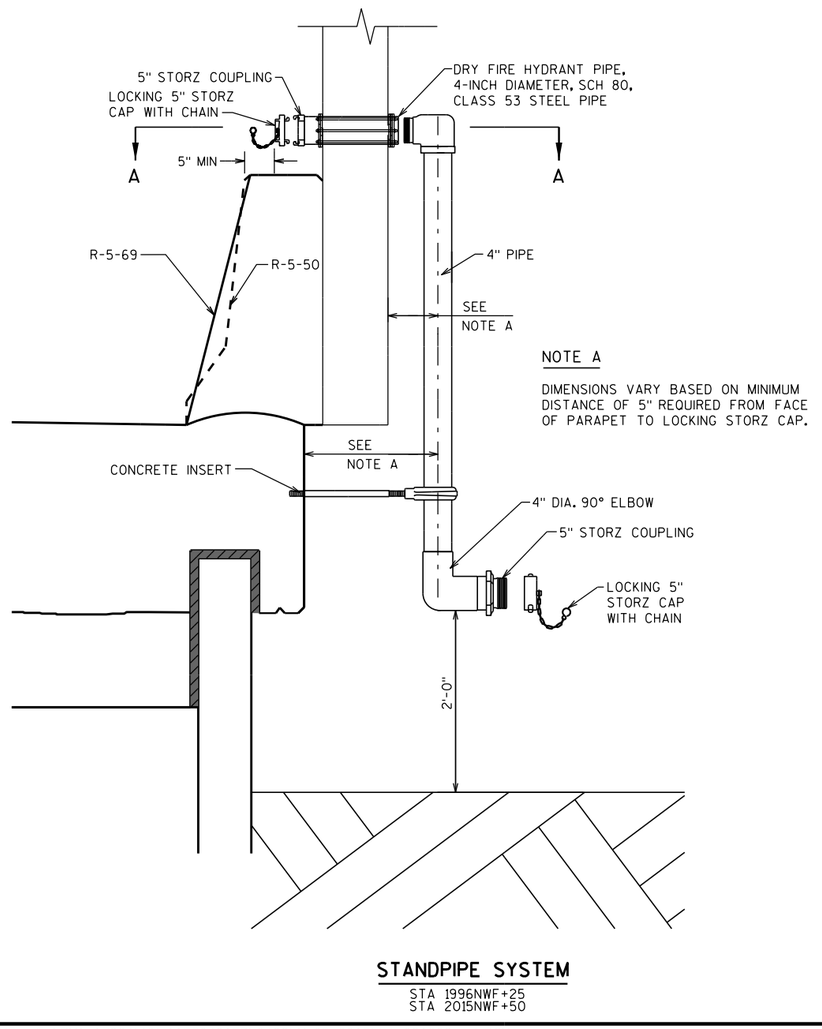
NOTES

PAINT 4" DIA. CLASS 53 STEEL PIPE WITH URETHANE PAINT PER SPV.0060.901 "STANDPIPE SYSTEM." PAINT COLOR TO BE BASKET BEIGE SW 6143.

PIPE, PIPE CLAMPS, HANGERS, ADHESIVE ANCHOR RODS, STORZ COUPLINGS, FITTINGS AND MISC. ITEMS ARE INCIDENTAL TO BID ITEM SPV.0060.901 "STANDPIPE SYSTEM."

PIPE TO BE SUPPORTED AT 8'-0" MAX.



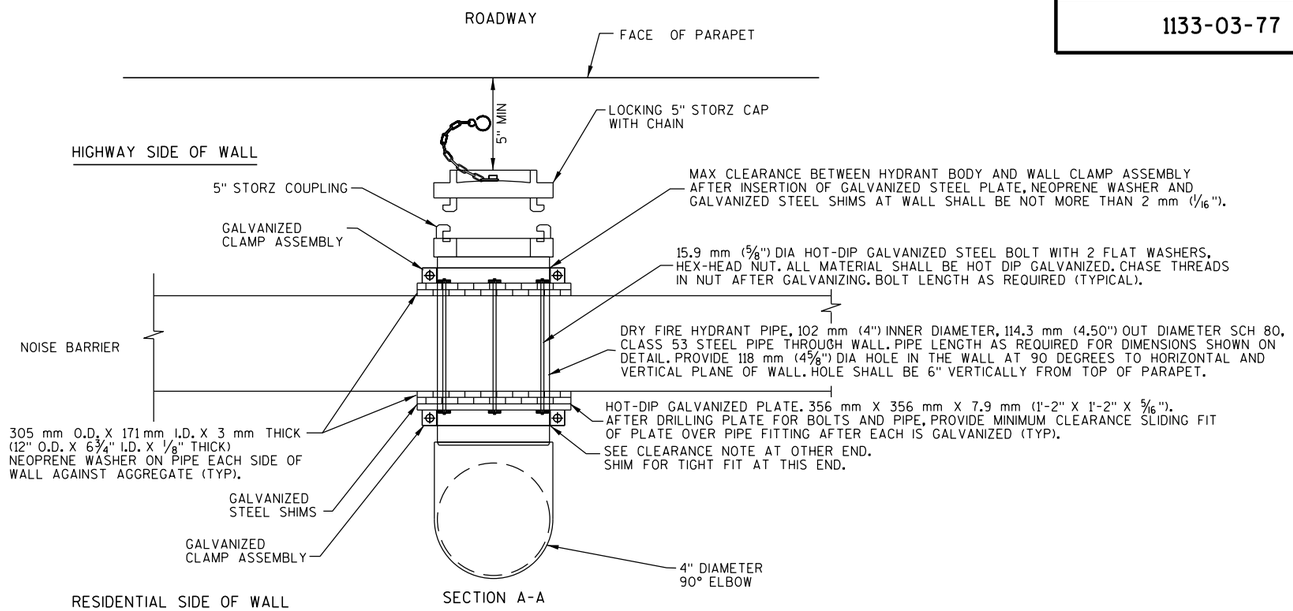


NOTE A

DIMENSIONS VARY BASED ON MINIMUM DISTANCE OF 5" REQUIRED FROM FACE OF PARAPET TO LOCKING STORZ CAP.

STANDPIPE SYSTEM

STA 1996NWF+25
STA 2015NWF+50



SECTION A-A

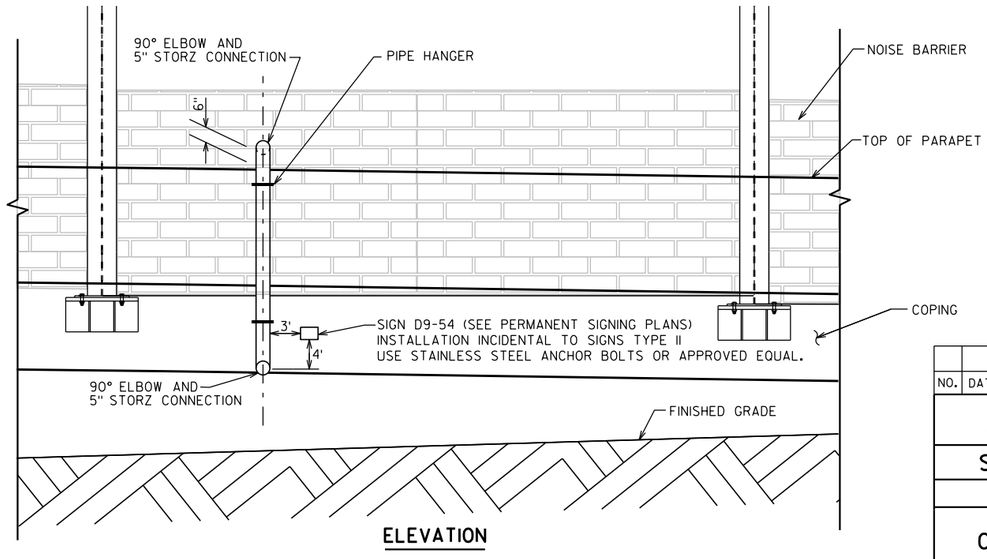
MATERIALS AND SPECIFICATIONS:

STEEL PLATE	ASTM A36-84a
BOLTS	ASTM A30-86a GRADE
PIPE	ASTM A53-84a SEAMLESS GRADE B
GALVANIZING	ASTM A123-84 HOT-DIP FOR STEEL PLATE, ETC.
	ASTM A153-87 HOT-DIP GALVANIZED CLASS C FOR HARDWARE, BOLTS, ETC.

NOTES

1) TIP CONNECTOR SLIGHTLY TOWARD HIGHWAY SIDE OF WALL TO PROVIDE DRAINAGE.

2) SEE FIRE HYDRANT LOCATION/HOSE ACCESS CONSTRUCTION DETAIL FOR PLACEMENT OF SIGNS



ELEVATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-13

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CONSTRUCTION DETAILS 2

SHEET 6 OF 17

2227

8

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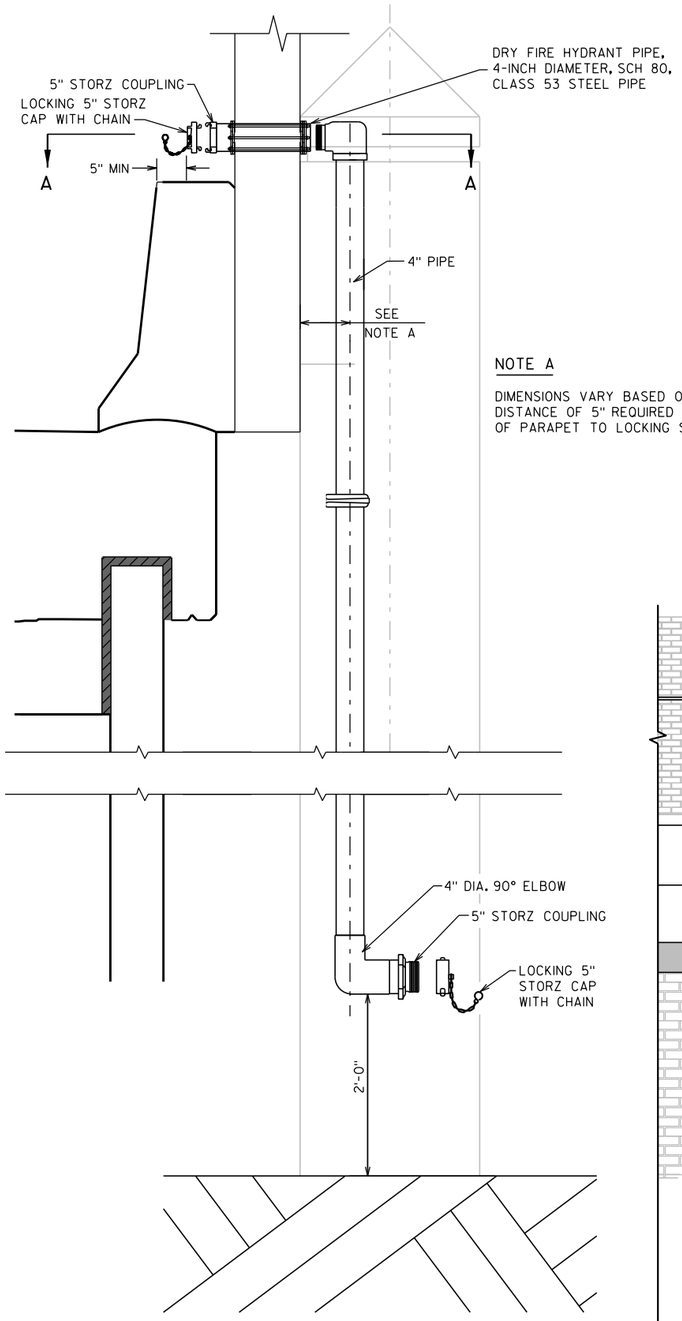
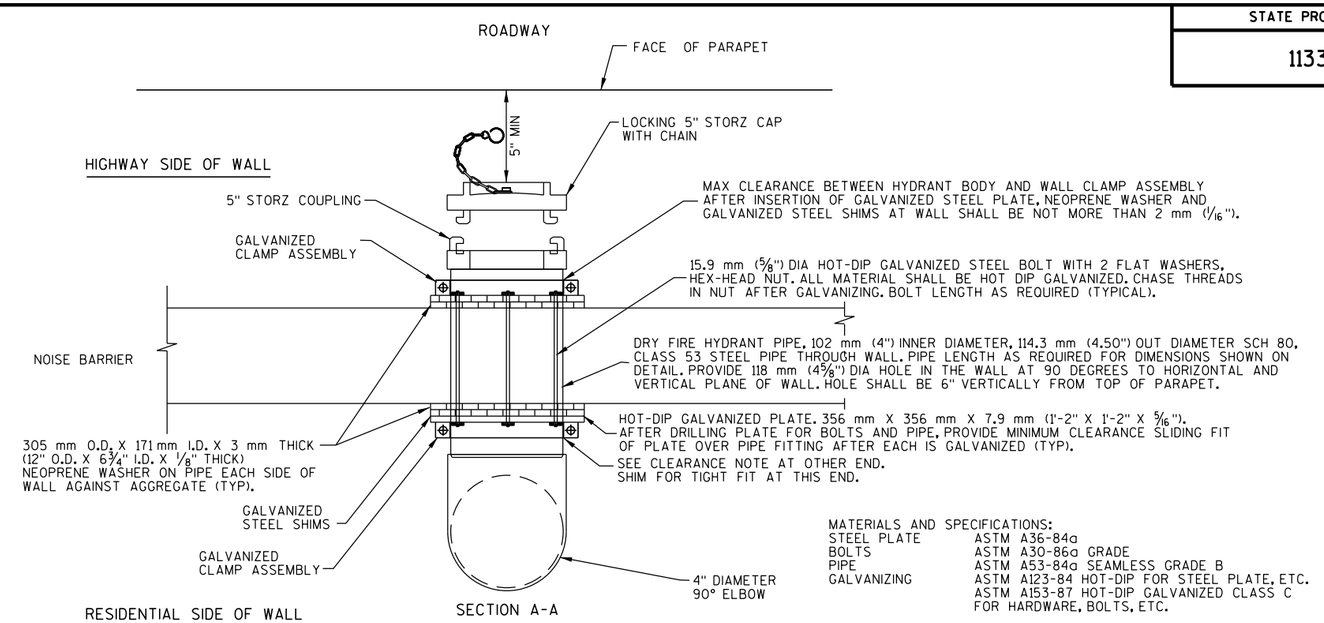
STATE PROJECT NUMBER
1133-03-77



DISCHARGE CONNECTION ELEVATION

NOTE A

DIMENSIONS VARY BASED ON MINIMUM DISTANCE OF 5" REQUIRED FROM FACE OF PARAPET TO LOCKING STORZ CAP.



SECTION A-A

RESIDENTIAL SIDE OF WALL

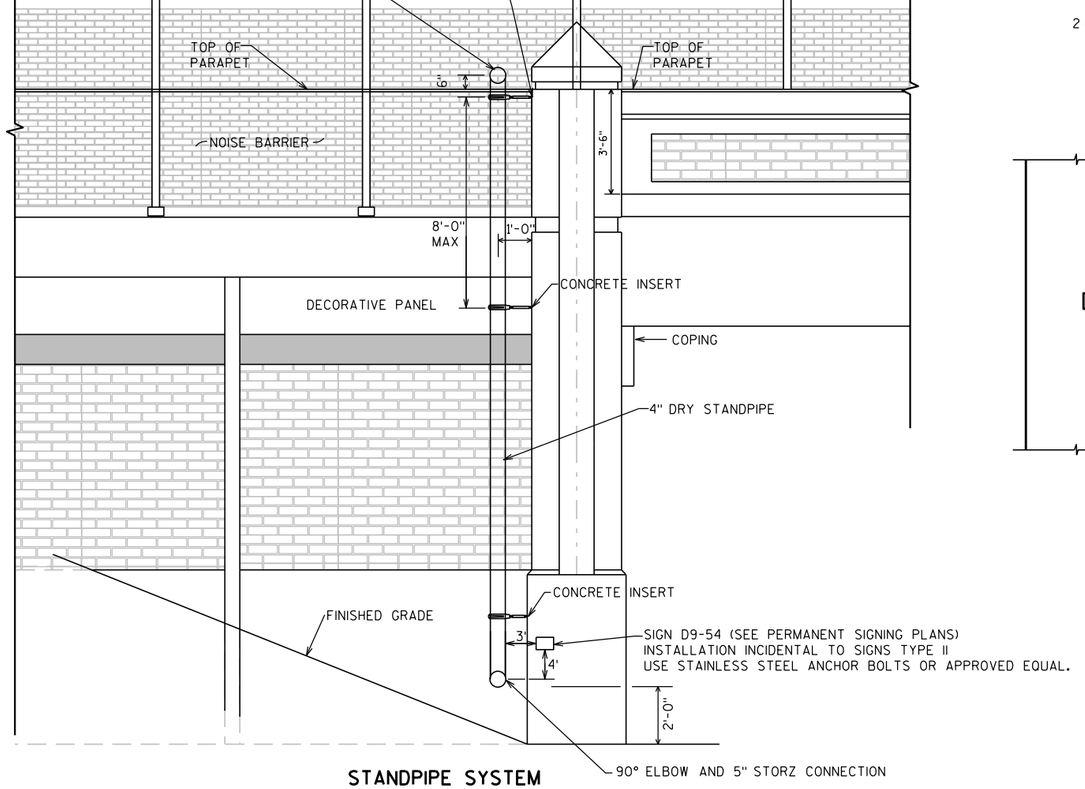
MATERIALS AND SPECIFICATIONS:

STEEL PLATE	ASTM A36-84a
BOLTS	ASTM A30-86a GRADE
PIPE	ASTM A53-84a SEAMLESS GRADE B
GALVANIZING	ASTM A123-84 HOT-DIP FOR STEEL PLATE, ETC. ASTM A153-87 HOT-DIP GALVANIZED CLASS C FOR HARDWARE, BOLTS, ETC.

NOTES

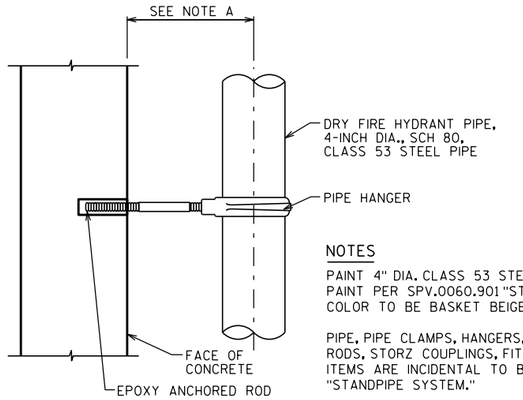
1) TIP CONNECTOR SLIGHTLY TOWARD HIGHWAY SIDE OF WALL TO PROVIDE DRAINAGE.

2) SEE FIRE HYDRANT LOCATION/HOSE ACCESS CONSTRUCTION DETAIL FOR PLACEMENT OF SIGNS



STANDPIPE SYSTEM

STA 2021NWF+88



NOTES

PAINT 4" DIA. CLASS 53 STEEL PIPE WITH URETHANE PAINT PER SPV.0060.901 "STANDPIPE SYSTEM." PAINT COLOR TO BE BASKET BEIGE SW 6143.

PIPE, PIPE CLAMPS, HANGERS, ADHESIVE ANCHOR RODS, STORZ COUPLINGS, FITTINGS AND MISC. ITEMS ARE INCIDENTAL TO BID ITEM SPV.0060.901 "STANDPIPE SYSTEM."

PIPE TO BE SUPPORTED AT 8'-0" MAX.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-13

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CONSTRUCTION DETAILS 3

SHEET 7 OF 17

2228

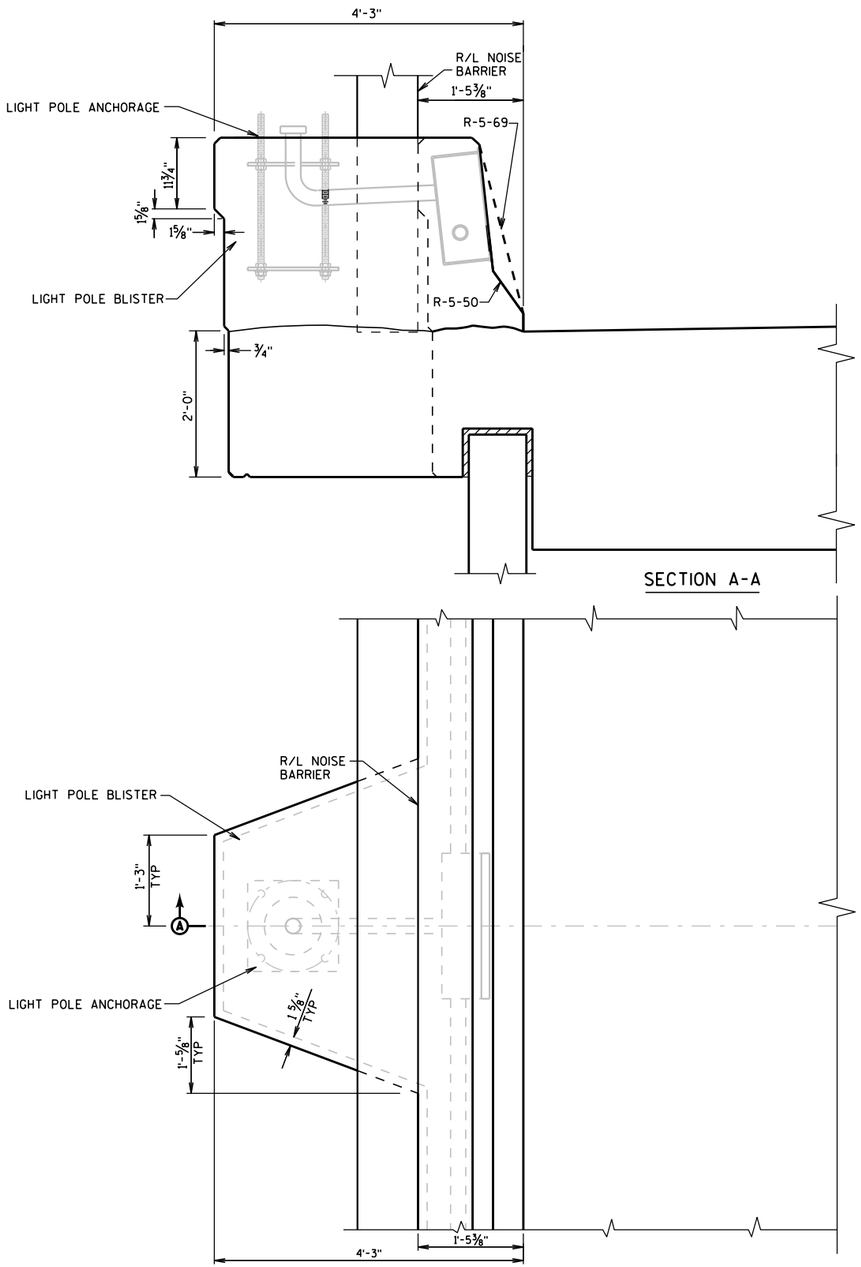
8

8

FILE NAME : F:\BM1-1726A\HN_11330481EB\0482\N-05-0013\b1_021002_cd.DGN PLOT DATE : 31-JAN-2013 17:12 PLOT BY : cfranzen PLOT NAME : PLOT SCALE : 100:1

STATE PROJECT NUMBER

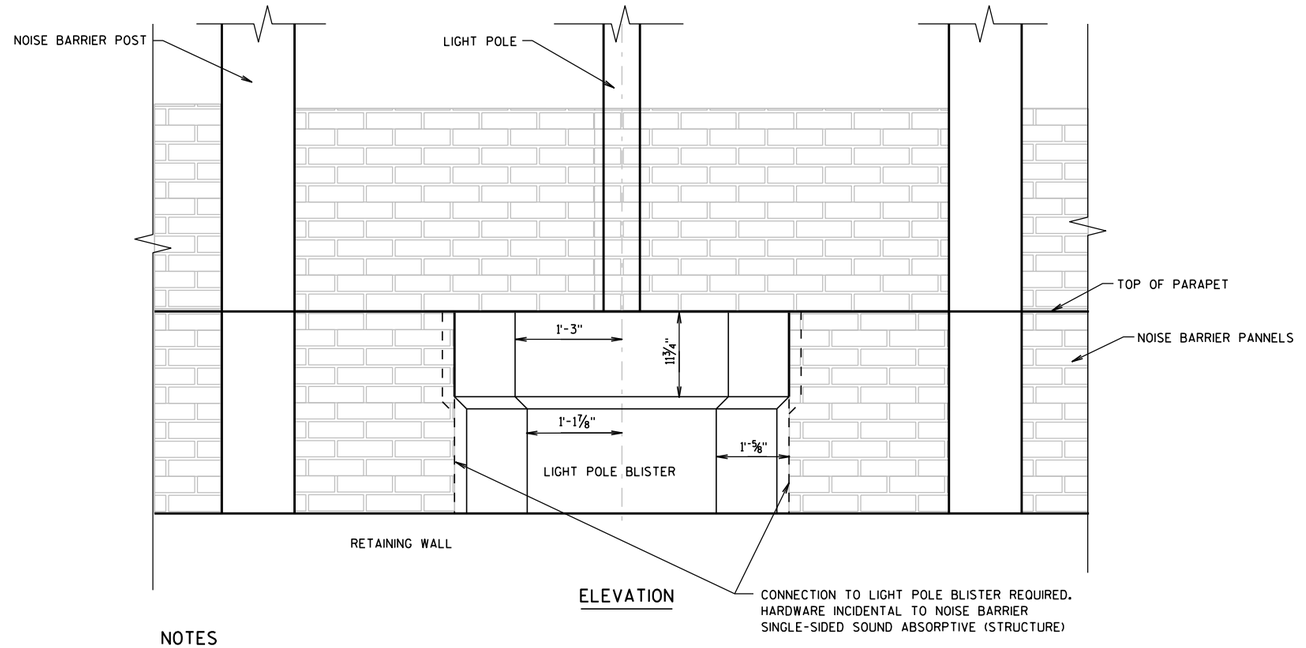
1133-03-77



SECTION A-A

LIGHT POLE BLISTER

APPROXIMATE STA 1991NWF+87
APPROXIMATE STA 1994NWF+17
APPROXIMATE STA 1996NWF+47
APPROXIMATE STA 1998NWF+77
APPROXIMATE STA 2023NWF+08



ELEVATION

NOTES

FIELD VERIFY NOISE BARRIER POST ANCHORAGE LOCATIONS AND LIGHT POLE BLISTER LOCATIONS

CONNECTION TO LIGHT POLE BLISTERS TO BE DESIGNED BY NOISE BARRIER MANUFACTURER. CONNECTION HARDWARE INCIDENTAL TO BID ITEM 'NOISE BARRIERS SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE'

DIMENSIONS FOR INFORMATION ONLY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-13

DRAWN BY CMF | PLANS CK'D. MG

CONSTRUCTION DETAILS 4

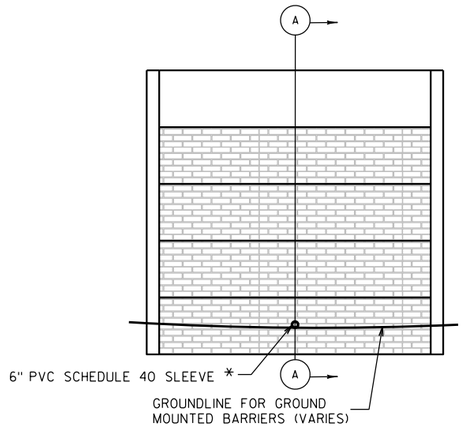
SHEET 8 OF 17

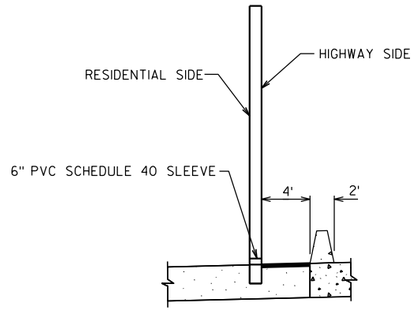
8

8

FILE NAME : F:\BM1-1726A\HN_11330481EB\0482\N-05-0013\b1_021002_cd.DGN PLOT DATE : 31-JAN-2013 17:12 PLOT BY : cfranzen PLOT NAME : PLOT SCALE : 100:1

STATE PROJECT NUMBER
1133-03-77





SECTION A-A

NOTES

1)* WEEP HOLE OPENING AND 6" PVC SCHEDULE 40 SLEEVE ARE INCIDENTAL TO NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE)

2) EXPOXY 6" PVC SCHEDULE 40 SLEEVE INTO BORED WEEP HOLE IN NOISE WALL

3) ENGINEER WILL FIELD VERIFY HEIGHT AND LOCATION OF WEEP HOLE SO THAT THE INVERT IS AT THE LOW POINT

WEEP HOLE

STA 2000NWF+10

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-13

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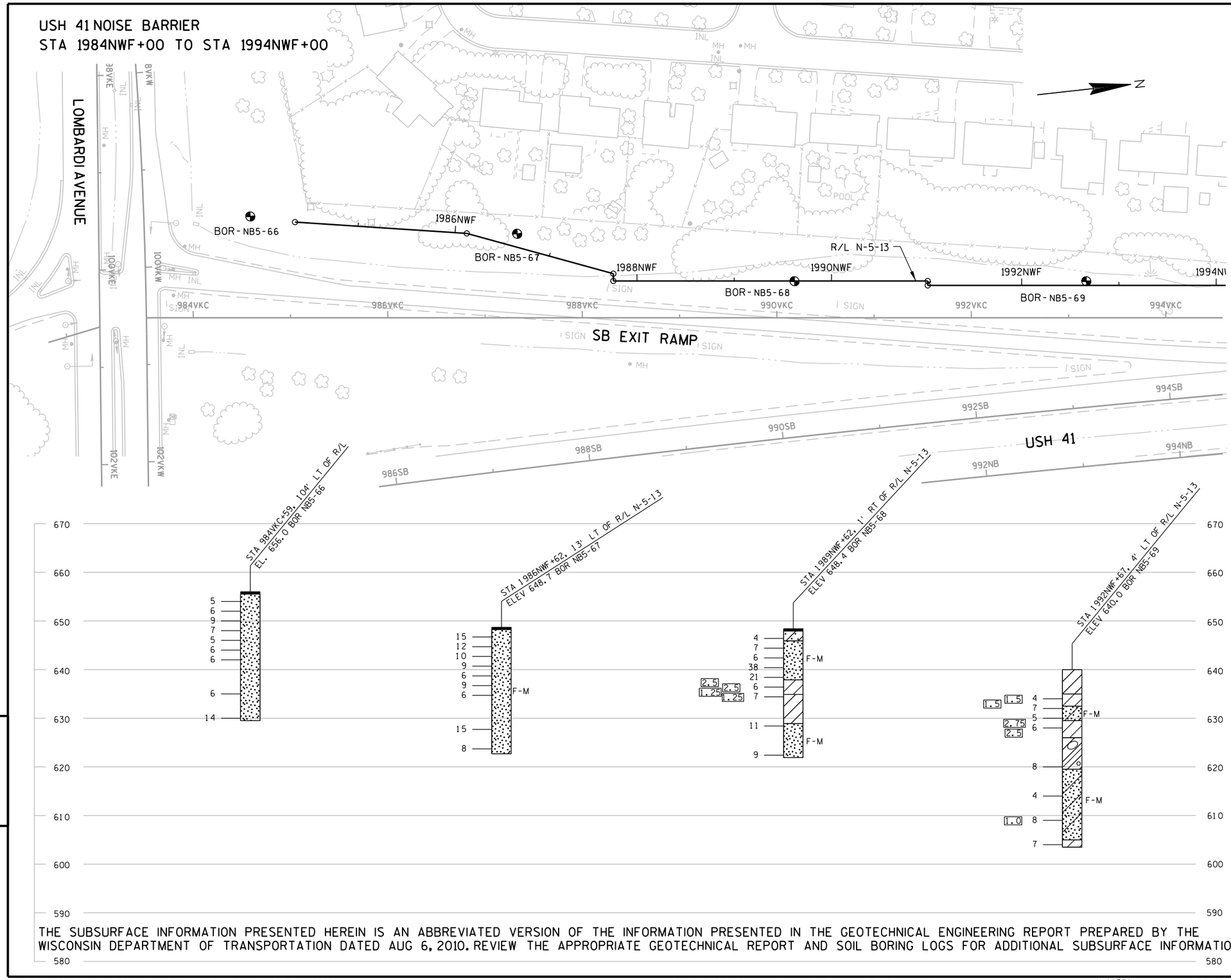
CONSTRUCTION DETAILS 5

SHEET 9 OF 17

2230

USH 41 NOISE BARRIER
STA 1984NWF+00 TO STA 1994NWF+00



THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION DATED AUG 6, 2010. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

STATE PROJECT NUMBER

1133-03-77

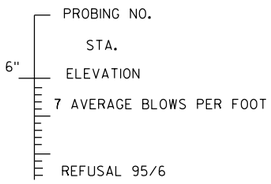
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

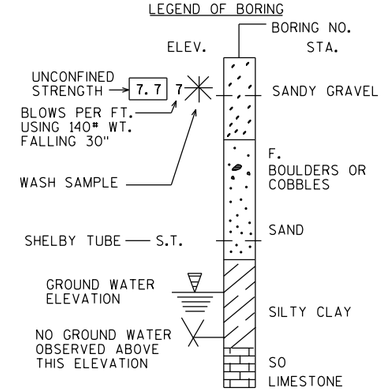
TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



95/6=95 BLOWS FOR 6" PENETRATION PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-13

DRAWN BY CMF | PLANS CK'D. MG

SUBSURFACE EXPLORATION 1

SHEET 10 OF 17

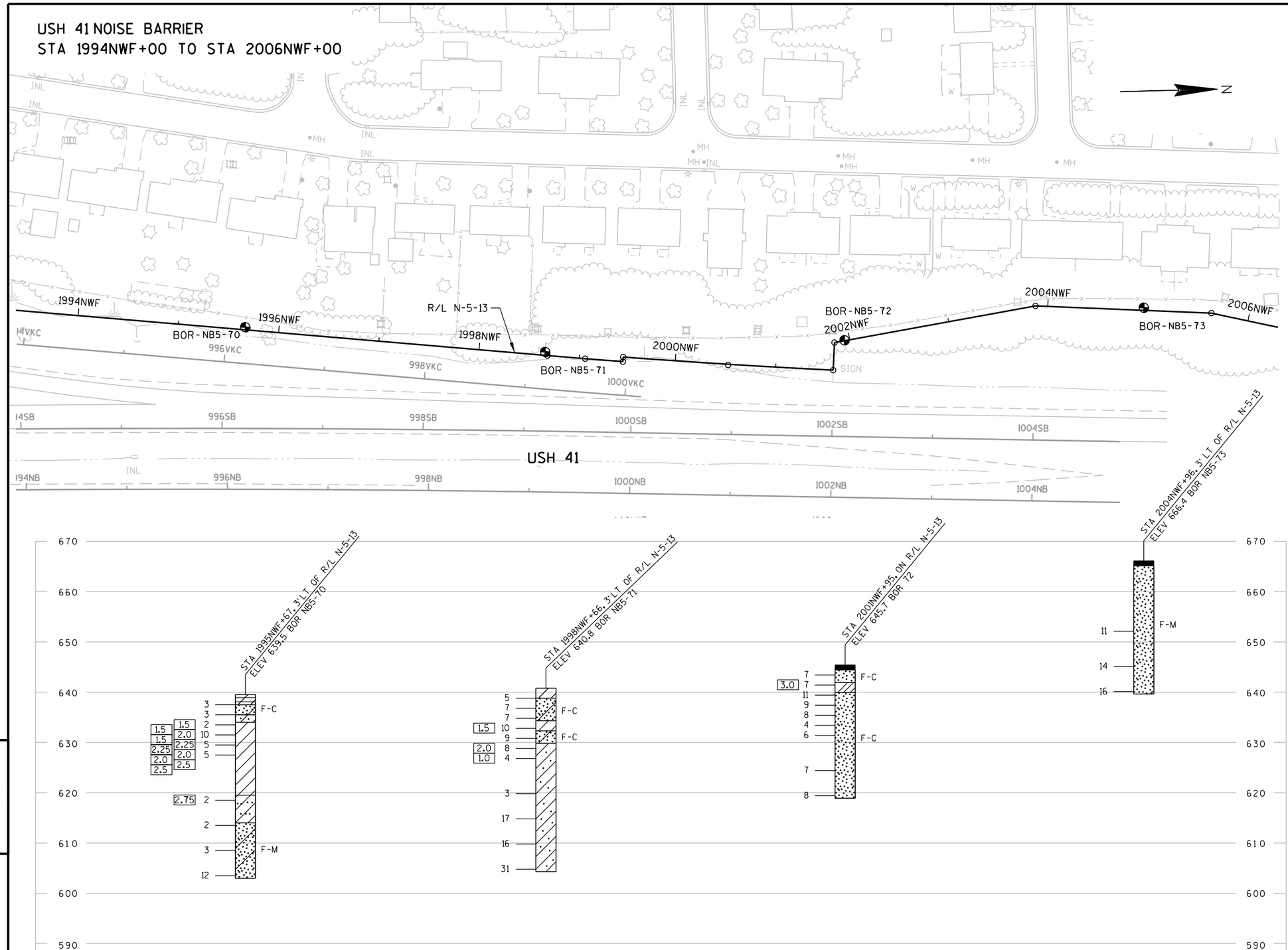
2231

8

8

FILE NAME : F:\BM1-1726A\HN_11330481EB\0482\N-05-0013\b1_027301_sb.dgn PLOT DATE : 31-JAN-2013 17:12 PLOT BY : cfranzen PLOT NAME : b1_027301_sb PLOT SCALE : 100:1

USH 41 NOISE BARRIER
STA 1994NWF+00 TO STA 2006NWF+00



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STATE PROJECT NUMBER

1133-03-77

ABBREVIATIONS

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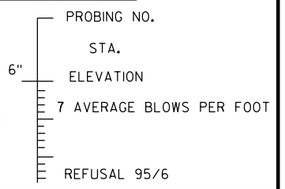
WS — WEATHERED SO — SOUND

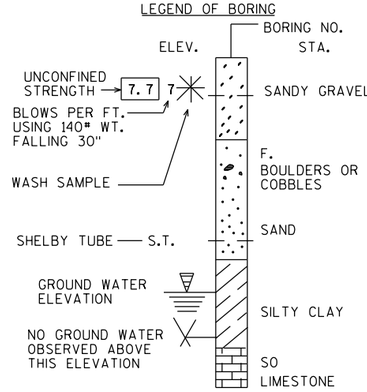
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-13

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SUBSURFACE EXPLORATION 2

SHEET 11 OF 17

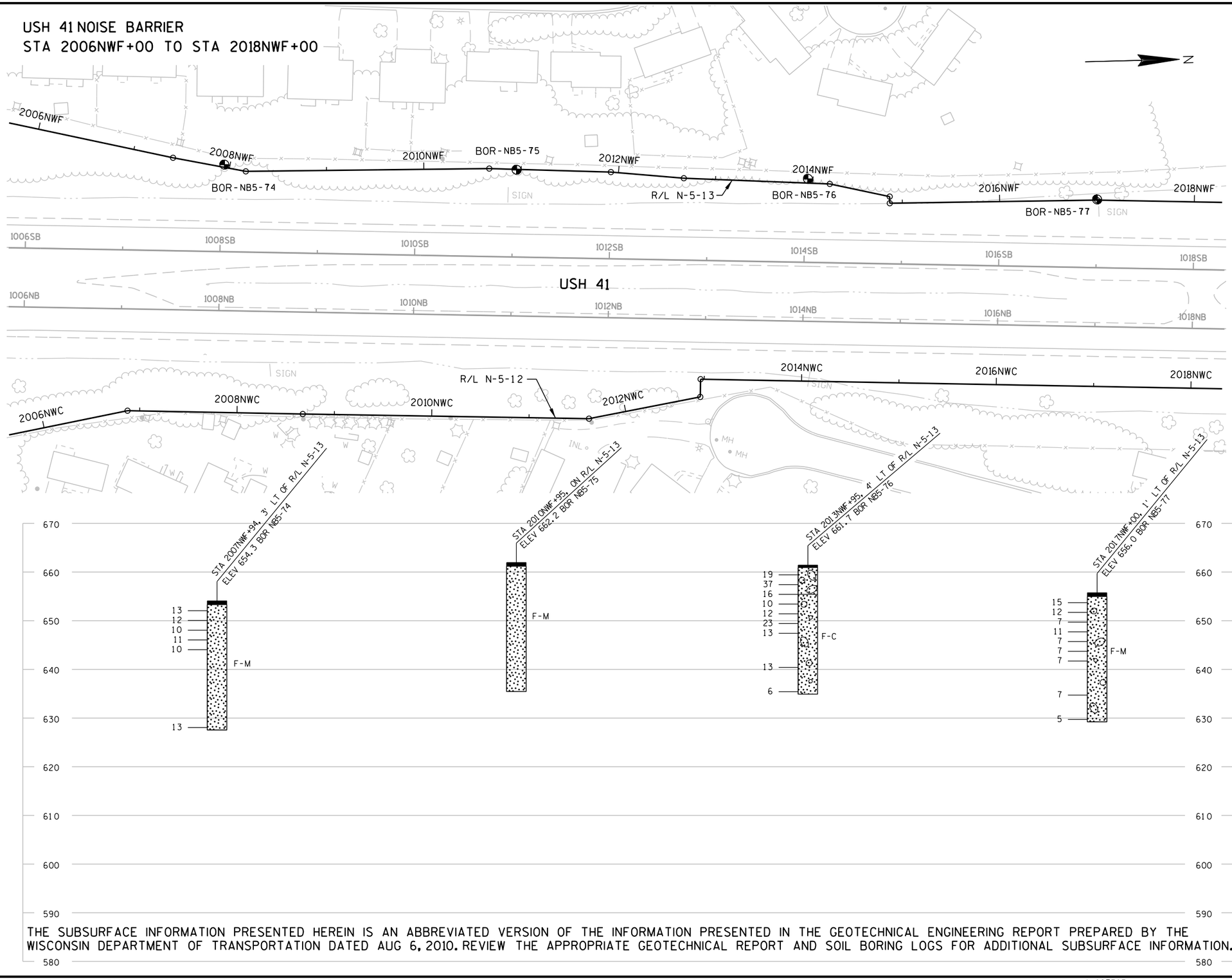
2232

8

8

FILE NAME : F:\BM1-1726A\HN_11330481EB\0482\N-05-0013\bl_027302_sb.dgn PLOT DATE : 31-JAN-2013 17:13 PLOT BY : cfranzen PLOT NAME : bl_027302_sb PLOT SCALE : 100:1

USH 41 NOISE BARRIER
STA 2006NWF+00 TO STA 2018NWF+00



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STATE PROJECT NUMBER

1133-03-77

ABBREVIATIONS

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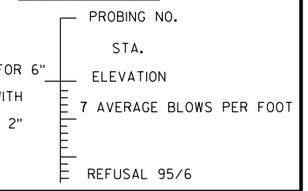
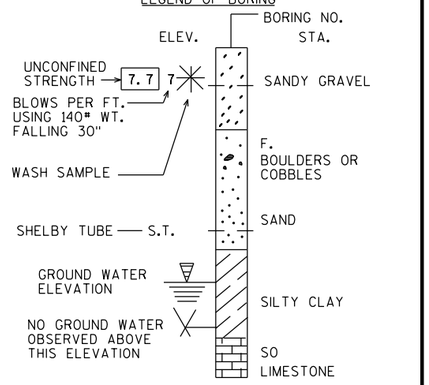
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-13

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SUBSURFACE EXPLORATION 3

SHEET 12 OF 17

2233

8

8

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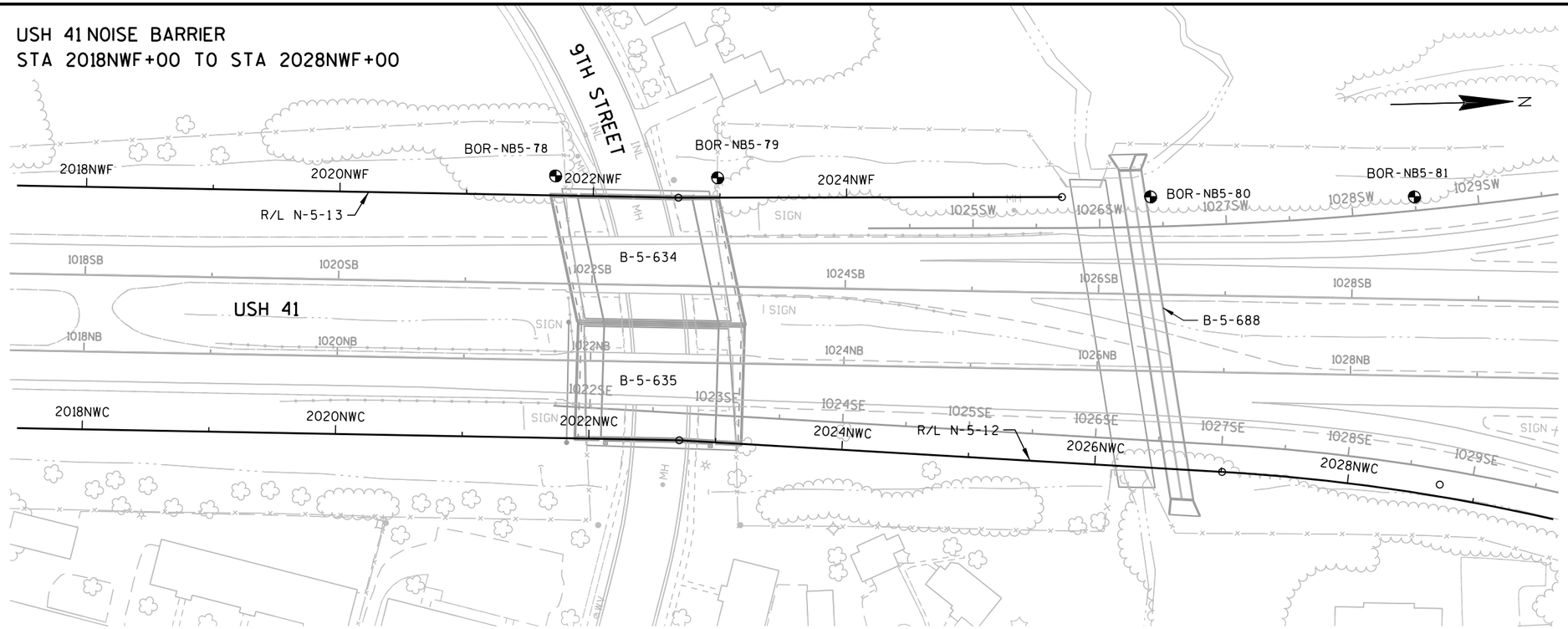
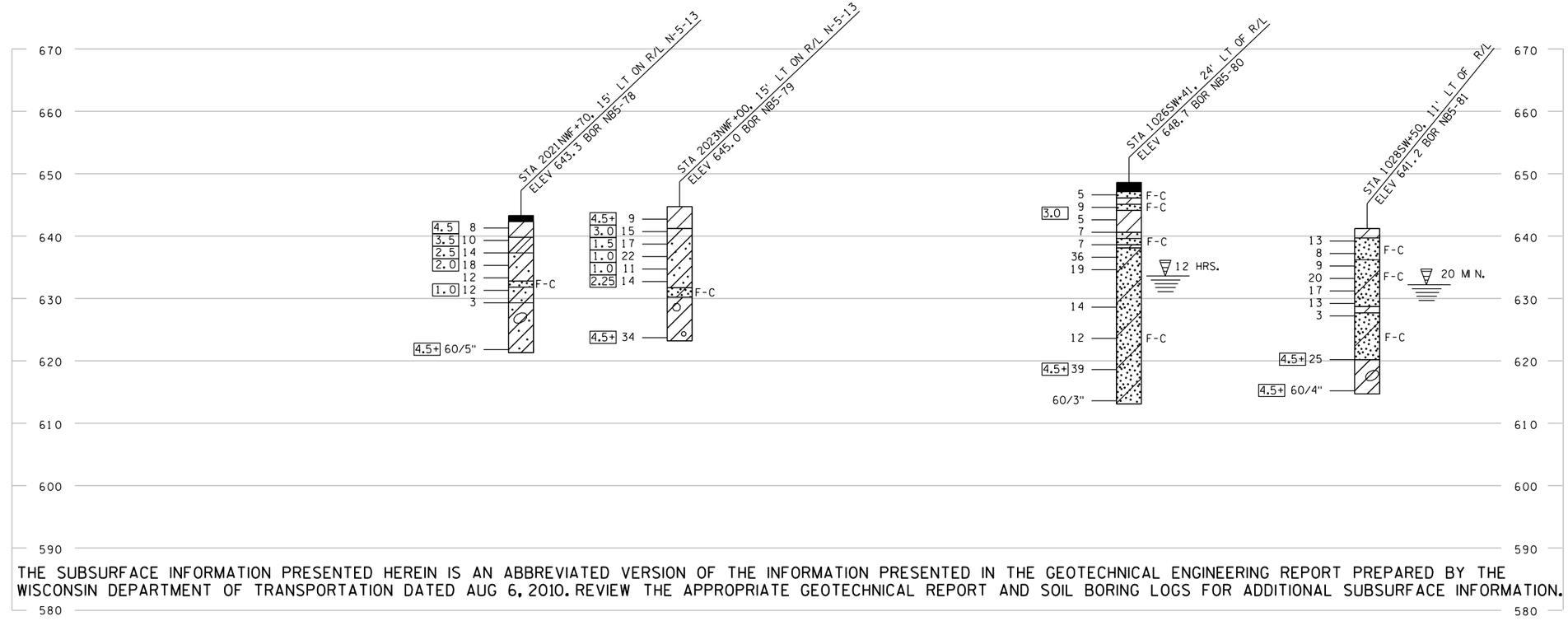
USH 41 NOISE BARRIER
STA 2018NWF+00 TO STA 2028NWF+00





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STATE PROJECT NUMBER

1133-03-77

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
ELEV.
STA.
UNCONFINED STRENGTH → 7.7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-13

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SUBSURFACE EXPLORATION 4

SHEET 13 OF 17

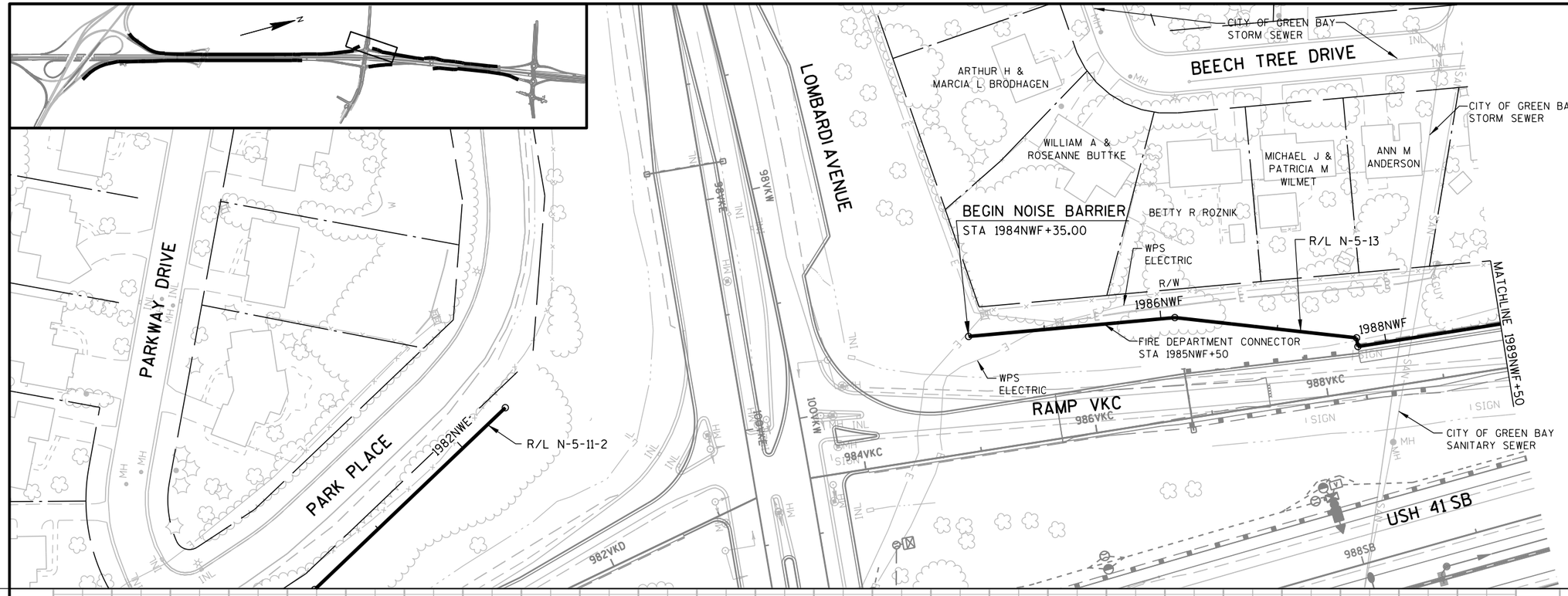
2234

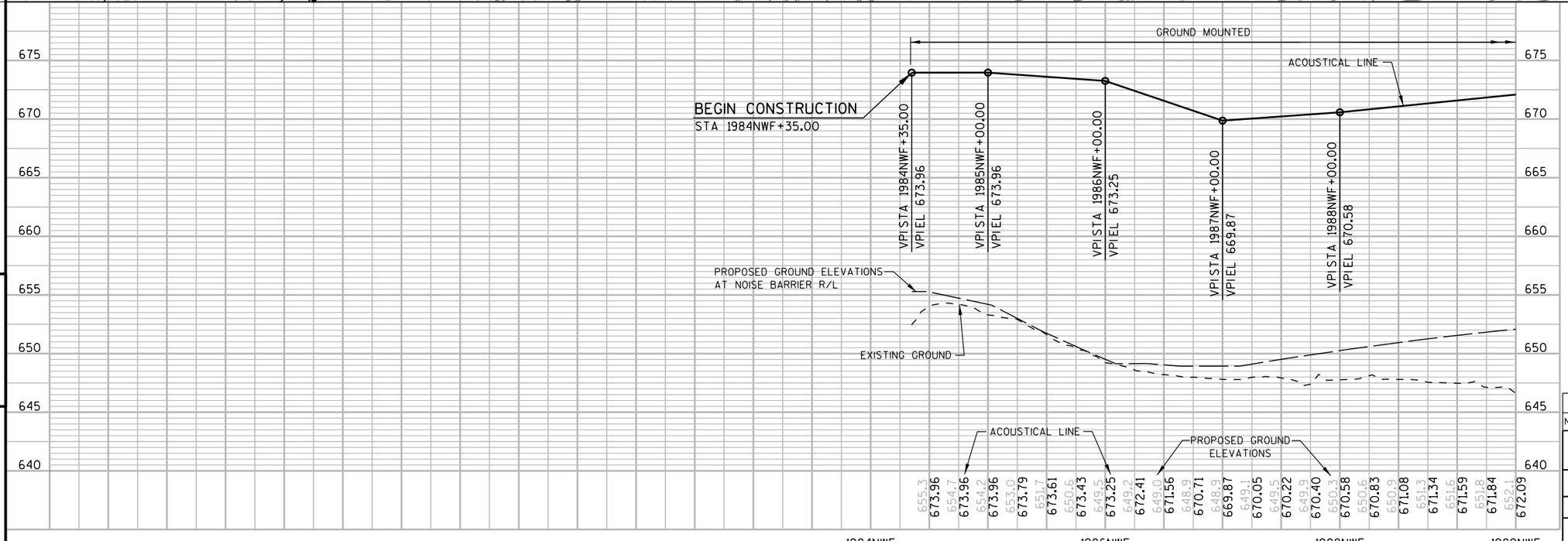
8

8

STATE PROJECT NUMBER

1133-03-77





NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-13

DRAWN BY CMF | PLANS CK'D. MG

NOISE BARRIER PLAN & PROFILE 1

SHEET 14 OF 17

2235

8

8

FILE NAME : F:\BM1-1726A\HN_11330481EB\0482\N-05-0013\bl_050101_pp.DGN

PLOT DATE : 31-JAN-2013 17:26

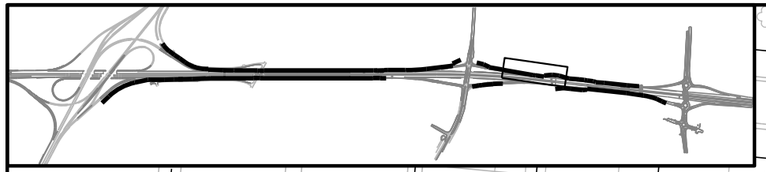
PLOT BY : cfranzen

PLOT NAME :

PLOT SCALE : 100:1

STATE PROJECT NUMBER

1133-03-77



BEECH TREE DRIVE

CITY OF GREEN BAY STORM SEWER

KIMBERLY D CROSS

CHRISTOPHER J & STACEY L BRAULT

SUSAN M ATHEY

THOMAS G CHOSA

GREGORY S & DAWN M BARTA

STEVEN F SLADKY

JOHN R & LYNDA J KAMIŃSKI

PAULA J LEES

RIO GRANDE PROPERTIES LLC

GARY J HAEN

XEE VUE

TIMOTHY K ANDERSON

PHILIP L SALMON

SHAHA ROBERT R ROVOCABLE TRUST

ERIC J CHALLEEN

MICHAEL H ASCHENBRENNER

POOL

R/L N-5-13

R/W

R-5-69

TLE

STANDPIPE SYSTEM STA 1996NWF+25

AT&T TELEPHONE

TIME WARNER CABLE TELEVISION

WPS ELECTRIC

MATCHLINE 1989NWF+50

MATCHLINE 2002NWF+00

1990NWF

1992NWF

1994NWF

1996NWF

1998NWF

2000NWF

990VKC

992VKC

994VKC

996VKC

998VKC

1000VKC

1002VKC

SIGN

GROUND MOUNTED TO STRUCTURE MOUNTED TRANSITION

RAMP VKC

WEEP HOLE STA 2000NWF+10

USH 41 SB

USH 41 NB

990SB

992SB

994SB

996SB

998SB

1000SB

1002SB

990NB

992NB

994NB

996NB

998NB

1000NB

1002NB

1000VKB

998VKB

INL

N

GROUND MOUNTED

STRUCTURE MOUNTED*

GROUND MOUNTED

VPI STA 1990NWF+00.00
VPI EL 672.60

VPI STA 1991NWF+00.00
VPI EL 672.22

VPI STA 1992NWF+00.00
VPI EL 671.20

VPI STA 1993NWF+00.00
VPI EL 669.94

VPI STA 1994NWF+00.00
VPI EL 668.31

VPI STA 1997NWF+00.00
VPI EL 658.39

VPI STA 2000NWF+00.00
VPI EL 657.48

ACOUSTICAL LINE

PROPOSED GROUND ELEVATIONS AT NOISE BARRIER R/L

EXISTING GROUND

ACOUSTICAL LINE

PROPOSED GROUND ELEVATIONS

670 665 660 655 650 645 640 635

652.1 672.09 652.3 672.34 652.5 672.60 652.7 672.50 652.8 672.41 653.0 672.32 653.1 672.22 653.1 671.97 653.2 671.71 653.2 671.46 653.2 671.20 653.2 670.89 653.1 670.57 653.0 670.26 652.9 669.94 652.8 669.54 652.7 669.13 652.5 668.72 652.3 668.31 652.0 667.48 651.8 666.66 651.5 665.83 651.2 665.00 650.9 664.18 650.5 663.35 650.1 662.52 649.7 661.70 649.4 660.87 649.0 660.04 648.6 659.21 648.3 658.39 648.0 658.31 647.7 658.24 647.5 658.16 647.3 658.09 647.1 658.01 646.9 657.94 646.8 657.86 646.7 657.79 646.6 657.71 646.2 657.64 646.4 657.56 646.4 657.49 646.4 658.78 646.5 660.07 646.6 661.36 646.7 662.65 646.8 663.94 647.2 665.23 652.4 666.52 654.5 667.81

1990NWF 1992NWF 1994NWF 1996NWF 1998NWF 2000NWF 2002NWF

* R-5-69 STA 1991NWF+03.48 TO STA 1999NWF+43.47

SEE STRUCTURE PLANS FOR POST ANCHORAGE LOCATIONS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-13

DRAWN BY CMF | PLANS CK'D. MG

NOISE BARRIER PLAN & PROFILE 2

SHEET 15 OF 17

2236

8

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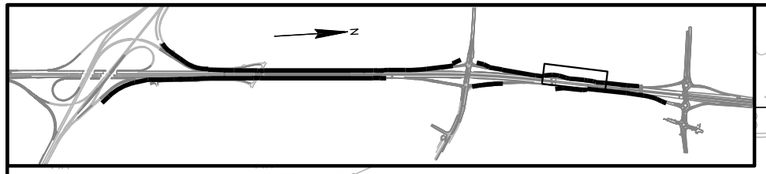
FILE NAME : F:\BM1-1726A\HN_11330481EB\0482\N-05-0013\b1_050102_pp.DGN PLOT DATE : 31-JAN-2013 17:26 PLOT BY : cfranzen PLOT NAME : PLOT SCALE : 100:1

STATE PROJECT NUMBER

1133-03-77



BEECH TREE DRIVE

CITY OF GREEN BAY STORM SEWER

DAVID A FENGLER

JAMES A & JEANIE C SCHADEN

ARNIE & CAROL PITT

STOCK DARREN J & LORI J JOINT REVOCABLE TRUST

LAWRENCE J & GAYLE M OLIVER

CHRIS A BAYE

KENT R & BRENDA A BUERGI

ONEIDA TRIBE OF INDIANS OF WISCONSIN

JOSEPH L BERKOVITZ

JAMES M & STACEY J GLASS ETAL

JOHN L & JEANAE S BEHNKE

MICHAEL J ZOLPER

LINDA KAY ELLIOT

WPS ELECTRIC

FIRE DEPARTMENT CONNECTION STA 2008NWF+25

AT&T TELEPHONE

TLE

R/W

MATCHLINE 2002NWF+00

MATCHLINE 2014NWF+50

2004NWF

2006NWF

2008NWF

2010NWF

2012NWF

2014NWF

R/L N-5-13

TIME WARNER CABLE TELEVISION

WPS ELECTRIC

USH 41 SB

USH 41 NB

1004SB

1006SB

1008SB

1010SB

1012SB

1014SB

1004NB

1006NB

1008NB

1010NB

1012NB

1014NB

2014NWC

GROUND MOUNTED

COMBINATION BARRIER N-5-13
STA 2004NWF+87.75 TO STA 2007NWF+91.71

GROUND MOUNTED

COMBINATION BARRIER N-5-13
STA 2008NWF+42.07 TO STA 2014NWF+87.10

680 675 670 665 660 655 650 645

VP STA 2003NWF+00.00
VP EL 672.97

VP STA 2005NWF+00.00
VP EL 676.45

VP STA 2006NWF+00.00
VP EL 675.32

VP STA 2010NWF+00.00
VP EL 678.30

VP STA 2011NWF+50.00
VP EL 678.59

VP STA 2013NWF+50.00
VP EL 674.97

ACOUSTICAL LINE

TOP OF COMBINATION RETAINING WALL

EXISTING GROUND

PROPOSED GROUND ELEVATIONS AT NOISE BARRIER R/L

BOTTOM OF COMBINATION RETAINING WALL

PROPOSED GROUND ELEVATIONS

ACOUSTICAL LINE

PROPOSED GROUND ELEVATIONS

BOTTOM OF COMBINATION RETAINING WALL

TOP OF COMBINATION RETAINING WALL

2002NWF	2004NWF	2006NWF	2008NWF	2010NWF	2012NWF	2014NWF
667.81	671.68	672.97	673.40	673.84	674.27	674.71
669.10	670.39	675.14	675.58	676.02	676.45	676.17
675.89	675.60	675.32	675.51	675.69	675.88	676.07
676.25	676.44	676.62	676.81	676.99	677.18	677.37
677.55	677.74	677.92	678.11	678.30	678.34	678.39
678.44	678.49	678.54	678.59	678.14	677.69	677.23
676.78	676.33	675.87	675.42	674.97	675.02	675.05
675.08						

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-13

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NOISE BARRIER PLAN & PROFILE 3

SHEET 16 OF 17

2237

FILE NAME : F:\BM1-1726A\HN_11330481EB\0482\N-05-0013\bl_050103_pp.DGN

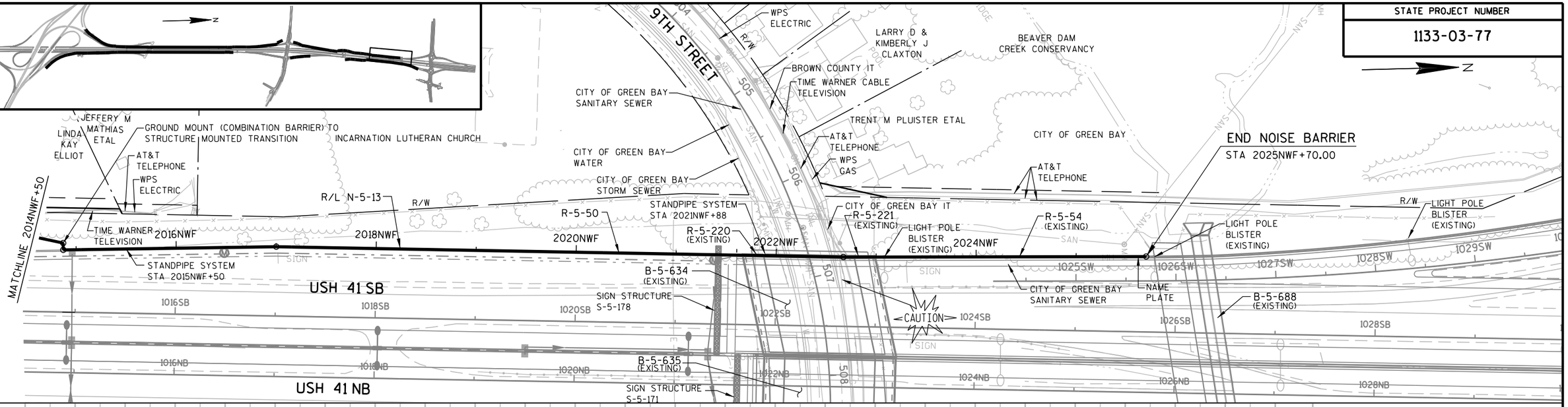
PLOT DATE : 31-JAN-2013 17:26

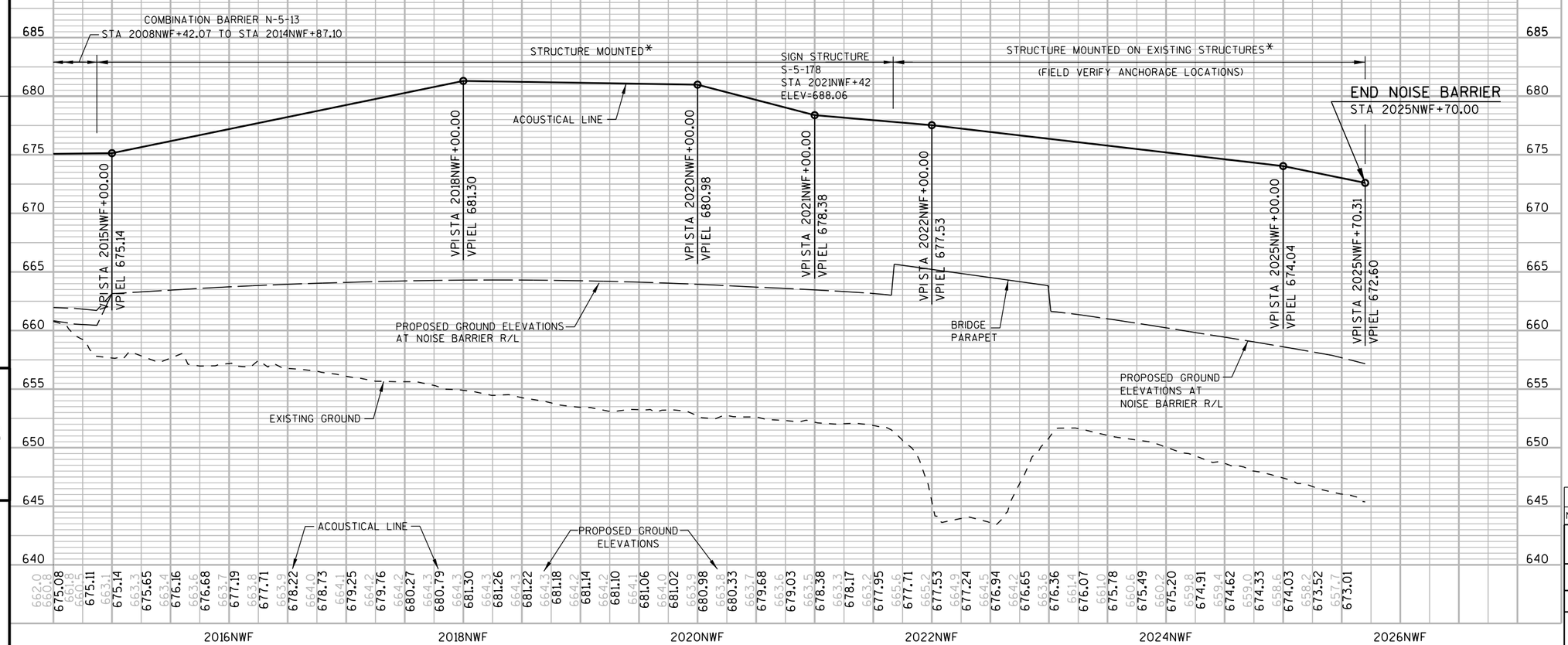
PLOT BY : cfranzen

PLOT NAME :

PLOT SCALE : 100:1

STATE PROJECT NUMBER
1133-03-77





*

R-5-50	STA 2014NWF+87.10 TO STA 2021NWF+67.00
R-5-220 (EXISTING)	STA 2021NWF+67.00 TO STA 2021NWF+86.77
B-5-634 (EXISTING)	STA 2021NWF+86.77 TO STA 2022NWF+79.35
R-5-221 (EXISTING)	STA 2022NWF+79.35 TO STA 2022NWF+98.27
R-5-54 (EXISTING)	STA 2022NWF+98.27 TO STA 2025NWF+70.00

SEE STRUCTURE PLANS FOR POST ANCHORAGE LOCATIONS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-13

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NOISE BARRIER PLAN & PROFILE 4

SHEET 17 OF 17

2238

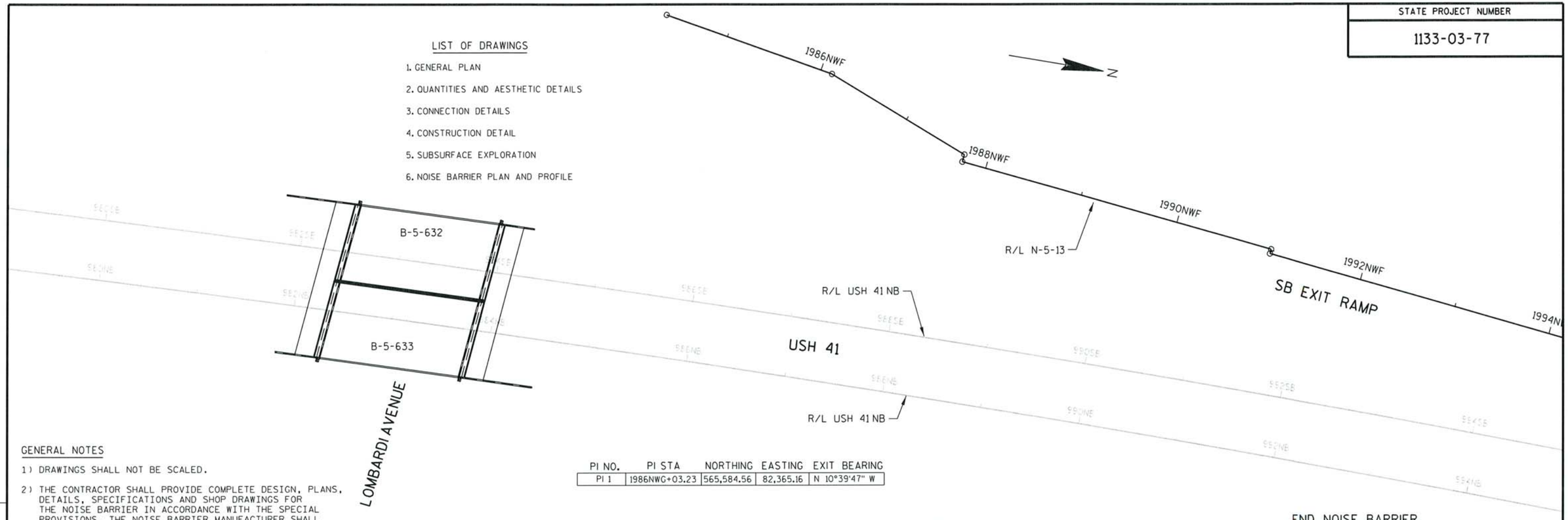
FILE NAME : F:\BM1-1726A\HN_11330481EB\0482\N-05-0013\b1_050104_pp.DGN
PLOT DATE : 31-JAN-2013 17:26
PLOT BY : cfranzen
PLOT NAME :
PLOT SCALE : 100:1

STATE PROJECT NUMBER

1133-03-77

LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES AND AESTHETIC DETAILS
3. CONNECTION DETAILS
4. CONSTRUCTION DETAIL
5. SUBSURFACE EXPLORATION
6. NOISE BARRIER PLAN AND PROFILE



PI NO.	PI STA	NORTHING	EASTING	EXIT BEARING
PI 1	1986NWG+03.23	565,584.56	82,365.16	N 10°39'47" W

GENERAL NOTES

1) DRAWINGS SHALL NOT BE SCALED.

2) THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS AND SHOP DRAWINGS FOR THE NOISE BARRIER IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE NOISE BARRIER MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-14".

3) PLANS, ELEVATIONS AND DETAILS SHOWN ARE INTENDED TO INDICATE LOCATIONS, LENGTHS, HEIGHTS AND DETAILS COMMON TO THE SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

4) THE NOISE BARRIER IS TO BE DESIGNED USING THE PROPOSED GROUND ELEVATION AT NOISE BARRIER R/L AND ACOUSTICAL LINE.

5) ALL NOISE BARRIERS SHALL BE DESIGNED IN ACCORDANCE WITH THE 1989 GUIDE SPECIFICATIONS FOR STRUCTURAL DESIGN OF SOUND BARRIERS, INCLUDING THE 1992 AND 2002 INTERIM'S BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS.

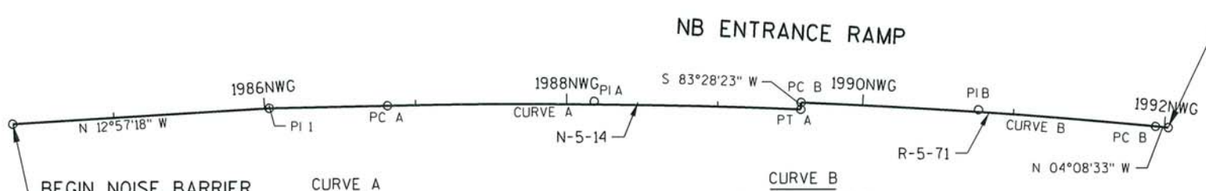
6) THE FOLLOWING DESIGN WIND PRESSURES SHALL BE USED IN ACCORDANCE WITH THE SPECIAL PROVISIONS:
32 P.S.F. FOR GROUND MOUNTED BARRIERS
42 P.S.F. FOR STRUCTURE MOUNTED BARRIERS

7) MAXIMUM UNIT WEIGHT OF STRUCTURE MOUNTED NOISE BARRIER 50 P.S.F.

8) NOISE BARRIERS MOUNTED ON RETAINING WALLS REQUIRE THE COMPLETE ROADWAY PAVEMENT STRUCTURE (OR EQUIVALENT EARTH FILL) OVER THE TOP OF THE MOMENT SLAB TO RESIST DESIGN WIND PRESSURE. LIMIT ERECTION OF PANELS TO 2/3 THE HEIGHT OF THE ACOUSTICAL LINE PRIOR TO PLACEMENT OF PAVEMENT.

9) INLCUDE THE COST OF THE COATING OF STEEL POSTS AND CONNECTIONS UNDER THE BID ITEM "NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-14"

10) A PORTION OF THE NOISE BARRIER WILL BE MOUNTED ON STRUCTURES. SEE STRUCTURE R-5-71 PLANS FOR NOISE BARRIER ANCHORAGE DETAILS AND LOCATIONS.



BEGIN NOISE BARRIER
STA 1984NWG+33.00
N=565,418.67
E=82,403.32

CURVE A
PI = 1988NWG+18.27
N = 565795.89
E = 82325.37
△ = 3°30'35"
D = 1°17'03"
R = 4462.00
T = 136.71
L = 273.33
E = 2.09
PC = 1986NWG+81.56
N = 565661.54
E = 82350.67
PT = 1989NWG+54.89
N = 565931.53
E = 82308.35

CURVE B
PI = 1990NWG+76.83
N = 566047.48
E = 82289.21
= 3°00'39"
D = 1°16'58"
R = 4466.55
T = 117.38
L = 234.70
E = 1.54
PC = 1989NWG+59.45
N = 565931.01
E = 82303.82
PT = 1991NWG+94.15
N = 566164.55
E = 82280.73

STRUCTURES DESIGN CONTACTS

BUREAU OF STRUCTURES:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
MICHELLE GARRIGAN (920) 347-0850

WISCONSIN
MICHELLE M. GARRIGAN
E-31966
GREEN BAY, WIS.
PROFESSIONAL ENGINEER
11-30-12

NO.	DATE	REVISION	BY

BLOOM COMPANIES, LLC
Infrastructure Innovation and Ingenuity
3049 Ramada Way • Green Bay, WI 54304
Phone: (920) 347-0850 Fax: (920) 347-0851

ACCEPTED William C. Dreher KAR — CHIEF STRUCTURES DESIGN ENGINEER — 04/03/13 DATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE N-5-14

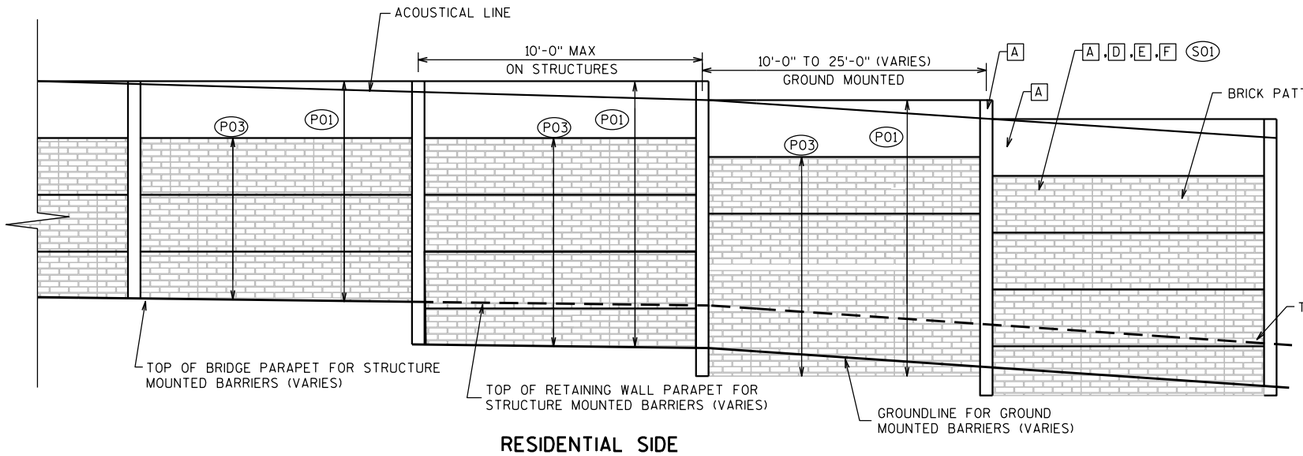
US 41 NB ENTRANCE RAMP

COUNTY	VILLAGE	
BROWN	ASHWAUBENON	
DESIGN SPEC.	AASHTO STD SPECS 2002	LOAD N/A
DESIGNED BY CE	DESIGN CK'D. AS	DRAWN BY CMF	PLANS CK'D. MG

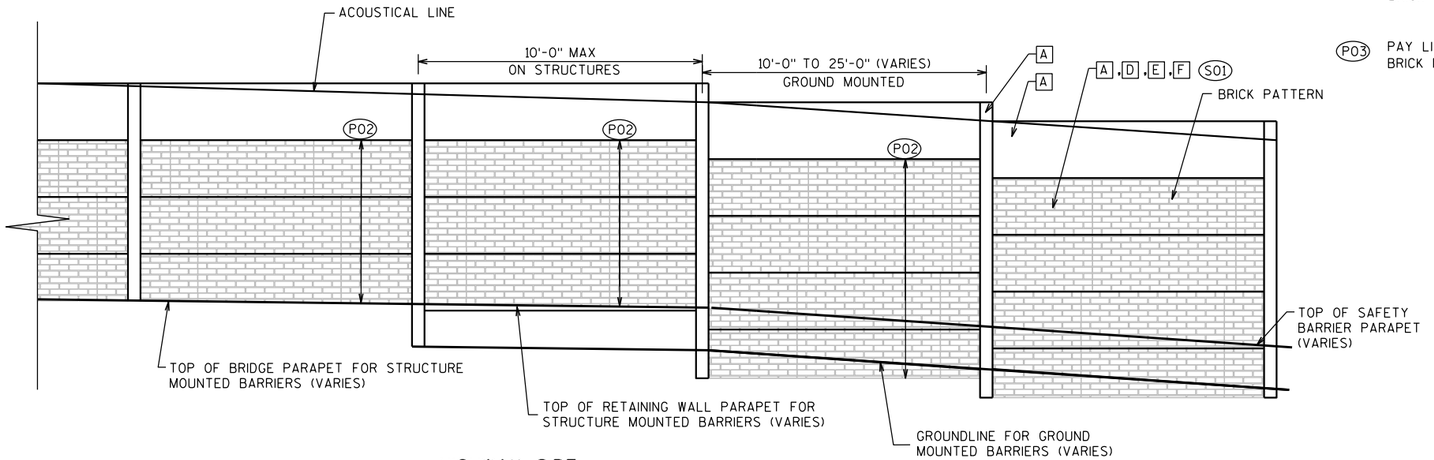
GENERAL PLAN

SHEET 1 OF 6

STATE PROJECT NUMBER
1133-03-77



RESIDENTIAL SIDE



HIGHWAY SIDE

(S01) STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF BASE COLOR A INCIDENTAL TO NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE). APPLICATION OF ACCENT COLORS D, E, & F AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

(P01) PAY LIMITS OF NOISE BARRIER SINGLE SIDED SOUND ABSORPTIVE (STRUCTURE) (SOUND ABSORPTIVE MATERIAL FACES HIGHWAY)

(P02) PAY LIMITS OF STAINING CONCRETE BRICK FOR HIGHWAY SIDE

(P03) PAY LIMITS OF STAINING CONCRETE BRICK FOR RESIDENTIAL SIDE

TOTAL ESTIMATE OF QUANTITIES

BID ITEM NO.	BID ITEM	UNIT	TOTAL
531.0200.S.906	NOISE BARRIER SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE N-5-14	SF	15,000
SPV.0165.502	STAINING CONCRETE BRICK	SF	25,000

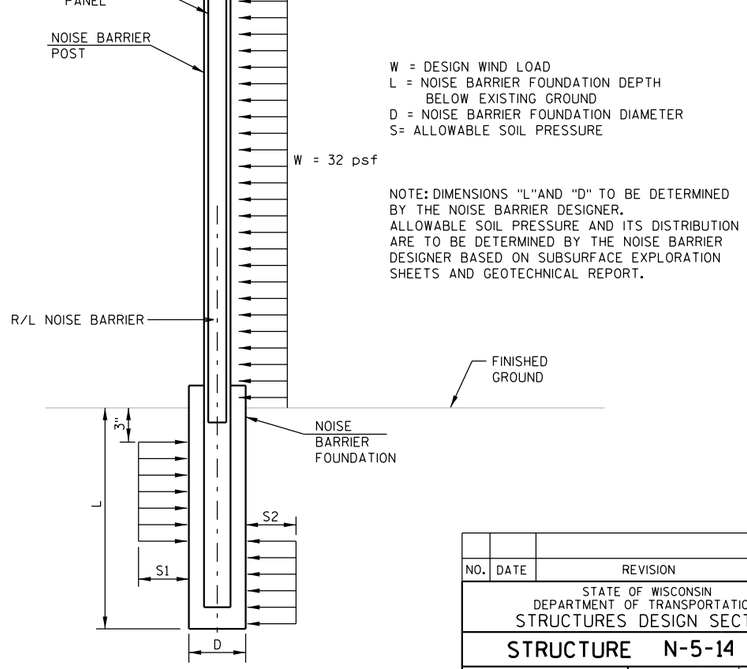
CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
~~B~~	~~ACCENT COLOR #1~~	~~REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS~~
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~

NOTES

1) STEP PANELS A MINIMUM OF 1' AND A MAXIMUM OF 3'. WHEN MORE THAN ONE PANEL MUST STEP CONSECUTIVELY, KEEP THE STEP INCREMENT THE SAME FOR EACH SEGMENT OF STEPPING PANELS.

2) ADJUST VERTICAL PLACEMENT OF PANELS TO MAXIMIZE HORIZONTAL RUNS, KEEPING THE TOP OF PANELS AT THE SAME ELEVATION.



GROUND MOUNTED NOISE BARRIER LOADING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-14

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QUANTITIES AND AESTHETIC DETAILS

SHEET 2 OF 6

2240

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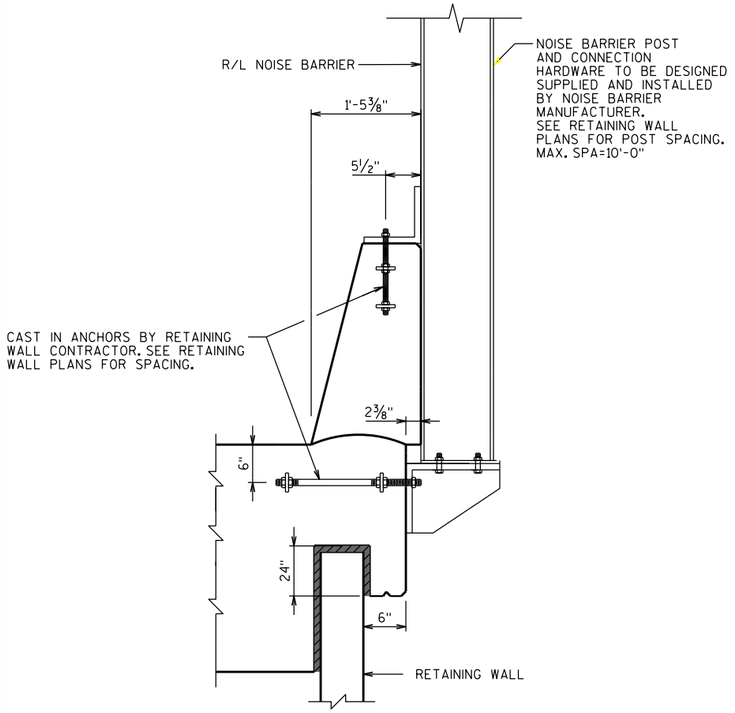
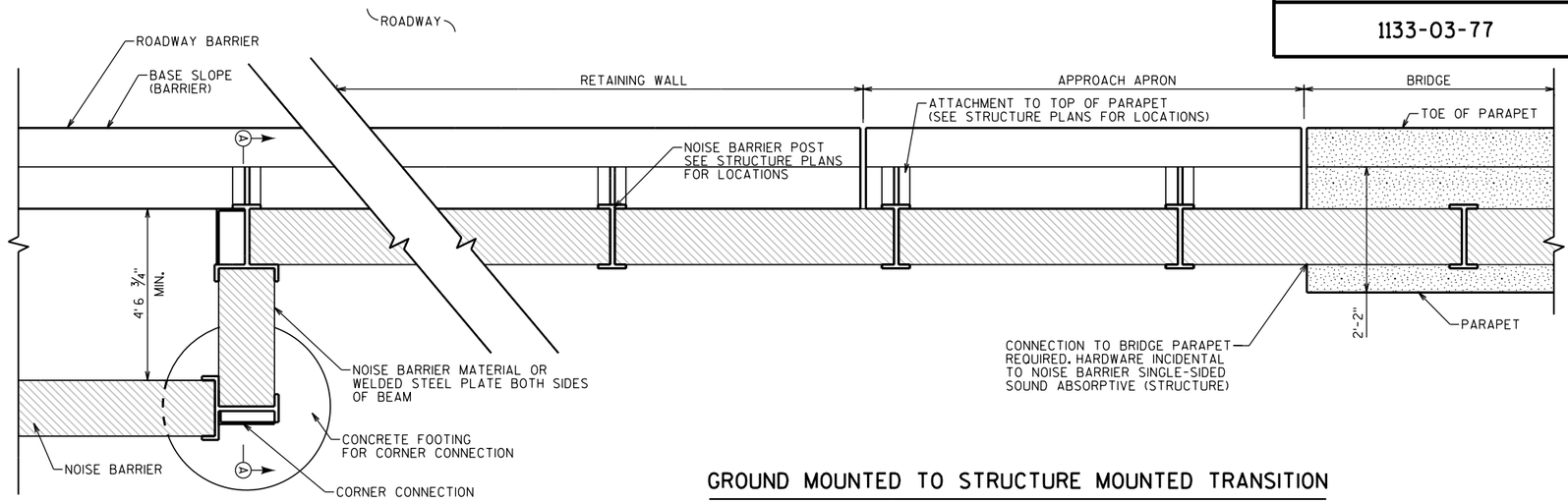
STATE PROJECT NUMBER
1133-03-77



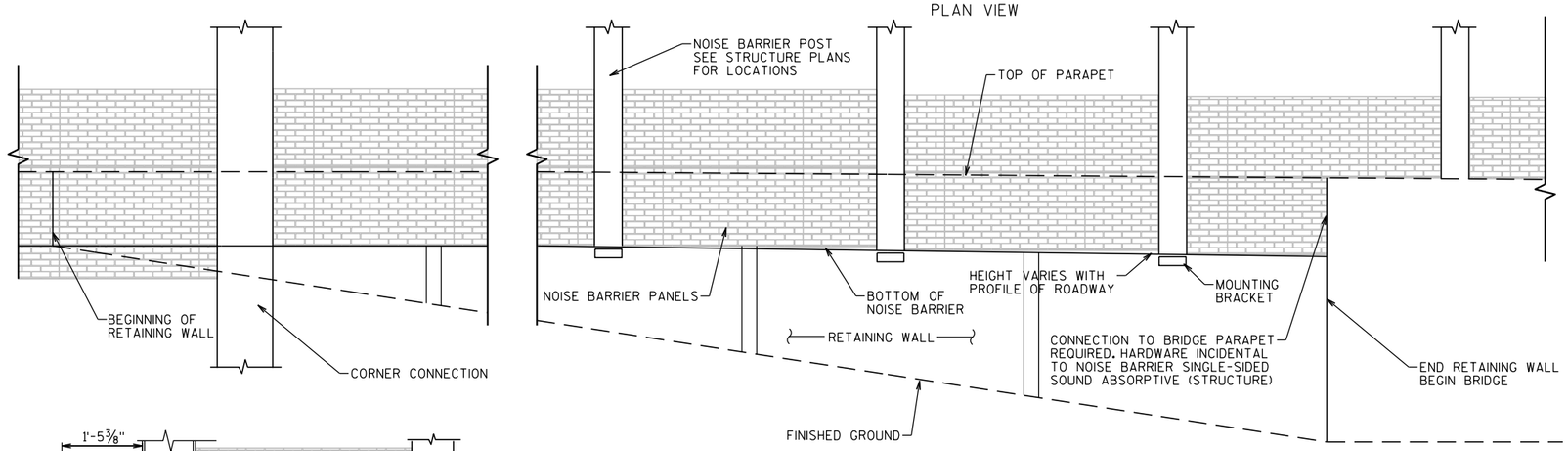
NOISE BARRIER ON RETAINING WALL

SECTION VIEW
TYPICAL AT EACH POST LOCATION



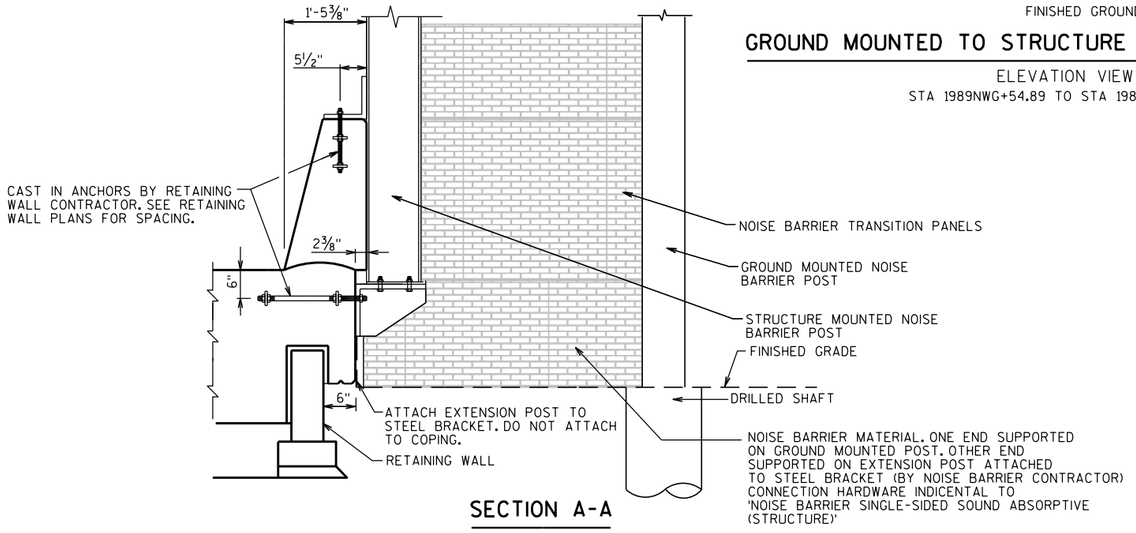
GROUND MOUNTED TO STRUCTURE MOUNTED TRANSITION

PLAN VIEW



GROUND MOUNTED TO STRUCTURE MOUNTED TRANSITION

ELEVATION VIEW
STA 1989NWG+54.89 TO STA 1989NWG+59.45



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-14

DRAWN BY CMF | PLANS CK'D. MG

CONNECTION DETAILS

SHEET 3 OF 6

2241

8

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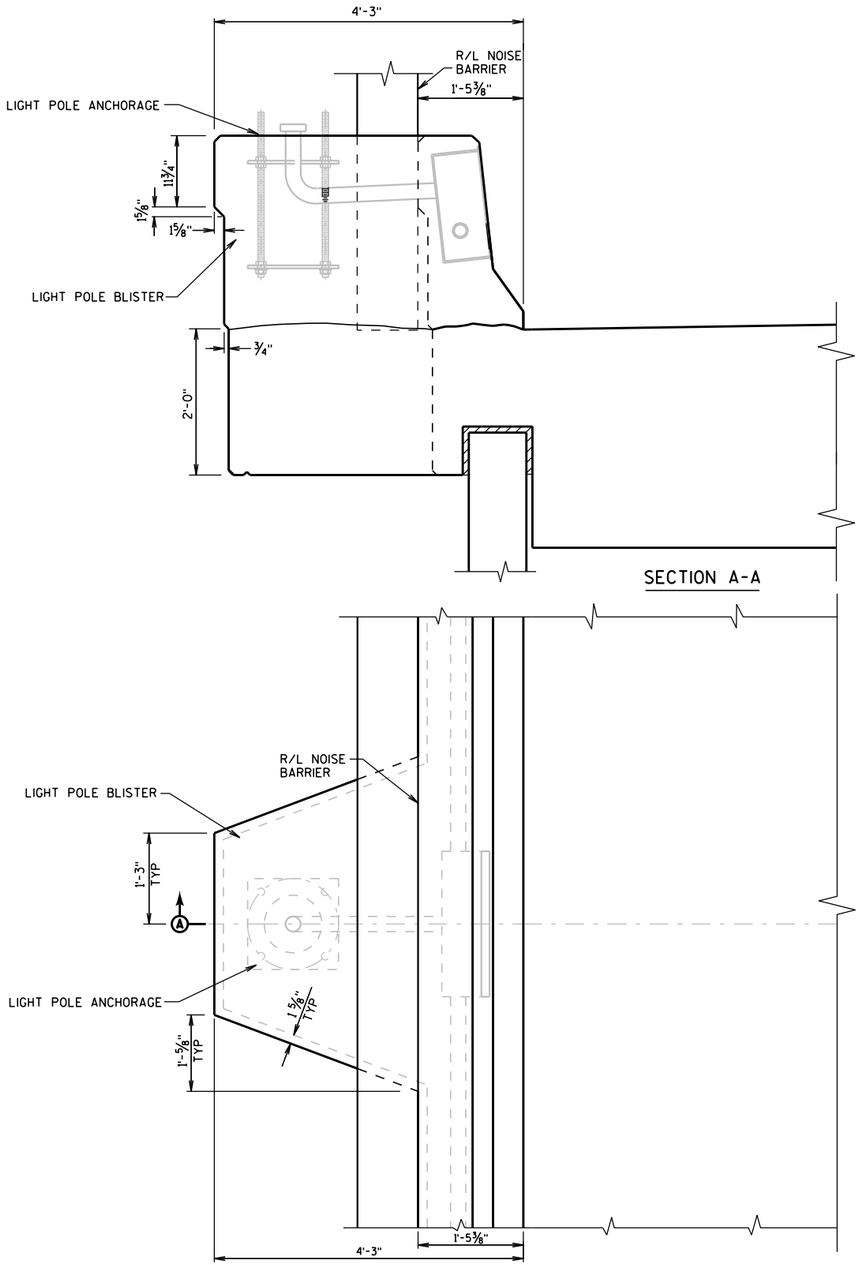
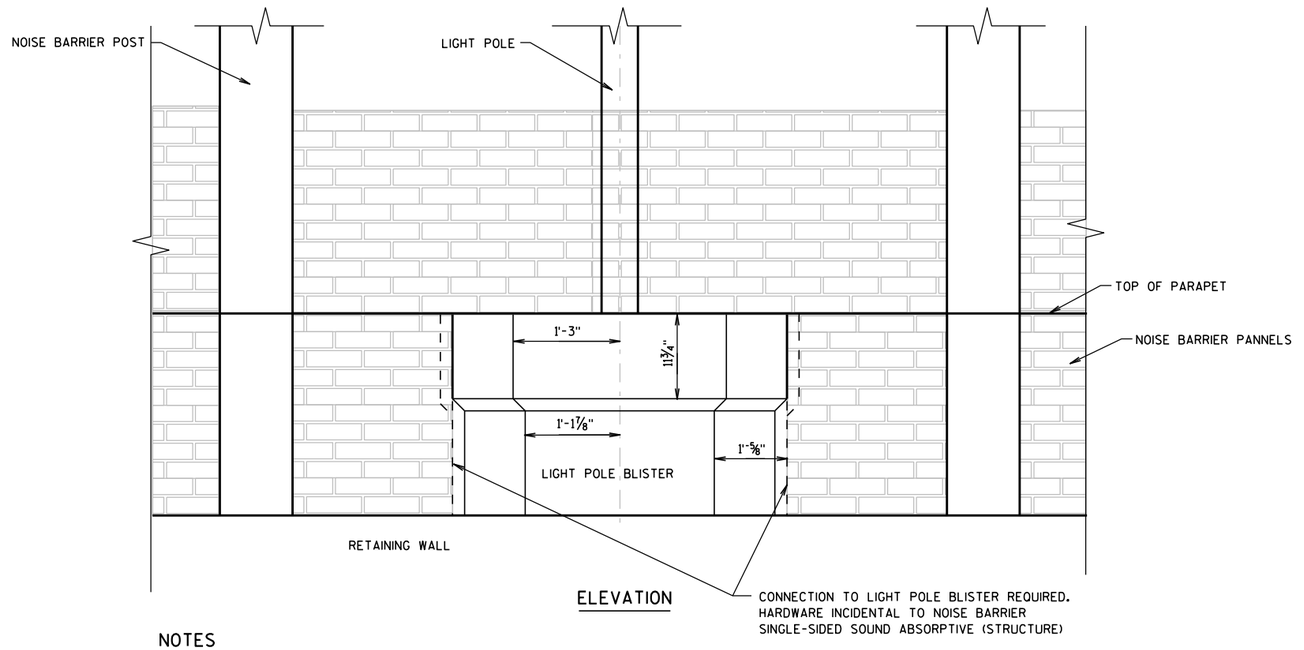
STATE PROJECT NUMBER
1133-03-77



SECTION A-A

LIGHT POLE BLISTER
STA 1991NWG+44



ELEVATION

NOTES

FIELD VERIFY NOISE BARRIER POST ANCHORAGE LOCATIONS AND LIGHT POLE BLISTER LOCATIONS

CONNECTION TO LIGHT POLE BLISTERS TO BE DESIGNED BY NOISE BARRIER MANUFACTURER. CONNECTION HARDWARE INCIDENTAL TO BID ITEM 'NOISE BARRIERS SINGLE-SIDED SOUND ABSORPTIVE STRUCTURE'

DIMENSIONS FOR INFORMATION ONLY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-14

DRAWN BY CMF | PLANS CK'D. MG

CONSTRUCTION DETAIL

SHEET 4 OF 6

2242

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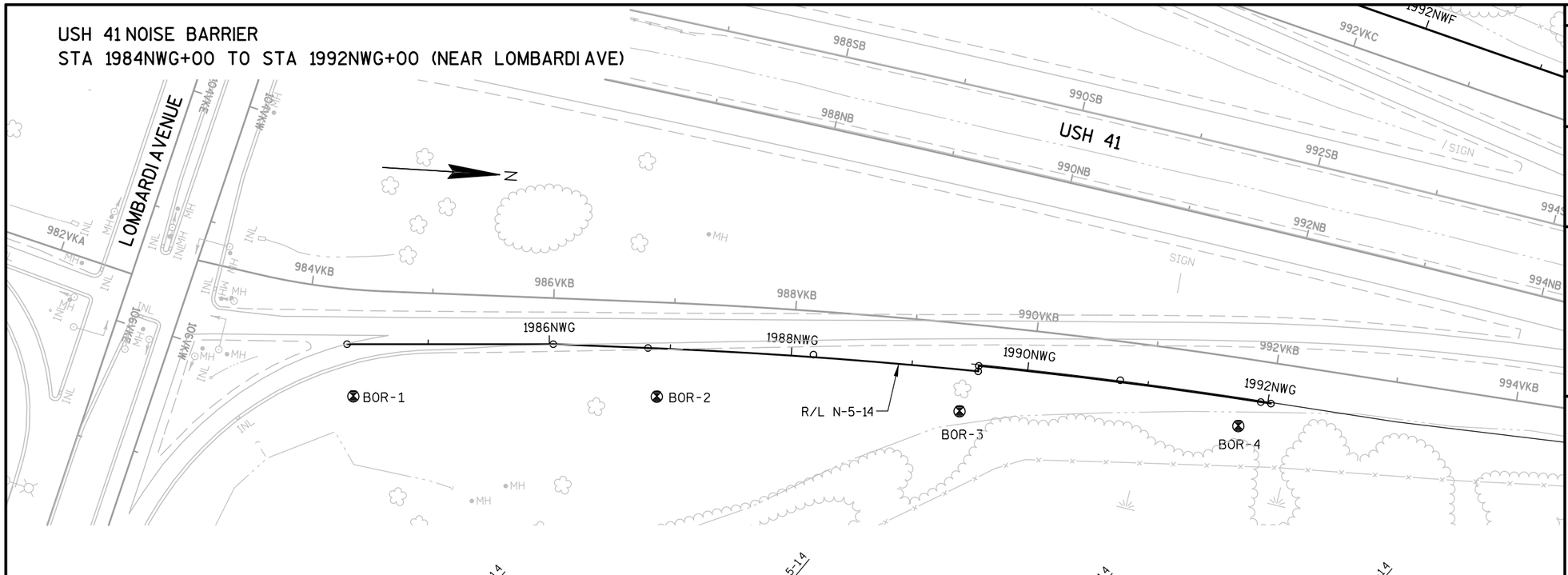
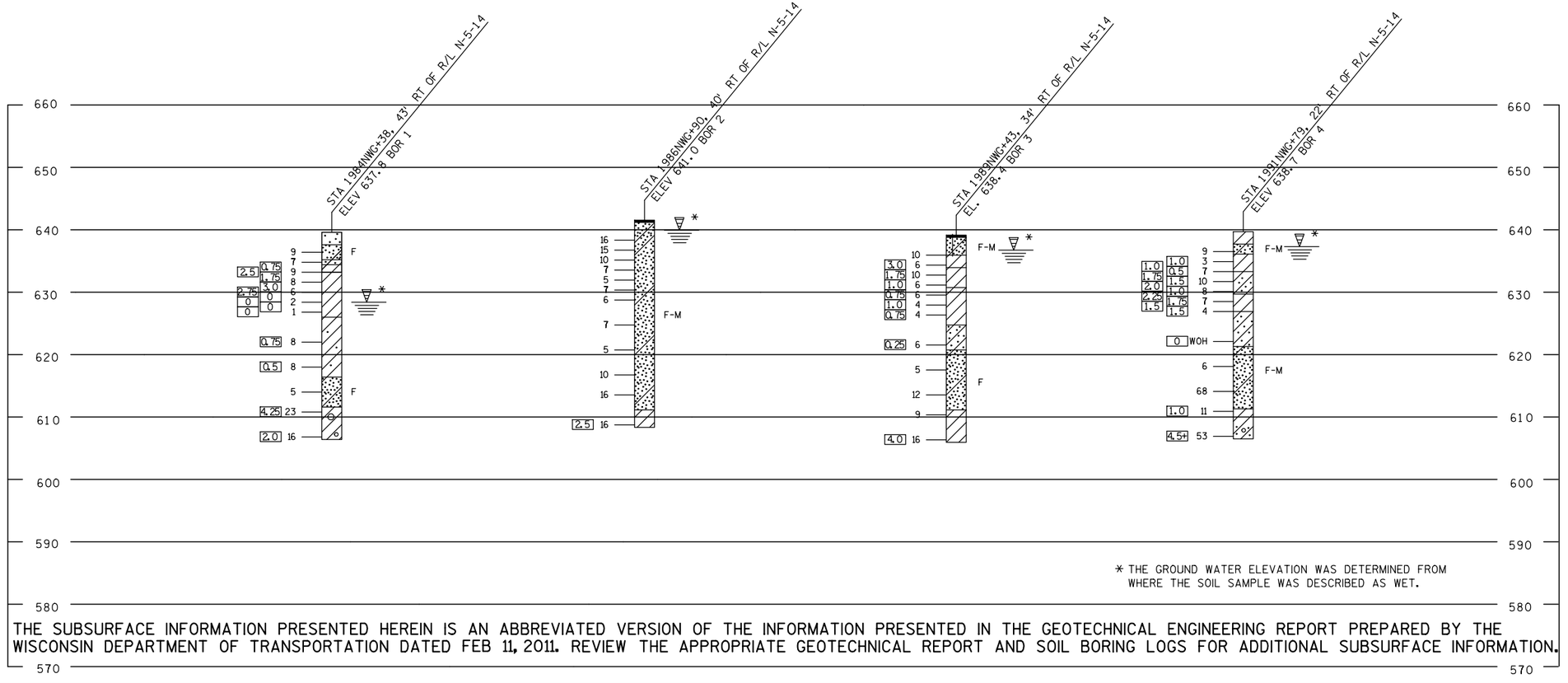
USH 41 NOISE BARRIER
STA 1984NWG+00 TO STA 1992NWG+00 (NEAR LOMBARDI AVE)





* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION DATED FEB 11, 2011. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

STATE PROJECT NUMBER

1133-03-77

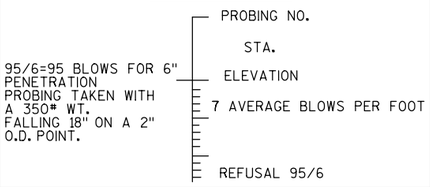
ABBREVIATIONS

F— FINE M— MEDIUM C— COARSE
WS— WEATHERED SO — SOUND

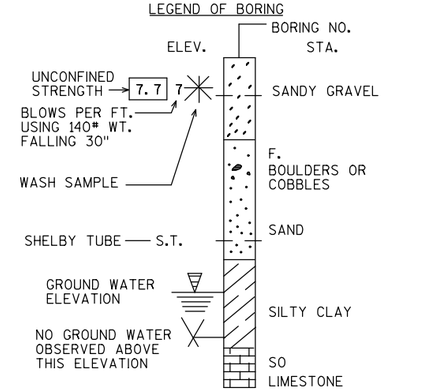
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-14

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SUBSURFACE EXPLORATION

SHEET 5 OF 6

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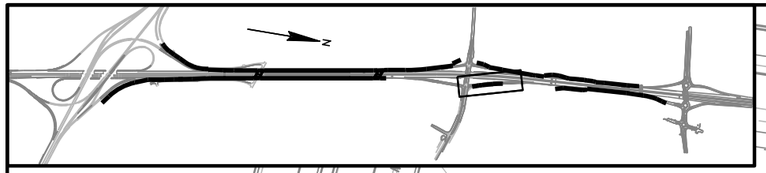
STATE PROJECT NUMBER
1133-03-77



USH 41 SB
USH 41 NB
988SB
986NB
980NB
990SB
990NB
992SB
992NB
994SB
994NB
996VKC
996SB
996NB
SIGN
982VKA
984VKB
986VKB
988VKB
990VKB
992VKB
994VKB
996VKB
INL
MH
CITY OF GREEN BAY
SANITARY SEWER
CITY OF GREEN BAY
STORM SEWER
RAMP VKB
NAME PLATE
1986NWG
1988NWG
1990NWG
1992NWG
BEGIN NOISE BARRIER
STA 1984NWG+33.00
R/L N-5-14
GROUND MOUNT TO STRUCTURE
MOUNT TRANSITION
R-5-71
END NOISE BARRIER
STA 1992NWG+02.64
R/W
LOMBARDI AVENUE
106VKW
106VKE
WPS
ELECTRIC
N

GROUND MOUNTED
STRUCTURE MOUNTED*
ACOUSTICAL LINE
BEGIN NOISE BARRIER
STA 1984NWG+33.00
END NOISE BARRIER
STA 1992NWG+02.64
VPI STA 1984NWG+33.00
VPI EL 662.31
VPI STA 1986NWG+00.00
VPI EL 666.15
VPI STA 1987NWG+00.00
VPI EL 668.43
VPI STA 1989NWG+00.00
VPI EL 671.56
VPI STA 1990NWG+00.00
VPI EL 672.55
VPI STA 1992NWG+02.64
VPI EL 673.55
PROPOSED GROUND ELEVATIONS
AT NOISE BARRIER R/L
EXISTING GROUND
ACOUSTICAL LINE
PROPOSED GROUND
ELEVATIONS

670	642.3	670.39	672.31
665	662.70	652.5	654.3
660	643.1	670.78	672.55
655	663.27	654.4	654.4
650	643.8	672.68	672.68
645	663.85	654.6	654.6
640	644.6	672.80	672.80
635	664.42	654.6	654.6
	645.5	672.92	672.92
	665.00	654.7	654.7
	646.3	673.04	673.04
	665.57	654.7	654.7
	647.0	673.17	673.17
	666.15	654.7	654.7
	647.7	673.29	673.29
	666.72	654.6	654.6
	648.4	673.41	673.41
	667.29	654.5	654.5
	649.0	673.53	673.53
	667.86		
	649.6		
	668.43		
	650.2		
	668.82		
	650.7		
	669.21		
	651.2		
	669.60		
	651.7		
	670.00		
	652.1		

*
R-5-71 STA 1989NWG+59.45 TO
STA 1992NWG+02.64

SEE STRUCTURE PLANS FOR
POST ANCHORAGE LOCATIONS

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE N-5-14

DRAWN BY CMF | PLANS CK'D. MG

NOISE BARRIER
PLAN AND PROFILE

SHEET 6 OF 6

2244

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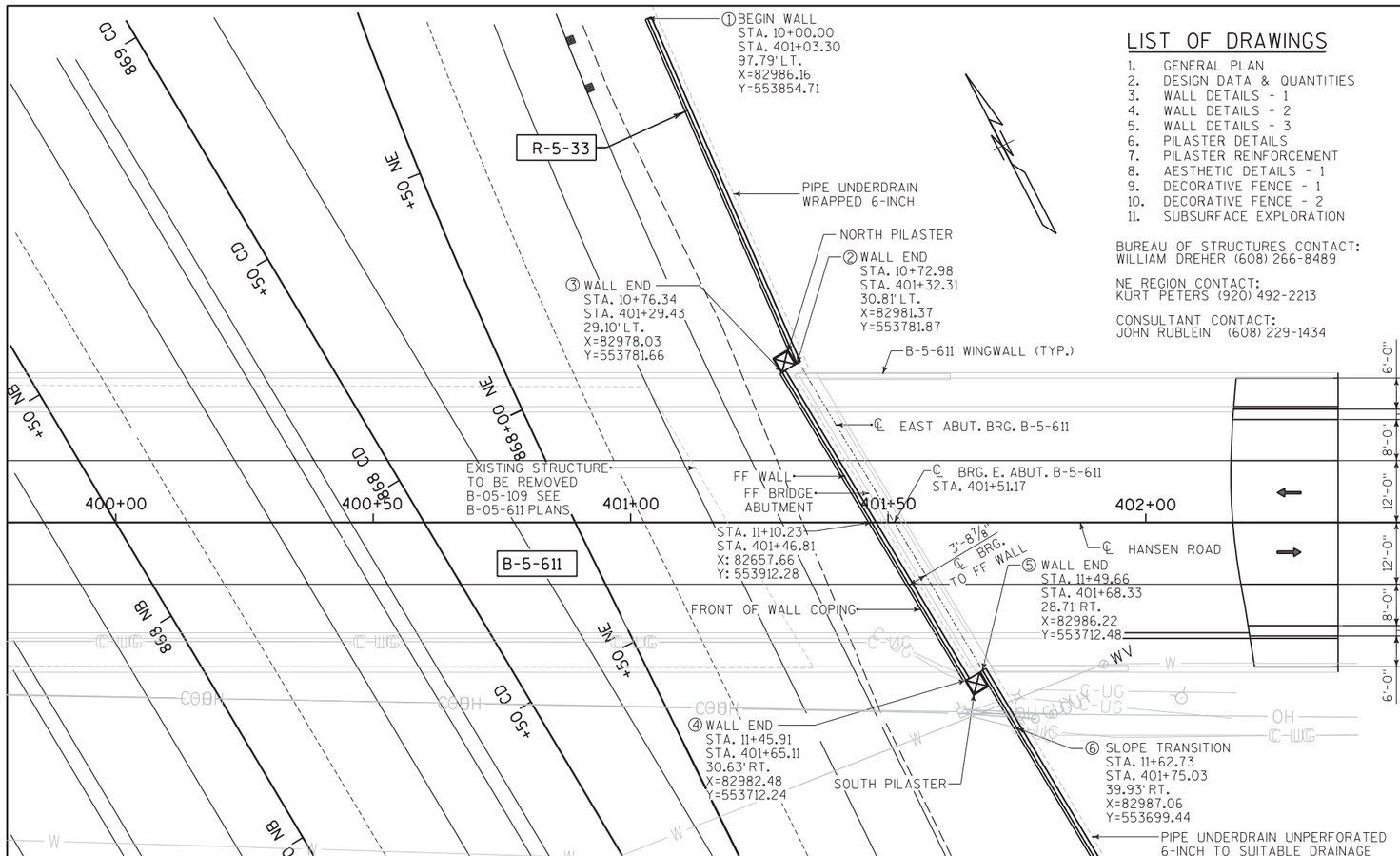
PLOT NAME :
PLOT SCALE : 100:1



RETAINING WALL PLAN

(MSE RETAINING WALL WITH TILT-UP PANELS)

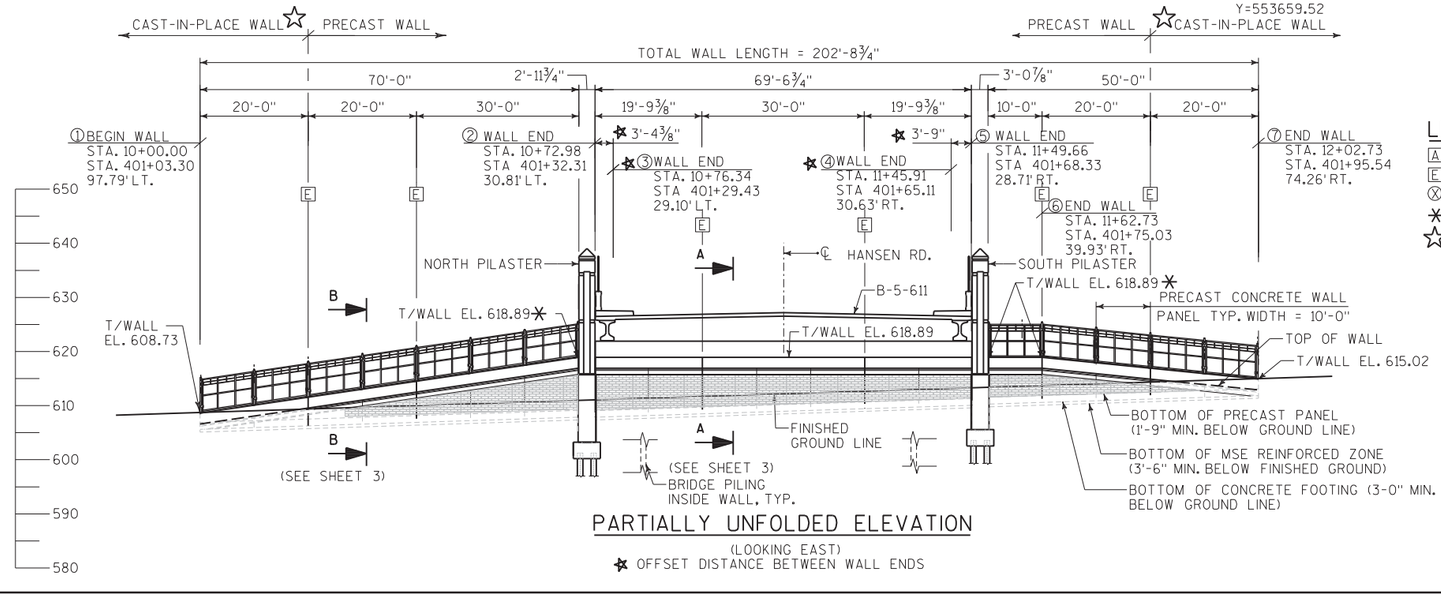
LIST OF DRAWINGS

1. GENERAL PLAN
2. DESIGN DATA & QUANTITIES
3. WALL DETAILS - 1
4. WALL DETAILS - 2
5. WALL DETAILS - 3
6. PILASTER DETAILS
7. PILASTER REINFORCEMENT
8. AESTHETIC DETAILS - 1
9. DECORATIVE FENCE - 1
10. DECORATIVE FENCE - 2
11. SUBSURFACE EXPLORATION

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

NE REGION CONTACT:
KURT PETERS (920) 492-2213

CONSULTANT CONTACT:
JOHN RUBLEIN (608) 229-1434



PARTIALLY UNFOLDED ELEVATION

(LOOKING EAST)

☆ OFFSET DISTANCE BETWEEN WALL ENDS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH."

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN IN THE GEOMETRY TABLE.

DESIGN WIRE-FACED WALL AROUND PILASTERS TO PREVENT ANY SOIL PRESSURE FROM ACTING ON PILASTERS.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THIS WALL WITH CONSTRUCTION OF EAST ABUTMENT AND BRIDGE B-5-611.

DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURES ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE PILASTERS AND END WALL SEGMENTS ARE INCLUDED IN THE ITEM "CONCRETE MASONRY RETAINING WALLS."

ALL STATIONS ARE ALONG THE ℄ FOR R-5-33 ALONG THE FRONT FACE OF WALL (UNLESS SHOWN OTHERWISE).

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFY THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M 153, TYPE I, II OR III OR AASHTO DESIGNATION M 213.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

OPTIONAL TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE FOOTING WITH A MINIMUM SPACING OF TWO PANEL JOINTS. FOOTING JOINTS SHOULD BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THRU FOOTING JOINTS.

DO NOT ALLOW CONCRETE OR FILL TO DROP OR ACCUMULATE IN WALL PANEL CAVITY.

"FINE METALLIC SCREEN" SHALL HAVE A MAXIMUM ¼" X ¼" MESH AND MINIMUM 0.023" WIRE DIAMETER. WIRES TO BE HOT DIPPED GALVANIZED AFTER WELDING.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

PROVIDE A RUBBED SURFACE TREATMENT IN ACCORDANCE WITH SECTION 502.3.7.3 TO ALL PERMANENTLY EXPOSED SURFACES OF CONCRETE MASONRY RETAINING WALLS.

SEE SPECIAL PROVISIONS FOR AESTHETIC TREATMENT TO WALL.

DESIGN THE MSE WALL FOR A SUCTION LOAD OF 20 PSF ACTING ON THE PRECAST WALL PANELS.

DESIGN FOR RETAINING WALL TO PROVIDE FOR A FINISHED GRADE SLOPE BEHIND THE WALL AS SHOWN IN THESE PLANS AND THE ROADWAY CROSS SECTIONS.

NON-PRESTRESSED/PRECAST WALLS MAY BE SUBSTITUTED AT END WALL SEGMENTS AT THE CONTRACTORS OPTION. CONTRACTOR TO COORDINATE PROPOSED SUBSTITUTIONS WITH DEPARTMENT. CONTRACTOR IS RESPONSIBLE FOR DESIGN OF CAST-IN-PLACE WALLS. ENGINEER APPROVAL IS REQUIRED PRIOR TO CONSTRUCTION.

AT ENDS OF WALL, SEAL CAVITY BETWEEN WIRE FACE AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE, 1'-6" WIDE. INCIDENTAL TO BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANELS". "FINE METALLIC SCREEN" TO HAVE A MAXIMUM ¼" x ¼" MESH AND MIMIMUM 0.025 WIRE DIAMETER. WIRES TO BE HOT DIPPED GALVANIZED AFTER WELDING.

LEGEND

- [A] = NAME PLATE LOCATION, SEE SHEET 5 FOR DETAILS
- [E] = EXPANSION JOINT LOCATION
- ⓧ = WALL WORKING POINT
- ✳ = WALL LEVEL BEHIND PILASTER
- ☆ = CONTRACTOR OPTION, SEE SECOND-TO-LAST NOTE ABOVE

WISCONSIN
JOHN F. RUBLEIN
E-38700
MADISON
WI
PROFESSIONAL ENGINEER
3/20/13

STATE PROJECT NUMBER
1133-09-74

NO.	DATE	REVISION	BY

DAAR ENGINEERING, INC.
www.daarcorp.com
Madison, WI 53703
608-249-0148

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR 03/21/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-5-33

EAST RETAINING WALL @ HANSEN RD. AND USH 41

COUNTY	VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STD. SPEC

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JFR	ACT	TRW	ACT

GENERAL PLAN

SHEET 1 OF 11
2245

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I.D.

DATE: 3/20/2013

STATE PROJECT NUMBER

1133-09-74

DIMENSIONS

WALL HEIGHT (FEET) [1]	11.4	12.5 ②	8.8
EXPOSED WALL HEIGHT (FEET)	7.9	8.0	5.3
LENGTH OF REINFORCEMENT (FEET) [3]	9.4	14.1	9.4
LENGTH OF REINF./WALL HEIGHT	0.82	1.22	1.07
SLOPE ABOVE WALL	3.0H:1V	0.0H:1V	2.5H:1V
WALL STATION	10+73	11+00	11+50
BORING	B-1 (2011)	B-1 (2011)	B-2
FACTORS OF SAFETY [4]			
SLIDING (FS_{req}>1.5)	1.5	1.5	1.5
OVERTURNING (FS_{req}>2.0)	3.1	3.7	3.7
GLOBAL STABILITY (FS_{req}>1.3)	NA ⑤	1.8	1.5
BEARING CAPACITY (FS_{req}>2.5)	8.0	6.6	3.7
ALLOW. BEARING CAPACITY (psf)	8,000	8,000	3,000

NOTES

1. THE WALL HEIGHT INCLUDES AN EMBEDMENT 3.5 FEET.
2. THE WALL STABILTY EVALUATION INCLUDED A SURCHARGE LOAD THAT WAS EQUAL TO THE WEIGHT OF THE SOIL BEHIND THE ABUTMENT.
3. THE LENGTH OF REINFORCEMENT IS THE MINIMUM REQUIRED LENGTH AT THE LOCATION.
4. FS_{req} ARE PRESENTED IN CHAPTER 14 OF THE BRIDGE MANUAL.
5. NA NOT APPLICABLE, GLOBAL SLOPE STABILTY WAS EVALUATED AT THE CRITICAL WALL LOCATION.

GEOMETRY TABLE ◪

WALL WORKING POINT	WALL STATION	HANSEN RD. STATION	OFFSET TO F.F. WALL	TOP OF WALL	FINISHED GRADE	EXISTING GRADE	X	Y
①	10+00.00	401+03.30	97.79' LT	608.73	608.73	620.99	82986.16	553854.71
②	10+72.98	401+32.31	30.81' LT	618.89	611.08	629.00	82981.37	553781.87
③	10+76.34	401+29.43	29.10 LT	618.89	609.96	628.40	82978.03	553781.66
④	11+45.91	401+65.11	30.63' RT	618.89	612.07	628.59	82982.48	553712.24
⑤	11+49.66	401.68.33	28.71' RT	618.89	613.32	628.55	82986.22	553712.48
⑥	11+62.73	401+75.03	39.93' RT	618.89	613.73	626.96	82987.06	553699.44
⑦	12+02.73	401+95.54	74.26' RT	615.02	615.02	623.33	82989.61	553659.52

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID - ITEMS	UNIT	QUANTITY
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	29
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	2380
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6
532.0700.S	WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	1075
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	80
550.1120	PILING STEEL HP 12-INCH X 53 LB.	LF	88
604.0400	SLOPE PAVING CONCRETE	SY	16
604.0600	SLOPE PAVING SELECT CRUSHED MATERIAL	SY	82
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	70
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	200
SPV.0090.502	FENCE DECORATIVE WALL	LF	127
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	1278
SPV.0165.501	STAINING CONCRETE	SF	1935
SPV.0165.502	STAINING CONCRETE BRICK	SF	665
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	1019
	NON BID - ITEMS		
	PREFORMED FILLER	SIZE	¾" & 1"
	CORK FILLER	SIZE	½"
	EXPANDED POLYSTYRENE	SIZE	1"

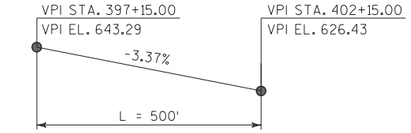
ALL ITEMS ARE CATEGORY 4000.

BENCH MARKS

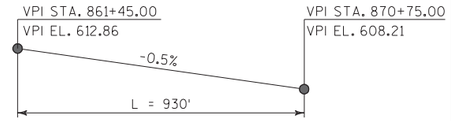
NO.	DESCRIPTION	ELEVATION
740	CHISELED SQUARE ON SW CORNER OF PARAPET WALL ON HANSEN ROAD OVER USH 41, STRUCTURE B-05-109	642.27
524	CHISELED "X ON HYDRANT BURY BOLT IN THE NW QUADRANT OF GRIFFITHS LN. & ALLIED ST. 30' WEST OF ALLILED ST. & 60' NORTH OF THE ℄ OF GRIFFITHS LN.	615.04
525	CHISELED "X ON HYDRANT BURY BOLT ON A DEAD END CUL-DE-SAC OF SPRINGHUST DR., 55 'FEET FROM A MANHOLE COVER TO THE FIRE HYDRANT AT THE EAST END OF THE ROUND-A-BOUT.	648.93
548	CHISELED "X ON HYDRANT BURY BOLT ON A HYRANT 30' NORTH OF VERNON RD. & 225' EAST OF HANSON RD., ON THE WESTERLY SIDE OF VERNON.	619.77

SOIL PARAMETERS

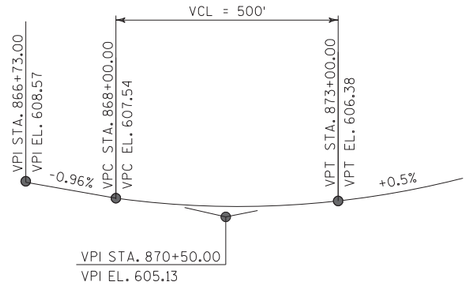
SOIL DESCRIPTION	FRICTION ANGLE (DEGREES)	COHESION (psf)	SOIL UNIT WEIGHT (pcf)
GRANULAR BACKFILL WITHIN THE WALL IN THE REINFORCING ZONE	30	0	120
FILL BEHIND THE REINFORCING ZONE	31	0	120
B-1 (2011), (SEE SHT 11 FOR BORING LOCATIONS)			
SILT, BROWN TO DARK BROWN, SOME SAND (ELEVATION 627.5 FT. - 622.0 FT.)	0	2,500	120
SAND, BROWN, FINE TO MEDIUM, TRACE SILT ELEVATION 622.0 FT. - 608.5 FT.	34	0	130
SILT, BROWN, SOME SAND, TRACE GRAVEL ELEVATION 608.5 FT. - 590.5 FT.	38	0	135
CLAY, BROWN, SOME SILT ELEVATION 590.5 FT. - 589.0 FT.	0	4,500	130
CLAY, BROWN, TRACE SILT ELEVATION 589.0 FT. - 585.0 FT.	0	3,000	125
SILT, GRAY, WITH CLAY SEAMS ELEVATION 585.0 FT. - 571.5 FT.	0	2,000	120
B-2, (SEE SHT 11 FOR BORING LOCATIONS			
SILT, SOME SAND (ELEVATION 629.9 FT. - 601.0 FT.)	31	0	125
GRAVEL ELEVATION 601.0 FT. - 599.0 FT.	35	0	125
CLAY, TRACE SAND ELEVATION 599.0 FT. - 576.0 FT.	38	0	135
SILT, SOME SAND ELEVATION 576.5 FT. - 573.0 FT.	0	1,000	115
CLAY, SOME SAND, SME SILT ELEVATION 573.0 FT. - 529.0 FT.	0	1,500	115



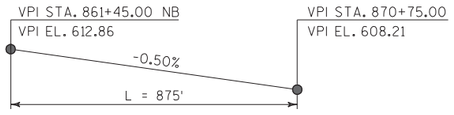
PROFILE GRADE LINE - HANSEN RD.



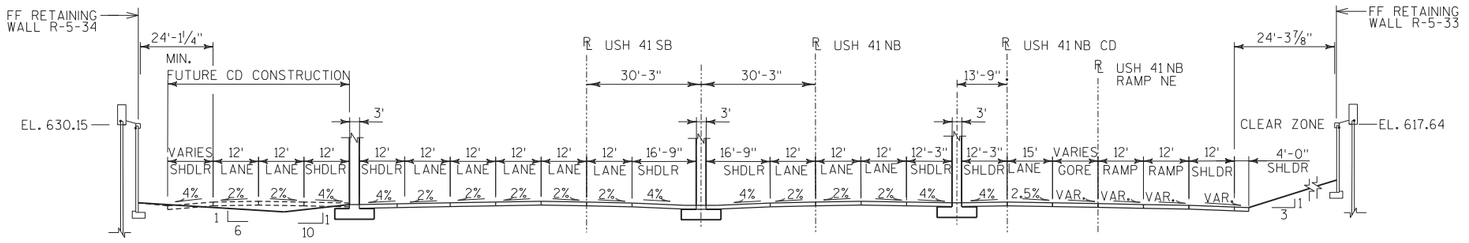
PROFILE GRADE LINE - USH 41 NB



PROFILE GRADE LINE - USH 41 NB RAMP NE



PROFILE GRADE LINE - USH 41 NB



TYPICAL SECTION THRU USH 41

(LOOKING NORTH)

TRAFFIC DATA:

HANSEN RD.
A.D.T. (2013) = 9,500
A.D.T. (2033) = 15,500
R.D.S. = 40 M.P.H.

USH 41 NB
A.D.T. (2015) = 42,600
A.D.T. (2035) = 52,600
R.D.S. = 70 M.P.H.

USH 41 SB
A.D.T. (2015) = 41,500
A.D.T. (2035) = 51,300
R.D.S. = 70 M.P.H.

LEGEND & NOTE

◪ LINEARLY INTERPOLATE WALL ELEVATIONS BETWEEN STATION

F.F. = FRONT FACE

DESIGN DATA

LIVE LOAD
LIVE LOAD SURCHARGE (ROADWAY) _____ 240 P.S.F.

MATERIAL PROPERTIES
CONCRETE MASONRY RETAINING WALL _____ f'c = 4,000 PSI
PRECAST CONRETE WALL PANELS _____ f'c = 5,000 PSI
BAR STEEL REINFORCEMENT _____ fy = 60,000 PSI
STRUCTURAL CARBON STEEL _____ fy = 36,000 PSI
(ASTM A709, GRADE 36)

FOUNDATION DATA - ALLOWABLE SOIL BEARING CAPACITY
MSE WALL _____ (SEE TABLE)

NOTE : THE WALL HAS BEEN DESIGNED FOR LIVE LOAD SURCHARGES AS NOTED. CONTRACTOR IS RESPONSIBLE FOR EVALUATING WALL FOR ANTICIPATED CONSTRUCTION/LIVE LOAD SURCHARGES IN EXCESS OF 240 PSF.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-33

DRAWN BY TRW | PLANS CK'D. ACT

DESIGN DATA & QUANTITIES

SHEET 2 OF 11
2246

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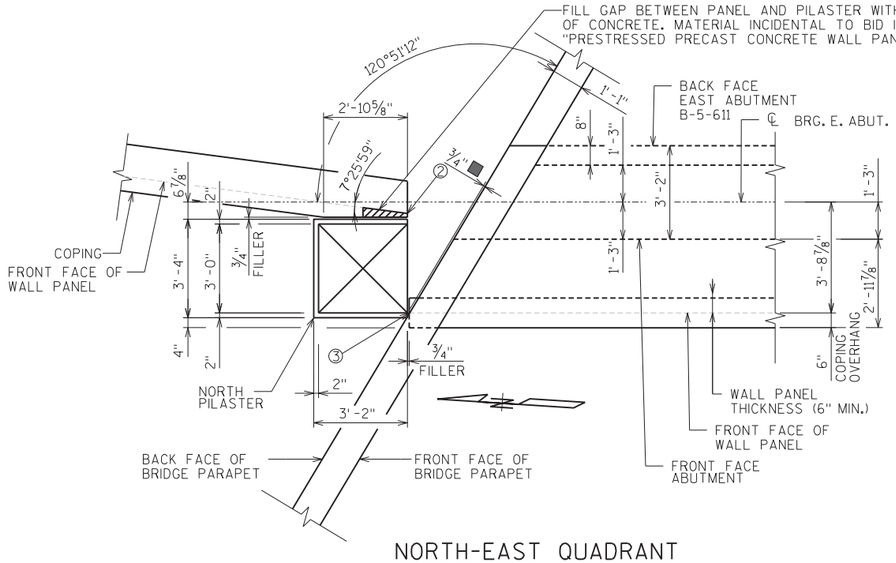
$$...plottingtime...$$

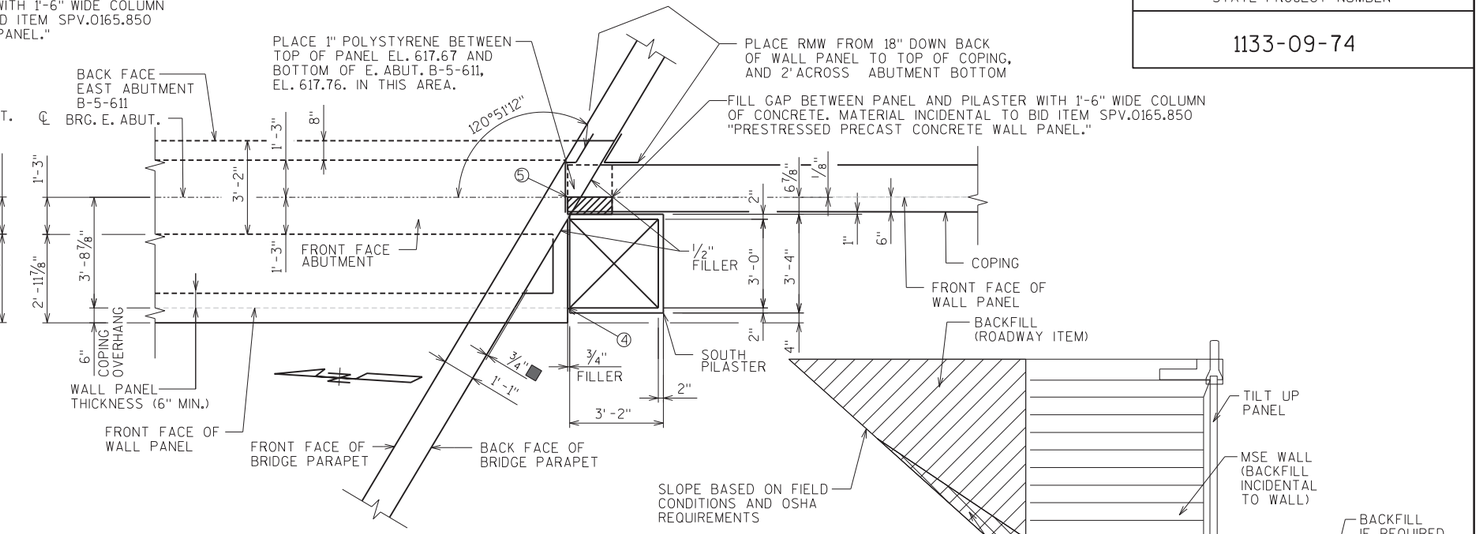
3/20/2013

STATE PROJECT NUMBER

1133-09-74

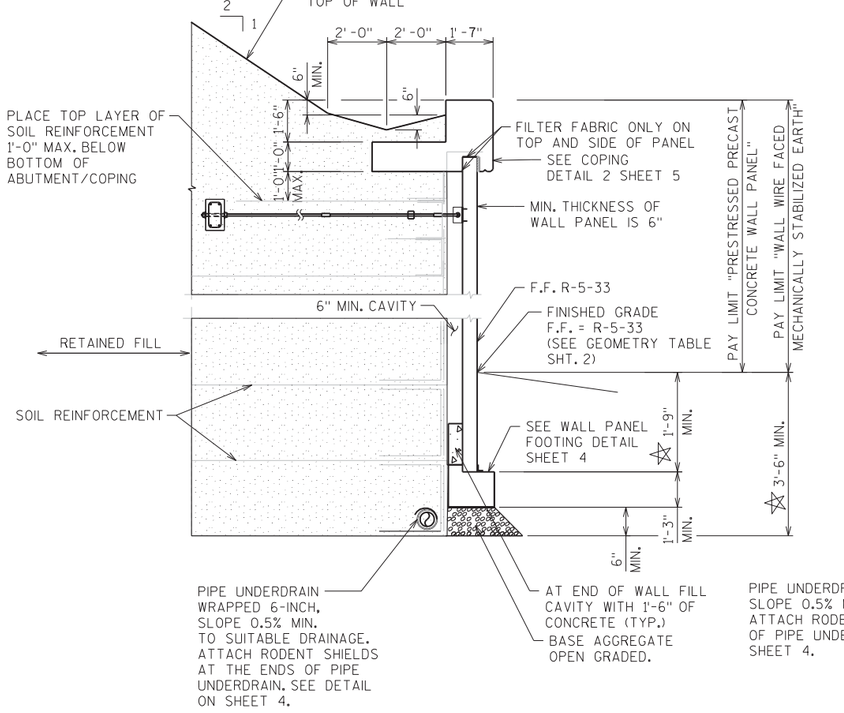


NORTH-EAST QUADRANT

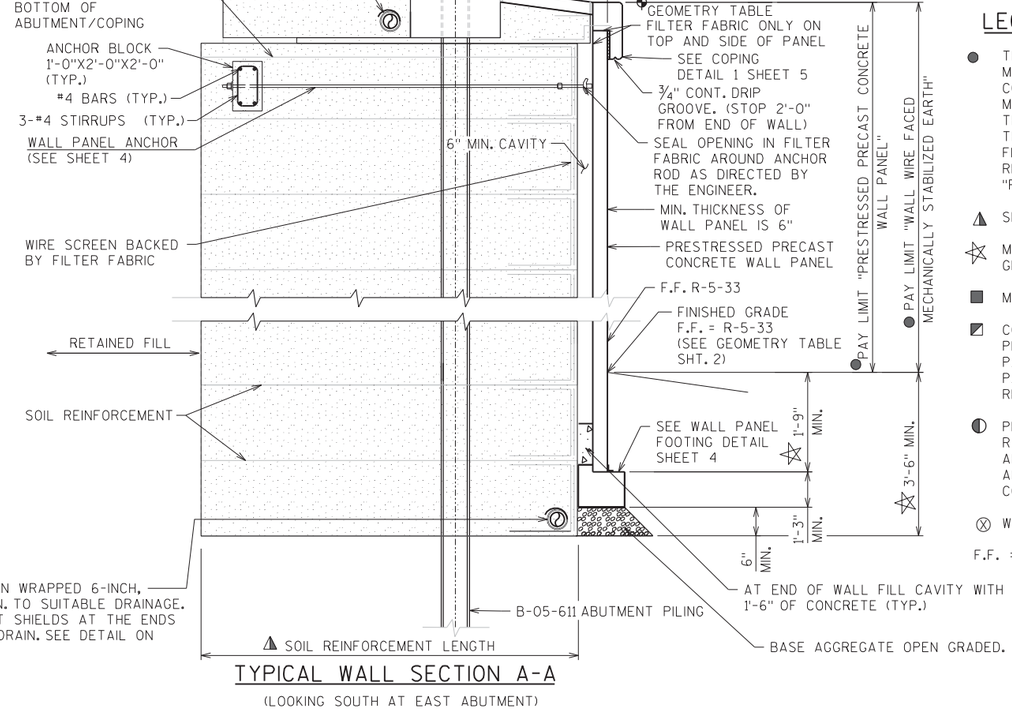


SOUTH-EAST QUADRANT

EXCAVATION/BACKFILL DETAIL



SECTION B-B



TYPICAL WALL SECTION A-A

(LOOKING SOUTH AT EAST ABUTMENT)

INSTALL BRIDGE PILING BEFORE MSE WALL. PLACE REINFORCING MAT AROUND PILING FOR BRIDGE ABUTMENT.

INSTALLATION OF BRIDGE PILING IS NOT A RETAINING WALL BID ITEM.

LEGEND

- ● THE PLAN QUANTITY FOR THE BID ITEMS "WALL WIRE FACED MECHANICALLY STABLIZED EARTH" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL" ARE BASED ON A WALL HEIGHT MEASURED FROM THE FINISHED GRADE AT THE FRONT FACE OF THE WALL TO THE TOP OF THE WALL AS SHOWN. THE TOP OF THE FOOTING IS ASSUMED TO BE A CONSTANT 1'-9" BELOW FINISHED GRADE. INFILL CONCRETE, COPING CONCRETE AND COPING REINFORCEMENT ARE TO BE INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."
- ◭ SEE SHEET 2 FOR SOIL REINFORCEMENT REQUIREMENTS.
- ☆ MINIMUM EMBEDMENT DEPTHS SHALL BE BASED ON FINISHED GRADE NOTED IN "GEOMETRY TABLE" ON SHEET 2.
- ■ MINIMUM CLEARANCE FROM PARAPET TO PILASTER.
- ◪ CONCRETE SLOPE PAVING TO BE A MINIMUM OF 4" THICK. PLACE CONSTRUCTION JOINTS EVERY 10' MAX. SEE SLOPE PAVING CONSTRUCTION JOINT DETAIL ON SHEET 5. WARP SLOPE PAVING AT WALL RETURNS AT ENDS OF ABUTMENTS TO MEET RETURN COPING. TAPER SLOPE BREAK FOR WARP AT 1:1 (45°).
- ◐ PROVIDE UNDERDRAIN UNPERFORATED 6-INCH RISER TO CONNECT R-5-33 TO B-5-611 ABUTMENT UNDERDRAIN. LOCATE THE RISER APROXIMATELY 3 FEET NE OF W.P. 5. REFER TO B-5-611 FOR ABUTMENT UNDERDRAIN LOCATION. CAP RISER AT EL. 615.5 FOR CONNECTION TO ABUTMENT UNDERDRAIN.
- ⊗ WALL WORKING POINTS.

F.F. = FRONT FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-33

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WALL DETAILS - 1

SHEET 3 OF 11

2247

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SCALE = 5:1 1/2 " : " / IN.

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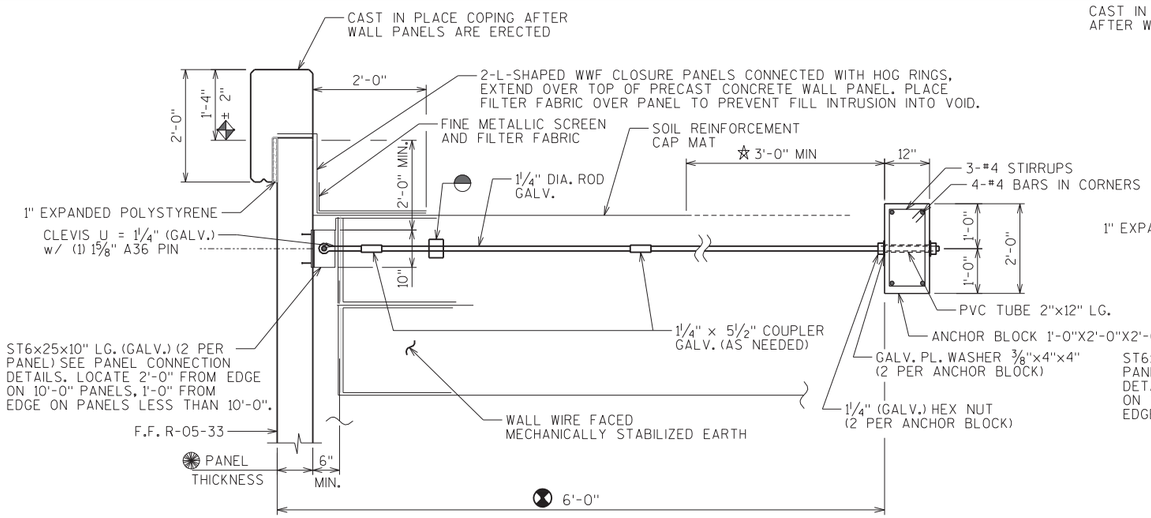
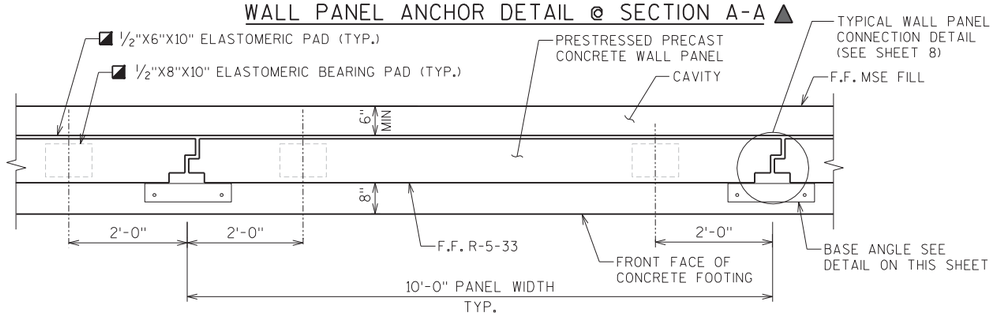


WALL PANEL ANCHOR DETAIL @ SECTION A-A ▲



PLAN VIEW WALL PANEL CONNECTION

NOTES

AN ALTERNATE DEADMAN AND PANEL CONNECTION SYSTEM MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER.

LEGEND

* DIMENSIONS ARE APPROXIMATE, GRATE TO BE SIZED TO FIT INTO A PIPE COUPLING. ORIENT RODENT SHIELD SO SLOTS ARE VERTICAL. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH." THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL . THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

▲ WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, 1¼" DIA. ANCHOR ROD, CLEVIS, AND OTHER PANEL CONNECTION COMPONENTS. DETAILING AND FINISHING OF THOSE ITEMS IS INCLUDED IN BID ITEM "PRESTESSED PRECAST CONCRETE WALL PANEL." INSTALLATION OF THESE ITEMS IS INCLUDED IN THE BID ITEM "WIRE FACED WALL MECHANICALLY STABILIZED EARTH."

WALL PANEL THICKNESS AS DETERMINED IN ACCORDANCE WITH THE DESIGN REQUIREMENTS DEFINED IN THE SPECIAL PROVISIONS. (6" MINIMUM)

S12X50 (GALV.) CUT IN HALF TO FORM "T" SECTION BF=5.477", TW=0.687.

OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. (CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼ DIAM. BAR)

☆ DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION AND ROD TO BE 2'-0" MIN. BELOW FINISHED GRADE.

○ AS AN ALTERNATE, ½" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.

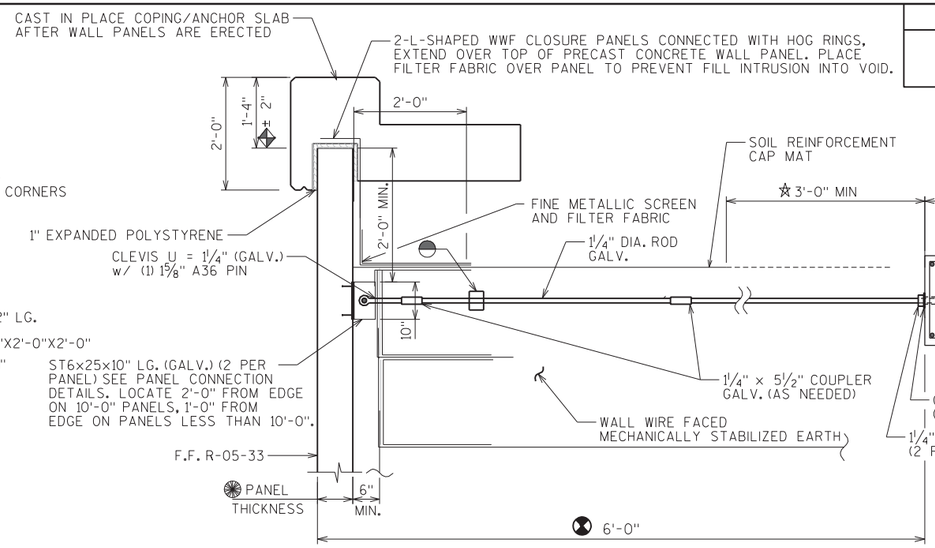
LENGTH MAY BE INCREASED TO AVOID OBSTRUCTIONS, SUCH AS ABUTMENT PILING.

MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE PRECAST PANELS.

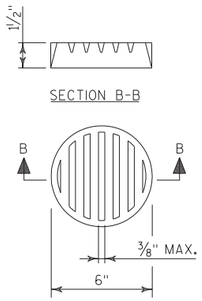
INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

GEOTEXTILE FABRIC TYPE DF, 2'-0" WIDE, LENGTH OF FOOTING

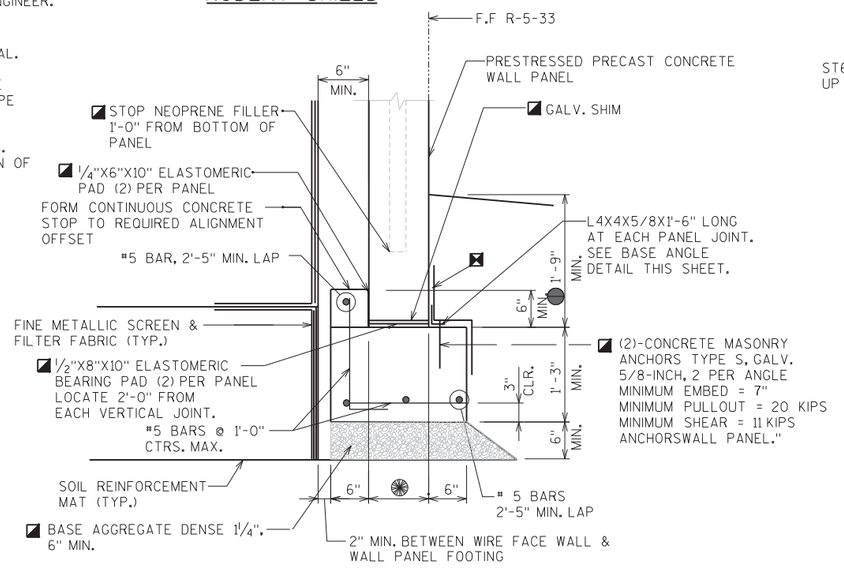
MUST BE 1'-4" AT W.P. 2, 3, 4, & 5.



WALL PANEL ANCHOR DETAIL @ SECTION B-B ▲

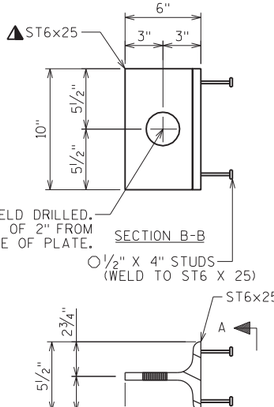


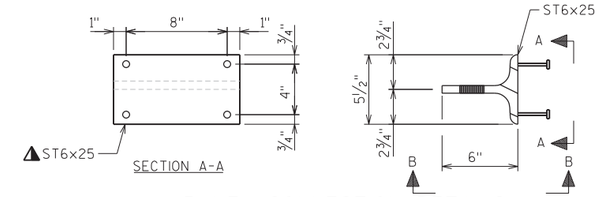
* RODENT SHIELD



WALL PANEL FOOTING DETAIL

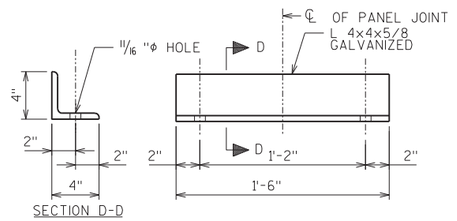
(NOTE: FOOTING CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL")





PANEL CONNECTION DETAILS

ST6 X 25 MAY BE WELDED TO ¾" THICK PLATE ANCHORED IN TILT UP PANEL. DETAILS SUBJECT TO APPROVAL BY THE ENGINEER.



BASE ANGLE DETAIL

(1) AT EACH PANEL JOINT INCLUDED IN BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

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STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE R-5-33

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WALL DETAILS - 2 | SHEET 4 OF 11 | 2248

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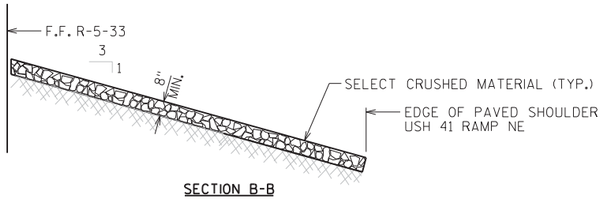
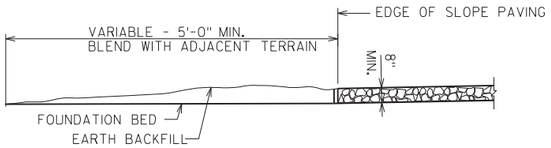
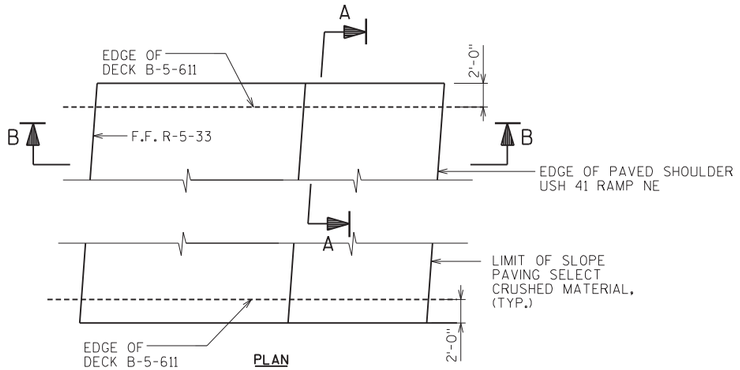


SECTION B-B

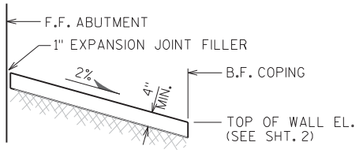


SECTION A-A

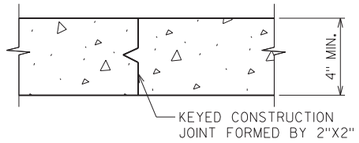


PLAN

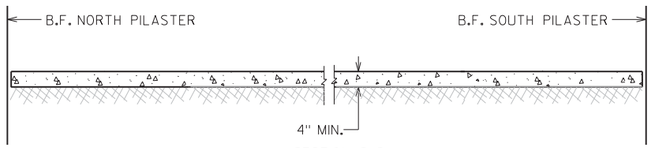
SLOPE PAVING SELECT CRUSHED MATERIAL DETAILS



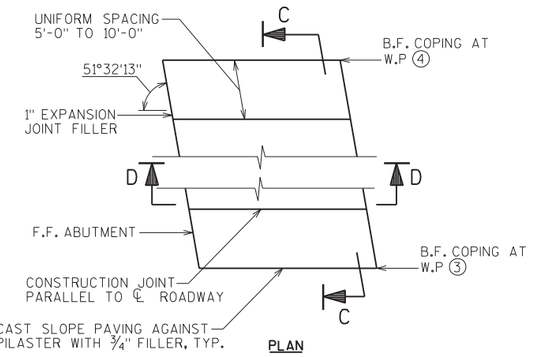
SECTION D-D



CONSTRUCTION JOINT DETAIL

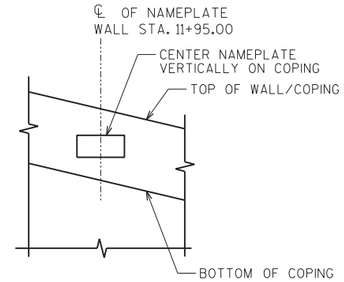


SECTION C-C

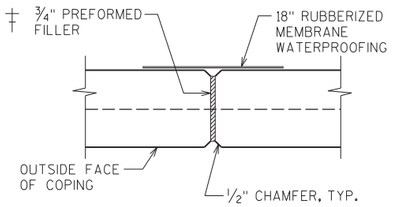


PLAN

SLOPE PAVING CONCRETE DETAILS

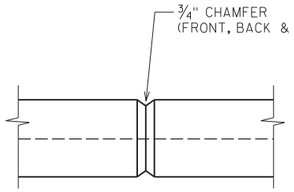


NAME PLATE DETAIL



COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.

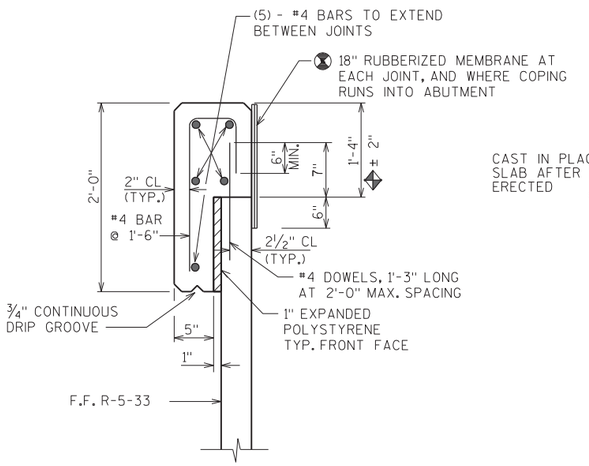


COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.

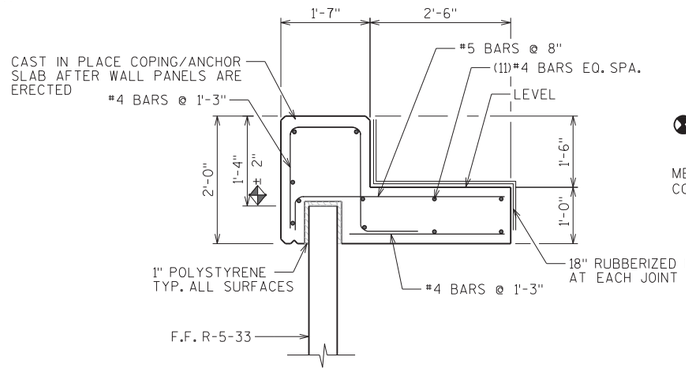
LEGEND

- CONST. JOINT - STRIKE OFF AS SHOWN
- PLACE (3) -¾"Φ (SMOOTH) DOWEL BARS, 1'-6" LONG BETWEEN SEGMENTS. EMBED 9". USE APPROVED DEBONDER ON ½ OF BAR LENGTH. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. COST OF ITEMS ARE INCLUDED IN BID ITEM "CONCRETE MASONRY RETAINING WALLS."
- 1½" DIMENSION IS TO INSIDE OF FORMLINER RELIEF. SEE SHEET 10 FOR FORMLINER DETAILS.
- SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH STAIN. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)
- EXPANSION JOINTS TO BE SPACED AS SHOWN ON SHEET 1. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF COPING.
- MUST BE 1'-4" AT W.P. 2, 3, 4, & 5.
- LOCATE CONTRACTION JOINTS OVER WALL PANEL JOINTS WITH NO EXPANSION JOINT NOTED.



CAST-IN-PLACE CONCRETE COPING DETAIL 1

(NOTE: COPING CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL.")



CAST-IN-PLACE CONCRETE COPING DETAIL 2

(NOTE: COPING CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL.")

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-33

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WALL DETAILS - 3

SHEET 5 OF 11

2249

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3/20/2013

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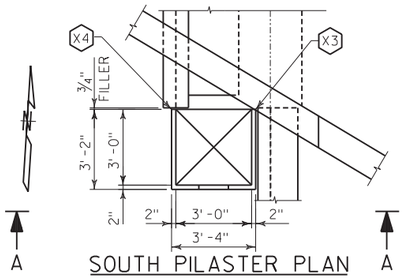
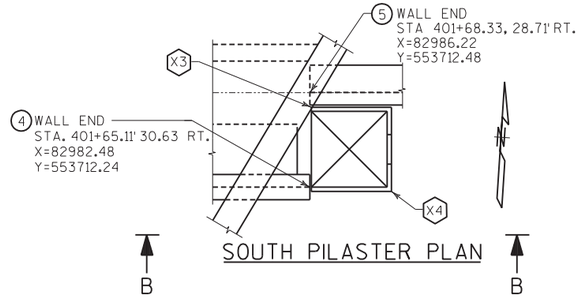
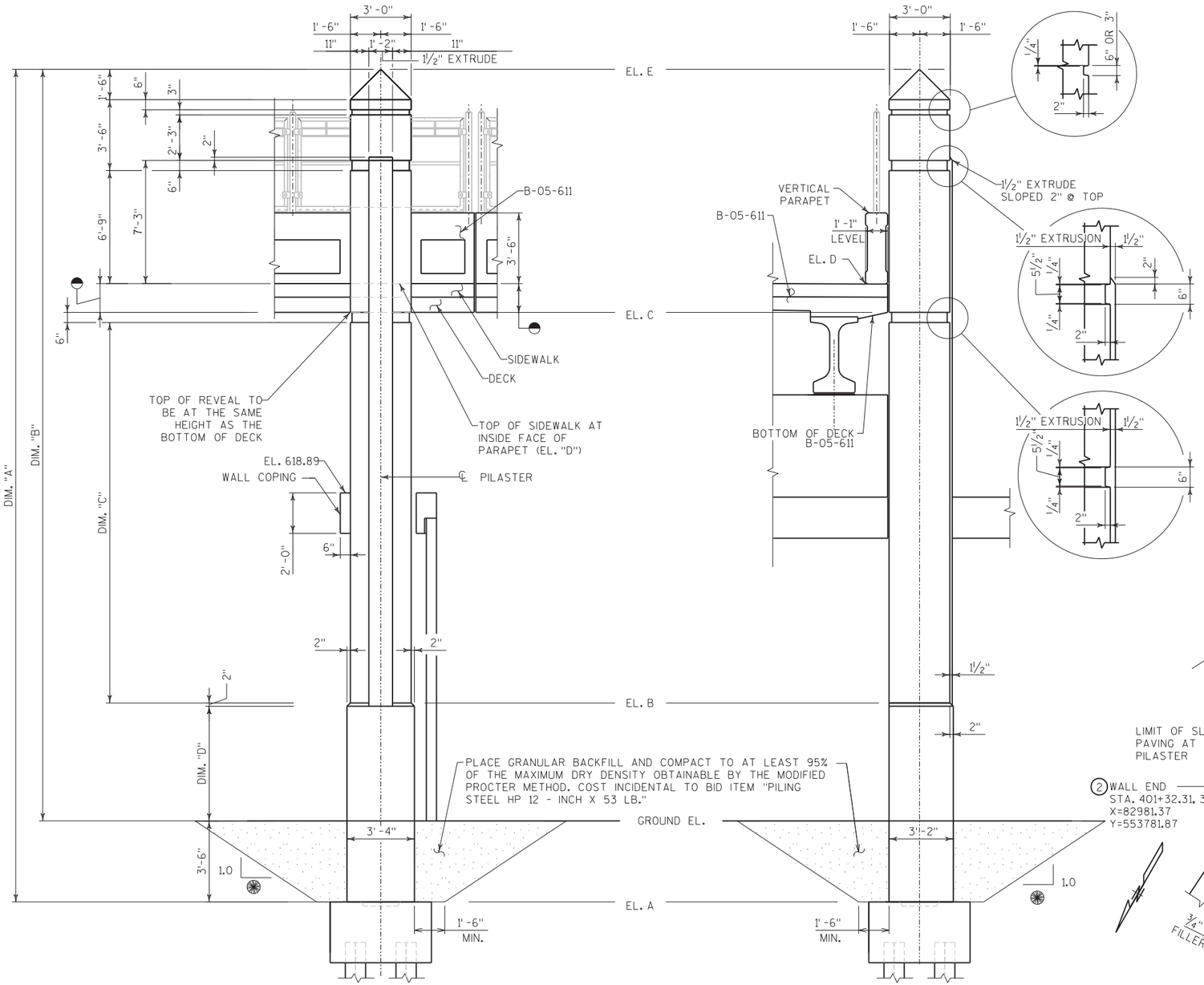


SOUTH PILASTER PLAN



SOUTH PILASTER PLAN



* SECTION A-A

* SECTION B-B

PILASTER ELEVATIONS

LOCATION	SOUTH	NORTH
EL. A	609.82	607.58
EL. B	616.06	616.06
EL. C	626.69	627.99
■ EL. D	628.19	629.49
EL. E	639.94	641.24
● GROUND EL. @ FACE CLOSEST TO WALL PANEL	612.07	609.96

PILASTER LOCATIONS

LOCATION		HANSEN RD. STA.	OFFSET
NORTH	X1	401+29.26	29.06 LT
	X2	401+32.12	30.77 LT
SOUTH	X3	401+67.86	29.06 RT
	X4	401+65.00	30.77 RT

PILASTER DIMENSIONS

LOCATION	SOUTH	NORTH
DIM. "A"	30'-1½"	33'-7⅞"
DIM. "B"	26'-7½"	30'-1⅞"
DIM. "C"	10'-1⅝"	11'-5⅛"
DIM. "D"	2'-7"	4'-9⅞"

LEGEND

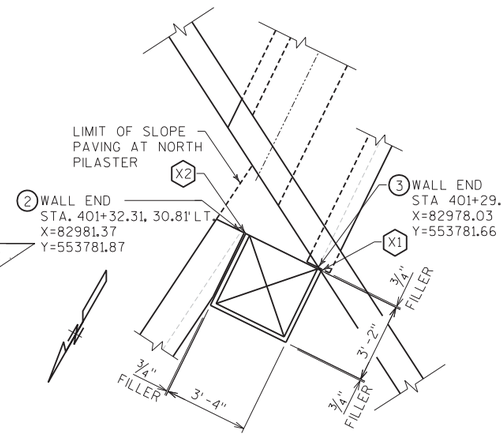
- ■ EL. "D" = TOP OF SIDEWALK @ BOTTOM OF PARAPET
- ◓ DISTANCE IS FROM TOP OF SIDEWALK AT FACE OF PARAPET TO BOTTOM OF DECK AT OUTSIDE EDGE = 1'-6".
- ● GROUND ELEVATION IS FINISHED GRADE.
- ✳ SOUTH PILASTER SHOWN, NORTH SIMILAR
- ◍ EXCAVATED SLOPE PER OSHA REQUIREMENTS.
- ▤ IF WALL EMBEDMENT IS MORE THAN 3'-6", THEN PILASTER FOOTING EMBEDMENT AND REINFORCEMENT SHALL BE ADJUSTED ACCORDINGLY. IF EMBEDMENT IS MORE THAN 6" BELOW PLAN EMBEDMENT THE DESIGNER SHALL BE NOTIFIED.

PILASTER FOUNDATION DATA

PILASTER TO BE SUPPORTED ON 4-HP 12X53 STEEL PILES PLACED IN PRE-DRILLED HOLES. SEAT PILES TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ** PER PILE IN THE VERY HARD SILT LAYER AND/OR THE VERY HARD CLAY LAYER. THE H-PILE SHOULD BE SEATED INTO THE PRE-DRILLED HOLE WITH CONCRETE PLACED IN THE HOLE AROUND THE PILE. ESTIMATED LENGTH = 11 FEET. EXCAVATE TO ELEVATION "A" PRIOR TO PRE-DRILLING FOR PILING.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 FOR THE SEATED PILE.

THE CONTRACTOR MAY SUBMIT AN ALTERNATIVE FOUNDATION DESIGN, IN ACCORDANCE WITH THE SPECIAL PROVISIONS, FOR REVIEW AND POSSIBLE ACCEPTANCE.



NORTH PILASTER PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-33

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PILASTER DETAILS

SHEET 6 OF 11
2250

SCALE = 6:0 " : " / IN.

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STATE PROJECT NUMBER

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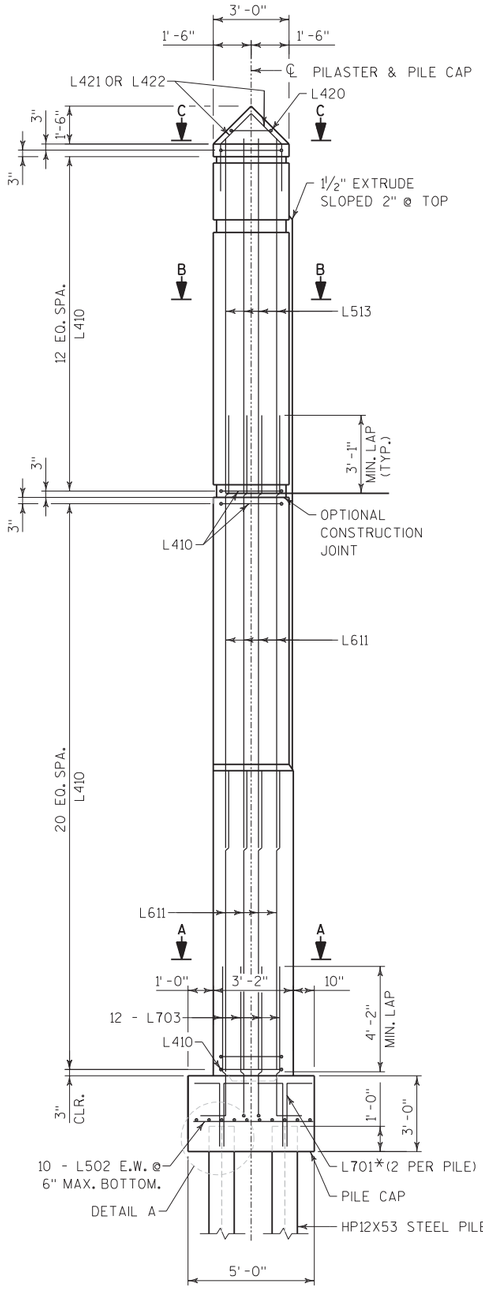
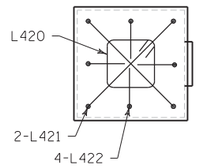
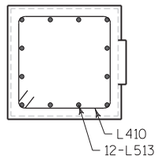


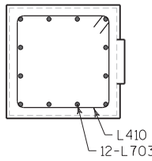
PILASTER ELEVATION AND REINFORCEMENT



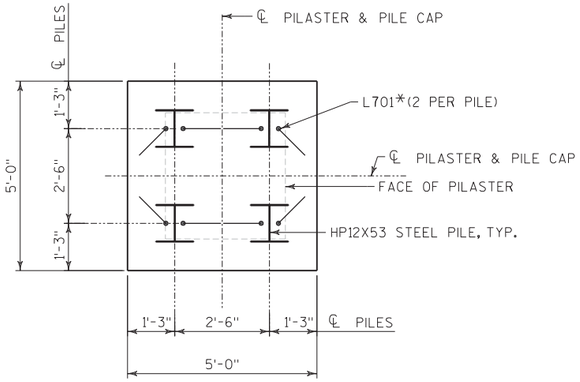
SECTION C-C



SECTION B-B



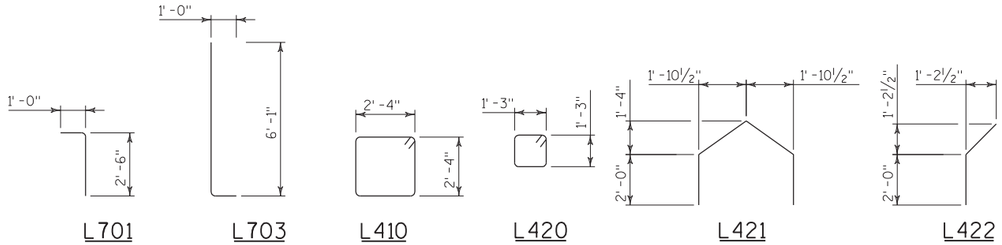
SECTION A-A

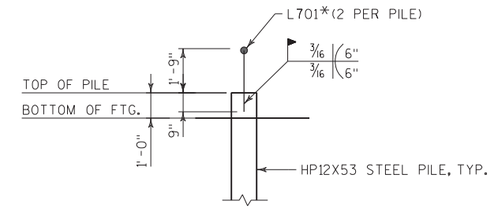


PILE CAP PLAN

BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
L701	X	16	3'-4"	X		BAR WELDED TO PILE
L502	X	40	4'-8"			FOOTING - BOTTOM MAT
L703	X	24	6'-11"	X		FOOTING VERTICAL DOWELS
L410	X	68	9'-9"	X		COLUMN - STIRRUPS
L611	X	48	13'-2"			COLUMN - VERT.
L513	X	24	11'-8"			COLUMN - VERT.
L420	X	2	5'-5"	X		PILASTER CAP - HORIZ.
L421	X	4	8'-5"	X		PILASTER CAP - VERT.
L422	X	8	3'-8"	X		PILASTER CAP - VERT.





PILE HEAD DETAIL

LEGEND

* REINFORCEMENT WELDED TO PILE SHALL CONFORM TO ASTM A706

E.W. = EACH WAY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-33

DRAWN BY TRW | PLANS CK'D. ACT

PILASTER REINFORCEMENT

SHEET 7 OF 11
2251

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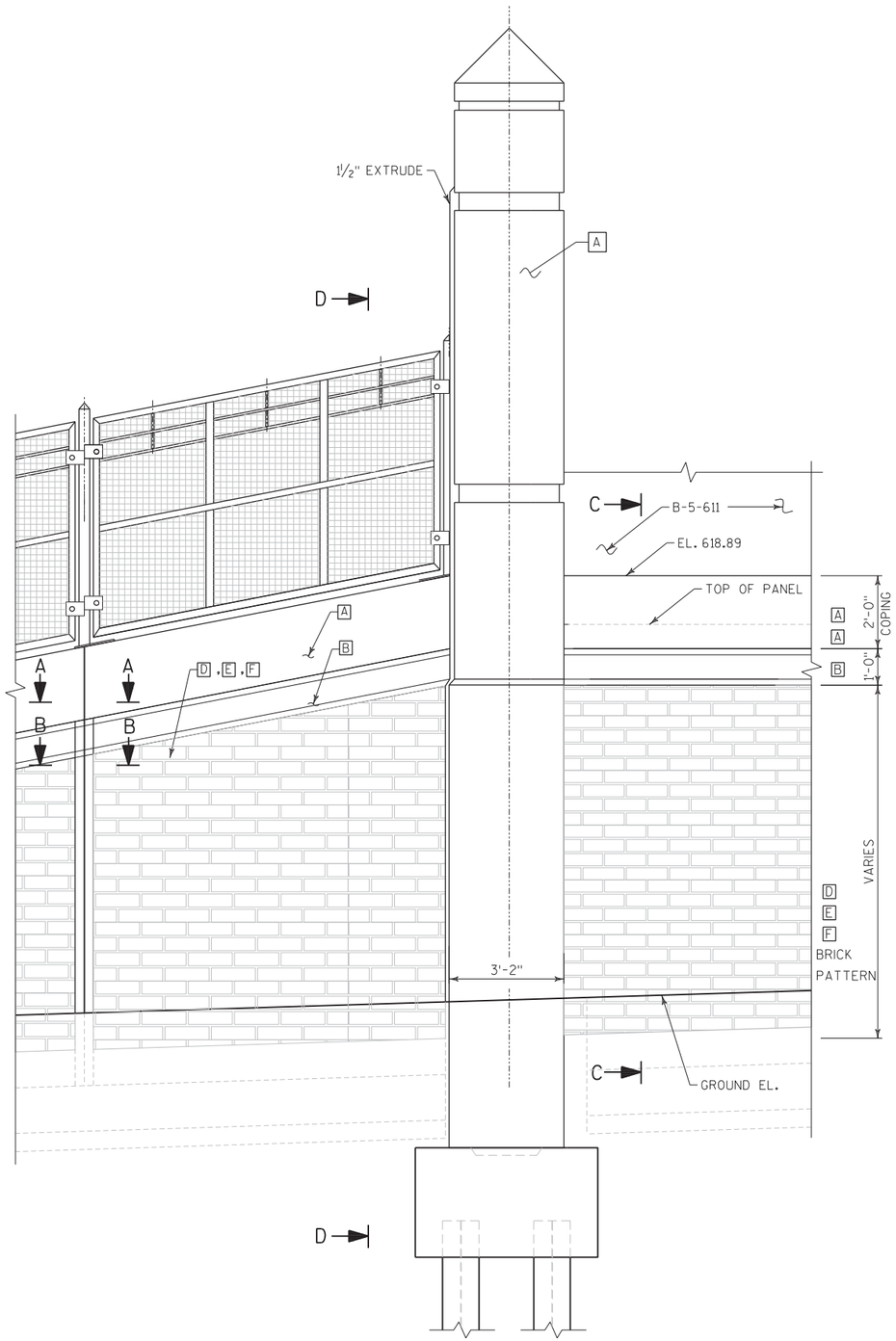
SCALE = 6:0 " : " / IN.

STATE PROJECT NUMBER

1133-09-74

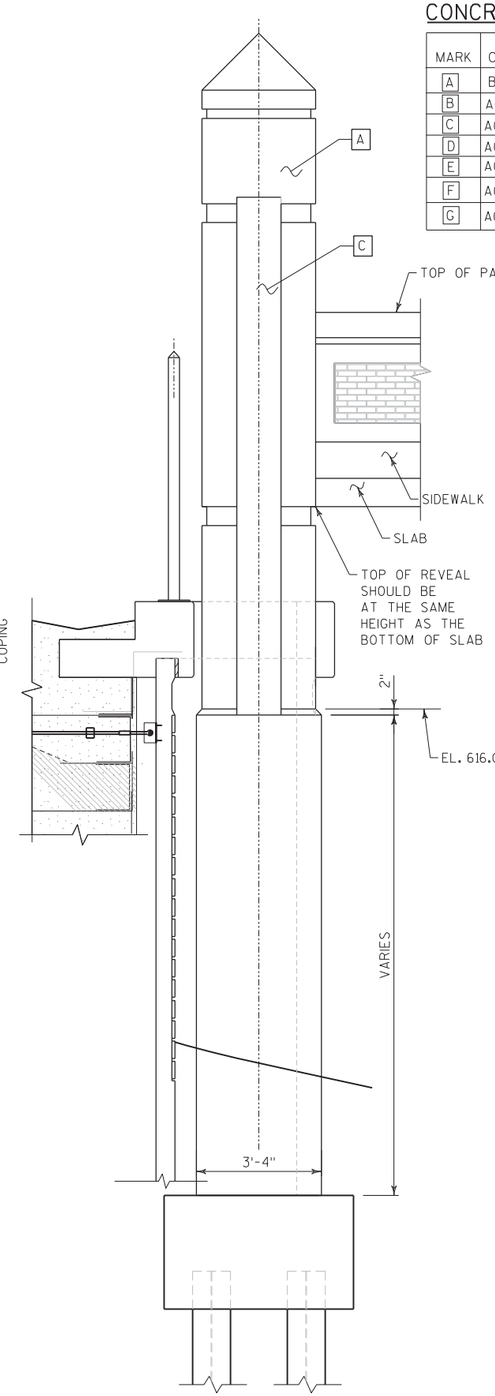
CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS, PILASTERS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	NOT USED

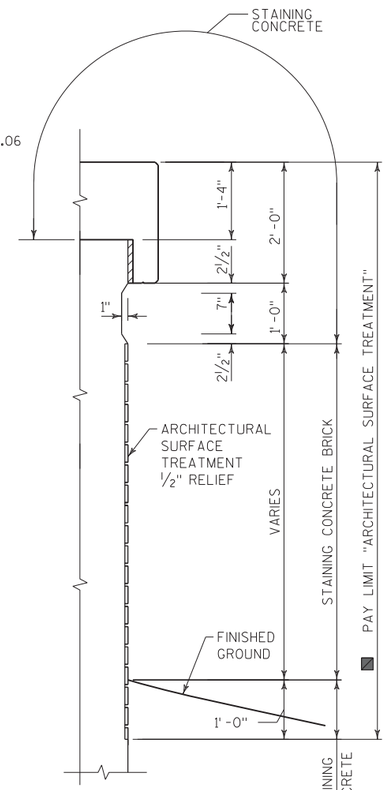


PARTIAL ELEVATION R-5-33

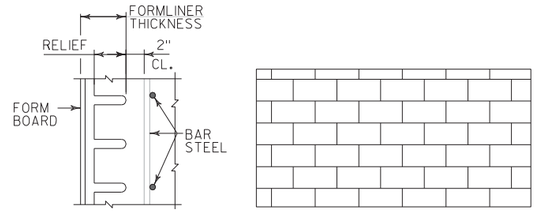
(LOOKING EAST AT NORTH SIDE OF WALL, SOUTH SIDE MIRROR IMAGE)



SECTION D-D



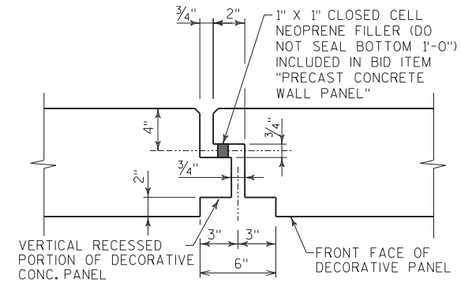
SECTION C-C



SECTION THRU FORMLINER

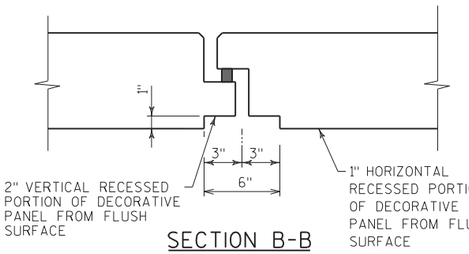
ARCHITECTURAL SURFACE TREATMENT
RECTANGULAR BRICK

SIZE = 2¼" TO 2⅜" x 7⅝" TO 8"
MAX. RELIEF = ½"



SECTION A-A

CHAMFER REVEALS 1/16" PER INCH OF DEPTH



SECTION B-B

LEGEND

▨ PAY LIMIT FOR "ARCHITECTURAL SURFACE TREATMENT" FOR THE WALL PANELS IS FROM TOP OF WALL TO 1'-0" BELOW GRADE. SEE SPECIAL PROVISIONS AND FORMLINER DETAILS THIS SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-33

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AESTHETIC DETAILS-1

SHEET 8 OF 11
2252

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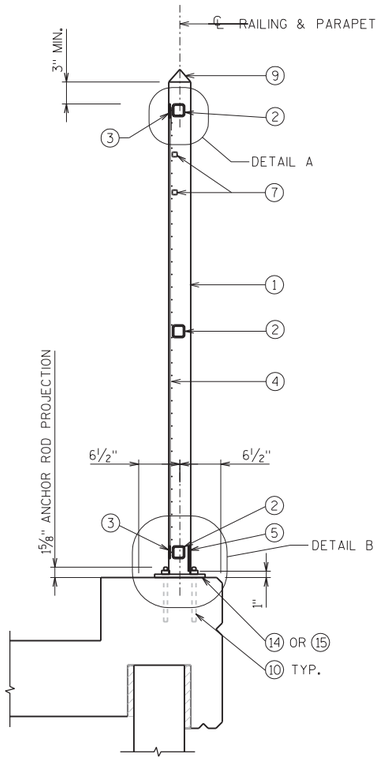
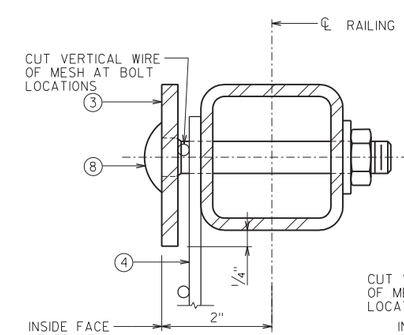
3/20/2013

STATE PROJECT NUMBER

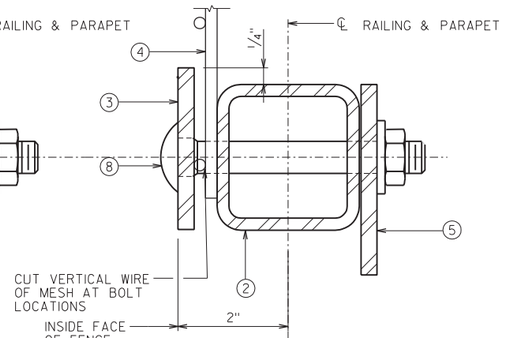
1133-09-74



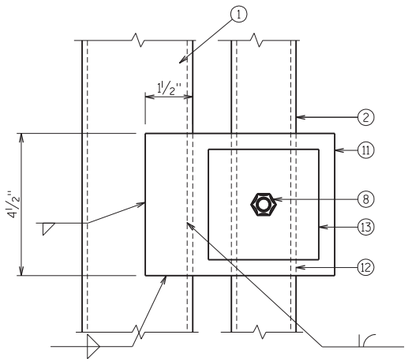
SECTION THRU VERTICAL FACE PARAPET



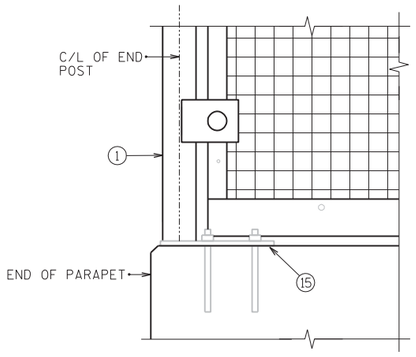
DETAIL A



DETAIL B



DETAIL C



END POST DETAIL

LEGEND

1. HSS 3½" X 3½" X 3⁄16" POST WITH ¼" DIA. VENT HOLES TOP & BOTTOM ON OUTSIDE FACE. RESIZE AS NECESSARY FOR GALVANIZING PROCESS. WELD TO NO.9 & BASE PLATE, TYP.
2. HSS 2½" X 2½" X 3⁄16" . WELD TO NO. 7.
3. PL 2¾" X ¼" WELDED FRAME. WELD TO NO. 4. BOLT TO NO. 2 WITH NO. 8 AFTER PAINTING.
4. STEEL MESH 2" X 2" X 0.162 (8 GA.). PLACE VERTICAL WIRES ON INSIDE FACE OF PARAPET. WELD TO NO. 3.
5. PL ¼" X WIDTH VARIES. PROVIDE SHORT SLOTTED VERT. HOLES FOR NO. 8.
6. NOT USED
7. ¾" x ¾" BAR. WELD TO NO. 2 & 7.
8. ½" DIA. CARRIAGE BOLT, WASHER AND NUT. PROVIDE 5⁄8" x5⁄8" SQUARE HOLE IN NO. 3 & NO. 2 OF PANEL TYPE G ONLY FOR SQUARE PORTION OF THE BOLT HEAD.
9. 3½" X 3½" PYRAMIDAL CAP. WELD TO NO. 1.
10. 5⁄8" DIA. CONCRETE MASONRY ANCHOR TYPE S EPOXY, 7" MINIMUM EMBEDMENT WITH A MINIMUM PULLOUT OF 20 KIPS.
11. PL 5⁄16" X 4½" X 0'-6" CONNECTION WITH STANDARD SLOTTED HOLES FOR NO. 8. USE NO. 12 TO COVER STANDARD SLOTTED HOLES.
12. PL ⅜" X 2½" X 4½".
13. PL WASHER ¼" X 3½" X 3½".
14. PL ½" X 8" X 10" BASE PLATE. WELD TO NO. 1.
15. PL ½" X 8" X 1'-0" BASE PLATE. WELD TO NO. 1. USE AT ENDS AND OVER EXPANSION JOINTS.

✳ THIS DIMENSION BETWEEN THE BOTTOM OF THE WELDED FRAME AND THE TOP OF THE PARAPET SHALL BE HELD AT THE ENDS OF EACH PANEL AND THE PANEL SHALL FOLLOW THE SLOPE OF THE PROFILE.

NOTES

THE BID ITEM SHALL BE "FENCE DECORATIVE WALL" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

STRUCTURAL TUBING SHALL BE A.S.T.M. A500, GRADE B. ROLLED SHAPES, PLATES, BARS AND SHIMS SHALL BE A.S.T.M. A709, GRADE 36.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF HOLES AROUND ANCHOR BOLTS WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH STAIN.

CUT BOTTOM OF POST TO MAKE POST VERTICAL.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE A.S.T.M. A307 AND SHALL BE GALVANIZED.

STANDARD WASHERS SHALL BE USED TO SHIM BASE PLATES IF REQUIRED. ALL WASHERS SHALL BE GALVANIZED.

THE STEEL MESH SHALL BE TACK WELDED TO THE 2¾" X ¼" WELDED FRAME. THE MESH SHALL BE STRETCHED TO REMOVE SLACK.

VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

PRIOR TO FABRICATION, STEEL SHALL BE BLAST CLEANED PER SSPC-SP 6 AND GALVANIZED ACCORDING TO ASTM A 123. REPAIR ZINC COATING DAMAGED DURING FABRICATION AS SPECIFIED IN 635.3.4.

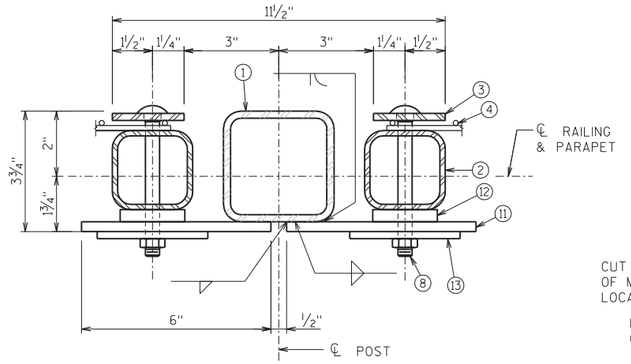
ALL WELDS SHALL BE PREQUALIFIED ACCORDING TO THE STRUCTURAL WELDING CODE STEEL (AWS D1.1). THE MINIMUM SIZE OF FILLET WELDS IS 3⁄16".

COAT THE RAILING WITH AN EPOXY PAINT SYSTEM. TOUCH UP DAMAGED PORTIONS OF PAINT AFTER PANEL ERECTION. SEE SPECIAL PROVISIONS FOR REQUIREMENTS.

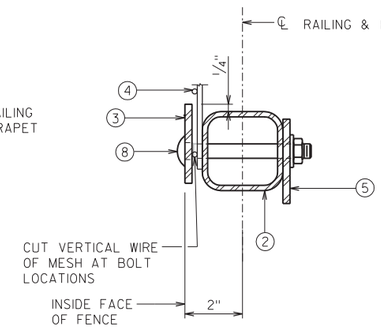
VERTICAL SUPPORTS AND FENCE PANEL COMPONENTS SHALL BE FABRICATED SUCH THAT THEY SIT PLUMB IN THEIR INSTALLED POSITION

SEE SHEET 10 FOR SECTION LOCATIONS.

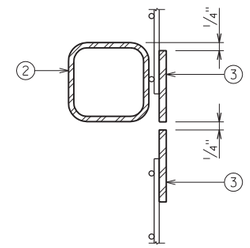
SEE SHEET 10 FOR DETAIL 'C' LOCATION.



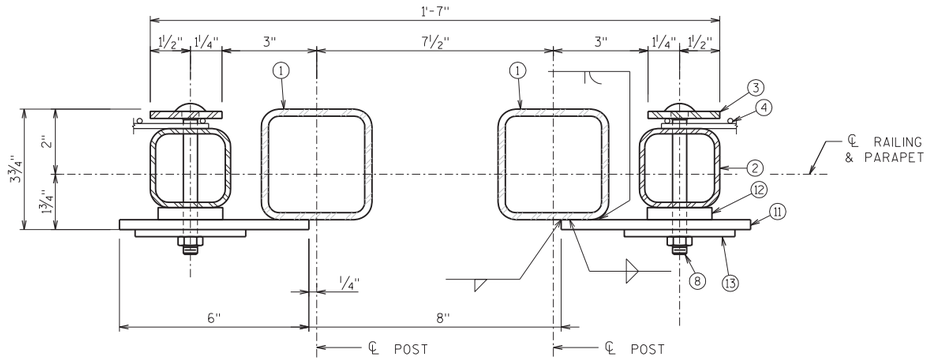
SECTION A-A



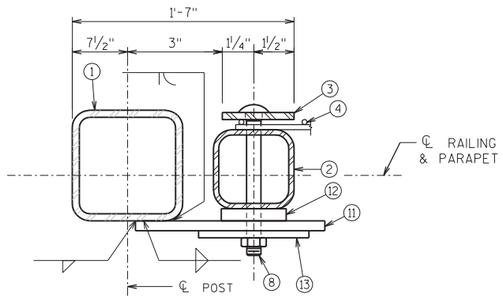
SECTION B-B



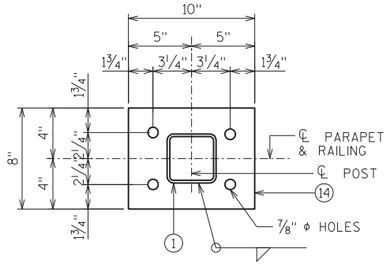
SECTION C-C



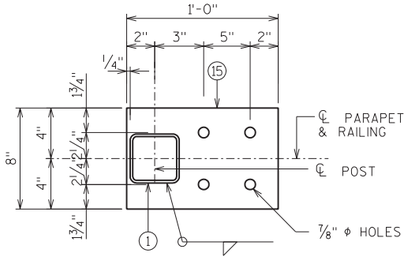
SECTION D-D



SECTION E-E



BASE PLATE



END BASE PLATE

VERTICAL FACE PARAPET BASE PLATE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-33

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DECORATIVE FENCE - 1

SHEET 9 OF 11
2253

SCALE = 2:0 " : 1 " / IN.

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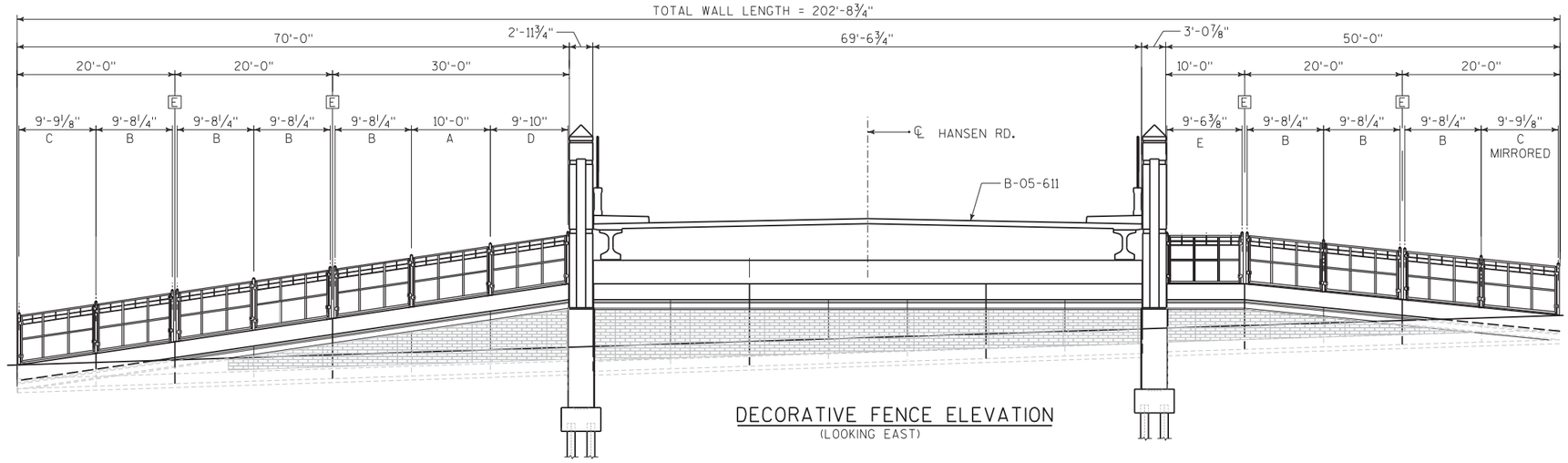
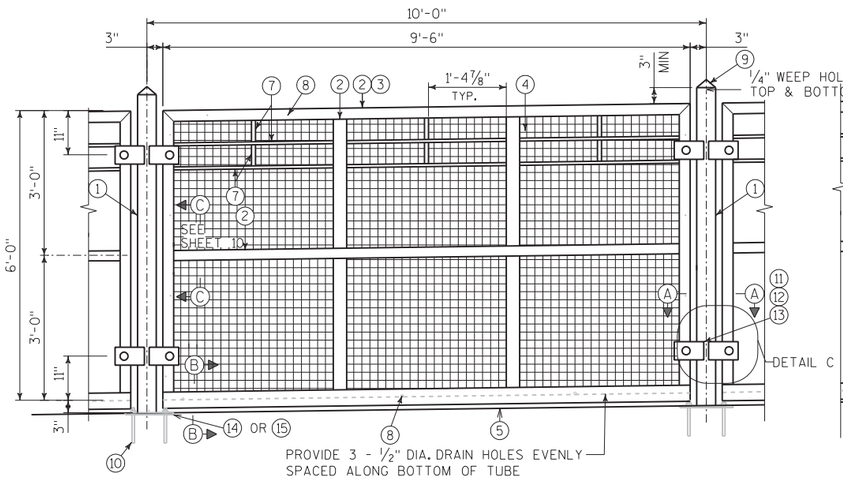
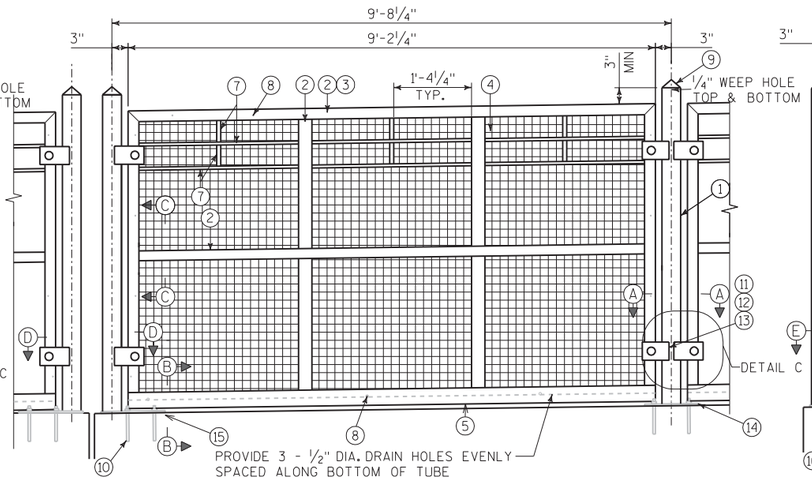
STATE PROJECT NUMBER
1133-09-74



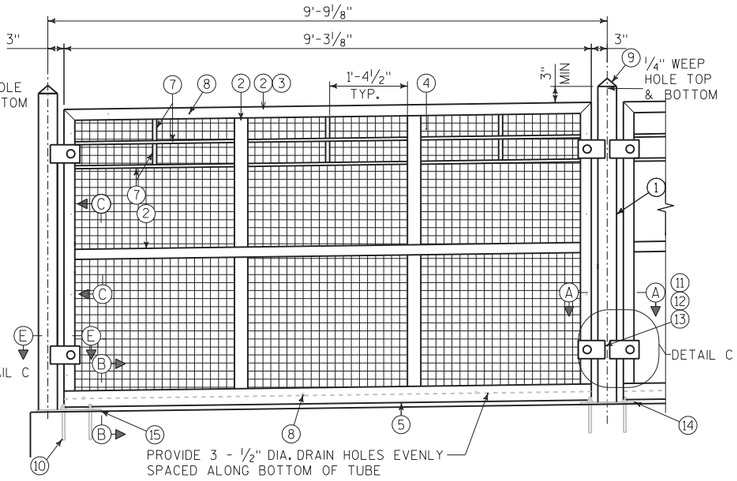
DECORATIVE FENCE ELEVATION
(LOOKING EAST)



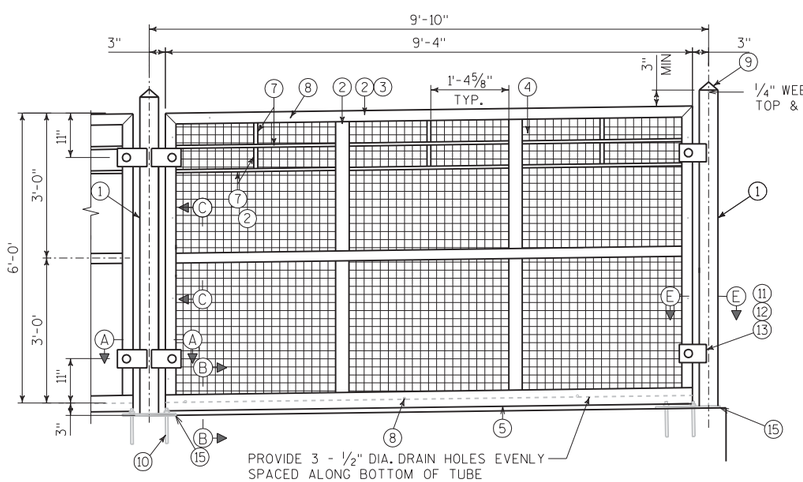
OUTSIDE ELEVATION OF PANEL TYPE "A"



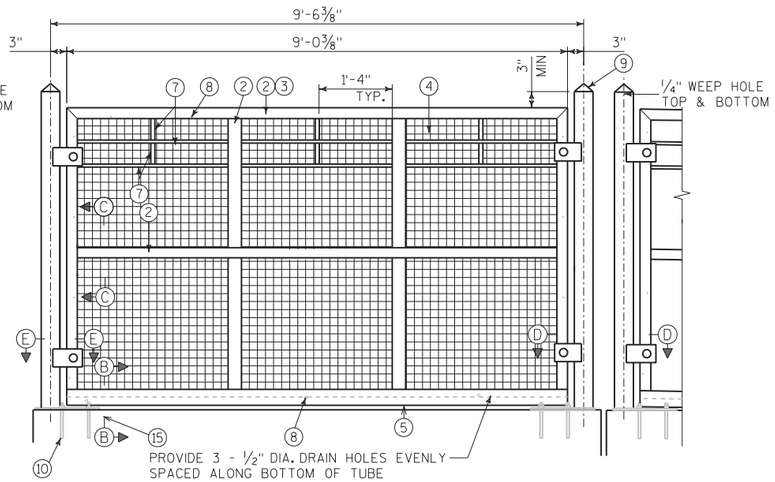
OUTSIDE ELEVATION OF PANEL TYPE "B"



OUTSIDE ELEVATION OF PANEL TYPE "C"



OUTSIDE ELEVATION OF PANEL TYPE "D"



OUTSIDE ELEVATION OF PANEL TYPE "E"

NOTE

FOR NOTES & LEGEND SEE SHEET 9.

SEE SHEET 9 FOR SECTION CUTS AND DETAIL 'C'.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-33

DRAWN BY TRW | PLANS CK'D. ACT

DECORATIVE FENCE-2

SHEET 10 OF 11
2254

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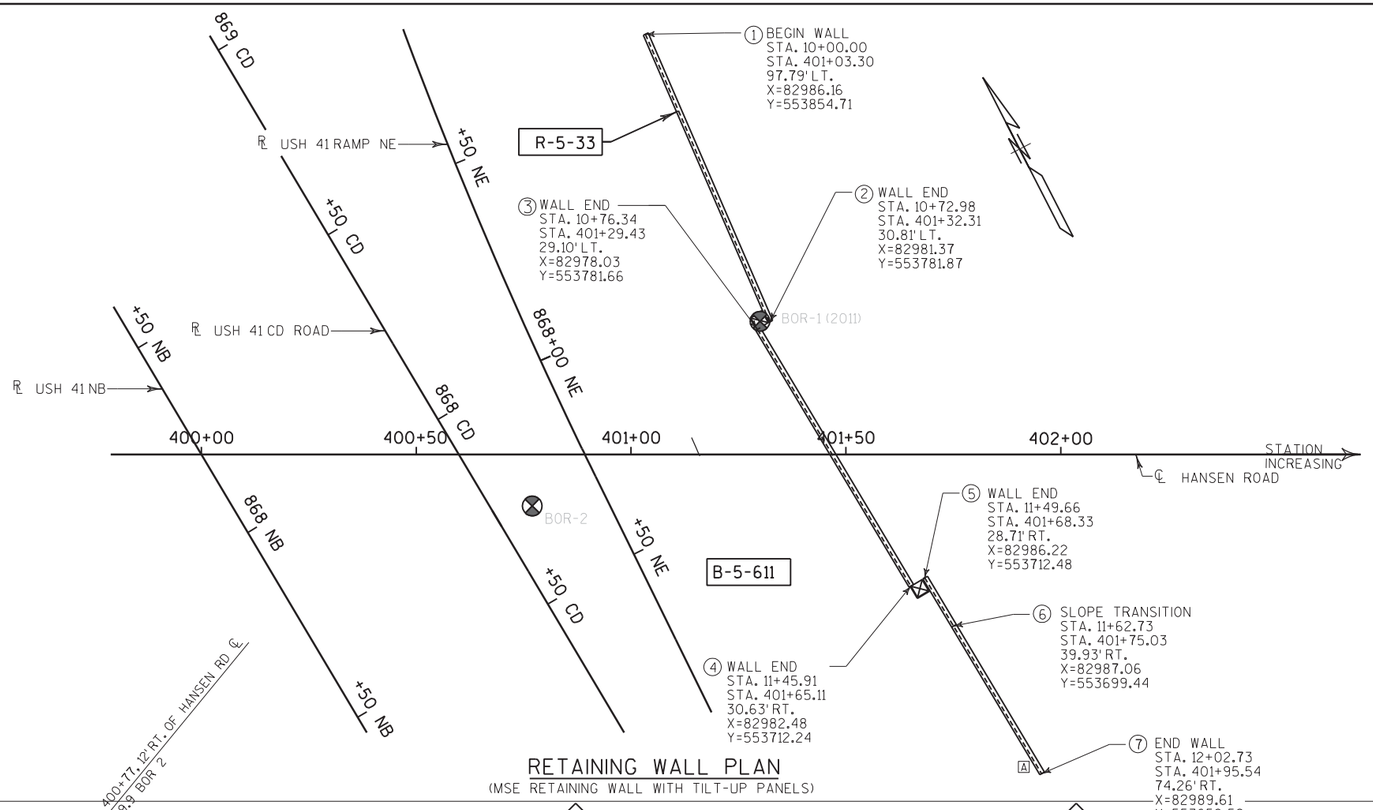
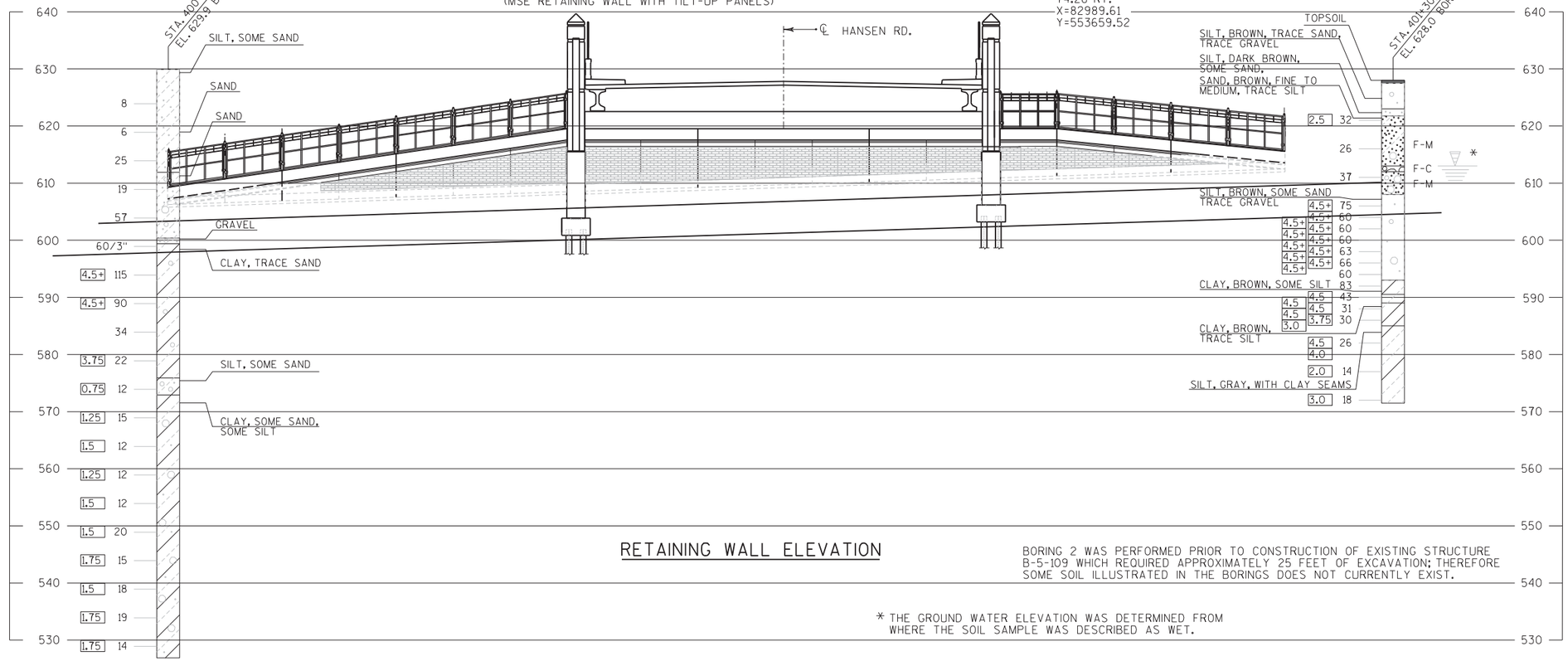


RETAINING WALL PLAN

(MSE RETAINING WALL WITH TILT-UP PANELS)



RETAINING WALL ELEVATION

BORING 2 WAS PERFORMED PRIOR TO CONSTRUCTION OF EXISTING STRUCTURE B-5-109 WHICH REQUIRED APPROXIMATELY 25 FEET OF EXCAVATION; THEREFORE SOME SOIL ILLUSTRATED IN THE BORINGS DOES NOT CURRENTLY EXIST.

* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

NOTES:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

⊗ DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
WISDOT

SOIL BORINGS TAKEN:
JUNE, 2011 - (B-1)
ORIGINAL PROJECT (B-2)

STATE PROJECT NUMBER

1133-09-74

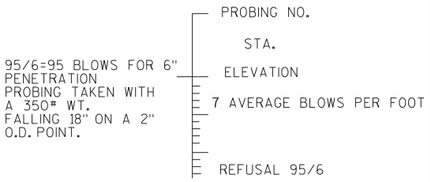
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

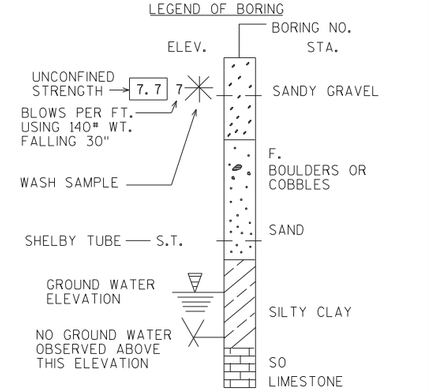
MATERIAL SYMBOLS

TOPSOIL, SAND, GRAVEL, SILT, PEAT, CLAY, SANDSTONE, LIMESTONE, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-33

DRAWN BY TRW | PLANS CK'D. ACT

SUBSURFACE EXPLORATION

SHEET 11 OF 11
2255

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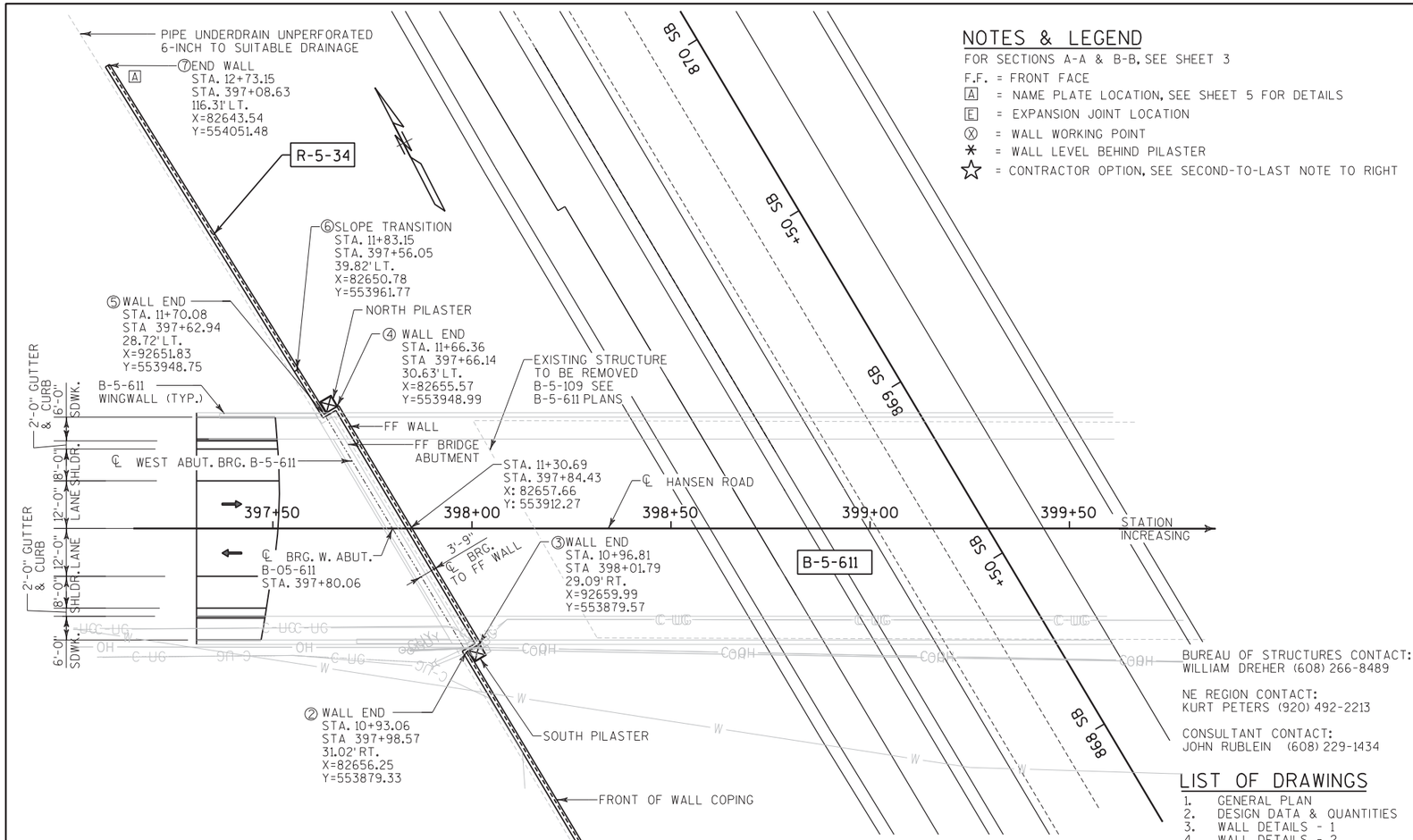
3/20/2013



NOTES & LEGEND

FOR SECTIONS A-A & B-B, SEE SHEET 3

F.F. = FRONT FACE

Ⓐ = NAME PLATE LOCATION, SEE SHEET 5 FOR DETAILS

Ⓔ = EXPANSION JOINT LOCATION

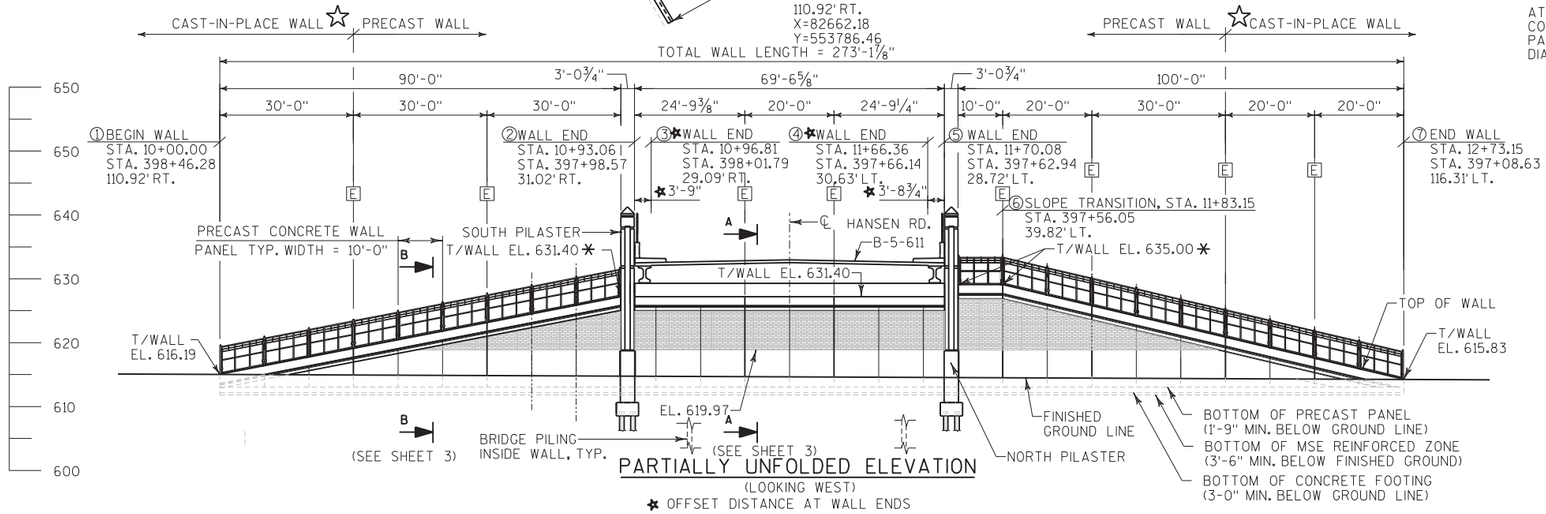
Ⓧ = WALL WORKING POINT

✱ = WALL LEVEL BEHIND PILASTER

☆ = CONTRACTOR OPTION, SEE SECOND-TO-LAST NOTE TO RIGHT

RETAINING WALL PLAN

(MSE RETAINING WALL WITH TILT-UP PANELS)



PARTIALLY UNFOLDED ELEVATION

(LOOKING WEST)

✱ OFFSET DISTANCE AT WALL ENDS

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

NE REGION CONTACT:
KURT PETERS (920) 492-2213

CONSULTANT CONTACT:
JOHN RUBLEIN (608) 229-1434

LIST OF DRAWINGS

1. GENERAL PLAN
2. DESIGN DATA & QUANTITIES
3. WALL DETAILS - 1
4. WALL DETAILS - 2
5. WALL DETAILS - 3
6. PILASTER DETAILS
7. PILASTER REINFORCEMENT
8. AESTHETIC DETAILS - 1
9. DECORATIVE FENCE - 1
10. DECORATIVE FENCE - 2
11. SUBSURFACE EXPLORATION

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH."

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN IN THE GEOMETRY TABLE.

DESIGN WIRE-FACED WALL AROUND PILASTERS TO PREVENT ANY SOIL PRESSURE FROM ACTING ON PILASTERS.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THIS WALL WITH CONSTRUCTION OF WEST ABUTMENT AND BRIDGE B-5-611.

DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURES ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE PILASTERS AND END WALL SEGMENTS ARE INCLUDED IN THE ITEM "CONCRETE MASONRY RETAINING WALLS."

ALL STATIONS ARE ALONG THE ℞ FOR R-5-34 ALONG THE FRONT FACE OF WALL (UNLESS SHOWN OTHERWISE).

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFY THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M 153, TYPE I, II OR III OR AASHTO DESIGNATION M 213.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

OPTIONAL TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE FOOTING WITH A MINIMUM SPACING OF TWO PANEL JOINTS. FOOTING JOINTS SHOULD BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THRU FOOTING JOINTS.

DO NOT ALLOW CONCRETE OR FILL TO DROP OR ACCUMULATE IN WALL PANEL CAVITY.

"FINE METALLIC SCREEN" SHALL HAVE A MAXIMUM ¼" X ¼" MESH AND MINIMUM 0.023" WIRE DIAMETER. WIRES TO BE HOT DIPPED GALVANIZED AFTER WELDING.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

PROVIDE A RUBBED SURFACE TREATMENT IN ACCORDANCE WITH SECTION 502.3.7.3 TO ALL PERMANENTLY EXPOSED SURFACES OF CONCRETE MASONRY RETAINING WALLS.

SEE SPECIAL PROVISIONS FOR AESTHETIC TREATMENT TO WALL.

DESIGN THE MSE WALL FOR A SUCTION LOAD OF 20 PSF ACTING ON THE PRECAST WALL PANELS.

DESIGN FOR RETAINING WALL TO PROVIDE FOR A FINISHED GRADE SLOPE BEHIND THE WALL AS SHOWN IN THESE PLANS AND THE ROADWAY CROSS SECTIONS.

NON-PRESTRESSED/PRECAST WALLS MAY BE SUBSTITUTED AT END WALL SEGMENTS AT THE CONTRACTORS OPTION. CONTRACTOR TO COORDINATE PROPOSED SUBSTITUTIONS WITH DEPARTMENT. CONTRACTOR IS RESPONSIBLE FOR DESIGN OF CAST-IN-PLACE WALLS. ENGINEER APPROVAL IS REQUIRED PRIOR TO CONSTRUCTION.

AT ENDS OF WALL, SEAL CAVITY BETWEEN WIRE FACE AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE, 1'-6" WIDE. INCIDENTAL TO BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANELS". "FINE METALLIC SCREEN" TO HAVE A MAXIMUM ¼" x ¼" MESH AND MIMIMUM 0.025 WIRE DIAMETER. WIRES TO BE HOT DIPPED GALVANIZED AFTER WELDING.

STATE PROJECT NUMBER

1133-09-74

NO.	DATE	REVISION	BY

DAAR ENGINEERING, INC.
www.daarcorp.com
Madison, WI 53703
608-249-0140

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 03/21/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-5-34

WEST RETAINING WALL @ HANSEN RD. AND USH 41

COUNTY	VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STD. SPEC

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JFR	ACT	TRW	ACT

GENERAL PLAN

SHEET 1 OF 11

2256

WISCONSIN PROFESSIONAL ENGINEER
JOHN F. RUBLEIN
E-38700
MADISON
WI
3/20/13

8

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FILE= SCALE = 34:0 ' :" / IN.

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I.D.

DATE: 3/20/2013

STATE PROJECT NUMBER

1133-09-74

DIMENSIONS

WALL HEIGHT (FEET)[1]	19.0	20.3	22.3
EXPOSED WALL HEIGHT (FEET)	15.5	16.8	18.8
LENGTH OF REINFORCEMENT (FEET)[3]	14.0	17.8	16.1
LENGTH OF REINF./WALL HEIGHT	0.74	0.87	0.72
SLOPE ABOVE WALL	3.0H:1V	0.0H:1V	2.5H:1V
WALL STATION	10+93.1	11+31.6	11+83.1
BORING	B-2 (2011)	B-2 (2011)	B-1
FACTORS OF SAFETY[5]			
SLIDING (FS_{req}>1.5)	1.5	1.5	1.5
OVERTURNING (FS_{req}>2.0)	2.9	2.8	2.8
GLOBAL STABILITY (FS_{req}>1.3)	NA	1.5	1.5
BEARING CAPACITY (FS_{req}>2.5)	8,000	8,000	8,000
ALLOW. BEARING CAPACITY (psf)	4.8	4.2	4.0

NOTES

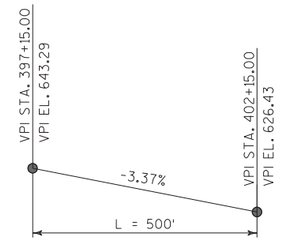
1. THE WALL HEIGHT INCLUDES AN EMBEDMENT 3.5 FEET.
2. THE WALL STABILTY EVALUATION INCLUDED A SURCHARGE LOAD THAT WAS EQUAL TO THE WEIGHT OF THE SOIL BEHIND THE ABUTMENT.
3. THE LENGTH OF REINFORCEMENT IS THE MINIMUM REQUIRED LENGTH AT THE LOCATION.
4. FS_{req} ARE PRESENTED IN CHAPTER 14 OF THE BRIDGE MANUAL.
5. NA NOT APPLICABLE, GLOBAL SLOPE STABILTY WAS EVALUATED AT THE CRITICAL WALL LOCATION.

BENCH MARKS

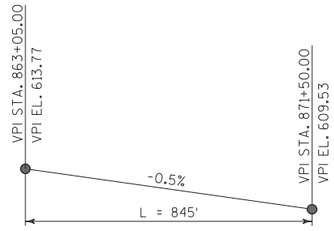
NO.	DESCRIPTION	ELEVATION
740	CHISELED SQUARE ON SW CORNER OF PARAPET WALL ON HANSEN ROAD OVER USH 41, STRUCTURE B-05-109	642.27
524	CHISELED "X ON HYDRANT BURY BOLT IN THE NW QUADRANT OF GRIFFITHS LN. & ALLIED ST. 30' WEST OF ALLILED ST. & 60' NORTH OF THE ℄ OF GRIFFITHS LN.	615.04
525	CHISELED "X ON HYDRANT BURY BOLT ON A DEAD END CUL-DE-SAC OF SPRINGHUST DR., 55 'FEET FROM A MANHOLE COVER TO THE FIRE HYDRANT AT THE EAST END OF THE ROUND-A-BOUT.	648.93
548	CHISELED "X ON HYDRANT BURY BOLT ON A HYRANT 30' NORTH OF VERNON RD. & 225' EAST OF HANSON RD., ON THE WESTERLY SIDE OF VERNON.	619.77

SOIL PARAMETERS

SOIL DESCRIPTION	FRICTION ANGLE (DEGREES)	COHESION (psf)	SOIL UNIT WEIGHT (pcf)
GRANULAR BACKFILL WITHIN THE WALL IN THE REINFORCING ZONE	30	0	120
FILL BEHIND THE REINFORCING ZONE	31	0	120
B-2 (2011), (SEE SHT 11 FOR BORING LOCATIONS)			
SAND, BROWN, FINE TO MEDIUM, SOME SILT (ELEVATION 637.5 FT. - 635.0 FT.)	31	0	120
SILT, BROWN, SOME SAND ELEVATION 635.0 FT. - 632.5 FT.	32	0	120
SAND, BROWN, FINE TO MEDIUM ELEVATION 632.5 FT. - 620.5 FT.	35	0	130
SAND, BROWN, FINE TO COARSE, SOME GRAVEL ELEVATION 620.5 FT. - 603.0 FT.	38	0	135
B-1, (SEE SHT 11 FOR BORING LOCATIONS			
SILT, SOME SAND (ELEVATION 639.6 FT. - 618.0 FT.)	33	0	125
SILT, SOME SAND AND GRAVEL LELEVATION 618.0 FT. - 613.0 FT.	33	0	125
SILT, SOME SAND AND GRAVEL ELEVATION 613.0 FT. - 603.0 FT.	38	0	135
SILT, SOME SAND AND GRAVEL ELEVATION 603.0 FT. - 589.0 FT.	38	0	135



PROFILE GRADE LINE - HANSEN RD.



PROFILE GRADE LINE - USH 41 SB

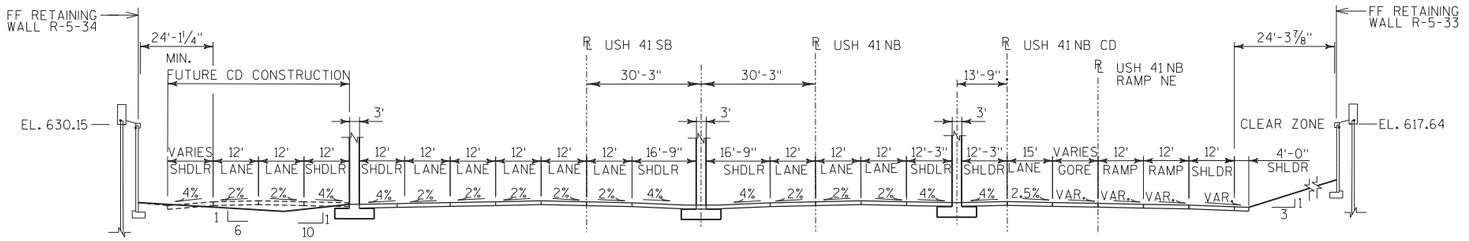
GEOMETRY TABLE

WALL WORKING POINT	WALL STATION	HANSEN RD. STATION	OFFSET TO F.F. WALL	TOP OF WALL	FINISHED GRADE	EXISTING GRADE	X	Y
①	10+00.00	398+46.28	110.92 RT	616.19	616.19	622.11	82662.18	553786.46
②	10+93.06	397+98.57	31.02 RT	631.40	616.06	640.38	82656.25	553879.33
③	10+96.81	398+01.79	29.09 RT	631.40	614.82	640.34	92659.99	553879.57
④	11+66.36	397+66.14	30.63 LT	631.40	614.72	641.87	82655.57	553948.99
⑤	11+70.08	397+62.94	28.72 LT	631.40/635.00	615.97	642.23	92651.83	553948.75
⑥	11+83.15	397+56.05	39.82 LT	635.00	615.95	640.71	83650.78	553961.77
⑦	12+73.15	397+08.63	116.31 LT	615.83	615.83	632.16	82643.54	554051.48

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID - ITEMS	UNIT	QUANTITY
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	34
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	2740
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	8
532.0700.S	WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	4000
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	80
550.1120	PILING STEEL HP 12-INCH X 53 LB.	LF	88
604.0400	SLOPE PAVING CONCRETE	SY	16
604.0600	SLOPE PAVING SELECT CRUSHED MATERIAL	SY	82
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	70
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	280
SPV.0090.502	FENCE DECORATIVE WALL	LF	197
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	4274
SPV.0165.501	STAINING CONCRETE	SF	3760
SPV.0165.502	STAINING CONCRETE BRICK	SF	1300
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	3881
	NON BID - ITEMS		
	PREFORMED FILLER	SIZE	¾" & 1"
	CORK FILLER	SIZE	½"
	EXPANDED POLYSTYRENE	SIZE	1"

ALL ITEMS ARE CATEGORY 4010.



TYPICAL SECTION THRU USH 41

(LOOKING NORTH)

LEGEND & NOTE

▨ LINEARLY INTERPOLATE WALL ELEVATIONS BETWEEN STATION

F.F. = FRONT FACE

TRAFFIC DATA:

HANSEN RD.
A.D.T. (2013) = 9,500
A.D.T. (2033) = 15,500
R.D.S. = 40 M.P.H.

USH 41 NB
A.D.T. (2015) = 42,600
A.D.T. (2035) = 52,600
R.D.S. = 70 M.P.H.

USH 41 SB
A.D.T. (2015) = 41,500
A.D.T. (2035) = 51,300
R.D.S. = 70 M.P.H.

DESIGN DATA

LIVE LOAD
LIVE LOAD SURCHARGE (ROADWAY) _____ 240 P.S.F.

MATERIAL PROPERTIES
CONCRETE MASONRY RETAINING WALL _____ f'c = 4,000 PSI
PRECAST CONRETE WALL PANELS _____ f'c = 5,000 PSI
BAR STEEL REINFORCEMENT _____ fy = 60,000 PSI
STRUCTURAL CARBON STEEL _____ fy = 36,000 PSI
(ASTM A709, GRADE 36)

FOUNDATION DATA - ALLOWABLE SOIL BEARING CAPACITY
MSE WALL _____ (SEE TABLE)

NOTE : THE WALL HAS BEEN DESIGNED FOR LIVE LOAD SURCHARGES AS NOTED. CONTRACTOR IS RESPONSIBLE FOR EVALUATING WALL FOR ANTICIPATED CONSTRUCTION/LIVE LOAD SURCHARGES IN EXCESS OF 240 PSF.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-34

DRAWN BY TRW | PLANS CK'D. ACT

DESIGN DATA & QUANTITIES

SHEET 2 OF 11
2257

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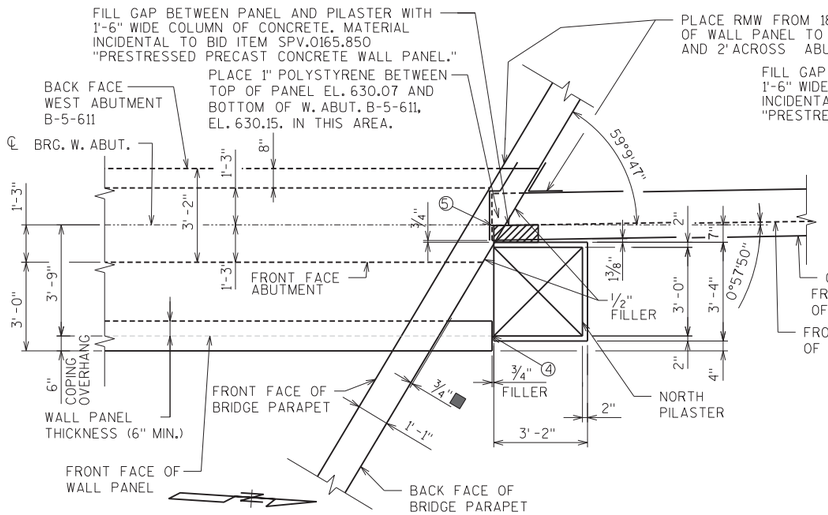
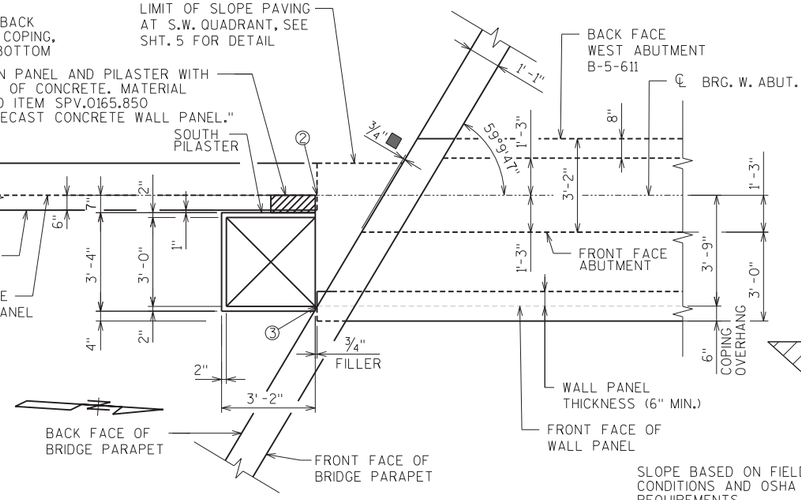
SCALE = 10:0 " : " / IN.

STATE PROJECT NUMBER

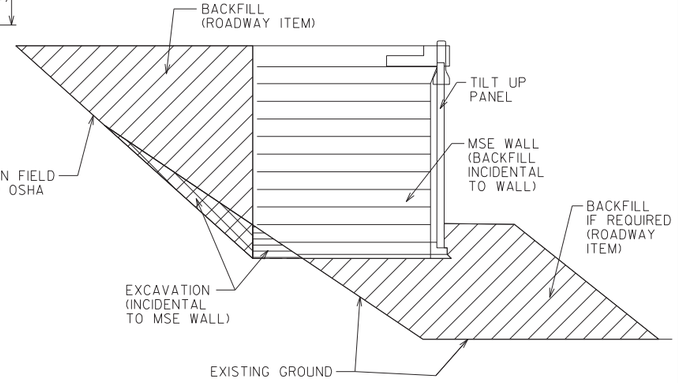
1133-09-74



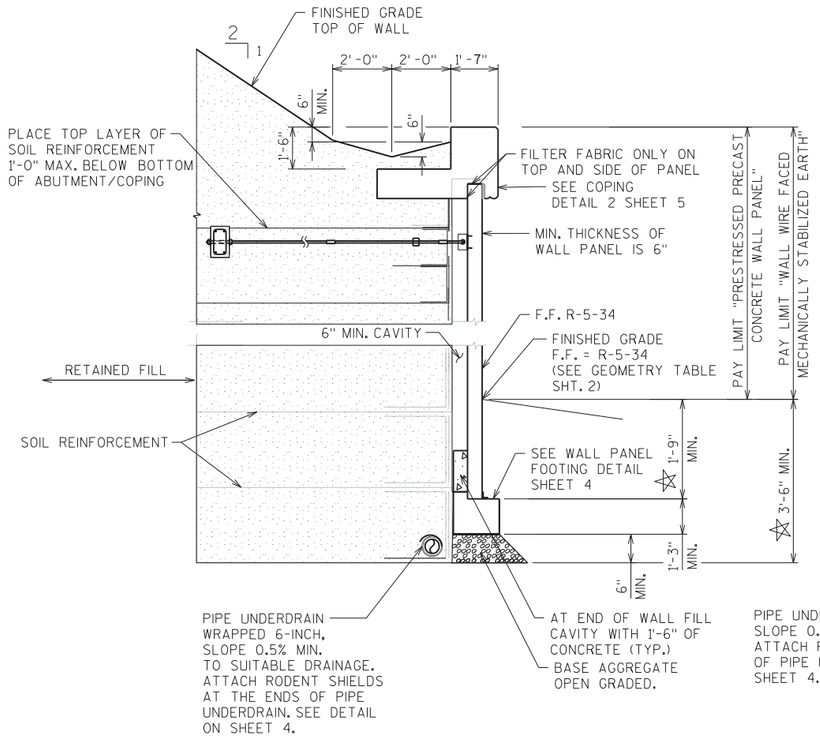
NORTH-WEST QUADRANT



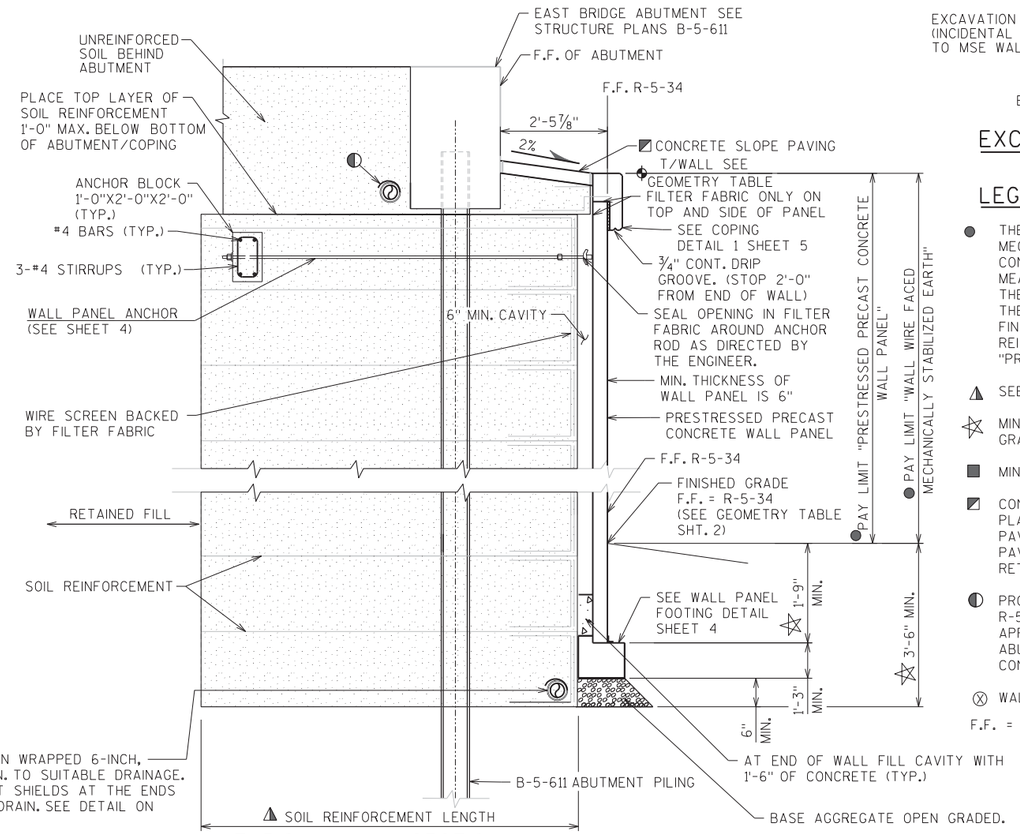
SOUTH-WEST QUADRANT



EXCAVATION/BACKFILL DETAIL



SECTION B-B



TYPICAL WALL SECTION A-A

(LOOKING SOUTH AT EAST ABUTMENT)

INSTALL BRIDGE PILING BEFORE MSE WALL. PLACE REINFORCING MAT AROUND PILING FOR BRIDGE ABUTMENT.

INSTALLATION OF BRIDGE PILING IS NOT A RETAINING WALL BID ITEM.

LEGEND

● THE PLAN QUANTITY FOR THE BID ITEMS "WALL WIRE FACED MECHANICALLY STABLIZED EARTH" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL" ARE BASED ON A WALL HEIGHT MEASURED FROM THE FINISHED GRADE AT THE FRONT FACE OF THE WALL TO THE TOP OF THE WALL AS SHOWN. THE TOP OF THE FOOTING IS ASSUMED TO BE A CONSTANT 1'-9" BELOW FINISHED GRADE. INFILL CONCRETE, COPING CONCRETE AND COPING REINFORCEMENT ARE TO BE INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

◭ SEE SHEET 2 FOR SOIL REINFORCEMENT REQUIREMENTS.

☆ MINIMUM EMBEDMENT DEPTHS SHALL BE BASED ON FINISHED GRADE NOTED IN "GEOMETRY TABLE" ON SHEET 2.

■ MINIMUM CLEARANCE FROM PARAPET TO PILASTER.

◩ CONCRETE SLOPE PAVING TO BE A MINIMUM OF 4" THICK. PLACE CONSTRUCTION JOINTS EVERY 10" MAX. SEE SLOPE PAVING CONSTRUCTION JOINT DETAIL ON SHEET 5. WARP SLOPE PAVING AT WALL RETURNS AT ENDS OF ABUTMENTS TO MEET RETURN COPING. TAPER SLOPE BREAK FOR WARP AT 1:1 (45°).

◐ PROVIDE UNDERDRAIN UNPERFORATED 6-INCH RISER TO CONNECT R-5-34 TO B-5-611 ABUTMENT UNDERDRAIN. LOCATE THE RISER APROXIMATELY 3 FEET SW OF W.P. 5. REFER TO B-5-611 FOR ABUTMENT UNDERDRAIN LOCATION. CAP RISER AT EL. 631.0 FOR CONNECTION TO ABUTMENT UNDERDRAIN.

Ⓧ WALL WORKING POINTS.

F.F. = FRONT FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-34

DRAWN BY TRW | PLANS CK'D. JFR

WALL DETAILS - 1

SHEET 3 OF 11

2258

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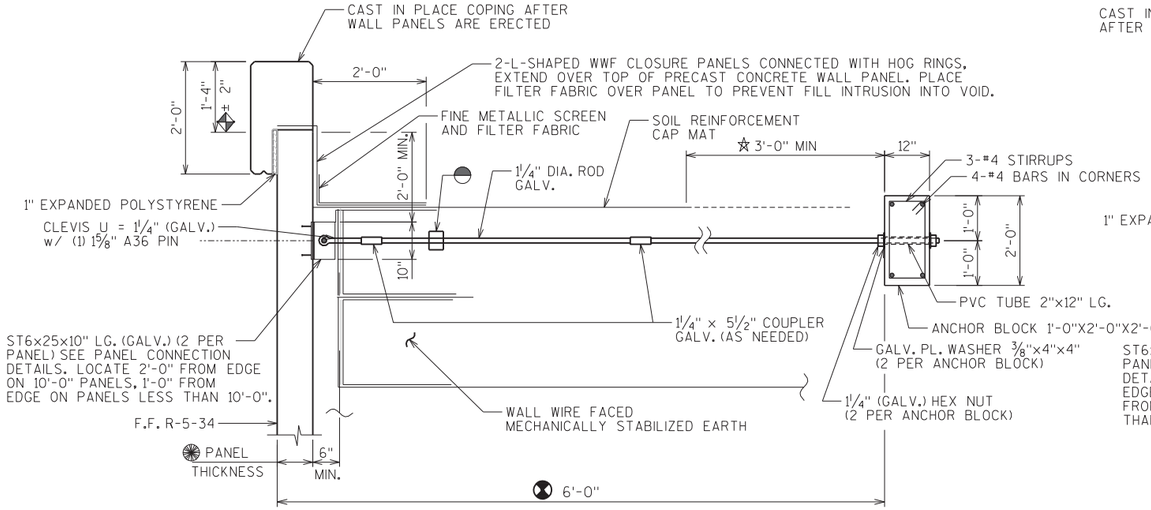
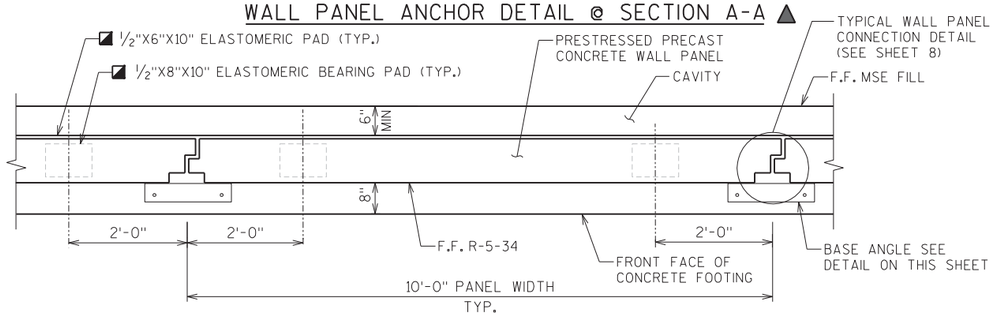
SCALE = 5:1 1/2 " :" / IN.

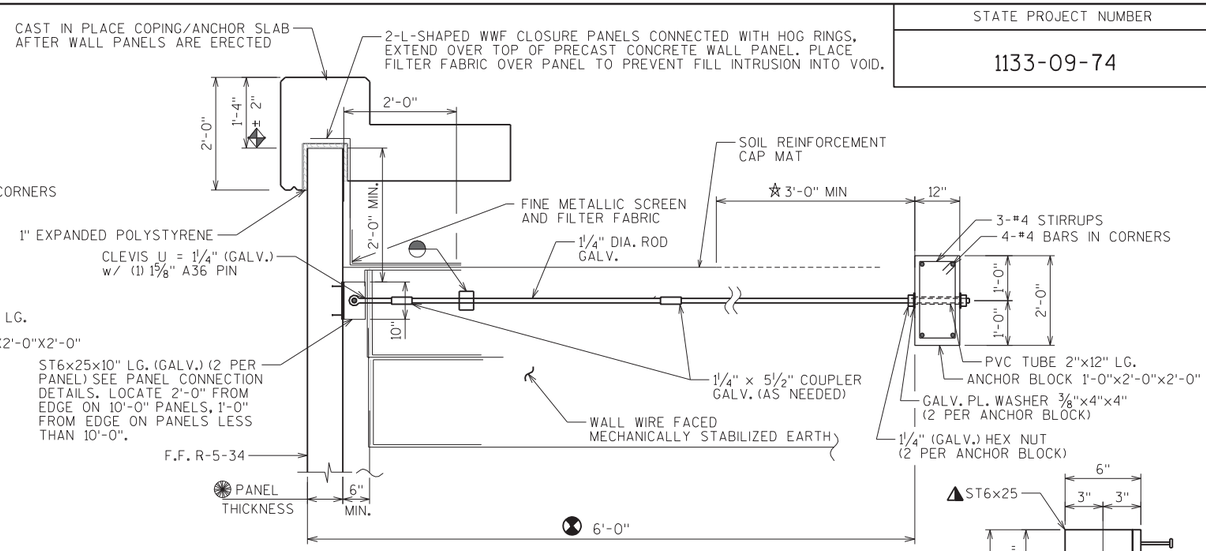
STATE PROJECT NUMBER
1133-09-74



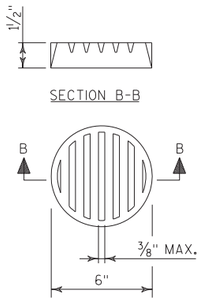
WALL PANEL ANCHOR DETAIL @ SECTION A-A ▲



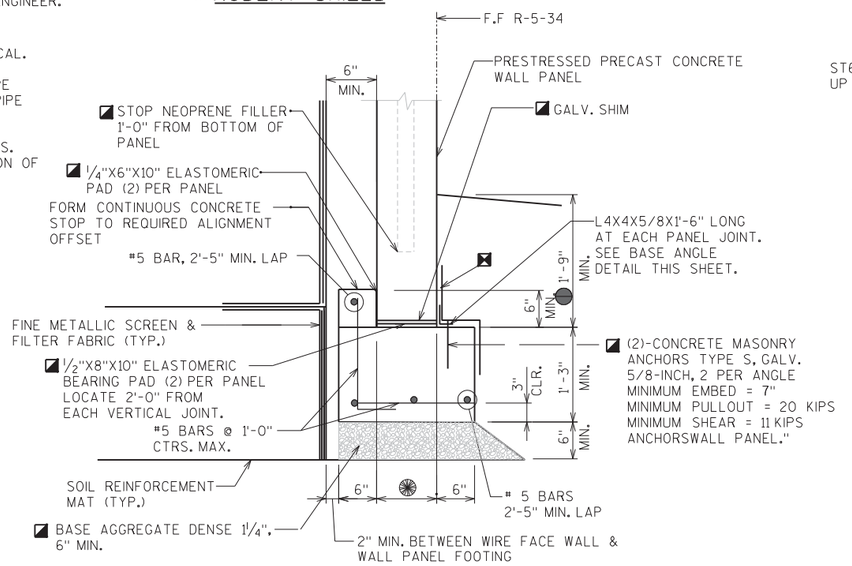
PLAN VIEW WALL PANEL CONNECTION



WALL PANEL ANCHOR DETAIL @ SECTION B-B ▲

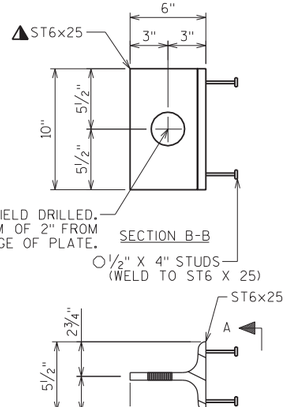


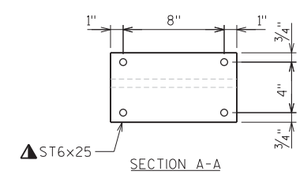
* RODENT SHIELD

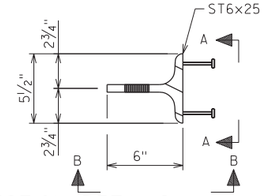


WALL PANEL FOOTING DETAIL

(NOTE: FOOTING CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL")

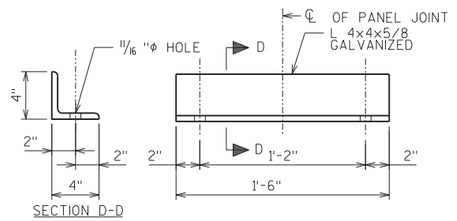






PANEL CONNECTION DETAILS

ST6 X 25 MAY BE WELDED TO ¾" THICK PLATE ANCHORED IN TILT UP PANEL. DETAILS SUBJECT TO APPROVAL BY THE ENGINEER.



BASE ANGLE DETAIL

(1) AT EACH PANEL JOINT INCLUDED IN BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

NOTES

AN ALTERNATE DEADMAN AND PANEL CONNECTION SYSTEM MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER.

LEGEND

* DIMENSIONS ARE APPROXIMATE, GRATE TO BE SIZED TO FIT INTO A PIPE COUPLING. ORIENT RODENT SHIELD SO SLOTS ARE VERTICAL. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH." THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL . THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

▲ WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, 1¼" DIA. ANCHOR ROD, CLEVIS, AND OTHER PANEL CONNECTION COMPONENTS. DETAILING AND FINISHING OF THOSE ITEMS IS INCLUDED IN BID ITEM "PRESTESSED PRECAST CONCRETE WALL PANEL." INSTALLATION OF THESE ITEMS IS INCLUDED IN THE BID ITEM "WIRE FACED WALL MECHANICALLY STABILIZED EARTH."

WALL PANEL THICKNESS AS DETERMINED IN ACCORDANCE WITH THE DESIGN REQUIREMENTS DEFINED IN THE SPECIAL PROVISIONS. (6" MINIMUM)

▲ S12X50 (GALV.) CUT IN HALF TO FORM "T" SECTION BF=5.477", TW=0.687.

OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. (CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼ DIAM. BAR)

☆ DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION AND ROD TO BE 2'-0" MIN. BELOW FINISHED GRADE.

○ AS AN ALTERNATE, ½" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.

LENGTH MAY BE INCREASED TO AVOID OBSTRUCTIONS, SUCH AS ABUTMENT PILING.

MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE PRECAST PANELS.

◪ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

☒ GEOTEXTILE FABRIC TYPE DF, 2'-0" WIDE, LENGTH OF FOOTING

MUST BE 1'-4" AT W.P. 2, 3, 4, & 5.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-34

DRAWN BY TRW | PLANS CK'D. JFR

WALL DETAILS - 2

SHEET 4 OF 11
2259

8

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SCALE = 10:0 " / IN.

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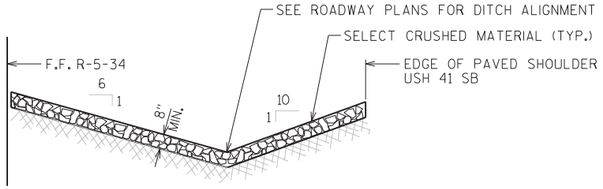
$$...plottingtime...$$

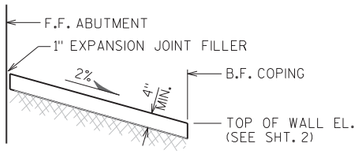
3/20/2013

STATE PROJECT NUMBER

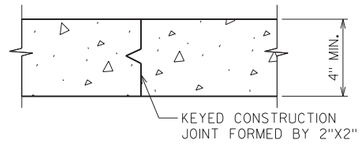
1133-09-74



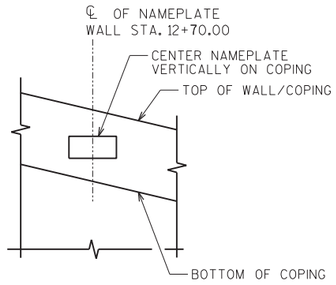
SECTION B-B



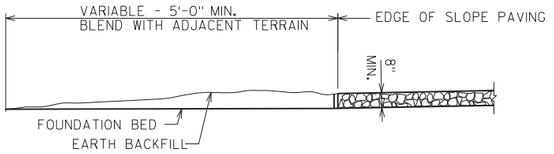
SECTION D-D



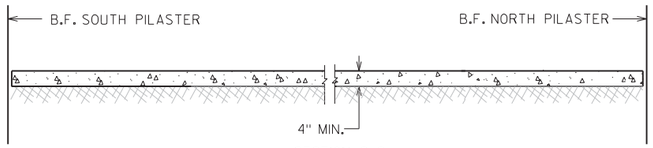
CONSTRUCTION JOINT DETAIL



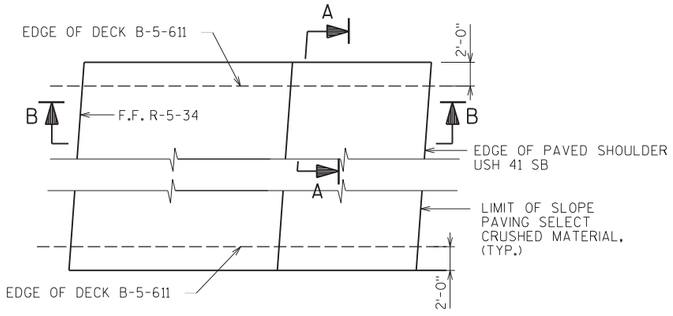
NAME PLATE DETAIL



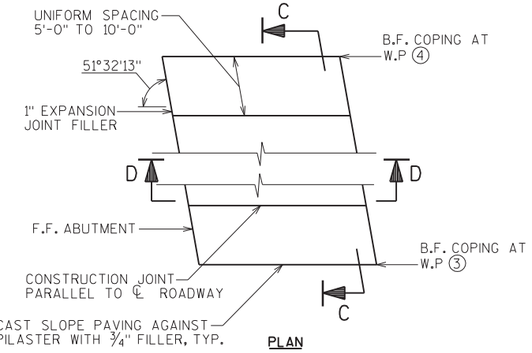
SECTION A-A



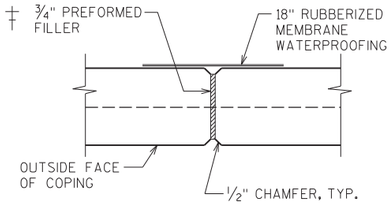
SECTION C-C



PLAN



PLAN



COPING EXPANSION JOINT

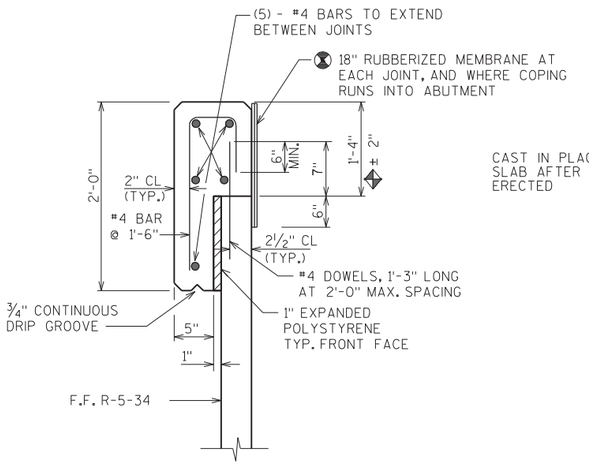
DO NOT RUN BAR STEEL THRU JOINT.
MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.

SLOPE PAVING SELECT CRUSHED MATERIAL DETAILS

SLOPE PAVING CONCRETE DETAILS

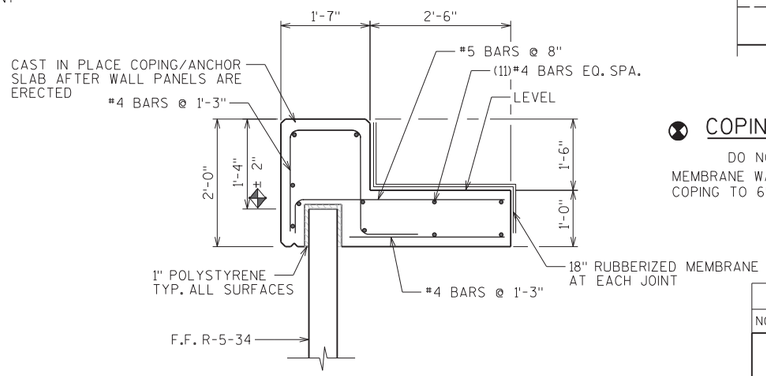
LEGEND

- CONST. JOINT - STRIKE OFF AS SHOWN
- PLACE (3) -¾"ϕ (SMOOTH) DOWEL BARS, 1'-6" LONG BETWEEN SEGMENTS. EMBED 9", USE APPROVED DEBONDER ON ½ OF BAR LENGTH. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. COST OF ITEMS ARE INCLUDED IN BID ITEM "CONCRETE MASONRY RETAINING WALLS."
- 1½" DIMENSION IS TO INSIDE OF FORMLINER RELIEF. SEE SHEET 10 FOR FORMLINER DETAILS.
- SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH STAIN. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)
- EXPANSION JOINTS TO BE SPACED AS SHOWN ON SHEET 1. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT, EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF COPING.
- MUST BE 1'-4" AT W.P. 2, 3, 4, & 5.
- LOCATE CONTRACTION JOINTS OVER WALL PANEL JOINTS WITH NO EXPANSION JOINT NOTED.



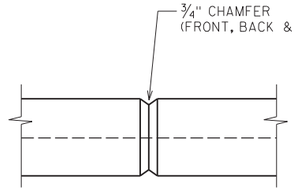
CAST-IN-PLACE CONCRETE COPING DETAIL 1

(NOTE: COPING CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL.")



CAST-IN-PLACE CONCRETE COPING DETAIL 2

(NOTE: COPING CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL.")



COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-34

DRAWN BY TRW | PLANS CK'D. JFR

WALL DETAILS - 3

SHEET 5 OF 11
2260

SCALE = 2:8 " : " / IN.

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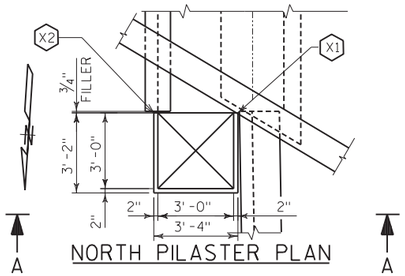
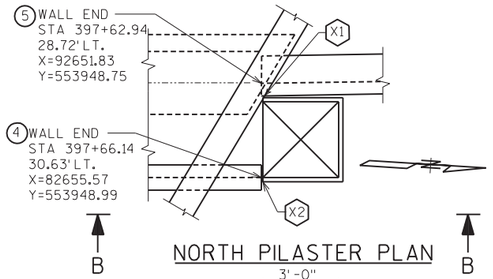
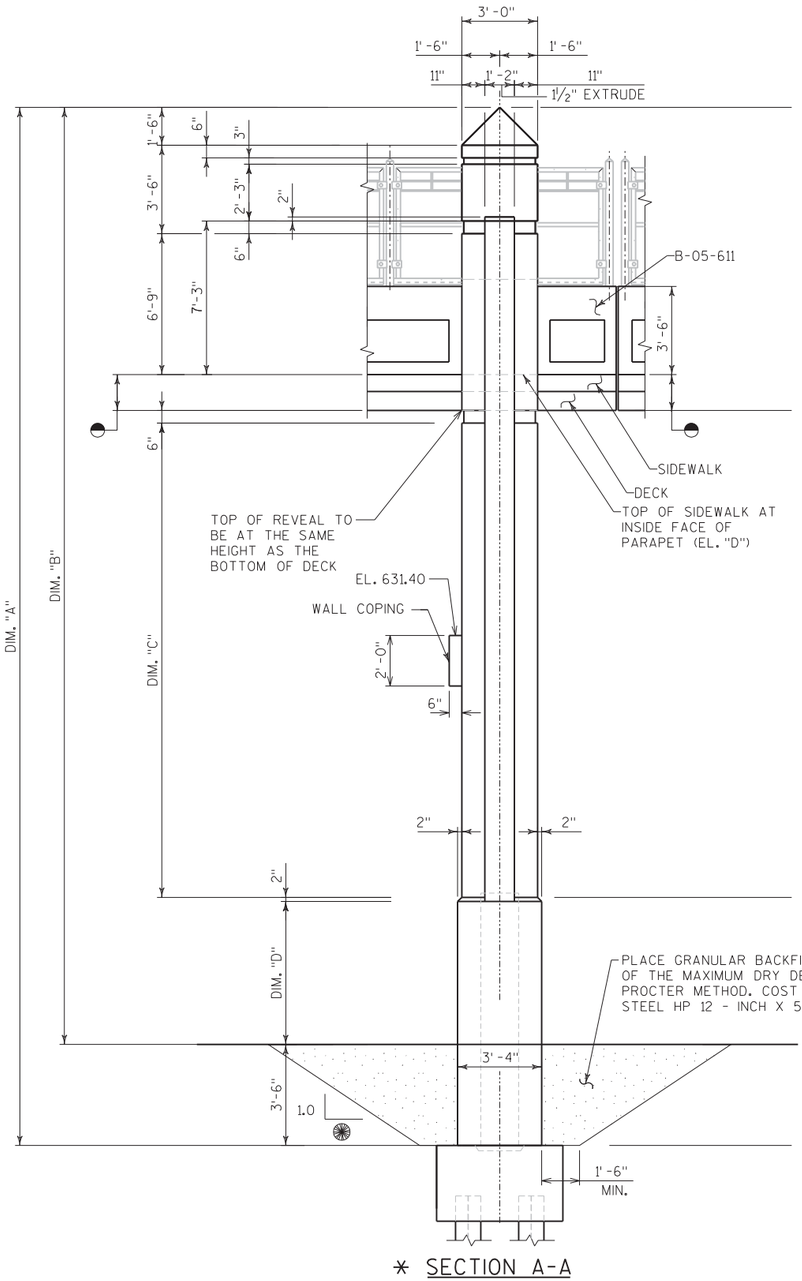


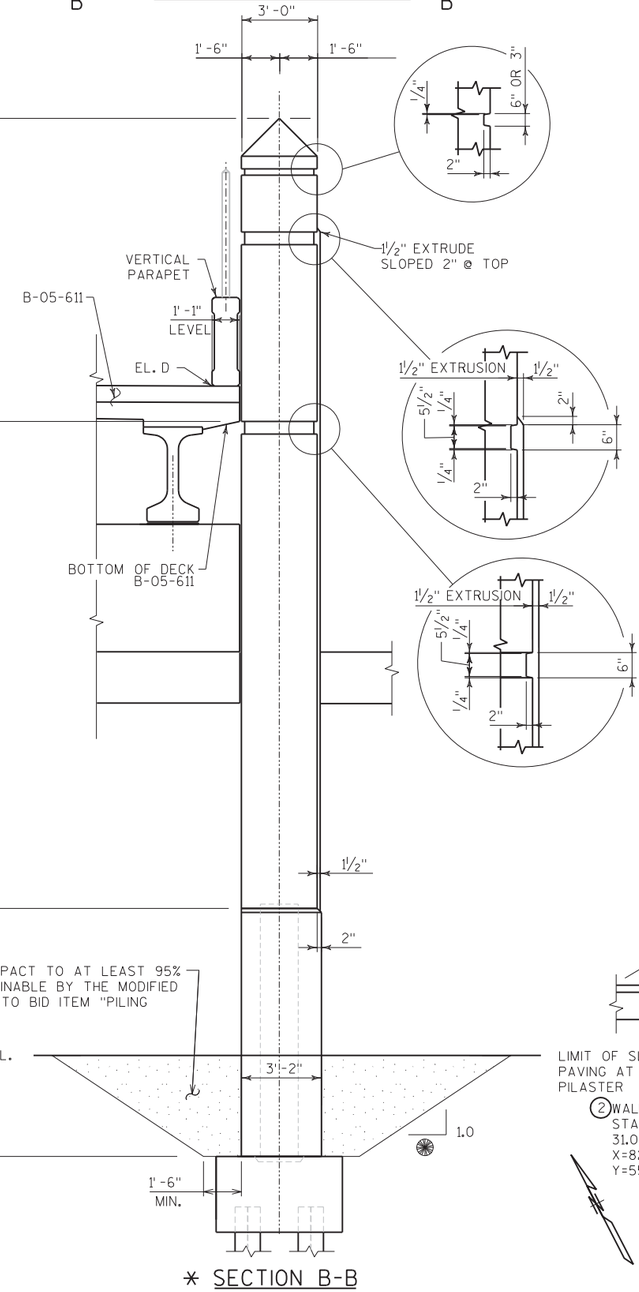
NORTH PILASTER PLAN



NORTH PILASTER PLAN



* SECTION A-A



* SECTION B-B

PILASTER ELEVATIONS

LOCATION	SOUTH	NORTH
EL. A	612.56	612.47
EL. B	620.14	620.14
EL. C	639.03	640.33
EL. D	640.53	641.83
EL. E	652.28	653.58
GROUND EL. @ FACE CLOSEST TO WALL	616.06	615.97

PILASTER LOCATIONS

LOCATION		HANSEN RD. STA.	OFFSET
NORTH	X1	397+63.39	29.06 LT
	X2	397+66.25	30.77 LT
SOUTH	X3	398+01.97	29.06 RT
	X4	397+99.11	30.77 RT

PILASTER DIMENSIONS

LOCATION	SOUTH	NORTH
DIM. "A"	39'-8 5/8"	41'-1 3/8"
DIM. "B"	36'-2 5/8"	37'-7 3/8"
DIM. "C"	18'-4 3/4"	19'-8 3/8"
DIM. "D"	3'-10 7/8"	4'-0"

LEGEND

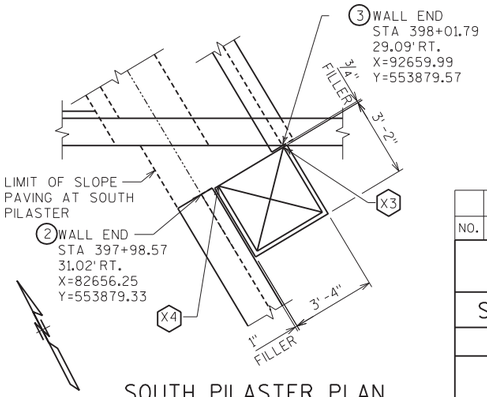
- EL. "D" = TOP OF SIDEWALK @ BOTTOM OF PARAPET
- DISTANCE IS FROM TOP OF SIDEWALK AT FACE OF PARAPET TO BOTTOM OF DECK AT OUTSIDE EDGE = 1'-6".
- GROUND ELEVATION IS FINISHED GRADE.
- NORTH PILASTER SHOWN, SOUTH SIMILAR
- EXCAVATED SLOPE PER OSHA REQUIREMENTS.
- IF WALL EMBEDMENT IS MORE THAN 3'-6", THEN PILASTER FOOTING EMBEDMENT AND REINFORCEMENT SHALL BE ADJUSTED ACCORDINGLY. IF EMBEDMENT IS MORE THAN 6" BELOW PLAN EMBEDMENT THE DESIGNER SHALL BE NOTIFIED.
- XX PILASTER CORNER

PILASTER FOUNDATION DATA

PILASTER TO BE SUPPORTED ON 4-HP 12X53 STEEL PILES PLACED IN PRE-DRILLED HOLES. SEAT PILES TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ** PER PILE IN THE VERY HARD SILT LAYER AND/OR THE VERY HARD CLAY LAYER. THE H-PILE SHOULD BE SEATED INTO THE PRE-DRILLED HOLE WITH CONCRETE PLACED IN THE HOLE AROUND THE PILE. ESTIMATED LENGTH = 11 FEET. EXCAVATE TO ELEVATION "A" PRIOR TO PRE-DRILLING FOR PILING.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 FOR THE SEATED PILE.

THE CONTRACTOR MAY SUBMIT AN ALTERNATIVE FOUNDATION DESIGN, IN ACCORDANCE WITH THE SPECIAL PROVISIONS, FOR REVIEW AND POSSIBLE ACCEPTANCE.



SOUTH PILASTER PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-34

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PILASTER DETAILS

SHEET 6 OF 11
2261

STATE PROJECT NUMBER
1133-09-74

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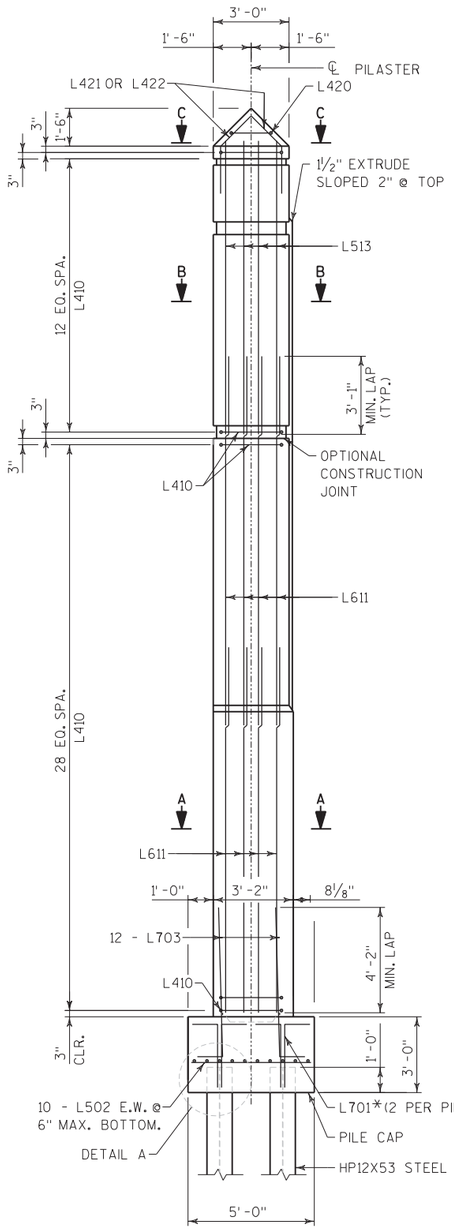
3/20/2013

STATE PROJECT NUMBER

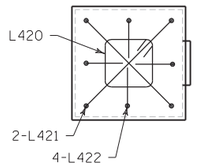
1133-09-74

BILL OF BARS

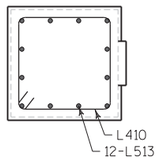
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
L701		16	3'-4"	X		BAR WELDED TO PILE
L502		40	4'-8"			FOOTING - BOTTOM MAT
L703		24	6'-11"	X		FOOTING VERTICAL DOWELS
L410	X	84	9'-9"	X		COLUMN - STIRRUPS
L611	X	48	16'-9"			COLUMN - VERT.
L513	X	24	11'-8"			COLUMN - VERT.
L420	X	2	5'-5"	X		PILASTER CAP - HORIZ.
L421	X	4	8'-5"	X		PILASTER CAP - VERT.
L422	X	8	3'-8"	X		PILASTER CAP - VERT.



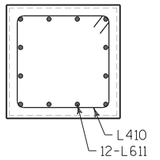
PILASTER ELEVATION AND REINFORCEMENT



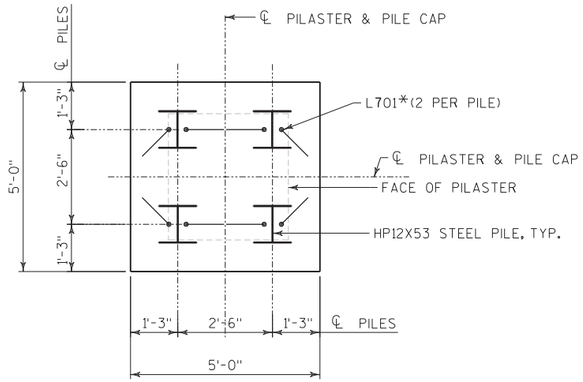
SECTION C-C



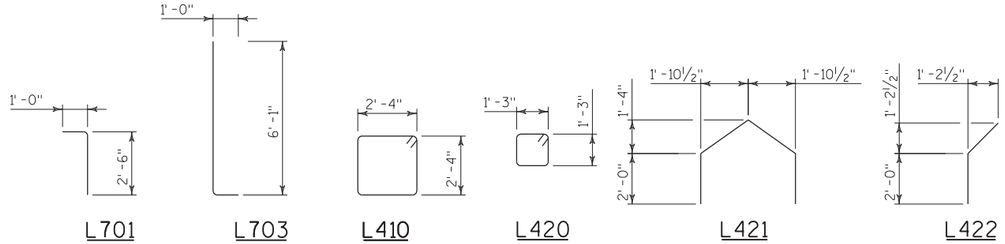
SECTION B-B

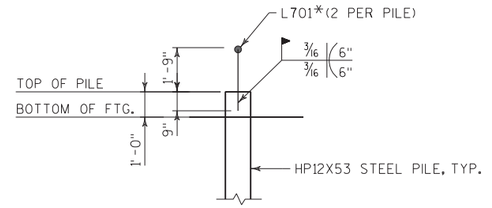


SECTION A-A



PILE CAP PLAN





PILE HEAD DETAIL A

LEGEND

* REINFORCEMENT WELDED TO PILE SHALL CONFORM TO ASTM A706

E.W. = EACH WAY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-34

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PILASTER REINFORCEMENT

SHEET 7 OF 11
2262

SCALE = 6:0 " :" / IN.

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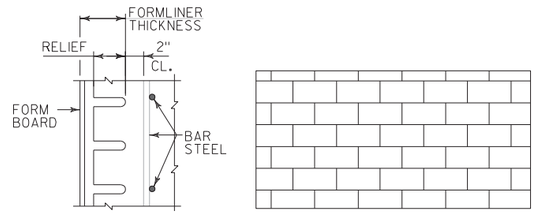
STATE PROJECT NUMBER

1133-09-74

CONCRETE STAINING SCHEDULE

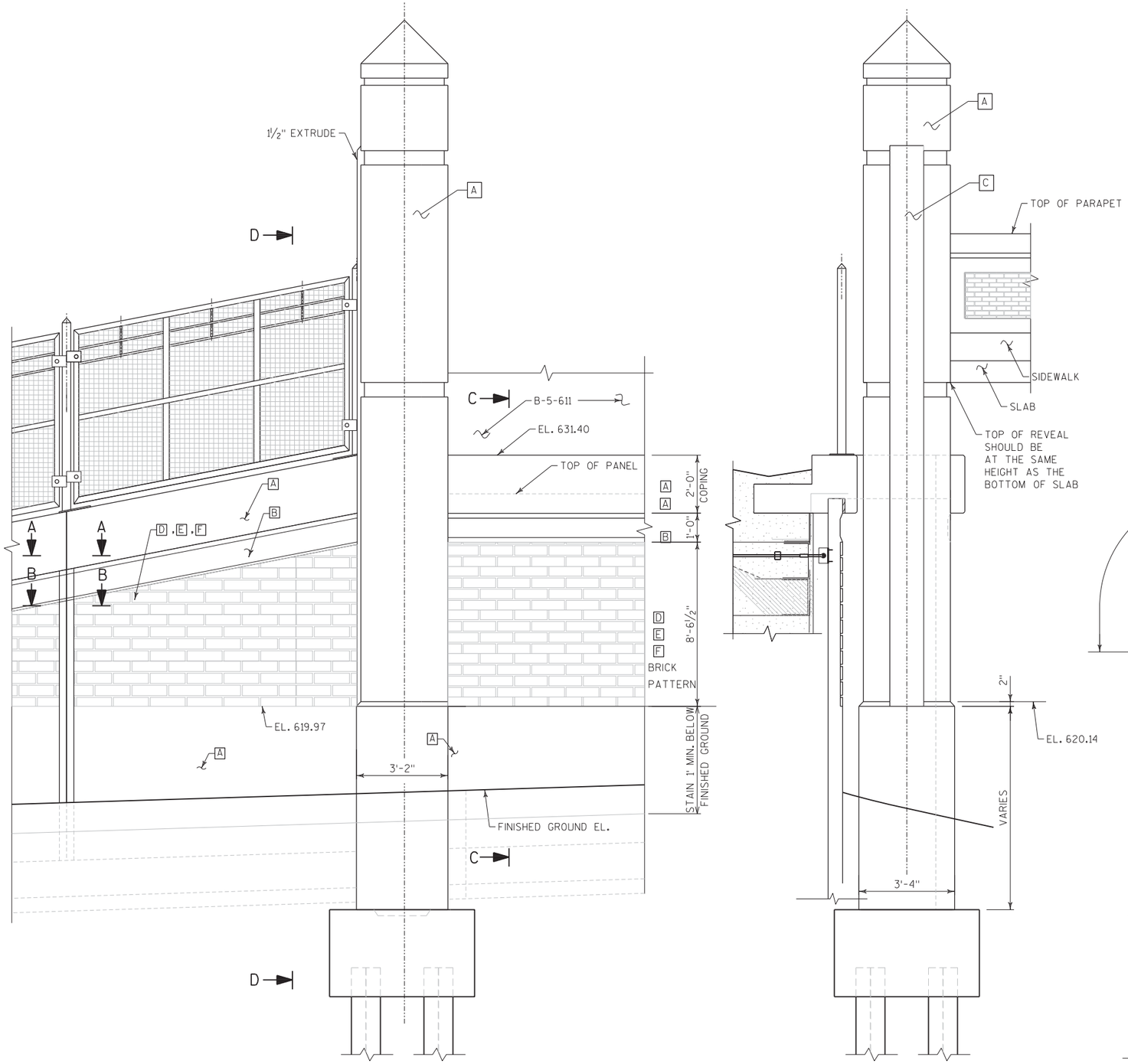
MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS, PILASTERS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	NOT USED



SECTION THRU FORMLINER

ARCHITECTURAL SURFACE TREATMENT
RECTANGULAR BRICK

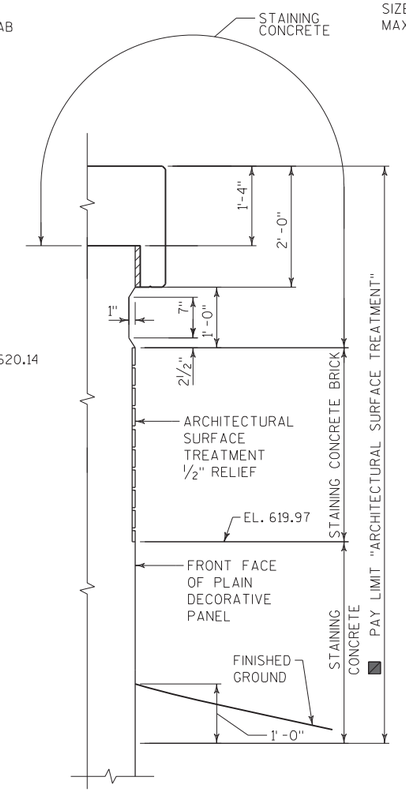
SIZE = 2¼" TO 2⅜" x 7⅝" TO 8"
MAX. RELIEF = ½"



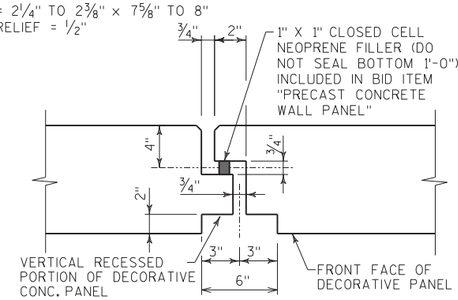
PARTIAL ELEVATION R-5-34

(LOOKING WEST AT SOUTH SIDE OF WALL, NORTH SIDE MIRROR IMAGE)

SECTION D-D

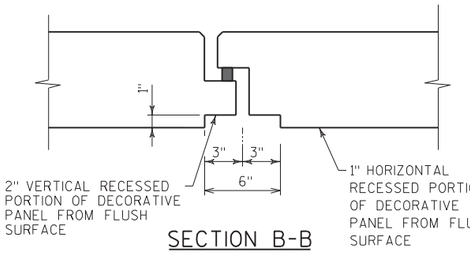


SECTION C-C



SECTION A-A

CHAMFER REVEALS 1/16" PER INCH OF DEPTH



SECTION B-B

LEGEND

▨ PAY LIMIT FOR "ARCHITECTURAL SURFACE TREATMENT" FOR THE WALL PANELS IS FROM TOP OF WALL TO 1'-0" BELOW GRADE. SEE SPECIAL PROVISIONS AND FORMLINER DETAILS THIS SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-34

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AESTHETIC DETAILS-1

SHEET 8 OF 11
2263

SCALE = 4:0 " : " / IN.

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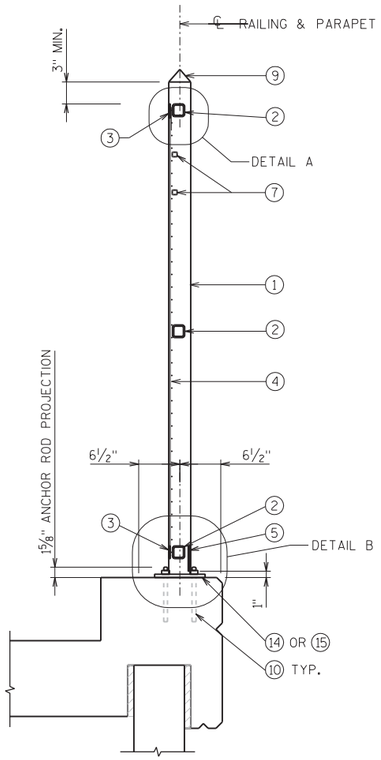
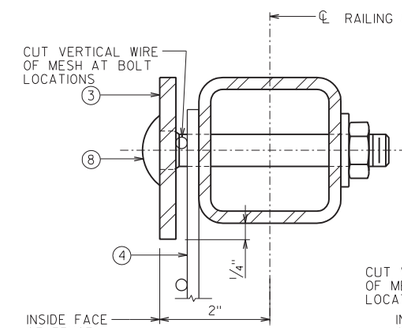
STATE PROJECT NUMBER

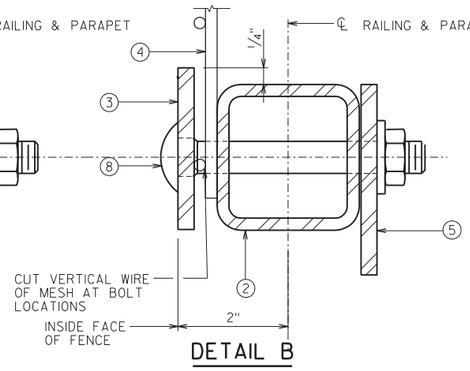
1133-09-74



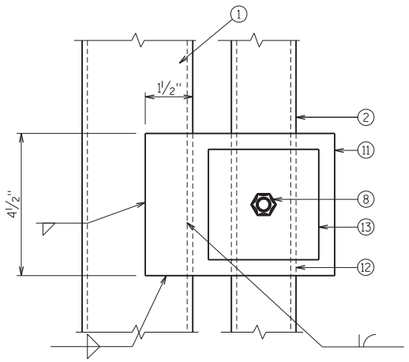
SECTION THRU VERTICAL FACE PARAPET



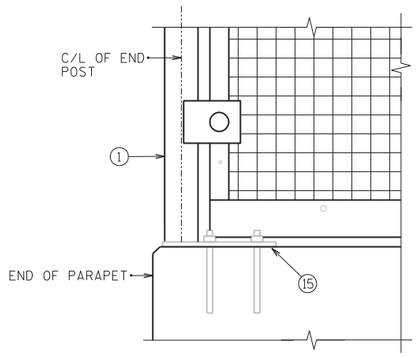
DETAIL A



DETAIL B



DETAIL C



END POST DETAIL

LEGEND

1. HSS 3½" X 3½" X 3/16" POST WITH ¼" DIA. VENT HOLES TOP & BOTTOM ON OUTSIDE FACE. RESIZE AS NECESSARY FOR GALVANIZING PROCESS. WELD TO NO.9 & BASE PLATE, TYP.
2. HSS 2½" X 2½" X 3/16". WELD TO NO. 7.
3. PL 2¾" X ¼" WELDED FRAME. WELD TO NO. 4. BOLT TO NO. 2 WITH NO. 8 AFTER PAINTING.
4. STEEL MESH 2" X 2" X 0.162 (8 GA.). PLACE VERTICAL WIRES ON INSIDE FACE OF PARAPET. WELD TO NO. 3.
5. PL ¼" X WIDTH VARIES. PROVIDE SHORT SLOTTED VERT. HOLES FOR NO. 8.
6. NOT USED
7. ¾" x ¾" BAR. WELD TO NO. 2 & 7.
8. ½" DIA. CARRIAGE BOLT, WASHER AND NUT. PROVIDE ⅝" x⅝" SQUARE HOLE IN NO. 3 & NO. 2 OF PANEL TYPE G ONLY FOR SQUARE PORTION OF THE BOLT HEAD.
9. 3½" X 3½" PYRAMIDAL CAP. WELD TO NO. 1.
10. ⅝" DIA. CONCRETE MASONRY ANCHOR TYPE S EPOXY, 7" MINIMUM EMBEDMENT WITH A MINIMUM PULLOUT OF 20 KIPS.
11. PL 5/16" X 4½" X 0'-6" CONNECTION WITH STANDARD SLOTTED HOLES FOR NO. 8. USE NO. 12 TO COVER STANDARD SLOTTED HOLES.
12. PL ⅜" X 2½" X 4½".
13. PL WASHER ¼" X 3½" X 3½".
14. PL ½" X 8" X 10" BASE PLATE. WELD TO NO. 1.
15. PL ½" X 8" X 1'-0" BASE PLATE. WELD TO NO. 1. USE AT ENDS AND OVER EXPANSION JOINTS.

✳ THIS DIMENSION BETWEEN THE BOTTOM OF THE WELDED FRAME AND THE TOP OF THE PARAPET SHALL BE HELD AT THE ENDS OF EACH PANEL AND THE PANEL SHALL FOLLOW THE SLOPE OF THE PROFILE.

NOTES

THE BID ITEM SHALL BE "FENCE DECORATIVE WALL" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

STRUCTURAL TUBING SHALL BE A.S.T.M. A500, GRADE B. ROLLED SHAPES, PLATES, BARS AND SHIMS SHALL BE A.S.T.M. A709, GRADE 36.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF HOLES AROUND ANCHOR BOLTS WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH STAIN.

CUT BOTTOM OF POST TO MAKE POST VERTICAL.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE A.S.T.M. A307 AND SHALL BE GALVANIZED.

STANDARD WASHERS SHALL BE USED TO SHIM BASE PLATES IF REQUIRED. ALL WASHERS SHALL BE GALVANIZED.

THE STEEL MESH SHALL BE TACK WELDED TO THE 2¾" X ¼" WELDED FRAME. THE MESH SHALL BE STRETCHED TO REMOVE SLACK.

VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

PRIOR TO FABRICATION, STEEL SHALL BE BLAST CLEANED PER SSPC-SP 6 AND GALVANIZED ACCORDING TO ASTM A 123. REPAIR ZINC COATING DAMAGED DURING FABRICATION AS SPECIFIED IN 635.3.4.

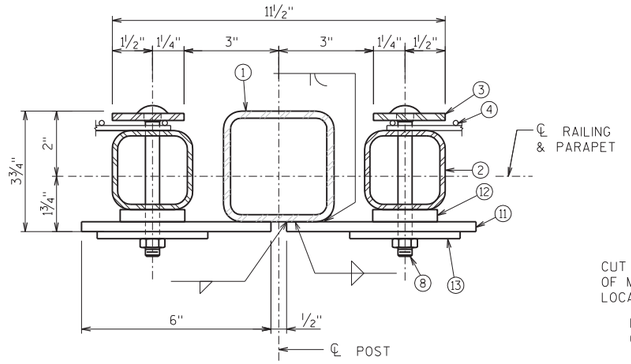
ALL WELDS SHALL BE PREQUALIFIED ACCORDING TO THE STRUCTURAL WELDING CODE STEEL (AWS D1.1). THE MINIMUM SIZE OF FILLET WELDS IS 3/16".

COAT THE RAILING WITH AN EPOXY PAINT SYSTEM. TOUCH UP DAMAGED PORTIONS OF PAINT AFTER PANEL ERECTION. SEE SPECIAL PROVISIONS FOR REQUIREMENTS.

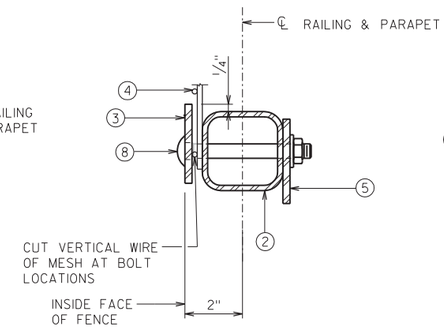
VERTICAL SUPPORTS AND FENCE PANEL COMPONENTS SHALL BE FABRICATED SUCH THAT THEY SIT PLUMB IN THEIR INSTALLED POSITION.

SEE SHEET 10 FOR SECTION LOCATIONS.

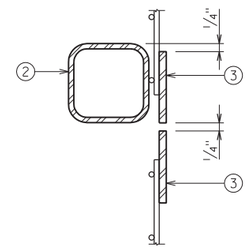
SEE SHEET 10 FOR DETAIL 'C' LOCATION.



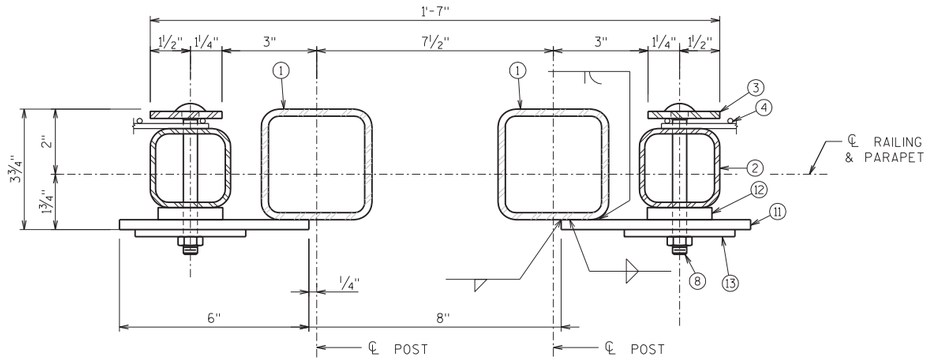
SECTION A-A



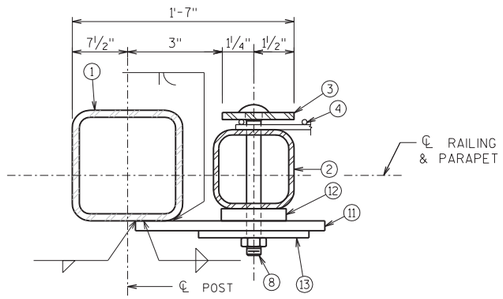
SECTION B-B



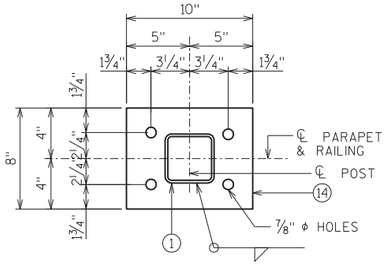
SECTION C-C



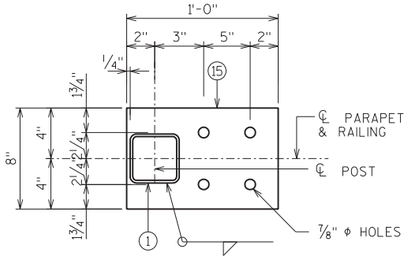
SECTION D-D



SECTION E-E



BASE PLATE



END BASE PLATE

VERTICAL FACE PARAPET BASE PLATE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-34

DRAWN BY TRW | PLANS CK'D. JFR

DECORATIVE FENCE - 1

SHEET 9 OF 11
2264

SCALE = 2:0 " : " / IN.

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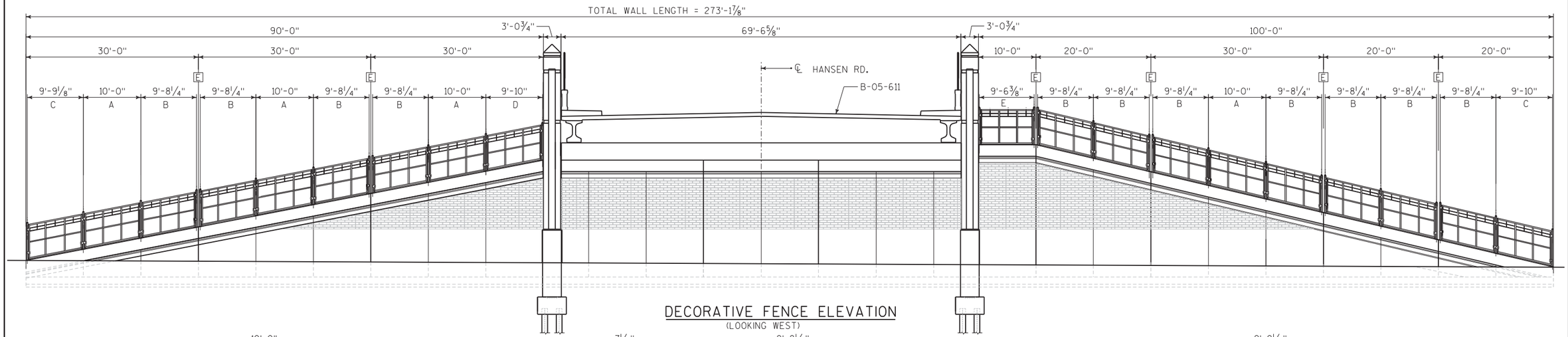
8

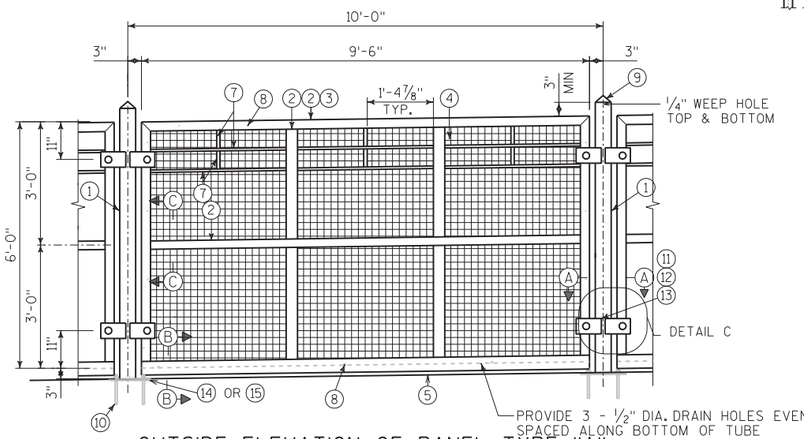
STATE PROJECT NUMBER

1133-09-74

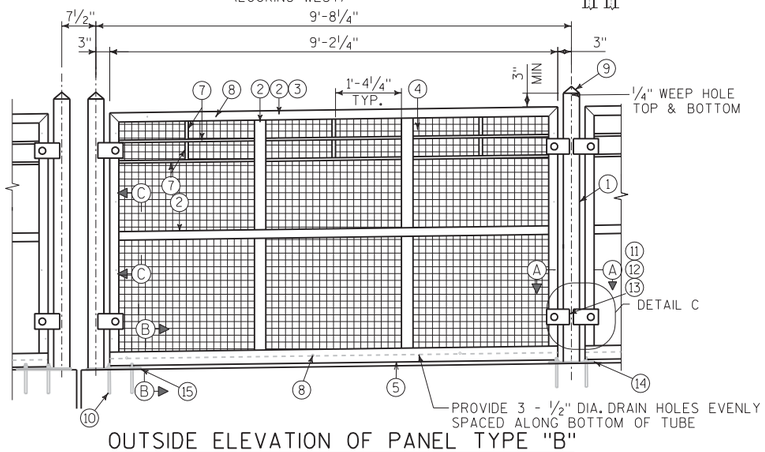


DECORATIVE FENCE ELEVATION

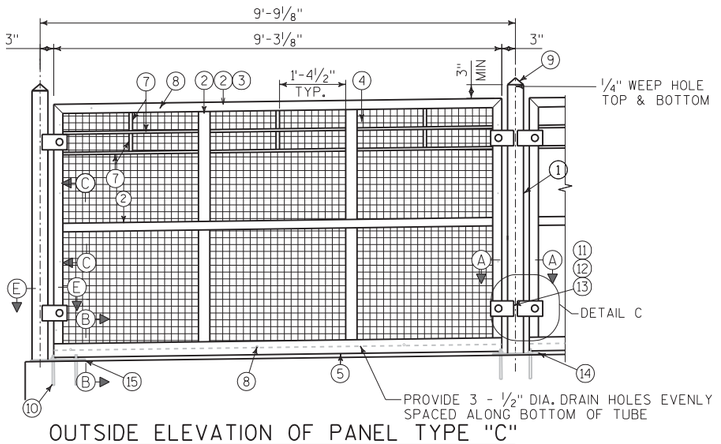
(LOOKING WEST)



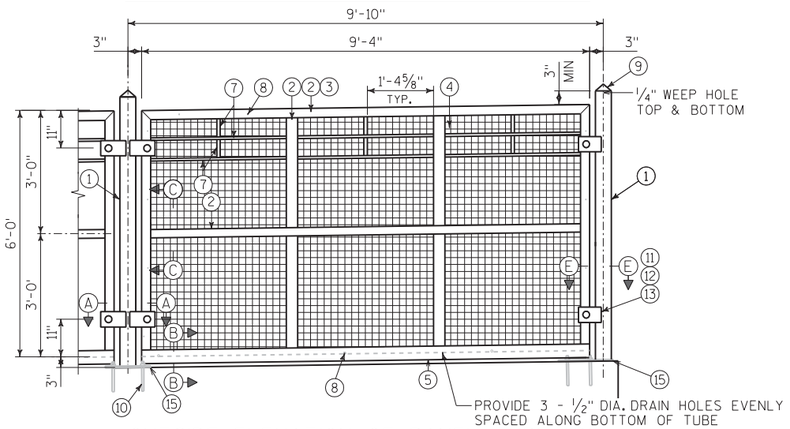
OUTSIDE ELEVATION OF PANEL TYPE "A"



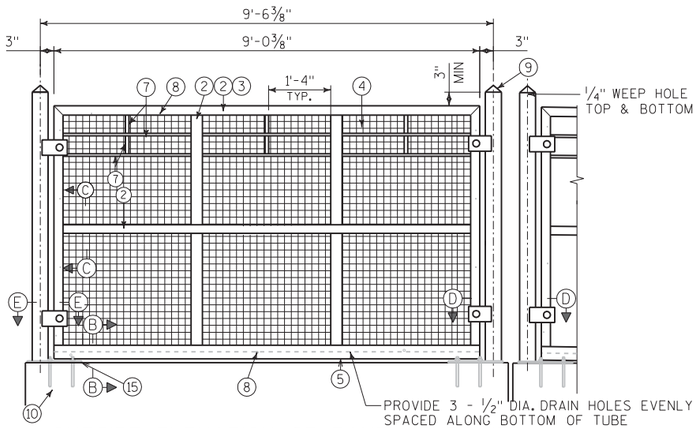
OUTSIDE ELEVATION OF PANEL TYPE "B"



OUTSIDE ELEVATION OF PANEL TYPE "C"



OUTSIDE ELEVATION OF PANEL TYPE "D"



OUTSIDE ELEVATION OF PANEL TYPE "E"

NOTE

FOR NOTES & LEGEND SEE SHEET 9.

SEE SHEET 9 FOR SECTION CUTS AND DETAIL 'C'.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-34

DRAWN BY TRW | PLANS CK'D. ACT

DECORATIVE FENCE-2

SHEET 10 OF 11
2265

SCALE = 17:6 " : " / IN.

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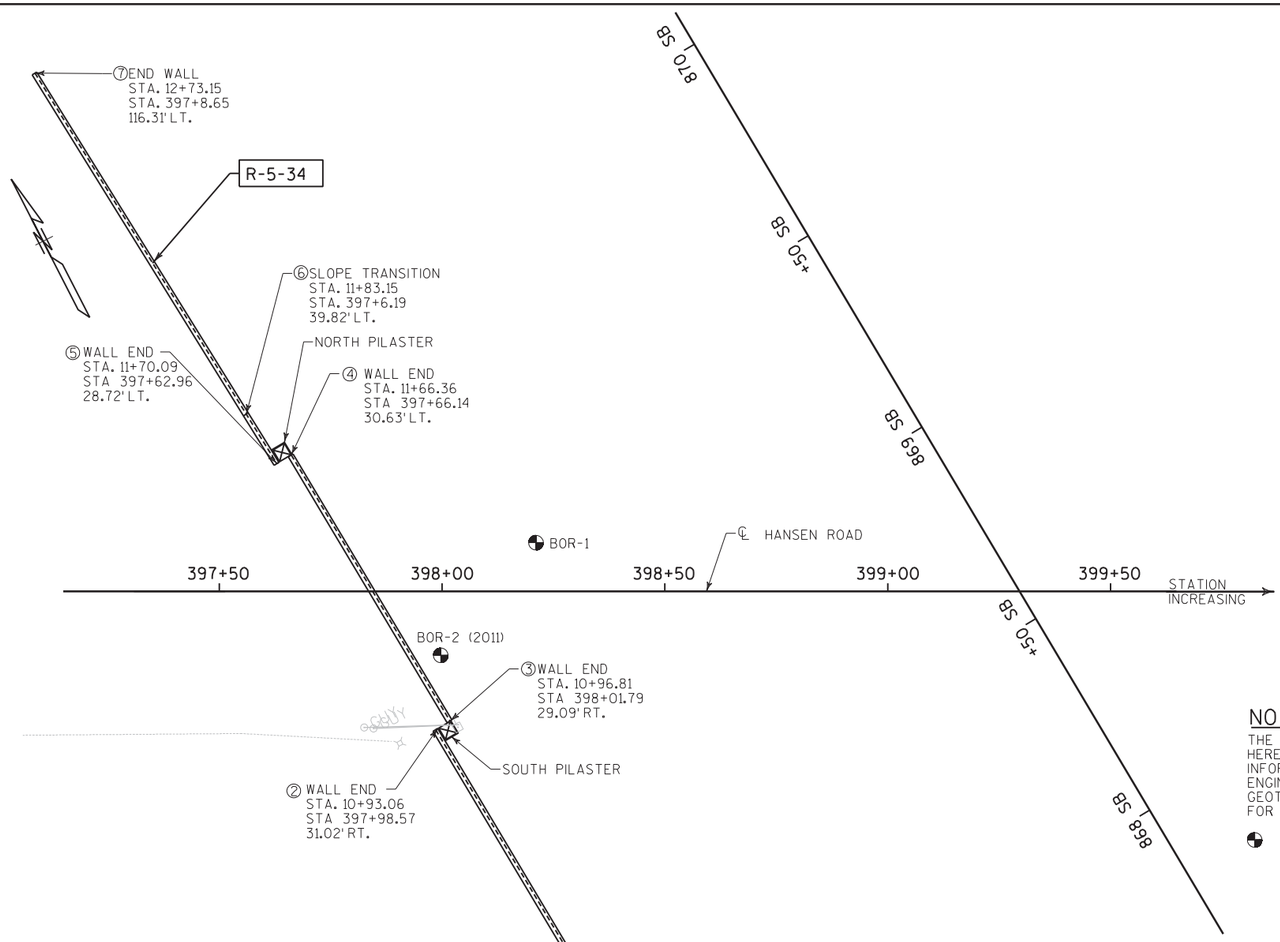


NOTES:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

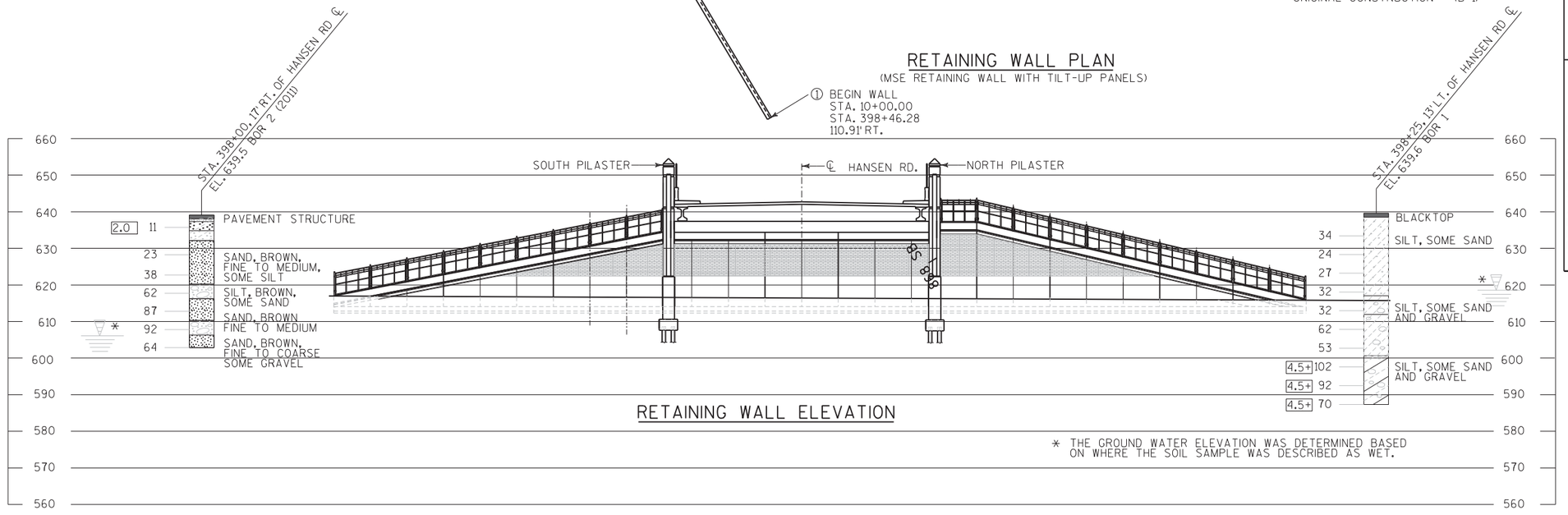
DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
WISDOT

SOIL BORINGS TAKEN:
JUNE, 2011 - (B-2)
ORIGINAL CONSTRUCTION - (B-1)

RETAINING WALL PLAN

(MSE RETAINING WALL WITH TILT-UP PANELS)



RETAINING WALL ELEVATION

* THE GROUND WATER ELEVATION WAS DETERMINED BASED ON WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

STATE PROJECT NUMBER

1133-09-74

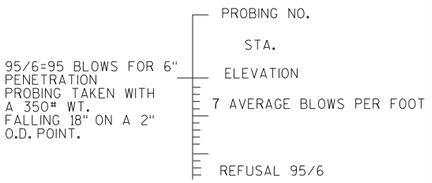
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

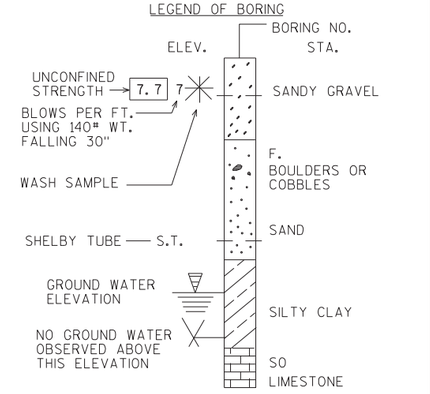
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-34

DRAWN BY TRW | PLANS CK'D. JFR

SUBSURFACE EXPLORATION

SHEET 11 OF 11
2266

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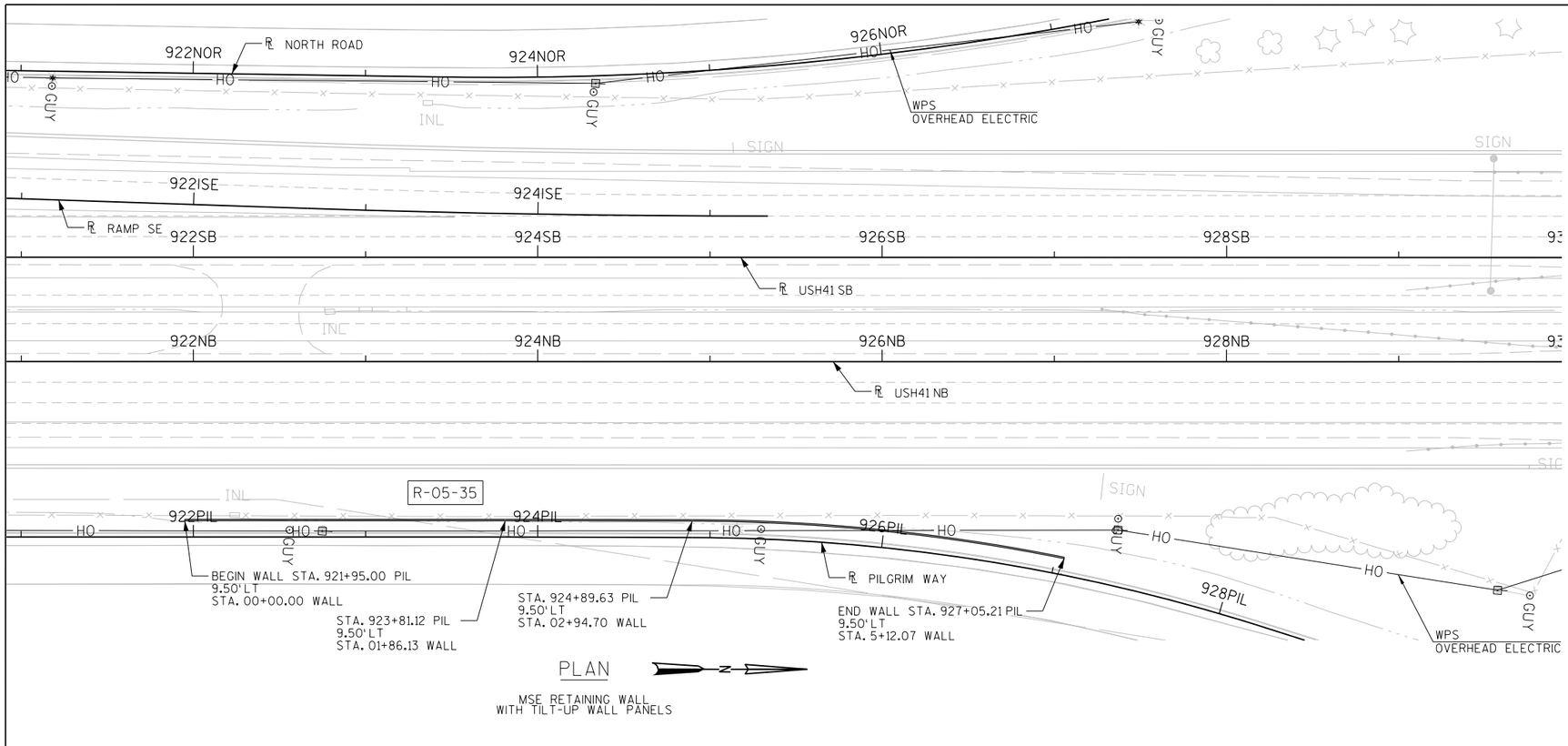
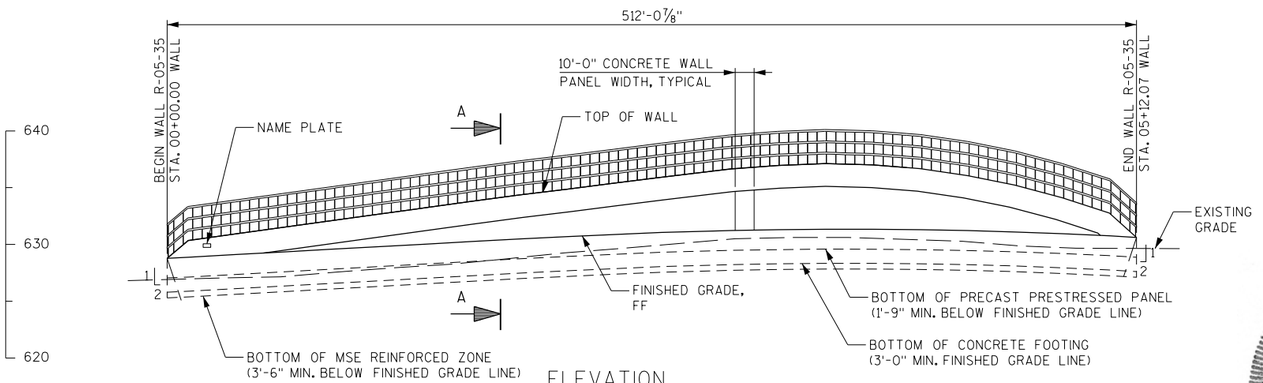
3/20/2013



PLAN

MSE RETAINING WALL
WITH TILT-UP WALL PANELS



ELEVATION

(LOOKING WEST AT FRONT FACE OF WALL)
(DISTANCES AND STATIONS GIVEN ALONG FRONT FACE OF WALL)

REFER TO AESTHETIC DETAIL 1 SHEET FOR LOCATION OF EXPANSION JOINTS

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEVATION
13	795+65.43 NB 48.33'RT	CH SQ ON WEST SIDE EAST SIGN BASE OF THE ONEIDA ST - WAUBE LANE ½ MILE EXIT 164 AHEAD SIGN 350 FT SOUTH OF GLORY RD	599.37

STATE PROJECT NUMBER

1133-09-71

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BEVEL EXPOSED EDGES OF CONCRETE ¾", UNLESS NOTED OTHERWISE.

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

COORDINATES OF THIS PLAN ARE REFERENCED TO THE WISCONSIN COORDINATE SYSTEM (WCCS), BROWN COUNTY.

ALL DIMENSIONS ARE ALONG THE FRONT FACE OF PRECAST CONCRETE WALL PANEL, UNLESS OTHERWISE SHOWN.

ALL BAR STEEL REINFORCEMENT, EXCEPT WALL PANEL FOOTING, IS TO BE EPOXY COATED.

BAR STEEL REINFORCEMENT SHALL HAVE 2" CLEAR COVER, UNLESS SHOWN OTHERWISE.

THE FIRST OR FIRST TWO DIGITS OF BAR MARKS SIGNIFIES THE BAR SIZE. BAR DIMENSIONS ARE OUT TO OUT OF BAR.

THESE PLANS ARE FOR A WIRE FACED MECHANICALLY STABILIZED EARTH WALL WITH PRECAST PRESTRESSED CONCRETE FACING PANELS.

DO NOT PERMIT CONCRETE OR FILL TO ACCUMULATE IN THE WALL CAVITY BETWEEN THE WIRE FACED MSE WALL AND PRECAST CONCRETE WALL PANEL.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153 TYPES I, II, OR III, OR M123.

THE COST OF FURNISHING AND PLACING THE FOOTING UNDER THE MSE PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

OPTIONAL TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE FOOTING WITH A MINIMUM SPACING OF TWO PANEL LENGTHS. FOOTING JOINTS SHALL BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THROUGH FOOTING JOINTS.

THE PLAN QUANTITY FOR THE ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL" IS BASED ON A WALL HEIGHT MEASURED FROM THE FINISHED GRADE AT THE FRONT FACE OF PRECAST CONCRETE WALL PANEL TO THE TOP OF WALL AS SHOWN ON THE PLANS.

PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

DESIGN THE RETAINING WALL FOR HORIZONTAL FINISHED GRADE BEHIND THE WALL AND A LIVE LOAD SURCHARGE OF 240 PSF.

DESIGN THE MSE WALL FOR A WIND SUCTION LOAD OF 20 PSF ON THE PRECAST PANEL.

AT ENDS OF WALL SEAL CAVITY BETWEEN WIRE FACE AND PRECAST CONCRETE WALL WITH COLUMN OF CONCRETE 1'-6" WIDE. INCIDENTAL TO BID ITEM PRESTRESSED PRECAST CONCRETE WALL PANELS.

LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES AND DESIGN DATA
3. WALL DETAILS
4. COPING DETAILS
5. AESTHETIC DETAILS 1
6. AESTHETIC DETAILS 2
7. RAILING
8. SUBSURFACE EXPLORATION

WISCONSIN
JEFFREY S. ROSNER
34316-006
DE PERE, WI
PROFESSIONAL ENGINEER

3-27-13

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER 608-266-8489

CONSULTANT CONTACT:
JEFFREY S. ROSNER 920-592-9440

NO.	DATE	REVISION	BY

PRELIMINARY PLANS PREPARED BY: GRAEF
1150 Springhurst Drive, Suite 201
Green Bay, WI 54304
920-592-9440
920-592-9445 fax
www.graef-usa.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 03/28/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-05-35

RETAINING WALL ALONG PILGRIM ROAD S. OF CORMIER

COUNTY	CITY
BROWN	ASHWAUBENON

DESIGN SPEC.
AASHTO STD. SPEC., LOAD FACTOR DESIGN

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JSR	JOH	AMZ	JSR

SHEET 1 OF 8

GENERAL PLAN 2267

8

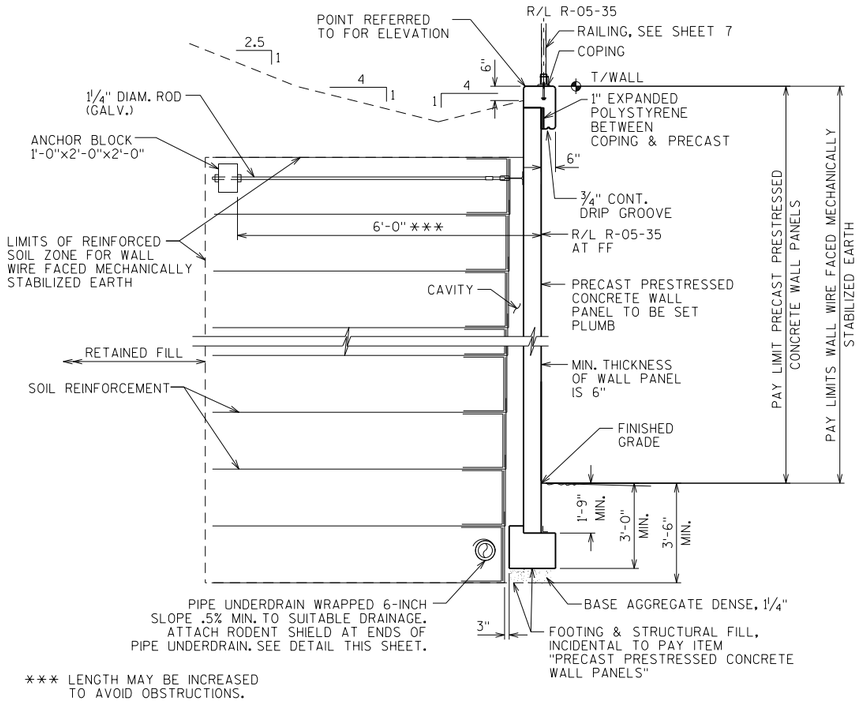
8

STATE PROJECT NUMBER
1133-09-71

GEOMETRY TABLE ◥

WALL STATION	STATION (R/L PIL)	OFFSET TO FF OF WALL	TOP OF WALL EL	FINISHED GRADE FF EL	EXISTING GRADE EL
0+00.00	921+95.00	9.50' LT (PIL)	628.78	628.78	626.92
0+11.13	922+06.13	9.50' LT (PIL)	630.35	628.88	627.05
0+36.13	922+31.13	9.50' LT (PIL)	630.93	629.11	627.07
0+61.13	922+56.13	9.50' LT (PIL)	631.50	629.34	627.16
0+86.13	922+81.13	9.50' LT (PIL)	632.08	629.57	627.52
1+11.13	923+06.13	9.50' LT (PIL)	632.65	629.80	627.86
1+36.13	923+31.13	9.50' LT (PIL)	633.23	630.03	628.12
1+61.13	923+56.13	9.50' LT (PIL)	633.80	630.26	628.42
1+86.13	923+81.12	9.50' LT (PIL)	634.37	630.49	628.86
2+11.13	924+06.11	9.50' LT (PIL)	634.92	630.71	629.24
2+36.13	924+31.11	9.50' LT (PIL)	635.46	630.90	629.57
2+61.13	924+56.10	9.50' LT (PIL)	635.98	631.08	629.90
2+86.13	924+81.07	9.50' LT (PIL)	636.48	631.19	630.26
2+94.70	924+89.63	9.50' LT (PIL)	636.65	631.23	630.43
3+19.70	925+14.49	9.50' LT (PIL)	636.95	631.30	630.60
3+44.70	925+39.27	9.50' LT (PIL)	637.12	631.34	630.63
3+69.70	925+64.06	9.50' LT (PIL)	637.01	631.34	630.57
3+94.70	925+88.84	9.50' LT (PIL)	636.68	631.30	630.43
4+19.70	926+13.63	9.50' LT (PIL)	636.07	631.22	630.28
4+44.70	926+38.41	9.50' LT (PIL)	635.23	631.11	630.11
4+69.70	926+63.20	9.50' LT (PIL)	634.12	630.95	629.95
4+94.70	926+87.98	9.50' LT (PIL)	632.77	630.76	629.79
5+12.07	927+05.21	9.50' LT (PIL)	630.62	630.62	629.66

◥ = LINEARLY INTERPOLATE WALL ELEVATIONS BETWEEN STATIONS.



*** LENGTH MAY BE INCREASED TO AVOID OBSTRUCTIONS.

TYPICAL WALL SECTION A-A

FOR ROADWAY DETAILS AT THE FACE OF THE WALL, SEE ROADWAY TYPICAL SECTIONS.

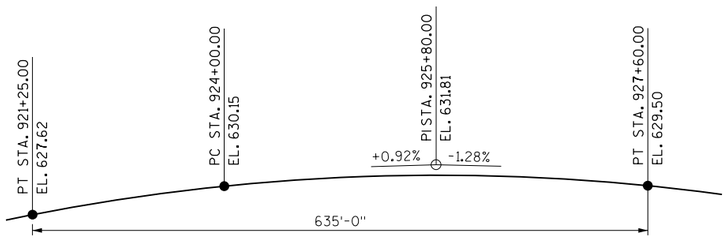
TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	4
532.0700.S	WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	1975
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	532
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	1340
SPV.0165.501	STAINING CONCRETE	SF	3845
SPV.0165.502	STAINING CONCRETE BRICK	SF	1340
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANELS	SF	1975
SPV.0090.850	RAILING	LF	512
	NON-BID ITEMS		
	FILLER	SIZE	1", ¾"
	EXPANDED POLYSTYRENE	SIZE	1"
	NON-BITUMINOUS JOINT SEALER		
	CORK FILLER	SIZE	1"

DEADMAN ANCHOR SYSTEM WHICH INCLUDES ANCHOR BLOCK, ANCHOR ROD AND PANEL CONNECTION COMPONENTS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANELS".

SAFETY FACTORS FOR MSE WALLS

MINIMUM DOT STANDARD	
SLIDING (FS>1.5)	1.5
OVERTURNING (FS>2.0)	6.2
GLOBAL STABILITY (FS>1.3)	1.5
ULTIMATE BEARING CAPACITY (FS>2) BASED ON WALL WIDTHS & EMBEDMENT DEPTHS SHOWN IN TABLE	7.5
MIN. EMBEDMENT DEPTH	3'-6"
MIN. SOIL REINFORCEMENT LENGTH	8'-0"



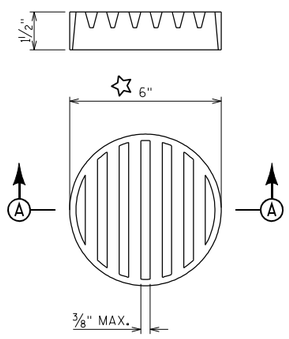
PROFILE GRADE LINE - PILGRIM WAY

CURVE DATA PILGRIM WAY

P.I. = 926+57.19
Y = 559,644.97
X = 82,589.66
DELTA = 17°20'47.1" (RT)
D = 5°13'5.5"
T = 167.49'
L = 332.42'
R = 1,098.00'
P.C. = 924+89.70
P.T. = 928+22.12

SOIL PARAMETERS

STRATUM LOCATIONS & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	FRICTION ANGLE (DEGREES)	COHESION (PSF)
UNDRAINED CONDITION			
REINFORCED ENGINEERED FILL	130	30	0
EL. 644.0 - EL. 627.0 (SILT OR LOOSE SAND)	130	28	0
EL. 627.0 & BELOW (STIFF CLAY)	130	0	1,500
DRAINED CONDITION			
REINFORCED ENGINEERED FILL	130	30	0
EL. 640.0 - EL. 627.0 (SILT OR LOOSE SAND)	130	28	0
EL. 627.0 & BELOW (STIFF CLAY)	130	24	100



RODENT SHIELD

☆ DIMENSIONS ARE APPROXIMATE, THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

ORIENT SHIELD SO SLOTS ARE VERTICAL.

COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRPPED 6-INCH."

NOTES

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL WIRE FACE MECHANICALLY STABILIZED EARTH".

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON THESE PLANS.

DESIGN DATA

LIVE LOAD:
LIVE LOAD SURCHARGE (ROADWAY) = 240 psf

MATERIAL PROPERTIES:
CONCRETE MASONRY RETAINING WALLS f'c = 4,000 PSI
PRECAST CONCRETE WALL PANEL f'c = 4,000 PSI
BAR STEEL REINFORCEMENT fy = 60,000 PSI

STRUCTURAL STEEL CARBON (ASTM A709 GRADE 36) fy = 36,000 PSI

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QUANTITIES AND DESIGN DATA

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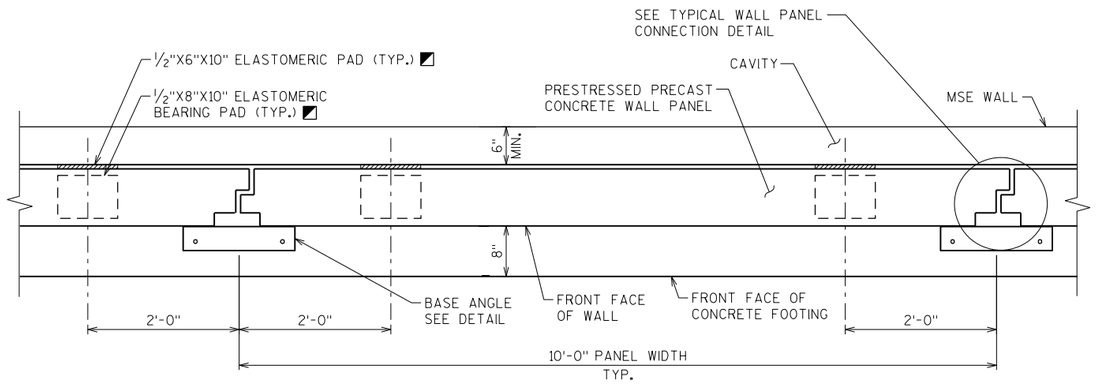
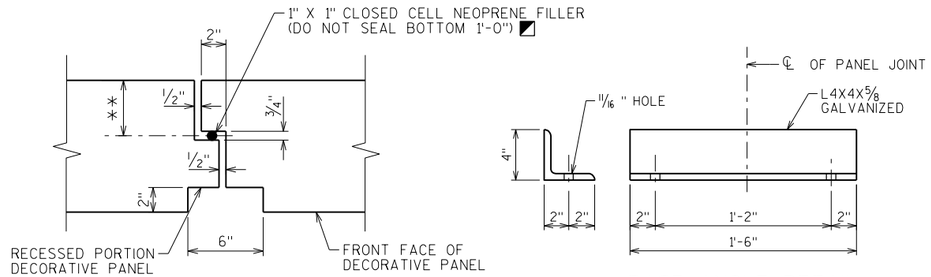


TYPICAL WALL PANEL CONNECTION

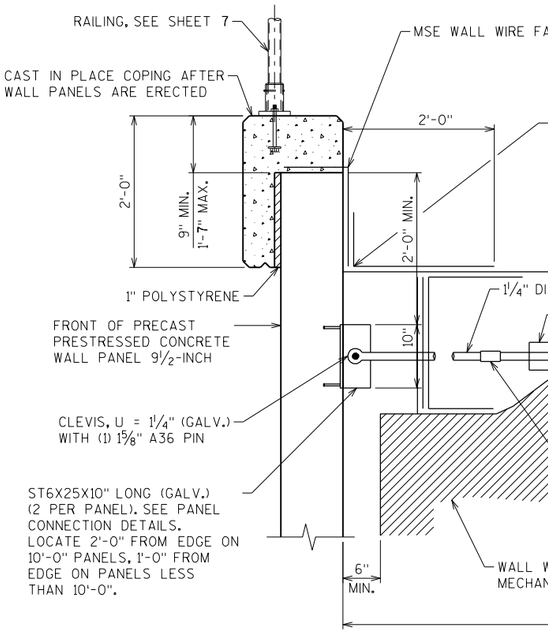


TYPICAL WALL PANEL CONNECTION

** 4" FOR 9 1/2" PANEL
3" FOR 7 1/2" PANEL

BASE ANGLE DETAIL

(1) AT EACH PANEL JOINT



WALL PANEL ANCHOR DETAIL

A02

LEGEND

(A01) WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1 1/4" DIA. ANCHOR ROD, CLEVIS, AND OTHER PANEL CONNECTION COMPONENTS. DETAILING AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRECAST PRESTRESSED CONCRETE WALL PANEL." INSTALLATION OF THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH."

(A02) DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION. ROD MIN. 2'-0" BELOW FINISH GRADE.

(A03) OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1 1/4" DIA. BAR)

(A04) BASE AGGREGATE OPEN GRADED, 6" MIN. INCIDENTAL TO BID ITEM "PRECAST PRESTRESSED CONCRETE WALL PANEL."

(A05) MINIMUM DIMENSION FROM FINSHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE PRECAST PANELS.

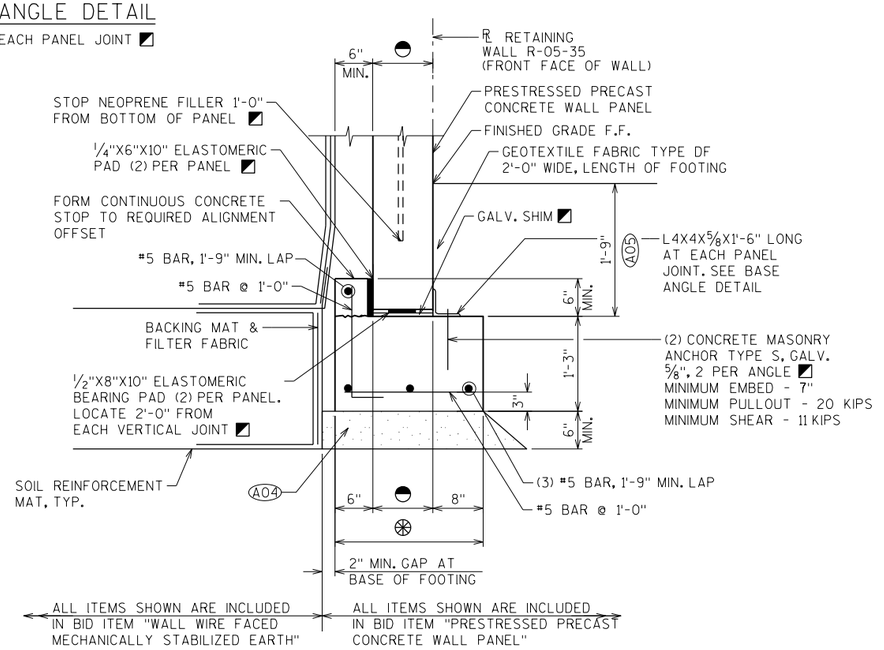
(A06) ALTERNATIVE METHODS OF SEALING OFF THE 6" VOID IN FRONT OF THE MSE WALL MAY BE SUBMITTED TO WISDOT FOR CONSIDERATION.

◩ INCLUDED IN THE BID ITEM "PRECAST PRESTRESSED CONCRETE WALL PANEL".

NOTES

AN ALTERNATIVE WALL PANEL ANCHOR AND PANEL CONSTRUCTION SYSTEM MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER.

TILT UP PANEL ANCHOR SYSTEM MAY BE TRENCHED IN IF THE GEOMETRY OF THE ANCHOR SYSTEM LOCATION ALLOWS.

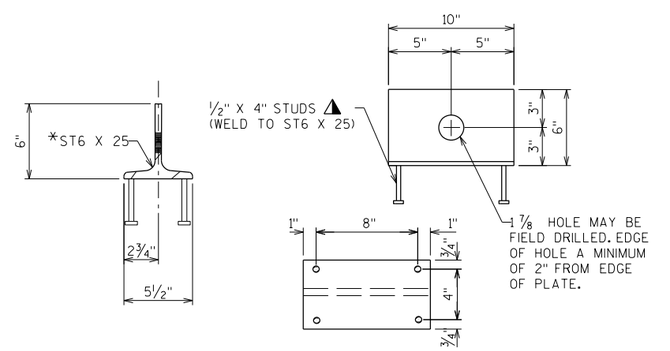


WALL PANEL FOOTING DETAIL

CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRECAST PRESTRESSED CONCRETE WALL PANEL"

◓ = WALL PANEL THICKNESS AS DETERMINED BY SPECIAL PROVISION (6" MIN.)

⊛ = FOOTING DIMENSION EQUALS PANEL THICKNESS PLUS 1'-2"



PANEL CONNECTION DETAILS

▲ AS AN ALTERNATE, 1/2" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4 " STUDS.

* S12X50 (GALV.) CUT IN 1/2 TO FORM "T" SECTION. BF = 5.477" TW = 0.687"

ST6X25 MAY BE WELDED TO 3/4" THICK PLATE WITH (4) 1/2"X4" STUDS ANCHORED IN PRECAST PANEL. RESTORE ZINC COATING AROUND ANY WELDED AREAS. SUBMIT DETAILS FOR APPROVAL BY ENGINEER.

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WALL DETAILS

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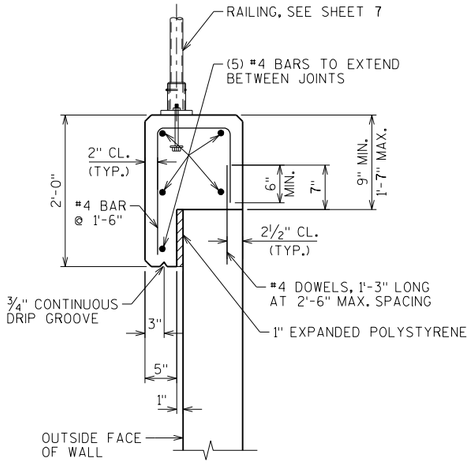
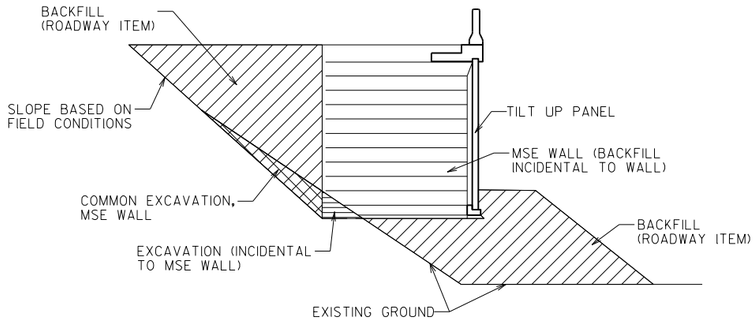
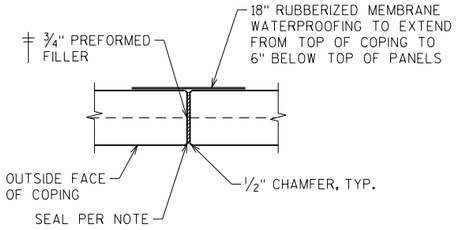


CAST-IN-PLACE CONCRETE COPING DETAIL

(NOTE: COPING CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".)

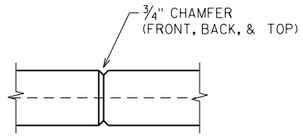


TYPICAL LIMITS OF EXCAVATION AND BACKFILL



COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOING. MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS. MAXIMUM SPACING OF JOISTS SHALL BE 50'-0" AND MUST LINE UP WITH WALL PANEL JOINTS.



COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT. MAXIMUM SPACING OF JOINT = 10'-0" AND MUST LINE UP WITH WALL PANEL JOINTS. ALL CONTRACTION JOINTS TO EXTEND FULL DEPTH OF COPING.

LEGEND

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER WITH NON-STAINING, NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH STAIN. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)

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COPING DETAILS

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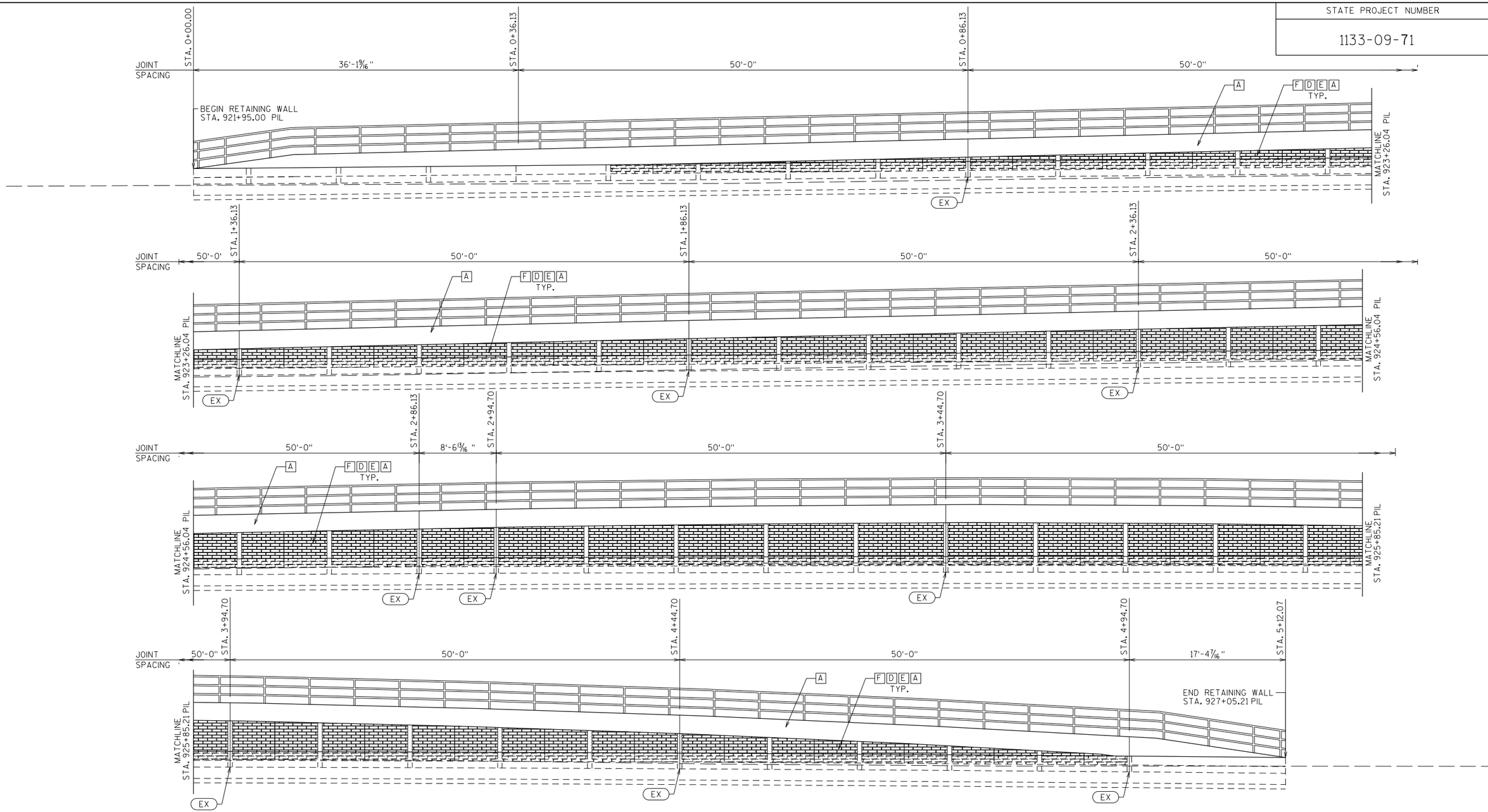

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
~~B~~	~~ACCENT COLOR #1~~	~~REVEALS, OUTSIDE OF EXTERIOR CONCRETE GIRDER, STEEL BOX GIRDERS~~
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~

ELEVATION

LOOKING AT FRONT FACE OF WALL

NOTES

1. STAIN PATTERN SHOULD EXTEND 1'-0" BELOW FINISHED GRADE.
2. STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

(EX) DENOTES EXPANSION JOINT

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AESTHETIC DETAILS 1

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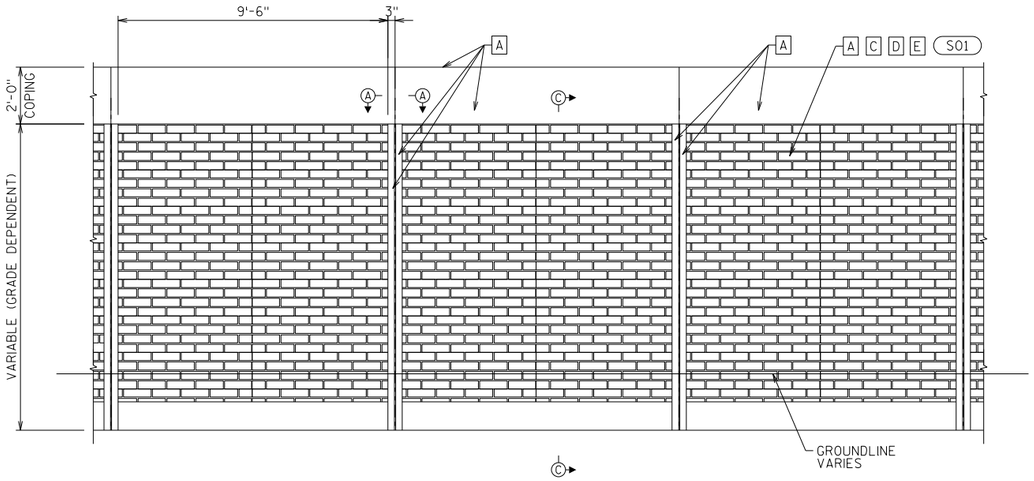


PRESTRESSED PRECAST CONCRETE WALL PANEL

AT RETAINING WALL

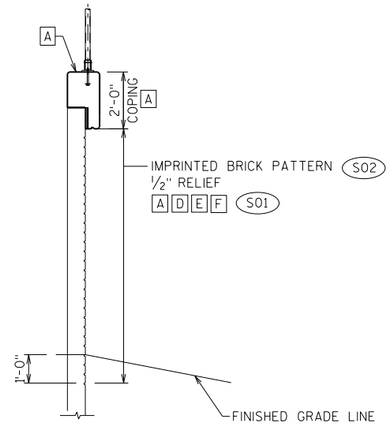
CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
	BASE COLOR	BRIDGES, PARAPETS, WALLS
~~B~~	~~ACCENT COLOR #1~~	~~REVEALS, OUTSIDE OF EXTERIOR CONCRETE GIRDER, STEEL BOX GIRDERS~~
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~

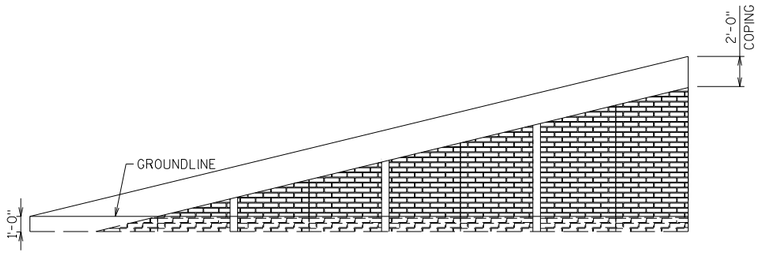
NOTES

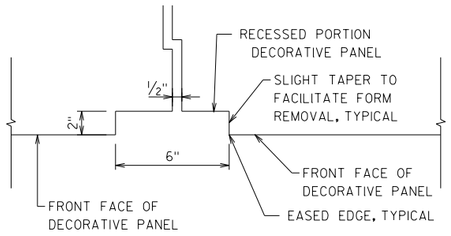
(S01) STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

(S02) THE COST OF THE BRICK PATTERN FORMLINER TREATMENT IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT". SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

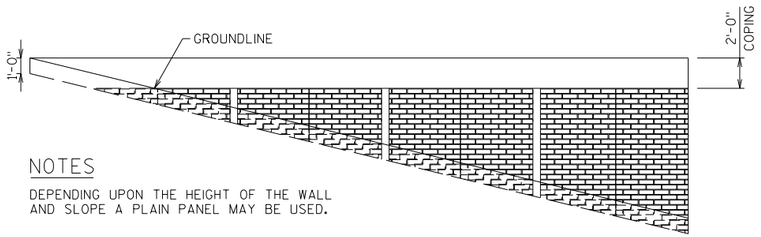


SECTION C-C





SECTION A-A



NOTES

DEPENDING UPON THE HEIGHT OF THE WALL AND SLOPE A PLAIN PANEL MAY BE USED.

RETAINING WALL END TREATMENTS

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AESTHETIC DETAILS 2

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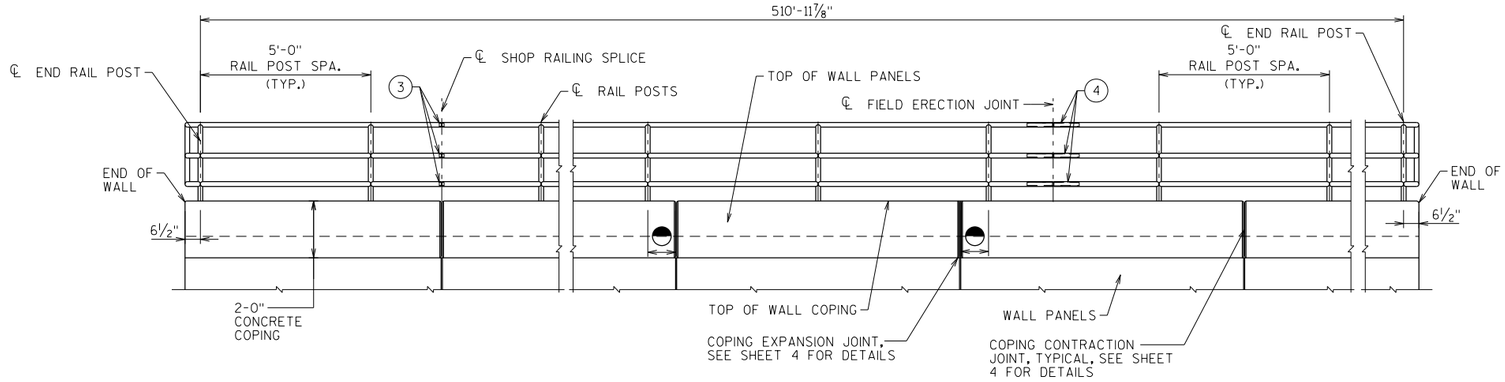
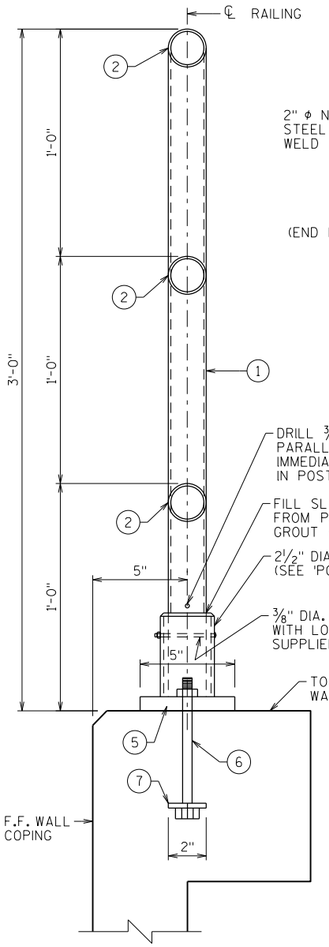


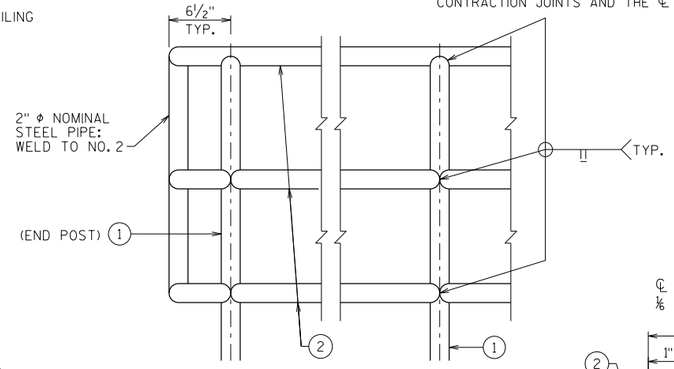
PARTIAL ELEVATION OF WALL COPING & RAILING

(LOOKING WEST AT FRONT FACE OF WALL)

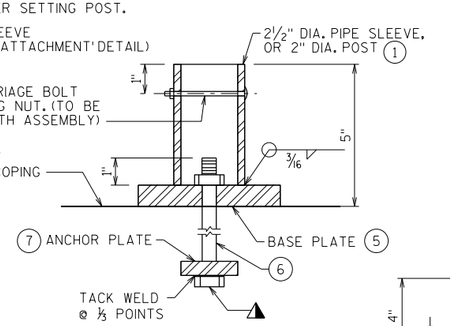
● 1'-0" MIN. DISTANCE REQUIRED BETWEEN THE ℄ OF COPING JOINTS (BOTH EXPANSION AND CONTRACTION JOINTS AND THE ℄ OF RAIL POSTS



SECTION THRU RAILING



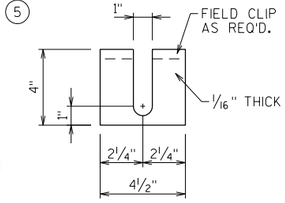
PART ELEVATION OF RAILING



POST ATTACHMENT

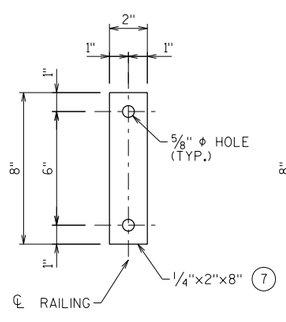
UNIT SHALL BE GALV. AFTER FABRICATION

NOTE:
IN LIEU OF USING THE 2½" ϕ SLEEVE, THE 2" ϕ RAIL POST MAY BE WELDED TO THE BASE PLATE.

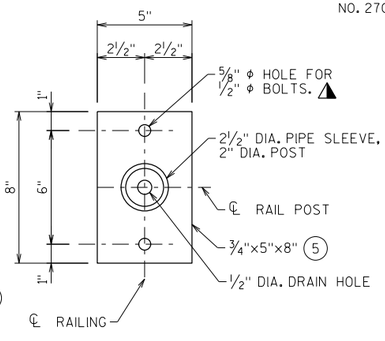


POST SHIM DETAILS

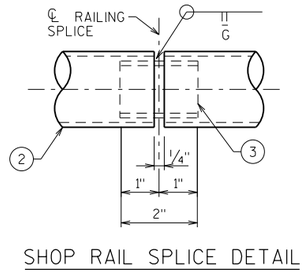
SHIMS REQUIRED ONLY WHEN POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST.



ANCHOR PLATE

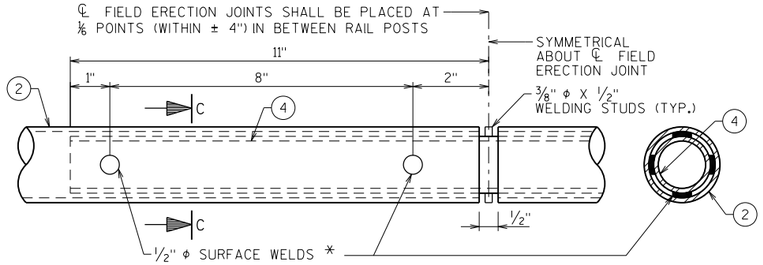


BASE PLATE



SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



FIELD ERECTION JOINT DETAIL

* MIN. ⅝" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

LEGEND

1. 2" ϕ NOMINAL STEEL PIPE FOR POSTS: CUT BOTTOM OF POST TO MATCH TOP OF CONCRETE. POSTS ARE TO BE SET VERTICAL.
2. 2" ϕ NOMINAL STEEL PIPE FOR RAILS: WELD TO NO. 1
3. 1½" ϕ PIPE SLEEVE FOR NO. 2. PROVIDE "SLDING FIT" WITH A MINIMUM OUT TO OUT DIMENSION OF 2 1/16".
4. 1½" ϕ PIPE SLEEVE X 1'-10" LONG FOR NO. 2. PROVIDE ½" ϕ SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF NO. 2. PROVIDE ⅜" ϕ x ½" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.
5. PLATE ¾" x 5" x 8" WITH ⅝" ϕ HOLE FOR ANCHOR BOLTS NO. 6. WELD TO NO. 1 OR PIPE SLEEVE AS SHOWN.
6. A325 - ½" ϕ X 6⅞" LONG HEX BOLTS (GALVANIZED WITH A325 NUT AND WASHER. 2 REQ'D PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 5. CHAMFER TOP OF BOLTS BEFORE THREADING.
7. ¼" x 2" x 8" FLAT BAR, WITH ⅝" ϕ HOLES FOR ANCHOR BOLTS NO. 6.

GENERAL NOTES

BID ITEM SHALL BE "RAILING PIPE R-05-35". WHICH INCLUDES ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATE IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

FIELD ERECTION JOINTS MUST BE PLACED IN BETWEEN RAIL POSTS WHERE THERE IS ALSO A CONCRETE COPING EXPANSION JOINT IN BETWEEN RAIL POSTS.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 7) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.

DRILL DRAIN HOLES PRIOR TO GALVANIZING.

ALL MATERIALS USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO A.S.T.M. DESIGNATION A709 GRADE 36 UNLESS NOTED OTHERWISE.

STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D FOR ALIGNMENT.

ALL RAILS, POSTS AND SLEEVES ARE STANDARD WEIGHT PIPE, SCHEDULE 40.

PLACE ALL NUTS ON OUTSIDE OF POSTS.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS IN POST SHIMS AND BASE PLATES WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER.

ALL RAILINGS, POSTS AND ASSOCIATED HARDWARE SHALL BE PAINTED BLACK (FEDERA COLOR NO. 27038).

▲ ½" DIA. X 6⅞" LONG GALVANIZED HEX BOLT WITH NUT & WASHER. TYPE S, ½" ϕ CONCRETE MASONRY ANCHORS MAY BE SUBSTITUTED FOR ½" ϕ BOLTS. ANCHOR PLATE NOT REQUIRED WHEN TYPE S ANCHORS ARE USED. SEE NOTE ☆

☆ ½" CONCRTE MASONRY ANCHOR, TYPE "S" 6" MIN. EMBEDMENT (EPOXY ANCHORED MIN. PULLOT OF 10 KIPS). THREADED LENGTH OF ANCHOR, WASHER AND NUT SHALL BE GALVANIZED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-05-35

DRAWN BY AMZ | PLANS CK'D. JSR

RAILING

SHEET 7 OF 8

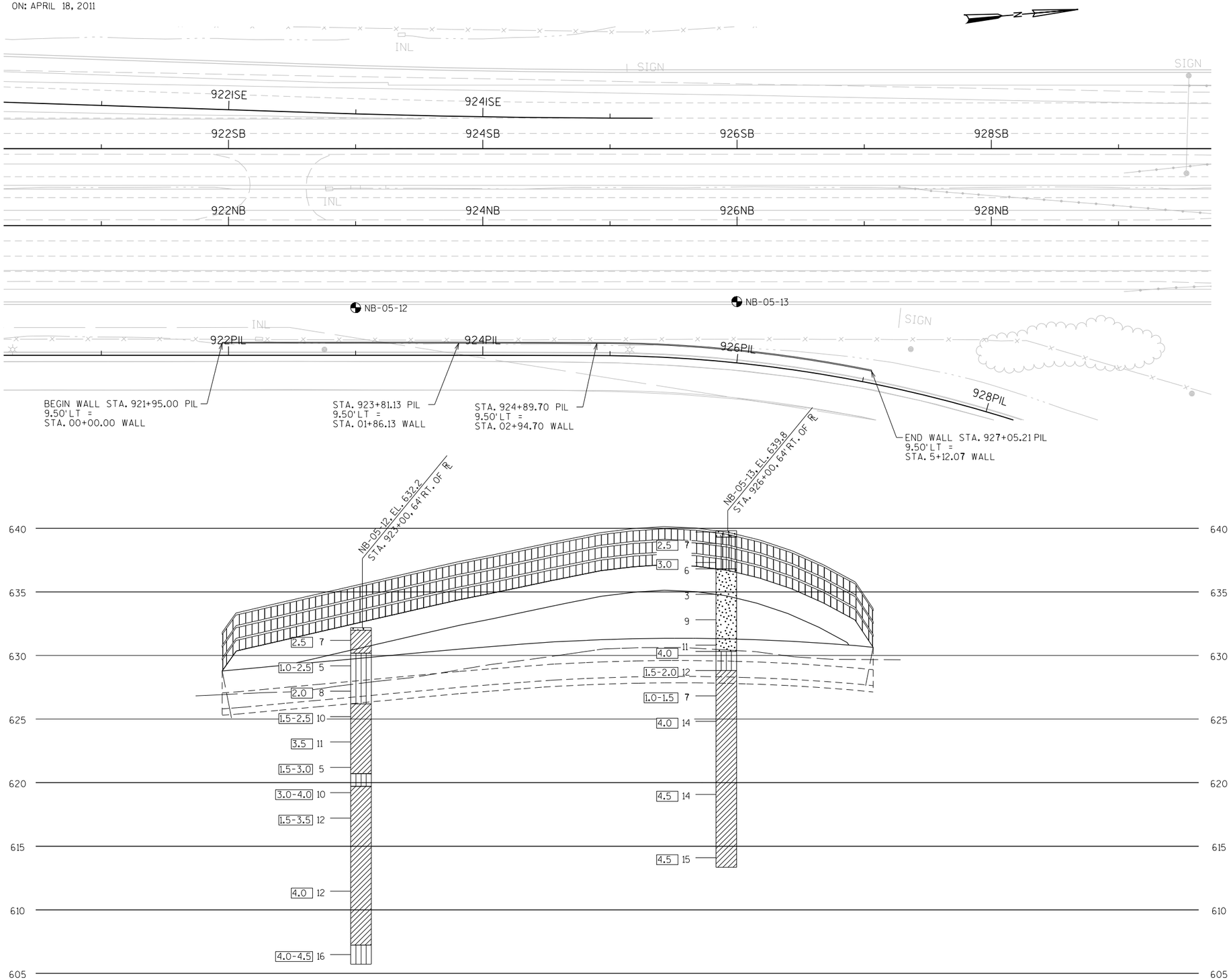
2273

8

8

SOIL BORINGS

BY: GESTRA ENGINEERING, INC.
ON: APRIL 18, 2011



NOTE: THIS SUBSURFACE EXPLORATION DIAGRAM WAS REGENERATED FROM WISDOT'S SUBSURFACE EXPLORATION DIAGRAM FOR NOISE WALL (NB-05-10). GROUNDWATER LEVEL WAS NOT REPORTED IN NB-05-10 SUBSURFACE EXPLORATION DIAGRAM FOR BORINGS NB-05-12 AND NB-05-13.

STATE PROJECT NUMBER

1133-09-71

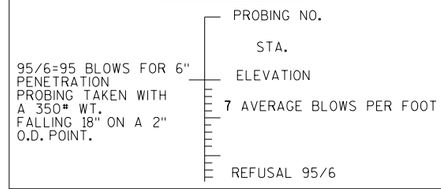
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

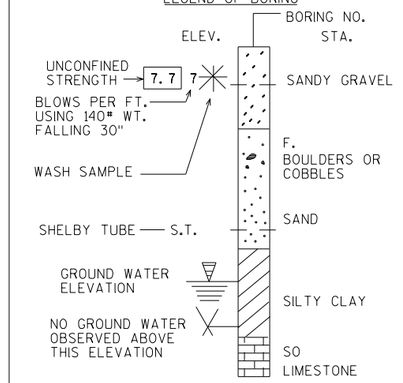
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-05-35

DRAWN BY AMZ | PLANS CK'D. JSR

SUBSURFACE EXPLORATION

SHEET 8 OF 8

2274

FILE= SCALE =

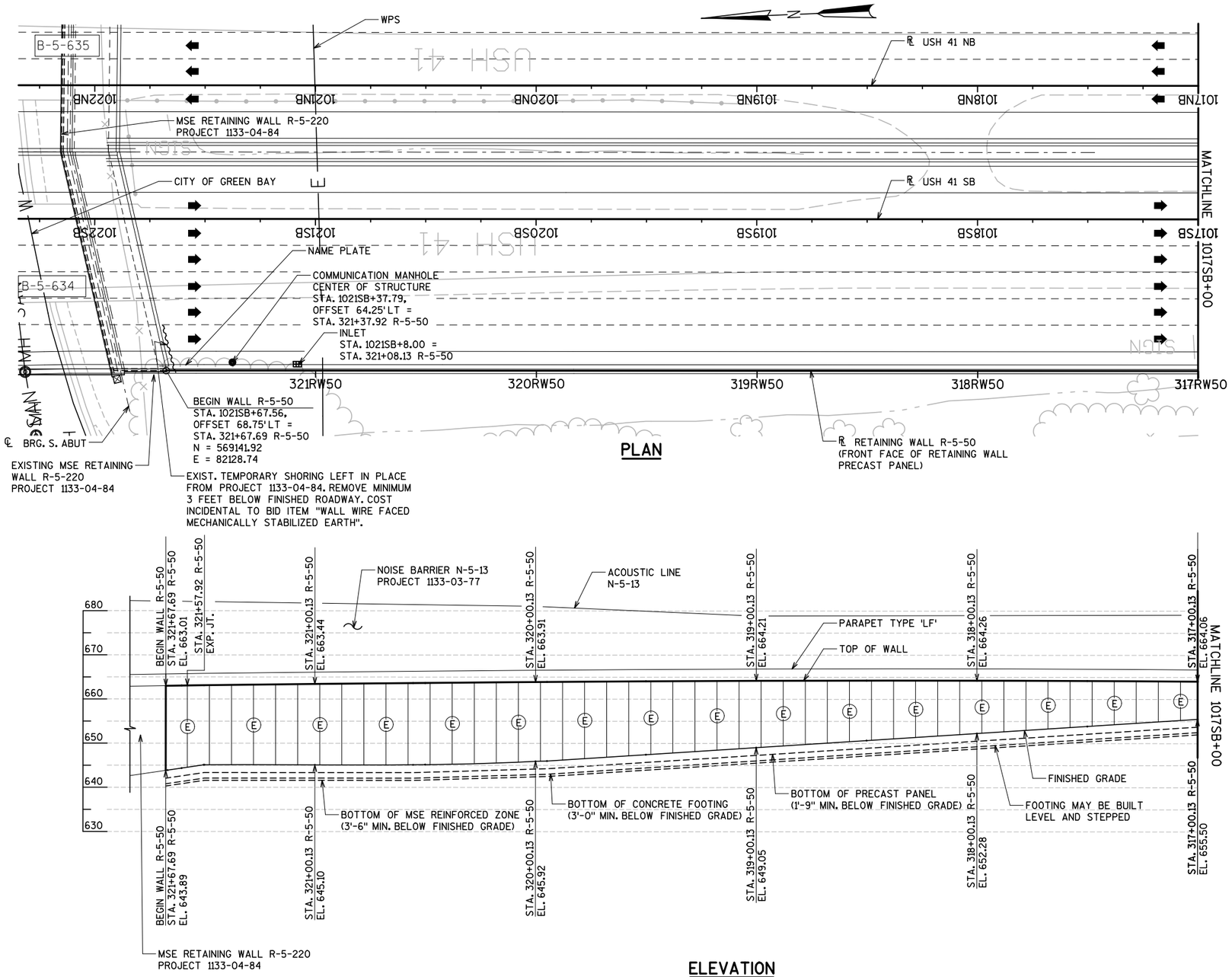
8

8

STATE PROJECT NUMBER
1133-03-77

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION (1 OF 3)
2. GENERAL PLAN AND ELEVATION (2 OF 3)
3. GENERAL PLAN AND ELEVATION (3 OF 3)
4. WALL SECTION AND DETAILS (1 OF 2)
5. WALL SECTION AND DETAILS (2 OF 2)
6. QUANTITIES AND DESIGN DATA
7. PARAPET, COPING, AND ANCHOR SLAB DETAILS (1 OF 2)
8. PARAPET, COPING, AND ANCHOR SLAB DETAILS (2 OF 2)
9. PARAPET, COPING, AND ANCHOR SLAB ELEVATION
10. ANCHOR SLAB AND PARAPET DETAILS
11. PARAPET DETAILS
12. ANCHOR SLAB AT INLET (1 OF 2)
13. ANCHOR SLAB AT INLET (2 OF 2)
14. COMMUNICATION MANHOLE DETAILS (1 OF 2)
15. COMMUNICATION MANHOLE DETAILS (2 OF 2)
16. CONDUIT TRANSITION DETAILS
17. ANCHOR SLAB AT MANHOLE (1 OF 2)
18. ANCHOR SLAB AT MANHOLE (2 OF 2)
19. NOISE BARRIER POST ANCHORAGE
20. BILL OF BARS
21. AESTHETIC DETAILS (1 OF 2)
22. AESTHETIC DETAILS (2 OF 2)
23. SUBSURFACE EXPLORATION (1 OF 3)
24. SUBSURFACE EXPLORATION (2 OF 3)
25. SUBSURFACE EXPLORATION (3 OF 3)



PLAN

ELEVATION

(LOOKING AT FRONT FACE OF WALL)
(DISTANCES AND STATIONS ARE GIVEN ALONG THE FRONT FACE OF WALL PRECAST PANEL. SEE GEOMETRY TABLE ON SHEET 6 FOR ADDITIONAL STATIONS WITH TOP AND BOTTOM ELEVATIONS OF WALL)

Ⓔ - DENOTES EXPANSION JOINT

NOMINAL WIDTH OF PRESTRESSED PRECAST PANEL IS 10 FEET UNLESS SHOWN OTHERWISE. ALTERNATIVE PANEL WIDTH MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER. PANELS LESS THAN 10 FEET WIDE MAY BE USED TO MAINTAIN THE PANEL JOINT LOCATIONS AS SHOWN ON THE ELEVATION VIEW.

BENCH MARK INFORMATION

BM NO.	LOCATION	ELEVATION
BM18	CH SQ ON SE CORNER OF PARAPET WALL OF NB USH 41 OVER 9TH ST	663.47
BM19	DISK ON SE CORNER OF PARAPET WALL OF NB USH 41, STR B5-358	643.03

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
WILLIAM DREHER (608) 266-8489

CONSULTANT:
BABU THENGANAKUNNEL (414) 771-3390

NO.	DATE	REVISION	BY

BLOOM COMPANIES, LLC
Infrastructure Innovation and Ingenuity
10501 W. Research Drive • Milwaukee, WI 53226
Phone: (414) 771-3390 Fax: (414) 771-4490

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 03/21/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-5-50

RETAINING WALL SOUTH OF 9TH ST

COUNTY	CITY
BROWN	GREEN BAY

DESIGN SPEC. AASHTO STD SPEC 2003

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
TAL	BDT	TAL	BDT

GENERAL PLAN AND ELEVATION (1 OF 3)

SHEET 1 OF 25

2275

I.D. 1133-03-02 DATE: NOVEMBER 2012

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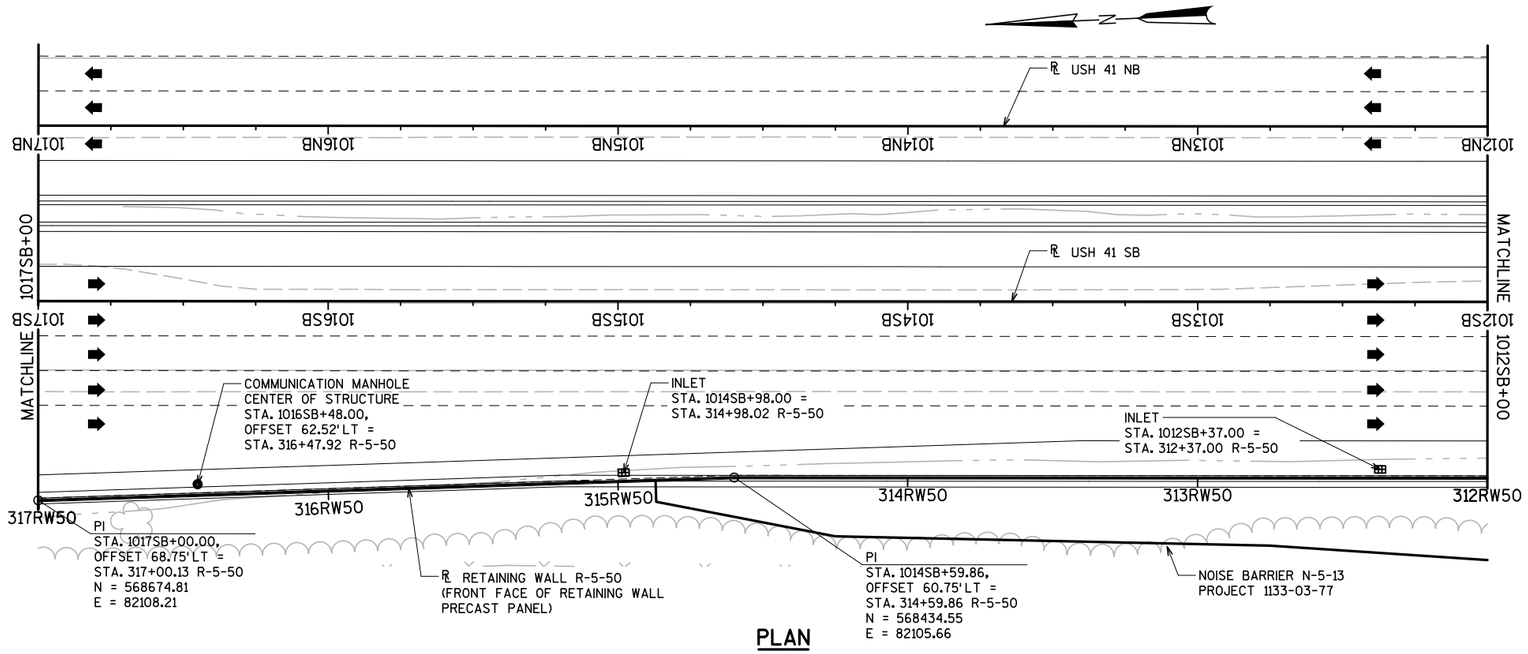
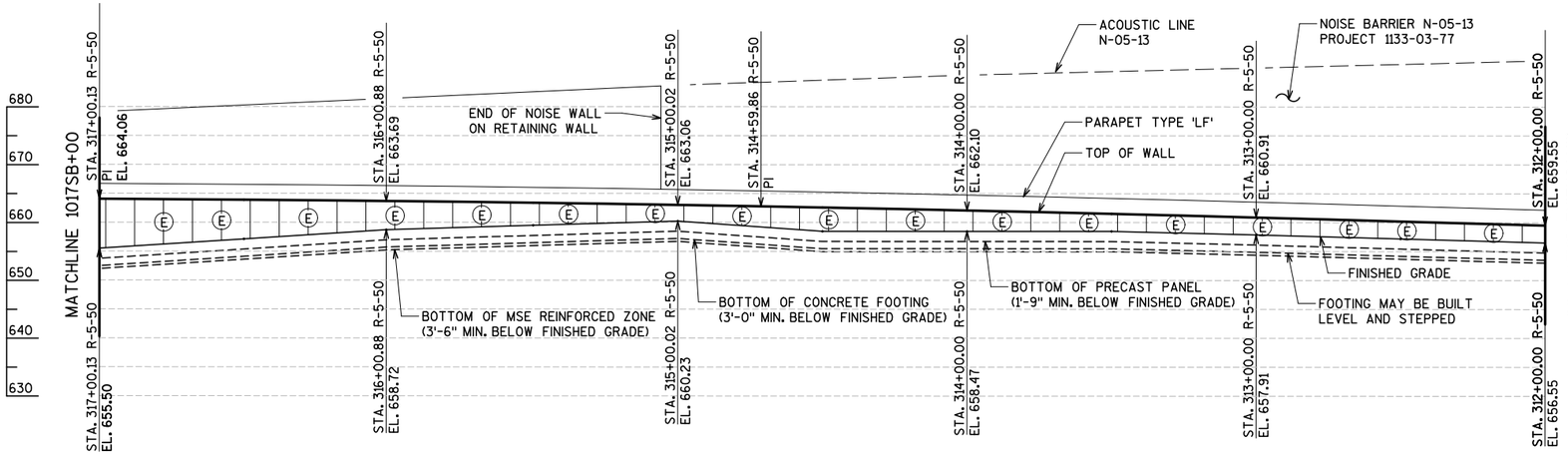


PLAN



ELEVATION

(LOOKING AT FRONT FACE OF WALL)
(DISTANCES AND STATIONS ARE GIVEN ALONG THE FRONT FACE OF WALL PRECAST PANEL. SEE GEOMETRY TABLE ON SHEET 6 FOR ADDITIONAL STATIONS WITH TOP AND BOTTOM ELEVATIONS OF WALL)

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GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BEVEL EXPOSED EDGES OF CONCRETE ¾", UNLESS NOTED OTHERWISE.

ALL STATIONS AND ELEVATIONS ARE IN FEET, ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COORDINATE SYSTEM (WCCS), BROWN COUNTY.

ALL DIMENSIONS ARE ALONG THE FRONT FACE OF PRECAST CONCRETE WALL PANEL, UNLESS OTHERWISE SHOWN.

ALL BAR STEEL REINFORCEMENT, IS TO BE EPOXY COATED, EXCEPT FOR WALL PANEL FOOTING.

BAR STEEL REINFORCEMENT SHALL HAVE 2" CLEAR COVER,UNLESS SHOWN OTHERWISE.

THESE PLANS ARE FOR A WIRE FACED MECHANICALLY STABILIZED EARTH WALL WITH PRECAST PRESTRESSED CONCRETE FACING PANELS.

PROVIDE COMPLETE DESIGN, PLANS, DETAILS, AND SHOP DRAWINGS FOR THE RETAINING WALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH".

DO NOT PERMIT CONCRETE OR FILL TO ACCUMULATE IN THE WALL CAVITY BETWEEN THE WIRE FACED MSE WALL AND PRECAST CONCRETE WALL PANEL.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153 TYPES I, II, OR III, OR M123.

SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY RETAINING WALLS."

THE COST OF FURNISHING AND PLACING THE FOOTING UNDER THE MSE PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

OPTIONAL TRAVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE FOOTING WITH A MINIMUM SPACING OF TWO PANEL LENGTHS. FOOTING JOINTS SHALL BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THROUGH FOOTING JOINTS.

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE ANCHOR SLAB AND PARAPETS IS PAID FOR UNDER THE ITEM "CONCRETE MASONRY RETAINING WALLS".

THE PLAN QUANTITY FOR THE ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL" IS BASED ON A WALL HEIGHT MEASURED FROM THE FINISHED GRADE AT THE FRONT FACE OF PRECAST CONCRETE WALL PANEL TO THE TOP OF WALL AS SHOWN ON THE PLANS.

PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

DESIGN THE RETAINING WALL FOR HORIZONTAL FINISHED GRADE BEHIND THE WALL AND A LIVE LOAD SURCHARGE OF 240 PSF.

DESIGN THE MSE WALL FOR THE DEAD LOAD OF NOISE BARRIER AND THE WIND LOAD ACTING ON THE NOISE BARRIER.

A PORTION OF NOISE BARRIER N-5-13 WILL BE MOUNTED ON STRUCTURE R-5-50. THE PLAN DETAILS FOR STRUCTURE R-5-50 SHOW AN ASSUMED POST SPACING AND MOUNTING DETAILS FOR NOISE BARRIER. COORDINATE THE ACTUAL MOUNTING DETAILS, NOISE BARRIER POST SPACING, AND LOCATION OF EMBEDDED ANCHORAGE ASSEMBLIES WITH THE MANUFACTURER/SUPPLIER OF THE NOISE BARRIER AND THE APPROVED NOISE BARRIER SHOP DRAWINGS.

ERECTION OF NOISE BARRIER IS LIMITED TO 2/3 THE HEIGHT OF THE NOISE WALL ACOUSTICAL LINE SHOWN ON THE PLANS, PRIOR TO PLACEMENT OF EARTH FILL OR COMPLETE PAVEMENT STRUCTURE OVER THE TOP OF THE ANCHOR SLAB.

DESIGN THE MSE WALL FOR A WIND SUCTION LOAD OF 20 PSF ON THE PRECAST PANEL.

BASED ON CONTRACTOR MEANS AND METHODS, ANY GAP BETWEEN THE PRESTRESSED PRECAST CONCRETE WALL PANEL AND THE FOOTING FOR THE WALL PANEL, THAT EXPOSES THE MSE WALL SHALL BE FILLED WIT MASONRY MATERIAL OR AS APPROVED BY THE ENGINEER. ALL LABOR, AND MATERIALS NECESSARY TO COMPLETE THIS WORK IS INCLUDED IN BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

AT THE END OF WALL, SEAL OPENING BETWEEN FACE OF WIRE FACED WALL AND PRECAST CONCRETE WALL PANEL WITH 1'-6" WIDE COLUMN OF CONCRETE. COST INCIDENTAL TO BID ITEM " CONCRETE MASONRY RETAINING WALLS".

STATE PROJECT NUMBER
1133-03-77

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

DRAWN BY TAL | PLANS CK'D. BDT

GENERAL PLAN AND ELEVATION (2 OF 3)

SHEET 2 OF 25

2276

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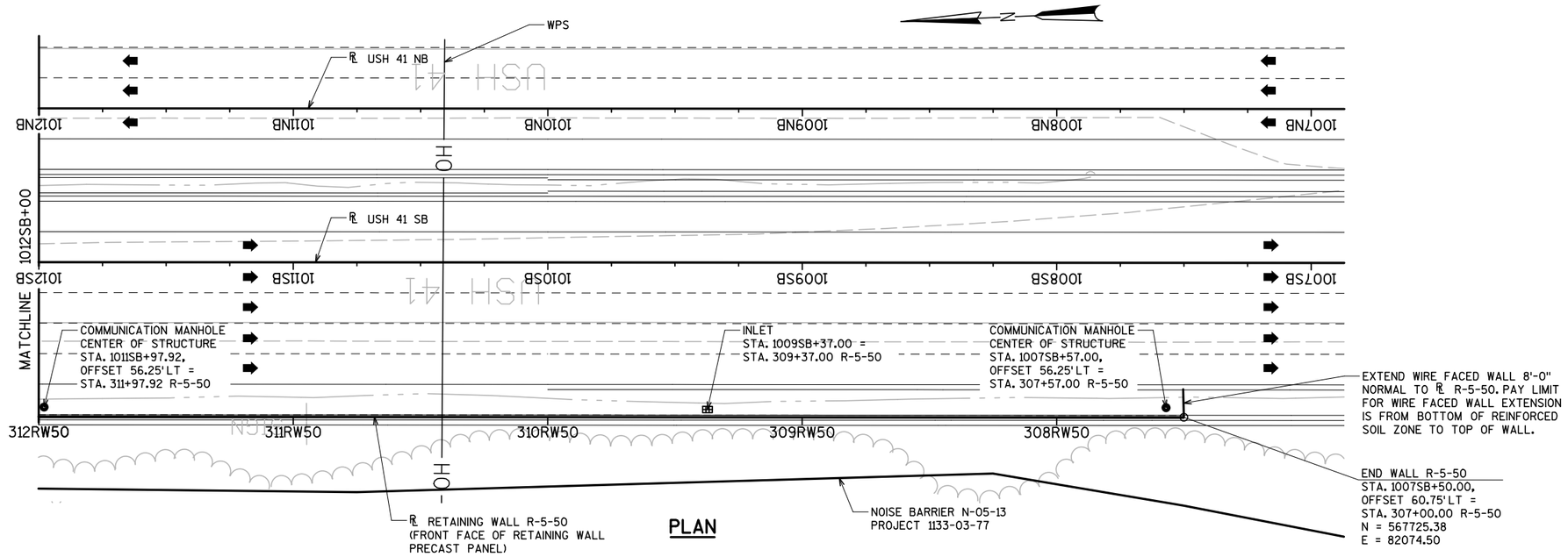
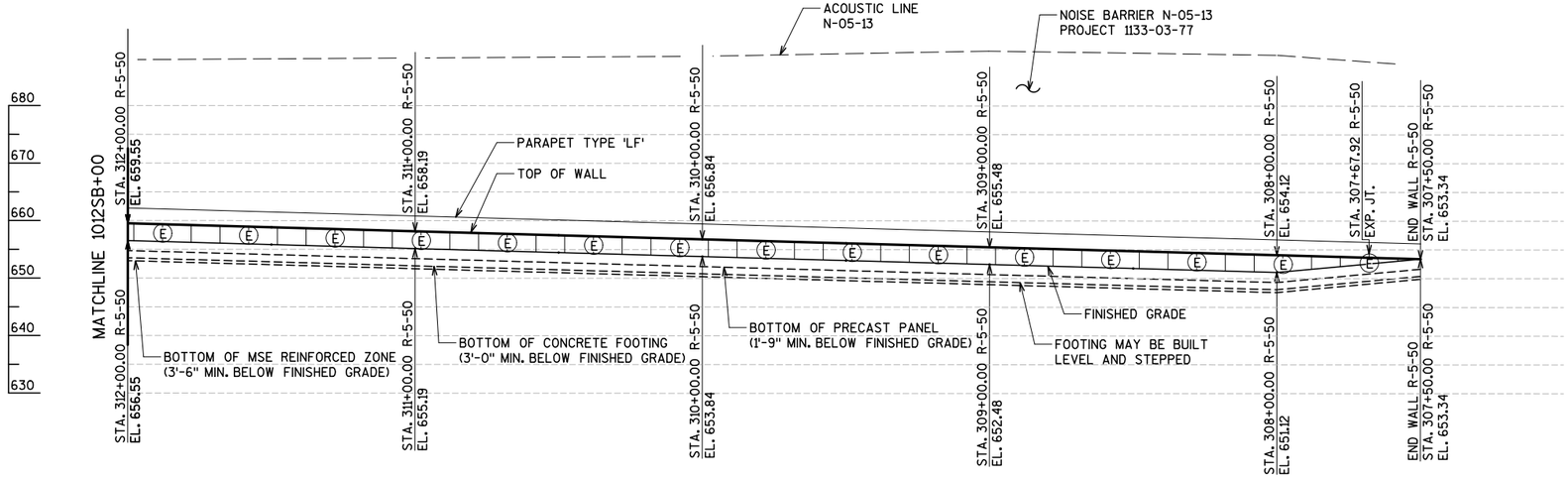
8

STATE PROJECT NUMBER
1133-03-77



PLAN



ELEVATION

(LOOKING AT FRONT FACE OF WALL)
(DISTANCES AND STATIONS ARE GIVEN ALONG THE FRONT FACE OF WALL PRECAST PANEL. SEE GEOMETRY TABLE ON SHEET 6 FOR ADDITIONAL STATIONS WITH TOP AND BOTTOM ELEVATIONS OF WALL)

Ⓔ - DENOTES EXPANSION JOINT

NOMINAL WIDTH OF PRESTRESSED PRECAST PANEL IS 10 FEET UNLESS SHOWN OTHERWISE. ALTERNATIVE PANEL WIDTH MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER. PANELS LESS THAN 10 FEET WIDE MAY BE USED TO MAINTAIN THE PANEL JOINT LOCATIONS AS SHOWN ON THE ELEVATION VIEW.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

DRAWN BY TAL | PLANS CK'D. BDT

GENERAL PLAN AND ELEVATION (3 OF 3)

SHEET 3 OF 25

2277

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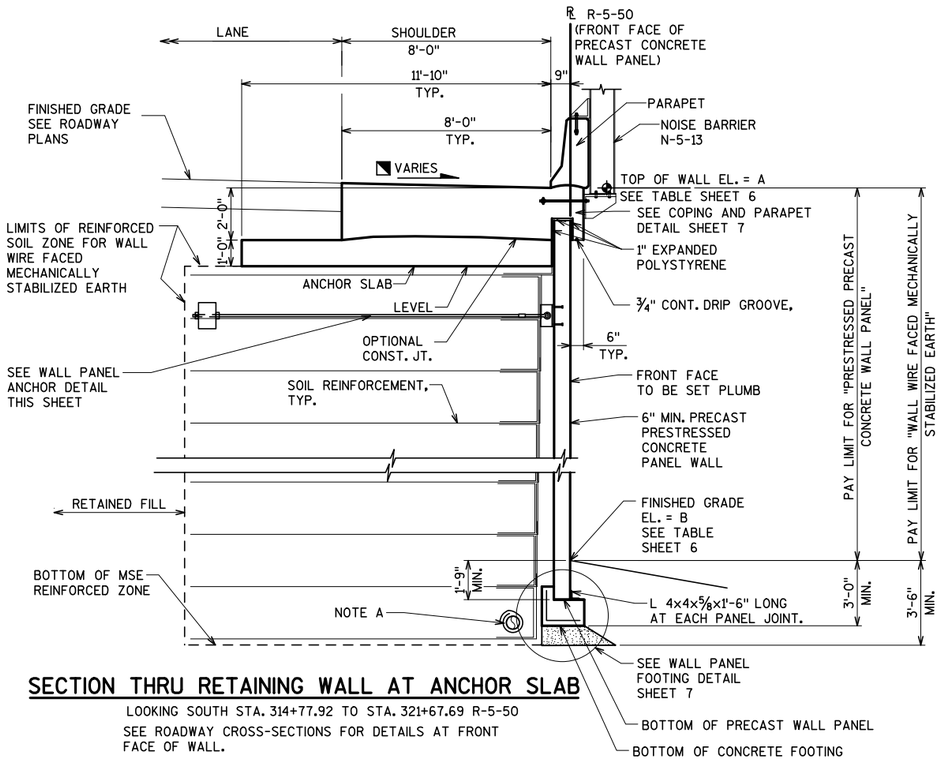


SECTION THRU RETAINING WALL AT ANCHOR SLAB

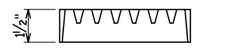
LOOKING SOUTH STA. 314+77.92 TO STA. 321+67.69 R-5-50

SEE ROADWAY CROSS-SECTIONS FOR DETAILS AT FRONT FACE OF WALL.

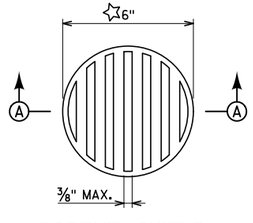
SEE SHEETS 21 AND 22 FOR ARCHITECTURAL SURFACE TREATMENT, AND STAINING ON THE FRONT FACE OF PRECAST PANEL.

◥ SEE SUPERELEVATION DATA THIS SHEET.

NOTE A: PIPE UNDERDRAIN WRAPPED 6- INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. JOIN WITH PIPES EXTENDING FROM EXISTING WALL R-5-220.



SECTION A-A



RODENT SHIELD

☆ DIMENSIONS ARE APPROXIMATE, THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

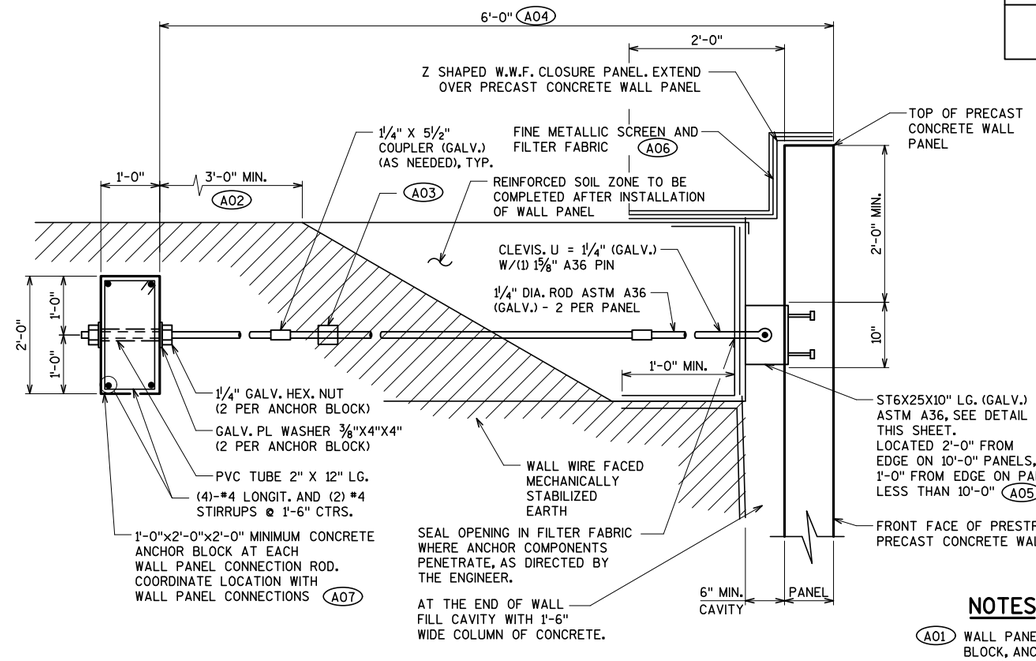
ORIENT SHEILD SO SLOTS ARE VERTICAL.

COST OF RODENT SHEILD AND ALL FITTINGS TO BE INCLUDED IN THE BID ITEM " PIPE UNDERDRAIN WRAPPED 6-INCH."

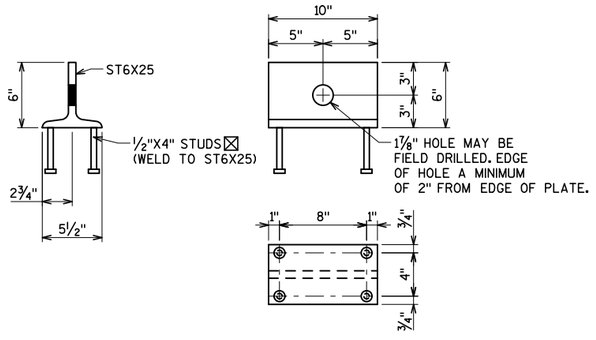
SUPERELEVATION DATA ◥

STATION	SUPERELEVATION
1007SB+50	-4.00%
1020SB+50	-4.00%
1021SB+00	-3.00%
1021SB+50	-2.00%
1021SB+67.56	-2.00%

◥ INTERPOLATE VALUES LINEARLY IN BETWEEN STATIONS



WALL PANEL ANCHOR DETAIL (A01)



PANEL CONNECTION DETAILS

(2 PER PANEL)

☒ AS AN ALTERNATIVE, ½" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.

ST6X25 MAY BE WELDED TO ¾" THICK PLATE WITH (4)-½"X4" STUDS ANCHORED IN PRECAST CONCRETE PANEL. RESTORE ZINC COATING AROUND ANY WELDED AREAS. SUBMIT DETAILS FOR APPROVAL BY THE ENGINEER.

NOTES

(A01) WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1¼" DIA. ANCHOR ROD, CLEVIS, AND OTHER PANEL CONNECTION COMPONENTS. DESIGN, DETAILING, AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL". INSTALLATION OF THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH".

(A02) DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MIN. 3'-0" COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION. ROD MIN. 2'-0" BELOW FINISHED GRADE.

(A03) OPTIONAL MULTI DIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION (CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼" DIA. BAR)

(A04) LENGTH MAY BE INCREASED TO AVOID OBSTRUCTIONS.

(A05) AN OPTIONAL WELDED DETAIL OR TYPE "S" ANCHORED PLATE MAY BE SUBMITTED FOR CONSIDERATION BY THE ENGINEER. (RESTORE ZINC COATING AROUND ANY WELDED AREAS)

(A06) ALTERNATE METHODS OF SEALING OFF THE 6" VOID IN FRONT OF THE MSE WALL MAY BE SUBMITTED TO WISDOT FOR CONSIDERATION

(A07) AN ALTERNATIVE DEADMAN AND PANEL CONNECTION SYSTEM MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

DRAWN BY TAL | PLANS CK'D. BDT

WALL SECTION AND DETAILS (1 OF 2)

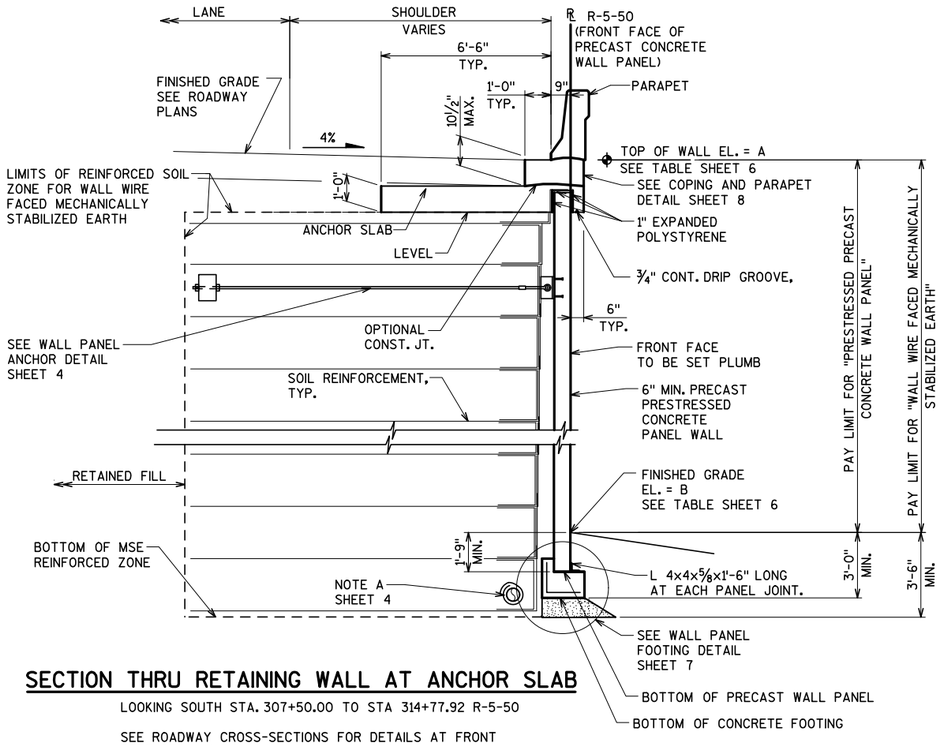
SHEET 4 OF 25

2278

8

8

STATE PROJECT NUMBER
1133-03-77

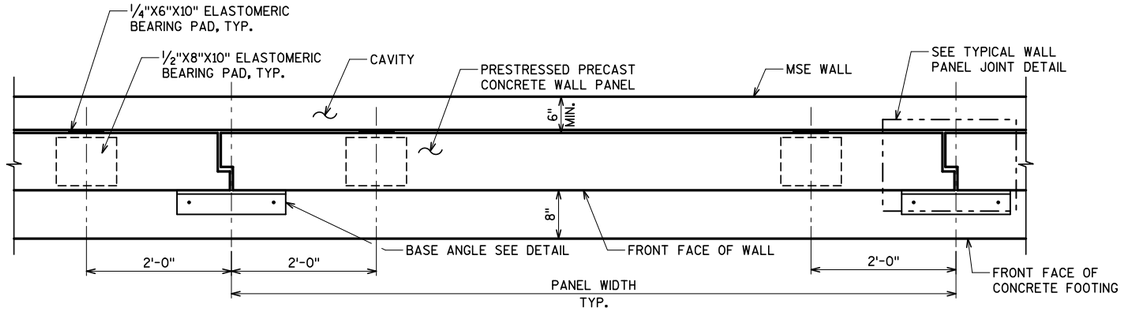


SECTION THRU RETAINING WALL AT ANCHOR SLAB

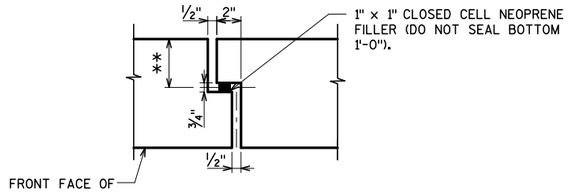
LOOKING SOUTH STA. 307+50.00 TO STA 314+77.92 R-5-50

SEE ROADWAY CROSS-SECTIONS FOR DETAILS AT FRONT FACE OF WALL.

SEE SHEETS 21 AND 22 FOR ARCHITECTURAL SURFACE TREATMENT AND STAINING ON FRONT FACE OF PRECAST WALL PANEL.

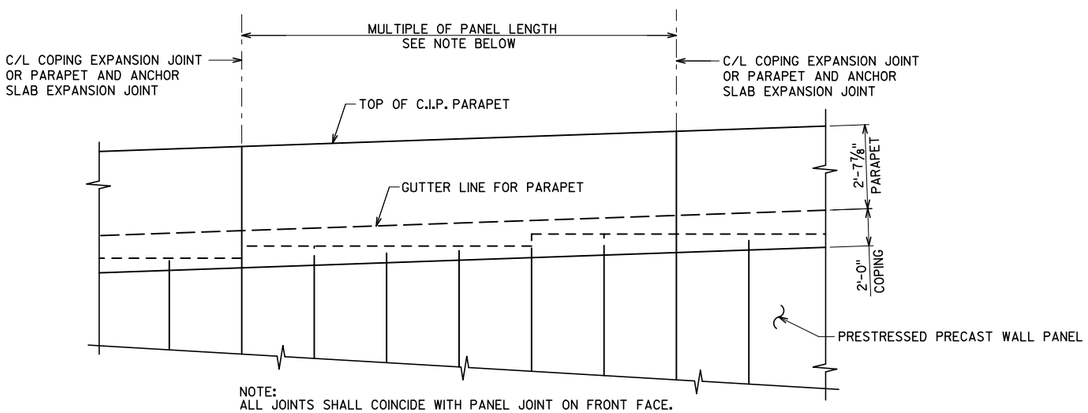


TYPICAL WALL PANEL CONNECTION

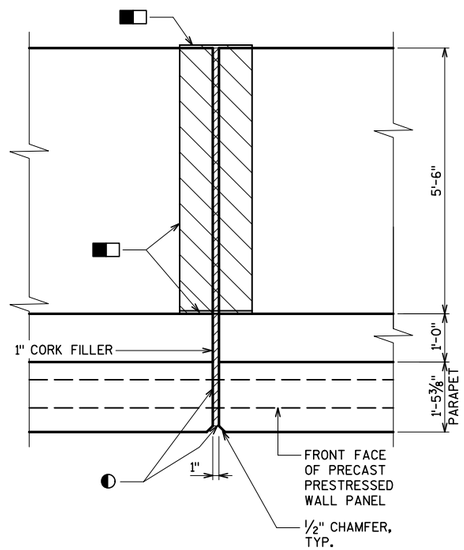


TYPICAL PANEL JOINT DETAIL

** 4" FOR 9½" PANEL
3" FOR 7½" PANEL



C.I.P. PARAPET OR COPING PARTIAL ELEVATION



☆ ANCHOR SLAB EXPANSION JOINT

(STA. 307+50.00 TO STA 314+77.92 R-5-50)

LEGEND

◐ NON-BITUMINOUS JOINT SEALER, (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE) SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING COLOR TO MATCH CONCRETE STAIN

▬ 18" RUBBERIZED MEMBRANE WATERPROOFING.

☆ EXPANSION JOINTS TO BE SPACED AT A MINIMUM OF 20' AND A MAXIMUM OF 30'. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT, EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

DRAWN BY TAL | PLANS CK'D. BDT

WALL SECTION AND DETAILS (2 OF 2)

SHEET 5 OF 25

2279

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FILE NAME: F:\BM4-1006 USH 41 bridges\1133037\Structs\R-05-50\cds\Final\R05050_080105_sect&det2.dgn PEN TABLE: V8_STRUCTURAL_REV.TBL DATE: 11/19/2012 3:43:37 PM Plotted by: tlegear

STATE PROJECT NUMBER
1133-03-77

GEOMETRY TABLE ◥

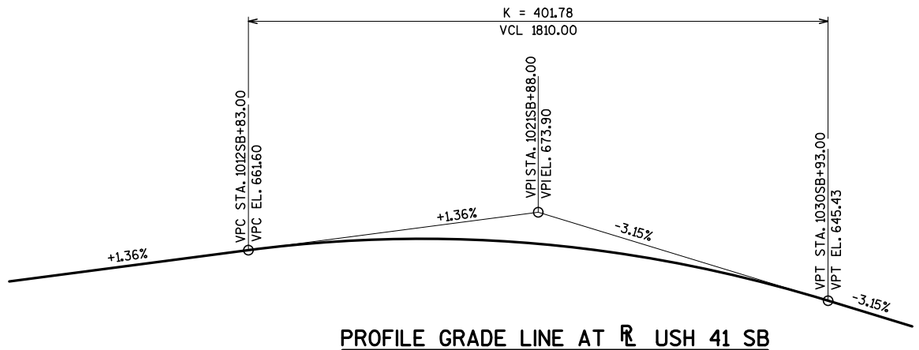
ROADWAY STATION	ROADWAY REF. LINE	OFFSET TO ℄ WALL	WALL STATION	TOP OF WALL EL. = A	FINISHED GRADE EL. = B
1007+50.00	USH 41 SB	60.75' LT	307+50.00	653.34	653.34
1008+00.00	USH 41 SB	60.75' LT	308+00.00	654.12	651.12
1008+50.00	USH 41 SB	60.75' LT	308+50.00	654.80	651.80
1009+00.00	USH 41 SB	60.75' LT	309+00.00	655.48	652.48
1009+50.00	USH 41 SB	60.75' LT	309+50.00	656.16	653.16
1010+00.00	USH 41 SB	60.75' LT	310+00.00	656.84	653.84
1010+50.00	USH 41 SB	60.75' LT	310+50.00	657.52	654.52
1011+00.00	USH 41 SB	60.75' LT	311+00.00	658.19	655.19
1011+50.00	USH 41 SB	60.75' LT	311+50.00	658.87	655.87
1012+00.00	USH 41 SB	60.75' LT	312+00.00	659.55	656.55
1012+50.00	USH 41 SB	60.75' LT	312+50.00	660.23	657.23
1013+00.00	USH 41 SB	60.75' LT	313+00.00	660.91	657.91
1013+50.00	USH 41 SB	60.75' LT	313+50.00	661.54	658.47
1014+00.00	USH 41 SB	60.75' LT	314+00.00	662.10	658.47
1014+50.00	USH 41 SB	60.75' LT	314+50.00	662.64	658.47
1015+00.00	USH 41 SB	62.09' LT	315+00.02	663.06	660.23
1015+50.00	USH 41 SB	63.75' LT	315+50.05	663.40	659.48
1016+00.00	USH 41 SB	65.42' LT	316+00.88	663.69	658.72
1016+50.00	USH 41 SB	67.08' LT	316+50.11	663.91	657.11
1017+00.00	USH 41 SB	68.75' LT	317+00.13	664.06	655.50
1017+50.00	USH 41 SB	68.75' LT	317+50.13	664.19	653.89
1018+00.00	USH 41 SB	68.75' LT	318+00.13	664.26	652.28
1018+50.00	USH 41 SB	68.75' LT	318+50.13	664.27	650.67
1019+00.00	USH 41 SB	68.75' LT	319+00.13	664.21	649.05
1019+50.00	USH 41 SB	68.75' LT	319+50.13	664.09	647.44
1019+94.81	USH 41 SB	68.75' LT	319+94.94	663.93	646.00
1020+00.00	USH 41 SB	68.75' LT	320+00.13	663.91	645.92
1020+50.00	USH 41 SB	68.75' LT	320+50.13	663.66	645.18
1020+55.48	USH 41 SB	68.75' LT	320+55.61	663.64	645.10
1021+00.00	USH 41 SB	68.75' LT	321+00.13	663.44	645.10
1021+50.00	USH 41 SB	68.75' LT	321+50.13	663.15	645.10
1021+50.40	USH 41 SB	68.75' LT	321+50.53	663.15	645.10
1021+60.36	USH 41 SB	68.75' LT	321+60.49	663.07	644.36
1021+67.56	USH 41 SB	68.75' LT	321+67.69	663.01	643.89

◥ LINEARLY INTERPOLATE WALL ELEVATIONS BETWEEN STATIONS.

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	1265
502.6105	MASONRY ANCHORS TYPE S 5/8- INCH	EACH	9
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	1181
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	113100
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	74
532.0700.S	WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	10490
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	1440
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	15
652.0325	CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH	LF	120
SPV.0060.701	ANCHOR ASSEMBLIES NOISE BARRIERS STRUCTURES	EACH	69
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	4800
SPV.0165.501	STAINING CONCRETE	SF	11550
SPV.0165.502	STAINING CONCRETE BRICK	SF	4800
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	10460
	NON- BID ITEMS		
	NAME PLATE		
	PREFORMED JOINT FILLER	SIZE	¾",1"
	EXPANDED POLYSTYRENE	SIZE	1"
	CORK FILLER	SIZE	1", 1½"

ALL ITEMS ARE CATEGORY 4030



PROFILE GRADE LINE AT ℄ USH 41 SB

RECOMMENDED SOIL PARAMETERS

SOIL DESCRIPTION	BOTTOM ELEVATION (FT)	SOIL UNIT WEIGHT (PCF)	UNDRAINED		DRAINED	
			COHESION (PSF)	FRICTION ANGLE (DEGREES)	COHESION (PSF)	FRICTION ANGLE (DEGREES)
STA 307+50 TO STA 317+99						
TOP SOIL	652.80	125	500	0	50	20
MEDIUM DENSE SAND/SILTY SAND	VARIED*	120	0	30	0	30
STA 318+00 TO STA 321+67						
TOP SOIL	642.0	125	500	0	50	20
STIFF LEAN/SILTY CLAY (POSSIBLE FILL)	633.0	130	2000	0	50	28
MEDIUM DENSE CLAYEY SAND	629.4	130	0	30	0	30
SOFT LEAN/SILTY CLAY	625.0	125	750	0	50	24
VERY STIFF LEAN/SILTY CLAY	VARIED*	130	3000	0	200	30

* OBSERVED TO BORING TERMINATION DEPTHS

⚠ SAFETY FACTORS FOR MSE WALLS

STRUCTURE	WALL STATION	SLIDING (FS ≥ 1.5)	OVERTURN (FS ≥ 2.0)	GLOBAL STABILITY (FS ≥ 1.3)*	BEARING CAPACITY (FS ≥ 2.5)	◐ RATIO OF REINFORCEMENT LENGTH TO WALL HEIGHT
R-05-50	307+50 TO 314+99	2.0	5.3	2.3	11.2	N/A**
	315+00 TO 317+99	1.6	2.7	1.8	5.8	0.7
	318+00 TO 321+67	1.6	3.6	1.3	2.8	0.9

* ASSUMES NOISE BARRIER AT TOP OF MSE WALL IS SUPPORTED ON ANCHOR SLAB/PARAPET

** PER MINIMUM REINFORCEMENT LENGTH CRITERIA (8 FT. MIN.)

◐ WALL HEIGHT= EXPOSED HEIGHT PLUS 3 FEET (BOTTOM OF CONCRETE FOOTING TO TOP OF WALL)

⚠ ALL SAFETY FACTORS ARE CALCULATED FOR THE WALL HEIGHTS AND REINFORCEMENT LENGTHS SHOWN IN THE TABLE. SEE GEOTECHNICAL REPORT FOR FURTHER INFORMATION. FINAL DESIGN FOR INTERNAL AND EXTERNAL STABILITY IS THE RESPONSIBILITY OF THE WALL DESIGNER, AND MAY BE DIFFERENT FROM THE VALUES IN TABLE.

MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS MUST BE 70% THE TOTAL WALL HEIGHT (EXPOSED HEIGHT PLUS EMBEDMENT DEPTH) OR 8.0 FEET, WHICHEVER IS GREATER. SOIL REINFORCEMENT MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS.

DESIGN DATA

MATERIAL PROPERTIES:

CONCRETE MASONRY	f'c = 3,500 P.S.I.
PRECAST CONCRETE WALL PANEL	f'c = 5,000 P.S.I.
BAR STEEL REINFORCEMENT	Fy = 60,000 P.S.I.
STRUCTURAL STEEL CARBON (ASTM A709 GRADE 36)	Fy = 36,000 P.S.I.

LIVE LOAD:

LIVE LOAD SURCHARGE:	240 P.S.F. (TRAFFIC)

NOISE BARRIER

NOISE BARRIER MAXIMUM HEIGHT ABOVE BASE OF TRAFFIC BARRIER	17.5 FT
NOISE BARRIER DEAD LOAD	50 PSF
WIND PRESSURE ON NOISE BARRIER (NORMAL TO BARRIER, EITHER DIRECTION)	42 PSF
MAX. POST SPACING	10 FT

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DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

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QUANTITIES AND DESIGN DATA

SHEET 6 OF 25

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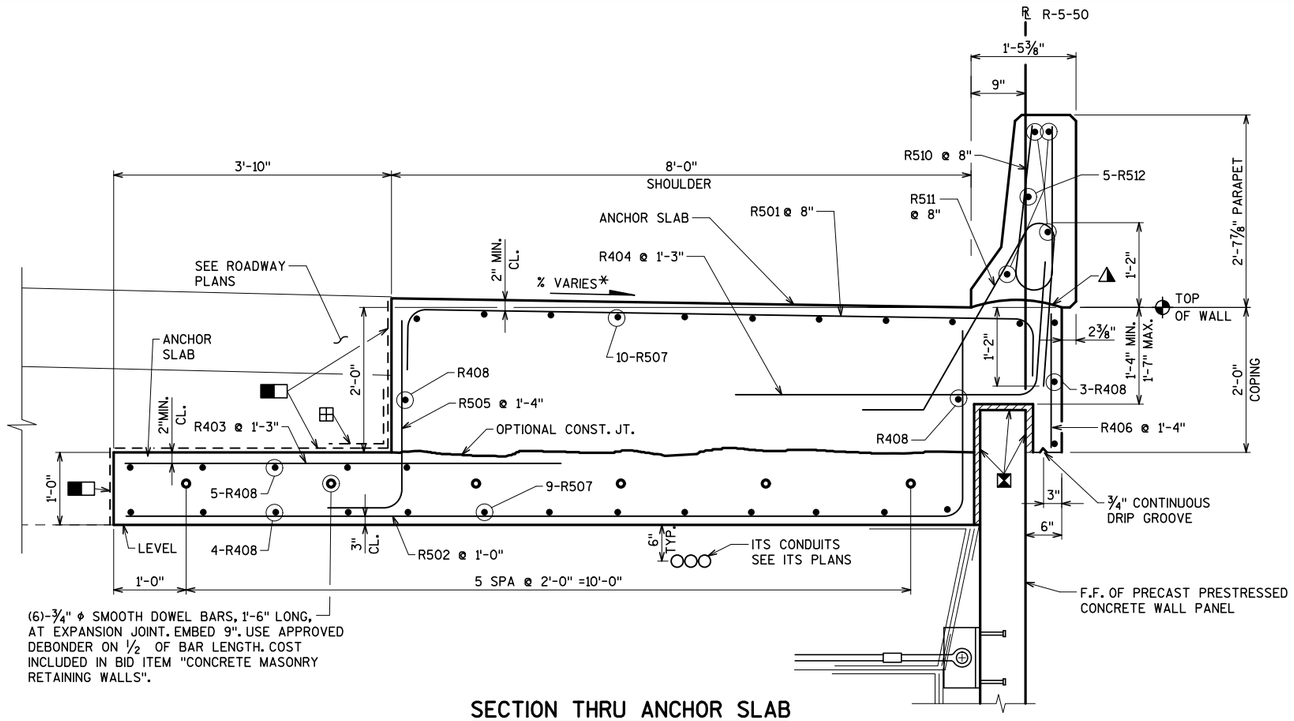
STATE PROJECT NUMBER
1133-03-77



SECTION THRU ANCHOR SLAB

(STA. 314+77.92 TO STA. 321+67.69 R-5-50)

* SEE SUPERELEVATION DATA ON SHEET 4

LEGEND

- CONSTRUCTION JOINT - STRIKE OFF AS SHOWN
- 1" EXPANDED POLYSTYRENE
- NON-BITUMINOUS JOINT SEALER, (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE) SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING COLOR TO MATCH CONCRETE STAIN. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY RETAINING WALL."
- 18" RUBBERIZED MEMBRANE WATERPROOFING.
- 18" CONTINUOUS RUBBERIZED MEMBRANE WATERPROOFING, USED WITH OPTIONAL CONSTRUCTION JOINT. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY RETAINING WALL."
- EXPANSION JOINTS TO BE SPACED AT A MINIMUM OF 20' AND A MAXIMUM OF 30'. LOCATE EXPANSION JOINTS OVER WALL JOINTS, DO NOT RUN BAR STEEL THRU JOINT, EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.
- (A01) MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO TOP OF WALL PANEL FOOTING IS SHOWN, THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE PRECAST PANELS.

NOTES

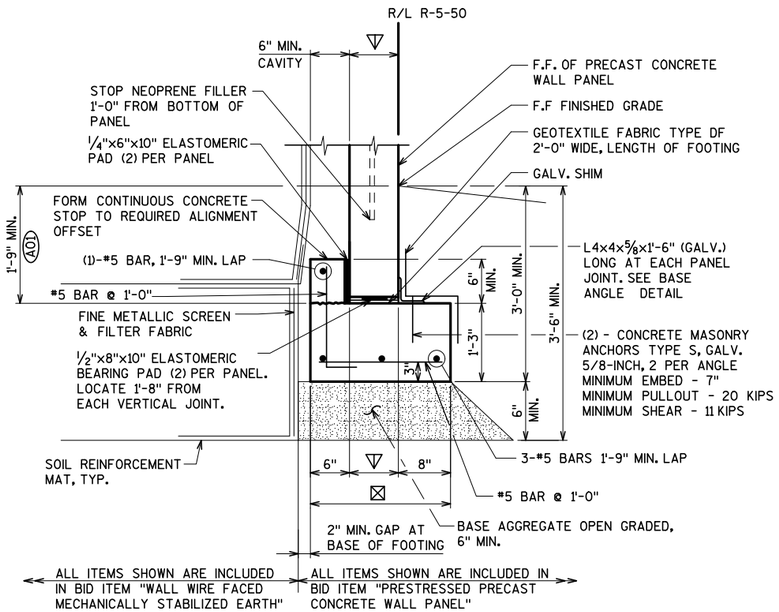
FOR PARAPET AND COPING ELEVATION AND DETAILS SEE SHEETS 9.

SEE SHEET 11 FOR PARAPET DETAILS.

SEE SHEET 20 FOR BILL OF BARS.

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPET AND ANCHOR SLAB MAY BE USED. RUN BAR REINFORCEMENT THRU THE OPTIONAL JOINT. LAP #4 LONGITUDINAL BARS A MINIMUM OF 1'-9" AND LAP #5 BARS A MINIMUM OF 2'-3".

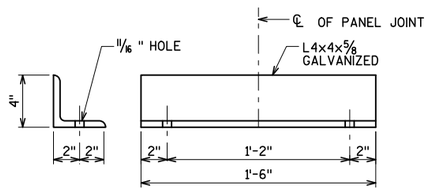
F.F. - FRONT FACE
B.F. - BACK FACE



WALL PANEL FOOTING DETAIL

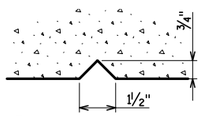
▽ 7½" OR 9½" (DESIGNED BY THE WALL MANUFACTURER)

☒ FOOTING DIMENSION EQUALS PANEL THICKNESS PLUS 1'-2"

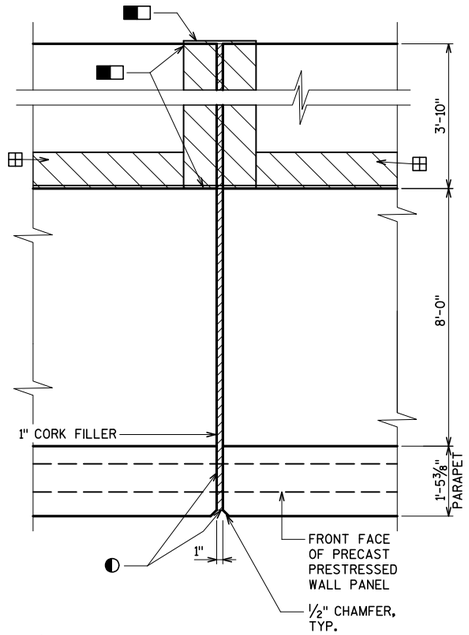


BASE ANGLE DETAIL

(1) AT EACH PANEL JOINT INCLUDED IN BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

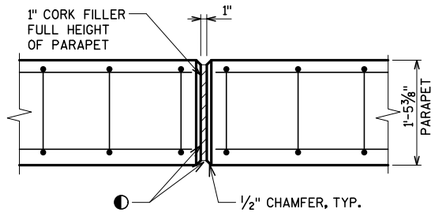


¾" DRIP GROOVE



☆ ANCHOR SLAB EXPANSION JOINT

(STA. 314+77.92 TO STA. 321+67.69 R-05-50)



☆ PARAPET EXPANSION JOINT

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STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

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PARAPET, COPING, AND ANCHOR SLAB DETAILS (1 OF 2)

SHEET 7 OF 25

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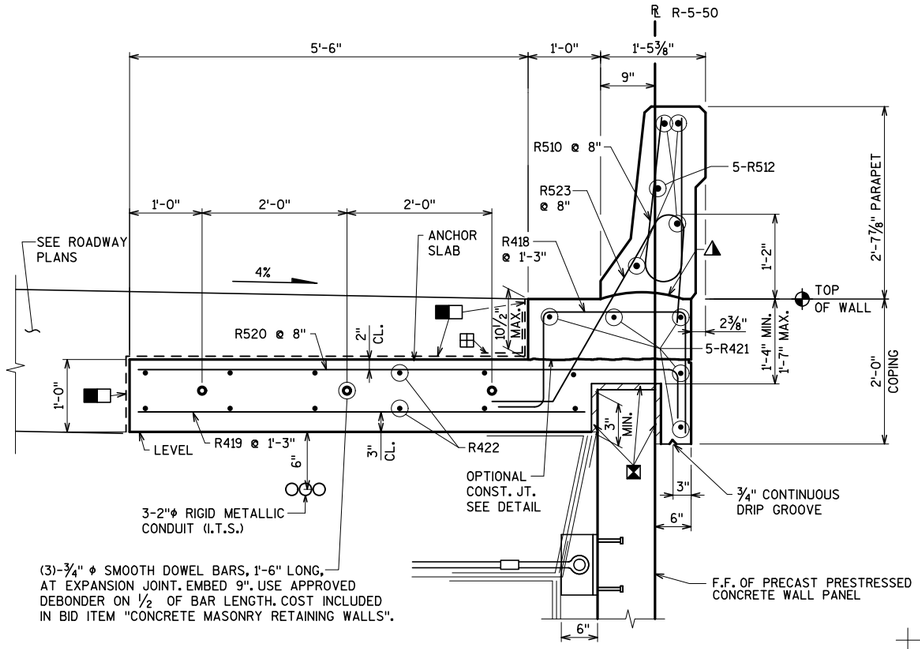
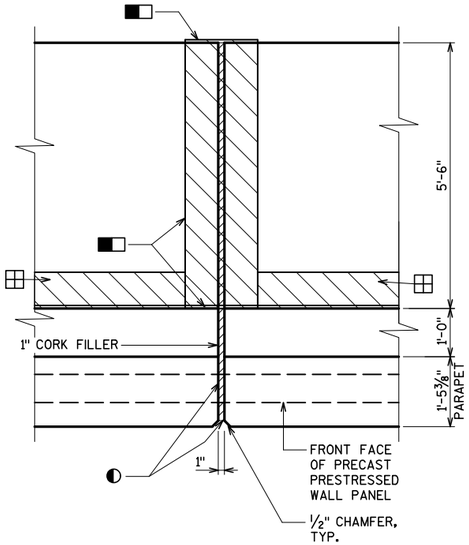
STATE PROJECT NUMBER
1133-03-77



ANCHOR SLAB DETAIL

(LOOKING SOUTH STA. 307+50.00 TO STA. 314+77.92 R-05-50)



☆ ANCHOR SLAB EXPANSION JOINT

(STA. 307+50.00 TO STA. 314+77.92 R-05-50)

LEGEND

- CONSTRUCTION JOINT - STRIKE OFF AS SHOWN
- 1" EXPANDED POLYSTYRENE
- NON-BITUMINOUS JOINT SEALER, (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE) SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING COLOR TO MATCH CONCRETE STAIN. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY RETAINING WALL."
- 18" RUBBERIZED MEMBRANE WATERPROOFING.
- 18" CONTINUOUS RUBBERIZED MEMBRANE WATERPROOFING, USED WITH OPTIONAL CONSTRUCTION JOINT. COST INCIDENTAL BID ITEM "CONCRETE MASONRY RETAINING WALL."
- ☆ EXPANSION JOINTS TO BE SPACED AT A MINIMUM OF 20' AND A MAXIMUM OF 30'. LOCATE EXPANSION JOINTS OVER WALL JOINTS, DO NOT RUN BAR STEEL THRU JOINT, EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.
- ⊠ THIS DETAIL MAY BE USED BY THE CONTRACTOR WITH THE CONCURRENCE OF THE ENGINEER.
- * THE RUBBERIZED MEMBRANE WATERPROOFING IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY RETAINING WALLS", IF THE OPTIONAL CONSTRUCTION JOINT IS USED.

NOTES

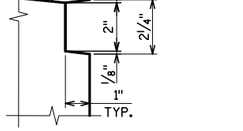
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPET AND ANCHOR SLAB MAY BE USED. RUN BAR REINFORCEMENT THRU THE OPTIONAL JOINT.

LAP #4 LONGITUDINAL BARS A MINIMUM OF 1'-9"
#5 BARS A MINIMUM OF 2'-3".

FOR PARAPET AND ANCHOR SLAB ELEVATION
SEE SHEET 9.

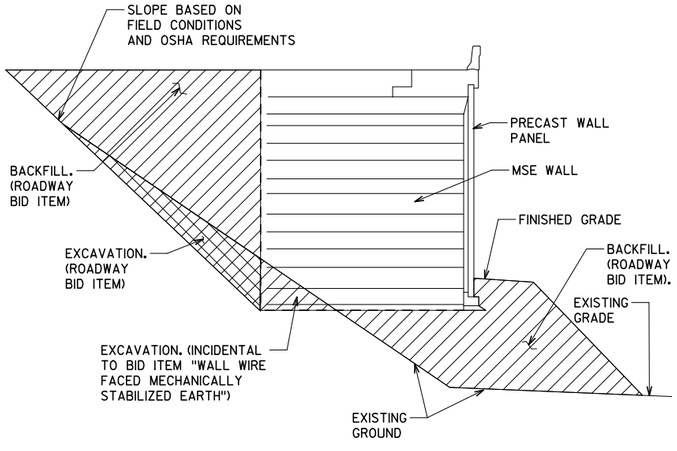
SEE SHEET 20 FOR BILL OF BARS.

F.F. - FRONT FACE
B.F. - BACK FACE



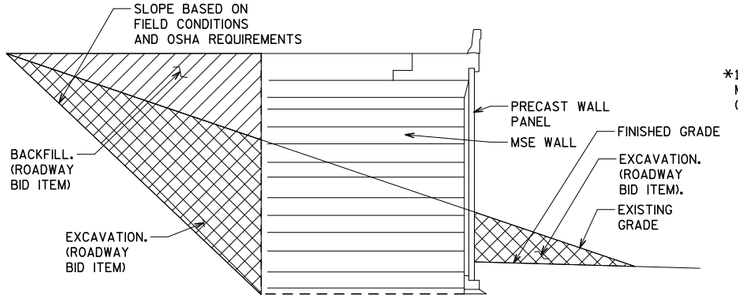
RUSTICATION DETAIL

(REQUIRED ONLY IF THE OPTIONAL CONSTRUCTION JOINT IS USED)



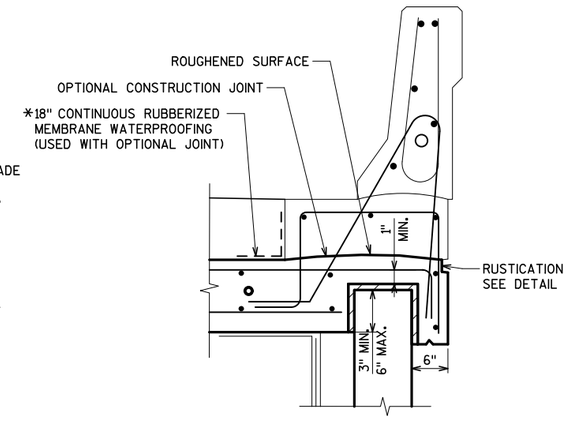
TYPICAL LIMITS OF EXCAVATION AND BACKFILL

(FINISHED GRADE IN FRONT OF WALL HIGHER THAN EXISTING GRADE)



TYPICAL LIMITS OF EXCAVATION AND BACKFILL

(FINISHED GRADE IN FRONT OF WALL LOWER THAN EXISTING GRADE)



OPTIONAL CONSTRUCTION JOINT DETAIL ⊠

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

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PARAPET, COPING, AND ANCHOR SLAB DETAILS (2 OF 2)

SHEET 8 OF 25

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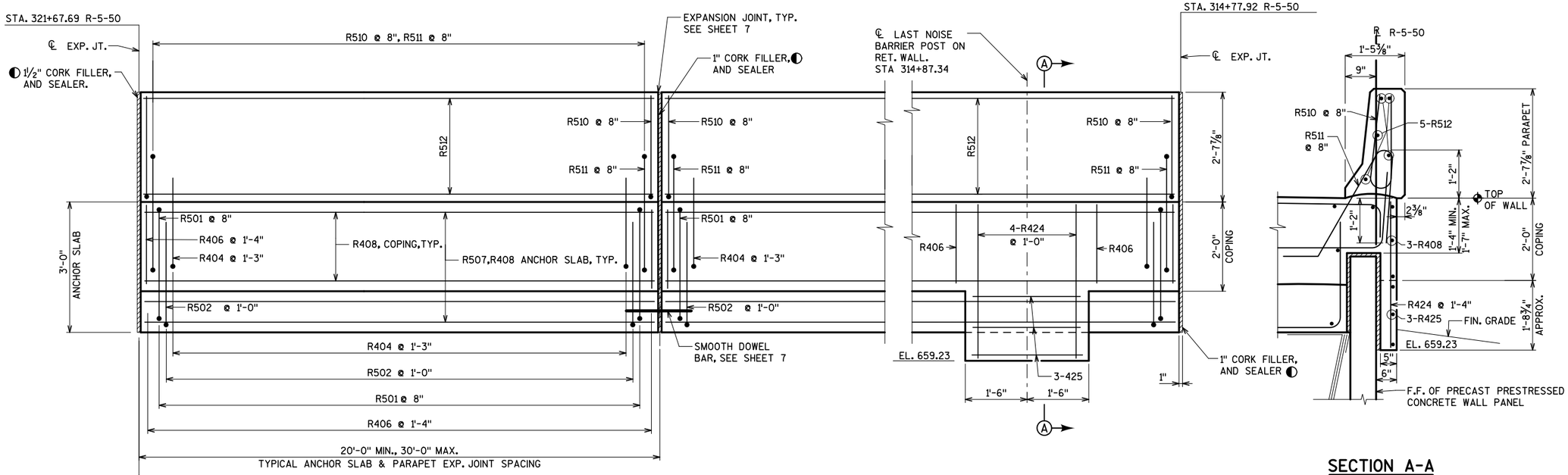
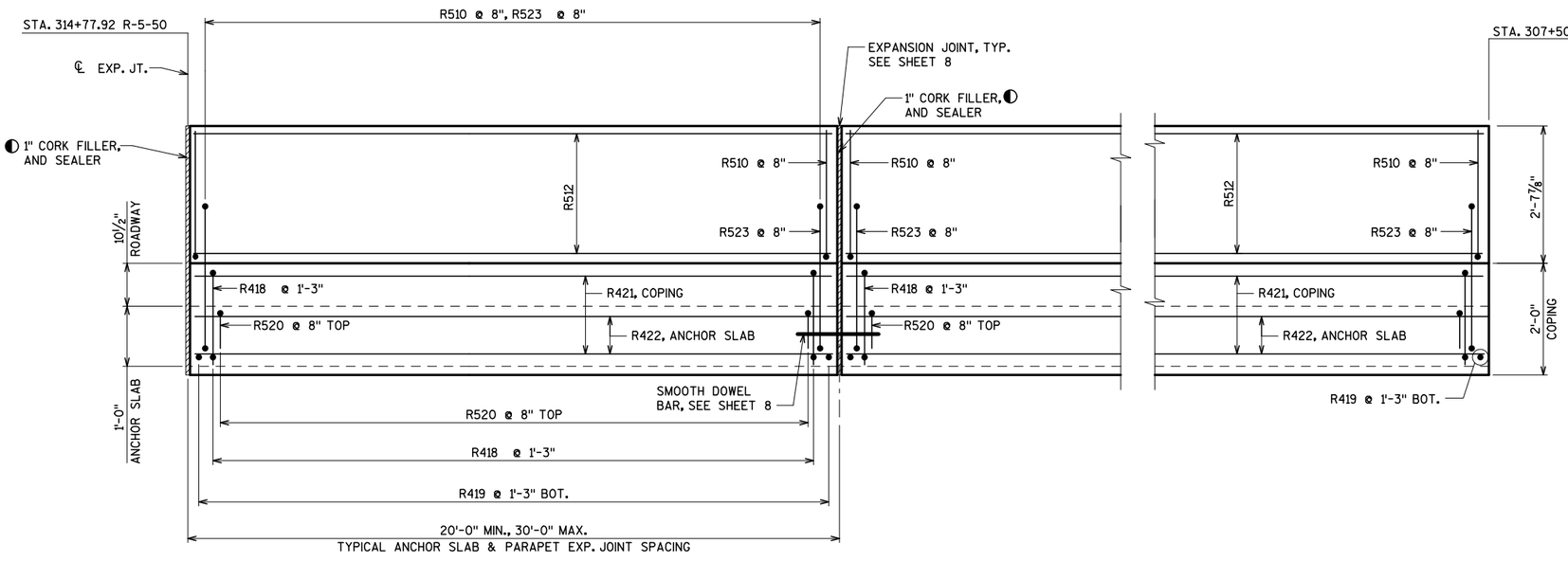
STATE PROJECT NUMBER
1133-03-77



ELEVATION OF COPING & PARAPET

(LOOKING AT FRONT FACE OF WALL)
(WALL STA. 314+77.92 TO STA. 321+67.69)

SECTION A-A



ELEVATION OF COPING & PARAPET

(LOOKING AT FRONT FACE OF WALL)
(WALL STA. 307+50.00 TO STA. 314+77.92)

LEGEND

◐ NON-BITUMINOUS JOINT SEALER, (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE) SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING COLOR TO MATCH CONCRETE STAIN. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY RETAINING WALL."

NOTES

FOR PARAPET AND ANCHOR SLAB DETAILS SEE SHEETS 7, 8, 10, AND 11.

SEE SHEET 20 FOR BILL OF BARS.

F.F. - FRONT FACE
B.F. - BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

DRAWN BY	TAL	PLANS CK'D.	BDT

PARAPET, COPING, AND ANCHOR SLAB ELEVATION

SHEET 9 OF 25

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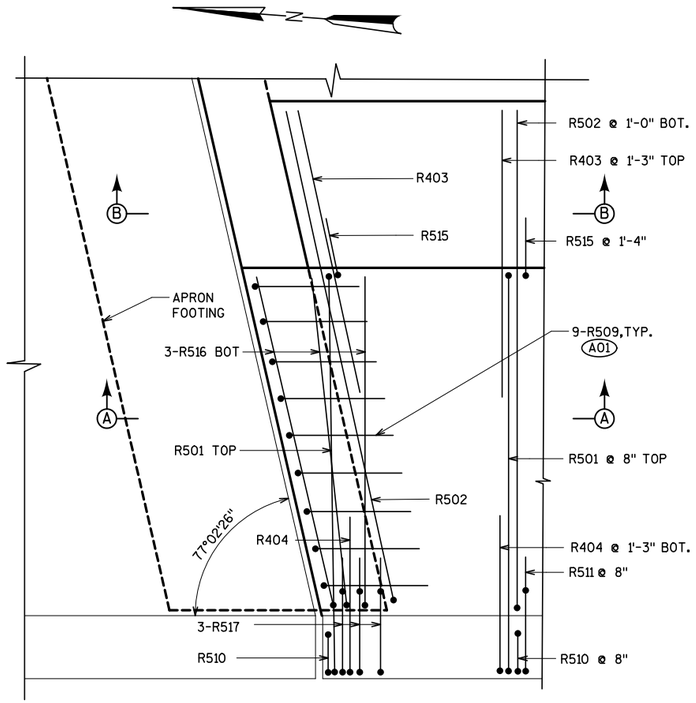
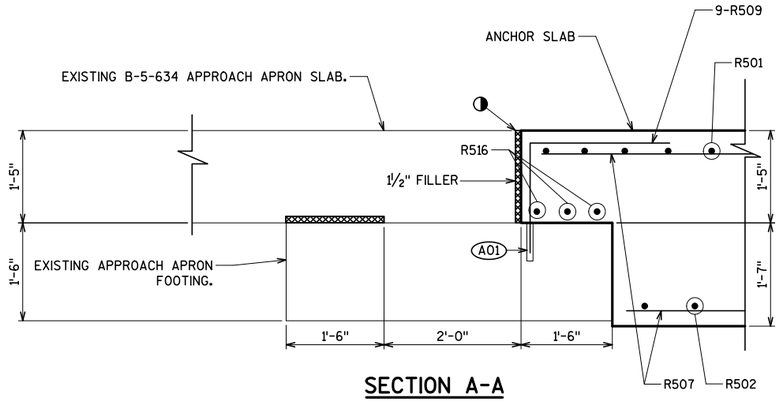
8

STATE PROJECT NUMBER
1133-03-77

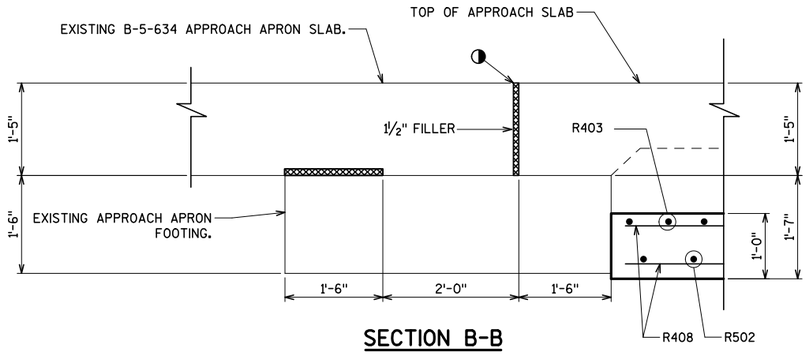


PARTIAL PLAN AT NORTH END OF ANCHOR SLAB

(LONGITUDINAL BARS NOT SHOWN FOR CLARITY)



SECTION A-A



SECTION B-B

LEGEND

◐ SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE)

(A01) CONCRETE MASONRY ANCHORS, TYPE S NO.5 BAR, HAVING A MINIMUM PULLOUT CAPACITY OF 20 KIPS. EMBED A MINIMUM OF 7" IN CONCRETE.

B.F. = BACK FACE
F.F. = FRONT FACE

SEE SHEET 11 FOR PARAPET DETAILS.

SEE SHEET 20 FOR BILL OF BARS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

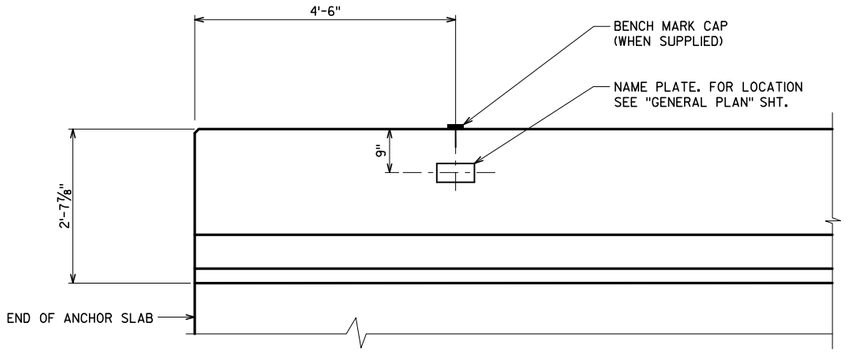
DRAWN BY	TAL	PLANS CK'D.	BDT

ANCHOR SLAB AND PARAPET DETAILS

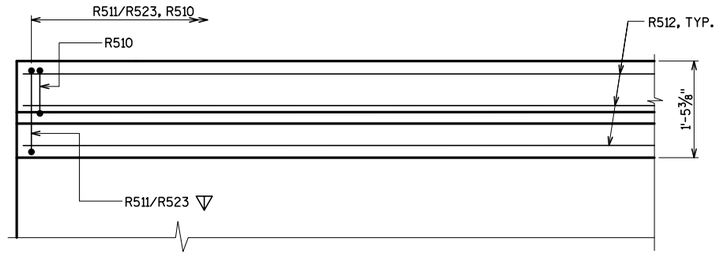
SHEET 10 OF 25

FILE NAME: F:\BM4-1006 USH 41 bridges\1133037\Structs\R-05-50\cds\Final\R05050_080110_Slab-Parapet-Det.dgn PEN TABLE: V8_STRUCTURAL_REV.TBL DATE: 11/19/2012 3:43:50 PM Plotted by: tiegear

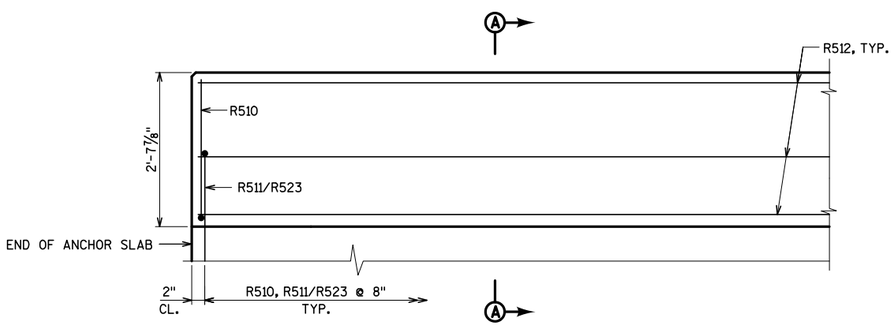
STATE PROJECT NUMBER
1133-03-77



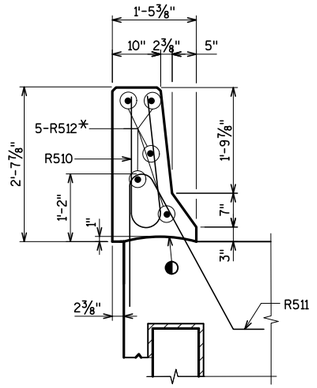
INSIDE ELEVATION



PLAN



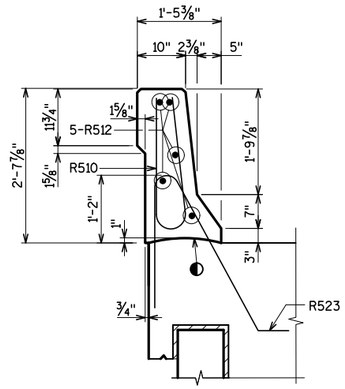
OUTSIDE ELEVATION



SECTION A-A

(STA. 314+77.92 TO STA. 321+67.69 R-5-50)

* PLACE TOP TWO LONGITUDINAL BARS OUTSIDE THE VERTICAL BARS TO AVOID CONFLICT WITH NOISE BARRIER ANCHORAGE. PLACE BARS WITH 2" CLEAR FROM TOP, BACK, AND FRONT FACES OF THE PARAPET.



SECTION A-A

(STA. 307+50.00 TO STA. 314+77.92 R-5-50)

NOTE

SEE SHEET 9 FOR DETAILS OF REMAINING LENGTH OF PARAPET.

SEE SHEET 20 FOR BILL OF BARS.

LEGEND

◐ CONSTR. JOINT - STRIKE OFF AS SHOWN

▽ R511 AND R523 BARS TO BE TIED TO ANCHOR SLAB STEEL BEFORE ANCHOR SLAB IS POURED.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

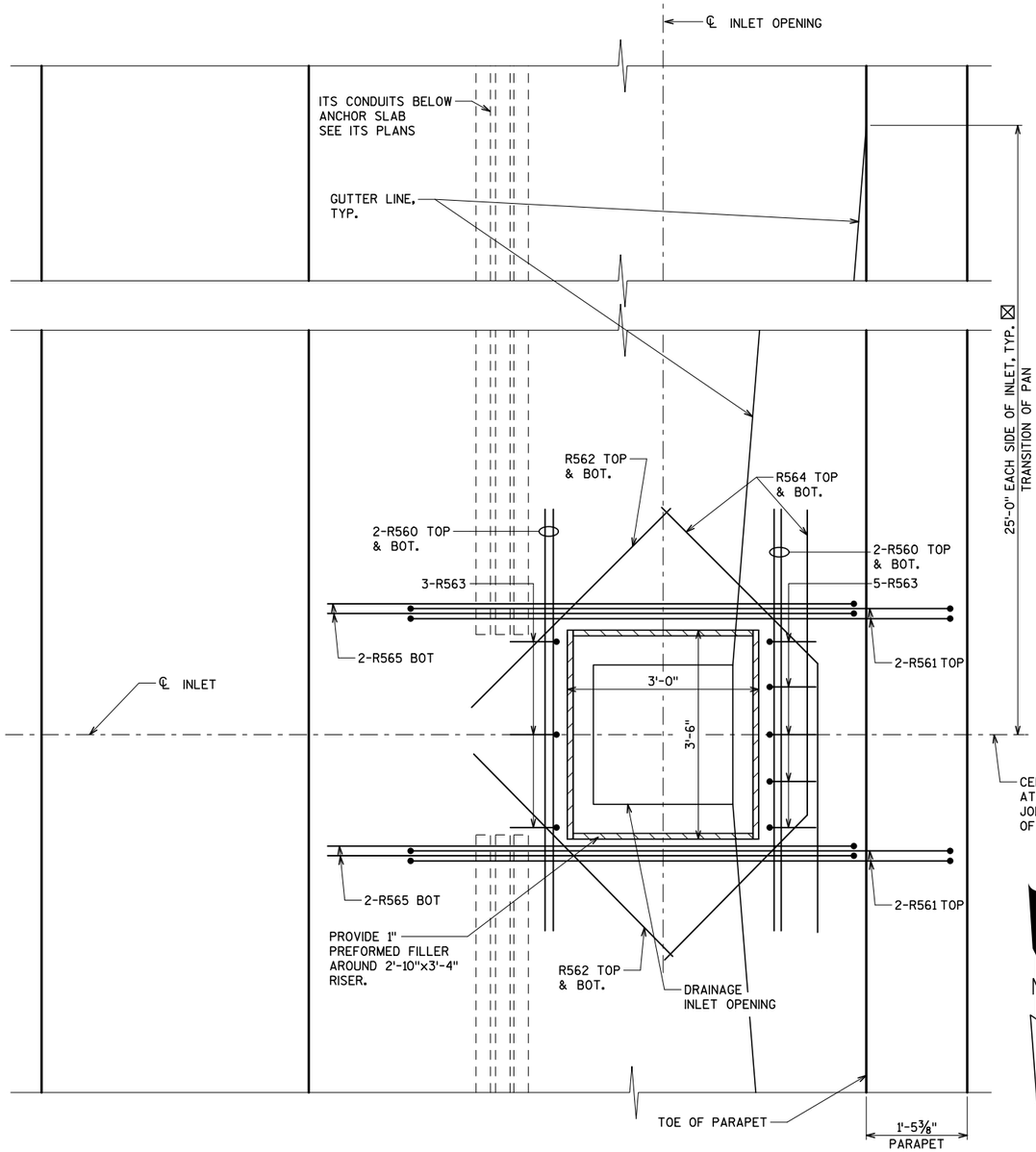
DRAWN BY TAL | PLANS CK'D. BDT

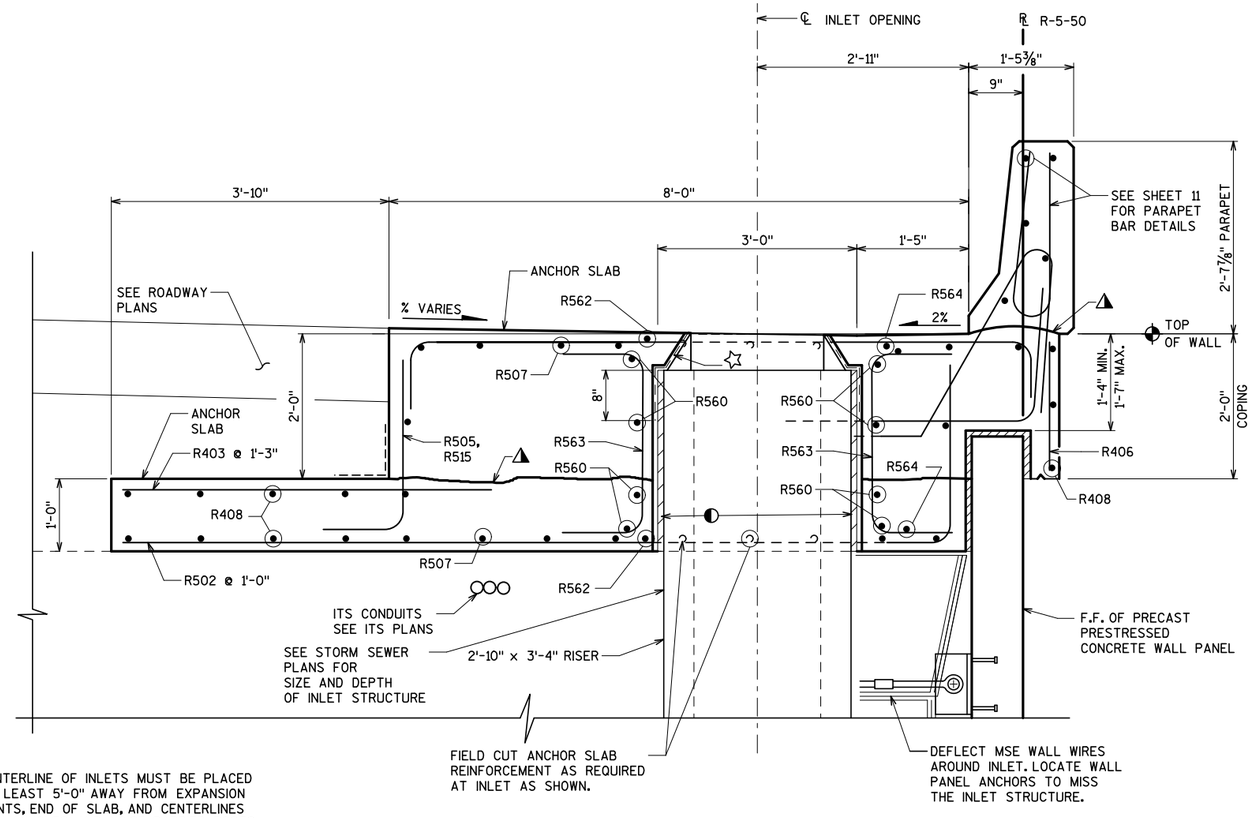
PARAPET DETAILS

SHEET 11 OF 25

2285

STATE PROJECT NUMBER
1133-03-77





CENTERLINE OF INLETS MUST BE PLACED AT LEAST 5'-0" AWAY FROM EXPANSION JOINTS, END OF SLAB, AND CENTERLINES OF MANHOLES, AND NOISE BARRIER POSTS.

ANCHOR SLAB DETAIL AT INLET STRUCTURE

ALL REBARS SHOWN IN THIS DETAIL ARE IN ADDITION TO THE STANDARD REBARS IN ANCHOR SLAB.

FIELD CUT STANDARD ANCHOR SLAB BARS AT THE INLET AS REQUIRED.

INLET LOCATION

RDWY STATION	WALL STATION
1014SB+98.00	314+98.02
1021SB+8.00	321+08.13

SEE SHEETS 13 FOR LOCATION OF REMAINING INLETS

SECTION THRU INLET ON ANCHOR SLAB

SEE DRAINAGE PLANS FOR ROADWAY STATIONING AND DIMENSIONS OF INLET STRUCTURE

CUT, BEND, OR DISPLACE STANDARD REINFORCEMENT 2" CLEAR OF INLET STRUCTURE AS REQUIRED.

LEGEND

- ☆ 2 LAYERS OF 4 MIL POLYETHYLENE SHEETS. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY RETAINING WALLS."
- ◭ CONSTRUCTION JOINT-STRIKE OFF AS SHOWN
- ◐ 1" PREFORMED FILLER AROUND THE INLET.
- ⊠ TRANSITION PAN OVER 25'-0" ON EACH SIDE OF THE INLET

SEE SHEET 7 FOR STANDARD REBARS IN ANCHOR SLAB, AND RUBBERIZED MEMBRANE WATERPROOFING DETAILS.

SEE SHEET 20 FOR BILL OF BARS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

DRAWN BY TAL | PLANS CK'D. BDT

ANCHOR SLAB AT INLET (1 OF 2)

SHEET 12 OF 25

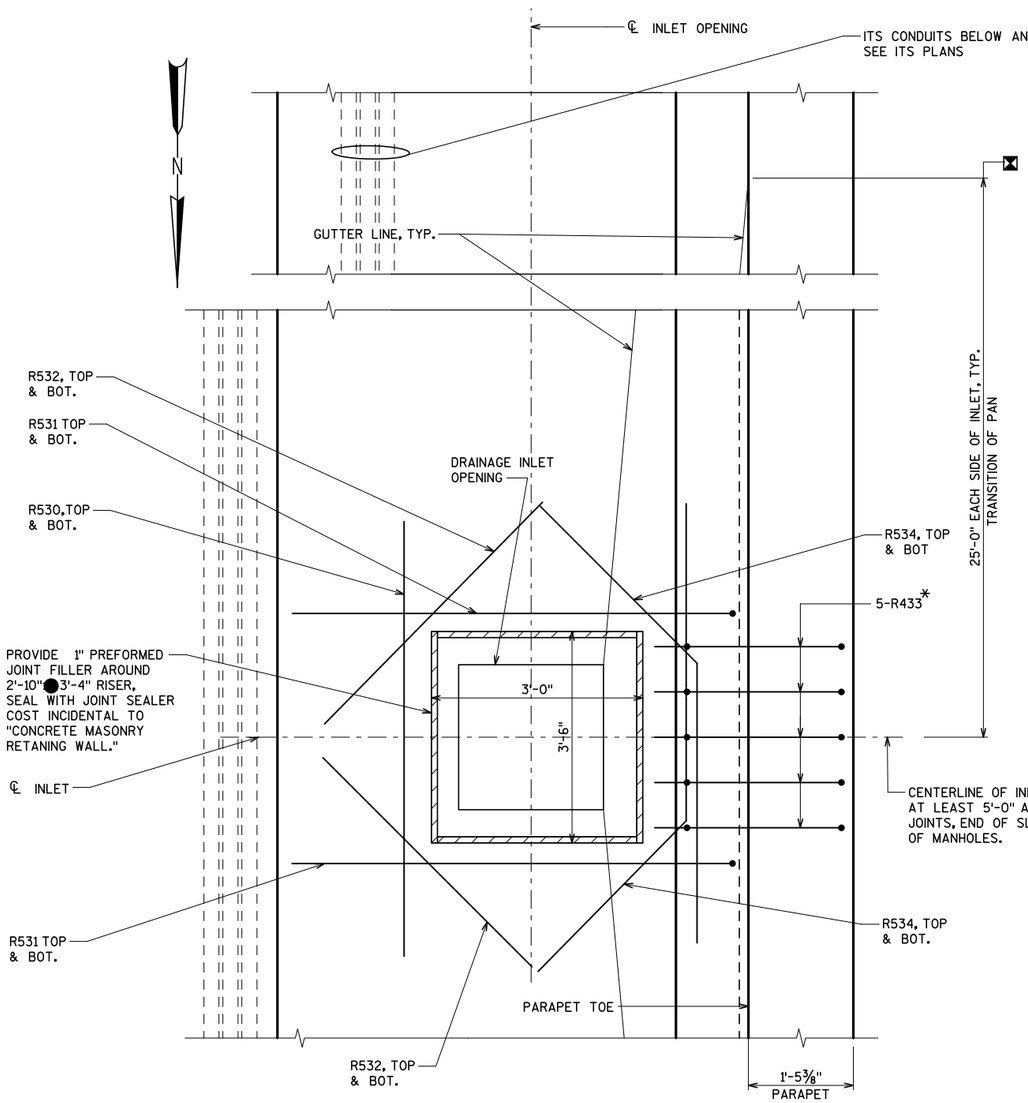
2286

8

8

STATE PROJECT NUMBER

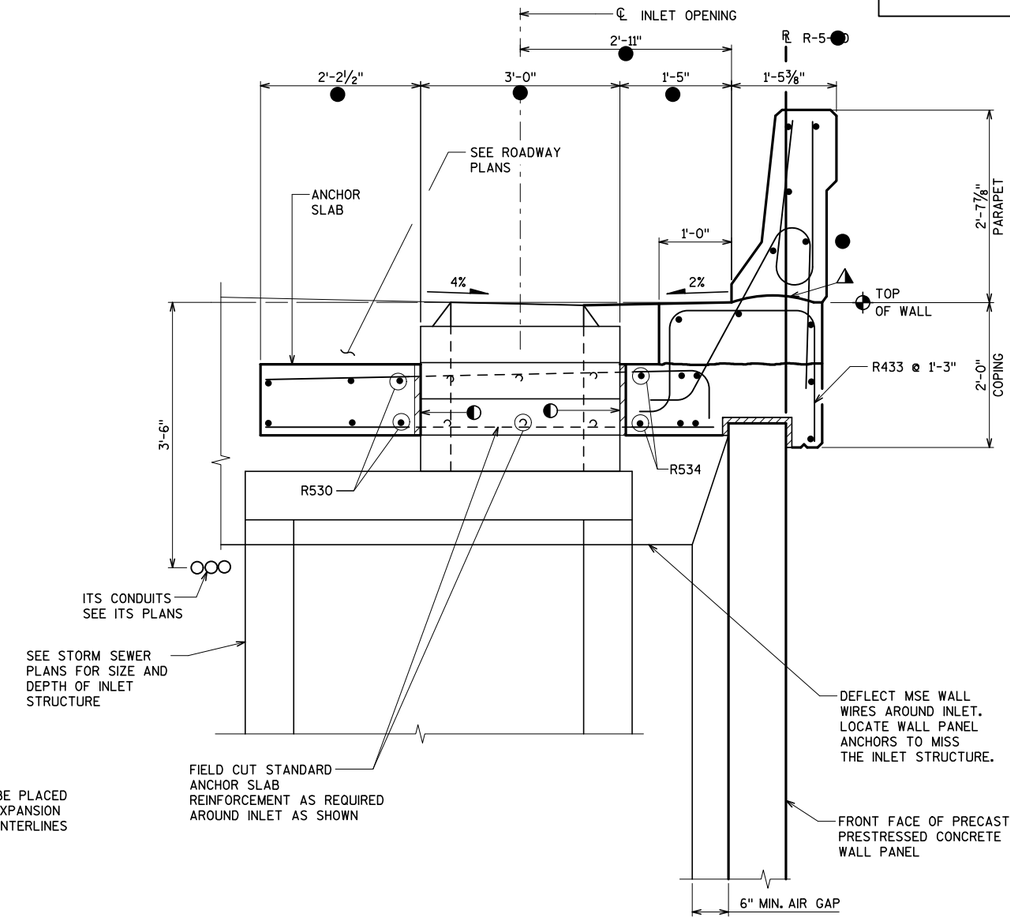
1133-03-77



ANCHOR SLAB DETAIL AT INLET STRUCTURE

ALL REBARS SHOWN IN THIS DETAIL ARE IN ADDITION TO THE STANDARD REBARS IN ANCHOR SLAB EXCEPT AS NOTED.

* REPLACES R418 OF STANDARD ANCHOR SLAB DETAIL



SECTION AT INLET STRUCTURE

SEE DRAINAGE PLANS FOR ROADWAY STATIONING AND DIMENSIONS OF INLET STRUCTURE

CUT, BEND, OR DISPLACE STANDARD REINFORCEMENT 2" CLEAR OF INLET STRUCTURE AS REQUIRED.

INLET LOCATION

RDWY STATION	WALL STATION
1009SB+37.00	309+37.00
1012SB+37.00	312+37.00

SEE SHEETS 12 FOR LOCATION OF REMAINING INLETS

LEGEND

◭ CONSTRUCTION JOINT-STRIKE OFF AS SHOWN

◐ 1" PREFORMED FILLER AROUND THE INLET.

⊠ TRANSITION PAN OVER 25'-0" ON EACH SIDE OF THE INLET.

SEE SHEET● FOR STANDARD REBARS IN ANCHOR SLAB, AND RUBBERIZED MEMBRANE WATERPROOFING DETAILS.

SEE SHEET● FOR BILL OF BARS

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

DRAWN BY TAL | PLANS CK'D. BDT

ANCHOR SLAB AT INLET (2 OF 2)

SHEET 13 OF 25

2287

FILE NAME: F:\BM4-1006 USH 41 bridges\1133037\Structs\R-05-50\cds\Final\R05050_080113_Anchor Slab at Inlet2.dgn PEN TABLE: V8_STRUCTURAL_REV.TBL DATE: 1/18/2013 3:00:36 PM Plotted by: tlegear

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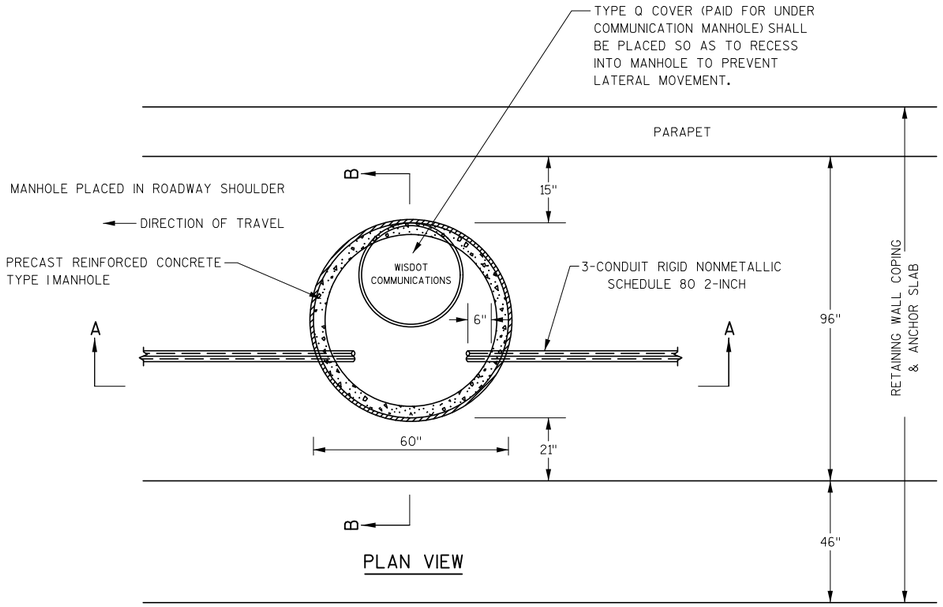
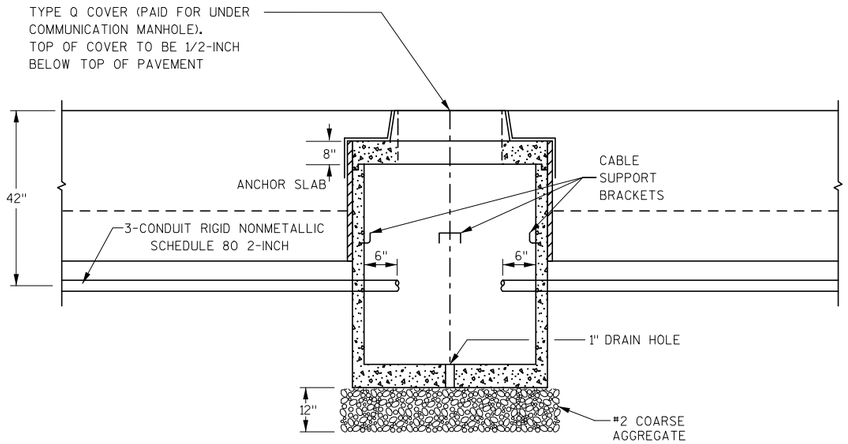
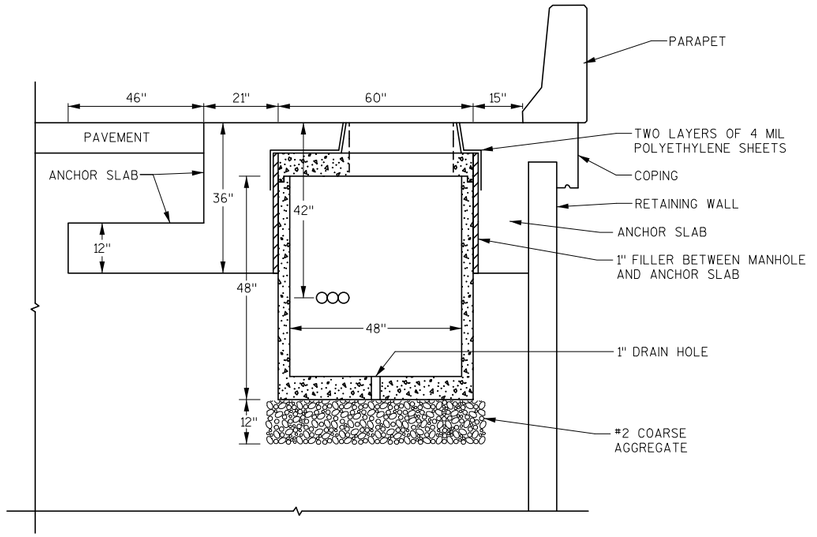


PLAN VIEW



ELEVATION VIEW
SECTION A-A



ELEVATION VIEW
SECTION B-B

COMMUNICATION MANHOLE
1016SB+48.0. 62.52' LT
1021SB+37.79, 64.25' LT
(NOISE WALL SECTION)

GENERAL NOTES

ALL OPENINGS IN MANHOLE STRUCTURE MUST BE CORED OR BLOCKED OUT AT THE TIME OF FABRICATION, OR CORED AT TIME OF PLACEMENT.

MANHOLE COVERS TO BE IMPRINTED WITH "WISDOT COMMUNICATIONS" IN 2-INCH LETTERING.

TYPE Q COVER PAID FOR UNDER COMMUNICATION MANHOLE. REFER TO STANDARD DETAIL DRAWING 8D17 FOR DIMENSIONS OF COVER TYPE Q.

INFORMATION SHOWN ON THIS SHEET IS FOR REFERENCE ONLY. SEE I.T.S PLANS FOR ADDITIONAL INFORMATION.

SEE SHEET 16 FOR PAY LIMITS FOR CONDUITS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

DRAWN BY TAL | PLANS CK'D. BDT

COMMUNICATION MANHOLE DETAILS (1 OF 2)

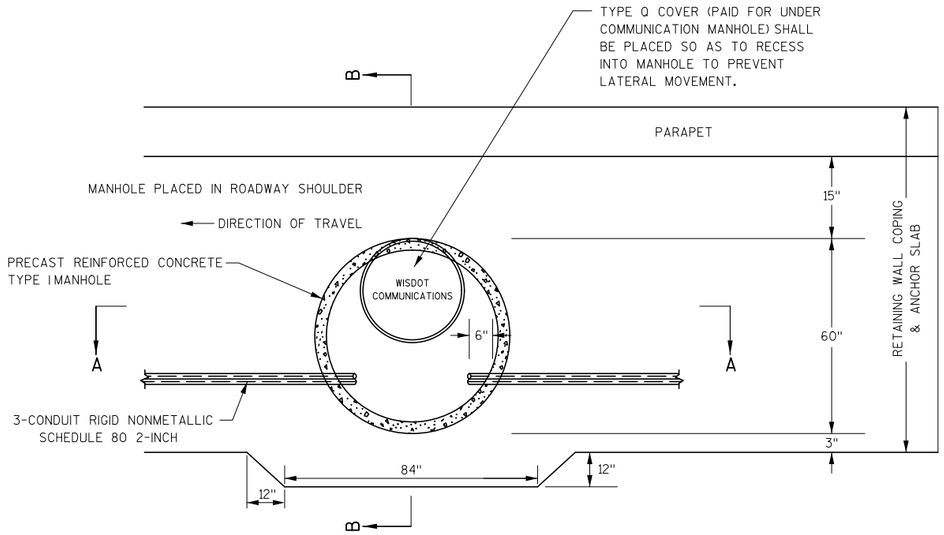
SHEET 14 OF 25

2288

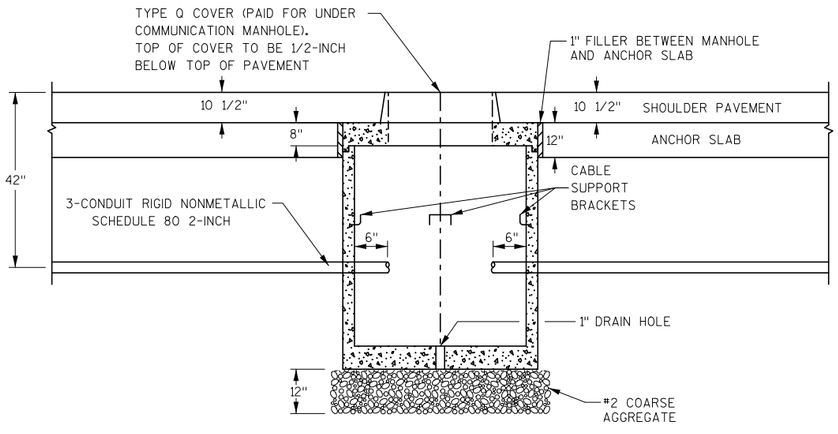
8

8

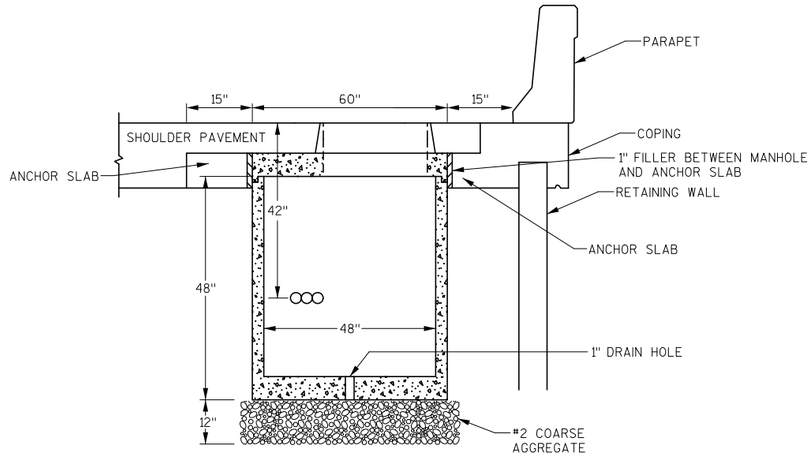
STATE PROJECT NUMBER
1133-03-77



PLAN VIEW



ELEVATION VIEW
SECTION A-A



ELEVATION VIEW
SECTION B-B

COMMUNICATION MANHOLE
1007SB+57.00, 56.25' LT
1011SB+97.92, 56.25' LT

GENERAL NOTES

ALL OPENINGS IN MANHOLE STRUCTURE MUST BE CORED OR BLOCKED OUT AT THE TIME OF FABRICATION, OR CORED AT TIME OF PLACEMENT.

MANHOLE COVERS TO BE IMPRINTED WITH "WISDOT COMMUNICATIONS" IN 2-INCH LETTERING.

TYPE Q COVER PAID FOR UNDER COMMUNICATION MANHOLE. REFER TO STANDARD DETAIL DRAWING 8D17 FOR DIMENSIONS OF COVER TYPE Q.

INFORMATION SHOWN ON THIS SHEET IS FOR REFERENCE ONLY. SEE I.T.S PLANS FOR ADDITIONAL INFORMATION.

SEE SHEET 16 FOR PAY LIMITS FOR CONDUITS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

DRAWN BY TAL | PLANS CK'D. BDT

COMMUNICATION MANHOLE DETAILS (2 OF 2)

SHEET 15 OF 25

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STATE PROJECT NUMBER
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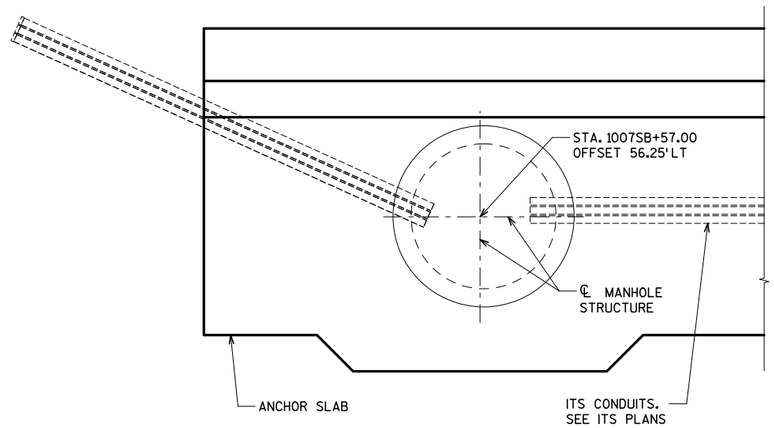
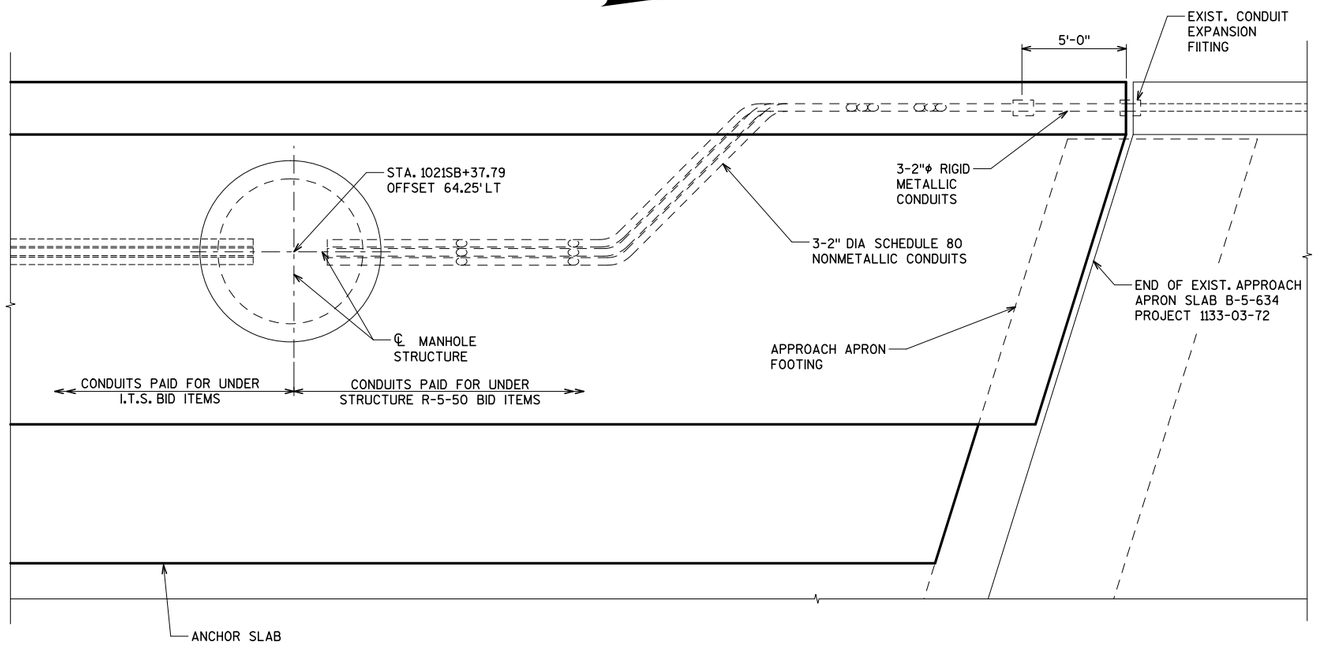


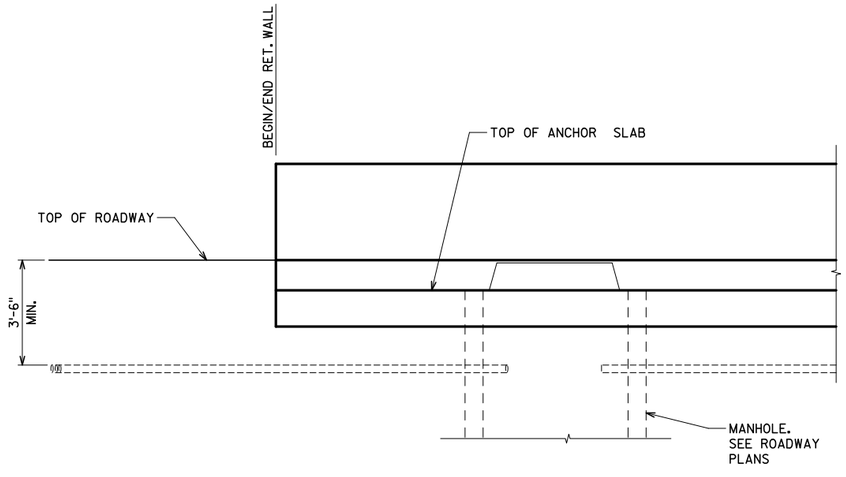


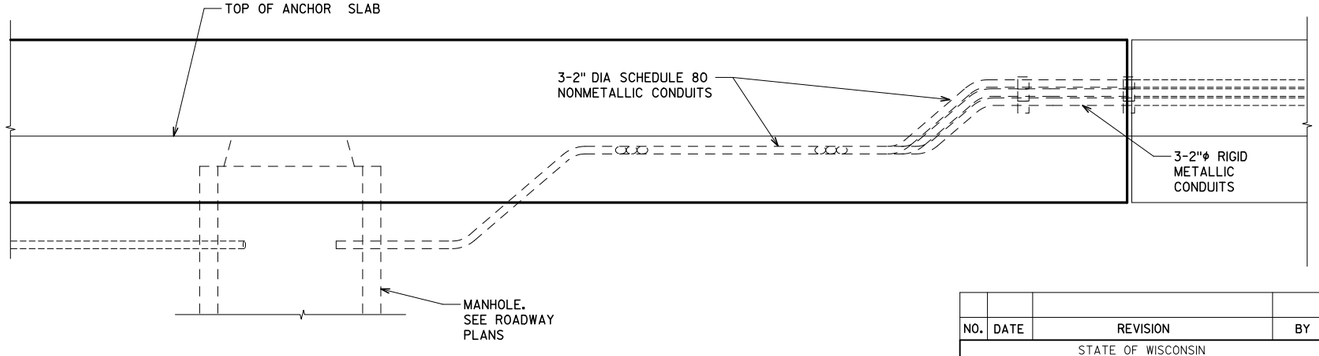
PLAN

NOTES

ADAPTER FITTINGS TO BE INCIDENTAL TO THE BID ITEM "CONDUIT RIGID METALLIC 2-INCH".

WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS ULL OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.





ELEVATION

NOTES

SEE GENERAL PLAN SHEET AND I.T.S. PLANS FOR LOCATION OF MANHOLES.

SEE SHEETS 14, 15, 17, 18 AND I.T.S. PLANS FOR ADDITIONAL INFORMATION.

MINIMUM BENDING RADIUS FOR CONDUIT IS 12 INCHES

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

DRAWN BY TAL | PLANS CK'D. BDT

CONDUIT TRANSITION DETAILS

SHEET 16 OF 25

2290

8

8

FILE NAME: F:\BM4-1006 USH 41 bridges\1133037\Structs\R-05-50\cds\Final\R05050_080116_conduit_transition.dgn PEN TABLE: V8_STRUCTURAL_REV.TBL DATE: 11/19/2012 3:44:04 PM Plotted by: tlegear

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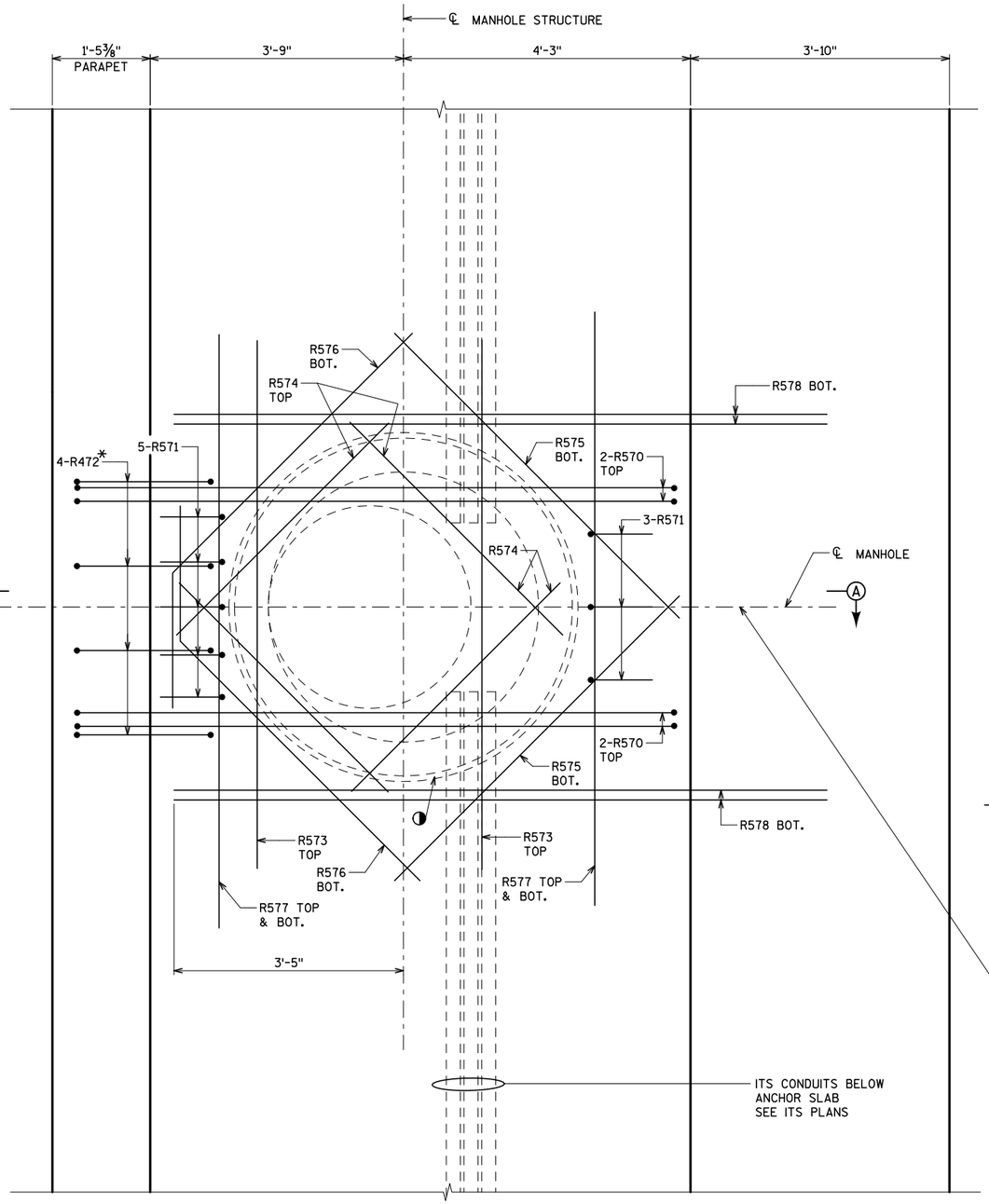
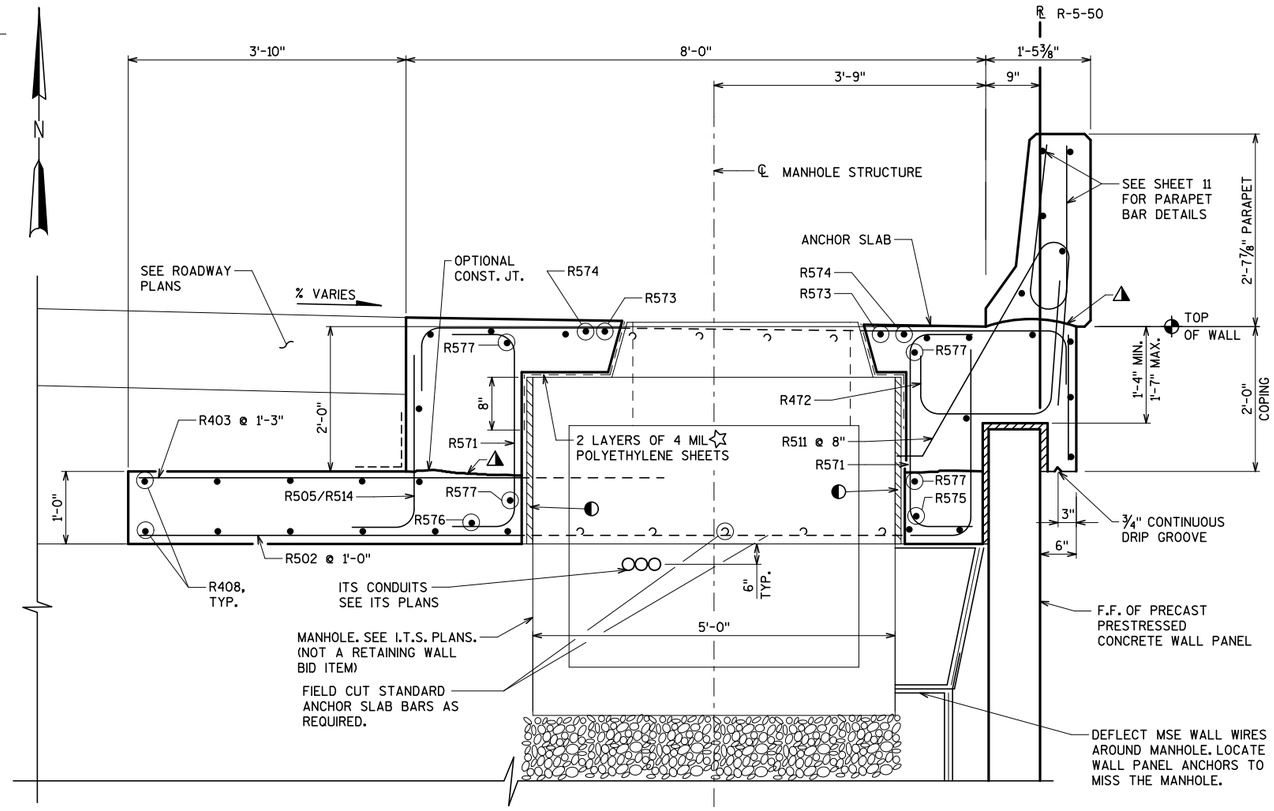


ANCHOR SLAB DETAIL AT MANHOLE

ALL REBARS SHOWN IN THIS DETAIL ARE IN ADDITION TO THE STANDARD REBARS IN ANCHOR SLAB, EXCEPT AS NOTED.

* REPLACES R404 OF STANDARD ANCHOR SLAB REINFORCEMENT



SECTION A-A

SEE GENERAL PLAN SHEET AND I.T.S. PLANS FOR LOCATION OF MANHOLES.

CUT, BEND, OR DISPLACE STANDARD REINFORCEMENT 2" CLEAR OF MANHOLE AS REQUIRED.

MANHOLE LOCATION

RDWY STATION	WALL STATION
1016SB+48.00	316+47.92
1021SB+37.79	321+37.92

SEE SHEET 18 FOR LOCATION OF REMAINING MANHOLES

LEGEND

☆ COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY RETAINING WALLS".

◭ CONSTRUCTION JOINT-STRIKE OFF AS SHOWN

◐ 1" PREFORMED FILLER AROUND THE MANHOLE.

SEE SHEET 7 FOR STANDARD REBARS IN ANCHOR SLAB, AND RUBBERIZED MEMBRANE WATERPROOFING DETAILS.

SEE SHEET 20 FOR BILL OF BARS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

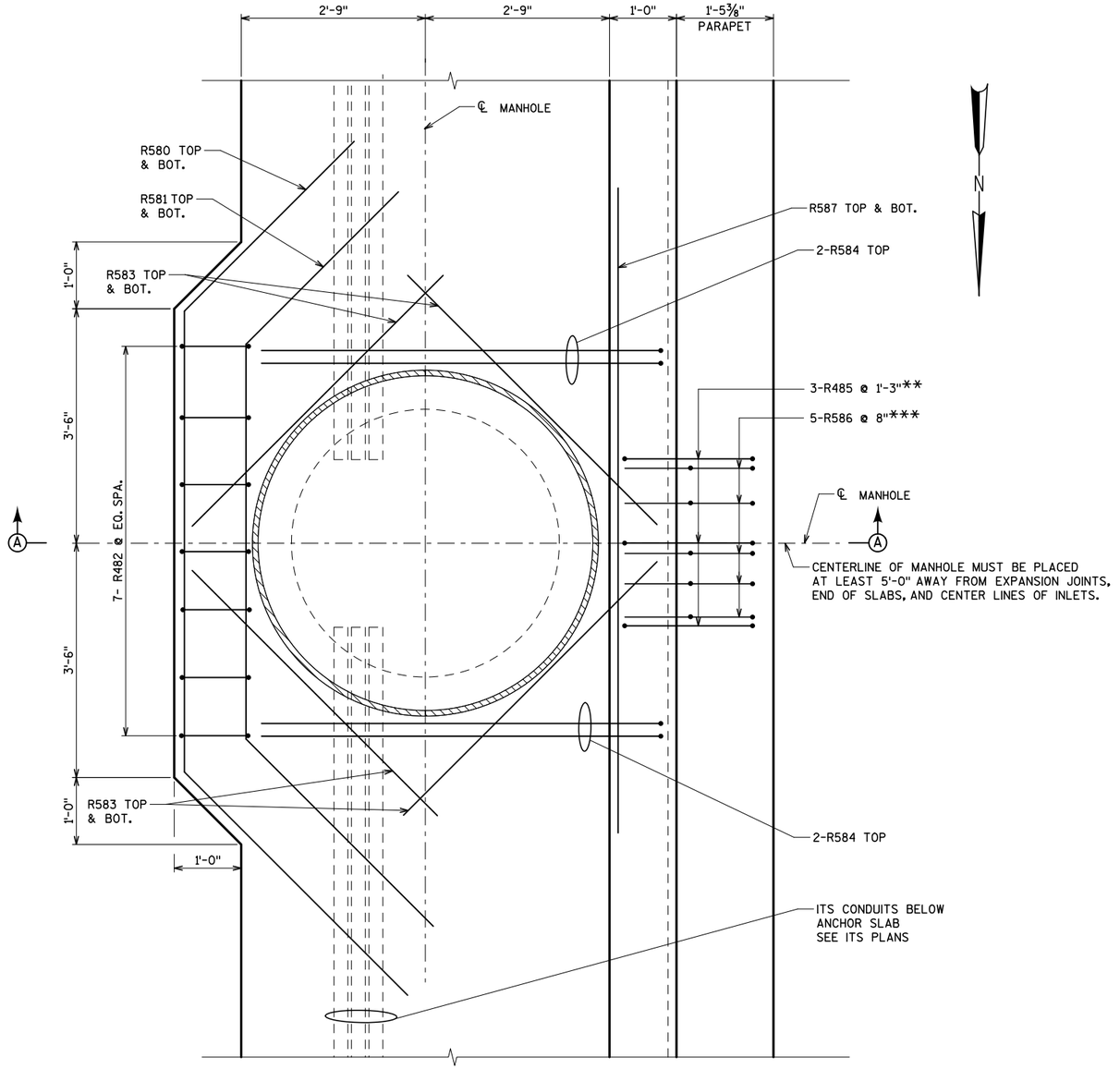
STRUCTURE R-5-50

DRAWN BY TAL | PLANS CK'D. BDT

ANCHOR SLAB AT MANHOLE (1 OF 2)

SHEET 17 OF 25

STATE PROJECT NUMBER
1133-03-77

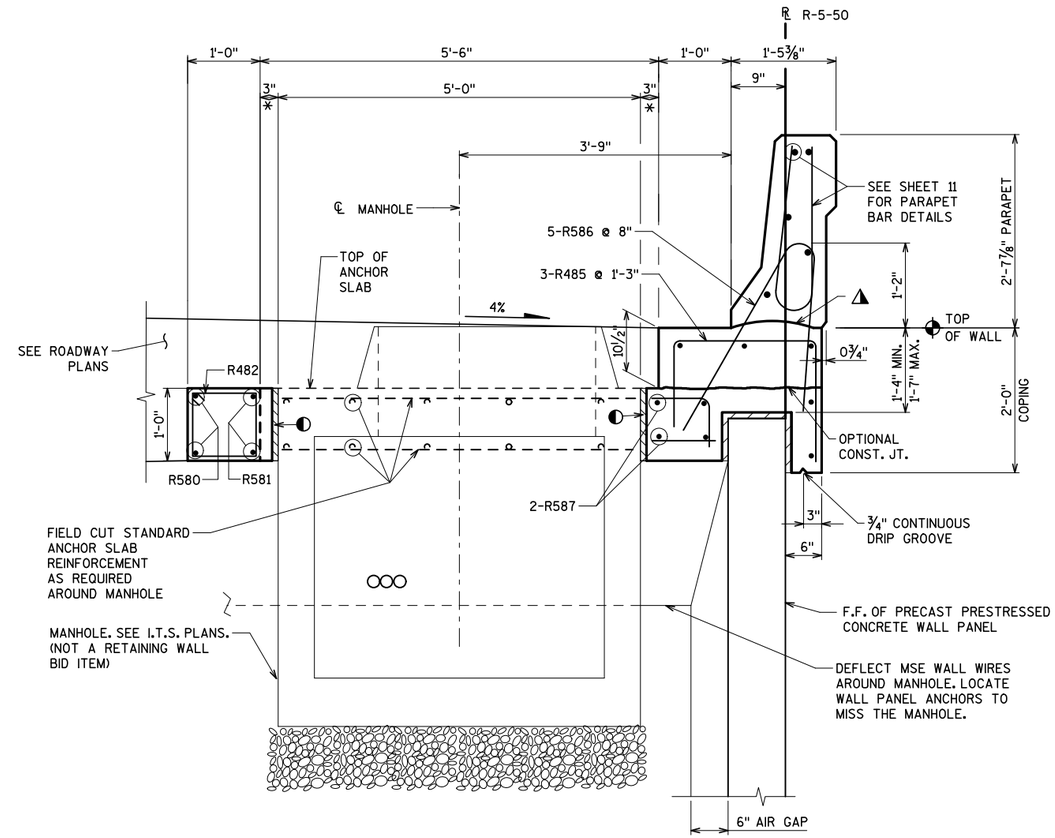


ANCHOR SLAB DETAIL AT MANHOLE

ALL REBARS SHOWN IN THIS DETAIL ARE IN ADDITION TO THE STANDARD REBARS IN ANCHOR SLAB EXCEPT AS NOTED.

** REPLACES R418 OF STANDARD ANCHOR SLAB DETAIL

*** REPLACES R523 OF STANDARD ANCHOR SLAB DETAIL



SECTION A-A

* DIMENSION INCLUDES FILLER THICKNESS

SEE ROADWAY PLANS FOR ROADWAY STATIONING AND DIMENSIONS OF COMMUNICATION MANHOLES.
CUT, BEND, OR DISPLACE REINFORCEMENT 2" CLEAR OF MANHOLE STRUCTURE AS REQUIRED.

MANHOLE LOCATION

RDWY STATION	WALL STATION
1007SB+57.00	307+54.00
1011SB+97.92	311+97.92

SEE SHEET 17 FOR LOCATION OF REMAINING MANHOLES

LEGEND

△ CONSTRUCTION JOINT-STRIKE OFF AS SHOWN

◐ 1" PREFORMED FILLER AROUND THE MANHOLE. SEAL WITH NONBITUMINOUS JOINT SEALER. COST INCIDENTAL TO "CONCRETE MASONRY RETANING WALL."

SEE SHEET 8 FOR STANDARD REBARS IN ANCHOR SLAB

SEE SHEET 20 FOR BILL OF BARS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

DRAWN BY TAL | PLANS CK'D. BDT

ANCHOR SLAB AT MANHOLE (2 OF 2)

SHEET 18 OF 25

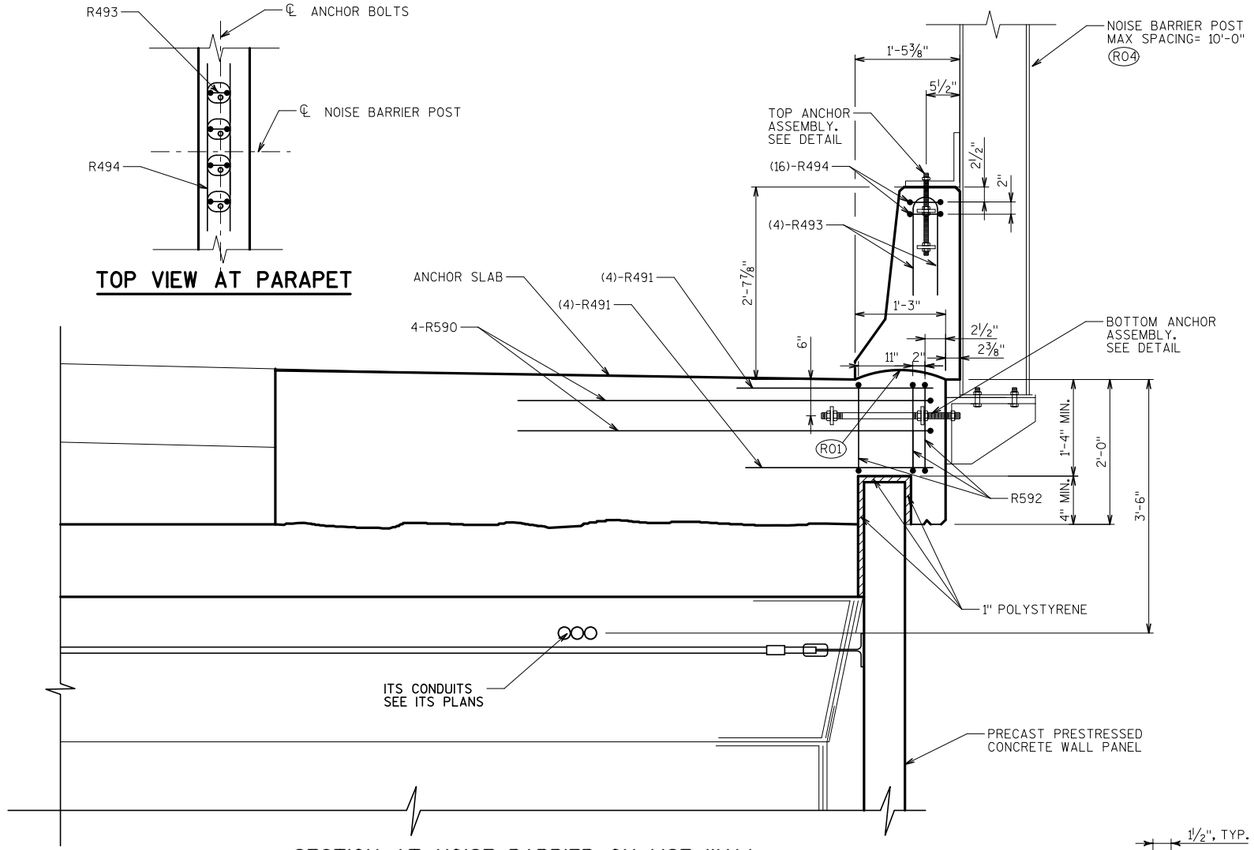
2292

8

8

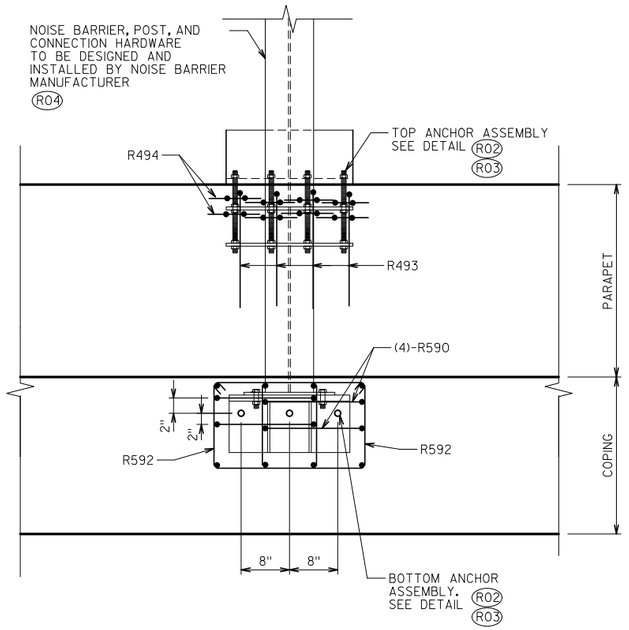
STATE PROJECT NUMBER
1133-03-77

TOP VIEW AT PARAPET



SECTION AT NOISE BARRIER ON MSE WALL

TYPICAL AT EACH POST LOCATION



ELEVATION AT NOISE BARRIER POST

TYPICAL AT EACH POST LOCATION

NOTES

(R01) CONSTRUCTION JOINT. STRIKE OFF AS SHOWN

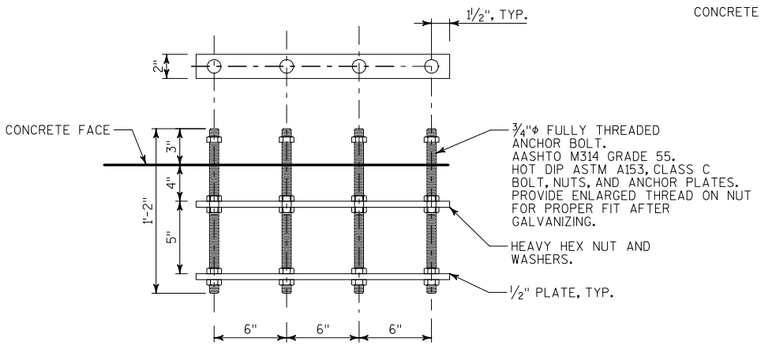
(R02) EXACT LOCATION AND SPACING OF EMBEDDED NOISE BARRIER ANCHOR ASSEMBLY AND REINFORCEMENT SHOWN ON THIS SHEET TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.

(R03) BID ITEM "ANCHOR ASSEMBILES NOISE BARRIERS STRUCTURES", EACH INCLUDES UPPER AND LOWER ANCHORAGES AT EACH POST LOCATION.

(R04) NOT A RET. WALL BID ITEM. NOISE BARRIER PANELS, POSTS, SUPPORT BRACKETS, TOP OF PARAPET CONNECTION, AND SIDE OF ANCHOR SLAB CONNECTION TO BE DESIGNED AND INSTALLED BY NOISE WALL MANUFACTURER.

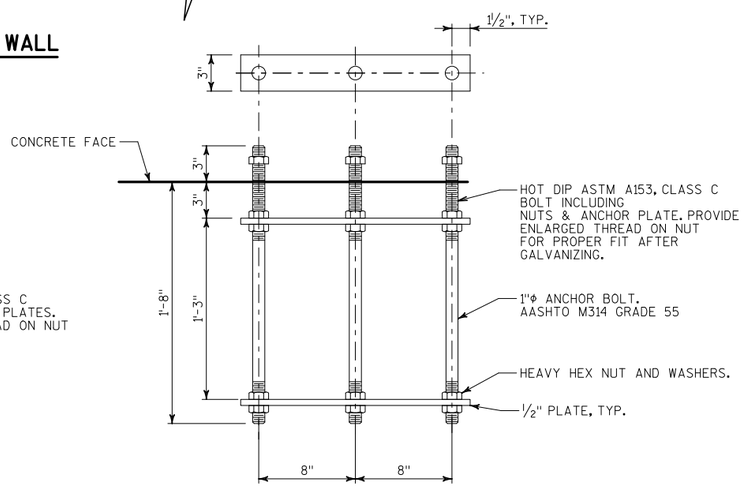
REINFORCEMENT SHOWN ON THIS SHEET IS FOR DEVELOPING NOISE WALL POST ANCHORAGES. SEE SHEETS 7,9 AND 11 FOR PARAPET AND ANCHOR SLAB REINFORCEMENT DETAILS.

SEE SHEET 21 FOR NOISE BARRIER POST SPACING.



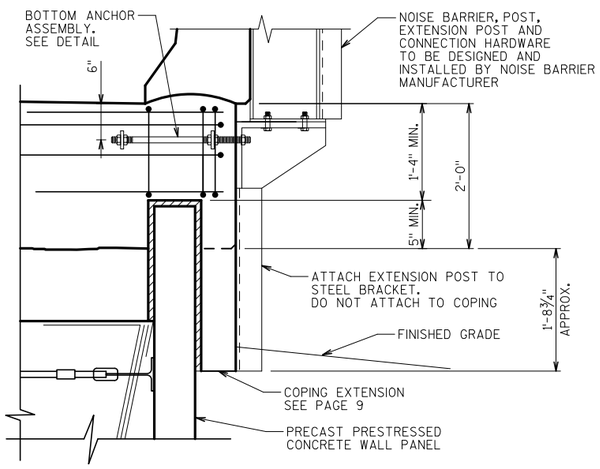
ELEVATION

TOP ANCHOR BOLT ASSEMBLY



PLAN

BOTTOM ANCHOR BOLT ASSEMBLY



DETAIL AT END POST

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

DRAWN BY TAL | PLANS CK'D. BDT

NOISE BARRIER POST ANCHORAGE

SHEET 19 OF 25

2293

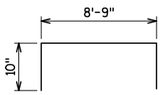
8

8

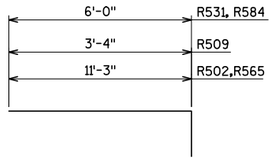
STATE PROJECT NUMBER
1133-03-77

BILL OF BARS

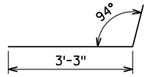
	BAR MARK	COAT	NO.	LENGTH	BENT	BAR SERIES	LOCATION
	R501	X	1064	10'-2"	X	-	ANCHOR SLAB, TOP TRANSVERSE
◐	R502	X	719	13'-6"	X	-	ANCHOR SLAB, BOTTOM TRANS.
	R403	X	575	6'-0"	-	-	ANCHOR SLAB, TOP TRANSVERSE
	R404	X	567	5'-0"	X	-	ANCHOR BOTTOM TRANSVERSE
	R505	X	453	3'-7"	X	-	ANCHOR SLAB VERTICAL STA. 314+77.92 to 320+50.13
	R406	X	543	1'-8"	-	-	COPING, VERTICAL
*	R507	X	19	689'-9"	-	-	ANCHOR SLAB, LONGITUDINAL
*	R408	X	14	689'-9"	-	-	ANCHOR SLAB, LONGITUDINAL
	R509	X	9	4'-0"	X	-	ANCHOR SLAB, OVER APPROACH APRON
	R510	X	2187	4'-10"	X	-	PARAPET LF VERTICAL
	R511	X	1064	6'-4"	X	-	PARAPET LF VERTICAL
*	R512	X	5	1417'-8"	-	-	PARAPET LF, LONGITUDINAL
	R513	X	40	3'-6"	X	-	ANCHOR SLAB VERTICAL STA. 320+50.13 TO 321+00.13
	R514	X	40	3'-5"	X	-	ANCHOR SLAB VERTICAL STA. 321+00.13 TO 321+50.13
	R515	X	14	3'-4"	X	-	ANCHOR SLAB VERTICAL STA. 321+50.13 TO 321+67.69
	R516	X	3	8'-1"	X	-	ANCHOR SLAB, OVER APRON FTG
	R517	X	3	5'-10"	X	-	ANCHOR SLAB, OVER APRON FTG
	R418	X	591	5'-3"	X	-	ANCHOR SLAB, TRANSVERSE
◐	R419	X	607	6'-0"	-	-	ANCHOR SLAB, BOTTOM TRANS.
	R520	X	1123	7'-10"	X	-	ANCHOR SLAB, TOP TRANSVERSE
*	R421	X	5	727'-11"	-	-	ANCHOR SLAB LONGITUDINAL
*	R422	X	12	727'-11"	-	-	ANCHOR SLAB LONGITUDINAL
	R523	X	1113	6'-2"	X	-	PARAPET LF, VERTICAL
	R424	X	4	3'-3"	-	-	VERT. AT COPING EXTENSION
	R425	X	3	2'-8"	-	-	HORIZ. AT COPING EXTENSION
	R530	X	4	8'-10"	-	-	ANCHOR SLAB AT INLET
	R531	X	8	6'-6"	X	-	ANCHOR SLAB AT INLET
	R532	X	8	5'-0"	-	-	ANCHOR SLAB AT INLET
	R433	X	10	5'-1"	X	-	ANCHOR SLAB AT INLET
	R534	X	8	7'-7"	X	-	ANCHOR SLAB AT INLET
	R560	X	16	8'-10"	-	-	ANCHOR SLAB AT INLET
	R561	X	8	10'-2"	X	-	ANCHOR SLAB AT INLET
	R562	X	8	5'-0"	-	-	ANCHOR SLAB AT INLET
	R563	X	16	4'-4"	X	-	ANCHOR SLAB AT INLET
	R564	X	8	7'-7"	X	-	ANCHOR SLAB AT INLET
	R565	X	8	13'-6"	X	-	ANCHOR SLAB AT INLET
	R570	X	8	10'-2"	X	-	ANCHOR SLAB AT MANHOLE
	R571	X	16	3'-10"	X	-	ANCHOR SLAB AT MANHOLE
	R472	X	8	3'-6"	X	-	ANCHOR SLAB AT MANHOLE
	R573	X	4	9'-0"	-	-	ANCHOR SLAB AT MANHOLE
	R574	X	8	5'-0"	-	-	ANCHOR SLAB AT MANHOLE
	R575	X	4	6'-0"	-	-	ANCHOR SLAB AT MANHOLE
	R576	X	4	7'-0"	X	-	ANCHOR SLAB AT MANHOLE
	R577	X	8	11'-0"	-	-	ANCHOR SLAB AT MANHOLE
	R578	X	8	9'-8"	-	-	ANCHOR SLAB AT MANHOLE
	R580	X	4	13'-9"	X	-	ANCHOR SLAB AT MANHOLE
	R581	X	4	13'-0"	X	-	ANCHOR SLAB AT MANHOLE
	R482	X	14	3'-2"	X	-	ANCHOR SLAB AT MANHOLE
	R583	X	16	5'-0"	-	-	ANCHOR SLAB AT MANHOLE
	R584	X	8	6'-6"	X	-	ANCHOR SLAB AT MANHOLE
	R485	X	6	4'-8"	X	-	ANCHOR SLAB AT MANHOLE
	R586	X	10	5'-5"	X	-	ANCHOR SLAB AT MANHOLE
	R587	X	4	10'-0"	-	-	ANCHOR SLAB AT MANHOLE
	R590	X	276	11'-1"	X	-	NOISE WALL POST ANCHORAGE
	R491	X	552	2'-0"	-	-	NOISE WALL POST ANCHORAGE
	R592	X	414	5'-6"	X	-	NOISE WALL POST ANCHORAGE
	R493	X	276	2'-9"	X	-	NOISE WALL POST ANCHORAGE
	R494	X	1104	2'-3"	X	-	NOISE WALL POST ANCHORAGE



R501,R570

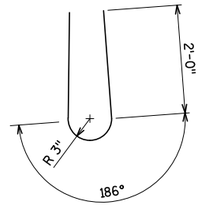


R502,R509,R531,R565,R584



R404

R505,R513,R514,R515,R516



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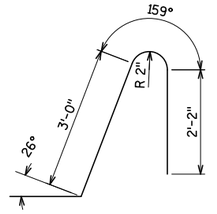

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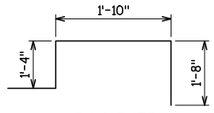
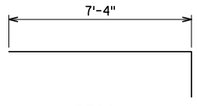


R418,R433



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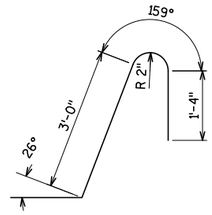

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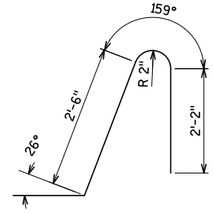

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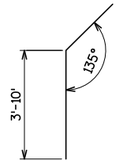

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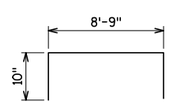

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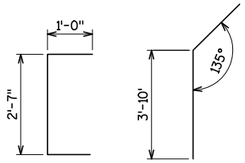
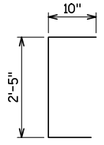


R563 R564



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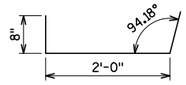

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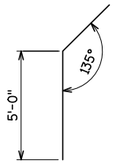

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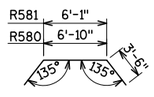
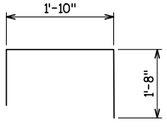


R580,R581

R482



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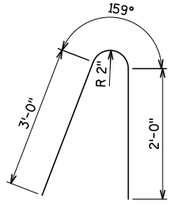

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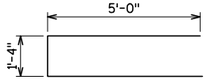

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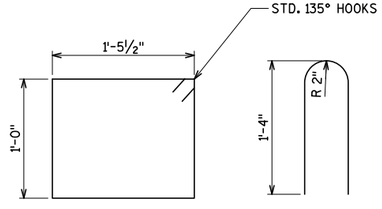
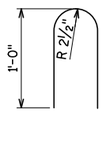


R592

R493



R494

BENDING DIAGRAMS

◐ BAR LENGTH IS BASED ON 9½" THICK PRECAST CONCRETE WALL PANEL. ADJUST BAR LENGTH IF THE WALL PANEL THICKNESS IS DIFFERENT.

* FIGURE SHOWN IN THE 'NO.' AND 'LENGTH' COLUMNS OF THE TABLE SHOULD BE USED FOR BAR WEIGHT CALCULATIONS ONLY. INDIVIDUAL BAR LENGTHS TO BE DETERMINED BY THE CONTRACTOR BASED ON THE ACTUAL DISTANCE BETWEEN ANCHOR SLAB EXPANSION JOINTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

DRAWN BY	TAL	PLANS CK'D.	BDT

BILL OF BARS

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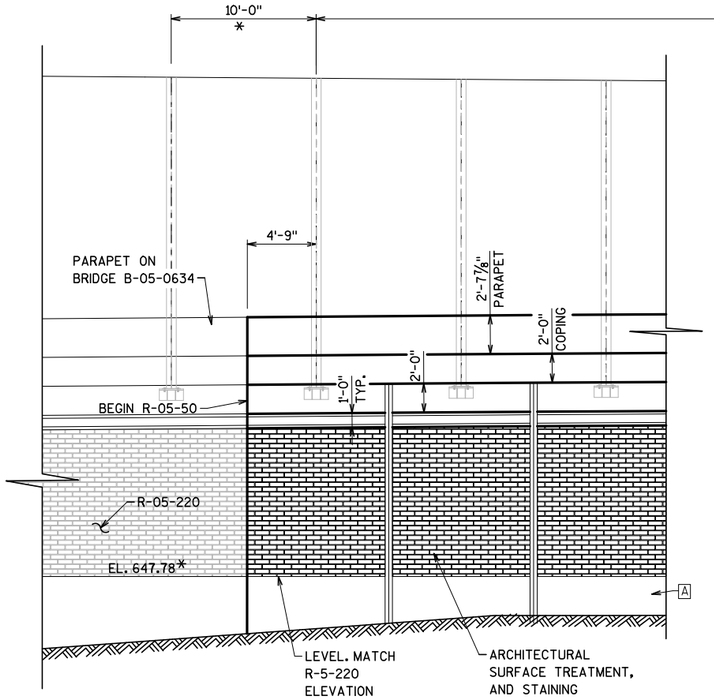
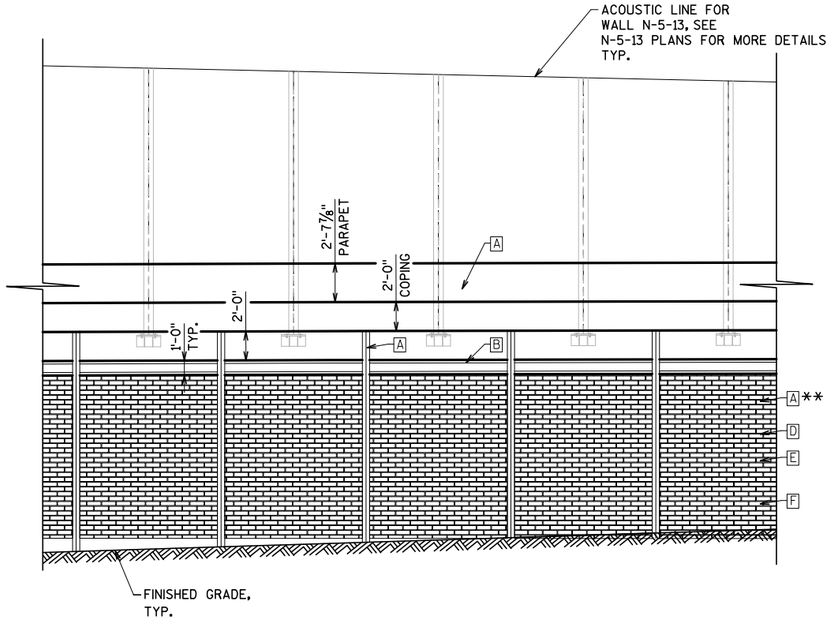
2294

STATE PROJECT NUMBER
1133-03-77

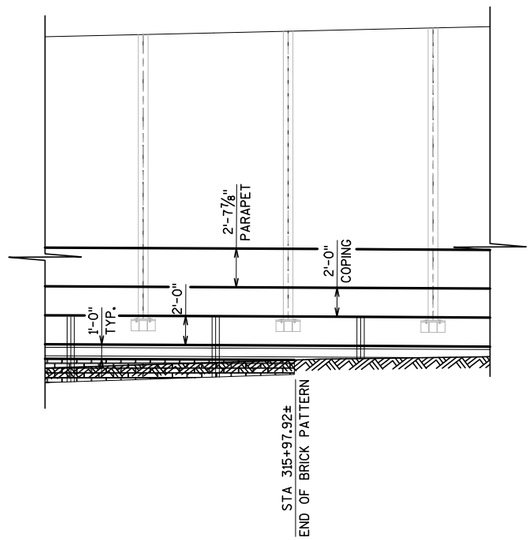


*VERIFY WITH R-5-220 SHOP DRAWINGS, MATCH AS CONSTRUCTED.



ELEVATION R-05-50

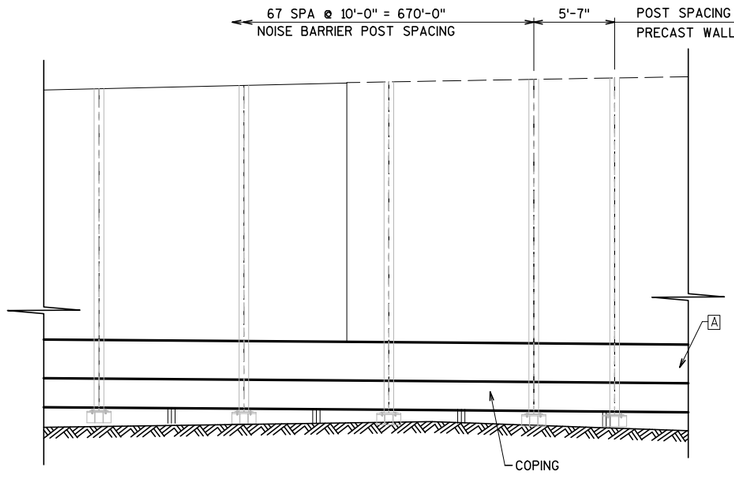
** STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

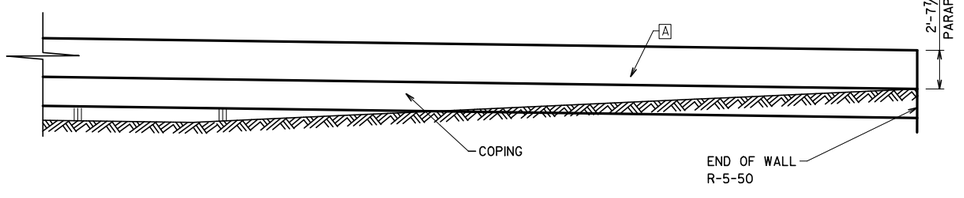


CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~

SEE SPECIAL PROVISIONS FOR STAIN COLORS





NOTES

ARCHITECTURAL SURFACE TREATMENT, HORIZONTAL RECESS, AND STAINING SHALL EXTEND TO ONE FOOT BELOW FINISHED GRADE, UNLESS SHOWN OTHERWISE.

SEE SHEET 22 FOR DETAILS OF CONCRETE STAINING ON PRECAST WALL PANEL AND COPING.

SEE SHEET 5 FOR TYPICAL WALL PANEL JOINT DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

DRAWN BY	TAL	PLANS CK'D.	BDT

AESTHETIC DETAILS (1 OF 2)

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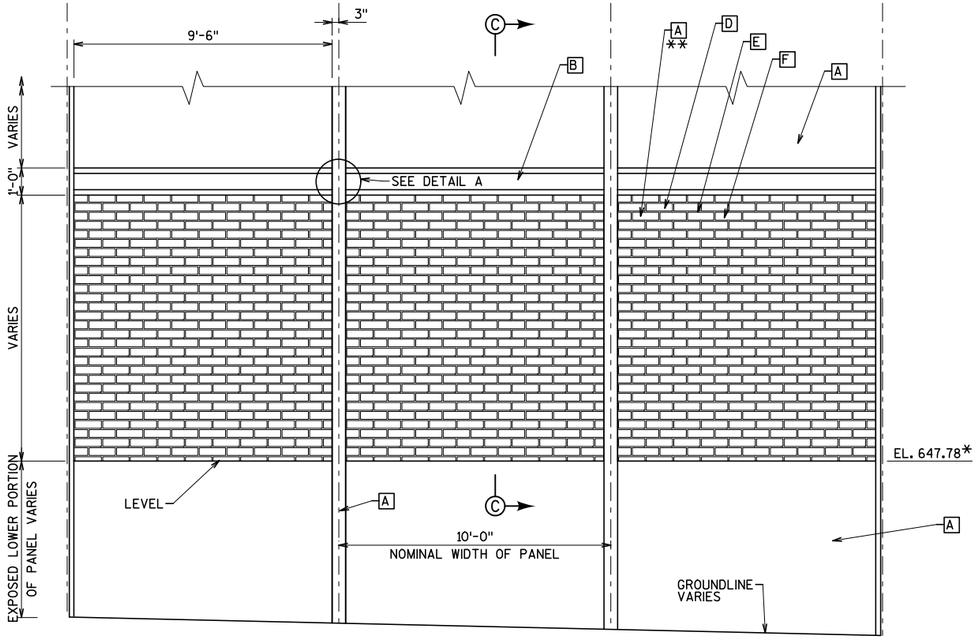


TYPICAL WALL PANEL ELEVATION

(LOOKING AT FRONT FACE OF WALL)

(ONLY THREE PANELS SHOWN. OTHER PANELS SIMILAR)

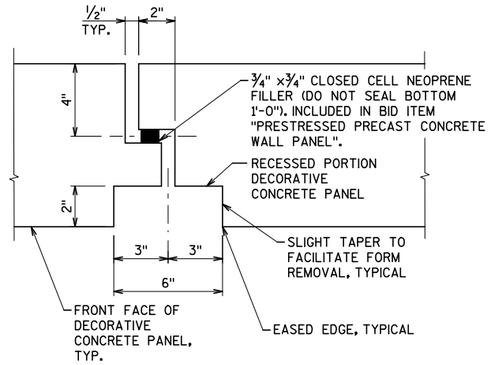
* APPLICABLE FROM STA 318+87.92 TO STA 321+67.69. MATCH BOTTOM ELEVATION OF BRICK PATTERN ON EXIST. WALL R-5-220. EXTEND BRICK PATTERN ONE FOOT BELOW FINISHED GRADE FROM STA 315+97.92 TO STA 318+87.92. SEE SHEET 21 FOR ADDITIONAL INFORMATION.

** STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

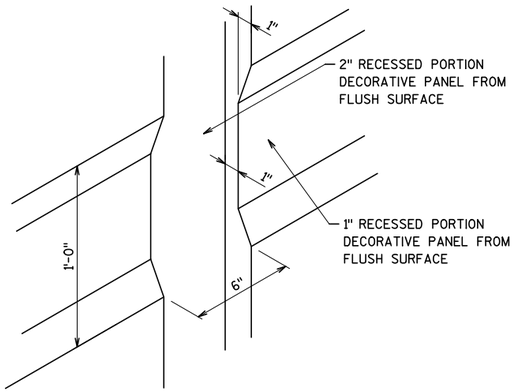
CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~

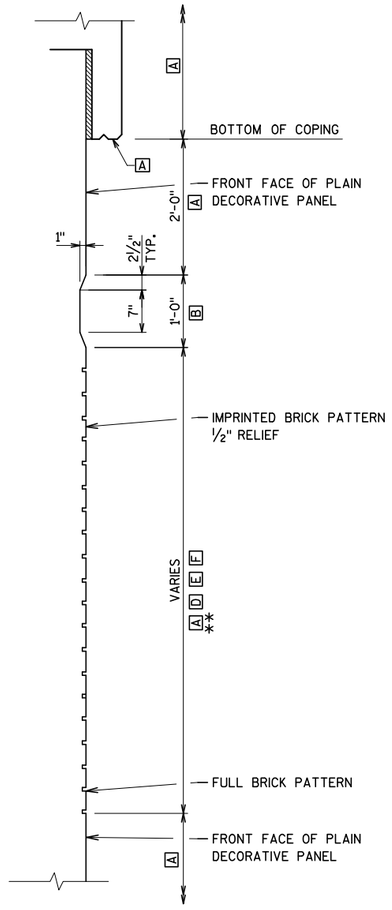
SEE SPECIAL PROVISION FOR STAIN COLORS.



SECTION A-A



DETAIL A- ISOMETRIC REVEAL



SECTION C-C

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

DRAWN BY TAL | PLANS CK'D. BDT

AESTHETIC DETAILS (2 OF 2)

SHEET 22 OF 25

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STATE PROJECT NUMBER

1133-03-77

8

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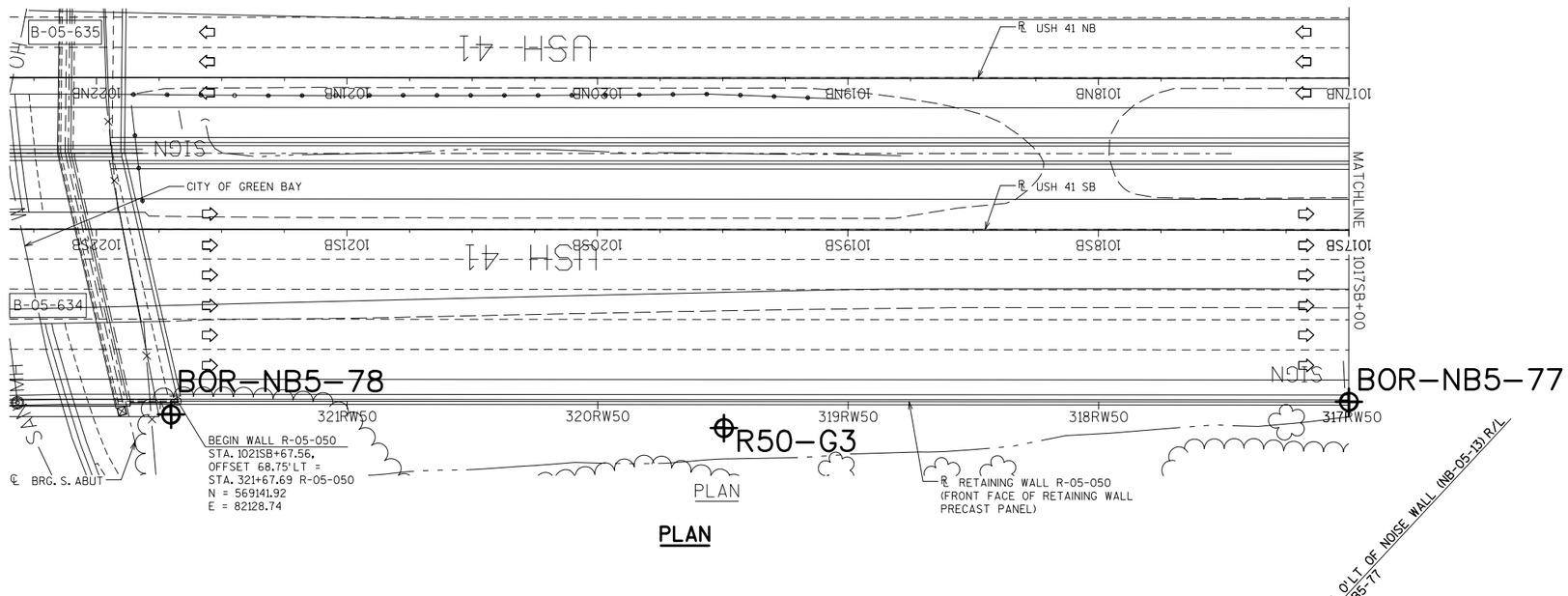
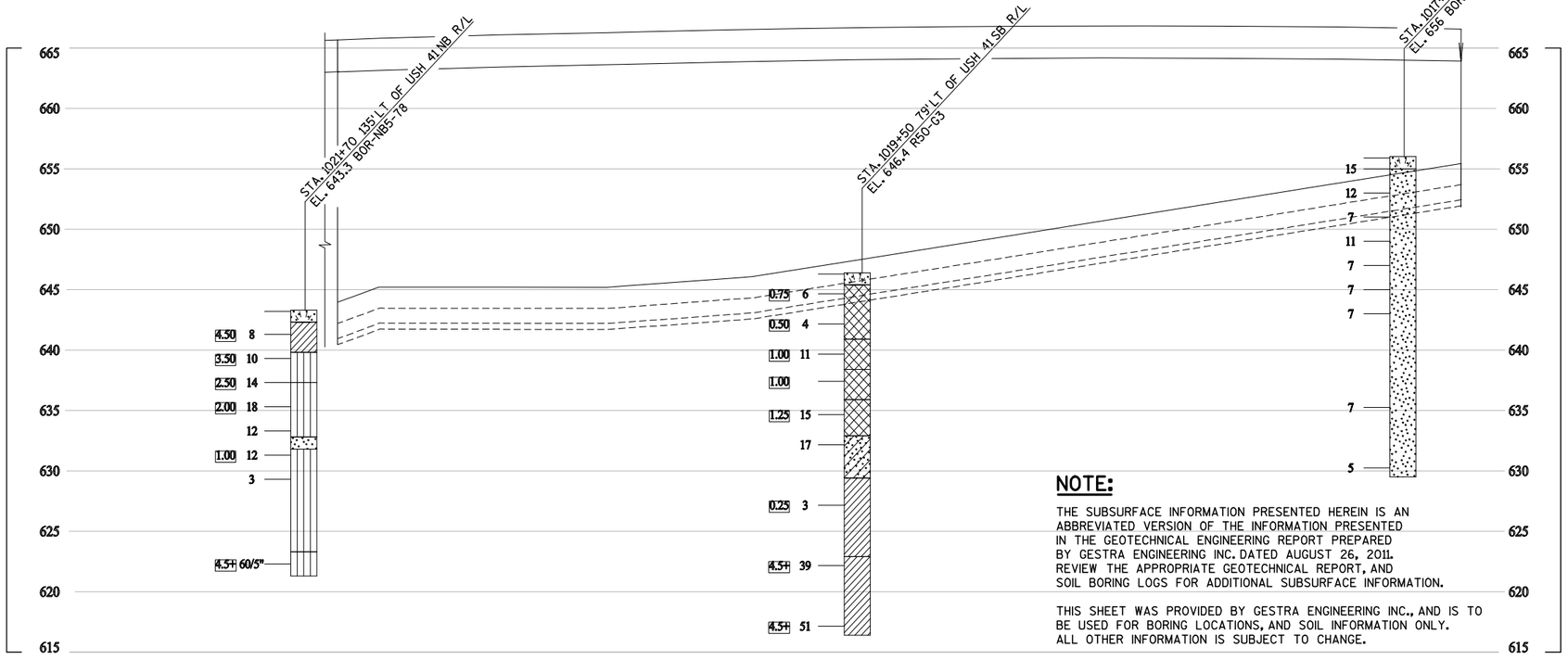
USH 41 (R-05-50)
Brown County, Wisconsin



PLAN



ELEVATION

NOTE:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY GESTRA ENGINEERING INC. DATED AUGUST 26, 2011. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT, AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

THIS SHEET WAS PROVIDED BY GESTRA ENGINEERING INC., AND IS TO BE USED FOR BORING LOCATIONS, AND SOIL INFORMATION ONLY. ALL OTHER INFORMATION IS SUBJECT TO CHANGE.

STATE PROJECT NUMBER

1133-03-72

ABBREVIATIONS

F–Fine M–Medium C–Coarse
Ws–Weathered So–Sound

MATERIAL SYMBOLS

Topsoil, Silt, Sandstone, Sand, Peat, Limestone, Gravel, Clay, Fill

LEGEND OF PROBING

95/6=95 BLOWS FOR 6" PENETRATION PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

Probing No.
Sta.
Elevation
7 Average Blows Per Foot
Refusal 95/6

LEGEND OF BORING

Boring No.
Elev. Sta.
Unconfined STRENGTH → 7.7 7
Blows Per Ft. USING 140# WT. FALLING 30"
Wash Sample
Shelby Tube S.T.
Ground Water ELEVATION
No Ground Water OBSERVED ABOVE THIS ELEVATION
Sandy Gravel
F. Boulders or COBBLES
Sand
Silty Clay
So Limestone

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-50

DRAWN BY ESJ | PLANS CK'D. BDT

SUBSURFACE EXPLORATION (1 OF 3)

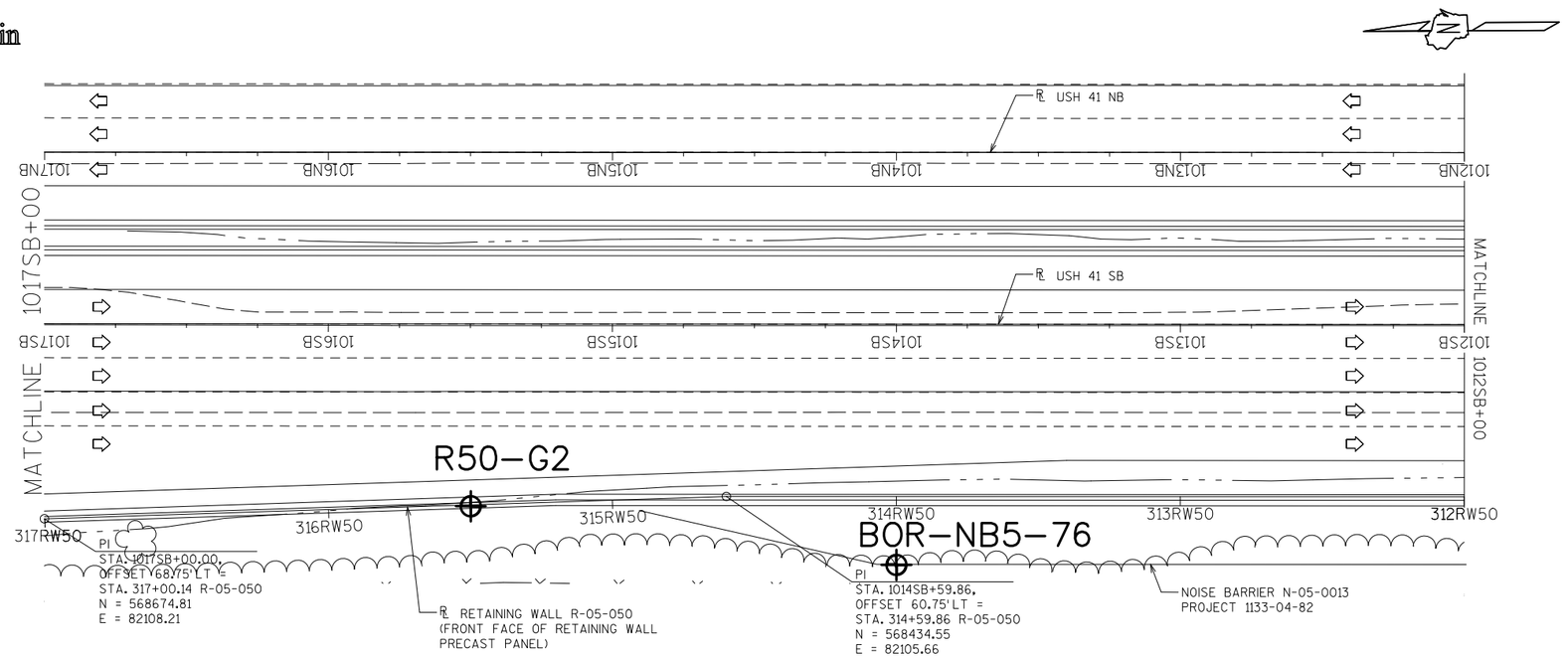
SHEET 23 OF 25

2297

8

8

USH 41 (R-05-50)
Brown County, Wisconsin



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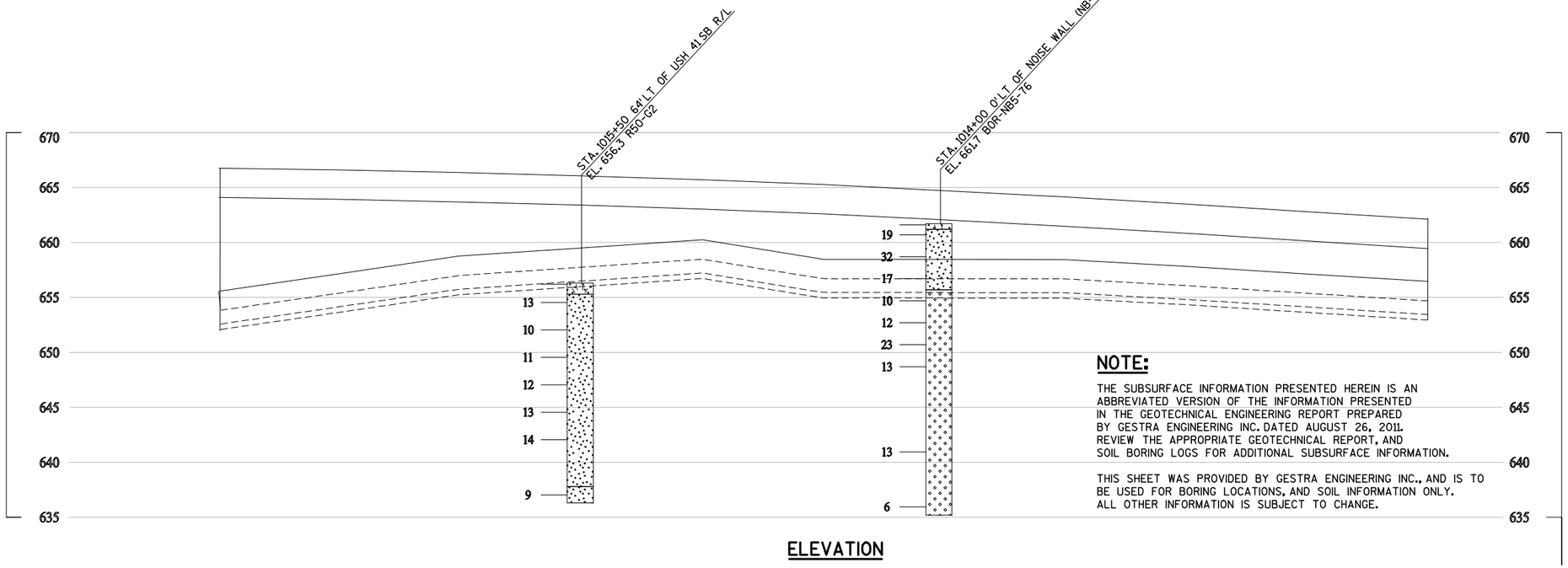

ELEVATION

NOTE:

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THIS SHEET WAS PROVIDED BY GESTRA ENGINEERING INC., AND IS TO BE USED FOR BORING LOCATIONS, AND SOIL INFORMATION ONLY. ALL OTHER INFORMATION IS SUBJECT TO CHANGE.

STATE PROJECT NUMBER

1133-03-72

ABBREVIATIONS

F–Fine M–Medium C–Coarse
Ws–Weathered So–Sound

MATERIAL SYMBOLS

Topsoil, Silt, Sandstone, Sand, Peat, Limestone, Gravel, Clay, Fill

LEGEND OF PROBING

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STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

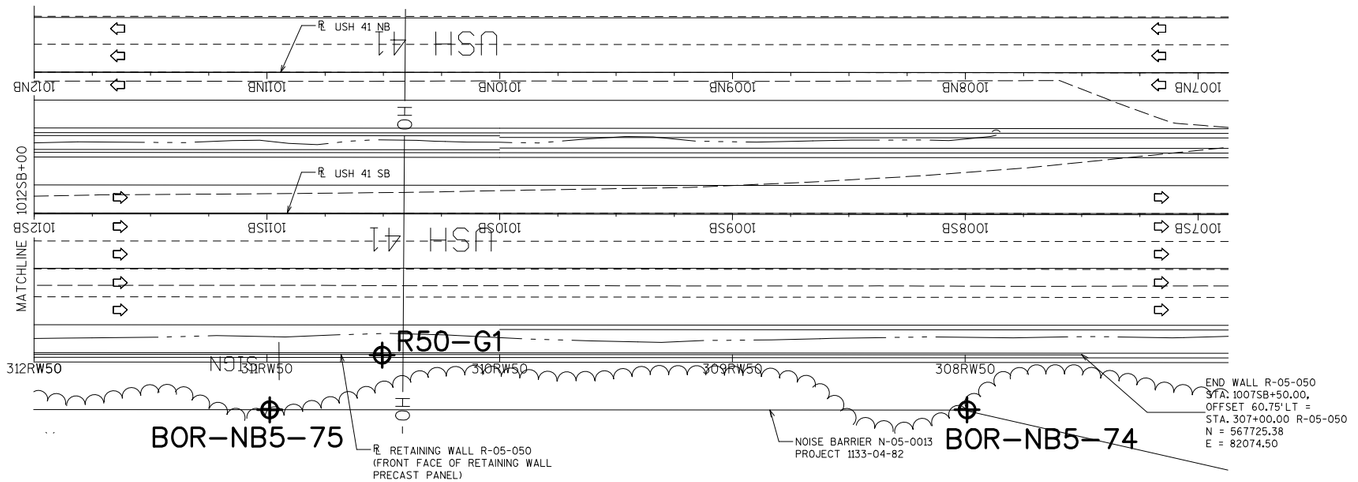
STRUCTURE R-5-50

DRAWN BY ESJ | PLANS CK'D. BDT

SUBSURFACE EXPLORATION (2 OF 3)

SHEET 24 OF 25

USH 41 (R-05-50)
Brown County, Wisconsin



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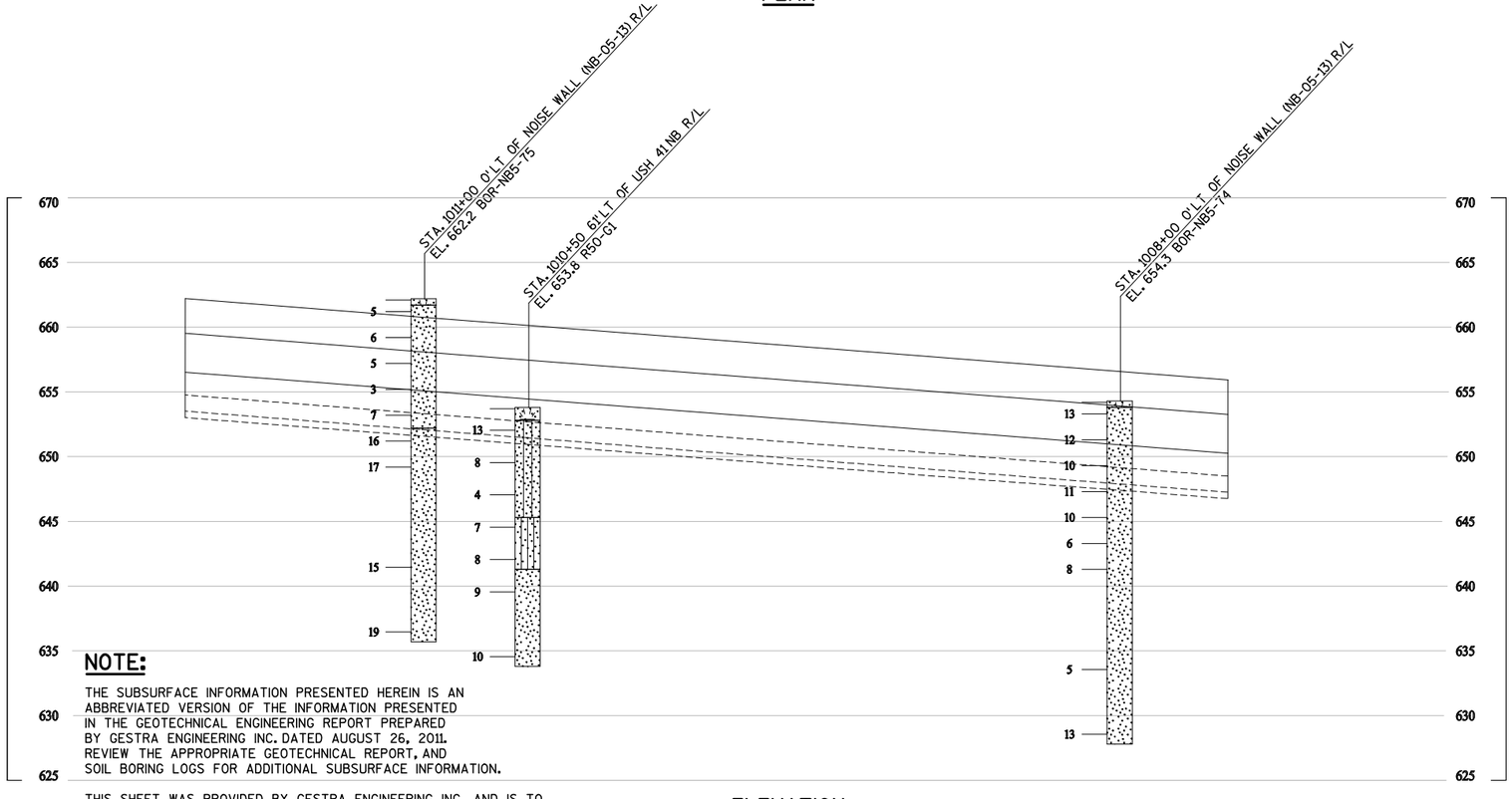

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STRUCTURE R-5-50

DRAWN BY ESJ | PLANS CK'D. BDT

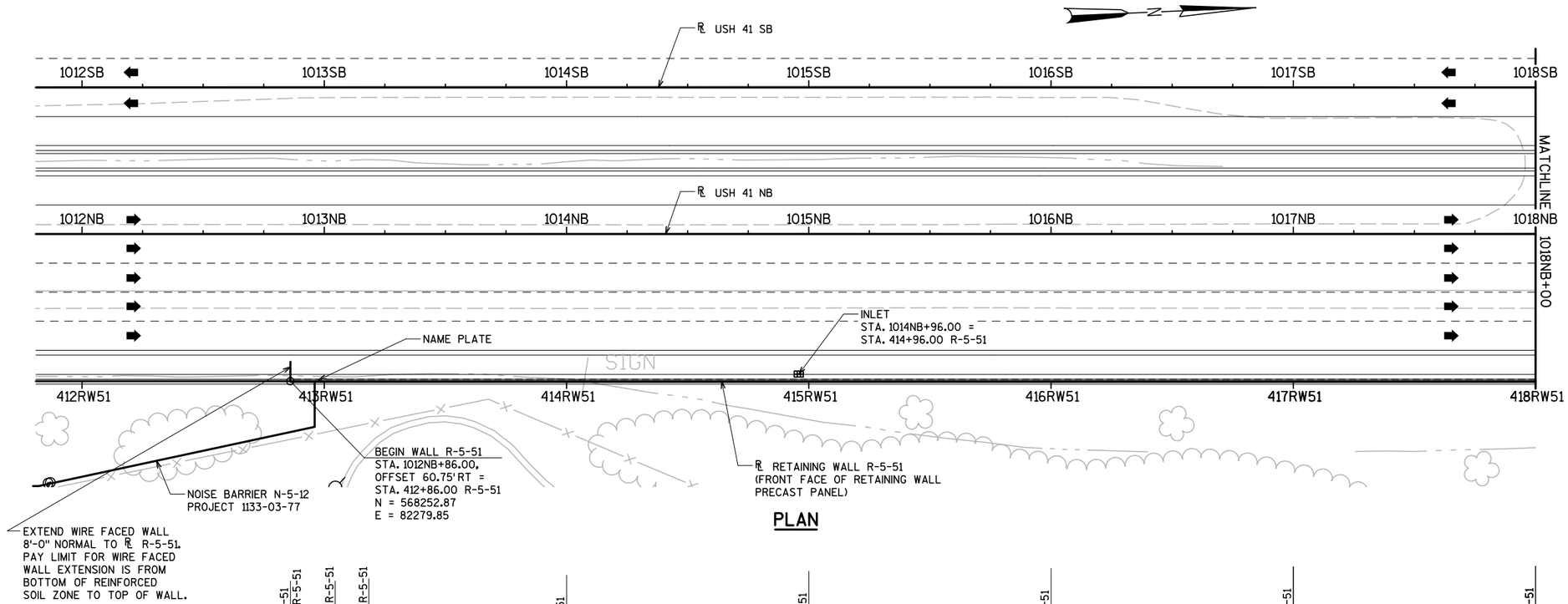
SUBSURFACE EXPLORATION (3 OF 3)

SHEET 25 OF 25

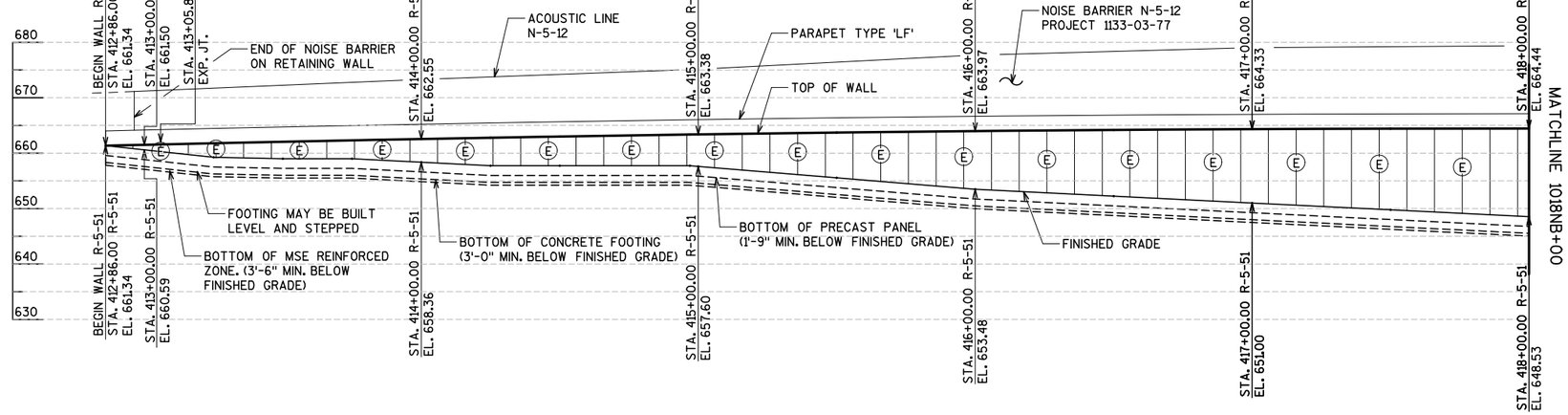
STATE PROJECT NUMBER
1133-03-77

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION (1 OF 2)
2. GENERAL PLAN AND ELEVATION (2 OF 2)
3. WALL SECTION AND DETAILS (1 OF 2)
4. WALL SECTION AND DETAILS (2 OF 2)
5. QUANTITIES AND DESIGN DATA
6. PARAPET, COPING, AND ANCHOR SLAB DETAILS
7. PARAPET TYPE 'LF' MODIFIED
8. ANCHOR SLAB AT INLET (1 OF 2)
9. ANCHOR SLAB AT INLET (2 OF 2)
10. NOISE BARRIER POST ANCHORAGE
11. BILL OF BARS
12. AESTHETIC DETAILS (1 OF 2)
13. AESTHETIC DETAILS (2 OF 2)
14. SUBSURFACE EXPLORATION (1 OF 2)
15. SUBSURFACE EXPLORATION (2 OF 2)



PLAN



ELEVATION

(LOOKING AT FRONT FACE OF WALL)
(DISTANCES AND STATIONS ARE GIVEN ALONG THE FRONT FACE OF WALL PRECAST PANEL. SEE GEOMETRY TABLE ON SHEET 5 FOR ADDITIONAL STATIONS WITH TOP AND BOTTOM ELEVATIONS OF WALL)

Ⓔ - DENOTES EXPANSION JOINT

NOMINAL WIDTH OF PRESTRESSED PRECAST PANEL IS 10 FEET UNLESS SHOWN OTHERWISE. ALTERNATIVE PANEL WIDTH MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER. PANELS LESS THAN 10 FEET WIDE MAY BE USED TO MAINTAIN THE PANEL JOINT LOCATIONS AS SHOWN ON THE ELEVATION VIEW.

BENCH MARK INFORMATION

BM NO.	LOCATION	ELEVATION
BM18	CH SQ ON SE CORNER OF PARAPET WALL OF NB USH 41 OVER 9TH ST	663.47
BM19	DISK ON SE CORNER OF PARAPET WALL OF NB USH 41, STR B5-358	643.03

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
WILLIAM DREHER (608) 266-8489

CONSULTANT:
BABU THENGANAKUNNEL (414) 771-3390

NO.	DATE	REVISION	BY

BLOOM COMPANIES, LLC
Infrastructure Innovation and Ingenuity
10501 W. Research Drive • Milwaukee, WI 53226
Phone: (414) 771-3390 Fax: (414) 771-4490

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 03/21/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-5-51

RETAINING WALL SOUTH OF 9TH ST

COUNTY	CITY
BROWN	GREEN BAY

DESIGN SPEC. AASHTO STD SPEC 2003

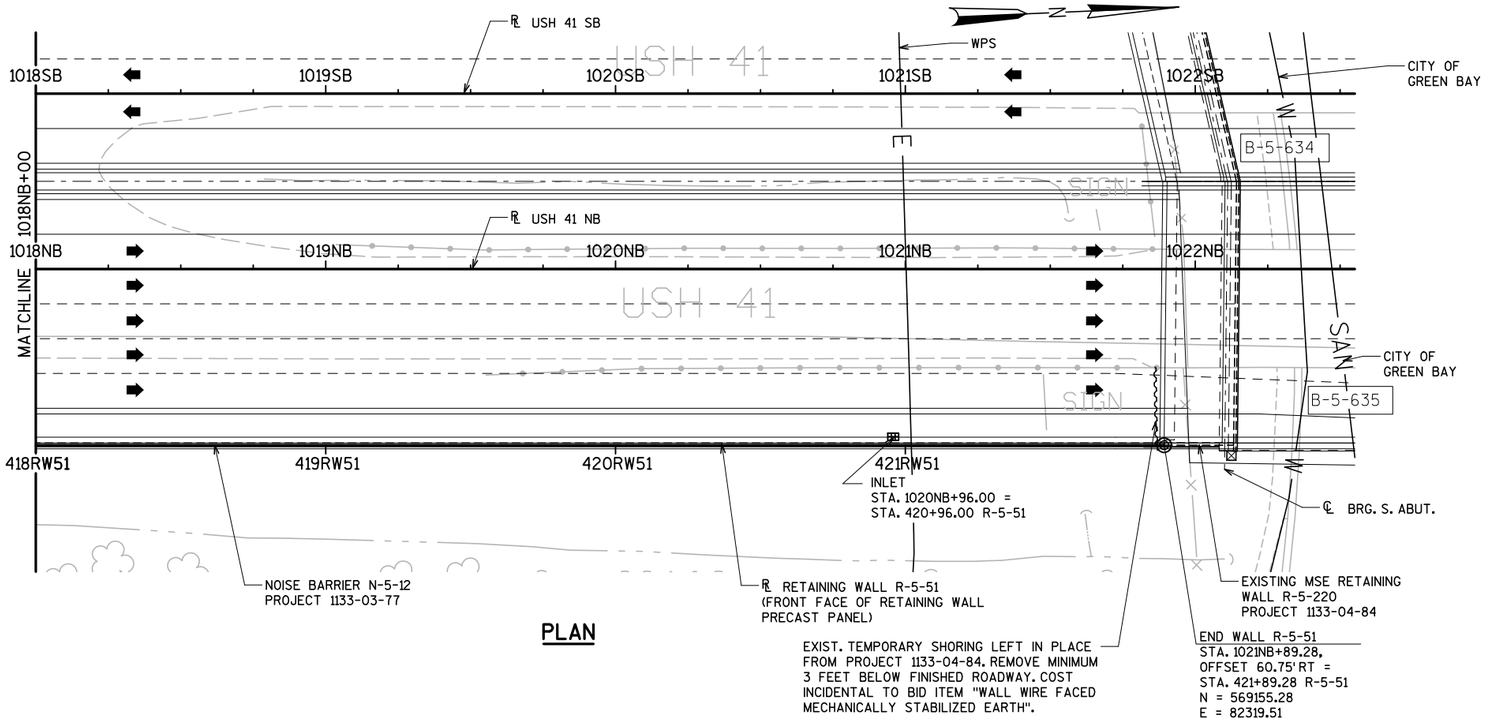
DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
TAL	BDT	TAL	BDT

GENERAL PLAN AND ELEVATION (1 OF 2)

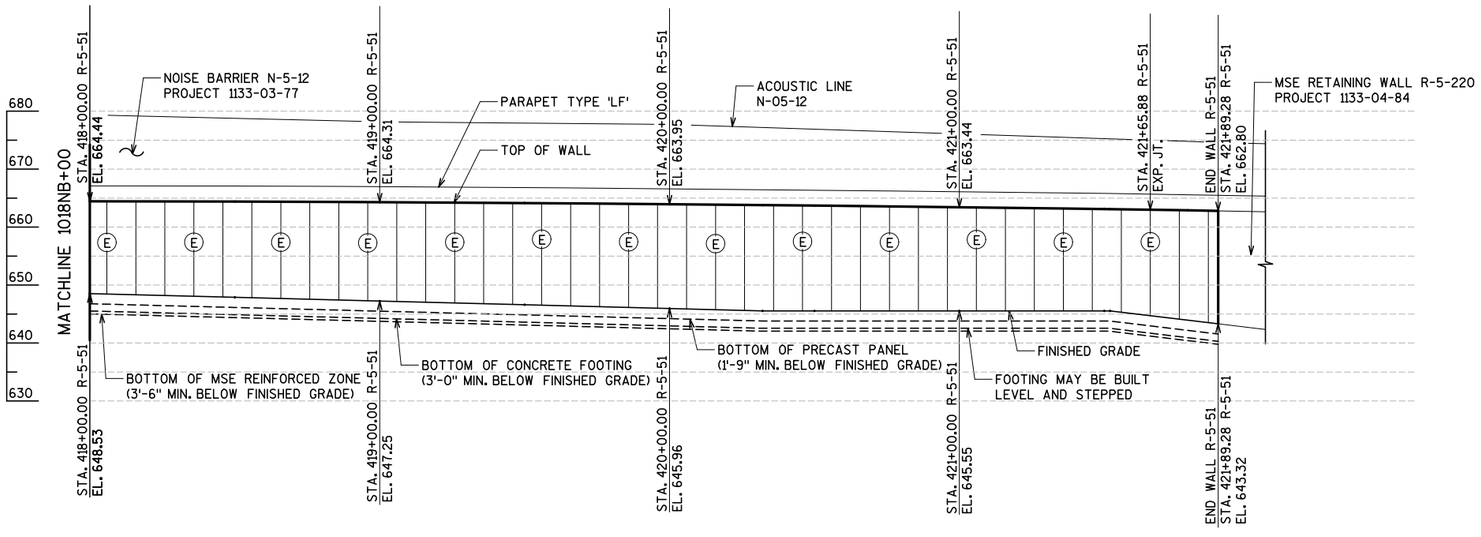
SHEET 1 OF 15

2300

I.D. 1133-03-02 DATE: NOVEMBER 2012



PLAN



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GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BEVEL EXPOSED EDGES OF CONCRETE ¾", UNLESS NOTED OTHERWISE.

ALL STATIONS AND ELEVATIONS ARE IN FEET, ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COORDINATE SYSTEM (WCCS), BROWN COUNTY.

ALL DIMENSIONS ARE ALONG THE FRONT FACE OF PRECAST CONCRETE WALL PANEL, UNLESS OTHERWISE SHOWN.

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP AND INSIDE FACES OF PARAPETS, AND EXPOSED TOP SURFACE OF ANCHOR SLAB.

ALL BAR STEEL REINFORCEMENT, EXCEPT FOR WALL PANEL FOOTING, IS TO BE EPOXY COATED.

BAR STEEL REINFORCEMENT SHALL HAVE 2" CLEAR COVER, UNLESS SHOWN OTHERWISE.

THE FIRST OR FIRST TWO DIGITS OF BAR MARK SIGNIFIES THE BAR SIZE. BAR DIMENSIONS ARE OUT TO OUT OF BAR.

THESE PLANS ARE FOR A WIRE FACED MECHANICALLY STABILIZED EARTH WALL WITH PRECAST PRESTRESSED CONCRETE FACING PANELS.

PROVIDE COMPLETE DESIGN, PLANS, DETAILS, AND SHOP DRAWINGS FOR THE RETAINING WALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH".

DO NOT PERMIT CONCRETE OR FILL TO ACCUMULATE IN THE WALL CAVITY BETWEEN THE WIRE FACED MSE WALL AND PRECAST CONCRETE WALL PANEL.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153 TYPES I, II, OR III, OR M123.

SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY RETAINING WALLS."

THE COST OF FURNISHING AND PLACING THE FOOTING UNDER THE MSE PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

OPTIONAL TRAVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE FOOTING WITH A MINIMUM SPACING OF TWO PANEL LENGTHS. FOOTING JOINTS SHALL BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THROUGH FOOTING JOINTS.

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE ANCHOR SLAB AND PARAPETS IS PAID FOR UNDER THE ITEM "CONCRETE MASONRY RETAINING WALLS".

THE PLAN QUANTITY FOR THE ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL" IS BASED ON A WALL HEIGHT MEASURED FROM THE FINISHED GRADE AT THE FRONT FACE OF PRECAST CONCRETE WALL PANEL TO THE TOP OF WALL AS SHOWN ON THE PLANS.

PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

DESIGN THE RETAINING WALL FOR HORIZONTAL FINISHED GRADE BEHIND THE WALL AND A LIVE LOAD SURCHARGE OF 240 PSF.

DESIGN THE MSE WALL FOR THE DEAD LOAD OF NOISE BARRIER AND THE WIND LOAD ACTING ON THE NOISE BARRIER.

A PORTION OF NOISE BARRIER N-5-12 WILL BE MOUNTED ON STRUCTURE R-5-51. THE PLAN DETAILS FOR STRUCTURE R-05-51 SHOW AN ASSUMED POST SPACING AND MOUNTING DETAILS FOR NOISE BARRIER. COORDINATE THE ACTUAL MOUNTING DETAILS, NOISE BARRIER POST SPACING, AND LOCATION OF EMBEDDED ANCHORAGE ASSEMBLIES WITH THE MANUFACTURER/SUPPLIER OF THE NOISE BARRIER AND THE APPROVED NOISE BARRIER SHOP DRAWINGS.

ERECTION OF NOISE BARRIER IS LIMITED TO 2/3 THE HEIGHT OF THE NOISE WALL ACOUSTICAL LINE SHOWN ON THE PLANS, PRIOR TO PLACEMENT OF EARTH FILL OR COMPLETE PAVEMENT STRUCTURE OVER THE TOP OF THE ANCHOR SLAB.

DESIGN THE MSE WALL FOR A WIND SUCTION LOAD OF 20 PSF ON THE PRECAST PANEL.

BASED ON CONTRACTOR MEANS AND METHODS, ANY GAP BETWEEN THE PRESTRESSED PRECAST CONCRETE WALL PANEL AND THE FOOTING FOR THE WALL PANEL, THAT EXPOSES THE MSE WALL SHALL BE FILLED WIT MASONRY MATERIAL OR AS APPROVED BY THE ENGINEER. ALL LABOR, AND MATERIALS NECESSARY TO COMPLETE THIS WORK IS INCLUDED IN BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

AT THE BEGINNING OF WALL, SEAL OPENING BETWEEN FACE OF WIRE FACED WALL AND PRECAST CONCRETE WALL PANEL WITH 1'-6" WIDE COLUMN OF CONCRETE. COST INCIDENTAL TO BID ITEM " CONCRETE MASONRY RETAINING WALLS".

STATE PROJECT NUMBER
1133-03-77

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-51

DRAWN BY TAL | PLANS CK'D. BDT

GENERAL PLAN AND ELEVATION (2 OF 2)

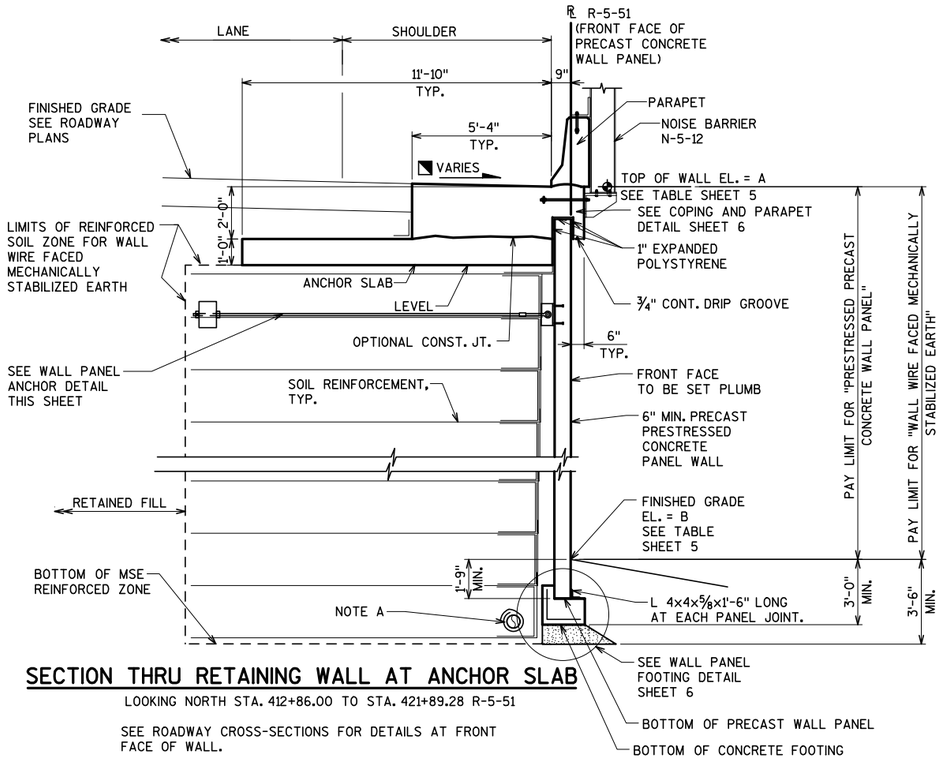
SHEET 2 OF 15

2301

8

8

STATE PROJECT NUMBER
1133-03-77



SECTION THRU RETAINING WALL AT ANCHOR SLAB

LOOKING NORTH STA. 412+86.00 TO STA. 421+89.28 R-5-51

SEE ROADWAY CROSS-SECTIONS FOR DETAILS AT FRONT FACE OF WALL.

SEE SHEETS 12 AND 13 FOR ARCHITECTURAL SURFACE TREATMENT, AND STAINING ON THE FRONT FACE OF PRECAST PANEL.

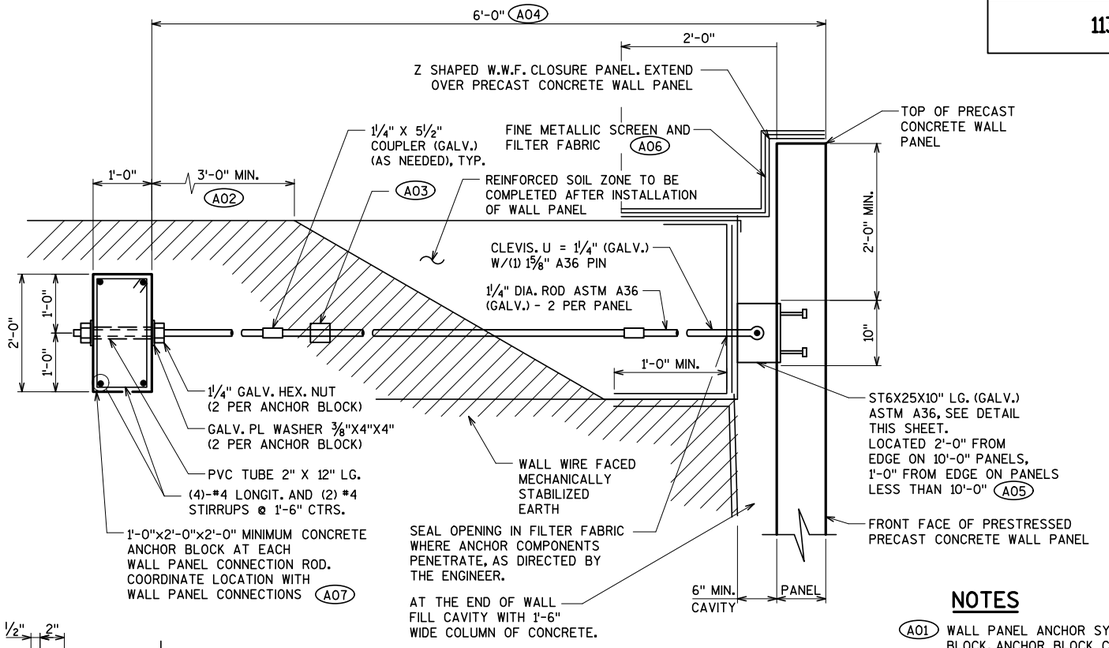
◥ SEE SUPERELEVATION DATA THIS SHEET

NOTE A: PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. JOIN WITH PIPES EXTENDING FROM EXISTING WALL R-5-220.

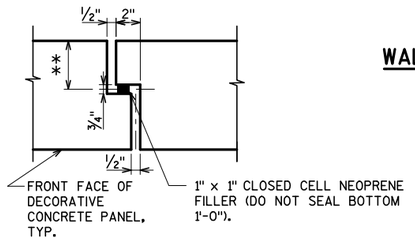
SUPERELEVATION DATA ◥

STATION	SUPERELEVATION
1012NB+00	-4.00%
1020NB+50	-4.00%
1021NB+50	-2.00%
1021NB+79	-2.00%

◥ INTERPOLATE VALUES LINEARLY IN BETWEEN STATIONS



WALL PANEL ANCHOR DETAIL (A01)



TYPICAL PANEL JOINT DETAIL

** 4" FOR 9½" PANEL
3" FOR 7½" PANEL

NOTES

(A01) WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1¼" DIA. ANCHOR ROD, CLEVIS, AND OTHER PANEL CONNECTION COMPONENTS. DESIGN, DETAILING, AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL". INSTALLATION OF THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH".

(A02) DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MIN. 3'-0" COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION. ROD MIN. 2'-0" BELOW FINISHED GRADE.

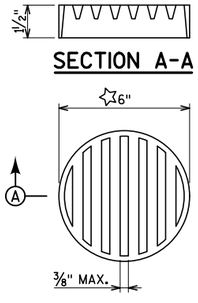
(A03) OPTIONAL MULTI DIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION (CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼" DIA. BAR)

(A04) LENGTH MAY BE INCREASED TO AVOID OBSTRUCTIONS.

(A05) AN OPTIONAL WELDED DETAIL OR TYPE "S" ANCHORED PLATE MAY BE SUBMITTED FOR CONSIDERATION BY THE ENGINEER. (RESTORE ZINC COATING AROUND ANY WELDED AREAS)

(A06) ALTERNATE METHODS OF SEALING OFF THE 6" VOID IN FRONT OF THE MSE WALL MAY BE SUBMITTED TO WISDOT FOR CONSIDERATION

(A07) AN ALTERNATIVE DEADMAN AND PANEL CONNECTION SYSTEM MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER.

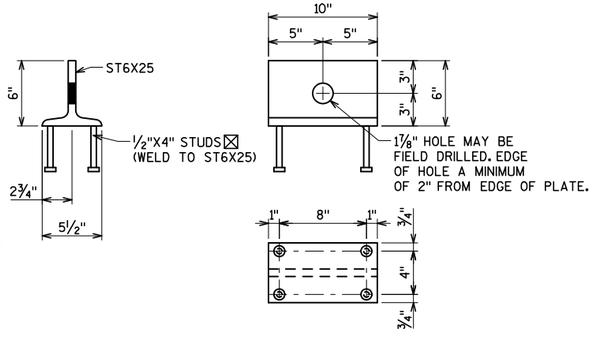


RODENT SHIELD

☆ DIMENSIONS ARE APPROXIMATE, THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

ORIENT SHEILD SO SLOTS ARE VERTICAL.

COST OF RODENT SHEILD AND ALL FITTINGS TO BE INCLUDED IN THE BID ITEM " PIPE UNDERDRAIN WRAPPED 6-INCH."

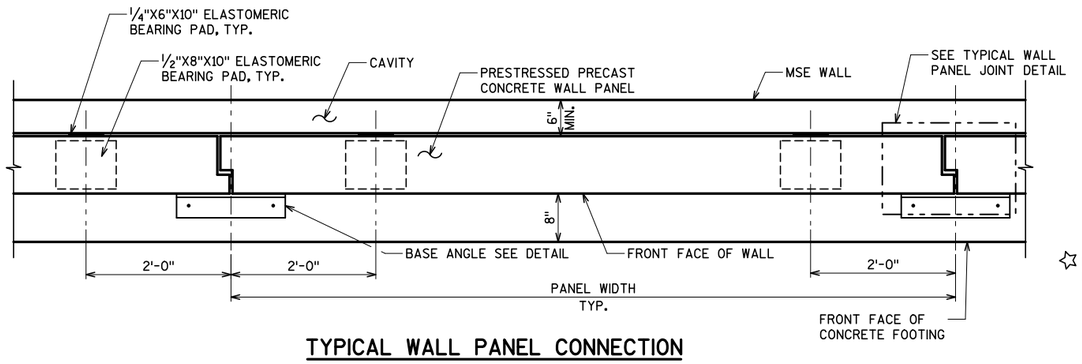


PANEL CONNECTION DETAILS

(2 PER PANEL)

☒ AS AN ALTERNATIVE, ½" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.

ST6X25 MAY BE WELDED TO ¾" THICK PLATE WITH (4)-½"X4" STUDS ANCHORED IN PRECAST CONCRETE PANEL. RESTORE ZINC COATING AROUND ANY WELDED AREAS. SUBMIT DETAILS FOR APPROVAL BY THE ENGINEER.



TYPICAL WALL PANEL CONNECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-51

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WALL SECTION AND DETAILS (1 OF 2)

SHEET 3 OF 15

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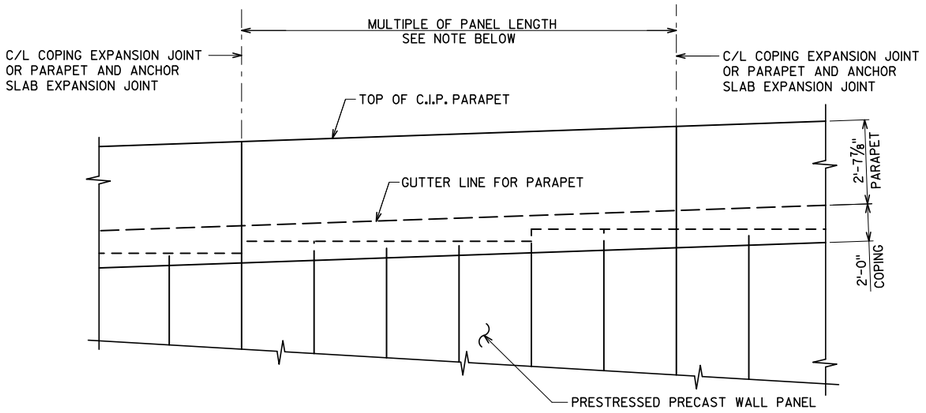
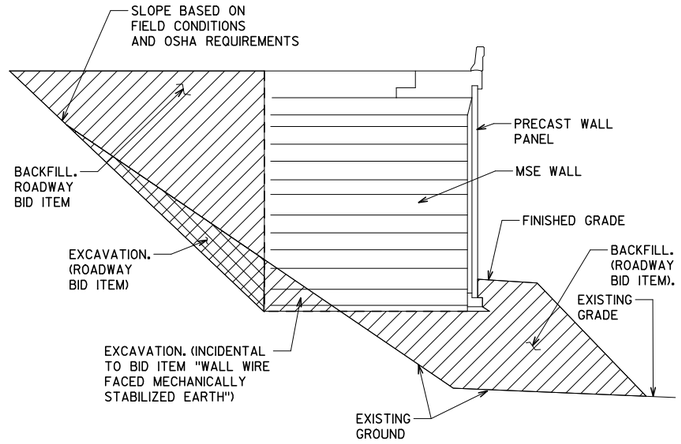


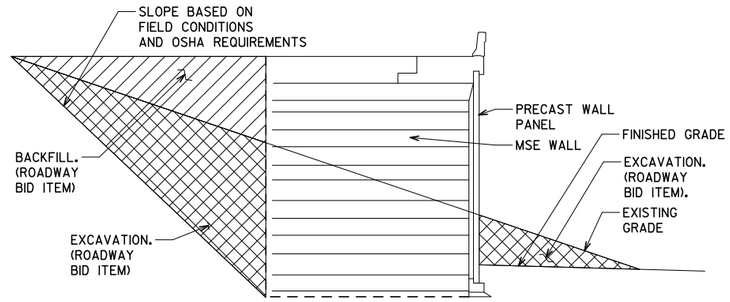
NOTE:
ALL JOINTS SHALL COINCIDE WITH PANEL JOINT ON FRONT FACE.

C.I.P. PARAPET OR COPING PARTIAL ELEVATION



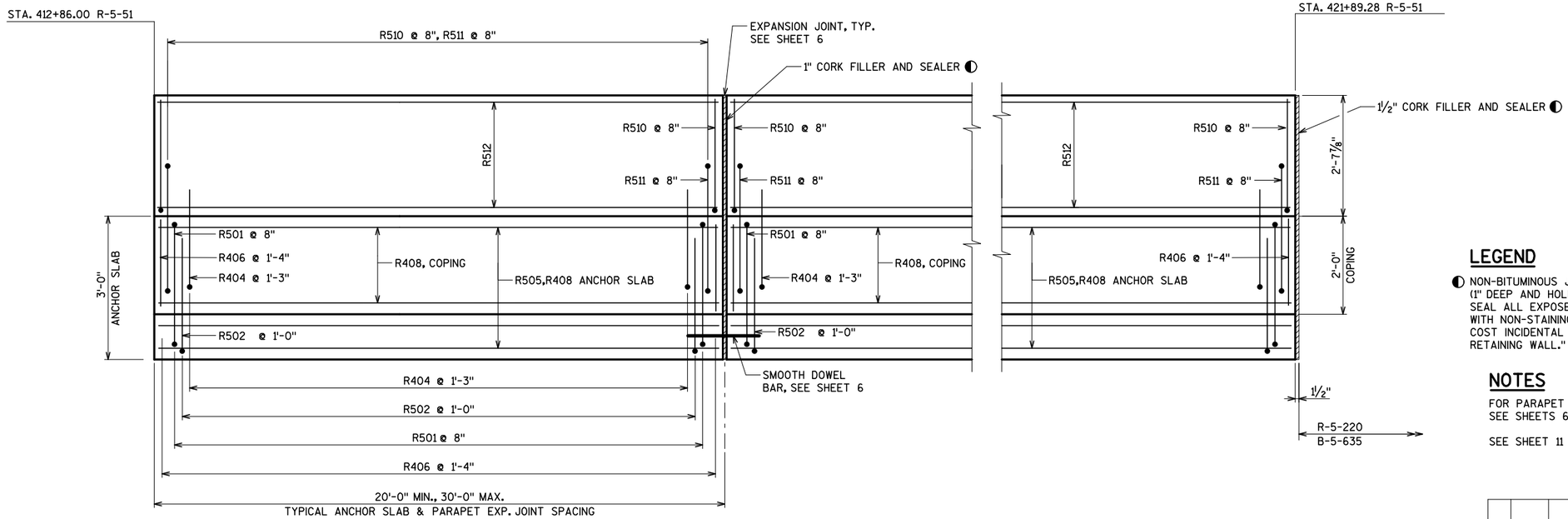
TYPICAL LIMITS OF EXCAVATION AND BACKFILL

(FINISHED GRADE IN FRONT OF WALL HIGHER THAN EXISTING GRADE)



TYPICAL LIMITS OF EXCAVATION AND BACKFILL

(FINISHED GRADE IN FRONT OF WALL LOWER THAN EXISTING GRADE)



ELEVATION OF COPING & PARAPET

(LOOKING AT FRONT FACE OF WALL)

LEGEND

◐ NON-BITUMINOUS JOINT SEALER,
(1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE)
SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER
WITH NON-STAINING COLOR TO MATCH CONCRETE STAIN.
COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY
RETAINING WALL."

NOTES

FOR PARAPET AND ANCHOR SLAB DETAILS
SEE SHEETS 6, AND 7.

SEE SHEET 11 FOR BILL OF BARS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-51

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WALL SECTION AND DETAILS (2 OF 2)

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GEOMETRY TABLE ◥

ROADWAY STATION	ROADWAY REF. LINE	OFFSET TO ℄ WALL	WALL STATION	TOP OF WALL EL. = A	FINISHED GRADE EL. = B
1012+86.00	USH 41 NB	60.75' RT	412+86.00	661.34	661.34
1013+00.00	USH 41 NB	60.75' RT	413+00.00	661.50	660.59
1013+25.00	USH 41 NB	60.75' RT	413+25.00	661.78	659.25
1013+50.00	USH 41 NB	60.75' RT	413+50.00	662.04	659.00
1013+75.00	USH 41 NB	60.75' RT	413+75.00	662.30	659.00
1014+00.00	USH 41 NB	60.75' RT	414+00.00	662.55	658.36
1014+25.00	USH 41 NB	60.75' RT	414+25.00	662.78	657.72
1014+50.00	USH 41 NB	60.75' RT	414+50.00	662.99	657.72
1014+97.00	USH 41 NB	60.75' RT	414+97.00	663.36	657.72
1015+00.00	USH 41 NB	60.75' RT	415+00.00	663.38	657.60
1015+50.00	USH 41 NB	60.75' RT	415+50.00	663.71	655.54
1016+00.00	USH 41 NB	60.75' RT	416+00.00	663.97	653.48
1016+50.00	USH 41 NB	60.75' RT	416+50.00	664.18	652.24
1017+00.00	USH 41 NB	60.75' RT	417+00.00	664.33	651.00
1017+50.00	USH 41 NB	60.75' RT	417+50.00	664.41	649.77
1018+00.00	USH 41 NB	60.75' RT	418+00.00	664.44	648.53
1018+50.00	USH 41 NB	60.75' RT	418+50.00	664.41	647.89
1019+00.00	USH 41 NB	60.75' RT	419+00.00	664.31	647.25
1019+50.00	USH 41 NB	60.75' RT	419+50.00	664.16	646.61
1020+00.00	USH 41 NB	60.75' RT	420+00.00	663.95	645.96
1020+32.10	USH 41 NB	60.75' RT	420+32.10	663.78	645.55
1020+50.00	USH 41 NB	60.75' RT	420+50.00	663.68	645.55
1021+00.00	USH 41 NB	60.75' RT	421+00.00	663.44	645.55
1021+50.00	USH 41 NB	60.75' RT	421+50.00	663.15	645.55
1021+52.00	USH 41 NB	60.75' RT	421+52.00	663.13	645.55
1021+78.72	USH 41 NB	60.75' RT	421+78.72	662.90	643.95
1021+89.28	USH 41 NB	60.75' RT	421+89.28	662.80	643.32

◥ LINEARLY INTERPOLATE WALL ELEVATIONS BETWEEN STATIONS.

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	900
502.6105	MASONRY ANCHORS TYPE S 5/8- INCH	EACH	6
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	928
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	98200
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	63
532.0700.S	WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	11140
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	930
SPV.0060.701	ANCHOR ASSEMBLIES NOISE BARRIERS STRUCTURES	EACH	90
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	6960
SPV.0165.501	STAINING CONCRETE	SF	7900
SPV.0165.502	STAINING CONCRETE BRICK	SF	6960
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	11110
	NON- BID ITEMS		
	NAME PLATE		
	PREFORMED JOINT FILLER	SIZE	¾",1"
	EXPANDED POLYSTYRENE	SIZE	1"
	CORK FILLER	SIZE	1", 1½"

ALL ITEMS ARE CATEGORY 4040

RECOMMENDED SOIL PARAMETERS

SOIL DESCRIPTION	BOTTOM ELEVATION (FT)	SOIL UNIT WEIGHT (PCF)	UNDRAINED		DRAINED	
			COHESION (PSF)	FRICTION ANGLE (DEGREES)	COHESION (PSF)	FRICTION ANGLE (DEGREES)
STA 412+86 TO STA 418+99						
TOP SOIL	643.3	125	500	0	50	20
MEDIUM DENSE SAND/SILTY SAND	VARIED*	120	0	30	0	30
STA 419+00 TO STA 421+89						
TOP SOIL	641.1	125	500	0	50	20
STIFF LEAN/SILTY CLAY (POSSIBLE FILL)	635.6	130	2000	0	50	28
LOOSE SILTY SAND	618.1	130	0	26	0	26
HARD LEAN CLAY	VARIED*	130	4000	0	200	32

* OBSERVED TO BORING TERMINATION DEPTHS

◭ SAFETY FACTORS FOR MSE WALLS

STRUCTURE	WALL STATION	SLIDING (FS ≥ 1.5)	OVERTURN (FS ≥ 2.0)	GLOBAL STABILITY (FS ≥ 1.3)*	BEARING CAPACITY (FS ≥ 2.5)	◐ RATIO OF REINFORCEMENT LENGTH TO WALL HEIGHT
R-05-51	412+86 TO 415+49	1.5	2.6	2.1	6.3	N/A**
	415+50 TO 418+99	1.7	2.8	1.4	5.2	0.7
	419+00 TO 421+89	1.6	3.6	1.4	2.6	0.8

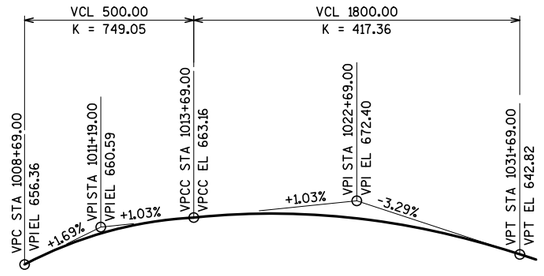
* ASSUMES NOISE BARRIER AT TOP OF MSE WALL IS SUPPORTED ON ANCHOR SLAB/PARAPET

** PER MINIMUM REINFORCEMENT LENGTH CRITERIA (8 FT. MIN.)

◐ WALL HEIGHT= EXPOSED HEIGHT PLUS 3 FEET (BOTTOM OF CONCRETE FOOTING TO TOP OF WALL)

◭ ALL SAFETY FACTORS ARE CALCULATED FOR THE WALL HEIGHTS AND REINFORCEMENT LENGTHS SHOWN IN THE TABLE. SEE GEOTECHNICAL REPORT FOR FURTHER INFORMATION. FINAL DESIGN FOR INTERNAL AND EXTERNAL STABILITY IS THE RESPONSIBILITY OF THE WALL DESIGNER, AND MAY BE DIFFERENT FROM THE VALUES IN TABLE.

MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS MUST BE 70% THE TOTAL WALL HEIGHT (EXPOSED HEIGHT PLUS EMBEDMENT DEPTH) OR 8.0 FEET, WHICHEVER IS GREATER. SOIL REINFORCEMENT MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS.



PROFILE GRADE LINE AT ℄ USH 41 NB

DESIGN DATA

MATERIAL PROPERTIES:

CONCRETE MASONRY	f'c = 3,500 P.S.I.
PRECAST CONCRETE WALL PANEL	f'c = 5,000 P.S.I.
BAR STEEL REINFORCEMENT	Fy = 60,000 P.S.I.
STRUCTURAL STEEL CARBON (ASTM A709 GRADE 36)	Fy = 36,000 P.S.I.

LIVE LOAD:

LIVE LOAD SURCHARGE:	240 P.S.F. (TRAFFIC)

NOISE BARRIER

NOISE BARRIER MAXIMUM HEIGHT ABOVE BASE OF TRAFFIC BARRIER	15.0 FT
NOISE BARRIER DEAD LOAD	50 PSF
WIND PRESSURE ON NOISE BARRIER (NORMAL TO BARRIER, EITHER DIRECTION)	42 PSF
MAX. POST SPACING	10 FT

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DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-51

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QUANTITIES AND DESIGN DATA

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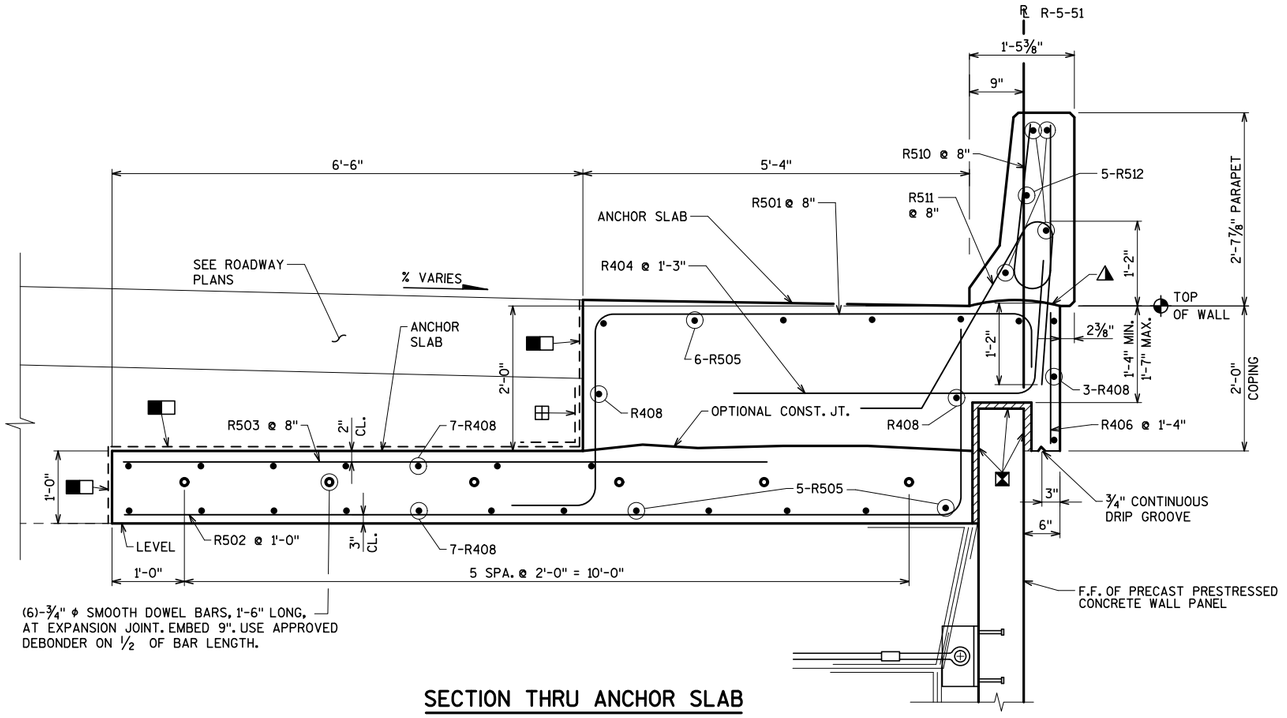


SECTION THRU ANCHOR SLAB

(STA. 412+86.00 TO STA. 421+89.28 R-5-51)

* SEE SUPERELEVATION DATA ON SHEET 3

LEGEND

- CONSTRUCTION JOINT - STRIKE OFF AS SHOWN
- 1" EXPANDED POLYSTYRENE
- NON-BITUMINOUS JOINT SEALER, (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE) SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING COLOR TO MATCH CONCRETE STAIN
- 18" RUBBERIZED MEMBRANE WATERPROOFING.
- 18" CONTINUOUS RUBBERIZED MEMBRANE WATERPROOFING, USED WITH OPTIONAL CONSTRUCTION JOINT. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY RETAINING WALL."
- ☆ EXPANSION JOINTS TO BE SPACED AT A MINIMUM OF 20' AND A MAXIMUM OF 30'. LOCATE EXPANSION JOINTS OVER WALL JOINTS, DO NOT RUN BAR STEEL THRU JOINT, EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.
- (A01) MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO TOP OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE PRECAST PANELS.

NOTES

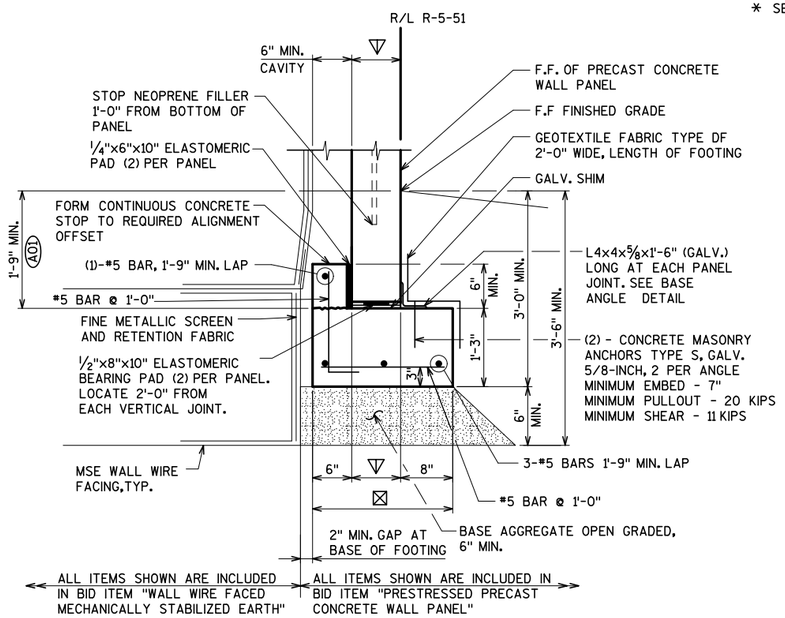
FOR PARAPET AND COPING ELEVATION AND DETAILS SEE SHEET 4.

SEE SHEET 7 FOR PARAPET DETAILS.

SEE SHEET 11 FOR BILL OF BARS.

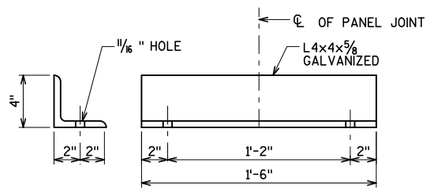
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPET AND ANCHOR SLAB MAY BE USED. RUN BAR REINFORCEMENT THRU THE OPTIONAL JOINT. LAP #4 LONGITUDINAL BARS A MINIMUM OF 1'-9" AND LAP #5 BARS A MINIMUM OF 2'-3".

F.F. - FRONT FACE
B.F. - BACK FACE



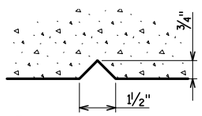
WALL PANEL FOOTING DETAIL

▽ 7½" OR 9½" (DESIGNED BY THE WALL MANUFACTURER)
☒ FOOTING DIMENSION EQUALS PANEL THICKNESS PLUS 1'-2"

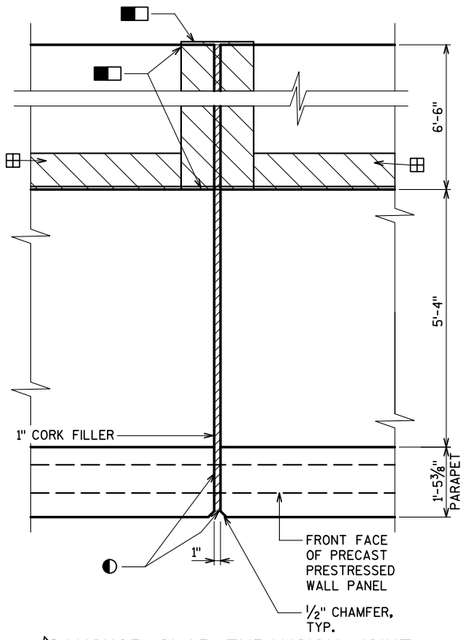


BASE ANGLE DETAIL

(1) AT EACH PANEL JOINT INCLUDED IN BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

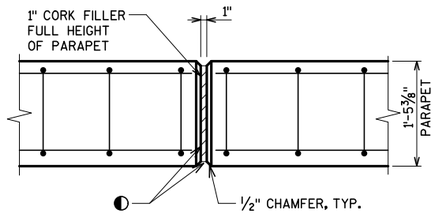


¾" DRIP GROOVE



☆ ANCHOR SLAB EXPANSION JOINT

(STA. 412+86.00 TO STA. 421+89.28 R-5-51)



☆ PARAPET EXPANSION JOINT

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STRUCTURES DESIGN SECTION

STRUCTURE R-5-51

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PARAPET, COPING, AND ANCHOR SLAB DETAILS

SHEET 6 OF 15

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FILE NAME: F:\BM4-1006 USH 41 bridges\1133037\Structs\R-05-51\cds\Final\R05051_080106_Parapet-Slab-Coping-Det.dgn PEN TABLE: V8_STRUCTURAL_REV.TBL DATE: 11/19/2012 3:44:38 PM Plotted by: tlegear

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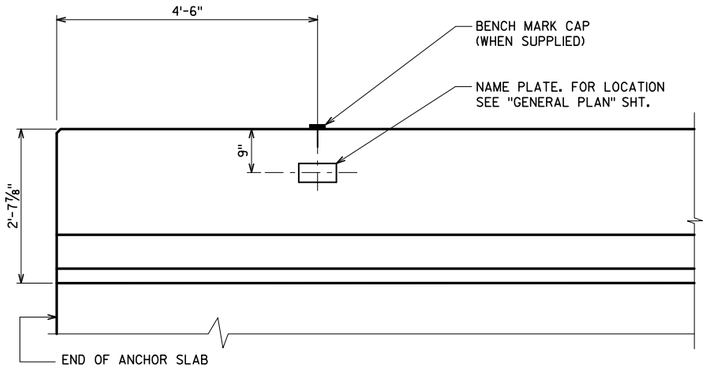
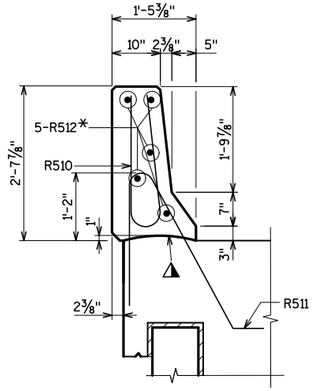


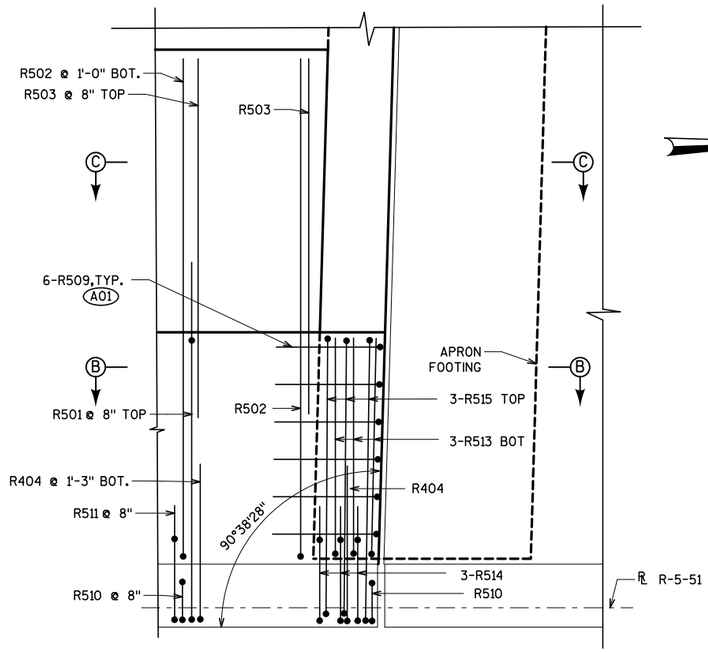
INSIDE ELEVATION



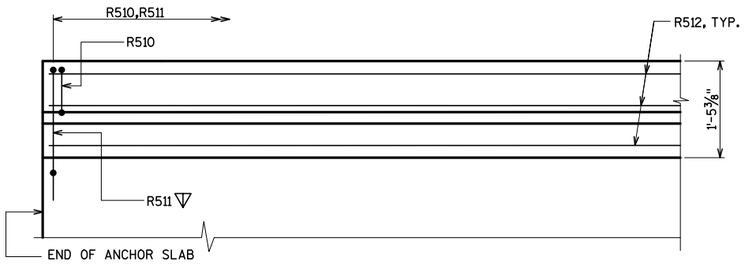
SECTION A-A

(STA. 412+86.00 TO STA. 421+89.28 R-5-51)

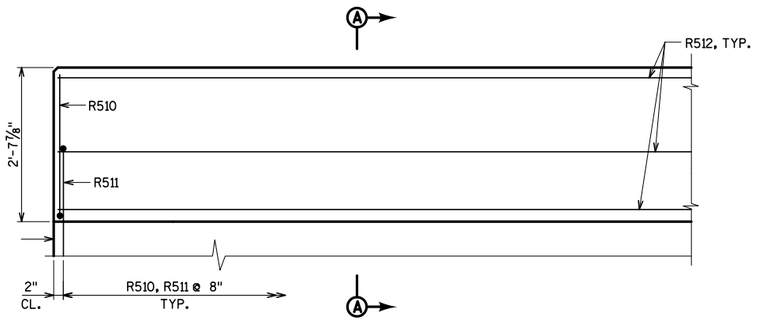
* PLACE TOP TWO LONGITUDINAL BARS OUTSIDE THE VERTICAL BARS TO AVOID CONFLICT WITH NOISE BARRIER ANCHORAGE. PLACE BARS WITH 2" CLEAR FROM TOP, BACK, AND FRONT FACES OF THE PARAPET.



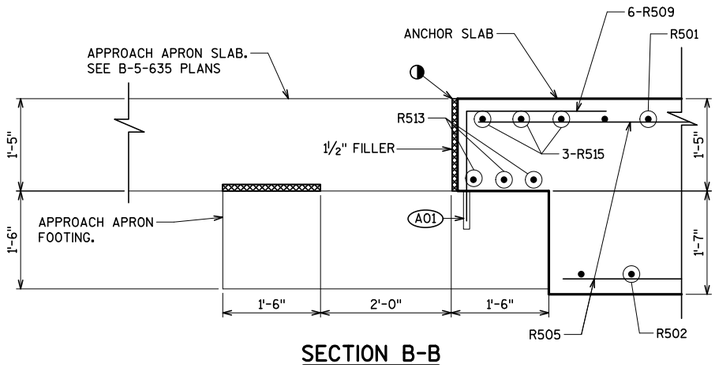
PARTIAL PLAN AT NORTH END OF ANCHOR SLAB



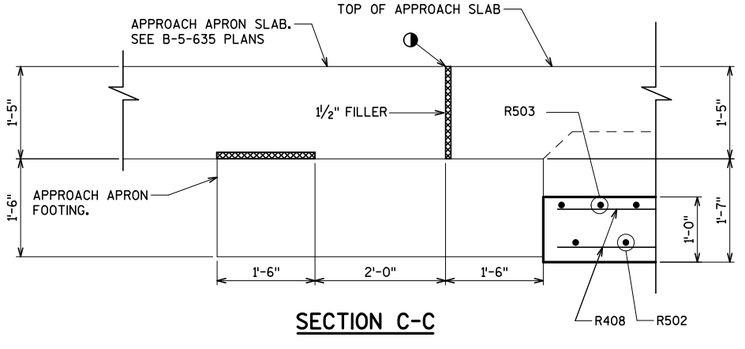
PLAN



OUTSIDE ELEVATION



SECTION B-B



SECTION C-C

NOTE

SEE SHEET 4 FOR DETAILS OF REMAINING LENGTH OF PARAPET.

SEE SHEET 11 FOR BILL OF BARS.

LEGEND

- ◭ CONSTR. JOINT - STRIKE OFF AS SHOWN
- ▽ R511 BAR TO BE TIED TO ANCHOR SLAB STEEL BEFORE ANCHOR SLAB IS POURED.
- ◐ SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALETR (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCERETE)
- (A01) CONCRETE MASONRY ANCHORS, TYPE S NO.5 BAR, HAVING A MINIMUM PULLOUT CAPACITY OF 20 KIPS. EMBED A MINIMUM OF 7" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-51

DRAWN BY	TAL	PLANS CK'D.	BDT

PARAPET TYPE 'LF' MODIFIED

SHEET 7 OF 15

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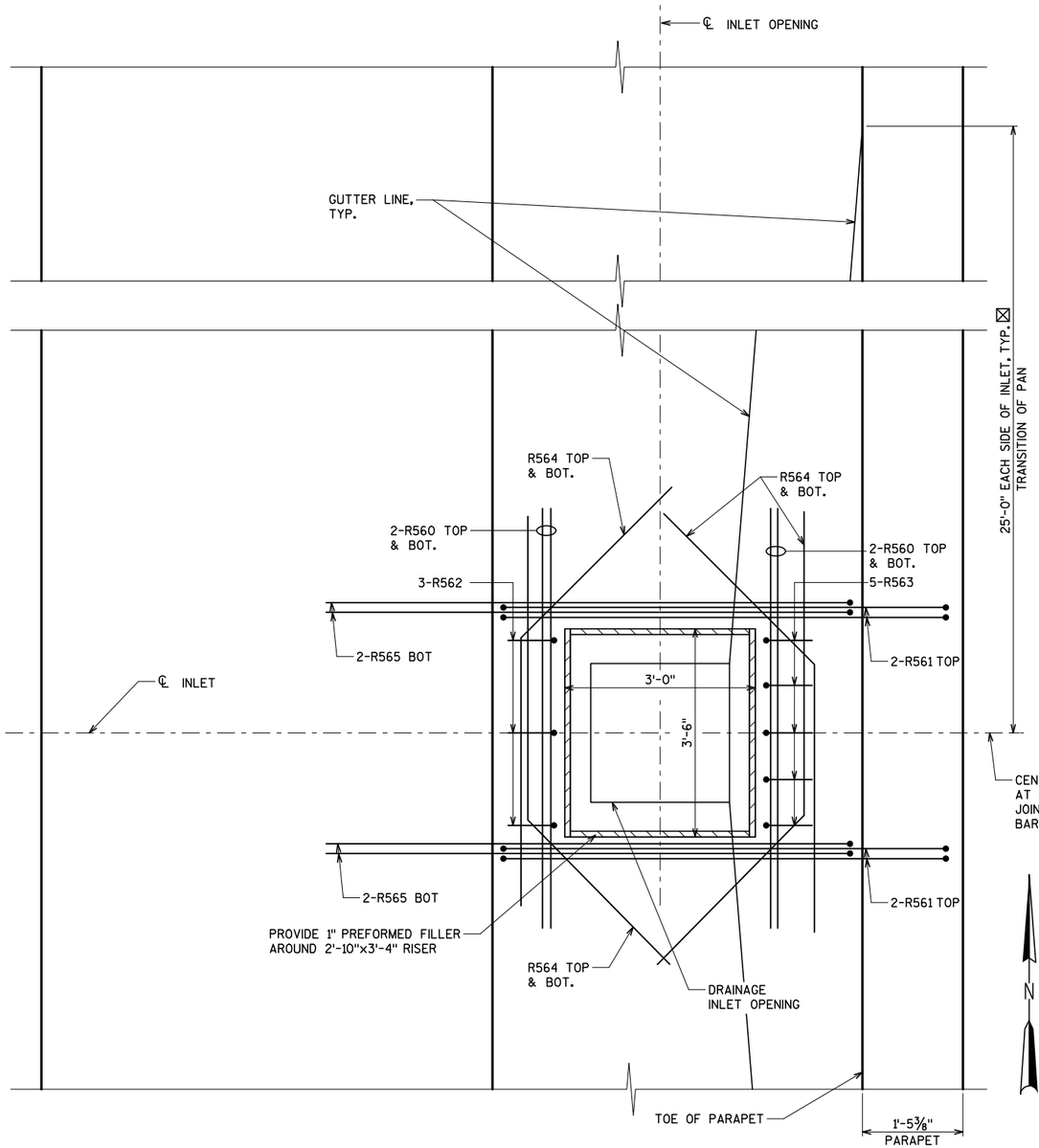
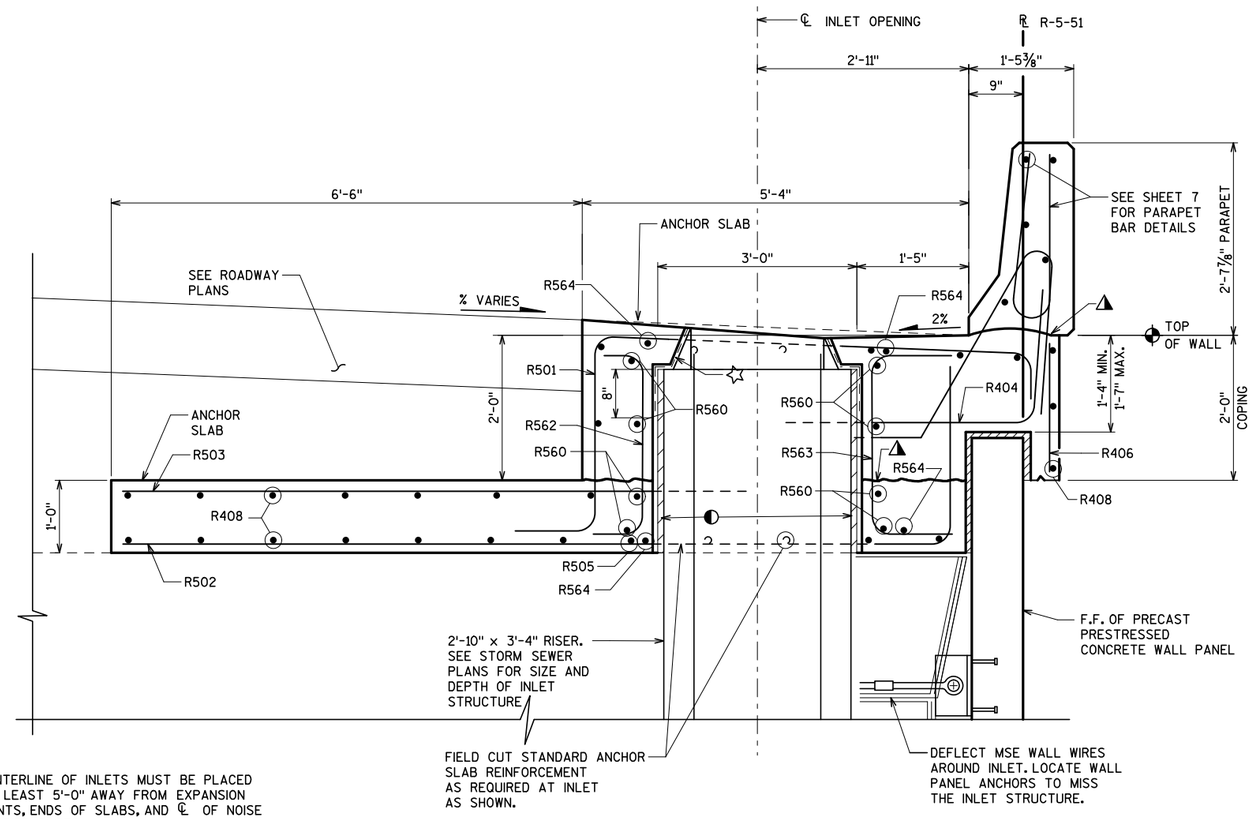


CENTERLINE OF INLETS MUST BE PLACED AT LEAST 5'-0" AWAY FROM EXPANSION JOINTS, ENDS OF SLABS, AND ℄ OF NOISE BARRIER POSTS.



SECTION THRU ANCHOR SLAB AT INLET

SEE STORM SEWER PLANS FOR ROADWAY STATIONING AND DIMENSIONS OF INLET STRUCTURE

CUT, BEND, OR DISPLACE STANDARD REINFORCEMENT 2" CLEAR OF INLET STRUCTURE AS REQUIRED.

ANCHOR SLAB DETAIL AT INLET STRUCTURE

ALL REBARS SHOWN IN THIS DETAIL ARE IN ADDITION TO THE STANDARD REBARS IN ANCHOR SLAB.

FIELD CUT STANDARD ANCHOR SLAB BARS AT THE INLET AS REQUIRED.

INLET LOCATION

RDWY STATION	WALL STATION
1020NB+96.00	420+96.00

LEGEND

☆ 2 LAYERS OF 4 MIL POLYETHYLENE SHEETS. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY RETAINING WALLS."

⚠ CONSTRUCTION JOINT-STRIKE OFF AS SHOWN

◐ 1" PREFORMED FILLER AROUND THE INLET.

☒ TRANSITION PAN OVER 25'-0" ON EACH SIDE OF THE INLET

SEE SHEET 6 FOR STANDARD REBARS IN ANCHOR SLAB, AND RUBBERIZED MEMBRANE WATERPROOFING DETAILS.

SEE SHEET 11 FOR BILL OF BARS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-51

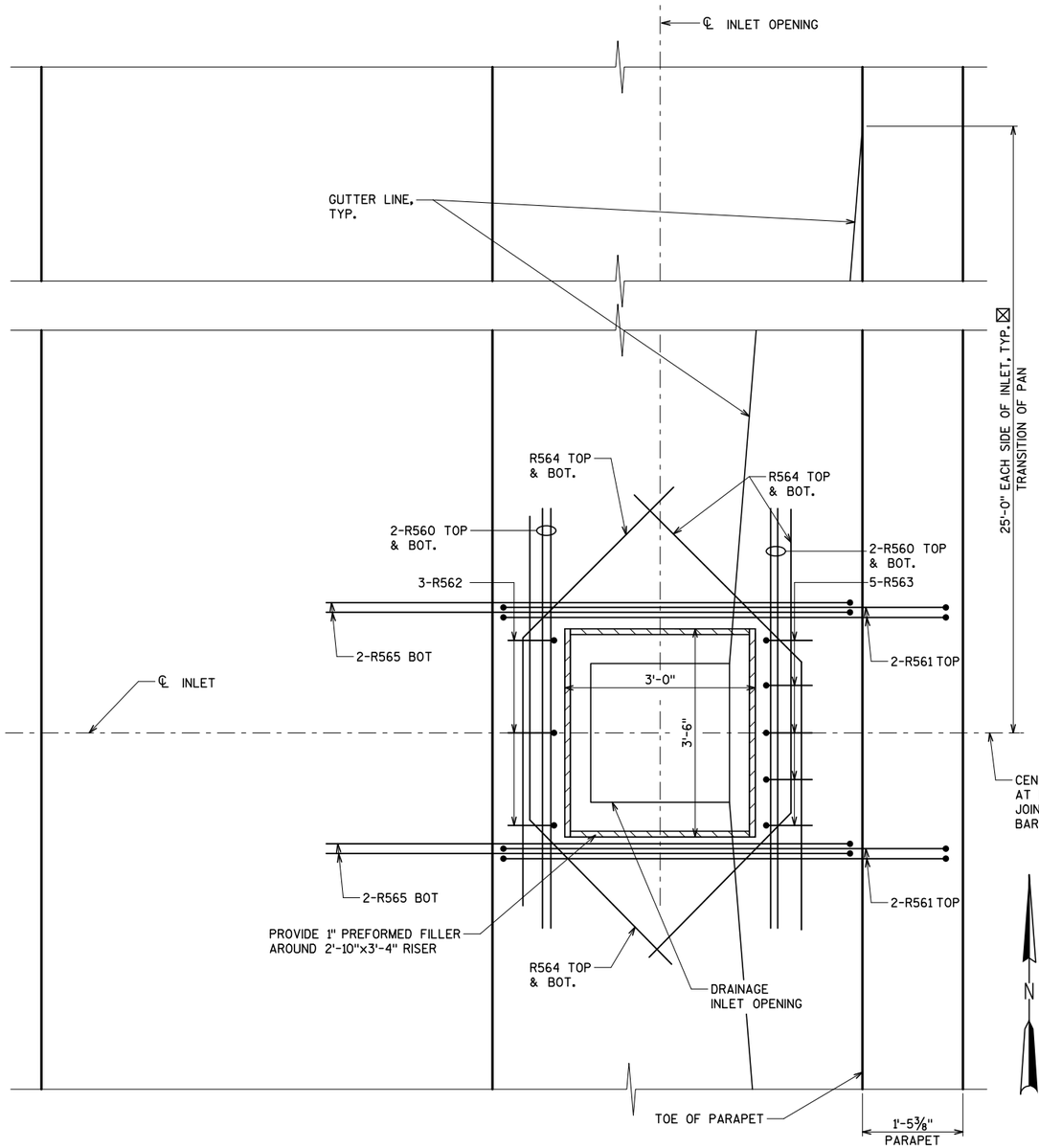
DRAWN BY TAL | PLANS CK'D. BDT

ANCHOR SLAB AT INLET (1 OF 2)

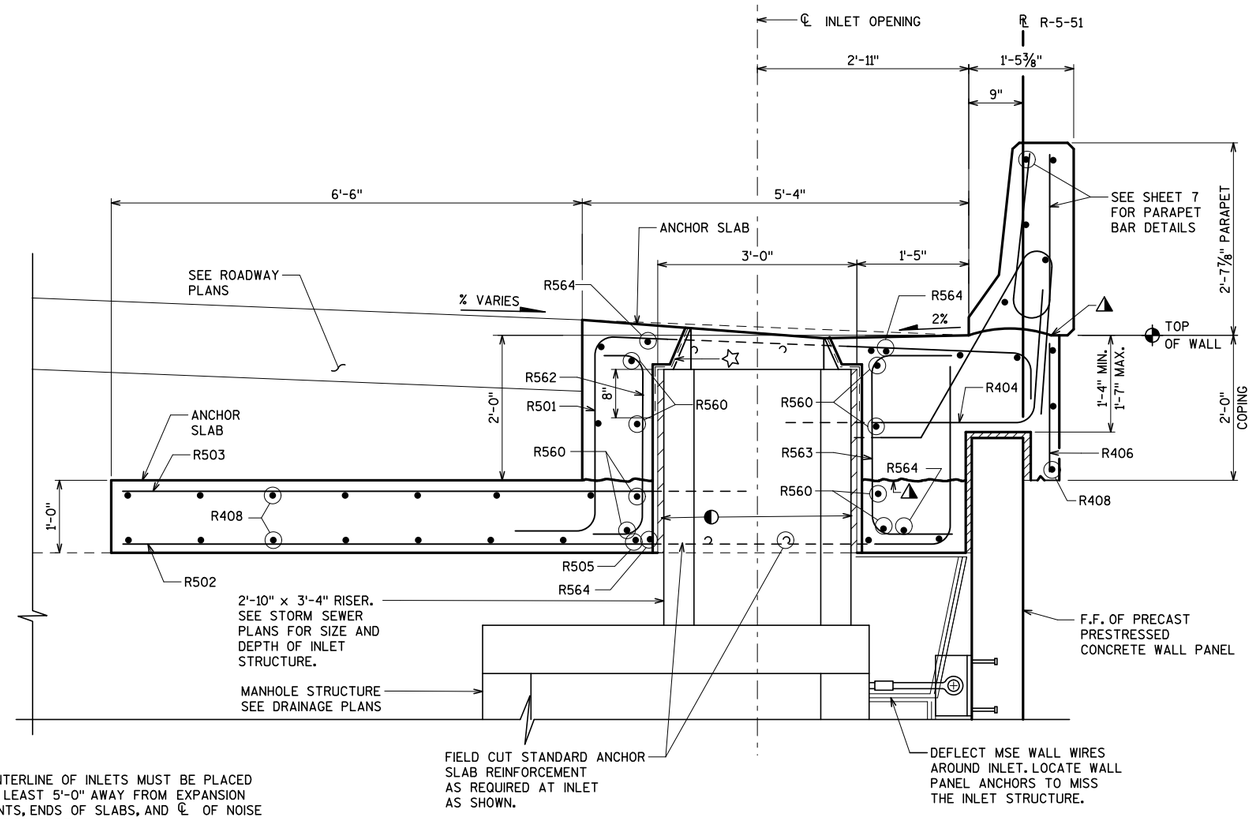
SHEET 8 OF 15

FILE NAME: F:\BM4-1006 USH 41 bridges\1133037\Structs\R-05-51\cds\Final\R05051_080108_Anchor Slab at Inlet.dgn PEN TABLE: V8_STRUCTURAL_REV.TBL DATE: 1/18/2013 3:01:54 PM Plotted by: tiegear

STATE PROJECT NUMBER
1133-03-77



CENTERLINE OF INLETS MUST BE PLACED AT LEAST 5'-0" AWAY FROM EXPANSION JOINTS, ENDS OF SLABS, AND ℄ OF NOISE BARRIER POSTS.



SECTION THRU ANCHOR SLAB AT INLET

SEE STORM SEWER PLANS FOR ROADWAY STATIONING AND DIMENSIONS OF INLET STRUCTURE

CUT, BEND, OR DISPLACE STANDARD REINFORCEMENT 2" CLEAR OF INLET STRUCTURE AS REQUIRED.

LEGEND

☆ 2 LAYERS OF 4 MIL POLYETHYLENE SHEETS. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY RETAINING WALLS."

◭ CONSTRUCTION JOINT-STRIKE OFF AS SHOWN

◐ 1" PREFORMED FILLER AROUND THE INLET.

☒ TRANSITION PAN OVER 25'-0" ON EACH SIDE OF THE INLET

SEE SHEET 6 FOR STANDARD REBARS IN ANCHOR SLAB, AND RUBBERIZED MEMBRANE WATERPROOFING DETAILS.

SEE SHEET 11 FOR BILL OF BARS

ANCHOR SLAB DETAIL AT INLET STRUCTURE

ALL REBARS SHOWN IN THIS DETAIL ARE IN ADDITION TO THE STANDARD REBARS IN ANCHOR SLAB.

FIELD CUT STANDARD ANCHOR SLAB BARS AT THE INLET AS REQUIRED.

INLET LOCATION

RDWY STATION	WALL STATION
1014NB+96.00	414+96.00

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-51

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ANCHOR SLAB AT INLET (2 OF 2)

SHEET 9 OF 15

2308

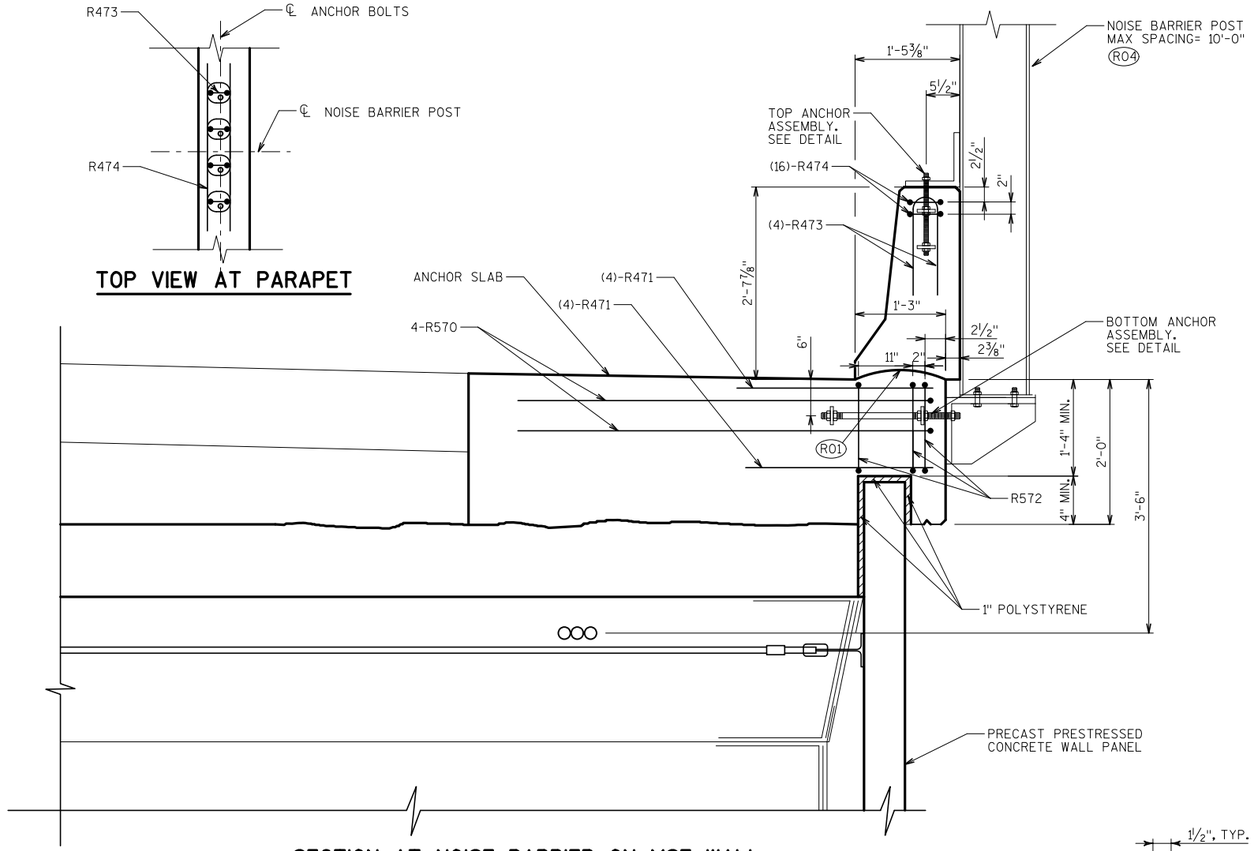
8

8

FILE NAME: F:\BM4-1006 USH 41 bridges\1133037\Structs\R-05-51\cds\Final\R05051_080109_Anchor Slab at Inlet.dgn PEN TABLE: V8_STRUCTURAL_REV.TBL DATE: 1/18/2013 3:02:10 PM Plotted by: tlegear

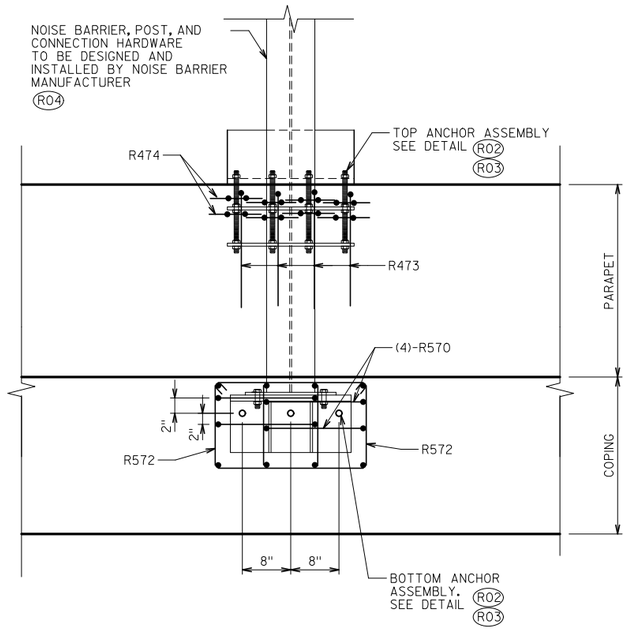
STATE PROJECT NUMBER
1133-03-77

TOP VIEW AT PARAPET



SECTION AT NOISE BARRIER ON MSE WALL

TYPICAL AT EACH POST LOCATION



ELEVATION AT NOISE BARRIER POST

TYPICAL AT EACH POST LOCATION

NOTES

(R01) CONSTRUCTION JOINT. STRIKE OFF AS SHOWN

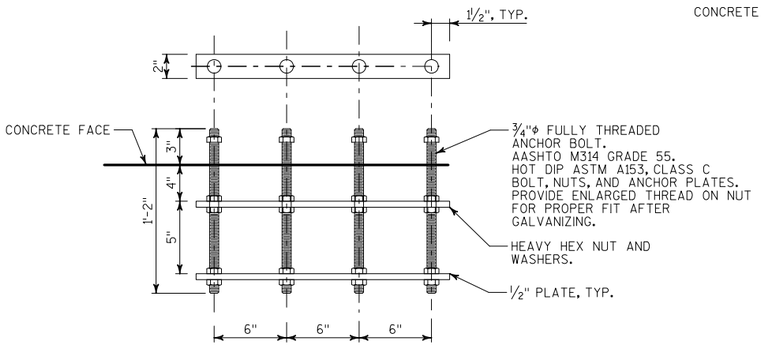
(R02) EXACT LOCATION AND SPACING OF EMBEDDED NOISE BARRIER ANCHOR ASSEMBLY AND REINFORCEMENT SHOWN ON THIS SHEET TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.

(R03) BID ITEM "ANCHOR ASSEMBILES NOISE BARRIERS STRUCTURES", EACH INCLUDES UPPER AND LOWER ANCHORAGES AT EACH POST LOCATION.

(R04) NOT A RETAINING WALL BID ITEM. NOISE BARRIER PANELS, POSTS, SUPPORT BRACKETS, TOP OF PARAPET CONNECTION, AND SIDE OF ANCHOR SLAB CONNECTION TO BE DESIGNED AND INSTALLED BY NOISE BARRIER MANUFACTURER.

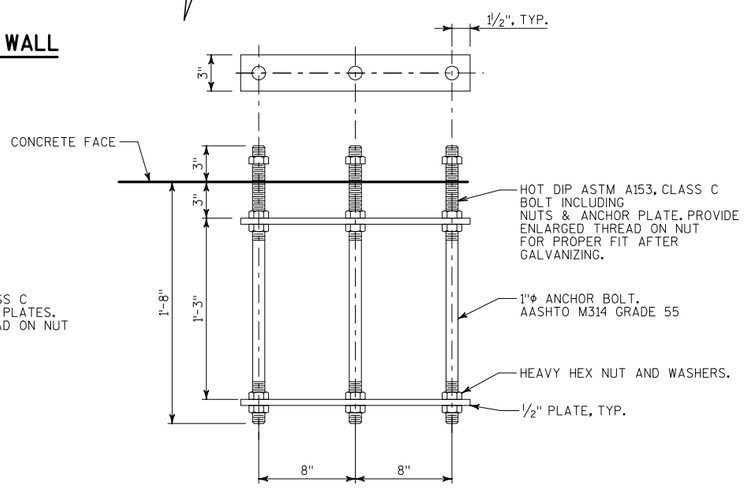
REINFORCEMENT SHOWN ON THIS SHEET IS FOR DEVELOPING NOISE WALL POST ANCHORAGES. SEE SHEETS 4, 6 AND 7 FOR PARAPET AND ANCHOR SLAB REINFORCEMENT DETAILS.

SEE SHEET 12 FOR NOISE BARRIER POST SPACING.



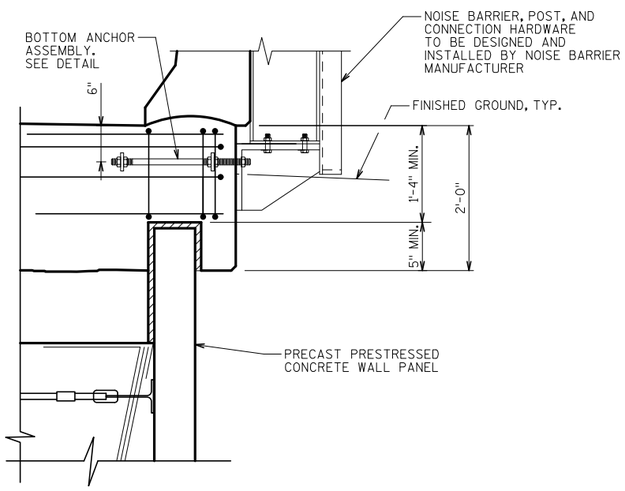
ELEVATION

TOP ANCHOR BOLT ASSEMBLY



PLAN

BOTTOM ANCHOR BOLT ASSEMBLY



DETAIL AT END POST

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-51

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NOISE BARRIER POST ANCHORAGE

SHEET 10 OF 15

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STATE PROJECT NUMBER
1133-03-77

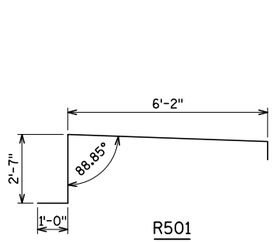
BILL OF BARS

	BAR MARK	COAT	NO.	LENGTH	BENT	BAR SERIES	LOCATION
	R501	X	1390	10'-0"	X	-	ANCHOR SLAB, TOP TRANSVERSE
◐	R502	X	941	13'-6"	X	-	ANCHOR SLAB, BOTTOM TRANS.
	R503	X	1393	8'-9"	-	-	ANCHOR SLAB, TOP TRANSVERSE
	R404	X	753	5'-0"	X	-	ANCHOR BOTTOM TRANSVERSE
*	R505	X	11	903'-3"	-	-	ANCHOR SLAB LONGITUDINAL
	R406	X	716	1'-8"	-	-	COPING, VERTICAL
							NOT USED
*	R408	X	19	903'-3"	-	-	ANCHOR SLAB, LONGITUDINAL
	R509	X	6	4'-0"	X	-	ANCHOR SLAB, OVER APPROACH APRON
	R510	X	1393	4'-10"	X	-	PARAPET LF VERTICAL AT NOISE WALL
	R511	X	1393	6'-4"	X	-	PARAPET LF VERTICAL
*	R512	X	5	903'-3"	-	-	PARAPET LF, LONGITUDINAL
	R513	X	3	6'-9"	X	-	ANCHOR SLAB OVER APPROACH APRON
	R514	X	3	5'-10"	X	-	ANCHOR SLAB OVER APPROACH APRON
	R515	X	3	7'-7"	X	-	ANCHOR SLAB OVER APPROACH APRON
	R560	X	16	8'-10"	-	-	ANCHOR SLAB AT INLET
	R561	X	8	9'-2"	X	-	ANCHOR SLAB AT INLET
	R562	X	6	3'-4"	X	-	ANCHOR SLAB AT INLET
	R563	X	10	4'-2"	X	-	ANCHOR SLAB AT INLET
	R564	X	16	7'-7"	X	-	ANCHOR SLAB AT INLET
	R565	X	8	7'-9"	X	-	ANCHOR SLAB AT INLET
	R570	X	360	11'-1"	X	-	NOISE WALL POST ANCHORAGE
	R471	X	720	2'-0"	-	-	NOISE WALL POST ANCHORAGE
	R572	X	540	5'-6"	X	-	NOISE WALL POST ANCHORAGE
	R473	X	360	2'-9"	X	-	NOISE WALL POST ANCHORAGE
	R474	X	1440	2'-3"	X	-	NOISE WALL POST ANCHORAGE

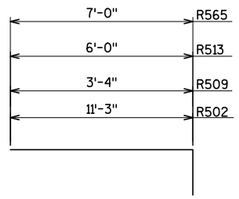
◐ BAR LENGTH IS BASED ON 9½" THICK PRECAST CONCRETE WALL PANEL. ADJUST BAR LENGTH IF THE WALL PANEL THICKNESS IS DIFFERENT.

* FIGURE SHOWN IN THE 'NO.' AND 'LENGTH' COLUMNS OF THE TABLE SHOULD BE USED FOR BAR WEIGHT CALCULATIONS ONLY. INDIVIDUAL BAR LENGTHS TO BE DETERMINED BY THE CONTRACTOR BASED ON THE ACTUAL DISTANCE BETWEEN ANCHOR SLAB EXPANSION JOINTS.

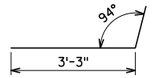
BENDING DIAGRAMS



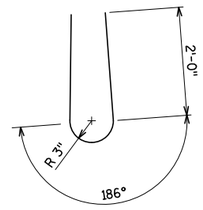
R501



R502,R509,R513,R565



R404



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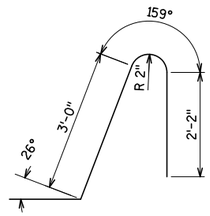

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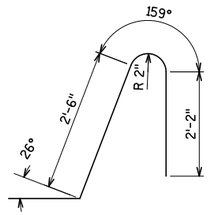
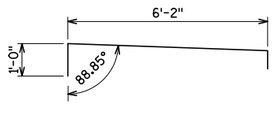


R514



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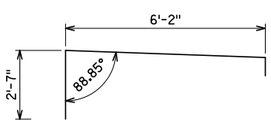

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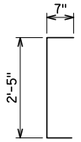

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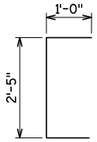

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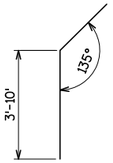

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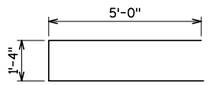
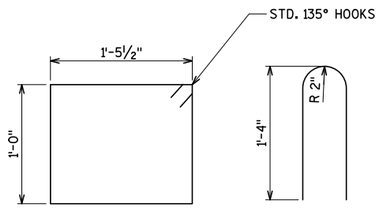
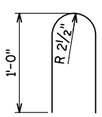


R570



R572

R473



R474

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-51

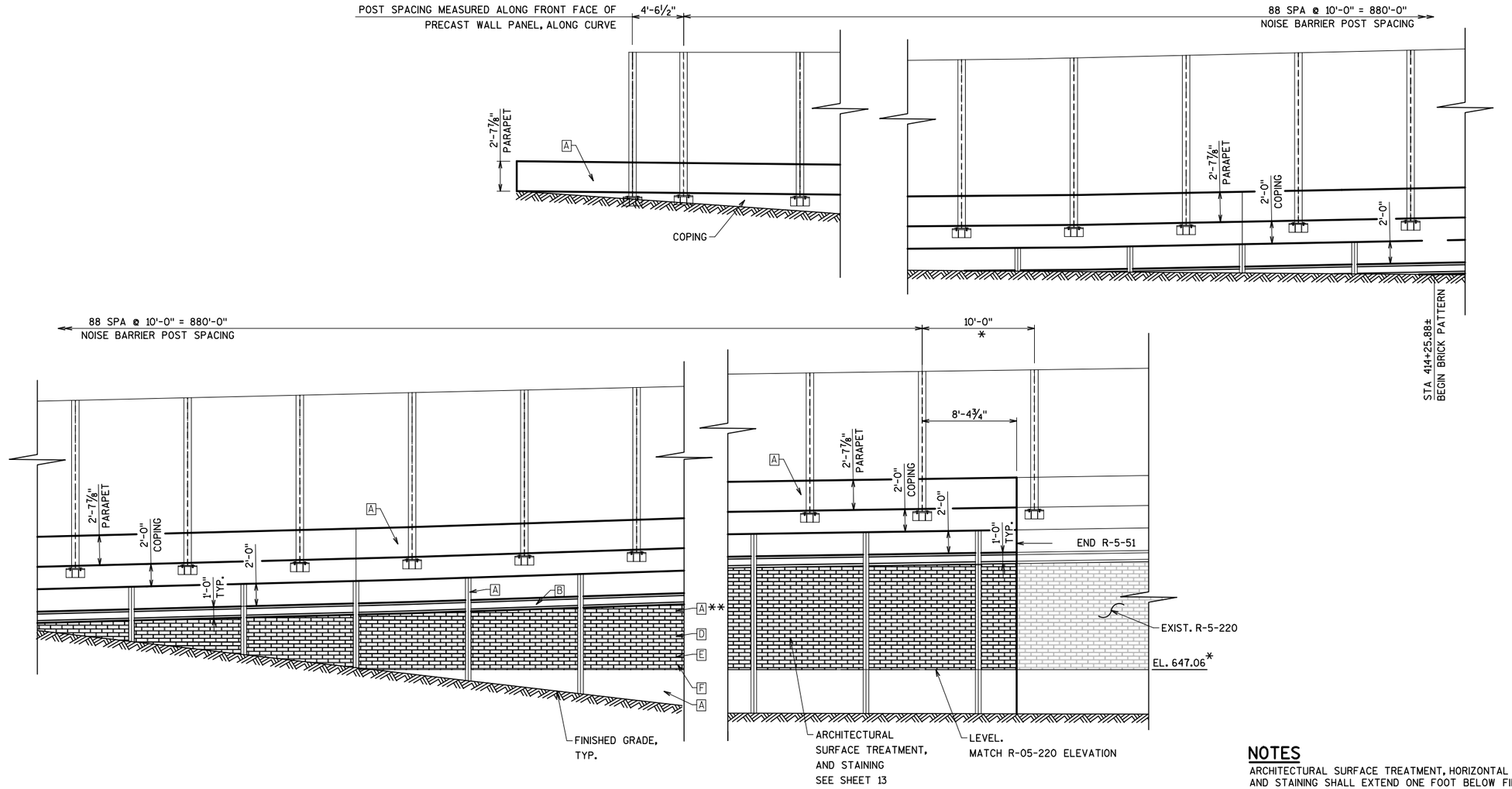
DRAWN BY TAL | PLANS CK'D. BDT

BILL OF BARS

SHEET 11 OF 15

2310

STATE PROJECT NUMBER
1133-03-77



ELEVATION R-5-51

(LOOKING AT FRONT FACE OF WALL)

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~

SEE SPECIAL PROVISIONS FOR STAIN COLORS

** STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

* VERIFY WITH R-5-220 SHOP DRAWINGS, MATCH AS CONSTRUCTED.

NOTES

ARCHITECTURAL SURFACE TREATMENT, HORIZONTAL RECESS, AND STAINING SHALL EXTEND ONE FOOT BELOW FINISHED GRADE, UNLESS NOTED OTHERWISE.

SEE SHEET 13 FOR DETAILS OF CONCRETE STAINING ON PRECAST WALL PANEL AND COPING.

SEE SHEET 3 FOR PANEL JOINT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-51

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AESTHETIC DETAILS (1 OF 2)

SHEET 12 OF 15

2311

8

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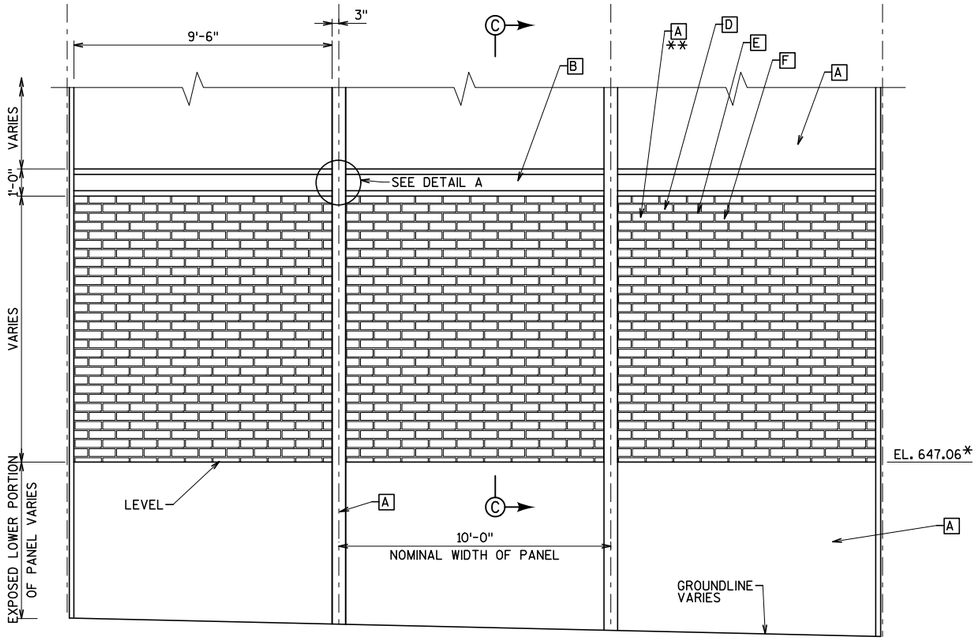


TYPICAL WALL PANEL ELEVATION

(LOOKING AT FRONT FACE OF WALL)

(ONLY THREE PANELS SHOWN. OTHER PANELS SIMILAR)

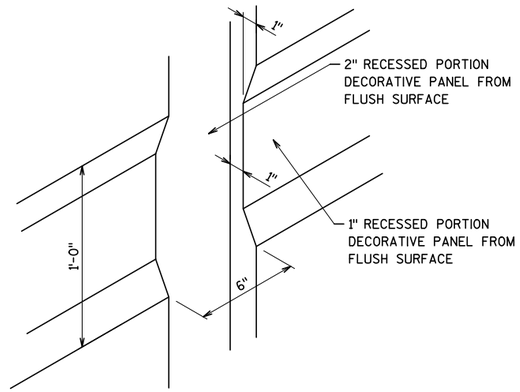
* APPLICABLE FROM STA 418+35.88 TO STA 421+89.28.
MATCH BOTTOM OF PRIOR PART OF THE WALL LENGTH. SEE SHEET 12 FOR LIMITS.
MATCH ELEVATION OF BOTTOM OF BRICK PATTERN ON EXISTING WALL R-5-220.
EXTEND BRICK PATTERN ONE FOOT BELOW FINISHED GRADE FROM STA 414+25.88 TO STA 418+35.88. SEE SHEET 12 FOR ADDITIONAL INFORMATION.

** STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

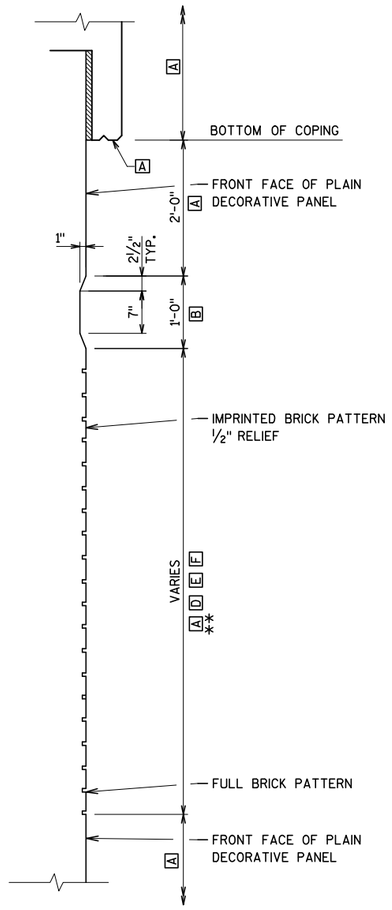
CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~

SEE SPECIAL PROVISION FOR STAIN COLORS.



DETAIL A- ISOMETRIC REVEAL



SECTION C-C

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-51

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AESTHETIC DETAILS (2 OF 2)

SHEET 13 OF 15

2312

STATE PROJECT NUMBER

1133-03-77

8

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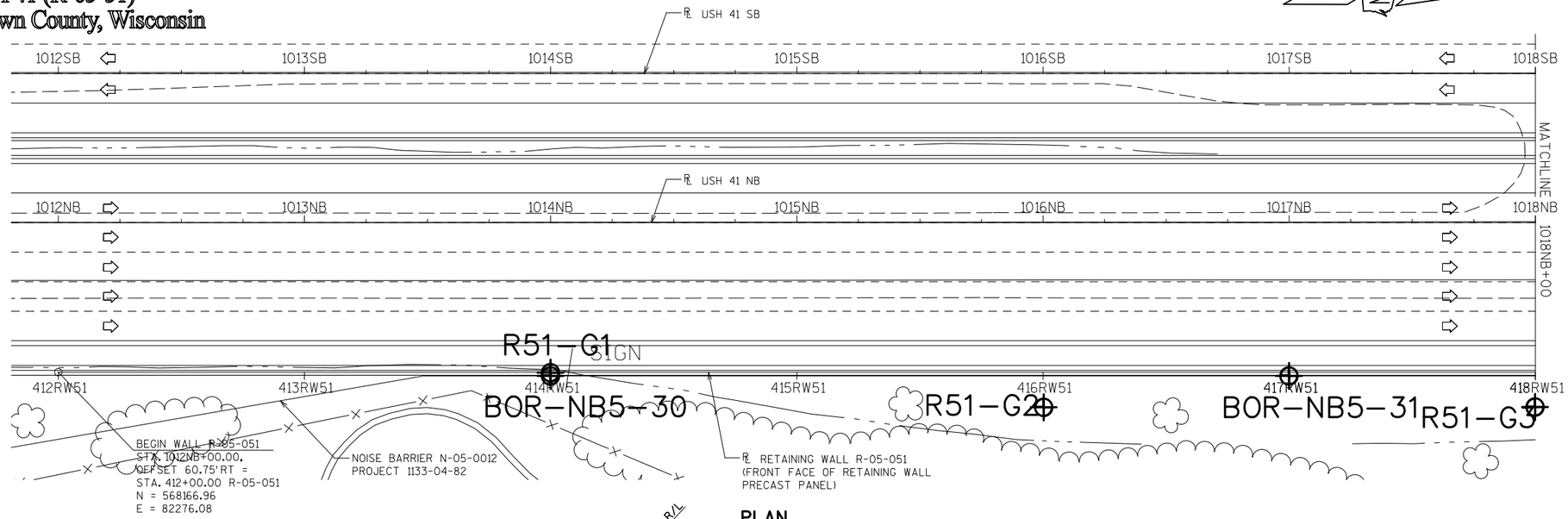
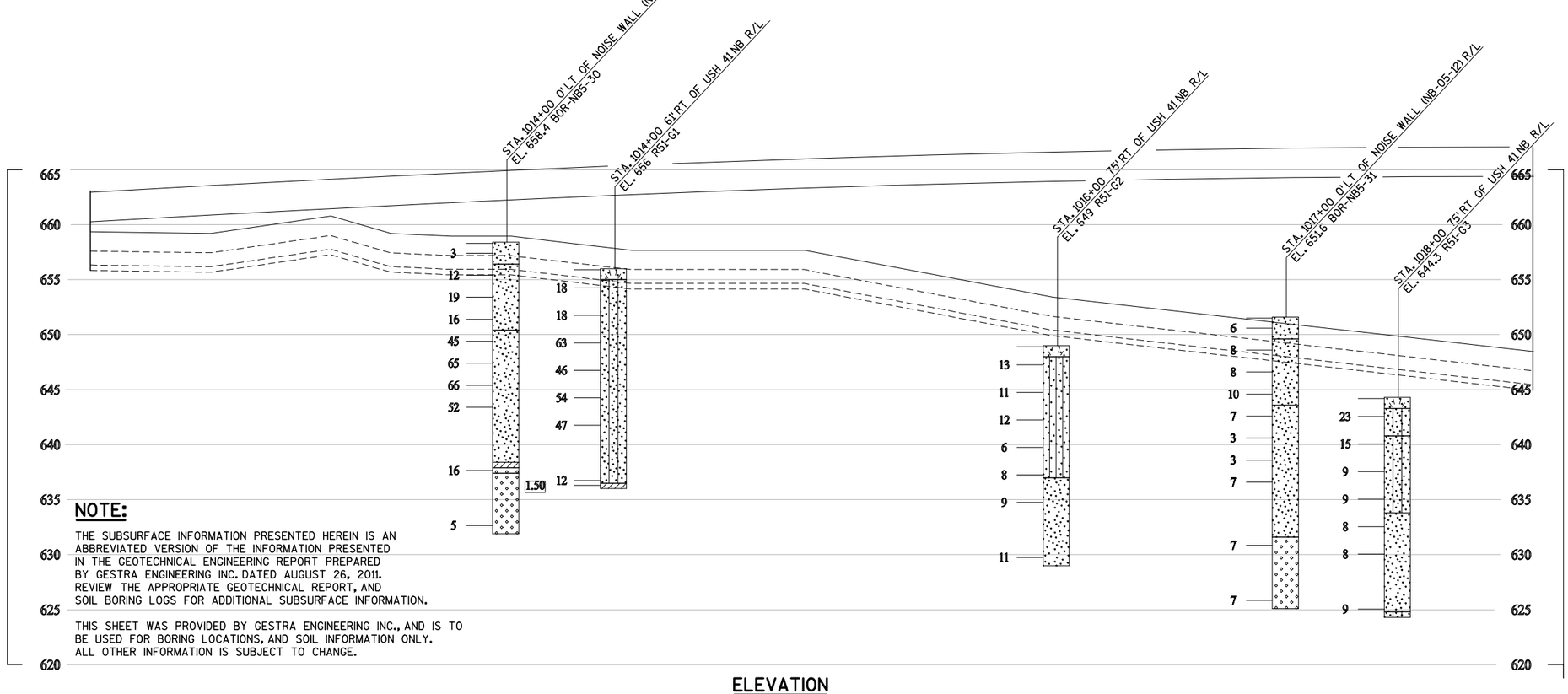
USH 41 (R-05-51)
Brown County, Wisconsin



PLAN



ELEVATION

NOTE:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY GESTRA ENGINEERING INC. DATED AUGUST 26, 2011. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT, AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

THIS SHEET WAS PROVIDED BY GESTRA ENGINEERING INC., AND IS TO BE USED FOR BORING LOCATIONS, AND SOIL INFORMATION ONLY. ALL OTHER INFORMATION IS SUBJECT TO CHANGE.

STATE PROJECT NUMBER

1133-03-72

ABBREVIATIONS

F–Fine M–Medium C–Coarse
Ws–Weathered So–Sound

MATERIAL SYMBOLS

Topsoil, Silt, Sandstone, Sand, Peat, Limestone, Gravel, Clay, Fill

LEGEND OF PROBING

95/6–95 BLOWS FOR 6" PENETRATION PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

Probing No.
Sta.
Elevation
7 Average Blows Per Foot
Refusal 95/6

LEGEND OF BORING

Boring No.
Elev. Sta.
Unconfined STRENGTH → 7.7 7
Blows Per Ft. USING 140# WT. FALLING 30"
Sandy Gravel
F. Boulders or COBBLES
Wash Sample
Shelby Tube S.T.
Sand
Ground Water ELEVATION
Silty Clay
No Ground Water OBSERVED ABOVE THIS ELEVATION
So Limestone

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

Gestra Engineering Inc.
1626 W. Pond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-51

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SUBSURFACE EXPLORATION (1 OF 2)

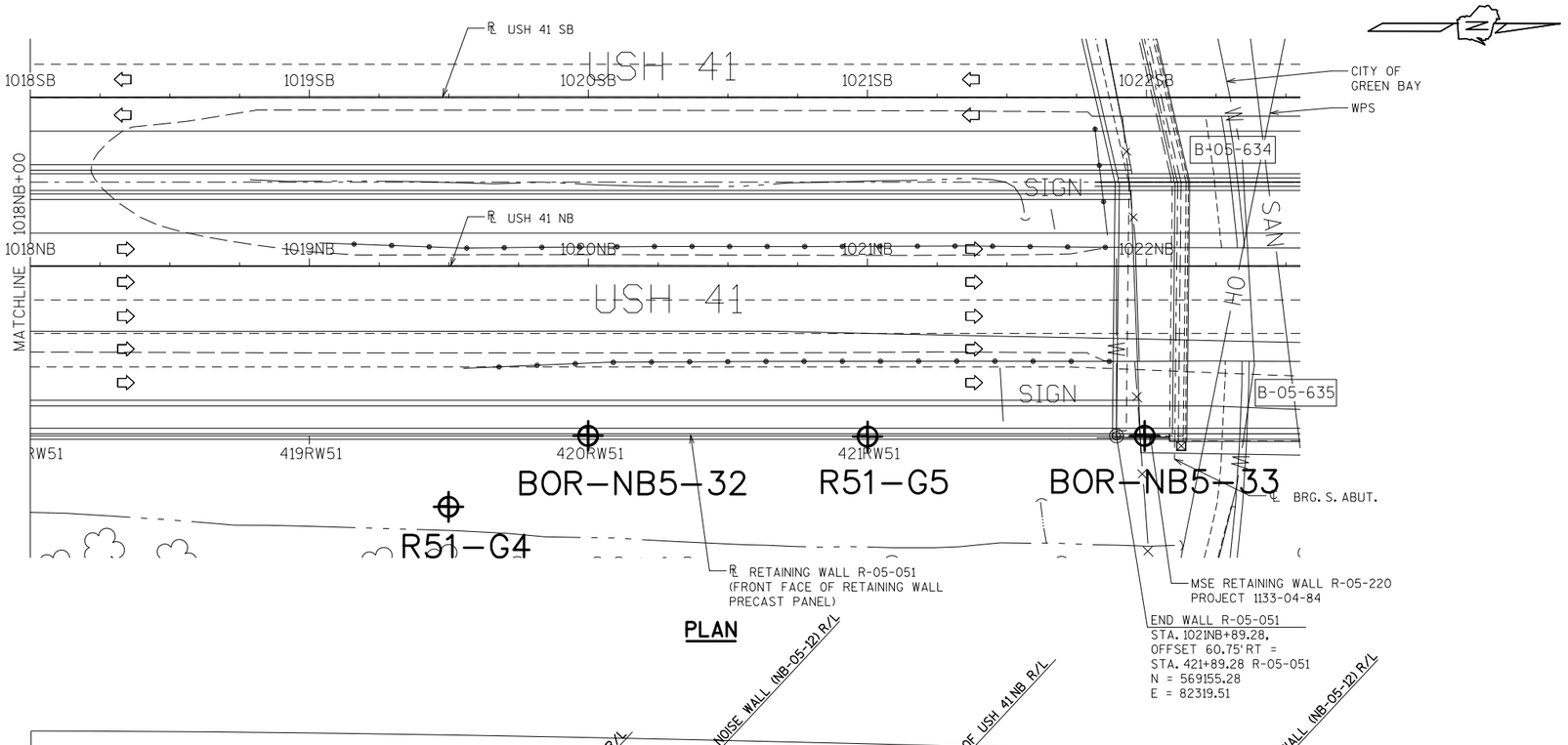
SHEET 14 OF 15

2313

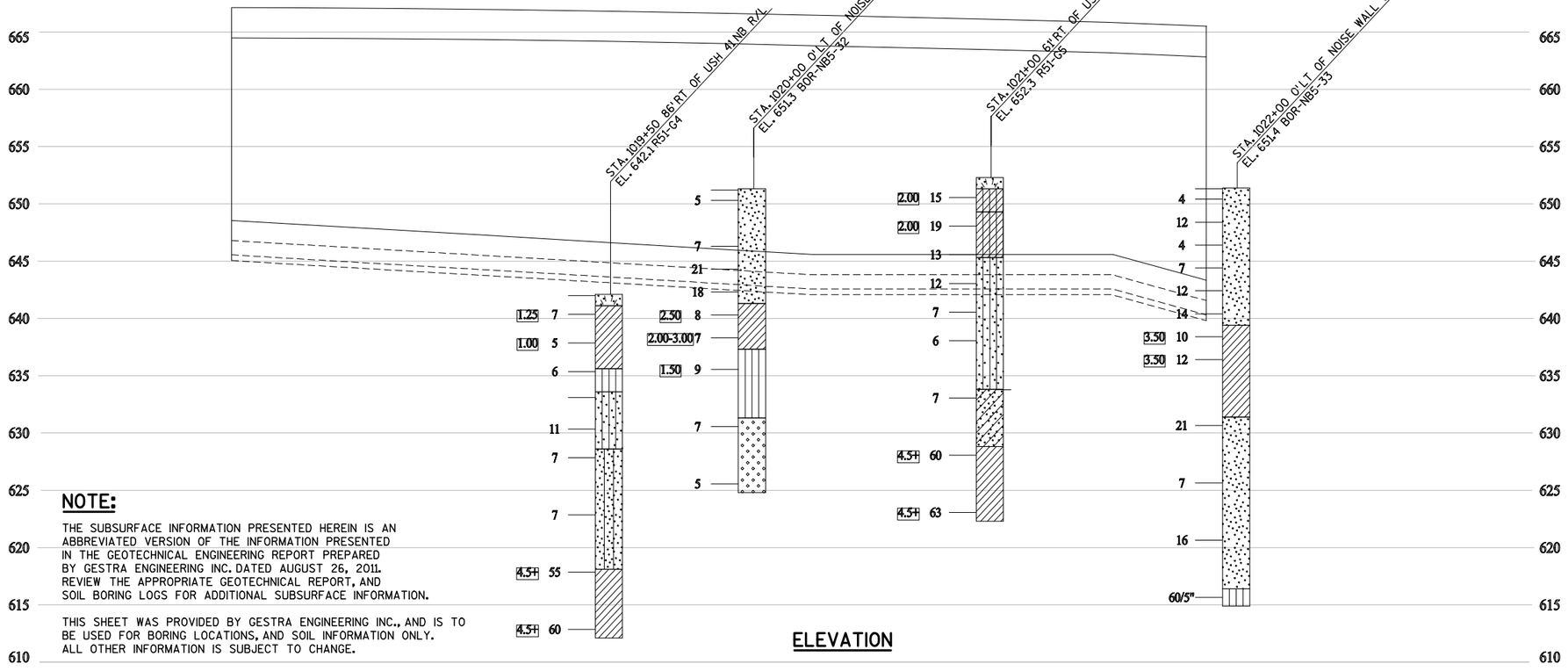
8

8

USH 41 (R-05-51)
Brown County, Wisconsin



PLAN



ELEVATION

NOTE:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY GESTRA ENGINEERING INC. DATED AUGUST 26, 2011. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT, AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

THIS SHEET WAS PROVIDED BY GESTRA ENGINEERING INC., AND IS TO BE USED FOR BORING LOCATIONS, AND SOIL INFORMATION ONLY. ALL OTHER INFORMATION IS SUBJECT TO CHANGE.

STATE PROJECT NUMBER

1133-03-72

ABBREVIATIONS

F–Fine M–Medium C–Coarse
Ws–Weathered So–Sound

MATERIAL SYMBOLS

Topsoil, Silt, Sandstone
Sand, Peat, Limestone
Gravel, Clay, Fill

LEGEND OF PROBING

95/6–95 BLOWS FOR 6" PENETRATION PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

Probing No.
Sta.
Elevation
7 Average Blows Per Foot
Refusal 95/6

LEGEND OF BORING

Boring No.
Elev. Sta.
Unconfined STRENGTH → 7.7 7
Blows Per Ft. USING 140# WT. FALLING 30"
Wash Sample
Shelby Tube S.T.:
Ground Water ELEVATION
No Ground Water OBSERVED ABOVE THIS ELEVATION
Sandy Gravel
F. Boulders or COBBLES
Sand
Silty Clay
So Limestone

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-51

DRAWN BY ESJ | PLANS CK'D. BDT

SUBSURFACE EXPLORATION (2 OF 2)

SHEET 15 OF 15

2314

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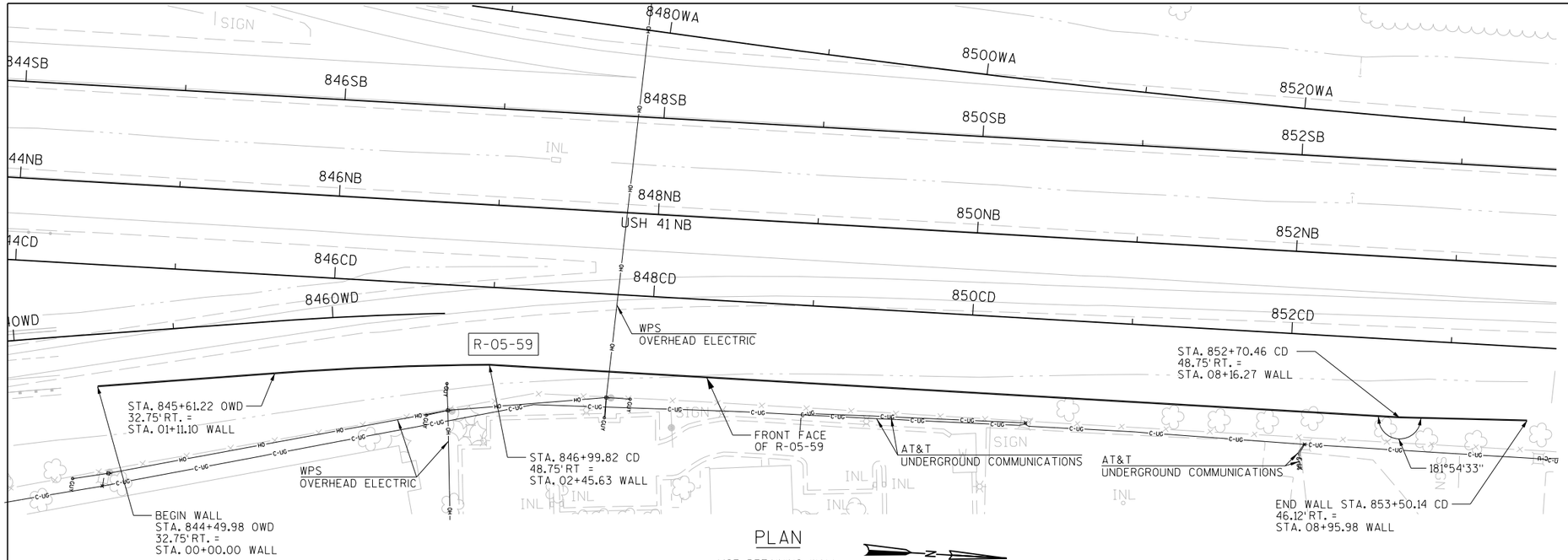
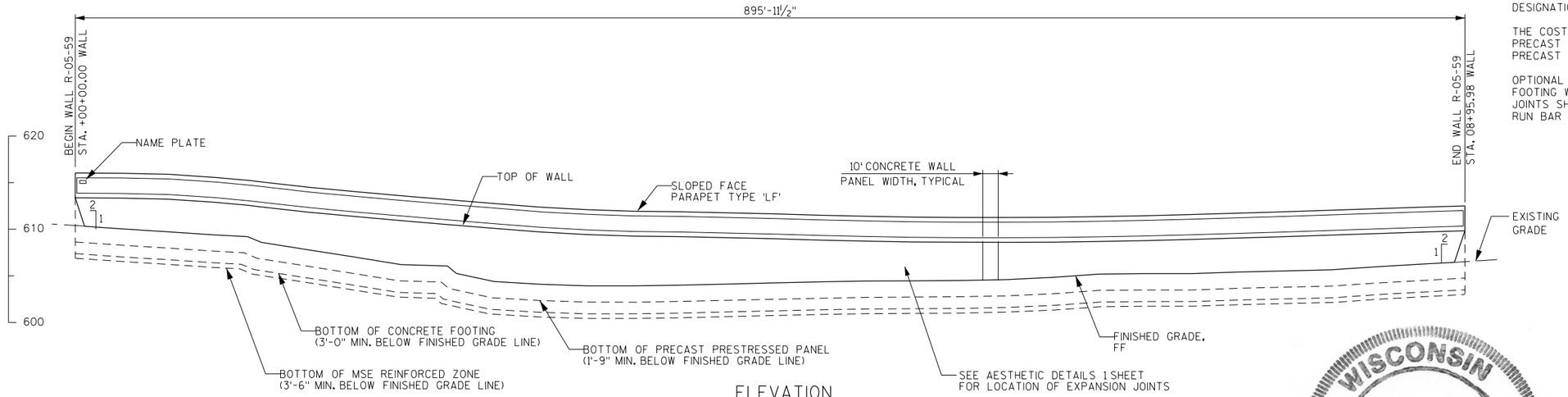
STATE PROJECT NUMBER
1133-09-71



PLAN

MSE RETAINING WALL
WITH TILT-UP WALL PANELS



ELEVATION

(LOOKING WEST AT FRONT FACE OF WALL)
(DISTANCES AND STATIONS GIVEN ALONG FRONT FACE OF WALL)

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEVATION
41014		DISK ON SE CORNER OF PARAPET WALL OF NB USH 41 OVER ONEIDA STREET #B-5-136-73	630.50

GENERAL NOTES (CON'T.)

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE ANCHOR SLAB AND PARAPETS IS PAID FOR UNDER THE ITEM "CONCRETE MASONRY RETAINING WALLS".

THE PLAN QUANTITY FOR THE ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL" IS BASED ON A WALL HEIGHT MEASURED FROM THE FINISHED GRADE AT THE FRONT FACE OF PRECAST CONCRETE WALL PANEL TO THE TOP OF WALL AS SHOWN ON THE PLANS.

PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

DESIGN THE RETAINING WALL FOR HORIZONTAL FINISHED GRADE BEHIND THE WALL AND A LIVE LOAD SURCHARGE OF 240 PSF.

DESIGN THE MSE WALL FOR A WIND SUCTION LOAD OF 20 PSF ON THE PRECAST PANEL.

AT ENDS OF WALL SEAL CAVITY BETWEEN WIRE FACE AND PRECAST CONCRETE WALL WITH COLUMN OF CONCRETE 1'-6" WIDE. INCIDENTAL TO BID ITEM PRESTRESSED PRECAST CONCRETE WALL PANELS.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BEVEL EXPOSED EDGES OF CONCRETE ¾", UNLESS NOTED OTHERWISE.

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

COORDINATES OF THIS PLAN ARE REFERENCED TO THE WISCONSIN COORDINATE SYSTEM (WCCS), BROWN COUNTY.

ALL DIMENSIONS ARE ALONG THE FRONT FACE OF PRECAST CONCRETE WALL PANEL, UNLESS OTHERWISE SHOWN.

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP AND INSIDE FACES OF PARAPETS, AND EXPOSED TOP SURFACE OF ANCHOR SLAB.

ALL BAR STEEL REINFORCEMENT, EXCEPT WALL PANEL FOOTING, IS TO BE EPOXY COATED.

BAR STEEL REINFORCEMENT SHALL HAVE 2" CLEAR COVER, UNLESS SHOWN OTHERWISE.

THE FIRST OR FIRST TWO DIGITS OF BAR MARKS SIGNIFIES THE BAR SIZE. BAR DIMENSIONS ARE OUT TO OUT OF BAR.

THESE PLANS ARE FOR A WIRE FACED MECHANICALLY STABILIZED EARTH WALL WITH PRECAST PRESTRESSED CONCRETE FACING PANELS.

DO NOT PERMIT CONCRETE OR FILL TO ACCUMULATE IN THE WALL CAVITY BETWEEN THE WIRE FACED MSE WALL AND PRECAST CONCRETE WALL PANEL.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153 TYPES I, II, OR III, OR M123.

THE COST OF FURNISHING AND PLACING THE FOOTING UNDER THE MSE PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

OPTIONAL TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE FOOTING WITH A MINIMUM SPACING OF TWO PANEL LENGTHS. FOOTING JOINTS SHALL BE OFFSET A MININUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THROUGH FOOTING JOINTS.

LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES AND DESIGN DATA
3. WALL DETAILS
4. SLOPED FACE PARAPET "LF"
5. ANCHOR SLAB AT INLET
6. AESTHETIC DETAILS 1
7. AESTHETIC DETAILS 2
8. SUBSURFACE EXPLORATION

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER 608-266-8489

CONSULTANT CONTACT:
JEFFREY S. ROSNER 920-592-9440

NO.	DATE	REVISION	BY

PRELIMINARY PLANS PREPARED BY: GRAEF
1150 Springhurst Drive, Suite 201
Green Bay, WI 54304
920-592-9440
920-592-9445 fax
www.graef-usa.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 03/28/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-05-59

RETAINING WALL ALONG NB CD ROADWAY N. OF ONEIDA ST.

COUNTY	CITY
BROWN	ASHWAUBENON

DESIGN SPEC.
AASHTO STD. SPEC., LOAD FACTOR DESIGN

DESIGNED BY	JSR	DESIGN CK'D.	JOH	DRAWN BY	AMZ	PLANS CK'D.	JSR

GENERAL PLAN 2315

SHEET 1 OF 8

8

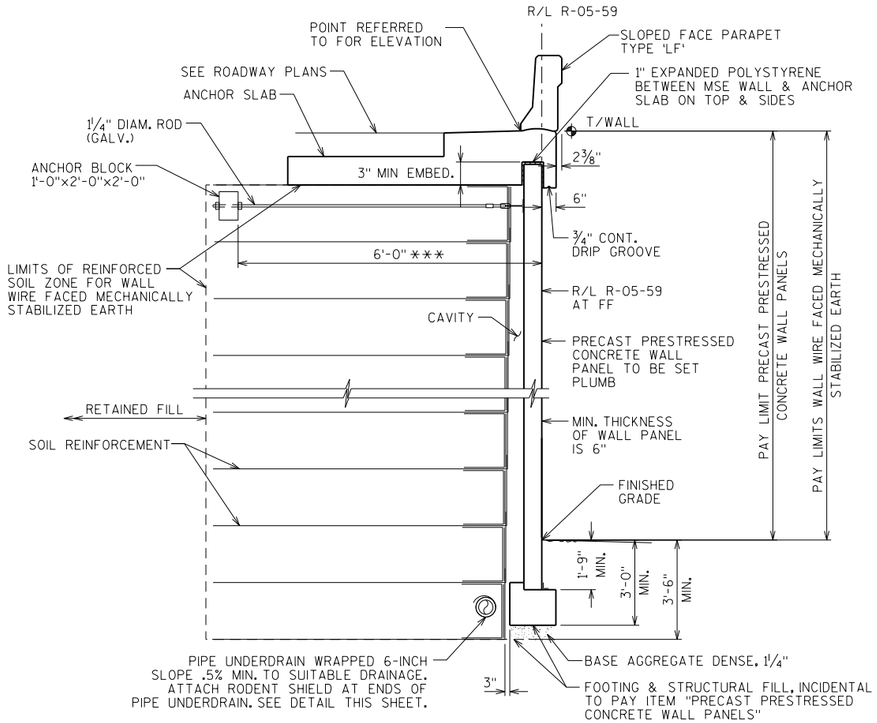
8

STATE PROJECT NUMBER
1133-09-71

GEOMETRY TABLE

WALL STATION	STATION	OFFSET TO FF OF WALL	TOP OF WALL EL	FINISHED GRADE FF EL	EXISTING GRADE EL
0+00.00	844+49.98	32.75' RT (OWD)	613.36	613.36	610.72
0+21.10	844+71.08	32.75' RT (OWD)	613.34	610.50	610.50
0+51.10	845+01.08	32.75' RT (OWD)	613.32	610.14	610.14
0+81.10	845+31.08	32.75' RT (OWD)	612.99	609.82	609.82
1+11.10	845+61.22	32.75' RT (OWD)	612.57	609.40	609.40
1+41.10	845+91.60	32.75' RT (OWD)	611.99	608.77	608.77
1+71.10	846+22.07	32.75' RT (OWD)	611.50	608.04	608.04
2+01.10	846+52.67	32.75' RT (OWD)	611.05	607.25	607.25
2+31.10	846+84.43	32.75' RT (OWD)	610.63	606.45	606.45
2+45.63	846+99.82	50.48' RT (CD)	610.43	606.06	606.06
2+65.63	847+19.83	48.75' RT (CD)	610.15	605.41	605.41
2+95.63	847+49.83	48.75' RT (CD)	609.74	604.43	604.43
3+25.63	847+79.83	48.75' RT (CD)	609.47	604.13	604.13
3+55.63	848+09.83	48.75' RT (CD)	609.27	603.93	603.93
3+85.63	848+39.83	48.75' RT (CD)	609.21	603.92	603.92
4+15.63	848+69.83	48.75' RT (CD)	609.11	603.99	603.99
4+45.63	848+99.83	48.75' RT (CD)	609.00	604.10	604.10
4+75.63	849+29.83	48.75' RT (CD)	608.86	604.22	604.22
5+05.63	849+59.83	48.75' RT (CD)	608.73	604.33	604.33
5+35.63	849+89.83	48.75' RT (CD)	608.65	604.42	604.42
5+65.63	850+19.83	48.75' RT (CD)	608.61	604.47	604.47
5+95.63	850+49.83	48.75' RT (CD)	608.58	604.49	604.49
6+25.63	850+79.83	48.75' RT (CD)	608.62	604.59	604.59
6+55.63	851+09.83	48.75' RT (CD)	608.67	604.77	604.77
6+85.63	851+39.83	48.75' RT (CD)	608.76	605.14	605.14
7+15.63	851+69.83	48.75' RT (CD)	608.89	605.24	605.24
7+45.63	851+99.83	48.75' RT (CD)	609.04	605.21	605.21
7+75.63	852+29.83	48.75' RT (CD)	609.19	605.38	605.38
8+05.63	852+59.83	48.75' RT (CD)	609.35	605.60	605.60
8+16.27	852+70.46	48.77' RT (CD)	609.40	605.72	605.72
8+46.27	853+00.45	47.77' RT (CD)	609.57	606.05	606.05
8+76.27	853+30.44	46.77' RT (CD)	609.74	606.33	606.33
8+95.98	853+50.14	46.12' RT (CD)	609.85	609.85	606.51

◥ = LINEARLY INTERPOLATE WALL ELEVATIONS BETWEEN STATIONS.



*** LENGTH MAY BE INCREASED TO AVOID OBSTRUCTIONS.

TYPICAL WALL SECTION A-A

FOR ROADWAY DETAILS AT THE FACE OF THE WALL, SEE ROADWAY TYPICAL SECTIONS.

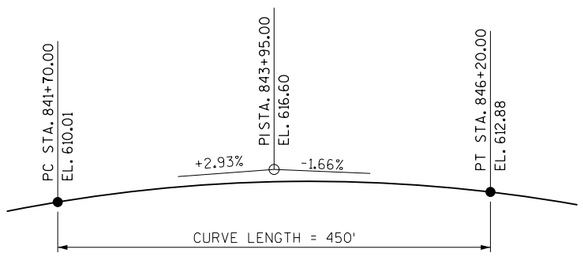
TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
502.3200	PROTECTIVE SURFACE TREATMENT	SY	465
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	301
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	47,570
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	38
532.0700.S	WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	3640
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	916
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	2565
SPV.0165.501	STAINING CONCRETE	SF	6930
SPV.0165.502	STAINING CONCRETE BRICK	SF	2565
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANELS	SF	3640
	NON-BID ITEMS		
	FILLER	SIZE	1"
	EXPANDED POLYSTYRENE	SIZE	1"
	NON-BITUMINOUS JOINT SEALER		
	CORK FILLER	SIZE	1"

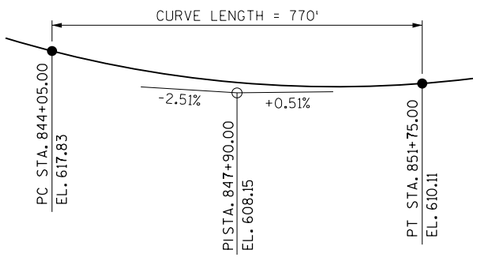
DEADMAN ANCHOR SYSTEM WHICH INCLUDES ANCHOR BLOCK, ANCHOR ROD AND PANEL CONNECTION COMPONENTS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANELS".

SAFETY FACTORS FOR MSE WALLS

MINIMUM DOT STANDARD			
WALL STATION	1+50	4+00	7+50
WALL HEIGHT (FEET)	6.1	9.0	7.5
SLIDING (FS>1.5)	3.0	2.3	2.6
OVERTURNING (FS>2.0)	9.1	5.0	6.1
GLOBAL STABILITY (FS>1.3)	5.4	5.4	5.4
ULTIMATE BEARING CAPACITY (FS>2) BASED ON WALL WIDTHS & EMBEDMENT DEPTHS SHOWN IN TABLE	7.7	5.0	4.3
MIN. EMBEDMENT DEPTH	3'-6"	3'-6"	3'-6"
MIN. SOIL REINFORCEMENT LENGTH	8'-0"	8'-0"	8'-0"



PROFILE GRADE LINE 'OWD' RAMP



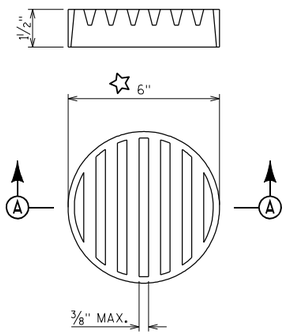
PROFILE GRADE LINE NB 'CD' ROADWAY

CURVE DATA RAMP 'OWD'

P.I. = 846+15.68
Y = 551,617.30
X = 83,059.79
DELTA = 3°05'25.8" (RT)
D = 2°49'50.9"
T = 54.60
L = 109.17
R = 2,024.00
P.C. = 845+61.08
P.T. = 846+70.25

SOIL PARAMETERS

STRATUM LOCATIONS & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	FRICTION ANGLE (DEGREES)	COHESION (PSF)
R-35-B1, STA. 846+00.05 CD			
EL. 605.7 - EL. 599.6 (CLAY AND SILT, BROWN, LITTLE SILT, LITTLE SAND)	130	0	3,500
EL. 599.6 - EL. 595.6 (CLAY BROWN, LITTLE SILT)	125	0	2,500
EL. 595.6 - EL. 577.6 (CLAY BROWN, LITTLE SILT)	110	0	350
EL. 577.6 - EL. 562.6 (CLAY, BROWN, LITTLE SILT)	110	0	750
EL. 562.6 - EL. 561.1 (CLAY BROWN, LITTLE SILT)	115	0	1,000
R-35-B2, STA. 849+00.00 CD			
EL. 600.3 - EL. 593.2 (CLAY BROWN, FEW SILT SEAMS)	120	0	2,000
EL. 593.2 - EL. 588.2 (CLAY BROWN)	110	0	500
EL. 588.2 - EL. 580.2 (CLAY BROWN)	110	0	350
EL. 580.2 - EL. 576.7 (CLAY BROWN, TRACE SAND)	115	0	1,500
R-35-B3, STA. 852+00.00 CD			
EL. 601.7 - EL. 598.8 (CLAY, BROWN, TRACE SILT)	130	0	3,500
EL. 598.8 - EL. 594.8 (CLAY, BROWN, TRACE SILT)	120	0	2,000
EL. 594.8 - EL. 584.8 (CLAY, BROWN, TRACE SILT, FEW SAND SEAMS)	110	0	350
EL. 584.8 - EL. 579.8 (CLAY, BROWN LITTLE SAND, LITTLE GRAVEL, TRACE SILT)	110	0	500
EL. 579.8 - EL. 574.8 (CLAY BROWN, LITTLE SAND, LITTLE GRAVEL, TRACE SILT)	110	0	350
EL. 574.8 - EL. 573.3 (CLAY BROWN, LITTLE SAND, LITTLE GRAVEL, TRACE SILT)	115	0	1,500
GRANULAR BACKFILL WITHIN THE WALL IN THE REINFORCING ZONE	120	30	0
FILL BEHIND THE REINFORCING ZONE	115	31	0



RODENT SHIELD

☆ DIMENSIONS ARE APPROXIMATE, THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

ORIENT SHIELD SO SLOTS ARE VERTICAL.

COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRPPED 6-INCH."

NOTES

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL WIRE FACE MECHANICALLY STABILIZED EARTH".

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON THESE PLANS.

DESIGN DATA

LIVE LOAD:
LIVE LOAD SURCHARGE (ROADWAY) = 240 psf

MATERIAL PROPERTIES:
CONCRETE MASONRY RETAINING WALLS f'c = 4,000 PSI
PRECAST CONCRETE WALL PANEL f'c = 4,000 PSI
BAR STEEL REINFORCEMENT fy = 60,000 PSI

STRUCTURAL STEEL CARBON (ASTM A709 GRADE 36) fy = 36,000 PSI

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-05-59

DRAWN BY AMZ | PLANS CK'D. JSR

QUANTITIES AND DESIGN DATA

SHEET 2 OF 8

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8

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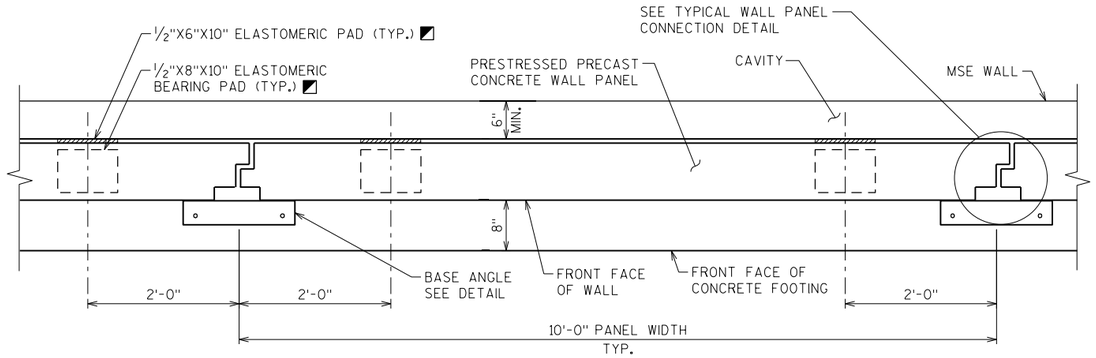
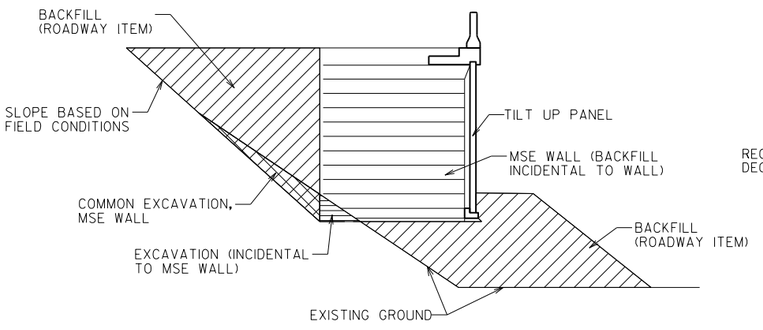
STATE PROJECT NUMBER

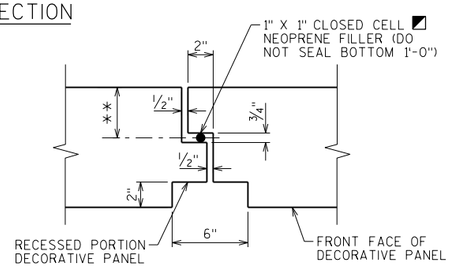
1133-09-71



TYPICAL WALL PANEL CONNECTION

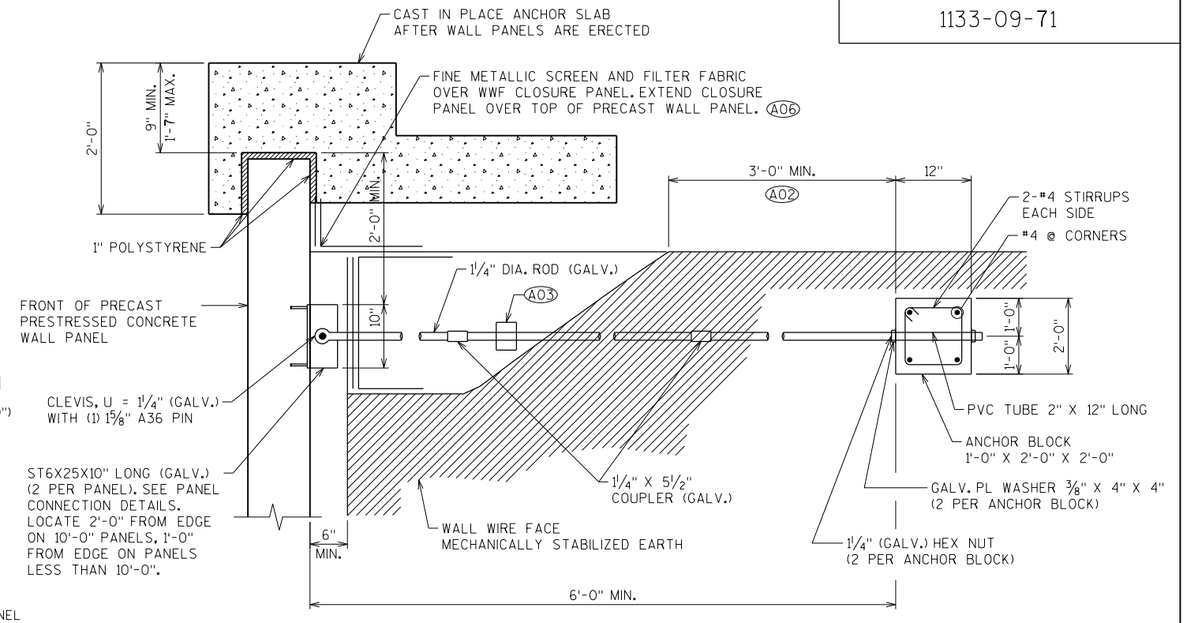


TYPICAL LIMITS OF EXCAVATION AND BACKFILL



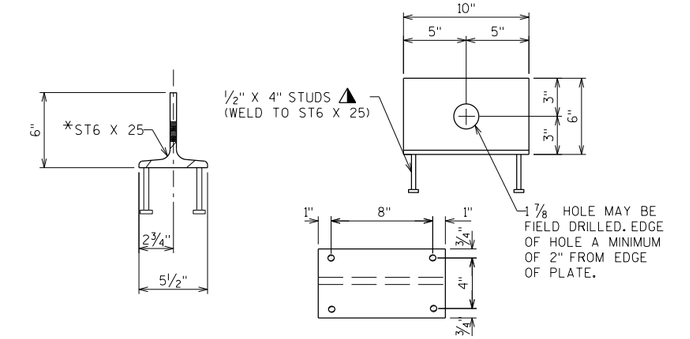
TYPICAL WALL PANEL CONNECTION

** 4" FOR 9½" PANEL
3" FOR 7½" PANEL



WALL PANEL ANCHOR DETAIL

A02



PANEL CONNECTION DETAILS

⚠ AS AN ALTERNATE, ½" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4 " STUDS.

* S12X50 (GALV.) CUT IN 1/2 TO FORM "T" SECTION. BF = 5.477" TW = 0.687"

ST6X25 MAY BE WELDED TO ¾" THICK PLATE WITH (4) ½"X4" STUDS ANCHORED IN PRECAST PANEL. RESTORE ZINC COATING AROUND ANY WELDED AREAS. SUBMIT DETAILS FOR APPROVAL BY ENGINEER. A06

LEGEND

A01 WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1¼" DIA. ANCHOR ROD, CLEVIS, AND OTHER PANEL CONNECTION COMPONENTS. DETAILING AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRECAST PRESTRESSED CONCRETE WALL PANEL." INSTALLATION OF THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH."

A02 DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION. ROD MIN. 2'-0" BELOW FINISH GRADE.

A03 OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼" DIA. BAR)

A04 BASE AGGREGATE OPEN GRADED, 6" MIN. INCIDENTAL TO BID ITEM "PRECAST PRESTRESSED CONCRETE WALL PANEL."

A05 MINIMUM DIMENSION FROM FINSHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE PRECAST PANELS.

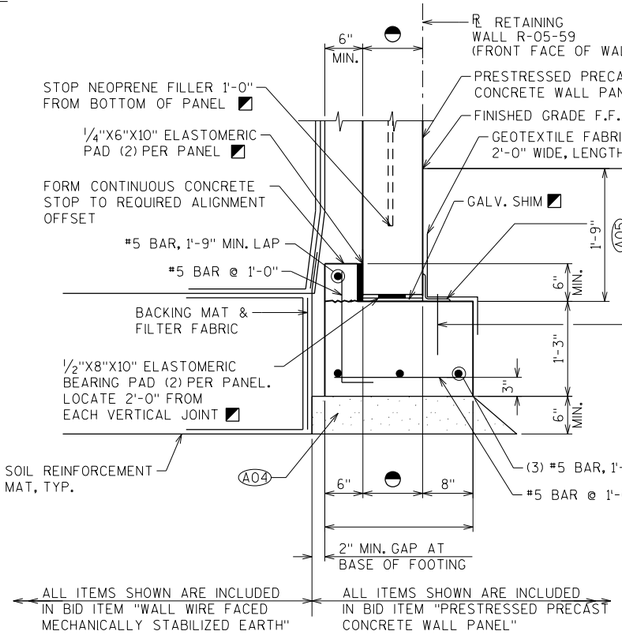
A06 ALTERNATIVE METHODS OF SEALING OFF THE 6" VOID IN FRONT OF THE MSE WALL MAY BE SUBMITTED TO WISDOT FOR CONSIDERATION.

◩ INCLUDED IN THE BID ITEM "PRECAST PRESTRESSED CONCRETE WALL PANEL".

NOTES

AN ALTERNATIVE WALL PANEL ANCHOR AND PANEL CONSTRUCTION SYSTEM MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER.

TILT UP PANEL ANCHOR SYSTEM MAY BE TRENCHED IN IF THE GEOMETRY OF THE ANCHOR SYSTEM LOCATION ALLOWS.

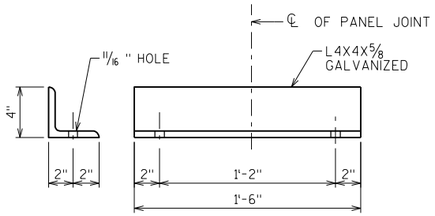


WALL PANEL FOOTING DETAIL

CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRECAST PRESTRESSED CONCRETE WALL PANEL"

◓ = 7½" OR 9½"

⊛ = FOOTING DIMENSION EQUALS PANEL THICKNESS PLUS 1'-2"



BASE ANGLE DETAIL

(1) AT EACH PANEL JOINT ◩

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WALL DETAILS 2317

SHEET 3 OF 8

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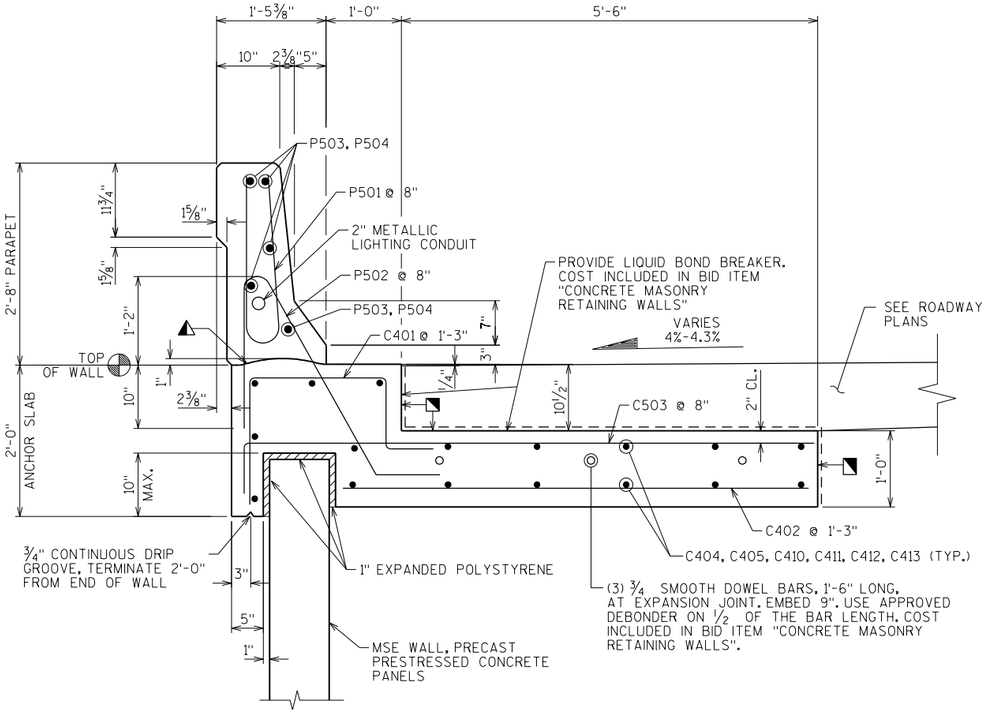
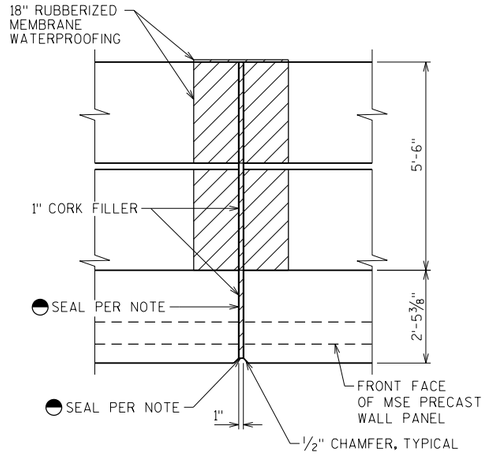
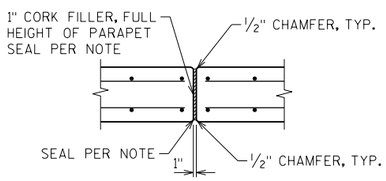


SECTION THRU ANCHOR SLAB

(27 SEGMENTS @ 30'-0", 1 SEGMENT @ 21'-1¼", 1 SEGMENT @ 14'-6⅜", 1 SEGMENT @ 20'-0", 1 SEGMENT @ 10'-7⅝", 1 SEGMENT @ 19'-8½")



⊛ ANCHOR SLAB EXPANSION JOINT DETAIL



⊛ SLOPED FACE PARAPET 'LF' EXPANSION JOINT DETAIL

ANCHOR SLAB BILL OF BARS

BAR MARK	COAT	NO.	LENGTH	BENT	LOCATION
C401	E	750	5'-1"	X	TRANSVERSE - ANCHOR SLAB
C402	E	750	6'-1"		ANCHOR SLAB - BOTTOM TRANSVERSE
C503	E	1375	8'-0"	X	ANCHOR SLAB - TOP TRANSVERSE
C404	E	459	29'-8"		ANCHOR SLAB - LONGITUDINAL - 30'-0" SEGMENT
C405	E	17	20'-9"		ANCHOR SLAB - LONGITUDINAL - 21'-1¼" SEGMENT
C506	E	12	7'-7"	X	INLET
C507	E	12	5'-0"		INLET
C508	E	12	8'-10"		INLET
C509	E	15	4'-10"		TRANSVERSE - INLET
C410	E	17	14'-2"		ANCHOR SLAB - LONGITUDINAL - 14'-6⅜" SEGMENT
C411	E	17	19'-8"		ANCHOR SLAB - LONGITUDINAL - 20'-0" SEGMENT
C412	E	17	10'-3"		ANCHOR SLAB - LONGITUDINAL - 10'-7⅝" SEGMENT
C413	E	17	19'-4"		ANCHOR SLAB - LONGITUDINAL - 19'-8½" SEGMENT

PARAPET BILL OF BARS

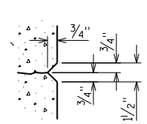
BAR MARK	COAT	NO.	LENGTH	BENT	BAR SERIES	LOCATION
P501	E	1375	4'-10"	X		PARAPET - VERTICAL
P502	E	1375	6'-0"	X		PARAPET - VERTICAL
P503	E	135	29'-8"			PARAPET - LONGITUDINAL - 30'-0" SEGMENT
P504	E	5	20'-9"			PARAPET - LONGITUDINAL - 21'-1¼" SEGMENT
P505	E	5	14'-2"			PARAPET - LONGITUDINAL - 14'-6⅜" SEGMENT
P506	E	5	19'-8"			PARAPET - LONGITUDINAL - 20'-0" SEGMENT
P507	E	5	10'-3"			PARAPET - LONGITUDINAL - 10'-7⅝" SEGMENT
P508	E	5	19'-4"			PARAPET - LONGITUDINAL - 19'-8½" SEGMENT

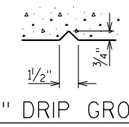
NOTE

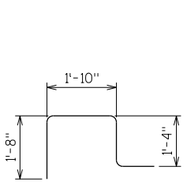
SEE AESTHETIC DETAIL 1 SHEET FOR LOCATION OF EXPANSION JOINTS.

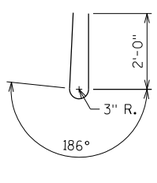
LEGEND

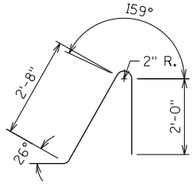
- ◭ CONSTRUCTION JOINT - STRIKE OFF AS SHOWN
- ☆ LEVEL
- ◓ NON-BITUMINOUS, JOINT SEALER, COLOR TO MATCH CONCRETE STAIN (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)
- ⊛ DO NOT RUN BAR STEEL THRU JOINT, EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB
- ◥ 18" RUBBERIZED MEMBRANE WATERPROOFING TO BE PLACED ON THESE SURFACES AT EACH JOINT.
- ☒ THIS DETAIL MAY BE USED BY THE CONTRACTOR WITH THE CONCURRENCE OF THE ENGINEER.
- ✳ THE RUBBERIZED MEMBRANE WATERPROOFING IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY RETAINING WALLS", IF THE OPTIONAL CONSTRUCTION JOINT IS USED.

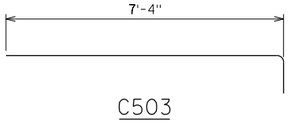


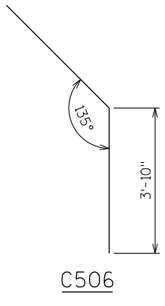


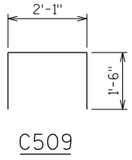


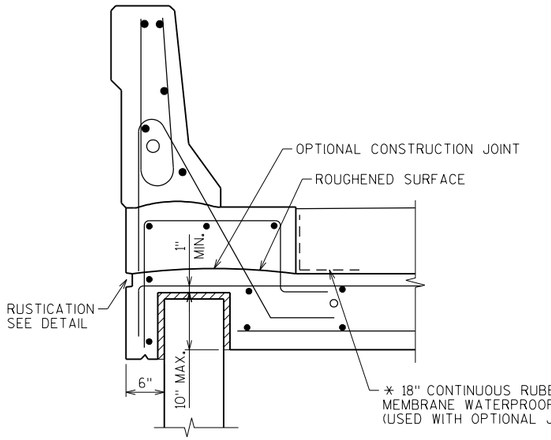




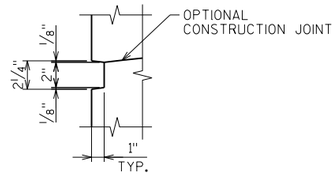








OPTIONAL CONSTRUCTION JOINT DETAIL ☒



RUSTICATION DETAIL

(REQUIRED ONLY IF THE OPTIONAL CONSTRUCTION JOINT IS USED)

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STRUCTURE R-05-59

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SLOPED FACE PARAPET "LF"

SHEET 4 OF 8

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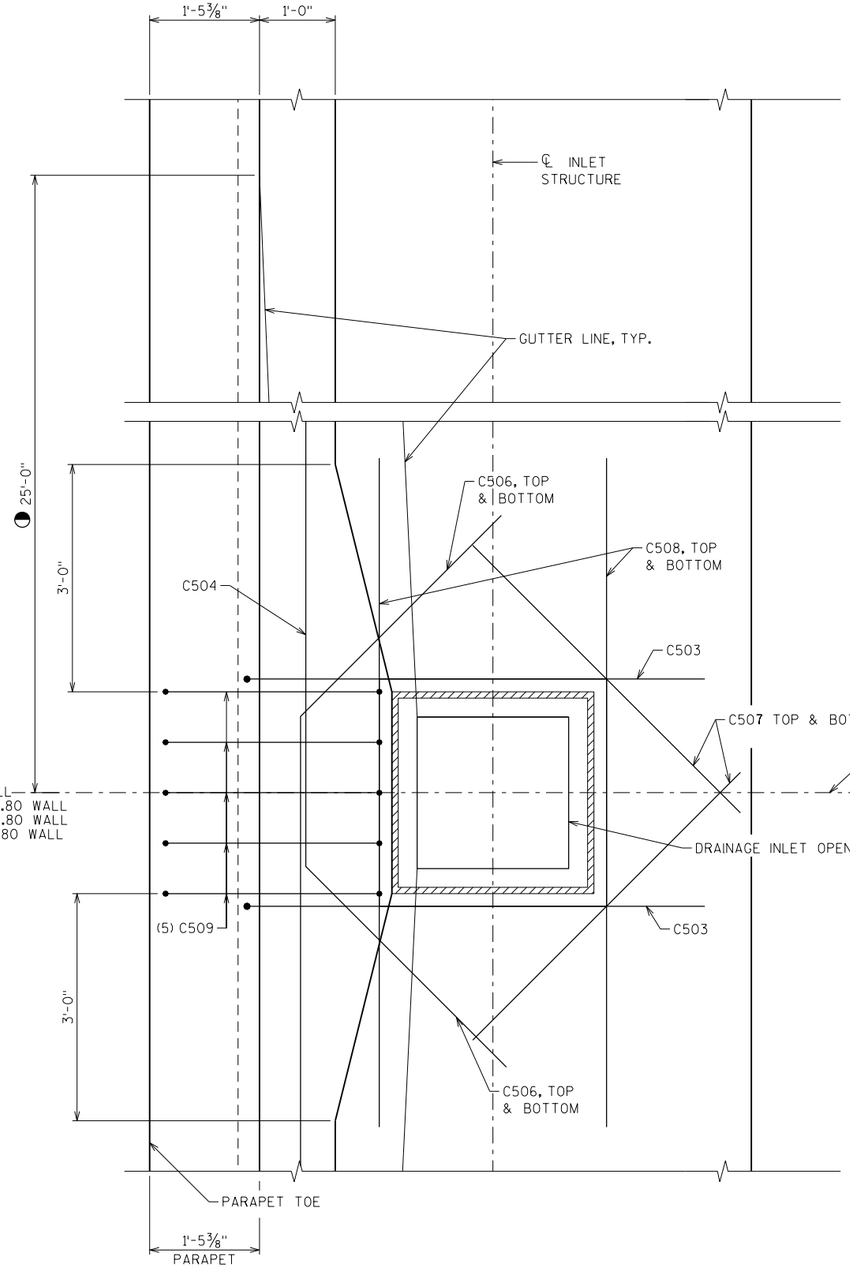
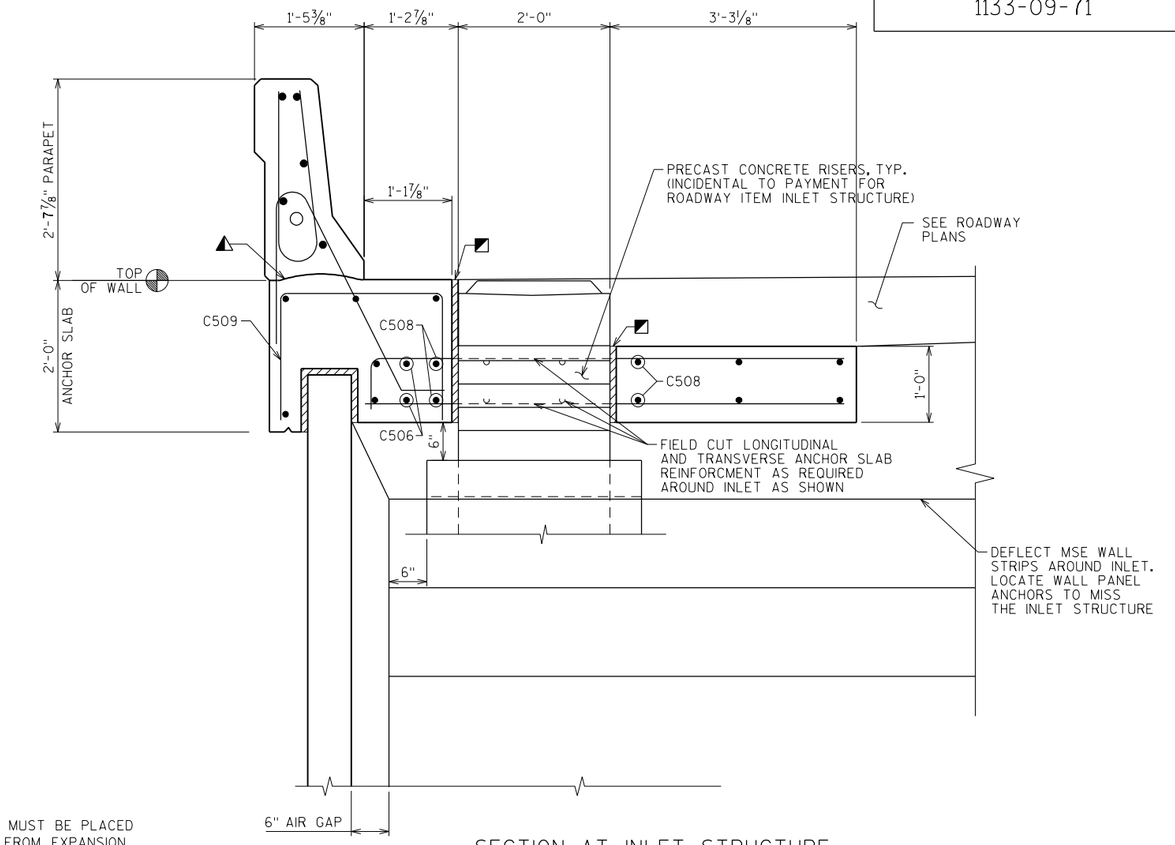


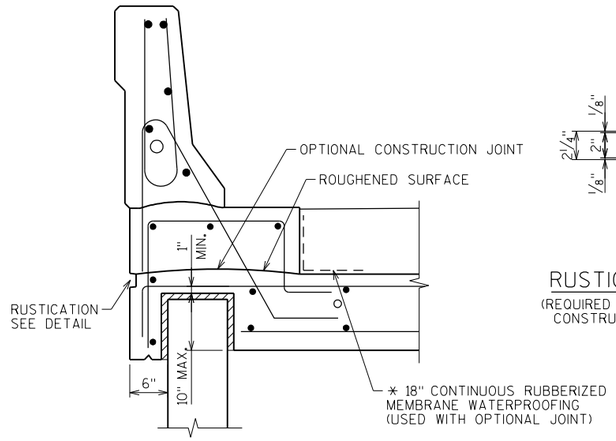
TYPICAL PARAPET AND ANCHOR SLAB PLAN AT INLET STRUCTURE

NOTE: CUT, BEND, OR DISPLACE REINFORCEMENT 2" CLEAR OF INLET STRUCTURE AS REQUIRED.

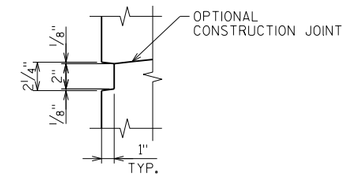


SECTION AT INLET STRUCTURE

SEE STORM SEWER PLANS FOR ROADWAY STATIONING AND DIMENSIONS OF INLET STRUCTURE.
CUT, BEND, OR DISPLACE STANDARD REINFORCEMENT 2" CLEAR OF INLET STRUCTURE AS REQUIRED.



OPTIONAL CONSTRUCTION JOINT DETAIL ⊠



RUSTICATION DETAIL

(REQUIRED ONLY IF THE OPTIONAL CONSTRUCTION JOINT IS USED)

LEGEND

◑ TRANSITION PAN OVER 25'-0" ON EACH SIDE OF THE INLET AS NEEDED TO MATCH INLET CASTING.

◩ 1" PREFORMED FILLER AROUND INLET. SEAL WITH JOINT SEALER.

◭ CONSTRUCTION JOINT - STRIKE OFF AS SHOWN

⊠ THIS DETAIL MAY BE USED BY THE CONTRACTOR WITH THE CONCURRENCE OF THE ENGINEER.

* THE RUBBERIZED MEMBRANE WATERPROOFING IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY RETAINING WALLS", IF THE OPTIONAL CONSTRUCTION JOINT IS USED.

NO.	DATE	REVISION	BY

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ANCHOR SLAB AT INLET

SHEET 5 OF 8

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8

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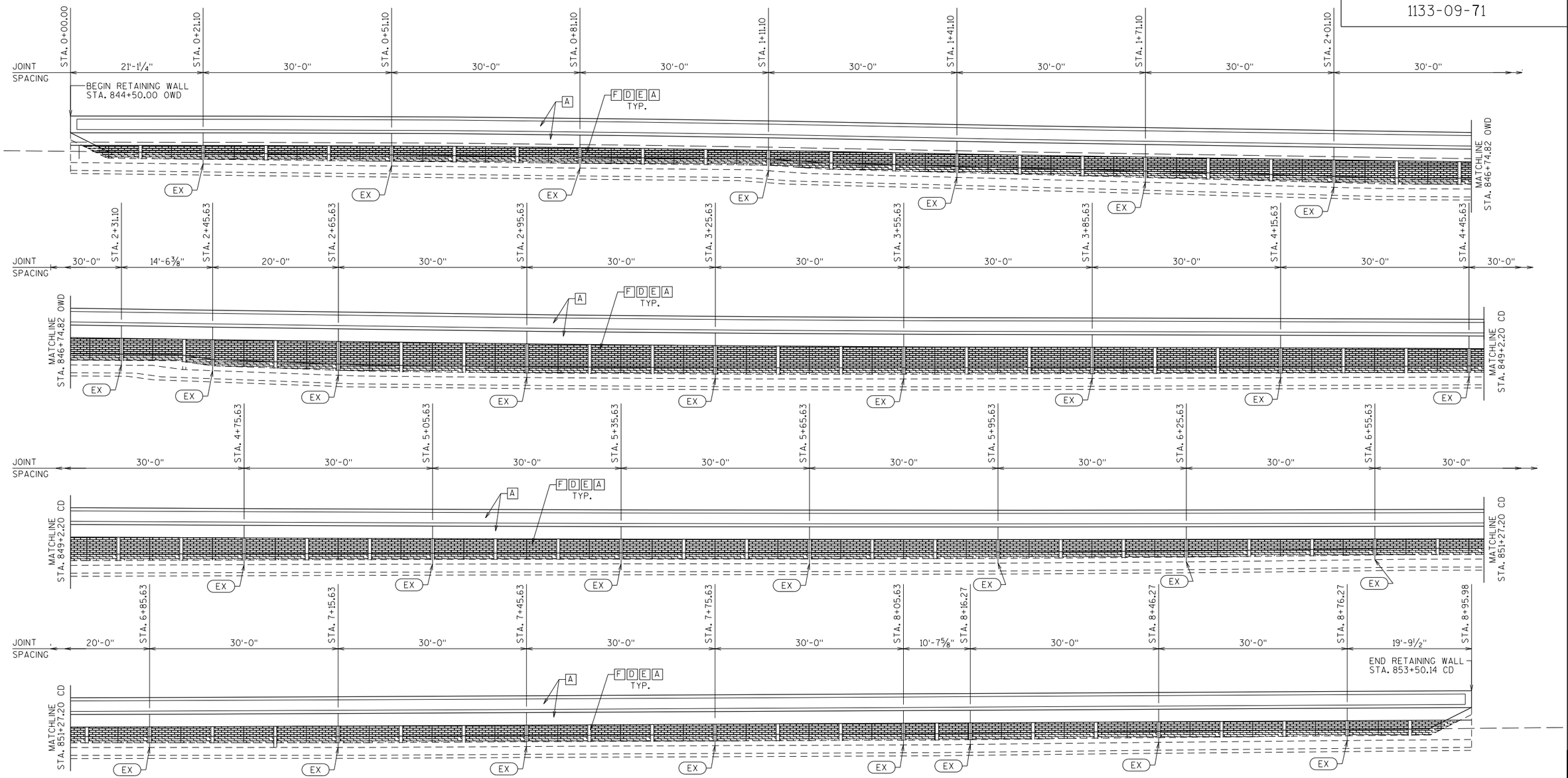

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
~~B~~	~~ACCENT COLOR #1~~	~~REVEALS, OUTSIDE OF EXTERIOR CONCRETE GIRDER, STEEL BOX GIRDERS~~
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~

ELEVATION

LOOKING AT FRONT FACE OF WALL

NOTES

1. STAIN PATTERN SHOULD EXTEND 1'-0" BELOW FINISHED GRADE.
2. STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

(EX) DENOTES EXPANSION JOINT

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AESTHETIC DETAILS 1

SHEET 6 OF 8

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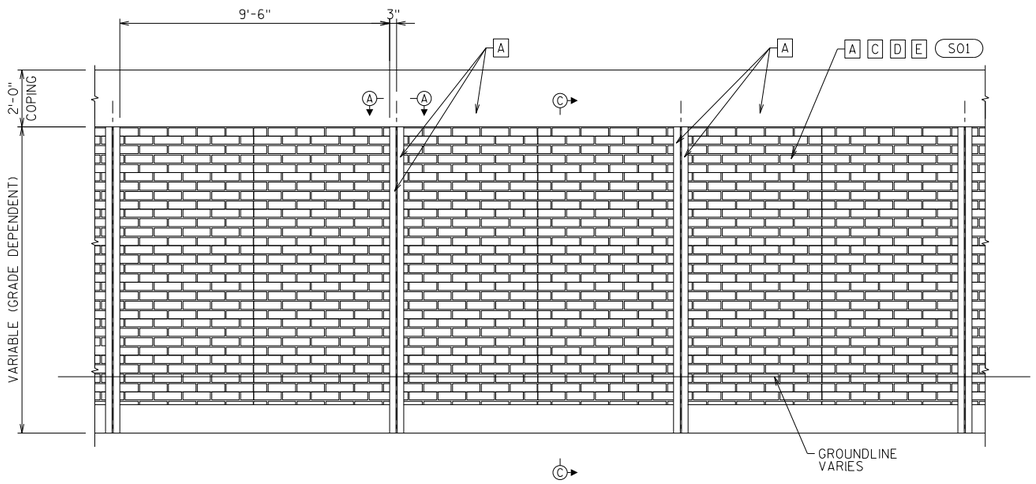


PRESTRESSED PRECAST CONCRETE WALL PANEL

AT RETAINING WALL

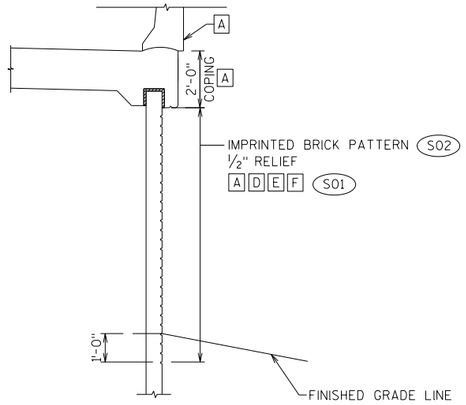
CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
~~B~~	~~ACCENT COLOR #1~~	~~REVEALS, OUTSIDE OF EXTERIOR CONCRETE GIRDER, STEEL BOX GIRDERS~~
~~C~~	~~ACCENT COLOR #2~~	~~VERTICAL PILASTER CENTER ELEMENT~~
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
~~G~~	~~ACCENT COLOR #6~~	~~LETTERING AT ROADWAY NAME~~

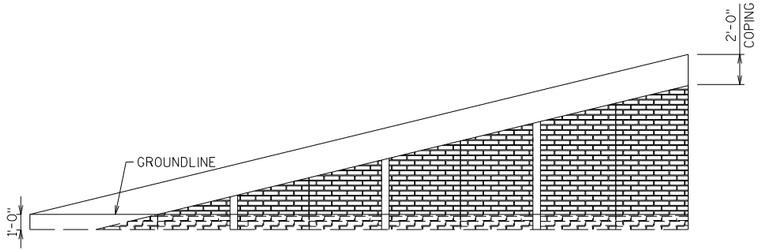
NOTES

(S01) STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK."

(S02) THE COST OF THE BRICK PATTERN FORMLINER TREATMENT IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT". SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER.



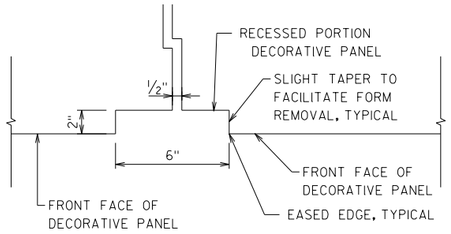
SECTION C-C



NOTES

DEPENDING UPON THE HEIGHT OF THE WALL AND SLOPE A PLAIN PANEL MAY BE USED.

RETAINING WALL END TREATMENTS



SECTION A-A

8

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DEPARTMENT OF TRANSPORTATION

STRUCTURE R-05-59

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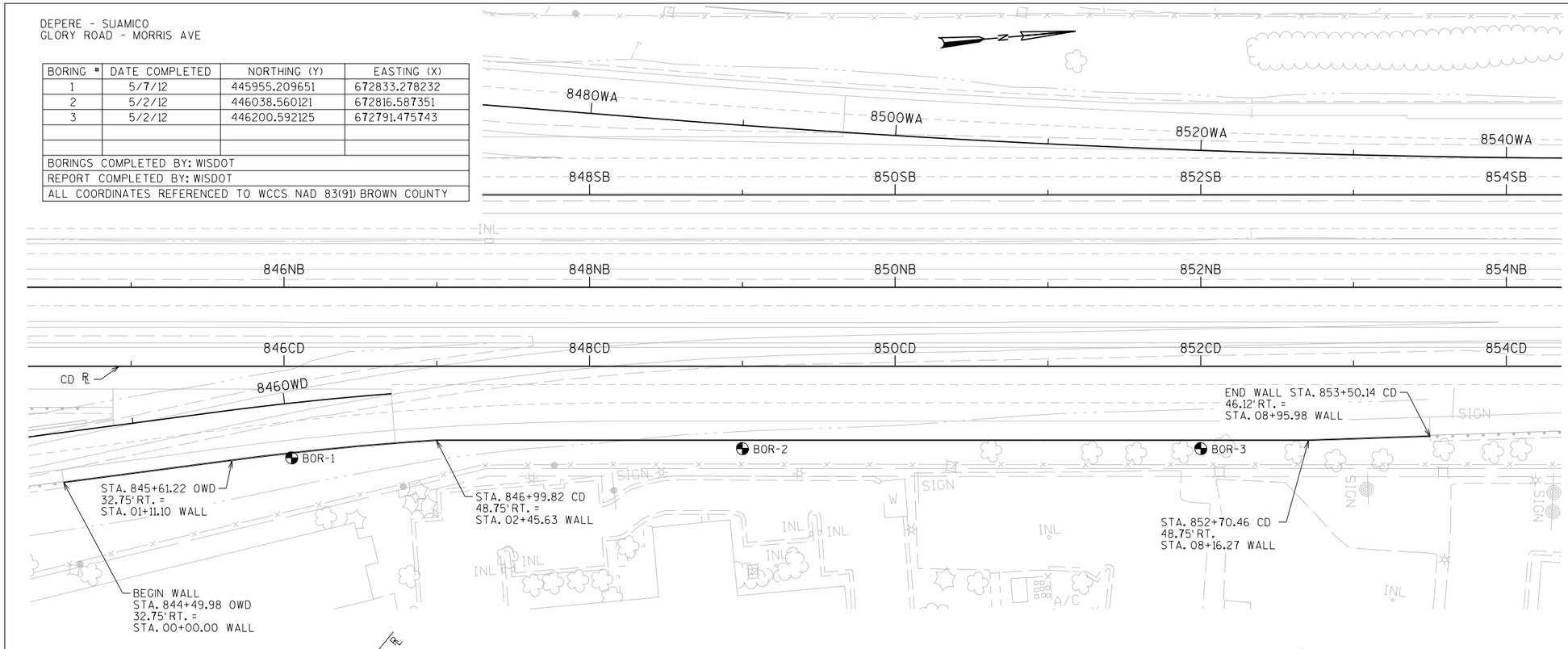
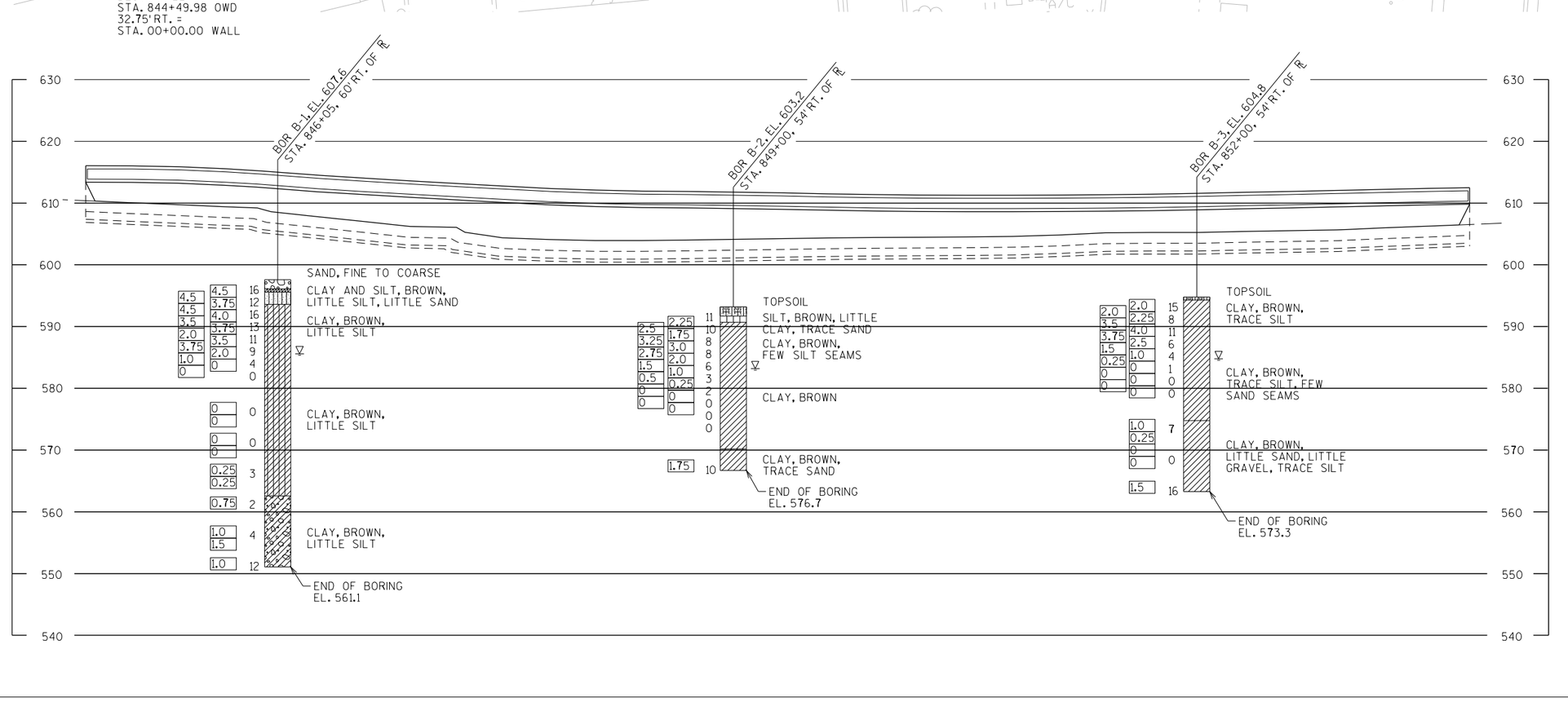
AESTHETIC DETAILS 2

DEPERE - SUAMICO
GLORY ROAD - MORRIS AVE

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	5/7/12	445955.209651	672833.278232
2	5/2/12	446038.560121	672816.587351
3	5/2/12	446200.592125	672791.475743
BORINGS COMPLETED BY: WISDOT			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) BROWN COUNTY			





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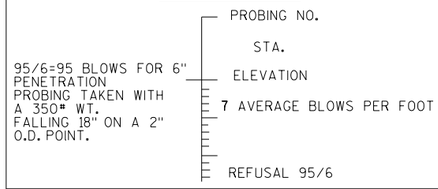
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

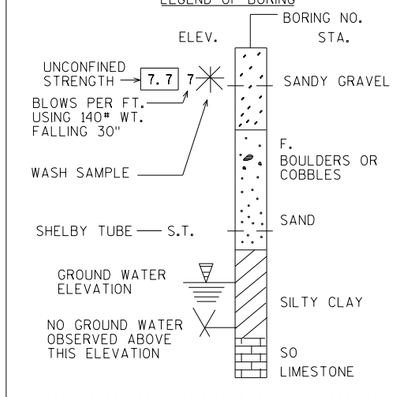
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE, SAND, PEAT, LIMESTONE, GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

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SUBSURFACE EXPLORATION

SHEET 8 OF 8

2322

FILE=
SCALE =

8

8

STATE PROJECT NUMBER

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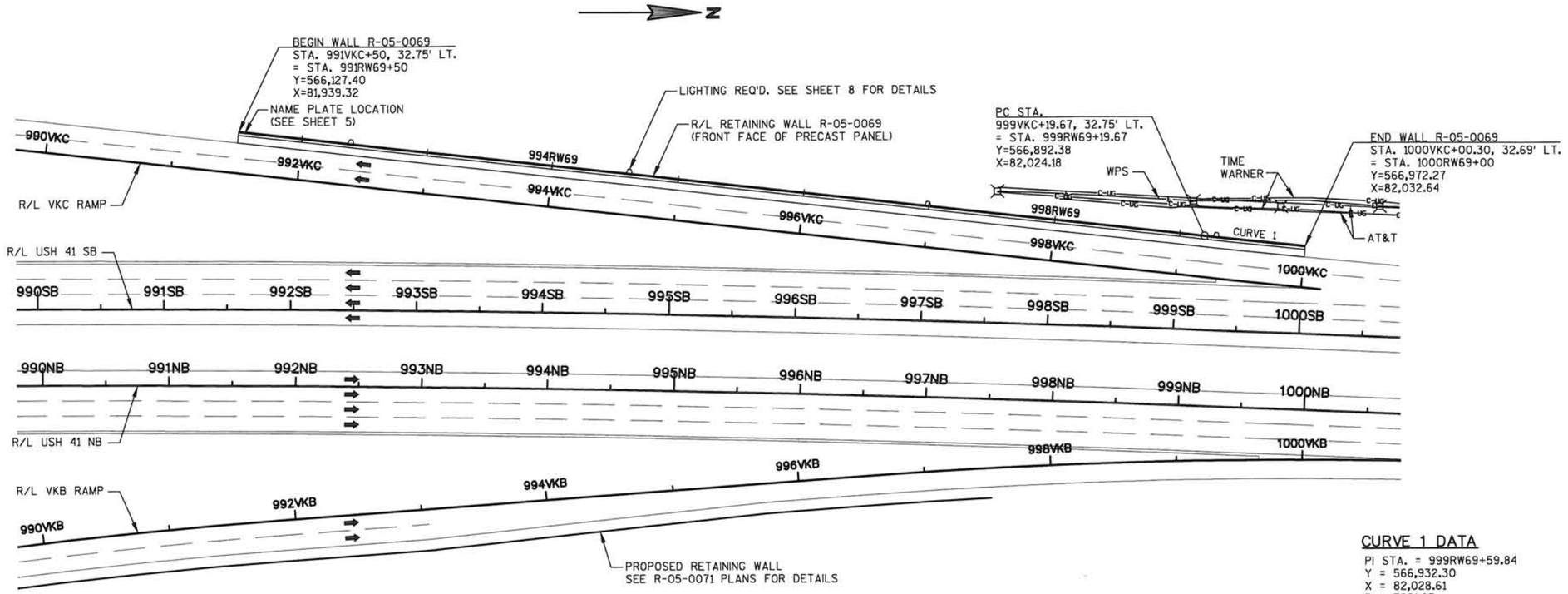
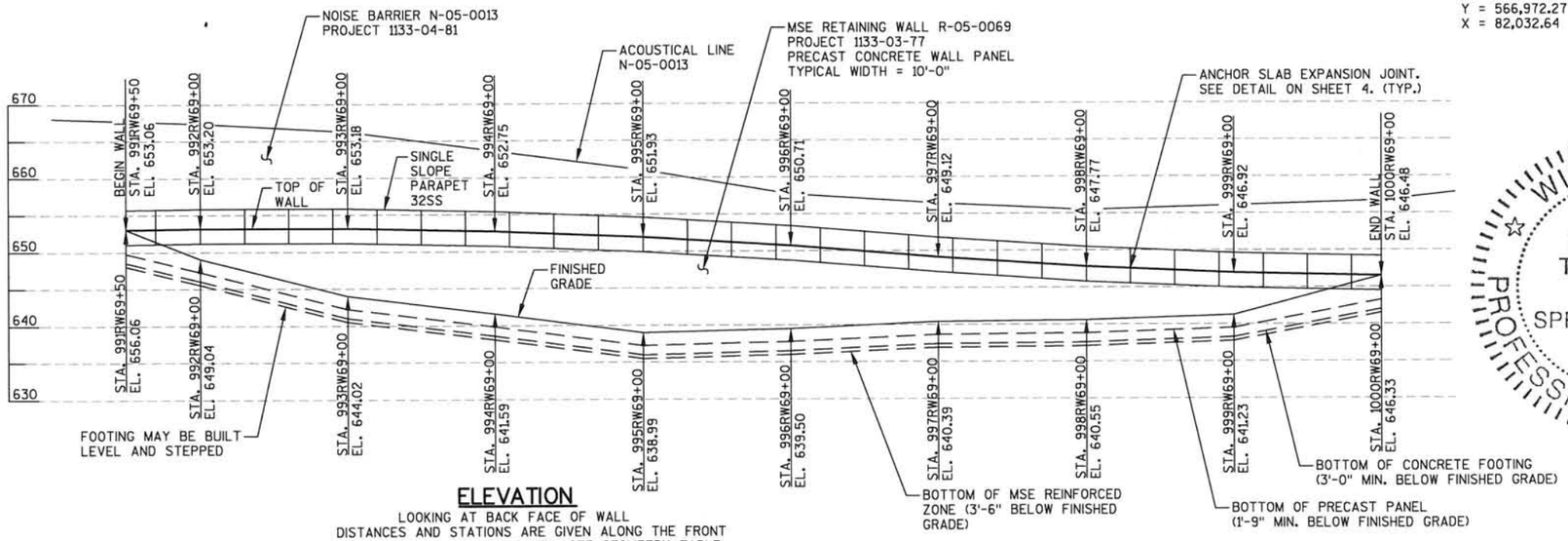


PLAN R-05-0069

MSE WALL WITH TILT-UP PANELS



ELEVATION

LOOKING AT BACK FACE OF WALL
DISTANCES AND STATIONS ARE GIVEN ALONG THE FRONT FACE OF WALL PRECAST PANEL. SEE GEOMETRY TABLE ON SHEET 3 FOR ADDITIONAL STATIONS WITH TOP AND BOTTOM ELEVATIONS OF WALL.

CURVE 1 DATA

PI STA. = 999RW69+59.84
Y = 566,932.30
X = 82,028.61
R = 7991.25
D = 0°43'01"
Δ = 0°34'24"
L = 80.33
T = 39.92
C = 80.33
PC STA. = 999RW69+19.67
Y = 566,892.38
X = 82,024.18
PT STA. = 1000RW69+00.00
Y = 566,972.27
X = 82,032.64

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. WALL SECTION AND DETAILS
3. QUANTITIES AND DESIGN DATA
4. PARAPET, COPING & ANCHOR SLAB DETAILS
5. PARAPET, COPING & ANCHOR SLAB ELEVATION
6. NOISE BARRIER POST ANCHORAGE
7. DETAILS
8. LIGHTING DETAILS
9. AESTHETIC DETAILS (1 OF 2)
10. AESTHETIC DETAILS (2 OF 2)
11. SUBSURFACE EXPLORATION

DESIGN CONSULTANT
ADRIAN KIDARSA, PE
(608) 588-7484

BRIDGE OFFICE CONTACT
WILLIAM DREHER, PE
(608) 266-8489

WISCONSIN PROFESSIONAL ENGINEER
PATRICK T. BOLAND
E-36303
SPRING GREEN WIS
Patrick Boland 3-22-13

NO.	DATE	REVISION	BY

JEWELL associates engineers, inc.
Engineers - Planners - Surveyors
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
PHONE: (608) 588-7484
FAX: (608) 588-9322

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C Dreher KAR 03/25/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-05-0069

RETAINING WALL WEST OF VKC RAMP

COUNTY	BROWN
~~TOWN/CITY/VILLAGE~~	GREEN BAY
DESIGN SPEC.	AASHTO STD. SPEC. 2003

DESIGNED BY	PTB	DESIGN CK'D.	MEM	DRAWN BY	PTB	PLANS CK'D.	MEM

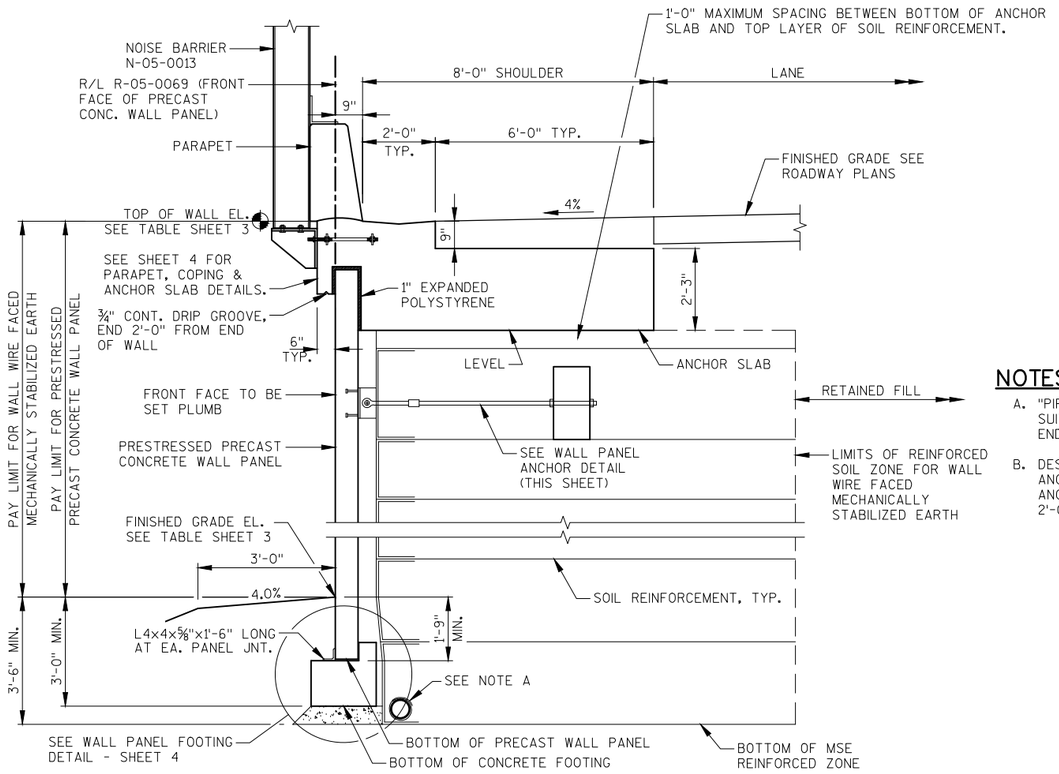
GENERAL PLAN AND ELEVATION

SHEET 1 OF 11

8

8

FILE NAME : R:\PROJECTS\W11440 USH 41 BOX CULVERTS (ALL CULVERTS)\W11487 USH 41 RETAINING WALLS\CADD FILES\STRUCTURE (WORKING)\W11487_R-05-69_01_FSH.DWG
LAYOUT : LAYOUT
PLOT DATE : 3/22/2013
PLOT TIME : 11:33:39 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'



TYPICAL WALL SECTION

WITH NOISE BARRIER
(STA. 991RW69+50 TO STA. 1000RW69+00)
FOR TYPICAL DETAILS AT THE FACE OF THE WALL, SEE ROADWAY TYPICAL SECTIONS.

*OPTIONAL MULTI-DIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION (CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF THE 1¼" DIA. BAR)

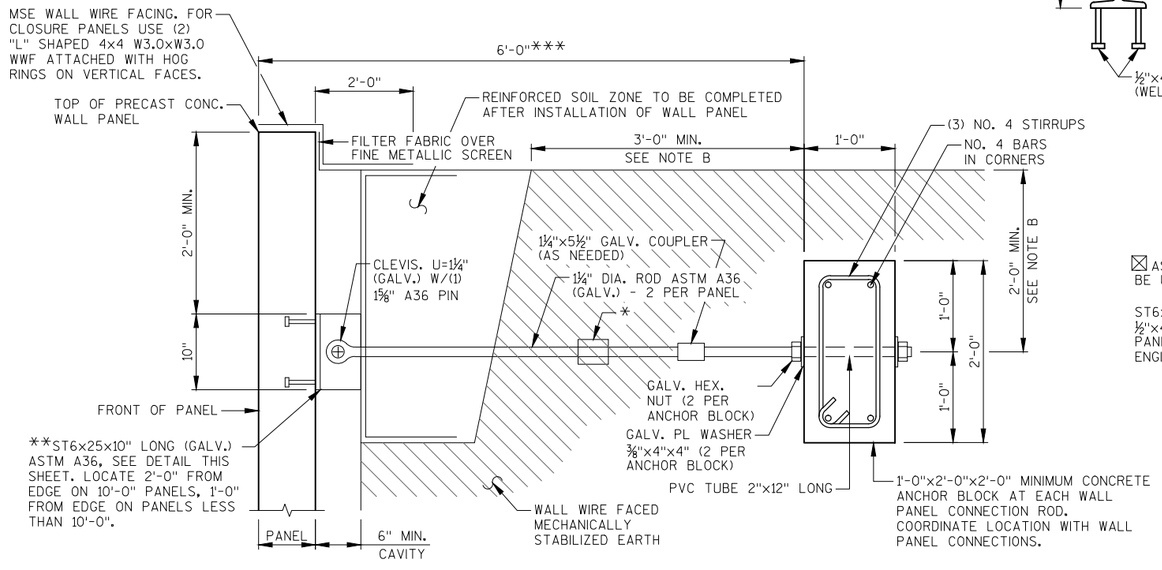
**AN OPTIONAL WELDED DETAIL OR TYPE "S" ANCHORED PLATE MAY BE SUBMITTED FOR CONSIDERATION BY THE ENGINEER. (RESTORE ZINC COATING AROUND ANY WELDED AREAS)

***LENGTH MAY BE INCREASED TO AVOID OBSTRUCTIONS. (SEE NOTE B)

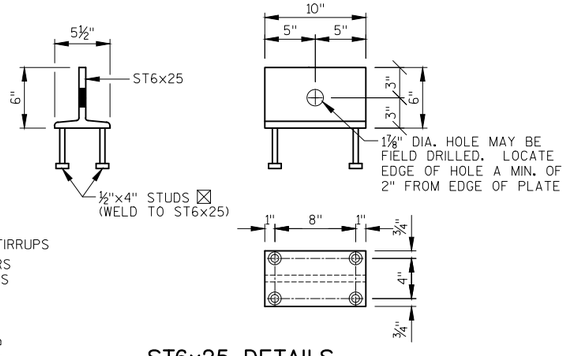
NOTES

A. "PIPE UNDERDRAIN WRAPPED 6-INCH", SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELDS AT EXPOSED ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON SHEET 7.

B. DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MIN. 3'-0" COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION. ROD MIN. 2'-0" BELOW FINISHED GRADE.



WALL PANEL ANCHOR DETAIL



ST6x25 DETAILS

☒ AS AN ALTERNATIVE, ½" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.

ST6x25 MAY BE WELDED TO ¾" THICK PLATE WITH ½"x4" STUDS ANCHORED IN PRECAST CONCRETE PANEL. DETAILS SUBJECT TO APPROVAL BY THE ENGINEER.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BEVEL EXPOSED EDGES OF CONCRETE ¾", UNLESS NOTED OTHERWISE.

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), BROWN COUNTY.

ALL DIMENSIONS ARE ALONG THE FRONT FACE OF PRECAST CONCRETE WALL PANEL, UNLESS OTHERWISE SHOWN.

ALL BAR STEEL REINFORCEMENT FOR CAST-IN-PLACE CONCRETE, EXCEPT FOR WALL PANEL FOOTING, IS TO BE EPOXY COATED.

BAR STEEL REINFORCEMENT SHALL HAVE 2" CLEAR COVER, UNLESS SHOWN OTHERWISE.

THE FIRST DIGIT OF BAR MARK SIGNIFIES THE BAR SIZE. BAR DIMENSIONS ARE OUT TO OUT OF BAR.

THESE PLANS ARE FOR A WIRE FACED MECHANICALLY STABILIZED EARTH WALL WITH PRECAST PRESTRESSED CONCRETE FACING PANELS.

COORDINATE THE CONSTRUCTION OF WALL R-05-0069 WITH THE NOISE WALL N-05-0013

PROVIDE COMPLETE DESIGN, PLANS, DETAILS AND SHOP DRAWINGS FOR THE RETAINING WALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH".

DO NOT PERMIT CONCRETE OR FILL TO ACCUMULATE IN THE WALL CAVITY BETWEEN THE WIRE FACED MSE WALL AND THE PRECAST CONCRETE WALL PANEL. AT THE ENDS OF WALL, SEAL CAVITY BETWEEN WIRE FACE WALL AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE 1'-6" WIDE.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153 TYPES I, II, OR III, OR M123.

THE COST OF FURNISHING AND PLACING THE FOOTING UNDER THE MSE PRECAST WALL PANELS INCLUDING THE BAR STEEL IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

OPTIONAL TRANVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE FOOTING WITH A MINIMUM SPACING OF TWO PANEL LENGTHS, FOOTING JOINTS SHALL BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THROUGH FOOTING JOINTS.

THE PLAN QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE ANCHOR SLAB AND PARAPETS IS PAID FOR UNDER THE ITEM "CONCRETE MASONRY RETAINING WALLS".

THE PLAN QUANTITY FOR THE ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL" IS BASED ON A WALL HEIGHT MEASURED FROM THE FINISHED GRADE AT THE FRONT FACE OF PRECAST CONCRETE WALL PANEL TO THE TOP OF WALL AS SHOWN ON THE PLANS.

PLANS, ELAVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

DESIGN THE RETAINING WALL FOR HORIZONTAL FINISHED GRADE BEHIND THE WALL AND A LIVE LOAD SURCHARGE OF 240 PSF.

DESIGN THE MSE WALL FOR THE DEAD LOAD OF NOISE BARRIER AND THE WIND LOAD ACTING ON THE NOISE BARRIER.

NOISE BARRIER N-05-0013 WILL BE MOUNTED ON STRUCTURE R-05-0069. THE PLAN DETAILS FOR STRUCTURE R-05-0069 SHOW AN ASSUMED POST SPACING AND MOUNTING DETAILS FOR NOISE BARRIER. COORDINATE THE ACTUAL MOUNTING DETAILS, NOISE BARRIER POST SPACING, AND LOCATION OF EMBEDDED ANCHORAGE ASSEMBLIES WITH THE MANUFACTURER OF THE NOISE BARRIER AND THE APPROVED NOISE BARRIER SHOP DRAWINGS.

ERECTION OF NOISE BARRIER IS LIMITED TO ⅔ THE HEIGHT OF THE NOISE WALL ACOUSTICAL LINE SHOWN ON THE PLANS PRIOR TO PLACEMENT OF EARTH FILL OR COMPLETE PAVEMENT STRUCTURE OVER THE TOP OF THE ANCHOR SLAB.

DESIGN THE MSE WALL FOR A WIND SUCTION LOAD OF 20 PSF ON THE PRECAST PANEL.

STATE PROJECT NUMBER

1133-03-77

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-0069

DRAWN BY KLA | PLANS CK'D. MEM

WALL SECTION AND DETAILS

SHEET 2 OF 11

2324

8

8

STATE PROJECT NUMBER

1133-03-77

GEOMETRY TABLE ◥

WALL STATION	TOP OF WALL	FINISHED GRADE	WALL COORDINATES Y	WALL COORDINATES X	ROADWAY STATION	OFFSET TO R/L WALL
991RW69+50	653.06	653.06	566,127.40	81,939.32	991VKC+50.00	32.75' LT.
991RW69+75	653.14	651.06	566,152.25	81,942.08	991VKC+75.00	32.75' LT.
992RW69+00	653.20	649.04	566,177.10	81,944.84	992VKC+00.00	32.75' LT.
992RW69+25	653.23	647.81	566,201.95	81,947.59	992VKC+25.00	32.75' LT.
992RW69+50	653.24	646.58	566,226.80	81,950.35	992VKC+50.00	32.75' LT.
992RW69+75	653.22	645.30	566,251.64	81,953.11	992VKC+75.00	32.75' LT.
993RW69+00	653.18	644.02	566,276.49	81,955.86	993VKC+00.00	32.75' LT.
993RW69+25	653.11	643.44	566,301.34	81,958.62	993VKC+25.00	32.75' LT.
993RW69+50	653.02	642.86	566,326.19	81,961.38	993VKC+50.00	32.75' LT.
993RW69+75	652.90	642.23	566,351.03	81,964.13	993VKC+75.00	32.75' LT.
994RW69+00	652.75	641.59	566,375.88	81,966.89	994VKC+00.00	32.75' LT.
994RW69+25	652.59	641.40	566,400.73	81,969.65	994VKC+25.00	32.75' LT.
994RW69+50	652.39	641.21	566,425.58	81,972.40	994VKC+50.00	32.75' LT.
994RW69+75	652.17	640.10	566,450.42	81,975.16	994VKC+75.00	32.75' LT.
995RW69+00	651.93	638.99	566,475.27	81,977.91	995VKC+00.00	32.75' LT.
995RW69+25	651.66	639.15	566,500.12	81,980.67	995VKC+25.00	32.75' LT.
995RW69+50	651.37	639.30	566,524.97	81,983.43	995VKC+50.00	32.75' LT.
995RW69+75	651.05	639.40	566,549.81	81,986.18	995VKC+75.00	32.75' LT.
996RW69+00	650.71	639.50	566,574.66	81,988.94	996VKC+00.00	32.75' LT.
996RW69+25	650.34	639.74	566,599.51	81,991.70	996VKC+25.00	32.75' LT.
996RW69+50	649.95	639.97	566,624.36	81,994.45	996VKC+50.00	32.75' LT.
996RW69+75	649.53	640.18	566,649.20	81,997.21	996VKC+75.00	32.75' LT.
997RW69+00	649.12	640.39	566,674.05	81,999.97	997VKC+00.00	32.75' LT.
997RW69+25	648.73	640.40	566,698.90	82,002.72	997VKC+25.00	32.75' LT.
997RW69+50	648.38	640.41	566,723.75	82,005.48	997VKC+50.00	32.75' LT.
997RW69+75	648.06	640.48	566,748.59	82,008.23	997VKC+75.00	32.75' LT.
998RW69+00	647.77	640.55	566,773.44	82,010.99	998VKC+00.00	32.75' LT.
998RW69+25	647.51	640.69	566,798.29	82,013.75	998VKC+25.00	32.75' LT.
998RW69+50	647.28	640.83	566,823.14	82,016.50	998VKC+50.00	32.75' LT.
998RW69+75	647.08	641.03	566,847.98	82,019.26	998VKC+75.00	32.75' LT.
999RW69+00	646.92	641.23	566,872.83	82,022.02	999VKC+00.00	32.75' LT.
999RW69+25	646.79	641.48	566,897.68	82,024.77	999VKC+05.02	32.75' LT.
999RW69+50	646.67	643.74	566,922.53	82,027.47	999VKC+50.12	32.68' LT.
999RW69+75	646.55	645.04	566,947.40	82,030.09	999VKC+75.23	32.65' LT.
1000RW69+00	646.48	646.33	566,972.27	82,032.64	1000VKC+00.33	32.69' LT.

◥ = LINEARLY INTERPOLATE WALL ELEVATIONS BETWEEN STATIONS.

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTALS
502.3200	PROTECTIVE SURFACE TREATMENT	SY	530
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	829
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	89,360
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	45
532.0700.S	WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	6,900
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	860
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	860
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	12
653.0222	JUNCTION BOXES 18x12x6-INCH	EACH	4
SPV.0060.700	ANCHOR BOLT ASSEMBLY LIGHT POLE	EACH	4
SPV.0060.701	ANCHOR ASSEMBLIES NOISE BARRIERS STRUCTURES	EACH	85
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	1,640
SPV.0165.501	STAINING CONCRETE	SF	8,400
SPV.0165.502	STAINING CONCRETE BRICK	SF	1,640
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	6,900
	NON-BID ITEMS		
	NAME PLATE		
	EXPANDED POLYSTYRENE	SIZE	1"
	CORK FILLER	SIZE	1"

ALL ITEMS ARE CATEGORY 4060

SOIL PARAMETERS

SOIL DESCRIPTION	BOTTOM ELEVATION (FT)	SOIL UNIT WEIGHT (PCF)	UNDRAINED COHESION (PSF)	UNDRAINED FRICTION ANGLE (DEGREES)	DRAINED COHESION (PSF)	DRAINED FRICTION ANGLE (DEGREES)
TOPSOIL	637.5	125	500	0	50	20
MEDIUM DENSE SILTY SAND (POSSIBLE FILL)	628.0	125	0	28	0	28
STIFF SANDY/LEAN CLAY	613.6	130	2,000	0	100	28
MEDIUM DENSE SILTY SAND	601.5	125	0	30	0	30
HARD LEAN CLAY	VARIED*	130	4,000	0	200	32

*OBSERVED TO BORING TERMINATION DEPTHS

ASSUMED SOIL PARAMETERS OF FILL MATERIALS

SOIL DESCRIPTION	SOIL UNIT WEIGHT (PCF)	UNDRAINED COHESION (PSF)	UNDRAINED FRICTION ANGLE (DEGREES)	DRAINED COHESION (PSF)	DRAINED FRICTION ANGLE (DEGREES)
PROPOSED EMBANKMENT FILL (GRANULAR)	120	0	30	0	30
MSE FILL (GRANULAR)*	120	0	30	0	30
GRANULAR ENGINEERED FILL**	120	0	30	0	30

*MSE BACKFILL ASSUMED TO EXTEND 3.5' BELOW PROPOSED FINISHED GRADE.
**DESIGN WALL FOR THESE VALUES.

⚠SAFETY FACTORS FOR MSE WALLS

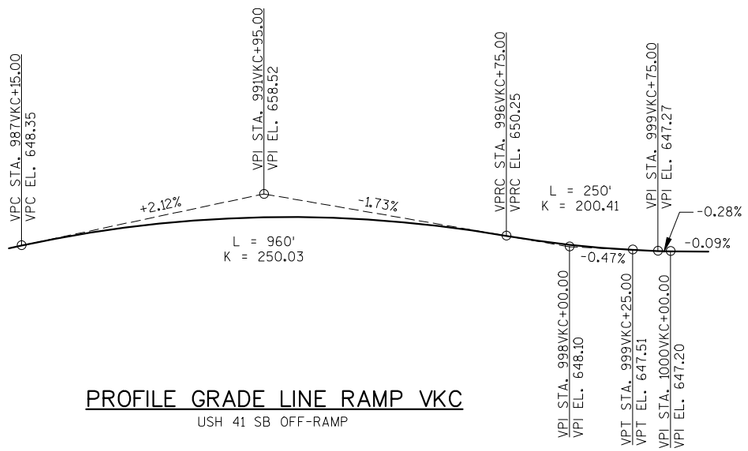
STRUCTURE	STATION	WALL HEIGHT* (FT)	SLIDING (FS ≥ 1.5)	OVERTURN (FS ≥ 2)	GLOBAL STABILITY (FS ≥ 1.3)	BEARING CAPACITY (FS ≥ 2.5)	LENGTH OF REINFORCEMENT (FT)
R-05-0069	988+00 TO 988+99	10.9	1.5**	3.6	1.8	5.7	8.0 MIN.
	989+00 TO 998+99	16.5	1.5**	2.3	1.6	3.1	1.0x(WALL HT)
	999+00 TO 1000+50	9.4	1.5**	3.6	1.9	5.7	8.0 MIN.

* INCLUDES 3'-6" EMBEDMENT DEPTH

** CRITICAL CONDITION CASE

⚠ ALL SAFETY FACTORS ARE CALCULATED FOR THE WALL HEIGHTS AND REINFORCEMENT LENGTHS SHOWN IN THE TABLE. SEE GEOTECHNICAL REPORT FOR FURTHER INFORMATION. FINAL DESIGN FOR INTERNAL STABILITY, EXTERNAL SLIDING AND EXTERNAL OVERTURNING ARE THE RESPONSIBILITY OF THE WALL DESIGNER AND MAY BE DIFFERENT FROM THE VALUES IN THE TABLE.

SOIL REINFORCEMENT MUST EXTEND A MINIMUM OF 3.0' BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS.



PROFILE GRADE LINE RAMP VKC
USH 41 SB OFF-RAMP

DESIGN DATA

LIVE LOAD:

LIVE LOAD SURCHARGE _____ 240 P.S.F. (TRAFFIC)

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY _____ f'c = 3,500 P.S.I.
PRECAST CONCRETE WALL PANEL _____ f'c = 5,000 P.S.I.
HIGH-STRENGTH BAR
STEEL REINFORCEMENT _____ fy = 60,000 P.S.I.
STRUCTURAL STEEL CARBON _____ Fy = 36,000 P.S.I.
(ASTM A709 GRADE 36)

NOISE BARRIER

NOISE BARRIER MAXIMUM HEIGHT ABOVE
BASE OF TRAFFIC BARRIER _____ 20.0 FT
NOISE BARRIER DEADLOAD _____ 50 PSF
WIND PRESSURE ON NOISE BARRIER
(NORMAL TO BARRIER EITHER DIRECTION) _____ 42 PSF
MAX. POST SPACING _____ 10 FT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-0069

DRAWN BY KLA | PLANS CK'D. MEM

QUANTITIES AND DESIGN DATA

SHEET 3 OF 11

2325

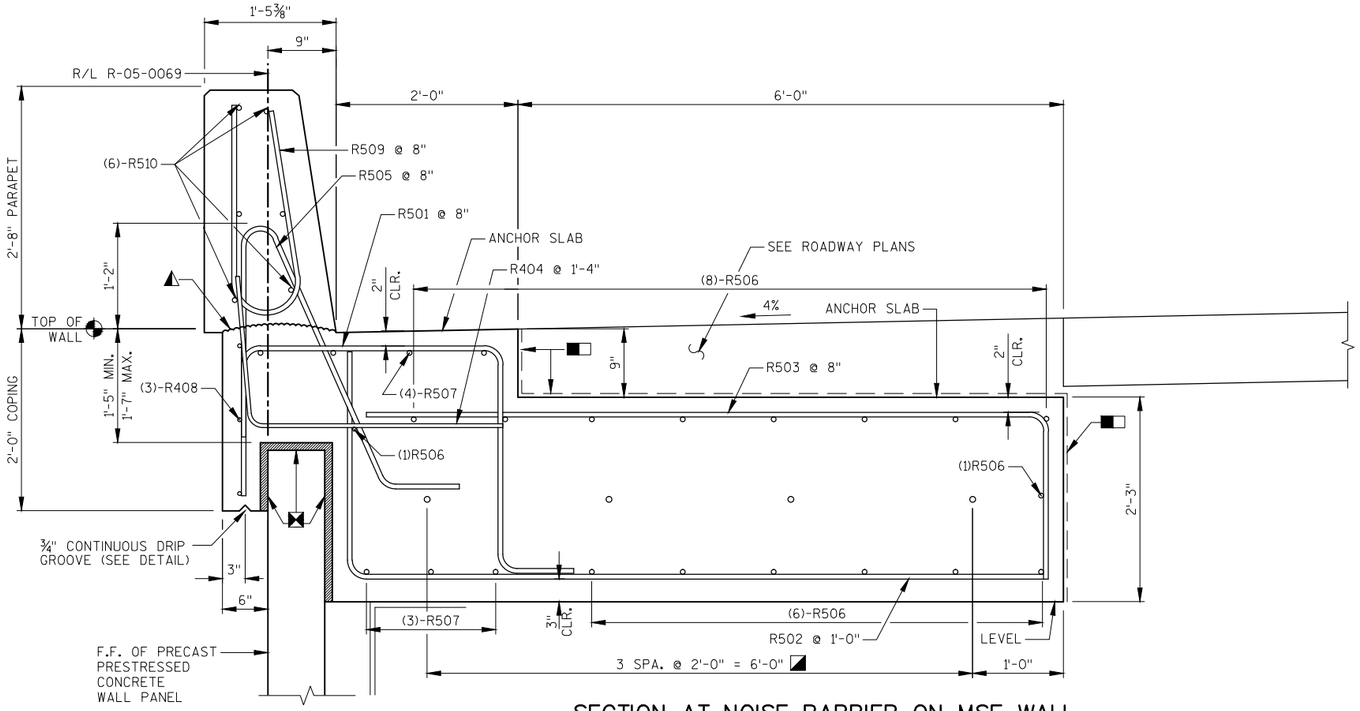
8

8

FILE NAME : R:\PROJECTS\W11440 USH 41 BOX CULVERTS (ALL CULVERTS)\W11487 USH 41 RETAINING WALLS\CADD FILES\STRUCTURE (WORKING)\W11487_R-05-69_03_QNT.DWG
LAYOUT : LAYOUT
PLOT DATE : 11/20/2012
PLOT TIME : 10:53:40 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

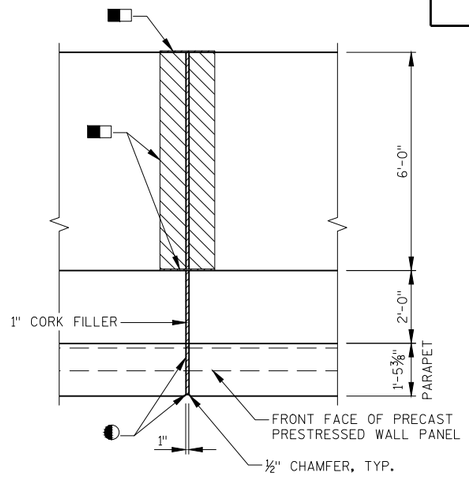
STATE PROJECT NUMBER

1133-03-77



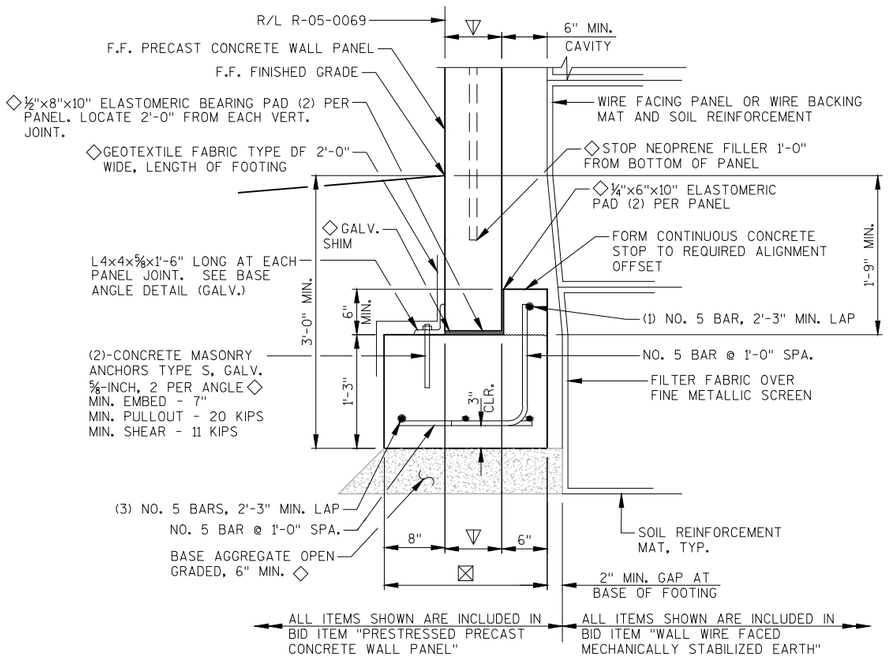
SECTION AT NOISE BARRIER ON MSE WALL

(STA 991RW69+50 TO STA 1000RW69+00)



☆ANCHOR SLAB EXPANSION JOINT

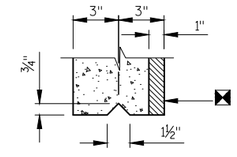
(STA. 991RW69+50 TO STA. 1000RW69+00)



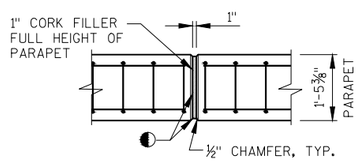
WALL PANEL FOOTING DETAIL

▽ PANEL THICKNESS (DESIGNED BY THE WALL MANUFACTURER)

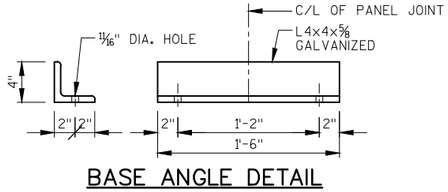
☒ FOOTING DIMENSION EQUALS PANEL THICKNESS PLUS 1'-2"



3/4" DRIP GROOVE



☆PARAPET EXPANSION JOINT



BASE ANGLE DETAIL

(1 AT EACH PANEL JOINT) ◇

LEGEND

- ◭ CONSTRUCTION JOINT - STRIKE OFF AS SHOWN
- ⧓ 1" EXPANDED POLYSTYRENE
- ◐ NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ¼" BELOW SURFACE OF CONCRETE) SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING COLOR TO MATCH CONCRETE STAIN.
- ▬ 18" RUBBERIZED MEMBRANE WATERPROOFING.
- ☆ EXPANSION JOINTS TO BE SPACED AT A MINIMUM OF 20' AND A MAXIMUM OF 30'. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT, EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.
- ◪ ¾" DIAMETER SMOOTH DOWEL BARS, 1'-6" LONG, AT EXPANSION JOINT. EMBED 9". USE APPROVED DEBONDER ON ½ OF BAR LENGTH. COST INCLUDED IN "CONCRETE MASONRY RETAINING WALLS".
- ◇ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

NOTES

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPET AND ANCHOR SLAB MAY BE USED. RUN BAR REINFORCEMENT THRU THE OPTIONAL JOINT.

LAP #4 LONGITUDINAL BARS A MINIMUM OF 1'-9" AND LAP #5 BARS A MINIMUM OF 2'-3".

FOR PARAPET AND ANCHOR SLAB ELEVATION SEE SHEET 5.

SEE SHEET 5 FOR PARAPET DIMENSIONS.

SEE SHEET 7 FOR BILL OF BARS.

F.F. - FRONT FACE
B.F. - BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-0069

DRAWN BY KLA | PLANS CK'D. MEM

PARAPET, COPING & ANCHOR SLAB DETAILS

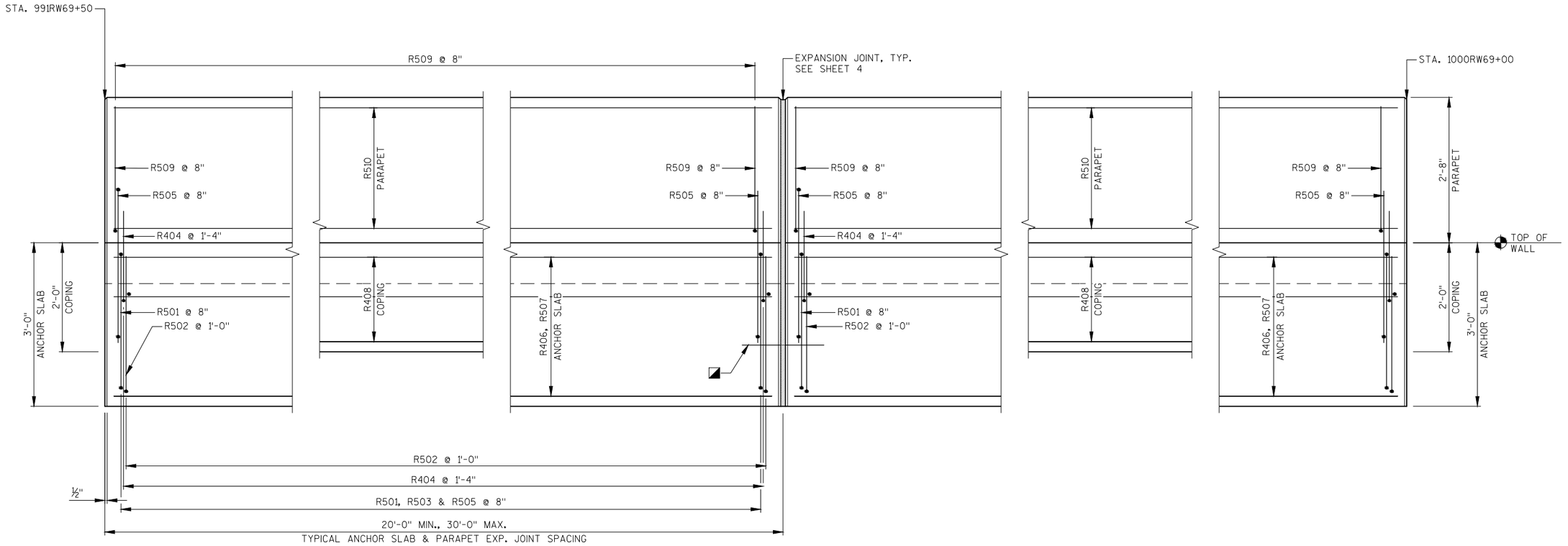
SHEET 4 OF 11

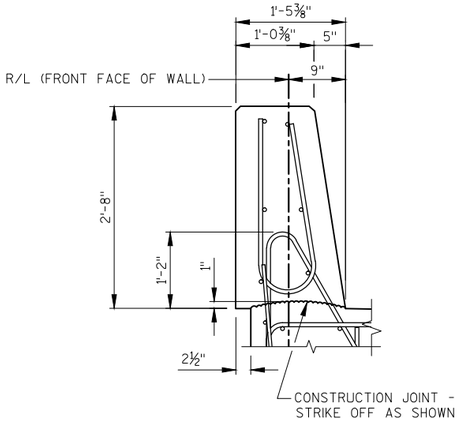
2326

8

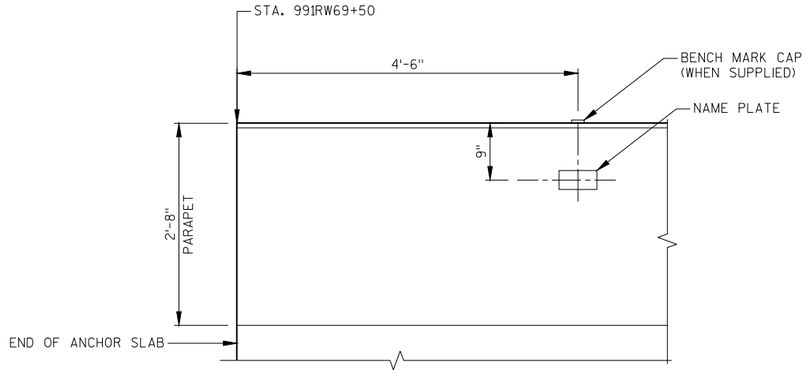
8

STATE PROJECT NUMBER
1133-03-77





TYPICAL SECTION THROUGH PARAPET



INSIDE PARAPET ELEVATION

SEE GENERAL PLAN FOR NAME PLATE LOCATION

NOTES

SEE SHEET 7 FOR BILL OF BARS.

LEGEND

◪ ¾" DIAMETER SMOOTH DOWEL BARS, 1'-6" LONG, AT EXPANSION JOINT. EMBED 9". USE APPROVED DEBONDER ON ½ OF BAR LENGTH. COST INCLUDED IN "CONCRETE MASONRY RETAINING WALLS".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-0069

DRAWN BY: KLA | PLANS CK'D.: MEM

PARAPET, COPING & ANCHOR SLAB ELEVATION

SHEET 5 OF 11

2327

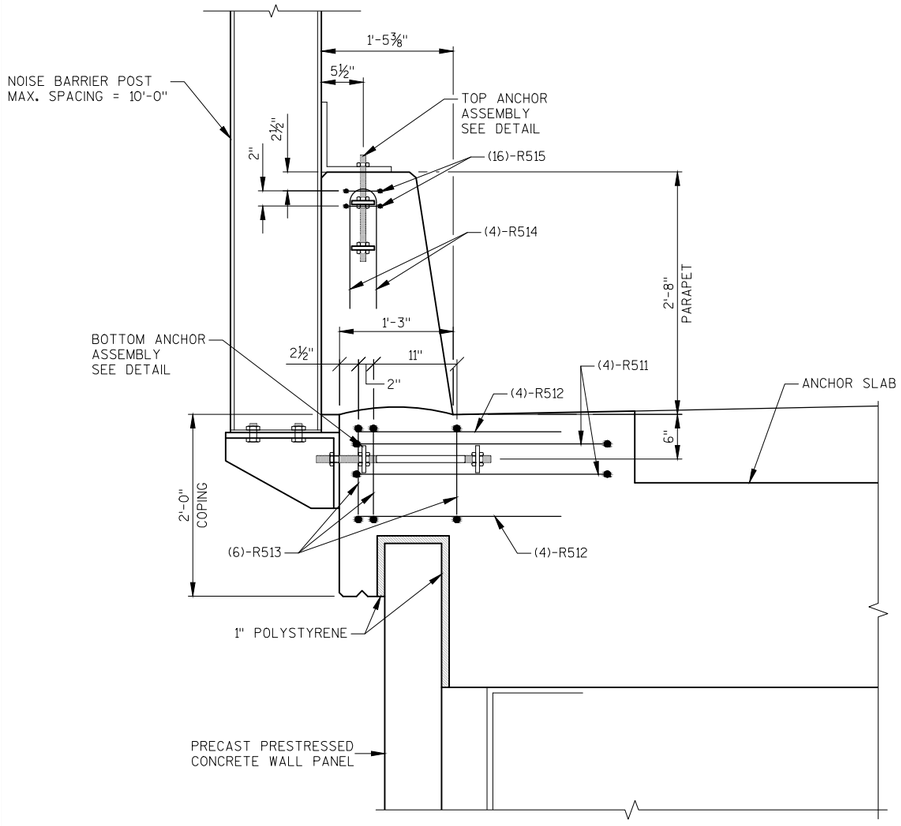
8

8

FILE NAME : R:\PROJECTS\W11440 USH 41 BOX CULVERTS (ALL CULVERTS)\W11487 USH 41 RETAINING WALLS\CADD FILES\STRUCTURE (WORKING)\W11487_R-05-69_05_ELEV.DWG
LAYOUT : LAYOUT
PLOT DATE : 11/20/2012
PLOT TIME : 10:54:06 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

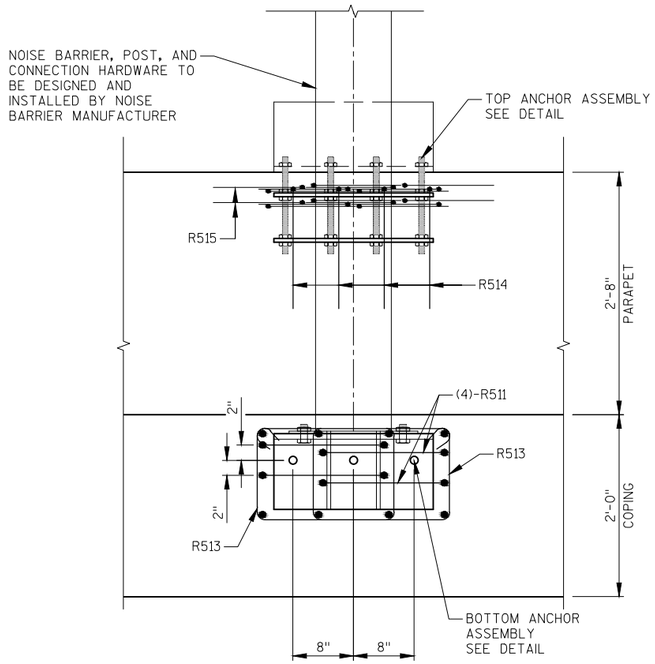
STATE PROJECT NUMBER

1133-03-77



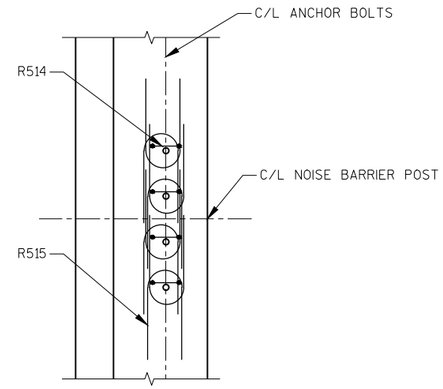
SECTION AT NOISE BARRIER ON MSE WALL

TYPICAL AT EACH POST LOCATION

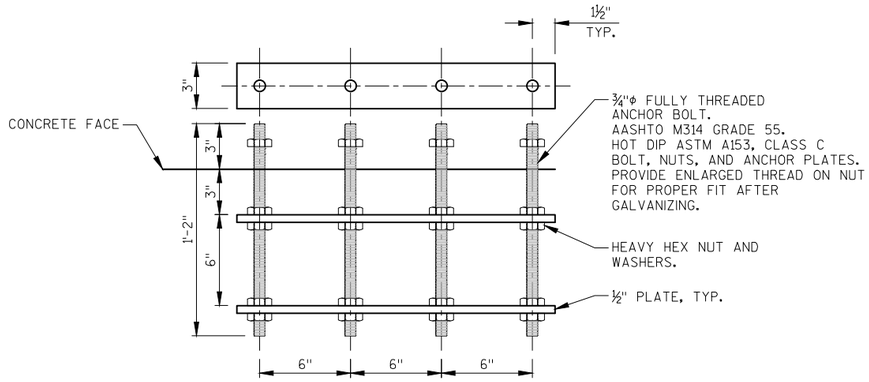


ELEVATION AT NOISE BARRIER POST

TYPICAL AT EACH POST LOCATION

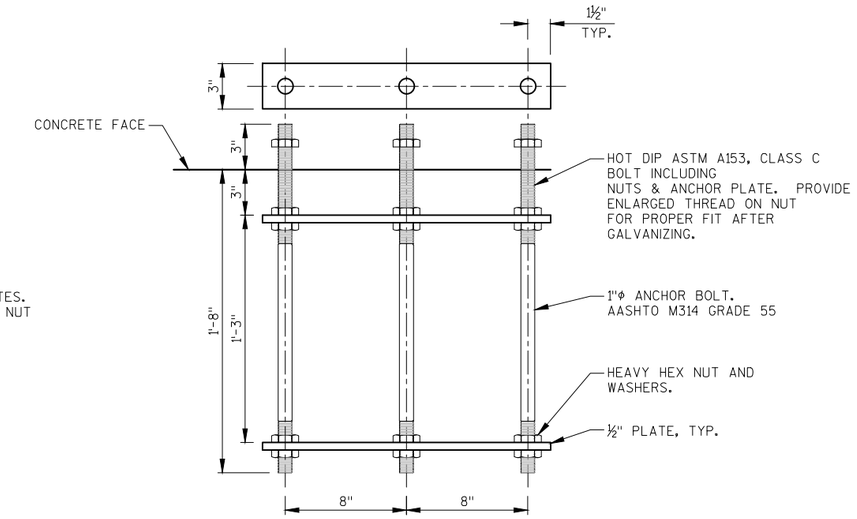


TOP VIEW AT PARAPET



ELEVATION

TOP ANCHOR BOLT ASSEMBLY



PLAN

BOTTOM ANCHOR BOLT ASSEMBLY

NOTES

BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES" EACH INCLUDES UPPER AND LOWER ANCHORAGES AT EACH POST LOCATION.

SEE SHEETS 4 AND 5 FOR ANCHOR SLAB AND PARAPET DETAILS.

SEE SHEET 9 FOR NOISE BARRIER POST SPACING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-0069

DRAWN BY KLA | PLANS CK'D. MEM

NOISE BARRIER POST ANCHORAGE

SHEET 6 OF 11

2328

8

8

FILE NAME : R:\PROJECTS\W11440 USH 41 BOX CULVERTS (ALL CULVERTS)\W11487 USH 41 RETAINING WALLS\CADD FILES\STRUCTURE (WORKING)\W11487_R-05-69_07_POST ANCHOR.DWG
LAYOUT : LAYOUT
PLOT DATE : 11/20/2012
PLOT TIME : 10:54:11 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

1133-03-77

BILL OF BARS

89,360 LBS. (COATED)

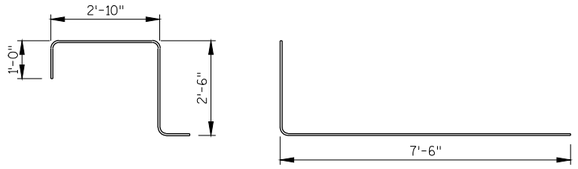
	BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION	
	R501	1304	6'-9"	X	X	ANCHOR SLAB TOP TRANSVERSE	
	R502	879	8'-11"	X	X	ANCHOR SLAB BOTTOM TRANSVERSE	
	R503	1304	9'-2"		X	ANCHOR SLAB TOP TRANSVERSE	
	R404	709	4'-5"	X	X	ANCHOR SLAB BOTTOM TRANSVERSE	
	R505	1304	7'-7"	X	X	PARAPET VERTICAL	
*	R506	16	850'-0"		X	ANCHOR SLAB LONGITUDINAL	
*	R507	7	850'-0"		X	ANCHOR SLAB LONGITUDINAL	
*	R408	3	850'-0"		X	COPING LONGITUDINAL	
	R509	1304	5'-0"	X	X	PARAPET VERTICAL	
*	R510	6	850'-0"		X	PARAPET LONGITUDINAL	
	R511	340	8'-0"	X	X	NOISE WALL POST ANCHORAGE	(4)
	R512	680	2'-3"		X	NOISE WALL POST ANCHORAGE	(8)
	R513	510	5'-6"	X	X	NOISE WALL POST ANCHORAGE	(6)
	R514	340	2'-9"	X	X	NOISE WALL POST ANCHORAGE	(4)
	R515	1360	2'-3"	X	X	NOISE WALL POST ANCHORAGE	(16)
	R516	8	3'-2"	X	X	LIGHT POLE ANCHOR - VERT.	(2)
	R517	8	4'-9"	X	X	LIGHT POLE ANCHOR - VERT.	(2)
	R518	16	6'-8"	X	X	LIGHT POLE ANCHOR - VERT.	(4)
	R519	16	8'-5"	X	X	LIGHT POLE ANCHOR - VERT.	(4)
	R520	16	9'-5"	X	X	LIGHT POLE ANCHOR - HORZ.	(4)
	R521	8	8'-4"	X	X	LIGHT POLE ANCHOR - HORZ.	(2)
	R522	8	5'-8"	X	X	LIGHT POLE ANCHOR - HORZ.	(2)
	R623	28	11'-5"	X	X	LIGHT POLE ANCHOR - HORZ.	(7)
	R524	24	6'-5"	X	X	LIGHT POLE ANCHOR - HORZ.	(6)
	R625	8	13'-3"	X	X	LIGHT POLE ANCHOR - HORZ.	(2)

NOTES

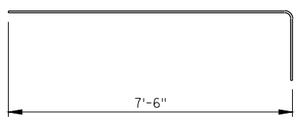
THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

* FIGURE SHOWN IN THE 'NO.' AND 'LENGTH' COLUMNS OF THE TABLE SHOULD BE USED FOR BAR WEIGHT CALCULATIONS ONLY. INDIVIDUAL BAR LENGTHS TO BE DETERMINED BY THE CONTRACTOR BASED ON THE ACTUAL DISTANCE BETWEEN ANCHOR SLAB EXPANSION JOINTS.



R501 R502



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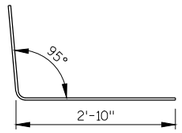

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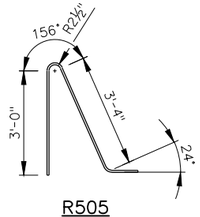
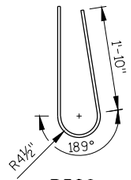


R505



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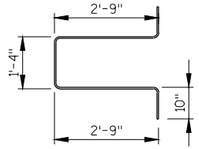

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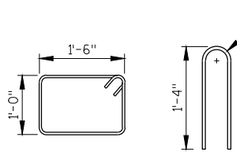

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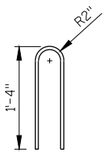

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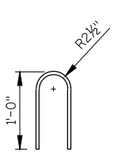

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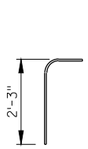

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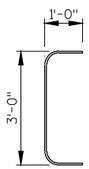

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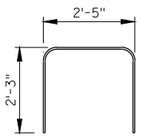

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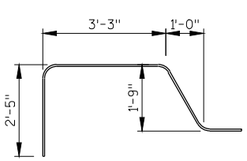

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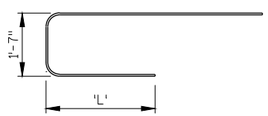
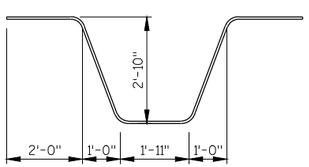


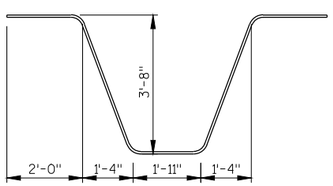
R520, R521 & R522

MARK	'L'
R520	2'-10"
R521	2'-1"
R522	0'-9"



R623

R524



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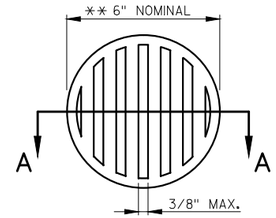
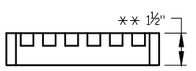




SECTION A–A

RODENT SCREEN

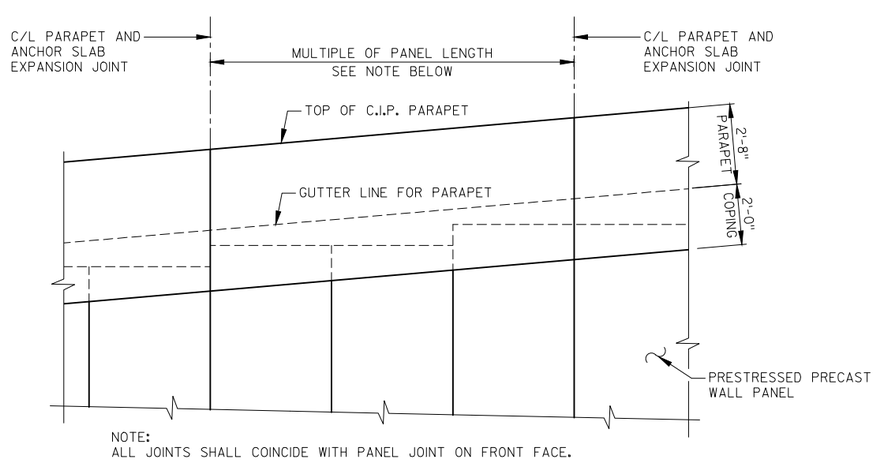
NOTES:

** DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

ORIENT SHIELD SO SLOTS ARE VERTICAL.

THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6–INCH".

THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED ENDS OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1–INCH STAINLESS STEEL SHEET METAL SCREWS.



NOTE:
ALL JOINTS SHALL COINCIDE WITH PANEL JOINT ON FRONT FACE.

C.I.P. PARAPET & COPING PARTIAL ELEVATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R–05–0069

DRAWN BY KLA | PLANS CK'D. MEM

DETAILS

SHEET 7 OF 11

2329

8

8

FILE NAME : R:\PROJECTS\W11440 USH 41 BOX CULVERTS (ALL CULVERTS)\W11487 USH 41 RETAINING WALLS\CADD FILES\STRUCTURE (WORKING)\W11487_R-05-69_08_DETAILS.DWG
LAYOUT : LAYOUT1

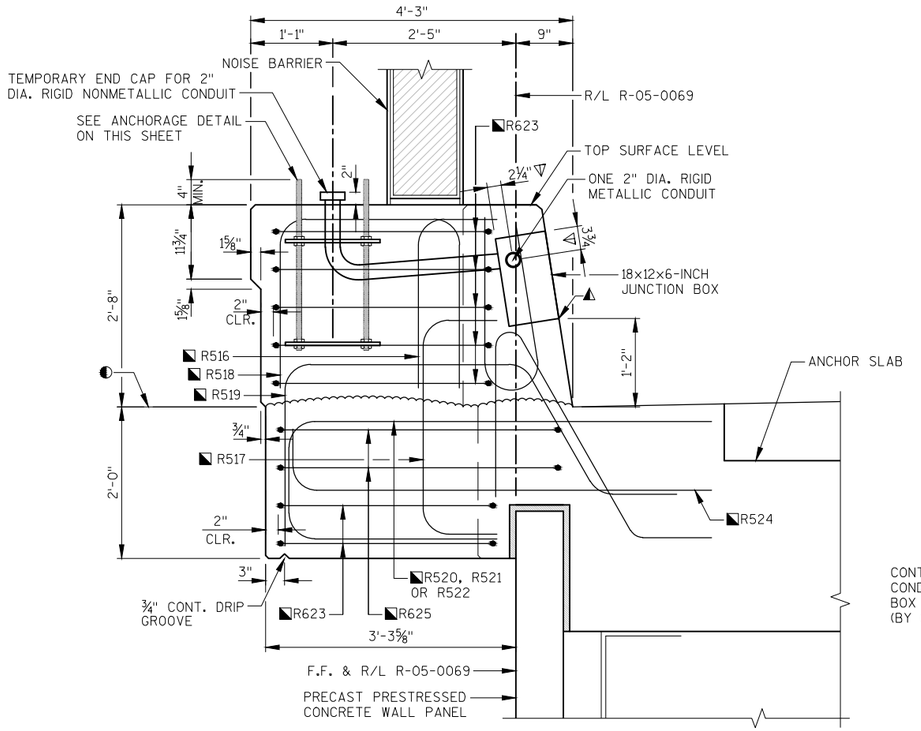
PLOT DATE : 11/20/2012
PLOT TIME : 10:54:23 AM

PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1" = 1'

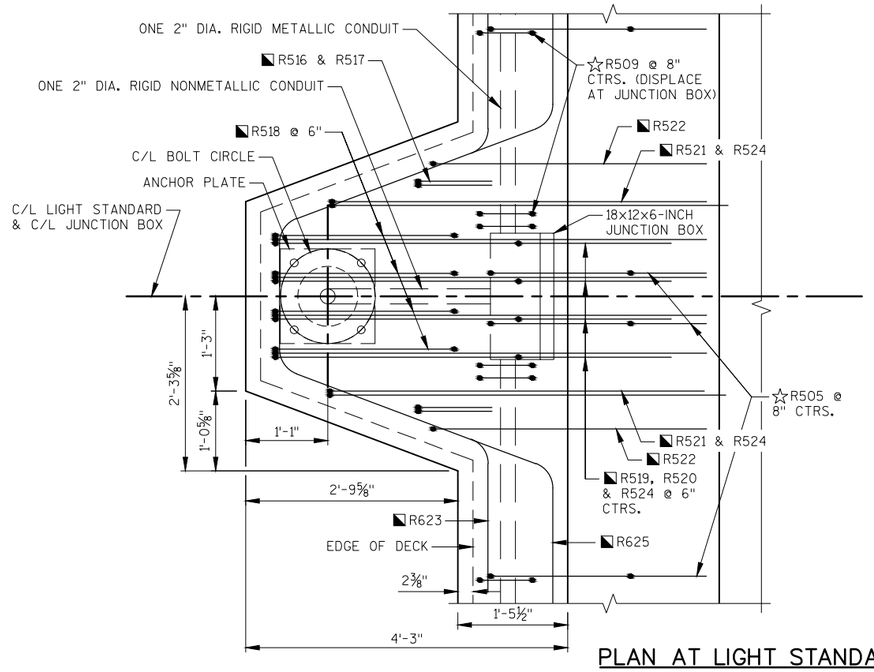
STATE PROJECT NUMBER

1133-03-77

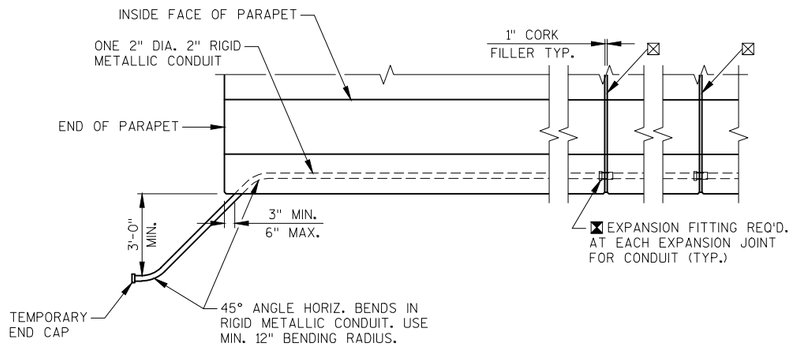


SECTION A–A
SECTION AT LIGHT STANDARD ON MSE WALL

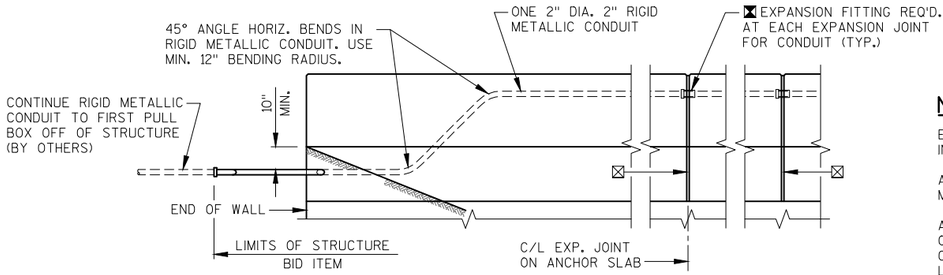
TYPICAL AT EACH POST LOCATION



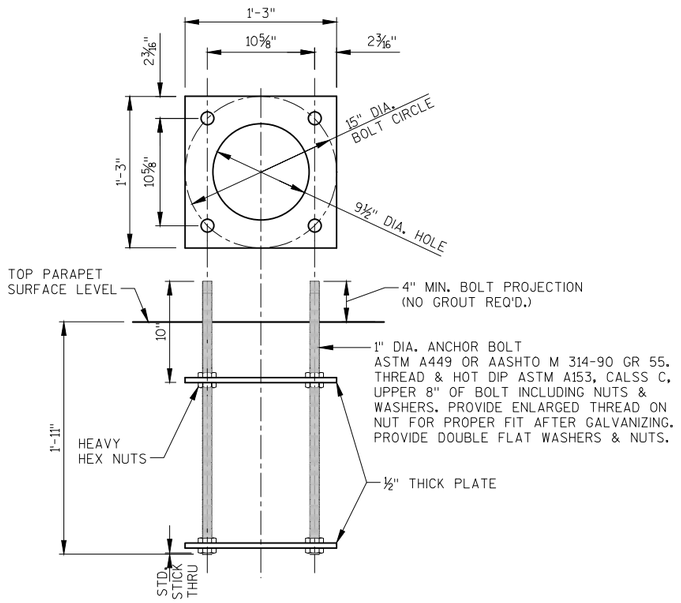
PLAN AT LIGHT STANDARD



PLAN OF PARAPET AT END OF WALL



OUTSIDE ELEVATION OF PARAPET AT END OF WALL



LIGHT STANDARD ANCHORAGE DETAIL

LEGEND

- ◐ CONSTRUCTION JOINT, STRIKE OFF AS SHOWN.
- ◭ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- ◥ THESE BARS ARE IN ADDITION TO THE STANDARD ANCHOR SLAB/ PARAPET BARS.
- ☆ SEE SHEET 4 AND 5 FOR ADDITIONAL DETAILS OF THESE STANDARD ANCHOR SLAB/PARAPET BARS.
- ▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.
- ⧓ POSITION MOVEABLE END OF CONDUIT INSIDE EXPANSION FITTING, SUCH THAT IT WILL HAVE THE SAME ALLOWANCE FOR MOVEMENT TO EXPAND AND CONTRACT. TAKE CARE TO INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO WALL MOVEMENT.
- ⊠ SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

NOTES

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO THE BID ITEM "CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES: SEE APPROVED MATERIALS LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING: O-Z/GEDNEY TYPE AXDX-200 / AX-200 AND BONDING JUMPER COMBINATION expansion AND DEFLECTION FITTING (4" TOTAL LONGITUDINAL CONDUIT MOVEMENT).

BONDING JUMPERS FOR LIGHTING CONDUIT SHALL EITHER ENTER THE JUNCTION BOX AND BE TERMINATED TO THE GROUNDING LUG USING TERMINAL BLOCKS OR CAN BE EXOTHERMICALLY WELDED TO A FIELD INSTALLED GROUNDING LUG ON THE BACK SIDE OF THE JUNCTION BOX.

MINIMUM BENDING RADIUS FOR CONDUIT IS 12 INCHES.

LIGHT STANDARD LOCATION

ROADWAY STATION	WALL STATION
992VKC+39	992RW69+39
994VKC+61	994RW69+61
996VKC+99	996RW69+99
999VKC+28.96	999RW69+29

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-0069

DRAWN BY KLA PLANS CK'D. MEM

LIGHTING DETAILS

SHEET 8 OF 11

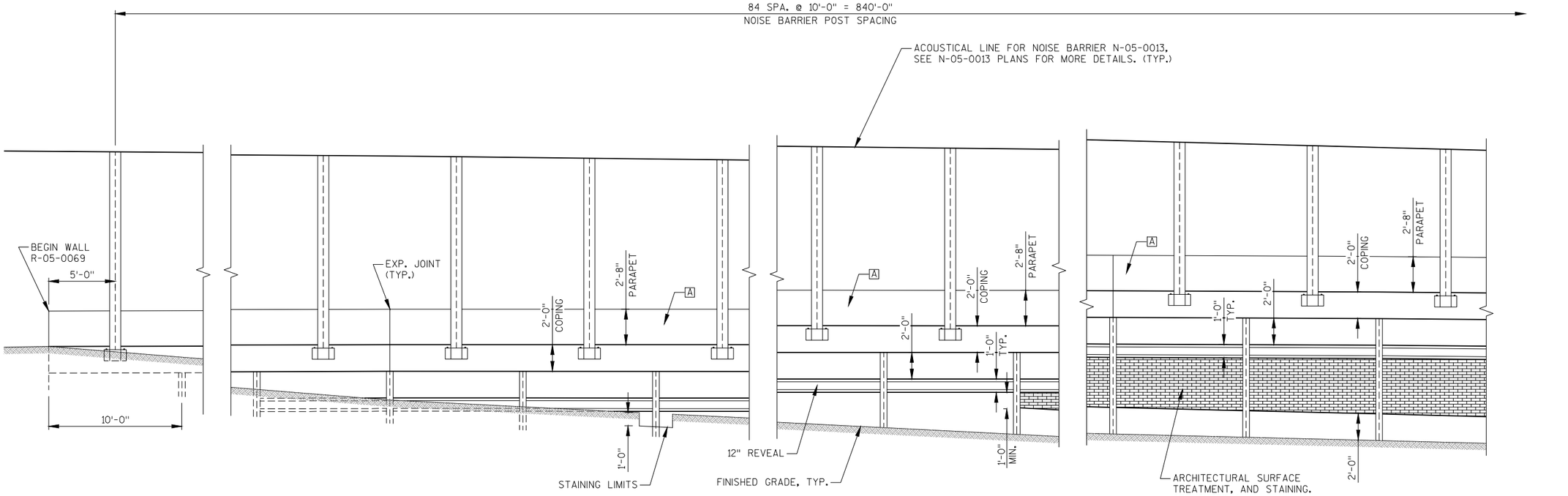
2330

8

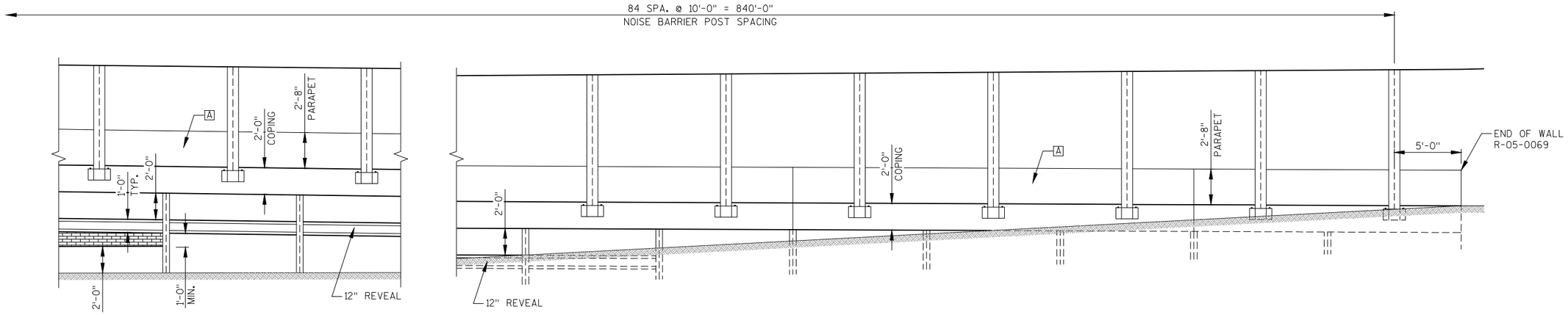
8

FILE NAME : R:\PROJECTS\W11440 USH 41 BOX CULVERTS (ALL CULVERTS)\W11487 USH 41 RETAINING WALLS\CADD FILES\STRUCTURE (WORKING)\W11487_R-05-69_07B_POST ANCHOR.DWG
LAYOUT : LAYOUT
PLOT DATE : 11/20/2012
PLOT TIME : 10:54:32 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER
1133-03-77



R-05-0069
MSE WALL ELEVATION



NOTES

SEE SHEET 10 FOR CONCRETE STAINING SCHEDULE.

ARCHITECTURAL SURFACE TREATMENT, HORIZONTAL RECESS, AND STAINING SHALL EXTEND TO 1 FOOT BELOW FINISHED GRADE.

SEE SHEET 10 FOR DETAILS OF CONCRETE STAINING ON PRECAST WALL PANEL AND COPING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-0069

DRAWN BY KLA | PLANS CK'D. MEM

AESTHETIC DETAILS (1 OF 2)

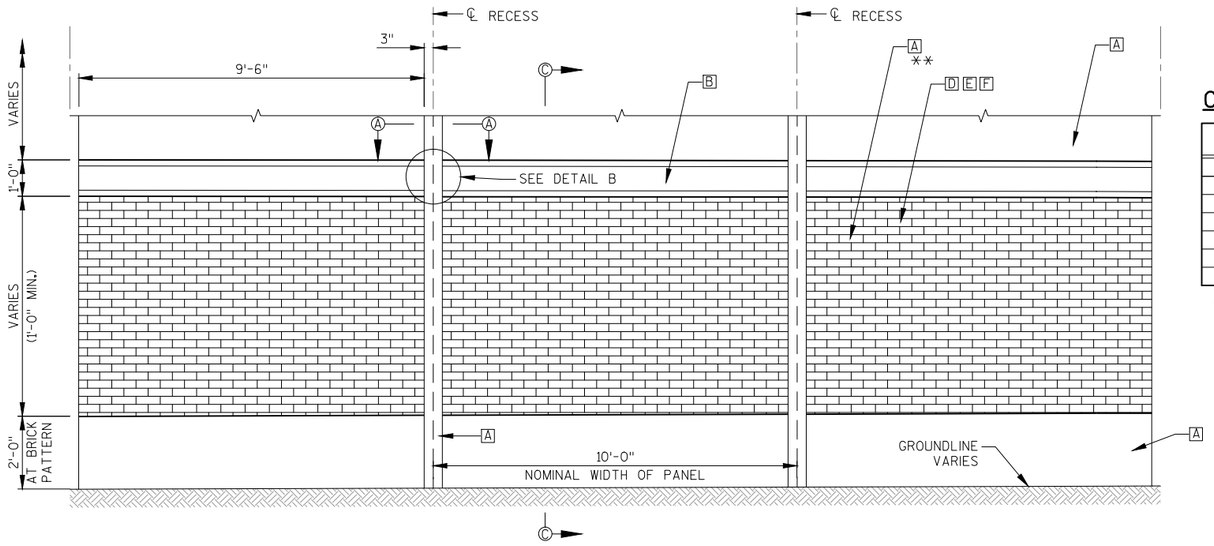
SHEET 9 OF 11

2331

8

8

FILE NAME : R:\PROJECTS\W11440 USH 41 BOX CULVERTS (ALL CULVERTS)\W11487 USH 41 RETAINING WALLS\CADD FILES\STRUCTURE (WORKING)\W11487_R-05-69_09_AESTH DET.DWG
LAYOUT : LAYOUT
PLOT DATE : 11/20/2012
PLOT TIME : 10:54:46 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'



TYPICAL WALL PANEL ELEVATION

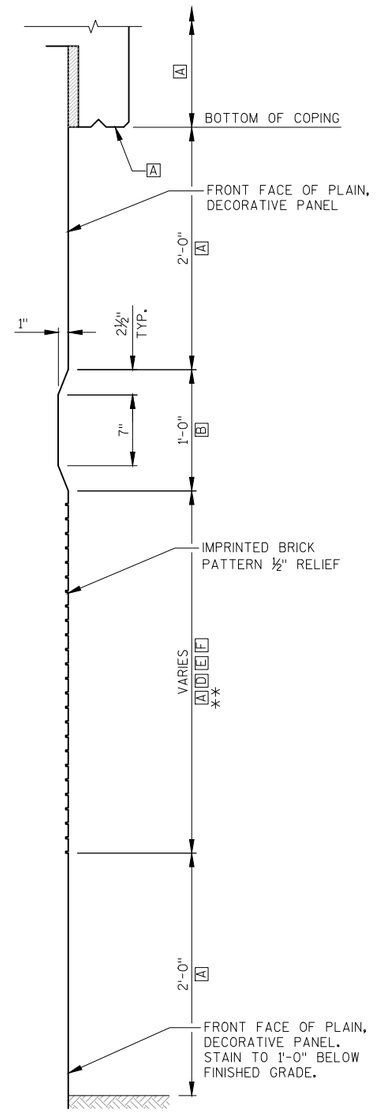
(LOOKING AT FRONT FACE OF WALL)
(ONLY THREE PANELS SHOWN. OTHER PANELS SIMILAR)

** STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

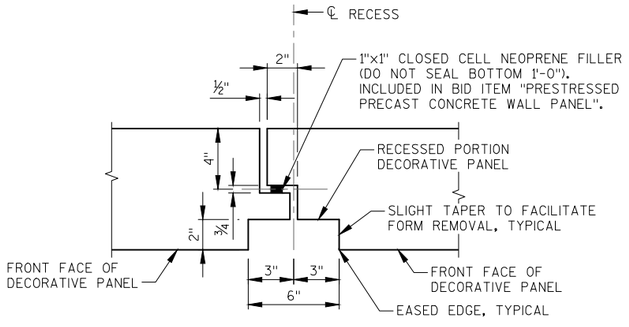
CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT (NOT USED)
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	LETTERING AT ROADWAY NAME (NOT USED)

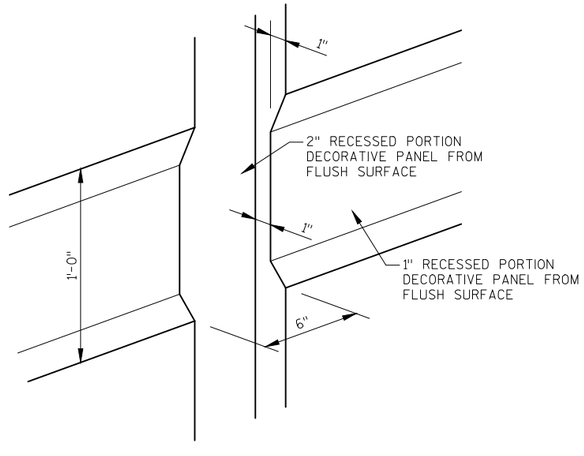
SEE SPECIAL PROVISIONS FOR STAIN COLORS



SECTION C-C



SECTION A-A



DETAIL B - ISOMETRIC REVEAL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-0069

DRAWN BY KLA | PLANS CK'D. MEM

AESTHETIC DETAILS (2 OF 2)

SHEET 10 OF 11

FILE NAME : R:\PROJECTS\W11440 USH 41 BOX CULVERTS (ALL CULVERTS)\W11487 USH 41 RETAINING WALLS\CADD FILES\STRUCTURE (WORKING)\W11487_R-05-69_10_AESTH DET.DWG
LAYOUT : LAYOUT
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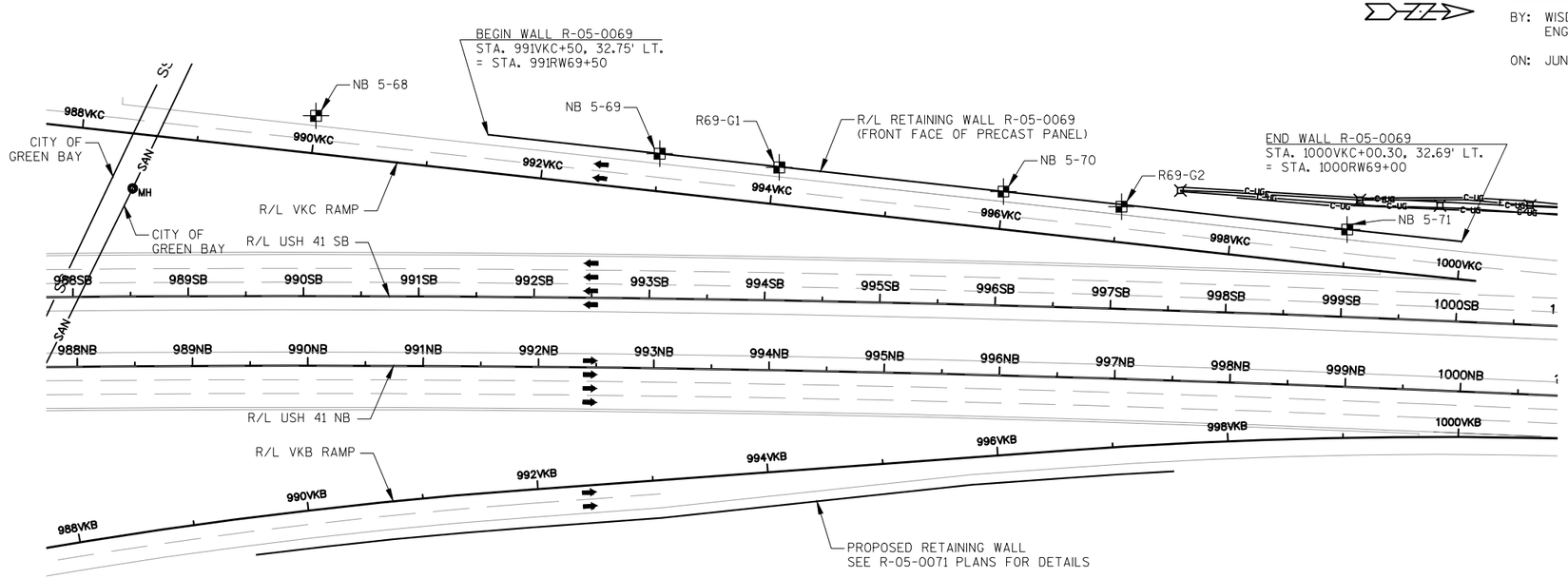
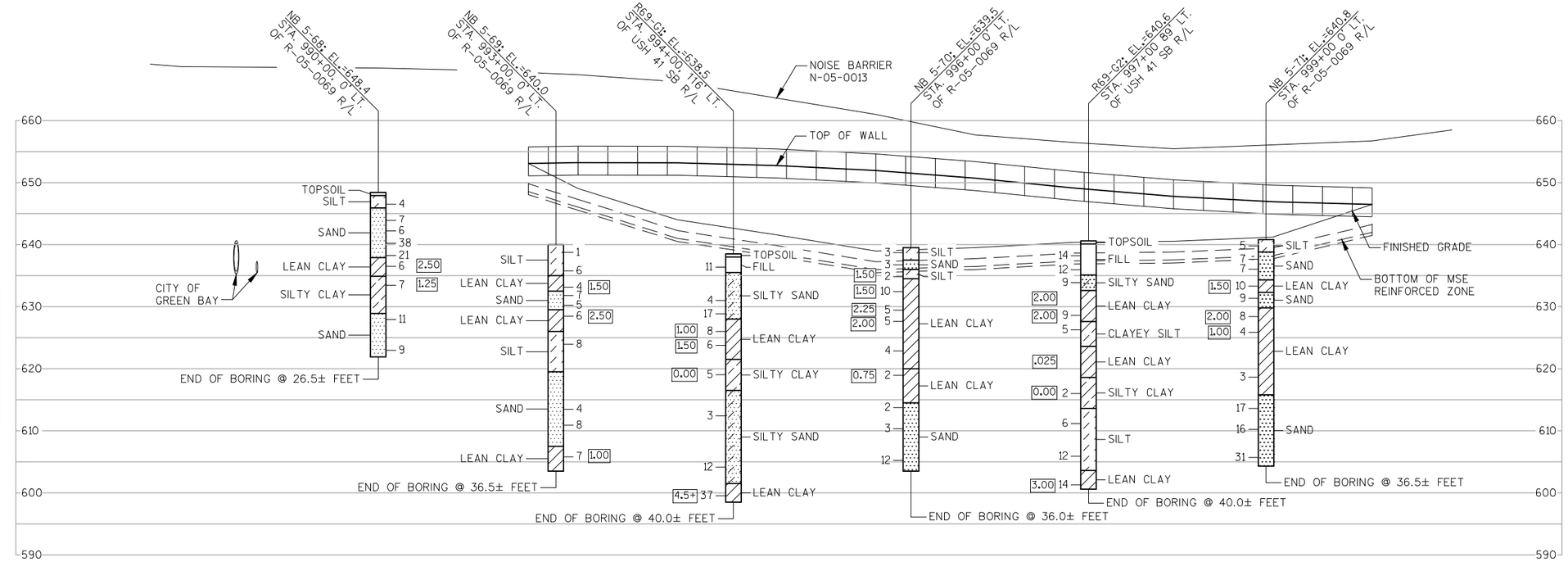
PLOT TIME : 10:54:55 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'



PLAN R-05-0069



SOIL BORINGS

BY: WISDOT & GESTRA ENGINEERING, INC.

ON: JUNE 28, 2011

STATE PROJECT NUMBER

1133-03-77

ABBREVIATIONS

F-Fine M-Medium C-Course
Ws-Weathered So-Sound

MATERIAL SYMBOLS

Asphalt, Silt, Sandstone, Sand, Peat, Limestone, Gravel, Clay, Igneous Rock

LEGEND OF PROBING

95/6 = 96 Blows for 6" Penetration. Probing Taken with a 350# Weight Falling 18" on a 2" O.D. Point.

Probing No.
Sta.
Elevation

7 Average Blows Per Foot

Refusal 95/6

LEGEND OF BORING

Unconfined Strength — 7.7 8 *

Blows Per Ft. Using 140# Wt. Falling 30"

Wash Sample

Shelby Tube — S.T.

No Ground Water Observed Above This Elevation

Ground Water Elevation

Boring No.
Sta.
Elevation

Sandy Gravel

Boulders or Cobbles

F. Sand

Silty Clay

So. Limestone

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-0069

Drawn By KLA | Plans Checked MEM

SUBSURFACE EXPLORATION

SHEET 11 OF 11

2333

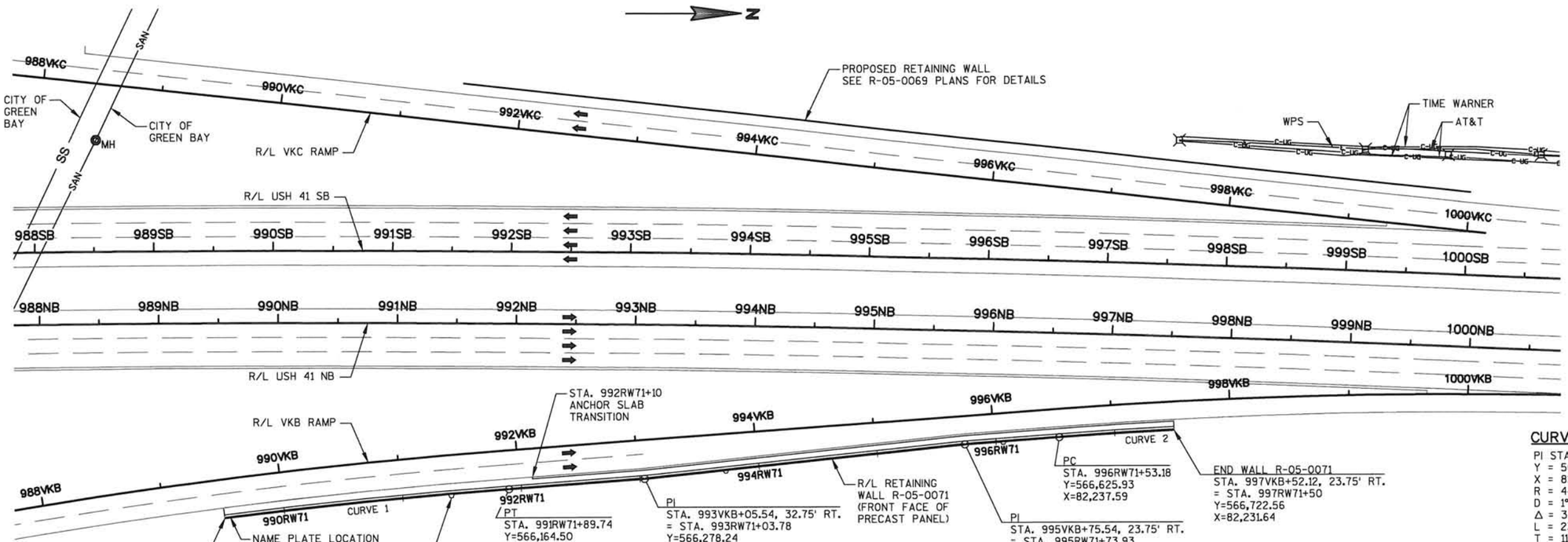
FILE NAME : R:\PROJECTS\W1144O USH 41 BOX CULVERTS (ALL CULVERTS)\W11487 USH 41 RETAINING WALLS\CADD FILES\STRUCTURE (WORKING)\W11487_R-05-69_11_BOR.DWG
LAYOUT : LAYOUT1

PLOT DATE : 11/20/2012
PLOT TIME : 10:55:04 AM

PLOT BY : BOLAND, PATRICK

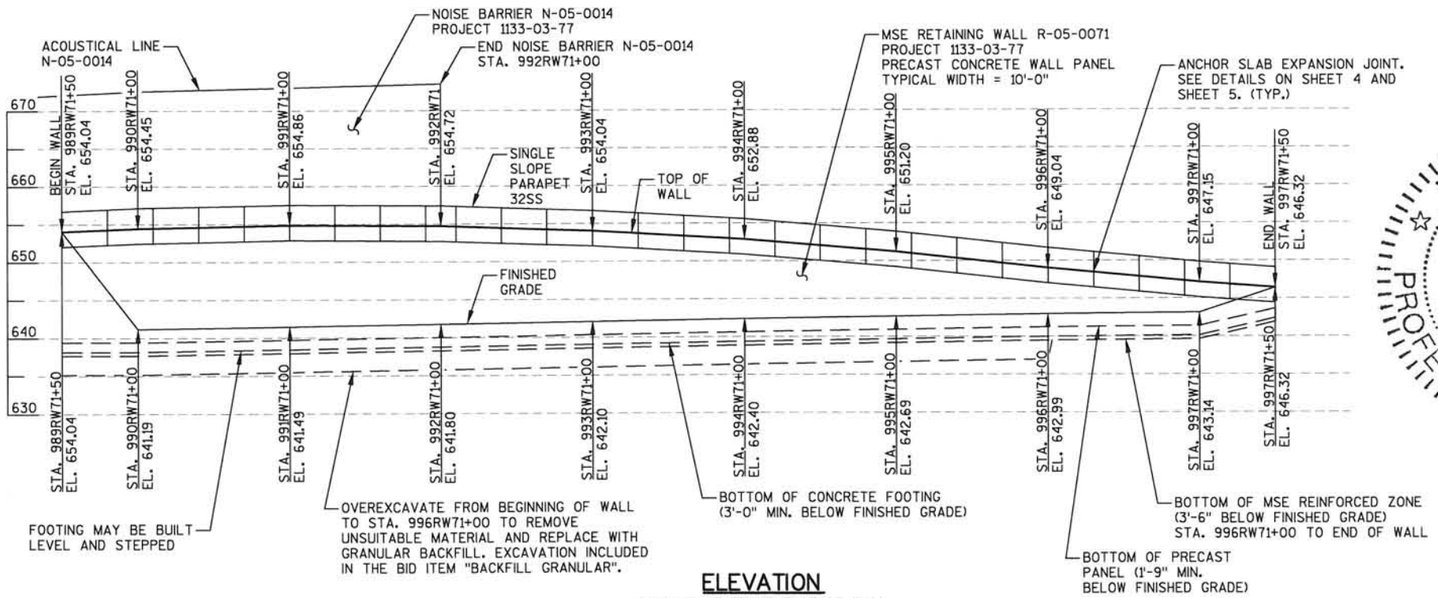
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER
1133-03-77



PLAN R-05-0071

MSE WALL WITH TILT-UP PANELS



ELEVATION

LOOKING AT FRONT FACE OF WALL
DISTANCES AND STATIONS ARE GIVEN ALONG THE FRONT FACE OF WALL PRECAST PANEL. SEE GEOMETRY TABLE ON SHEET 4 FOR ADDITIONAL STATIONS WITH TOP AND BOTTOM ELEVATIONS OF WALL.

CURVE 1 DATA

PI STA. = 990RW71+69.90
Y = 566,044.92
X = 82,288.69
R = 4467.25
D = 1°16'57"
Δ = 3°04'29"
L = 239.74
T = 119.90
C = 239.71
PC STA. = 989RW71+50.00
Y = 565,925.97
X = 82,303.76
PT STA. = 991RW71+89.74
Y = 566,164.50
X = 82,280.03

CURVE 2 DATA

PI STA. = 997RW71+01.59
Y = 566,674.21
X = 82,234.09
R = 4467.25
D = 1°16'47"
Δ = 1°52'40"
L = 96.82
T = 48.41
C = 96.82
PC STA. = 996RW71+53.18
Y = 566,625.93
X = 82,237.59
PT STA. = 997RW71+50.00
Y = 566,722.56
X = 82,231.64

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. WALL SECTION AND DETAILS
3. QUANTITIES AND DESIGN DATA
4. PARAPET, COPING & ANCHOR SLAB DETAILS (1 OF 2)
5. PARAPET, COPING & ANCHOR SLAB DETAILS (2 OF 2)
6. PARAPET, COPING & ANCHOR SLAB ELEVATION
7. NOISE BARRIER POST ANCHORAGE
8. DETAILS
9. LIGHTING DETAILS (1 OF 2)
10. LIGHTING DETAILS (2 OF 2)
11. AESTHETIC DETAILS (1 OF 2)
12. AESTHETIC DETAILS (2 OF 2)
13. SUBSURFACE INVESTIGATION

WISCONSIN
PATRICK T. BOLAND E-36303 SPRING GREEN, WI
PROFESSIONAL ENGINEER
3-22-13

NO.	DATE	REVISION	BY

JEWELL associates engineers, inc.
Engineers · Planners · Surveyors
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
PHONE: (608) 588-7484
FAX: (608) 588-9322

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 03/25/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-05-0071

RETAINING WALL EAST OF VKB RAMP

COUNTY: BROWN — ~~TOWN/CITY/VILLAGE~~: GREEN BAY
DESIGN SPEC.: AASHTO STD. SPEC. 2003
DESIGNED BY: PTB | DESIGN CK'D.: MEM | DRAWN BY: PTB | PLANS CK'D.: MEM

GENERAL PLAN AND ELEVATION

SHEET 1 OF 13

DESIGN CONSULTANT
ADRIAN KIDARSA, PE
(608) 588-7484

BRIDGE OFFICE CONTACT
WILLIAM DREHER, PE
(608) 266-8489

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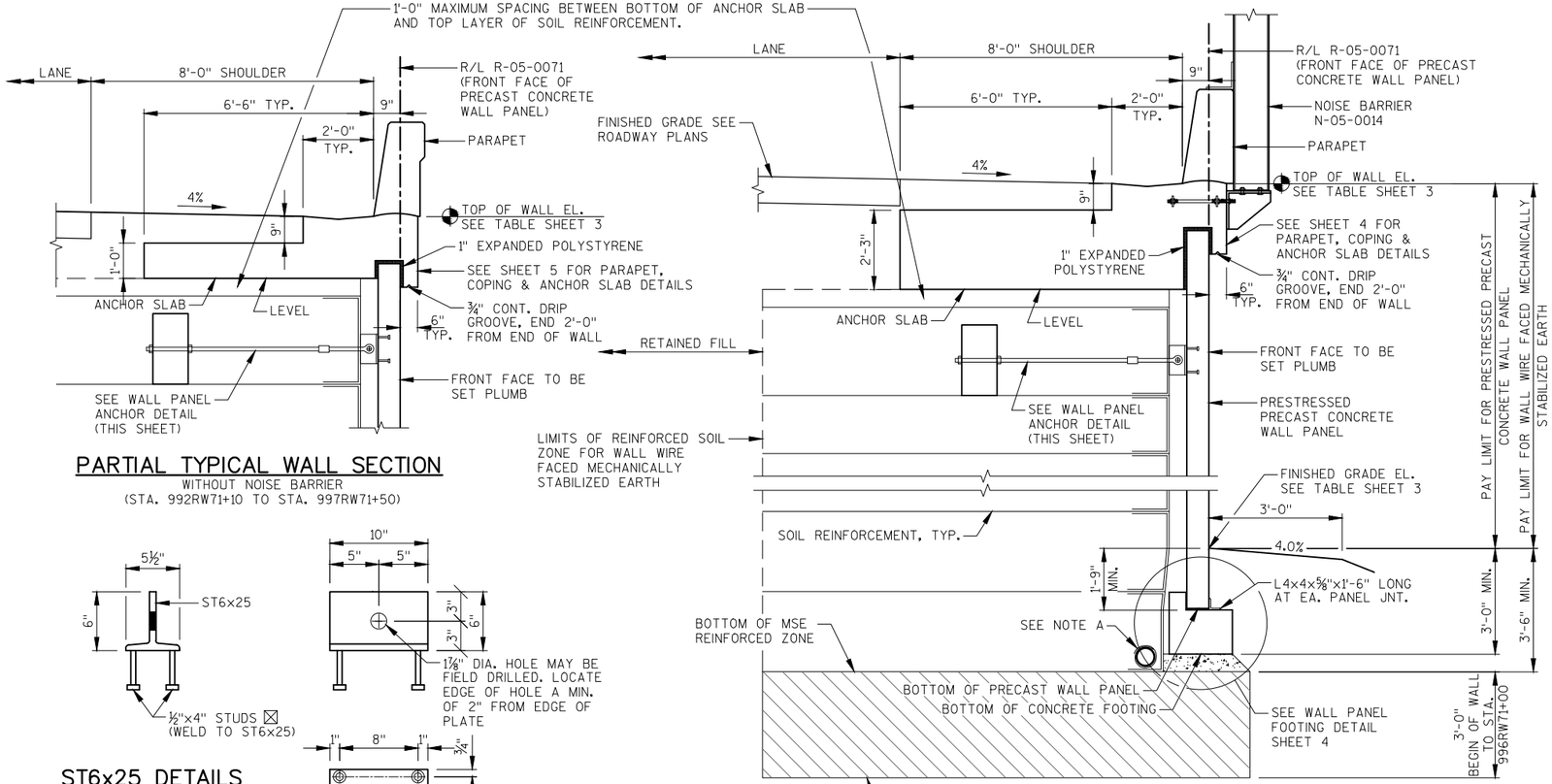
FILE NAME : R:\PROJECTS\W11440 USH 41 BOX CULVERTS (ALL CULVERTS)\W11487 USH 41 RETAINING WALLS\CADD FILES\STRUCTURE (WORKING)\W11487_R-05-71_01_FSH.DWG
LAYOUT : LAYOUT
PLOT DATE : 3/22/2013
PLOT TIME : 11:34:08 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

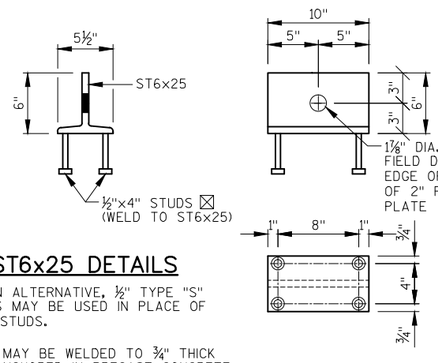


PARTIAL TYPICAL WALL SECTION

WITHOUT NOISE BARRIER
(STA. 992RW71+10 TO STA. 997RW71+50)

TYPICAL WALL SECTION

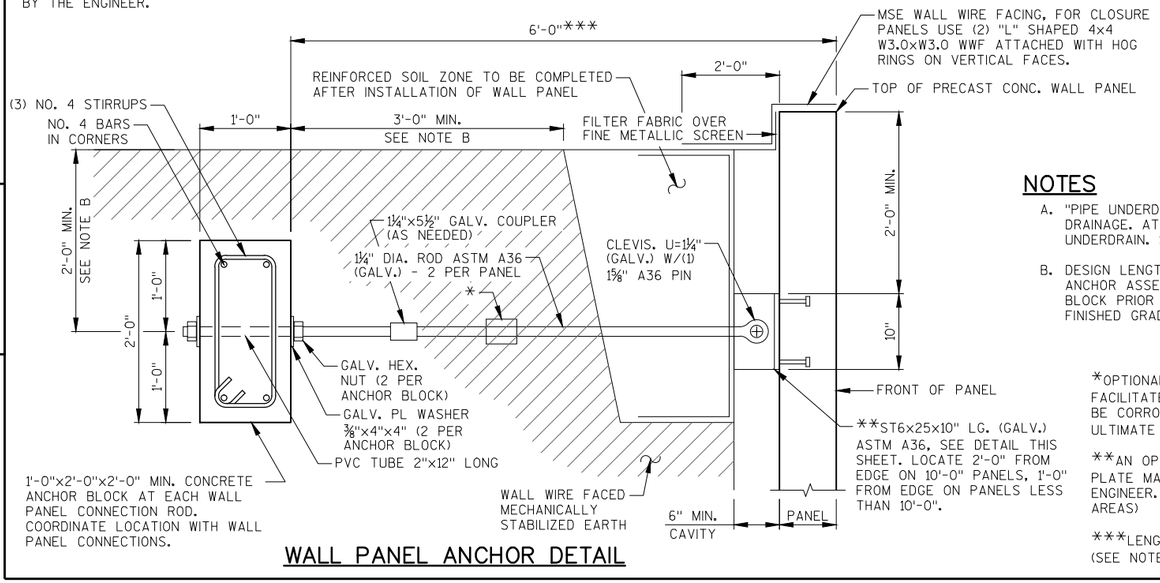
WITH NOISE BARRIER
(STA. 989RW71+50 TO STA. 992RW71+10)
FOR TYPICAL DETAILS AT THE FACE OF THE WALL, SEE ROADWAY TYPICAL SECTIONS.



ST6x25 DETAILS

☒ AS AN ALTERNATIVE, ½" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.

ST6x25 MAY BE WELDED TO ¾" THICK PLATE ANCHORED IN PRECAST CONCRETE PANEL.DETAILS SUBJECT TO APPROVAL BY THE ENGINEER.



WALL PANEL ANCHOR DETAIL

NOTES

A. "PIPE UNDERDRAIN WRAPPED 6-INCH", SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELDS AT EXPOSED ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON SHEET 8.

B. DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MIN. 3'-0" COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION. ROD MIN. 2'-0" BELOW FINISHED GRADE.

*OPTIONAL MULTI-DIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION (CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF THE 1¼" DIA. BAR)

**AN OPTIONAL WELDED DETAIL OR TYPE "S" ANCHORED PLATE MAY BE SUBMITTED FOR CONSIDERATION BY THE ENGINEER. (RESTORE ZINC COATING AROUND ANY WELDED AREAS)

***LENGTH MAY BE INCREASED TO AVOID OBSTRUCTIONS. (SEE NOTE B)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BEVEL EXPOSED EDGES OF CONCRETE ¾", UNLESS NOTED OTHERWISE.

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), BROWN COUNTY.

ALL DIMENSIONS ARE ALONG THE FRONT FACE OF PRECAST CONCRETE WALL PANEL, UNLESS OTHERWISE SHOWN.

ALL BAR STEEL REINFORCEMENT FOR CAST-IN-PLACE CONCRETE, EXCEPT FOR WALL PANEL FOOTING, IS TO BE EPOXY COATED.

BAR STEEL REINFORCEMENT SHALL HAVE 2" CLEAR COVER, UNLESS SHOWN OTHERWISE.

THE FIRST DIGIT OF BAR MARK SIGNIFIES THE BAR SIZE, BAR DIMENSIONS ARE OUT TO OUT OF BAR.

THESE PLANS ARE FOR A WIRE FACED MECHANICALLY STABILIZED EARTH WALL WITH PRECAST PRESTRESSED CONCRETE FACING PANELS.

COORDINATE THE CONSTRUCTION OF WALL R-05-0071 WITH THE NOISE WALL N-05-0014

PROVIDE COMPLETE DESIGN, PLANS, DETAILS AND SHOP DRAWINGS FOR THE RETAINING WALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH".

DO NOT PERMIT CONCRETE OR FILL TO ACCUMULATE IN THE WALL CAVITY BETWEEN THE WIRE FACED MSE WALL AND THE PRECAST CONCRETE WALL PANEL. AT THE ENDS OF WALL, SEAL CAVITY BETWEEN WIRE FACE WALL AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE 1'-6" WIDE.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153 TYPES I, II, OR III, OR M123.

THE COST OF FURNISHING AND PLACING THE FOOTING UNDER THE MSE PRECAST WALL PANELS, INCLUDING THE BAR STEEL, IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

OPTIONAL TRANVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE FOOTING WITH A MINIMUM SPACING OF TWO PANEL LENGTHS, FOOTING JOINTS SHALL BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THROUGH FOOTING JOINTS.

THE PLAN QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE ANCHOR SLAB AND PARAPETS IS PAID FOR UNDER THE ITEM "CONCRETE MASONRY RETAINING WALLS".

THE PLAN QUANTITY FOR THE ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL" IS BASED ON A WALL HEIGHT MEASURED FROM THE FINISHED GRADE AT THE FRONT FACE OF PRECAST CONCRETE WALL PANEL TO THE TOP OF WALL AS SHOWN ON THE PLANS.

PLANS, ELAVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

DESIGN THE RETAINING WALL FOR HORIZONTAL FINISHED GRADE BEHIND THE WALL AND A LIVE LOAD SURCHARGE OF 240 PSF.

DESIGN THE MSE WALL FOR THE DEAD LOAD OF NOISE BARRIER AND THE WIND LOAD ACTING ON THE NOISE BARRIER.

A PORTION OF NOISE BARRIER N-05-0014 WILL BE MOUNTED ON STRUCTURE R-05-0071. THE PLAN DETAILS FOR STRUCTURE R-05-0071 SHOW AN ASSUMED POST SPACING AND MOUNTING DETAILS FOR NOISE BARRIER. COORDINATE THE ACTUAL MOUNTING DETAILS, NOISE BARRIER POST SPACING, AND LOCATION OF EMBEDDED ANCHORAGE ASSEMBLIES WITH THE MANUFACTURER OF THE NOISE BARRIER AND THE APPROVED NOISE BARRIER SHOP DRAWINGS.

ERECTION OF NOISE BARRIER IS LIMITED TO ⅔ THE HEIGHT OF THE NOISE WALL ACOUSTICAL LINE SHOWN ON THE PLANS PRIOR TO PLACEMENT OF EARTH FILL OR COMPLETE PAVEMENT STRUCTURE OVER THE TOP OF THE ANCHOR SLAB.

DESIGN THE MSE WALL FOR A WIND SUCTION LOAD OF 20 PSF ON THE PRECAST PANEL.

STATE PROJECT NUMBER
1133-03-77

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-0071

DRAWN BY KLA | PLANS CK'D. MEM

WALL SECTION AND DETAILS

SHEET 2 OF 13

2335

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8

STATE PROJECT NUMBER

1133-03-77

GEOMETRY TABLE ◺

WALL STATION	TOP OF WALL	FINISHED GRADE	WALL COORDINATES Y	WALL COORDINATES X	ROADWAY STATION	OFFSET TO R/L WALL
989RW71+50	654.04	654.04	565,925.97	82,303.76	989VKB+50.00	32.75' RT.
989RW71+75	654.26	647.57	565,950.78	82,300.69	989VKB+75.18	32.75' RT.
990RW71+00	654.45	641.19	565,975.60	82,297.75	990VKB+00.37	32.75' RT.
990RW71+25	654.60	641.27	566,000.45	82,294.96	990VKB+25.55	32.75' RT.
990RW71+50	654.72	641.34	566,025.31	82,292.31	990VKB+50.73	32.75' RT.
990RW71+75	654.81	641.42	566,050.18	82,289.79	990VKB+75.92	32.75' RT.
991RW71+00	654.86	641.49	566,075.07	82,287.41	991VKB+01.10	32.75' RT.
991RW71+25	654.87	641.57	566,099.97	82,285.18	991VKB+26.28	32.75' RT.
991RW71+50	654.85	641.64	566,124.88	82,283.08	991VKB+51.47	32.75' RT.
991RW71+75	654.80	641.72	566,149.80	82,281.12	991VKB+76.65	32.75' RT.
992RW71+00	654.72	641.80	566,174.73	82,279.29	992VKB+01.76	32.75' RT.
992RW71+25	654.60	641.87	566,199.67	82,277.49	992VKB+26.76	32.75' RT.
992RW71+50	654.45	641.95	566,224.60	82,275.68	992VKB+51.76	32.75' RT.
992RW71+75	654.26	642.02	566,249.54	82,273.87	992VKB+76.76	32.75' RT.
993RW71+00	654.04	642.10	566,274.47	82,272.07	993VKB+01.76	32.75' RT.
993RW71+25	653.80	642.17	566,299.34	82,269.56	993VKB+26.75	32.04' RT.
993RW71+50	653.53	642.25	566,324.20	82,266.92	993VKB+51.73	31.21' RT.
993RW71+75	653.23	642.32	566,349.07	82,264.29	993VKB+76.72	30.38' RT.
994RW71+00	652.88	642.40	566,373.93	82,261.65	994VKB+01.70	29.54' RT.
994RW71+25	652.51	642.47	566,398.79	82,259.01	994VKB+26.69	28.71' RT.
994RW71+50	652.11	642.55	566,423.65	82,256.38	994VKB+51.68	27.88' RT.
994RW71+75	651.67	642.62	566,448.51	82,253.74	994VKB+76.66	27.04' RT.
995RW71+00	651.20	642.69	566,473.37	82,251.11	995VKB+01.65	26.21' RT.
995RW71+25	650.69	642.77	566,498.23	82,248.47	995VKB+26.63	25.38' RT.
995RW71+50	650.15	642.84	566,523.09	82,245.84	995VKB+51.62	24.55' RT.
995RW71+75	649.59	642.92	566,547.95	82,243.24	995VKB+76.61	23.75' RT.
996RW71+00	649.04	642.99	566,572.89	82,241.43	996VKB+01.61	23.75' RT.
996RW71+25	648.52	643.07	566,597.82	82,239.62	996VKB+26.61	23.75' RT.
996RW71+50	648.03	643.14	566,622.76	82,237.82	996VKB+51.61	23.75' RT.
996RW71+75	647.57	643.08	566,647.70	82,236.06	996VKB+76.72	23.75' RT.
997RW71+00	647.15	643.14	566,672.64	82,234.45	997VKB+01.86	23.75' RT.
997RW71+25	646.76	644.80	566,697.60	82,232.97	997VKB+26.99	23.75' RT.
997RW71+50	646.32	646.32	566,722.56	82,231.64	997VKB+52.12	23.75' RT.

◺ = LINEARLY INTERPOLATE WALL ELEVATIONS BETWEEN STATIONS.

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTALS
209.0100	BACKFILL GRANULAR	CY	1,200
502.3200	PROTECTIVE SURFACE TREATMENT	SY	500
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	517
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	59,540
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	30
532.0700.S	WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	7,700
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	830
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	810
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	9
653.0222	JUNCTION BOXES 18x12x6-INCH	EACH	3
SPV.0060.700	ANCHOR BOLT ASSEMBLY LIGHT POLE	EACH	3
SPV.0060.701	ANCHOR ASSEMBLIES NOISE BARRIERS STRUCTURES	EACH	26
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	2,550
SPV.0165.501	STAINING CONCRETE	SF	8,100
SPV.0165.502	STAINING CONCRETE BRICK	SF	2,550
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	7,700
	NON-BID ITEMS		
	NAME PLATE		
	EXPANDED POLYSTYRENE	SIZE	1"
	CORK FILLER	SIZE	1"

ALL ITEMS ARE CATEGORY 4070

SOIL PARAMETERS

SOIL DESCRIPTION	BOTTOM ELEVATION (FT)	SOIL UNIT WEIGHT (PCF)	UNDRAINED COHESION (PSF)	UNDRAINED FRICTION ANGLE (DEGREES)	DRAINED COHESION (PSF)	DRAINED FRICTION ANGLE (DEGREES)
TOPSOIL	637.4	125	500	0	50	20
ORGANIC SILT	636.2	100	500	0	50	20
LOOSE SILTY SAND (POSSIBLE FILL)	635.0	125	0	26	0	26
ENGINEERED GRANULAR FILL	635.0	125	0	32	0	32
STIFF SANDY/LEAN CLAY	616.0	130	2,000	0	100	28
MEDIUM DENSE SILTY SAND	602.0	125	0	30	0	30
HARD SANDY/LEAN CLAY	VARIED*	130	4,000	0	200	32

*OBSERVED TO BORING TERMINATION DEPTHS

ASSUMED SOIL PARAMETERS OF FILL MATERIALS

SOIL DESCRIPTION	SOIL UNIT WEIGHT (PCF)	UNDRAINED COHESION (PSF)	UNDRAINED FRICTION ANGLE (DEGREES)	DRAINED COHESION (PSF)	DRAINED FRICTION ANGLE (DEGREES)
PROPOSED EMBANKMENT FILL (GRANULAR)	120	0	30	0	30
MSE FILL (GRANULAR)*	120	0	30	0	30
GRANULAR ENGINEERED FILL**	120	0	30	0	30

*MSE BACKFILL ASSUMED TO EXTEND 3.5' BELOW PROPOSED FINISHED GRADE.
**DESIGN WALL FOR THESE VALUES.

⚠SAFETY FACTORS FOR MSE WALLS

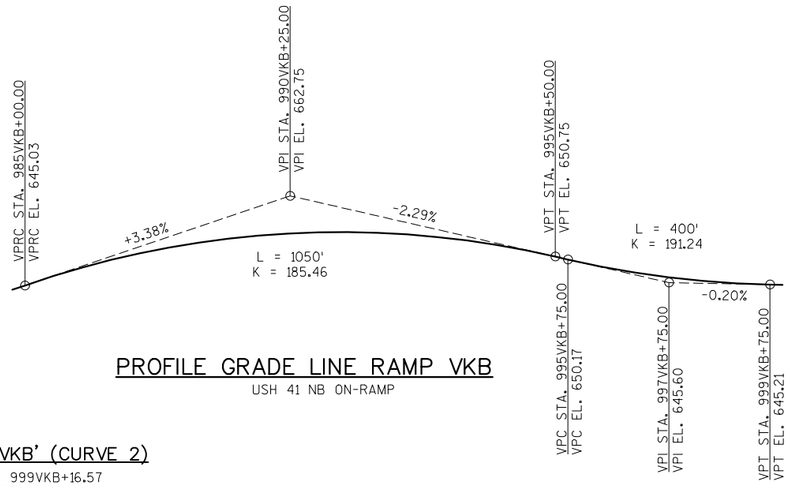
STRUCTURE	STATION	WALL HEIGHT* (FT)	SLIDING (FS ≥ 1.5)	OVERTURN (FS ≥ 2)	GLOBAL STABILITY (FS ≥ 1.3)	BEARING CAPACITY (FS ≥ 2.5)	LENGTH OF REINFORCEMENT (FT)
	989+50 TO 997+50	16.9	1.5**	2.3	1.3	2.8	0.8x(WALL HT)
R-05-0071							

* INCLUDES 3'-6" EMBEDMENT DEPTH

** CRITICAL CONDITION CASE

⚠ ALL SAFETY FACTORS ARE CALCULATED FOR THE WALL HEIGHTS AND REINFORCEMENT LENGTHS SHOWN IN THE TABLE. SEE GEOTECHNICAL REPORT FOR FURTHER INFORMATION. FINAL DESIGN FOR INTERNAL STABILITY, EXTERNAL SLIDING AND EXTERNAL OVERTURNING ARE THE RESPONSIBILITY OF THE WALL DESIGNER AND MAY BE DIFFERENT FROM THE VALUES IN THE TABLE.

SOIL REINFORCEMENT MUST EXTEND A MINIMUM OF 3.0' BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS.



PROFILE GRADE LINE RAMP VKB

USH 41 NB ON-RAMP

HORIZONTAL CURVE DATA

RAMP 'VKB' (CURVE 1)

PI STA. = 989VKB+35.66
Y = 565,906.42
X = 82,265.89
R = 4500.00
D = 1°16'24"
Δ = 6°31'18"
L = 512.21
T = 256.38
C = 511.94

RAMP 'VKB' (CURVE 2)

PI STA. = 999VKB+16.57
Y = 566,885.31
X = 82,194.99
R = 4500.00
D = 1°16'24"
Δ = 6°39'30"
L = 522.95
T = 261.77
C = 522.65

DESIGN DATA

LIVE LOAD:

LIVE LOAD SURCHARGE _____ 240 P.S.F. (TRAFFIC)

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY _____ f'c = 3,500 P.S.I.
PRECAST CONCRETE WALL PANEL _____ f'c = 5,000 P.S.I.
HIGH-STRENGTH BAR
STEEL REINFORCEMENT _____ fy = 60,000 P.S.I.
STRUCTURAL STEEL CARBON _____ Fy = 36,000 P.S.I.
(ASTM A709 GRADE 36)

NOISE BARRIER

NOISE BARRIER MAXIMUM HEIGHT ABOVE
BASE OF TRAFFIC BARRIER _____ 20.0 FT
NOISE BARRIER DEADLOAD _____ 50 PSF
WIND PRESSURE ON NOISE BARRIER
(NORMAL TO BARRIER EITHER DIRECTION) _____ 42 PSF
MAX. POST SPACING _____ 10 FT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-0071

DRAWN BY KLA | PLANS CK'D. MEM

QUANTITIES AND DESIGN DATA

SHEET 3 OF 13

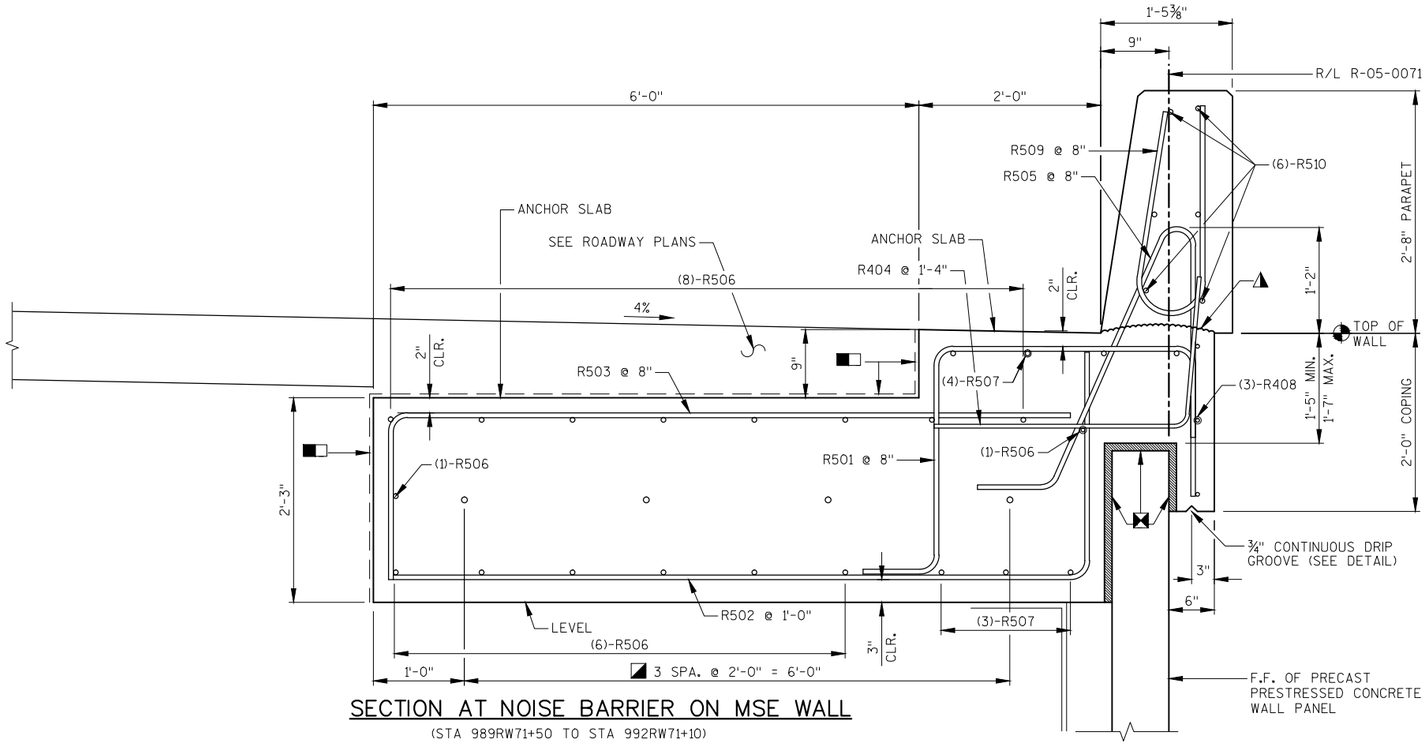
2336

8

8

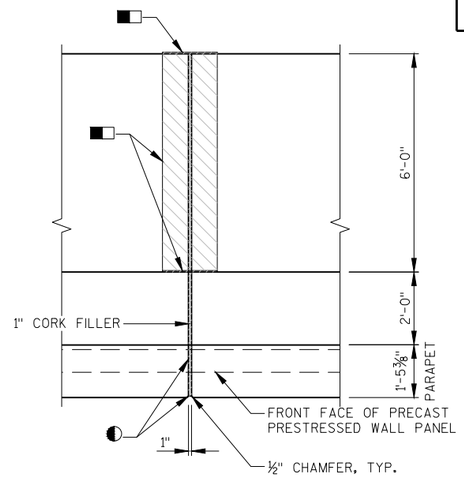
STATE PROJECT NUMBER

1133-03-77



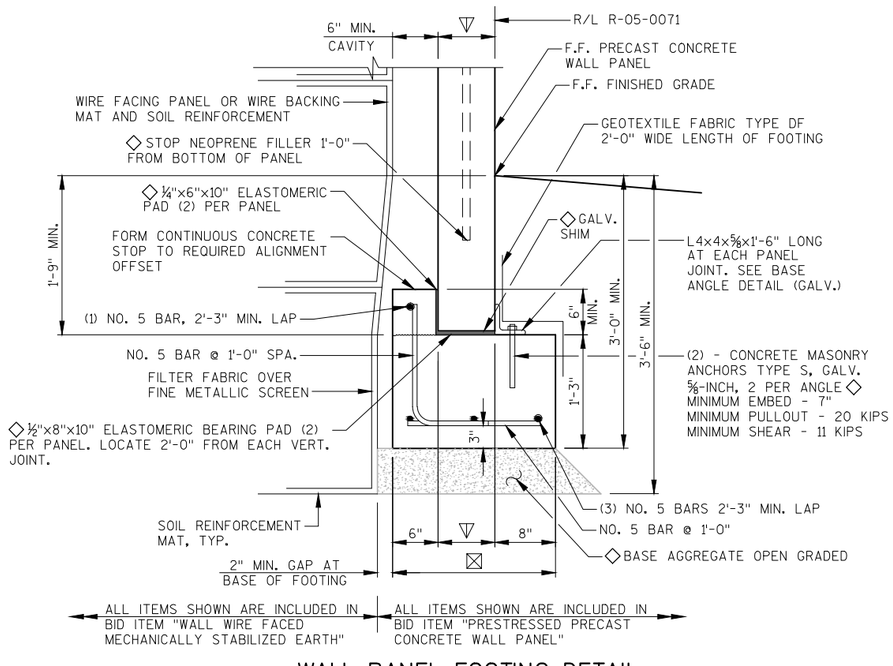
SECTION AT NOISE BARRIER ON MSE WALL

(STA 989RW71+50 TO STA 992RW71+10)



☆ANCHOR SLAB EXPANSION JOINT

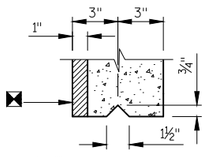
(STA. 989RW71+50 TO STA. 992RW71+10)



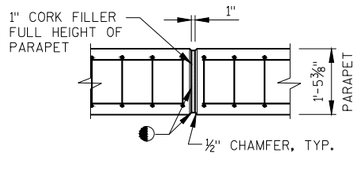
WALL PANEL FOOTING DETAIL

▽ PANEL THICKNESS (DESIGNED BY THE WALL MANUFACTURER)

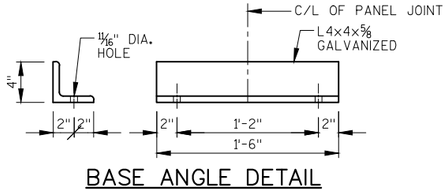
⊠ FOOTING DIMENSION EQUALS PANEL THICKNESS PLUS 1'-2"



3/4" DRIP GROOVE



☆PARAPET EXPANSION JOINT



BASE ANGLE DETAIL

(1 AT EACH PANEL JOINT) ◇

LEGEND

- ◭ CONSTRUCTION JOINT - STRIKE OFF AS SHOWN
- ⊠ 1" EXPANDED POLYSTYRENE
- ◐ NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE) SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING COLOR TO MATCH CONCRETE STAIN.
- ▬ 18" RUBBERIZED MEMBRANE WATERPROOFING.
- ☆ EXPANSION JOINTS TO BE SPACED AT A MINIMUM OF 20' AND A MAXIMUM OF 30'. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT, EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.
- ◪ ¾" DIAMETER SMOOTH DOWEL BARS, 1'-6" LONG, AT EXPANSION JOINT. EMBED 9". USE APPROVED DEBONDER ON ½ OF BAR LENGTH. COST INCLUDED IN "CONCRETE MASONRY RETAINING WALLS".
- ◇ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

NOTES

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPET AND ANCHOR SLAB MAY BE USED. RUN BAR REINFORCEMENT THRU THE OPTIONAL JOINT.

LAP #4 LONGITUDINAL BARS A MINIMUM OF 1'-9" AND LAP #5 BARS A MINIMUM OF 2'-3".

FOR PARAPET AND ANCHOR SLAB ELEVATION SEE SHEET 6.

SEE SHEET 8 FOR PARAPET DIMENSIONS.

SEE SHEET 8 FOR BILL OF BARS.

F.F. - FRONT FACE
B.F. - BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-0071

DRAWN BY KLA | PLANS CK'D. MEM

PARAPET, COPING & ANCHOR SLAB DETAILS (1 OF 2)

SHEET 4 OF 13

2337

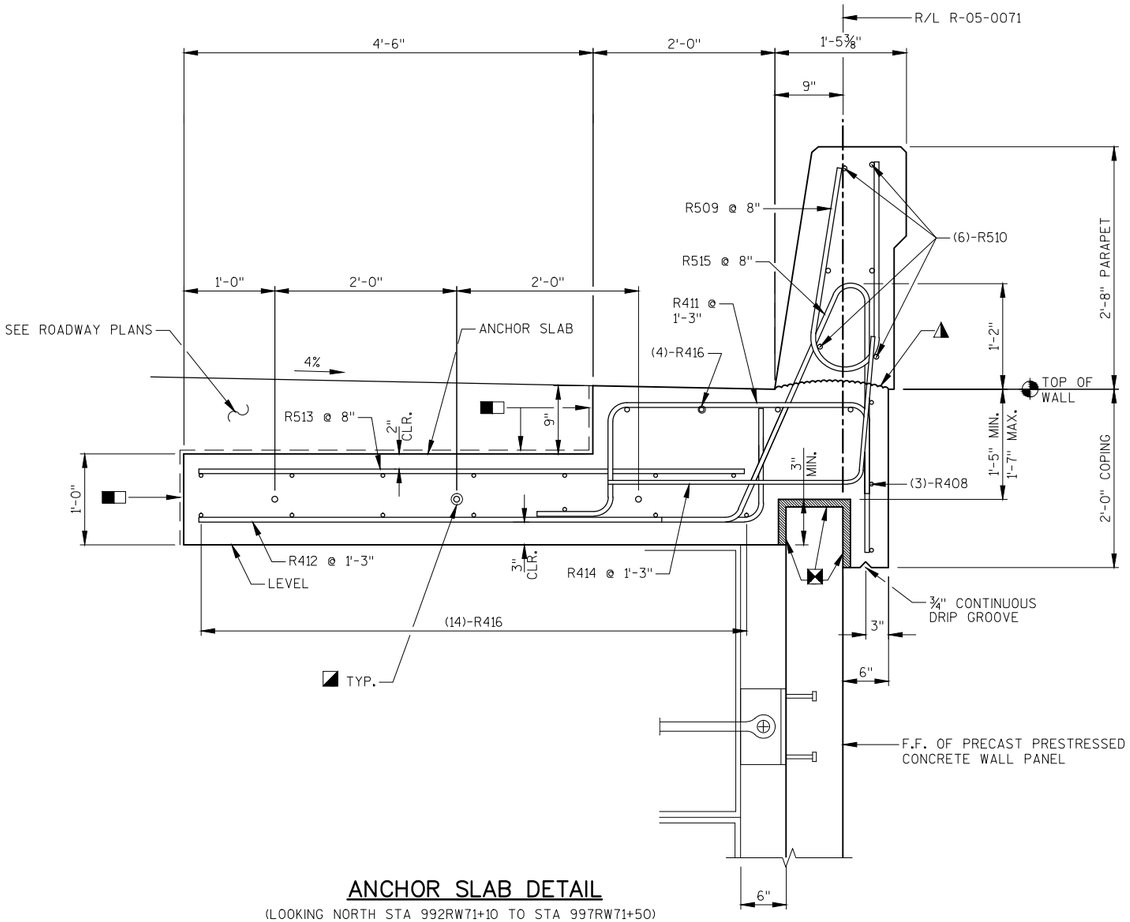
8

8

FILE NAME : R:\PROJECTS\W11440 USH 41 BOX CULVERTS (ALL CULVERTS)\W11487 USH 41 RETAINING WALLS\CADD FILES\STRUCTURE (WORKING)\W11487_R-05-71_04_DET.DWG
LAYOUT : LAYOUT
PLOT DATE : 11/20/2012
PLOT TIME : 10:56:46 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

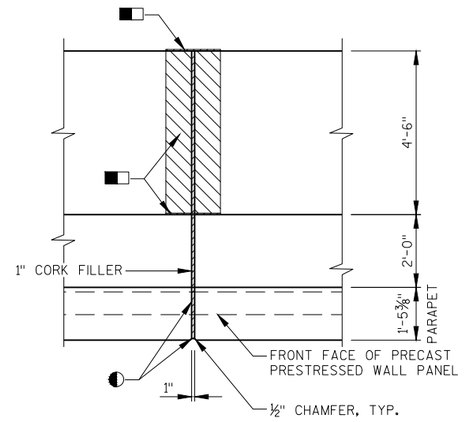
STATE PROJECT NUMBER

1133-03-77



ANCHOR SLAB DETAIL

(LOOKING NORTH STA 992RW71+10 TO STA 997RW71+50)



☆ANCHOR SLAB EXPANSION JOINT

(STA. 992RW71+10 TO STA. 998RW71+00)

LEGEND

- CONSTRUCTION JOINT - STRIKE OFF AS SHOWN
- 1" EXPANDED POLYSTYRENE
- NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE) SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING COLOR TO MATCH CONCRETE STAIN.
- 18" RUBBERIZED MEMBRANE WATERPROOFING.
- ☆ EXPANSION JOINTS TO BE SPACED AT A MINIMUM OF 20' AND A MAXIMUM OF 30'. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT, EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.
- ¾" DIAMETER SMOOTH DOWEL BARS, 1'-6" LONG, AT EXPANSION JOINT. EMBED 9". USE APPROVED DEBONDER ON ½ OF BAR LENGTH. COST INCLUDED IN "CONCRETE MASONRY RETAINING WALLS".

NOTES

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPET AND ANCHOR SLAB MAY BE USED. RUN BAR REINFORCEMENT THRU THE OPTIONAL JOINT.

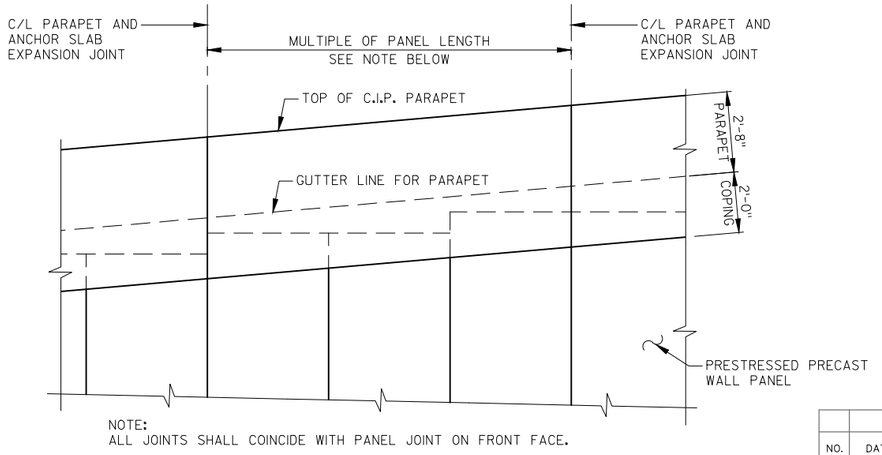
LAP #4 LONGITUDINAL BARS A MINIMUM OF 1'-9" AND LAP #5 BARS A MINIMUM OF 2'-3".

FOR PARAPET AND ANCHOR SLAB ELEVATION SEE SHEET 6.

SEE SHEET 8 FOR PARAPET DIMENSIONS.

SEE SHEET 8 FOR BILL OF BARS.

F.F. - FRONT FACE
B.F. - BACK FACE



NOTE:
ALL JOINTS SHALL COINCIDE WITH PANEL JOINT ON FRONT FACE.

C.I.P. PARAPET & COPING PARTIAL ELEVATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-0071

DRAWN BY KLA | PLANS CK'D. MEM

PARAPET, COPING & ANCHOR SLAB DETAILS (2 OF 2)

SHEET 5 OF 13

2338

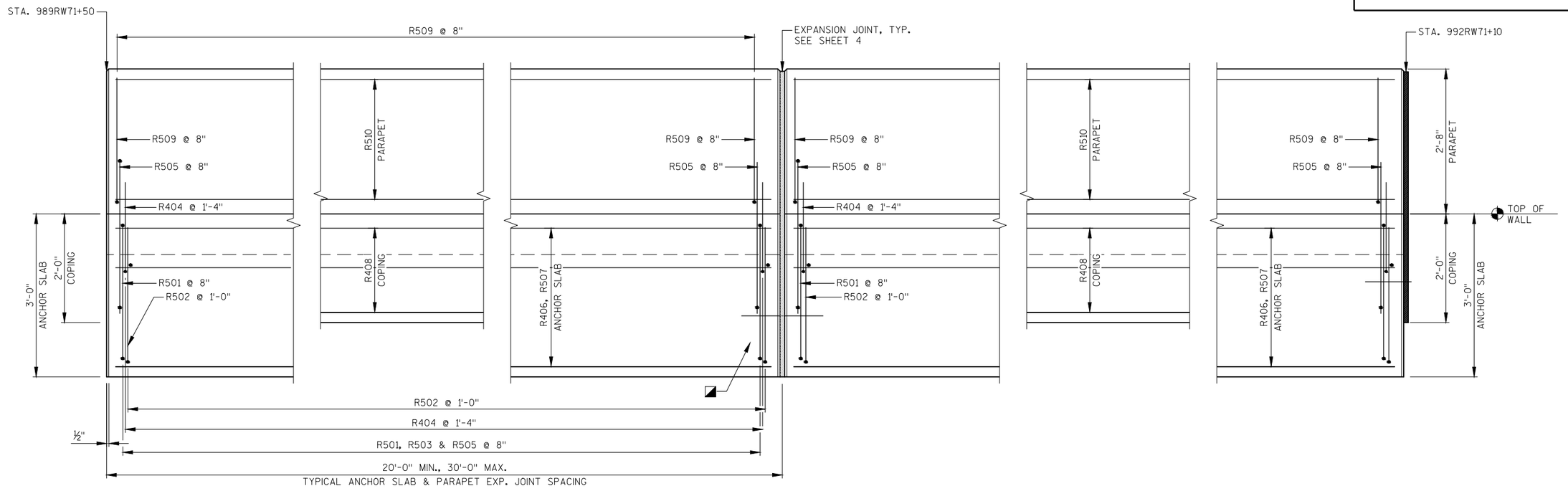
8

8

FILE NAME : R:\PROJECTS\W11440 USH 41 BOX CULVERTS (ALL CULVERTS)\W11487 USH 41 RETAINING WALLS\CADD FILES\STRUCTURE (WORKING)\W11487_R-05-71_05_DET.DWG
LAYOUT : LAYOUT
PLOT DATE : 11/20/2012
PLOT TIME : 10:56:57 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

1133-03-77



LEGEND

◪ ¾" DIAMETER SMOOTH DOWEL BARS, 1'-6" LONG, AT EXPANSION JOINT. EMBED 9". USE APPROVED DEBONDER ON ½ OF BAR LENGTH. COST INCLUDED IN "CONCRETE MASONRY RETAINING WALLS".

NOTES

SEE SHEET 8 FOR BILL OF BARS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-0071

DRAWN BY KLA | PLANS CK'D. MEM

PARAPET, COPING & ANCHOR SLAB ELEVATION

SHEET 6 OF 13

2339

8

8

FILE NAME : R:\PROJECTS\W11440 USH 41 BOX CULVERTS (ALL CULVERTS)\W11487 USH 41 RETAINING WALLS\CADD FILES\STRUCTURE (WORKING)\W11487_R-05-71_06_ELEV.DWG
LAYOUT : LAYOUT

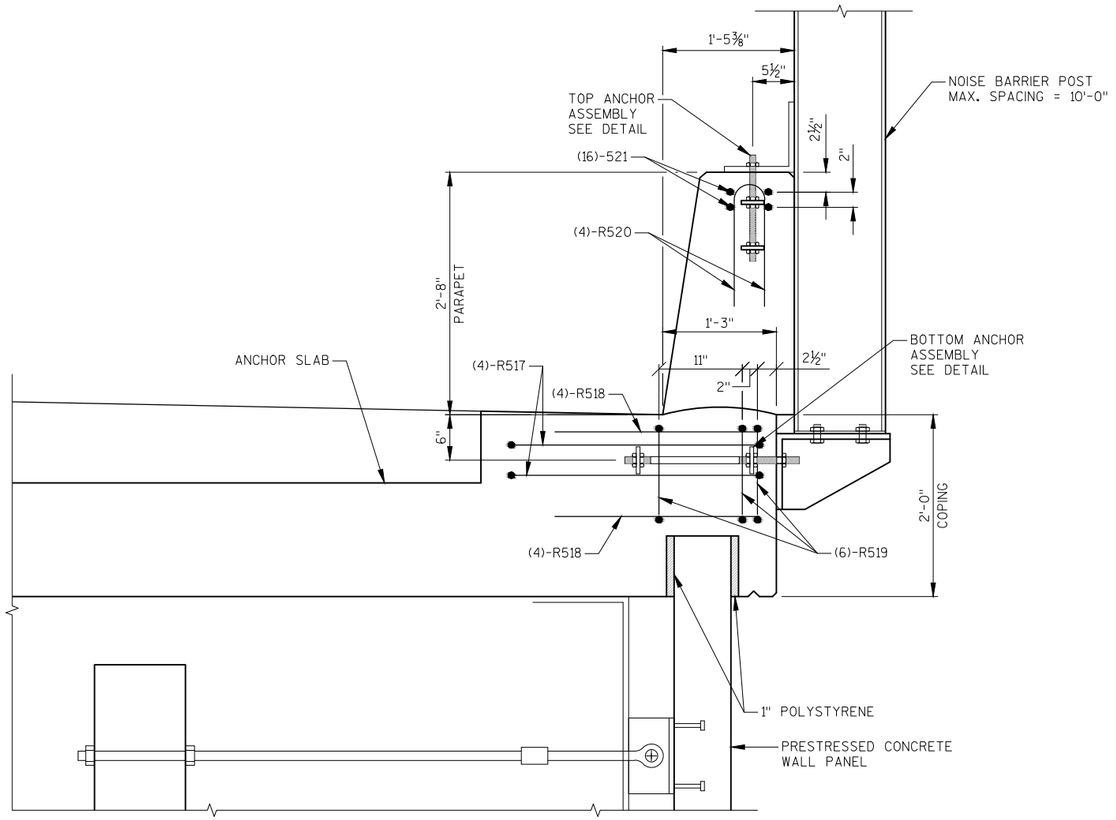
PLOT DATE : 11/20/2012
PLOT TIME : 10:57:11 AM

PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1" = 1'

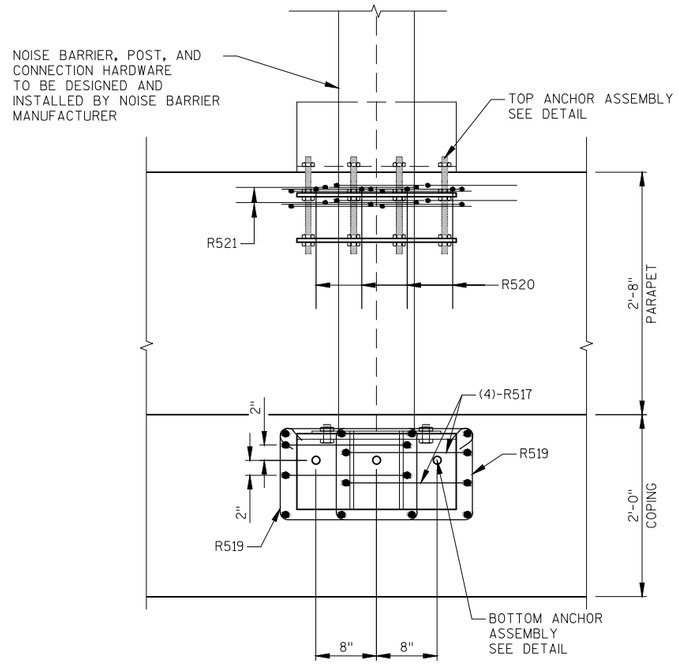
STATE PROJECT NUMBER

1133-03-77



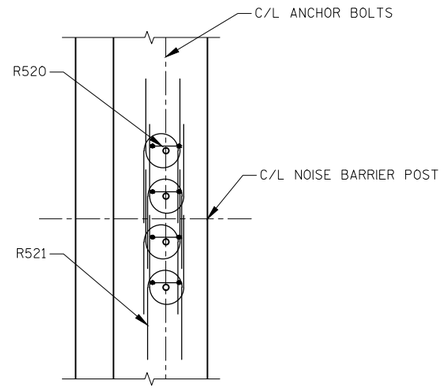
SECTION AT NOISE BARRIER ON MSE WALL

TYPICAL AT EACH POST LOCATION

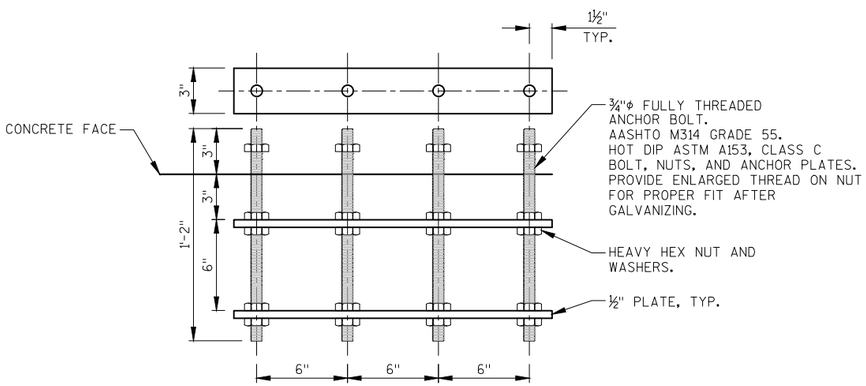


ELEVATION AT NOISE BARRIER POST

TYPICAL AT EACH POST LOCATION

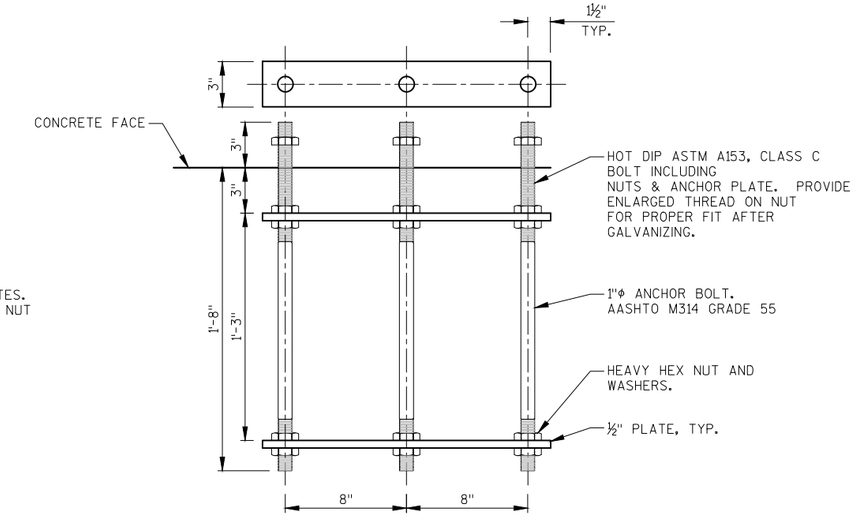


TOP VIEW AT PARAPET



ELEVATION

TOP ANCHOR BOLT ASSEMBLY



PLAN

BOTTOM ANCHOR BOLT ASSEMBLY

NOTES

BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES" EACH INCLUDES UPPER AND LOWER ANCHORAGES AT EACH POST LOCATION.

SEE SHEETS 4, 5 AND 6 FOR ANCHOR SLAB AND PARAPET DETAILS.

SEE SHEET 9 FOR NOISE BARRIER POST SPACING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-0071

DRAWN BY KLA | PLANS CK'D. MEM

NOISE BARRIER POST ANCHORAGE

SHEET 7 OF 13

2340

8

8

FILE NAME : R:\PROJECTS\W11440 USH 41 BOX CULVERTS (ALL CULVERTS)\W11487 USH 41 RETAINING WALLS\CADD FILES\STRUCTURE (WORKING)\W11487_R-05-71_07_POST ANCHOR.DWG
LAYOUT : LAYOUT
PLOT DATE : 11/20/2012
PLOT TIME : 10:57:20 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

1133-03-77

BILL OF BARS — 59,540 LBS. (COATED)

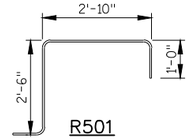
	BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
	R501	399	6'-9"	X	X	ANCHOR SLAB TOP TRANSVERSE
	R502	269	8'-11"	X	X	ANCHOR SLAB BOTTOM TRANSVERSE
	R503	399	9'-2"	X	X	ANCHOR SLAB TOP TRANSVERSE
	R404	208	4'-5"	X	X	ANCHOR SLAB BOTTOM TRANSVERSE
	R505	399	7'-7"	X	X	PARAPET VERTICAL
*	R506	16	260'-0"		X	ANCHOR SLAB LONGITUDINAL
*	R507	7	260'-0"		X	ANCHOR SLAB LONGITUDINAL
*	R408	3	800'-0"		X	COPING LONGITUDINAL
	R509	1227	5'-0"	X	X	PARAPET VERTICAL
*	R510	6	800'-0"		X	PARAPET LONGITUDINAL
	R411	450	5'-6"	X	X	ANCHOR SLAB TOP TRANSVERSE
	R412	450	7'-2"	X	X	ANCHOR SLAB BOTTOM TRANSVERSE
	R513	828	6'-0"		X	ANCHOR SLAB TOP TRANSVERSE
	R414	450	4'-4"	X	X	ANCHOR SLAB BOTTOM TRANSVERSE
	R515	828	7'-1"	X	X	PARAPET VERTICAL
*	R416	18	540'-0"		X	ANCHOR SLAB LONGITUDINAL
	R517	104	8'-0"	X	X	NOISE WALL POST ANCHORAGE (4)
	R518	208	2'-3"		X	NOISE WALL POST ANCHORAGE (8)
	R519	156	5'-6"	X	X	NOISE WALL POST ANCHORAGE (6)
	R520	104	2'-9"	X	X	NOISE WALL POST ANCHORAGE (4)
	R521	416	2'-3"	X	X	NOISE WALL POST ANCHORAGE (16)
	R522	6	3'-2"	X	X	LIGHT POLE ANCHOR - VERT. (2)
	R523	6	4'-9"	X	X	LIGHT POLE ANCHOR - VERT. (2)
	R524	4	6'-8"	X	X	LIGHT POLE ANCHOR - VERT. (4)
	R525	4	8'-5"	X	X	LIGHT POLE ANCHOR - VERT. (4)
	R526	4	9'-5"	X	X	LIGHT POLE ANCHOR - HORZ. (4)
	R527	2	8'-4"	X	X	LIGHT POLE ANCHOR - HORZ. (2)
	R528	2	5'-8"	X	X	LIGHT POLE ANCHOR - HORZ. (2)
	R629	7	11'-8"	X	X	LIGHT POLE ANCHOR - HORZ. (7)
	R530	18	6'-5"	X	X	LIGHT POLE ANCHOR - HORZ. (6)
	R631	2	13'-4"	X	X	LIGHT POLE ANCHOR - HORZ. (2)
	R532	8	5'-10"	X	X	LIGHT POLE ANCHOR - VERT. (4)
	R533	8	7'-7"	X	X	LIGHT POLE ANCHOR - VERT. (4)
	R534	8	7'-9"	X	X	LIGHT POLE ANCHOR - HORZ. (4)
	R535	4	6'-8"	X	X	LIGHT POLE ANCHOR - HORZ. (2)
	R536	4	5'-0"	X	X	LIGHT POLE ANCHOR - HORZ. (2)
	R637	14	10'-0"	X	X	LIGHT POLE ANCHOR - HORZ. (7)
	R638	4	11'-9"	X	X	LIGHT POLE ANCHOR - HORZ. (2)

NOTES

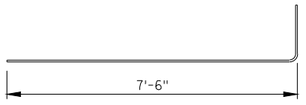
THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

* FIGURE SHOWN IN THE "NO. REQ'D." AND "LENGTH" COLUMNS OF THE TABLE SHOULD BE USED FOR BAR WEIGHT CALCULATIONS ONLY. INDIVIDUAL BAR LENGTHS TO BE DETERMINED BY THE CONTRACTOR BASED ON THE ACTUAL DISTANCE BETWEEN ANCHOR SLAB EXPANSION JOINTS.



R501



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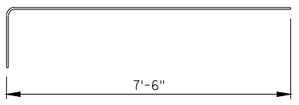

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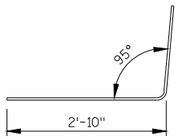
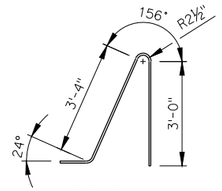


R404 & R414



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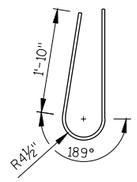

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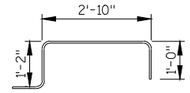

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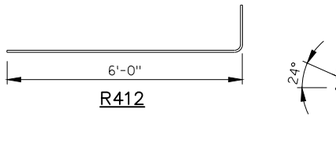

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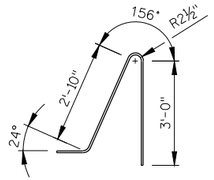

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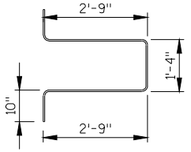

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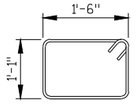

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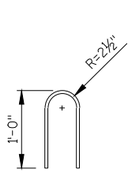

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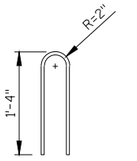

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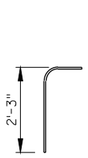

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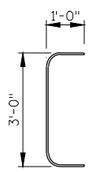

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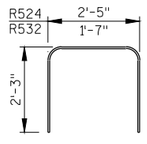
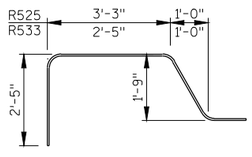
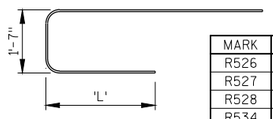


R524 & R532

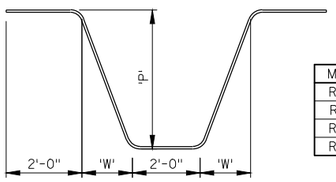


R525 & R533



MARK	'L'
R526	2'-10"
R527	2'-1"
R528	0'-9"
R534	2'-0"
R535	1'-3"

R526, R527, R528
R534 & R535

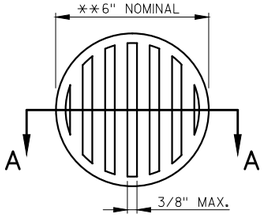


MARK	'P'	'W'
R629	2'-9"	1'-0"
R631	3'-7"	1'-3"
R637	2'-0"	0'-9"
R638	2'-10"	1'-0"

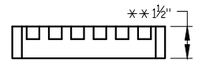
R629, R631, R637 & R638

R536

R530



RODENT SCREEN



SECTION A–A

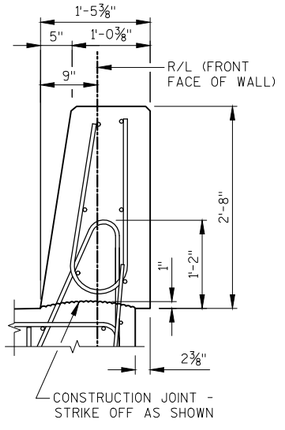
NOTES:

** DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

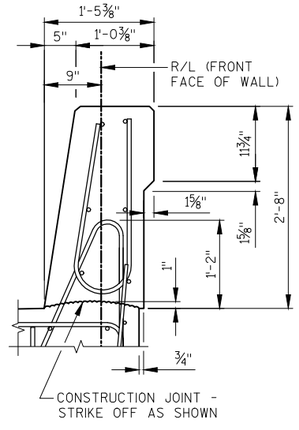
ORIENT SHIELD SO SLOTS ARE VERTICAL.

THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6–INCH".

THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED ENDS OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1–INCH STAINLESS STEEL SHEET METAL SCREWS.



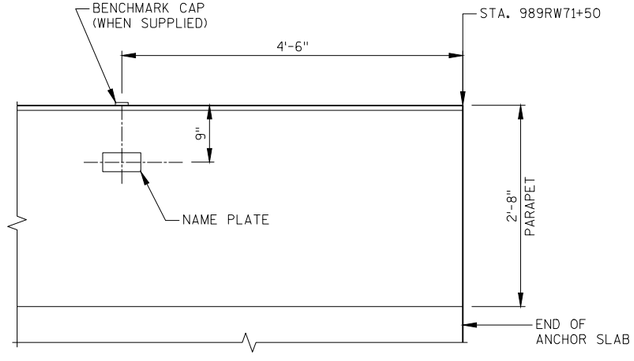
WITH NOISEWALL
STA. 989RW71+50 TO STA. 992RW71+00



WITHOUT NOISEWALL
STA. 992RW71+05 TO STA. 997RW71+50

TYPICAL SECTION THROUGH PARAPET

NOTE: TRANSITION FROM SECTION WITH NOISEWALL TO SECTION WITHOUT NOISEWALL REQUIRED BETWEEN STA. 992RW71+00 AND STA. 992RW71+05



INSIDE PARAPET ELEVATION

SEE GENERAL PLAN FOR NAME PLATE LOCATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R–05–0071

DRAWN BY PTB | PLANS CK'D. MEM

DETAILS

SHEET 8 OF 13

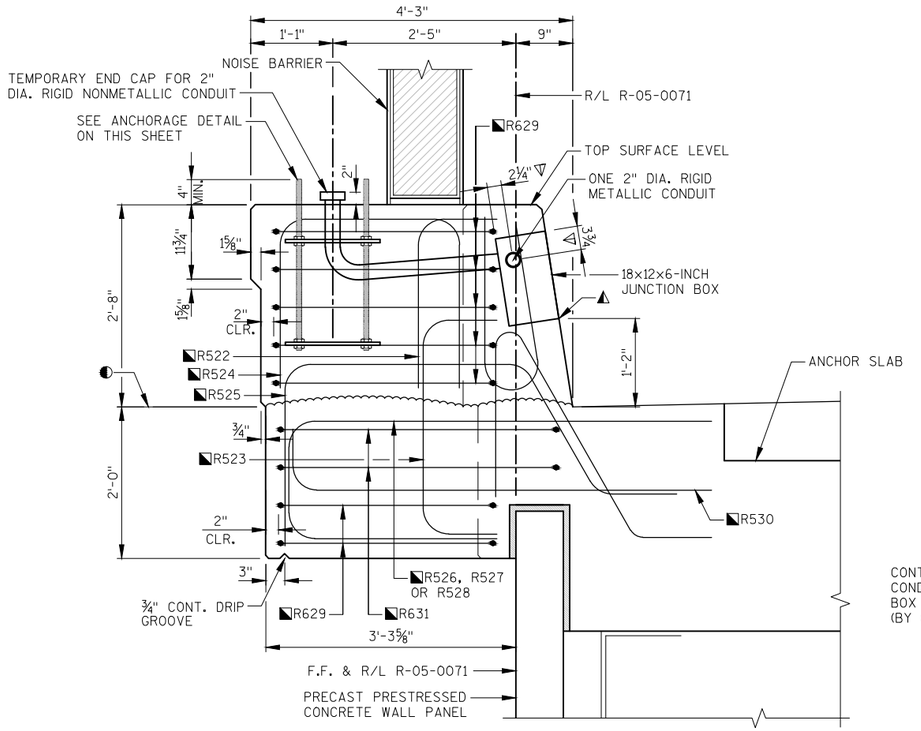
2341

8

8

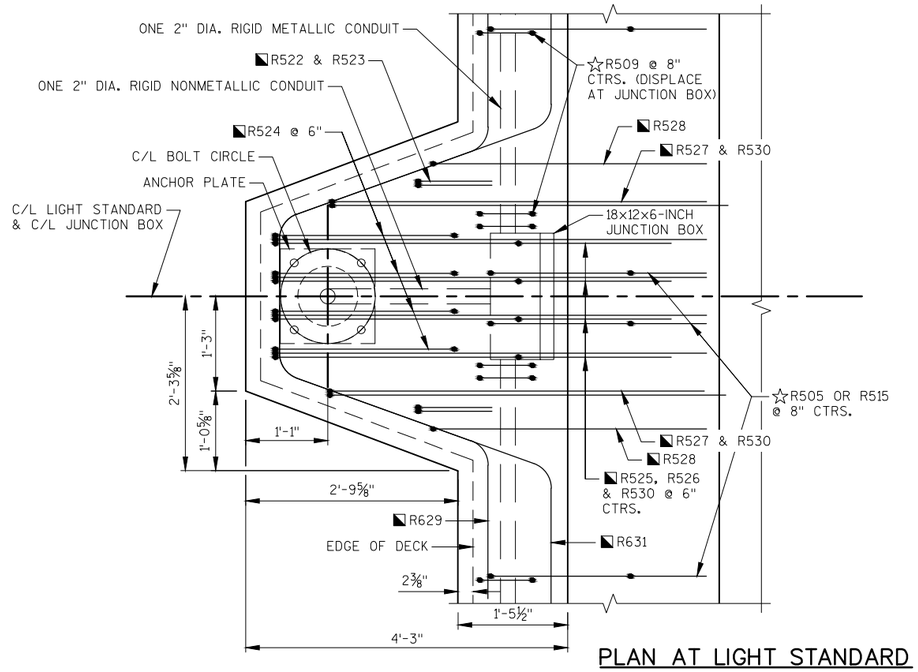
STATE PROJECT NUMBER

1133-03-77

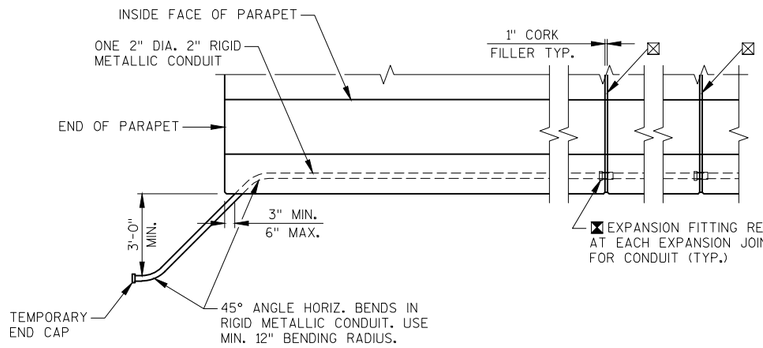


SECTION A–A
SECTION AT LIGHT STANDARD ON MSE WALL

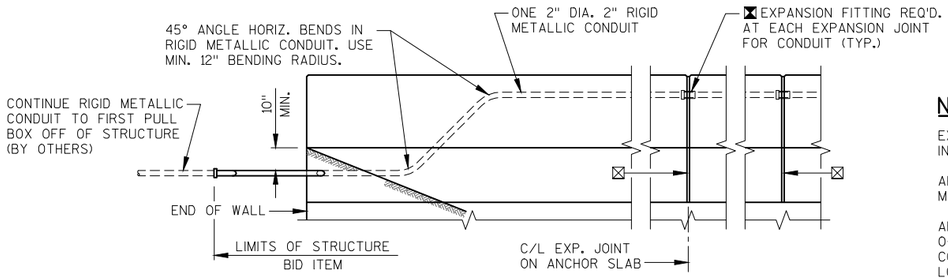
AT STA. 991VKB+41



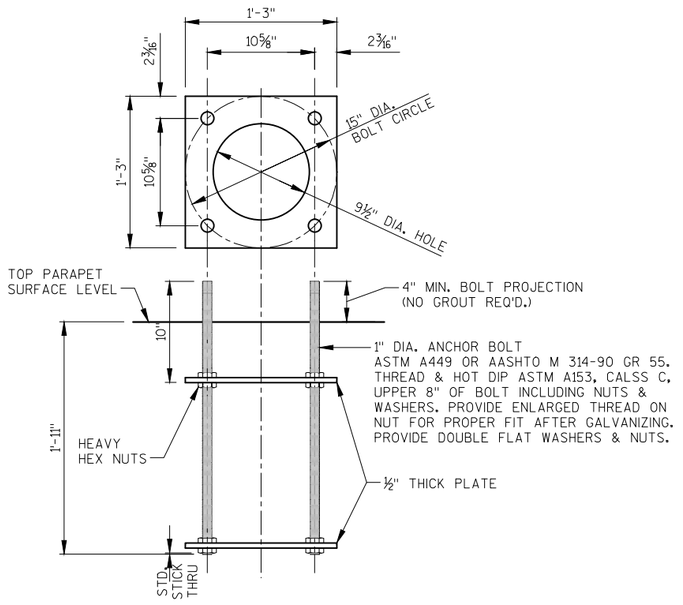
PLAN AT LIGHT STANDARD



PLAN OF PARAPET AT END OF WALL



OUTSIDE ELEVATION OF PARAPET AT END OF WALL



TYPICAL LIGHT STANDARD ANCHORAGE DETAIL

LEGEND

- ◐ CONSTRUCTION JOINT, STRIKE OFF AS SHOWN.
- ◭ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- ◥ THESE BARS ARE IN ADDITION TO THE STANDARD ANCHOR SLAB/ PARAPET BARS.
- ☆ SEE SHEET 4 AND 5 FOR ADDITIONAL DETAILS OF THESE STANDARD ANCHOR SLAB/PARAPET BARS.
- ▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.
- ☒ POSITION MOVEABLE END OF CONDUIT INSIDE EXPANSION FITTING, SUCH THAT IT WILL HAVE THE SAME ALLOWANCE FOR MOVEMENT TO EXPAND AND CONTRACT. TAKE CARE TO INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO WALL MOVEMENT.
- ☒ SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

NOTES

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO THE BID ITEM "CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES: SEE APPROVED MATERIALS LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING: O-Z/GEDNEY TYPE AXDX-200 / AX-200 AND BONDING JUMPER COMBINATION expansion AND DEFLECTION FITTING (4" TOTAL LONGITUDINAL CONDUIT MOVEMENT).

BONDING JUMPERS FOR LIGHTING CONDUIT SHALL EITHER ENTER THE JUNCTION BOX AND BE TERMINATED TO THE GROUNDING LUG USING TERMINAL BLOCKS OR CAN BE EXOTHERMICALLY WELDED TO A FIELD INSTALLED GROUNDING LUG ON THE BACK SIDE OF THE JUNCTION BOX.

MINIMUM BENDING RADIUS FOR CONDUIT IS 12 INCHES.

LIGHT STANDARD LOCATION

ROADWAY STATION	WALL STATION	COMMENTS
991VKB+41	991RW71+41	THIS SHEET
993VKB+72	993RW71+72	SEE NEXT SHEET
996VKB+06	996RW71+06	SEE NEXT SHEET

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-0071

DRAWN BY KLA | PLANS CK'D. MEM

LIGHTING DETAILS (1 OF 2)

SHEET 9 OF 13

2342

8

8

FILE NAME : R:\PROJECTS\W11440 USH 41 BOX CULVERTS (ALL CULVERTS)\W11487 USH 41 RETAINING WALLS\CADD FILES\STRUCTURE (WORKING)\W11487_R-05-71_07B_POST ANCHOR.DWG
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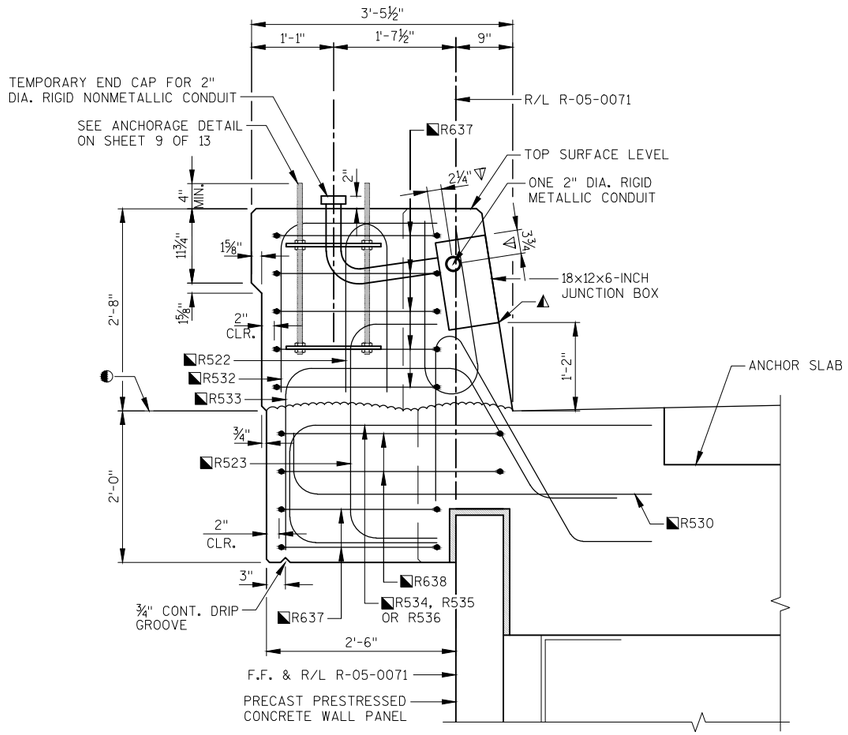
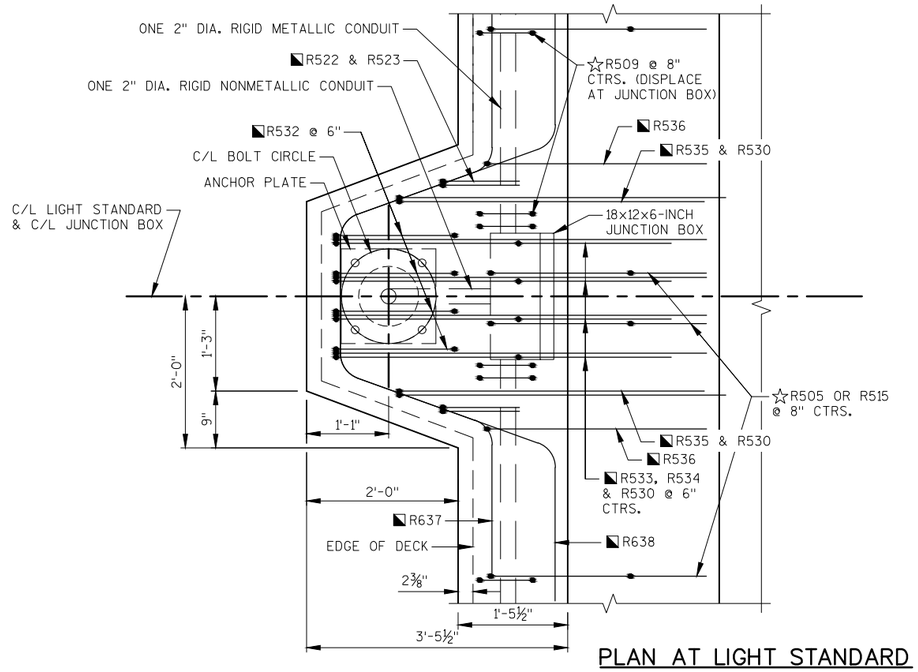
PLOT DATE : 11/20/2012
PLOT TIME : 10:57:47 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'



SECTION A–A
SECTION AT LIGHT STANDARD ON MSE WALL

AT STA. 993VKB+72 & STA. 996VKB+06



PLAN AT LIGHT STANDARD

LEGEND

- ◐ CONSTRUCTION JOINT, STRIKE OFF AS SHOWN.
- ◭ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- ◥ THESE BARS ARE IN ADDITION TO THE STANDARD ANCHOR SLAB/ PARAPET BARS.
- ☆ SEE SHEET 4 AND 5 FOR ADDITIONAL DETAILS OF THESE STANDARD ANCHOR SLAB/PARAPET BARS.
- ▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.

NOTES

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO THE BID ITEM "CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES: SEE APPROVED MATERIALS LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING: O-Z/GEDNEY TYPE AXDX-200 / AX-200 AND BONDING JUMPER COMBINATION expansion AND DEFLECTION FITTING (4" TOTAL LONGITUDINAL CONDUIT MOVEMENT).

BONDING JUMPERS FOR LIGHTING CONDUIT SHALL EITHER ENTER THE JUNCTION BOX AND BE TERMINATED TO THE GROUNDING LUG USING TERMINAL BLOCKS OR CAN BE EXOTHERMICALLY WELDED TO A FIELD INSTALLED GROUNDING LUG ON THE BACK SIDE OF THE JUNCTION BOX.

MINIMUM BENDING RADIUS FOR CONDUIT IS 12 INCHES.

LIGHT STANDARD LOCATION

ROADWAY STATION	WALL STATION	COMMENTS
991VKB+41	991RW71+41	SEE PREV. SHEET
993VKB+72	993RW71+72	THIS SHEET
996VKB+06	996RW71+06	THIS SHEET

STATE PROJECT NUMBER

1133-03-77

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-0071

DRAWN BY KLA | PLANS CK'D. MEM

LIGHTING DETAILS (2 OF 2)

SHEET 10 OF 13

2343

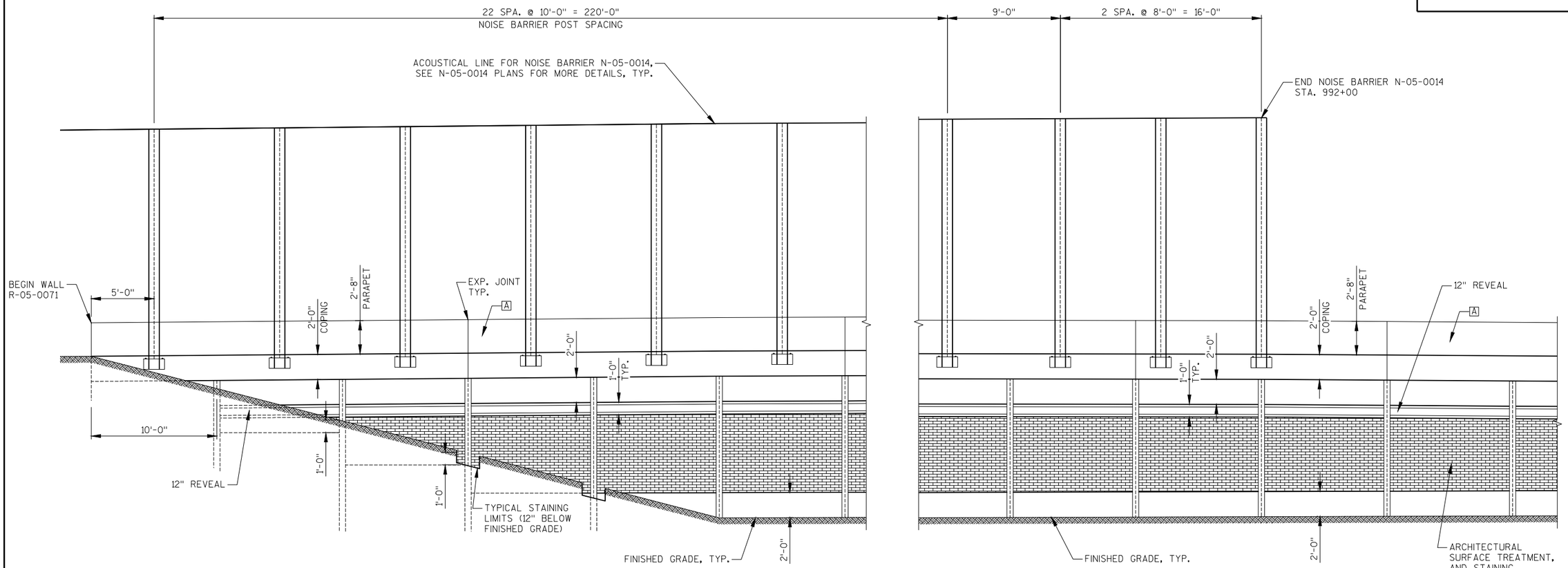
8

8

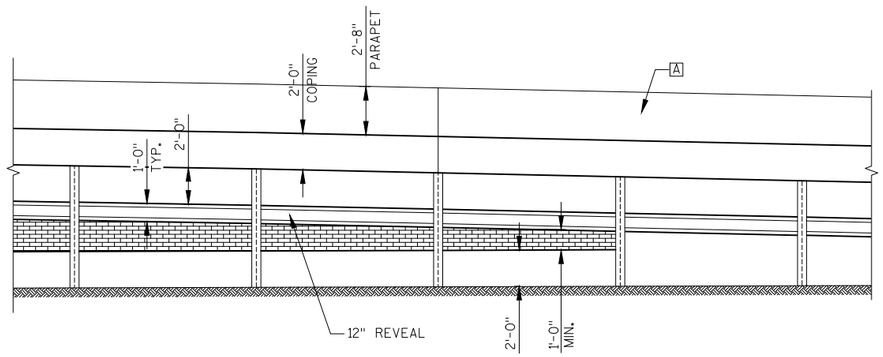
FILE NAME : R:\PROJECTS\W11440 USH 41 BOX CULVERTS (ALL CULVERTS)\W11487 USH 41 RETAINING WALLS\CADD FILES\STRUCTURE (WORKING)\W11487_R-05-71_07C_POST ANCHOR.DWG
LAYOUT : LAYOUT
PLOT DATE : 11/20/2012
PLOT TIME : 10:57:56 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

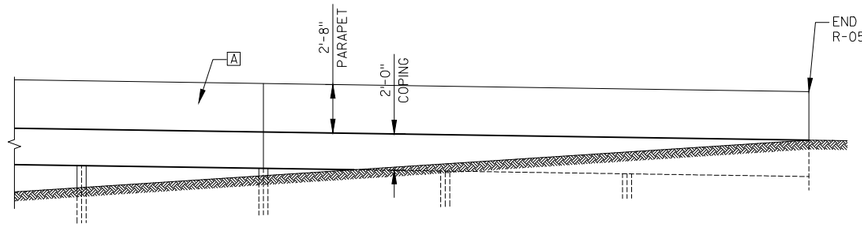
STATE PROJECT NUMBER

1133-03-77



R-05-0071
MSE WALL ELEVATION





NOTES

SEE SHEET 12 FOR CONCRETE STAINING SCHEDULE.

ARCHITECTURAL SURFACE TREATMENT, HORIZONTAL RECESS, AND STAINING SHELL EXTEND TO 1 FOOT BELOW FINISHED GRADE.

SEE SHEET 12 FOR DETAILS OF CONCRETE STAINING ON PRECAST WALL PANEL AND COPING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-0071

DRAWN BY KLA | PLANS CK'D. MEM

AESTHETIC DETAILS (1 OF 2)

SHEET 11 OF 13

2344

8

8

FILE NAME : R:\PROJECTS\W11440 USH 41 BOX CULVERTS (ALL CULVERTS)\W11487 USH 41 RETAINING WALLS\CADD FILES\STRUCTURE (WORKING)\W11487_R-05-71_09_AESTH DET.DWG
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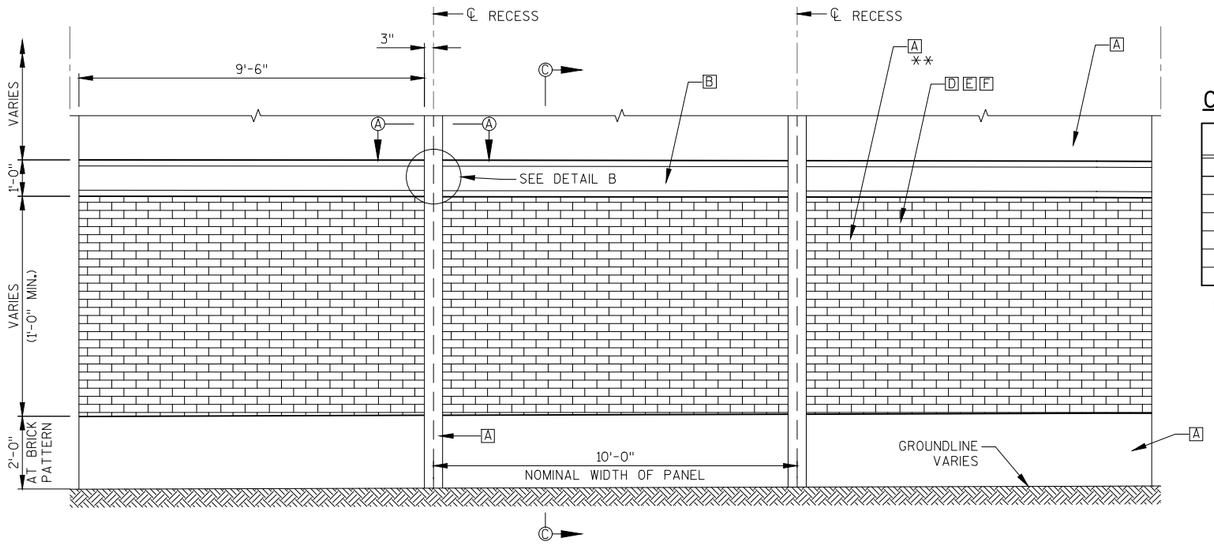
1133-03-77



TYPICAL WALL PANEL ELEVATION

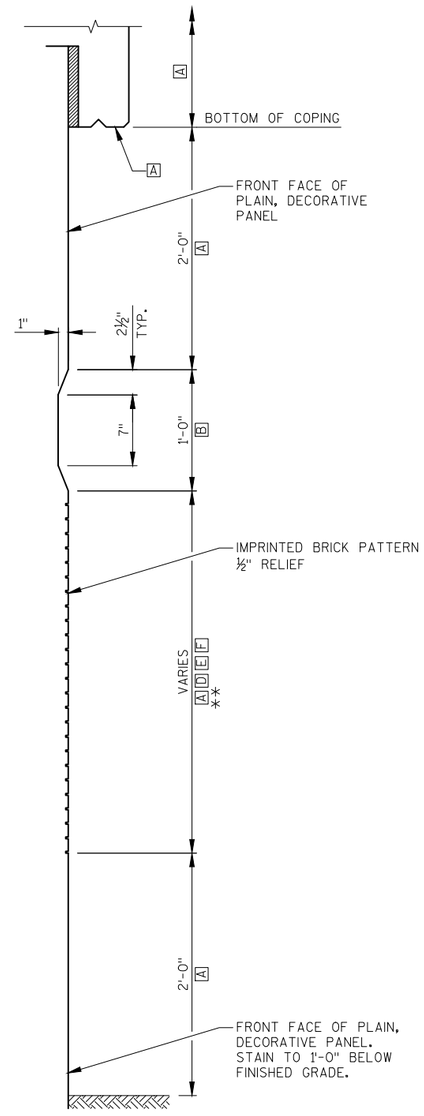
(LOOKING AT FRONT FACE OF WALL)
(ONLY THREE PANELS SHOWN. OTHER PANELS SIMILAR)

** STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

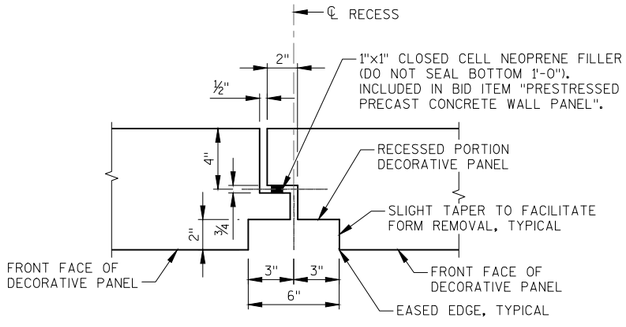
CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT (NOT USED)
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	LETTERING AT ROADWAY NAME (NOT USED)

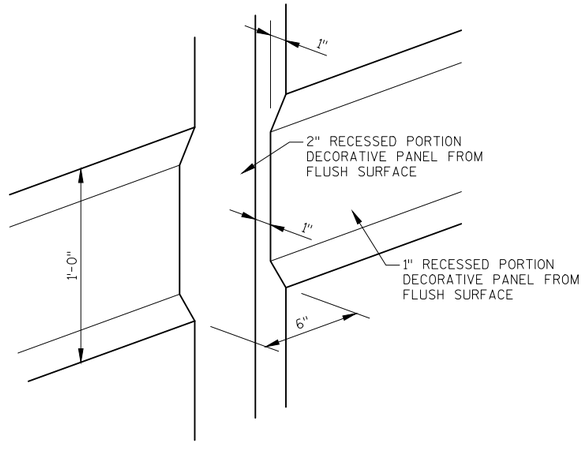
SEE SPECIAL PROVISIONS FOR STAIN COLORS



SECTION C-C



SECTION A-A



DETAIL B - ISOMETRIC REVEAL

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-0071

DRAWN BY KLA | PLANS CK'D. MEM

AESTHETIC DETAILS (2 OF 2)

SHEET 12 OF 13

2345

FILE NAME : R:\PROJECTS\W11440 USH 41 BOX CULVERTS (ALL CULVERTS)\W11487 USH 41 RETAINING WALLS\CADD FILES\STRUCTURE (WORKING)\W11487_R-05-71_10_AESTH DET.DWG
LAYOUT : LAYOUT

PLOT DATE : 11/20/2012
PLOT TIME : 10:58:25 AM

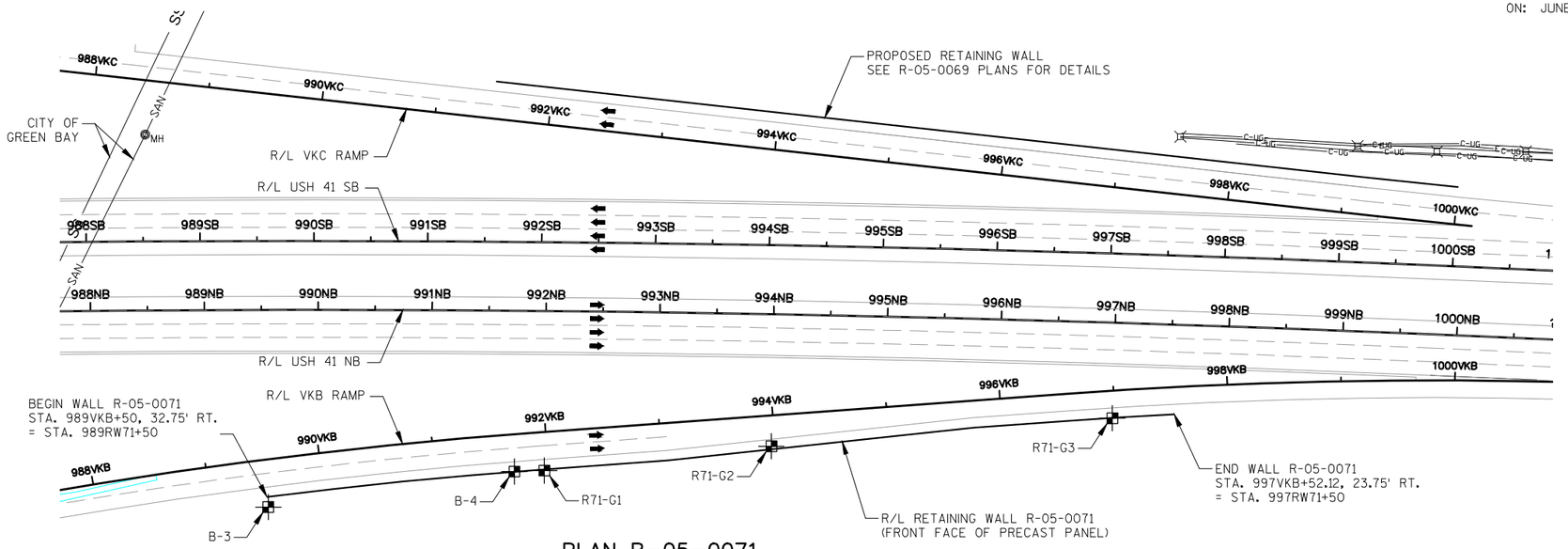
PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1" = 1'

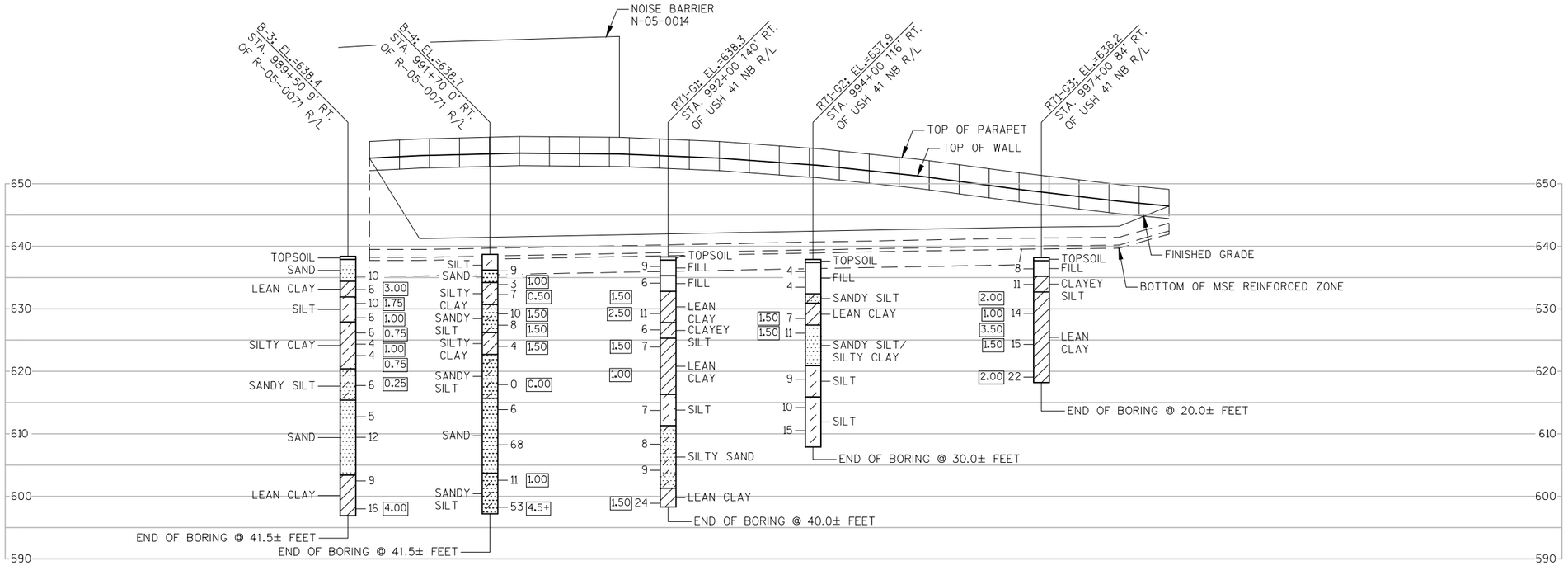
SOIL BORINGS

BY: WISDOT & GESTRA ENGINEERING, INC.

ON: JUNE 28, 2011



PLAN R-05-0071



STATE PROJECT NUMBER

1133-03-77

ABBREVIATIONS

F-Fine M-Medium C-Course
Ws-Weathered So-Sound

MATERIAL SYMBOLS

Asphalt, Silt, Sandstone
Sand, Peat, Limestone
Gravel, Clay, Igneous Rock

LEGEND OF PROBING

95/6 = 96 Blows for 6" Penetration. Probing Taken with a 350# Weight Falling 18" on a 2" O.D. Point.

Probing No.
Sta.
Elevation
7 Average Blows Per Foot
Refusal 95/6

LEGEND OF BORING

Unconfined Strength — 7.7 8 *
Blows Per Ft. Using 140# Wt. Falling 30"
Wash Sample
Shelby Tube — S.T.
No Ground Water Observed Above This Elevation
Ground Water Elevation

Boring No.
Sta.
Elevation
Sandy Gravel
Boulders or Cobbles
F. Sand
Silty Clay
So. Limestone

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-0071

Drawn By: KLA | Plans Checked: MEM

SUBSURFACE INVESTIGATION

SHEET 13 OF 13

2346

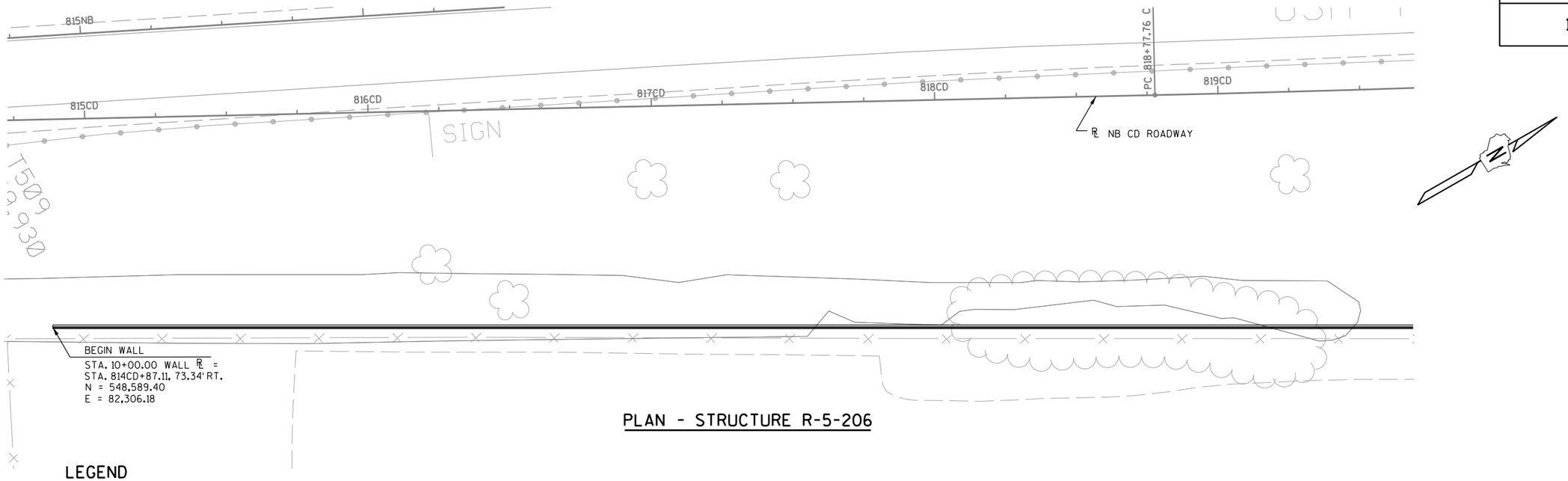
8

8

FILE NAME : R:\PROJECTS\W11440 USH 41 BOX CULVERTS (ALL CULVERTS)\W11487 USH 41 RETAINING WALLS\CADD FILES\STRUCTURE (WORKING)\W11487_R-05-71_11_BOR.DWG
LAYOUT : LAYOUT1
PLOT DATE : 11/20/2012
PLOT TIME : 10:58:37 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

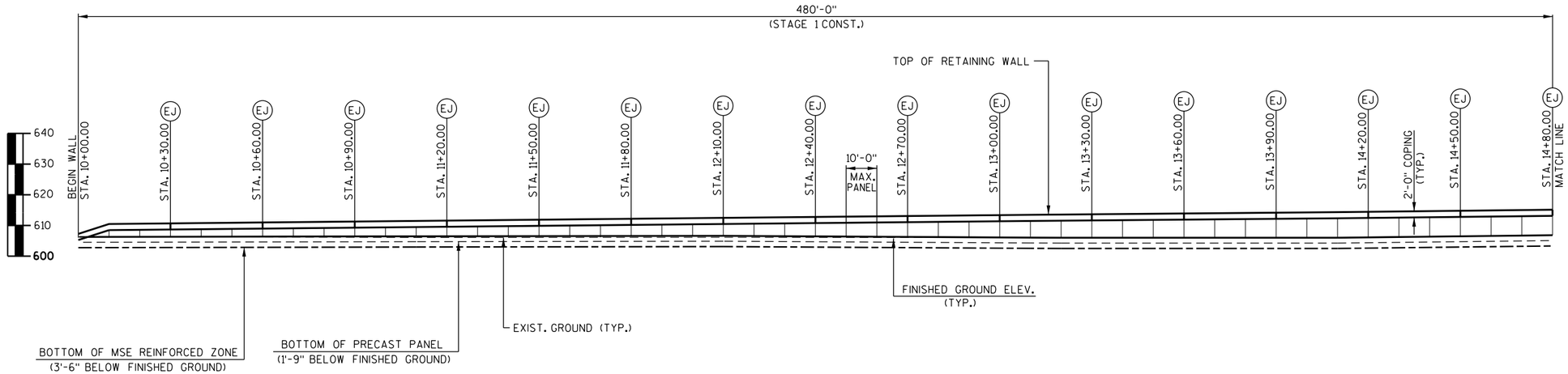
1133-09-71



PLAN - STRUCTURE R-5-206

LEGEND

(EJ) EXPANSION JOINT LOCATION IN COPING



ELEVATION - STRUCTURE R-5-206

(LOOKING AT F.F. OF WALL)

NOTE: SEE "WALL ELEVATION TABLE" ON SHEET 3.

DESIGN DATA

LIVE LOAD SURCHARGE (ROADWAY) = 240 P.S.F.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY - BARRIER & COPING —— f'_c = 4,000 P.S.I.
PRECAST CONCRETE WALL PANEL —— f'_c = 5,000 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 —— f_y = 60,000 P.S.I.
STRUCTURAL STEEL CARBON (ASTM A709 GRADE 36) —— f_y = 36,000 P.S.I.

FOUNDATION DATA:

ALLOWABLE SOIL BEARING CAPACITY - SEE TABLE ON SHEET 3.

LIST OF DRAWINGS

1. GENERAL PLAN
2. GENERAL PLAN
3. NOTES & QUANTITIES
4. SOIL DATA
5. SUBSURFACE EXPLORATION
6. SUBSURFACE EXPLORATION
7. WALL DETAILS
8. WALL DETAILS
9. DECORATIVE FENCE DETAILS
10. DECORATIVE FENCE DETAILS
11. DECORATIVE FENCE DETAILS
12. DECORATIVE FENCE DETAILS
13. AESTHETICS

WISCONSIN
THOMAS J. ROMENESKO
E-26318
MADISON
WI
PROFESSIONAL ENGINEER
3/22/13

ROMENESKO ENGINEERING, INC.
CONTACT: TOM ROMENESKO, P.E.
7325 CEDAR CREST DRIVE
SAUK CITY, WI 53583
(608) 644-1502

BRIDGE OFFICE CONTACT:
WILLIAM DREHER, P.E.
(608) 266-8489

NO.	DATE	REVISION	BY

Original Plans Prepared By
ROMENESKO ENGINEERING, INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR — 03/25/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-5-206

RETAINING WALL AT S. ABUTS. B-5-616, 617, & 621

COUNTY	TOWN/CITY/~~VILLAGE~~
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STD. SPEC.

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
TR	VR	TAW	TR

GENERAL PLAN

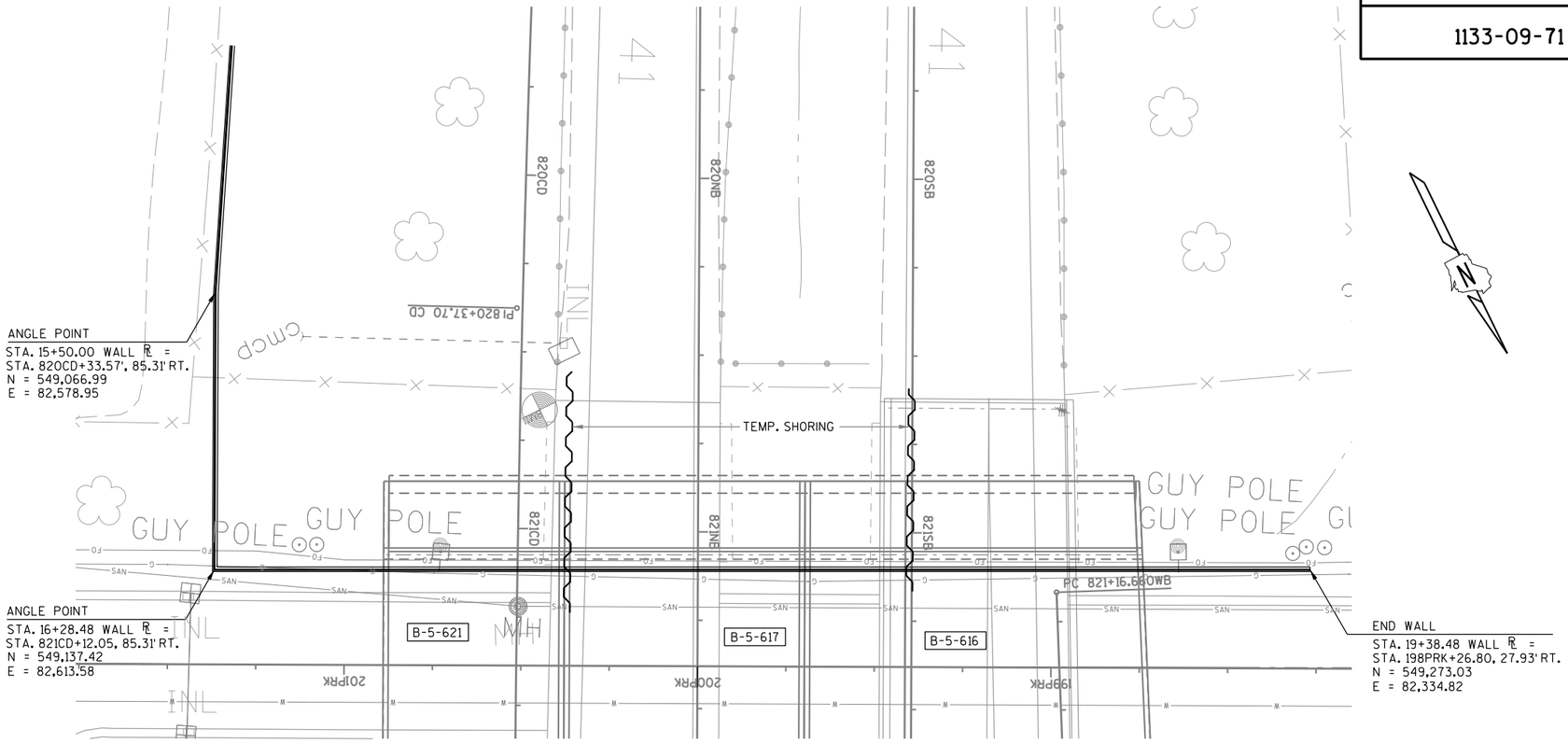
SHEET 1 OF 13
2347

I.D. 1133-09-00 DATE : 3/22/2013

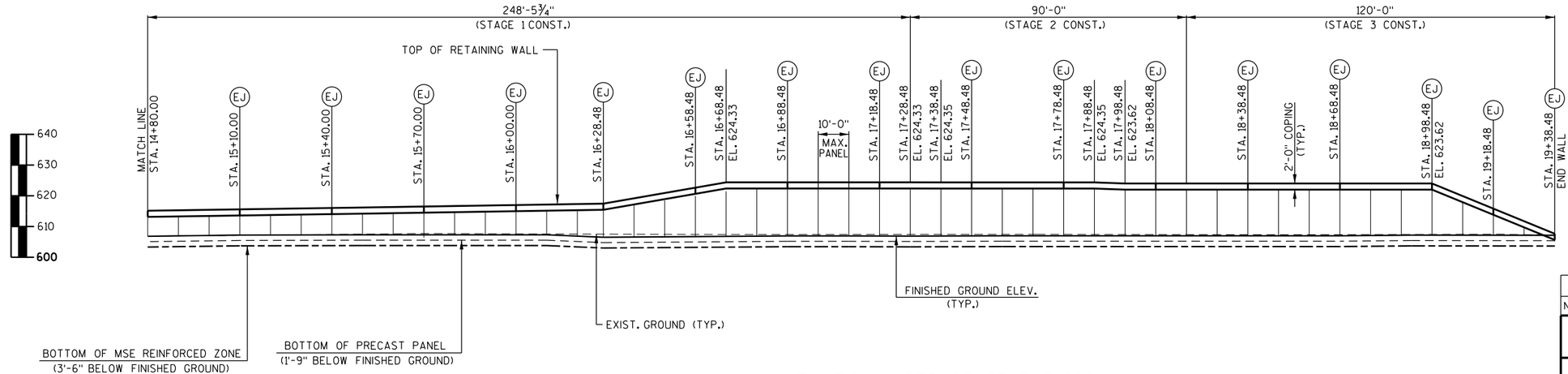
8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-206\01_genplan_v8_r-5-206.dgn
PLOT DATE : 3/22/2013

STATE PROJECT NUMBER
1133-09-71



PLAN - STRUCTURE R-5-206



ELEVATION - STRUCTURE R-5-206
(LOOKING AT F.F. OF WALL)

NOTE: SEE "WALL ELEVATION TABLE" ON SHEET 3.

LEGEND

(EJ) EXPANSION JOINT LOCATION IN COPING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-206

DRAWN BY TAW | PLANS CK'D. TR

GENERAL PLAN

SHEET 2 OF 13
2348

8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-206\02_genplan_v8_r-5-206.dgn
PLOT DATE : 1/28/2013

STATE PROJECT NUMBER
1133-09-71

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

BEVEL EXPOSED EDGES OF CONCRETE 3/4", UNLESS NOTED OTHERWISE.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

COORDINATE THE CONSTRUCTION OF WALL R-5-206 WITH SOUTH ABUTMENT CONSTRUCTION FOR BRIDGES B-5-616, 617 & 621.

THE COST OF FURNISHING AND PLACING THE FOOTING UNDER THE MSE PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS SHOWN IN THE "WALL ELEVATION TABLE" ON THIS SHEET.

ALL STATIONS ARE ALONG THE ℄ FOR R-5-206 ALONG THE FRONT FACE OF WALL UNLESS SHOWN OTHERWISE.

DO NOT PERMIT CONCRETE OR FILL TO DROP OR ACCUMULATE INTO THE WALL PANEL CAVITY.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M153, TYPES Ⅰ, Ⅱ OR Ⅲ OR M213.

OPTIONAL TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE FOOTING WITH A MINIMUM SPACING OF TWO PANEL LENGTHS. FOOTING JOINTS SHOULD BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THRU FOOTING JOINTS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

DESIGN THE RETAINING WALL FOR FINISHED GRADE BEHIND THE WALL.

SEE SPECIAL PROVISIONS FOR AESTHETIC TREATMENTS TO THE WALL.

"FINE METALLIC SCREEN" SHALL HAVE A MAXIMUM 1/4"x1/4" MESH AND MINIMUM 0.025" WIRE DIAMETER. WIRES TO BE HOT DIPPED GALVANIZED AFTER WELDING.

AT THE ENDS OF WALL SEAL CAVITY BETWEEN WIRE FACE WALL AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE 1'-6" WIDE.

THE TEMPORARY SHORING QUANTITY IS BASED UPON PROVIDING TWO INSTALLATIONS AT EACH LOCATION SHOWN. TEMPORARY SHORING CAN CONSIST OF ANY SYSTEM ALLOWED IN THE SPECIFICATIONS AND APPROVED BY THE ENGINEER.

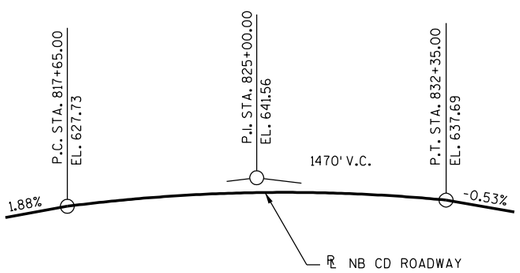
DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

AT THE ENDS OF WALL SEAL CAVITY BETWEEN WIRE FACE WALL AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE 1'-6" WIDE.

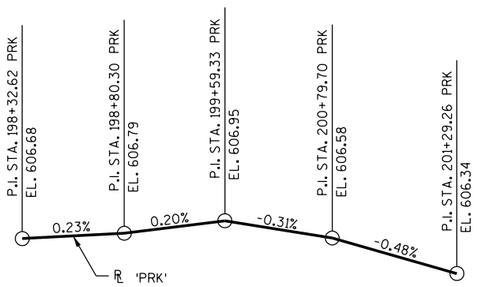
WALL ELEVATION TABLE

WALL STATION	TOP OF WALL ELEVATION	FINISHED GROUND ELEVATION
10+00.00	609.97	609.97
10+10.00	610.57	606.27
10+20.00	610.47	606.30
10+30.00	610.37	606.33
10+40.00	610.27	606.37
10+50.00	610.17	606.40
10+60.00	610.07	606.44
10+70.00	610.09	606.46
10+80.00	610.39	606.47
10+90.00	610.69	606.47
11+00.00	610.99	606.48
11+10.00	611.29	606.49
11+20.00	611.54	606.49
11+30.00	611.64	606.51
11+40.00	611.74	606.52
11+50.00	611.84	606.53
11+60.00	611.94	606.55
11+70.00	612.04	606.56
11+80.00	612.14	606.58
11+90.00	612.24	606.59
12+00.00	612.34	606.60
12+10.00	612.44	606.62
12+20.00	612.54	606.61
12+30.00	612.64	606.54
12+40.00	612.74	606.46
12+50.00	612.84	606.39
12+60.00	612.94	606.32
12+70.00	613.04	606.24
12+80.00	613.14	606.16
12+90.00	613.23	606.09
13+00.00	613.33	606.02
13+10.00	613.43	605.94
13+20.00	613.53	605.85
13+30.00	613.63	605.69
13+40.00	613.73	605.64
13+50.00	613.83	605.59
13+60.00	613.93	605.58
13+70.00	614.02	605.6
13+80.00	614.12	605.62
13+90.00	614.22	605.63
14+00.00	614.32	605.68
14+10.00	614.41	605.75
14+20.00	614.52	605.8
14+30.00	614.67	605.93
14+40.00	614.82	606.14
14+50.00	614.97	606.39
14+60.00	615.12	606.68
14+70.00	615.27	606.91
14+80.00	615.42	607.14

WALL STATION	TOP OF WALL ELEVATION	FINISHED GROUND ELEVATION
14+90.00	615.58	607.23
15+00.00	615.73	607.20
15+10.00	615.88	607.23
15+20.00	616.04	607.15
15+30.00	616.23	607.18
15+40.00	616.42	607.19
15+50.00	616.63	607.28
15+60.00	616.81	607.47
15+70.00	617.00	607.53
15+80.00	617.19	607.55
15+90.00	617.38	607.67
16+00.00	617.57	607.78
16+10.00	617.77	607.76
16+20.00	617.96	607.02
16+28.48	618.14	606.49
16+38.48	619.69	606.49
16+48.48	621.24	606.55
16+58.48	622.78	606.58
16+68.48	624.33	606.60
16+78.48	624.33	606.67
16+88.48	624.33	606.79
16+98.48	624.33	606.80
17+08.48	624.33	606.80
17+18.48	624.33	606.78
17+28.48	624.33	606.77
17+38.48	624.35	606.75
17+48.48	624.35	606.78
17+58.48	624.35	606.81
17+68.48	624.35	606.83
17+78.48	624.35	606.83
17+88.48	624.35	606.83
17+98.48	623.62	606.83
18+08.48	623.62	606.83
18+18.48	623.62	606.83
18+28.48	623.62	606.84
18+38.48	623.62	606.84
18+48.48	623.62	606.83
18+58.48	623.62	606.82
18+68.48	623.62	606.81
18+78.48	623.62	606.92
18+88.48	623.62	607.00
18+98.48	623.62	607.02
19+08.48	619.62	607.08
19+18.48	615.63	607.11
19+28.48	611.63	607.16
19+38.48	607.64	607.20



PROFILE GRADE LINE, NB CD ROADWAY



PROFILE GRADE LINE, PARKVIEW ROAD

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	TOTAL
206.6000.S	TEMPORARY SHORING	SF	4,200
532.0700.S	WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	9,610
612.0406	PIPE UNDERDRAIN 6-INCH WRAPPED	LF	960
SPV.0165.700	ARCHITECTURAL SURFACE TREATMENT	SF	5,850
SPV.0165.701	STAINING CONCRETE	SF	6,374
SPV.0165.702	STAINING CONCRETE BRICK	SF	5,850
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	9,610
SPV.0090.502	FENCE DECORATIVE WALL	LF	939
	NON - BID ITEMS		
	PREFORMED FILLER	SIZE	1"
	CORK FILLER	SIZE	1"
	EXPANDED POLYSTYRENE	SIZE	1"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-206

DRAWN BY TAW | PLANS CK'D. TR

NOTES & QUANTITIES

SHEET 3 OF 13
2349

FILE NAME : P:\134 USH 41 Bridges 1133-09-00\structures\R-5-206\03_notes_quant_v8_r-5-206.dgn
PLOT DATE : 3/22/2013

8

8

STATE PROJECT NUMBER

1133-09-71

SOIL PARAMETERS

SOIL DESCRIPTION	FRICTION ANGLE (DEGREES)	COHESION (psf)	UNIT WEIGHT (pcf)
GRANULAR BACKFILL WITHIN THE WALL IN THE REINFORCING ZONE	30	0	120
FILL BEHIND THE REINFORCING ZONE	31	0	120
B-561, 816+02			
CLAY, BROWN (ORIGINAL GROUND, REPLACED BY SAND) (ELEVATION 603.0 FT - 600.9 FT)	0	2,000	120
CLAY, BROWN (ELEVATION 600.9 FT - 595.9 FT)	0	2,000	120
CLAY, BROWN (ELEVATION 595.9 FT - 565.9 FT)	0	350	110
CLAY, BROWN, TRACE GRAVEL (ELEVATION 565.9 FT - 540.9 FT)	0	1,500	115
CLAY, GRAY, SOME SAND, SOME GRAVEL (ELEVATION 540.9 FT - 539.4 FT)	0	4,500	130
B-562, 818+02			
CLAY, RED TO BROWN, TRACE SILT (ELEVATION 602.5 FT - 593.0 FT)	0	2,000	120
SAND, BROWN, FINE TO MEDIUM, TRACE CLAY (ELEVATION 593.0 FT - 588.0 FT)	28	0	110
CLAY, BROWN (ELEVATION 588.0 FT - 568.0 FT)	0	350	110
CLAY, BROWN, TRACE GRAVEL (ELEVATION 568.0 FT - 558.0 FT)	0	1,000	115
SILT, GRAY, SOME SAND, SOME GRAVEL (ELEVATION 558.0 FT - 553.0 FT)	0	4,500	130
CLAY, BROWN (ELEVATION 553.0 FT - 548.0 FT)	0	2,000	120
B-524, 820+62			
CLAY, SOME SILT (ELEVATION 603.3 FT - 597.3 FT)	0	2,000	120
CLAY, SOME SILT (ELEVATION 597.3 FT - 577.3 FT)	0	350	110
CLAY, SOME SILT (ELEVATION 577.3FT - 549.3 FT)	0	500	110
CLAY, RED, SOME SILT (ELEVATION 549.3 FT - 537.3 FT)	0	1,000	115
BEDROCK (ELEVATION 537.3 FT AND BELOW)	0	96,000	140
B-526, 821+60			
SILT AND SAND (ELEVATION 603.3 FT - 600.3 FT)	30	0	115
CLAY, BROWN, BROWN, LITTLE SILT (ELEVATION 600.3 FT - 596.3 FT)	0	2,000	120
CLAY AND SILT, BROWN TO GRAY (ELEVATION 596.3FT - 576.3 FT)	0	350	110
CLAY, BROWN, SOME SILT (ELEVATION 576.3 FT - 566.3 FT)	0	1,000	115
CLAY, BROWN, SOME SILT (ELEVATION 566.3FT - 558.3 FT)	0	2,000	115
CLAY, BROWN, WITH SILT SEAMS (ELEVATION 558.3 FT - 541.8 FT)	0	1,500	115
BEDROCK (ELEVATION 541.8 FT AND BELOW)	0	96,000	140

SOIL DESCRIPTION	FRICTION ANGLE (DEGREES)	COHESION (psf)	UNIT WEIGHT (pcf)
B-525, 820+83			
CLAY, RED TO BROWN (ELEVATION 603.7FT - 596.8 FT)	0	2,000	120
CLAY, RED TO BROWN, TRACE SILT (ELEVATION 596.8 FT - 571.8 FT)	0	350	110
CLAY, RED TO BROWN, LITTLE SILT, (ELEVATION 571.8FT - 558.8 FT)	0	2,000	120
SILT, GRAY, SOME SAND (ELEVATION 558.8 FT - 552.8 FT)	0	4,000	130
CLAY, RED, SOME SILT (ELEVATION 552.8 FT - 545.8 FT)	0	1,500	115
SILT, SOME SAND, SOME GRAVEL (ELEVATION 545.8 FT - 543.3 FT)	0	25,000	135
BEDROCK (ELEVATION 543.3 FT AND BELOW)	0	96,000	140

SAFETY FACTORS & REQUIRED WALL MODIFICATIONS

	DIMENSIONS					
WALL HEIGHT (FEET) [1]	8.6	11.1	12.4	20.2	20.9	14.5
EXPOSED WALL HEIGHT (FEET)	5.1	7.6	8.9	16.7	17.4	11.0
LENGTH OF REINFORCEMENT (FEET) [3]	9.2	11.0	12.0	14.1	17.8	10.2
LENGTH OF REINF./WALL HEIGHT	1.07	0.99	0.96	0.70	0.85	0.70
BACKSLOPE	2.5H:1V	2.5H:1V	2.5H:1V	0.0H:1V	0.0H:1V	0.0H:1V
WALL STATION	11+20.0	13+20.0	15+50.0	16+68.5	17+48.5	19+08.5
BORING	B-561	B-562	B-524	B-524	B-526	B-526
FACTOR OF SAFETY [5]						
SLIDING ($FS_{req} > 1.5$)	1.5	1.5	1.5	2.2	1.5	2.1
OVERTURNING ($FS_{req} > 2.0$)	3.8	3.6	3.5	3.8	2.7	3.6
GLOBAL STABILITY ($FS_{req} > 1.3$)	NA [5]	NA [5]	1.6 [6]	NA [5]	1.4 [6]	NA [5]
BEARING CAPACITY ($FS_{req} > 2.5$)	5.7	4.5	4.0 [6]	3.3 [6]	3.1 [6]	4.5
ALLOWABLE BEARING CAPACITY (PSF)	4,500	4,500	4,500 [6]	4,500 [6]	6,000 [6]	4,500

NOTE:

1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 3.5 FEET.
2. THE WALL STABILITY EVALUATION INCLUDED A SURCHARGE LOAD THAT WAS EQUAL TO THE WEIGHT OF THE SOIL BEHIND THE ABUTMENT.
3. THE LENGTH OF REINFORCEMENT IS THE MINIMUM REQUIRED LENGTH.
4. FSREQ ARE PRESENTED IN CHAPTER 14 OF THE BRIDGE MANUAL.
5. NA NOT APPLICABLE, GLOBAL SLOPE STABILITY WAS EVALUATED AT THE CRITICAL WALL LOCATION.
6. REQUIRES STAGED CONSTRUCTION AND WICK DRAINS.

THE RESULTS OF THE EVALUATION INDICATED THAT IF THE SLIDING AND BEARING CAPACITY REQUIREMENTS ARE MET, THEN THE ECCENTRICITY AND OVERTURNING REQUIREMENTS ARE ALSO MET.

THE SHORT-TERM GLOBAL STABILITY OF THE WALL AT THE CRITICAL LOCATION WAS UNSTABLE WITH A FACTOR OF SAFETY OF 1.0. THE REQUIRED FACTOR OF SAFETY IS 1.3. THE FOLLOWING OPTION SHOULD BE USED TO RESOLVE THE GLOBAL STABILITY ISSUE:

STAGED CONSTRUCTION AND WICK DRAINS: BUILD THE RETAINING WALL AND EMBANKMENT IN STAGES, WHICH ALLOWS THE SOFT SOILS TO CONSOLIDATE AND INCREASE IN SHEAR STRENGTH. THE INCREASE IN SHEAR STRENGTH OF THE SOFT SOILS WILL SUPPORT THE RETAINING WALL. THE WICK DRAINS PROVIDE A SHORTER DRAINAGE PATH, WHICH ALLOWS FOR SHORTER TIME DURATION (APPROXIMATELY TWO MONTHS) FOR PORE WATER PRESSURE DISSIPATION. THE LATERAL EXTENT OF THE WICK DRAINS SHOULD BE APPROXIMATELY THE TOE OF SLOPE OF THE FILL OR THE DISTANCE EQUAL TO THE HEIGHT OF THE WALL AWAY FROM THE WALL WHICHEVER IS GREATEST. THE HEIGHT OF THE FIRST LIFT OF EMBANKMENT AND/OR WALL HEIGHT AND SUBSEQUENT LIFTS SHOULD BE APPROXIMATELY 15 FEET ABOVE ORIGINAL GROUND. THE RESULTING MINIMUM FACTOR OF SAFETY WOULD BE 1.4.

THE SETTLEMENT OF THE FOUNDATION AND EMBANKMENT WAS ESTIMATED RANGE FROM 3-INCHES TO 18-INCHES AND SHOULD OCCUR WITHIN THREE YEARS OF LOADING OF THE WALL, WITHOUT THE USE OF WICK DRAINS. THE SETTLEMENT SHOULD BE 3-INCHES TO 18-INCHES AND SHOULD OCCUR OVER A SERIES OF TWO MONTHS TIME INTERVALS. THE SUBSURFACE SOILS ARE RELATIVELY UNIFORM; THEREFORE, DIFFERENTIAL SETTLEMENT SHOULD NOT BE AN ISSUE.

THE TYPICAL WALL SECTION USED IN THE ANALYSES HAD AN EXPOSED HEIGHT THAT VARIES FROM 9.2 FEET TO 17.8 FEET. THE FOLLOWING ASSUMPTIONS ARE ALSO INCLUDED IN THE ANALYSES:

1. THE SLOPE BEHIND THE WALL VARIES FROM HORIZONTAL TO 2.5H:1V.
2. THE SLOPE IN FRONT OF THE WALL IS HORIZONTAL.
3. THE GROUNDWATER RANGED FROM ELEVATION 593 FEET TO ELEVATION 597 FEET.
4. THE GRANULAR BACKFILL IS FREE DRAINING AND WILL NOT BECOME SATURATED.
5. THE MINIMUM EMBEDMENT DEPTH IS 3.5 FEET.
6. A SURCHARGE LOAD OF 240 PSF IS INCLUDED TO MODEL PEDESTRIAN AND LIGHTWEIGHT CONSTRUCTION EQUIPMENT.
7. AN ADDITIONAL SURCHARGE LOAD EQUIVALENT TO THE WEIGHT OF THE SOIL BEHIND THE ABUTMENT IS ALSO INCLUDED IN THE DESIGN.
8. GLOBAL STABILITY FACTOR OF SAFETY WAS DETERMINED BY THE COMPUTER PROGRAM XSTABL
9. BEARING CAPACITY IS DETERMINED BY TERZAGHI'S BEARING CAPACITY EQUATION.
10. SETTLEMENT OF THE FOUNDATION ON COHESIONLESS SOIL AND COHESIVE SOIL IS BASED UPON METHODS DESCRIBED IN THE FHWA SOILS AND FOUNDATIONS MANUAL.

FILE NAME : P:\134 (DSH 41 Bridges (1133-09-00)\Structures\R-5-206\04_soil_data_r-5-206.dgn
PLOT DATE : 10/25/2012

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-206

DRAWN BY TAW | PLANS CK'D. TR

SOIL DATA

SHEET 4 OF 13
2350

NB USH 41 AT PARKVIEW LANE (B-5-621)
USH 41 GLORY RD TO MORRIS AVE

USH 41

+50 SB 815 SB +50 SB 816 SB +50 SB 817 SB +50 SB 818 SB +50 SB 819 SB +50 SB

+50 NB 815 NB +50 NB 816 NB +50 NB 817 NB +50 NB 818 NB +50 NB 819 NB +50 NB

USH 4

815 CD 816 CD 817 CD 818 CD 819 CD

SIGN

T 509
619° 30'

BOR-561 BOR-562

R-5-206

RT OF CD R/L

STA. 816+02. 20' RT OF CD
EL. 620. 9, BOR-561

STA. 818+02. 29' RT OF CD
EL. 623. 0, BOR-562

640 620 600 580 560 540 520 500 480 460

TOPSOIL

F-M

GRAVEL LAYER 70' -79. 5'

TOPSOIL

F-C

F-M

NO REC

STATE PROJECT NUMBER

1133-09-71

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL SILT SANDSTONE
SAND PEAT LIMESTONE
GRAVEL CLAY IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
ELEV. STA.
UNCONFINED STRENGTH → 7. 7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

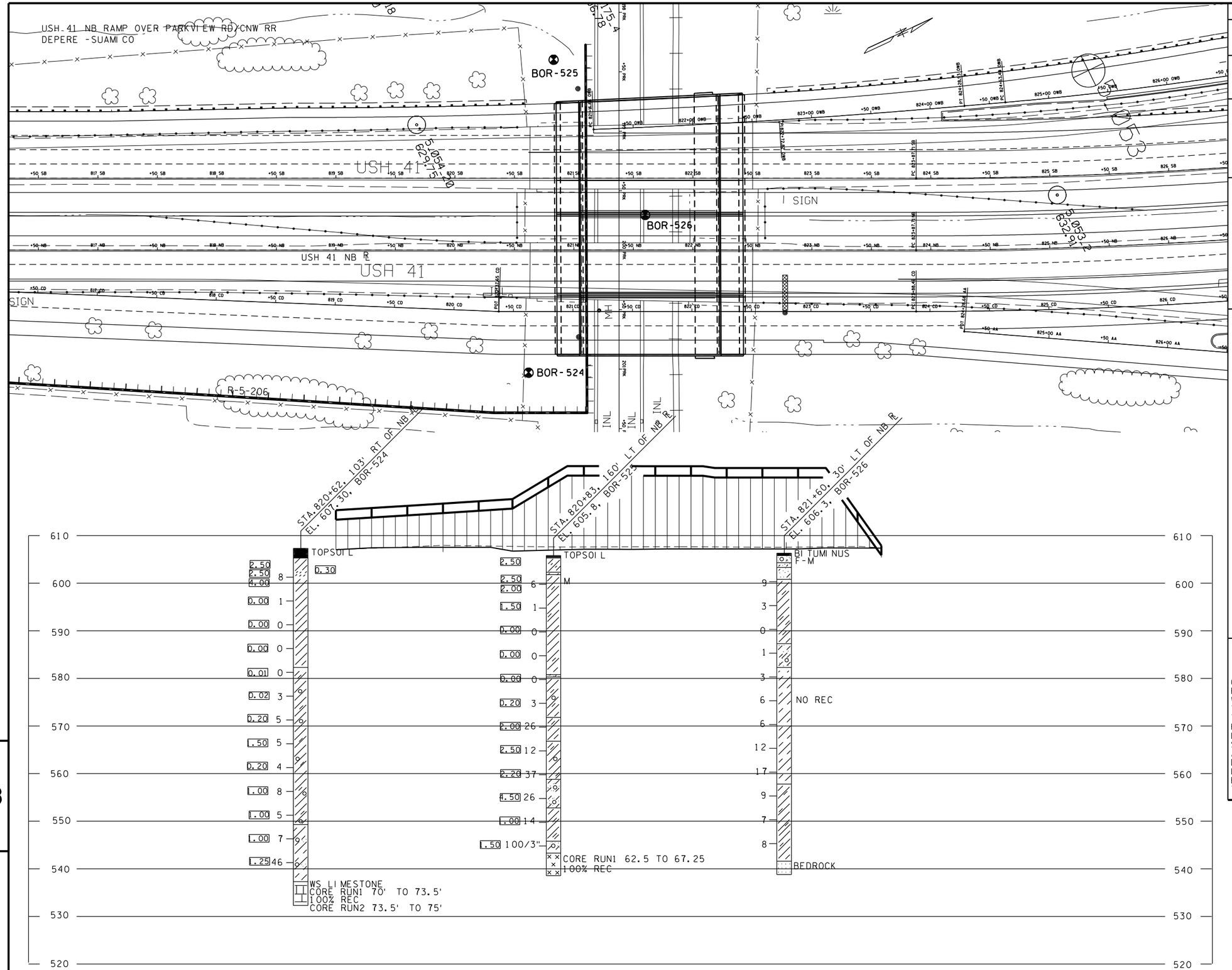
STRUCTURE R-5-206

DRAWN BY L H | PLANS CK'D.

SUBSURFACE EXPLORATION

SHEET 5 OF 13
2351

SCALE =



STATE PROJECT NUMBER

1133-09-71

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
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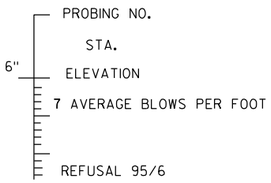
MATERIAL SYMBOLS

TOPSOIL SILT SANDSTONE
SAND PEAT LIMESTONE
GRAVEL CLAY IGNEOUS ROCK

LEGEND OF PROBING



95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-206

DRAWN BY LH/PR | PLANS CK'D.

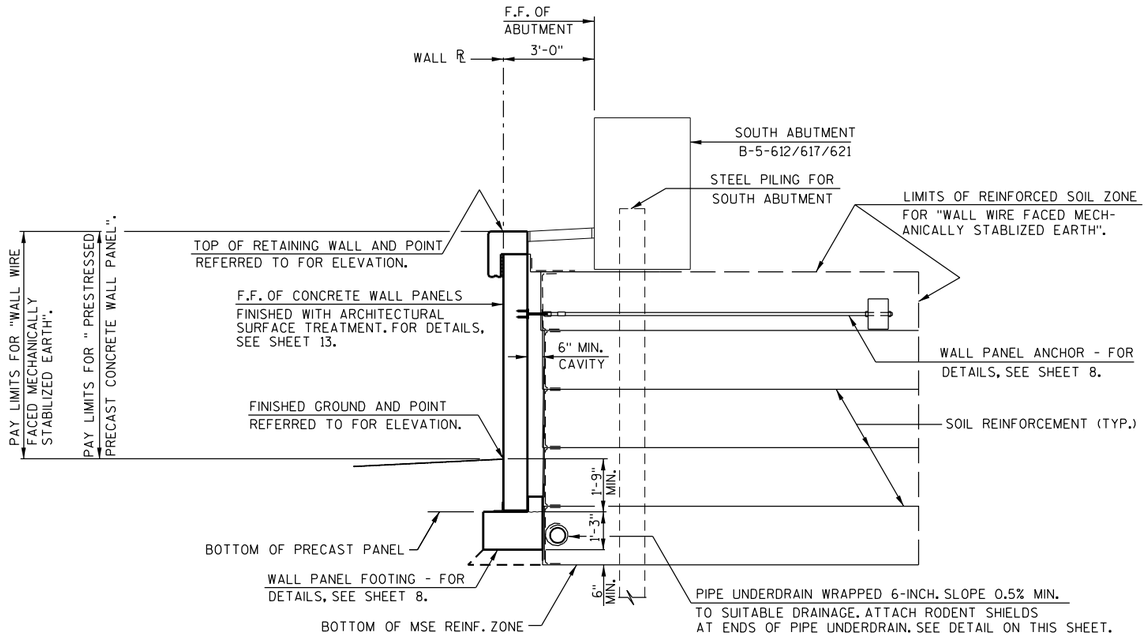
SUBSURFACE EXPLORATION

SHEET 6 OF 13
2352

SCALE =

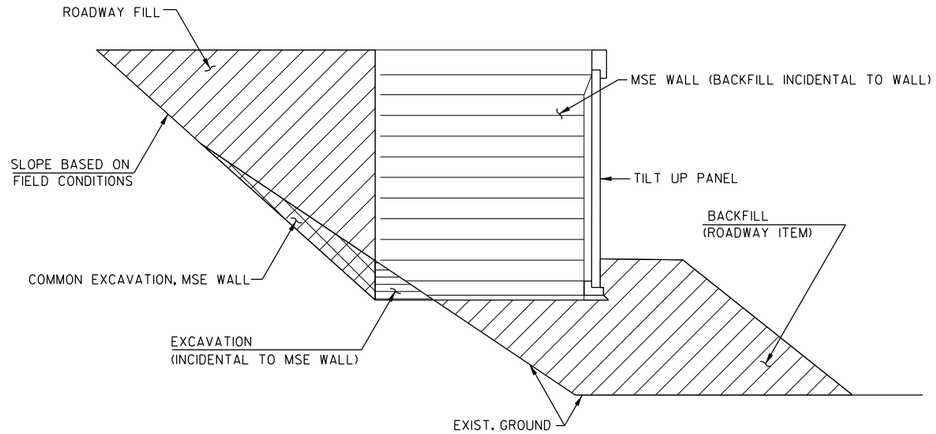
STATE PROJECT NUMBER

1133-09-71

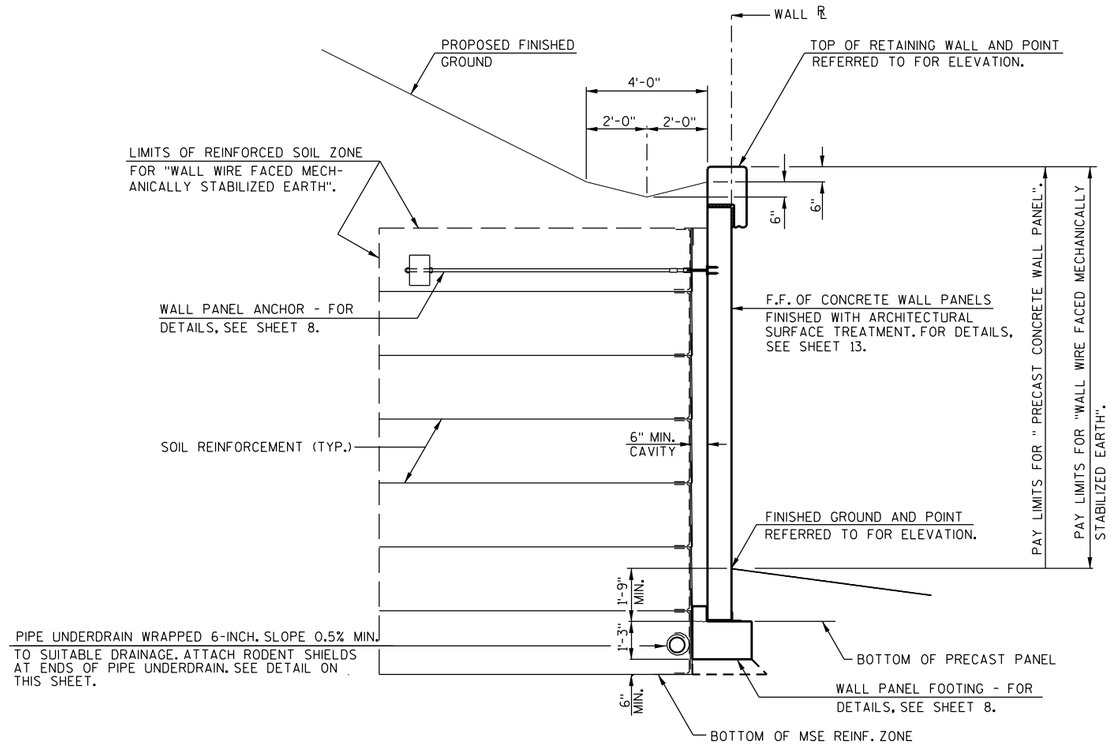


SECTION THRU RETAINING WALL AT SOUTH ABUTMENT

(LOOKING EAST)

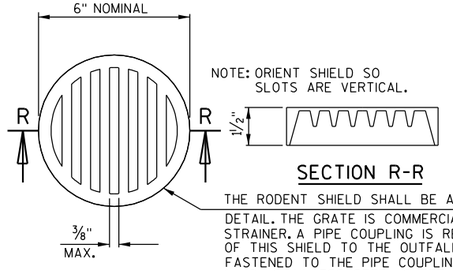


EXCAVATION/BACKFILL DETAIL



SECTION THRU RETAINING WALL

STA. 10+00.00 TO STA. 19+38.48



SECTION R-R

RODENT SHIELD

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-206

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WALL DETAILS

SHEET 7 OF 13

2353

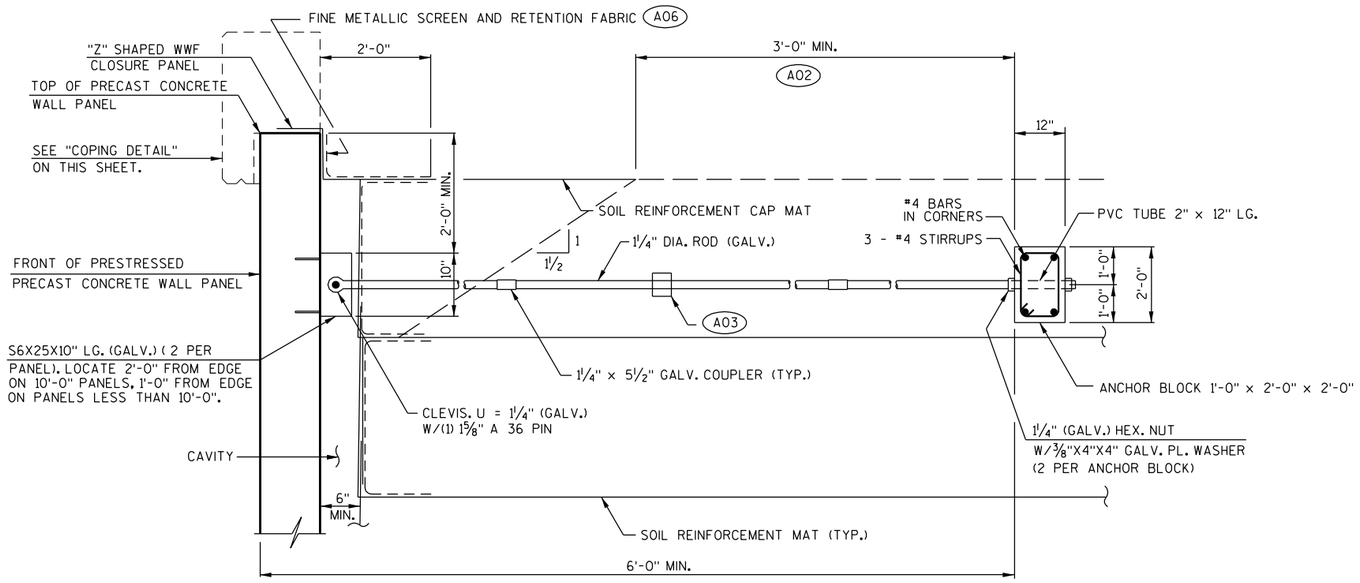
8

8

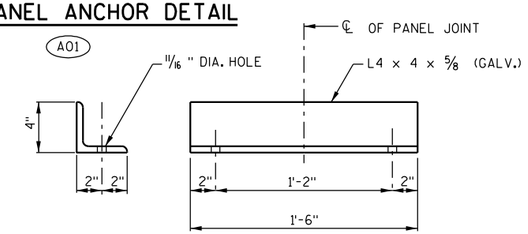
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-206\07_wall_details_A_v8_r-5-206.dgn
PLOT DATE : 10/25/2012

STATE PROJECT NUMBER

1133-09-71

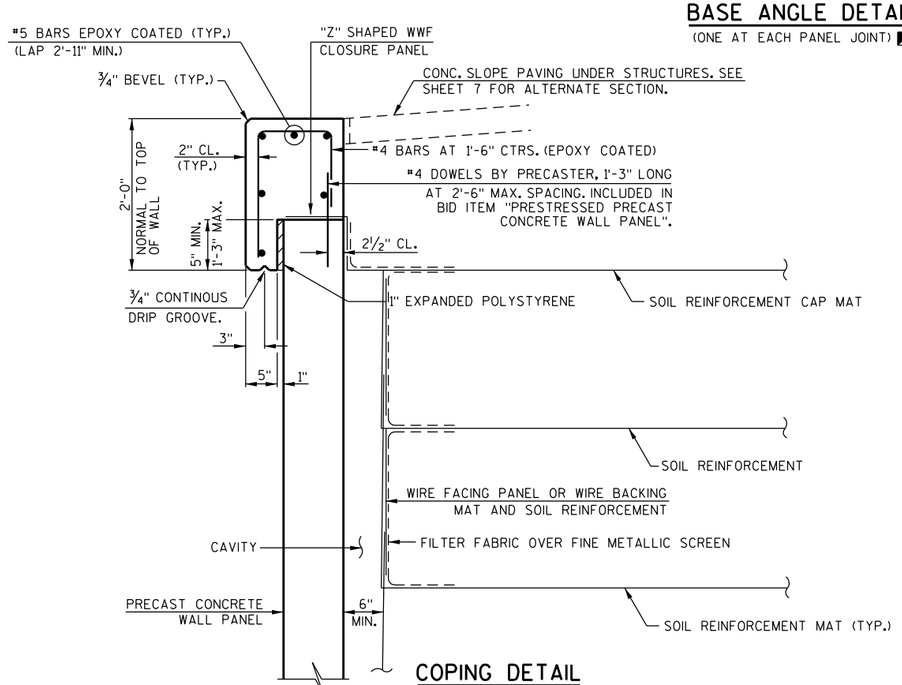


WALL PANEL ANCHOR DETAIL



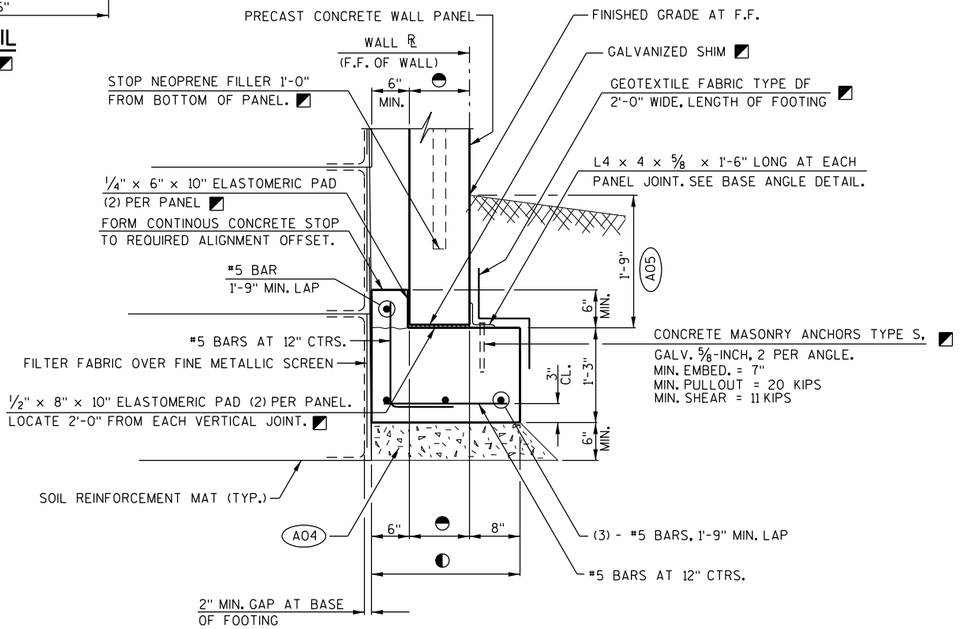
BASE ANGLE DETAIL

(ONE AT EACH PANEL JOINT) ◩



COPING DETAIL

CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"



WALL PANEL FOOTING DETAIL

CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

◓ = 7½" OR 9½"

◐ FOOTING DIMENSION EQUALS PANEL THICKNESS PLUS 1'-2"

LEGEND

(A01) WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1¼" DIA. ANCHOR ROD, CLEVIS, AND OTHER PANEL CONNECTION COMPONENTS. DESIGN, DETAILING, AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL." INSTALLATION OF THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH."

(A02) DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION. ROD MIN. 2'-0" BELOW FINISH GRADE.

(A03) OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼" DIA. BAR)

(A04) BASE AGGREGATE OPEN GRADED, 6" MIN. INCIDENTAL TO BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

(A05) MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE PRECAST PANELS.

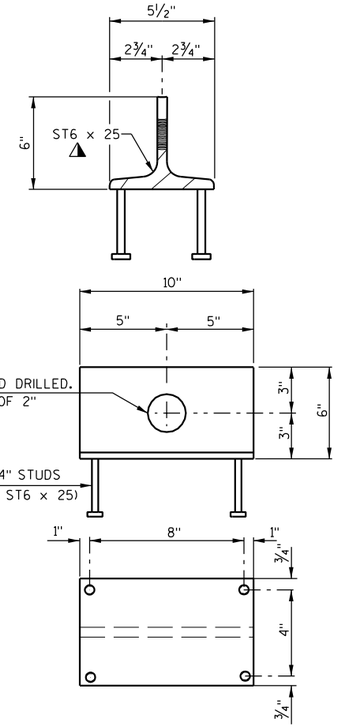
(A06) ALTERNATE METHODS OF SEALING OFF THE 6" VOID IN FRONT OF THE MSE WALL MAY BE SUBMITTED TO WISDOT FOR CONSIDERATION.

◩ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

NOTES

AN ALTERNATE WALL PANEL ANCHOR AND PANEL CONSTRUCTION SYSTEM MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER.

TILT UP PANEL ANCHOR SYSTEM MAY BE TRENCHED IN IF THE GEOMETRY OF THE ANCHOR SYSTEM LOCATION ALLOWS.



PANEL CONNECTION DETAILS

ST6 x 25 MAY BE WELDED TO ¾" THICK PLATE WITH (4) ½" X 4" STUDS ANCHORED IN PRECAST PANEL. RESTORE ZINC COATING AROUND ANY WELDED AREAS. SUBMIT DETAILS FOR APPROVAL BY ENGINEER.

◭ S12x50 (GALV.) CUT IN ½ TO FORM "T" SECTION. BF = 5.477" TW = 0.687".

* AS AN ALTERNATE, 1/2" TYPE S ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-206

DRAWN BY TAW | PLANS CK'D. TR

WALL DETAILS

SHEET 8 OF 13
2354

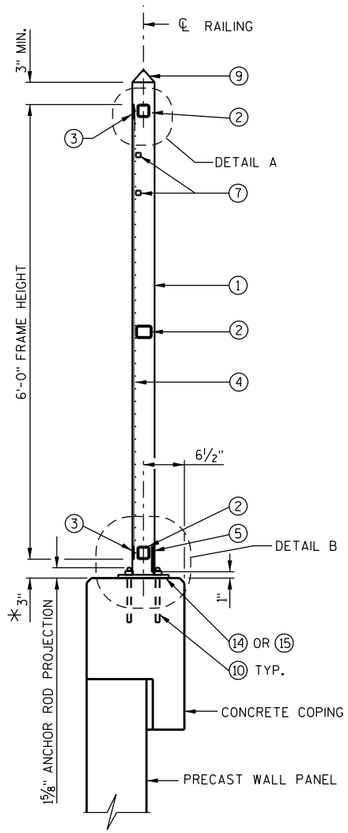
8

8

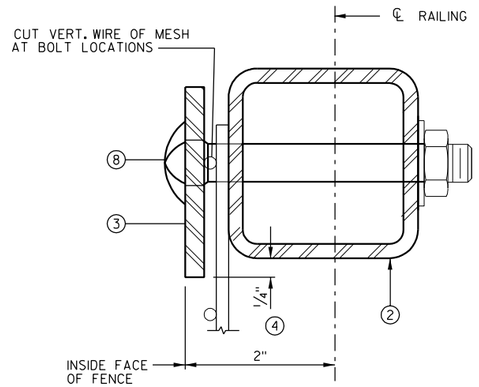
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-206\08.wall.details.8.v8_r-5-206.dgn
PLOT DATE : 3/22/2013

STATE PROJECT NUMBER

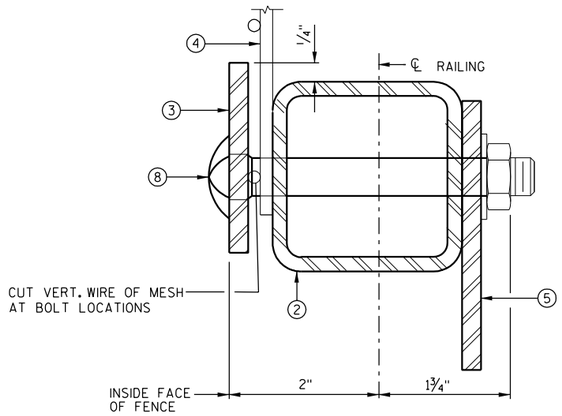
1133-09-71



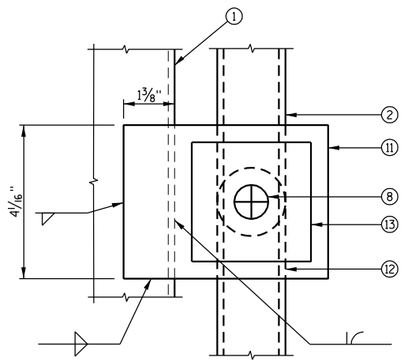
TYPICAL SECTION THRU FENCE/COPING



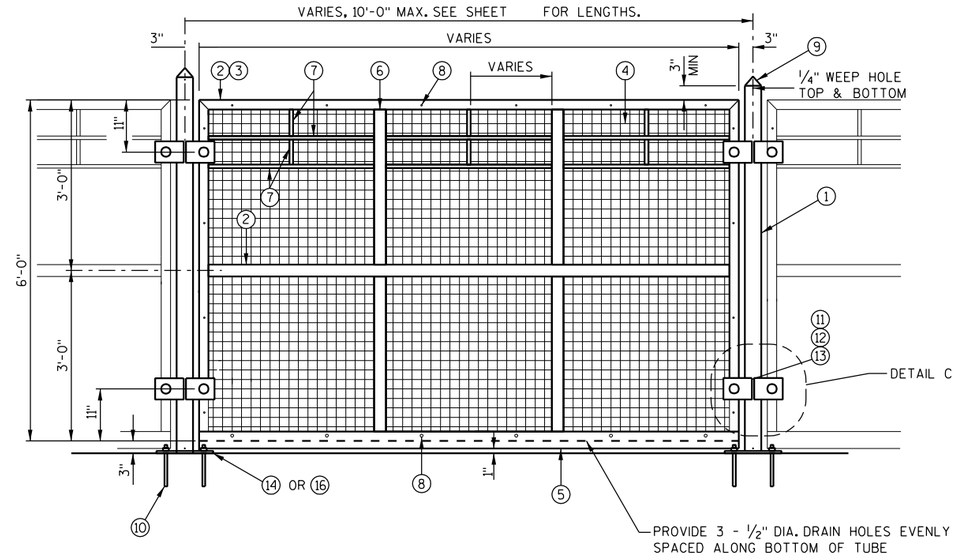
DETAIL A



DETAIL B



DETAIL C



TYPICAL OUTSIDE ELEVATION OF PANEL

LEGEND

1. HSS 3½ X 3½ X 3/16 POST WITH ¼" DIA. VENT HOLES TOP & BOTTOM ON OUTSIDE FACE. RESIZE AS NECESSARYFOR GALVANIZING PROCESS. WELD TO NO.9 & BASE PLATE, TYP.
2. HSS 2½X 2½ X 3/16. WELD TO NO. 6 & 7.
3. PL 2¾" X ¼" WELDED FRAME. WELD TO NO. 4. BOLT TO NO. 2 WITH NO. 8 AFTER PAINTING.
4. STEEL MESH 2" X 2" X 0.162 (8 GA.). PLACE VERTICAL WIRES ON INSIDE FACE OF PARAPET. WELD TO NO. 3.
5. PL ¼" X WIDTH VARIES. PROVIDE SHORT SLOTTED VERT. HOLES FOR NO. 8.
6. NOT USED.
7. ¾" x ¾" BAR. WELD TO NO. 2 & 7.
8. ½" DIA. CARRIAGE BOLT, WASHER AND NUT. PROVIDE 5/8" X 5/8" SQUARE HOLE IN NO. 3 & NO. 2 OF PANEL TYPE G ONLY FOR SQUARE PORTION OF THE BOLT HEAD.
9. 3½" X 3½" PYRAMIDAL CAP. WELD TO NO. 1.
10. 5/8" DIA. CONCRETE MASONRY ANCHOR TYPE S EPOXY, 7" MINIMUM EMBEDMENT WITH A MINIMUM PULLOUT OF 20 KIPS.
11. PL 5/16" X 4½" X 0'-6" CONNECTION WITH 2" DIA. HOLES FOR NO. 8. USE NO. 12 TO COVER 2" DIA. ADJUSTMENT HOLES. USE STANDARD HOLES ON CANTILEVERED FENCE PANEL AT ABUTMENTS.
12. PL 3/8" X 2½" X 4½".
13. PL WASHER ¼" X 3½" X 3½".
14. PL ½" X 8" X 10" BASE PLATE. WELD TO NO. 1.
15. PL ½" X 8" X 1'-0" BASE PLATE. WELD TO NO. 1.
16. ½" DIA. BOLT, WASHER & NUT. TACK WELD NUT TO NO. 2.

* THE DIMENSION BETWEEN THE BOTTOM OF THE WELDED FRAME AND THE TOP OF THE COPING SHALL BE HELD AT THE ENDS OF EACH PANEL AND THE PANEL SHALL FOLLOW THE SLOPE OF THE PROFILE.

NOTES

THE BID ITEM SHALL BE "FENCE DECORATIVE WALL" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

FOR "WALL ELEVATION TABLE", SEE SHEET 3.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

STRUCTURAL TUBING SHALL BE A.S.T.M. A500, GRADE B. ROLLED SHAPES, PLATES, BARS AND SHIMS SHALL BE A.S.T.M. A709, GRADE 36.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE POST VERTICAL.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE A.S.T.M. A307 AND SHALL BE GALVANIZED.

STANDARD WASHERS SHALL BE USED TO SHIM BASE PLATES IF REQUIRED. ALL WASHERS SHALL BE GALVANIZED.

THE STEEL MESH SHALL BE TACK WELDED TO THE 2¼" X ¼" WELDED FRAME. THE MESH SHALL BE STRETCHED TO REMOVE SLACK.

VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

PRIOR TO FABRICATION, STEEL SHALL BE BLAST CLEANED PER SSPC-SP 6 AND GALVANIZED ACCORDING TO ASTM A 123. REPAIR ZINC COATING DAMAGED DURING FABRICATION AS SPECIFIED IN 635.3.4.

ALL WELDS SHALL BE PREQUALIFIED ACCORDING TO THE STRUCTURAL WELDING CODE STEEL (AWS D1.1). THE MINIMUM SIZE OF FILLET WELDS IS 3/16".

COAT THE RAILING WITH AN EPOXY PAINT SYSTEM. TOUCH UP DAMAGED PORTIONS OF PAINT AFTER PANEL ERECTION. SEE SPECIAL PROVISIONS FOR REQUIREMENTS.

FOR ADDITIONAL DECORATIVE FENCE DETAILS, SEE SHEETS 10 THRU 12.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-206

DRAWN BY TAW | PLANS CK'D. TR

DECORATIVE FENCE DETAILS

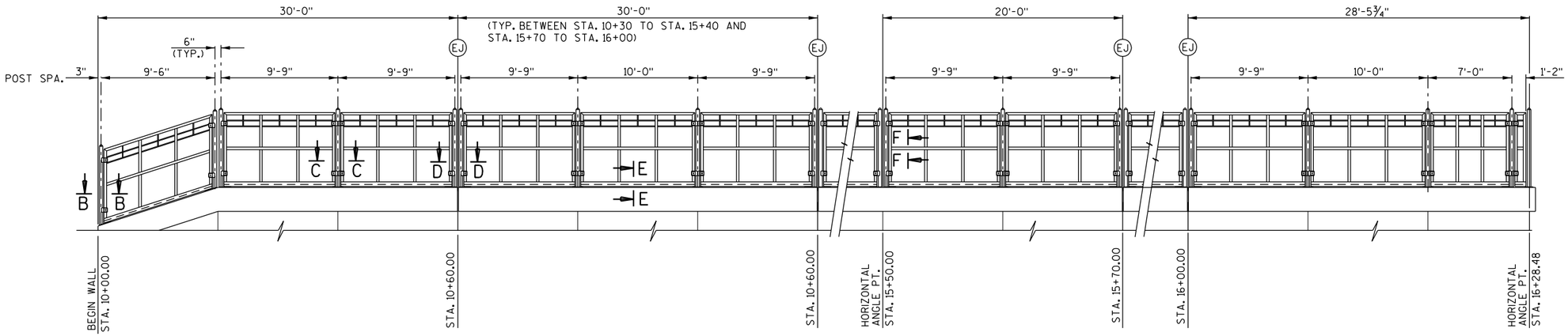
SHEET 9 OF 13
2355

8

8

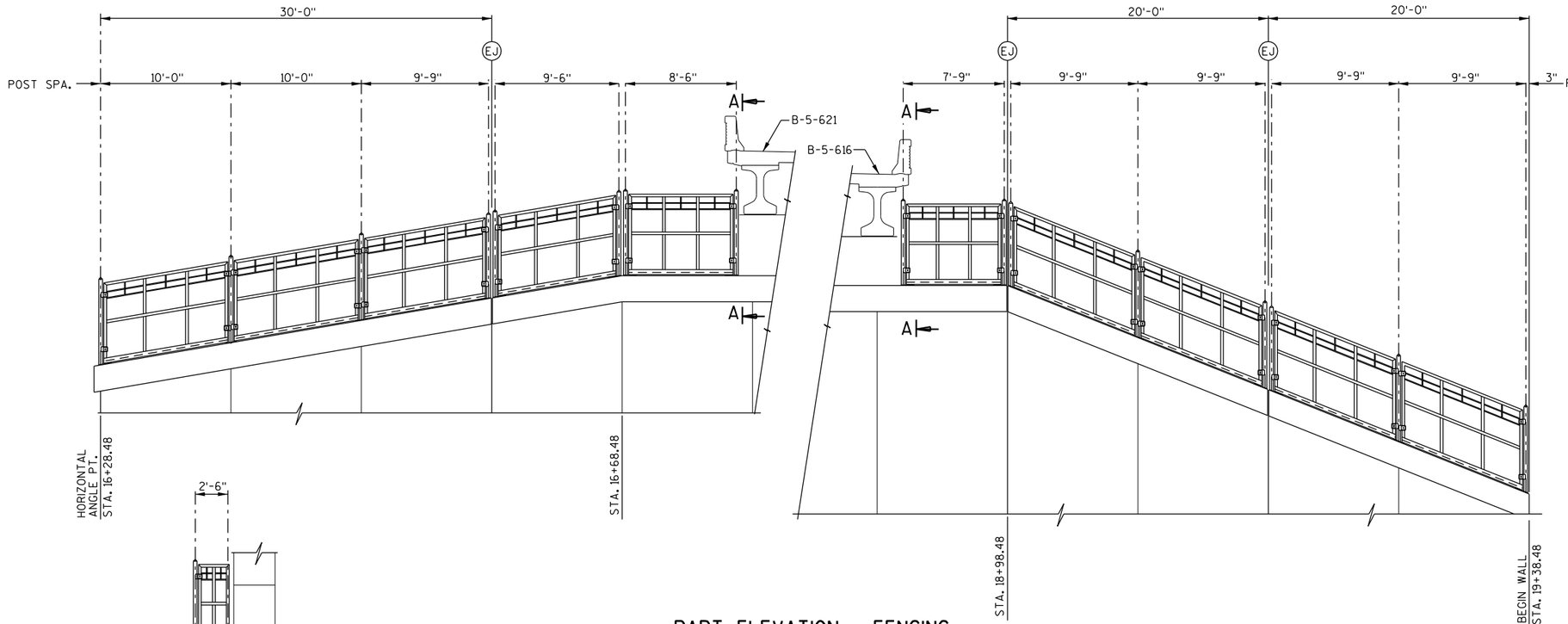
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-206\09_fence_details1.v8.r-5-206.dgn
PLOT DATE : 10/26/2012

STATE PROJECT NUMBER
1133-09-71



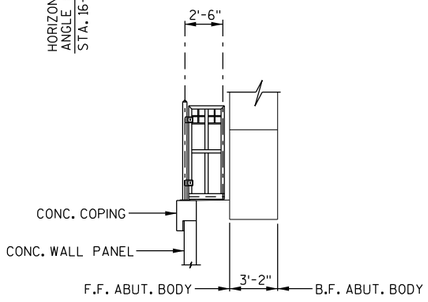
PART ELEVATION - FENCING

(LOOKING WEST)



PART ELEVATION - FENCING

(LOOKING SOUTH)



VIEW A-A

(SHOWING FENCE UNDER BRIDGE DECK OVERHANG)

NOTES: 2" x 2" STEEL MESH NOT SHOWN FOR CLARITY.

FOR "SECTIONS B-B, C-C, D-D, E-E & F-F", SEE SHEET 11.

FOR ADDITIONAL DECORATIVE FENCE DETAILS, SEE SHEETS 9, 11 & 12.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-206

DRAWN BY TAW | PLANS CK'D. TR

DECORATIVE FENCE DETAILS

SHEET 10 OF 13
2356

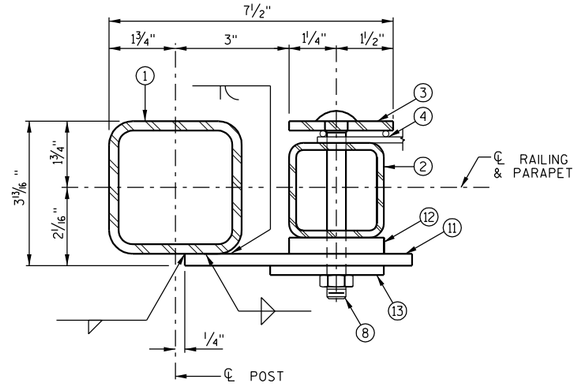
8

8

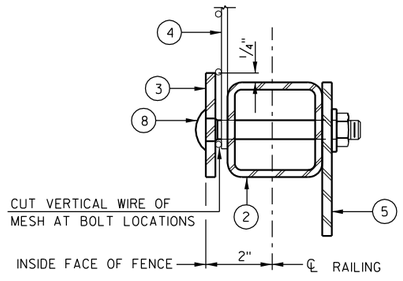
FILE NAME : P:\134 USH 41 Bridges 11133-09-00\structures\R-5-206\10_fence_details2_v8_r-5-206.dgn
PLOT DATE : 10/26/2012

STATE PROJECT NUMBER

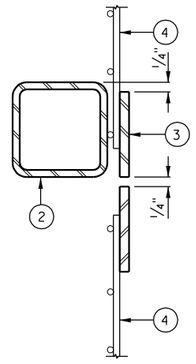
1133-09-71



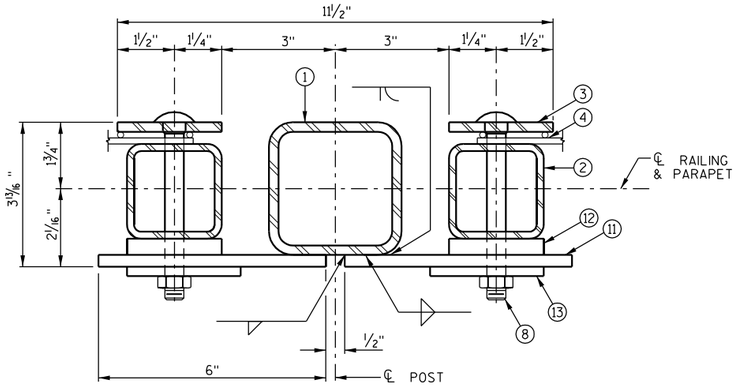
SECTION B-B



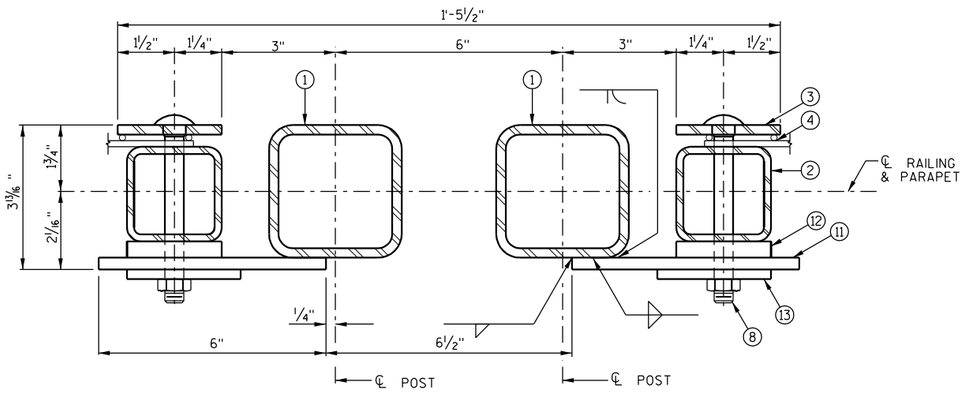
SECTION E-E



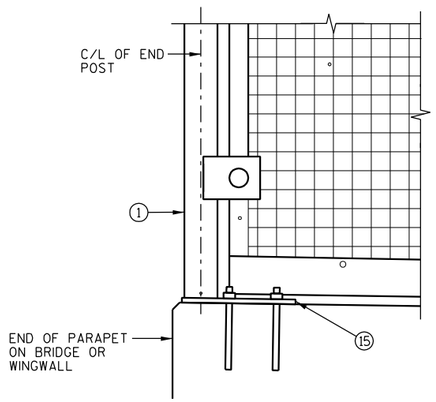
SECTION F-F



SECTION C-C



SECTION D-D



END POST DETAIL

(SEE DECK PLAN FOR LOCATIONS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-206

DRAWN BY TAW | PLANS CK'D. TR

DECORATIVE FENCE DETAILS

SHEET 11 OF 13
2357

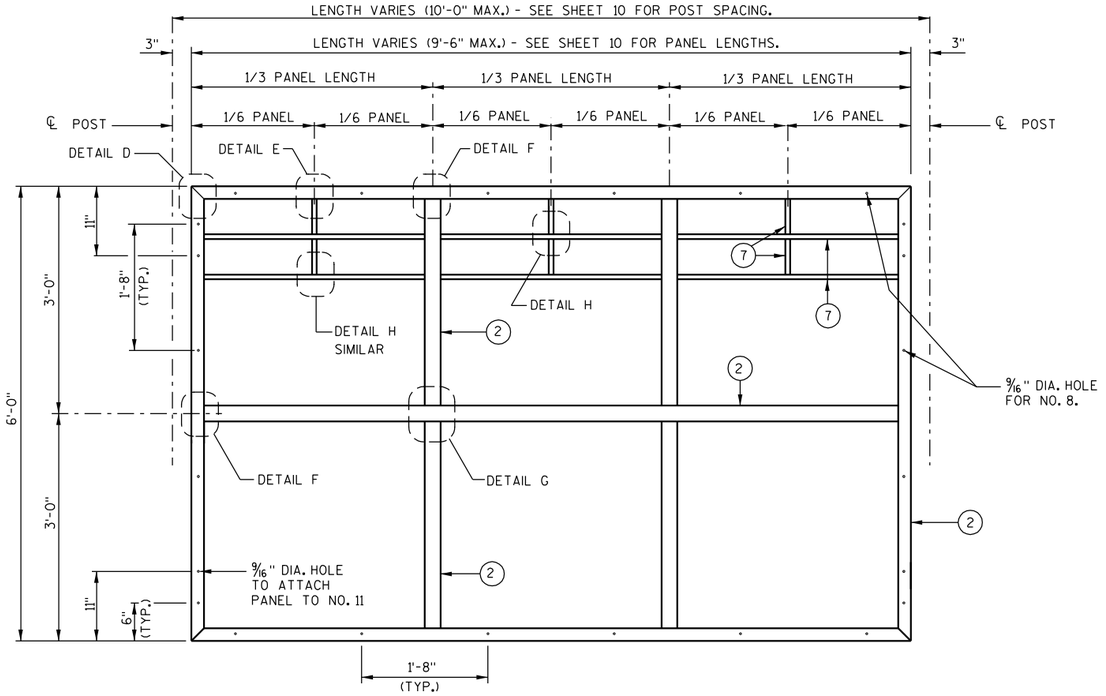
8

8

FILE NAME : P:\134 (DSH 41 Bridges (1133-09-00)\Structures\R-5-206\11_fence_details3_v8_r-5-206.dgn
PLOT DATE : 10/26/2012

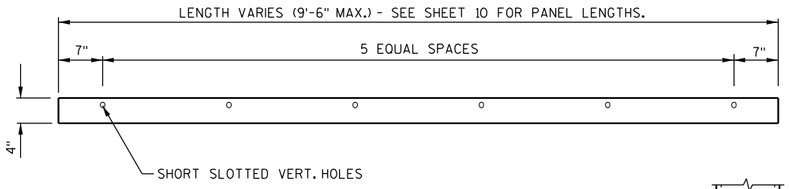
STATE PROJECT NUMBER

1133-09-71

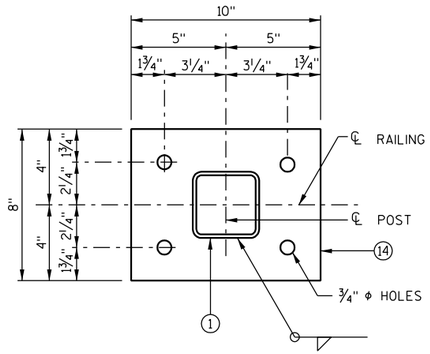


DECORATIVE FENCE PANEL

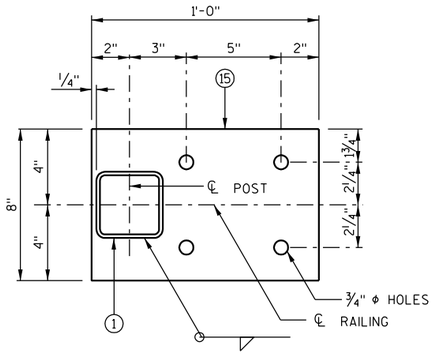
(ELEVATION VIEW SHOWING TYPICAL FENCE PANEL)



1/4" PLATE (NO. 5)

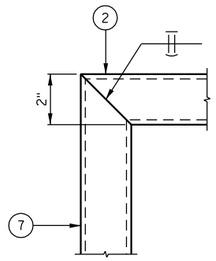


BASE PLATE

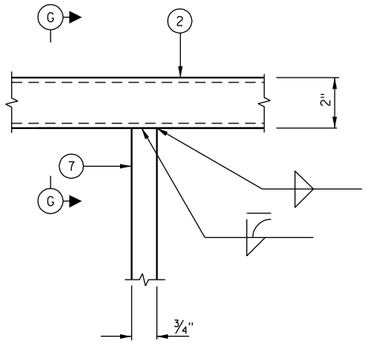


END BASE PLATE

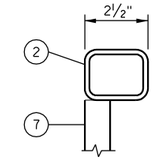
COPING BASE PLATE DETAILS



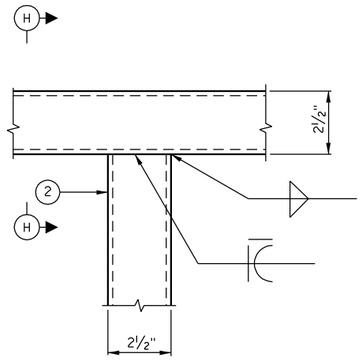
DETAIL D



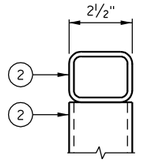
DETAIL E



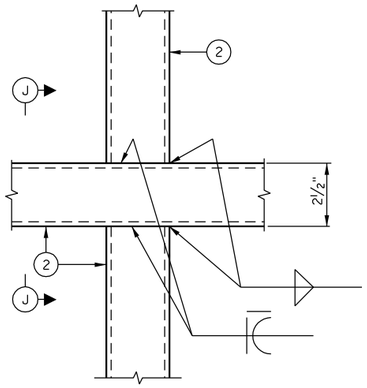
SECTION G-G



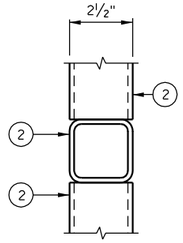
DETAIL F



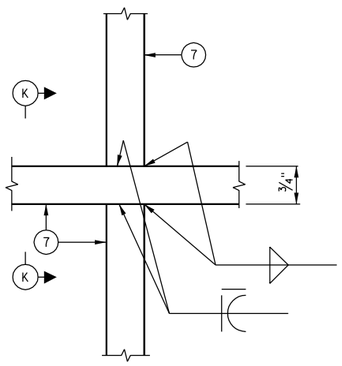
SECTION H-H



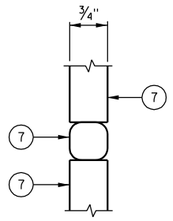
DETAIL G



SECTION J-J



DETAIL H



SECTION K-K

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-206

DRAWN BY TAW | PLANS CK'D. TR

DECORATIVE FENCE DETAILS

SHEET 12 OF 13
2358

8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-206\12_fence_details4_v8_r-5-206.dgn
PLOT DATE : 10/26/2012

STATE PROJECT NUMBER

1133-09-71

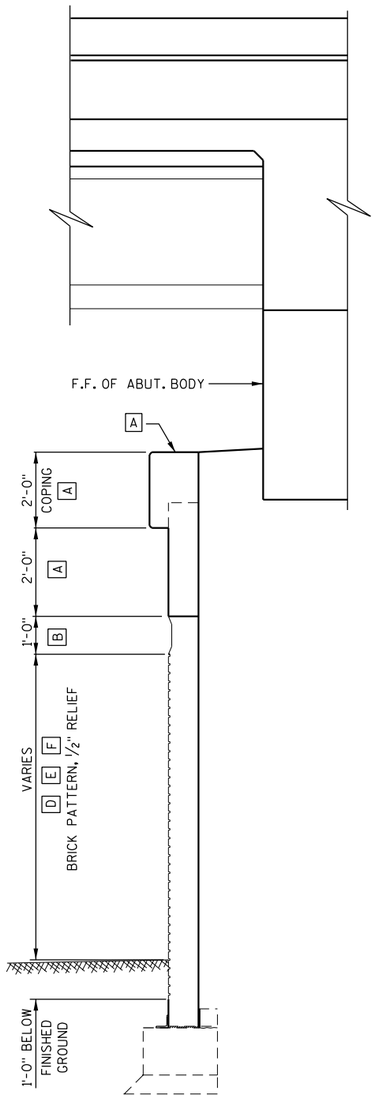
NOTES: ALL JOINTS SHALL BE LOCATED AS SHOWN ON ELEVATION VIEW ON SHEETS 1 & 2 AND MUST COINCIDE WITH PANEL JOINT ON FRONT FACE.

FILLERS AND EXPANDED POLYSTYRENE ARE INCLUDED IN WALL LENGTH. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF THESE FILLERS WITH NON-STAINING AND NON-BITUMINOUS SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE. COLOR OF SEALER SHALL MATCH THE COLOR OF STAIN.

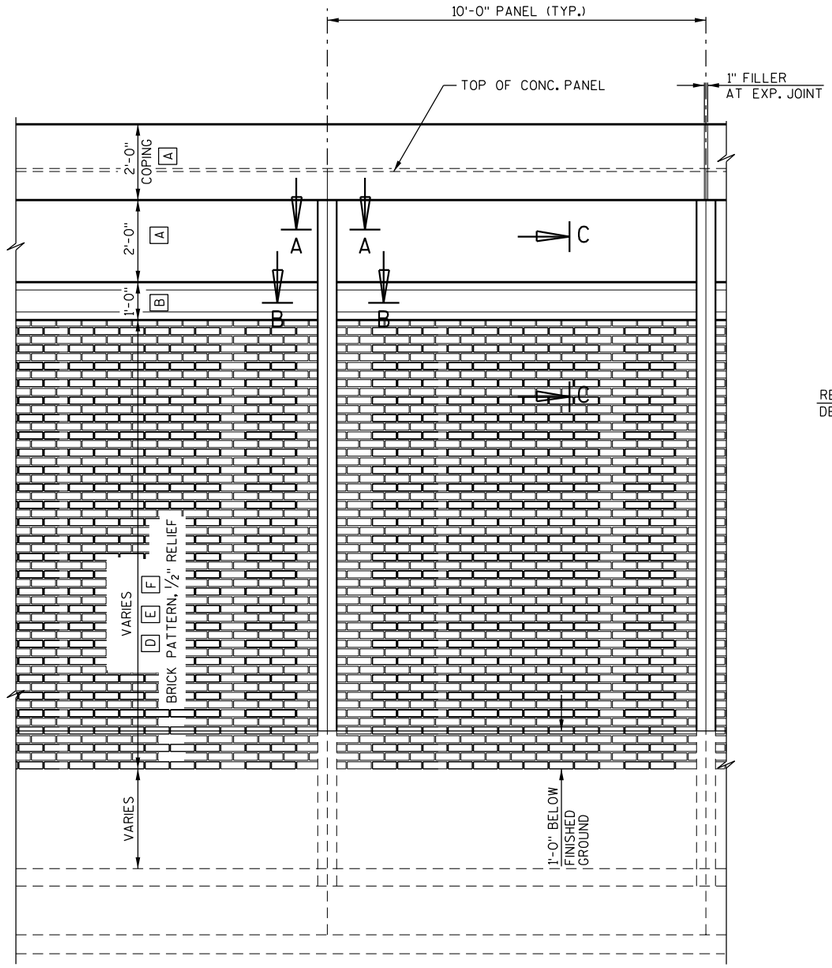
CONCRETE STAINING SCHEDULE

MARK	COLOR	FEDERAL COLOR	LOCATION
A	BASE COLOR	33522	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	33303	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
C	ACCENT COLOR #2	10076	VERTICAL PILASTER CENTER ELEMENT
D	ACCENT COLOR #3	12160	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	10091	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	10219	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	37038	LETTERING AT ROADWAY NAME

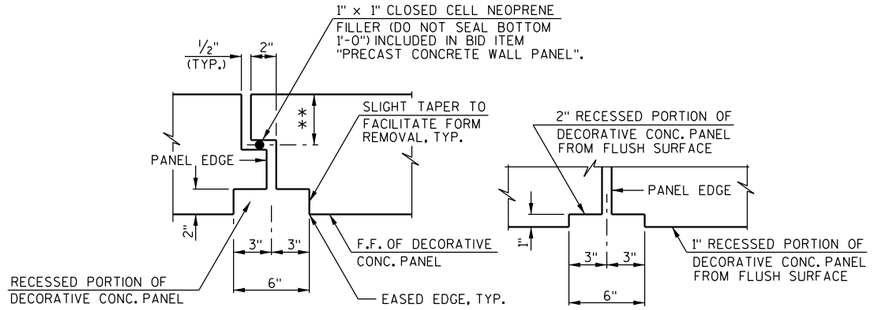
NOTE: 1. ALL COLOR DESIGNATIONS ARE FEDERAL STANDARD COLORS.
2. FINISH ON COLORS IS FLAT (LUSTERLESS)



SECTION THRU WALL AT BRIDGE



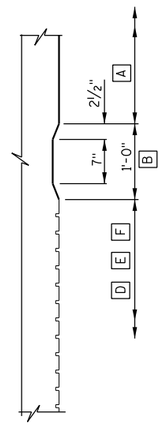
TYPICAL ELEVATION AT WALL PANEL



SECTION A-A

** 4" FOR 9 1/2" PANEL
3" FOR 7 1/2" PANEL

SECTION B-B



SECTION C-C

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-206

DRAWN BY TAW | PLANS CK'D. TR

AESTHETIC DETAILS

SHEET 13 OF 13

2359

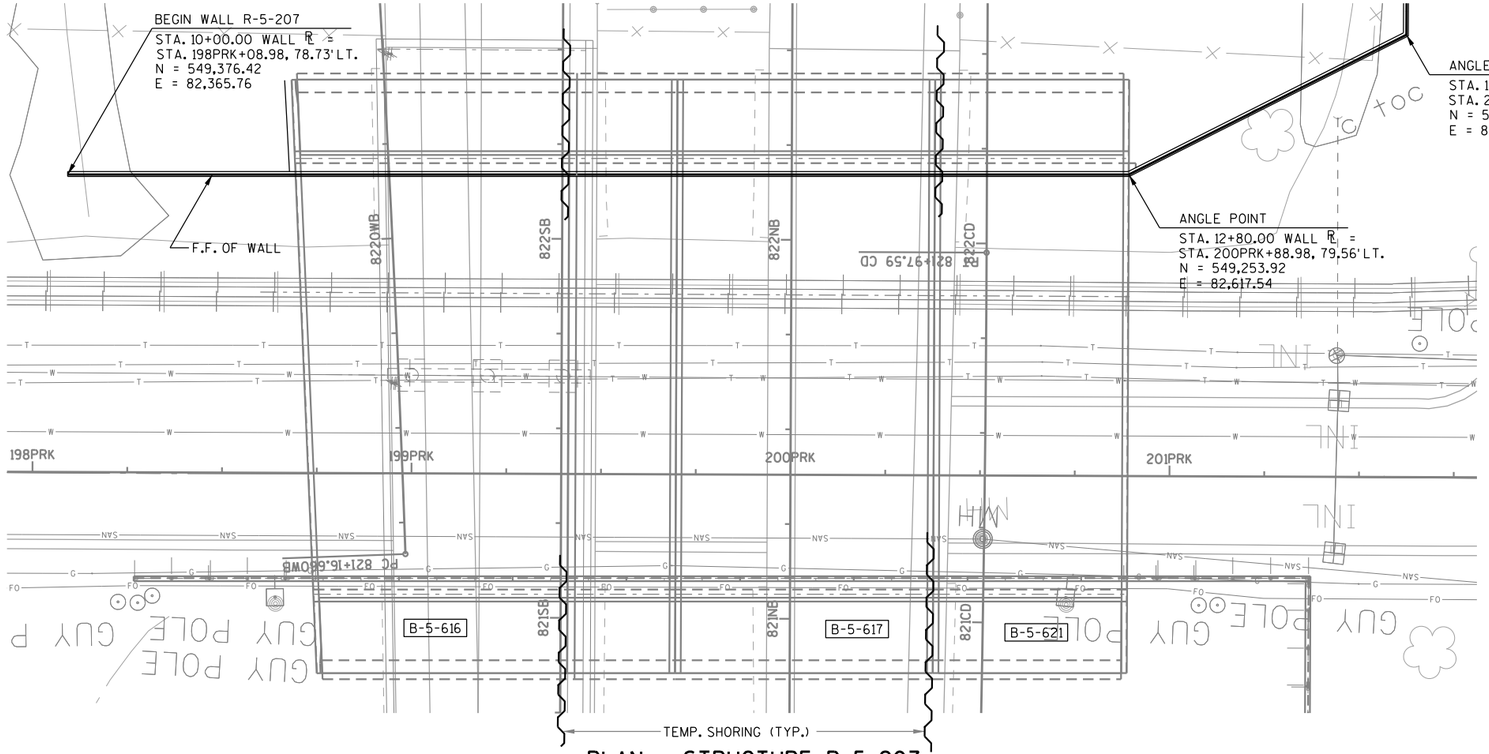
8

8

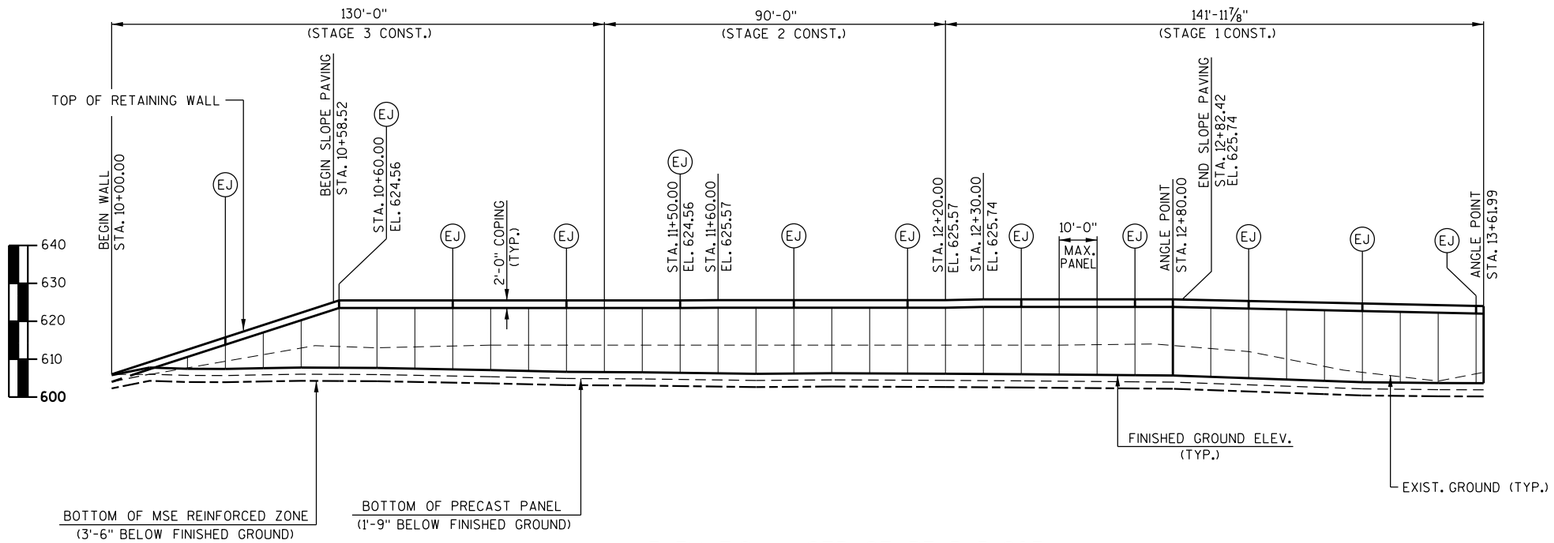
FILE NAME : P:\134 USH 41 Bridges \1133-09-00\structures\R-5-206\13_aesthetics_r-5-206.dgn
PLOT DATE : 10/26/2012

STATE PROJECT NUMBER

1133-09-71



PLAN - STRUCTURE R-5-207



ELEVATION - STRUCTURE R-5-207

(LOOKING AT F.F. OF WALL)

NOTE: SEE "WALL ELEVATION TABLE" ON SHEET 4.

DESIGN DATA

LIVE LOAD SURCHARGE (ROADWAY) = 240 P.S.F.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY - BARRIER & COPING — f'_c = 4,000 P.S.I.
PRECAST CONCRETE WALL PANEL — f'_c = 5,000 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 — f_y = 60,000 P.S.I.
STRUCTURAL STEEL CARBON (ASTM A709 GRADE 36) — f_y = 36,000 P.S.I.

FOUNDATION DATA:

ALLOWABLE SOIL BEARING CAPACITY - SEE TABLE ON SHEET 5.

LEGEND

(EJ) EXPANSION JOINT LOCATION IN COPING

LIST OF DRAWINGS

1. GENERAL PLAN
2. GENERAL PLAN
3. GENERAL PLAN
4. NOTES & QUANTITIES
5. SOIL DATA
6. SUBSURFACE EXPLORATION
7. SUBSURFACE EXPLORATION
8. WALL DETAILS
9. WALL DETAILS
10. DECORATIVE FENCE DETAILS
11. DECORATIVE FENCE DETAILS
12. DECORATIVE FENCE DETAILS
13. DECORATIVE FENCE DETAILS
14. DECORATIVE FENCE DETAILS
15. AESTHETIC DETAILS

WISCONSIN
THOMAS J. ROMENESKO
E-26318
MADISON
WI
PROFESSIONAL ENGINEER
3/22/13

ROMENESKO ENGINEERING, INC.
CONTACT: TOM ROMENESKO, P.E.
7325 CEDAR CREST DRIVE
SAUK CITY, WI 53583
(608) 644-1502

BRIDGE OFFICE CONTACT:
WILLIAM DREHER, P.E.
(608) 266-8489

NO.	DATE	REVISION	BY

Original Plans Prepared By
ROMENESKO ENGINEERING, INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR — 03/25/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-5-207

RETAINING WALL AT N. ABUT. B-5-616, 617, & 621

COUNTY	TOWN/CITY/VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STD. SPEC.

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
TR	VR	TAW	TR

GENERAL PLAN

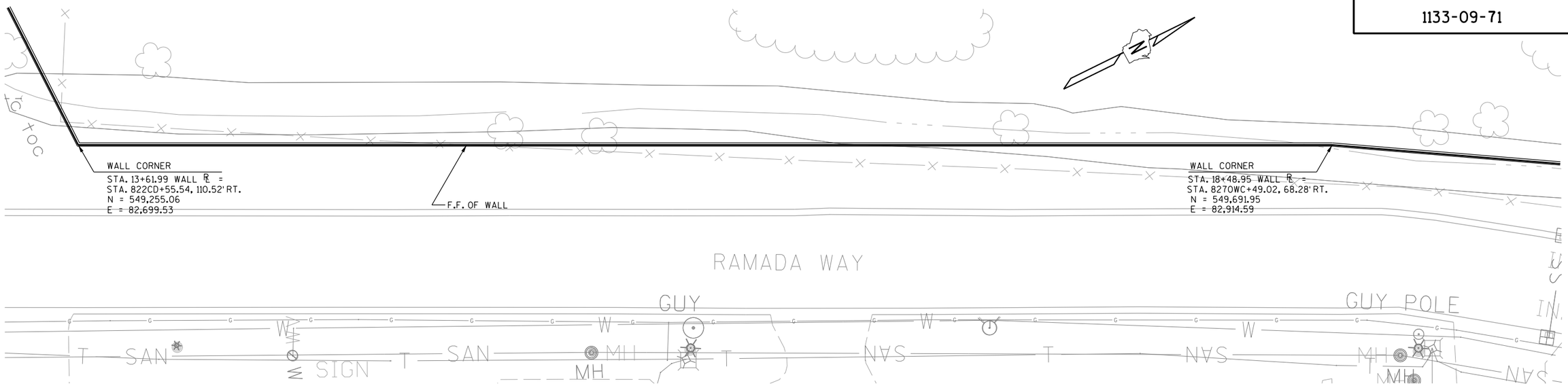
SHEET 1 OF 15
2360

I.D. 1133-09-00

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-207\01.genplan.v8.r-5-207.dgn
PLOT DATE : 3/22/2013

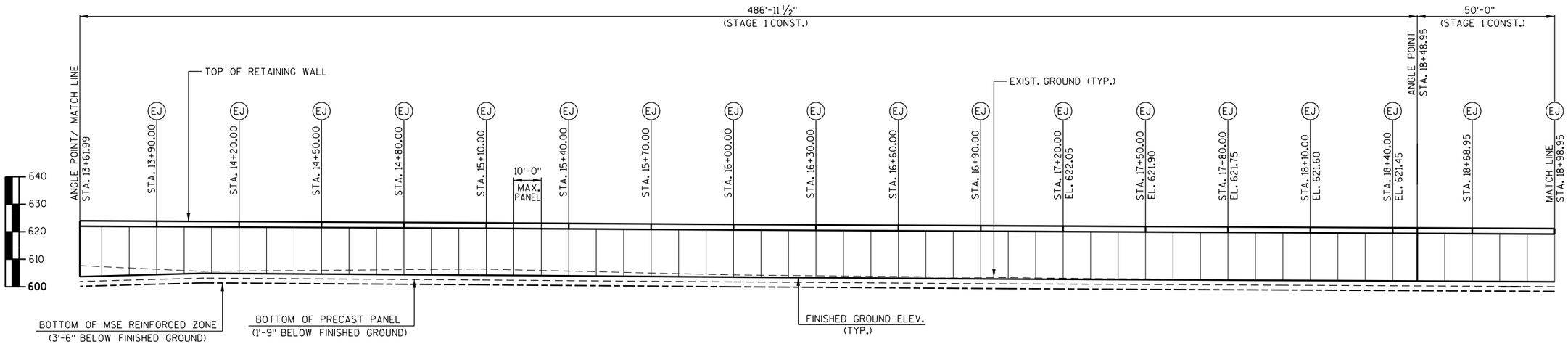
STATE PROJECT NUMBER
1133-09-71



PLAN - STRUCTURE R-5-207

LEGEND

(EJ) EXPANSION JOINT LOCATION IN COPING



ELEVATION - STRUCTURE R-5-207

(LOOKING AT F.F. OF WALL)

NOTE: SEE "WALL ELEVATION TABLE" ON SHEET 4.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-207

DRAWN BY TAW | PLANS CK'D. TR

GENERAL PLAN

SHEET 2 OF 15
2361

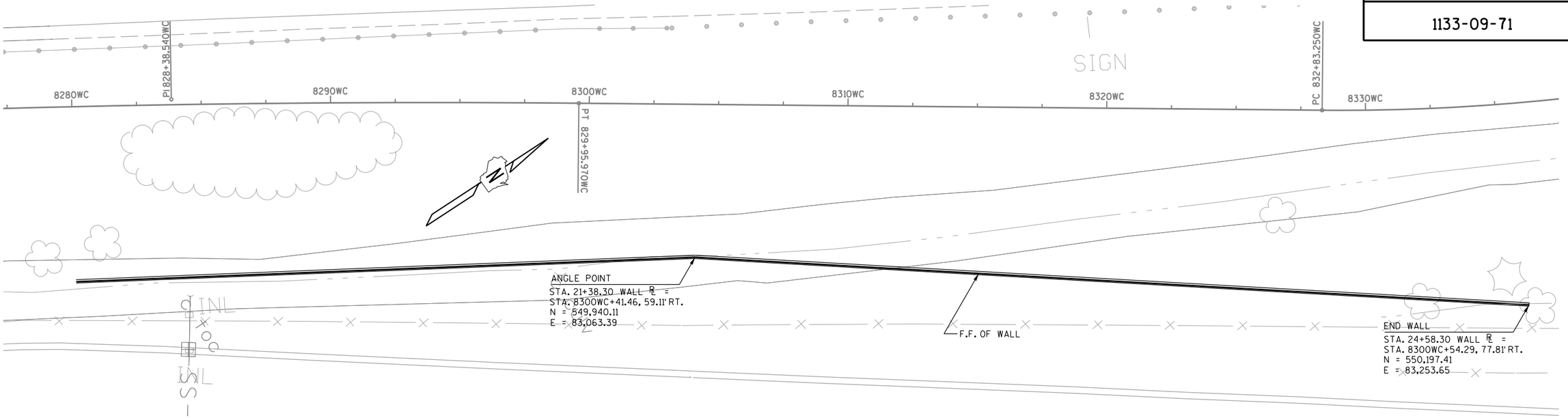
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-207\02.genplan.v8_r-5-207.dgn
PLOT DATE : 1/28/2013

8

8

STATE PROJECT NUMBER

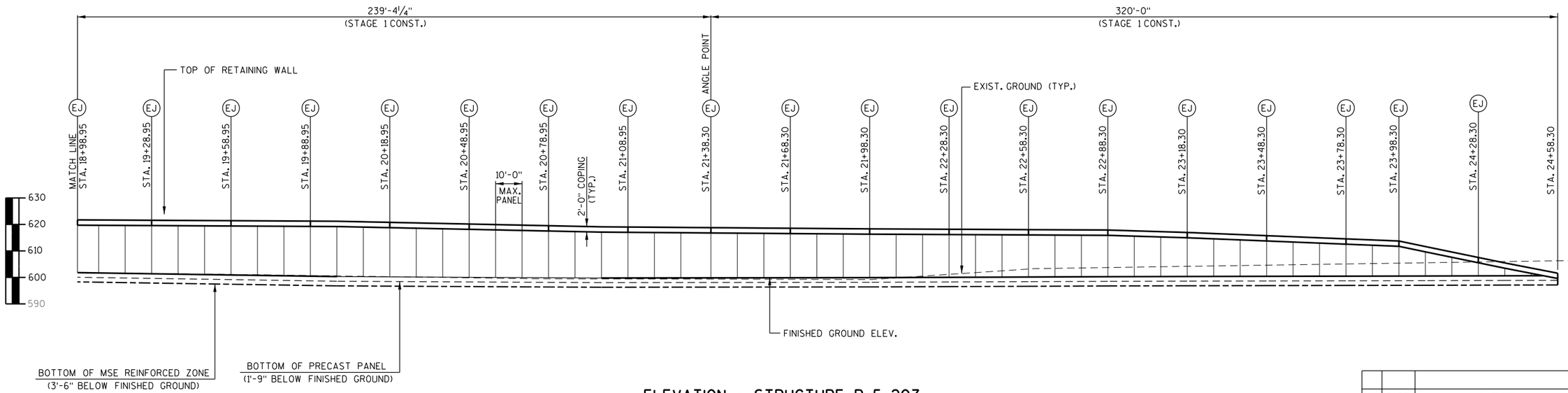
1133-09-71



LEGEND

(EJ) EXPANSION JOINT LOCATION IN COPING

PLAN - STRUCTURE R-5-207



ELEVATION - STRUCTURE R-5-207

(LOOKING AT F.F. OF WALL)

NOTE: SEE "WALL ELEVATION TABLE" ON SHEET 4.

FILE NAME : P:\134 USH 41 Bridges I1133-09-00\Structures\R-5-207\03_genplan_v8_r-5-207.dgn
PLOT DATE : 1/28/2013

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-207

DRAWN BY TAW | PLANS CK'D. TR

GENERAL PLAN

SHEET 3 OF 15
2362

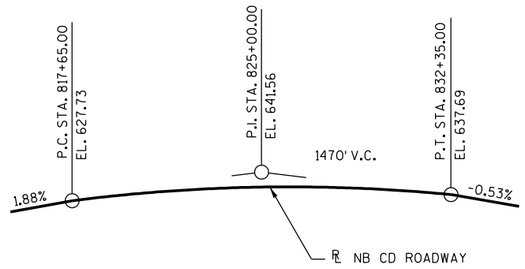
WALL ELEVATION TABLE

WALL STATION	TOP OF WALL ELEVATION	FINISHED GROUND ELEVATION
10+00.00	606.50	605.26
10+10.00	609.59	605.71
10+20.00	612.67	606.16
10+30.00	615.76	606.61
10+40.00	619.12	607.05
10+50.00	622.21	607.50
10+60.00	624.56	608.05
10+70.00	624.56	608.10
10+80.00	624.56	608.14
10+90.00	624.56	608.04
11+00.00	624.56	607.91
11+10.00	624.56	607.81
11+20.00	624.56	607.77
11+30.00	624.56	607.72
11+40.00	624.56	607.67
11+50.00	624.56	607.62
11+60.00	625.57	607.58
11+70.00	625.57	607.55
11+80.00	625.57	607.51
11+90.00	625.57	607.47
12+00.00	625.57	607.43
12+10.00	625.57	607.39
12+20.00	625.57	607.35
12+30.00	625.74	607.30
12+40.00	625.74	607.25
12+50.00	625.74	607.20
12+60.00	625.74	607.07
12+70.00	625.74	606.82
12+80.00	625.74	606.58
12+90.00	625.63	606.34
13+00.00	625.49	606.11
13+10.00	625.34	605.61
13+20.00	625.20	604.69
13+30.00	625.06	603.77
13+40.00	624.92	603.67
13+50.00	624.77	603.66
13+61.99	624.60	604.64
13+70.00	624.56	604.61
13+80.00	624.51	604.58
13+90.00	624.46	604.55
14+00.00	624.41	604.52
14+10.00	624.36	604.49
14+20.00	624.31	604.46
14+30.00	624.26	604.43
14+40.00	624.21	604.40
14+50.00	624.16	604.37
14+60.00	624.11	604.34
14+70.00	624.06	604.31
14+80.00	624.01	604.28
14+90.00	623.96	604.25
15+00.00	623.91	604.22
15+10.00	623.86	604.18
15+20.00	623.80	604.10
15+30.00	623.74	604.01
15+40.00	623.68	603.93
15+50.00	623.62	603.84
15+60.00	623.57	603.77
15+70.00	623.52	603.70
15+80.00	623.47	603.64
15+90.00	623.42	603.57
16+00.00	623.37	603.50
16+10.00	623.32	603.43
16+20.00	623.27	603.36
16+30.00	623.22	603.29
16+40.00	623.17	603.22
16+50.00	623.12	603.15
16+60.00	623.07	603.08
16+70.00	623.02	603.01
16+80.00	622.97	602.94
16+90.00	622.92	602.87
17+00.00	622.87	602.80
17+10.00	622.82	602.75
17+20.00	622.77	602.70
17+30.00	622.72	602.65
17+40.00	622.67	602.60

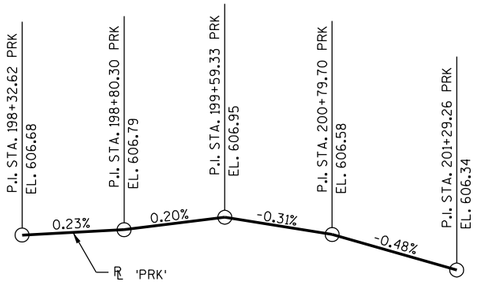
WALL STATION	TOP OF WALL ELEVATION	FINISHED GROUND ELEVATION
17+50.00	622.62	602.55
17+60.00	622.57	602.50
17+70.00	622.52	602.45
17+80.00	622.47	602.40
17+90.00	622.42	602.35
18+00.00	622.37	602.30
18+10.00	622.32	602.25
18+20.00	622.27	602.20
18+30.00	622.22	602.15
18+40.00	622.17	602.10
18+48.95	622.12	602.05
18+58.95	622.07	602.00
18+68.95	622.02	601.95
18+78.95	621.97	601.90
18+88.95	621.92	601.85
18+98.95	621.87	601.80
19+08.95	621.82	601.65
19+18.95	621.77	601.49
19+28.95	621.72	601.34
19+38.95	621.67	601.19
19+48.95	621.62	601.04
19+58.95	621.57	600.89
19+68.95	621.52	600.74
19+78.95	621.46	600.58
19+88.95	621.41	600.43
19+98.95	621.36	600.29
20+08.95	621.31	600.24
20+18.95	621.26	600.19
20+28.95	621.21	600.13
20+38.95	621.16	600.08
20+48.95	621.11	600.03
20+58.95	621.06	599.97
20+68.95	621.01	599.92
20+78.95	620.96	599.87
20+88.95	620.91	599.81
20+98.95	620.86	599.78
21+08.95	620.81	599.81
21+18.95	620.76	599.84
21+28.95	620.71	599.87
21+38.30	620.66	599.90
21+48.30	620.61	599.93
21+58.30	620.56	599.96
21+68.30	620.51	599.99
21+78.30	620.46	600.02
21+88.30	620.41	600.05
21+98.30	620.36	600.08
22+08.30	620.31	600.12
22+18.30	620.26	600.15
22+28.30	620.21	600.19
22+38.30	620.16	600.23
22+48.30	620.07	600.27
22+58.30	619.80	600.31
22+68.30	619.53	600.34
22+78.30	619.27	600.38
22+88.30	619.00	600.42
22+98.30	618.71	600.45
23+08.30	618.33	600.48
23+18.30	617.95	600.50
23+28.30	617.57	600.52
23+38.30	617.19	600.54
23+48.30	616.82	600.56
23+58.30	616.44	600.59
23+68.30	616.07	600.61
23+78.30	615.70	600.63
23+88.30	615.33	600.65
23+98.30	614.94	600.67
24+08.30	613.46	600.70
24+18.30	611.98	600.73
24+28.30	610.50	600.75
24+38.30	609.02	600.78
24+48.30	607.54	600.81
24+58.30	601.25	600.65

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	TOTAL
206.6000.S	TEMPORARY SHORING	SF	4,200
532.0700.S	WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	27,380
612.0406	PIPE UNDERDRAIN 6-INCH WRAPPED	LF	1,480
SPV.0165.700	ARCHITECTURAL SURFACE TREATMENT	SF	21,530
SPV.0165.701	STAINING CONCRETE	SF	9,905
SPV.0165.702	STAINING CONCRETE BRICK	SF	21,530
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	27,380
SPV.0090.502	FENCE DECORATIVE WALL	LF	1,458
	NON - BID ITEMS		
	PREFORMED FILLER	SIZE	1"
	CORK FILLER	SIZE	1"
	EXPANDED POLYSTYRENE	SIZE	1"



PROFILE GRADE LINE, NB CD ROADWAY



PROFILE GRADE LINE, PARKVIEW ROAD

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

BEVEL EXPOSED EDGES OF CONCRETE 3/4", UNLESS NOTED OTHERWISE.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

COORDINATE THE CONSTRUCTION OF WALL R-5-207 WITH NORTH ABUTMENT CONSTRUCTION FOR BRIDGES B-5-616, 617 & 621.

THE COST OF FURNISHING AND PLACING THE FOOTING UNDER THE MSE PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS SHOWN IN THE "WALL ELEVATION TABLE" ON THIS SHEET.

ALL STATIONS ARE ALONG THE ℄ FOR R-5-207 ALONG THE FRONT FACE OF WALL UNLESS SHOWN OTHERWISE.

DO NOT PERMIT CONCRETE OR FILL TO DROP OR ACCUMULATE INTO THE WALL PANEL CAVITY.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M153, TYPES I, II OR III OR M213.

OPTIONAL TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE FOOTING WITH A MINIMUM SPACING OF TWO PANEL LENGTHS. FOOTING JOINTS SHOULD BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THRU FOOTING JOINTS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

DESIGN THE RETAINING WALL FOR FINISHED GRADE BEHIND THE WALL.

SEE SPECIAL PROVISIONS FOR AESTHETIC TREATMENTS TO THE WALL.

"FINE METALLIC SCREEN" SHALL HAVE A MAXIMUM 1/4"x1/4" MESH AND MINIMUM 0.025" WIRE DIAMETER. WIRES TO BE HOT DIPPED GALVANIZED AFTER WELDING.

AT THE ENDS OF WALL SEAL CAVITY BETWEEN WIRE FACE WALL AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE 1'-6" WIDE.

THE TEMPORARY SHORING QUANTITY IS BASED UPON PROVIDING TWO INSTALLATIONS AT EACH LOCATION SHOWN. TEMPORARY SHORING CAN CONSIST OF ANY SYSTEM ALLOWED IN THE SPECIFICATIONS AND APPROVED BY THE ENGINEER.

DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

AT THE ENDS OF WALL SEAL CAVITY BETWEEN WIRE FACE WALL AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE 1'-6" WIDE.

STATE PROJECT NUMBER

1133-09-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-207

DRAWN BY TAW | PLANS CK'D. TR

NOTES & QUANTITIES

SHEET 4 OF 15
2363

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-207\04_notes_quant_v8_r-5-207.dgn
PLOT DATE : 3/22/2013

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SOIL PARAMETERS

SOIL DESCRIPTION	FRICTION ANGLE (DEGREES)	COHESION (psf)	UNIT WEIGHT (pcf)
GRANULAR BACKFILL WITHIN THE WALL IN THE REINFORCING ZONE	30	0	120
FILL BEHIND THE REINFORCING ZONE	31	0	120
B-528, 822+75			
CLAY, RED TO BROWN, TRACE SILT (ELEVATION 604.0 FT - 595.2 FT)	0	2,000	120
CLAY AND SILT, GRAY (ELEVATION 595.2 FT - 570.2 FT)	0	350	110
CLAY, SOME SILT, TRACE GRAVEL (ELEVATION 570.2 FT - 545.7 FT)	0	1,500	115
BEDROCK (ELEVATION 545.7 FT AND BELOW)	0	96,000	140
B-526, 821+60			
SILT, BROWN, SOME SAND (ELEVATION 602.7 FT - 600.3 FT)	31	0	120
CLAY, BROWN, LITTLE SILT (ELEVATION 600.3 FT - 596.3 FT)	0	2,000	120
CLAY AND SILT, GRAY (ELEVATION 596.3 FT - 582.3 FT)	0	350	110
CLAY, BROWN, SOME SILT (ELEVATION 582.3 FT - 541.3 FT)	0	1,500	115
BEDROCK (ELEVATION 541.3 FT AND BELOW)	0	96,000	140
B-527, 822+75			
CLAY, RED TO BROWN, SOME SILT (ELEVATION 600.7 FT - 573.0 FT)	0	350	110
CLAY, TRACE SILT (ELEVATION 573.0 FT - 548.0 FT)	0	1,500	115
SILT, GRAY, LITTLE CLAY, SOME GRAVEL (ELEVATION 548.0 FT - 540.0 FT)	0	3,000	125
BEDROCK (ELEVATION 540.0 FT AND BELOW)	0	96,000	140
S163-G2A, 824+11			
CLAY, REDDISH BROWN (ELEVATION 600.6 FT - 584.9 FT)	0	350	110
CLAY, REDDISH BROWN (ELEVATION 584.9 FT - 575.9 FT)	0	500	110
CLAY, BROWN, SOME SILT (ELEVATION 575.9 FT - 539.9 FT)	0	1,500	115
BEDROCK (ELEVATION 539.9 FT AND BELOW)	0	96,000	140
B-563, 825+00			
CLAY, BROWN, SOME SILT (ELEVATION 599.4 FT - 593.4 FT)	0	750	115
CLAY, RED TO BROWN (ELEVATION 593.4 FT - 586.4 FT)	0	350	110
CLAY, RED, BROWN TO GRAY (ELEVATION 586.4 FT - 571.4 FT)	0	350	110
CLAY, RED TO BROWN (ELEVATION 571.4 FT - 564.9 FT)	0	1,500	115
B-564, 827+00			
CLAY, RED TO BROWN (ELEVATION 598.8 FT - 596.2 FT)	0	1,000	115
CLAY AND SILT, RED (ELEVATION 596.2 FT - 577.2 FT)	0	350	110
CLAY, RED TO BROWN (ELEVATION 577.2 FT - 566.7 FT)	0	1,500	115
B-565, 829+00			
CLAY, RED TO BROWN (ELEVATION 596.6 FT - 590.4 FT)	0	1,000	115
CLAY AND SILT, RED, BROWN TO GRAY (ELEVATION 590.4 FT - 573.4 FT)	0	350	110
CLAY, BROWN, SOME SILT (ELEVATION 573.4 FT - 561.9 FT)	0	1,500	115
B-566, 831+00			
CLAY, RED TO BROWN (ELEVATION 596.5 FT - 574.0 FT)	0	350	110
CLAY, RED TO BROWN (ELEVATION 574.0 FT - 562.5 FT)	0	1,500	115
B-567, 833+00			
CLAY, RED TO BROWN, WITH SAND SEAMS (ELEVATION 597.0 FT - 596.2 FT)	0	1,500	115
CLAY AND SILT, RED, BROWN TO GRAY (ELEVATION 596.2 FT - 573.2 FT)	0	350	110
CLAY, BROWN, SOME SILT (ELEVATION 573.2 FT - 558.2 FT)	0	1,000	115
CLAY, GRAY, SOME SILT (ELEVATION 558.2 FT - 556.7 FT)	0	2,000	120

THE TYPICAL WALL SECTION USED IN THE ANALYSES HAD AN EXPOSED HEIGHT THAT VARIES FROM 11.6 FEET TO 21.5 FEET. THE FOLLOWING ASSUMPTIONS ARE ALSO INCLUDED IN THE ANALYSES:

1. THE SLOPE BEHIND OF THE WALL VARIES FROM HORIZONTAL TO 3.2H:1V.
2. THE SLOPE IN FRONT THE WALL IS HORIZONTAL.
3. THE GROUNDWATER RANGED FROM ELEVATION 590 FEET TO ELEVATION 603 FEET.
4. THE GRANULAR BACKFILL IS FREE DRAINING AND WILL NOT BECOME SATURATED.
5. THE MINIMUM EMBEDMENT DEPTH IS 3.5 FEET.
6. A SURCHARGE LOAD OF 240 PSF IS INCLUDED TO MODEL PEDESTRIAN AND LIGHTWEIGHT CONSTRUCTION EQUIPMENT.
7. AN ADDITIONAL SURCHARGE LOAD EQUIVALENT TO THE WEIGHT OF THE SOIL BEHIND THE ABUTMENT IS ALSO INCLUDED IN THE DESIGN.
8. GLOBAL STABILITY FACTOR OF SAFETY WAS DETERMINED BY THE COMPUTER PROGRAM XSTABL
9. BEARING CAPACITY IS DETERMINED BY TERZAGHI'S BEARING CAPACITY EQUATION.
10. SETTLEMENT OF THE FOUNDATION ON COHESIONLESS SOIL AND COHESIVE SOIL IS BASED UPON METHODS DESCRIBED IN THE FHWA SOILS AND FOUNDATIONS MANUAL.

SAFETY FACTORS & REQUIRED WALL MODIFICATIONS

DIMENSIONS									
WALL HEIGHT (FEET)[1]	18.8	22.8	24.3	23.5	23.9	23.9	25.0	22.3	15.1
EXPOSED WALL HEIGHT (FEET)	15.3	19.3	20.8	20.0	20.4	20.4	21.5	18.8	11.6
LENGTH OF REINFORCEMENT (FEET)[3]	13.2	18.4	19.4	16.5	16.7	16.7	17.5	15.6	10.6
LENGTH OF REINF./WALL HEIGHT	0.70	0.812	0.80	0.70	0.70	0.70	0.70	0.70	0.70
BACKSLOPE	0.0H:1V	0.0H:1V	0.0H:1V	6.0H:1V	3.7H:1V	3.2H:1V	3.2H:1V	4.4H:1V	3.6H:1V
WALL STATION	10+50	12+00	13+80	15+20	16+00	18+00	20+09	22+09	24+09
BORING	B-528	B-526	B-527	S163-G2A	B-563	B-564	B-565	B-566	B-567
FACTOR OF SAFETY[4]									
SLIDING ($FS_{req} > 1.5$)	2.1	1.5	2.2	1.9	1.6	1.5	1.5	1.7	1.5
OVERTURNING ($FS_{req} > 2.0$)	3.7	2.6	3.9	3.3	3.0	2.8	2.8	3.1	2.8
GLOBAL STABILITY ($FS_{req} > 1.3$)	NA[5]	1.5	NA[5]	NA[5]	NA[5]	NA[5]	1.6	NA[5]	NA[5]
BEARING CAPACITY ($FS_{req} > 2.5$)	3.6	2.8	2.7	2.6	2.7	2.8	2.7	2.5	3.6
ALLOWABLE BEARING CAPACITY (PSF)	4,500[6]	6,000[6]	4,000[6]	4,700[6]	5,400[6]	6,000[6]	6,000[6]	4,500[6]	4,800[6]

NOTE:
1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 3.5 FEET.
2. THE WALL STABILITY EVALUATION INCLUDED A SURCHARGE LOAD THAT WAS EQUAL TO THE WEIGHT OF THE SOIL BEHIND THE ABUTMENT.
3. THE LENGTH OF REINFORCEMENT IS THE MINIMUM REQUIRED LENGTH.
4. FSREQ ARE PRESENTED IN CHAPTER 14 OF THE BRIDGE MANUAL.
5. NA NOT APPLICABLE, GLOBAL SLOPE STABILITY WAS EVALUATED AT THE CRITICAL WALL LOCATION.
6. REQUIRES STAGED CONSTRUCTION AND WICK DRAINS.

THE RESULTS OF THE EVALUATION INDICATED THAT IF THE SLIDING AND BEARING CAPACITY REQUIREMENTS ARE MET, THEN THE ECCENTRICITY AND OVERTURNING REQUIREMENTS ARE ALSO MET.

THE SHORT-TERM GLOBAL STABILITY OF THE WALL AT THE CRITICAL LOCATION WAS UNSTABLE WITH A FACTOR OF SAFETY OF 0.8. THE REQUIRED FACTOR OF SAFETY IS 1.3. THE FOLLOWING OPTION SHOULD BE USED TO RESOLVE THE GLOBAL STABILITY ISSUE:

STAGED CONSTRUCTION AND WICK DRAINS: BUILD THE RETAINING WALL AND EMBANKMENT IN STAGES, WHICH ALLOWS THE SOFT SOILS TO CONSOLIDATE AND INCREASE IN SHEAR STRENGTH. THE INCREASE IN SHEAR STRENGTH OF THE SOFT SOILS WILL SUPPORT THE RETAINING WALL. THE WICK DRAINS PROVIDE A SHORTER DRAINAGE PATH, WHICH ALLOWS FOR SHORTER TIME DURATION (APPROXIMATELY TWO MONTHS) FOR PORE WATER PRESSURE DISSIPATION. THE LATERAL EXTENT OF THE WICK DRAINS SHOULD BE APPROXIMATELY THE TOE OF SLOPE OF THE FILL OR THE DISTANCE EQUAL TO THE HEIGHT OF THE WALL AWAY FROM THE WALL WHICHEVER IS GREATEST. THE HEIGHT OF THE FIRST LIFT OF EMBANKMENT AND/OR WALL HEIGHT AND SUBSEQUENT LIFTS SHOULD BE APPROXIMATELY 15 FEET ABOVE ORIGINAL GROUND. THE RESULTING MINIMUM FACTOR OF SAFETY WOULD BE 1.5.

THE SETTLEMENT OF THE FOUNDATION AND EMBANKMENT WAS ESTIMATED RANGE FROM 6-INCHES TO 18-INCHES AND SHOULD OCCUR WITHIN THREE YEARS OF LOADING OF THE WALL, WITHOUT THE USE OF WICK DRAINS. THE SETTLEMENT SHOULD BE 6-INCHES TO 18-INCHES AND SHOULD OCCUR OVER A SERIES OF TWO MONTHS TIME INTERVALS. THE SUBSURFACE SOILS ARE RELATIVELY UNIFORM; THEREFORE, DIFFERENTIAL SETTLEMENT SHOULD NOT BE AN ISSUE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-207

DRAWN BY TAW | PLANS CK'D. TR

SOIL DATA

SHEET 5 OF 15
2364

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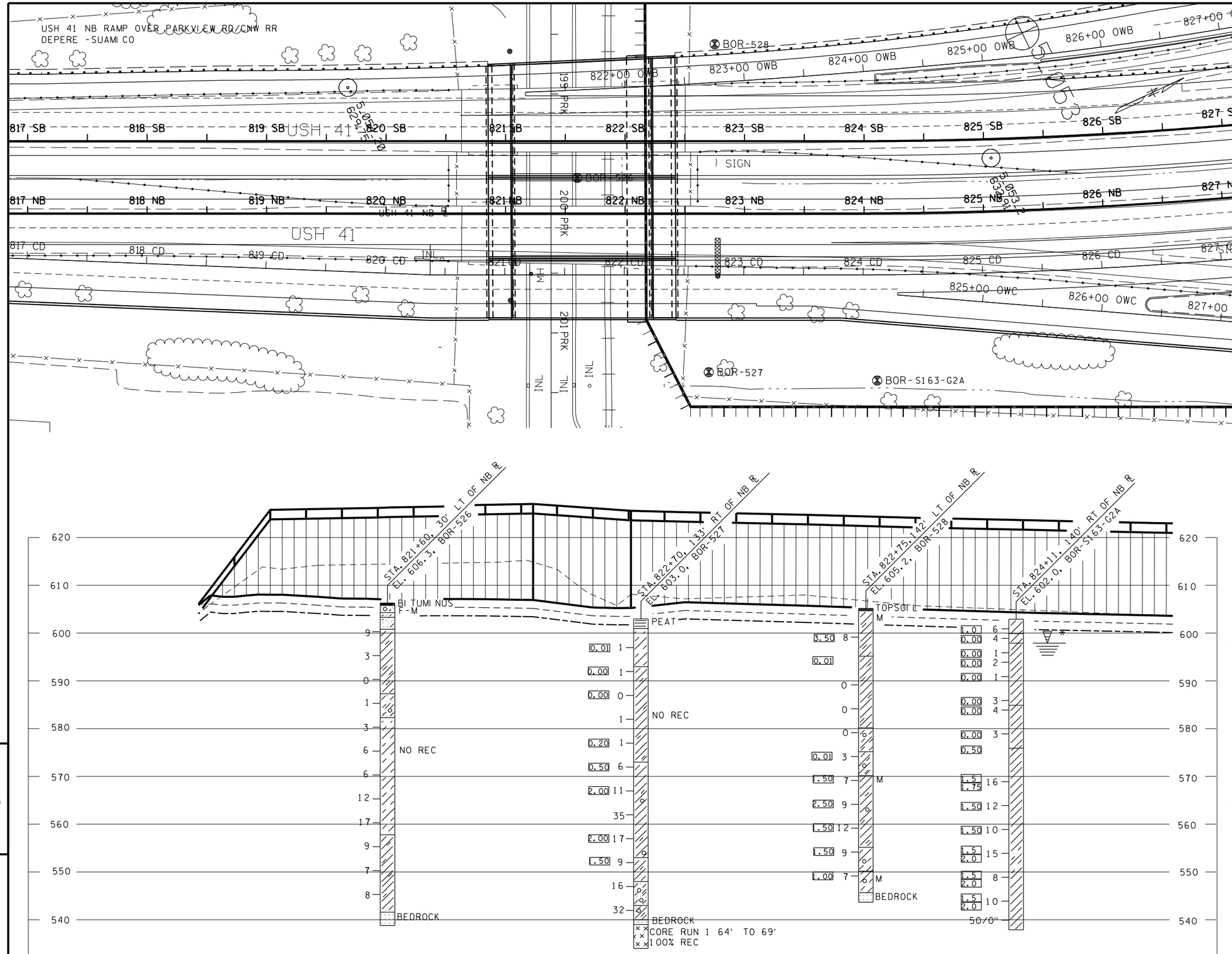
FILE NAME : P:\134 USH 41 Bridges \1133-09-00\structures\R-5-207\05_soil_data_v8_r-5-207.dgn
PLOT DATE : 10/29/2012



* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

STATE PROJECT NUMBER

1133-09-71

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
ELEV.
STA.
UNCONFINED STRENGTH → 7.7 7
BLOWS PER FT. USING 140# WT. FALLING 30"
SANDY GRAVEL
WASH SAMPLE
F. BOULDERS OR COBBLES
SHELBY TUBE — S.T.
SAND
GROUND WATER ELEVATION
SILTY CLAY
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-207

DRAWN BY LH/PR | PLANS CK'D.

SUBSURFACE EXPLORATION

SHEET 6 OF 15
2365

SCALE =

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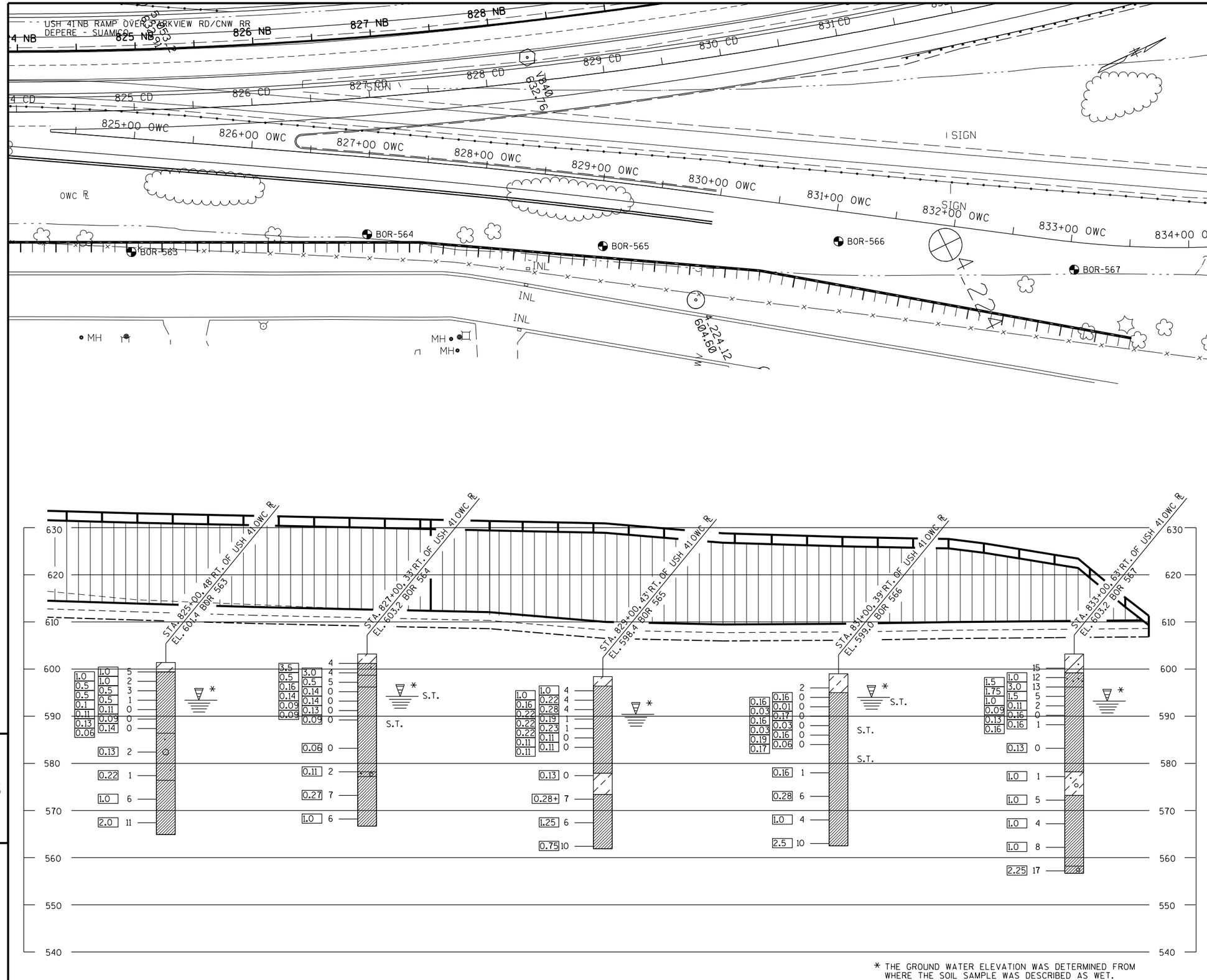

* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

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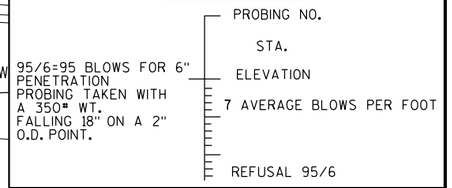
F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

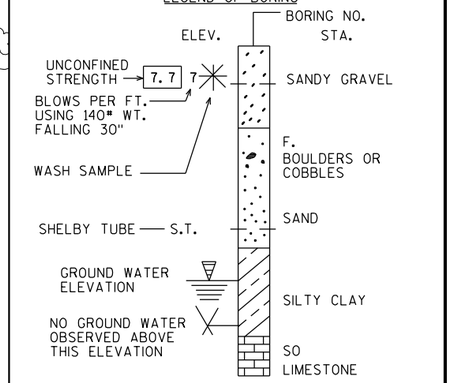
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-207

DRAWN BY PR | PLANS CK'D.

SUBSURFACE EXPLORATION

SHEET 7 OF 15
2366

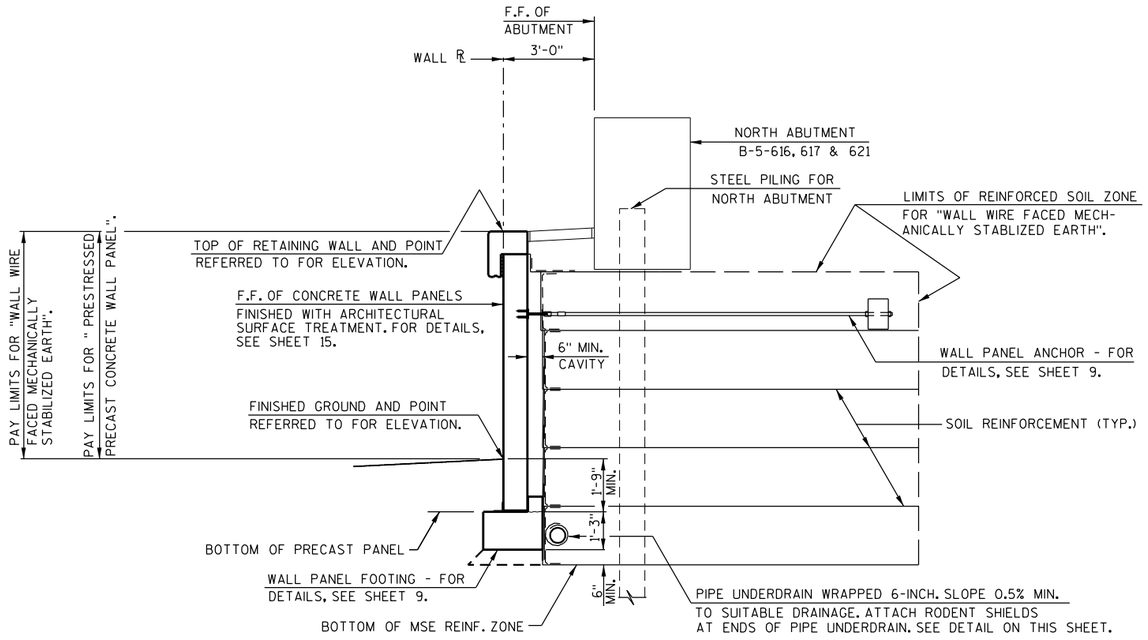
SCALE =

8

8

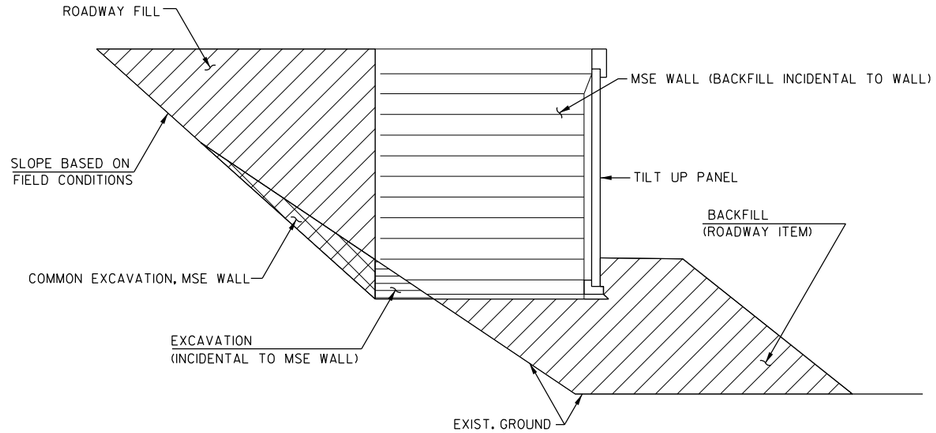
STATE PROJECT NUMBER

1133-09-71

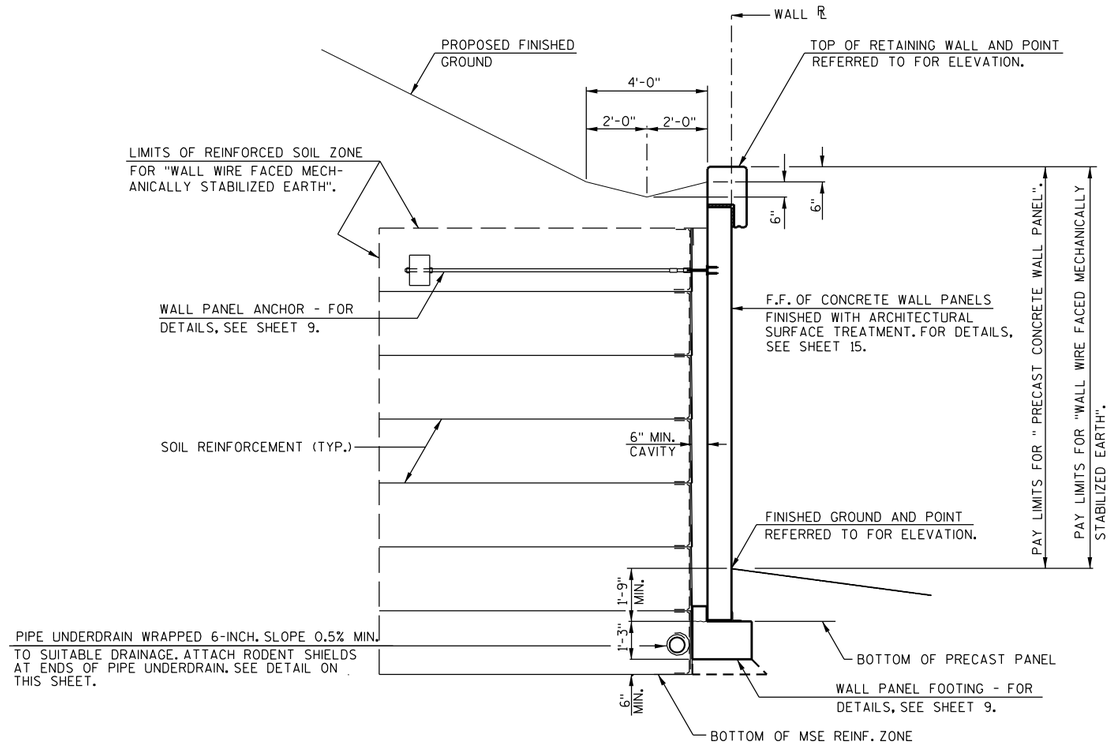


SECTION THRU RETAINING WALL AT NORTH ABUTMENT

(LOOKING WEST)

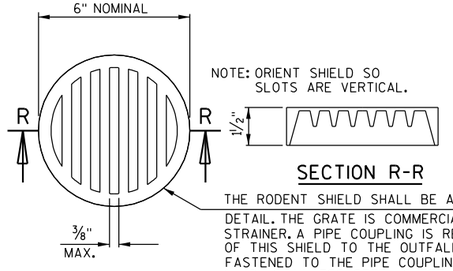


EXCAVATION/BACKFILL DETAIL



SECTION THRU RETAINING WALL

STA. 10+00.00 TO STA. 24+58.30



RODENT SHIELD

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-207

DRAWN BY TAW | PLANS CK'D. TR

WALL DETAILS

SHEET 8 OF 15
2367

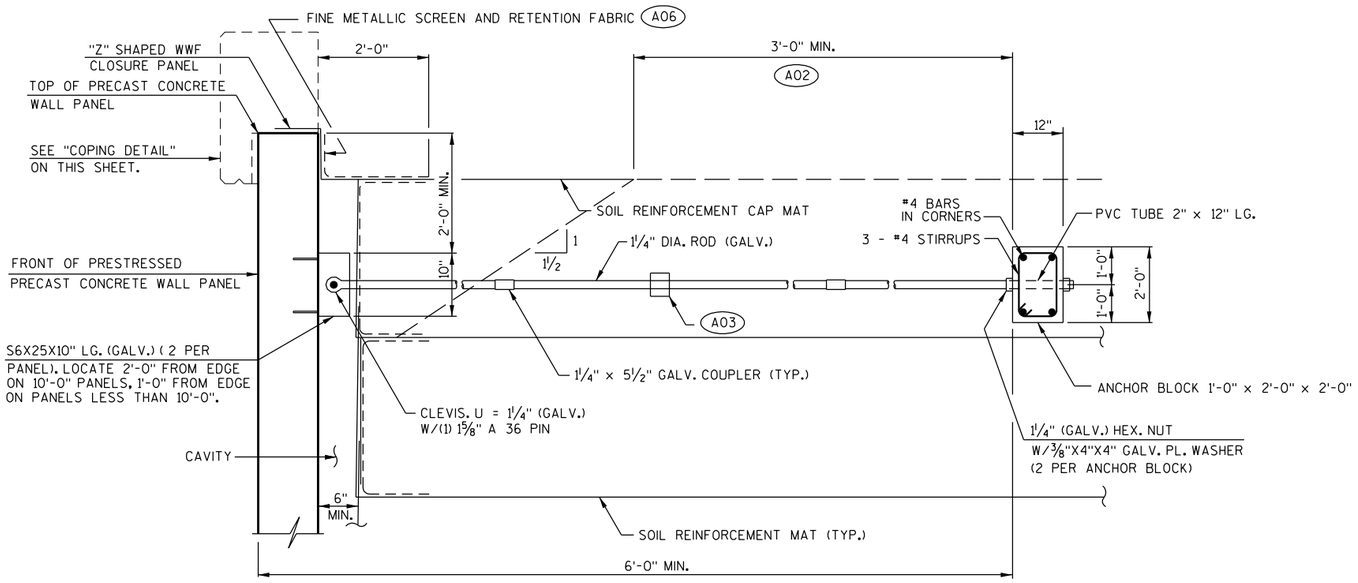
8

8

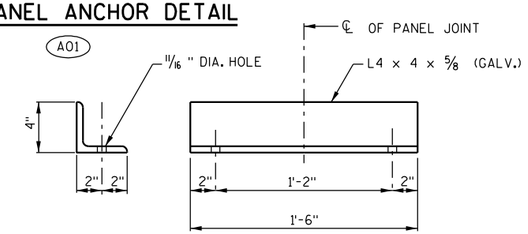
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-207\08_wall_details_A_v8_r-5-207.dgn
PLOT DATE : 10/29/2012

STATE PROJECT NUMBER

1133-09-71

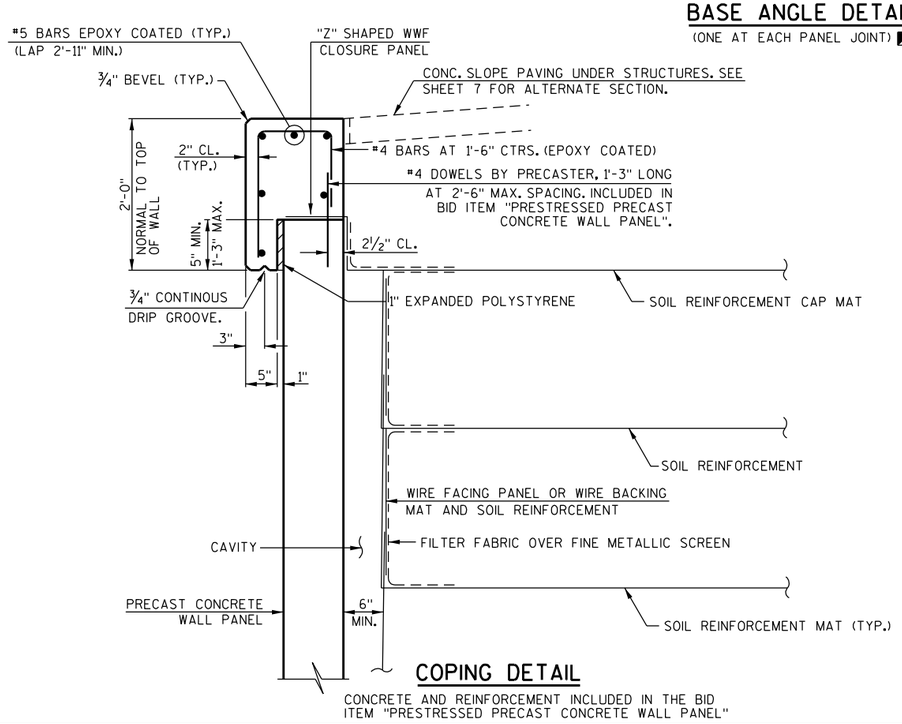


WALL PANEL ANCHOR DETAIL



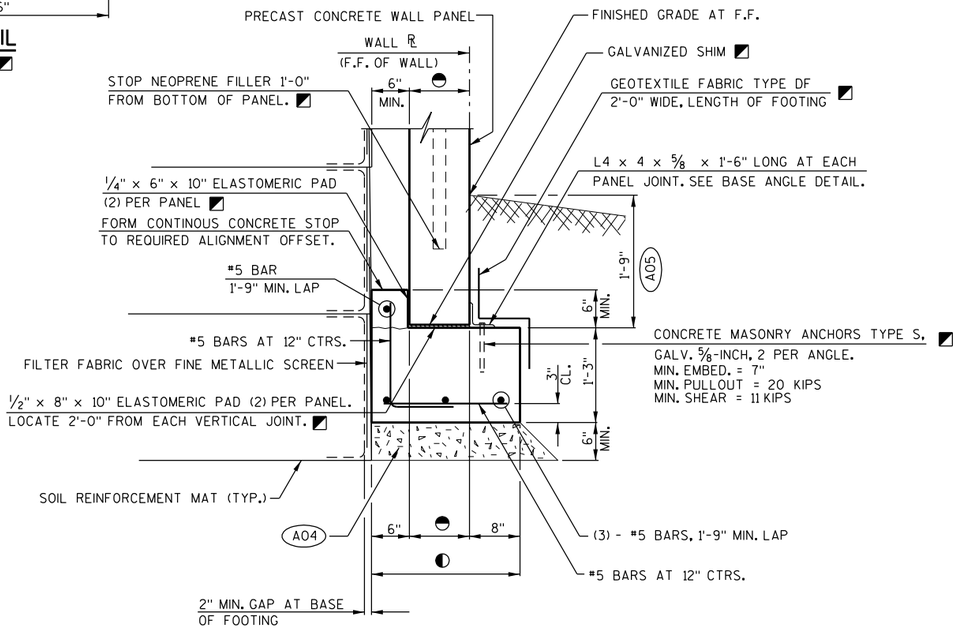
BASE ANGLE DETAIL

(ONE AT EACH PANEL JOINT) ◩



COPING DETAIL

CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"



WALL PANEL FOOTING DETAIL

CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

◓ = 7½" OR 9½"

◐ FOOTING DIMENSION EQUALS PANEL THICKNESS PLUS 1'-2"

LEGEND

(A01) WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1¼" DIA. ANCHOR ROD, CLEVIS, AND OTHER PANEL CONNECTION COMPONENTS. DESIGN, DETAILING, AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL." INSTALLATION OF THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH."

(A02) DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION. ROD MIN. 2'-0" BELOW FINISH GRADE.

(A03) OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼" DIA. BAR)

(A04) BASE AGGREGATE OPEN GRADED, 6" MIN. INCIDENTAL TO BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

(A05) MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE PRECAST PANELS.

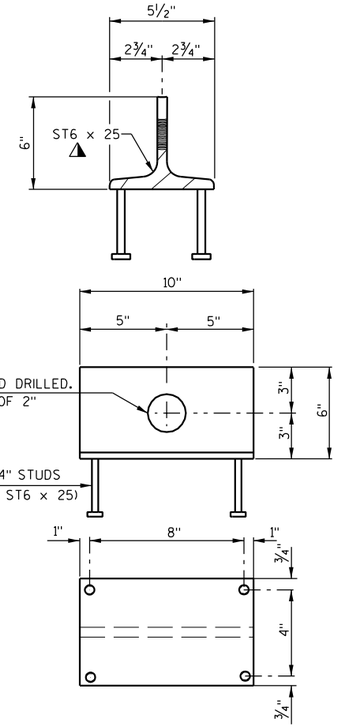
(A06) ALTERNATE METHODS OF SEALING OFF THE 6" VOID IN FRONT OF THE MSE WALL MAY BE SUBMITTED TO WISDOT FOR CONSIDERATION.

◩ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

NOTES

AN ALTERNATE WALL PANEL ANCHOR AND PANEL CONSTRUCTION SYSTEM MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER.

TILT UP PANEL ANCHOR SYSTEM MAY BE TRENCHED IN IF THE GEOMETRY OF THE ANCHOR SYSTEM LOCATION ALLOWS.



PANEL CONNECTION DETAILS

ST6 x 25 MAY BE WELDED TO ¾" THICK PLATE WITH (4) ½" X 4" STUDS ANCHORED IN PRECAST PANEL. RESTORE ZINC COATING AROUND ANY WELDED AREAS. SUBMIT DETAILS FOR APPROVAL BY ENGINEER.

◭ S12x50 (GALV.) CUT IN ½ TO FORM "T" SECTION. BF = 5.477" TW = 0.687".

* AS AN ALTERNATE, 1/2" TYPE S ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-207

DRAWN BY TAW | PLANS CK'D. TR

WALL DETAILS

SHEET 9 OF 15
2368

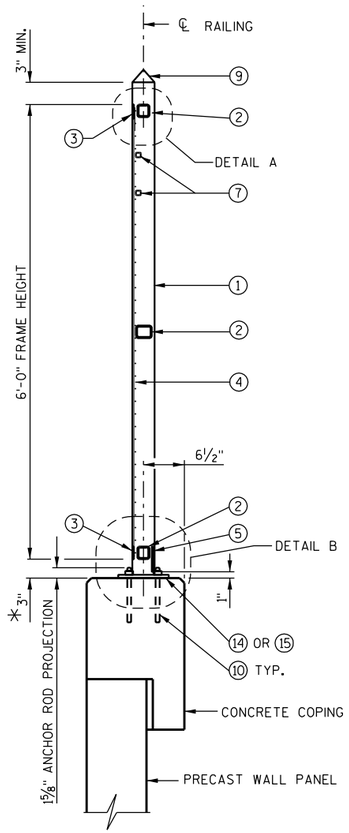
8

8

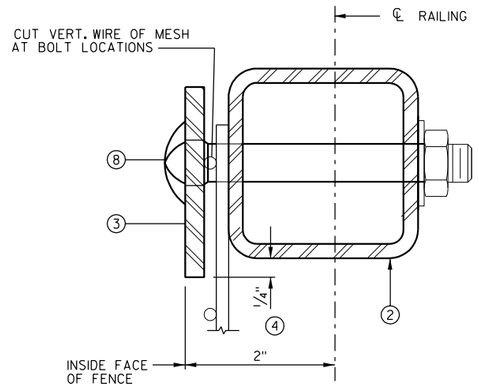
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-207\09_wall_details_8_v8_r-5-2017.dgn
PLOT DATE : 3/22/2013

STATE PROJECT NUMBER

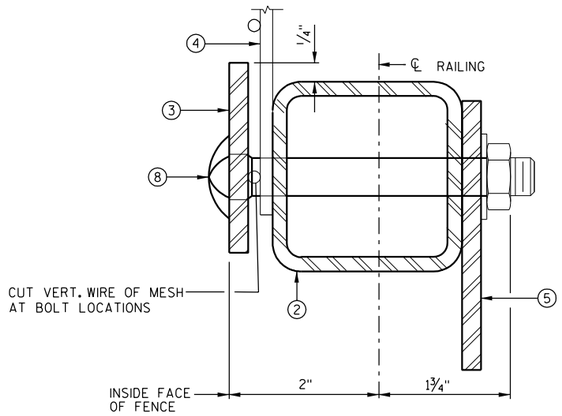
1133-09-71



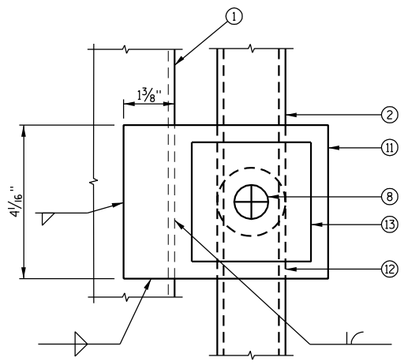
TYPICAL SECTION THRU FENCE/COPING



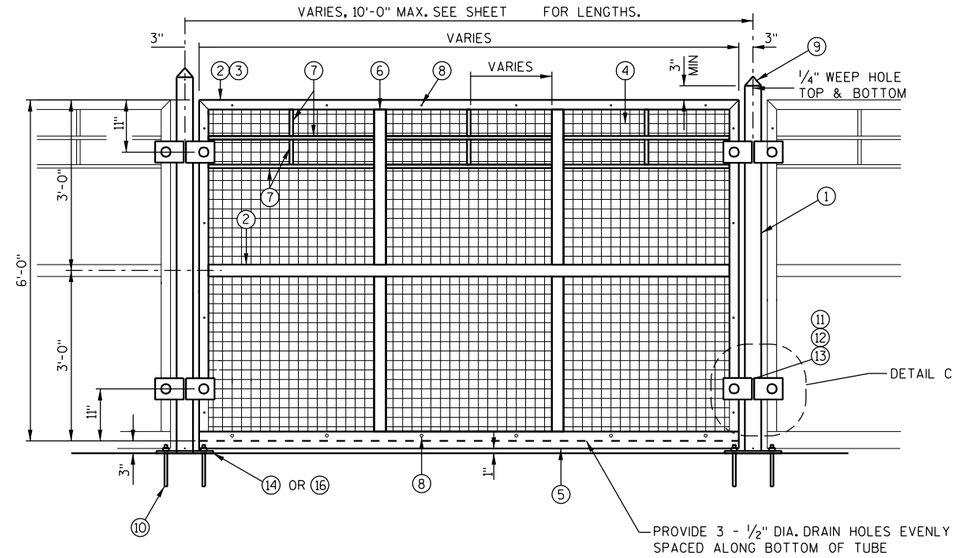
DETAIL A



DETAIL B



DETAIL C



TYPICAL OUTSIDE ELEVATION OF PANEL

LEGEND

1. HSS 3½ X 3½ X 3/16 POST WITH ¼" DIA. VENT HOLES TOP & BOTTOM ON OUTSIDE FACE. RESIZE AS NECESSARYFOR GALVANIZING PROCESS. WELD TO NO.9 & BASE PLATE, TYP.
2. HSS 2½X 2½ X 3/16. WELD TO NO. 6 & 7.
3. PL 2¾" X ¼" WELDED FRAME. WELD TO NO. 4. BOLT TO NO. 2 WITH NO. 8 AFTER PAINTING.
4. STEEL MESH 2" X 2" X 0.162 (8 GA.). PLACE VERTICAL WIRES ON INSIDE FACE OF PARAPET. WELD TO NO. 3.
5. PL ¼" X WIDTH VARIES. PROVIDE SHORT SLOTTED VERT. HOLES FOR NO. 8.
6. NOT USED.
7. ¾" x ¾" BAR. WELD TO NO. 2 & 7.
8. ½" DIA. CARRIAGE BOLT, WASHER AND NUT. PROVIDE 5/8" X 5/8" SQUARE HOLE IN NO. 3 & NO. 2 OF PANEL TYPE G ONLY FOR SQUARE PORTION OF THE BOLT HEAD.
9. 3½" X 3½" PYRAMIDAL CAP. WELD TO NO. 1.
10. 5/8" DIA. CONCRETE MASONRY ANCHOR TYPE S EPOXY, 7" MINIMUM EMBEDMENT WITH A MINIMUM PULLOUT OF 20 KIPS.
11. PL 5/16" X 4½" X 0'-6" CONNECTION WITH 2" DIA. HOLES FOR NO. 8. USE NO. 12 TO COVER 2" DIA. ADJUSTMENT HOLES. USE STANDARD HOLES ON CANTILEVERED FENCE PANEL AT ABUTMENTS.
12. PL 3/8" X 2½" X 4½".
13. PL WASHER ¼" X 3½" X 3½".
14. PL ½" X 8" X 10" BASE PLATE. WELD TO NO. 1.
15. PL ½" X 8" X 1'-0" BASE PLATE. WELD TO NO. 1.
16. ½" DIA. BOLT, WASHER & NUT. TACK WELD NUT TO NO. 2.

* THE DIMENSION BETWEEN THE BOTTOM OF THE WELDED FRAME AND THE TOP OF THE COPING SHALL BE HELD AT THE ENDS OF EACH PANEL AND THE PANEL SHALL FOLLOW THE SLOPE OF THE PROFILE.

NOTES

THE BID ITEM SHALL BE "FENCE DECORATIVE WALL" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

FOR "WALL ELEVATION TABLE", SEE SHEET 4.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

STRUCTURAL TUBING SHALL BE A.S.T.M. A500, GRADE B. ROLLED SHAPES, PLATES, BARS AND SHIMS SHALL BE A.S.T.M. A709, GRADE 36.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE POST VERTICAL.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE A.S.T.M. A307 AND SHALL BE GALVANIZED.

STANDARD WASHERS SHALL BE USED TO SHIM BASE PLATES IF REQUIRED. ALL WASHERS SHALL BE GALVANIZED.

THE STEEL MESH SHALL BE TACK WELDED TO THE 2¼" X ¼" WELDED FRAME. THE MESH SHALL BE STRETCHED TO REMOVE SLACK.

VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

PRIOR TO FABRICATION, STEEL SHALL BE BLAST CLEANED PER SSPC-SP 6 AND GALVANIZED ACCORDING TO ASTM A 123. REPAIR ZINC COATING DAMAGED DURING FABRICATION AS SPECIFIED IN 635.3.4.

ALL WELDS SHALL BE PREQUALIFIED ACCORDING TO THE STRUCTURAL WELDING CODE STEEL (AWS D1.1). THE MINIMUM SIZE OF FILLET WELDS IS 3/16".

COAT THE RAILING WITH AN EPOXY PAINT SYSTEM. TOUCH UP DAMAGED PORTIONS OF PAINT AFTER PANEL ERECTION. SEE SPECIAL PROVISIONS FOR REQUIREMENTS.

FOR ADDITIONAL DECORATIVE FENCE DETAILS, SEE SHEETS 11 THRU 14.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-207

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DECORATIVE FENCE DETAILS

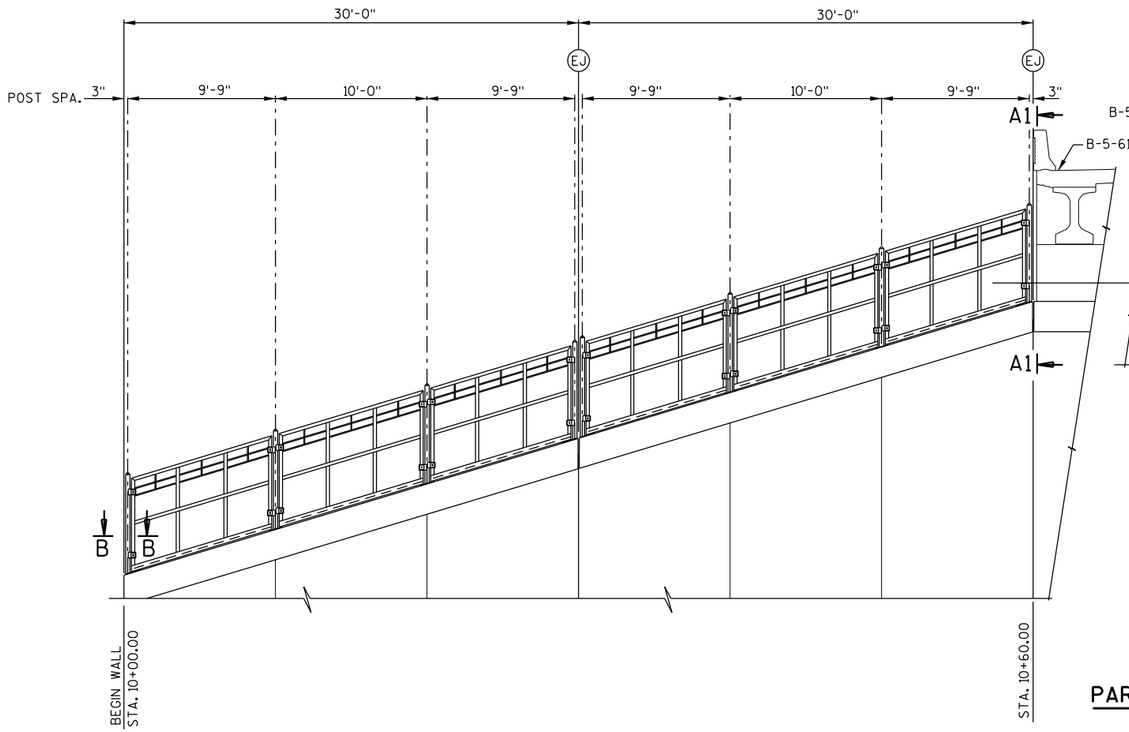
SHEET 10 OF 15
2369

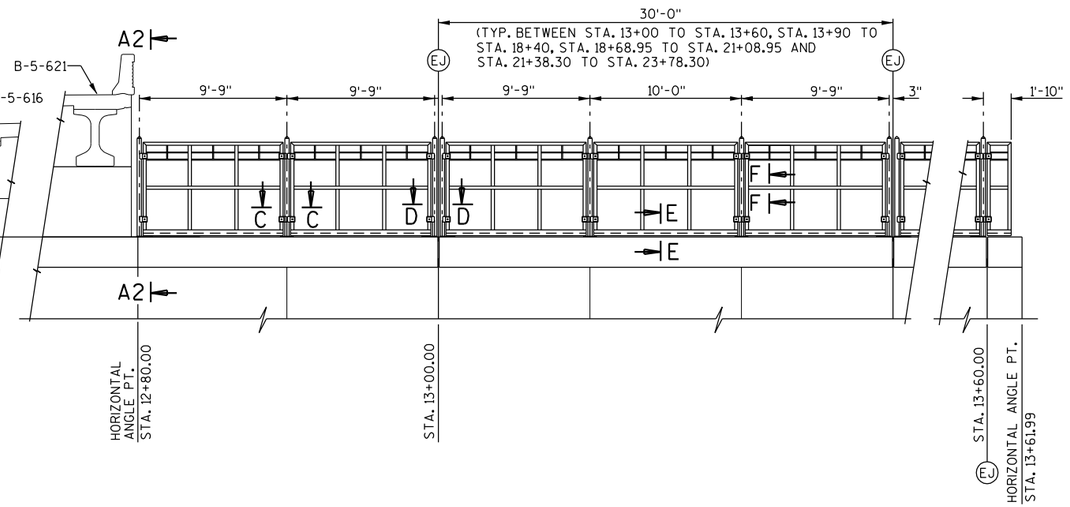
8

8

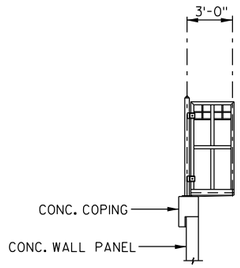
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-207\10_fence_details1.v8.r-5-207.dgn
PLOT DATE : 10/29/2012

STATE PROJECT NUMBER
1133-09-71

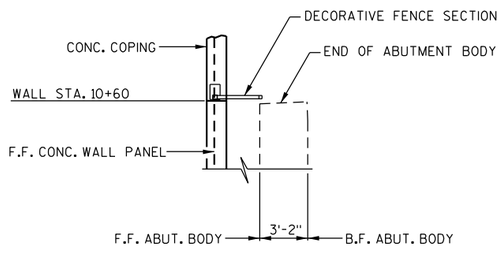




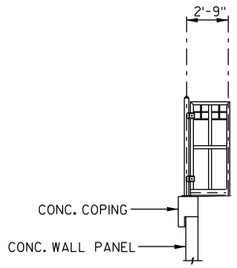
PART ELEVATION - FENCING
(LOOKING NORTH)



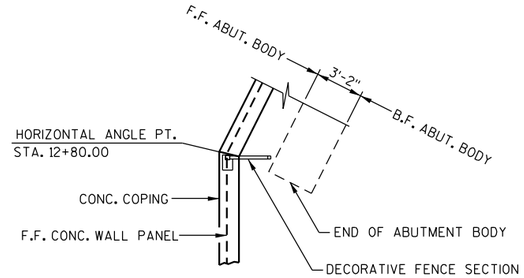
VIEW A1-A1
(SHOWING FENCE NEAR WEST END OF NORTH ABUTMENT - STR. B-5-616)



PART PLAN FOR VIEW A1-A1



VIEW A2-A2
(SHOWING FENCE NEAR EAST END OF NORTH ABUTMENT - STR. B-5-621)



PART PLAN FOR VIEW A2-A2

NOTES: 2" x 2" STEEL MESH NOT SHOWN FOR CLARITY.

FOR "SECTIONS B-B, C-C, D-D, E-E & F-F", SEE SHEET 13.

FOR ADDITIONAL DECORATIVE FENCE DETAILS, SEE SHEETS 10, 12 THRU 14.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-207

DRAWN BY TAW | PLANS CK'D. TR

DECORATIVE FENCE DETAILS

SHEET 11 OF 15
2370

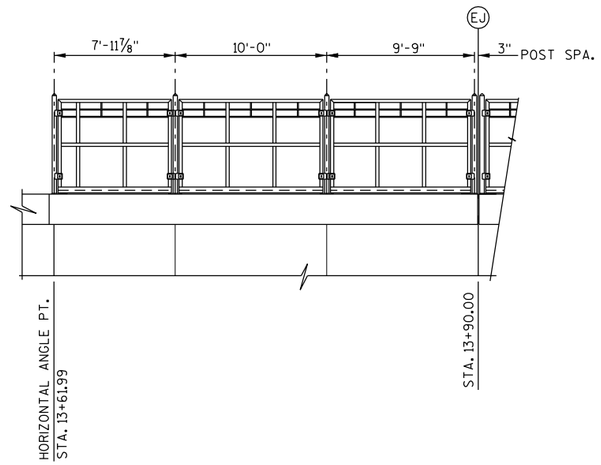
8

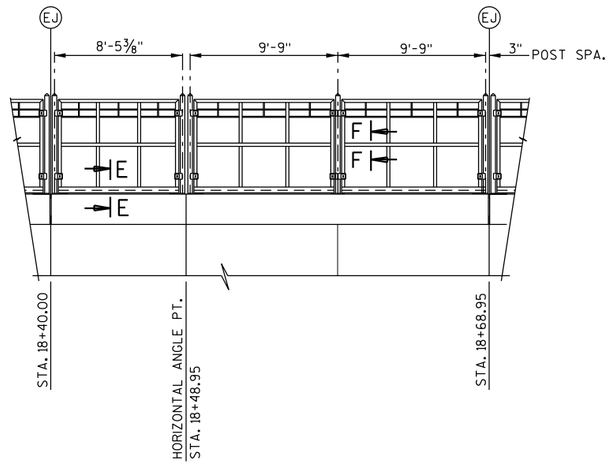
8

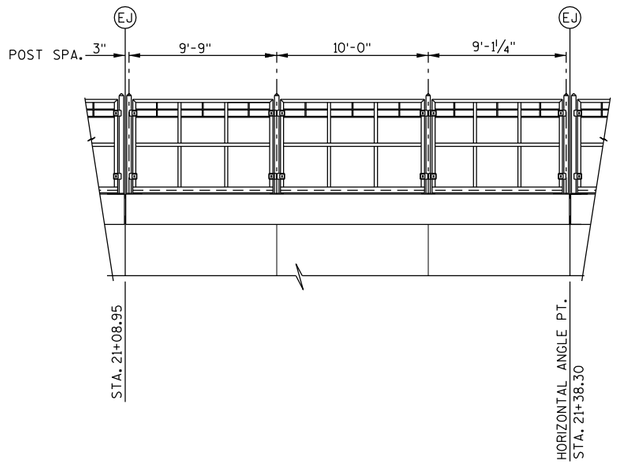
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-207\11_fence_details2_v8_r-5-207.dgn
PLOT DATE : 10/29/2012

STATE PROJECT NUMBER

1133-09-71







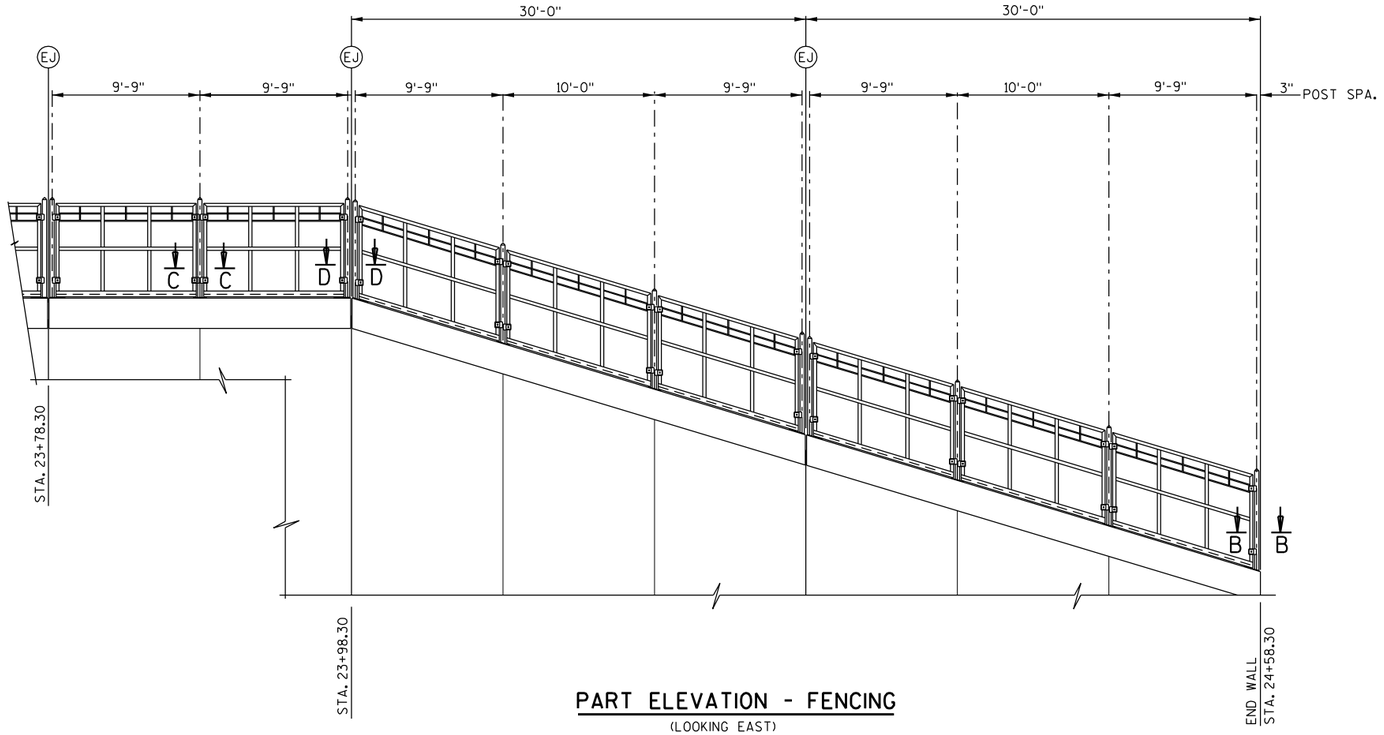
PART ELEVATION - FENCING

(LOOKING EAST)

NOTES: 2" x 2" STEEL MESH NOT SHOWN FOR CLARITY.

FOR "SECTIONS B-B, C-C, D-D, E-E & F-F", SEE SHEET 13.

FOR ADDITIONAL DECORATIVE FENCE DETAILS, SEE SHEETS 10, 111, 13 & 14.



PART ELEVATION - FENCING

(LOOKING EAST)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-207

DRAWN BY TAW | PLANS CK'D. TR

DECORATIVE FENCE DETAILS

SHEET 12 OF 15

2371

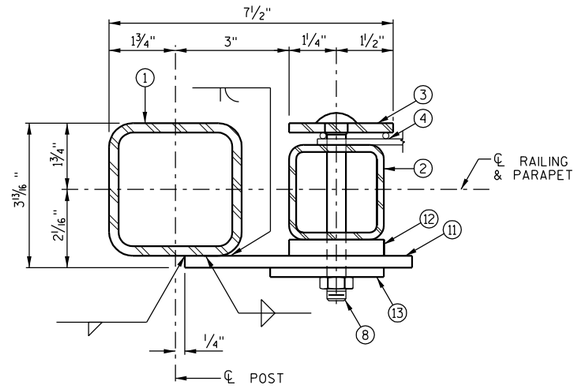
8

8

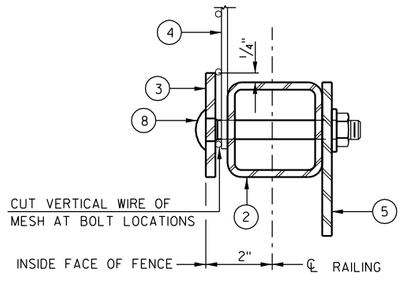
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-207\12.fence_details3_v8_r-5-207.dgn
PLOT DATE : 10/29/2012

STATE PROJECT NUMBER

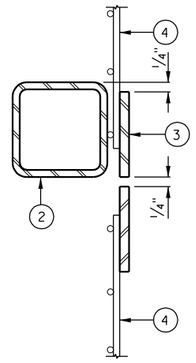
1133-09-71



SECTION B-B



SECTION E-E



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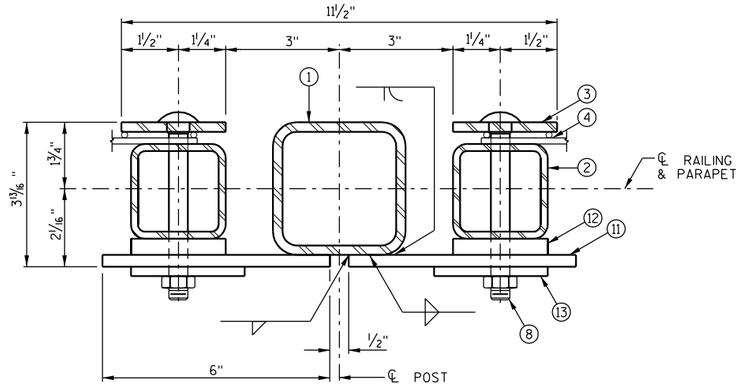

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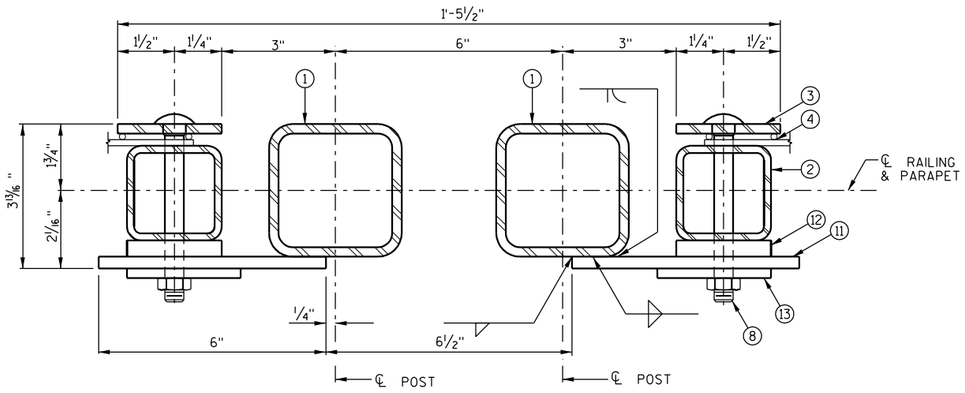
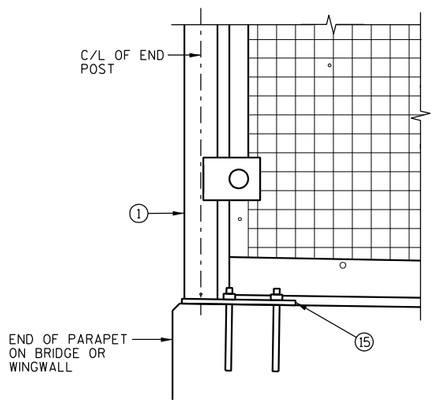


SECTION D-D



END POST DETAIL

(SEE DECK PLAN FOR LOCATIONS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-207

DRAWN BY TAW | PLANS CK'D. TR

DECORATIVE FENCE DETAILS

SHEET 13 OF 15
2372

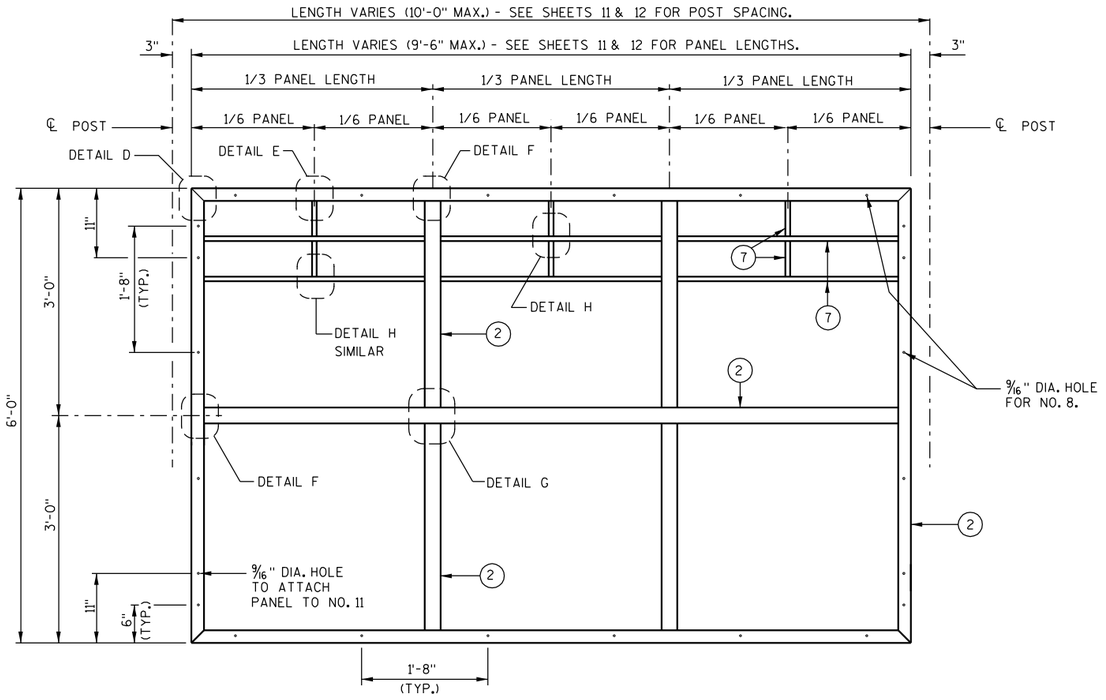
8

8

FILE NAME : P:\134 (DSH 41 Bridges (1133-09-00)\Structures\R-5-207\13_fence_details4_v8_r-5-207.dgn
PLOT DATE : 10/29/2012

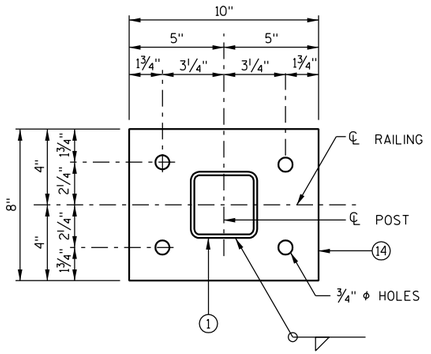
STATE PROJECT NUMBER

1133-09-71

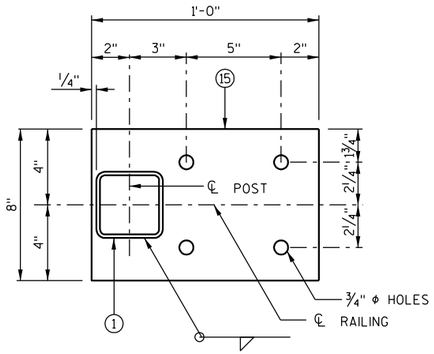


DECORATIVE FENCE PANEL

(ELEVATION VIEW SHOWING TYPICAL FENCE PANEL)

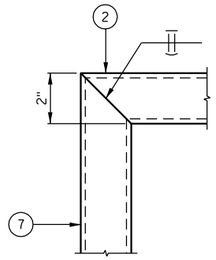


BASE PLATE

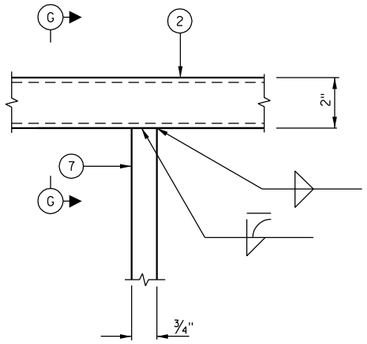


END BASE PLATE

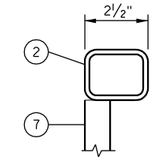
COPING BASE PLATE DETAILS



DETAIL D

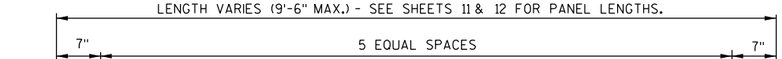


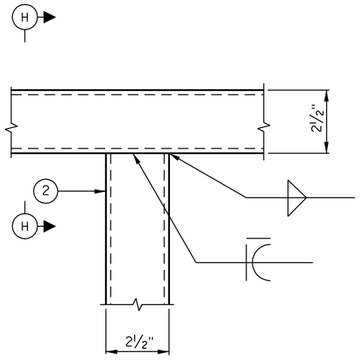
DETAIL E



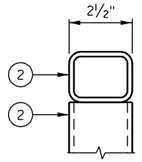
SECTION G-G

¼" PLATE (NO. 5)

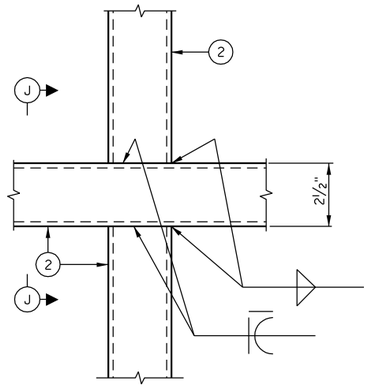




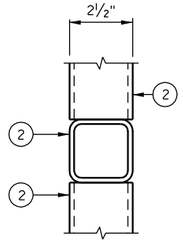
DETAIL F



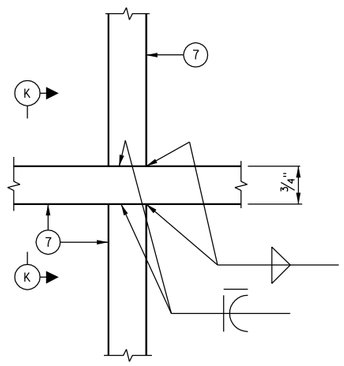
SECTION H-H



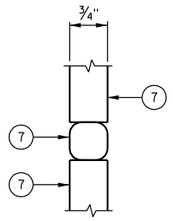
DETAIL G



SECTION J-J



DETAIL H



SECTION K-K

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-207

DRAWN BY TAW | PLANS CK'D. TR

DECORATIVE FENCE DETAILS

SHEET 14 OF 15
2373

8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\Structures\R-5-207\14_fence_details.v8.r-5-207.dgn
PLOT DATE : 10/29/2012

STATE PROJECT NUMBER
1133-09-71

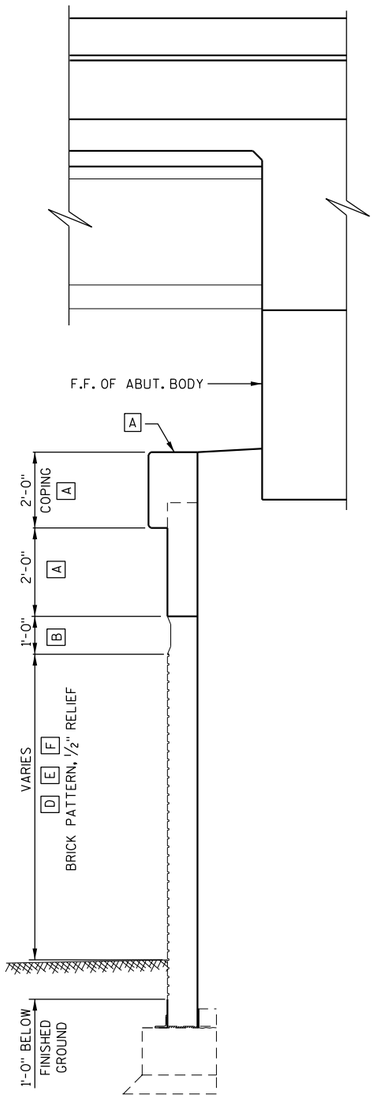
NOTES: ALL JOINTS SHALL BE LOCATED AS SHOWN ON ELEVATION VIEW ON SHEETS 1 & 2 AND MUST COINCIDE WITH PANEL JOINT ON FRONT FACE.

FILLERS AND EXPANDED POLYSTYRENE ARE INCLUDED IN WALL LENGTH. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF THESE FILLERS WITH NON-STAINING AND NON-BITUMINOUS SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE. COLOR OF SEALER SHALL MATCH THE COLOR OF STAIN.

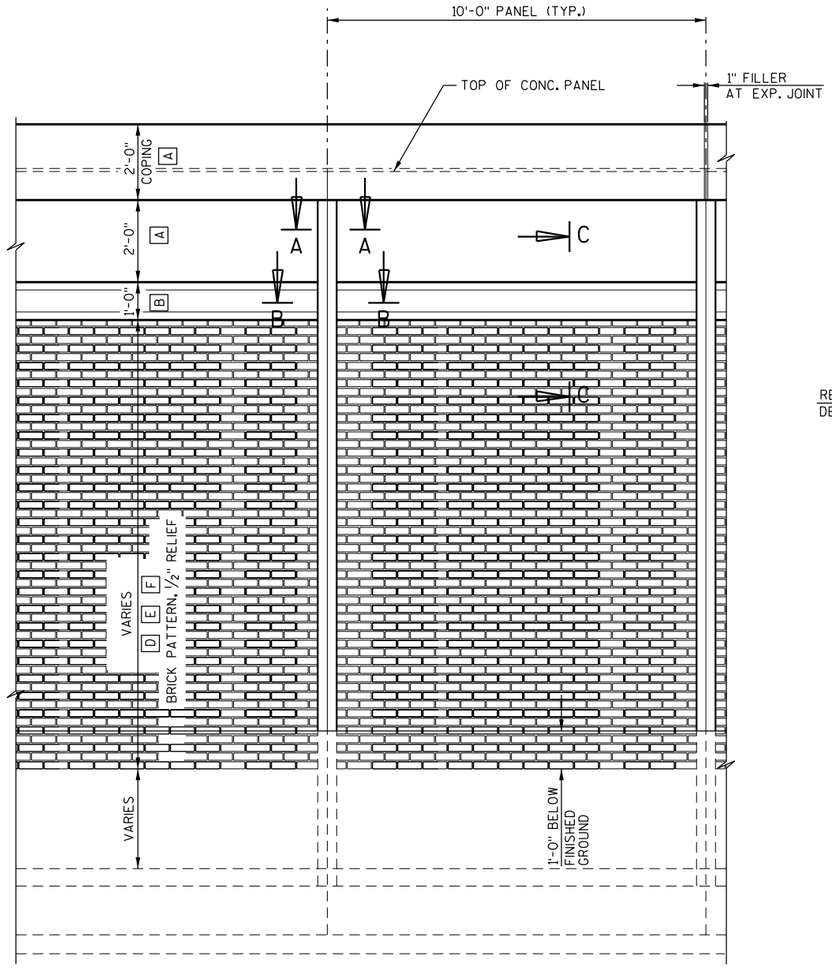
CONCRETE STAINING SCHEDULE

MARK	COLOR	FEDERAL COLOR	LOCATION
A	BASE COLOR	33522	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	33303	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
C	ACCENT COLOR #2	10076	VERTICAL PILASTER CENTER ELEMENT
D	ACCENT COLOR #3	12160	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	10091	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	10219	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	37038	LETTERING AT ROADWAY NAME

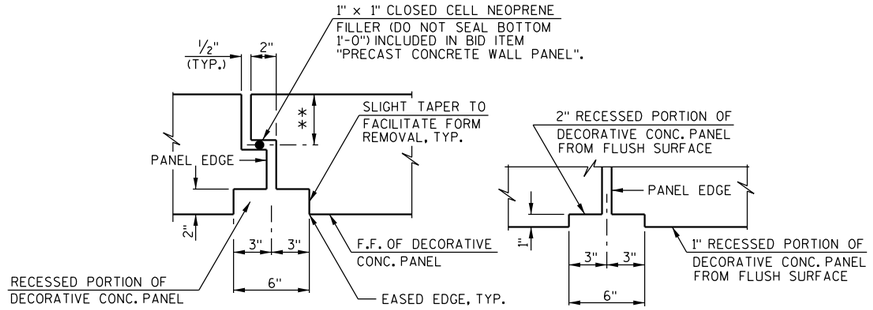
NOTE: 1. ALL COLOR DESIGNATIONS ARE FEDERAL STANDARD COLORS.
2. FINISH ON COLORS IS FLAT (LUSTERLESS)



SECTION THRU WALL AT BRIDGE



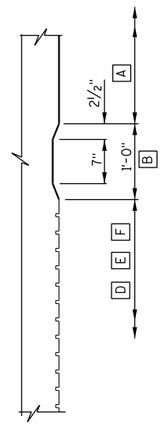
TYPICAL ELEVATION AT WALL PANEL



SECTION A-A

** 4" FOR 9 1/2" PANEL
3" FOR 7 1/2" PANEL

SECTION B-B



SECTION C-C

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-207

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AESTHETIC DETAILS

SHEET 15 OF 15
2374

8

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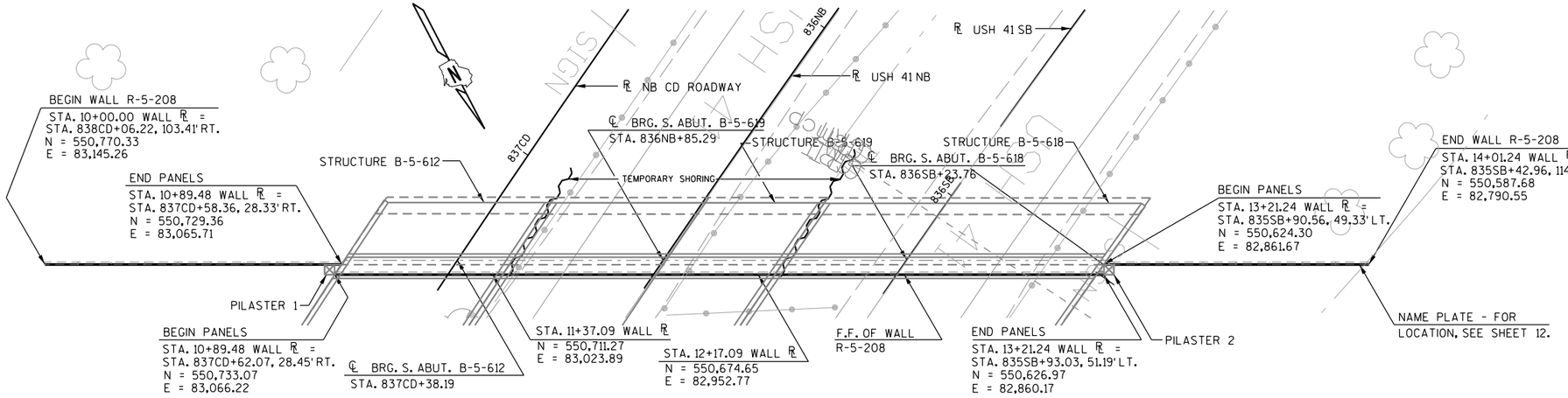
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-207\15_aesthetics_r-5-207.dgn
PLOT DATE : 10/29/2012

STATE PROJECT NUMBER
1133-09-71



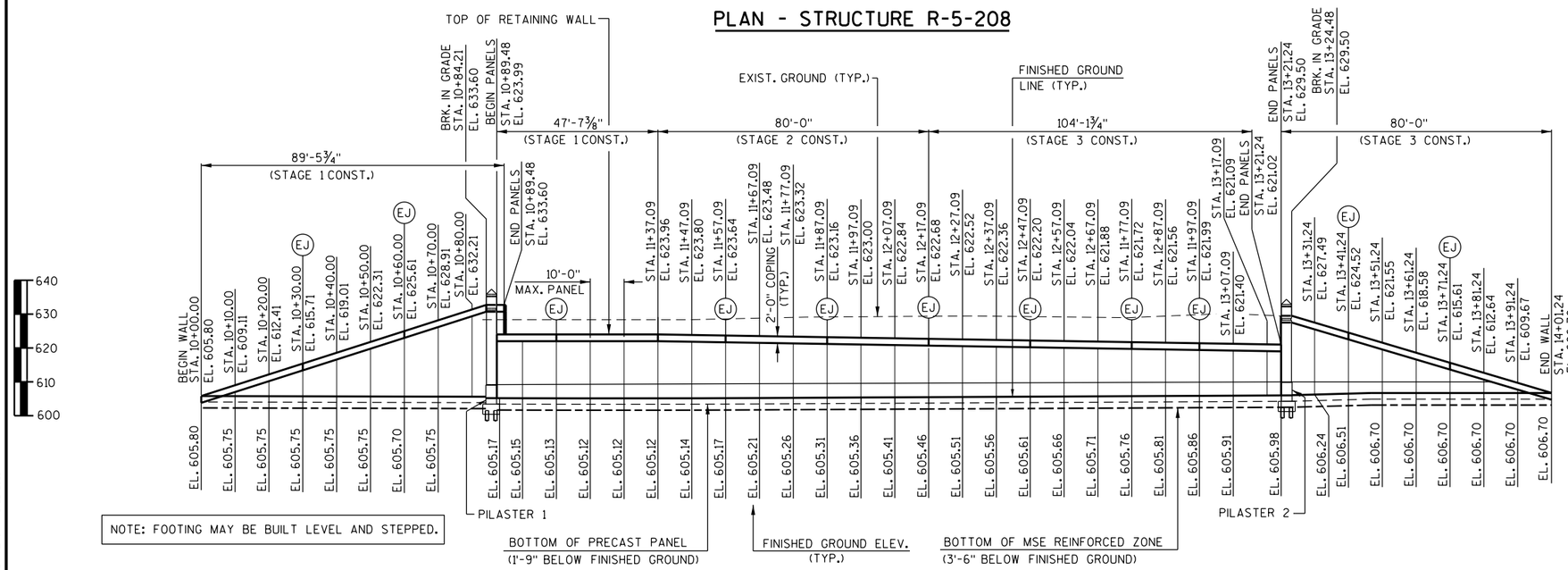
CURVE DATA
NB CD ROADWAY

PI STA. 834CD+24.41
N = 550352.74
E = 83116.13
PC STA. 823CD+88.46
PT STA. 844CD+13.63
DELTA= 29°44'28" (LT)
T = 1035.95
R = 3901.47
L = 2025.17
D = 1°28'07"

CURVE DATA
USH 41 SB

PI STA. 833SB+93.92
N = 550375.48
E = 83002.50
PC STA. 823SB+87.71
PT STA. 843SB+54.75
DELTA= 29°44'28" (LT)
T = 1006.21
R = 3789.47
L = 1967.03
D = 1°30'43"

PLAN - STRUCTURE R-5-208



NOTE: FOOTING MAY BE BUILT LEVEL AND STEPPED.

LEGEND

(EJ) EXPANSION JOINT LOCATION IN COPING.

LIST OF DRAWINGS

1. GENERAL PLAN
2. NOTES & QUANTITIES
3. SOIL DATA
4. SUBSURFACE EXPLORATION
5. WALL DETAILS
6. WALL DETAILS
7. PILASTER DETAILS
8. PILASTER DETAILS
9. PILASTER DETAILS
10. BILL OF BARS
11. DECORATIVE FENCE DETAILS
12. DECORATIVE FENCE DETAILS
13. DECORATIVE FENCE DETAILS
14. DECORATIVE FENCE DETAILS
15. AESTHETICS
16. AESTHETICS

DESIGN DATA

LIVE LOAD SURCHARGE (ROADWAY) = 240 P.S.F.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY - BARRIER & COPING —— f'_c = 4,000 P.S.I.
PRECAST CONCRETE WALL PANEL —— f'_c = 5,000 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 —— f_y = 60,000 P.S.I.
STRUCTURAL STEEL CARBON (ASTM A709 GRADE 36) —— f_y = 36,000 P.S.I.

FOUNDATION DATA:

ALLOWABLE SOIL BEARING CAPACITY - SEE TABLE ON SHEET 3.

BENCH MARK TABLE

NO.	STATION	OFFSET	DESCRIPTION	ELEVATION
BM822	1106'FSW'+12.83	1118.02' LT.	CHISELED SQUARE ON SW CORNER CONCRETE RETAINING WALL, SW	613.57

ELEVATION - STRUCTURE R-5-208

(LOOKING AT F.F. OF WALL)

ROMENESKO ENGINEERING, INC.
CONTACT: TOM ROMENESKO, P.E.
7325 CEDAR CREST DRIVE
SAUK CITY, WI 53583
(608) 644-1502

BRIDGE OFFICE CONTACT:
WILLIAM DREHER, P.E.
(608) 266-8489

NO.	DATE	REVISION	BY

Original Plans Prepared By
ROMENESKO ENGINEERING, INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SAR 03/25/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-5-208

RETAINING WALL AT S. ABUT'S. OF B-5-612/618/619

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STD. SPEC.

DESIGNED BY	TR	DESIGN CK'D.	VR	DRAWN BY	TAW	PLANS CK'D.	TR

GENERAL PLAN

SHEET 1 OF 16
2375

I.D. 1133-09-00 DATE : 3/22/2013

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-208\01_genplan.v8.r-5-208.dgn
PLOT DATE : 3/22/2013

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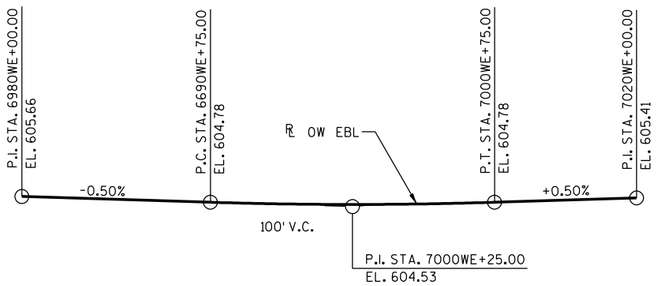
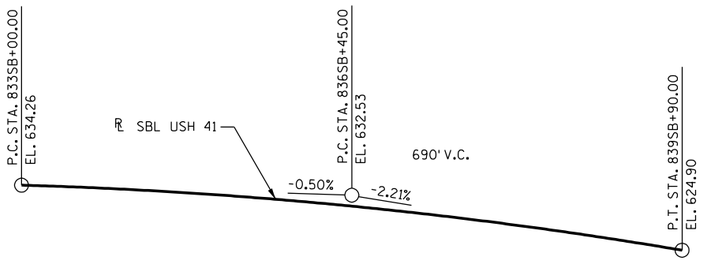
STATE PROJECT NUMBER
1133-09-71

TOTAL ESTIMATED QUANTITIES

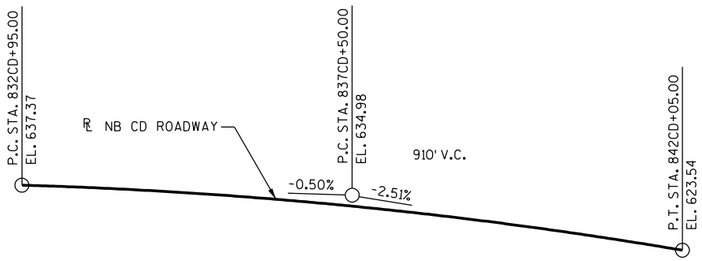
BID ITEM NO.	BID ITEMS	UNIT	TOTAL
206.6010.S	TEMPORARY SHORING	SF	8,230
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	33
505.0415	BAR STEEL REINFORCEMENT HS RETAINING WALLS	LB	310
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	1,720
532.0700.S	WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	6,180
550.1120	PILING STYEEL HP 12-INCH x 53 LB	LF	520
612.0406	PIPE UNDERDRAIN 6-INCH WRAPPED	LF	420
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	3,500
SPV.0165.501	STAINING CONCRETE	SF	4,220
SPV.0165.502	STAINING CONCRETE BRICK	SF	3,500
SPV.0165.503	ARCHITECTURAL SURFACE TREATMENT SPECIAL	SF	354
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	6,180
SPV. 0090.502	FENCE DECORATIVE WALL	LF	180
	NON - BID ITEMS		
	PREFORMED FILLER	SIZE	1"
	CORK FILLER	SIZE	1½"
	EXPANDED POLYSTYRENE	SIZE	1"



PROFILE GRADE LINE, EBL ONEIDA ST./WAUBE LANE



PROFILE GRADE LINE, SBL USH 41



PROFILE GRADE LINE, NB CD ROADWAY

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾", UNLESS NOTED OTHERWISE.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

COORDINATE THE CONSTRUCTION OF WALL R-5-208 WITH SOUTH ABUTMENT CONSTRUCTION FOR BRIDGES B-5-612, B-5-618 & B-5-619.

THE COST OF FURNISHING AND PLACING THE FOOTING UNDER THE MSE PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE PILASTER IS PAID FOR UNDER THE ITEM "CONCRETE MASONRY RETAINING WALLS".

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON SHEET 1.

ALL STATIONS ARE ALONG THE ℄ FOR R-5-208 ALONG THE FRONT FACE OF WALL UNLESS SHOWN OTHERWISE.

DO NOT PERMIT CONCRETE OR FILL TO DROP OR ACCUMULATE INTO THE WALL PANEL CAVITY.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M153, TYPES I, II OR III OR M213.

OPTIONAL TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE FOOTING WITH A MINIMUM SPACING OF TWO PANEL LENGTHS. FOOTING JOINTS SHOULD BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THRU FOOTING JOINTS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

DESIGN THE RETAINING WALL FOR FINISHED GRADE BEHIND THE WALL.

SEE SPECIAL PROVISIONS FOR AESTHETIC TREATMENTS TO THE WALL.

DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

THE TEMPORARY SHORING QUANTITY IS BASED UPON PROVIDING TWO INSTALLATIONS AT EACH LOCATION SHOWN. TEMPORARY SHORING CAN CONSIST OF ANY SYSTEM ALLOWED IN THE SPECIFICATIONS AND APPROVED BY THE ENGINEER.

DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

AT THE ENDS OF WALL SEAL CAVITY BETWEEN WIRE FACE WALL AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE 1'-6" WIDE.

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-208\02_notes_quant_v8_r-5-208.dgn
PLOT DATE : 3/22/2013

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-208

DRAWN BY TAW | PLANS CK'D. TR

NOTES & QUANTITIES

SHEET 2 OF 16
2376

SOIL PARAMETERS

SOIL DESCRIPTION	FRICTION ANGLE (DEGREES)	COHESION (psf)	UNIT WEIGHT (pcf)
GRANULAR BACKFILL WITHIN THE WALL IN THE REINFORCING ZONE	30	0	120
FILL BEHIND AND BELOW THE REINFORCING ZONE	31	0	120
B-4, 837+40			
CLAY, SOME SILT (ELEVATION 602.2 FT - 589.9 FT)	0	1,000	110
CLAY, TRACE SILT (ELEVATION 589.9 FT - 569.9 FT)	0	350	110
CLAY, TRACE SILT, TRACE GRAVEL (ELEVATION 569.9 FT - 542.9 FT)	0	1,000	110
LIMESTONE BEDROCK (ELEVATION 542.9 FT AND BELOW)	0	96,000	140
B-3, 836+25			
SILT, BROWN, SOME CLAY (ELEVATION 602.0 FT - 589.8 FT)	0	2,000	120
SILT, BROWN (ELEVATION 589.8 FT - 574.8 FT)	0	350	110
SILT, TRACE SAND, TRACE GRAVEL (ELEVATION 574.8 FT - 544.8 FT)	0	1,000	110
SILT, LITTLE SILT, TRACE GRAVEL (ELEVATION 544.8 FT - 537.8 FT)	0	2,500	125
LIMESTONE BEDROCK (ELEVATION 537.8 FT AND BELOW)	0	96,000	140
B-559, 835+50			
SILT, BROWN, SOME CLAY (ELEVATION 602.3 FT - 595.8 FT)	0	2,000	120
SILT, BROWN (ELEVATION 595.8 FT - 574.8 FT)	0	350	110
SILT, TRACE SAND, TRACE GRAVEL (ELEVATION 574.8 FT - 546.8 FT)	0	1,000	110
SILT, TRACE CLAY, TRACE SAND, LITTLE GRAVEL, W/ BOULDERS (ELEVATION 546.8 FT - 539.8 FT)	0	3,500	130
SILT, LITTLE SILT, TRACE GRAVEL (ELEVATION 539.8 FT - 534.8 FT)	0	2,500	125
LIMESTONE BEDROCK (ELEVATION 534.8 FT AND BELOW)	0	96,000	140

THE TYPICAL WALL SECTION USED IN THE ANALYSES HAD AN EXPOSED HEIGHT THAT VARIES FROM 8.8 FEET TO 20.4 FEET. THE FOLLOWING ASSUMPTIONS ARE ALSO INCLUDED IN THE ANALYSES:

1. THE SLOPE IN FRONT AND BEHIND THE WALL IS HORIZONTAL.
2. THE GROUNDWATER RANGED FROM ELEVATION 595 FEET TO ELEVATION 596 FEET.
3. THE GRANULAR BACKFILL IS FREE DRAINING AND WILL NOT BECOME SATURATED.
4. THE MINIMUM EMBEDMENT DEPTH IS 3.5 FEET.
5. A SURCHARGE LOAD OF 240 PSF IS INCLUDED TO MODEL PEDESTRIAN AND LIGHTWEIGHT CONSTRUCTION EQUIPMENT.
6. AN ADDITIONAL SURCHARGE LOAD EQUIVALENT TO THE WEIGHT OF THE SOIL BEHIND THE ABUTMENT IS ALSO INCLUDED IN THE DESIGN.
7. GLOBAL STABILITY FACTOR OF SAFETY WAS DETERMINED BY THE COMPUTER PROGRAM XSTABL
8. BEARING CAPACITY IS DETERMINED BY TERZAGHI'S BEARING CAPACITY EQUATION.
9. SETTLEMENT OF THE FOUNDATION ON COHESIONLESS SOIL AND COHESIVE SOIL IS BASED UPON METHODS DESCRIBED IN THE FHWA SOILS AND FOUNDATIONS MANUAL.

SAFETY FACTORS & REQUIRED WALL MODIFICATIONS

DIMENSIONS					
WALL HEIGHT (FEET)[1]	19.5	29.1	20.0	25.0	12.5
EXPOSED WALL HEIGHT (FEET)	16.0	25.6	16.5	21.5	9.0
LENGTH OF REINFORCEMENT (FEET)[3]	13.6	20.4	18.62	17.5	8.8
LENGTH OF REINF./WALL HEIGHT	0.70	0.70	0.93	0.70	0.70
WALL STATION	10+50.0	10+80.0	12+17.1	13+31.2	13+71.2
BORING	B-4	B-4	B-3	B-3	B-559
FACTOR OF SAFETY[4]					
SLIDING ($FS_{req} > 1.5$)	2.2	2.3	1.5	2.2	2.0
OVERTURNING ($FS_{req} > 2.0$)	3.7	4.0	2.9	3.9	3.4
GLOBAL STABILITY ($FS_{req} > 1.3$)	NA[5]	NA[5]	1.6[6]	NA[5]	NA[5]
BEARING CAPACITY ($FS_{req} > 2.5$)	3.7[6]	3.2[6]	3.1[6]	3.4[6]	4.6[6]
ALLOWABLE BEARING CAPACITY (PSF)	4,800[6]	6,000[6]	6,000[6]	5,600[6]	4,000[6]

NOTE:

1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 3.5 FEET.
2. THE WALL STABILITY EVALUATION INCLUDED A SURCHARGE LOAD THAT WAS EQUAL TO THE WEIGHT OF THE SOIL BEHIND THE ABUTMENT.
3. THE LENGTH OF REINFORCEMENT IS THE MINIMUM REQUIRED LENGTH AT THAT LOCATION.
4. FSREQ ARE PRESENTED IN CHAPTER 14 OF THE BRIDGE MANUAL.
5. NA NOT APPLICABLE, GLOBAL SLOPE STABILITY WAS EVALUATED AT THE CRITICAL WALL LOCATION.
6. REQUIRES STAGED CONSTRUCTION AND WICK DRAINS.

THE RESULTS OF THE EVALUATION INDICATED THAT IF THE SLIDING AND BEARING CAPACITY REQUIREMENTS ARE MET, THEN THE ECCENTRICITY AND OVERTURNING REQUIREMENTS ARE ALSO MET.

THE SHORT-TERM GLOBAL STABILITY OF THE WALL AT THE CRITICAL LOCATION WAS UNSTABLE WITH A FACTOR OF SAFETY OF 1.1. THE REQUIRED FACTOR OF SAFETY IS 1.3. THE FOLLOWING OPTION SHOULD BE USED TO RESOLVE THE GLOBAL STABILITY ISSUE:

STAGED CONSTRUCTION AND WICK DRAINS: BUILD THE RETAINING WALL AND EMBANKMENT IN STAGES, WHICH ALLOWS THE SOFT SOILS TO CONSOLIDATE AND INCREASE IN SHEAR STRENGTH. THE INCREASE IN SHEAR STRENGTH OF THE SOFT SOILS WILL SUPPORT THE RETAINING WALL. THE WICK DRAINS PROVIDE A SHORTER DRAINAGE PATH, WHICH ALLOWS FOR SHORTER TIME DURATION (APPROXIMATELY TWO MONTHS) FOR PORE WATER PRESSURE DISSIPATION. THE LATERAL EXTENT OF THE WICK DRAINS SHOULD BE APPROXIMATELY THE TOE OF SLOPE OF THE FILL OR THE DISTANCE EQUAL TO THE HEIGHT OF THE WALL AWAY FROM THE WALL WHICHEVER IS GREATEST. THE HEIGHT OF THE FIRST LIFT OF EMBANKMENT AND/OR WALL HEIGHT AND SUBSEQUENT LIFTS SHOULD BE APPROXIMATELY 15 FEET ABOVE ORIGINAL GROUND. THE RESULTING MINIMUM FACTOR OF SAFETY WOULD BE 1.9.

THE SETTLEMENT OF THE FOUNDATION AND EMBANKMENT WAS ESTIMATED TO BE LESS THAN 5-INCHES AND SHOULD OCCUR WITHIN SEVEN YEARS OF LOADING OF THE WALL. THE SETTLEMENT SHOULD LESS THAN 5-INCHES AND SHOULD OCCUR OVER A SERIES OF TWO MONTHS TIME INTERVALS. THE SUBSURFACE SOILS ARE RELATIVELY UNIFORM; THEREFORE, DIFFERENTIAL SETTLEMENT SHOULD NOT BE AN ISSUE.

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\Structures\R-5-208\03.soil.data.v8.r-5-208.dgn
PLOT DATE : 9/13/2012

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

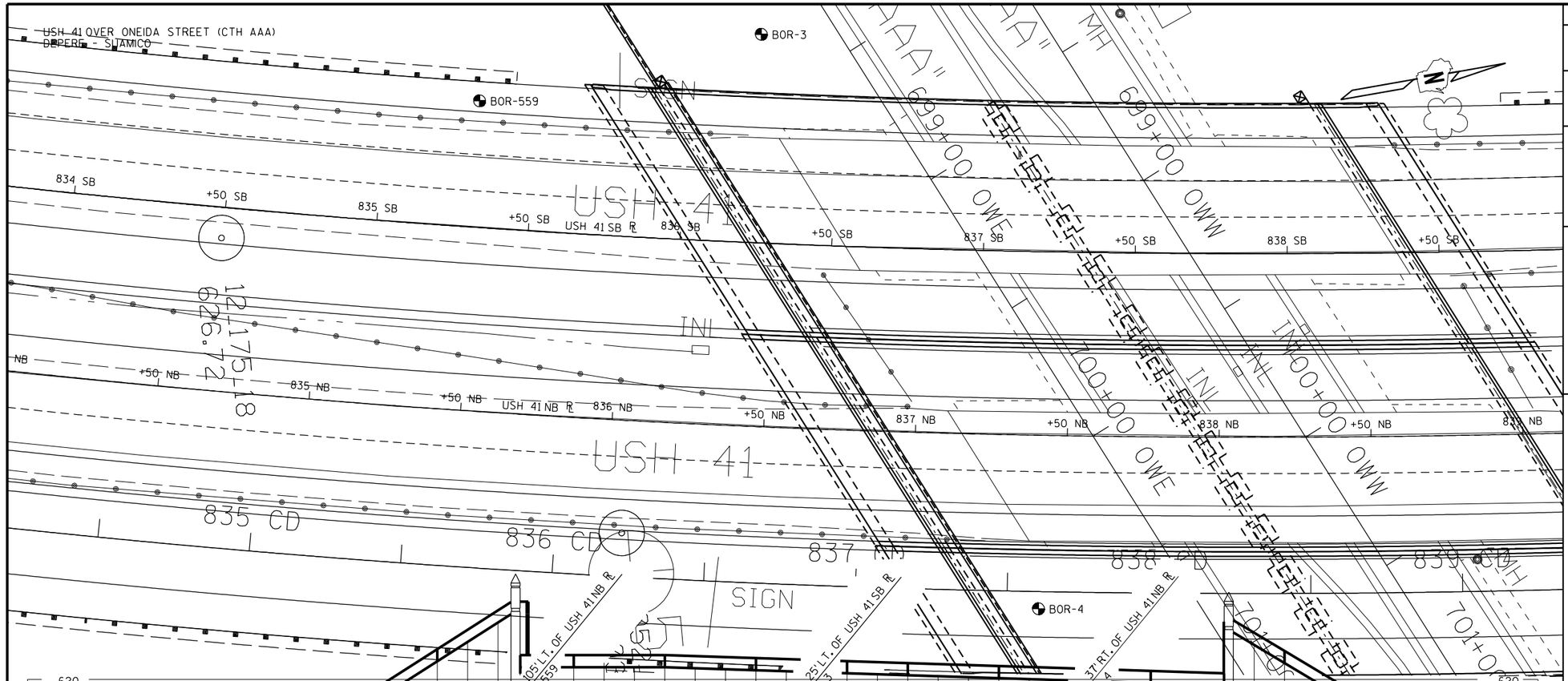
STRUCTURE R-5-208

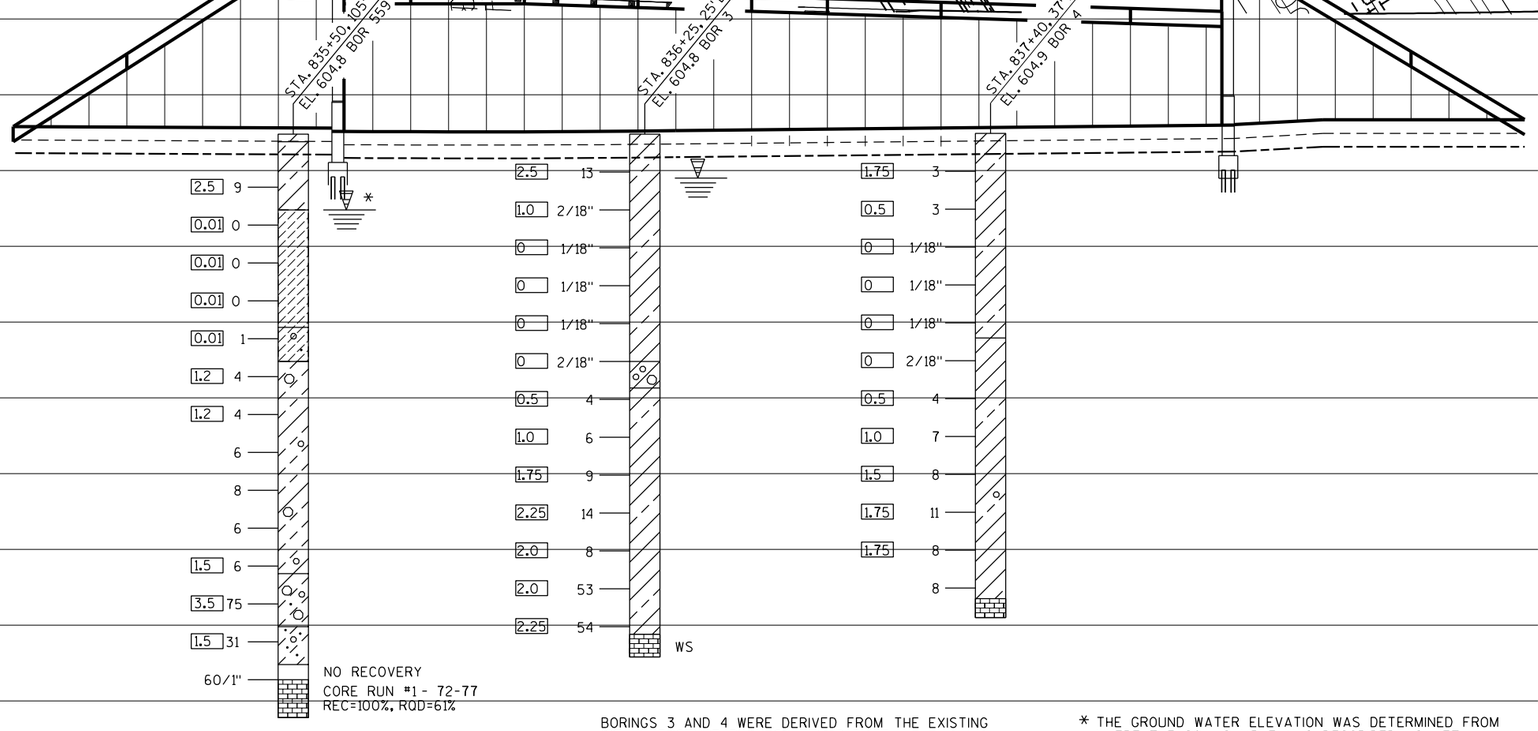
DRAWN BY TAW | PLANS CK'D. TR

SOIL DATA

SHEET 3 OF 16
2377

USH 41 OVER ONEIDA STREET (CTH AAA)
DEPERE - SUAMICO





BORINGS 3 AND 4 WERE DERIVED FROM THE EXISTING 1974 STRUCTURE PLAN SHEETS, B-5-135.

* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

STATE PROJECT NUMBER

1133-09-71

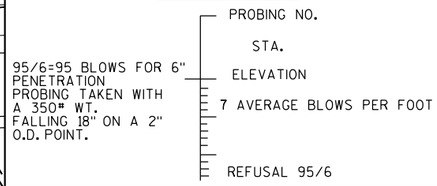
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

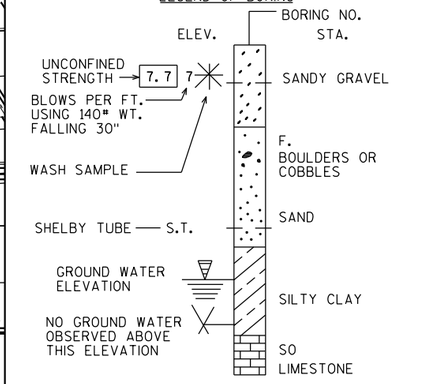
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-208

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SUBSURFACE EXPLORATION

SHEET 4 OF 16
2378

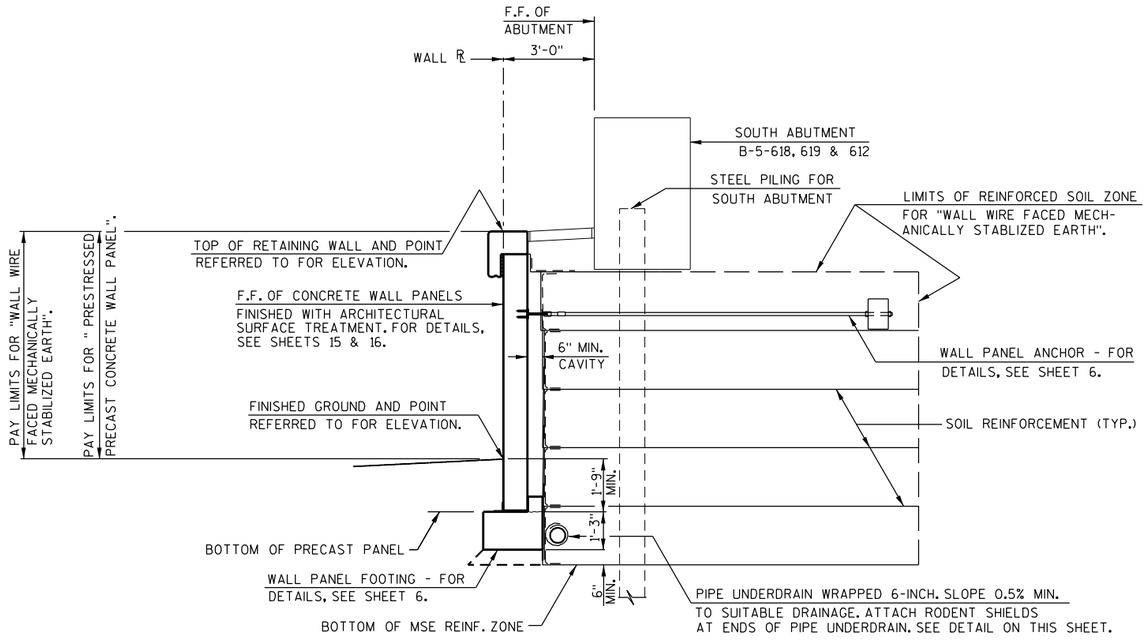
SCALE =

8

8

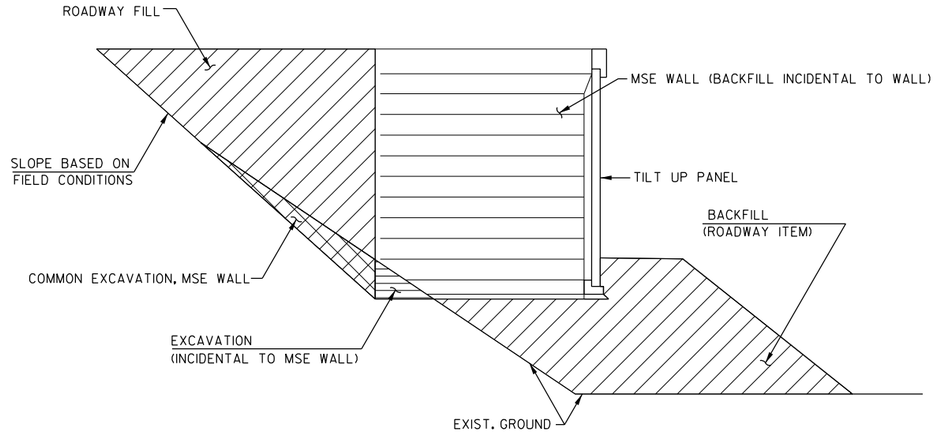
STATE PROJECT NUMBER

1133-09-71

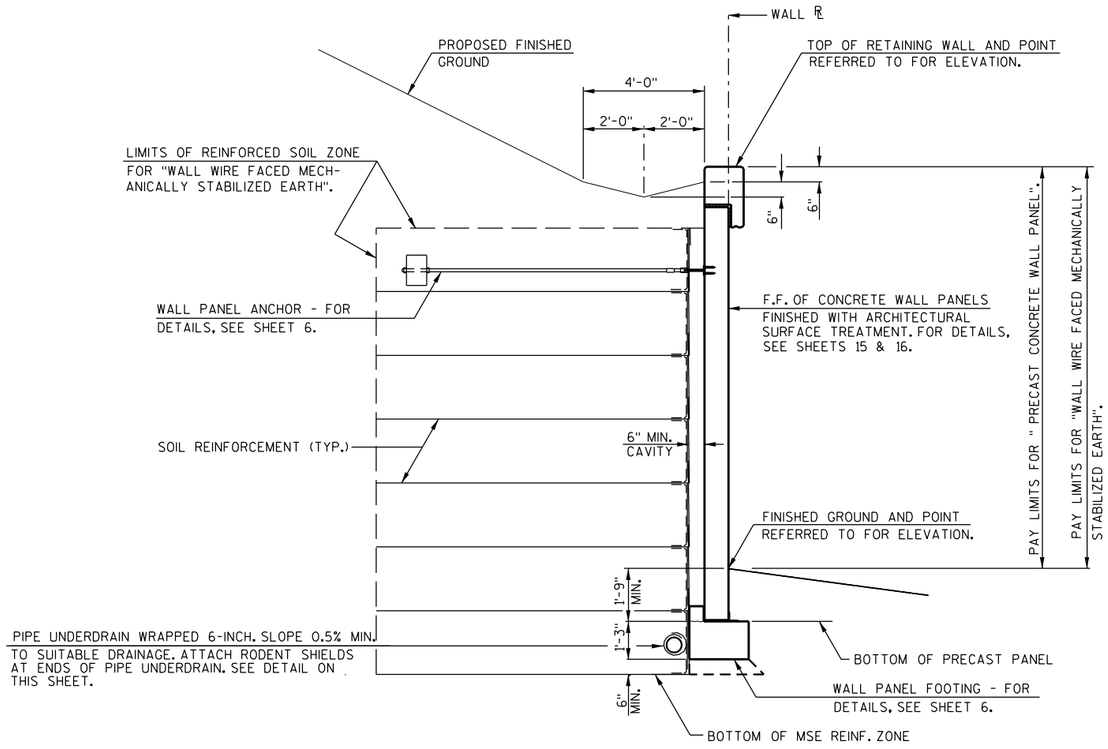


SECTION THRU RETAINING WALL AT SOUTH ABUTMENT

(LOOKING EAST)

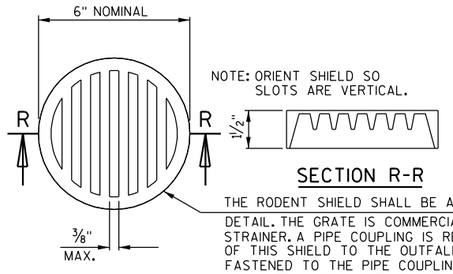


EXCAVATION/BACKFILL DETAIL



SECTION THRU RETAINING WALL

STA. 10+00.00 TO STA. 14+01.24



SECTION R-R

RODENT SHIELD

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-208

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WALL DETAILS

SHEET 5 OF 16

2379

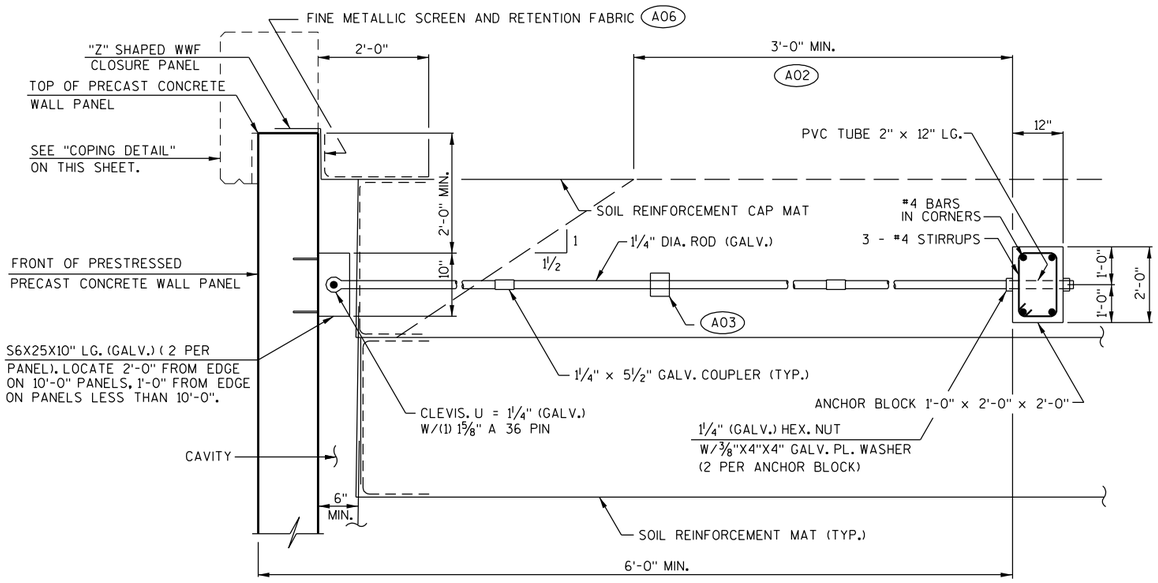
8

8

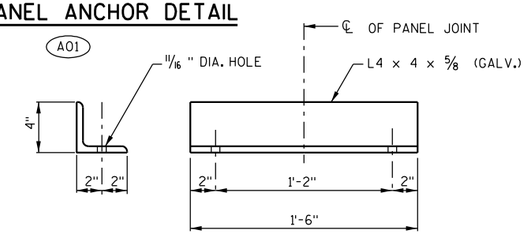
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-208\05_wall details_A_v8_r-5-208.dgn
PLOT DATE : 11/1/2012

STATE PROJECT NUMBER

1133-09-71



WALL PANEL ANCHOR DETAIL



BASE ANGLE DETAIL

(ONE AT EACH PANEL JOINT) ◩

LEGEND

(A01) WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1¼" DIA. ANCHOR ROD, CLEVIS, AND OTHER PANEL CONNECTION COMPONENTS. DESIGN, DETAILING, AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL." INSTALLATION OF THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH."

(A02) DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION. ROD MIN. 2'-0" BELOW FINISH GRADE.

(A03) OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼" DIA. BAR)

(A04) BASE AGGREGATE OPEN GRADED, 6" MIN. INCIDENTAL TO BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

(A05) MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE PRECAST PANELS.

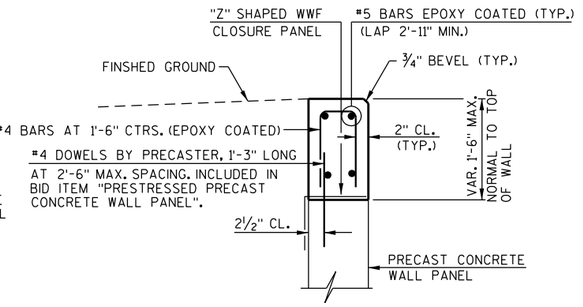
(A06) ALTERNATE METHODS OF SEALING OFF THE 6" VOID IN FRONT OF THE MSE WALL MAY BE SUBMITTED TO WISDOT FOR CONSIDERATION.

◩ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

NOTES

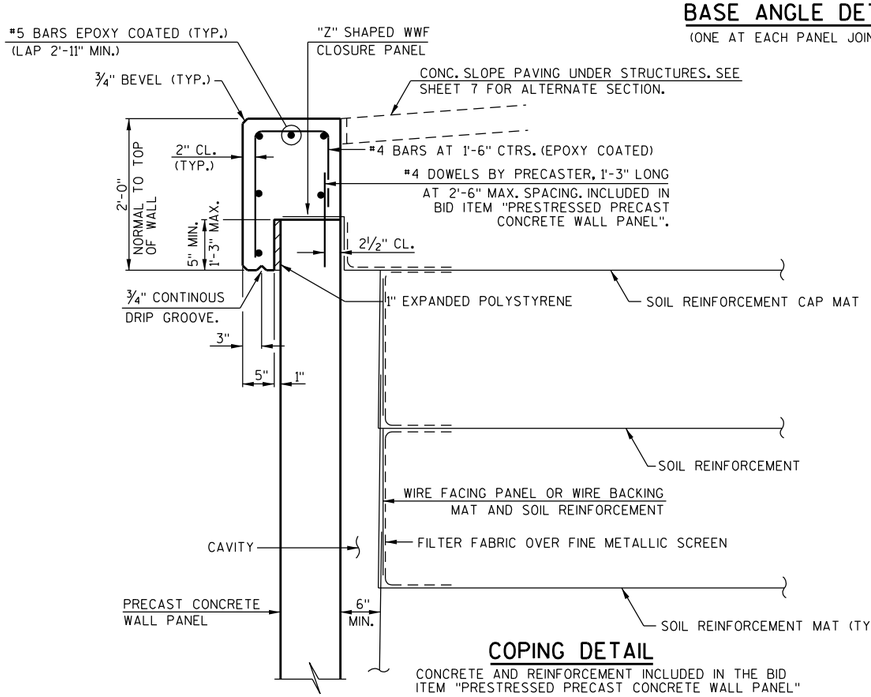
AN ALTERNATE WALL PANEL ANCHOR AND PANEL CONSTRUCTION SYSTEM MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER.

TILT UP PANEL ANCHOR SYSTEM MAY BE TRENCHED IN IF THE GEOMETRY OF THE ANCHOR SYSTEM LOCATION ALLOWS.



COPING DETAIL NEAR PILASTERS

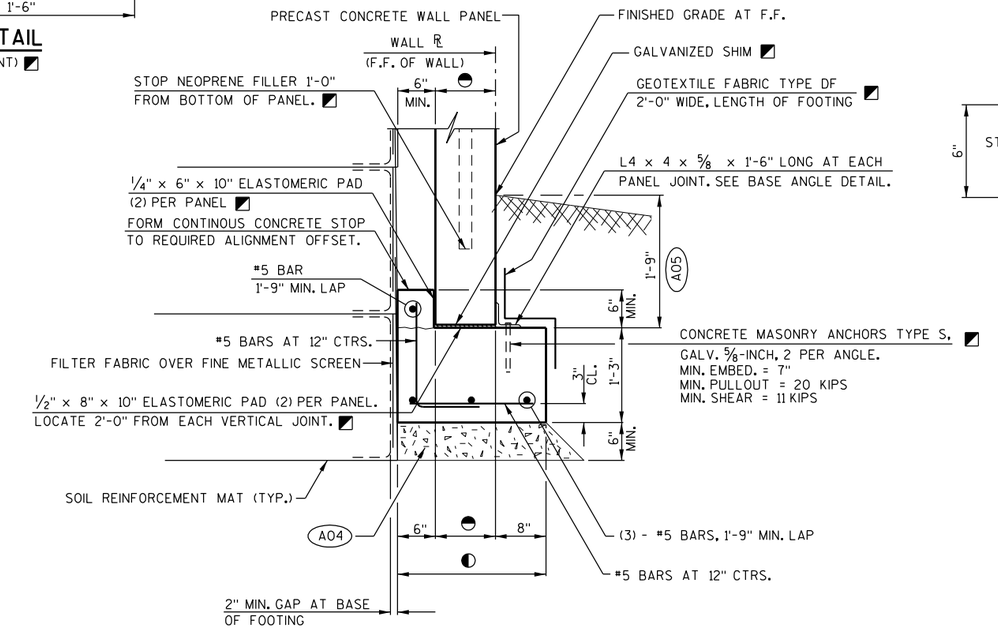
WALL STA. 10+84.21 TO STA. 10+89.48 AND STA. 13+21.24 TO STA. 13+24.48.



COPING DETAIL

CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

WALL STA. 10+00.00 TO STA. 10+84.21, 10+89.48 TO STA. 13+21.24 AND STA. 13+24.48 TO STA. 14+01.24.

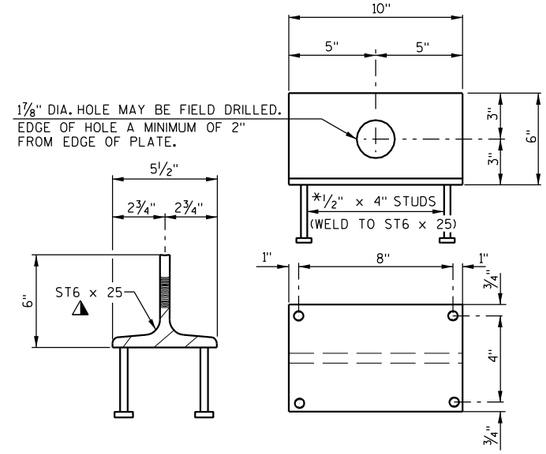


WALL PANEL FOOTING DETAIL

CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

◓ = 7½" OR 9½"

◐ FOOTING DIMENSION EQUALS PANEL THICKNESS PLUS 1'-2"



PANEL CONNECTION DETAILS

ST6 x 25 MAY BE WELDED TO ¾" THICK PLATE WITH (4) ½" X 4" STUDS ANCHORED IN PRECAST PANEL. RESTORE ZINC COATING AROUND ANY WELDED AREAS. SUBMIT DETAILS FOR APPROVAL BY ENGINEER.

◭ S12x50 (GALV.) CUT IN ½ TO FORM "T" SECTION. BF = 5.477" TW = 0.687".

* AS AN ALTERNATE, 1/2" TYPE S ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-208

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WALL DETAILS

SHEET 6 OF 16
2380

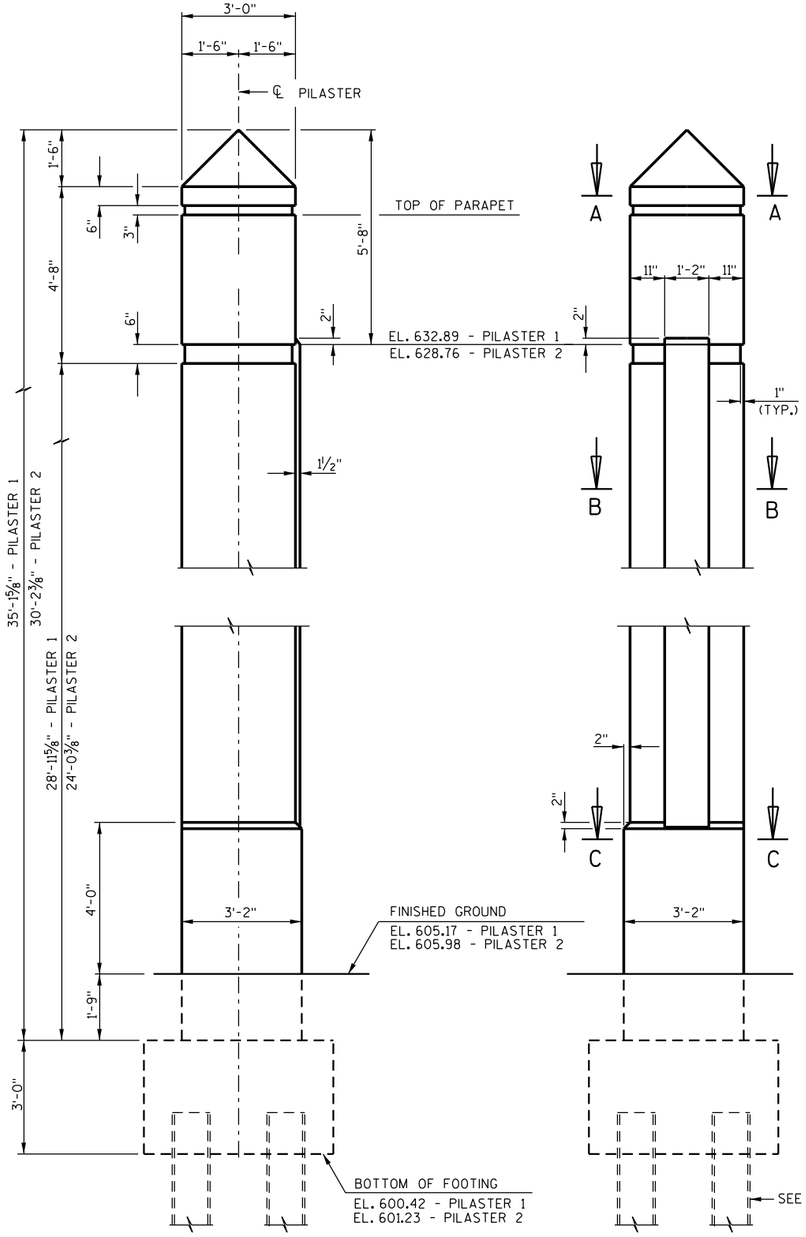
8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-208\06_wall_details_B_v8_r-5-208.dgn
PLOT DATE : 3/22/2013

STATE PROJECT NUMBER

1133-09-71

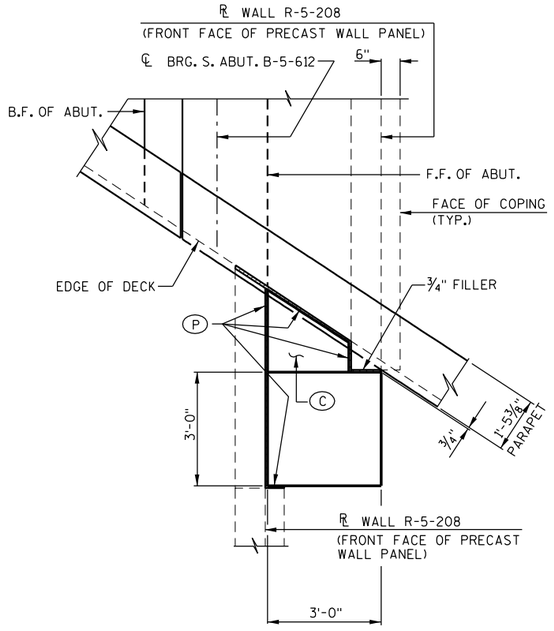


PILASTER ELEVATION

(LOOKING WEST AT PILASTER 1, PILASTER 2 SIMILAR)

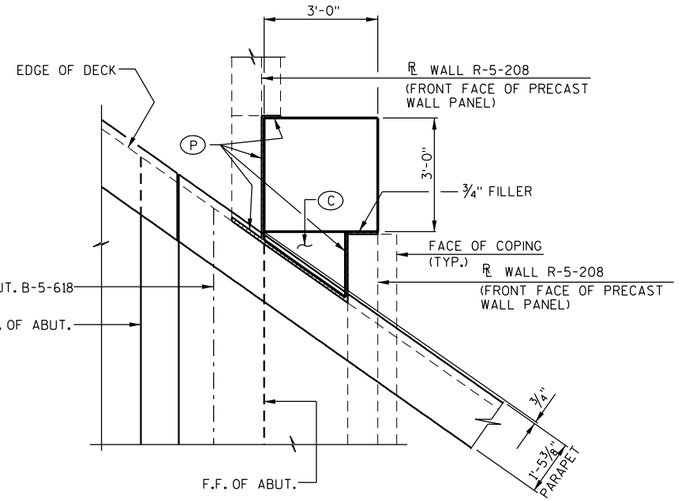
PILASTER ELEVATION

(LOOKING SOUTH AT PILASTER 1, PILASTER 2 SIMILAR)



SECTION A-A

(PILASTER 1)



SECTION A-A

(PILASTER 2)

NOTES: FOR PILASTER REINFORCEMENT DETAILS, SEE SHEET 9.

FOR SECTION B-B & SECTION C-C, SEE SHEET 8.

LEGEND

(C) CONCRETE FILL. EXTEND CONCRETE FILL FROM FINISHED GROUND TO TOP OF BRIDGE DECK.

(P) ¾" POLYSTYRENE

(S) NON-STAINING NON-BITUMINOUS GRAY JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOWN SURFACE OF CONCRETE)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-208

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PILASTER DETAILS

SHEET 7 OF 16

2381

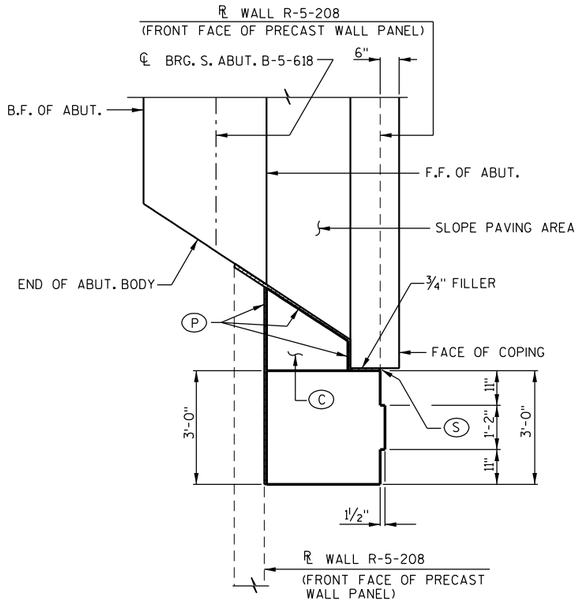
8

8

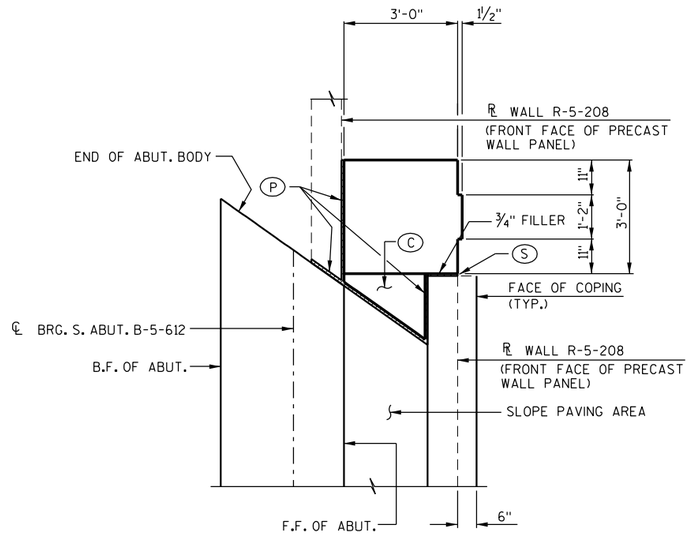
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\Structures\R-5-208\07_pilaster_A_v8_r-5-208.dgn
PLOT DATE : 11/1/2012

STATE PROJECT NUMBER

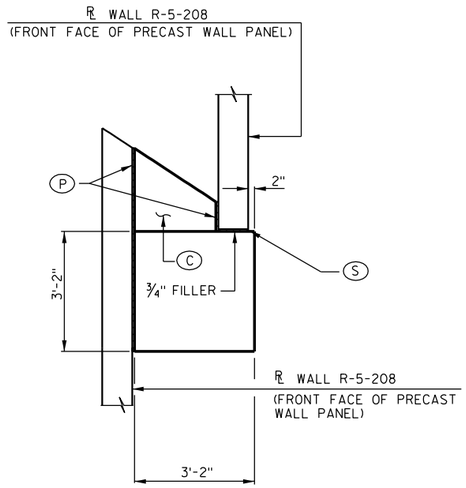
1133-09-71



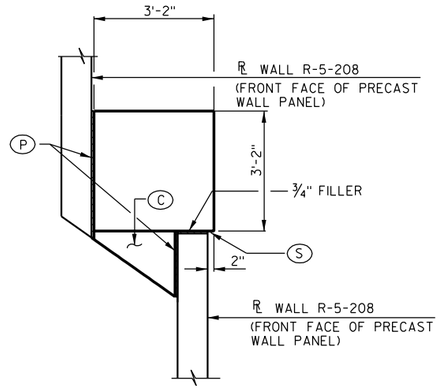
SECTION B-B
(PILASTER 1)



SECTION B-B
(PILASTER 2)



SECTION C-C
(PILASTER 1)



SECTION C-C
(PILASTER 2)

LEGEND

Ⓒ Ⓟ Ⓢ FOR SYMBOL DESCRIPTIONS, SEE SHEET 7.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-208

DRAWN BY TAW | PLANS CK'D. TR

PILASTER DETAILS

SHEET 8 OF 16
2382

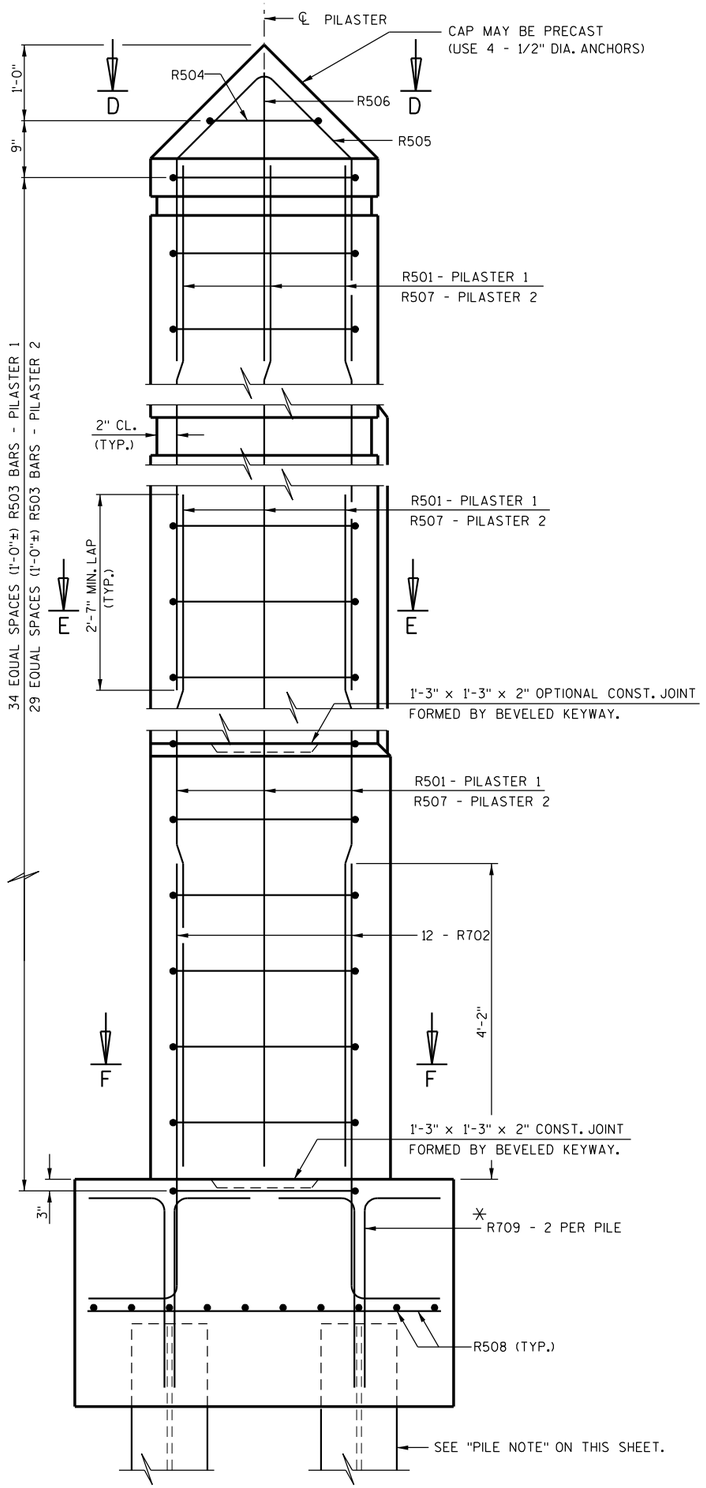
8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\Structures\R-5-208\08_pilaster_B_v8_r-5-208.dgn
PLOT DATE : 9/26/2012

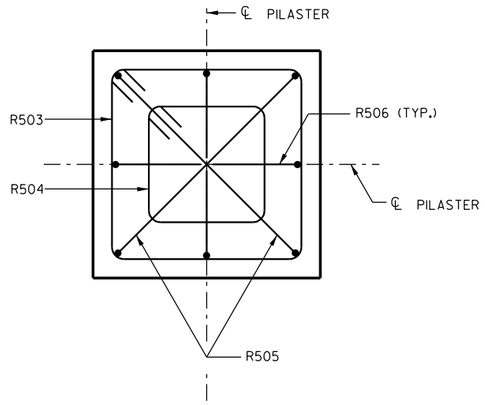
STATE PROJECT NUMBER

1133-09-71

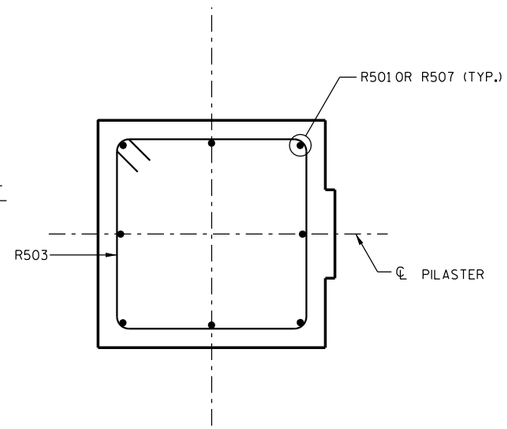


PILASTER ELEVATION

(SHOWING REINFORCEMENT. LOOKING WEST AT PILASTER 1, PILASTER 2 SIMILAR)



SECTION D-D



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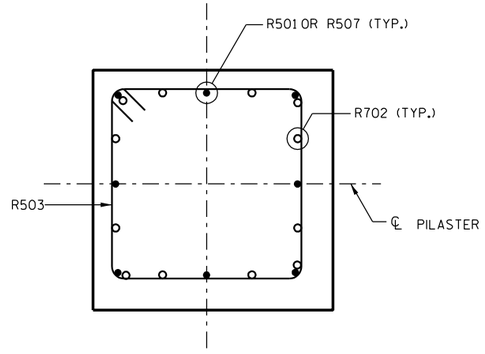

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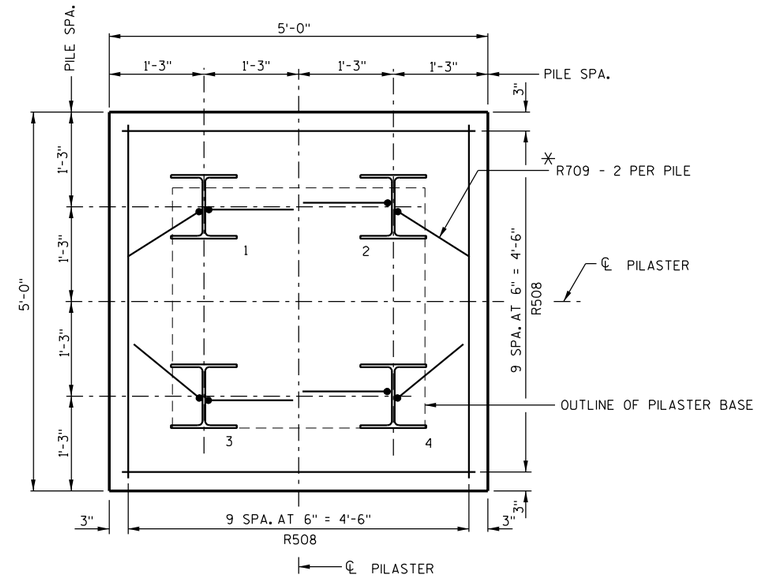
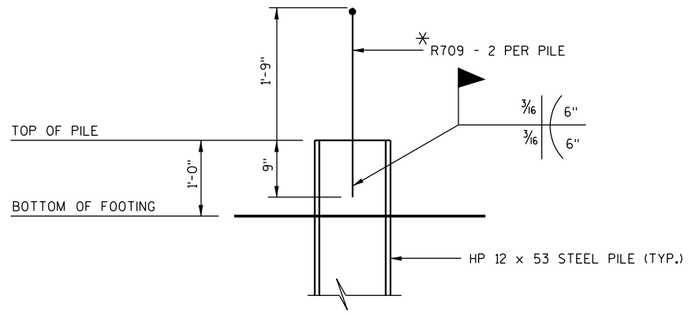


FOOTING PLAN



PILE HEAD DETAIL

LEGEND

✳ BAR STEEL REINFORCEMENT WELDED TO PILE SHALL CONFORM TO ASTM A706.

NOTES

BEVEL EXPOSED EDGES OF CONCRETE ½" UNLESS SHOWN OTHERWISE.

FOR BILL OF BARS, SEE SHEET 10.

FOR AESTHETIC DETAILS AT PILASTER, SEE SHEET 15.

PILE NOTE

PILASTER TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 37 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 65'-0" LONG.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-208

DRAWN BY TAW | PLANS CK'D. TR

PILASTER DETAILS

SHEET 9 OF 16

2383

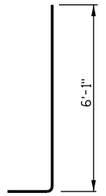
8

8

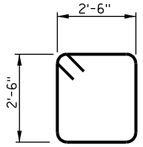
FILE NAME : P:\134 (DSH 41 Bridges (1133-09-00\Structures\R-5-208\09_pilaster_C_v8_r-5-208.dgn
PLOT DATE : 11/1/2012

STATE PROJECT NUMBER

1133-09-71



R702



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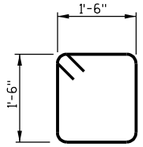

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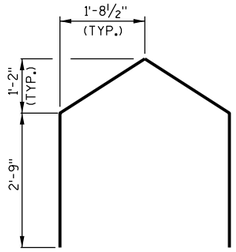

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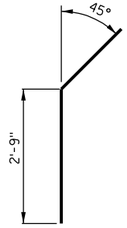

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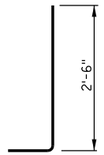

R709

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
EPOXY COATED BARS					TOTAL WEIGHT = 1,720 LBS.
R501	16	18-2			PILASTER 1 VERT.
R702	24	7-1	X		PILASTER & FOOTING VERT.
R503	65	10-7	X		PILASTERS LONGIT.
R504	2	6-7	X		PILASTERS - TOP LONGIT.
R505	4	9-5	X		PILASTERS - TOP VERT.
R506	8	4-5	X		PILASTERS - TOP VERT.
R507	16	15-8			PILASTER 2 VERT.
UNCOATED BARS					TOTAL WEIGHT = 310 LBS.
R508	40	4-8			PILASTER FOOTING HORIZ.
R709	16	3-6	X		FOOTING - BARS WELDED TO PILES VERT.

FILE NAME : P:\134 USH 41 Bridges 11133-09-00\structures\R-5-208\10.bill.bars.r-5-208.dgn
PLOT DATE : 11/1/2012

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-208

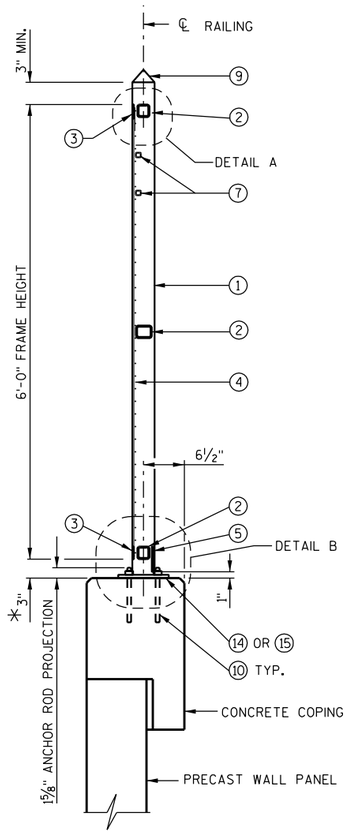
DRAWN BY TAW | PLANS CK'D. TR

BILL OF BARS

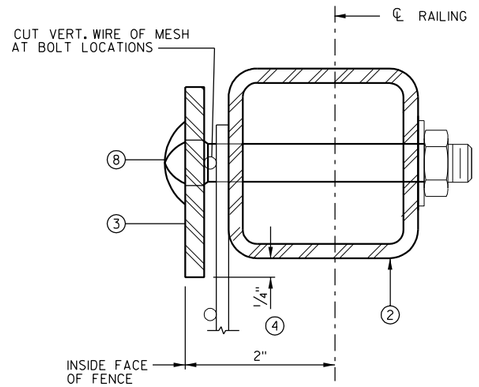
SHEET 10 OF 16
2384

STATE PROJECT NUMBER

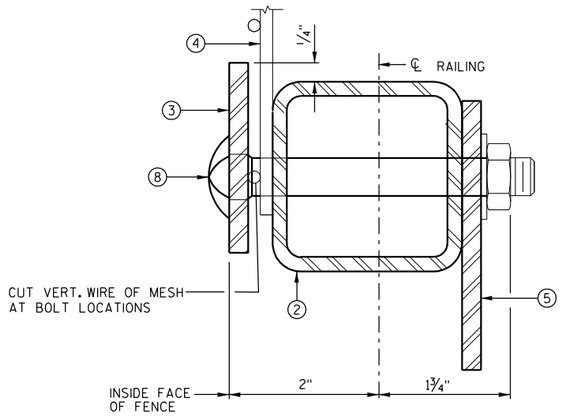
1133-09-71



TYPICAL SECTION THRU FENCE/COPING



DETAIL A



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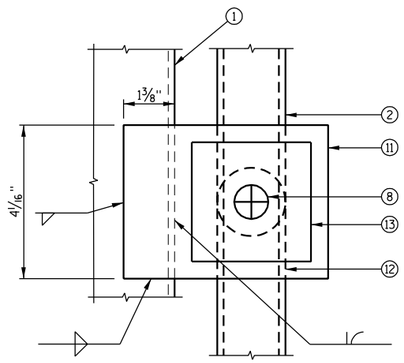
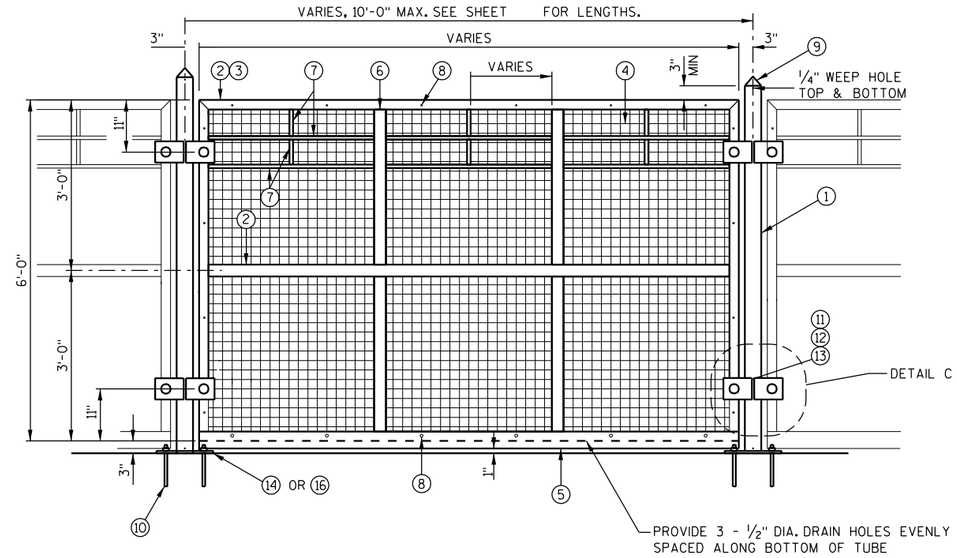


DETAIL C



TYPICAL OUTSIDE ELEVATION OF PANEL

LEGEND

1. HSS 3½ X 3½ X 3⁄16 POST WITH ¼" DIA. VENT HOLES TOP & BOTTOM ON OUTSIDE FACE. RESIZE AS NECESSARYFOR GALVANIZING PROCESS. WELD TO NO.9 & BASE PLATE, TYP.
2. HSS 2½X 2½ X 3⁄16. WELD TO NO. 6 & 7.
3. PL 2¾" X ¼" WELDED FRAME. WELD TO NO. 4. BOLT TO NO. 2 WITH NO. 8 AFTER PAINTING.
4. STEEL MESH 2" X 2" X 0.162 (8 GA.). PLACE VERTICAL WIRES ON INSIDE FACE OF PARAPET. WELD TO NO. 3.
5. PL ¼" X WIDTH VARIES. PROVIDE SHORT SLOTTED VERT. HOLES FOR NO. 8.
6. NOT USED.
7. ¾" x ¾" BAR. WELD TO NO. 2 & 7.
8. ½" DIA. CARRIAGE BOLT, WASHER AND NUT. PROVIDE ⅝" X ⅝" SQUARE HOLE IN NO. 3 & NO. 2 OF PANEL TYPE G ONLY FOR SQUARE PORTION OF THE BOLT HEAD.
9. 3½" X 3½" PYRAMIDAL CAP. WELD TO NO. 1.
10. ⅝" DIA. CONCRETE MASONRY ANCHOR TYPE S EPOXY, 7" MINIMUM EMBEDMENT WITH A MINIMUM PULLOUT OF 20 KIPS.
11. PL 5⁄16" X 4½" X 0'-6" CONNECTION WITH 2" DIA. HOLES FOR NO. 8. USE NO. 12 TO COVER 2" DIA. ADJUSTMENT HOLES. USE STANDARD HOLES ON CANTILEVERED FENCE PANEL AT ABUTMENTS.
12. PL ⅜" X 2½" X 4½".
13. PL WASHER ¼" X 3½" X 3½".
14. PL ½" X 8" X 10" BASE PLATE. WELD TO NO. 1.
15. PL ½" X 8" X 1'-0" BASE PLATE. WELD TO NO. 1.
16. ½" DIA. BOLT, WASHER & NUT. TACK WELD NUT TO NO. 2.

* THE DIMENSION BETWEEN THE BOTTOM OF THE WELDED FRAME AND THE TOP OF THE COPING SHALL BE HELD AT THE ENDS OF EACH PANEL AND THE PANEL SHALL FOLLOW THE SLOPE OF THE PROFILE.

NOTES

THE BID ITEM SHALL BE "FENCE DECORATIVE WALL" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

FOR WALL ELEVATIONS, SEE SHEET 1.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

STRUCTURAL TUBING SHALL BE A.S.T.M. A500, GRADE B. ROLLED SHAPES, PLATES, BARS AND SHIMS SHALL BE A.S.T.M. A709, GRADE 36.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE POST VERTICAL.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE A.S.T.M. A307 AND SHALL BE GALVANIZED.

STANDARD WASHERS SHALL BE USED TO SHIM BASE PLATES IF REQUIRED. ALL WASHERS SHALL BE GALVANIZED.

THE STEEL MESH SHALL BE TACK WELDED TO THE 2¼" X ¼" WELDED FRAME. THE MESH SHALL BE STRETCHED TO REMOVE SLACK.

VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

PRIOR TO FABRICATION, STEEL SHALL BE BLAST CLEANED PER SSPC-SP 6 AND GALVANIZED ACCORDING TO ASTM A 123. REPAIR ZINC COATING DAMAGED DURING FABRICATION AS SPECIFIED IN 635.3.4.

ALL WELDS SHALL BE PREQUALIFIED ACCORDING TO THE STRUCTURAL WELDING CODE STEEL (AWS D1.1). THE MINIMUM SIZE OF FILLET WELDS IS 3⁄16".

COAT THE RAILING WITH AN EPOXY PAINT SYSTEM. TOUCH UP DAMAGED PORTIONS OF PAINT AFTER PANEL ERECTION. SEE SPECIAL PROVISIONS FOR REQUIREMENTS.

FOR ADDITIONAL DECORATIVE FENCE DETAILS, SEE SHEETS 12 THRU 14.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-208

DRAWN BY TAW | PLANS CK'D. TR

DECORATIVE FENCE DETAILS

SHEET 11 OF 16
2385

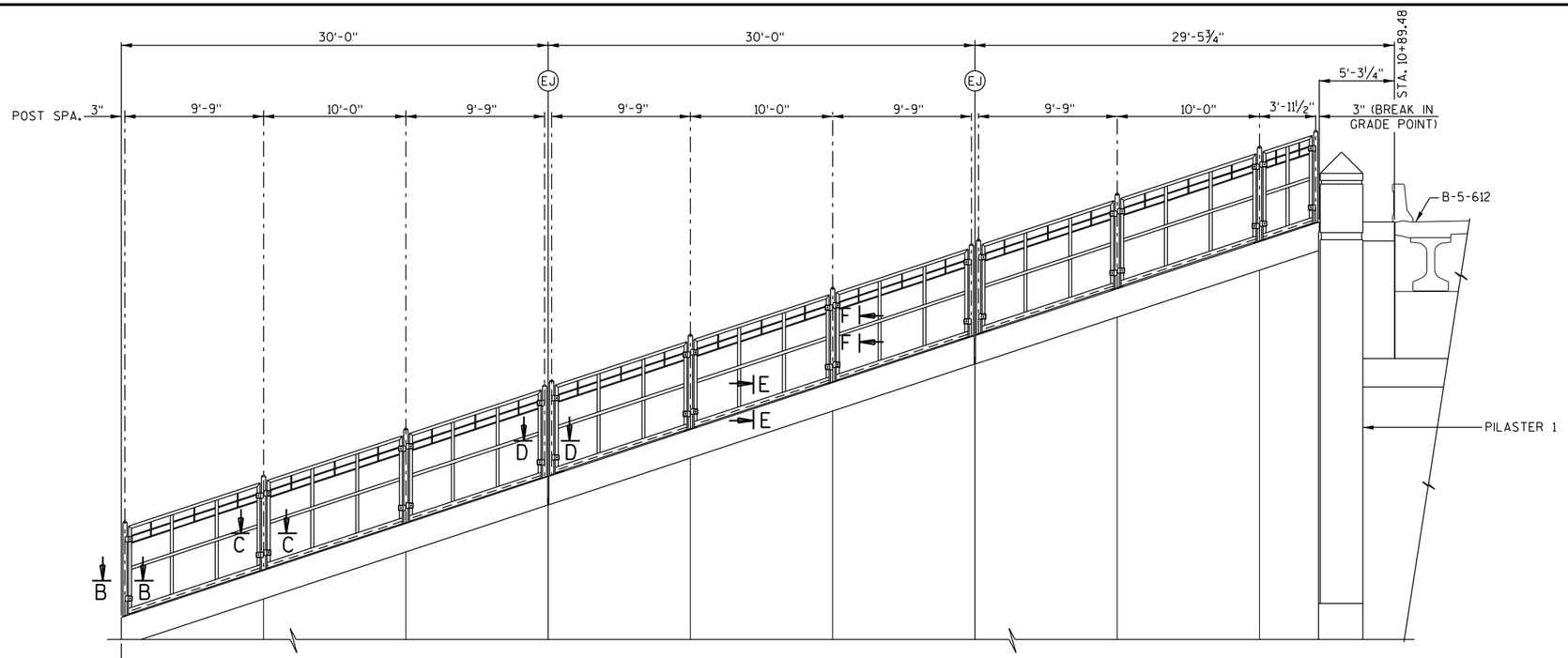
8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-208\11_fence_detailsl_v8_r-5-208.dgn
PLOT DATE : 11/1/2012

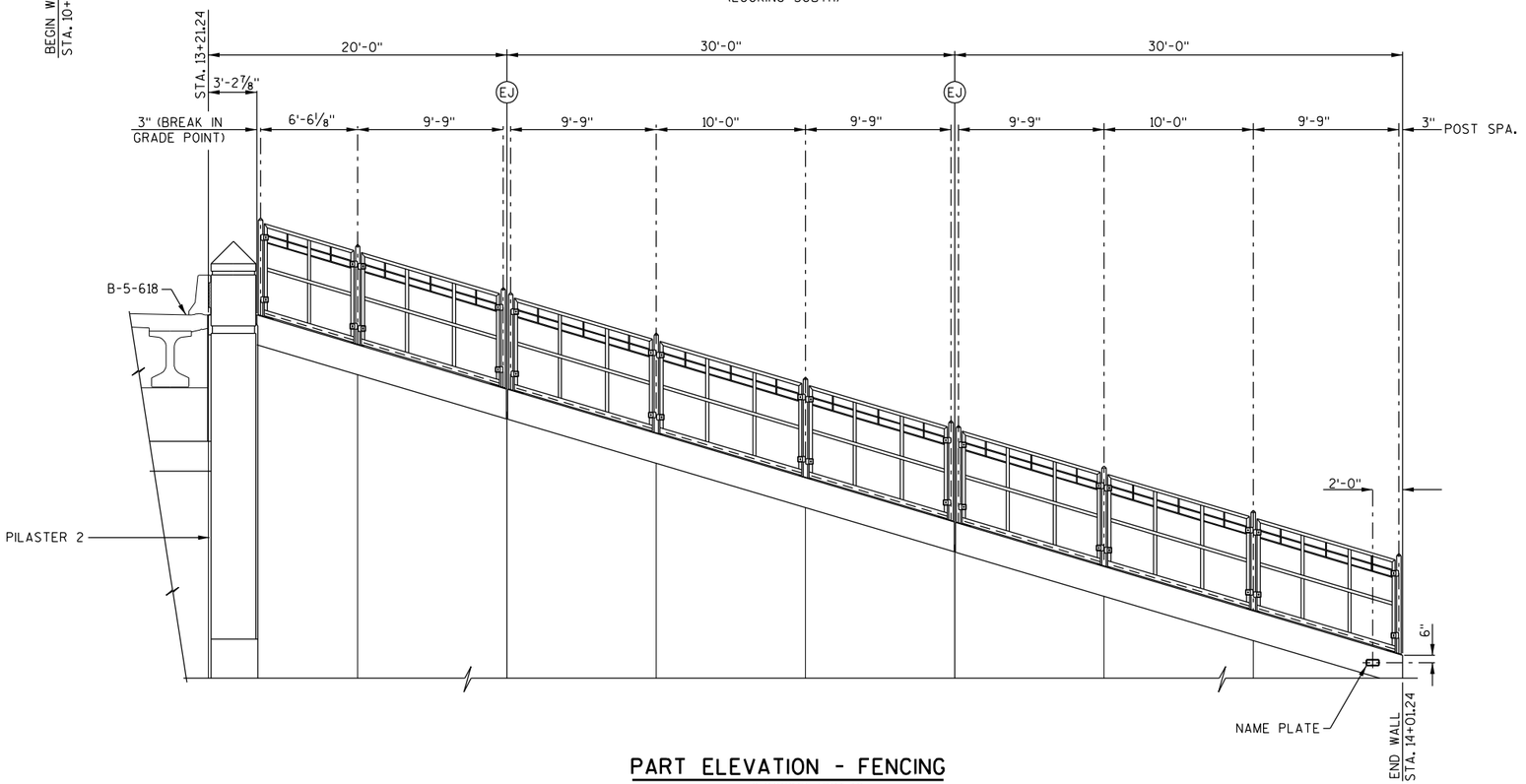
STATE PROJECT NUMBER

1133-09-71



PART ELEVATION - FENCING

(LOOKING SOUTH)



PART ELEVATION - FENCING

(LOOKING SOUTH)

NOTES: 2" x 2" STEEL MESH NOT SHOWN FOR CLARITY.

FOR "SECTIONS B-B, C-C, D-D, E-E & F-F", SEE SHEET 13.

FOR ADDITIONAL DECORATIVE FENCE DETAILS, SEE SHEETS 11, 13 & 14.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-208

DRAWN BY TAW | PLANS CK'D. TR

DECORATIVE FENCE DETAILS

SHEET 12 OF 16
2386

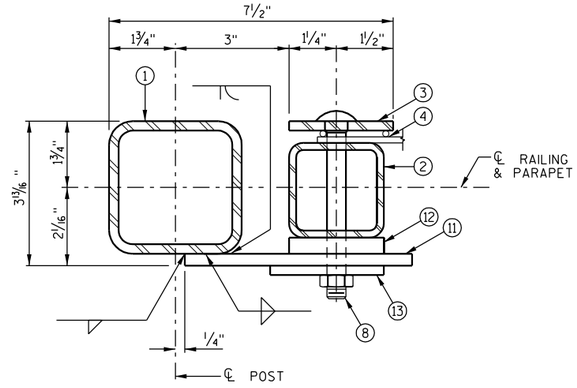
8

8

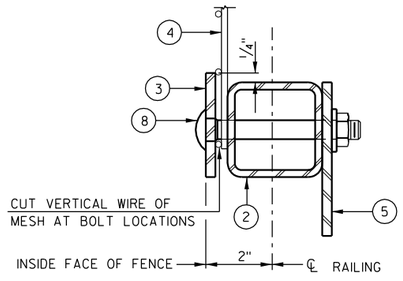
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-208\12_fence_details2_v8_r-5-208.dgn
PLOT DATE : 9/26/2012

STATE PROJECT NUMBER

1133-09-71



SECTION B-B



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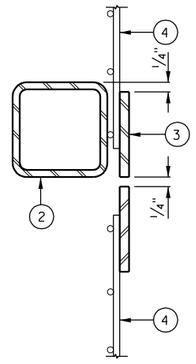

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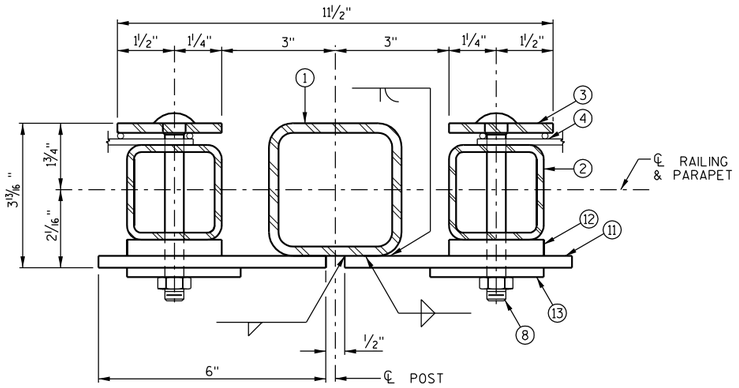
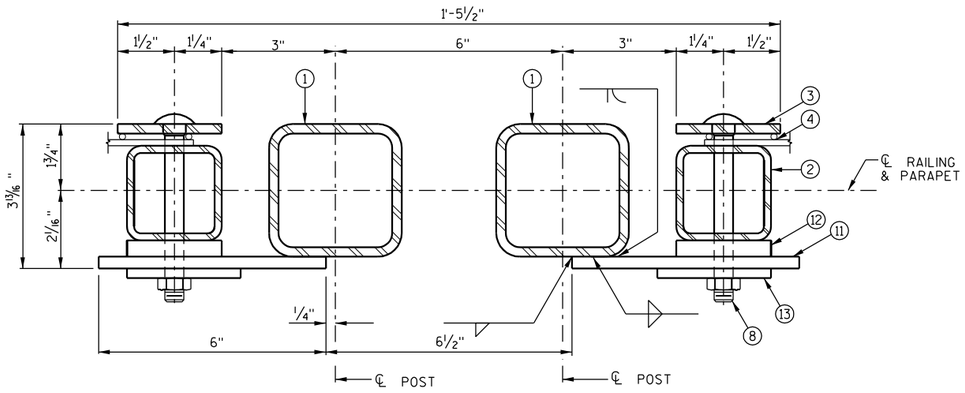
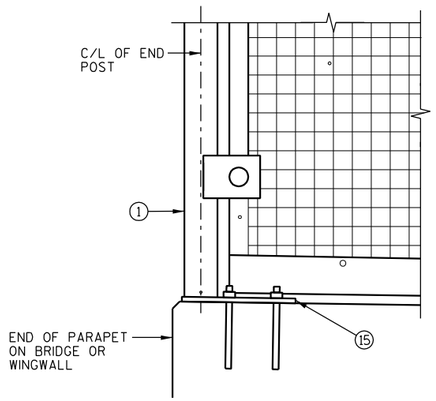


SECTION C-C



SECTION D-D



END POST DETAIL

(SEE DECK PLAN FOR LOCATIONS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-208

DRAWN BY TAW | PLANS CK'D. TR

DECORATIVE FENCE DETAILS

SHEET 13 OF 16

2387

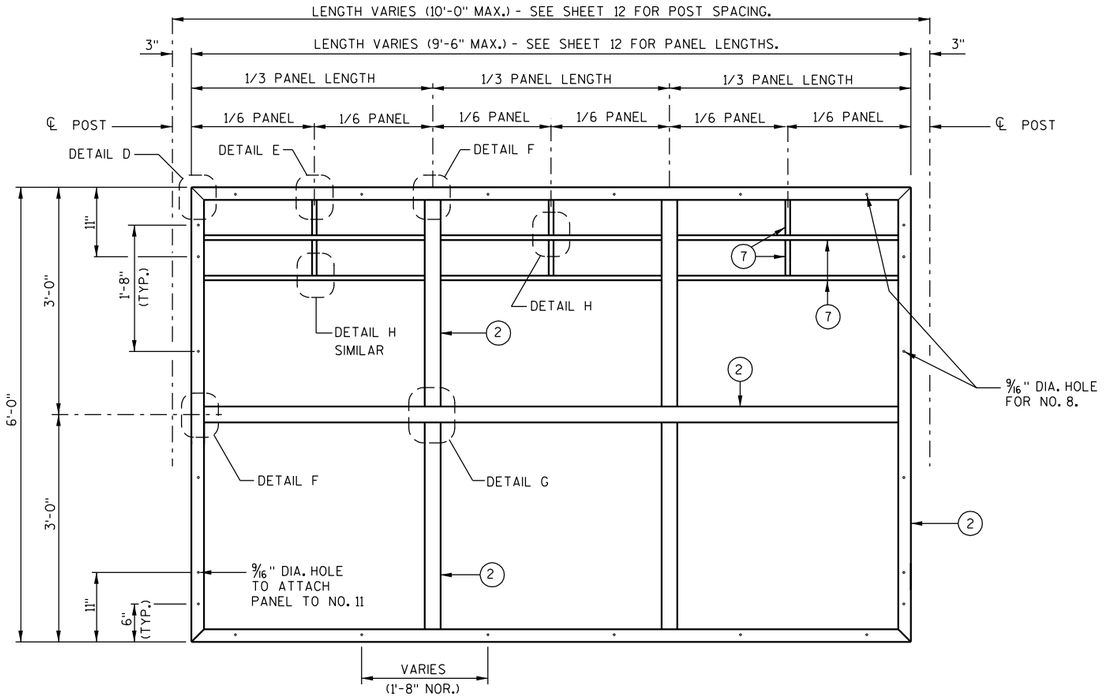
8

8

FILE NAME : P:\134 (DSH 41 Bridges (1133-09-00)\Structures\R-5-208\13_fence_details.v8_r-5-208.dgn
PLOT DATE : 9/13/2012

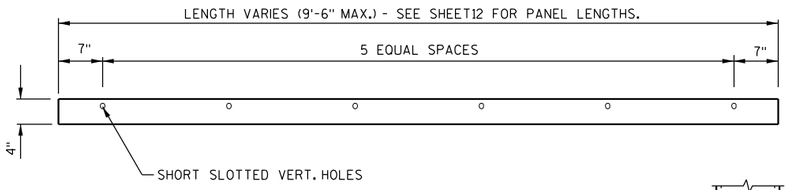
STATE PROJECT NUMBER

1133-09-71

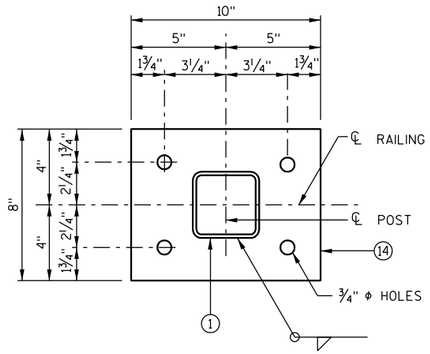


DECORATIVE FENCE PANEL

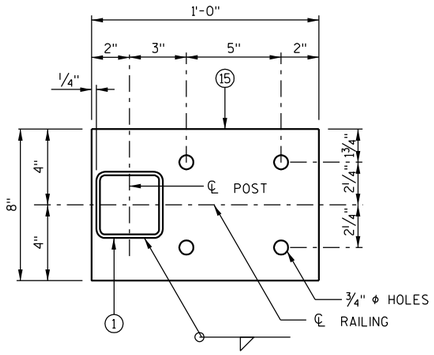
(ELEVATION VIEW SHOWING TYPICAL FENCE PANEL)



1/4" PLATE (NO. 5)

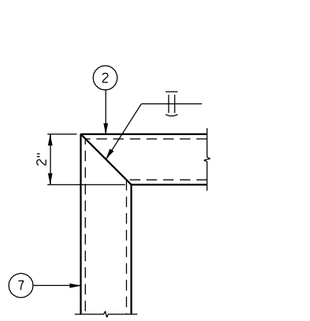


BASE PLATE

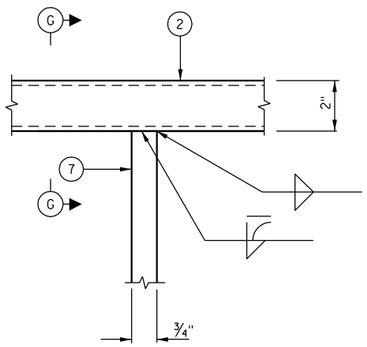


END BASE PLATE

COPING BASE PLATE DETAILS



DETAIL D



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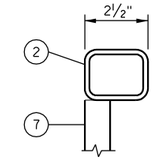
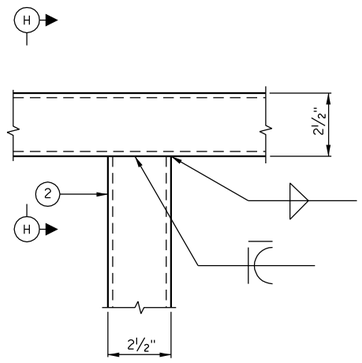


SECTION G-G



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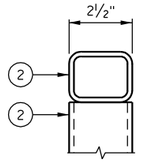

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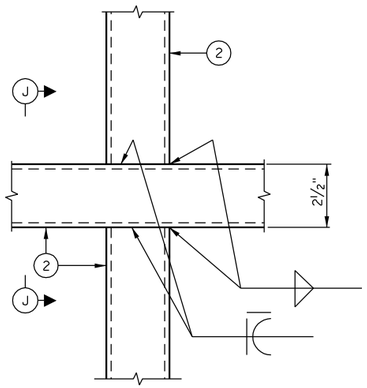
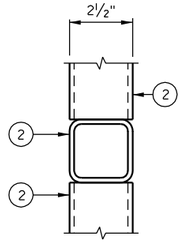


DETAIL G



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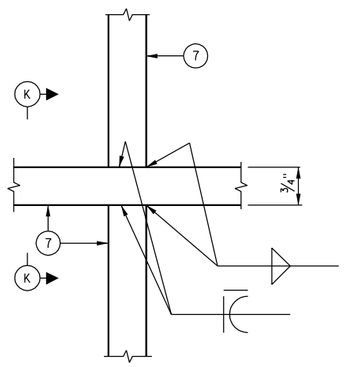

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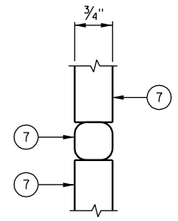

SECTION K-K

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-208

DRAWN BY TAW | PLANS CK'D. TR

DECORATIVE FENCE DETAILS

SHEET 14 OF 16
2388

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FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\Structures\R-5-208\14_fence_details4_v8_r-5-208.dgn
PLOT DATE : 9/26/2012

STATE PROJECT NUMBER

1133-09-71

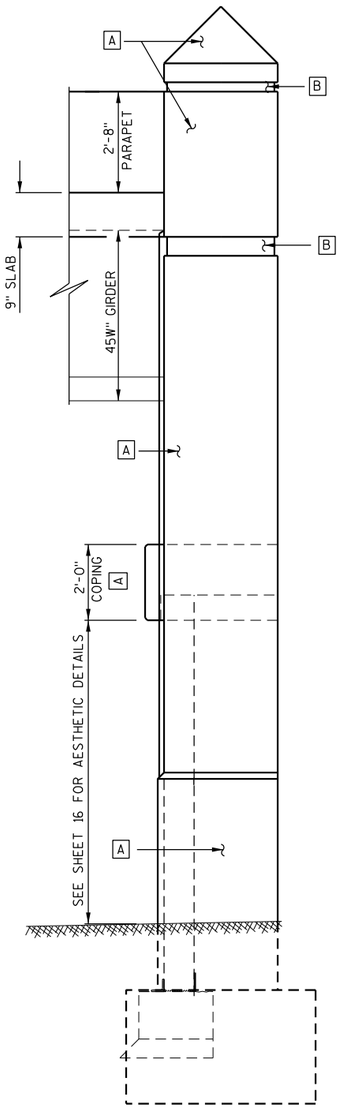
NOTES: ALL JOINTS SHALL BE LOCATED AS SHOWN ON ELEVATION VIEW ON SHEETS 1 & 2 AND MUST COINCIDE WITH PANEL JOINT ON FRONT FACE.

FILLERS AND EXPANDED POLYSTYRENE ARE INCLUDED IN WALL LENGTH. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF THESE FILLERS WITH NON-STAINING AND NON-BITUMINOUS SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE. COLOR OF SEALER SHALL MATCH THE COLOR OF STAIN.

CONCRETE STAINING SCHEDULE

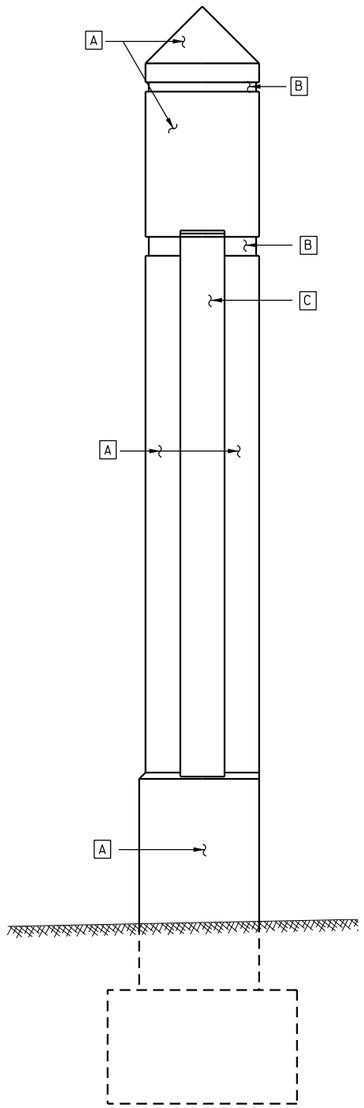
MARK	COLOR	FEDERAL COLOR	LOCATION
A	BASE COLOR	33522	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	33303	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
C	ACCENT COLOR #2	10076	VERTICAL PILASTER CENTER ELEMENT
D	ACCENT COLOR #3	12160	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	10091	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	10219	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	37038	LETTERING AT ROADWAY NAME

NOTE: 1. ALL COLOR DESIGNATIONS ARE FEDERAL STANDARD COLORS.
2. FINISH ON COLORS IS FLAT (LUSTERLESS)



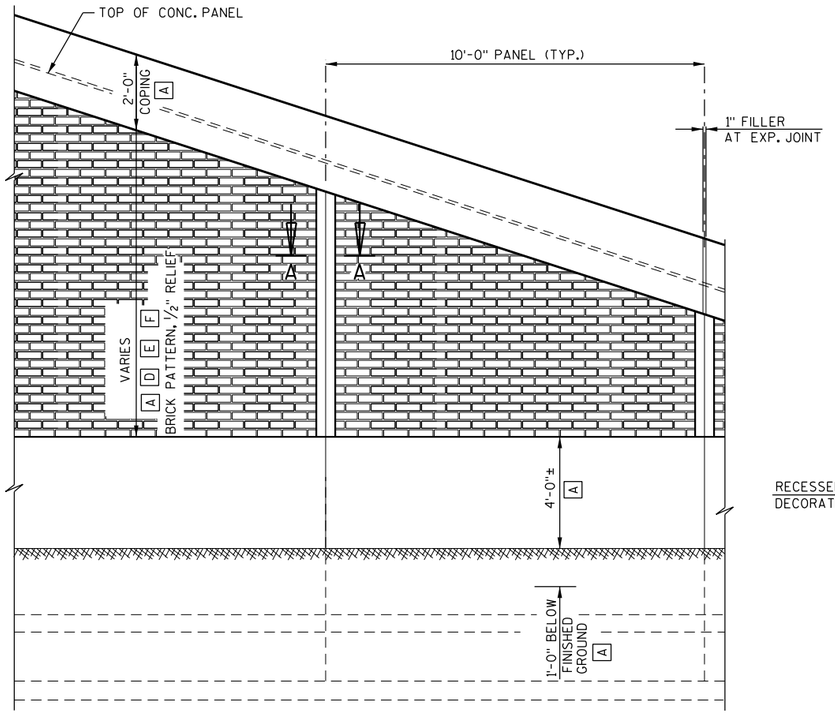
SECTION THRU WALL UNDER BRIDGES

(LOOKING EAST AT PILASTER 2. SEE SHEET 16 FOR WALL PANEL AESTHETIC DETAILS BETWEEN PILASTERS)



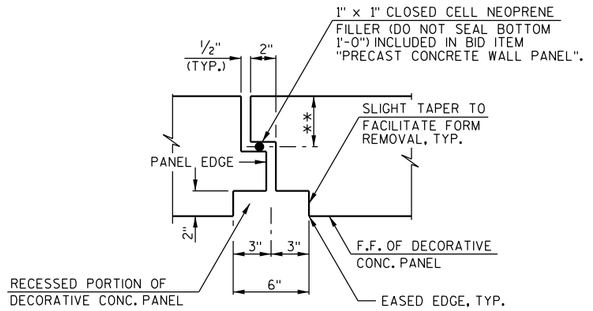
PILASTER DETAIL

(LOOKING SOUTH AT PILASTER 1. PILASTER 2 SIMILAR)



TYPICAL ELEVATION AT WALL PANEL

(SEE SHEET 16 FOR LOACATIONS OF SPECIAL DETAILS.)



SECTION A-A

** 4" FOR 9 1/2" PANEL
3" FOR 7 1/2" PANEL

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-208

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AESTHETIC DETAILS

SHEET 15 OF 16
2389

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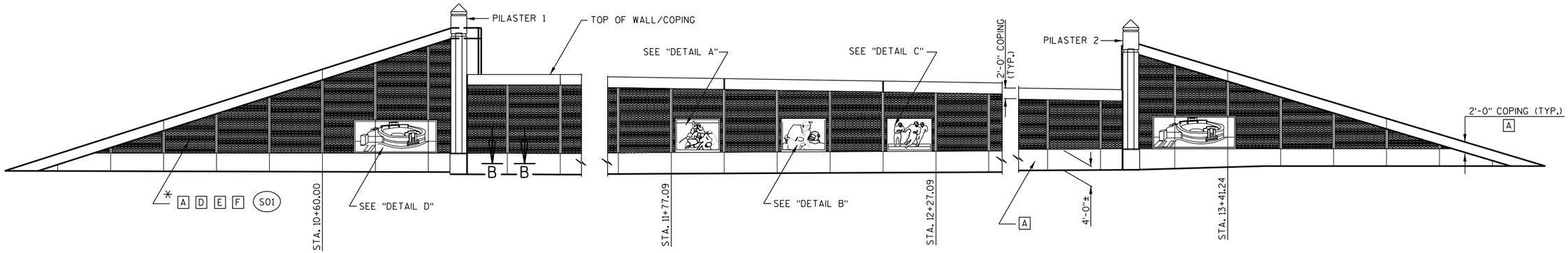
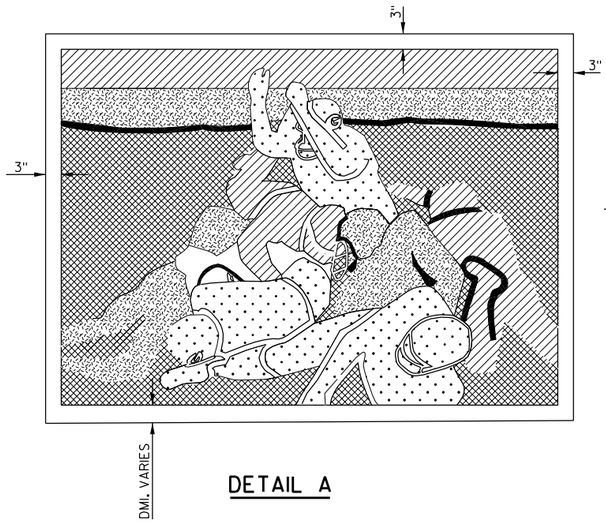
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-208\15_aesthetics1_r-5-208.dgn
PLOT DATE : 11/1/2012

STATE PROJECT NUMBER
1133-09-71

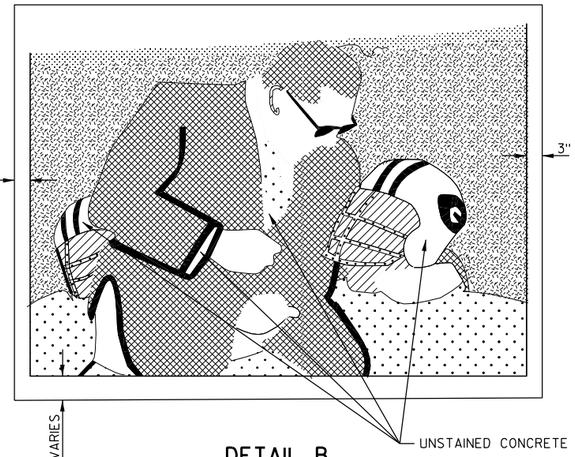


ELEVATION AT F.F. OF RETAINING WALL

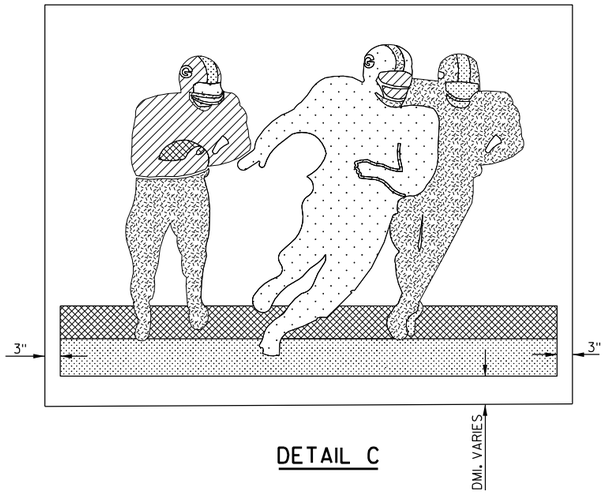
(LOOKING SOUTH UNDER STR. B-5-612/618/619)



DETAIL A



DETAIL B

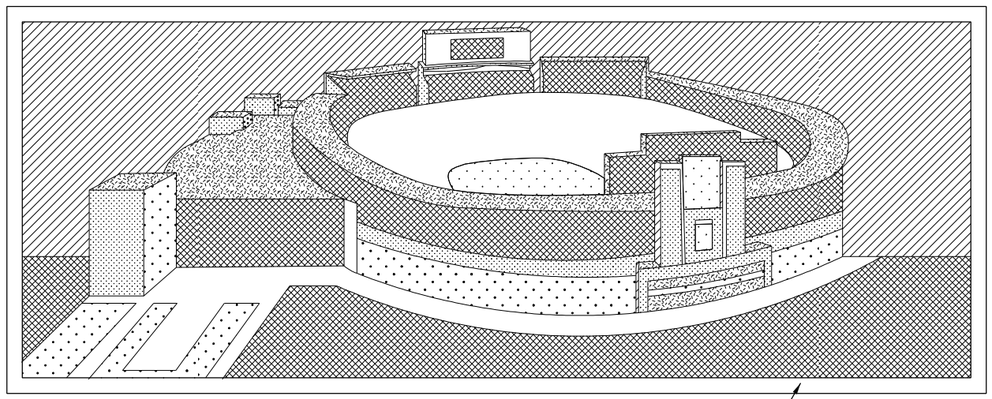


DETAIL C

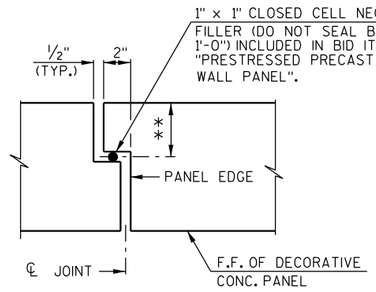
CONCRETE STAINING DETAIL

MARK	HATCH	COLOR	RELIEF (INCHES)
A		BASE COLOR	0
B		ACCENT COLOR #1	-1
C		ACCENT COLOR #2	-2
D		ACCENT COLOR #3	-1.25
E		ACCENT COLOR #4	-1.5
F		ACCENT COLOR #5	-0.75
G		ACCENT COLOR #6	-.5

NOTE: SEE SPECIAL PROVISIONS FOR STAIN COLORS.



DETAIL D



SECTION B-B

(SECTION IS BELOW BRICK PATTERN. SEE "SECTION A-A" ON SHEET 15 FOR SECTION THRU JOINT AT BRICK PATTERN.)

** 4" FOR 9 1/2" PANEL
3" FOR 7 1/2" PANEL

NOTES

S01 STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

THE COST OF BRICK PATTERN FORMLINER TREATMENT IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT". SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

FOR TOP OF WALL ELEVATIONS, SEE SHEET 1.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-208

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AESTHETIC DETAILS

SHEET 16 OF 16
2390

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-208\16_aesthet.rcs2 _r-5-208.dgn
PLOT DATE : 11/1/2012

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STATE PROJECT NUMBER
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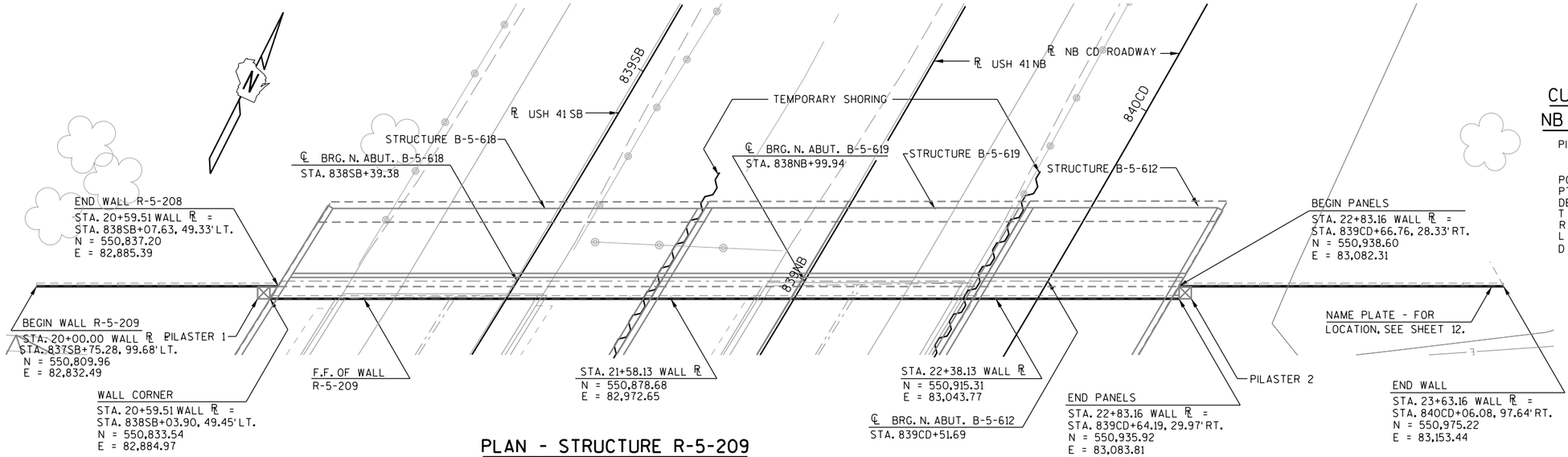


PLAN - STRUCTURE R-5-209

CURVE DATA NB CD ROADWAY

PI STA. 834CD+24.41
N = 550352.74
E = 83116.13
PC STA. 823CD+88.46
PT STA. 844CD+13.63
DELTA= 29°44'28" (LT)
T = 1035.95
R = 3901.47
L = 2025.17
D = 1°28'07"

CURVE DATA USH 41 SB

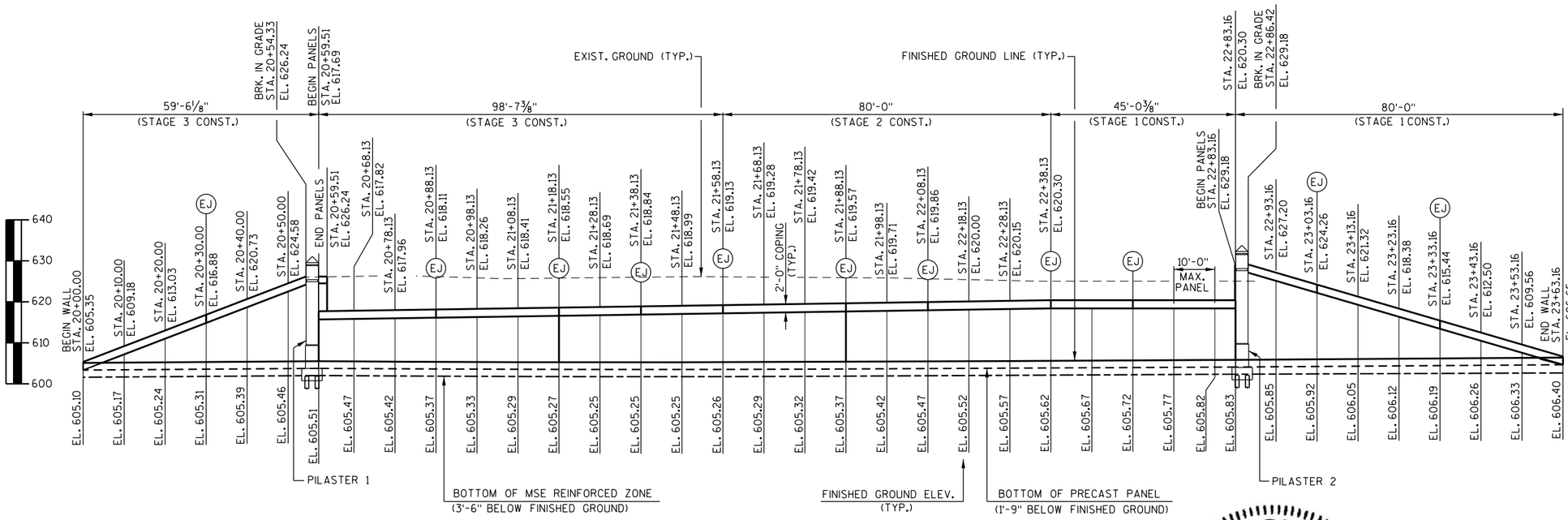
PI STA. 833SB+93.92
N = 550375.48
E = 83002.50
PC STA. 823SB+87.71
PT STA. 843SB+54.75
DELTA= 29°44'28" (LT)
T = 1006.21
R = 3789.47
L = 1967.03
D = 1°30'43"

LEGEND

(EJ) EXPANSION JOINT LOCATION IN COPING.

LIST OF DRAWINGS

1. GENERAL PLAN
2. NOTES & QUANTITIES
3. SOIL DATA
4. SUBSURFACE EXPLORATION
5. WALL DETAILS
6. WALL DETAILS
7. PILASTER DETAILS
8. PILASTER DETAILS
9. PILASTER DETAILS
10. BILL OF BARS
11. DECORATIVE FENCE DETAILS
12. DECORATIVE FENCE DETAILS
13. DECORATIVE FENCE DETAILS
14. DECORATIVE FENCE DETAILS
15. AESTHETICS
16. AESTHETICS



ELEVATION - STRUCTURE R-5-209

(LOOKING AT F.F. OF WALL)

DESIGN DATA

LIVE LOAD SURCHARGE (ROADWAY) = 240 P.S.F.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY - BARRIER & COPING —— f'_c = 4,000 P.S.I.
PRECAST CONCRETE WALL PANEL —— f'_c = 5,000 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 —— f_y = 60,000 P.S.I.
STRUCTURAL STEEL CARBON (ASTM A709 GRADE 36) —— f_y = 36,000 P.S.I.

FOUNDATION DATA:

ALLOWABLE SOIL BEARING CAPACITY - SEE TABLE ON SHEET 3.

NOTE: FOOTING MAY BE BUILT LEVEL AND STEPPED.

WISCONSIN
THOMAS J. ROMENESKO
E-26318
MADISON
WI
PROFESSIONAL ENGINEER
3/22/13

ROMENESKO ENGINEERING, INC.
CONTACT: TOM ROMENESKO, P.E.
7325 CEDAR CREST DRIVE
SAUK CITY, WI 53583
(608) 644-1502

BRIDGE OFFICE CONTACT:
WILLIAM DREHER, P.E.
(608) 266-8489

NO.	DATE	REVISION	BY

Original Plans Prepared By
ROMENESKO ENGINEERING, INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR — 03/25/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-5-209

RETAINING WALL AT N. ABUT'S. OF B-5-612/618/619

COUNTY: BROWN
~~TOWN~~/CITY/~~VILLAGE~~: ASHWAUBENON
DESIGN SPEC.: AASHTO STD. SPEC.

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
TR	VR	TAW	TR

GENERAL PLAN

SHEET 1 OF 16
2391

I.D. 1133-09-00 DATE : 3/22/2013

FILE NAME : P:\134 USH 41 Bridges 1133-09-00\structures\R-5-209\01_genplan.v8_r-5-209.dgn
PLOT DATE : 3/22/2013

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STATE PROJECT NUMBER

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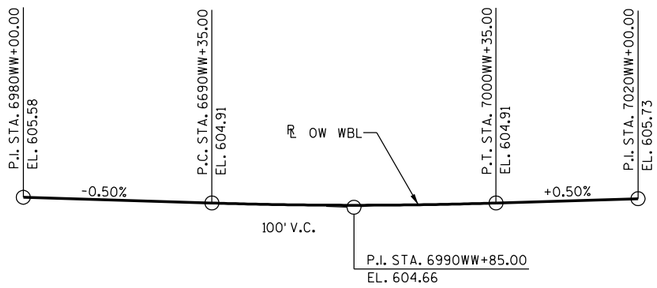
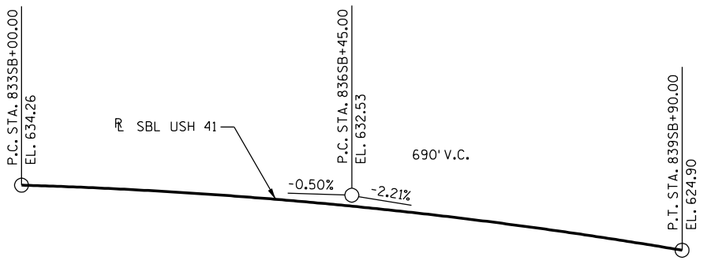
TOTAL ESTIMATED QUANTITIES

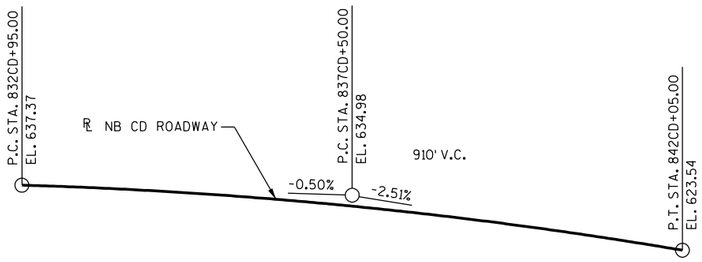
BID ITEM NO.	BID ITEMS	UNIT	TOTAL
206.6010.S	TEMPORARY SHORING	SF	6,000
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	30
505.0415	BAR STEEL REINFORCEMENT HS RETAINING WALLS	LB	310
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	1,590
532.0700.S	WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	4,630
550.1120	PILING STYEEL HP 12-INCH x 53 LB	LF	520
612.0406	PIPE UNDERDRAIN 6-INCH WRAPPED	LF	385
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	3,380
SPV.0165.501	STAINING CONCRETE	SF	3,560
SPV.0165.502	STAINING CONCRETE BRICK	SF	3,380
SPV.0165.503	ARCHITECTURAL SURFACE TREATMENT SPECIAL	SF	354
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	4,630
SPV. 0090.502	FENCE DECORATIVE WALL	LF	180
	NON - BID ITEMS		
	PREFORMED FILLER	SIZE	1"
	CORK FILLER	SIZE	1½"
	EXPANDED POLYSTYRENE	SIZE	1"



PROFILE GRADE LINE, WBL ONEIDA ST./WAUBE LANE



PROFILE GRADE LINE, SBL USH 41



PROFILE GRADE LINE, NB CD ROADWAY

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾", UNLESS NOTED OTHERWISE.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

COORDINATE THE CONSTRUCTION OF WALL R-5-209 WITH NORTH ABUTMENT CONSTRUCTION FOR BRIDGES B-5-612, B-5-618 & B-5-619.

THE COST OF FURNISHING AND PLACING THE FOOTING UNDER THE MSE PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE PILASTER IS PAID FOR UNDER THE ITEM "CONCRETE MASONRY RETAINING WALLS".

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON SHEET 1.

ALL STATIONS ARE ALONG THE ℄ FOR R-5-209 ALONG THE FRONT FACE OF WALL UNLESS SHOWN OTHERWISE.

DO NOT PERMIT CONCRETE OR FILL TO DROP OR ACCUMULATE INTO THE WALL PANEL CAVITY.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M153, TYPES Ⅰ, Ⅱ OR Ⅲ OR M213.

OPTIONAL TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE FOOTING WITH A MINIMUM SPACING OF TWO PANEL LENGTHS. FOOTING JOINTS SHOULD BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THRU FOOTING JOINTS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

DESIGN THE RETAINING WALL FOR FINISHED GRADE BEHIND THE WALL.

SEE SPECIAL PROVISIONS FOR AESTHETIC TREATMENTS TO THE WALL.

DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

THE TEMPORARY SHORING QUANTITY IS BASED UPON PROVIDING TWO INSTALLATIONS AT EACH LOCATION SHOWN. TEMPORARY SHORING CAN CONSIST OF ANY SYSTEM ALLOWED IN THE SPECIFICATIONS AND APPROVED BY THE ENGINEER.

DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

AT THE ENDS OF WALL SEAL CAVITY BETWEEN WIRE FACE WALL AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE 1'-6" WIDE.

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-209\02_notes_quant_v8_r-5-209.dgn
PLOT DATE : 3/22/2013

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-209

DRAWN BY TAW | PLANS CK'D. TR

NOTES & QUANTITIES

SHEET 2 OF 16
2392

STATE PROJECT NUMBER

1133-09-71

SOIL PARAMETERS

SOIL DESCRIPTION	FRICTION ANGLE (DEGREES)	COHESION (psf)	UNIT WEIGHT (pcf)
GRANULAR BACKFILL WITHIN THE WALL IN THE REINFORCING ZONE	30	0	120
FILL BEHIND THE REINFORCING ZONE	31	0	120
B-1, 838+10			
CLAY, SOME SILT (ELEVATION 602.0 FT - 598.9 FT)	0	2,000	120
CLAY, TRACE SILT (ELEVATION 598.9 FT - 592.9 FT)	0	750	110
CLAY, SOME SILT (ELEVATION 592.9 FT - 574.9 FT)	0	350	110
CLAY, TRACE SILT (ELEVATION 574.9 FT - 564.9 FT)	0	500	110
CLAY, TRACE SILT, TRACE GRAVEL (ELEVATION 564.9 FT - 544.9 FT)	0	1,500	115
CLAY, TRACE SILT, TRACE GRAVEL (ELEVATION 544.9 FT - 532.9 FT)	0	25,000	135
B-2, 839+00			
CLAY, SOME SILT (ELEVATION 602.1 FT - 591.1 FT)	0	1,000	115
CLAY, SOME SILT (ELEVATION 591.1 FT - 569.1 FT)	0	350	110
CLAY, SOME SILT, TRACE GRAVEL, SOME BOULDERS (ELEVATION 569.1 FT - 534.1 FT)	0	1,500	115
LIMESTONE BEDROCK (ELEVATION 534.1 FT AND BELOW)	0	96,000	140

THE TYPICAL WALL SECTION USED IN THE ANALYSES HAD AN EXPOSED HEIGHT THAT VARIES FROM 12.7 FEET TO 21.7 FEET. THE FOLLOWING ASSUMPTIONS ARE ALSO INCLUDED IN THE ANALYSES:

1. THE SLOPE IN FRONT AND BEHIND THE WALL IS HORIZONTAL.
2. THE GROUNDWATER RANGED FROM ELEVATION 591 FEET TO ELEVATION 598 FEET.
3. THE GRANULAR BACKFILL IS FREE DRAINING AND WILL NOT BECOME SATURATED.
4. THE MINIMUM EMBEDMENT DEPTH IS 3.5 FEET.
5. A SURCHARGE LOAD OF 240 PSF IS INCLUDED TO MODEL PEDESTRIAN AND LIGHTWEIGHT CONSTRUCTION EQUIPMENT.
6. AN ADDITIONAL SURCHARGE LOAD EQUIVALENT TO THE WEIGHT OF THE SOIL BEHIND THE ABUTMENT IS ALSO INCLUDED IN THE DESIGN.
7. GLOBAL STABILITY FACTOR OF SAFETY WAS DETERMINED BY THE COMPUTER PROGRAM XSTABL
8. BEARING CAPACITY IS DETERMINED BY TERZAGHI'S BEARING CAPACITY EQUATION.
9. SETTLEMENT OF THE FOUNDATION ON COHESIONLESS SOIL AND COHESIVE SOIL IS BASED UPON METHODS DESCRIBED IN THE FHWA SOILS AND FOUNDATIONS MANUAL.

SAFETY FACTORS & REQUIRED WALL MODIFICATIONS

DIMENSIONS			
WALL HEIGHT (FEET) [1]	22.6	16.2	25.2
EXPOSED WALL HEIGHT (FEET)	19.1	12.7 [2]	21.7
LENGTH OF REINFORCEMENT (FEET) [3]	15.8	15.6	17.6
LENGTH OF REINF./WALL HEIGHT	0.70	0.96	0.70
WALL STATION	20+50.0	22+25.1	23+32.3
BORING	B-1	B-2	B-2
FACTOR OF SAFETY [4]			
SLIDING ($FS_{req} > 1.5$)	2.2	1.5	2.2
OVERTURNING ($FS_{req} > 2.0$)	3.8	3.0	3.9
GLOBAL STABILITY ($FS_{req} > 1.3$)	NA [5]	1.7 [6]	NA [5]
BEARING CAPACITY ($FS_{req} > 2.5$)	3.3 [6]	3.2 [6]	3.0 [6]
ALLOWABLE BEARING CAPACITY (PSF)	5,000 [6]	5,000 [6]	5,000 [6]

NOTE:

1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 3.5 FEET.
2. THE WALL STABILITY EVALUATION INCLUDED A SURCHARGE LOAD THAT WAS EQUAL TO THE WEIGHT OF THE SOIL BEHIND THE ABUTMENT.
3. THE LENGTH OF REINFORCEMENT IS THE MINIMUM REQUIRED LENGTH AT THAT LOCATION.
4. FSREQ ARE PRESENTED IN CHAPTER 14 OF THE BRIDGE MANUAL.
5. NA NOT APPLICABLE, GLOBAL SLOPE STABILITY WAS EVALUATED AT THE CRITICAL WALL LOCATION.
6. REQUIRES STAGED CONSTRUCTION AND WICK DRAINS.

THE RESULTS OF THE EVALUATION INDICATED THAT IF THE SLIDING AND BEARING CAPACITY REQUIREMENTS ARE MET, THEN THE ECCENTRICITY AND OVERTURNING REQUIREMENTS ARE ALSO MET.

THE SHORT-TERM GLOBAL STABILITY OF THE WALL AT THE CRITICAL LOCATION WAS UNSTABLE WITH A FACTOR OF SAFETY OF 0.9. THE REQUIRED FACTOR OF SAFETY IS 1.3. THE FOLLOWING OPTION SHOULD BE USED TO RESOLVE THE GLOBAL STABILITY ISSUE:

STAGED CONSTRUCTION AND WICK DRAINS: BUILD THE RETAINING WALL AND EMBANKMENT IN STAGES, WHICH ALLOWS THE SOFT SOILS TO CONSOLIDATE AND INCREASE IN SHEAR STRENGTH. THE INCREASE IN SHEAR STRENGTH OF THE SOFT SOILS WILL SUPPORT THE RETAINING WALL. THE WICK DRAINS PROVIDE A SHORTER DRAINAGE PATH, WHICH ALLOWS FOR SHORTER TIME DURATION (APPROXIMATELY TWO MONTHS) FOR PORE WATER PRESSURE DISSIPATION. THE LATERAL EXTENT OF THE WICK DRAINS SHOULD BE APPROXIMATELY THE TOE OF SLOPE OF THE FILL OR THE DISTANCE EQUAL TO THE HEIGHT OF THE WALL AWAY FROM THE WALL WHICHEVER IS GREATEST. THE HEIGHT OF THE FIRST LIFT OF EMBANKMENT AND/OR WALL HEIGHT AND SUBSEQUENT LIFTS SHOULD BE APPROXIMATELY 15 FEET ABOVE ORIGINAL GROUND. THE RESULTING MINIMUM FACTOR OF SAFETY WOULD BE 1.7.

THE SETTLEMENT OF THE FOUNDATION AND EMBANKMENT WAS ESTIMATED TO BE LESS THAN 4-INCHES AND SHOULD OCCUR WITHIN EIGHT YEARS OF LOADING OF THE WALL. THE SETTLEMENT SHOULD LESS THAN 4-INCHES AND SHOULD OCCUR OVER A SERIES OF TWO MONTHS TIME INTERVALS. THE SUBSURFACE SOILS ARE RELATIVELY UNIFORM; THEREFORE, DIFFERENTIAL SETTLEMENT SHOULD NOT BE AN ISSUE.

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-209\03_soil_data_r-5-209.dgn
PLOT DATE : 9/17/2012

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-209

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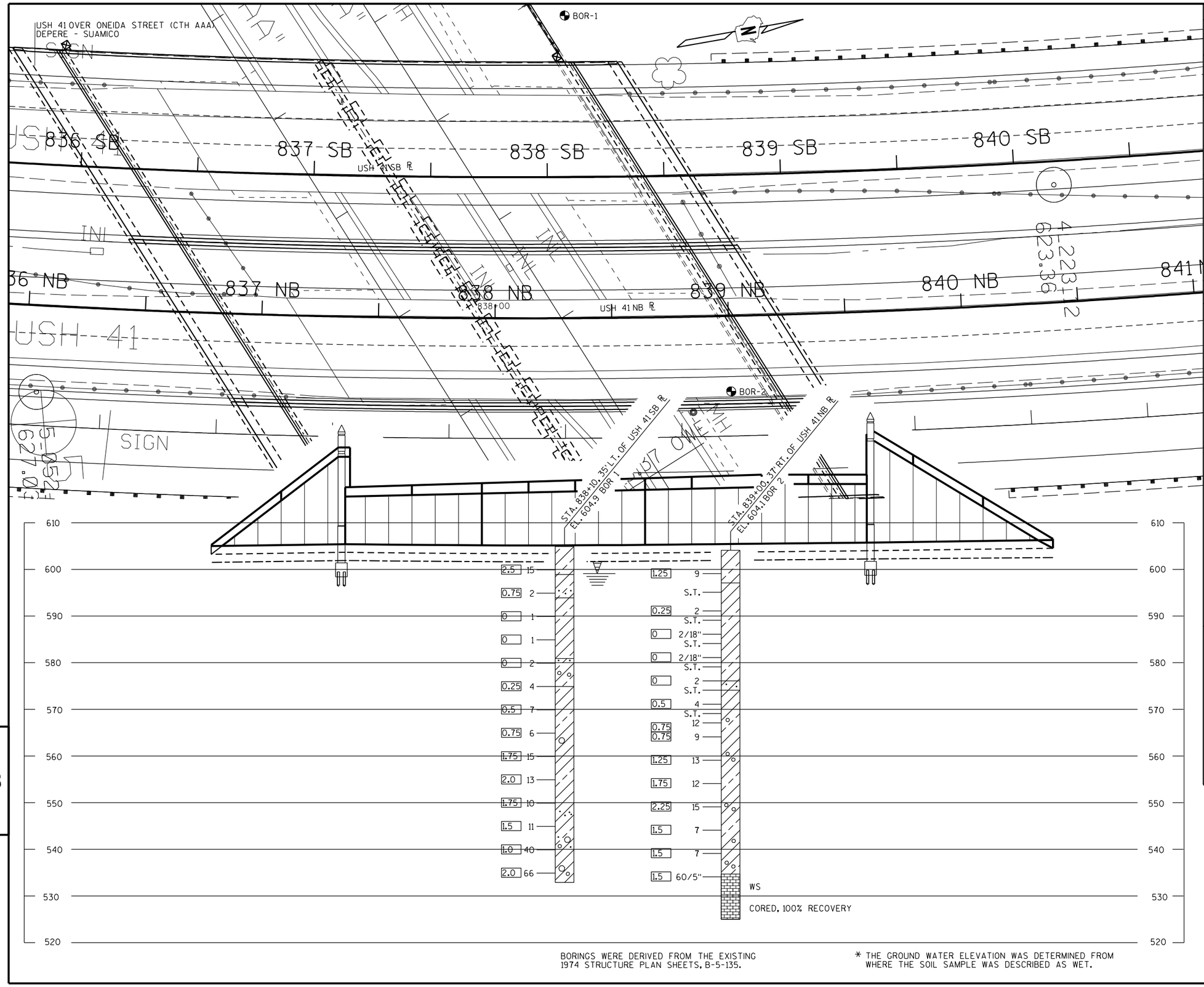
SOIL DATA

SHEET 3 OF 16
2393

USH 41 OVER ONEIDA STREET (CTH AAA)
DEPERE - SUAMICO



BORINGS WERE DERIVED FROM THE EXISTING 1974 STRUCTURE PLAN SHEETS, B-5-135.

* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

STATE PROJECT NUMBER

1133-09-71

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
ELEV.
STA.
UNCONFINED STRENGTH → 7.7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

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STRUCTURE R-5-209

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SUBSURFACE EXPLORATION

SHEET 4 OF 16
2394

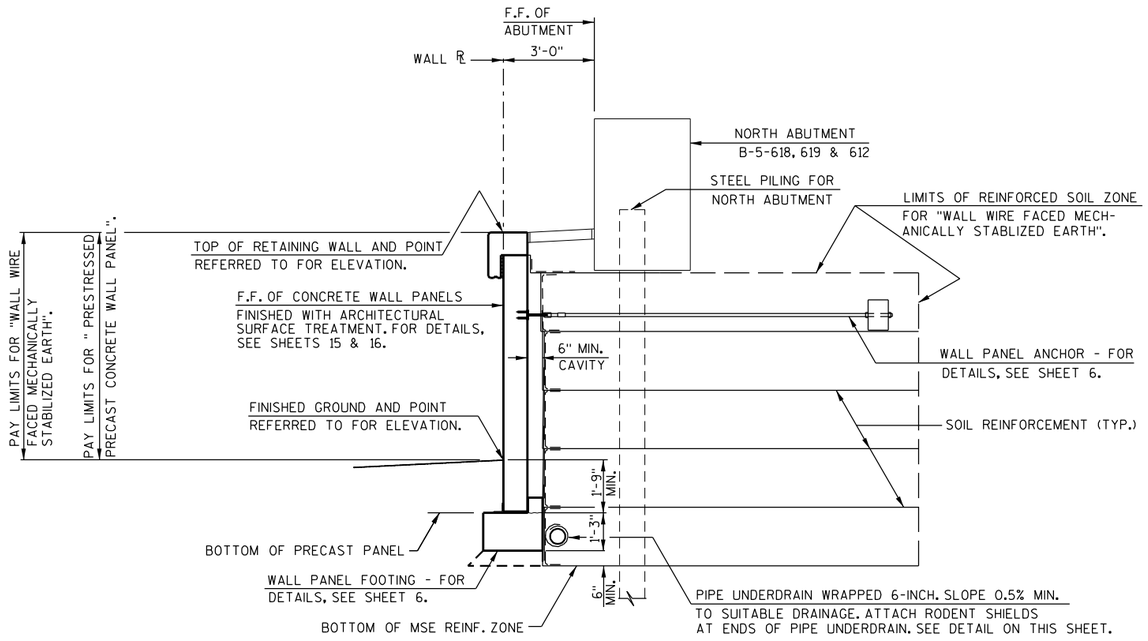
SCALE =

8

8

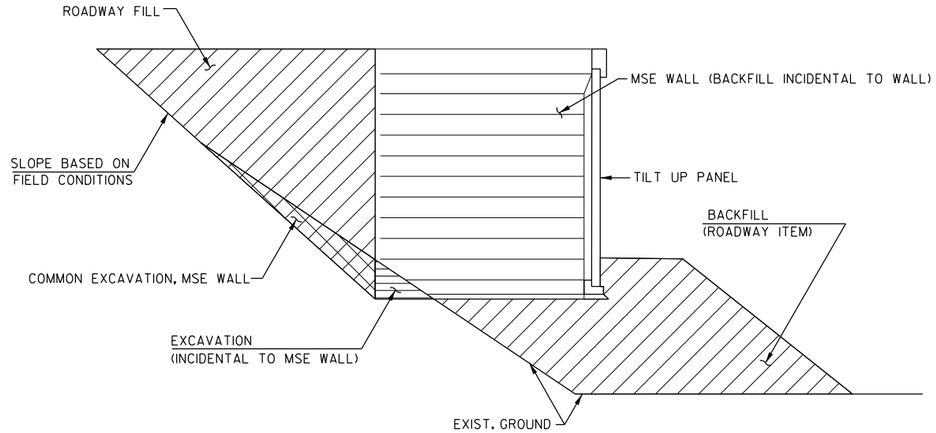
STATE PROJECT NUMBER

1133-09-71

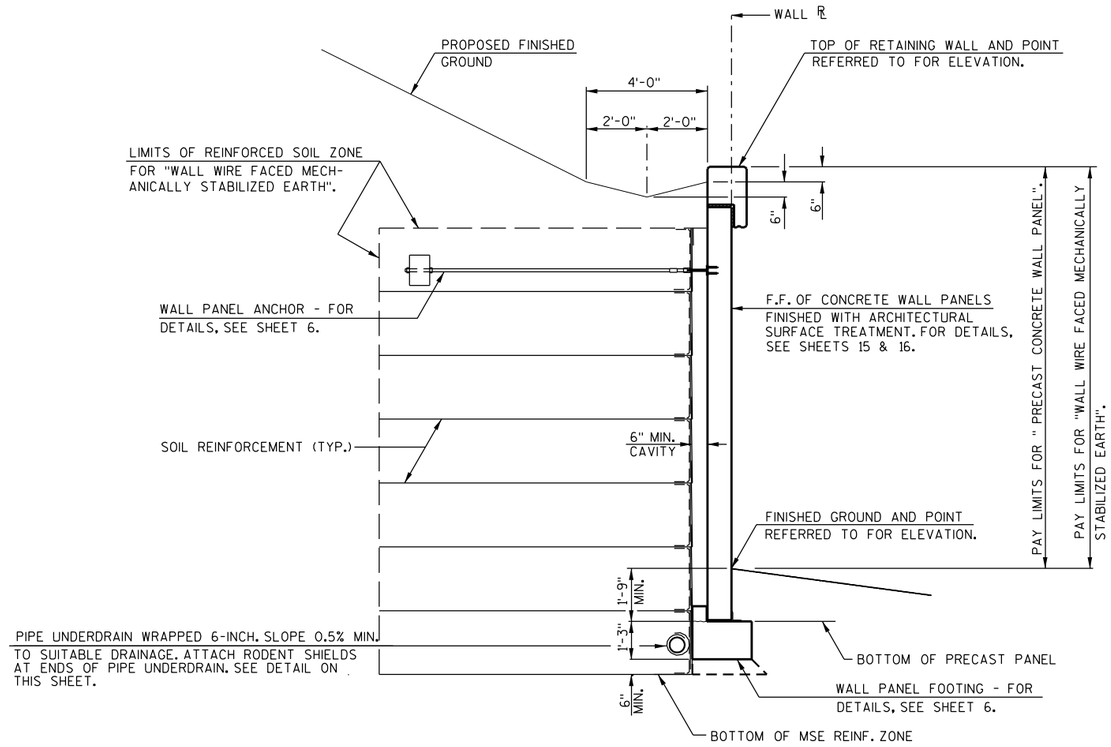


SECTION THRU RETAINING WALL AT NORTH ABUTMENT

(LOOKING WEST)

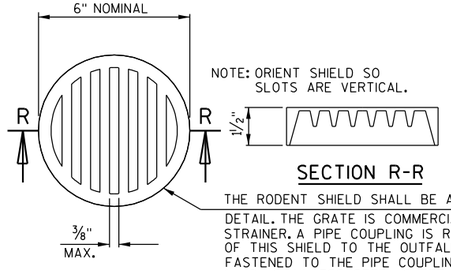


EXCAVATION/BACKFILL DETAIL



SECTION THRU RETAINING WALL

STA. 20+00.00 TO STA. 23+63.16, EXCEPT UNDER BRIDGES OR NOTED OTHERWISE IN PLANS.



RODENT SHIELD

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE R-5-209

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WALL DETAILS

SHEET 5 OF 16

2395

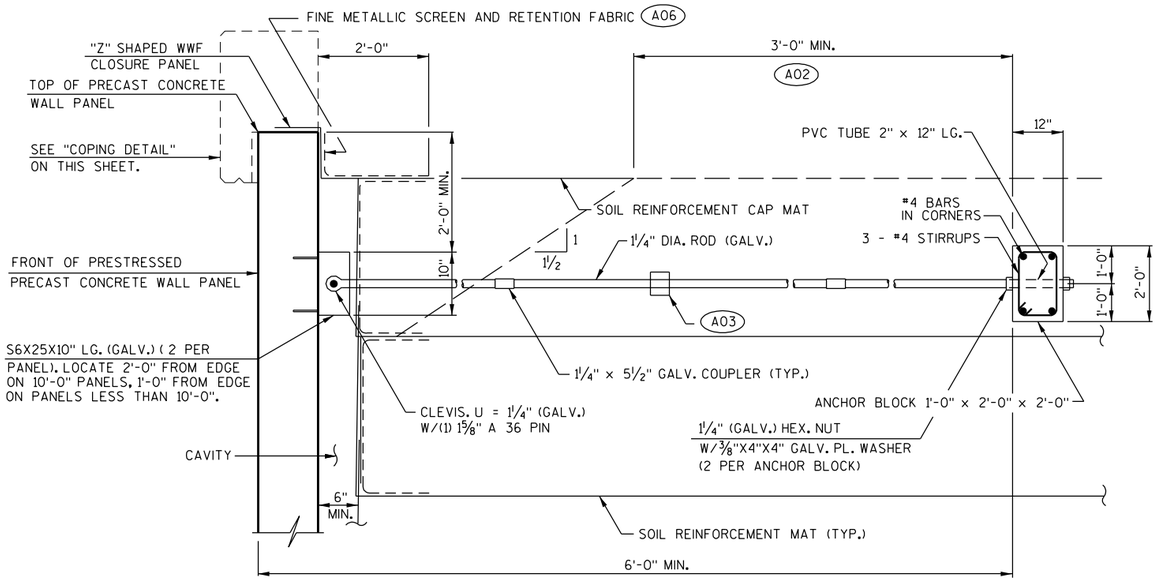
8

8

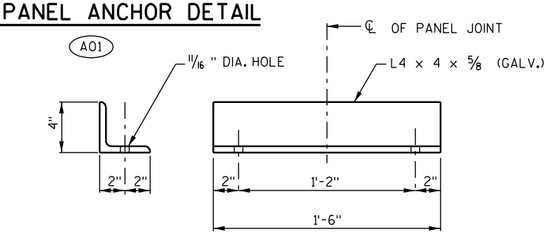
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-209\05_wall_details_A_v8_r-5-209.dgn
PLOT DATE : 11/1/2012

STATE PROJECT NUMBER

1133-09-71



WALL PANEL ANCHOR DETAIL



BASE ANGLE DETAIL

(ONE AT EACH PANEL JOINT) ◩

LEGEND

(A01) WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1¼" DIA. ANCHOR ROD, CLEVIS, AND OTHER PANEL CONNECTION COMPONENTS. DESIGN, DETAILING, AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL." INSTALLATION OF THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH."

(A02) DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION. ROD MIN. 2'-0" BELOW FINISH GRADE.

(A03) OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼" DIA. BAR)

(A04) BASE AGGREGATE OPEN GRADED, 6" MIN. INCIDENTAL TO BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

(A05) MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE PRECAST PANELS.

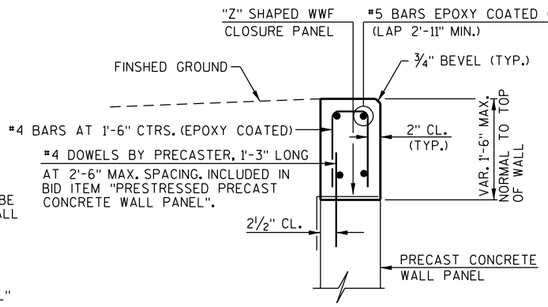
(A06) ALTERNATE METHODS OF SEALING OFF THE 6" VOID IN FRONT OF THE MSE WALL MAY BE SUBMITTED TO WISDOT FOR CONSIDERATION.

◩ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

NOTES

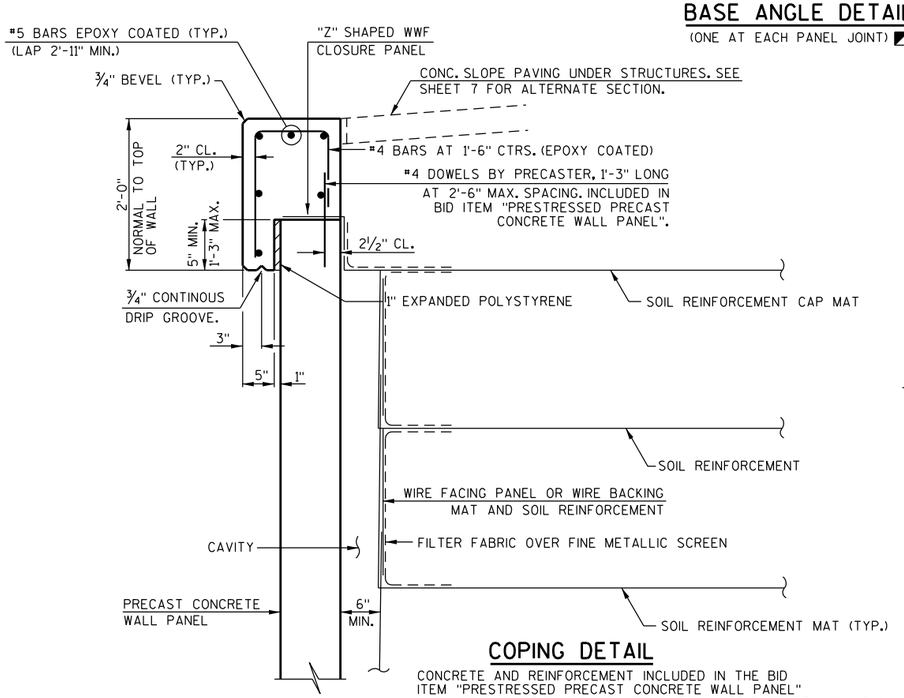
AN ALTERNATE WALL PANEL ANCHOR AND PANEL CONSTRUCTION SYSTEM MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER.

TILT UP PANEL ANCHOR SYSTEM MAY BE TRENCHED IN IF THE GEOMETRY OF THE ANCHOR SYSTEM LOCATION ALLOWS.



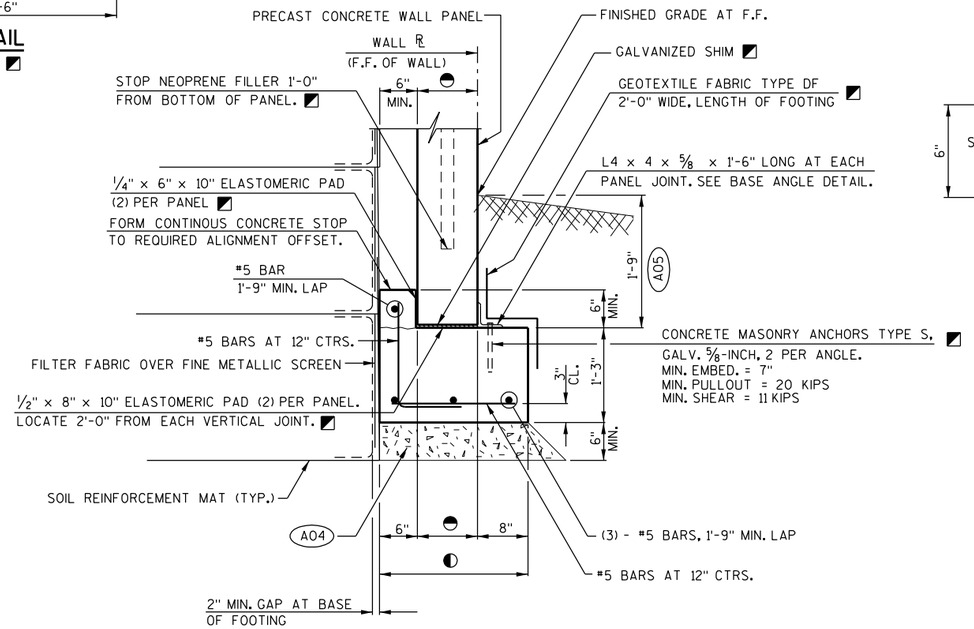
COPING DETAIL NEAR PILASTERS

WALL STA. 20+54.33 TO STA. 20+59.51 AND STA. 22+83.16 TO STA. 22+86.42



COPING DETAIL

CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"
WALL STA. 20+00.00 TO STA. 20+54.33, 20+59.51 TO STA. 22+83.16 AND STA. 22+86.42 TO STA. 23+86.42

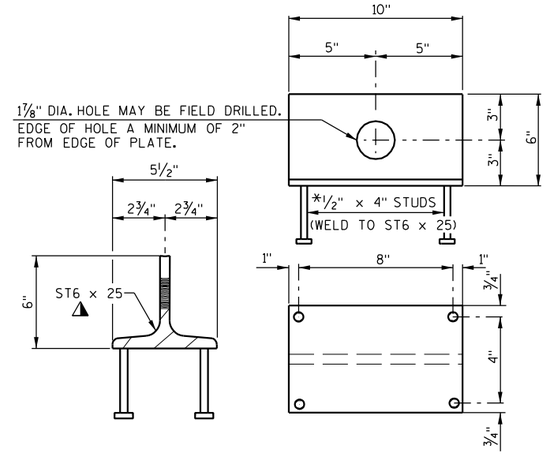


WALL PANEL FOOTING DETAIL

CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

◓ = 7½" OR 9½"

◐ FOOTING DIMENSION EQUALS PANEL THICKNESS PLUS 1'-2"



PANEL CONNECTION DETAILS

ST6 x 25 MAY BE WELDED TO ¾" THICK PLATE WITH (4) ½" X 4" STUDS ANCHORED IN PRECAST PANEL. RESTORE ZINC COATING AROUND ANY WELDED AREAS. SUBMIT DETAILS FOR APPROVAL BY ENGINEER.

◭ S12x50 (GALV.) CUT IN ½ TO FORM "T" SECTION. BF = 5.477" TW = 0.687".

* AS AN ALTERNATE, 1/2" TYPE S ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE R-5-209

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WALL DETAILS

SHEET 6 OF 16
2396

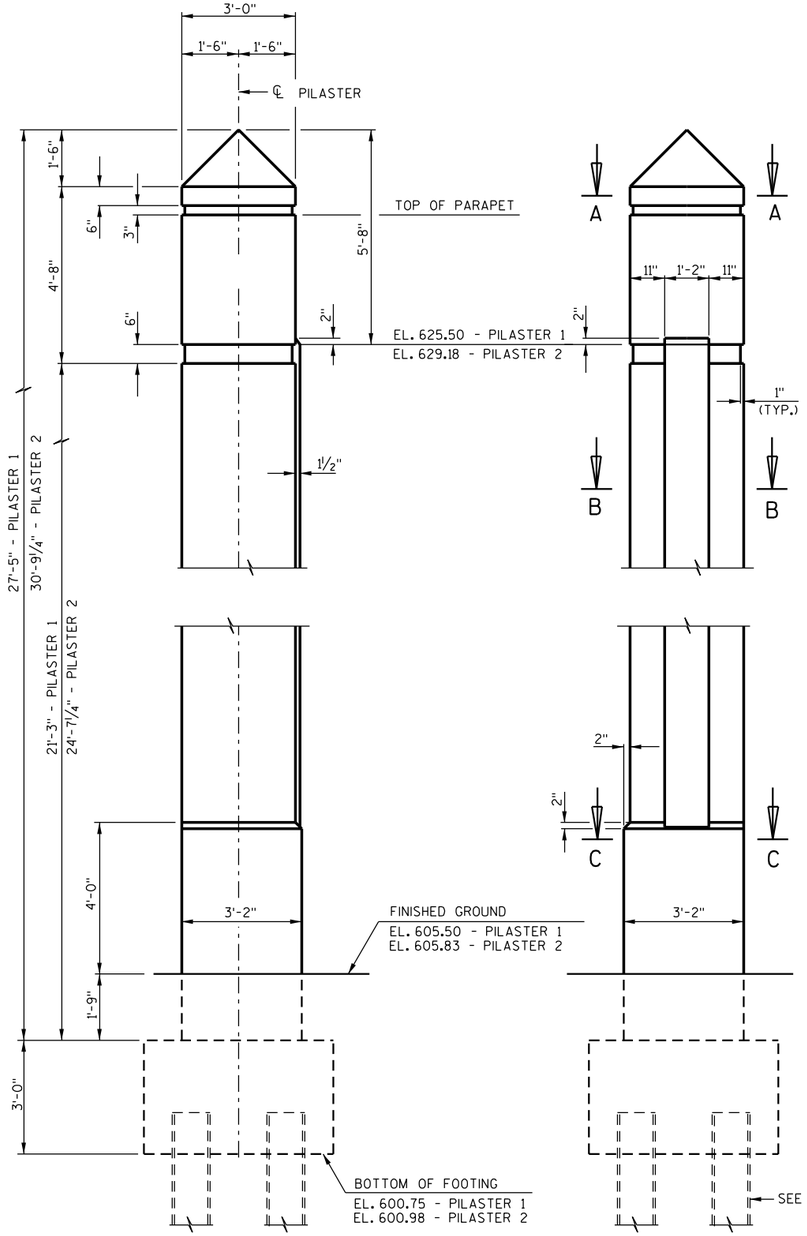
8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-209\06_wall_details_8_v8_r-5-209.dgn
PLOT DATE : 3/22/2013

STATE PROJECT NUMBER

1133-09-71

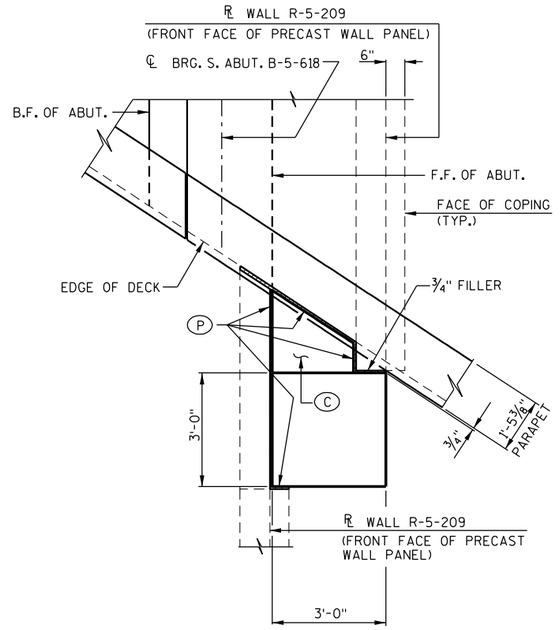


PILASTER ELEVATION

(LOOKING EAST AT PILASTER 1, PILASTER 2 SIMILAR)

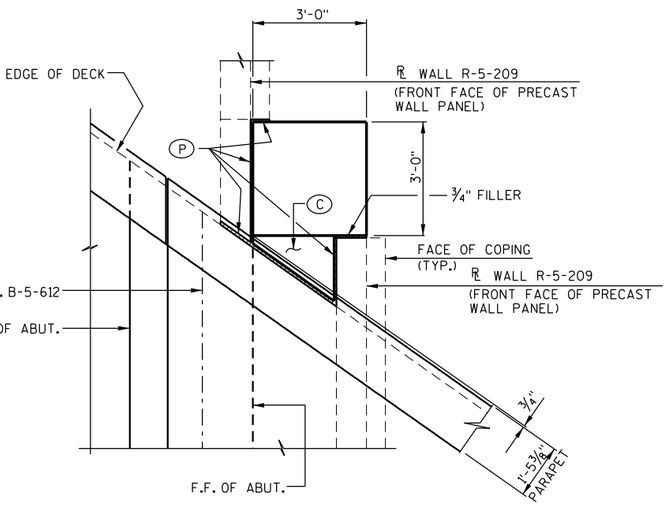
PILASTER ELEVATION

(LOOKING NORTH AT PILASTER 1, PILASTER 2 SIMILAR)



SECTION A-A

(PILASTER 1)



SECTION A-A

(PILASTER 2)

NOTES: FOR PILASTER REINFORCEMENT DETAILS, SEE SHEET 9.

FOR SECTION B-B & SECTION C-C, SEE SHEET 8.

LEGEND

(C) CONCRETE FILL. EXTEND CONCRETE FILL FROM FINISHED GROUND TO TOP OF BRIDGE DECK.

(P) ¾" POLYSTYRENE

(S) NON-STAINING NON-BITUMINOUS GRAY JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOWN SURFACE OF CONCRETE)

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STRUCTURE R-5-209

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PILASTER DETAILS

SHEET 7 OF 16

2397

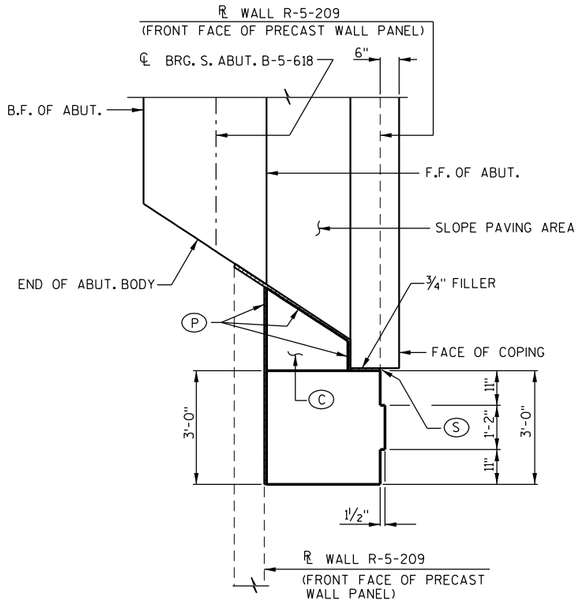
8

8

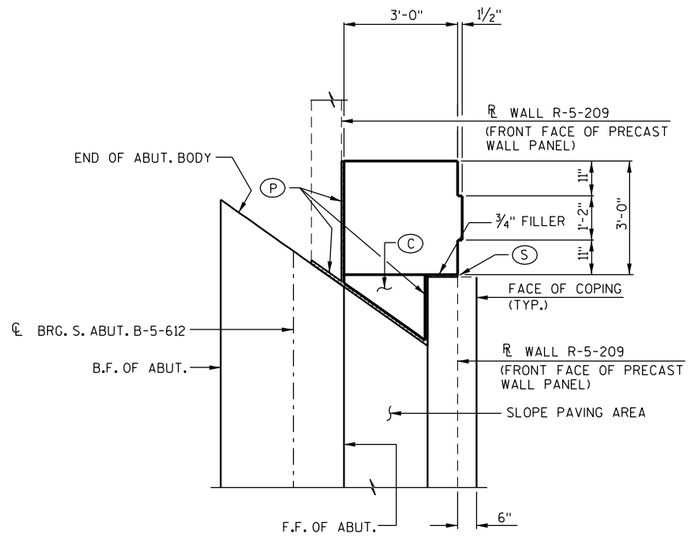
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-209\07_pilaster_A_v8_r-5-209.dgn
PLOT DATE : 11/1/2012

STATE PROJECT NUMBER

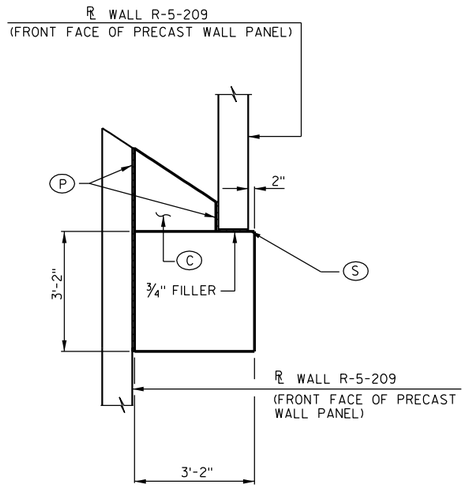
1133-09-71



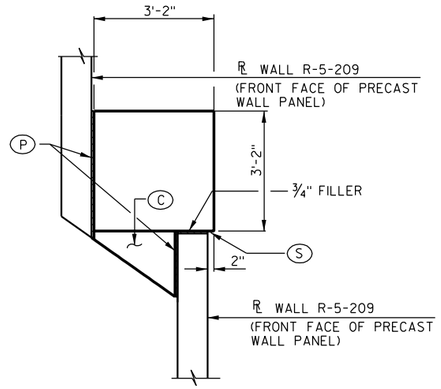
SECTION B-B
(PILASTER 1)



SECTION B-B
(PILASTER 2)



SECTION C-C
(PILASTER 1)



SECTION C-C
(PILASTER 2)

LEGEND

Ⓒ Ⓟ Ⓢ FOR SYMBOL DESCRIPTIONS, SEE SHEET 7.

NO.	DATE	REVISION	BY

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STRUCTURES DESIGN SECTION

STRUCTURE R-5-209

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PILASTER DETAILS

SHEET 8 OF 16
2398

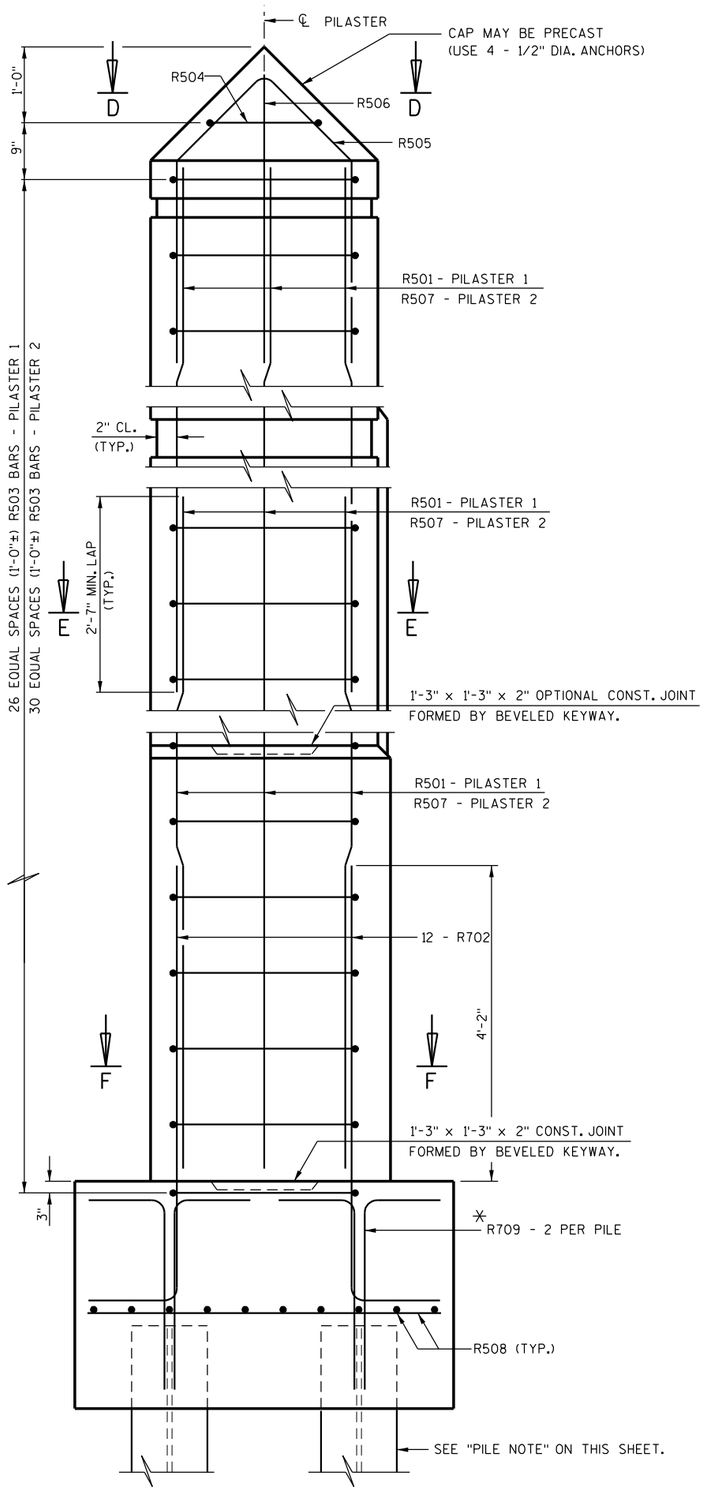
8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\Structures\R-5-209\08_pilaster_B_&_r-5-209.dgn
PLOT DATE : 9/25/2012

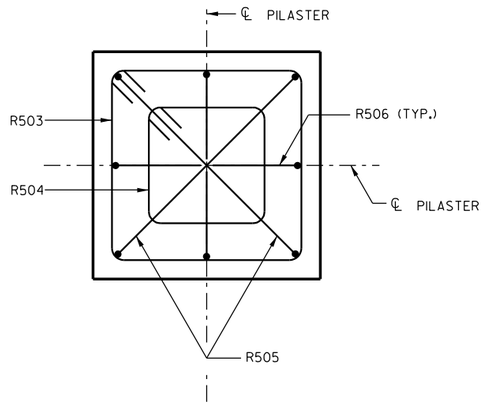
STATE PROJECT NUMBER

1133-09-71

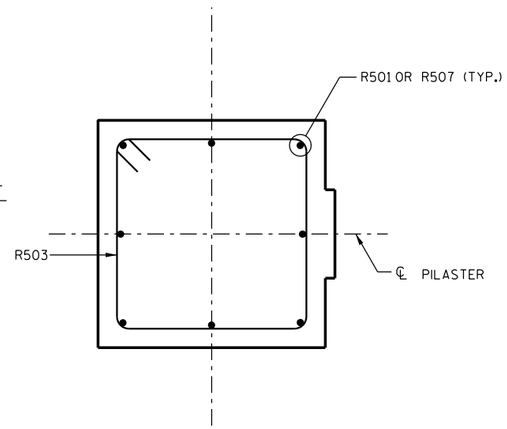


PILASTER ELEVATION

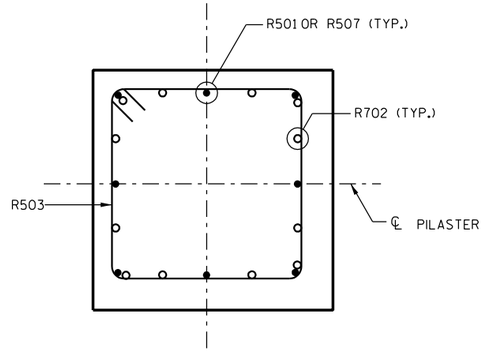
(SHOWING REINFORCEMENT. LOOKING EAST AT PILASTER 1, PILASTER 2 SIMILAR)



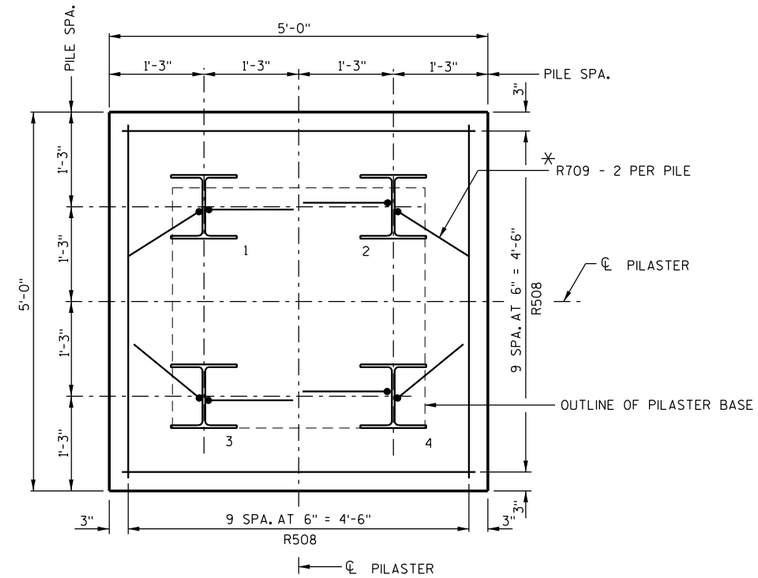
SECTION D-D



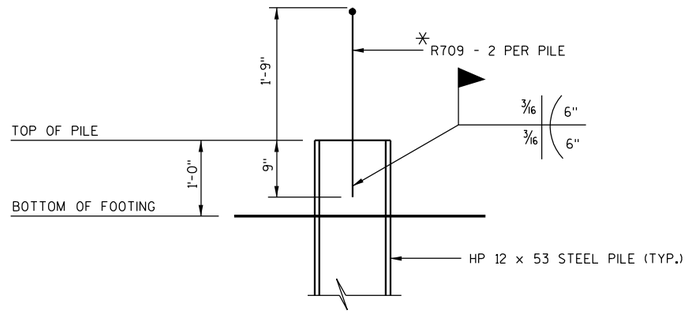
SECTION E-E



SECTION F-F



FOOTING PLAN



PILE HEAD DETAIL

LEGEND

✳ BAR STEEL REINFORCEMENT WELDED TO PILE SHALL CONFORM TO ASTM A706.

NOTES

BEVEL EXPOSED EDGES OF CONCRETE ½" UNLESS SHOWN OTHERWISE.

FOR BILL OF BARS, SEE SHEET 10.

FOR AESTHETIC DETAILS AT PILASTER, SEE SHEET 15.

PILE NOTE

PILASTER TO BE SUPPORTED ON PILING STEEL HP 12 x 53 WITH A REQUIRED DRIVING RESISTANCE OF 37 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 65'-0" LONG.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

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STRUCTURE R-5-209

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PILASTER DETAILS

SHEET 9 OF 16

2399

FILE NAME : P:\134 (DSH 41 Bridges (1133-09-00\Structures\R-5-209\09_pilaster_C_v8_r-5-209.dgn
PLOT DATE : 11/1/2012

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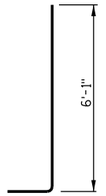
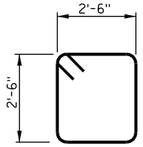
8

STATE PROJECT NUMBER

1133-09-71



R702



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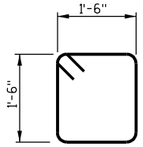

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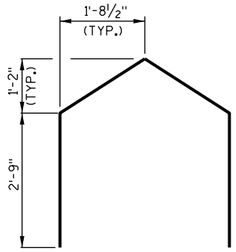
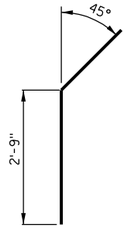


R505



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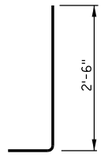

R709

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION	
EPOXY COATED BARS						TOTAL WEIGHT = 1,590 LBS.
R501	16	14-3			PILASTER 1	VERT.
R702	24	7-1	X		PILASTER & FOOTING	VERT.
R503	58	10-7	X		PILASTERS	LONGIT.
R504	2	6-7	X		PILASTERS - TOP	LONGIT.
R505	4	9-5	X		PILASTERS - TOP	VERT.
R506	8	4-5	X		PILASTERS - TOP	VERT.
R507	16	16-0			PILASTER 2	VERT.
UNCOATED BARS						TOTAL WEIGHT = 310 LBS.
R508	40	4-8			PILASTER FOOTING	HORIZ.
R709	16	3-6	X		FOOTING - BARS WELDED TO PILES	VERT.

FILE NAME : P:\134 USH 41 Bridges 11133-09-00\structures\R-5-209\10_bill_bars_r-5-209.dgn
PLOT DATE : 11/1/2012

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-209

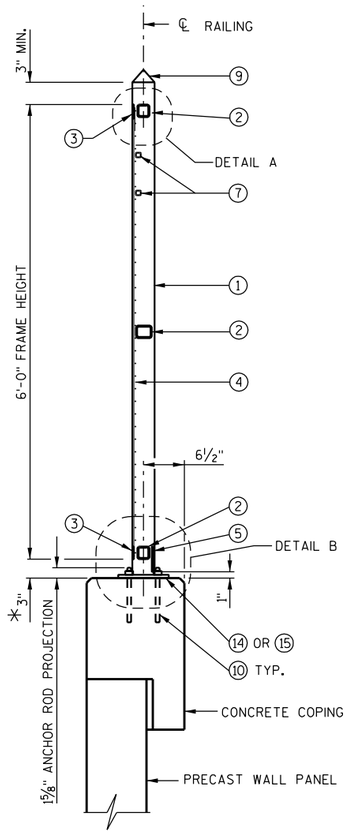
DRAWN BY TAW | PLANS CK'D. TR

BILL OF BARS

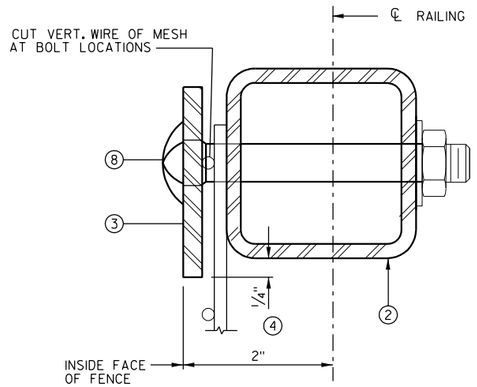
SHEET 10 OF 16
2400

STATE PROJECT NUMBER

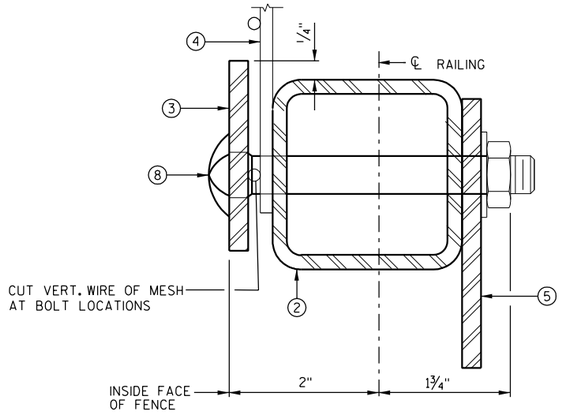
1133-09-71



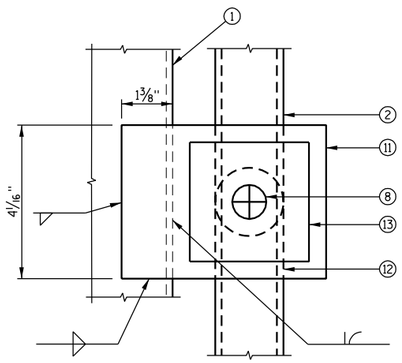
TYPICAL SECTION THRU FENCE/COPING



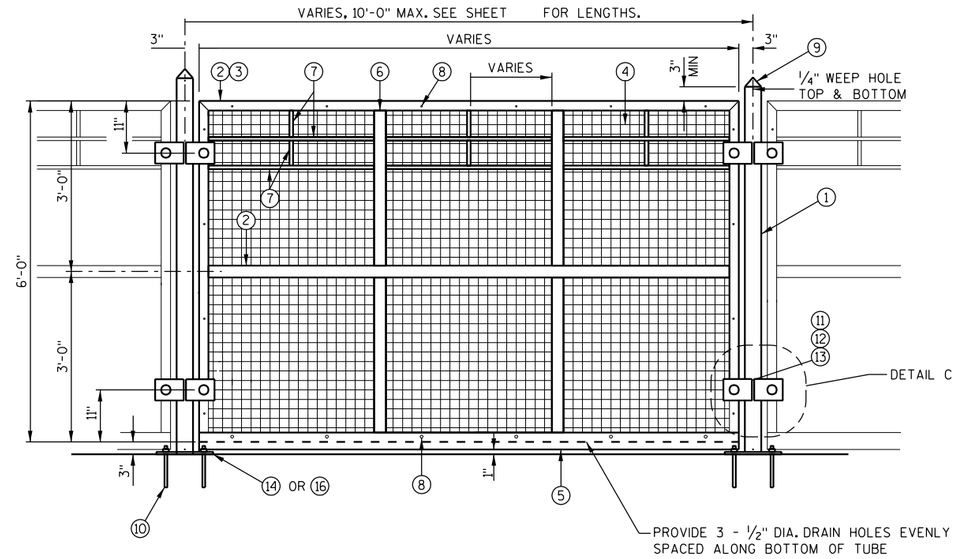
DETAIL A



DETAIL B



DETAIL C



TYPICAL OUTSIDE ELEVATION OF PANEL

LEGEND

1. HSS 3½ X 3½ X 3⁄16 POST WITH ¼" DIA. VENT HOLES TOP & BOTTOM ON OUTSIDE FACE. RESIZE AS NECESSARYFOR GALVANIZING PROCESS. WELD TO NO.9 & BASE PLATE, TYP.
2. HSS 2½X 2½ X 3⁄16. WELD TO NO. 6 & 7.
3. PL 2¾" X ¼" WELDED FRAME. WELD TO NO. 4. BOLT TO NO. 2 WITH NO. 8 AFTER PAINTING.
4. STEEL MESH 2" X 2" X 0.162 (8 GA.). PLACE VERTICAL WIRES ON INSIDE FACE OF PARAPET. WELD TO NO. 3.
5. PL ¼" X WIDTH VARIES. PROVIDE SHORT SLOTTED VERT. HOLES FOR NO. 8.
6. NOT USED.
7. ¾" x ¾" BAR. WELD TO NO. 2 & 7.
8. ½" DIA. CARRIAGE BOLT, WASHER AND NUT. PROVIDE ⅝" X ⅝" SQUARE HOLE IN NO. 3 & NO. 2 OF PANEL TYPE G ONLY FOR SQUARE PORTION OF THE BOLT HEAD.
9. 3½" X 3½" PYRAMIDAL CAP. WELD TO NO. 1.
10. ⅝" DIA. CONCRETE MASONRY ANCHOR TYPE S EPOXY, 7" MINIMUM EMBEDMENT WITH A MINIMUM PULLOUT OF 20 KIPS.
11. PL 5⁄16" X 4½" X 0'-6" CONNECTION WITH 2" DIA. HOLES FOR NO. 8. USE NO. 12 TO COVER 2" DIA. ADJUSTMENT HOLES. USE STANDARD HOLES ON CANTILEVERED FENCE PANEL AT ABUTMENTS.
12. PL ⅜" X 2½" X 4½".
13. PL WASHER ¼" X 3½" X 3½".
14. PL ½" X 8" X 10" BASE PLATE. WELD TO NO. 1.
15. PL ½" X 8" X 1'-0" BASE PLATE. WELD TO NO. 1.
16. ½" DIA. BOLT, WASHER & NUT. TACK WELD NUT TO NO. 2.

* THE DIMENSION BETWEEN THE BOTTOM OF THE WELDED FRAME AND THE TOP OF THE COPING SHALL BE HELD AT THE ENDS OF EACH PANEL AND THE PANEL SHALL FOLLOW THE SLOPE OF THE PROFILE.

NOTES

THE BID ITEM SHALL BE "FENCE DECORATIVE WALL" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

FOR WALL ELEVATIONS, SEE SHEET 1.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

STRUCTURAL TUBING SHALL BE A.S.T.M. A500, GRADE B. ROLLED SHAPES, PLATES, BARS AND SHIMS SHALL BE A.S.T.M. A709, GRADE 36.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE POST VERTICAL.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE A.S.T.M. A307 AND SHALL BE GALVANIZED.

STANDARD WASHERS SHALL BE USED TO SHIM BASE PLATES IF REQUIRED. ALL WASHERS SHALL BE GALVANIZED.

THE STEEL MESH SHALL BE TACK WELDED TO THE 2¼" X ¼" WELDED FRAME. THE MESH SHALL BE STRETCHED TO REMOVE SLACK.

VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

PRIOR TO FABRICATION, STEEL SHALL BE BLAST CLEANED PER SSPC-SP 6 AND GALVANIZED ACCORDING TO ASTM A 123. REPAIR ZINC COATING DAMAGED DURING FABRICATION AS SPECIFIED IN 635.3.4.

ALL WELDS SHALL BE PREQUALIFIED ACCORDING TO THE STRUCTURAL WELDING CODE STEEL (AWS D1.1). THE MINIMUM SIZE OF FILLET WELDS IS 3⁄16".

COAT THE RAILING WITH AN EPOXY PAINT SYSTEM. TOUCH UP DAMAGED PORTIONS OF PAINT AFTER PANEL ERECTION. SEE SPECIAL PROVISIONS FOR REQUIREMENTS.

FOR ADDITIONAL DECORATIVE FENCE DETAILS, SEE SHEETS 12 THRU 14.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-209

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DECORATIVE FENCE DETAILS

SHEET 11 OF 16
2401

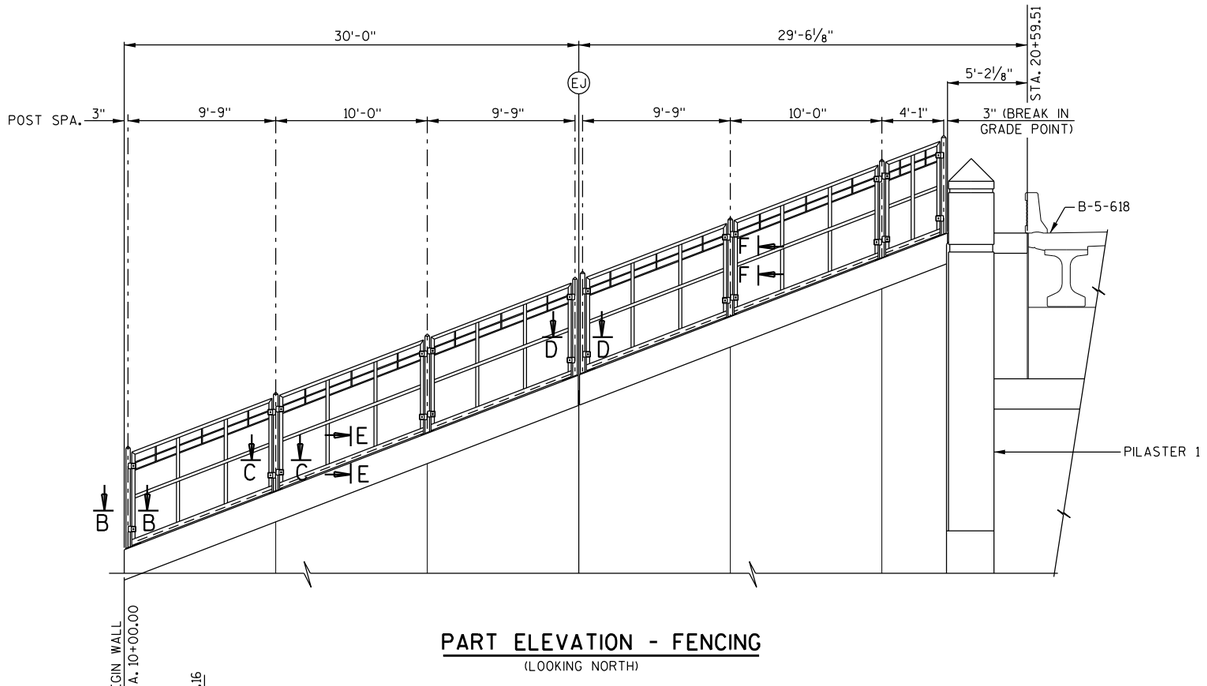
8

8

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-209\11_fence_detailsl_v8.r-5-209.dgn
PLOT DATE : 11/1/2012

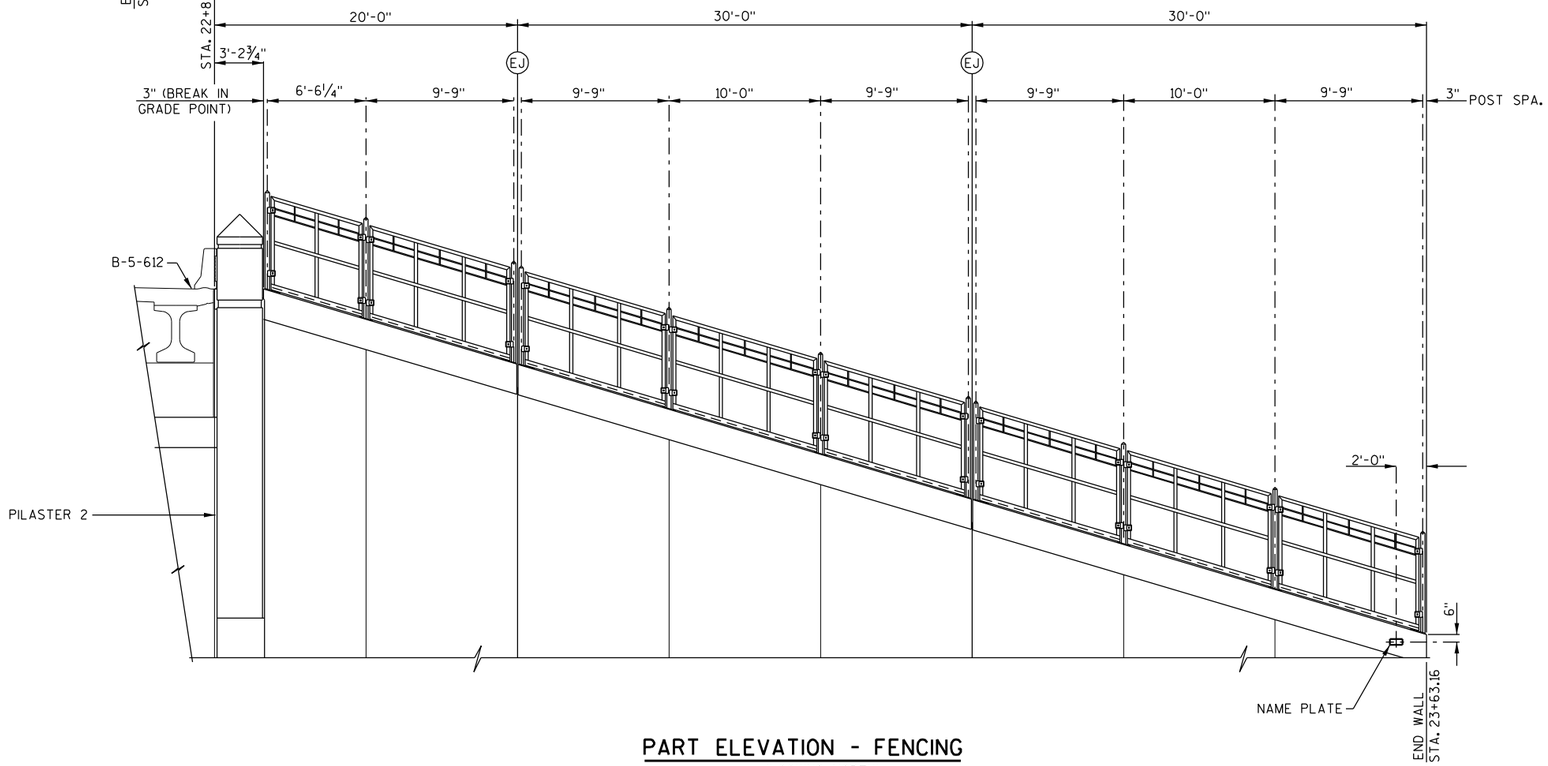
STATE PROJECT NUMBER

1133-09-71



PART ELEVATION - FENCING

(LOOKING NORTH)



PART ELEVATION - FENCING

(LOOKING NORTH)

NOTES: 2" × 2" STEEL MESH NOT SHOWN FOR CLARITY.

FOR "SECTIONS B-B, C-C, D-D, E-E & F-F", SEE SHEET 13.

FOR ADDITIONAL DECORATIVE FENCE DETAILS, SEE SHEETS 11, 13 & 14.

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-209\12_fence_details2_v8_r-5-209.dgn
PLOT DATE : 11/1/2012

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-209

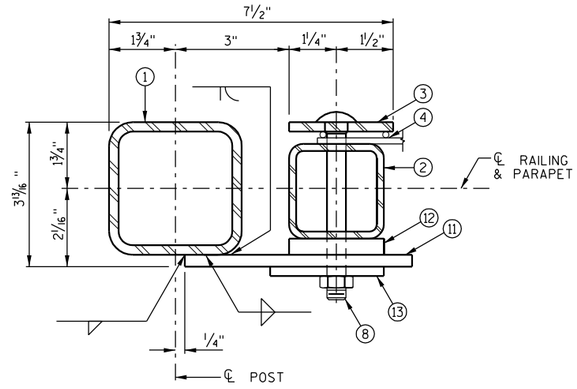
DRAWN BY TAW | PLANS CK'D. TR

DECORATIVE FENCE DETAILS

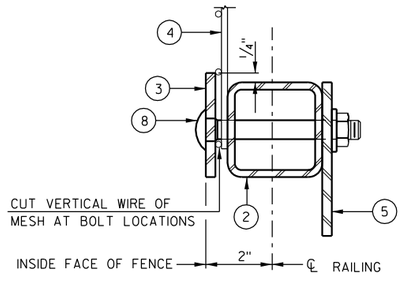
SHEET 12 OF 16
2402

STATE PROJECT NUMBER

1133-09-71



SECTION B-B



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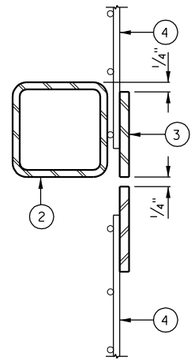

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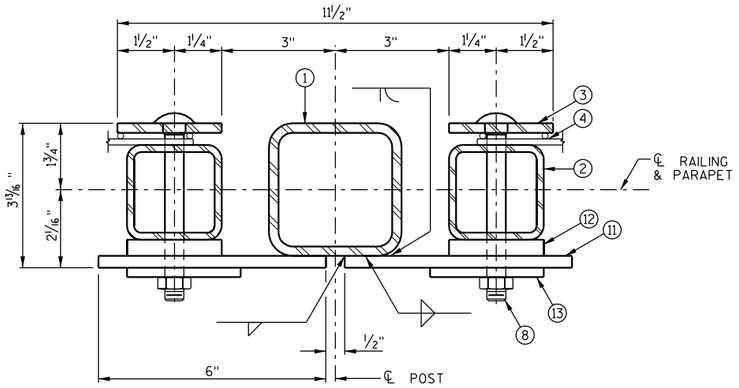

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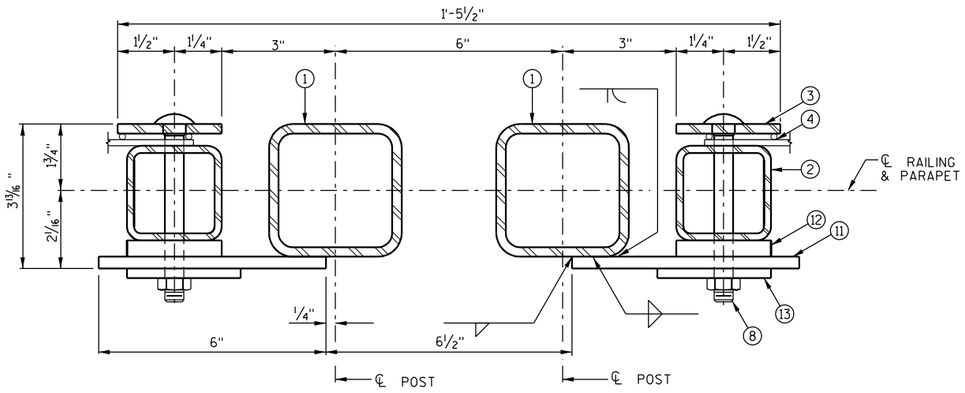
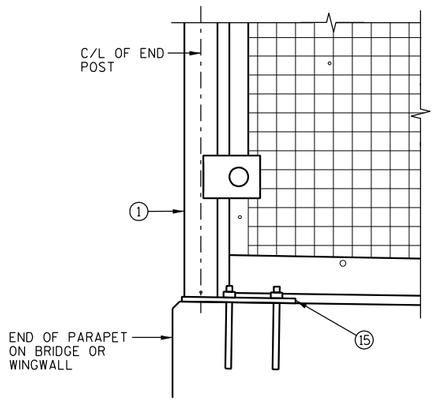


SECTION D-D



END POST DETAIL

(SEE DECK PLAN FOR LOCATIONS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-209

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DECORATIVE FENCE DETAILS

SHEET 13 OF 16
2403

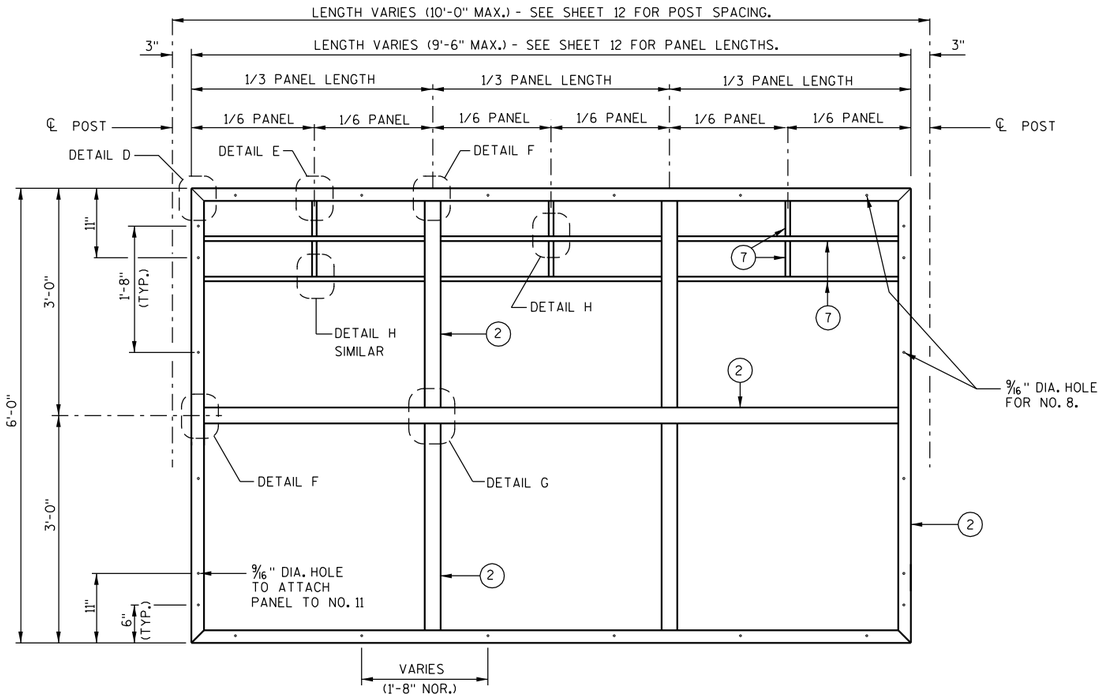
8

8

FILE NAME : P:\134 (DSH 41 Bridges (1133-09-00)\Structures\R-5-209\13_fence_details.v8_r-5-209.dgn
PLOT DATE : 9/17/2012

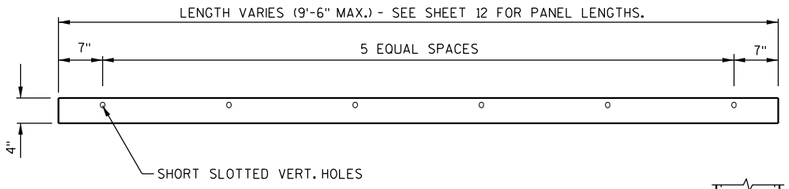
STATE PROJECT NUMBER

1133-09-71

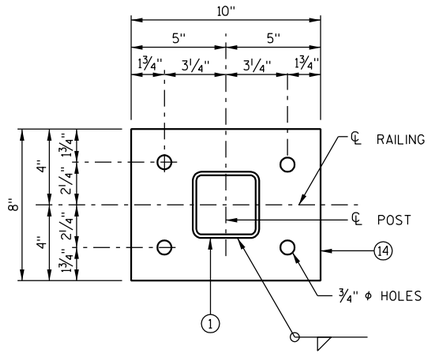


DECORATIVE FENCE PANEL

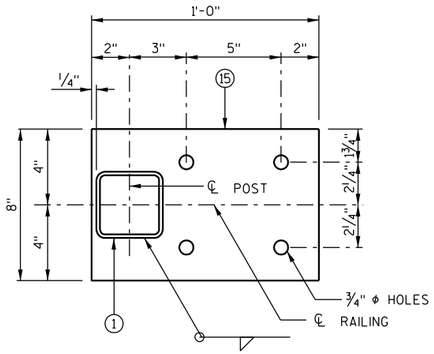
(ELEVATION VIEW SHOWING TYPICAL FENCE PANEL)



1/4" PLATE (NO. 5)

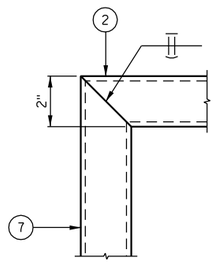


BASE PLATE

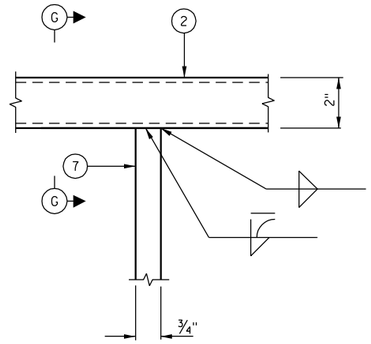


END BASE PLATE

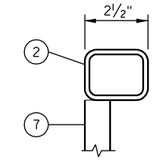
COPING BASE PLATE DETAILS



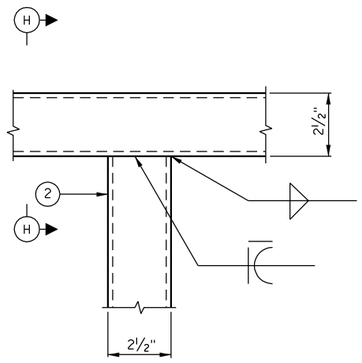
DETAIL D



DETAIL E



SECTION G-G



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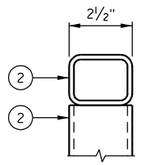

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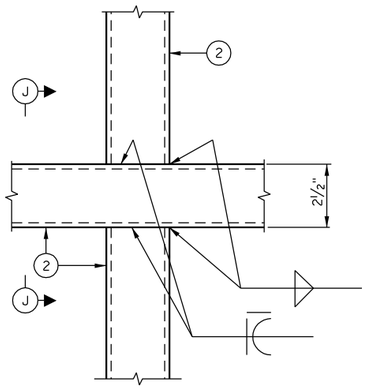

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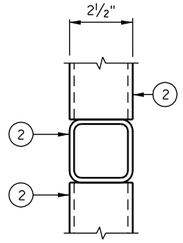
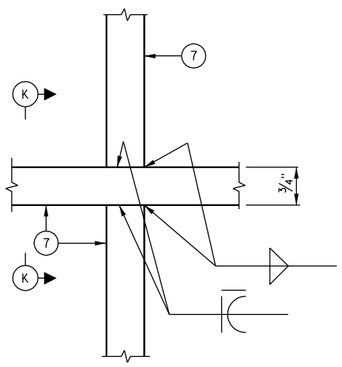
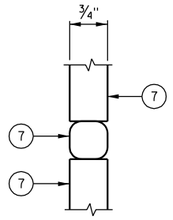


SECTION J-J



DETAIL H



SECTION K-K

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-209

DRAWN BY TAW | PLANS CK'D. TR

DECORATIVE FENCE DETAILS

SHEET 14 OF 16
2404

FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-209\14_fence_details4_v8.r-5-209.dgn
PLOT DATE : 9/26/2012

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STATE PROJECT NUMBER

1133-09-71

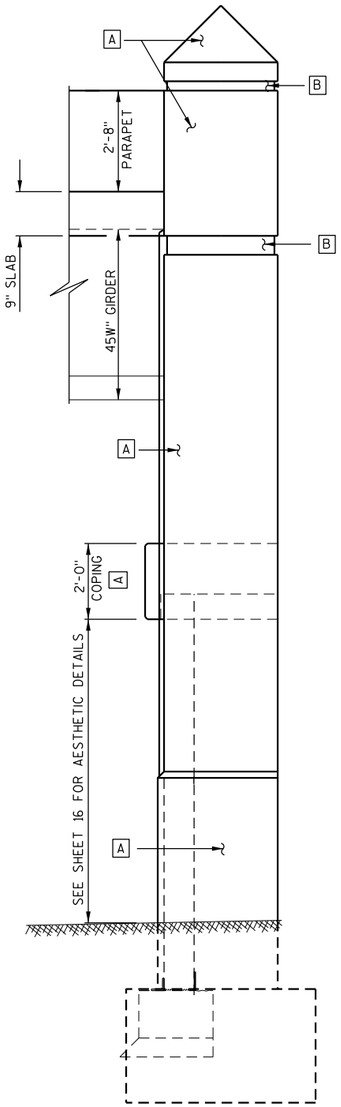
NOTES: ALL JOINTS SHALL BE LOCATED AS SHOWN ON ELEVATION VIEW ON SHEETS 1 & 2 AND MUST COINCIDE WITH PANEL JOINT ON FRONT FACE.

FILLERS AND EXPANDED POLYSTYRENE ARE INCLUDED IN WALL LENGTH. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF THESE FILLERS WITH NON-STAINING AND NON-BITUMINOUS SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE. COLOR OF SEALER SHALL MATCH THE COLOR OF STAIN.

CONCRETE STAINING SCHEDULE

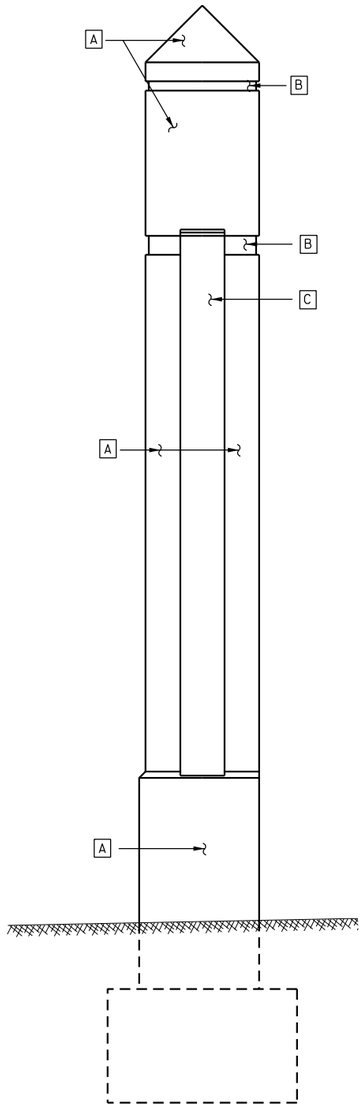
MARK	COLOR	FEDERAL COLOR	LOCATION
A	BASE COLOR	33522	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	33303	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
C	ACCENT COLOR #2	10076	VERTICAL PILASTER CENTER ELEMENT
D	ACCENT COLOR #3	12160	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	10091	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	10219	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	37038	LETTERING AT ROADWAY NAME

NOTE: 1. ALL COLOR DESIGNATIONS ARE FEDERAL STANDARD COLORS.
2. FINISH ON COLORS IS FLAT (LUSTERLESS)



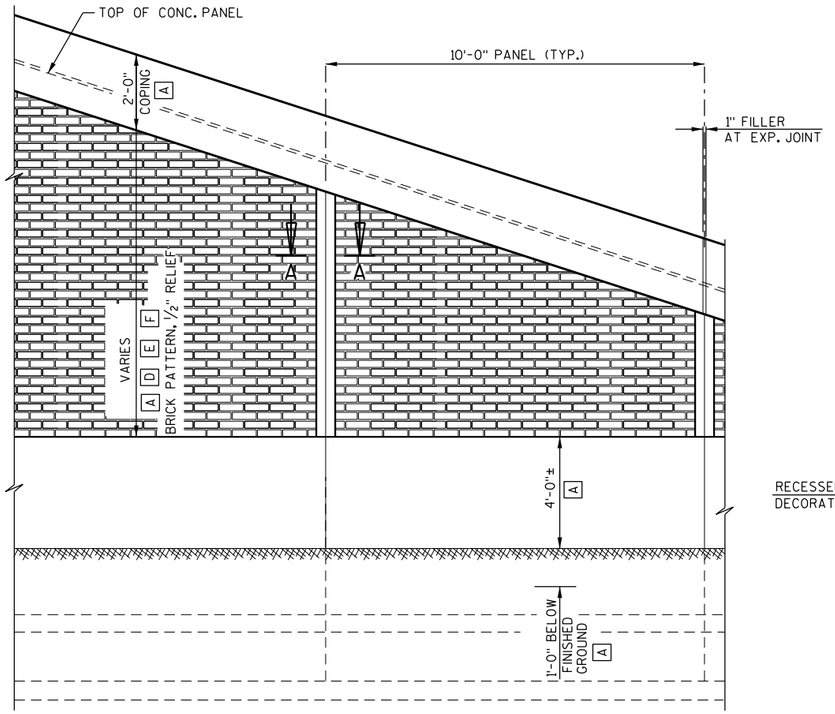
SECTION THRU WALL UNDER BRIDGES

(LOOKING WEST AT PILASTER 2. SEE SHEET 16 FOR WALL PANEL AESTHETIC DETAILS BETWEEN PILASTERS)



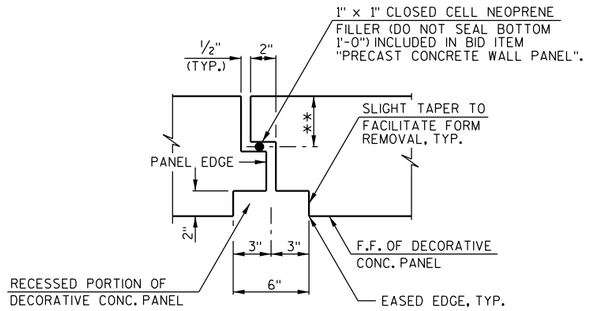
PILASTER DETAIL

(LOOKING NORTH AT PILASTER 1, PILASTER 2 SIMILAR)



TYPICAL ELEVATION AT WALL PANEL

(SEE SHEET 16 FOR LOACATIONS OF SPECIAL DETAILS.)



SECTION A-A

** 4" FOR 9 1/2" PANEL
3" FOR 7 1/2" PANEL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-209

DRAWN BY TAW | PLANS CK'D. TR

AESTHETIC DETAILS

SHEET 15 OF 16
2405

8

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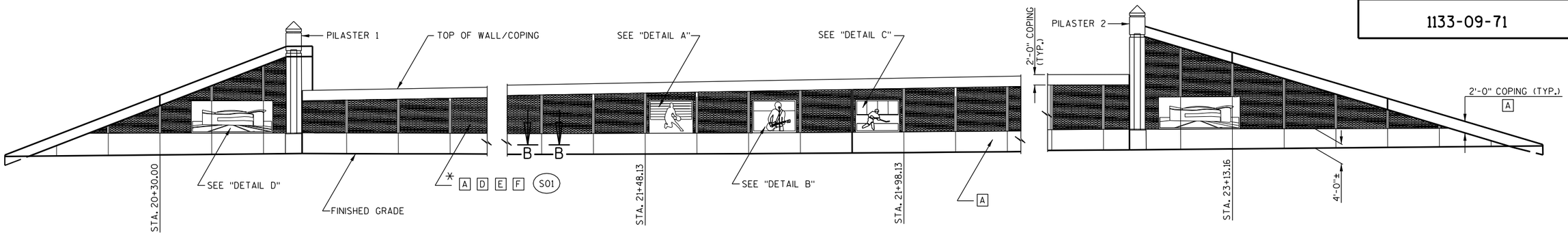
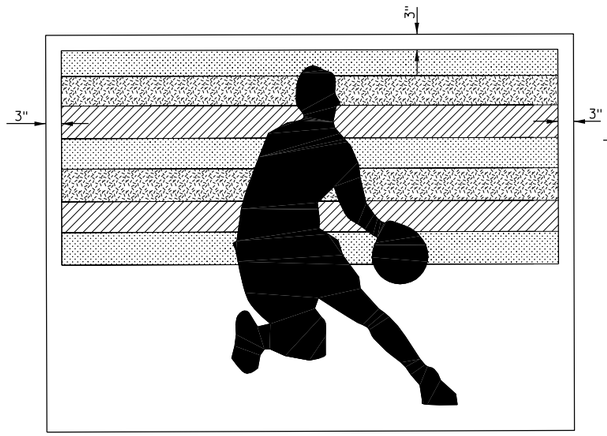
FILE NAME : P:\134 USH 41 Bridges (1133-09-00)\structures\R-5-209\15_aesthetics1_r-5-209.dgn
PLOT DATE : 11/1/2012

STATE PROJECT NUMBER
1133-09-71

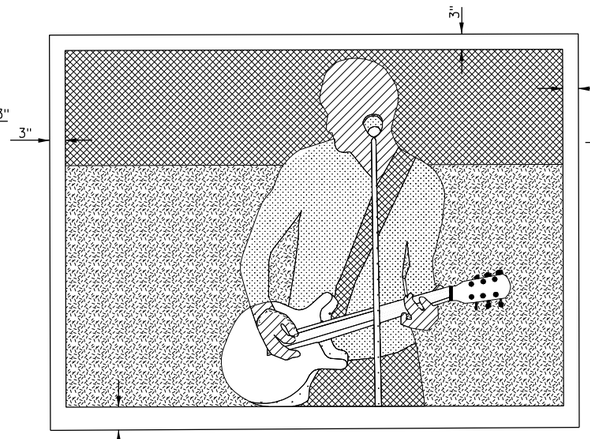


ELEVATION AT F.F. OF RETAINING WALL

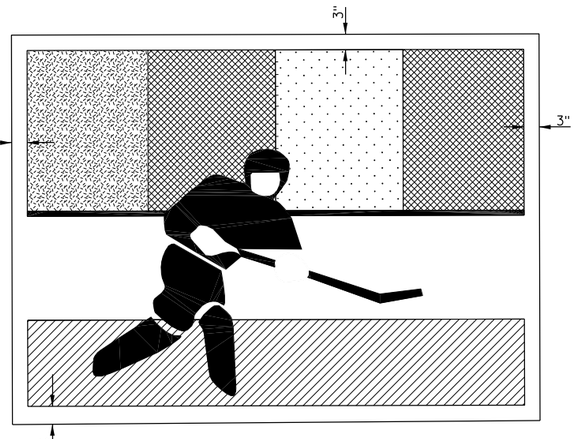
(LOOKING NORTH UNDER STR. B-5-612/618/619)



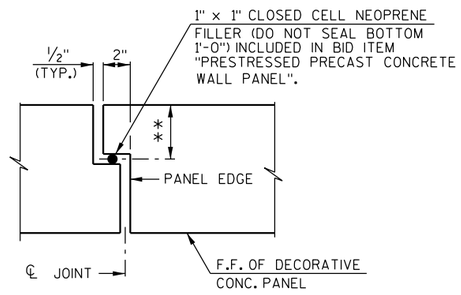
DETAIL A



DETAIL B



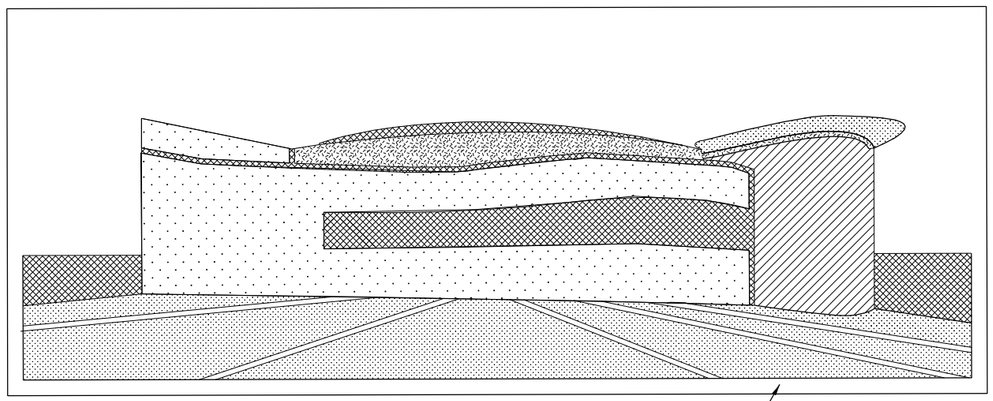
DETAIL C



SECTION B-B

(SECTION IS BELOW BRICK PATTERN. SEE "SECTION A-A" ON SHEET 15 FOR SECTION THRU JOINT AT BRICK PATTERN.)

** 4" FOR 9½" PANEL
3" FOR 7½" PANEL



DETAIL D

NOTES

(S01) STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

THE COST OF BRICK PATTERN FORMLINER TREATMENT IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT". SEE SPECIAL PROVISIONS FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

FOR TOP OF WALL ELEVATIONS, SEE SHEET 1.

CONCRETE STAINING DETAIL

MARK	HATCH	COLOR	RELIEF (INCHES)
A		BASE COLOR	0
B		ACCENT COLOR #1	-1
C		ACCENT COLOR #2	-2
D		ACCENT COLOR #3	-1.25
E		ACCENT COLOR #4	-1.5
F		ACCENT COLOR #5	-0.75
G		ACCENT COLOR #6	-.5

NOTE: SEE SPECIAL PROVISIONS FOR STAIN COLORS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-209

DRAWN BY TAW | PLANS CK'D. TR

AESTHETIC DETAILS

SHEET 16 OF 16
2406

FILE NAME : P:\134 USH 41 Br.\Dges (1133-09-00)\structures\R-5-209\16_aesthetics2_v8_r-5-209.dgn
PLOT DATE : 11/1/2012

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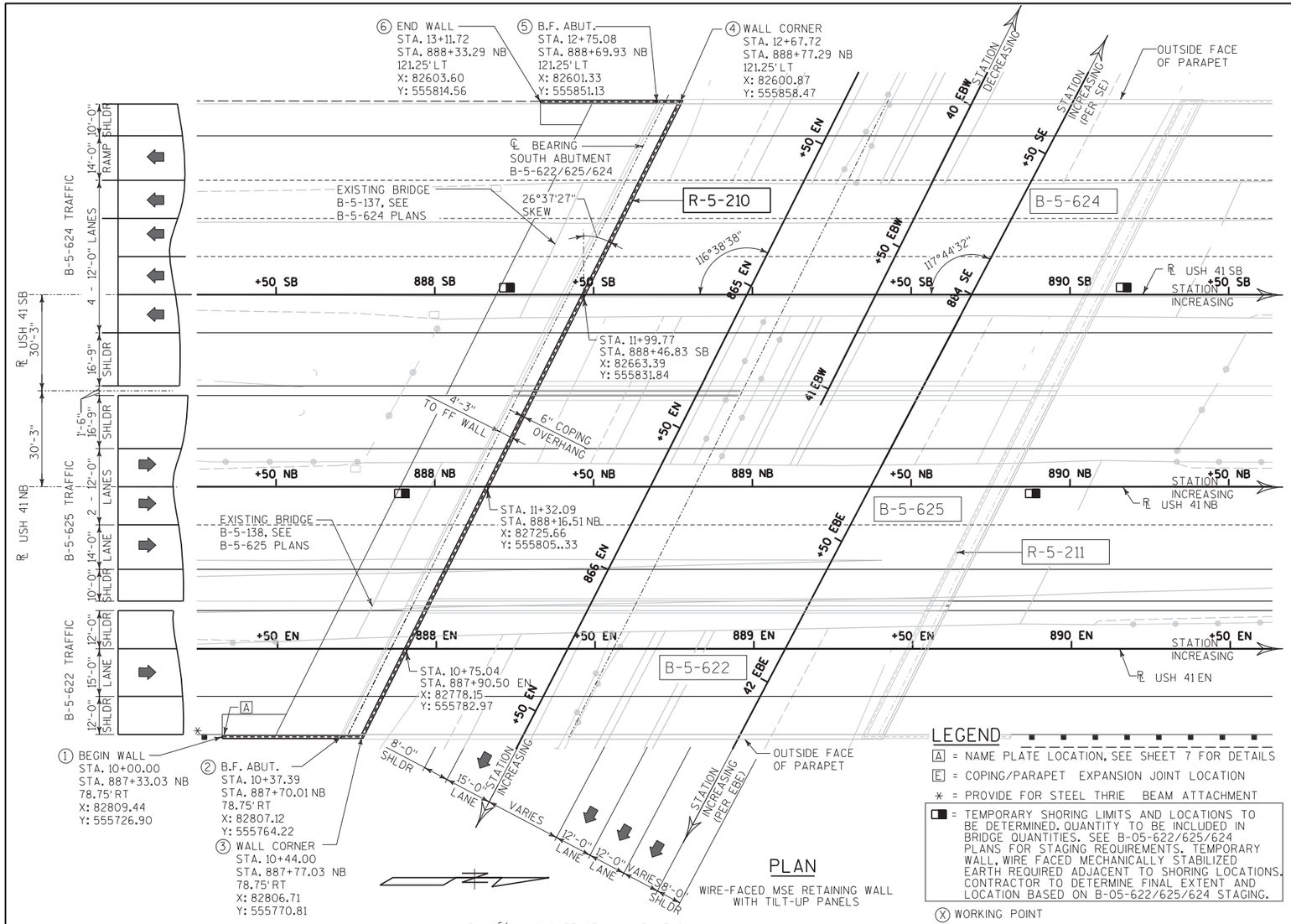
STATE PROJECT NUMBER

1133-09-71



PLAN

WIRE-FACED MSE RETAINING WALL WITH TILT-UP PANELS

LEGEND

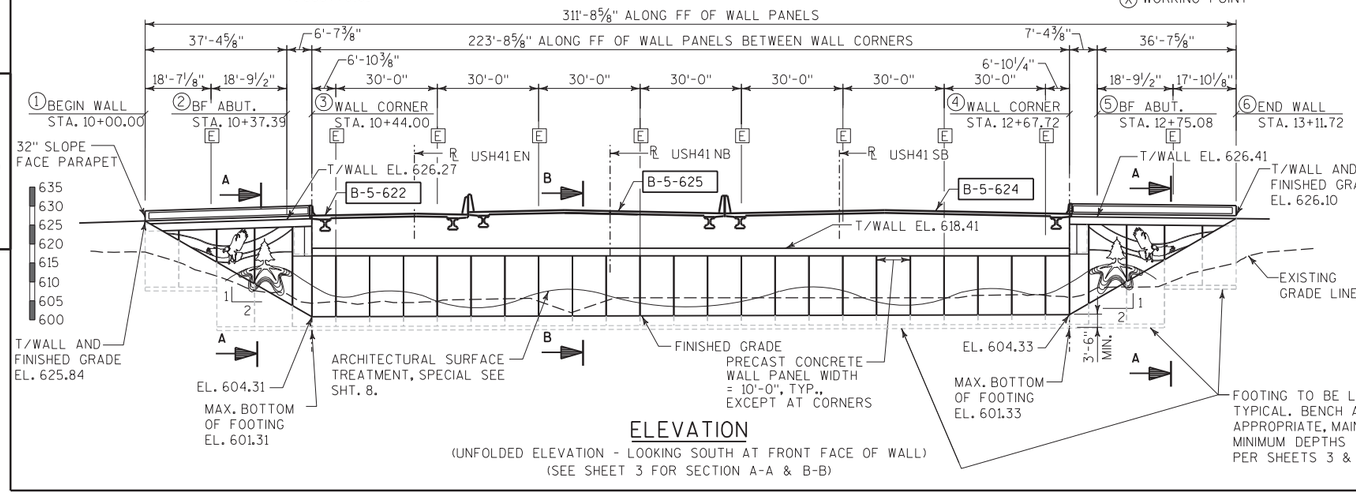
[A] = NAME PLATE LOCATION, SEE SHEET 7 FOR DETAILS

[E] = COPING/PARAPET EXPANSION JOINT LOCATION

* = PROVIDE FOR STEEL THRIE BEAM ATTACHMENT

■ = TEMPORARY SHORING LIMITS AND LOCATIONS TO BE DETERMINED. QUANTITY TO BE INCLUDED IN BRIDGE QUANTITIES. SEE B-05-622/625/624 PLANS FOR STAGING REQUIREMENTS. TEMPORARY WALL, WIRE FACED MECHANICALLY STABILIZED EARTH REQUIRED ADJACENT TO SHORING LOCATIONS. CONTRACTOR TO DETERMINE FINAL EXTENT AND LOCATION BASED ON B-05-622/625/624 STAGING.

Ⓧ WORKING POINT



ELEVATION

(UNFOLDED ELEVATION - LOOKING SOUTH AT FRONT FACE OF WALL)
(SEE SHEET 3 FOR SECTION A-A & B-B)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCIDENTAL TO THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN IN THE GEOMETRY TABLE.

THE EXISTING GROUNDLINE IS THE UPPER LIMIT OF EXCAVATION FOR STRUCTURES.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THIS WALL WITH CONSTRUCTION OF THE SOUTH ABUTMENT OF BRIDGES B-5-624, B-5-625 AND B-5-622.

DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

APPLY PROTECTIVE SURFACE TREATMENT TO THE EXPOSED SURFACE OF THE ANCHOR SLAB AND THE TOP AND INSIDE FACE OF PARAPETS.

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE ANCHOR SLAB AND PARAPETS IS INCLUDED IN THE ITEM "CONCRETE MASONRY RETAINING WALLS."

WALL STATIONS ARE GIVEN AT THE FRONT FACE OF THE WALL PANEL (UNLESS SHOWN OTHERWISE).

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFY THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M 153, TYPE I, II OR III OR AASHTO DESIGNATION M 213.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

OPTIONAL TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE PANEL FOOTING WITH A MINIMUM SPACING OF TWO PANEL JOINTS. FOOTING JOINTS SHOULD BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THRU FOOTING JOINTS.

DO NOT ALLOW CONCRETE OR FILL TO DROP OR ACCUMULATE IN WALL PANEL CAVITY.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

PROVIDE A RUBBED SURFACE FINISH IN ACCORDANCE WITH SECTION 502.3.7.3 TO ALL PERMANENTLY EXPOSED SURFACES OF CONCRETE MASONRY RETAINING WALLS.

SEE SPECIAL PROVISIONS FOR AESTHETIC TREATMENT TO WALL.

DESIGN THE MSE WALL FOR A SUCTION LOAD OF 20 PSF ACTING ON THE PRECAST WALL PANELS.

DESIGN FOR RETAINING WALL TO PROVIDE FOR A FINISHED GRADE SLOPE BEHIND THE WALL AS SHOWN IN THESE PLANS AND THE ROADWAY CROSS SECTIONS.

ALL STATIONS AND OFFSETS ARE REFERENCED TO THE USH 41 NB ALIGNMENT.

FOR UTILITY OWNERSHIP AND CONTACT INFORMATION, SEE ROADWAY PLAN.

THE EXISTING ABUTMENT PILING SHALL BE CUT OFF AT THE BOTTOM OF WALL ELEVATION FOR R-5-210. THIS WORK TO BE INCLUDED IN BRIDGE QUANTITY BID ITEM "REMOVING OLD STUCTURE."

AT ENDS OF WALL, SEAL CAVITY BETWEEN WIRE FACE AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE, 1'-6" WIDE. INCIDENTAL TO BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANELS". "FINE METALLIC SCREEN" TO HAVE A MAXIMUM ¼" × ¼" MESH AND MIMIMUM 0.025 WIRE DIAMETER. WIRES TO BE HOT DIPPED GALVANIZED AFTER WELDING.

LIST OF DRAWINGS

1. GENERAL PLAN
2. DESIGN DATA & QUANTITIES
3. WALL DETAILS-1
4. WALL DETAILS-2
5. WALL DETAILS-3
6. ANCHOR SLAB LAYOUT
7. PARAPET & ANCHOR SLAB DETAILS
8. AESTHETIC DETAILS-1
9. AESTHETIC DETAILS-2
10. SUBSURFACE EXPLORATION

WISCONSIN
JOHN F. RUBLEIN
E-38700
MADISON
WI
PROFESSIONAL ENGINEER
3/28/13

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

NE REGION CONTACT:
KURT PETERS (920) 492-2213

CONSULTANT CONTACT:
JOHN RUBLEIN (608) 229-1434

NO.	DATE	REVISION	BY

DAAR ENGINEERING, INC.
www.daarcorp.com
Madison, WI 53703
608-249-0140

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/01/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-5-210

SOUTH RETAINING WALL AT USH 41 & STH 172 EB

COUNTY	VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STD. SPEC

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JFR	ACT	TRW	JFR

GENERAL PLAN

SHEET 1 OF 10

2407

FILE= SCALE = 40:0 " / IN.

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I.D.

DATE: 3/28/2013

STATE PROJECT NUMBER

1133-09-71

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID - ITEMS	UNIT	QUANTITY
502.3200	PROTECTIVE SURFACE TREATMENT	SY	17
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	16
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	2020
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6
532.0700.S	WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	4020
532.0750.S	TEMPORARY WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	690
604.0400	SLOPE PAVING CONCRETE	SY	62
604.0600	SLOPE PAVING SELECT CRUSHED MATERIAL	SY	570
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	170
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	320
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	1
652.0125	CONDUIT RIGID METALLIC, 2-INCH	LF	25
SPV.0165.501	STAINING CONCRETE	SF	5360
SPV.0165.503	ARCHITECTURAL SURFACE TREATMENT, SPECIAL	SF	4325
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	4020
	NON BID - ITEMS		
	PREFORMED FILLER	SIZE	¾" & 1"
	CORK FILLER	SIZE	1"
	EXPANDED POLYSTYRENE	SIZE	1"

ALL ITEMS ARE CATEGORY 4120.

GEOMETRY TABLE

WORKING POINT	WALL STATION	USH 41 NB STATION	OFFSET TO F.F. WALL PANEL	TOP OF WALL	FINISHED GRADE	EXISTING GRADE	X	Y
①	10+00.00	887+33.03	78.75' RT	625.84	625.84	615.92	82809.44	555726.90
②	10+37.39	887+70.01	78.75' RT	626.27/618.41	607.54	608.55	82807.12	555764.22
③	10+44.00	887+77.03	78.75' RT	618.41	604.31	606.18	82806.71	555770.81
④	12+67.72	887+77.29	121.25' LT	618.41	604.33	604.63	82600.87	555858.47
⑤	12+75.08	888+69.93	121.25' LT	618.41/626.41	607.97	607.36	82601.33	555851.13
⑥	13+11.72	888+33.29	121.25' LT	626.10	626.10	620.24	82603.60	555814.56

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEVATION
525	876+51.26 NB 582.89' LT.	CHISELED "X" ON A FIRE HYDRANT BURY BOLT ON A DEAD END CUL DE SAC OF SPRINGHURST DR. 55' FROM A MANHOLE COVER TO FIRE HYDRANT AT THE EAST END OF THE ROUND-A-BOUT.	648.93
548	868+20.00 NB 443.71' RT.	CHISELED "X" ON A FIRE HYDRANT BURY BOLT 30' NORTH OF VERNON DR. & 225' EAST OF HANSEN RD. ON THE WESTERLY SIDE OF VERNON DR.	619.77

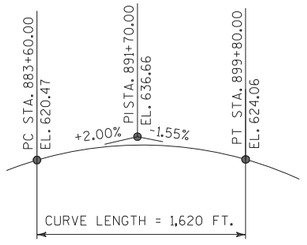
SAFETY FACTORS & DIMENSIONS

DIMENSIONS			
WALL HEIGHT[1] "H" (FEET)	27.9	17.9	27.9
RETAINED HEIGHT	27.9	27.9	27.9
REINFORCEMENT LENGTH[2] (FEET)	22	22	22
LENGTH OF REIN. / WALL HEIGHT	0.8 H	1.2 H	0.8 H
FACTOR OF SAFETY[3]			
SLIDING	2.34	2,34	2.34
OVERTURNING	5.04	5.04	5.04
GLOBAL STABILITY	1.33	1.33	1.33
BEARING CAPACITY	2.9	2.9	2.9
ALLOW. BEARING CAPACITY (PSF)	4500	4500	4500

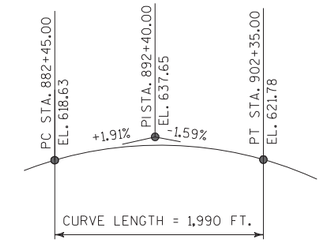
NOTES:
1. WALL HEIGHT SHOWS ONLY THE MAXIMUM HEIGHT IN THE SECTION AND INCLUDES 3.5 FEET OF EMBEDMENT PER US 41 BROWN COUNTY CORRIDOR MANUAL.
2. THE LENGTH OF REINFORCEMENT IS THE MINIMUM REQUIRED LENGTH FOR THE MAXIMUM WALL HEIGHT AT THE EVALUATED SECTION.
3. MINIMUM FACTORS OF SAFTEY PER CHAPTER 14 OF BRIDGE MANUAL (SLIDING 1.5, OVERTURNING 2.0, GLOBAL 1.3, BEARING CAPACITY 2.5).
4. FINAL DESIGN FOR INTERNAL STABILITY, AND EXTERNAL SLIDING AND OVERTURNING AT OTHER WALL SECTIONS IS THE RESPONSIBILTY OF THE CONTRACTOR'S WALL DESIGNER.

SOIL PARAMETERS

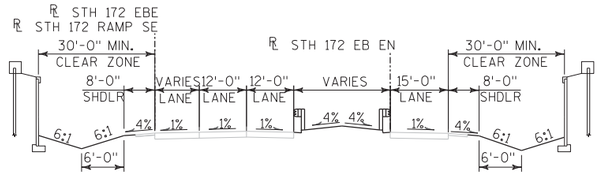
SOIL LAYER	BOTTOM ELEVATION (FEET)	SOIL UNIT WEIGHT (pcf)	UNDRAINED COHESION (psf)	UNDRAINED FRICTION ANGLE (DEGREES)	DRAINED COHESION (psf)	DRAINED FRICTION ANGLE (DEGREES)
VERY STIFF LEAN CLAY	583.1	120	1200	0	100	26
HARD LEAN CLAY	574.6	135	1500	0	100	28
MEDIUM STIFF LEAN CLAY	555.1	140	1700	0	100	28
STIFF LEAN CLAY	550.6	130	1500	0	100	28
VERY STIFF LEAN CLAY (2)	524.6	120	1600	0	100	28
MEDIUM STIFF LEAN CLAY (2)	514.6	120	1000	0	100	26
DENSE SAND	508.6	125	0	32	0	32



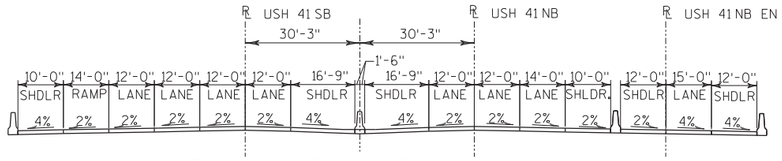
PROFILE GRADE LINE USH 41 RAMP EN



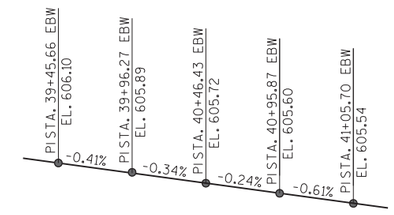
PROFILE GRADE LINE USH 41 SB



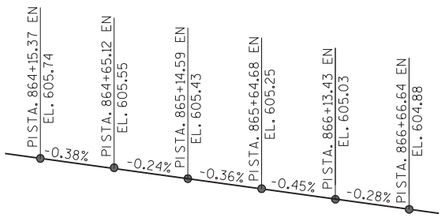
TYPICAL SECTION THRU STH 172 EB



TYPICAL SECTION THRU USH 41



EXISTING PROFILE GRADE LINE STH 172 EB



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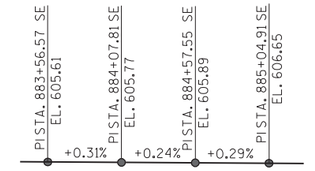

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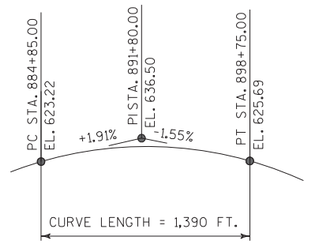

PROFILE GRADE LINE USH 41 NB

DESIGN DATA

LIVE LOAD:
LIVE LOAD SURCHARGE (ROADWAY) = 240 PSF
MATERIAL PROPERTIES:
CONCRETE MASONRY RETAINING WALLS f'c = 4,000 PSI
PRECAST CONCRETE WALL PANEL f'c = 5,000 PSI
BAR STEEL REINFORCEMENT fy = 60,000 PSI
STRUCTURAL CARBON STEEL (ASTM A709 GR. 36) fy = 36,000 PSI

FOUNDATION DATA:
ALLOWABLE SOIL BEARING CAPACITY-MSE (SEE TABLE)

THE WALL HAS BEEN DESIGNED FOR LIVE LOAD SURCHARGES AS NOTED. CONTRACTOR IS RESPONSIBLE FOR EVALUATING WALL FOR ANTICIPATED CONSTRUCTION LIVE LOADS IN EXCESS OF 240 PSF.

TRAFFIC DATA USH 41 NB

ADT = 27,300 (2015)
= 34,800 (2035)
DESIGN SPEED = 70 MPH

TRAFFIC DATA USH 41 SB

ADT = 37,900 (2015)
= 47,300 (2035)
DESIGN SPEED = 70 MPH

TRAFFIC DATA USH 41 RAMP SE

ADT = 15,800 (2015)
= 20,400 (2035)
DESIGN SPEED = 60 MPH

TRAFFIC DATA STH 172 EB

ADT = 28,500 (2015)
= 38,800 (2035)
DESIGN SPEED = 60 MPH

TRAFFIC DATA STH 172 RAMP EN

ADT = 2,400 (2015)
= 3,000 (2035)
DESIGN SPEED = 55 MPH

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-210

DRAWN BY TRW | PLANS CK'D. JFR

DESIGN DATA & QUANTITIES

SHEET 2 OF 10
2408

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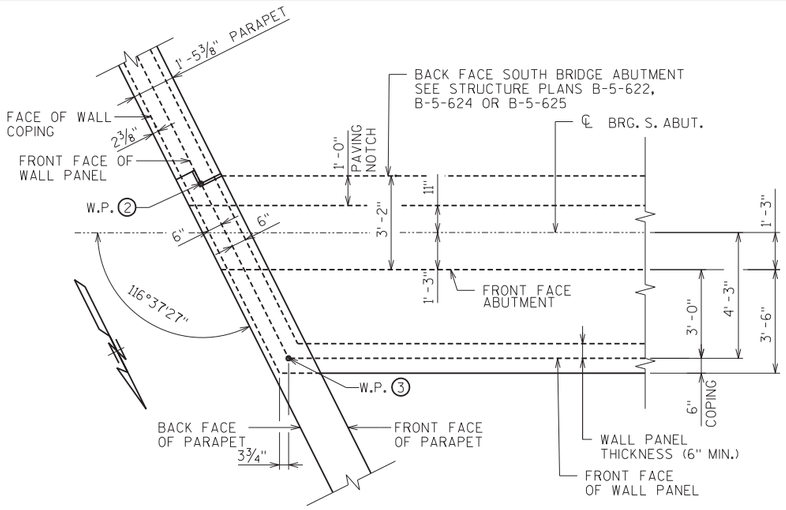
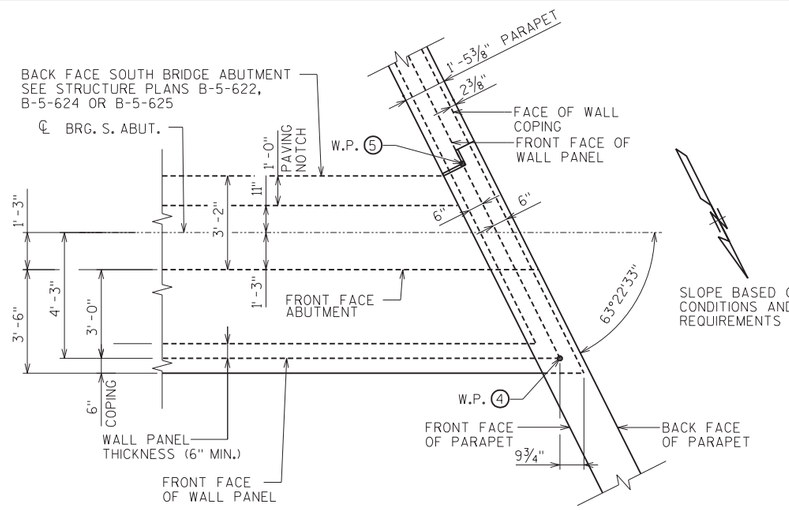
SCALE = 10:0 " :" / IN.

STATE PROJECT NUMBER

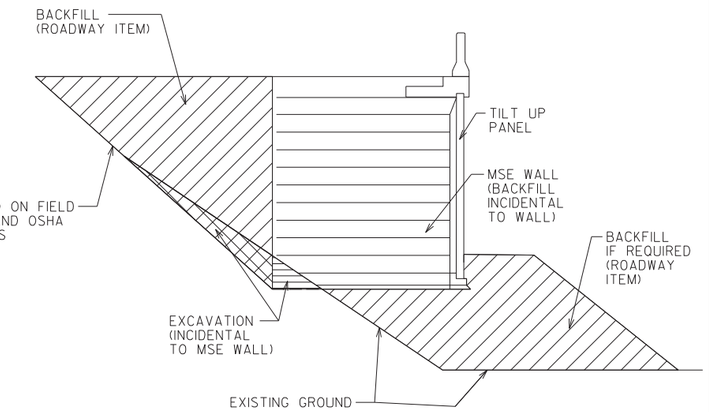
1133-09-71



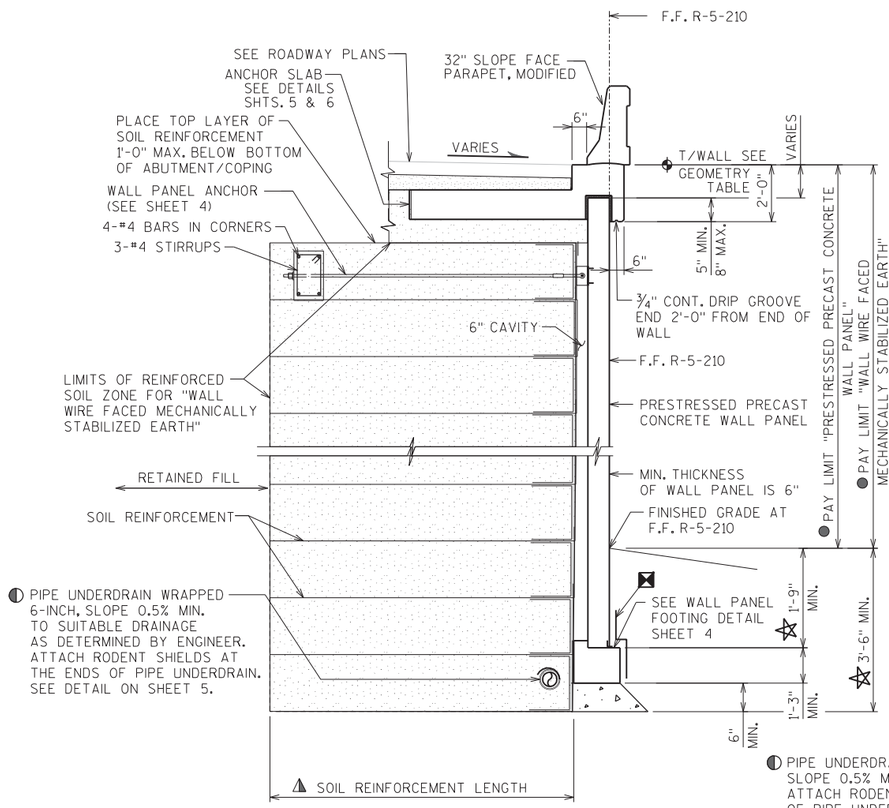
SOUTH-EAST QUADRANT



SOUTH-WEST QUADRANT

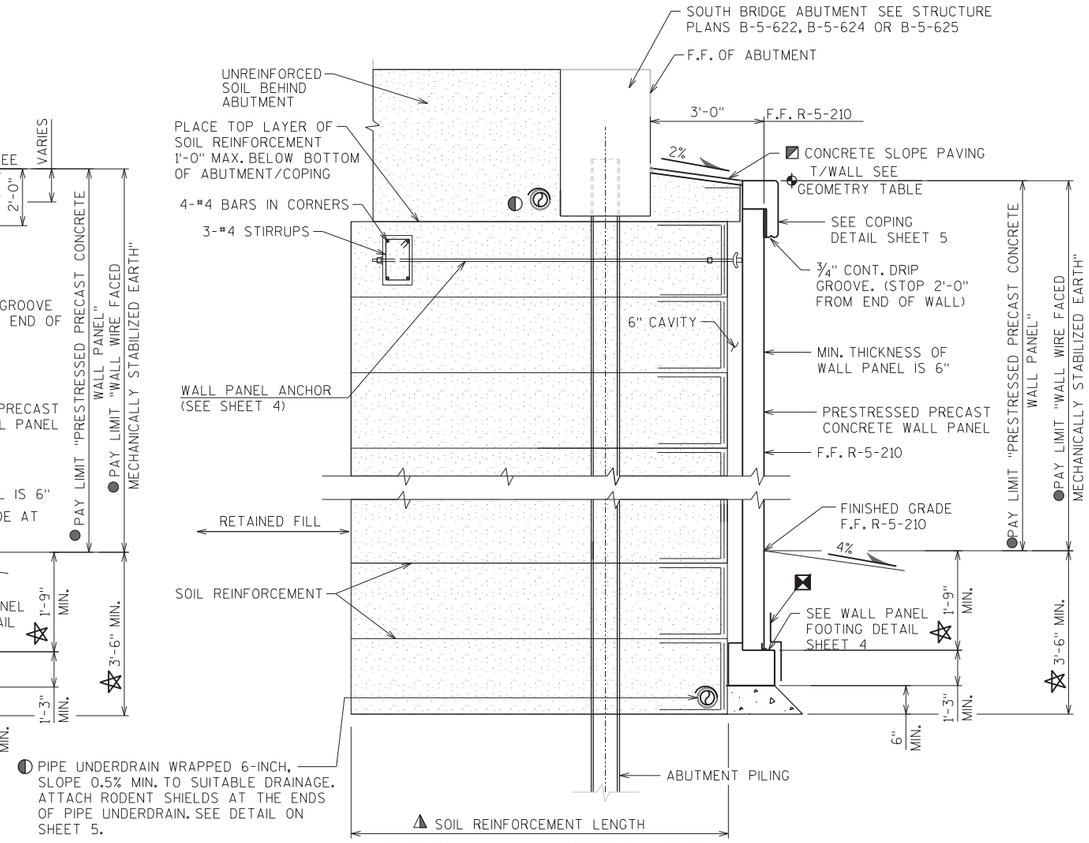


EXCAVATION/BACKFILL DETAIL



TYPICAL WALL SECTION A-A

LOOKING NORTH AT EAST SIDE OF WALL, WEST SIDE MIRROR IMAGE W.P.① TO W.P.② AND W.P.⑤ TO W.P.⑥ SEE B-5-622 AND B-5-624 PLANS FOR APPROACH PANEL COPING DETAILS.



TYPICAL WALL SECTION B-B

LOOKING WEST AT SOUTH ABUTMENT W.P.③ TO W.P.④
INSTALL BRIDGE PILING BEFORE MSE WALL. PLACE REINFORCING MAT AROUND PILING FOR BRIDGE ABUTMENT.

INSTALLATION OF BRIDGE PILING IS NOT A RETAINING WALL BID ITEM.

LEGEND

- ● THE PLAN QUANTITY FOR THE BID ITEMS "WALL WIRE FACED MECHANICALLY STABILIZED EARTH" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL" ARE BASED ON A WALL HEIGHT MEASURED FROM THE FINISHED GRADE AT THE FRONT FACE OF THE WALL TO THE TOP OF THE WALL AS SHOWN. THE TOP OF THE FOOTING IS ASSUMED TO BE A CONSTANT 1'-9" BELOW FINISHED GRADE. COPING CONCRETE AND COPING REINFORCEMENT ARE TO BE INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."
- ⚠ SEE SHT. 2 FOR SOIL REINFORCEMENT REQUIREMENTS.
- ☆ MINIMUM EMBEDMENT DEPTHS SHALL BE BASED ON FINISHED GRADE NOTED IN "GEOMETRY TABLE" ON SHEET 2.
- ■ MINIMUM CLEARANCE FROM PARAPET TO PILASTER.
- ◪ CONCRETE SLOPE PAVING TO BE A MIN. OF 4" THICK. PLACE CONSTRUCTION JOINTS EVERY 10' MAX. SEE SLOPE PAVING CONSTRUCTION JOINT DETAIL ON SHEET 5.
- ◐ PROVIDE VERTICAL PIPE UNDERDRAIN UNPERFORATED 6-INCH TO CONNECT R-5-210 WALL UNDERDRAIN TO B-5-622 AND B-5-624 ABUTMENT UNDERDRAIN. LOCATE THE VERTICAL PIPE APROXIMATELY 7 FEET FROM THE SOUTH CORNER OF THE RETAINING WALL. CAP THE UNPERFORATED UNDERDRAIN AT ELEVATION 618.16 FOR CONNECTION TO THE ABUTMENT UNDERDRAIN.
- Ⓧ WORKING POINT
- ⧓ GEOTEXTILE FABRIC TYPE DF, 2'-0" WIDE, LENGTH OF FOOTING

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STRUCTURE R-5-210

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WALL DETAILS-1

SHEET 3 OF 10
2409

8

8

SCALE = 5:1 1/2 " :" / IN.

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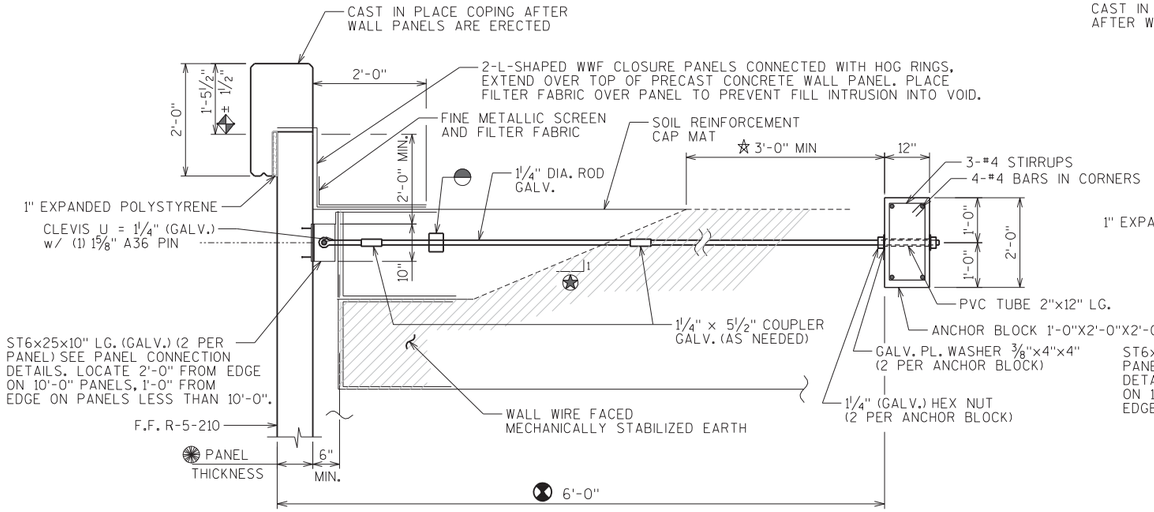
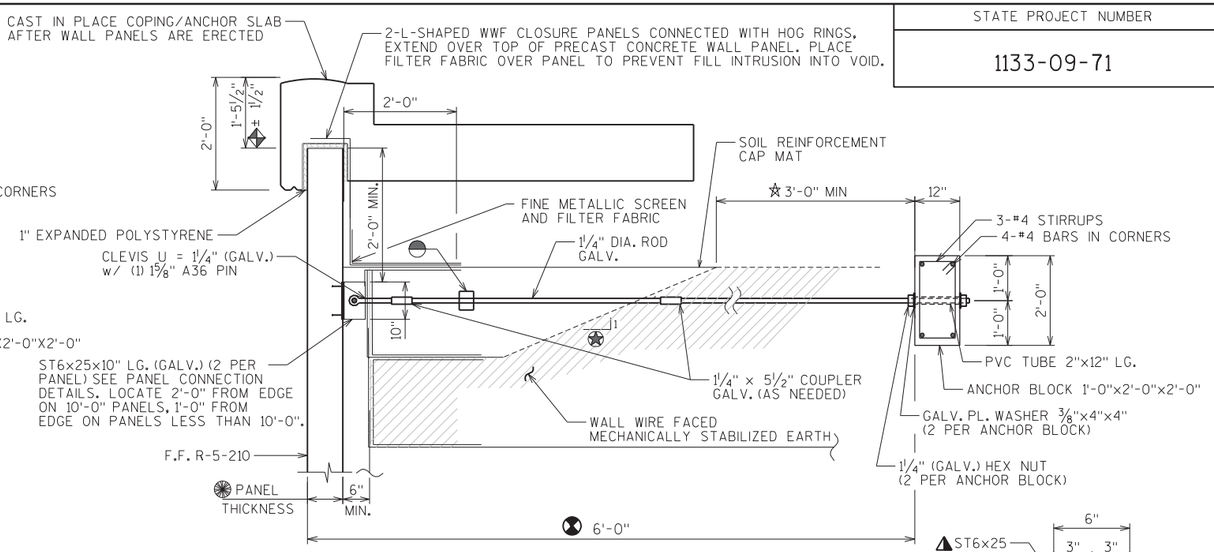
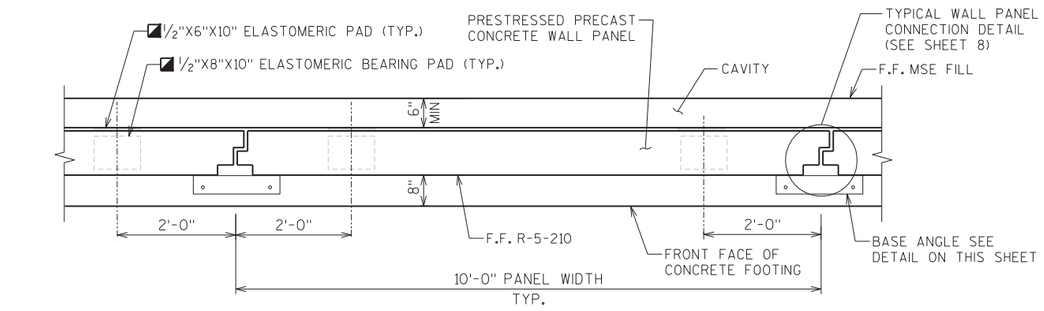


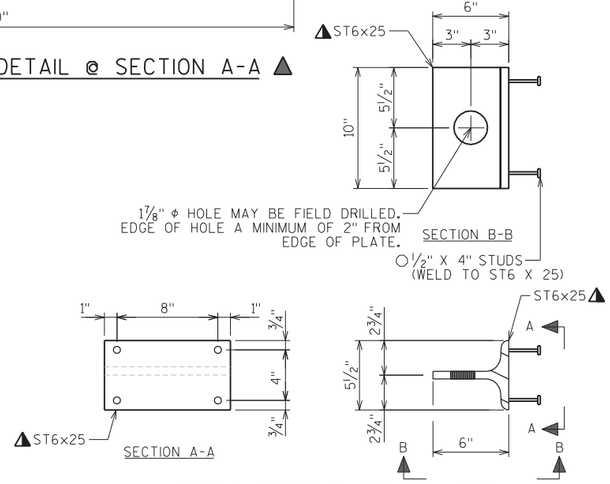
WALL PANEL ANCHOR DETAIL SECTION B-B ▲



WALL PANEL ANCHOR DETAIL @ SECTION A-A ▲



PLAN VIEW WALL PANEL CONNECTION



PANEL CONNECTION DETAILS

ST6 X 25 MAY BE WELDED TO ¾" THICK PLATE ANCHORED IN TILT UP PANEL. DETAILS SUBJECT TO APPROVAL BY THE ENGINEER.

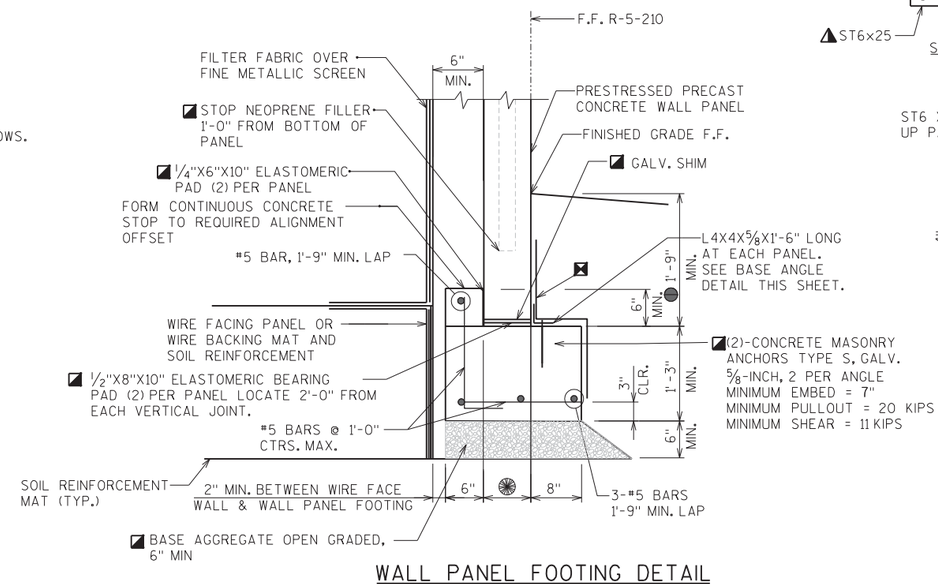
NOTES

AN ALTERNATE WALL PANEL ANCHOR AND PANEL CONNECTION SYSTEM MAY BE SUBMITTED FOR REVIEW BY THE ENGINEER.

TILT UP PANEL ANCHOR SYSTEM MAY BE TRENCHED IN IF THE GEOMETRY OF THE ANCHOR SYSTEM LOCATION ALLOWS.

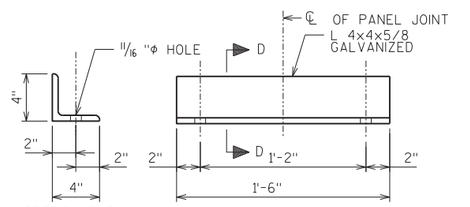
LEGEND

- ✳ = WALL PANEL THICKNESS AS DETERMINED IN ACCORDANCE WITH THE DESIGN REQUIREMENTS DEFINED IN THE SPECIAL PROVISIONS. (6" MINIMUM)
- ◭ S12X50 (GALV.) CUT IN HALF TO FORM "T" SECTION BF=5.477", TW=0.687.
- ◓ OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. (CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼ DIAM. BAR)
- ☆ DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION AND ROD TO BE 2'-0" MIN. BELOW FINISHED GRADE.
- ○ AS AN ALTERNATE, ½" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.
- ⊗ LENGTH MAY BE INCREASED TO AVOID OBSTRUCTIONS, SUCH AS ABUTMENT PILING.
- ◍ MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE PRECAST PANELS.
- ▲ WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1¼" DIA. ANCHOR ROD, CLEVIS AND OTHER PANEL CONNECTION COMPONENTS. DETAILING, AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL." INSTALLATION OF THESE ITEMS IS INCLUDED IN THE THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH."
- ◪ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."
- ▣ GEOTEXTILE FABRIC TYPE DF, 2'-0" WIDE, LENGTH OF FOOTING
- ✪ EXCAVATED SLOPE PER OSHA REQUIREMENTS.
- ✥ MUST BE 1'-4" AT W.P. 2, 3, 4, & 5.



WALL PANEL FOOTING DETAIL

(NOTE: FOOTING CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL")



BASE ANGLE DETAIL

(1) AT EACH PANEL JOINT INCLUDED IN BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

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STRUCTURE R-5-210

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WALL DETAILS - 2

SHEET 4 OF 10
2410

SCALE = 10:0 ' :" / IN.

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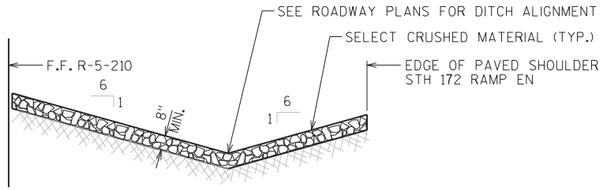
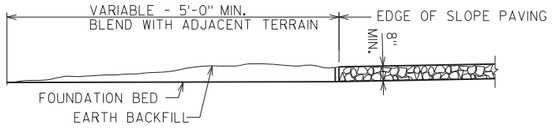
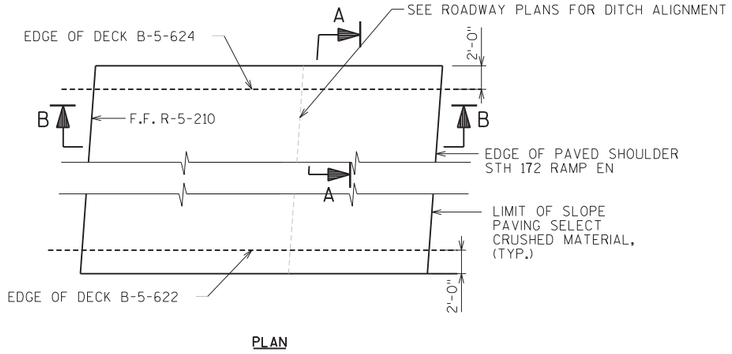


SECTION B-B

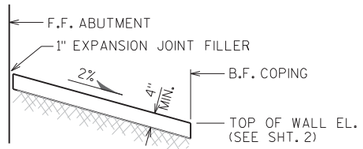


SECTION A-A

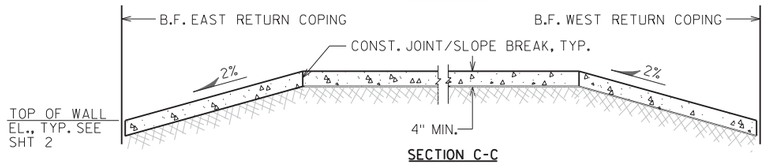


PLAN

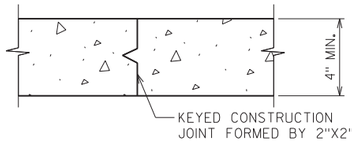
SLOPE PAVING SELECT CRUSHED MATERIAL DETAILS



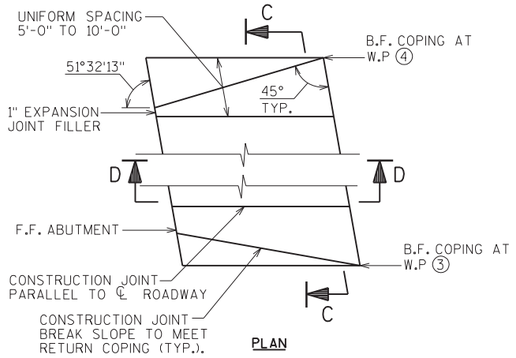
SECTION D-D



SECTION C-C

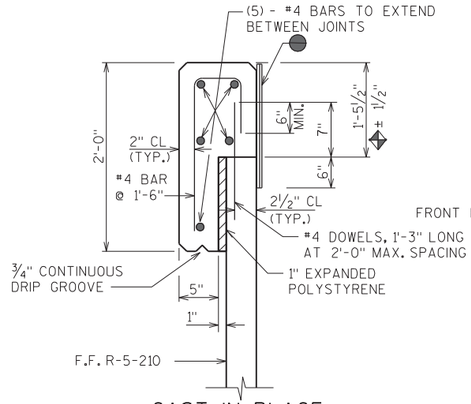


CONSTRUCTION JOINT DETAIL



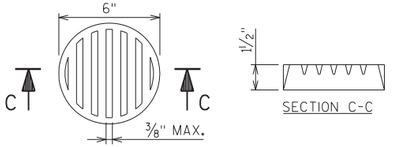
PLAN

SLOPE PAVING CONCRETE DETAILS



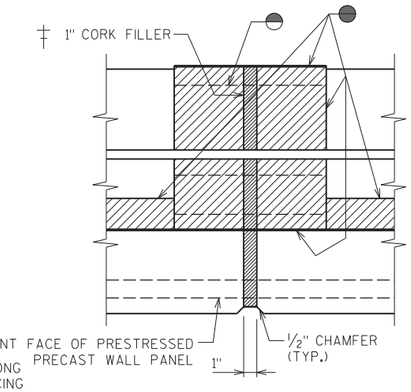
CAST-IN-PLACE CONCRETE COPING DETAIL

(NOTE: COPING CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL.")

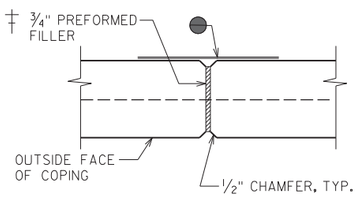


✱ RODENT SHIELD

(FOR PIPE UNDERDRAIN)

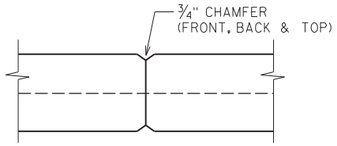


✱ ANCHOR SLAB EXPANSION JOINT DETAIL



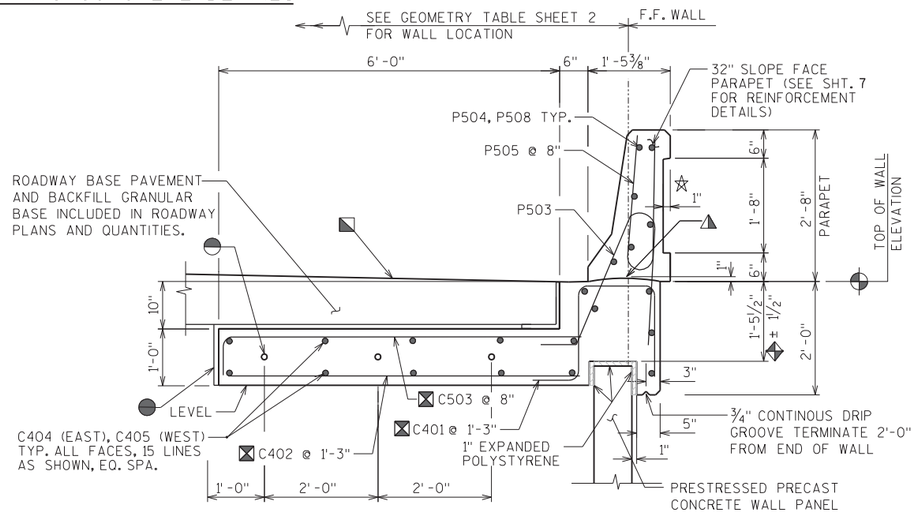
✱ COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT. MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.



▩ COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT. MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.



CAST-IN-PLACE CONCRETE TRAFFIC BARRIER DETAIL

LOOKING NORTH AT EAST SIDE OF WALL, WEST SIDE MIRROR IMAGE
(SEE PLAN VIEW SHEET 6 FOR LAYOUT)

LEGEND & NOTES

◭ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

◓ PLACE (3) -¾"Φ (SMOOTH) DOWEL BARS, 1'-6" LONG BETWEEN ANCHOR SLAB AND APPROACH APRON FOOTING. EMBED 9", SPACE EQUALLY, 6" MIN. CLR. FROM EDGE, 1'-6" MIN. SPACING. USE APPROVED DEBONDER ON ½ OF BAR LENGTH. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. COST OF ITEMS ARE INCLUDED IN BID ITEM "CONCRETE MASONRY RETAINING WALLS."

☆ SEE SHEET 8 & 9 FOR AESTHETIC DETAILS.

┼ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH STAIN. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

✱ EXPANSION JOINTS TO BE SPACED AS SHOWN ON SHEET 1. LOCATE EXPANSION JOINTS OVER WALL JOINTS EXCEPT AT WINGWALLS WHERE WALL PANEL JOINTING MAY VARY FROM COPING JOINTS. DO NOT RUN BAR STEEL THRU JOINT EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.

◪ SEE ROADWAY PLANS FOR SLOPE

◓ AT WALL COPING AND ABUTMENT INTERFACE, PLACE 18" RUBBERIZED MEMBRANE WATERPROOFING ALONG BACK OF INTERFACE. USE AT FULL WIDTH OF ALL EXPANSION JOINTS.

▩ LOCATE CONTRACTION JOINTS IN COPING OVER WALL JOINTS WHERE NO EXPANSION JOINT NOTED.

☒ PLACE REINFORCEMENT ALONG SKEW AT APPROACH APRON INTERFACE. FAN REINFORCEMENT TO MAINTAIN EQUAL SPACING ACROSS SLAB.

✥ MUST BE 1'-4" AT W.P. 2, 3, 4, & 5.

✪ DIMENSIONS ARE APPROXIMATE, GRATE TO BE SIZED TO FIT INTO A PIPE COUPLING. ORIENT RODENT SHIELD SO SLOTS ARE VERTICAL. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN UNPERFORATED 6-INCH." THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL . THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

NO.	DATE	REVISION	BY

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STRUCTURE R-5-210

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WALL DETAILS - 3 | SHEET 5 OF 10 | 2411

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SCALE = 2:8 " : " / IN.

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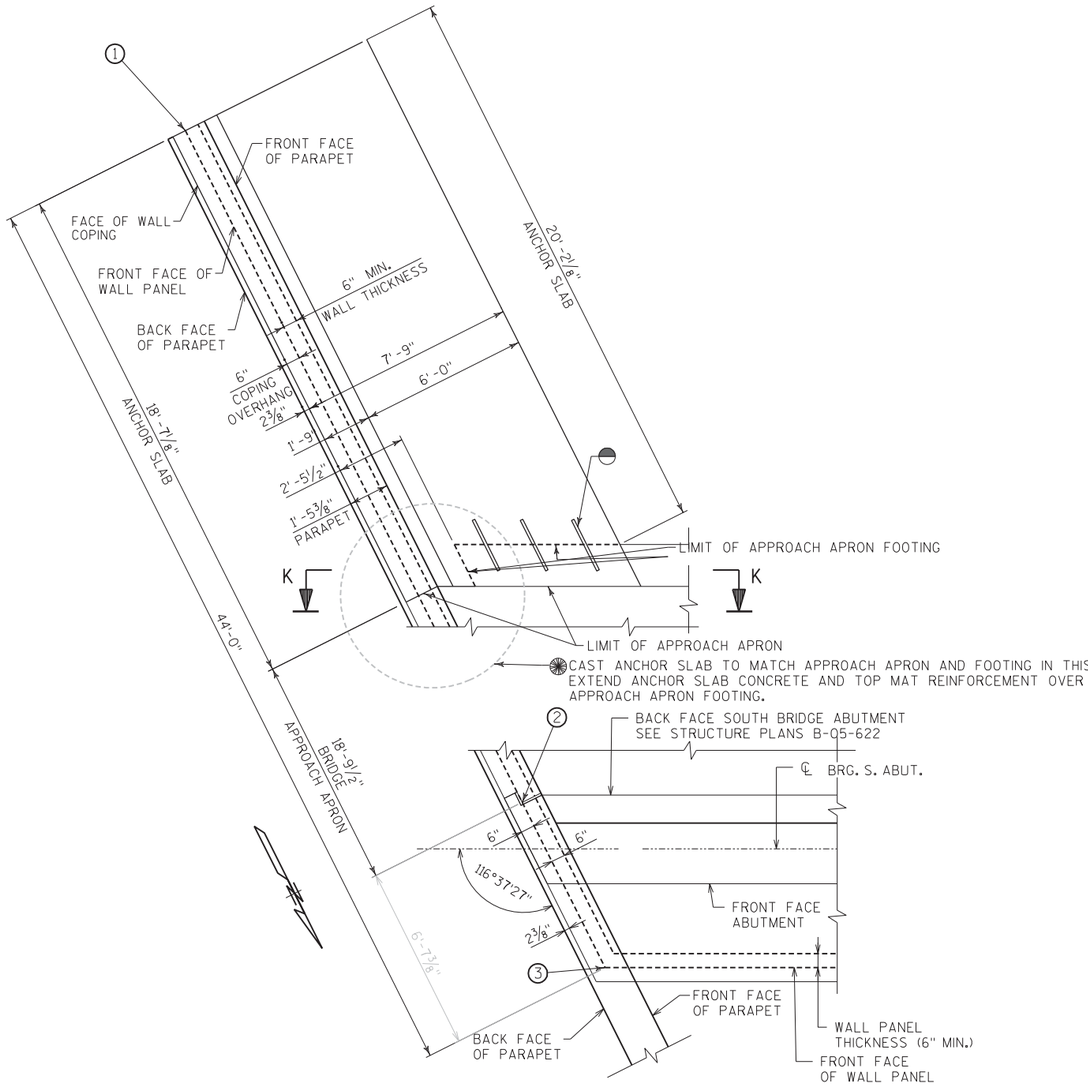
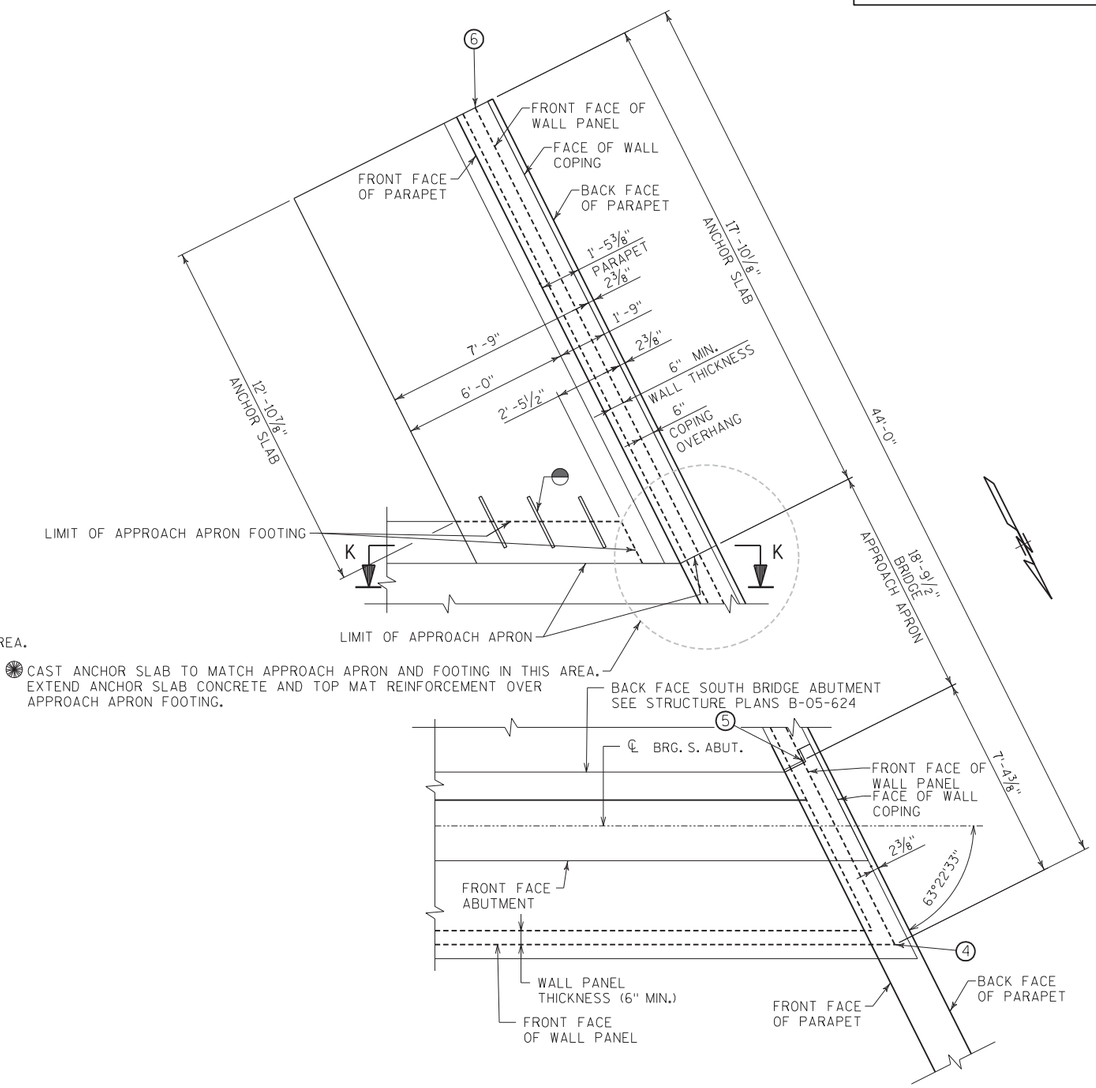
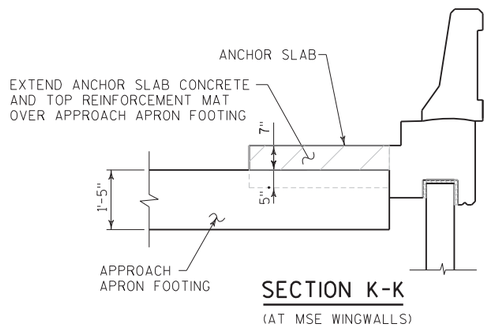




EAST ANCHOR SLAB



SECTION K-K

(AT MSE WINGWALLS)

LEGEND

- PLACE (3) -¾"φ (SMOOTH) DOWEL BARS, 1'-6" BETWEEN ANCHOR SLAB AND APPROACH APRON FOOTING. EMBED 9", SPACE EQUALLY, 6" MIN. CLR. FROM EDGE, 1'-6" MIN. SPACING. USE APPROVED DEBONDER ON ½ OF BAR LENGTH. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. COST OF ITEMS ARE INCLUDED IN BID ITEM "CONCRETE MASONRY RETAINING WALLS."
- EXPANSION JOINTS TO BE SPACED AS SHOWN ON SHEET 1. DO NOT RUN BAR STEEL THRU JOINT EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.
- (X) WORKING POINT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE R-5-210

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ANCHOR SLAB LAYOUT

SHEET 6 OF 10
2412

SCALE = 5:5 " / IN.

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3/28/2013

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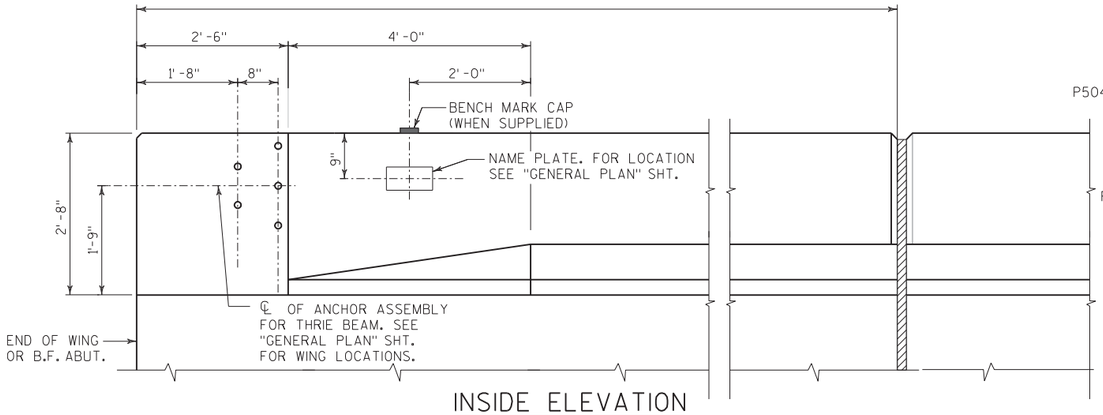
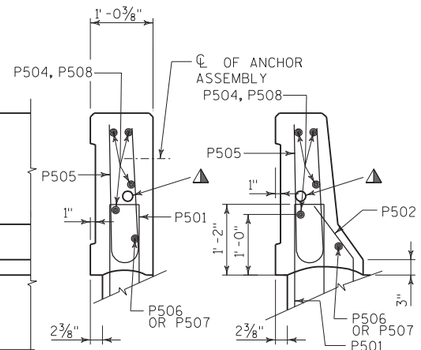
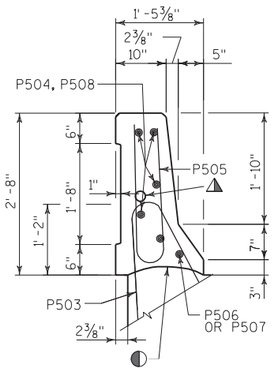


INSIDE ELEVATION

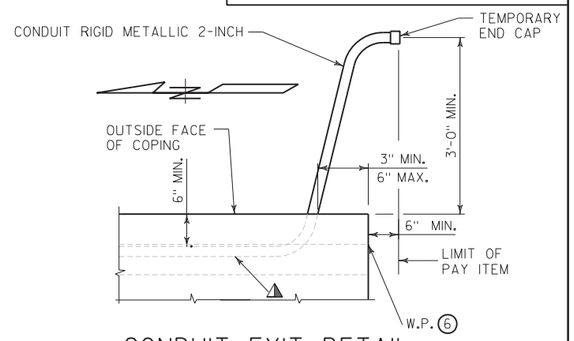


SECTION A

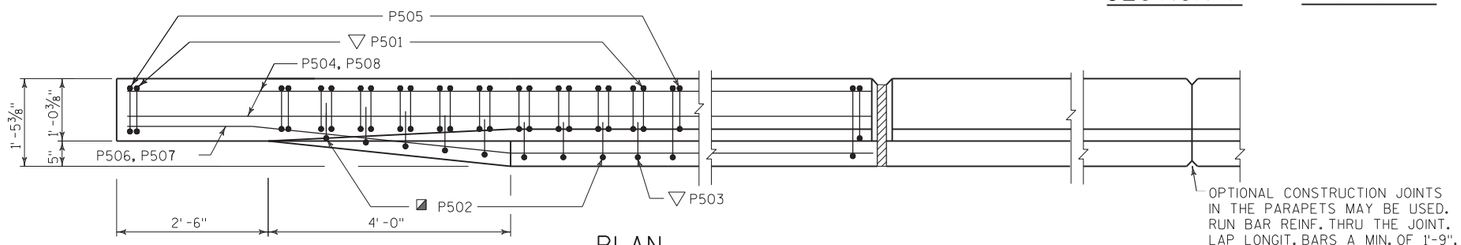
SECTION B



SECTION C

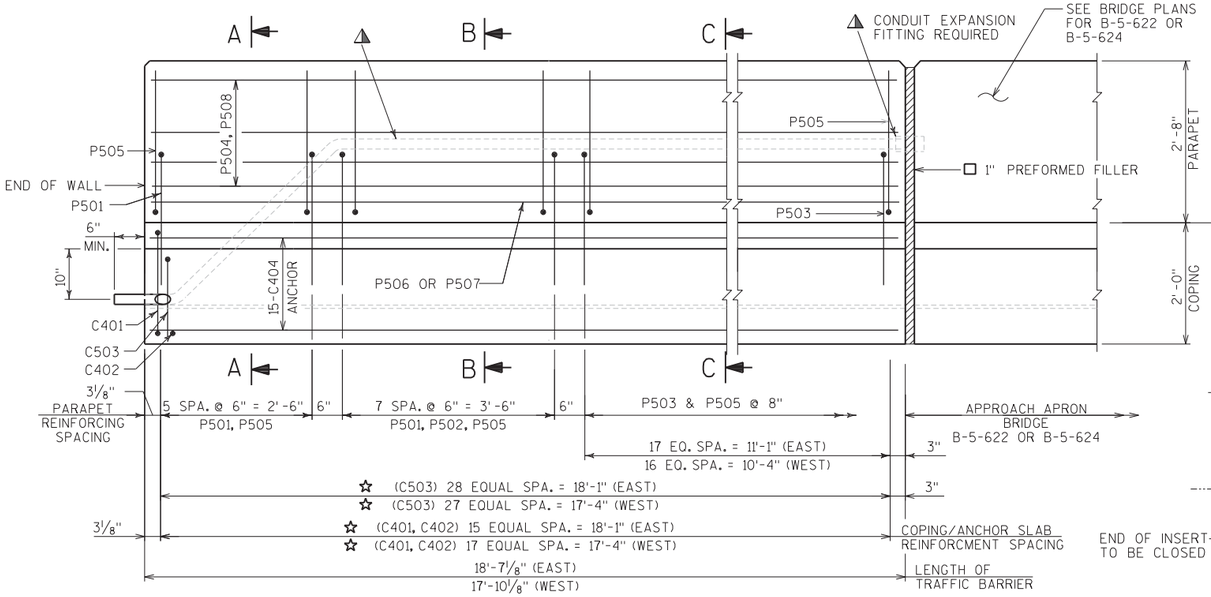


CONDUIT EXIT DETAIL



PLAN

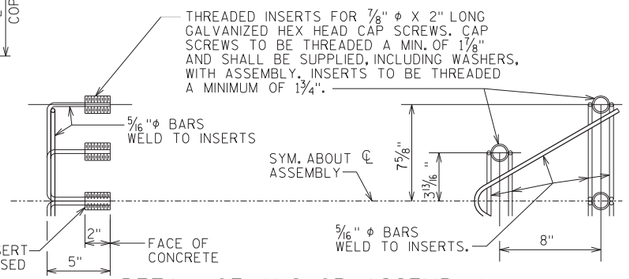
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.



OUTSIDE ELEVATION

BILL OF BARS - PARAPET						
BAR MARK	COATED	NO. REQ'D. WEST	NO. REQ'D. EAST	LENGTH	BENT	LOCATION
P501	X	14	14	4'-7"	X	PARAPET VERT.
P502	X	8	8	2'-4"	X	PARAPET VERT.
P503	X	17	18	5'-8"	X	PARAPET VERT.
P504	X	4	--	17'-4"		PARAPET HORIZ.
P505	X	31	32	4'-10"	X	PARAPET VERT.
P506	X	1	--	16'-8"	X	PARAPET HORIZ.
P507	X	--	1	17'-5"	X	PARAPET HORIZ.
P508	X	--	4	18'-1"		PARAPET HORIZ.

BILL OF BARS - TRAFFIC BARRIER					
MARK	COATED	NO. REQ'D.	LENGTH	BENT	LOCATION
☒ C401	X	34	5'-0"	X	COPING TIE-TRANSVERSE
☒ C402	X	34	6'-4"		ANCHOR SLAB BOTTOM-TRANSVERSE
☒ C503	X	57	7'-5"	X	ANCHOR SLAB TOP-TRANSVERSE
C404	X	60	12'-1"		ANCHOR SLAB-LONGITUDINAL



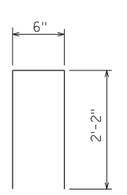
DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

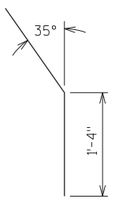
ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

LEGEND

- □ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH CONCRETE STAIN (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)
- ☆ DIMENSION SHOWN ALONG OUTSIDE OF COPING. MAINTAIN EQUAL SPACING ACROSS SLAB.
- ◐ CONST. JOINT - STRIKE OFF AS SHOWN.
- ◪ P502 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE P502 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ▽ P501 AND P503 BARS TO BE TIED TO ANCHOR SLAB STEEL BEFORE ANCHOR SLAB IS POURED.
- ☒ PLACE REINFORCEMENT ALOMG SKEW AT APPROACH APRON INTERFACE. FAN REINFORCEMENT TO MAINTAIN EQUAL SPACING ACROSS SLAB.
- ⚠ CONDUIT RIGID METALLIC 2-INCH, EAST PARAPET ONLY, EXIT TO GRADE. EXPANSION FITTING AND TEMP. END CAP INCIDENTAL TO PAY ITEM.



P501



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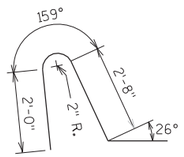

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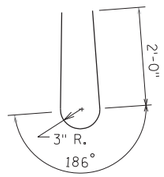

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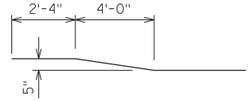
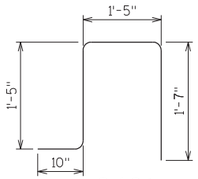
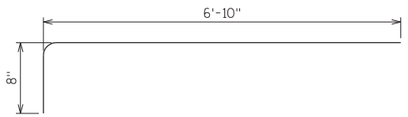


P506, P507



C401



C503

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-210

DRAWN BY TRW | PLANS CK'D. JFR

PARAPET & ANCHOR SLAB DETAILS

SHEET 7 OF 10
2413

SCALE = 2:16 ' : " / IN.

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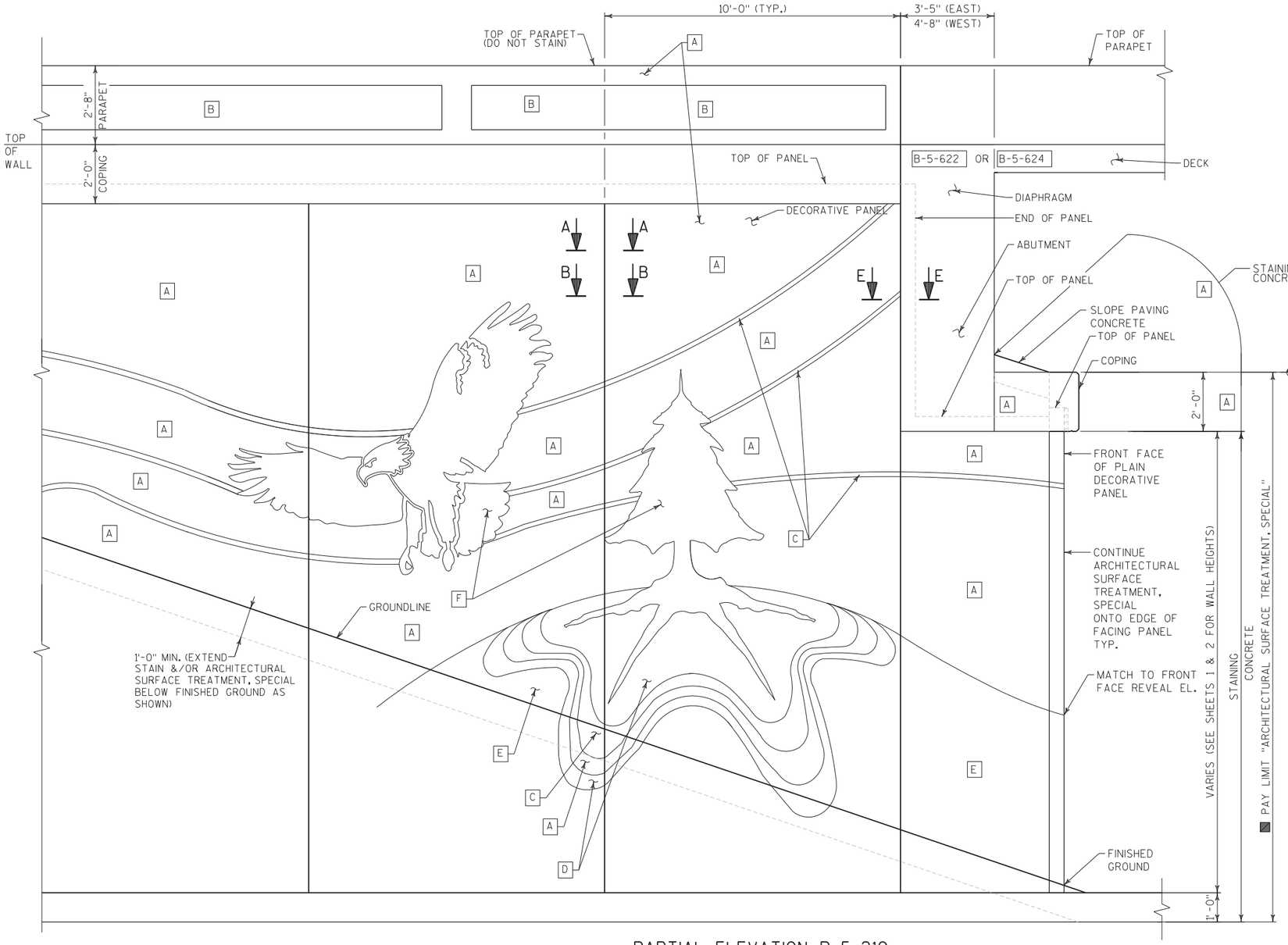
$$...plottingtime...$$

3/28/2013

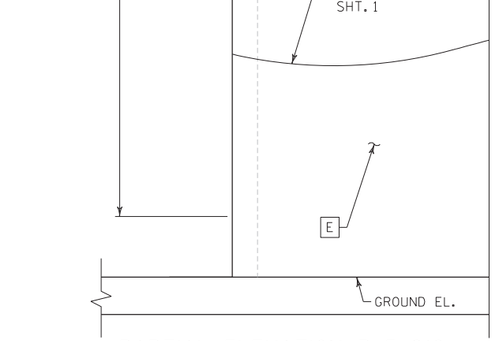
STATE PROJECT NUMBER

1133-09-71



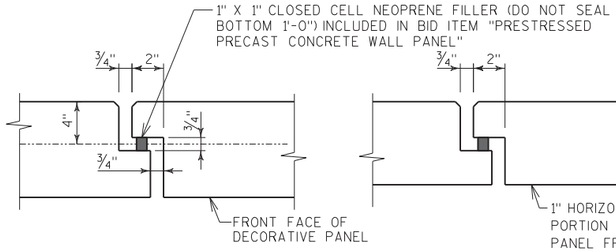
PARTIAL ELEVATION R-5-210

(LOOKING WEST AT EAST SIDE OF WALL, WEST SIDE MIRROR IMAGE)
PORTION OF WALL PARALLEL TO USH 41 REQUIRES BENCHED AND LEVEL FOOTING.



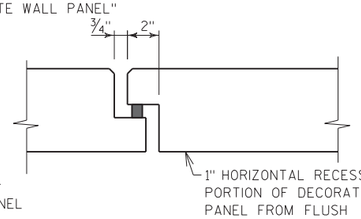
PARTIAL ELEVATION R-5-210

(LOOKING SOUTH AT EAST END
WEST END IS MIRROR IMAGE)

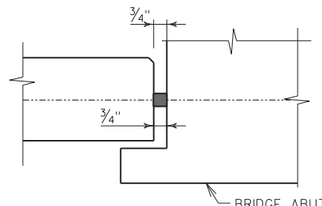


SECTION A-A

CHAMFER REVEALS 1/16" PER INCH OF DEPTH



SECTION B-B



SECTION E-E

CHAMFER REVEALS 1/16" PER INCH OF DEPTH

LEGEND

▨ PAY LIMIT FOR "ARCHITECTURAL SURFACE TREATMENT, SPECIAL" FOR THE WALL PANELS IS FROM TOP OF WALL TO 1'-0" BELOW GRADE. SPECIAL PROVISIONS FOR FORMLINER DETAILS.

CONCRETE STAINING SCHEDULE

MARK	COLOR	INDENTATION (INCHES)
A	BASE COLOR	0
B	ACCENT COLOR #1	-1
C	ACCENT COLOR #2	-2
D	ACCENT COLOR #3	-1.25
E	ACCENT COLOR #4	-1.5
F	ACCENT COLOR #5	-1
G	ACCENT COLOR #6	N/A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-210

DRAWN BY TRW | PLANS CK'D. JFR

AESTHETIC DETAILS-1

SHEET 8 OF 10
2414

SCALE = 4:0 " : " / IN.

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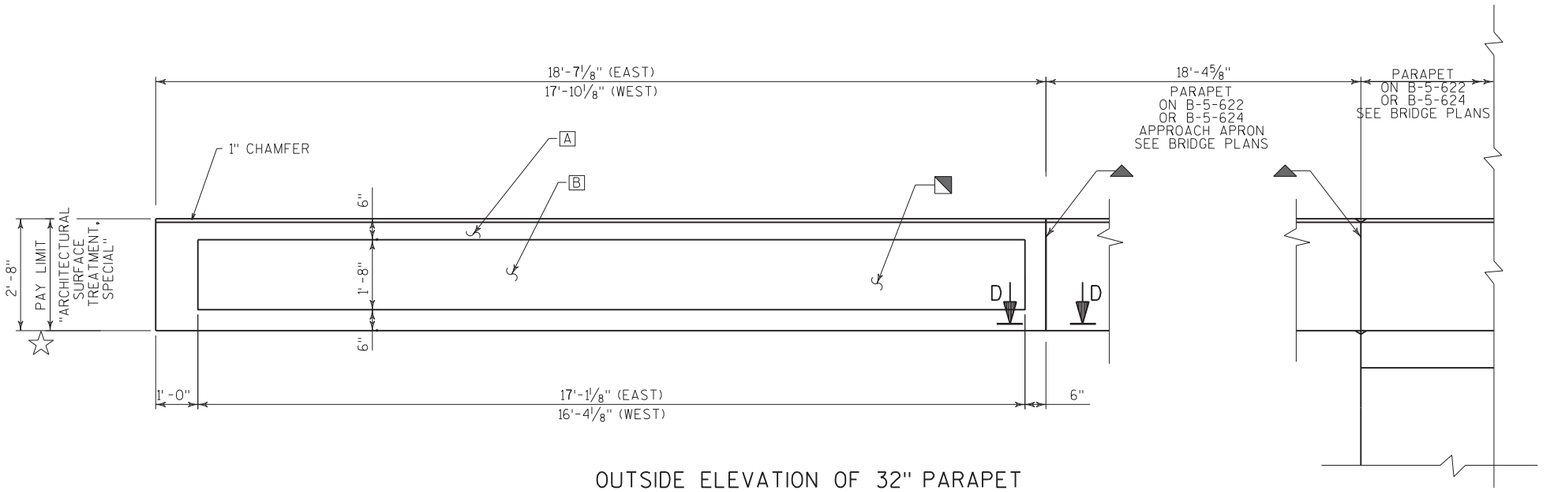
STATE PROJECT NUMBER
1133-09-71



OUTSIDE ELEVATION OF 32" PARAPET

LOOKING WEST AT EAST WING
WEST WING MIRROR IMAGE

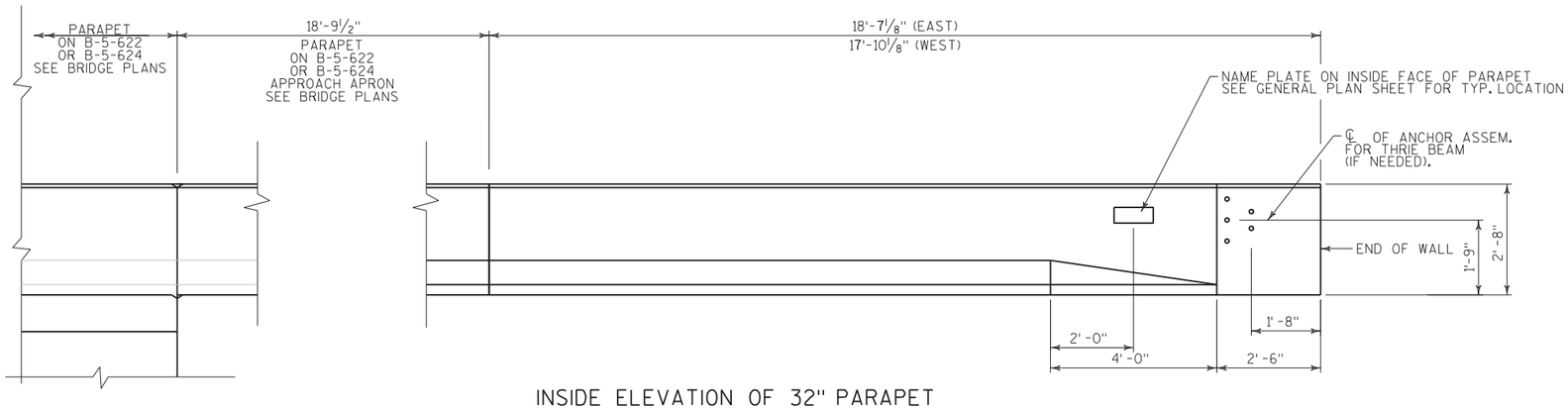
NOTES & LEGEND

☆ PAY LIMIT FOR "ARCHITECTURAL SURFACE TREATMENT, SPECIAL" FOR THE PARAPETS IS THE TOTAL PARAPET HEIGHT. SEE SPECIAL PROVISIONS FOR DESCRIPTION OF FORMLINER AND DETAILS ON THIS SHEET.

RECESSED PANEL (TYP.)

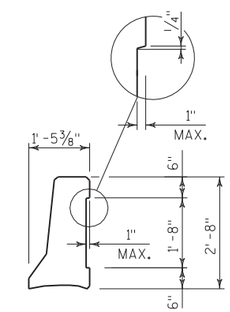
EXPANSION JOINT

SEE SHT. 8 FOR STAINING SCHEDULE

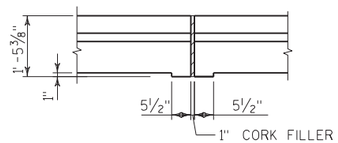


INSIDE ELEVATION OF 32" PARAPET

LOOKING EAST AT EAST WING
WEST WING MIRROR IMAGE



32" SLOPED FACE PARAPET



SECTION D-D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-210

DRAWN BY TRW | PLANS CK'D. JFR

AESTHETIC DETAILS-2

SHEET 9 OF 10
2415

SCALE = 3:7 1/4 " :" / IN.

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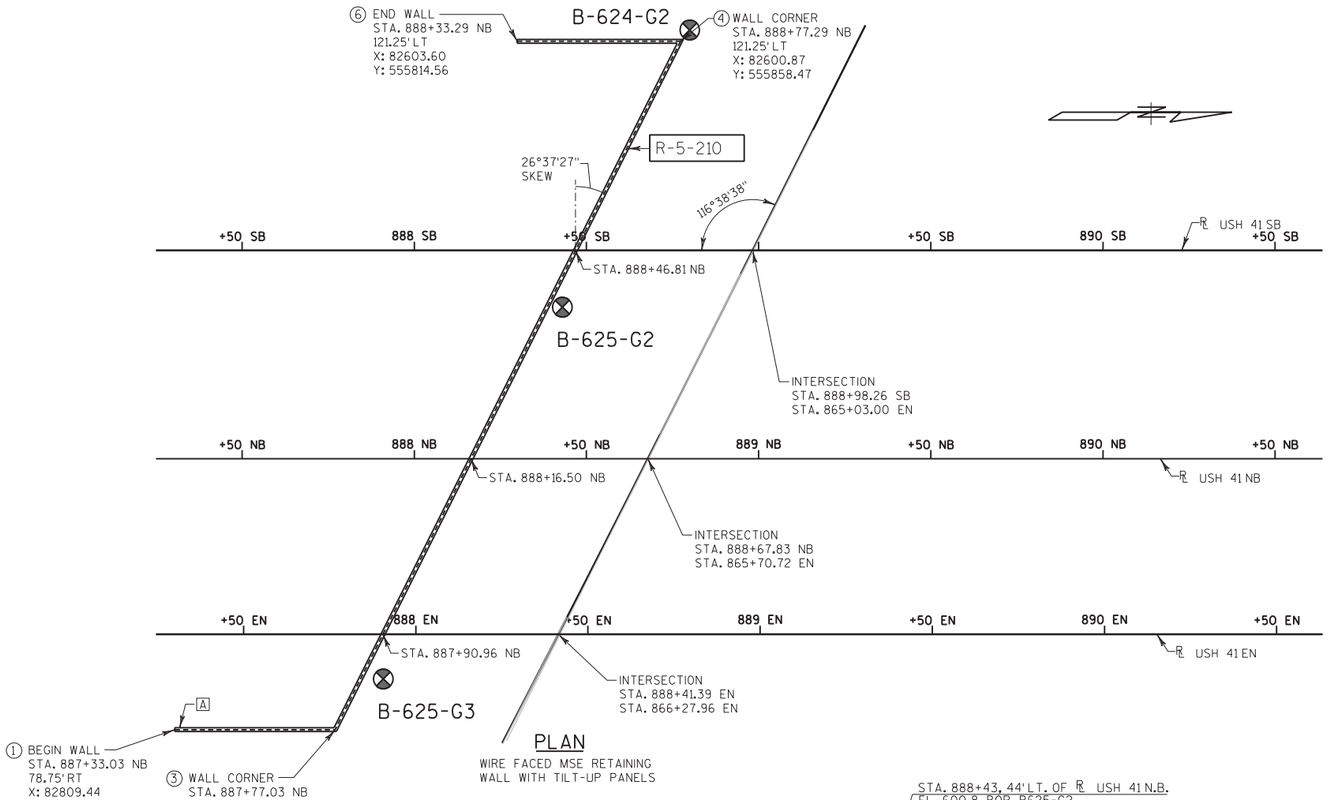


PLAN

WIRE FACED MSE RETAINING WALL WITH TILT-UP PANELS

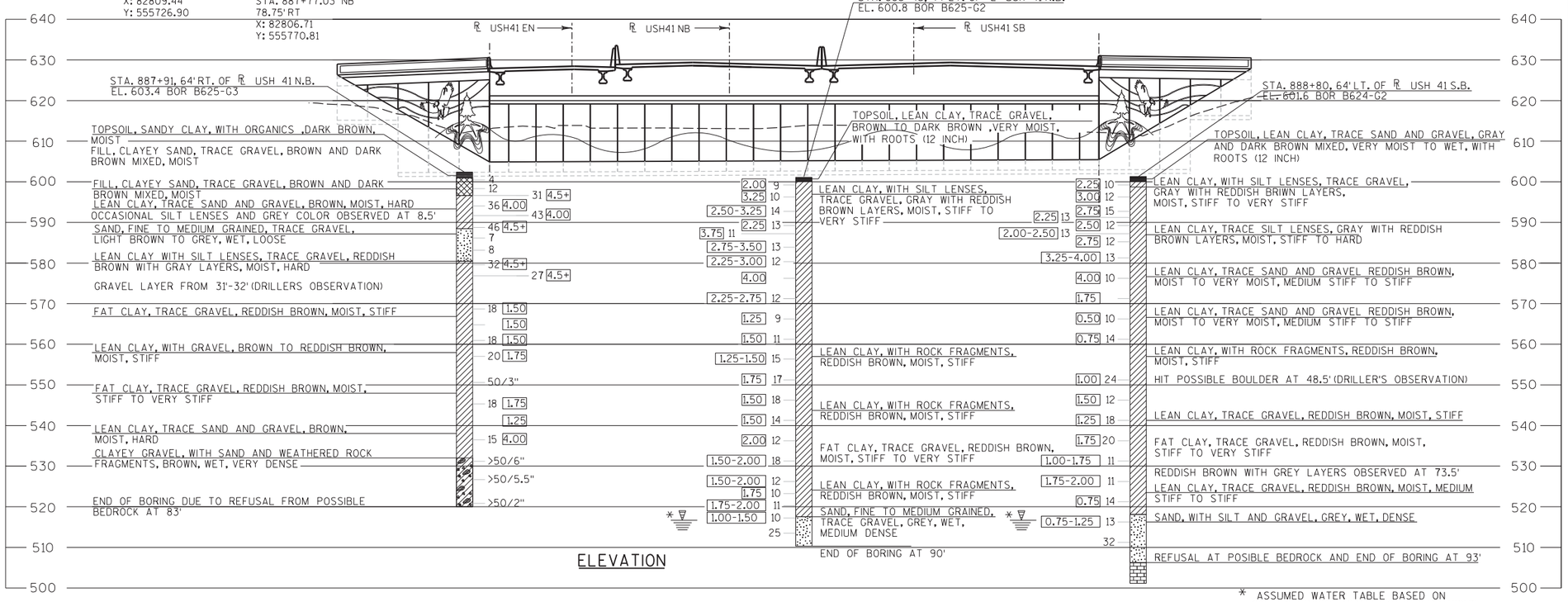
NOTES:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

⊗ DENOTES SOIL BORING LOCATION

SOIL BORING B-624-G2, B-625-G2 AND B-625-G3 WERE COMPLETED BY GESTRA ENGINEERING INC.

SOIL BORING TAKEN:
MARCH 31, 2011 - BOR-B-624-G2
APRIL 1, 2011 - BOR-B-625-G2
JUNE 7, 2011 - BOR-B-625-G3



ELEVATION

* ASSUMED WATER TABLE BASED ON COLLECTED SOIL SAMPLES AND PREVIOUS SUBSURFACE INVESTIGATION IN THE PROJECT AREA

STATE PROJECT NUMBER

1133-09-71

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

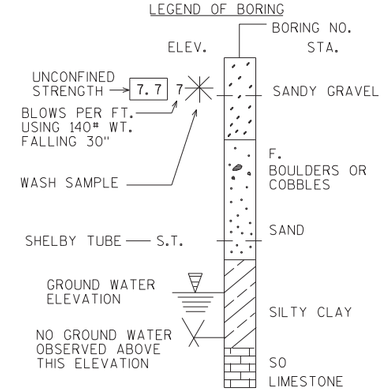
TOPSOIL, SAND, GRAVEL, SILT, PEAT, CLAY, SANDSTONE, LIMESTONE, IGNEOUS ROCK

LEGEND OF PROBING

95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-210

DRAWN BY TRW | PLANS CK'D. JFR

SUBSURFACE EXPLORATION

SHEET 10 OF 10
2416

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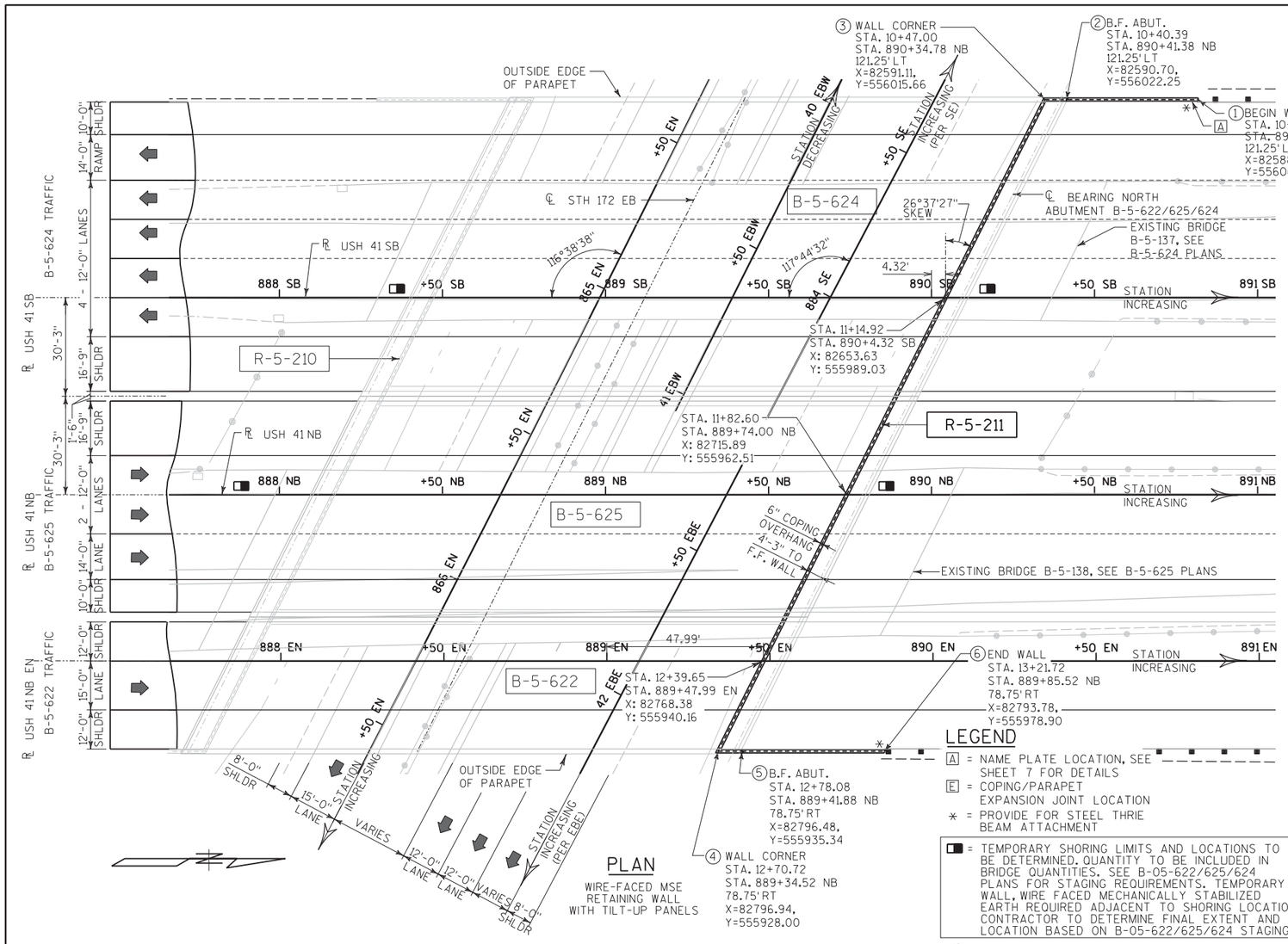
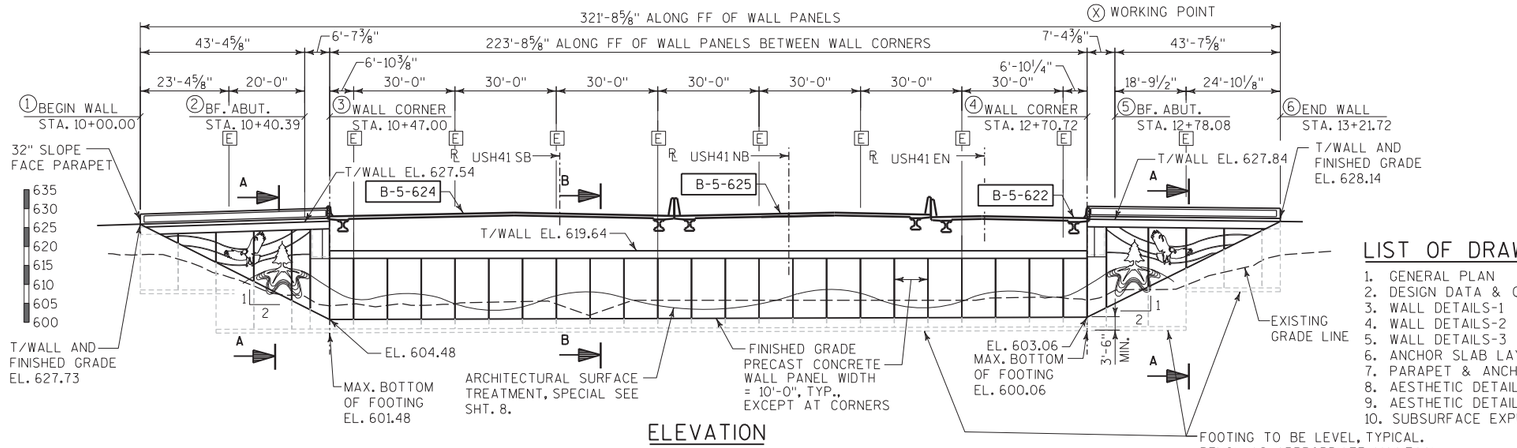
STATE PROJECT NUMBER

1133-09-71



PLAN

WIRE-FACED MSE RETAINING WALL WITH TILT-UP PANELS



ELEVATION

(UNFOLDED ELEVATION - LOOKING NORTH AT FRONT FACE OF WALL)
(SEE SHEET 3 FOR SECTION A-A & B-B)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCIDENTAL TO THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN IN THE GEOMETRY TABLE.

THE EXISTING GROUNDLINE IS THE UPPER LIMIT OF EXCAVATION FOR STRUCTURES.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THIS WALL WITH CONSTRUCTION OF THE NORTH ABUTMENT OF BRIDGES B-5-624, B-5-625 AND B-5-622.

DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

APPLY PROTECTIVE SURFACE TREATMENT TO THE EXPOSED SURFACE OF THE ANCHOR SLAB AND THE TOP AND INSIDE FACE OF PARAPETS.

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE ANCHOR SLAB AND PARAPETS IS INCLUDED IN THE ITEM "CONCRETE MASONRY RETAINING WALLS."

WALL STATIONS ARE GIVEN AT THE FRONT FACE OF THE WALL PANEL (UNLESS SHOWN OTHERWISE).

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFY THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M 153, TYPE I, II OR III OR AASHTO DESIGNATION M 213.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

OPTIONAL TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE PANEL FOOTING WITH A MINIMUM SPACING OF TWO PANEL JOINTS. FOOTING JOINTS SHOULD BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THRU FOOTING JOINTS.

DO NOT ALLOW CONCRETE OR FILL TO DROP OR ACCUMULATE IN WALL PANEL CAVITY.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

PROVIDE A RUBBED SURFACE FINISH IN ACCORDANCE WITH SECTION 502.3.7.3 TO ALL PERMANENTLY EXPOSED SURFACES OF CONCRETE MASONRY RETAINING WALLS.

SEE SPECIAL PROVISIONS FOR AESTHETIC TREATMENT TO WALL.

DESIGN THE MSE WALL FOR A SUCTION LOAD OF 20 PSF ACTING ON THE PRECAST WALL PANELS.

DESIGN FOR RETAINING WALL TO PROVIDE FOR A FINISHED GRADE SLOPE BEHIND THE WALL AS SHOWN IN THESE PLANS AND THE ROADWAY CROSS SECTIONS.

ALL STATIONS AND OFFSETS ARE REFERENCED TO THE USH 41 NB ALIGNMENT.

FOR UTILITY OWNERSHIP AND CONTACT INFORMATION, SEE ROADWAY PLAN.

THE EXISTING ABUTMENT PILING SHALL BE CUT OFF AT THE BOTTOM OF WALL ELEVATION FOR R-5-211. THIS WORK TO BE INCLUDED IN BRIDGE QUANTITY BID ITEM "REMOVING OLD STUCTURE."

AT ENDS OF WALL, SEAL CAVITY BETWEEN WIRE FACE AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE, 1'-6" WIDE. INCIDENTAL TO BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANELS". "FINE METALLIC SCREEN" TO HAVE A MAXIMUM ¼" × ¼" MESH AND MIMIMUM 0.025 WIRE DIAMETER. WIRES TO BE HOT DIPPED GALVANIZED AFTER WELDING.

LIST OF DRAWINGS

1. GENERAL PLAN
2. DESIGN DATA & QUANTITIES
3. WALL DETAILS-1
4. WALL DETAILS-2
5. WALL DETAILS-3
6. ANCHOR SLAB LAYOUT
7. PARAPET & ANCHOR SLAB DETAILS
8. AESTHETIC DETAILS-1
9. AESTHETIC DETAILS-2
10. SUBSURFACE EXPLORATION

WISCONSIN
JOHN F. RUBLEIN
E-38700
MADISON
WI
PROFESSIONAL ENGINEER
3/28/13

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

NE REGION CONTACT:
KURT PETERS (920) 492-2213

CONSULTANT CONTACT:
JOHN RUBLEIN (608) 229-1434

NO.	DATE	REVISION	BY

DAAR ENGINEERING, INC.
www.daarcorp.com
Madison, WI 53703
608-249-0149

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR — 04/01/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-5-211

NORTH RETAINING WALL AT USH 41 & STH 172 EB

COUNTY	VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STD. SPEC

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JFR	ACT	TRW	JFR

GENERAL PLAN

SHEET 1 OF 10

2417

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I.D.

DATE: 3/28/2013

STATE PROJECT NUMBER
1133-09-71

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID - ITEMS	UNIT	QUANTITY
502.3200	PROTECTIVE SURFACE TREATMENT	SY	21
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	21
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	2500
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6
532.0700.S	WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	4610
532.0750.S	TEMPORARY WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	860
604.0400	SLOPE PAVING CONCRETE	SY	62
604.0600	SLOPE PAVING PAVING CRUSHED MATERIAL	SY	560
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	170
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	330
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2
652.0125	CONDUIT RIGID METALLIC, 2-INCH	LF	31
SPV.0165.501	STAINING CONCRETE	SF	5980
SPV.0165.503	ARCHITECTURAL SURFACE TREATMENT, SPECIAL	SF	4930
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	4610
	NON BID - ITEMS		
	PREFORMED FILLER	SIZE	¾" & 1"
	CORK FILLER	SIZE	1"
	EXPANDED POLYSTYRENE	SIZE	1"

ALL ITEMS ARE CATEGORY 4130.

GEOMETRY TABLE

WORKING POINT	WALL STATION	USH 41 NB STATION	OFFSET TO F.F. WALL PANEL	TOP OF WALL	FINISHED GRADE	EXISTING GRADE	X	Y
①	10+00.00	890+81.78	121.25' LT	627.73	627.73	622.85	82588.19	556062.57
②	10+40.39	890+41.38	121.25' LT	627.54/619.64	607.74	606.83	82590.70	556022.25
③	10+47.00	890+34.78	121.25' LT	619.64	604.48	603.89	82591.11	556015.66
④	12+70.72	889+34.52	78.75' RT	619.64	603.06	602.22	82796.94	555928.00
⑤	12+78.08	889+41.88	78.75' RT	619.64/627.84	606.67	604.09	82796.48	555935.34
⑥	13+21.72	889+85.52	78.75' RT	628.14	628.14	615.08	82793.78	555978.90

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEVATION
525	876+51.26 NB 582.89' LT.	CHISELED "X" ON A FIRE HYDRANT BURY BOLT ON A DEAD END CUL DE SAC OF SPRINGHURST DR. 55' FROM A MANHOLE COVER TO FIRE HYDRANT AT THE EAST END OF THE ROUND-A-BOUT.	648.93
548	868+20.00 NB 443.71' RT.	CHISELED "X" ON A FIRE HYDRANT BURY BOLT 30' NORTH OF VERNON DR. & 225' EAST OF HANSEN RD. ON THE WESTERLY SIDE OF VERNON DR.	619.77

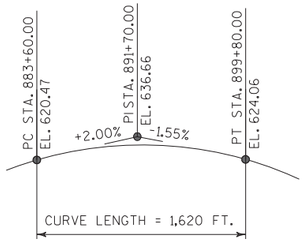
SAFETY FACTORS & DIMENSIONS

DIMENSIONS			
WALL HEIGHT[1] "H" (FEET)	29.4	19.2	29.4
RETAINED HEIGHT	29.4	29.4	29.4
REINFORCEMENT LENGTH[2] (FEET)	19.0	19.0	19.0
LENGTH OF REIN. / WALL HEIGHT	0.7 H	1.0 H	0.7 H
FACTOR OF SAFETY[3]			
SLIDING	2.37	2.37	2.37
OVERTURNING	3.60	3.60	3.60
GLOBAL STABILITY	1.42	1.42	1.42
BEARING CAPACITY	4.6	4.6	4.6
ALLOW. BEARING CAPACITY (PSF)	8300	8300	8300

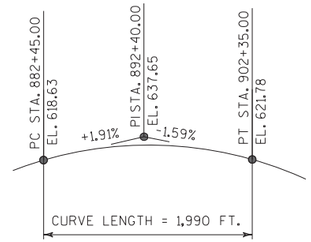
NOTES:
1. WALL HEIGHT SHOWS ONLY THE MAXIMUM HEIGHT IN THE SECTION AND INCLUDES 3.5 FEET OF EMBEDMENT PER US 41 BROWN COUNTY CORRIDOR MANUAL.
2. THE LENGTH OF REINFORCEMENT IS THE MINIMUM REQUIRED LENGTH FOR THE MAXIMUM WALL HEIGHT AT THE EVALUATED SECTION.
3. MINIMUM FACTORS OF SAFTEY PER CHAPTER 14 OF BRIDGE MANUAL (SLIDING 1.5, OVERTURNING 2.0, GLOBAL 1.3, BEARING CAPACITY 2.5).
4. FINAL DESIGN FOR INTERNAL STABILITY, AND EXTERNAL SLIDING AND OVERTURNING AT OTHER WALL SECTIONS IS THE RESPONSIBILTY OF THE CONTRACTOR'S WALL DESIGNER.

SOIL PARAMETERS

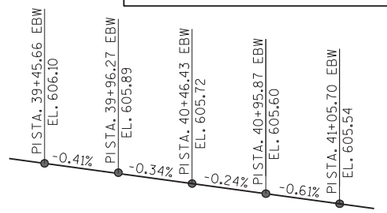
SOIL LAYER	BOTTOM ELEVATION (FEET)	SOIL UNIT WEIGHT (pcf)	UNDRAINED COHESION (psf)	UNDRAINED FRICTION ANGLE (DEGREES)	DRAINED COHESION (psf)	DRAINED FRICTION ANGLE (DEGREES)
SILTY SAND FILL	600.4	100	0	26	0	26
DENSE SAND	576.7	125	0	34	0	34
HARD LEAN CLAY	573.2	135	4000	0	200	30
STIFF LEAN CLAY	560.2	130	2000	0	100	28
VERY STIFF LEAN CLAY	541.2	130	2900	0	200	30
MEDIUM DENSE SANDY SILT	538.2	125	0	28	0	28
LOOSE SAND	533.2	125	0	27	0	27
LOOSE SANDY SILT	518.2	125	0	27	0	27
DENSE SANDY SILT	511.2	125	0	30	0	30



PROFILE GRADE LINE USH 41 RAMP EN



PROFILE GRADE LINE USH 41 SB



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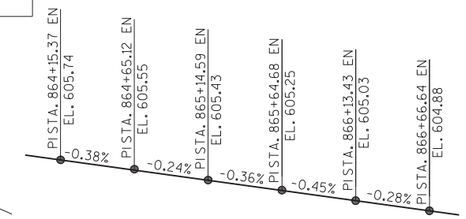

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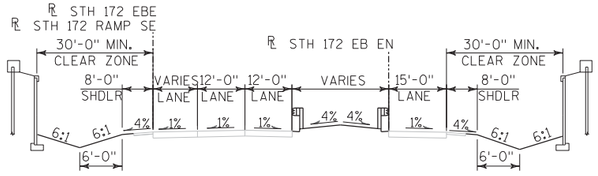
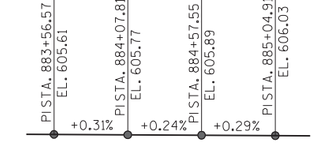
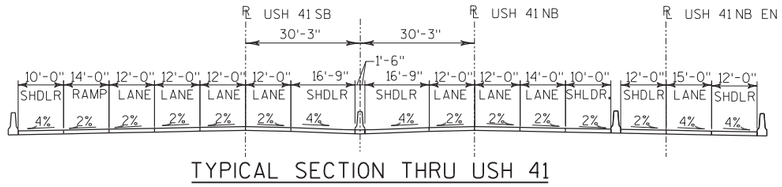


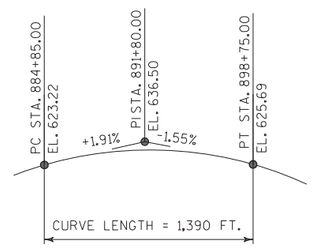
TYPICAL SECTION THRU STH 172 EB



EXISTING PROFILE GRADE LINE STH 172 RAMP SE



TYPICAL SECTION THRU USH 41



PROFILE GRADE LINE USH 41 NB

DESIGN DATA

LIVE LOAD:
LIVE LOAD SURCHARGE (ROADWAY) = 240 PSF

MATERIAL PROPERTIES:
CONCRETE MASONRY RETAINING WALLS f'c = 4,000 PSI
PRECAST CONCRETE WALL PANEL f'c = 5,000 PSI
BAR STEEL REINFORCEMENT fy = 60,000 PSI
STRUCTURAL CARBON STEEL fy = 36,000 PSI
(ASTM A709 GR. 36)

FOUNDATION DATA:
ALLOWABLE SOIL BEARING CAPACITY-MSE (SEE TABLE)

THE WALL HAS BEEN DESIGNED FOR LIVE LOAD SURCHARGES AS NOTED. CONTRACTOR IS RESPONSIBLE FOR EVALUATING WALL FOR ANTICIPATED CONSTRUCTION LIVE LOADS IN EXCESS OF 240 PSF.

TRAFFIC DATA USH 41 NB

ADT = 27,300 (2015)
= 34,800 (2035)
DESIGN SPEED = 70 MPH

TRAFFIC DATA USH 41 SB

ADT = 37,900 (2015)
= 47,300 (2035)
DESIGN SPEED = 70 MPH

TRAFFIC DATA USH 41 RAMP SE

ADT = 15,800 (2015)
= 20,400 (2035)
DESIGN SPEED = 60 MPH

TRAFFIC DATA STH 172 EB

ADT = 28,500 (2015)
= 38,800 (2035)
DESIGN SPEED = 60 MPH

TRAFFIC DATA STH 172 RAMP EN

ADT = 2,400 (2015)
= 3,000 (2035)
DESIGN SPEED = 55 MPH

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-211

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DESIGN DATA & QUANTITIES

SHEET 2 OF 10
2418

8

8

SCALE = 10:0 " :" / IN.

STATE PROJECT NUMBER

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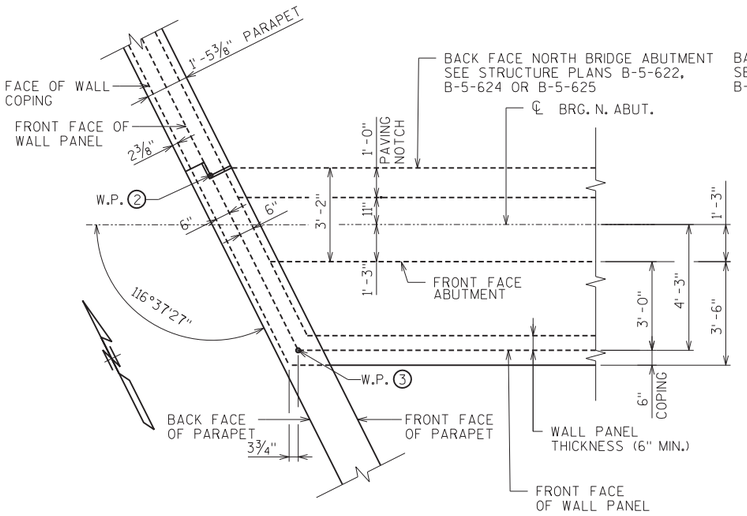
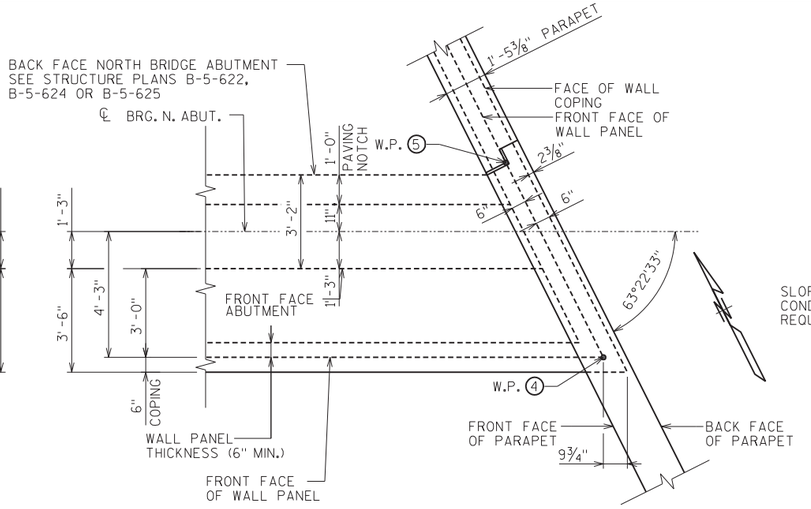
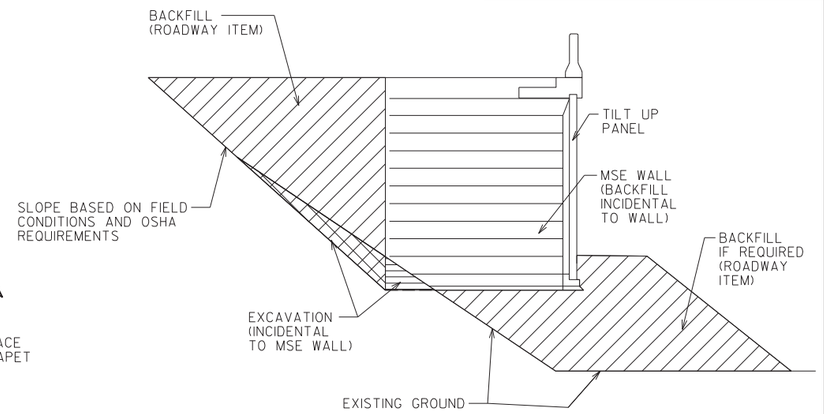


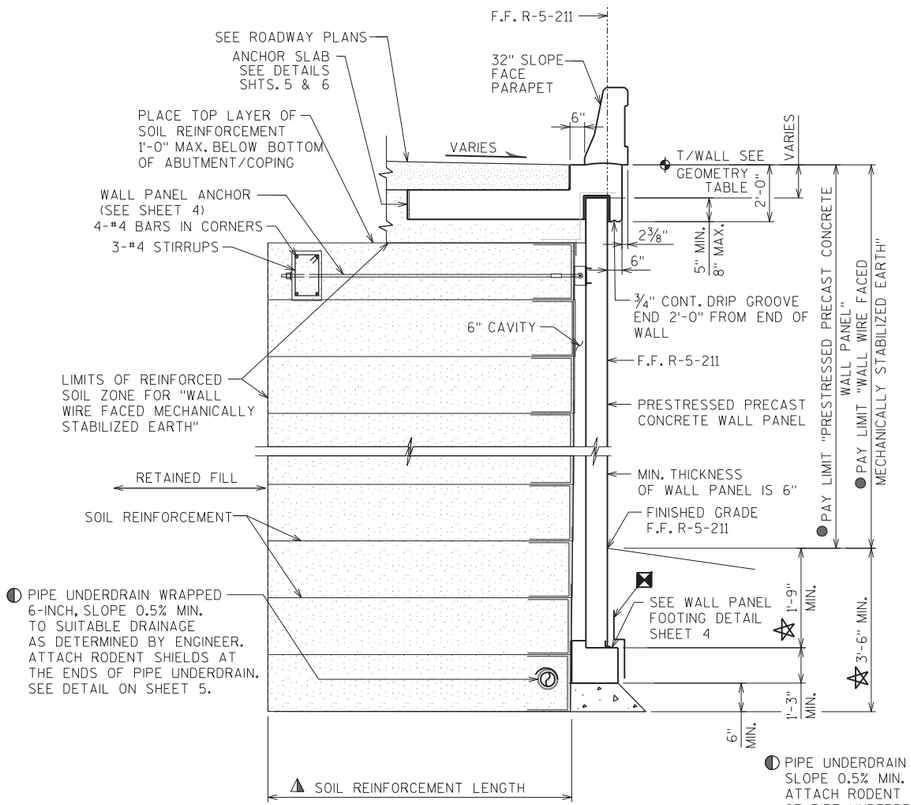
NORTH-WEST QUADRANT



NORTH-EAST QUADRANT

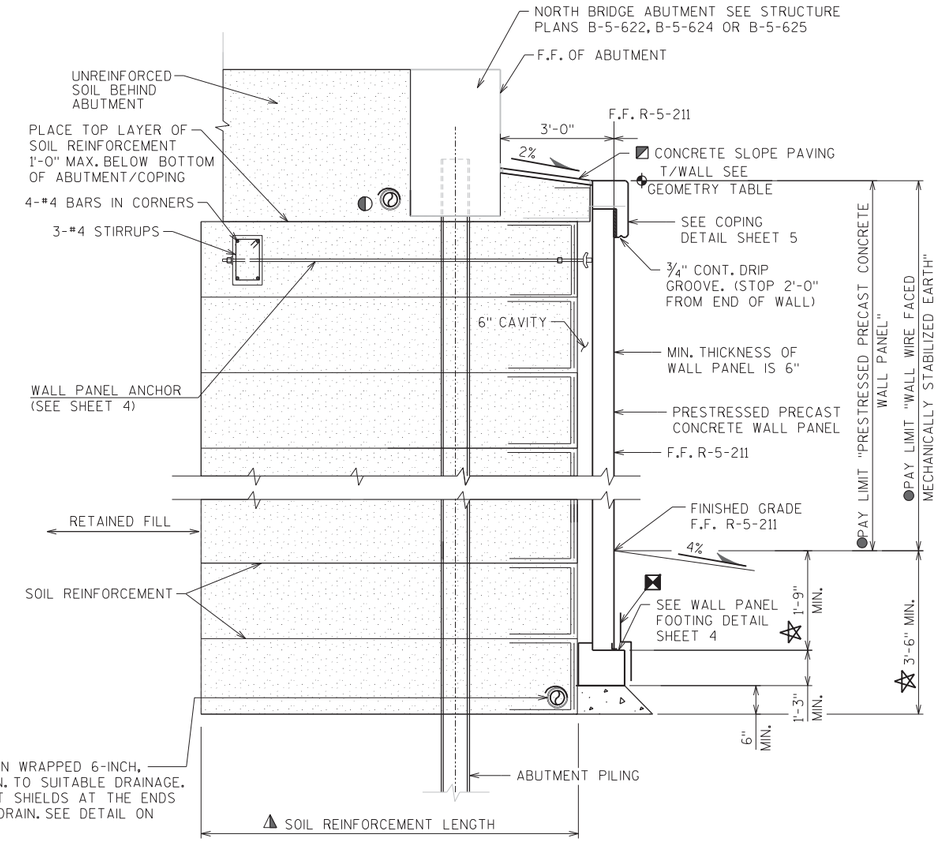


EXCAVATION/BACKFILL DETAIL



TYPICAL WALL SECTION A-A

LOOKING SOUTH AT WEST SIDE OF WALL, EAST SIDE MIRROR IMAGE
W.P.① TO W.P.② AND W.P.⑤ TO W.P.⑥ SEE B-5-624
AND B-5-622 PLANS FOR APPROACH PANEL COPING DETAILS.



TYPICAL WALL SECTION B-B

(LOOKING EAST AT NORTH ABUTMENT W.P.③ TO W.P.④

INSTALL BRIDGE PILING BEFORE MSE WALL. PLACE REINFORCING MAT AROUND PILING FOR BRIDGE ABUTMENT.

INSTALLATION OF BRIDGE PILING IS NOT A RETAINING WALL BID ITEM.

LEGEND

- ● THE PLAN QUANTITY FOR THE BID ITEMS "WALL WIRE FACED MECHANICALLY STABILIZED EARTH" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL" ARE BASED ON A WALL HEIGHT MEASURED FROM THE FINISHED GRADE AT THE FRONT FACE OF THE WALL TO THE TOP OF THE WALL AS SHOWN. THE TOP OF THE FOOTING IS ASSUMED TO BE A CONSTANT 1'-9" BELOW FINISHED GRADE. COPING CONCRETE AND COPING REINFORCEMENT ARE TO BE INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."
- ⚠ SEE SHT. 2 FOR SOIL REINFORCEMENT REQUIREMENTS.
- ✱ MINIMUM EMBEDMENT DEPTHS SHALL BE BASED ON FINISHED GRADE NOTED IN "GEOMETRY TABLE" ON SHEET 2.
- ■ MINIMUM CLEARANCE FROM PARAPET TO PILASTER.
- ◪ CONCRETE SLOPE PAVING TO BE A MIN. OF 4" THICK. PLACE CONSTRUCTION JOINTS EVERY 10' MAX. SEE SLOPE PAVING CONSTRUCTION JOINT DETAIL ON SHEET 5.
- ◐ PROVIDE VERTICAL PIPE UNDERDRAIN UNPERFORATED 6-INCH TO CONNECT R-5-211 WALL UNDERDRAIN TO B-5-622 AND B-5-624 ABUTMENT UNDERDRAIN. LOCATE THE VERTICAL PIPE APROXIMATELY 7 FEET FROM THE SOUTH CORNER OF THE RETAINING WALL. CAP THE UNPERFORATED UNDERDRAIN AT ELEVATION 619.39 FOR CONNECTION TO THE ABUTMENT UNDERDRAIN.
- Ⓧ WORKING POINT
- ⊠ GEOTEXTILE FABRIC TYPE DF, 2'-0" WIDE, LENGTH OF FOOTING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-211

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WALL DETAILS-1

SHEET 3 OF 10
2419

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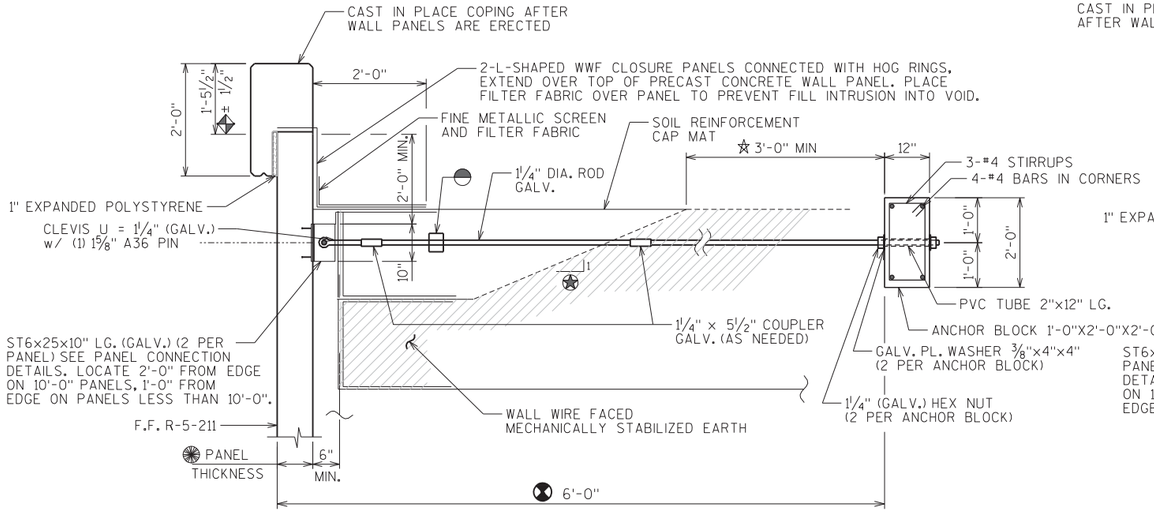
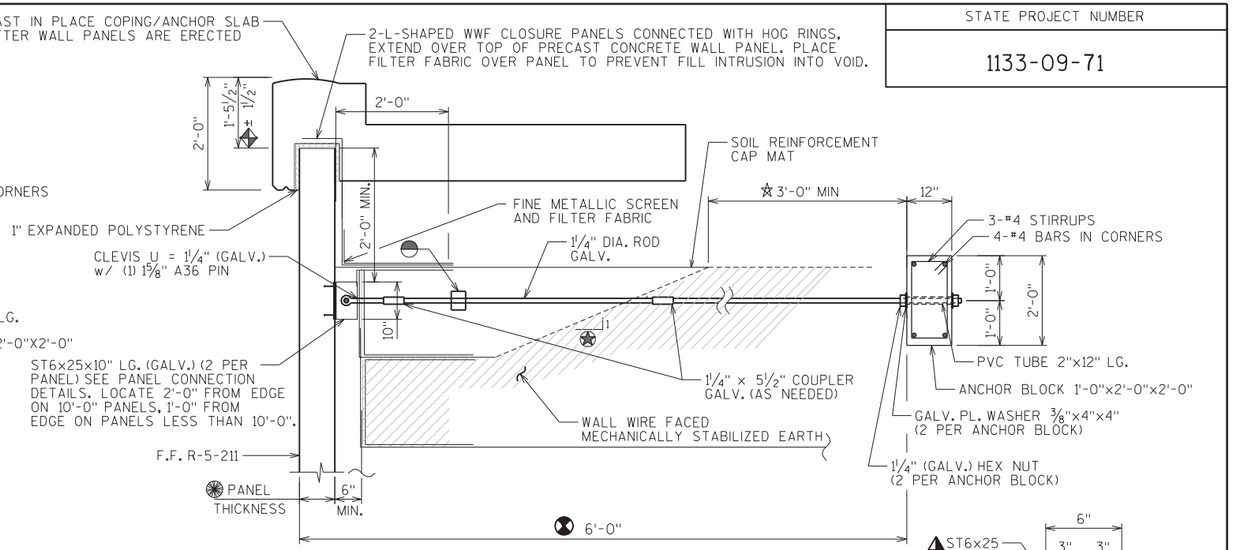
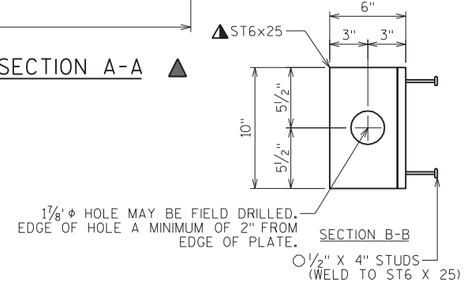
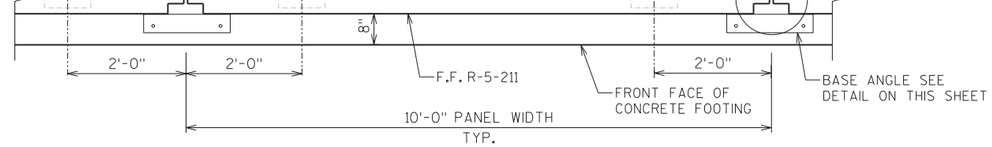


WALL PANEL ANCHOR DETAIL SECTION B-B ▲

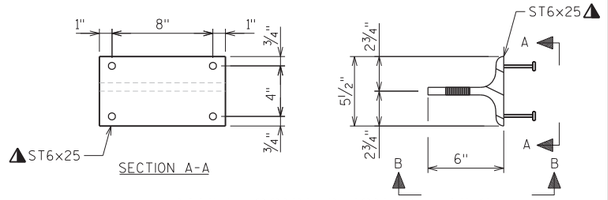


WALL PANEL ANCHOR DETAIL SECTION A-A ▲



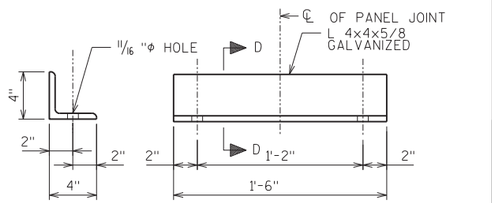


PLAN VIEW WALL PANEL CONNECTION



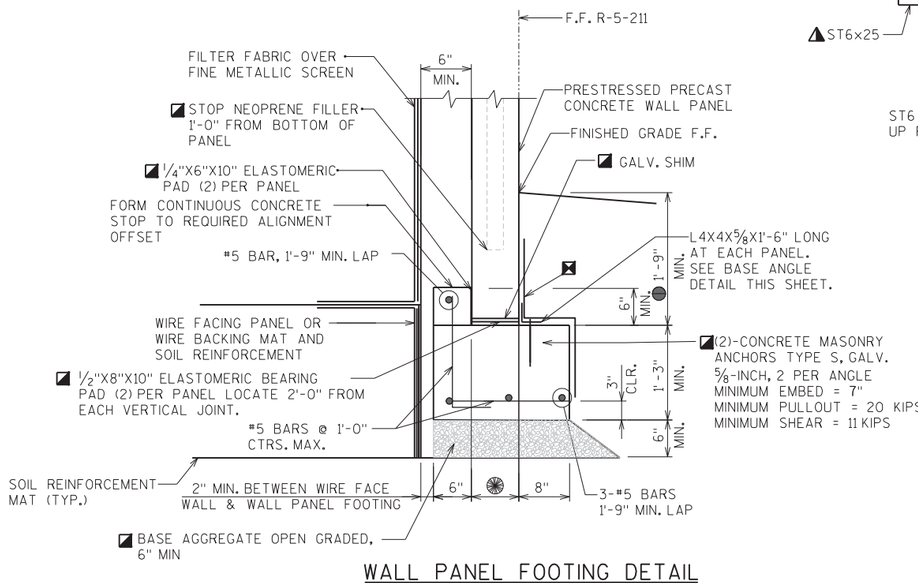
PANEL CONNECTION DETAILS

ST6 X 25 MAY BE WELDED TO ¾" THICK PLATE ANCHORED IN TILT UP PANEL. DETAILS SUBJECT TO APPROVAL BY THE ENGINEER.



BASE ANGLE DETAIL

(1) AT EACH PANEL JOINT INCLUDED IN BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."



WALL PANEL FOOTING DETAIL

(NOTE: FOOTING CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL")

NOTES

AN ALTERNATE WALL PANEL ANCHOR AND PANEL CONNECTION SYSTEM MAY BE SUBMITTED FOR REVIEW BY THE ENGINEER.

TILT UP PANEL ANCHOR SYSTEM MAY BE TRENCHED IN IF THE GEOMETRY OF THE ANCHOR SYSTEM LOCATION ALLOWS.

LEGEND

- ◉ = WALL PANEL THICKNESS AS DETERMINED IN ACCORDANCE WITH THE DESIGN REQUIREMENTS DEFINED IN THE SPECIAL PROVISIONS. (6" MINIMUM)
- ▲ S12X50 (GALV.) CUT IN HALF TO FORM "T" SECTION BF=5.477", TW=0.687.
- ◓ OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. (CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼ DIAM. BAR)
- ☆ DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION AND ROD TO BE 2'-0" MIN. BELOW FINISHED GRADE.
- ○ AS AN ALTERNATE, ½" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.
- ⊗ LENGTH MAY BE INCREASED TO AVOID OBSTRUCTIONS, SUCH AS ABUTMENT PILING.
- ◓ MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE PRECAST PANELS.
- ▲ WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1¼" DIA. ANCHOR ROD, CLEVIS AND OTHER PANEL CONNECTION COMPONENTS. DETAILING, AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL." INSTALLATION OF THESE ITEMS IS INCLUDED IN THE THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH."
- ◪ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."
- ▣ GEOTEXTILE FABRIC TYPE DF, 2'-0" WIDE, LENGTH OF FOOTING
- ⊛ EXCAVATED SLOPE PER OSHA REQUIREMENTS.
- ◈ MUST BE 1'-4" AT W.P. 2, 3, 4, & 5.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-211

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WALL DETAILS - 2

SHEET 4 OF 10

2420

SCALE = 10:0 " : " / IN.

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STATE PROJECT NUMBER

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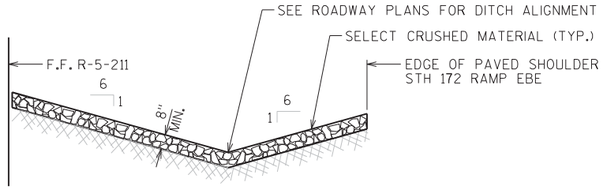
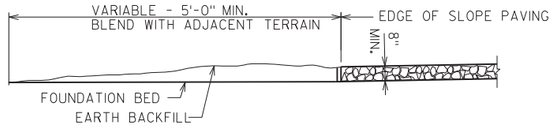
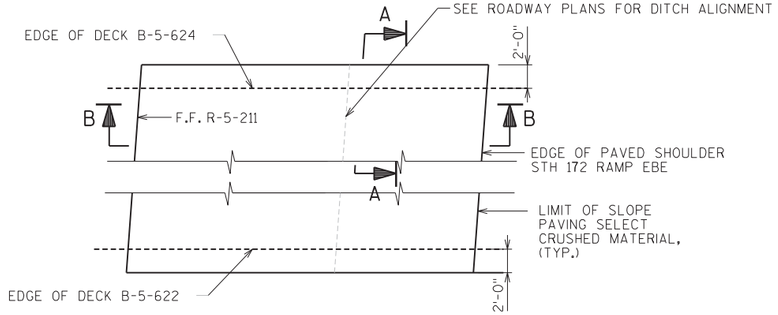


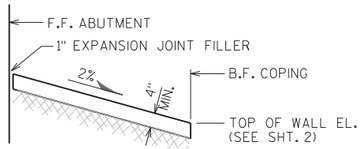
SECTION B-B



SECTION A-A



PLAN



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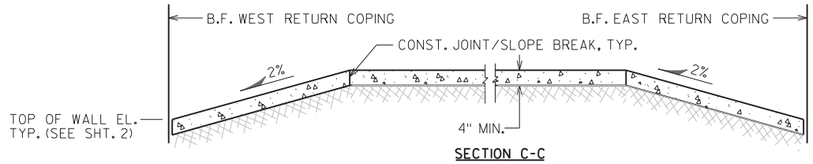

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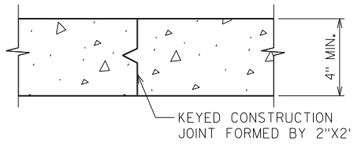
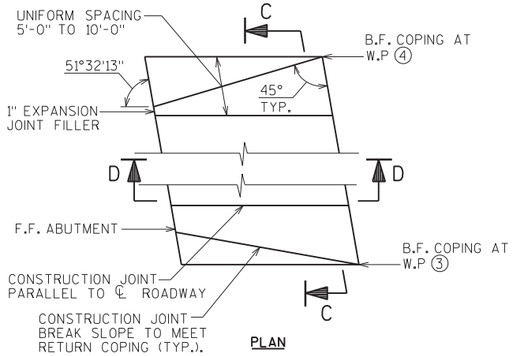


CONSTRUCTION JOINT DETAIL



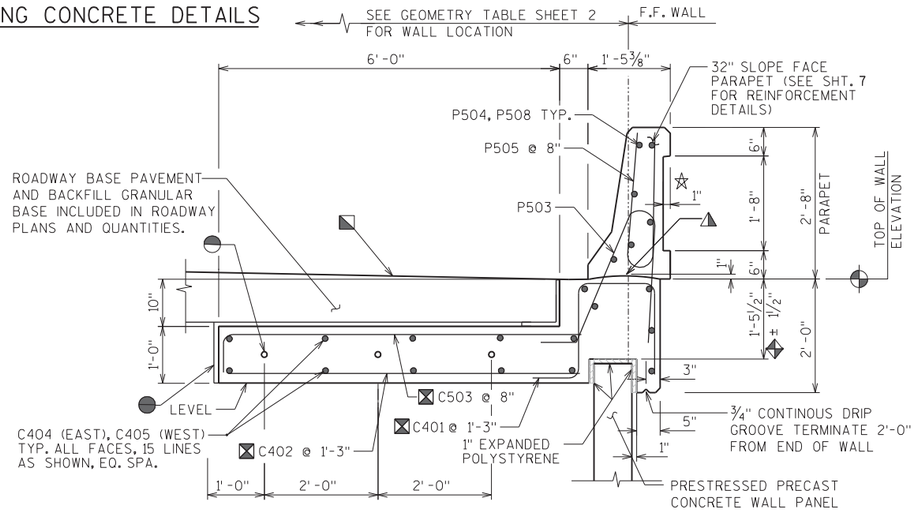
PLAN

SLOPE PAVING SELECT CRUSHED MATERIAL DETAILS

LEGEND & NOTES

- CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- PLACE (3) -¾"Φ (SMOOTH) DOWEL BARS, 1'-6" LONG BETWEEN ANCHOR SLAB AND APPROACH APRON FOOTING. EMBED 9", SPACE EQUALLY, 6" MIN. CLR. FROM EDGE, 1'-6" MIN. SPACING. USE APPROVED DEBONDER ON ½ OF BAR LENGTH. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. COST OF ITEMS ARE INCLUDED IN BID ITEM "CONCRETE MASONRY RETAINING WALLS."
- SEE SHEET 8 & 9 FOR AESTHETIC DETAILS.
- SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH STAIN. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)
- EXPANSION JOINTS TO BE SPACED AS SHOWN ON SHEET 1. LOCATE EXPANSION JOINTS OVER WALL JOINTS EXCEPT AT WINGWALLS WHERE WALL PANEL JOINTING MAY VARY FROM COPING JOINTS. DO NOT RUN BAR STEEL THRU JOINT EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.
- SEE ROADWAY PLANS FOR SLOPE
- AT WALL COPING AND ABUTMENT INTERFACE, PLACE 18" RUBBERIZED MEMBRANE WATERPROOFING ALONG BACK OF INTERFACE. USE AT FULL WIDTH OF ALL EXPANSION JOINTS.
- LOCATE CONTRACTION JOINTS IN COPING OVER WALL JOINTS WHERE NO EXPANSION JOINT NOTED.
- PLACE REINFORCEMENT ALONG SKEW AT APPROACH APRON INTERFACE. FAN REINFORCEMENT TO MAINTAIN EQUAL SPACING ACROSS SLAB.
- MUST BE 1'-4" AT W.P. 2, 3, 4, & 5.
- DIMENSIONS ARE APPROXIMATE, GRATE TO BE SIZED TO FIT INTO A PIPE COUPLING. ORIENT RODENT SHIELD SO SLOTS ARE VERTICAL. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN UNPERFORATED 6-INCH." THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL . THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

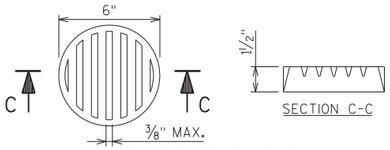
SLOPE PAVING CONCRETE DETAILS



CAST-IN-PLACE CONCRETE TRAFFIC BARRIER DETAIL

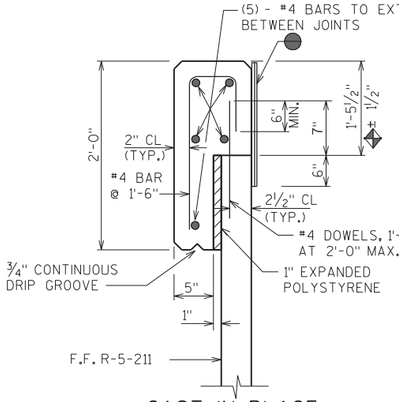
LOOKING NORTH AT EAST SIDE OF WALL, WEST SIDE MIRROR IMAGE
(SEE PLAN VIEW SHEET 6 FOR LAYOUT)

SEE SHT. 7 FOR BILL OF BARS



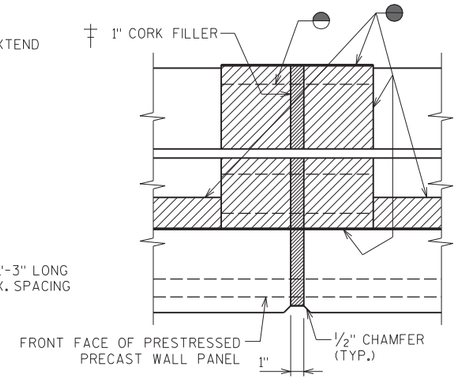
RODENT SHIELD

(FOR PIPE UNDERDRAIN)

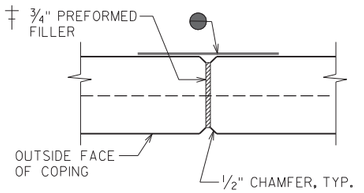


CAST-IN-PLACE CONCRETE COPING DETAIL

(NOTE: COPING CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL.")

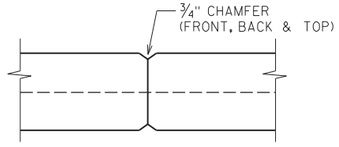


ANCHOR SLAB EXPANSION JOINT DETAIL



COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.



COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-211

DRAWN BY TRW | PLANS CK'D. JFR

WALL DETAILS - 3

SHEET 5 OF 10

2421

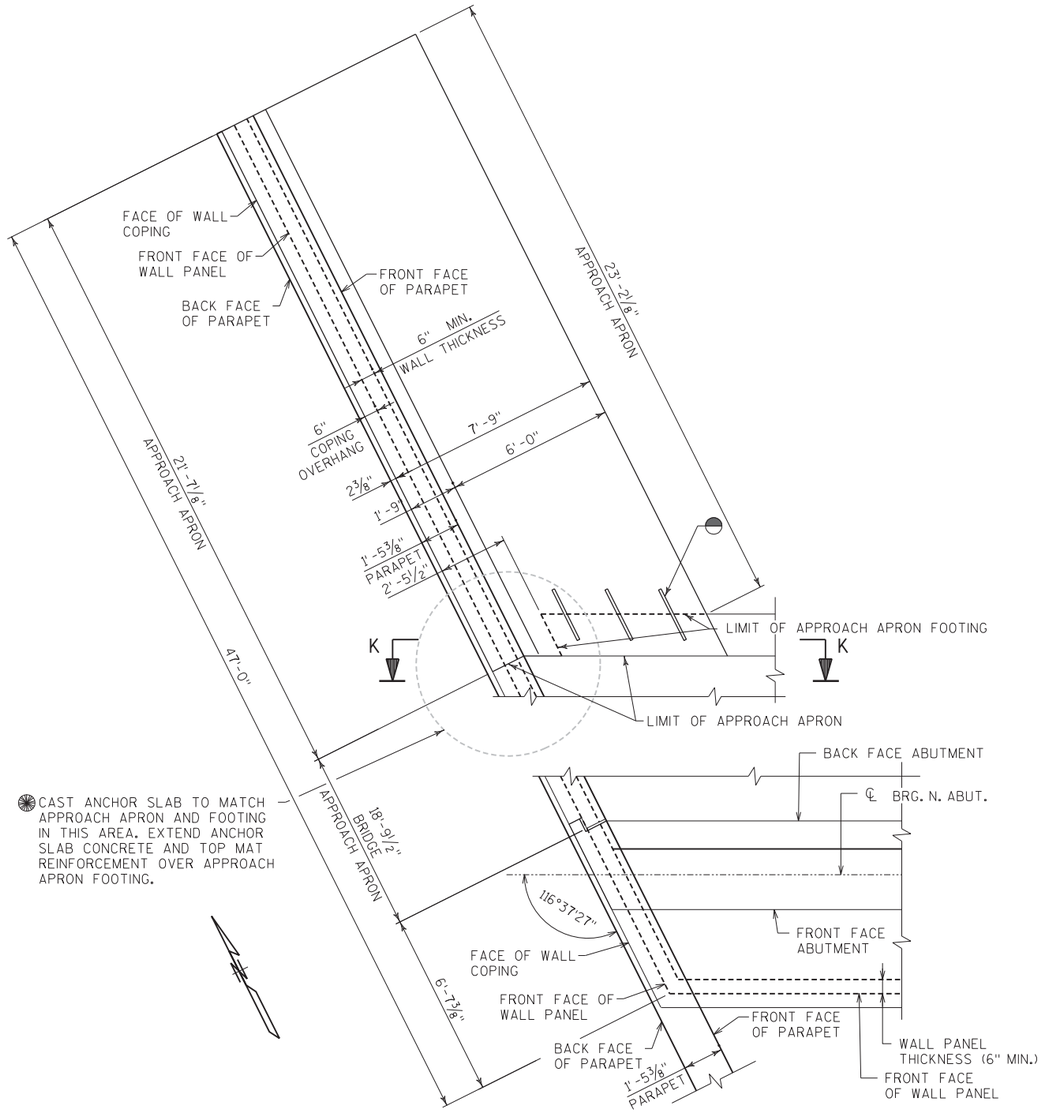
8

8

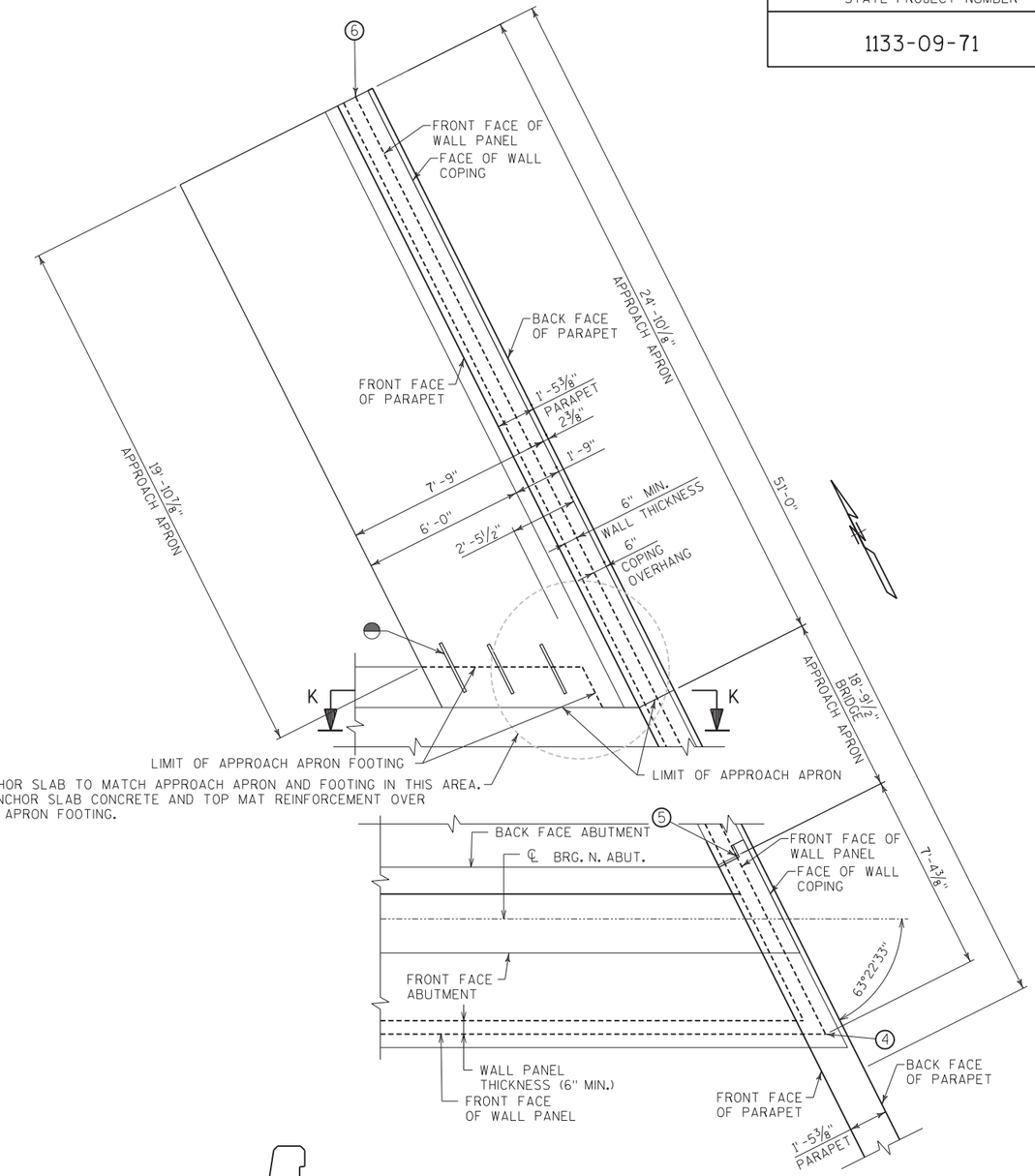
SCALE = 2:8 ' :" / IN.

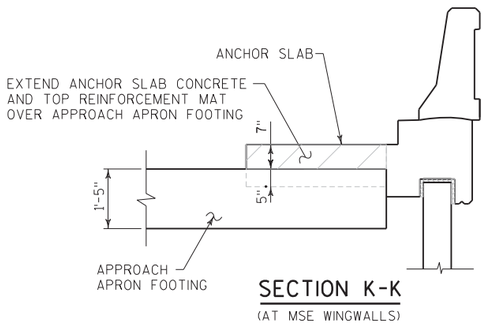
STATE PROJECT NUMBER

1133-09-71



WEST ANCHOR SLAB





SECTION K-K

(AT MSE WINGWALLS)

LEGEND

- PLACE (3) -¾"Φ (SMOOTH) DOWEL BARS, 1'-6" LONG BETWEEN ANCHOR SLAB AND APPROACH APRON FOOTING. EMBED 9", SPACE EQUALLY, 6" MIN. CLR. FROM EDGE, 1'-6" MIN. SPACING. USE APPROVED DEBONDER ON ½ OF BAR LENGTH. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. COST OF ITEMS ARE INCLUDED IN BID ITEM "CONCRETE MASONRY RETAINING WALLS."
- EXPANSION JOINTS TO BE SPACED AS SHOWN ON SHEET 1. DO NOT RUN BAR STEEL THRU JOINT EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.
- Ⓧ WORKING POINT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-211

DRAWN BY TRW | PLANS CK'D. JFR

ANCHOR SLAB LAYOUT

SHEET 6 OF 10
2422

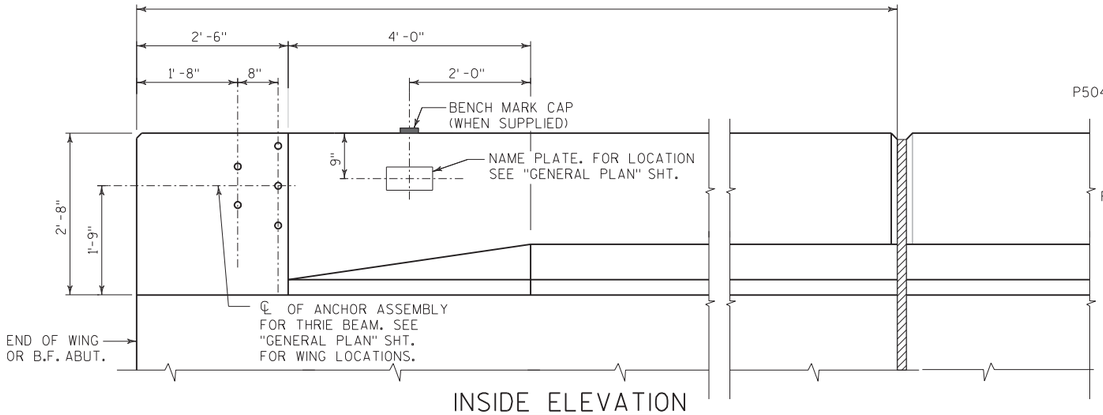
8

8

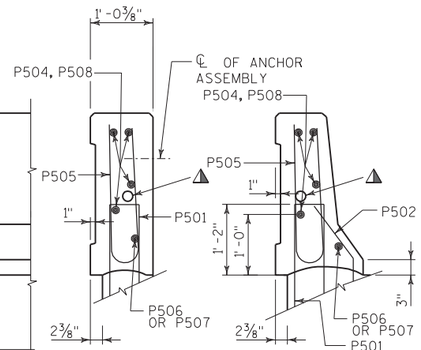
SCALE = 5:5 ' :" / IN.

STATE PROJECT NUMBER

1133-09-71

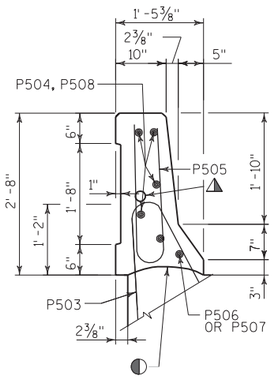


INSIDE ELEVATION

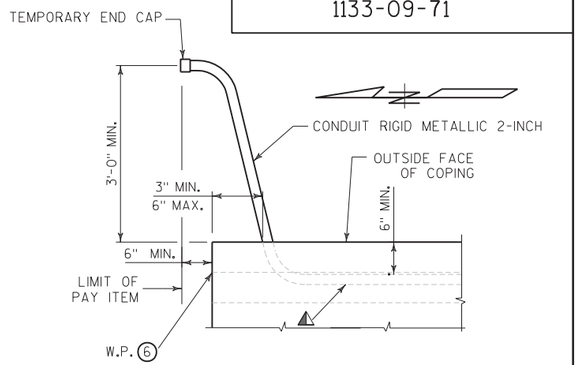


SECTION A

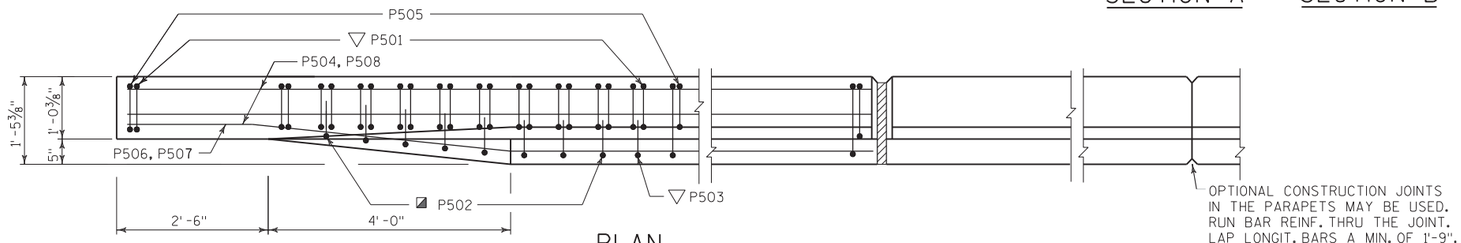
SECTION B



SECTION C

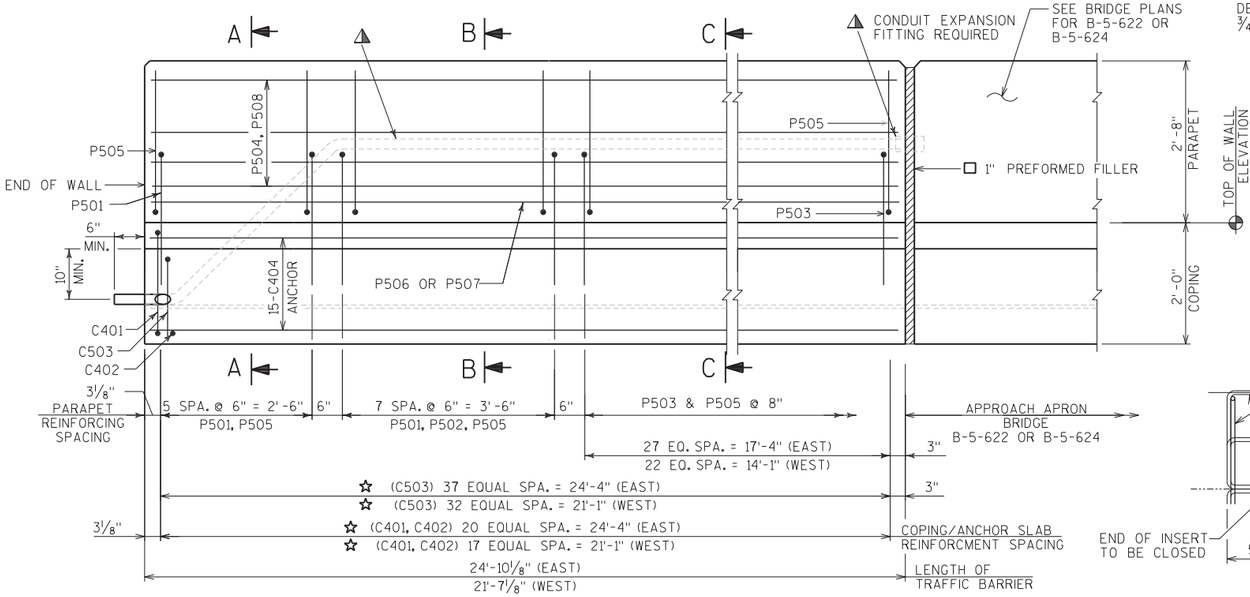


CONDUIT EXIT DETAIL

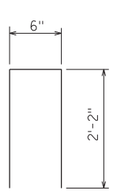


PLAN

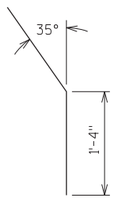
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.



OUTSIDE ELEVATION



P501



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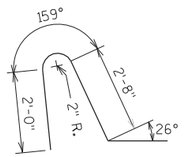
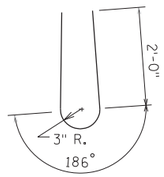
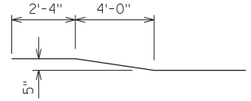


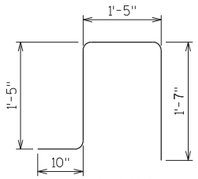
P503



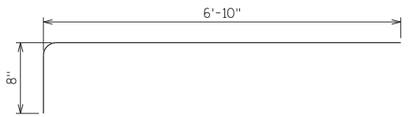
P505



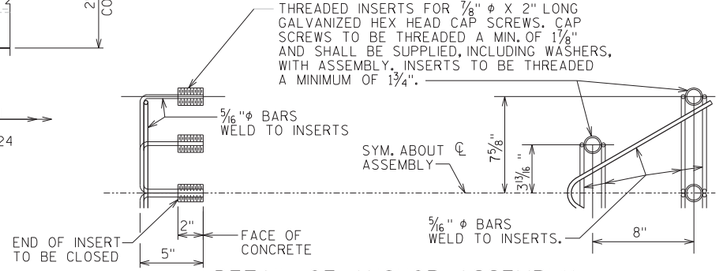
P506, P507



C401



C503



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

BILL OF BARS - PARAPET

BAR MARK	COATED	NO. REQ'D. WEST	NO. REQ'D. EAST	LENGTH	BENT	LOCATION
P501	X	14	14	4'-7"	X	PARAPET VERT.
P502	X	8	8	2'-4"	X	PARAPET VERT.
P503	X	23	28	5'-8"	X	PARAPET VERT.
P504	X	4	--	21'-1"		PARAPET HORIZ.
P505	X	37	42	4'-10"	X	PARAPET VERT.
P506	X	1	--	20'-8"	X	PARAPET HORIZ.
P507	X	--	1	23'-11"	X	PARAPET HORIZ.
P508	X	--	4	24'-4"		PARAPET HORIZ.

BILL OF BARS - TRAFFIC BARRIER

MARK	COATED	NO. REQ'D.	LENGTH	BENT	LOCATION
☒ C401	X	39	5'-0"	X	COPING TIE-TRANSVERSE
☒ C402	X	39	6'-4"		ANCHOR SLAB BOTTOM-TRANSVERSE
☒ C503	X	71	7'-5"	X	ANCHOR SLAB TOP-TRANSVERSE
C404	X	60	13'-7"		ANCHOR SLAB-LONGITUDINAL

LEGEND

- □ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH CONCRETE STAIN (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)
- ☆ DIMENSION SHOWN ALONG OUTSIDE OF COPING. MAINTAIN EQUAL SPACING ACROSS SLAB.
- ◐ CONST. JOINT - STRIKE OFF AS SHOWN.
- ◪ P502 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE P502 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ▽ P501 AND P503 BARS TO BE TIED TO ANCHOR SLAB STEEL BEFORE ANCHOR SLAB IS POURED.
- ☒ PLACE REINFORCEMENT ALOMG SKEW AT APPROACH APRON INTERFACE. FAN REINFORCEMENT TO MAINTAIN EQUAL SPACING ACROSS SLAB.
- ◭ CONDUIT RIGID METALLIC 2-INCH, EAST PARAPET ONLY, EXIT TO GRADE. EXPANSION FITTING AND TEMP. END CAP INCIDENTAL TO PAY ITEM.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-211

DRAWN BY TRW | PLANS CK'D. JFR

PARAPET & ANCHOR SLAB DETAILS

SHEET 7 OF 10
2423

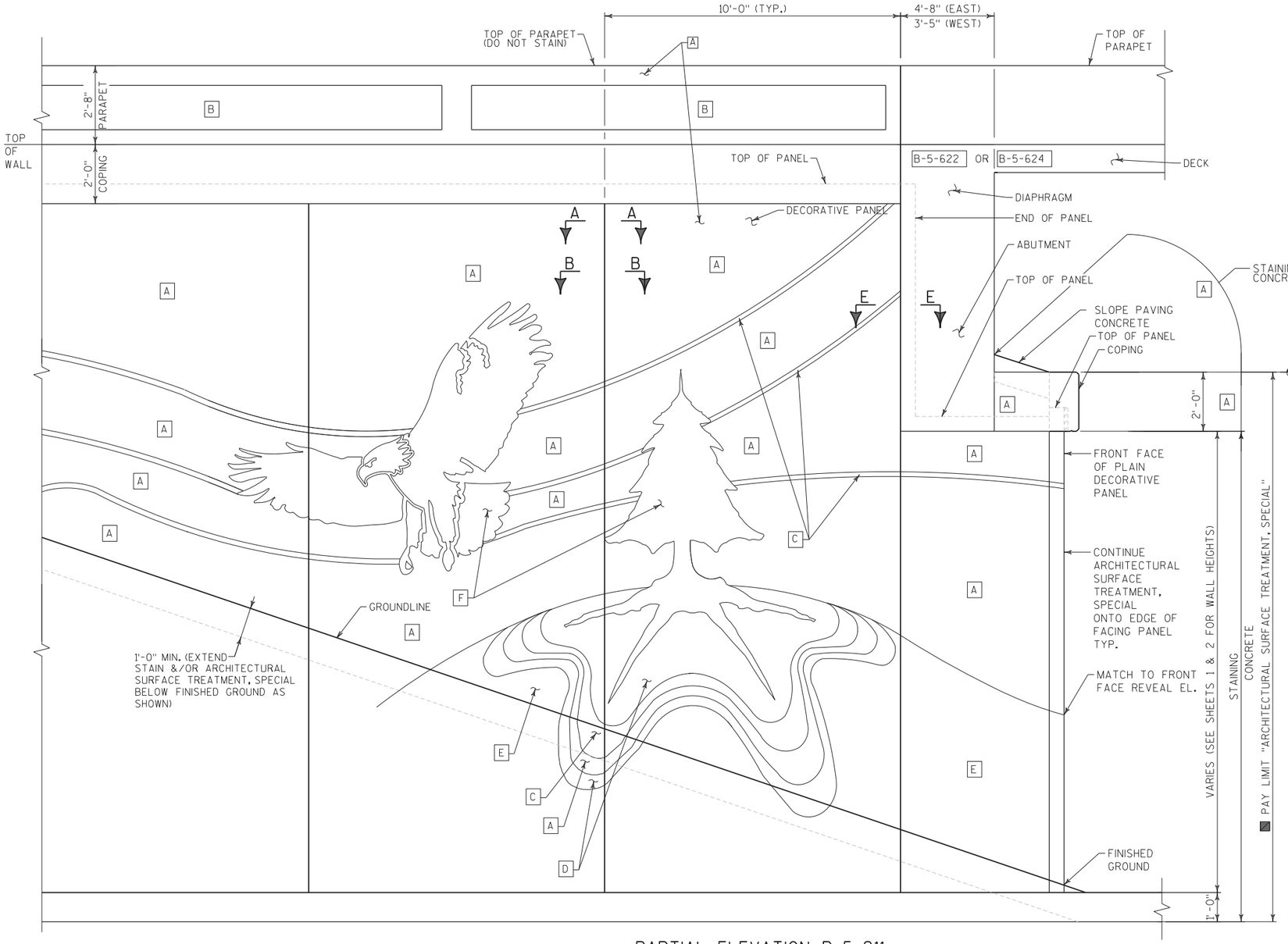
SCALE = 2:16 " : " / IN.

8

8

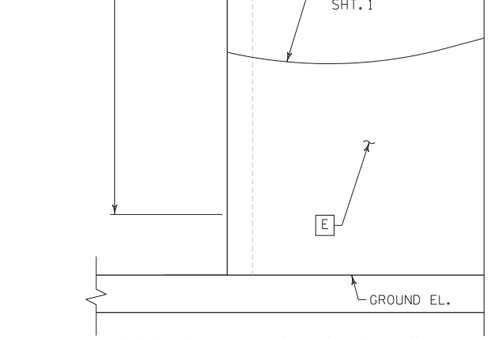
STATE PROJECT NUMBER

1133-09-71



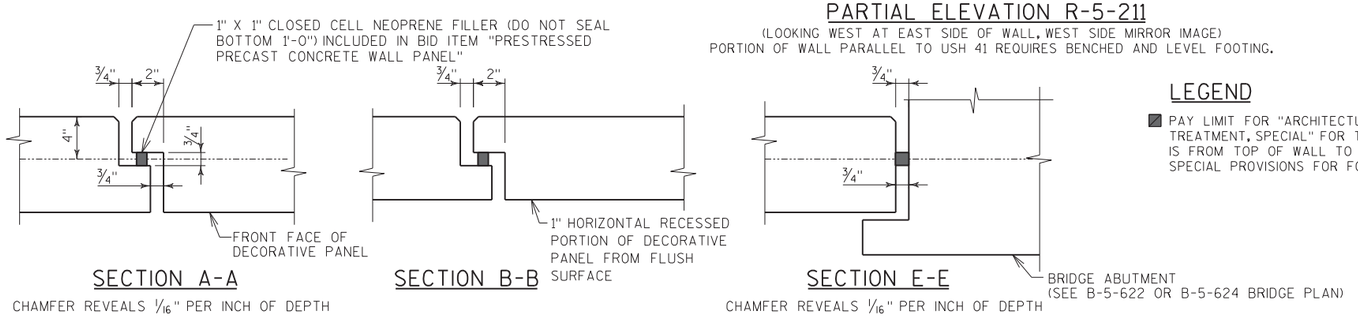
PARTIAL ELEVATION R-5-211

(LOOKING WEST AT EAST SIDE OF WALL, WEST SIDE MIRROR IMAGE)
PORTION OF WALL PARALLEL TO USH 41 REQUIRES BENCHED AND LEVEL FOOTING.



PARTIAL ELEVATION R-5-211

(LOOKING NORTH AT WEST END
EAST END IS MIRROR IMAGE)



SECTION A-A

CHAMFER REVEALS 1/16" PER INCH OF DEPTH

SECTION B-B

SECTION E-E

CHAMFER REVEALS 1/16" PER INCH OF DEPTH

LEGEND

▩ PAY LIMIT FOR "ARCHITECTURAL SURFACE TREATMENT, SPECIAL" FOR THE WALL PANELS IS FROM TOP OF WALL TO 1'-0" BELOW GRADE. SPECIAL PROVISIONS FOR FORMLINER DETAILS.

CONCRETE STAINING SCHEDULE

MARK	COLOR	INDENTATION (INCHES)
A	BASE COLOR	0
B	ACCENT COLOR #1	-1
C	ACCENT COLOR #2	-2
D	ACCENT COLOR #3	-1.25
E	ACCENT COLOR #4	-1.5
F	ACCENT COLOR #5	-1
G	ACCENT COLOR #6	N/A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-211

DRAWN BY TRW | PLANS CK'D. JFR

AESTHETIC DETAILS-1

SHEET 8 OF 10
2424

SCALE = 4:0 " : " / IN.

8

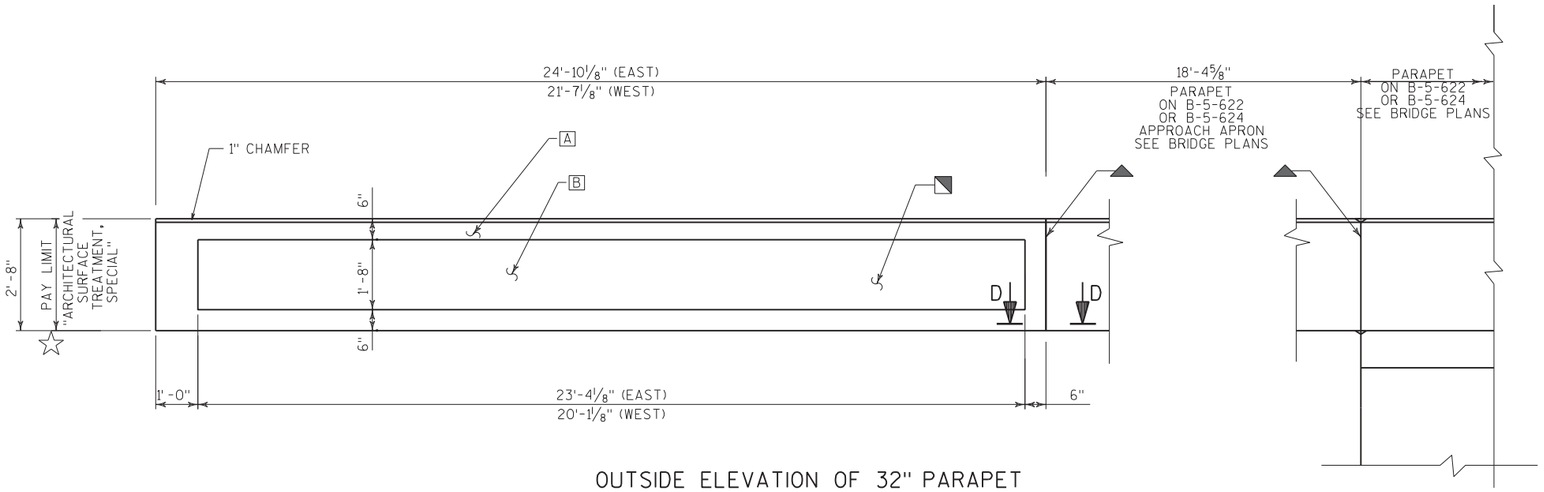
8

m:\cad\active\ne\1133-09-00 172\structures\FINAL\R-05-211\R-05-0211_pln-08.dgn

$$...plottingtime...$$

3/28/2013

STATE PROJECT NUMBER
1133-09-71



OUTSIDE ELEVATION OF 32" PARAPET

LOOKING WEST AT EAST WING
WEST WING MIRROR IMAGE

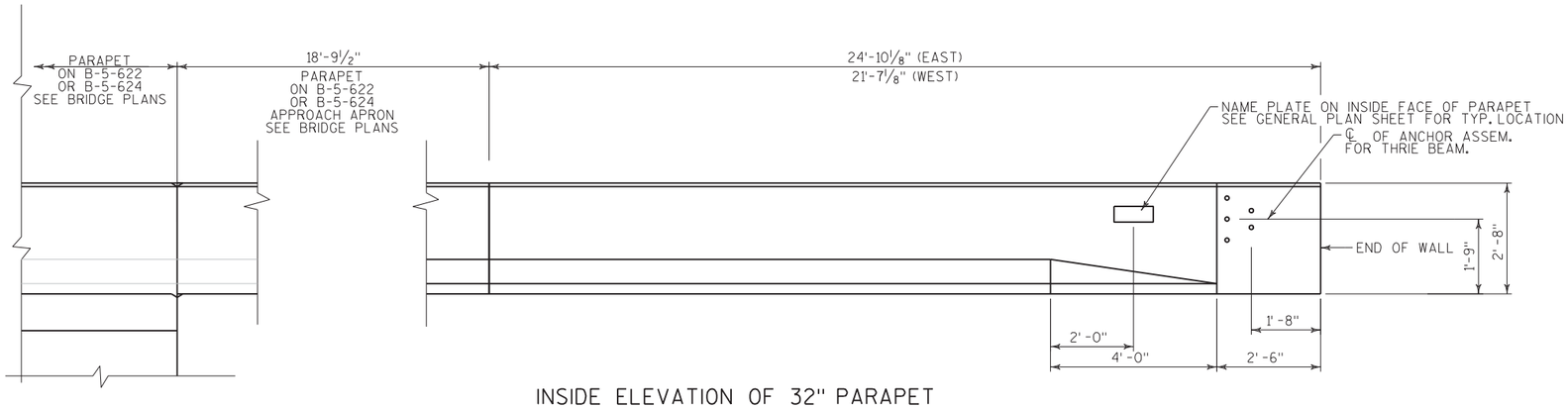
NOTES & LEGEND

☆ PAY LIMIT FOR "ARCHITECTURAL SURFACE TREATMENT, SPECIAL" FOR THE PARAPETS IS THE TOTAL PARAPET HEIGHT. SEE SPECIAL PROVISIONS FOR DESCRIPTION OF FORMLINER AND DETAILS ON THIS SHEET.

RECESSED PANEL (TYP.)

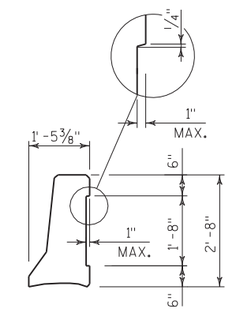
EXPANSION JOINT

SEE SHT. 8 FOR STAINING SCHEDULE

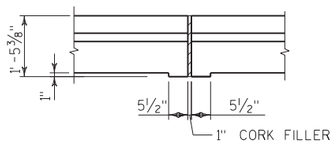


INSIDE ELEVATION OF 32" PARAPET

LOOKING EAST AT EAST WING
WEST WING MIRROR IMAGE



32" SLOPED FACE PARAPET



SECTION D-D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-211

DRAWN BY TRW | PLANS CK'D. JFR

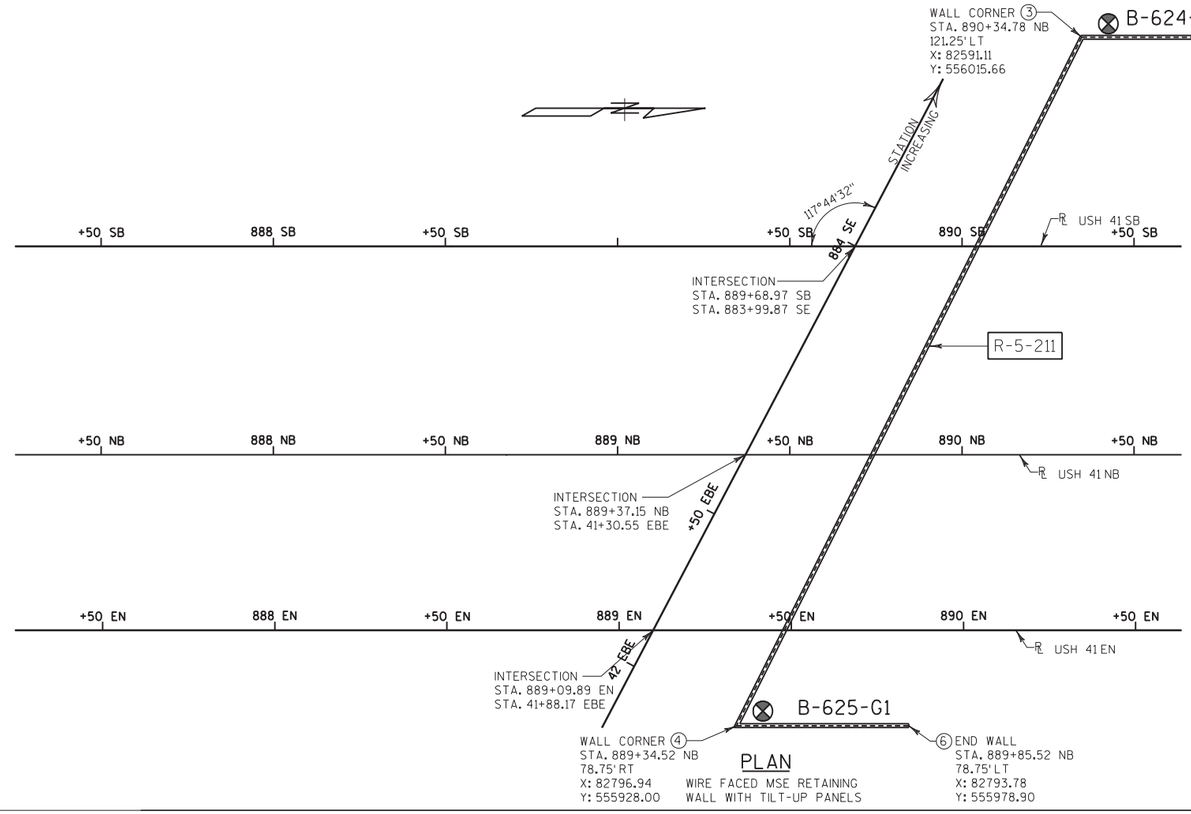
AESTHETIC DETAILS-2

SHEET 9 OF 10
2425

SCALE = 3:7 1/4 " :" / IN.

8

8



PLAN

WIRE FACED MSE RETAINING WALL WITH TILT-UP PANELS

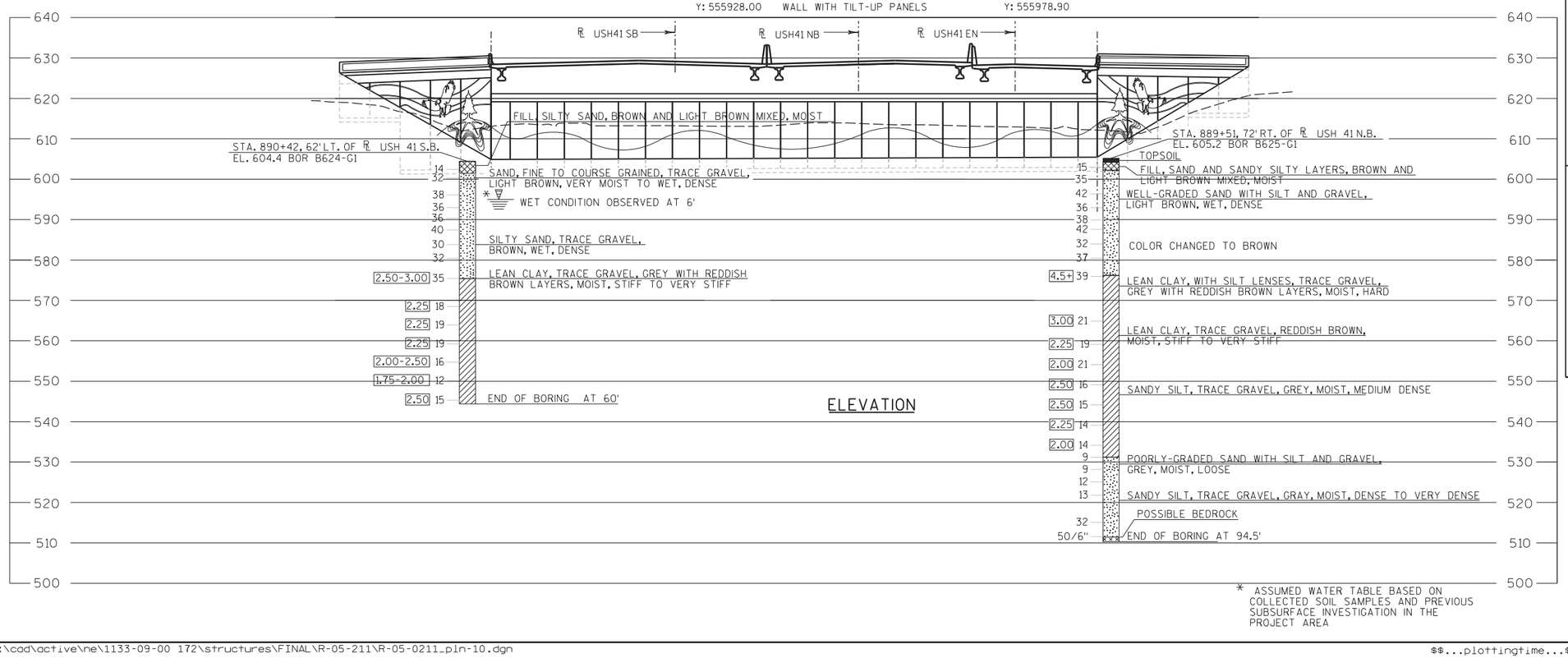
NOTES:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

⊗ DENOTES SOIL BORING LOCATION

SOIL BORING B-624-G1 AND B-625-G1 WERE COMPLETED BY GESTRA ENGINEERING INC.

SOIL BORING TAKEN:
MARCH 17, 2011 - BOR-B624-G1
MARCH 15, 2011 - BOR-B625-G1



ELEVATION

* ASSUMED WATER TABLE BASED ON COLLECTED SOIL SAMPLES AND PREVIOUS SUBSURFACE INVESTIGATION IN THE PROJECT AREA

STATE PROJECT NUMBER

1133-09-71

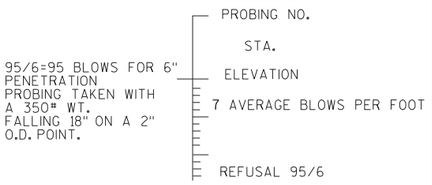
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

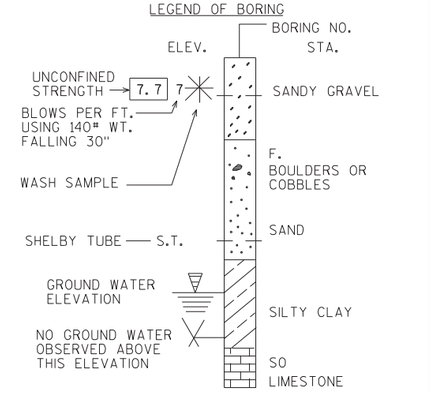
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-211

DRAWN BY TRW | PLANS CK'D. JFR

SUBSURFACE EXPLORATION

SHEET 10 OF 10
2426

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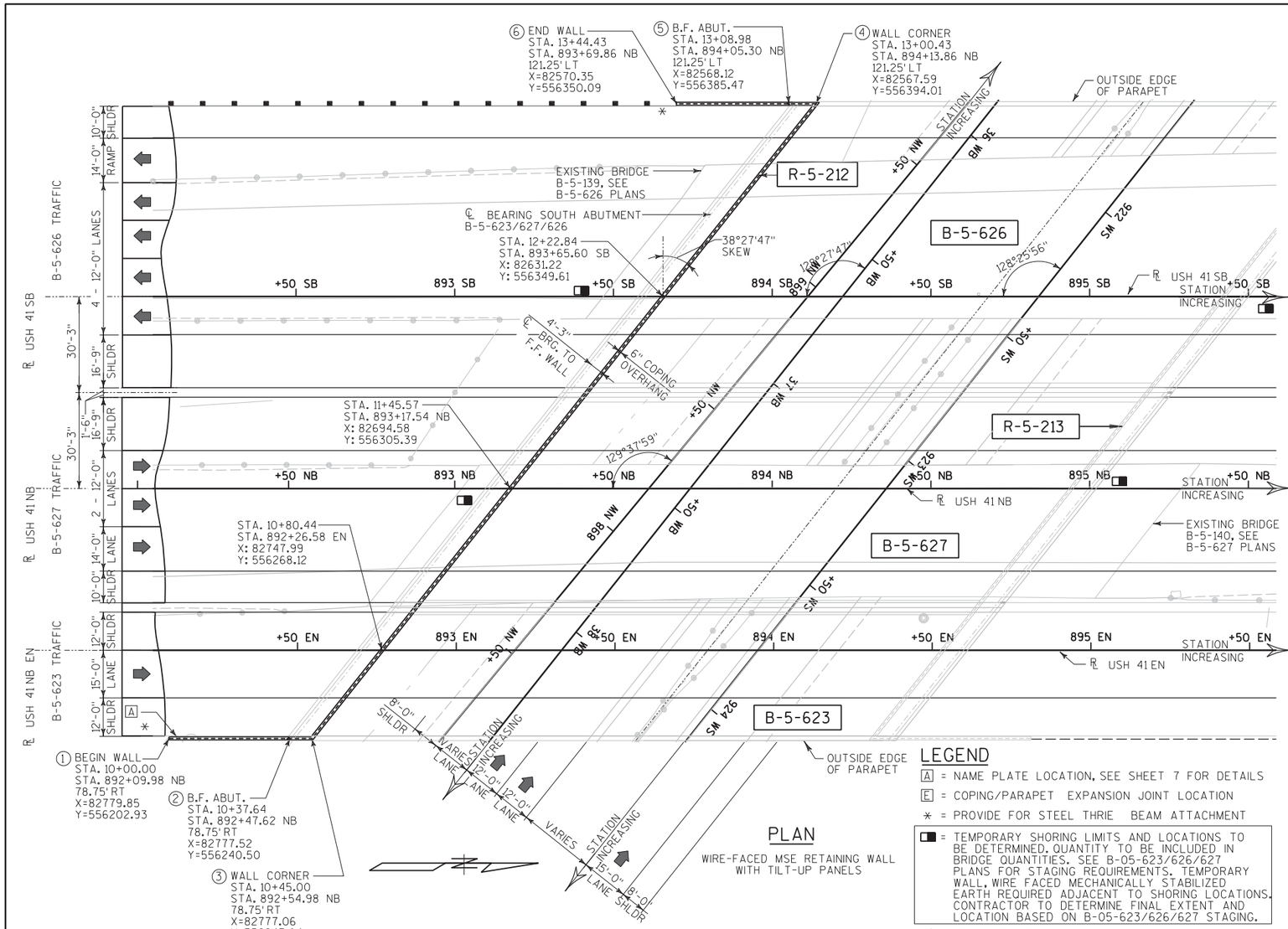
STATE PROJECT NUMBER
1133-09-71

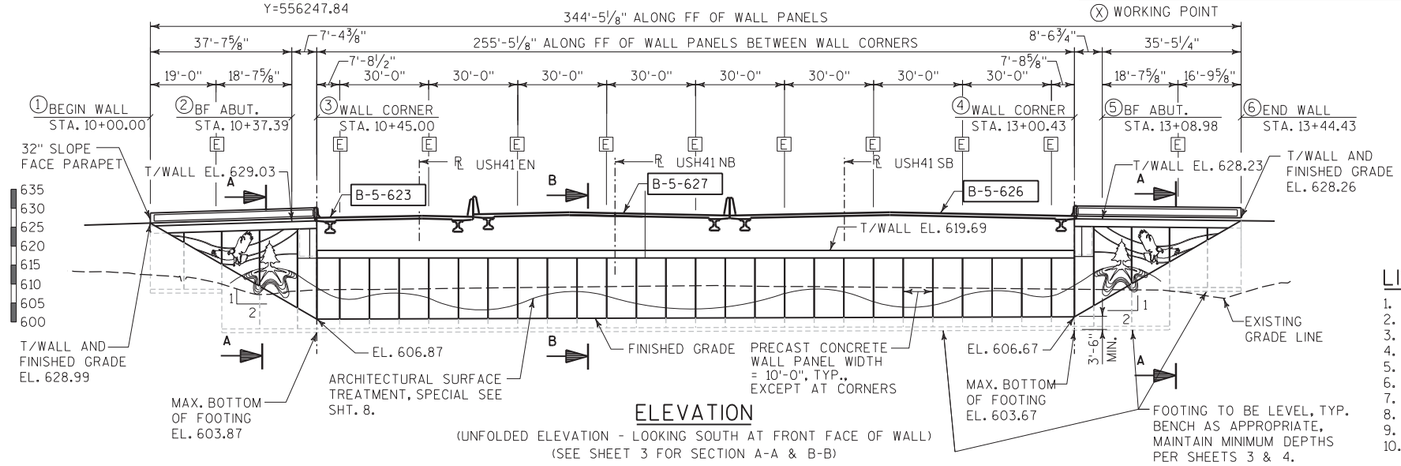


PLAN

WIRE-FACED MSE RETAINING WALL WITH TILT-UP PANELS

LEGEND

- [A] = NAME PLATE LOCATION, SEE SHEET 7 FOR DETAILS
- [E] = COPING/PARAPET EXPANSION JOINT LOCATION
- ✳ = PROVIDE FOR STEEL THRIE BEAM ATTACHMENT
- ■ = TEMPORARY SHORING LIMITS AND LOCATIONS TO BE DETERMINED. QUANTITY TO BE INCLUDED IN BRIDGE QUANTITIES. SEE B-05-623/626/627 PLANS FOR STAGING REQUIREMENTS. TEMPORARY WALL, WIRE FACED MECHANICALLY STABILIZED EARTH REQUIRED ADJACENT TO SHORING LOCATIONS. CONTRACTOR TO DETERMINE FINAL EXTENT AND LOCATION BASED ON B-05-623/626/627 STAGING.
- Ⓧ WORKING POINT



ELEVATION

(UNFOLDED ELEVATION - LOOKING SOUTH AT FRONT FACE OF WALL)
(SEE SHEET 3 FOR SECTION A-A & B-B)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCIDENTAL TO THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN IN THE GEOMETRY TABLE.

THE EXISTING GROUNDLINE IS THE UPPER LIMIT OF EXCAVATION FOR STRUCTURES.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THIS WALL WITH CONSTRUCTION OF THE SOUTH ABUTMENT OF BRIDGES B-5-623, B-5-627 AND B-5-626.

DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

APPLY PROTECTIVE SURFACE TREATMENT TO THE EXPOSED SURFACE OF THE ANCHOR SLAB AND THE TOP AND INSIDE FACE OF PARAPETS.

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE ANCHOR SLAB AND PARAPETS IS INCLUDED IN THE ITEM "CONCRETE MASONRY RETAINING WALLS."

WALL STATIONS ARE GIVEN AT THE FRONT FACE OF THE WALL PANEL (UNLESS SHOWN OTHERWISE).

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFY THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M 153, TYPE I, II OR III OR AASHTO DESIGNATION M 213.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

OPTIONAL TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE PANEL FOOTING WITH A MINIMUM SPACING OF TWO PANEL JOINTS. FOOTING JOINTS SHOULD BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THRU FOOTING JOINTS.

DO NOT ALLOW CONCRETE OR FILL TO DROP OR ACCUMULATE IN WALL PANEL CAVITY.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

PROVIDE A RUBBED SURFACE FINISH IN ACCORDANCE WITH SECTION 502.3.7.3 TO ALL PERMANENTLY EXPOSED SURFACES OF CONCRETE MASONRY RETAINING WALLS.

SEE SPECIAL PROVISIONS FOR AESTHETIC TREATMENT TO WALL.

DESIGN THE MSE WALL FOR A SUCTION LOAD OF 20 PSF ACTING ON THE PRECAST WALL PANELS.

DESIGN FOR RETAINING WALL TO PROVIDE FOR A FINISHED GRADE SLOPE BEHIND THE WALL AS SHOWN IN THESE PLANS AND THE ROADWAY CROSS SECTIONS.

ALL STATIONS AND OFFSETS ARE REFERENCED TO THE USH 41 NB ALIGNMENT.

FOR UTILITY OWNERSHIP AND CONTACT INFORMATION, SEE ROADWAY PLAN.

THE EXISTING ABUTMENT PILING SHALL BE CUT OFF AT THE BOTTOM OF WALL ELEVATION FOR R-5-210. THIS WORK TO BE INCLUDED IN BRIDGE QUANTITY BID ITEM "REMOVING OLD STUCTURE."

AT ENDS OF WALL, SEAL CAVITY BETWEEN WIRE FACE AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE, 1'-6" WIDE. INCIDENTAL TO BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANELS". "FINE METALLIC SCREEN" TO HAVE A MAXIMUM ¼" × ¼" MESH AND MIMIMUM 0.025 WIRE DIAMETER. WIRES TO BE HOT DIPPED GALVANIZED AFTER WELDING.

LIST OF DRAWINGS

1. GENERAL PLAN
2. DESIGN DATA & QUANTITIES
3. WALL DETAILS-1
4. WALL DETAILS-2
5. WALL DETAILS-3
6. ANCHOR SLAB LAYOUT
7. PARAPET & ANCHOR SLAB DETAILS
8. AESTHETIC DETAILS-1
9. AESTHETIC DETAILS-2
10. SUBSURFACE EXPLORATION

WISCONSIN PROFESSIONAL ENGINEER
JOHN F. RUBLEIN
E-38700
MADISON
WI
3/28/13

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

NE REGION CONTACT:
KURT PETERS (920) 492-2213

CONSULTANT CONTACT:
JOHN RUBLEIN (608) 229-1434

NO.	DATE	REVISION	BY

DAAR ENGINEERING, INC.
www.daarcorp.com
Madison, WI 53703
608-249-0149

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher for — 04/01/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-5-212

SOUTH RETAINING WALL AT USH 41 & STH 172 WB

COUNTY	VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STD. SPEC

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JFR	ACT	TRW	JFR

GENERAL PLAN

SHEET 1 OF 10

2427

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I.D.

DATE: 3/28/2013

STATE PROJECT NUMBER

1133-09-71

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID - ITEMS	UNIT	QUANTITY
502.3200	PROTECTIVE SURFACE TREATMENT	SY	17
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	16
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	1970
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6
532.0700.S	WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	4130
532.0750.S	TEMPORARY WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	660
604.0400	SLOPE PAVING CONCRETE	SY	71
604.0600	SLOPE PAVING SELECT CRUSHED MATERIAL	SY	650
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	170
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	350
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2
652.0125	CONDUIT RIGID METALLIC, 2-INCH	LF	26
SPV.0165.501	STAINING CONCRETE	SF	5620
SPV.0165.503	ARCHITECTURAL SURFACE TREATMENT, SPECIAL	SF	4480
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	4130
	NON BID - ITEMS		
	PREFORMED FILLER	SIZE	¾" & 1"
	CORK FILLER	SIZE	1"
	EXPANDED POLYSTYRENE	SIZE	1"

ALL ITEMS ARE CATEGORY 4140.

GEOMETRY TABLE

WORKING POINT	WALL STATION	USH 41 NB STATION	OFFSET TO F.F. WALL PANEL	TOP OF WALL	FINISHED GRADE	EXISTING GRADE	X	Y
①	10+00.00	892+09.98	78.75' RT	628.99	628.99	617.39	82779.85	556202.93
②	10+47.64	892+47.62	78.75' RT	629.03/619.69	610.49	610.91	82777.52	556240.50
③	10+45.00	892+54.98	78.75' RT	619.69	606.87	609.04	82777.06	556247.84
④	13+00.43	894+13.86	121.25' LT	619.69	606.67	607.51	82567.59	556394.01
⑤	13+08.98	894+05.30	121.25' LT	619.69/628.23	610.87	610.78	82568.12	556385.47
⑥	13+44.43	893+69.86	121.25' LT	628.26	628.26	624.54	82570.32	556350.09

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEVATION
528	910+85.42 NB 608.97' LT.	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE NORTHWEST QUADRANT OF GERHARDT LN. & NORTH RD. 65' WEST OF THE ℄ OF NORTH RD. & 35' NORTH OF THE ℄ OF GERHARDT LN.	626.81
549	896+40.18 NB 717.91' RT.	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN SOUTHEAST QUADRANT OF PILGRIM WAY AND PRIVATE ENTRANCE 1060. WOODSIDE MANOR II. 50' EAST OF THE ℄ OF PILGRIM WAY & 15' SOUTH OF THE ℄ OF PRIVATE ENTRANCE TO WOODSIDE MANOR II.	628.21

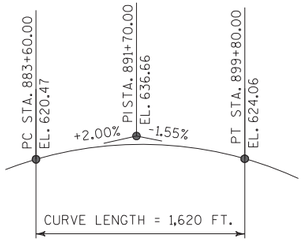
SAFETY FACTORS & DIMENSIONS

DIMENSIONS			
WALL HEIGHT[1] "H" (FEET)	27.5	16.4	27.5
RETAINED HEIGHT	27.5	27.5	27.5
REINFORCEMENT LENGTH[2] (FEET)	19.0	19.0	19.0
LENGTH OF REIN. / WALL HEIGHT	0.7 H	1.2 H	0.7 H
FACTOR OF SAFETY [3]			
SLIDING	2.39	2.39	2.39
OVERTURNING	3.91	3.91	3.91
GLOBAL STABILITY	1.53	1.53	1.53
BEARING CAPACITY	4.6	4.6	4.6
ALLOW. BEARING CAPACITY (PSF)	8000	8000	8000

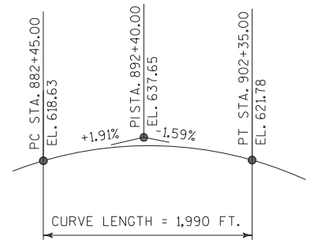
NOTES:
1. WALL HEIGHT SHOWS ONLY THE MAXIMUM HEIGHT IN THE SECTION AND INCLUDES 3.5 FEET OF EMBEDMENT PER US 41 BROWN COUNTY CORRIDOR MANUAL.
2. THE LENGTH OF REINFORCEMENT IS THE MINIMUM REQUIRED LENGTH FOR THE MAXIMUM WALL HEIGHT AT THE EVALUATED SECTION.
3. MINIMUM FACTORS OF SAFTEY PER CHAPTER 14 OF BRIDGE MANUAL (SLIDING 1.5, OVERTURNING 2.0, GLOBAL 1.3, BEARING CAPACITY 2.5).
4. FINAL DESIGN FOR INTERNAL STABILITY, AND EXTERNAL SLIDING AND OVERTURNING AT OTHER WALL SECTIONS IS THE RESPONSIBILTY OF THE CONTRACTOR'S WALL DESIGNER.

SOIL PARAMETERS

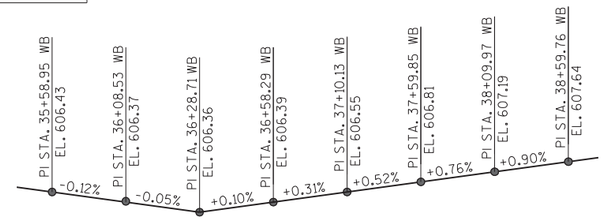
SOIL LAYER	BOTTOM ELEVATION (FEET)	SOIL UNIT WEIGHT (pcf)	UNDRAINED COHESION (psf)	UNDRAINED FRICTION ANGLE (DEGREES)	DRAINED COHESION (psf)	DRAINED FRICTION ANGLE (DEGREES)
MEDIUM DENSE SAND	604.2	120	0	34	0	34
MEDIUM DENSE SANDY SILT	601.7	120	0	34	0	34
DENSE SAND	596.7	120	0	34	0	34
HARD LEAN CLAY	578.2	130	4000	0	0	34
VERY STIFF LEAN CLAY (1)	552.2	120	2400	0	0	33
VERY STIFF LEAN CLAY (2)	548.7	125	2250	0	0	33
STIFF LEAN CLAY	531.7	125	2000	0	0	32
LOOSE SILTY SAND	522.2	120	0	32	0	32



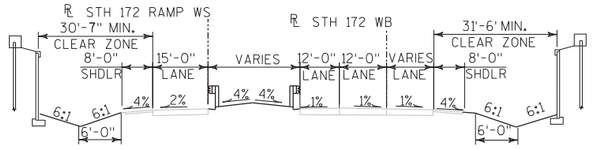
PROFILE GRADE LINE USH 41 RAMP EN



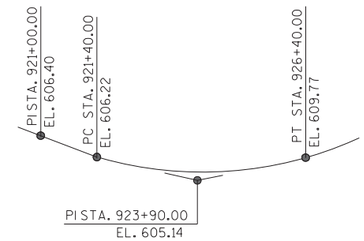
PROFILE GRADE LINE USH 41 SB



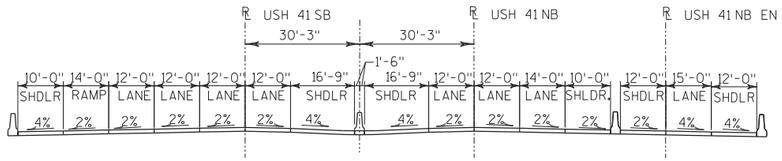
EXISTING PROFILE GRADE LINE STH 172 WB



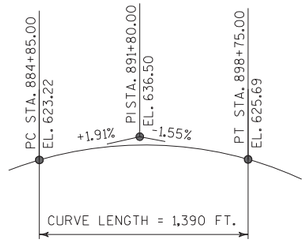
TYPICAL SECTION THRU STH 172 WB



PROFILE GRADE LINE STH 172 RAMP WS



TYPICAL SECTION THRU USH 41



PROFILE GRADE LINE USH 41 NB

TRAFFIC DATA USH 41 NB
ADT = 27,300 (2015)
= 34,800 (2035)
DESIGN SPEED = 70 MPH

TRAFFIC DATA USH 41 SB
ADT = 37,900 (2015)
= 47,300 (2035)
DESIGN SPEED = 70 MPH

TRAFFIC DATA STH 172 RAMP WS
ADT = 11,000 (2015)
= 12,300 (2035)
DESIGN SPEED = 55 MPH

TRAFFIC DATA STH 172 WB
ADT = 28,500 (2015)
= 38,800 (2035)
DESIGN SPEED = 60 MPH

DESIGN DATA
LIVE LOAD:
LIVE LOAD SURCHARGE (ROADWAY) = 240 PSF
MATERIAL PROPERTIES:
CONCRETE MASONRY RETAINING WALLS f'c = 4,000 PSI
PRECAST CONCRETE WALL PANEL f'c = 5,000 PSI
BAR STEEL REINFORCEMENT fy = 60,000 PSI
STRUCTURAL CARBON STEEL fy = 36,000 PSI
(ASTM A709 GR. 36)

FOUNDATION DATA:
ALLOWABLE SOIL BEARING CAPACITY-MSE (SEE TABLE)

THE WALL HAS BEEN DESIGNED FOR LIVE LOAD SURCHARGES AS NOTED. CONTRACTOR IS RESPONSIBLE FOR EVALUATING WALL FOR ANTICIPATED CONSTRUCTION LIVE LOADS IN EXCESS OF 240 PSF.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-212

DRAWN BY TRW | PLANS CK'D. JFR

DESIGN DATA & QUANTITIES

SHEET 2 OF 10
2428

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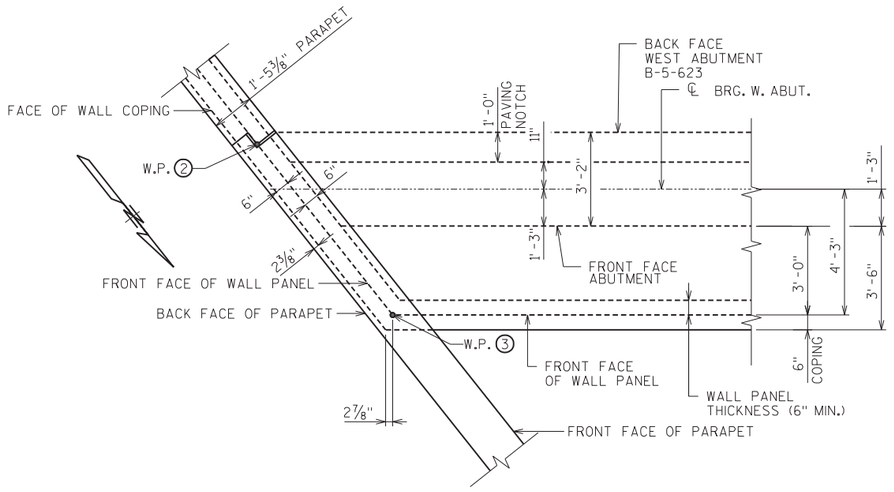
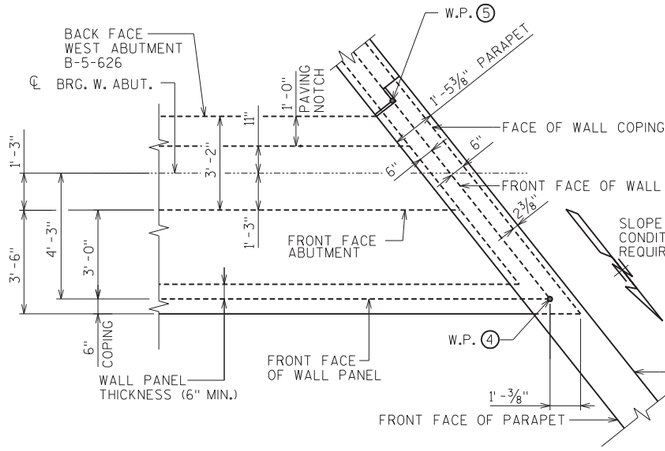
SCALE = 10:0 " / IN.

STATE PROJECT NUMBER

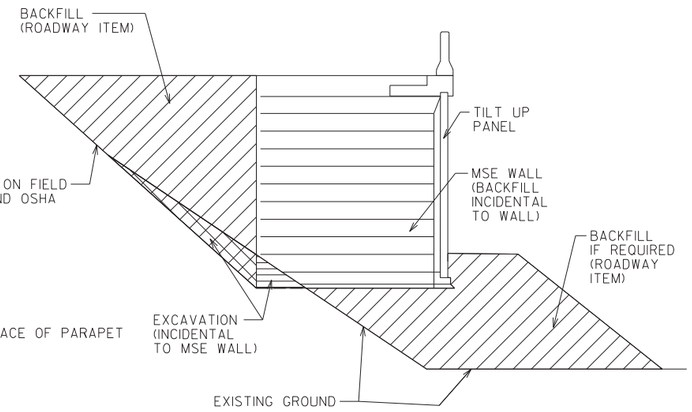
1133-09-71



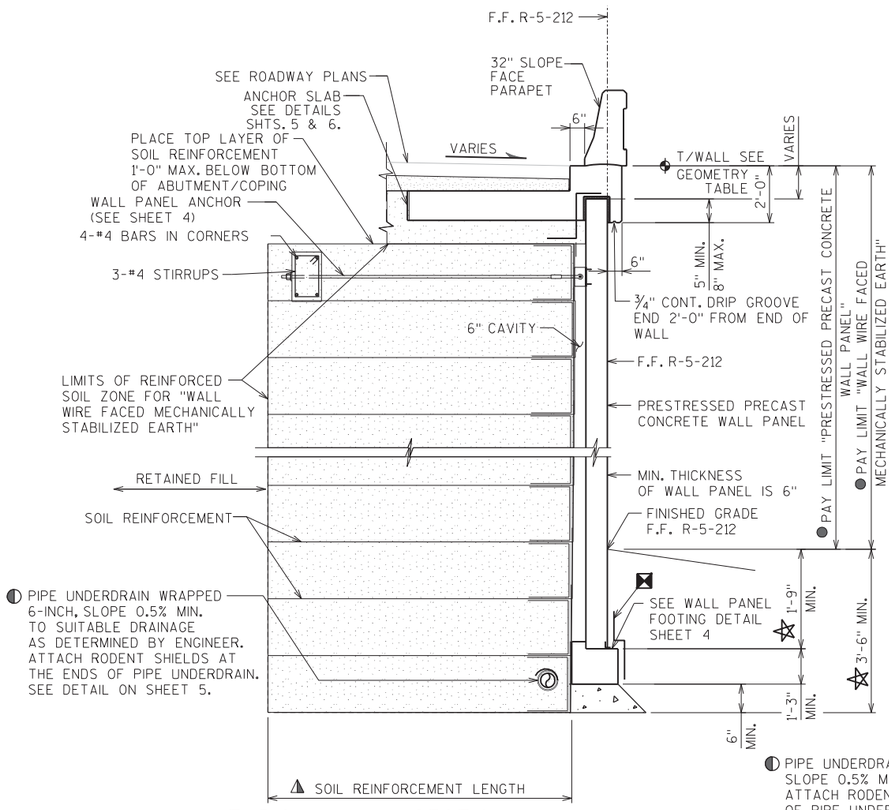
SOUTH-EAST QUADRANT



SOUTH-WEST QUADRANT

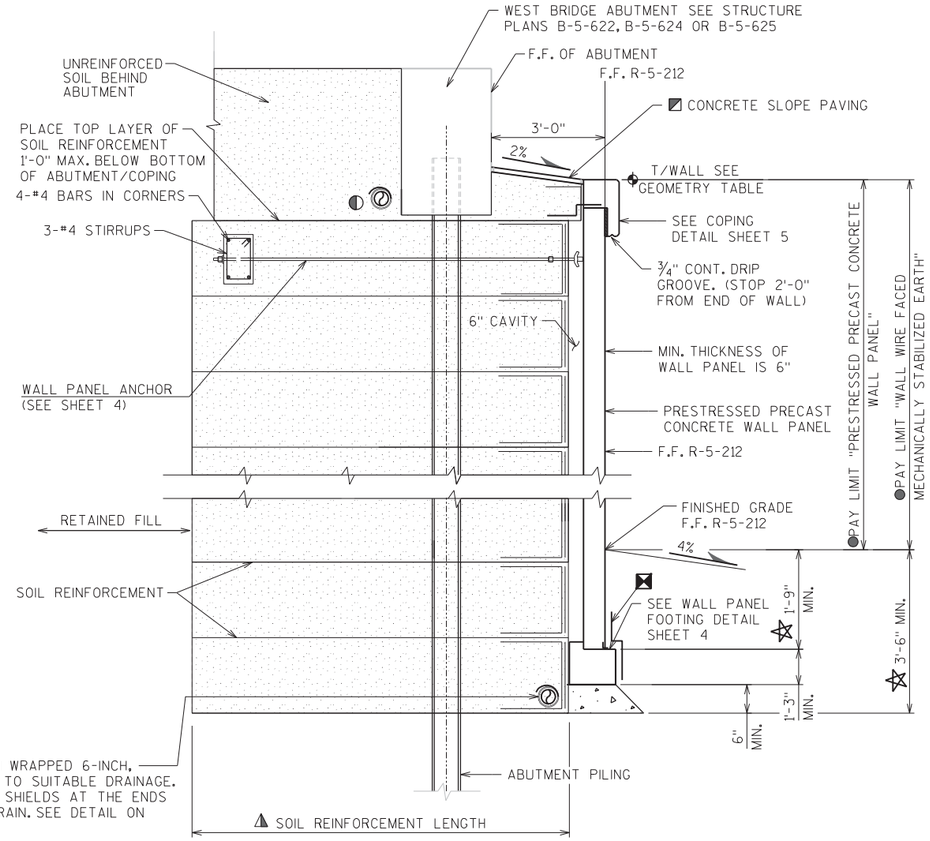


EXCAVATION/BACKFILL DETAIL



TYPICAL WALL SECTION A-A

LOOKING NORTH AT EAST SIDE OF WALL, WEST SIDE MIRROR IMAGE W.P.① TO W.P.② AND W.P.⑤ TO W.P.⑥ SEE B-5-623 AND B-5-626 PLANS FOR APPROACH PANEL COPING DETAILS.



TYPICAL WALL SECTION B-B

LOOKING WEST AT SOUTH ABUTMENT W.P.③ TO W.P.④

INSTALL BRIDGE PILING BEFORE MSE WALL. PLACE REINFORCING MAT AROUND PILING FOR BRIDGE ABUTMENT.

INSTALLATION OF BRIDGE PILING IS NOT A RETAINING WALL BID ITEM.

LEGEND

- THE PLAN QUANTITY FOR THE BID ITEMS "WALL WIRE FACED MECHANICALLY STABILIZED EARTH" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL" ARE BASED ON A WALL HEIGHT MEASURED FROM THE FINISHED GRADE AT THE FRONT FACE OF THE WALL TO THE TOP OF THE WALL AS SHOWN. THE TOP OF THE FOOTING IS ASSUMED TO BE A CONSTANT 1'-9" BELOW FINISHED GRADE. COPING CONCRETE AND COPING REINFORCEMENT ARE TO BE INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

⚠ SEE SHT. 2 FOR SOIL REINFORCEMENT REQUIREMENTS.

☆ MINIMUM EMBEDMENT DEPTHS SHALL BE BASED ON FINISHED GRADE NOTED IN "GEOMETRY TABLE" ON SHEET 2.

■ MINIMUM CLEARANCE FROM PARAPET TO PILASTER.

◪ CONCRETE SLOPE PAVING TO BE A MIN. OF 4" THICK. PLACE CONSTRUCTION JOINTS EVERY 10' MAX. SEE SLOPE PAVING CONSTRUCTION JOINT DETAIL ON SHEET 5.

◐ PROVIDE VERTICAL PIPE UNDERDRAIN UNPERFORATED 6-INCH TO CONNECT R-5-212 WALL UNDERDRAIN TO B-5-623 AND B-5-626 ABUTMENT UNDERDRAIN. LOCATE THE VERTICAL PIPE APROXIMATELY 7 FEET FROM THE SOUTH CORNER OF THE RETAINING WALL. CAP THE UNPERFORATED UNDERDRAIN AT ELEVATION 619.44 FOR CONNECTION TO THE ABUTMENT UNDERDRAIN.

Ⓧ WORKING POINT

⊠ GEOTEXTILE FABRIC TYPE DF, 2'-0" WIDE, LENGTH OF FOOTING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-212

DRAWN BY TRW | PLANS CK'D. JFR

WALL DETAILS-1

SHEET 3 OF 10
2429

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SCALE = 5:1 1/2 " = 1 "

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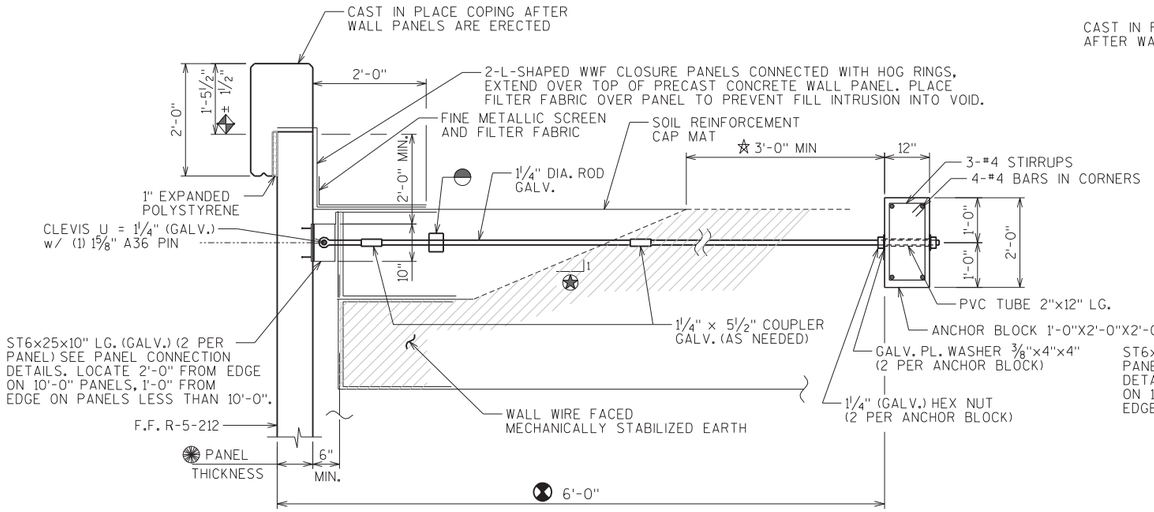
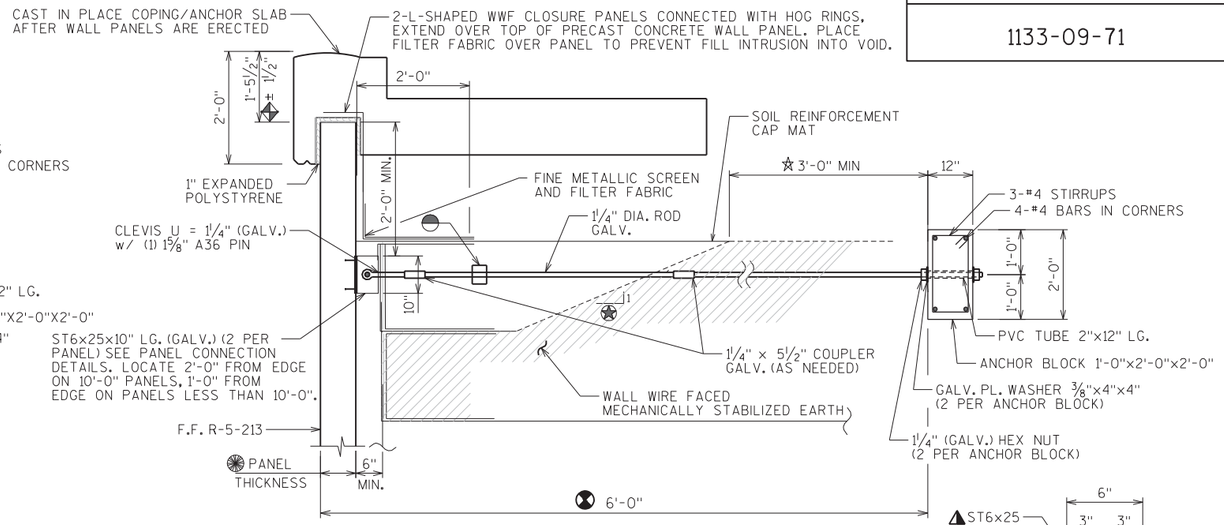
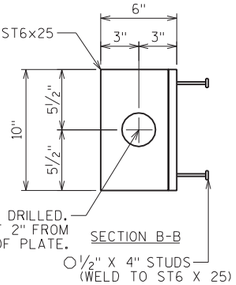
3/28/2013



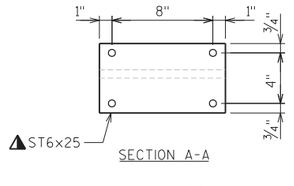
WALL PANEL ANCHOR DETAIL SECTION B-B ▲



WALL PANEL ANCHOR DETAIL SECTION A-A ▲



PLAN VIEW WALL PANEL CONNECTION ▲



PANEL CONNECTION DETAILS

ST6 X 25 MAY BE WELDED TO ¾" THICK PLATE ANCHORED IN TILT UP PANEL. DETAILS SUBJECT TO APPROVAL BY THE ENGINEER.

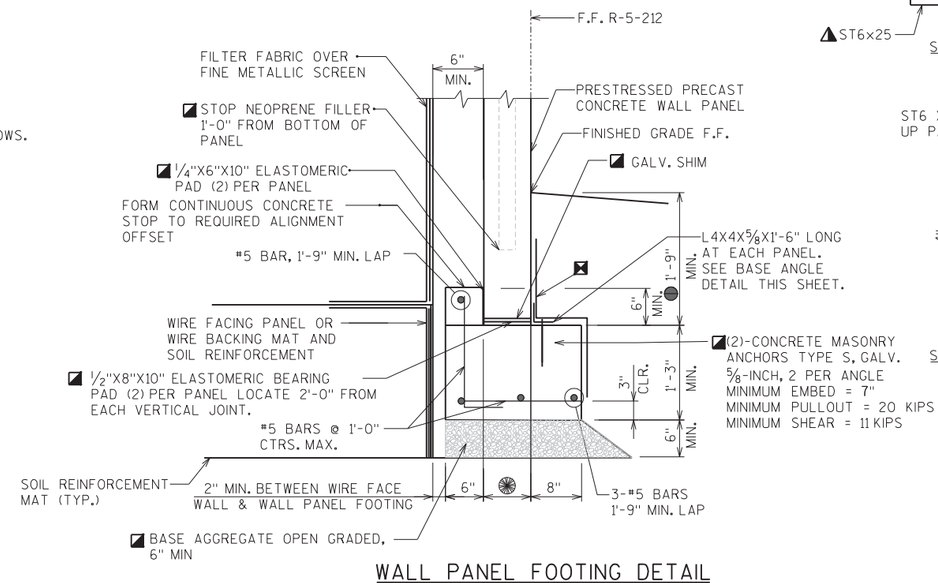
NOTES

AN ALTERNATE WALL PANEL ANCHOR AND PANEL CONNECTION SYSTEM MAY BE SUBMITTED FOR REVIEW BY THE ENGINEER.

TILT UP PANEL ANCHOR SYSTEM MAY BE TRENCHED IN IF THE GEOMETRY OF THE ANCHOR SYSTEM LOCATION ALLOWS.

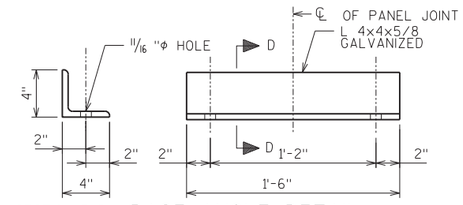
LEGEND

- ⊛ = WALL PANEL THICKNESS AS DETERMINED IN ACCORDANCE WITH THE DESIGN REQUIREMENTS DEFINED IN THE SPECIAL PROVISIONS. (6" MINIMUM)
- ▲ S12X50 (GALV.) CUT IN HALF TO FORM "T" SECTION BF=5.477", TW=0.687.
- ◓ OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. (CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼ DIAM. BAR)
- ☆ DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION AND ROD TO BE 2'-0" MIN. BELOW FINISHED GRADE.
- ○ AS AN ALTERNATE, ½" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.
- ⊗ LENGTH MAY BE INCREASED TO AVOID OBSTRUCTIONS, SUCH AS ABUTMENT PILING.
- ◍ MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE PRECAST PANELS.
- ▲ WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1¼" DIA. ANCHOR ROD, CLEVIS AND OTHER PANEL CONNECTION COMPONENTS. DETAILING, AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL." INSTALLATION OF THESE ITEMS IS INCLUDED IN THE THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH."
- ◪ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."
- ⊠ GEOTEXTILE FABRIC TYPE DF, 2'-0" WIDE, LENGTH OF FOOTING
- ✲ EXCAVATED SLOPE PER OSHA REQUIREMENTS.
- ✥ MUST BE 1'-4" AT W.P. 2, 3, 4, & 5.



WALL PANEL FOOTING DETAIL

(NOTE: FOOTING CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL")



BASE ANGLE DETAIL

(1) AT EACH PANEL JOINT INCLUDED IN BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

NO.	DATE	REVISION	BY

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STRUCTURES DESIGN SECTION

STRUCTURE R-5-212

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WALL DETAILS - 2

SHEET 4 OF 10
2430

STATE PROJECT NUMBER
1133-09-71

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SCALE = 10:0 ' :" / IN.

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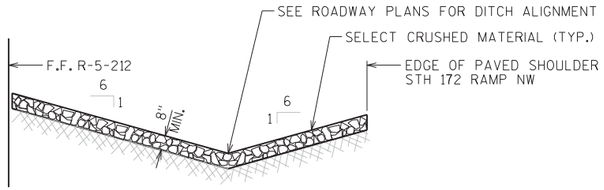
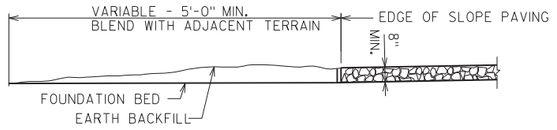
3/28/2013

STATE PROJECT NUMBER

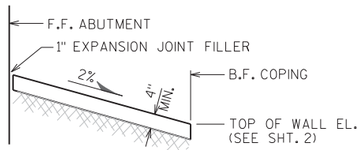
1133-09-71



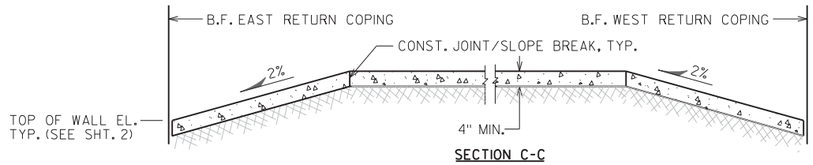
SECTION B-B



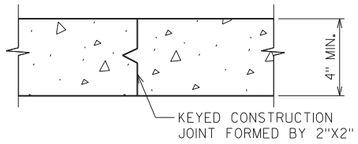
SECTION A-A



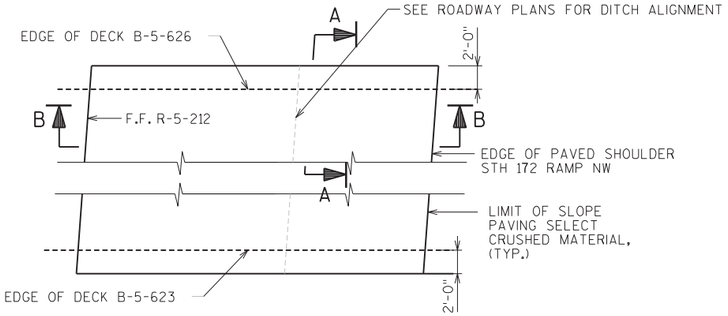
SECTION D-D



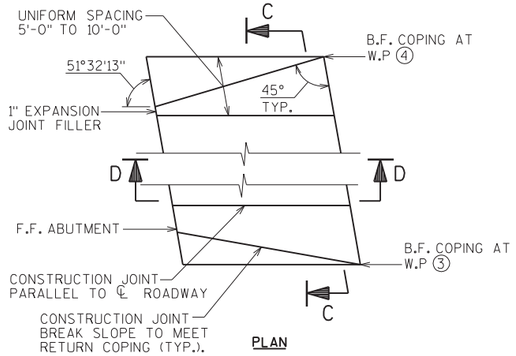
SECTION C-C



CONSTRUCTION JOINT DETAIL



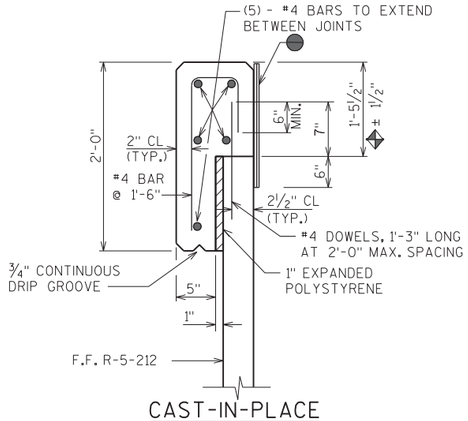
PLAN



PLAN

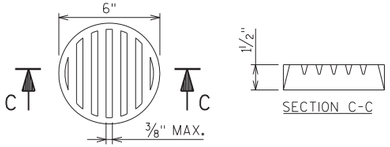
SLOPE PAVING SELECT CRUSHED MATERIAL DETAILS

SLOPE PAVING CONCRETE DETAILS



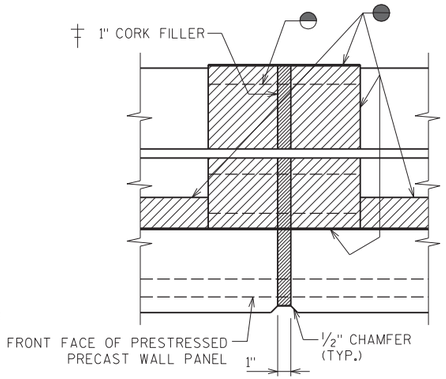
CAST-IN-PLACE CONCRETE COPING DETAIL

(NOTE: COPING CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL.")



RODENT SHIELD

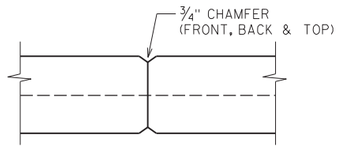
(FOR PIPE UNDERDRAIN)



ANCHOR SLAB EXPANSION JOINT DETAIL

COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.

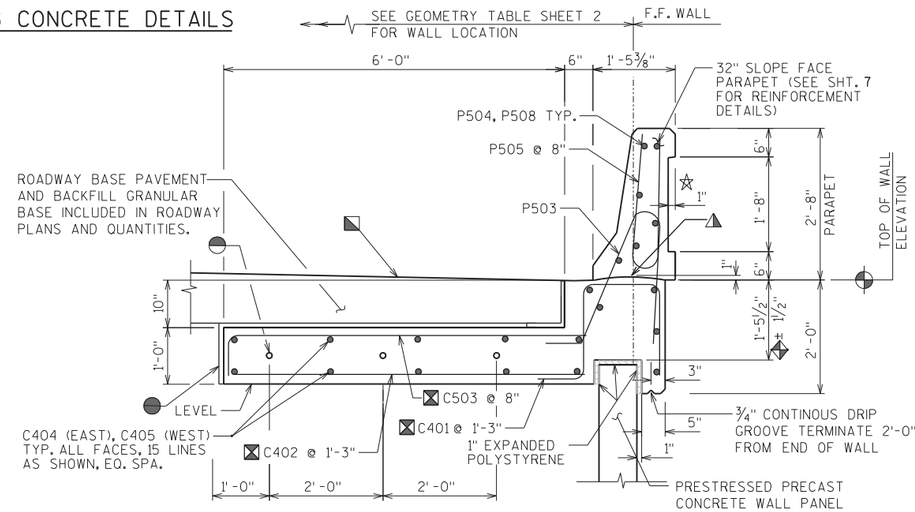


COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.

LEGEND & NOTES

- CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- PLACE (3) -¾"ϕ (SMOOTH) DOWEL BARS, 1'-6" LONG BETWEEN ANCHOR SLAB AND APPROACH APRON FOOTING. EMBED 9", SPACE EQUALLY, 6" MIN. CLR. FROM EDGE, 1'-6" MIN. SPACING. USE APPROVED DEBONDER ON ½ OF BAR LENGTH. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. COST OF ITEMS ARE INCLUDED IN BID ITEM "CONCRETE MASONRY RETAINING WALLS."
- SEE SHEET 8 & 9 FOR AESTHETIC DETAILS.
- SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH STAIN. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)
- EXPANSION JOINTS TO BE SPACED AS SHOWN ON SHEET 1. LOCATE EXPANSION JOINTS OVER WALL JOINTS EXCEPT AT WINGWALLS WHERE WALL PANEL JOINTING MAY VARY FROM COPING JOINTS. DO NOT RUN BAR STEEL THRU JOINT EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.
- SEE ROADWAY PLANS FOR SLOPE
- AT WALL COPING AND ABUTMENT INTERFACE, PLACE 18" RUBBERIZED MEMBRANE WATERPROOFING ALONG BACK OF INTERFACE. USE AT FULL WIDTH OF ALL EXPANSION JOINTS.
- LOCATE CONTRACTION JOINTS IN COPING OVER WALL JOINTS WHERE NO EXPANSION JOINT NOTED.
- PLACE REINFORCEMENT ALONG SKEW AT APPROACH APRON INTERFACE. FAN REINFORCEMENT TO MAINTAIN EQUAL SPACING ACROSS SLAB.
- MUST BE 1'-4" AT W.P. 2, 3, 4, & 5.
- DIMENSIONS ARE APPROXIMATE, GRATE TO BE SIZED TO FIT INTO A PIPE COUPLING. ORIENT RODENT SHIELD SO SLOTS ARE VERTICAL. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN UNPERFORATED 6-INCH." THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL . THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



CAST-IN-PLACE CONCRETE TRAFFIC BARRIER DETAIL

LOOKING NORTH AT EAST SIDE OF WALL, WEST SIDE MIRROR IMAGE
(SEE PLAN VIEW SHEET 6 FOR LAYOUT)

SEE SHEET 7 FOR BILL OF BARS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-212

DRAWN BY TRW | PLANS CK'D. JFR

WALL DETAILS - 3

SHEET 5 OF 10
2431

SCALE = 2:8 " : " / IN.

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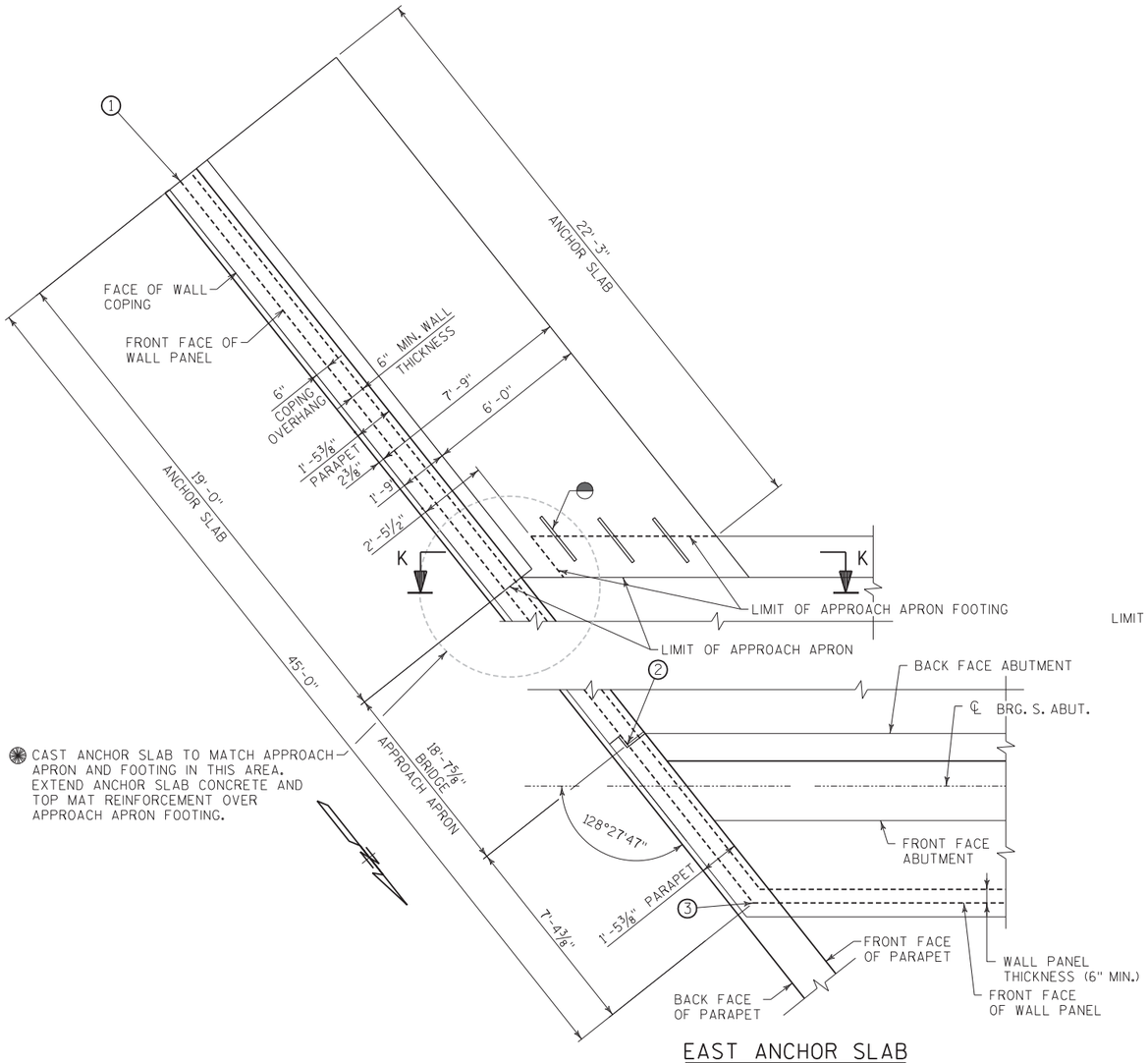
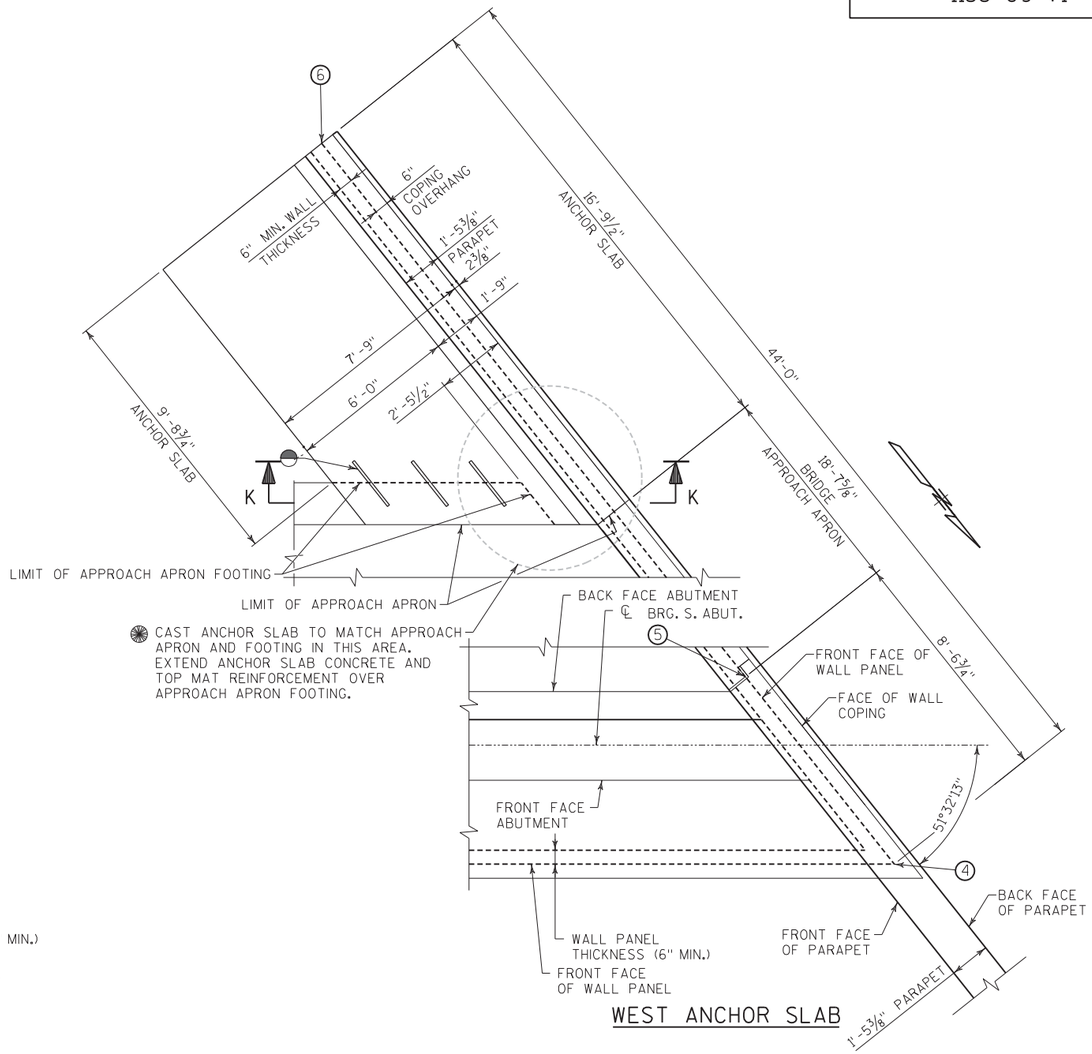
STATE PROJECT NUMBER

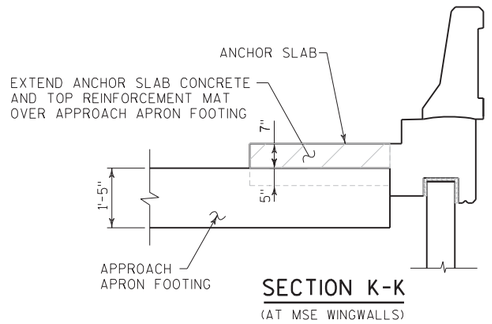
1133-09-71



EAST ANCHOR SLAB



WEST ANCHOR SLAB



SECTION K-K

(AT MSE WINGWALLS)

LEGEND

- PLACE (3) -¾"Φ (SMOOTH) DOWEL BARS, 1'-6" LONG BETWEEN ANCHOR SLAB AND APPROACH APRON FOOTING. EMBED 9", SPACE EQUALLY, 6" MIN. CLR. FROM EDGE, 1'-6" MIN. SPACING. USE APPROVED DEBONDER ON ½ OF BAR LENGTH. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. COST OF ITEMS ARE INCLUDED IN BID ITEM "CONCRETE MASONRY RETAINING WALLS."
- EXPANSION JOINTS TO BE SPACED AS SHOWN ON SHEET 1. DO NOT RUN BAR STEEL THRU JOINT EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.
- (X) WORKING POINT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-212

DRAWN BY TRW | PLANS CK'D. JFR

ANCHOR SLAB LAYOUT

SHEET 6 OF 10

2432

SCALE = 5:5 " : " / IN.

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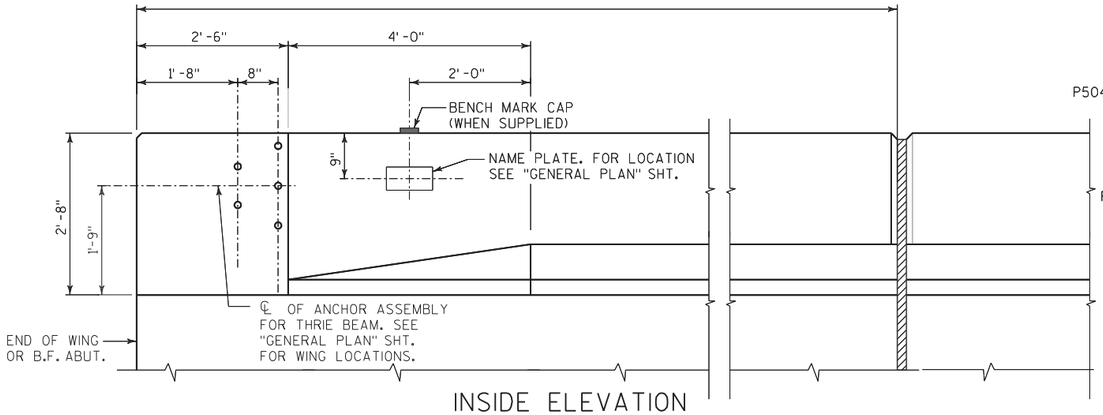
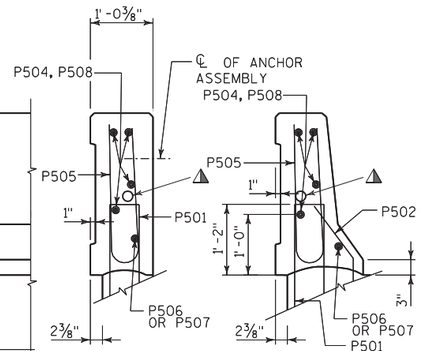
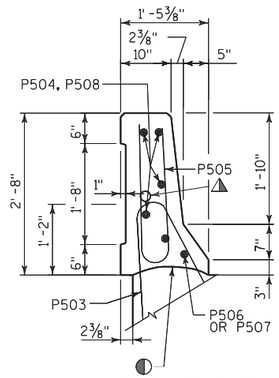


INSIDE ELEVATION

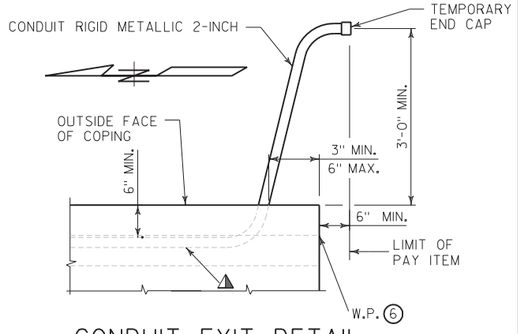


SECTION A

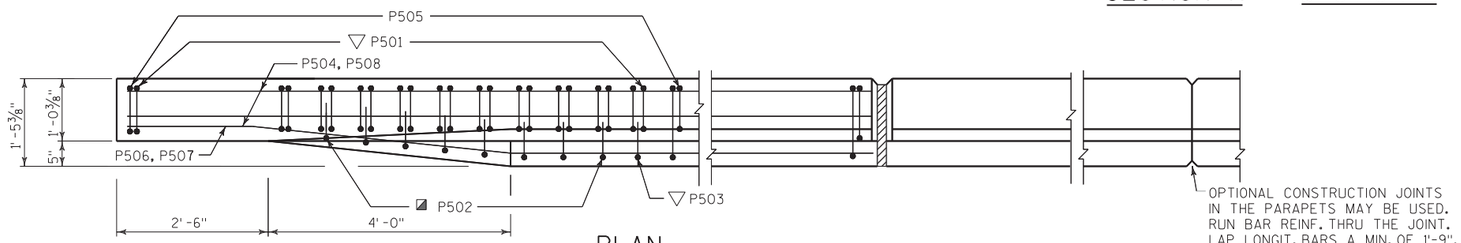
SECTION B



SECTION C

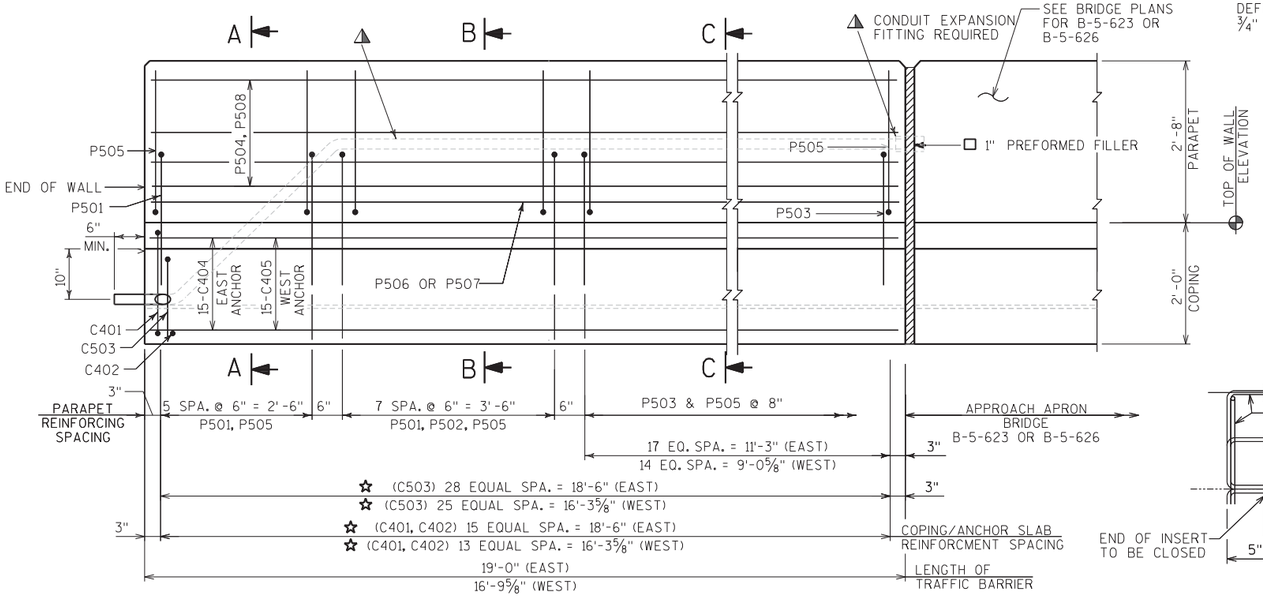


CONDUIT EXIT DETAIL

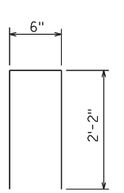


PLAN

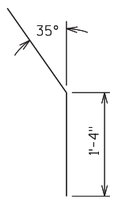
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.



OUTSIDE ELEVATION



P501



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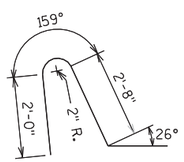

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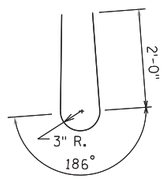

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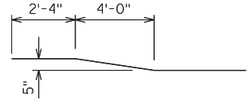
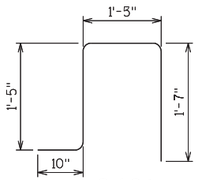
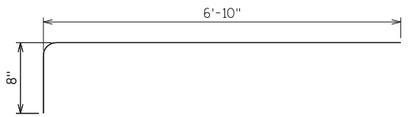


P506, P507



C401



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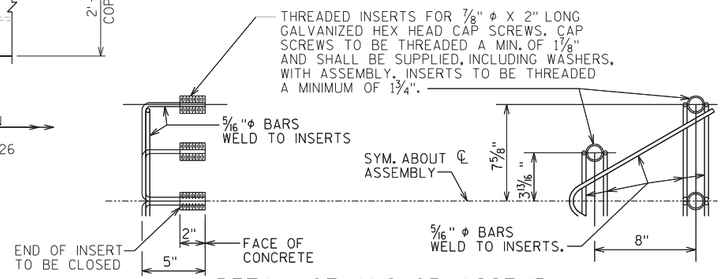


DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

BILL OF BARS - PARAPET

BAR MARK	COATED	NO. REQ'D. WEST	NO. REQ'D. EAST	LENGTH	BENT	LOCATION
P501	X	14	14	4'-7"	X	PARAPET VERT.
P502	X	8	8	2'-4"	X	PARAPET VERT.
P503	X	15	18	5'-8"	X	PARAPET VERT.
P504	X	4	0	16'-4"		PARAPET HORIZ.
P505	X	29	32	4'-10"	X	PARAPET VERT.
P506	X	1	0	15'-5"	X	PARAPET HORIZ.
P507	X	0	1	17'-7"	X	PARAPET HORIZ.
P508	X	0	4	18'-6"		PARAPET HORIZ.

BILL OF BARS - TRAFFIC BARRIER

MARK	COATED	NO. REQ'D.	LENGTH	BENT	LOCATION
C401	X	30	5'-0"	X	COPING TIE-TRANSVERSE
⊠ C402	X	30	6'-4"		ANCHOR SLAB BOTTOM-TRANSVERSE
⊠ C503	X	57	7'-5"	X	ANCHOR SLAB TOP-TRANSVERSE
⊠ C404	X	30	13'-2"		EAST ANCHOR SLAB-LONGITUDINAL
C405	X	29	9'-5"		WEST ANCHOR SLAB-LONGITUDINAL

LEGEND

- □ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH CONCRETE STAIN (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)
- ☆ DIMENSION SHOWN ALONG OUTSIDE OF COPING. MAINTAIN EQUAL SPACING ACROSS SLAB.
- ◐ CONST. JOINT - STRIKE OFF AS SHOWN.
- ◪ P502 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE P502 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ▽ P501 AND P503 BARS TO BE TIED TO ANCHOR SLAB STEEL BEFORE ANCHOR SLAB IS POURED.
- ⊠ PLACE REINFORCEMENT ALOMG SKEW AT APPROACH APRON INTERFACE. FAN REINFORCEMENT TO MAINTAIN EQUAL SPACING ACROSS SLAB.
- ⚠ CONDUIT RIGID METALLIC 2-INCH, EAST PARAPET ONLY, EXIT TO GRADE. EXPANSION FITTING AND TEMP. END CAP INCIDENTAL TO PAY ITEM.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-212

DRAWN BY TRW | PLANS CK'D. JFR

PARAPET & ANCHOR SLAB DETAILS

SHEET 7 OF 10
2433

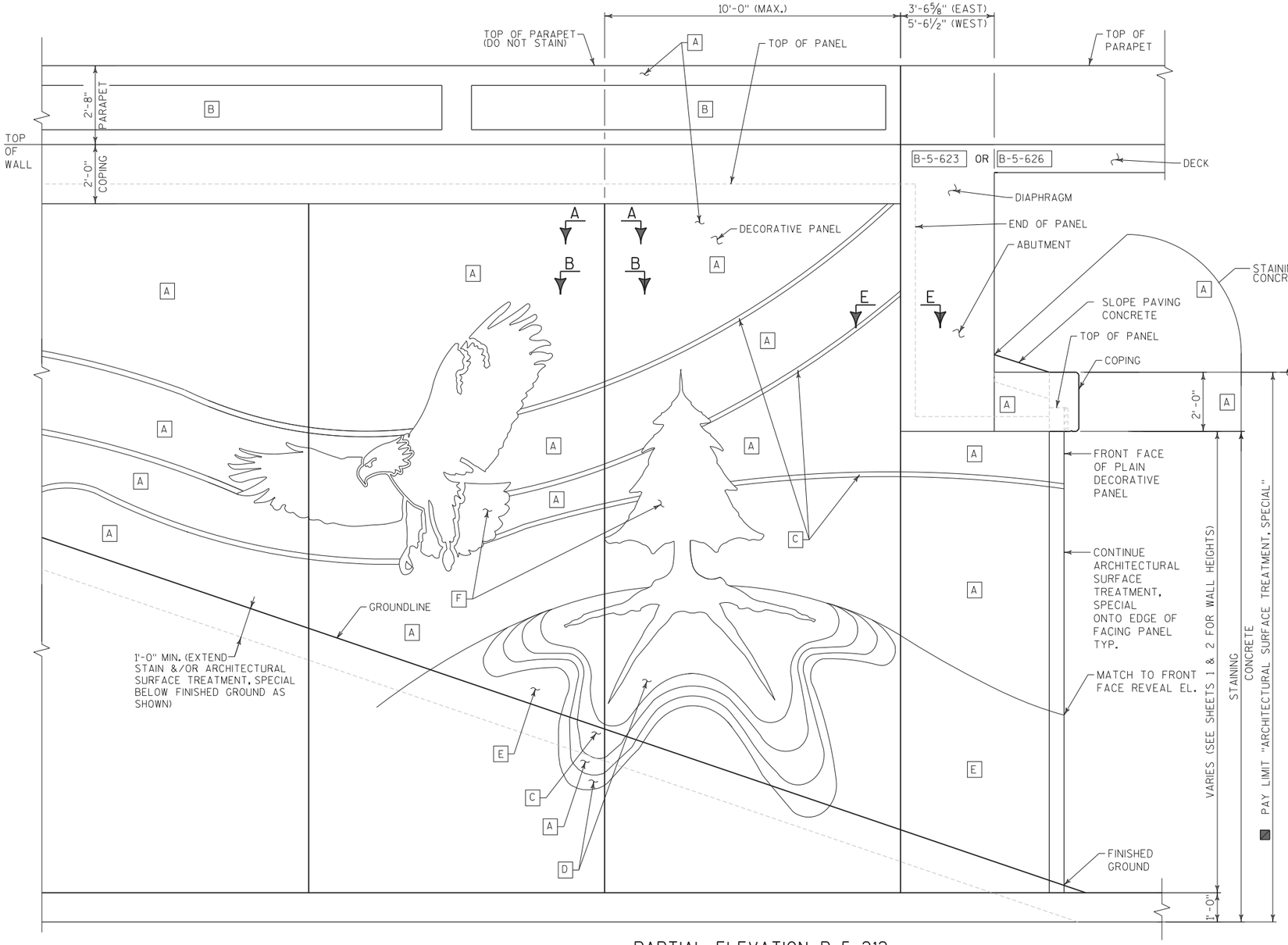
SCALE = 2:16 " : " / IN.

8

8

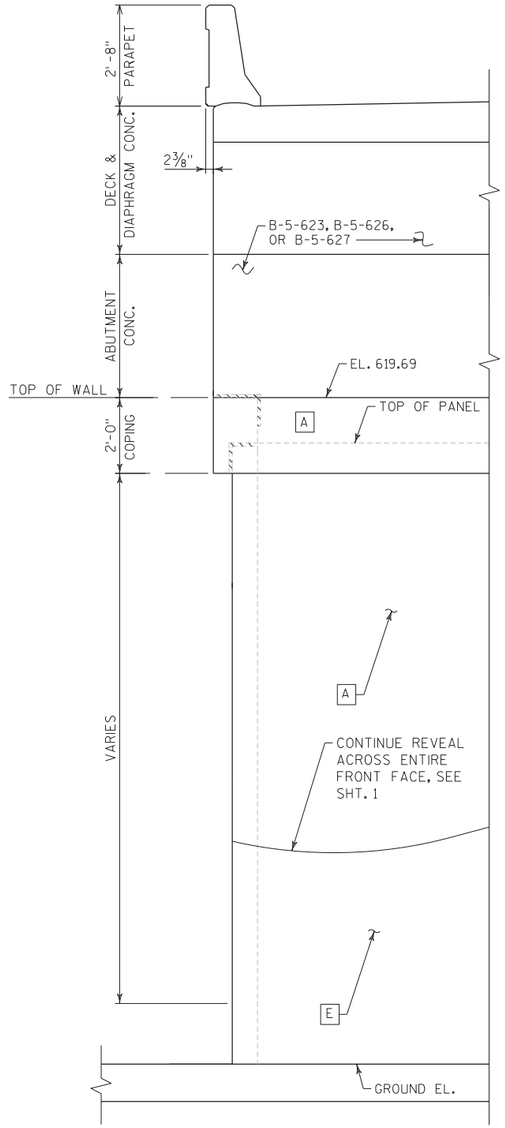
STATE PROJECT NUMBER

1133-09-71



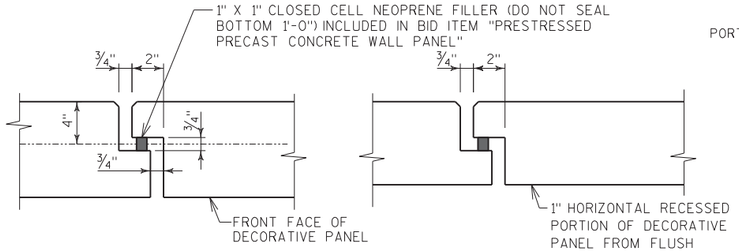
PARTIAL ELEVATION R-5-212

(LOOKING WEST AT EAST SIDE OF WALL, WEST SIDE MIRROR IMAGE)
PORTION OF WALL PARALLEL TO USH 41 REQUIRES BENCHED AND LEVEL FOOTING.



PARTIAL ELEVATION R-5-210

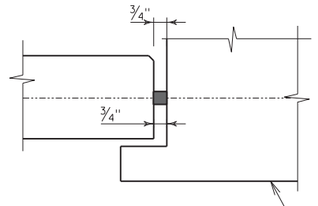
(LOOKING SOUTH AT EAST END
WEST END IS MIRROR IMAGE)



SECTION A-A

CHAMFER REVEALS 1/16" PER INCH OF DEPTH

SECTION B-B



SECTION E-E

CHAMFER REVEALS 1/16" PER INCH OF DEPTH

LEGEND

▨ PAY LIMIT FOR "ARCHITECTURAL SURFACE TREATMENT, SPECIAL" FOR THE WALL PANELS IS FROM TOP OF WALL TO 1'-0" BELOW GRADE. SPECIAL PROVISIONS FOR FORMLINER DETAILS.

CONCRETE STAINING SCHEDULE

MARK	COLOR	INDENTATION (INCHES)
A	BASE COLOR	0
B	ACCENT COLOR #1	-1
C	ACCENT COLOR #2	-2
D	ACCENT COLOR #3	-1.25
E	ACCENT COLOR #4	-1.5
F	ACCENT COLOR #5	-1
G	ACCENT COLOR #6	N/A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-212

DRAWN BY TRW | PLANS CK'D. JFR

AESTHETIC DETAILS-1

SHEET 8 OF 10
2434

SCALE = 4:0 " : " / IN.

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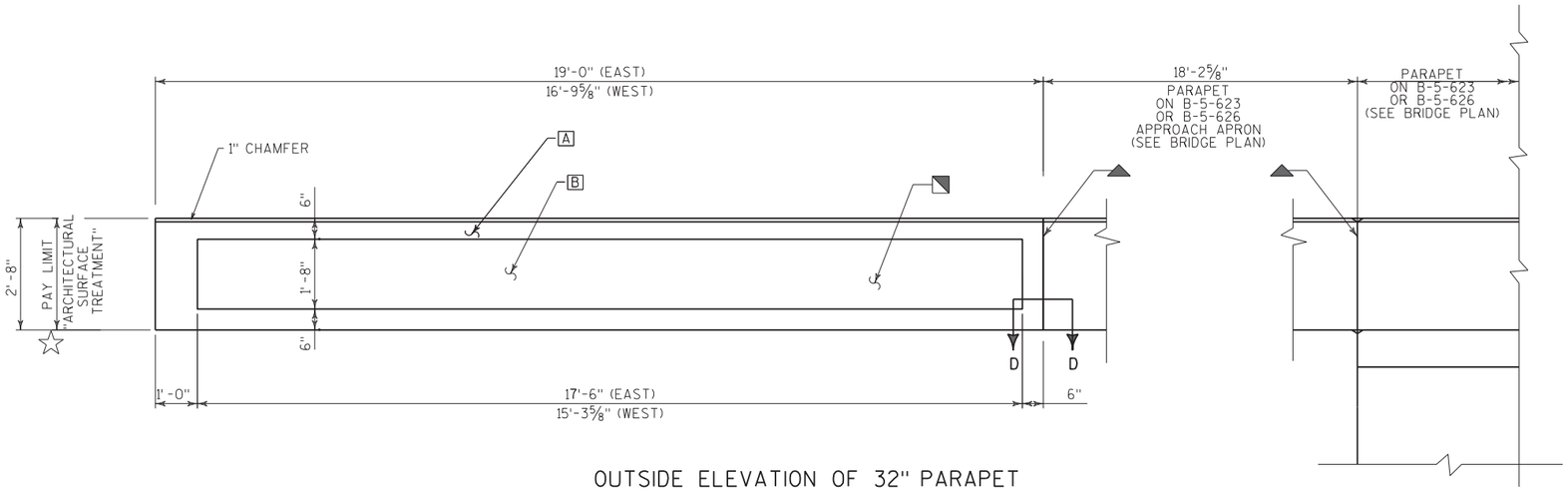
$$...plottingtime...$$

3/28/2013

STATE PROJECT NUMBER
1133-09-71



OUTSIDE ELEVATION OF 32" PARAPET

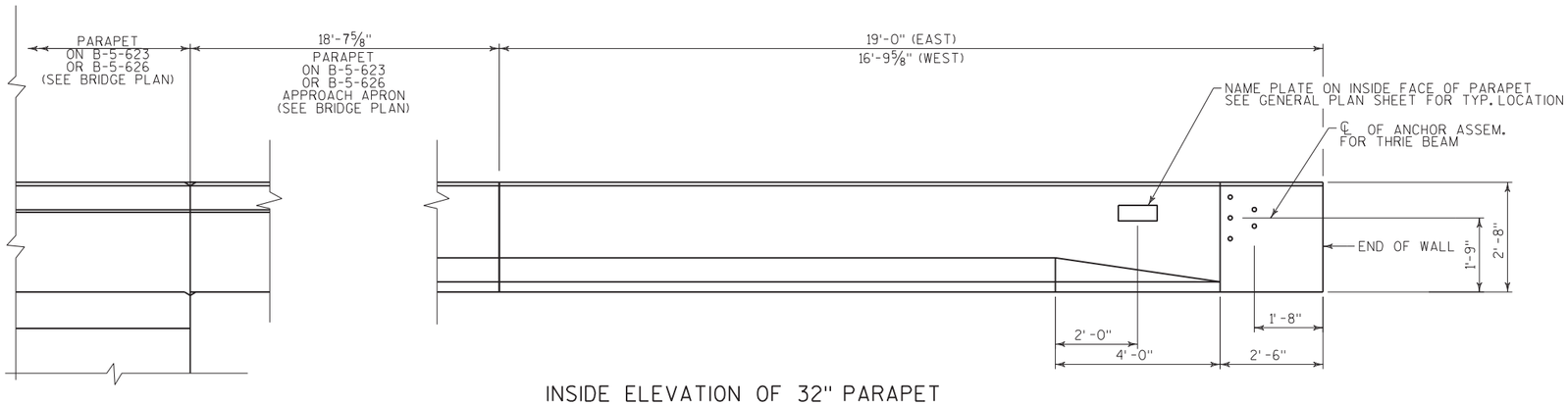
NOTES & LEGEND

☆ PAY LIMIT FOR "ARCHITECTURAL SURFACE TREATMENT, SPECIAL" FOR THE PARAPETS IS THE TOTAL PARAPET HEIGHT. SEE SPECIAL PROVISIONS FOR DESCRIPTION OF FORMLINER AND DETAILS ON THIS SHEET.

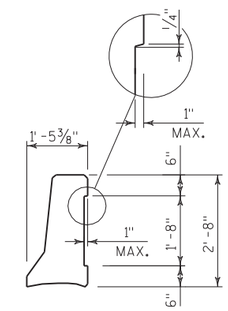
▨ RECESSED PANEL (TYP.)

◢◣ EXPANSION JOINT

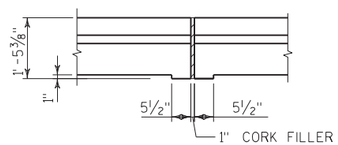
SEE SHT. 8 FOR STAINING SCHEDULE



INSIDE ELEVATION OF 32" PARAPET



32" SLOPED FACE PARAPET



SECTION D-D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-212

DRAWN BY TRW | PLANS CK'D. JFR

AESTHETIC DETAILS-2

SHEET 9 OF 10
2435

SCALE = 3:7 1/4 " :" / IN.

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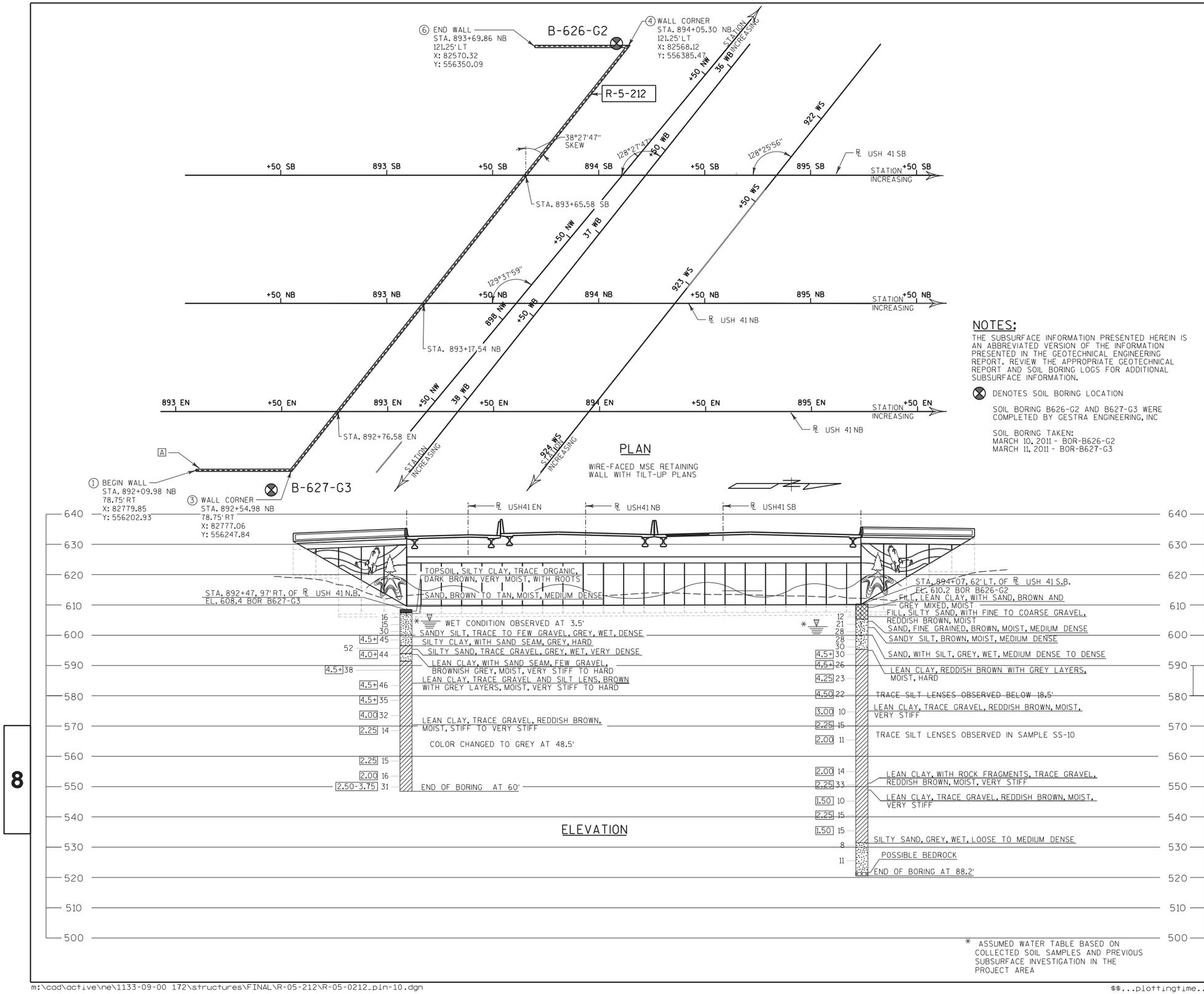

NOTES:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

⊗ DENOTES SOIL BORING LOCATION

SOIL BORING B626-G2 AND B627-G3 WERE COMPLETED BY GESTRA ENGINEERING, INC

SOIL BORING TAKEN:
MARCH 10, 2011 - BOR-B626-G2
MARCH 11, 2011 - BOR-B627-G3

* ASSUMED WATER TABLE BASED ON COLLECTED SOIL SAMPLES AND PREVIOUS SUBSURFACE INVESTIGATION IN THE PROJECT AREA

STATE PROJECT NUMBER

1133-09-71

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL, SAND, GRAVEL, SILT, PEAT, CLAY, SANDSTONE, LIMESTONE, IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
ELEV.
STA.
UNCONFINED STRENGTH → 7.7 7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-212

DRAWN BY TRW | PLANS CK'D. JFR

SUBSURFACE EXPLORATION

SHEET 10 OF 10
2436

FILE= SCALE 44:10 ' :" / IN.

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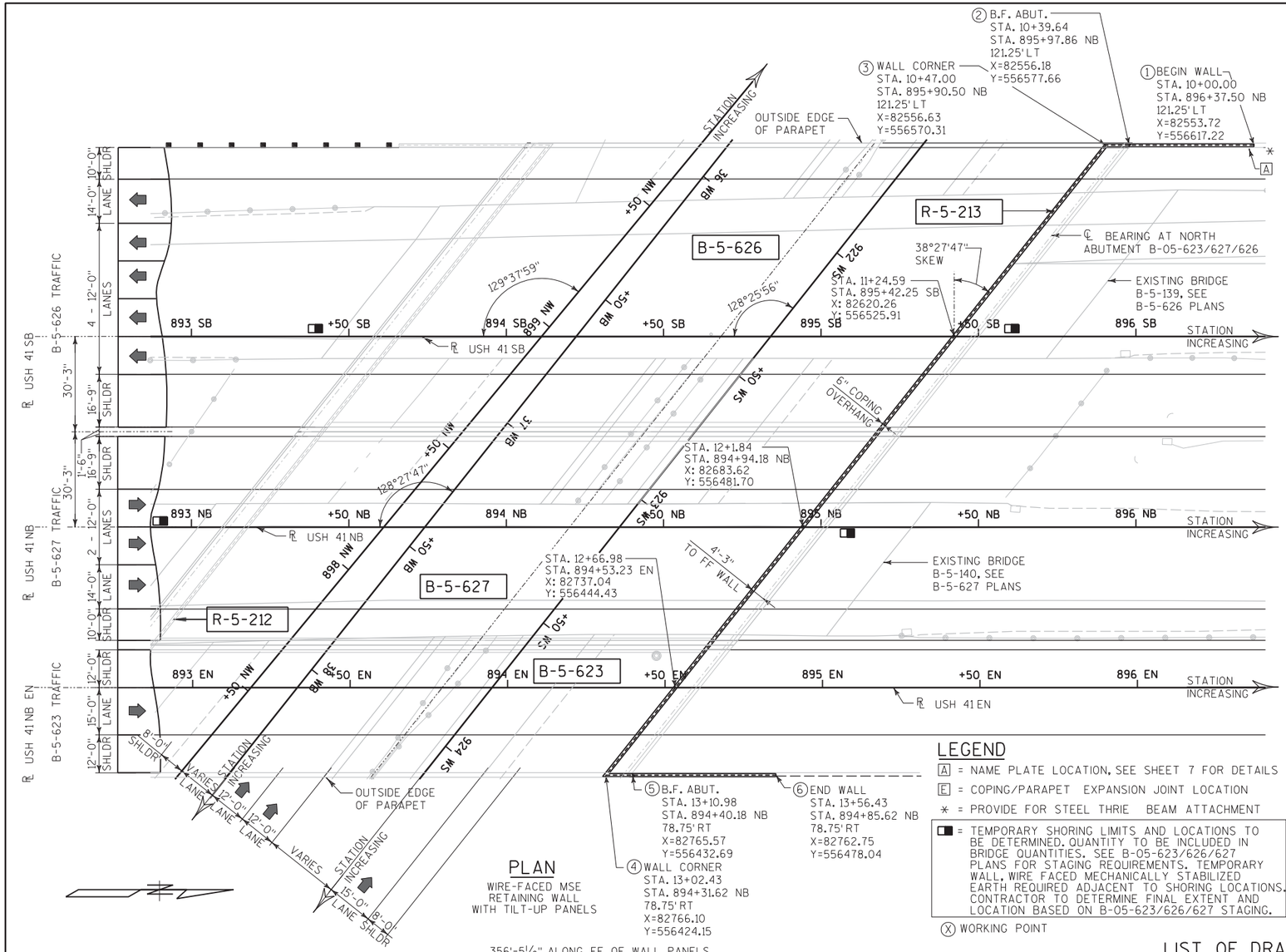
STATE PROJECT NUMBER
1133-09-71

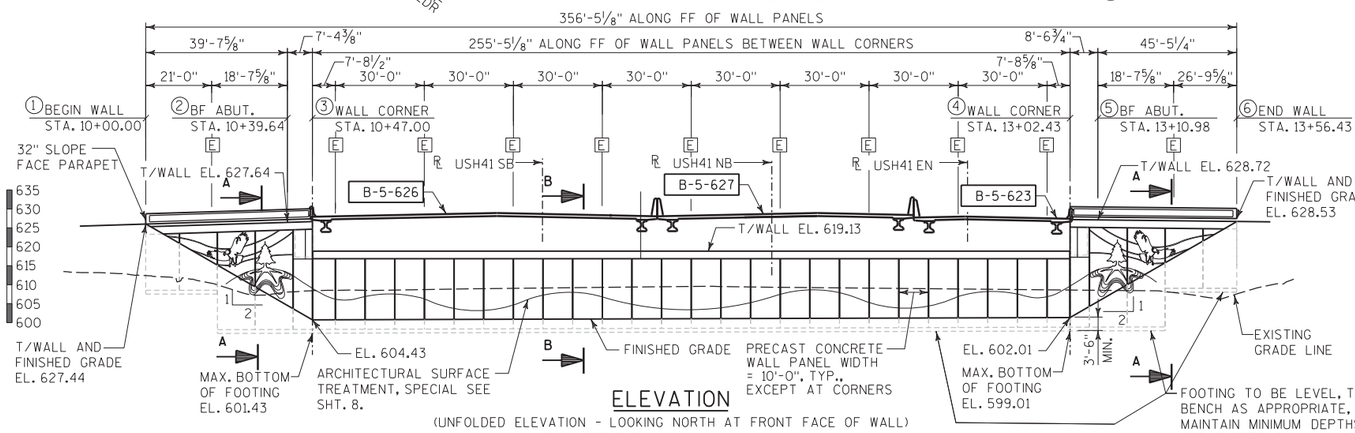


PLAN

WIRE-FACED MSE RETAINING WALL WITH TILT-UP PANELS

LEGEND

- [A] = NAME PLATE LOCATION, SEE SHEET 7 FOR DETAILS
- [E] = COPING/PARAPET EXPANSION JOINT LOCATION
- * = PROVIDE FOR STEEL THRIE BEAM ATTACHMENT
- = TEMPORARY SHORING LIMITS AND LOCATIONS TO BE DETERMINED. QUANTITY TO BE INCLUDED IN BRIDGE QUANTITIES. SEE B-05-623/626/627 PLANS FOR STAGING REQUIREMENTS. TEMPORARY WALL, WIRE FACED MECHANICALLY STABILIZED EARTH REQUIRED ADJACENT TO SHORING LOCATIONS. CONTRACTOR TO DETERMINE FINAL EXTENT AND LOCATION BASED ON B-05-623/626/627 STAGING.
- (X) WORKING POINT



ELEVATION

(UNFOLDED ELEVATION - LOOKING NORTH AT FRONT FACE OF WALL)
(SEE SHEET 3 FOR SECTION A-A & B-B)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCIDENTAL TO THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN IN THE GEOMETRY TABLE.

THE EXISTING GROUNDLINE IS THE UPPER LIMIT OF EXCAVATION FOR STRUCTURES.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THIS WALL WITH CONSTRUCTION OF THE NORTH ABUTMENT OF BRIDGES B-5-623, B-5-626 AND B-5-627.

DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

APPLY PROTECTIVE SURFACE TREATMENT TO THE EXPOSED SURFACE OF THE ANCHOR SLAB AND THE TOP AND INSIDE FACE OF PARAPETS.

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE ANCHOR SLAB AND PARAPETS IS INCLUDED IN THE ITEM "CONCRETE MASONRY RETAINING WALLS."

WALL STATIONS ARE GIVEN AT THE FRONT FACE OF THE WALL PANEL (UNLESS SHOWN OTHERWISE).

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFY THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M 153, TYPE I, II OR III OR AASHTO DESIGNATION M 213.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

OPTIONAL TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE PANEL FOOTING WITH A MINIMUM SPACING OF TWO PANEL JOINTS. FOOTING JOINTS SHOULD BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THRU FOOTING JOINTS.

DO NOT ALLOW CONCRETE OR FILL TO DROP OR ACCUMULATE IN WALL PANEL CAVITY.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

PROVIDE A RUBBED SURFACE FINISH IN ACCORDANCE WITH SECTION 502.3.7.3 TO ALL PERMANENTLY EXPOSED SURFACES OF CONCRETE MASONRY RETAINING WALLS.

SEE SPECIAL PROVISIONS FOR AESTHETIC TREATMENT TO WALL.

DESIGN THE MSE WALL FOR A SUCTION LOAD OF 20 PSF ACTING ON THE PRECAST WALL PANELS.

DESIGN FOR RETAINING WALL TO PROVIDE FOR A FINISHED GRADE SLOPE BEHIND THE WALL AS SHOWN IN THESE PLANS AND THE ROADWAY CROSS SECTIONS.

ALL STATIONS AND OFFSETS ARE REFERENCED TO THE USH 41 NB ALIGNMENT.

FOR UTILITY OWNERSHIP AND CONTACT INFORMATION, SEE ROADWAY PLAN.

THE EXISTING ABUTMENT PILING SHALL BE CUT OFF AT THE BOTTOM OF WALL ELEVATION FOR R-5-213. THIS WORK TO BE INCLUDED IN BRIDGE QUANTITY BID ITEM "REMOVING OLD STUCTURE."

AT ENDS OF WALL, SEAL CAVITY BETWEEN WIRE FACE AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE, 1'-6" WIDE. INCIDENTAL TO BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANELS". "FINE METALLIC SCREEN" TO HAVE A MAXIMUM ¼" × ¼" MESH AND MIMIMUM 0.025 WIRE DIAMETER. WIRES TO BE HOT DIPPED GALVANIZED AFTER WELDING.

LIST OF DRAWINGS

1. GENERAL PLAN
2. DESIGN DATA & QUANTITIES
3. WALL DETAILS-1
4. WALL DETAILS-2
5. WALL DETAILS-3
6. ANCHOR SLAB LAYOUT
7. PARAPET & ANCHOR SLAB DETAILS
8. AESTHETIC DETAILS-1
9. AESTHETIC DETAILS-2
10. SUBSURFACE EXPLORATION

WISCONSIN PROFESSIONAL ENGINEER
JOHN F. RUBLEIN
E-38700
MADISON
WI
3/28/13

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

NE REGION CONTACT:
KURT PETERS (920) 492-2213

CONSULTANT CONTACT:
JOHN RUBLEIN (608) 229-1434

NO.	DATE	REVISION	BY

DAAR ENGINEERING, INC.
www.daarcorp.com
Madison, WI 53703
608-249-0148

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher FOR CHIEF STRUCTURES DESIGN ENGINEER — 04/01/13 DATE

STRUCTURE R-5-213

NORTH RETAINING WALL AT USH 41 & STH 172 WB

COUNTY	VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STD. SPEC

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JFR	ACT	TRW	JFR

GENERAL PLAN

SHEET 1 OF 10

2437

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I.D.

DATE: 3/28/2013

STATE PROJECT NUMBER

1133-09-71

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID - ITEMS	UNIT	QUANTITY
502.3200	PROTECTIVE SURFACE TREATMENT	SY	22
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	21
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	2530
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6
532.0700.S	WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	5190
532.0750.S	TEMPORARY WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	900
604.0400	SLOPE PAVING CONCRETE	SY	71
604.0600	SLOPE PAVING SELECT CRUSHED MATERIAL	SY	650
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	170
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	360
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	1
652.0125	CONDUIT RIGID METALLIC, 2-INCH	LF	33
SPV.0165.501	STAINING CONCRETE	SF	6730
SPV.0165.503	ARCHITECTURAL SURFACE TREATMENT, SPECIAL	SF	5550
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	5190
	NON BID - ITEMS		
	PREFORMED FILLER	SIZE	¾" & 1"
	CORK FILLER	SIZE	1"
	EXPANDED POLYSTYRENE	SIZE	1"

ALL ITEMS ARE CATEGORY 4150.

GEOMETRY TABLE

WORKING POINT	WALL STATION	USH 41 NB STATION	OFFSET TO F.F. WALL PANEL	TOP OF WALL	FINISHED GRADE	EXISTING GRADE	X	Y
①	10+00.00	896+37.50	121.25'LT	627.44	627.44	623.92	82553.72	556617.22
②	10+39.64	895+97.86	121.25'LT	627.64/619.13	609.46	606.73	82556.18	556577.66
③	10+47.00	895+90.50	121.25'LT	619.13	606.12	605.20	82556.63	556570.31
④	13+02.43	894+31.62	78.75'RT	619.13	604.40	602.12	82766.103	556424.15
⑤	13+10.98	894+40.18	78.75'RT	619.13/628.72	608.22	603.66	82765.57	556432.69
⑥	13+56.43	894+85.62	78.75'RT	628.53	628.53	609.45	82762.75	556478.04

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEVATION
528	910+85.42 NB 608.97'LT.	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE NORTHWEST QUADRANT OF GERHARDT LN. & NORTH RD. 65'WEST OF THE ℄ OF NORTH RD. & 35'NORTH OF THE ℄ OF GERHARDT LN.	626.81
549	896+40.18 NB 717.91'RT.	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN SOUTHEAST QUADRANT OF PILGRIM WAY AND PRIVATE ENTRANCE 1060. WOODSIDE MANOR II. 50'EAST OF THE ℄ OF PILGRIM WAY & 15'SOUTH OF THE ℄ OF PRIVATE ENTRANCE TO WOODSIDE MANOR II.	628.21

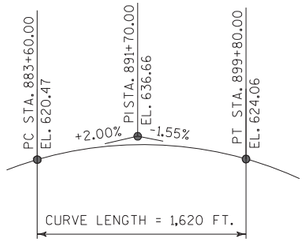
SAFETY FACTORS & DIMENSIONS

DIMENSIONS			
WALL HEIGHT[1] "H" (FEET)	30.6	19.7	30.6
RETAINED HEIGHT	30.6	30.6	30.6
REINFORCEMENT LENGTH[2](FEET)	21.4	21.4	21.4
LENGTH OF REIN. / WALL HEIGHT	0.7 H	1.1 H	0.7 H
FACTOR OF SAFETY[3]			
SLIDING	2.03	2.03	2.03
OVERTURNING	3.82	3.82	3.82
GLOBAL STABILITY	1.76	1.76	1.76
BEARING CAPACITY	2.8	2.8	2.8
ALLOW. BEARING CAPACITY (PSF)	5000	5000	5000

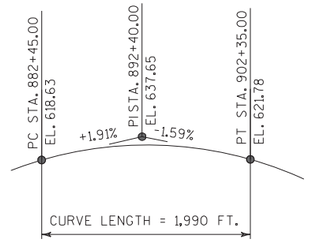
NOTES:
1. WALL HEIGHT SHOWS ONLY THE MAXIMUM HEIGHT IN THE SECTION AND INCLUDES 3.5 FEET OF EMBEDMENT PER US 41 BROWN COUNTY CORRIDOR MANUAL.
2. THE LENGTH OF REINFORCEMENT IS THE MINIMUM REQUIRED LENGTH FOR THE MAXIMUM WALL HEIGHT AT THE EVALUATED SECTION.
3. MINIMUM FACTORS OF SAFTEY PER CHAPTER 14 OF BRIDGE MANUAL (SLIDING 1.5, OVERTURNING 2.0, GLOBAL 1.3, BEARING CAPACITY 2.5).
4. FINAL DESIGN FOR INTERNAL STABILITY, AND EXTERNAL SLIDING AND OVERTURNING AT OTHER WALL SECTIONS IS THE RESPONSIBILTY OF THE CONTRACTOR'S WALL DESIGNER.

SOIL PARAMETERS

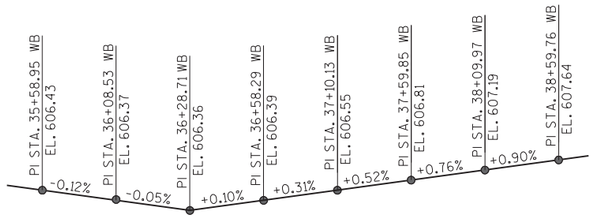
SOIL LAYER	BOTTOM ELEVATION (FEET)	SOIL UNIT WEIGHT (pcf)	UNDRAINED COHESION (psf)	UNDRAINED FRICTION ANGLE (DEGREES)	DRAINED COHESION (psf)	DRAINED FRICTION ANGLE (DEGREES)
SILTY SAND FILL	602.0	115	0	30	0	30
LEAN CLAY FILL	601.0	115	1500	0	0	30
MEDIUM DENSE SILTY SAND	599.0	120	0	33	0	33
HARD LEAN CLAY	598.0	130	4000	0	0	36
DENSE SANDY SILT	594.0	125	0	34	0	34
HARD CLAY	574.0	130	4000	0	0	36
STIFF LEAN CLAY	545.0	130	1800	0	0	33



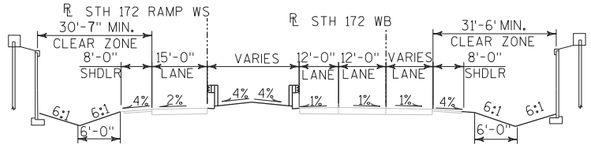
PROFILE GRADE LINE USH 41 RAMP EN



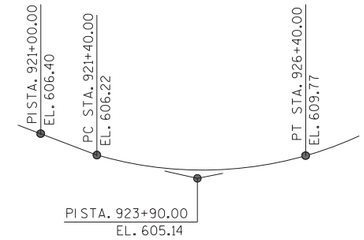
PROFILE GRADE LINE USH 41 SB



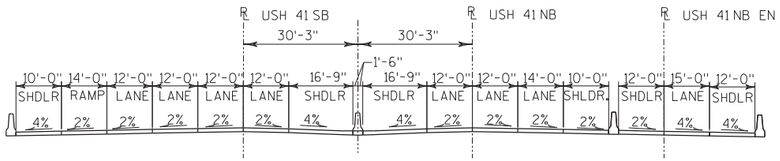
EXISTING PROFILE GRADE LINE STH 172 WB



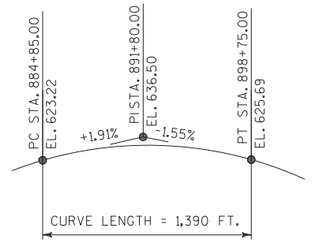
TYPICAL SECTION THRU STH 172 WB



PROFILE GRADE LINE STH 172 RAMP WS



TYPICAL SECTION THRU USH 41



PROFILE GRADE LINE USH 41 NB

TRAFFIC DATA USH 41 NB

ADT = 27,300 (2015)
= 34,800 (2035)
DESIGN SPEED = 70 MPH

TRAFFIC DATA USH 41 SB

ADT = 37,900 (2015)
= 47,300 (2035)
DESIGN SPEED = 70 MPH

TRAFFIC DATA STH 172 RAMP WS

ADT = 11,000 (2015)
= 12,300 (2035)
DESIGN SPEED = 55 MPH

TRAFFIC DATA STH 172 WB

ADT = 28,500 (2015)
= 38,800 (2035)
DESIGN SPEED = 60 MPH

DESIGN DATA

LIVE LOAD:
LIVE LOAD SURCHARGE (ROADWAY) = 240 PSF
MATERIAL PROPERTIES:
CONCRETE MASONRY RETAINING WALLS f'c = 4,000 PSI
PRECAST CONCRETE WALL PANEL f'c = 5,000 PSI
BAR STEEL REINFORCEMENT fy = 60,000 PSI
STRUCTURAL CARBON STEEL fy = 36,000 PSI
(ASTM A709 GR. 36)

FOUNDATION DATA:
ALLOWABLE SOIL BEARING CAPACITY-MSE (SEE TABLE)

THE WALL HAS BEEN DESIGNED FOR LIVE LOAD SURCHARGES AS NOTED. CONTRACTOR IS RESPONSIBLE FOR EVALUATING WALL FOR ANTICIPATED CONSTRUCTION LIVE LOADS IN EXCESS OF 240 PSF.

NO.	DATE	REVISION	BY

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STRUCTURES DESIGN SECTION

STRUCTURE R-5-213

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DESIGN DATA & QUANTITIES

SHEET 2 OF 10
2438

8

8

SCALE = 10:0 " : " / IN.

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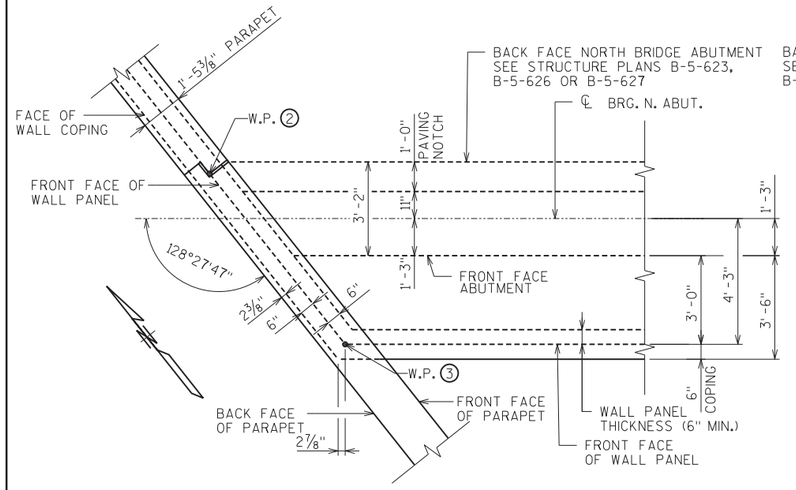
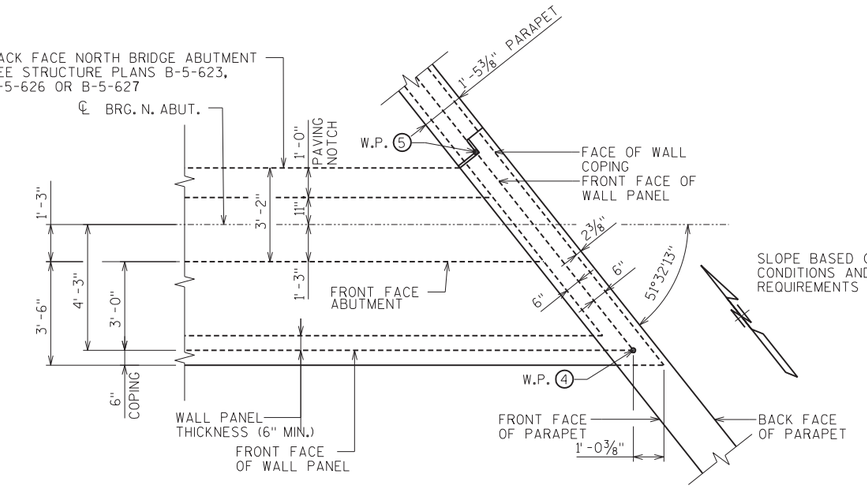
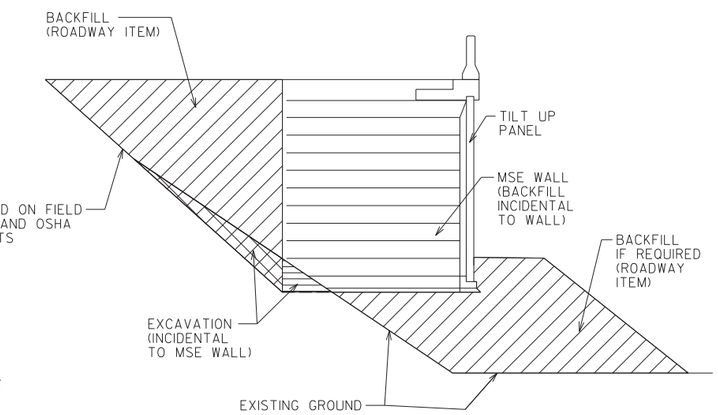


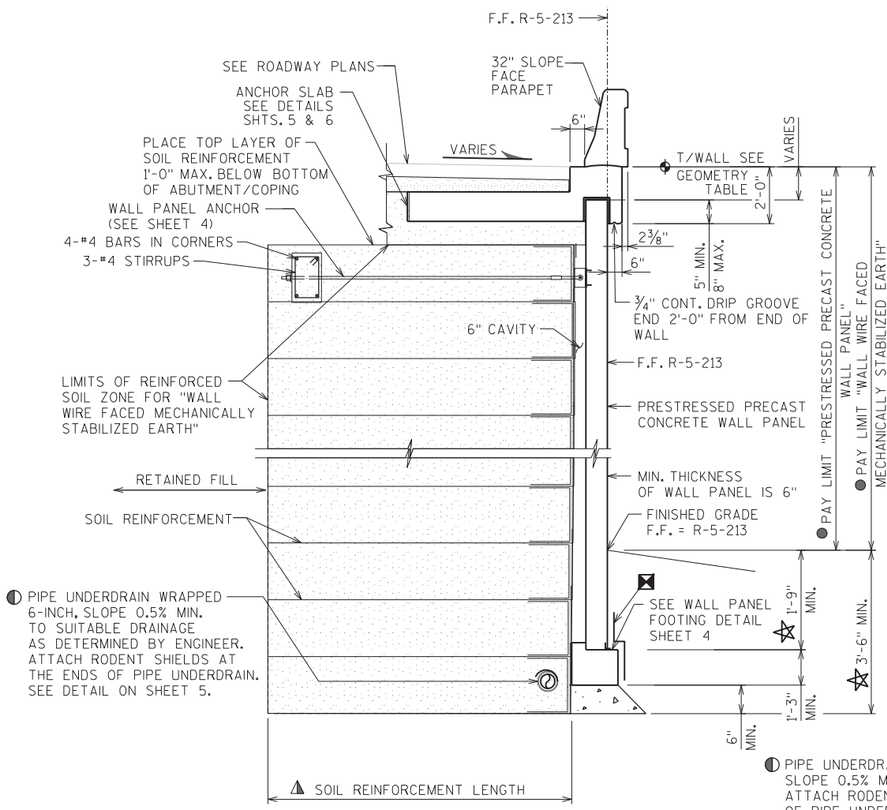
NORTH-WEST QUADRANT



NORTH-EAST QUADRANT

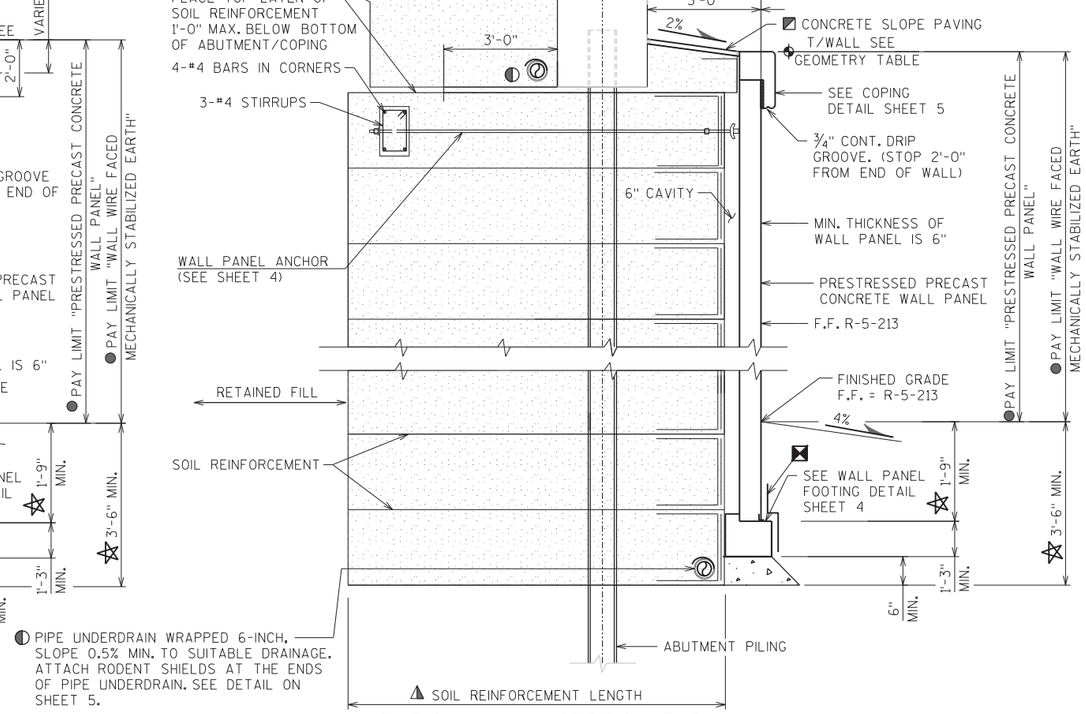


EXCAVATION/BACKFILL DETAIL



TYPICAL WALL SECTION A-A

LOOKING SOUTH AT WEST SIDE OF WALL, EAST SIDE MIRROR IMAGE
W.P.① TO W.P.② AND W.P.⑤ TO W.P.⑥ SEE B-5-624
AND B-5-622 PLANS FOR APPROACH PANEL COPING DETAILS.



TYPICAL WALL SECTION B-B

(LOOKING EAST AT NORTH ABUTMENT W.P.③ TO W.P.④

INSTALL BRIDGE PILING BEFORE MSE WALL. PLACE REINFORCING MAT AROUND PILING FOR BRIDGE ABUTMENT.

INSTALLATION OF BRIDGE PILING IS NOT A RETAINING WALL BID ITEM.

LEGEND

- THE PLAN QUANTITY FOR THE BID ITEMS "WALL WIRE FACED MECHANICALLY STABILIZED EARTH" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL" ARE BASED ON A WALL HEIGHT MEASURED FROM THE FINISHED GRADE AT THE FRONT FACE OF THE WALL TO THE TOP OF THE WALL AS SHOWN. THE TOP OF THE FOOTING IS ASSUMED TO BE A CONSTANT 1'-9" BELOW FINISHED GRADE. COPING CONCRETE AND COPING REINFORCEMENT ARE TO BE INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

⚠ SEE SHT. 2 FOR SOIL REINFORCEMENT REQUIREMENTS.

☆ MINIMUM EMBEDMENT DEPTHS SHALL BE BASED ON FINISHED GRADE NOTED IN "GEOMETRY TABLE" ON SHEET 2.

■ MINIMUM CLEARANCE FROM PARAPET TO PILASTER.

◪ CONCRETE SLOPE PAVING TO BE A MIN. OF 4" THICK. PLACE CONSTRUCTION JOINTS EVERY 10' MAX. SEE SLOPE PAVING CONSTRUCTION JOINT DETAIL ON SHEET 5.

◐ PROVIDE VERTICAL PIPE UNDERDRAIN UNPERFORATED 6-INCH TO CONNECT R-5-213 WALL UNDERDRAIN TO B-5-623 AND B-5-626 ABUTMENT UNDERDRAIN. LOCATE THE VERTICAL PIPE APROXIMATELY 7 FEET FROM THE SOUTH CORNER OF THE RETAINING WALL. CAP THE UNPERFORATED UNDERDRAIN AT ELEVATION 618.88 FOR CONNECTION TO THE ABUTMENT UNDERDRAIN.

Ⓧ WORKING POINT

⧓ GEOTEXTILE FABRIC TYPE DF, 2'-0" WIDE, LENGTH OF FOOTING

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WALL DETAILS-1

SHEET 3 OF 10
2439

SCALE = 5:1 1/2 " :" / IN.

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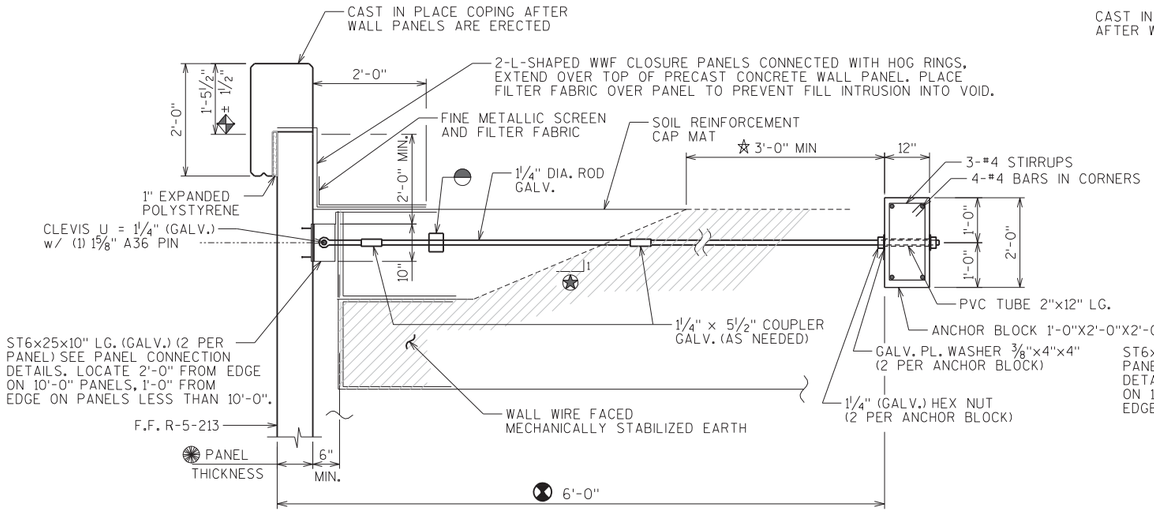
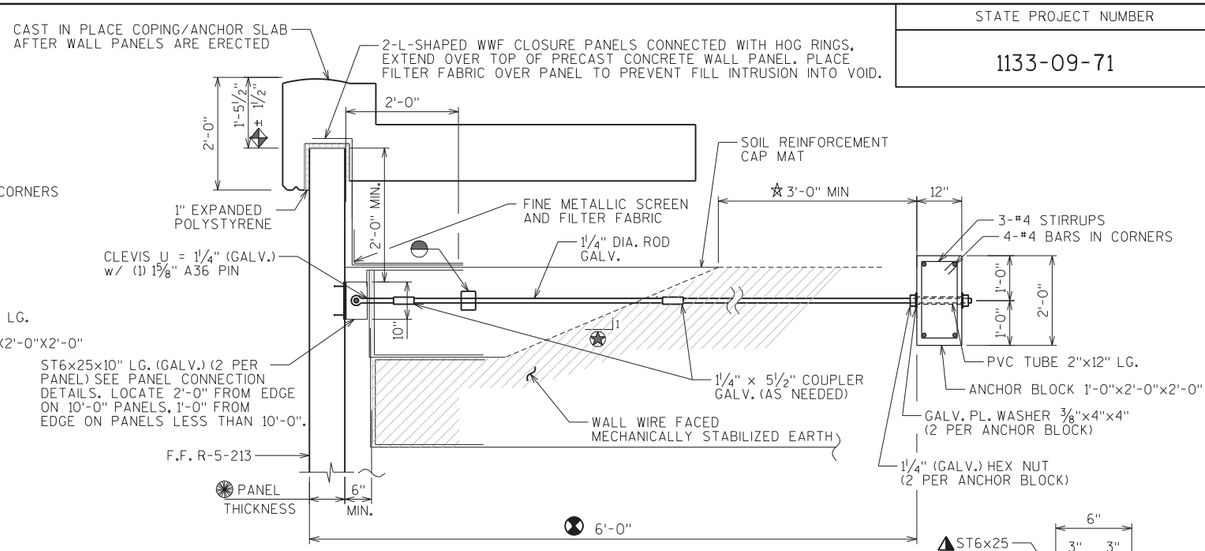
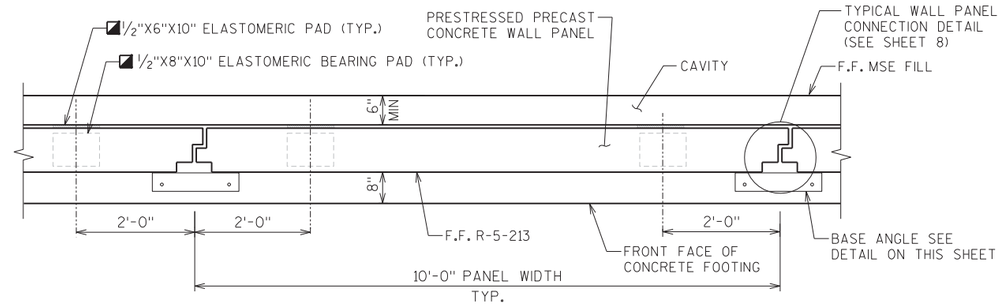


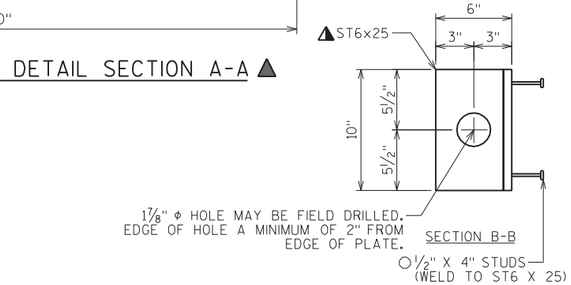
WALL PANEL ANCHOR DETAIL SECTION B-B ▲

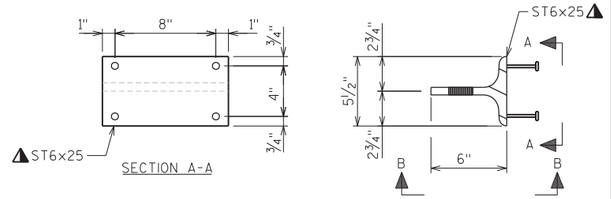


WALL PANEL ANCHOR DETAIL SECTION A-A ▲



PLAN VIEW WALL PANEL CONNECTION ▲





PANEL CONNECTION DETAILS

ST6 X 25 MAY BE WELDED TO ¾" THICK PLATE ANCHORED IN TILT UP PANEL. DETAILS SUBJECT TO APPROVAL BY THE ENGINEER.

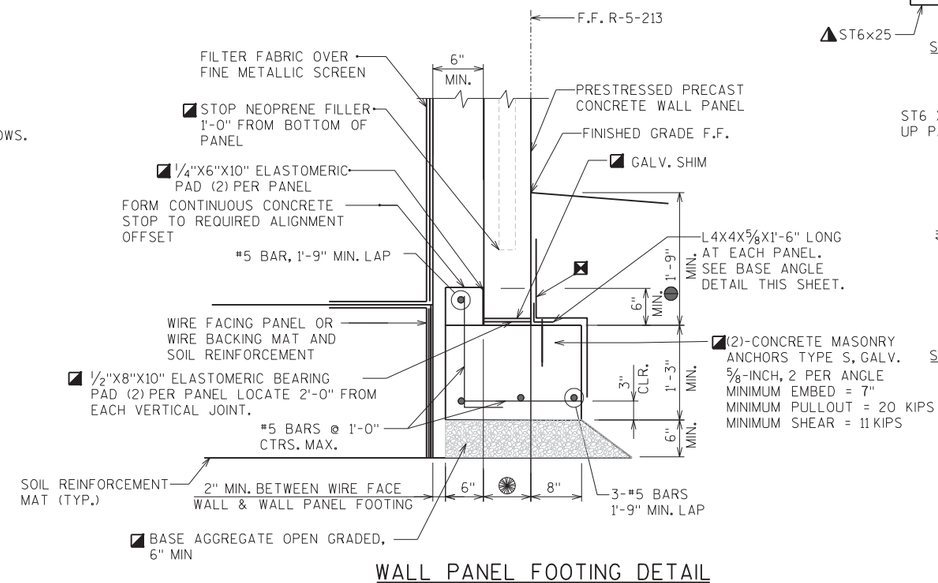
NOTES

AN ALTERNATE WALL PANEL ANCHOR AND PANEL CONNECTION SYSTEM MAY BE SUBMITTED FOR REVIEW BY THE ENGINEER.

TILT UP PANEL ANCHOR SYSTEM MAY BE TRENCHED IN IF THE GEOMETRY OF THE ANCHOR SYSTEM LOCATION ALLOWS.

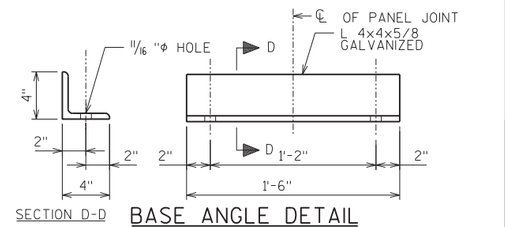
LEGEND

- ✱ = WALL PANEL THICKNESS AS DETERMINED IN ACCORDANCE WITH THE DESIGN REQUIREMENTS DEFINED IN THE SPECIAL PROVISIONS. (6" MINIMUM)
- ▲ S12X50 (GALV.) CUT IN HALF TO FORM "T" SECTION BF=5.477", TW=0.687.
- ◓ OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. (CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼ DIAM. BAR)
- ☆ DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION AND ROD TO BE 2'-0" MIN. BELOW FINISHED GRADE.
- ○ AS AN ALTERNATE, ½" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.
- ⊠ LENGTH MAY BE INCREASED TO AVOID OBSTRUCTIONS, SUCH AS ABUTMENT PILING.
- ◍ MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE PRECAST PANELS.
- ▲ WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1¼" DIA. ANCHOR ROD, CLEVIS AND OTHER PANEL CONNECTION COMPONENTS. DETAILING, AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL." INSTALLATION OF THESE ITEMS IS INCLUDED IN THE THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH."
- ◪ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."
- ⊠ GEOTEXTILE FABRIC TYPE DF, 2'-0" WIDE, LENGTH OF FOOTING
- ✱ EXCAVATED SLOPE PER OSHA REQUIREMENTS.
- ✥ MUST BE 1'-4" AT W.P. 2, 3, 4, & 5.



WALL PANEL FOOTING DETAIL

(NOTE: FOOTING CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL")



BASE ANGLE DETAIL

(1) AT EACH PANEL JOINT INCLUDED IN BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

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STRUCTURE R-5-213

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WALL DETAILS - 2

SHEET 4 OF 10
2440

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SCALE = 10:10 ' :" / IN.

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3/28/2013

STATE PROJECT NUMBER

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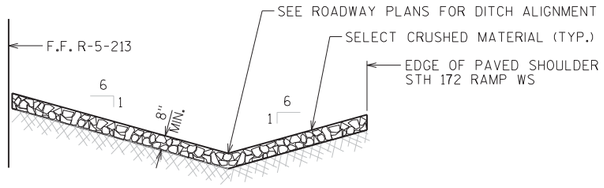
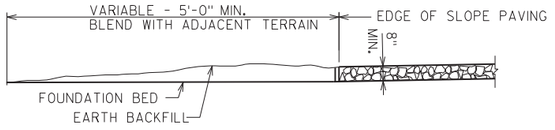
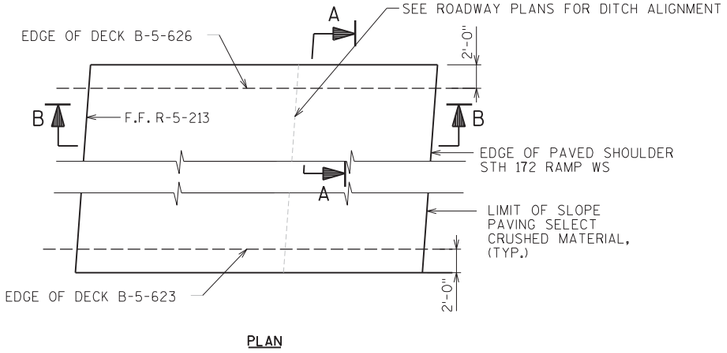


SECTION B-B

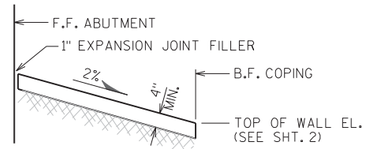


SECTION A-A

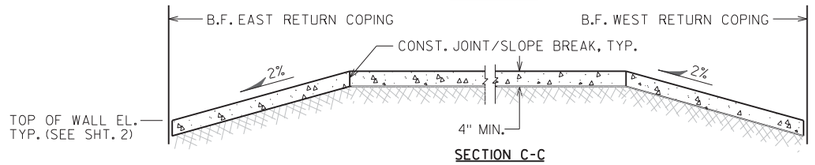


PLAN

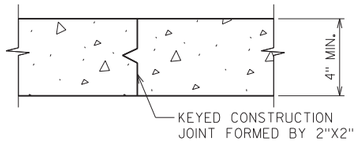
SLOPE PAVING SELECT CRUSHED MATERIAL DETAILS



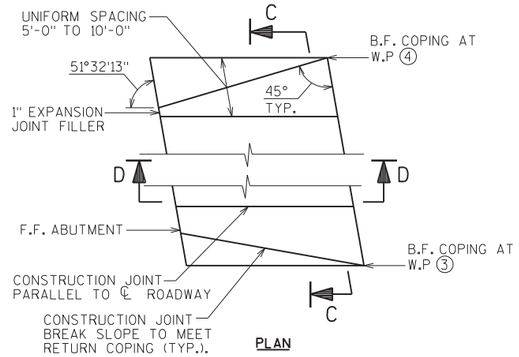
SECTION D-D



SECTION C-C

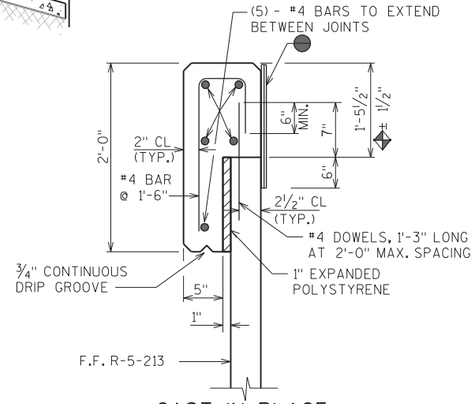


CONSTRUCTION JOINT DETAIL



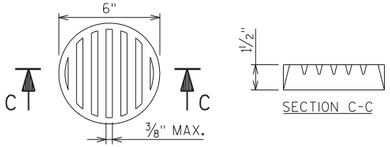
PLAN

SLOPE PAVING CONCRETE DETAILS



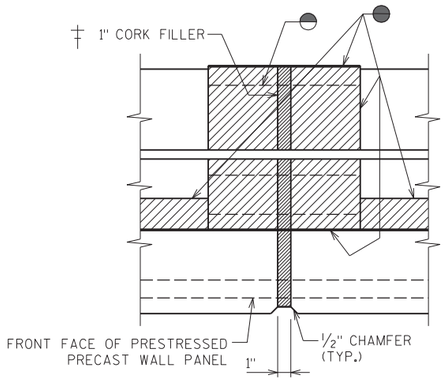
CAST-IN-PLACE CONCRETE COPING DETAIL

(NOTE: COPING CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL.")

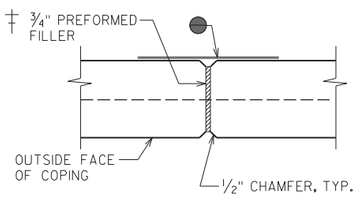


RODENT SHIELD

(FOR PIPE UNDERDRAIN)

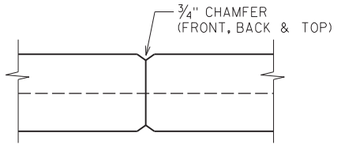


ANCHOR SLAB EXPANSION JOINT DETAIL



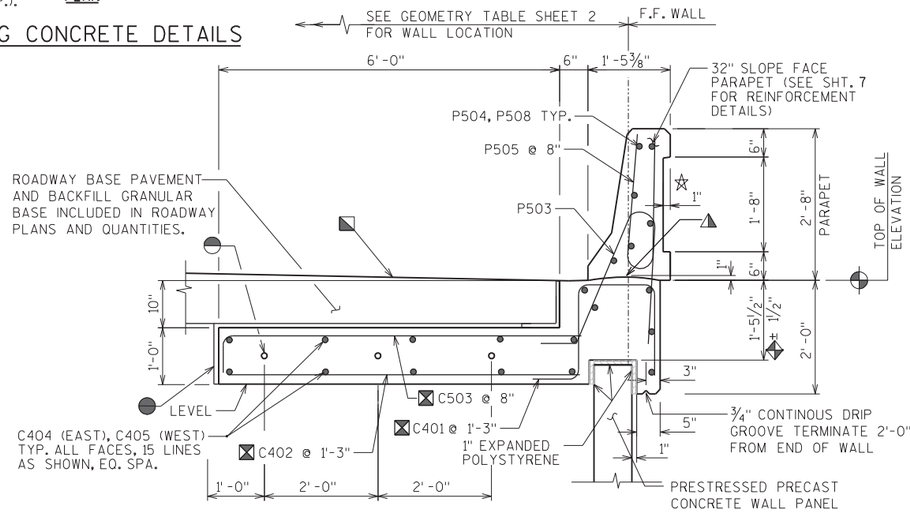
COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.



COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.



CAST-IN-PLACE CONCRETE TRAFFIC BARRIER DETAIL

LOOKING NORTH AT EAST SIDE OF WALL, WEST SIDE MIRROR IMAGE (SEE PLAN VIEW SHEET 6 FOR LAYOUT)

SEE SHT. 7 FOR BILL OF BARS.

LEGEND & NOTES

- CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- PLACE (3) -¾"ϕ (SMOOTH) DOWEL BARS, 1'-6" LONG BETWEEN ANCHOR SLAB AND APPROACH APRON FOOTING. EMBED 9", SPACE EQUALLY, 6" MIN. CLR. FROM EDGE, 1'-6" MIN. SPACING. USE APPROVED DEBONDER ON ½ OF BAR LENGTH. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. COST OF ITEMS ARE INCLUDED IN BID ITEM "CONCRETE MASONRY RETAINING WALLS."
- SEE SHEET 8 & 9 FOR AESTHETIC DETAILS.
- SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH STAIN. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)
- EXPANSION JOINTS TO BE SPACED AS SHOWN ON SHEET 1. LOCATE EXPANSION JOINTS OVER WALL JOINTS EXCEPT AT WINGWALLS WHERE WALL PANEL JOINTING MAY VARY FROM COPING JOINTS. DO NOT RUN BAR STEEL THRU JOINT EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.
- SEE ROADWAY PLANS FOR SLOPE
- AT WALL COPING AND ABUTMENT INTERFACE, PLACE 18" RUBBERIZED MEMBRANE WATERPROOFING ALONG BACK OF INTERFACE. USE AT FULL WIDTH OF ALL EXPANSION JOINTS.
- LOCATE CONTRACTION JOINTS IN COPING OVER WALL JOINTS WHERE NO EXPANSION JOINT NOTED.
- PLACE REINFORCEMENT ALONG SKEW AT APPROACH APRON INTERFACE. FAN REINFORCEMENT TO MAINTAIN EQUAL SPACING ACROSS SLAB.
- MUST BE 1'-4" AT W.P. 2, 3, 4, & 5.
- DIMENSIONS ARE APPROXIMATE, GRATE TO BE SIZED TO FIT INTO A PIPE COUPLING. ORIENT RODENT SHIELD SO SLOTS ARE VERTICAL. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN UNPERFORATED 6-INCH." THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL . THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE R-5-213

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WALL DETAILS - 3

SHEET 5 OF 10
2441

SCALE = 2:8 " : " / IN.

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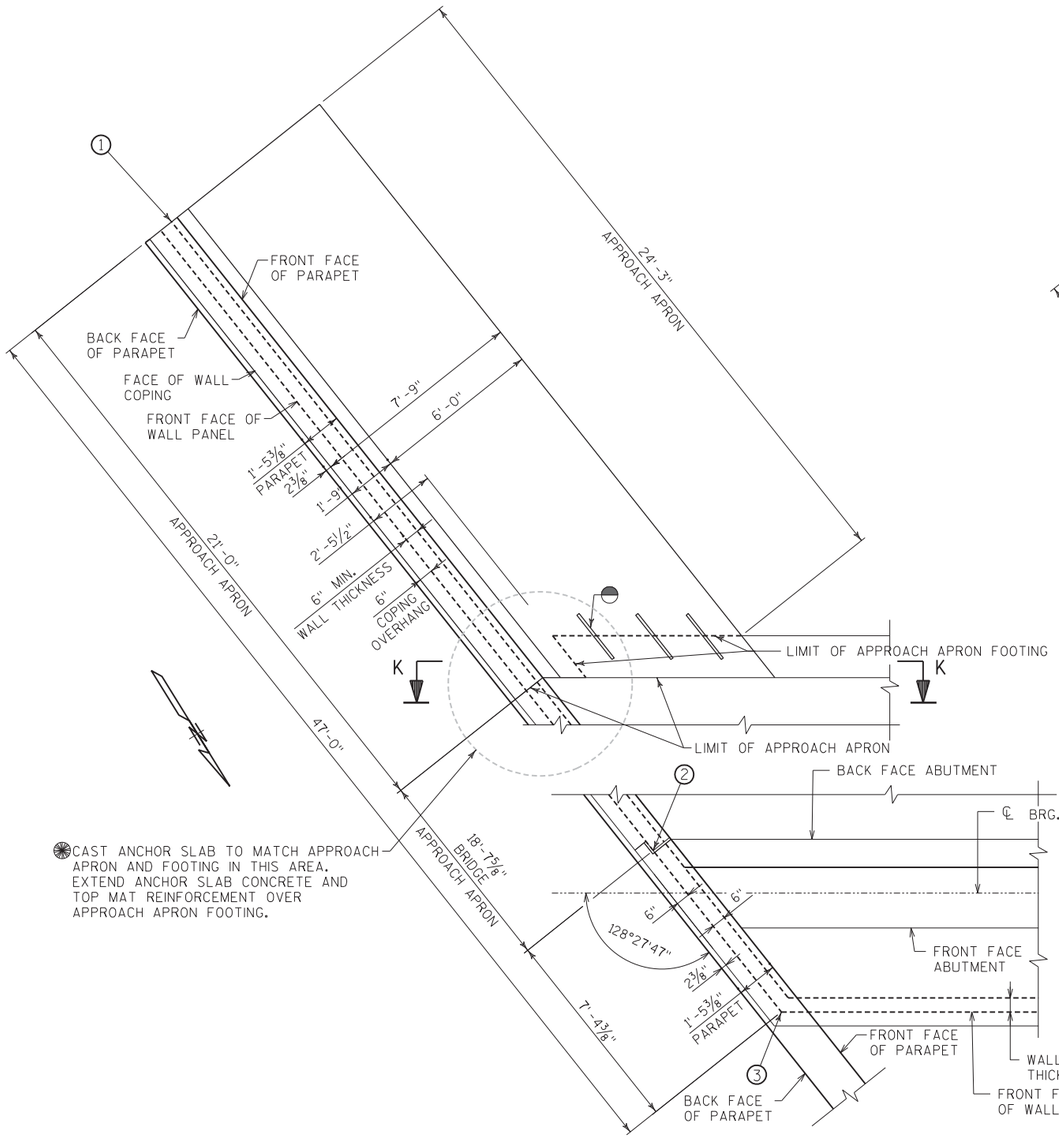
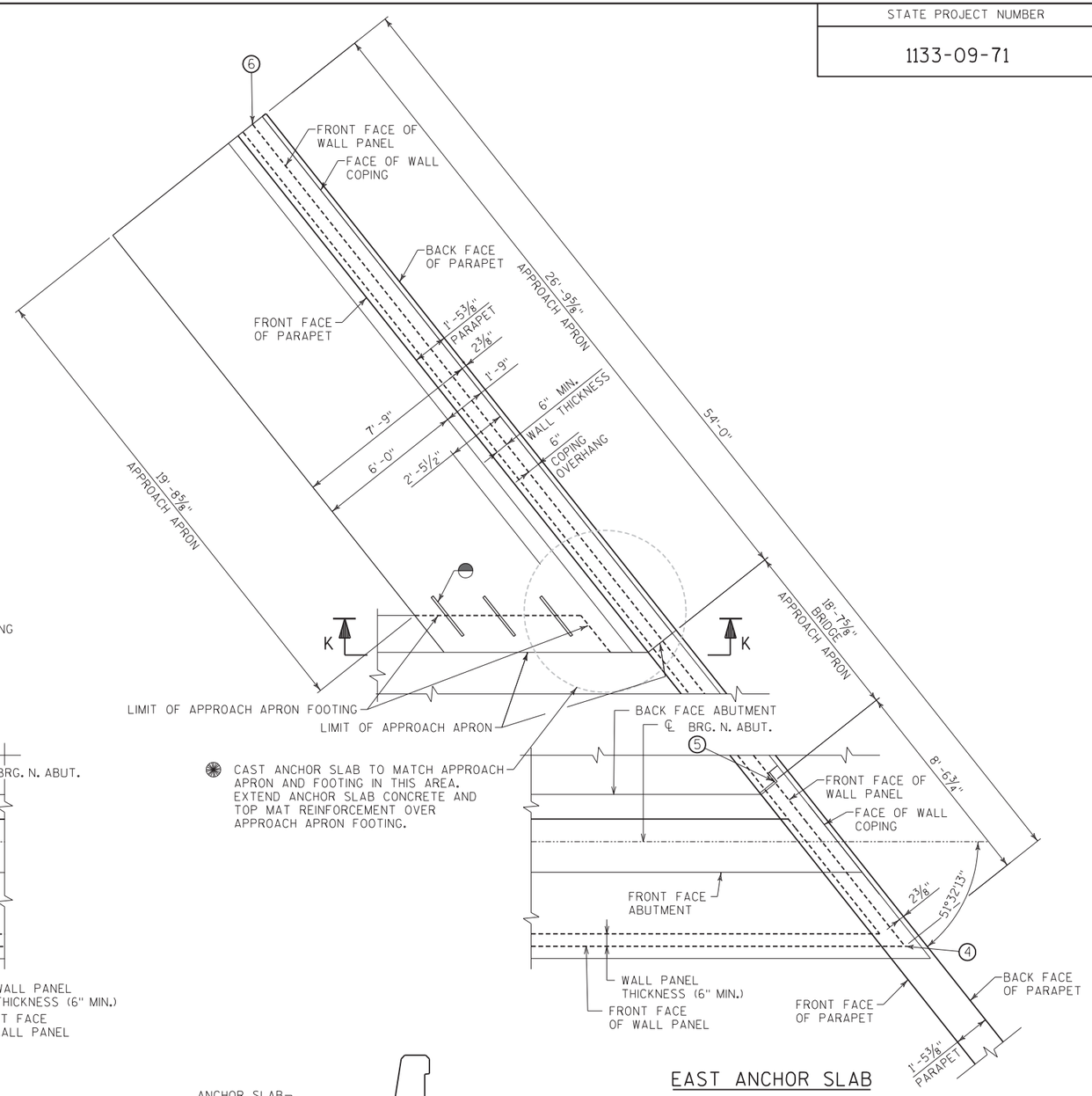
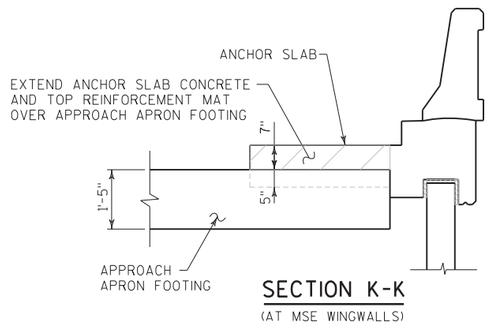


WEST ANCHOR SLAB



EAST ANCHOR SLAB



SECTION K-K
(AT MSE WINGWALLS)

LEGEND

- PLACE (3) -¾"ϕ (SMOOTH) DOWEL BARS, 1'-6" LONG BETWEEN ANCHOR SLAB AND APPROACH APRON FOOTING. EMBED 9", SPACE EQUALLY, 6" MIN. CLR. FROM EDGE, 1'-6" MIN. SPACING. USE APPROVED DEBONDER ON ½ OF BAR LENGTH. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. COST OF ITEMS ARE INCLUDED IN BID ITEM "CONCRETE MASONRY RETAINING WALLS."
- EXPANSION JOINTS TO BE SPACED AS SHOWN ON SHEET 1. DO NOT RUN BAR STEEL THRU JOINT EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.
- (X) WORKING POINT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-213

DRAWN BY TRW | PLANS CK'D. JFR

ANCHOR SLAB LAYOUT

SHEET 6 OF 10
2442

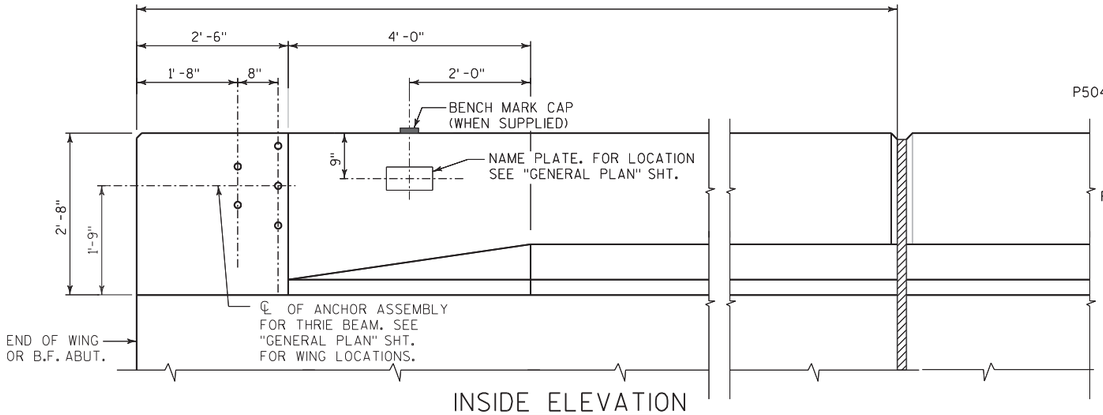
SCALE = 5:5 " : " / IN.

8

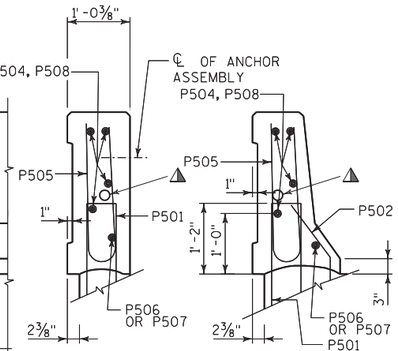
8

STATE PROJECT NUMBER

1133-09-71

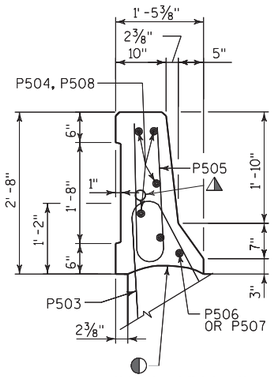


INSIDE ELEVATION

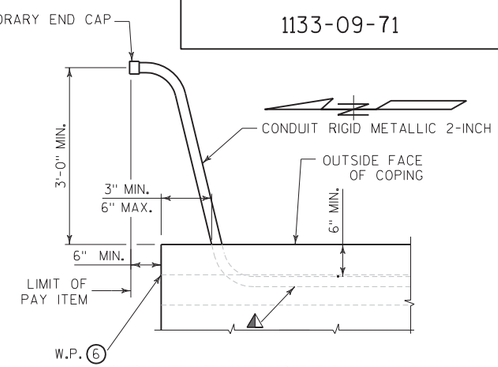


SECTION A

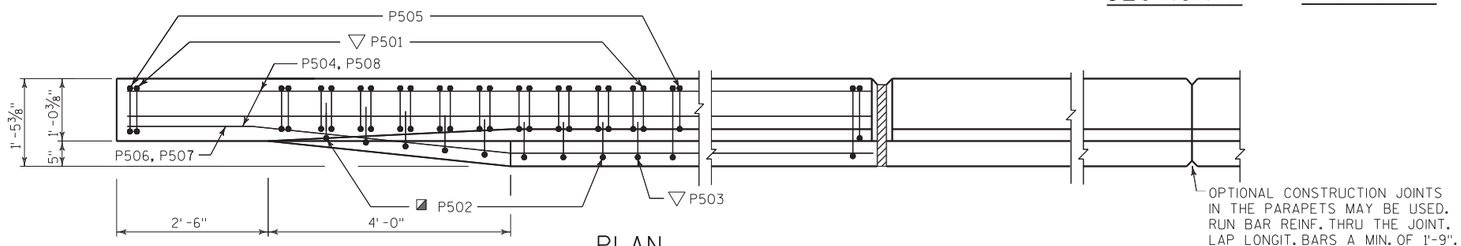
SECTION B



SECTION C

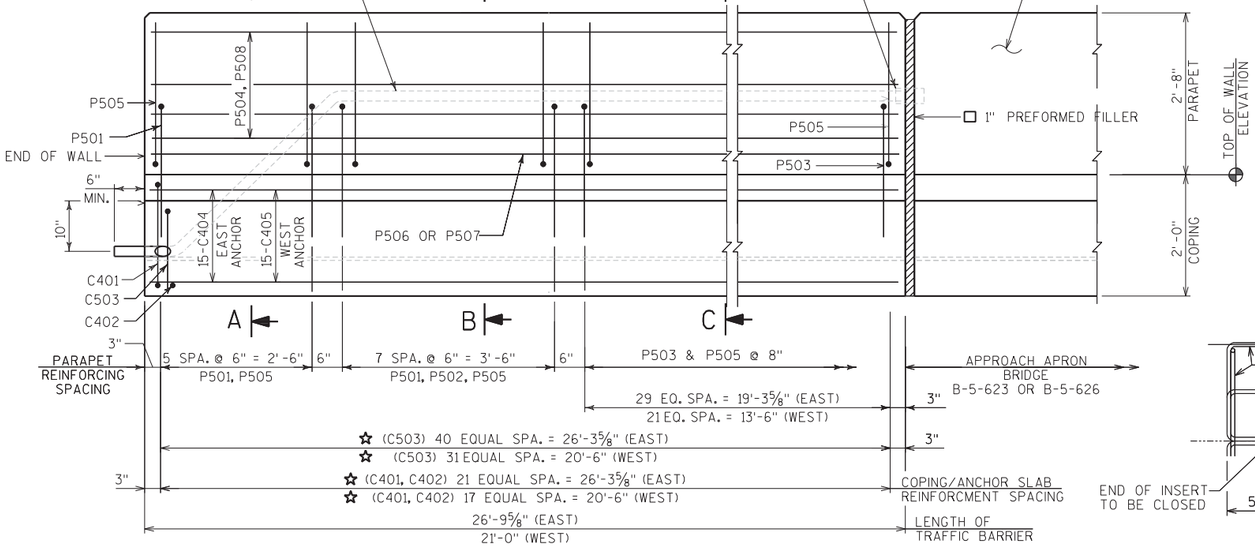


CONDUIT EXIT DETAIL

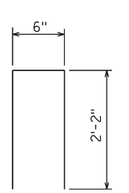


PLAN

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.



OUTSIDE ELEVATION



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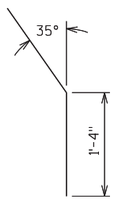

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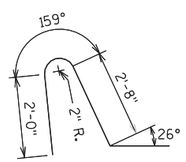

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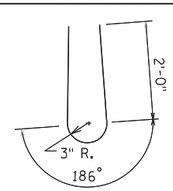

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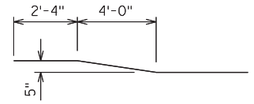
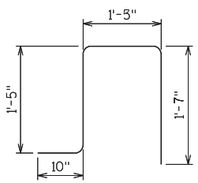
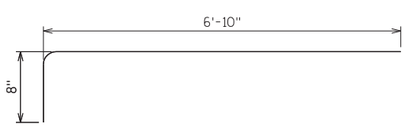


P506, P507



C401



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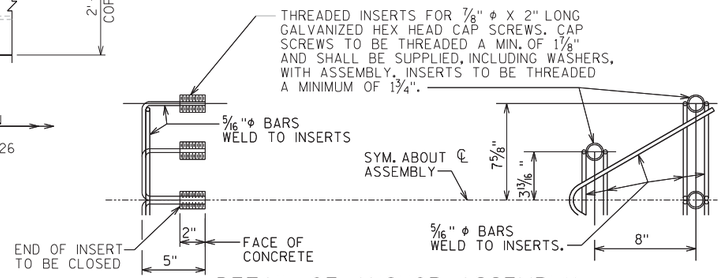


DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

BILL OF BARS - PARAPET

BAR MARK	COATED	NO. REQ'D. WEST	NO. REQ'D. EAST	LENGTH	BENT	LOCATION
P501	X	14	14	4'-7"	X	PARAPET VERT.
P502	X	8	8	2'-4"	X	PARAPET VERT.
P503	X	22	30	5'-8"	X	PARAPET VERT.
P504	X	4	--	20'-6"		PARAPET HORIZ.
P505	X	36	44	4'-10"	X	PARAPET VERT.
P506	X	1	--	19'-10"	X	PARAPET HORIZ.
P507	X	--	1	25'-8"	X	PARAPET HORIZ.
P508	X	--	4	26'-4"		PARAPET HORIZ.

BILL OF BARS - TRAFFIC BARRIER

MARK	COATED	NO. REQ'D.	LENGTH	BENT	LOCATION
C401	X	40	5'-0"	X	COPING TIE-TRANSVERSE
☒ C402	X	40	6'-4"		ANCHOR SLAB BOTTOM-TRANSVERSE
☒ C503	X	73	7'-5"	X	ANCHOR SLAB TOP-TRANSVERSE
☒ C404	X	30	14'-2"		EAST ANCHOR SLAB-LONGITUDINAL
C405	X	30	11'-11"		WEST ANCHOR SLAB-LONGITUDINAL

LEGEND

- □ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH CONCRETE STAIN (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)
- ☆ DIMENSION SHOWN ALONG OUTSIDE OF COPING. MAINTAIN EQUAL SPACING ACROSS SLAB.
- ◐ CONST. JOINT - STRIKE OFF AS SHOWN.
- ◪ P502 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE P502 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ▽ P501 AND P503 BARS TO BE TIED TO ANCHOR SLAB STEEL BEFORE ANCHOR SLAB IS POURED.
- ☒ PLACE REINFORCEMENT ALOMG SKEW AT APPROACH APRON INTERFACE. FAN REINFORCEMENT TO MAINTAIN EQUAL SPACING ACROSS SLAB.
- ⚠ CONDUIT RIGID METALLIC 2-INCH, EAST PARAPET ONLY, EXIT TO GRADE. EXPANSION FITTING AND TEMP. END CAP INCIDENTAL TO PAY ITEM.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-213

DRAWN BY TRW | PLANS CK'D. JFR

PARAPET & ANCHOR SLAB DETAILS

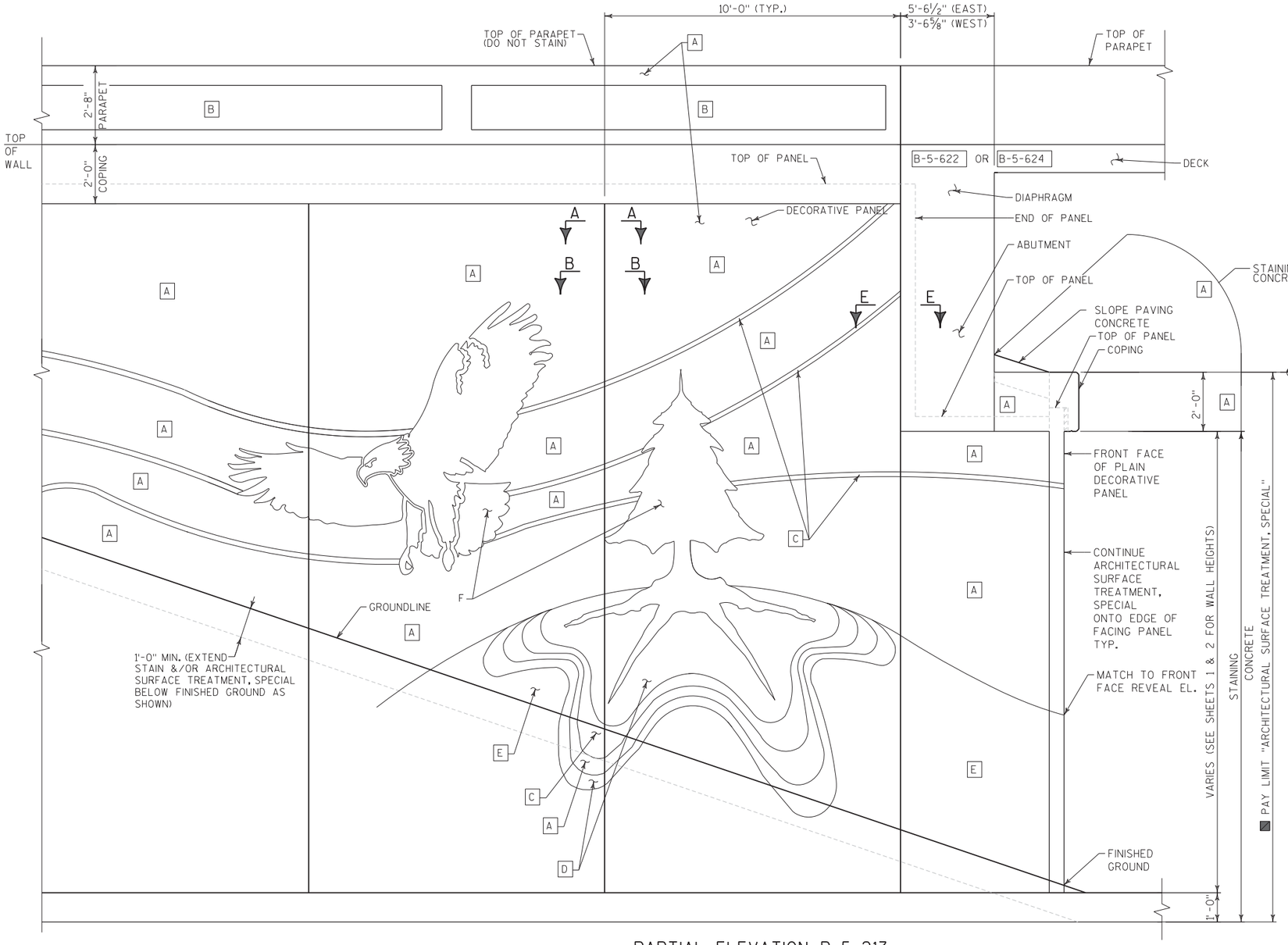
SHEET 7 OF 10
2443

SCALE = 2:16 " : " / IN.

8

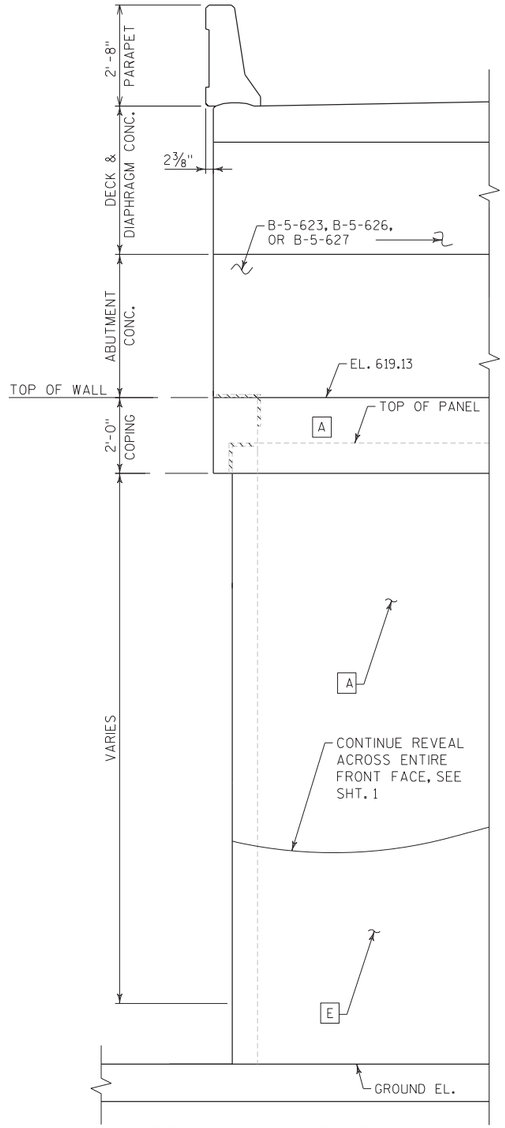
STATE PROJECT NUMBER

1133-09-71



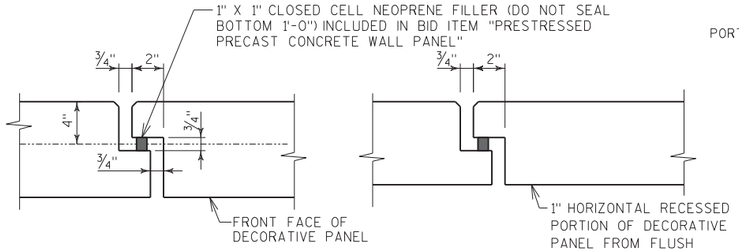
PARTIAL ELEVATION R-5-213

(LOOKING EAST AT WEST SIDE OF WALL, EAST SIDE MIRROR IMAGE)
PORTION OF WALL PARALLEL TO USH 41 REQUIRES BENCHED AND LEVEL FOOTING.



PARTIAL ELEVATION R-5-213

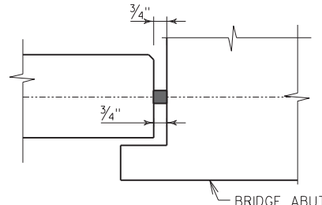
(LOOKING NORTH AT WEST END
EAST END IS MIRROR IMAGE)



SECTION A-A

CHAMFER REVEALS 1/16" PER INCH OF DEPTH

SECTION B-B



SECTION E-E

CHAMFER REVEALS 1/16" PER INCH OF DEPTH

LEGEND

PAY LIMIT FOR "ARCHITECTURAL SURFACE TREATMENT, SPECIAL" FOR THE WALL PANELS IS FROM TOP OF WALL TO 1'-0" BELOW GRADE. SPECIAL PROVISIONS FOR FORMLINER DETAILS.

CONCRETE STAINING SCHEDULE

MARK	COLOR	INDENTATION (INCHES)
A	BASE COLOR	0
B	ACCENT COLOR #1	-1
C	ACCENT COLOR #2	-2
D	ACCENT COLOR #3	-1.25
E	ACCENT COLOR #4	-1.5
F	ACCENT COLOR #5	-1
G	ACCENT COLOR #6	N/A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-213

DRAWN BY TRW | PLANS CK'D. JFR

AESTHETIC DETAILS-1

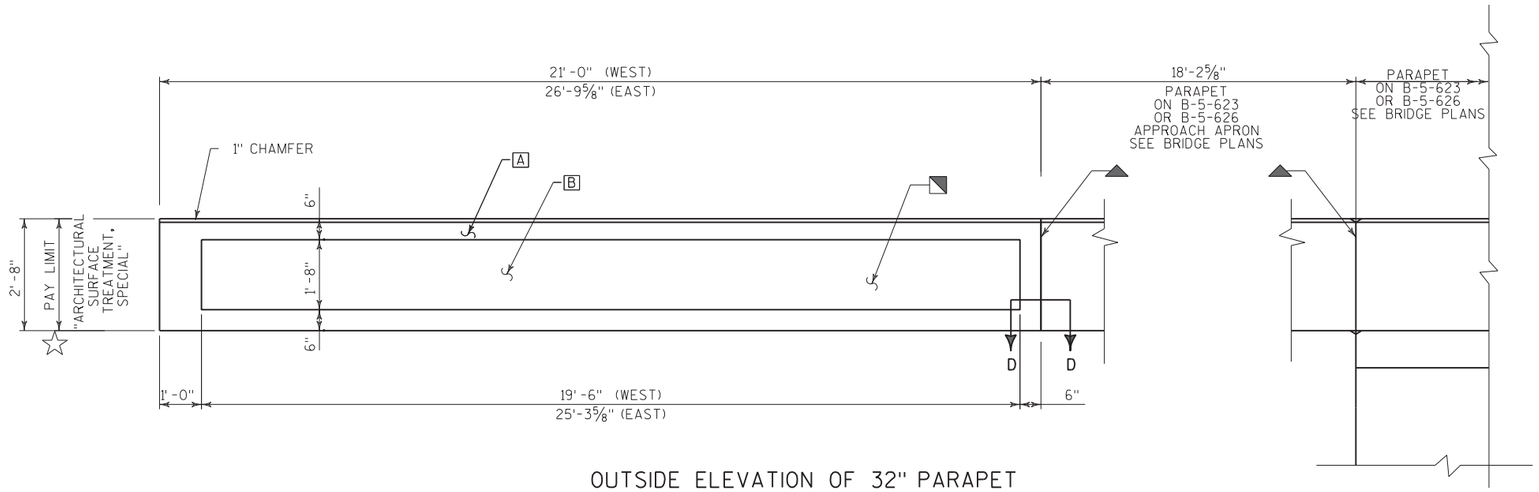
SHEET 8 OF 10
2444

SCALE = 4:0 " : " / IN.

8

8

STATE PROJECT NUMBER
1133-09-71



OUTSIDE ELEVATION OF 32" PARAPET

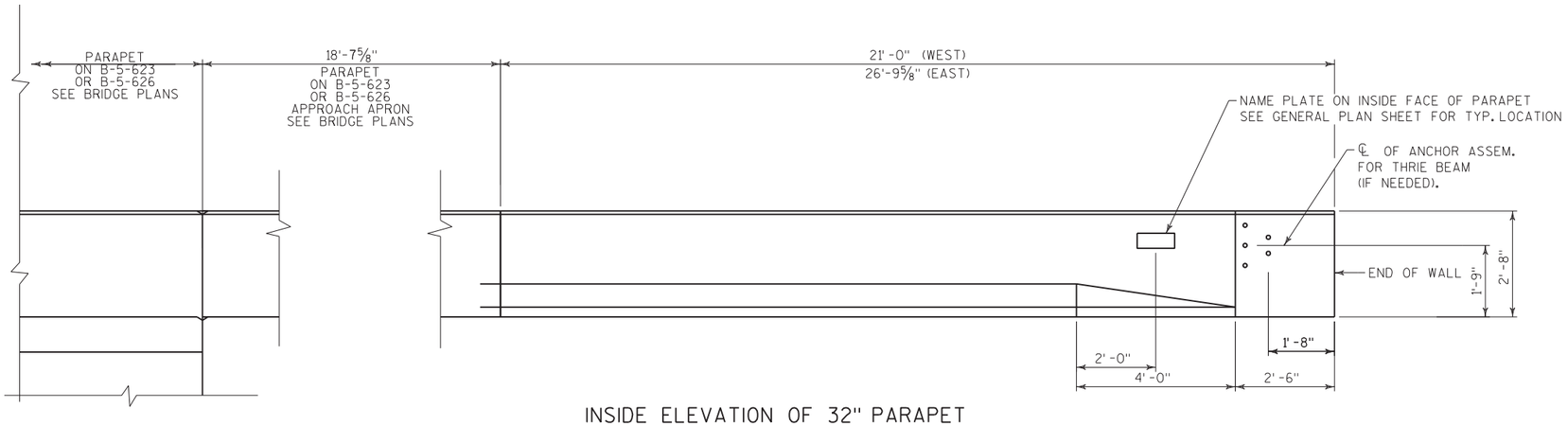
NOTES & LEGEND

☆ PAY LIMIT FOR "ARCHITECTURAL SURFACE TREATMENT, SPECIAL" FOR THE PARAPETS IS THE TOTAL PARAPET HEIGHT. SEE SPECIAL PROVISIONS FOR DESCRIPTION OF FORMLINER AND DETAILS ON THIS SHEET.

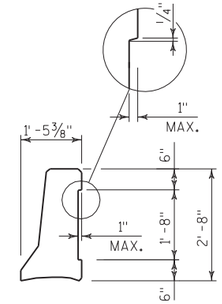
▨ RECESSED PANEL (TYP.)

◢◣ EXPANSION JOINT

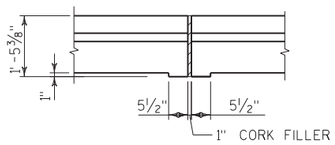
SEE SHT. 8 FOR STAINING SCHEDULE



INSIDE ELEVATION OF 32" PARAPET



32" SLOPED FACE PARAPET



SECTION D-D

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

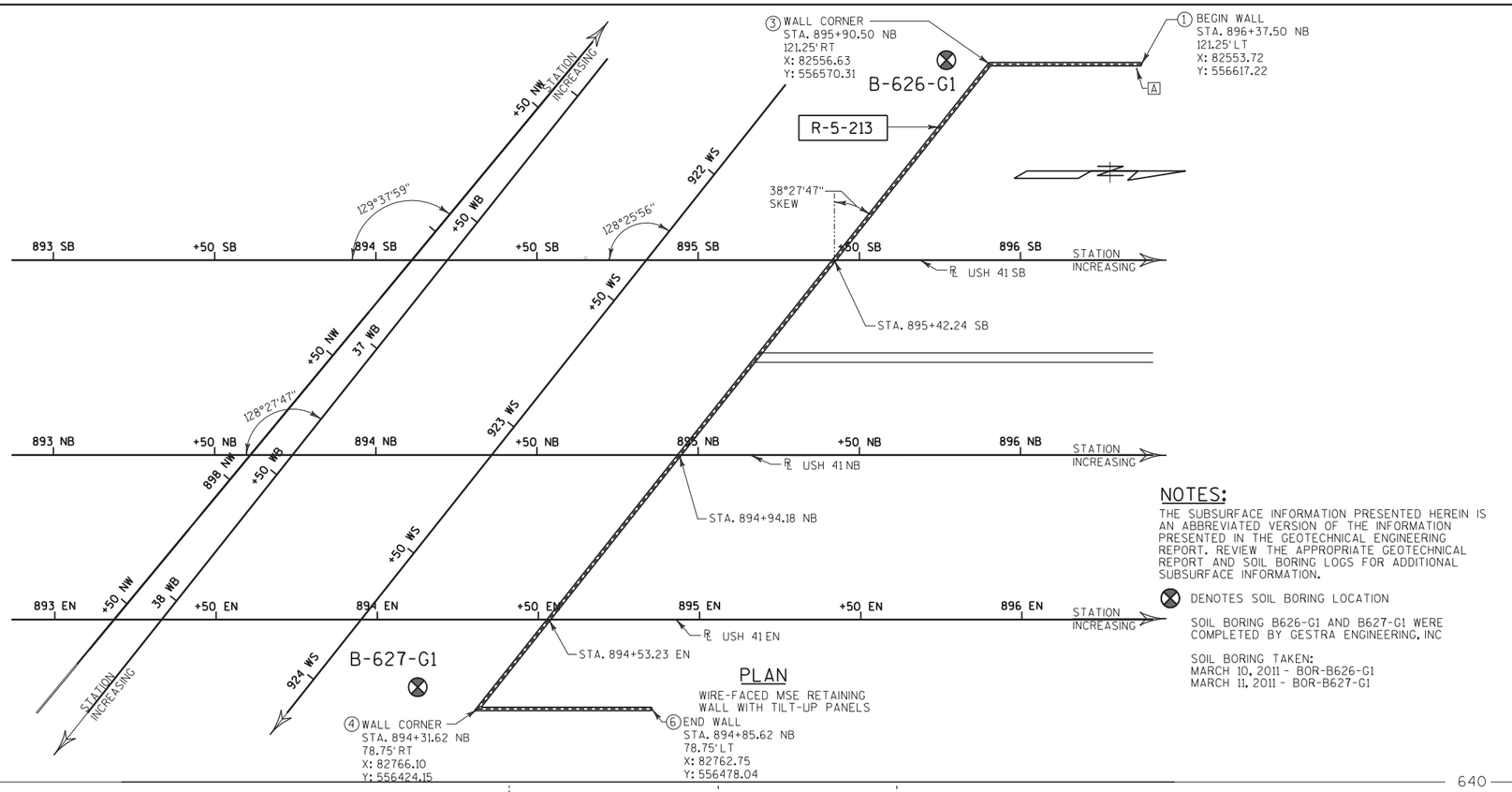
STRUCTURE R-5-213

DRAWN BY TRW | PLANS CK'D. JFR

AESTHETIC DETAILS-2

SHEET 9 OF 10
2445

SCALE = 3:7 1/4 " : " / IN.



PLAN

WIRE-FACED MSE RETAINING WALL WITH TILT-UP PANELS

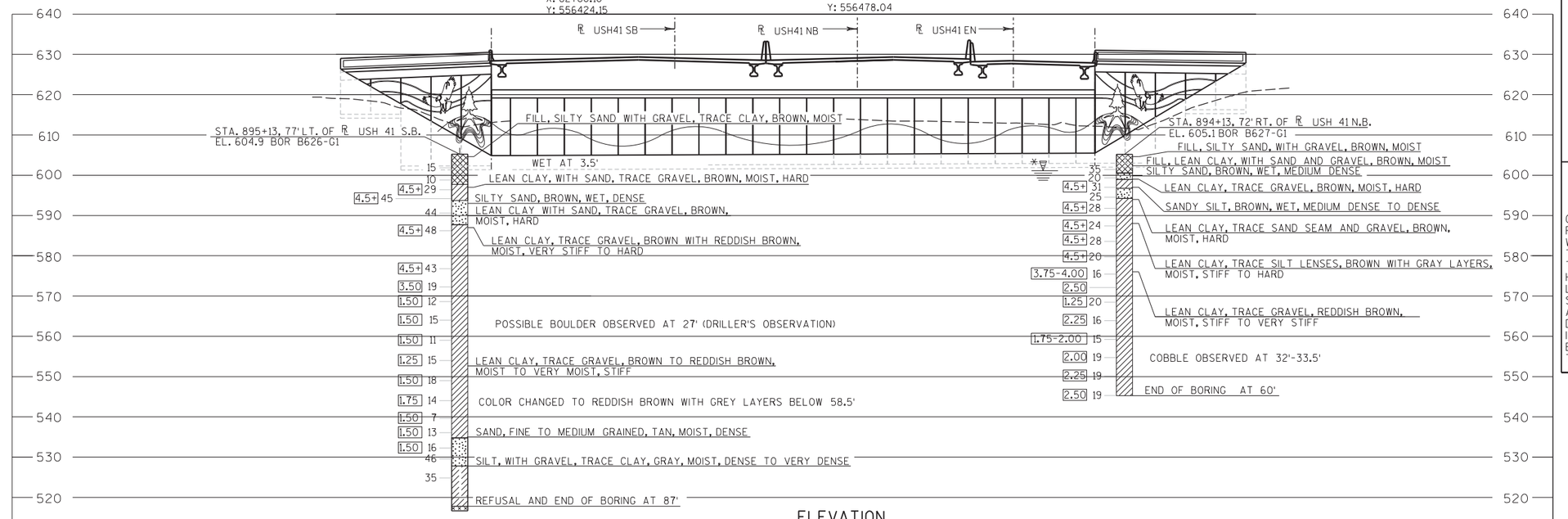
NOTES:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

⊗ DENOTES SOIL BORING LOCATION

SOIL BORING B626-G1 AND B627-G1 WERE COMPLETED BY GESTRA ENGINEERING, INC

SOIL BORING TAKEN:
MARCH 10, 2011 - BOR-B626-G1
MARCH 11, 2011 - BOR-B627-G1



ELEVATION

* ASSUMED WATER TABLE BASED ON COLLECTED SOIL SAMPLES AND PREVIOUS SUBSURFACE INVESTIGATION IN THE PROJECT AREA

STATE PROJECT NUMBER

1133-09-71

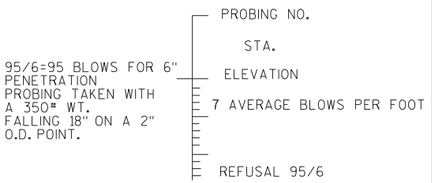
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

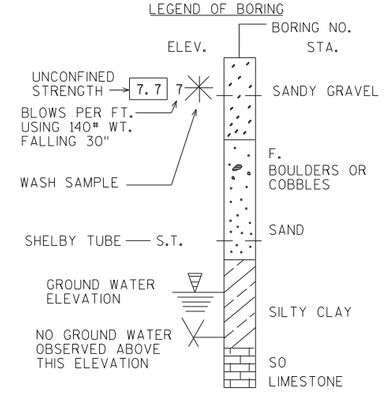
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-213

DRAWN BY TRW | PLANS CK'D. JFR

SUBSURFACE EXPLORATION

SHEET 10 OF 10
2446

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FILE= SCALE 44:0 ' :" / IN.

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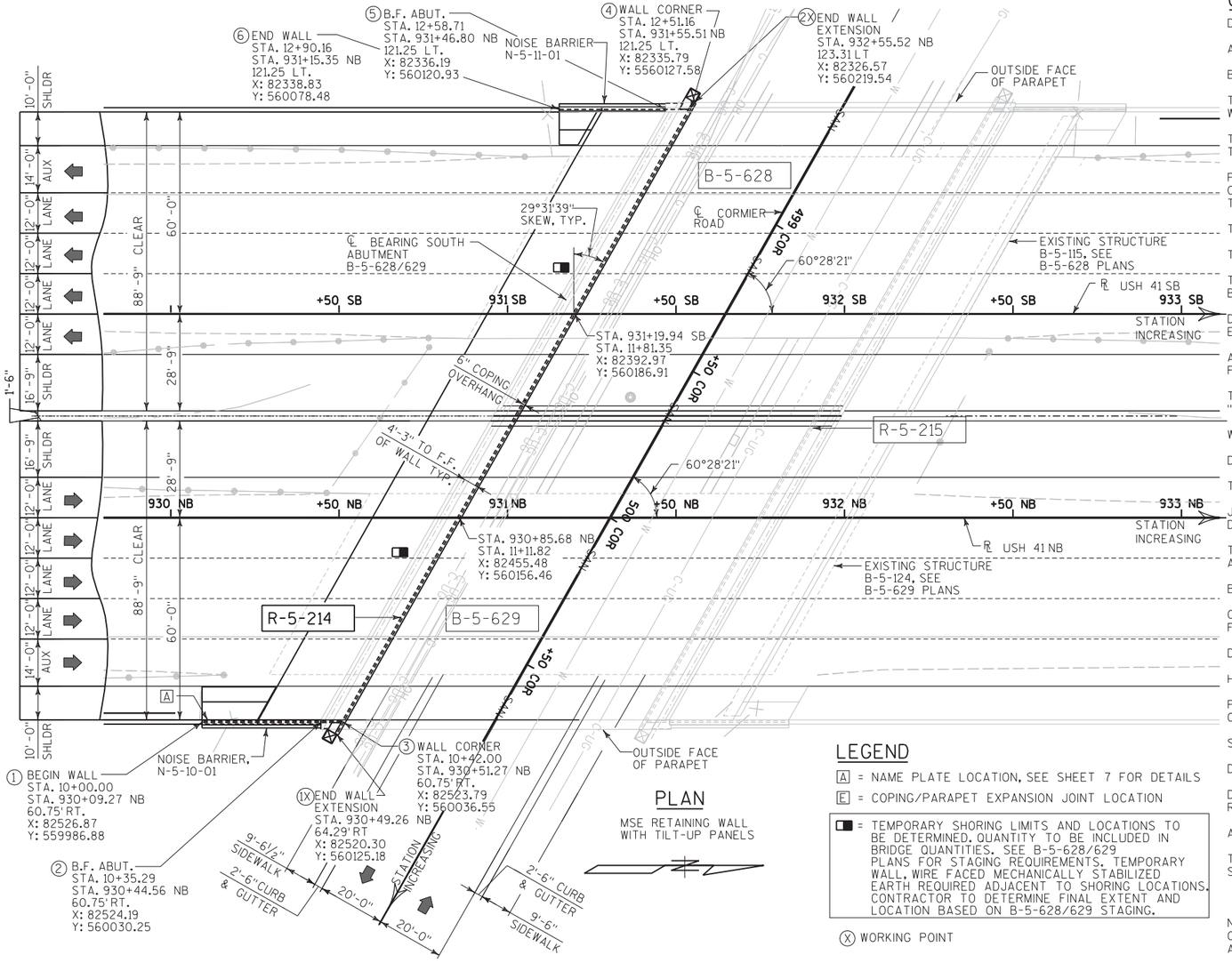
$$...plottingtime...$$

3/28/2013



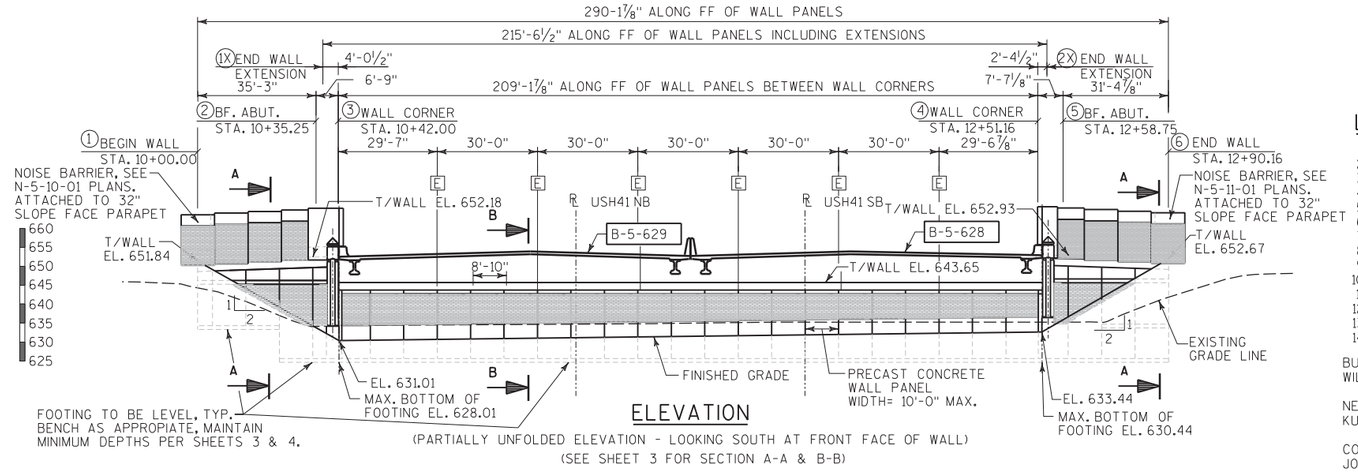
LEGEND

[A] = NAME PLATE LOCATION, SEE SHEET 7 FOR DETAILS

[E] = COPING/PARAPET EXPANSION JOINT LOCATION

■ = TEMPORARY SHORING LIMITS AND LOCATIONS TO BE DETERMINED. QUANTITY TO BE INCLUDED IN BRIDGE QUANTITIES. SEE B-5-628/629 PLANS FOR STAGING REQUIREMENTS. TEMPORARY WALL, WIRE FACED MECHANICALLY STABILIZED EARTH REQUIRED ADJACENT TO SHORING LOCATIONS. CONTRACTOR TO DETERMINE FINAL EXTENT AND LOCATION BASED ON B-5-628/629 STAGING.

(X) WORKING POINT



ELEVATION

(PARTIALLY UNFOLDED ELEVATION - LOOKING SOUTH AT FRONT FACE OF WALL)
(SEE SHEET 3 FOR SECTION A-A & B-B)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN IN THE GEOMETRY TABLE.

THE EXISTING GROUNDLINE IS THE UPPER LIMIT OF EXCAVATION FOR STRUCTURES.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THIS WALL WITH CONSTRUCTION OF THE SOUTH ABUTMENT OF BRIDGES B-5-628 AND B-5-629.

DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

APPLY PROTECTIVE SURFACE TREATMENT TO THE EXPOSED SURFACE OF THE ANCHOR SLAB AND PARAPETS. DO NOT APPLY PROTECTIVE SURFACE TREATMENT TO AREAS INTENDED TO BE STAINED.

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE ANCHOR SLAB, PARAPETS, AND PILASTERS IS INCLUDED IN THE ITEM "CONCRETE MASONRY RETAINING WALLS."

WALL STATIONS ARE GIVEN AT THE FRONT FACE OF THE WALL PANEL, UNLESS SHOWN OTHERWISE.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFY THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M 153, TYPE I, II OR III OR AASHTO DESIGNATION M 213.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

OPTIONAL TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE FOOTING WITH A MINIMUM SPACING OF TWO PANEL JOINTS. FOOTING JOINTS SHOULD BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THRU FOOTING JOINTS.

DO NOT ALLOW CONCRETE OR FILL TO DROP OR ACCUMULATE IN WALL PANEL CAVITY.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

PROVIDE A RUBBED SURFACE FINISH IN ACCORDANCE WITH SECTION 502.3.7.3 TO ALL PERMANENTLY EXPOSED SURFACES OF CONCRETE MASONRY RETAINING WALLS.

SEE SPECIAL PROVISIONS FOR AESTHETIC TREATMENT TO WALL.

DESIGN THE MSE WALL FOR A SUCTION LOAD OF 20 PSF ACTING ON THE PRECAST WALL PANELS.

DESIGN FOR RETAINING WALL TO PROVIDE FOR A FINISHED GRADE SLOPE BEHIND THE WALL AS SHOWN IN THESE PLANS AND THE ROADWAY CROSS SECTIONS.

ALL STATIONS AND OFFSETS ARE REFERENCED TO THE USH 41 NB ALIGNMENT.

THE FOLLOWING DESIGN PRESSURES ARE USED TO DESIGN THE NOISE BARRIERS IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND SHALL BE ACCOUNTED FOR IN THE DESIGN OF THE WALL:
- 32 P.S.F. FOR GROUND MOUNTED BARRIERS
- 42 P.S.F. FOR STRUCTURE MOUNTED BARRIERS

NOISE BARRIERS MOUNTED ON RETAINING WALLS REQUIRE THE COMPLETE ROADWAY PAVEMENT STRUCTURE (OR EQUIVALENT EARTH FILL) OVER THE TOP OF THE ANCHOR SLAB TO RESIST DESIGN WIND PRESSURE. LIMIT ERECTION OF PANELS TO 2/3 THE HEIGHT OF THE ACOUSTIC LINE PRIOR TO PLACEMENT OF PAVEMENT.

FOR UTILITY OWNERSHIP AND CONTACT INFORMATION SEE ROADWAY PLAN.

AT ENDS OF WALL, SEAL CAVITY BETWEEN WIRE FACE AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE, 1'-6" WIDE. INCIDENTAL TO BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANELS". "FINE METALLIC SCREEN" TO HAVE A MAXIMUM ¼" x ¼" MESH AND MIMIMUM 0.025 WIRE DIAMETER. WIRES TO BE HOT DIPPED GALVANIZED AFTER WELDING.

LIST OF DRAWINGS

1. GENERAL PLAN
2. DESIGN DATA & QUANTITIES
3. GEOTECHNICAL DATA
4. WALL DETAILS-1
5. WALL DETAILS-2
6. WALL DETAILS-3
7. ANCHOR SLAB LAYOUT
8. NOISE WALL ANCHORAGE
9. PARAPET & ANCHOR SLAB DETAILS
10. PILASTER DETAILS
11. WEST PILASTER REINFORCEMENT
12. EAST PILASTER REINFORCEMENT
13. AESTHETIC DETAILS-1
14. SUBSURFACE EXPLORATION

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

NE REGION CONTACT:
KURT PETERS (920) 492-2213

CONSULTANT CONTACT:
JOHN RUBLEIN (608) 229-1434

WISCONSIN ★ JOHN F. RUBLEIN E-38700 MADISON WI ★ PROFESSIONAL ENGINEER
3/28/13

STATE PROJECT NUMBER

1133-09-71

NO.	DATE	REVISION	BY

DAAR ENGINEERING, INC.
www.daarcorp.com
Madison, WI 53703
608-249-0140

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher (for) 04/01/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-5-214

SOUTH RETAINING WALL @ USH 41 & CORMIER ROAD

COUNTY	VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STD. SPEC

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JFR	ACT	TRW	JFR

GENERAL PLAN AND ELEVATION

SHEET 1 OF 14

2447

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DATE: 3/28/2013

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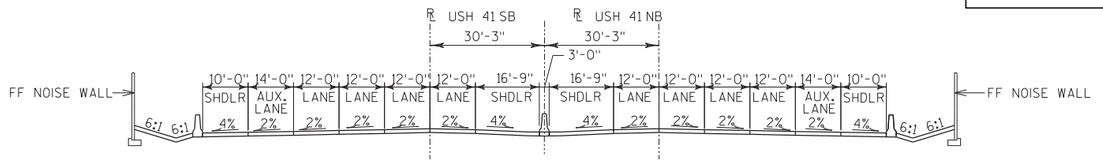
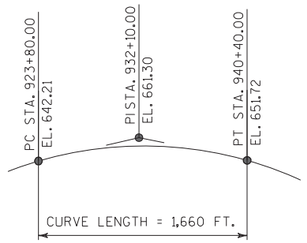
1133-09-71

	TOTAL ESTIMATED QUANTITIES		
ITEM NUMBER	BID - ITEMS	UNIT	QUANTITY
502.3200	PROTECTIVE SURFACE TREATMENT	SY	40
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	61
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	5080
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	4
532.0700.S	WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	3140
532.0750.S	TEMPORARY WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	390
550.1120	PILING STEEL HP 12-INCH X 53 LB.	LF	340
604.0400	SLOPE PAVING CONCRETE	SY	230
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	120
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	250
SPV.0060.701	ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES	EACH	2
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	3440
SPV.0165.501	STAINING CONCRETE	SF	2740
SPV.0165.502	STAINING CONCRETE BRICK	SF	1600
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	3213
	NON BID - ITEMS		
	PREFORMED FILLER	SIZE	3/4" & 1"
	CORK FILLER	SIZE	1"
	EXPANDED POLYSTYRENE	SIZE	1"

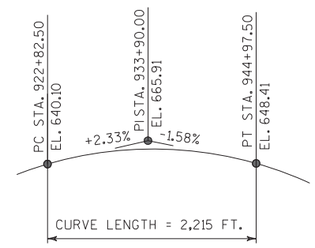
ALL ITEMS ARE CATEGORY 4160.



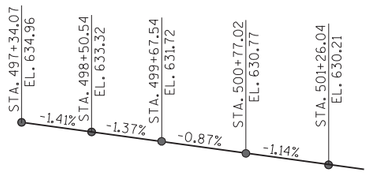
TYPICAL SECTION THRU USH 41



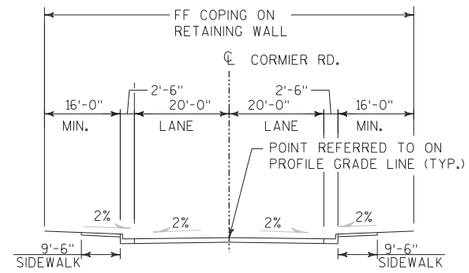
PROFILE GRADE LINE USH 41 NB



PROFILE GRADE LINE USH 41 SB



PROFILE GRADE
LINE CORMIER ROAD



TYPICAL SECTION
THRU CORMIER ROAD

	GEOMETRY TABLE ◪							
WORKING POINT	WALL STATION	USH 41 NB STATION	OFFSET TO F.F. WALL PANEL	TOP OF WALL	FINISHED GRADE	EXISTING GRADE	X	Y
①	10+00.00	930+09.27	60.75' RT	651.84	651.84	646.26	82526.87	559986.88
②	10+35.25	930+44.52	60.75' RT	652.18/643.65	634.30	636.91	82524.19	560030.25
③	10+42.00	930+51.27	60.75' RT	643.65	631.01	634.63	82523.79	560036.55
④	12+51.16	931+54.35	121.25' LT	643.65	633.44	635.77	82335.79	5560127.58
⑤	12+58.75	931+46.76	121.25' LT	643.65/652.93	637.12	638.78	82336.19	560120.93
⑥	12+90.16	931+15.35	121.25' LT	652.67	652.67	648.33	82338.83	560078.48
1X	------	930+49.26	64.29' RT	------	------	------	82520.30	560125.18
2X	------	931+55.52	123.31' LT	------	------	------	82326.57	560219.54

	BENCH MARK		
NO.	STATION	DESCRIPTION	ELEVATION
10	765+65.43 NB 48.33' RT.	CH. SQ. ON WEST SIDE EAST SIGN BASE OF THE ONIEIDA ST-WAUBE LANE 1/2 MILE EXIT 164 AHEAD SIGN 350 FT SOUTH OF GLORY ROAD	599.37

LEGEND

◪ LINEARLY INTERPOLATE ELEVATIONS BETWEEN STATIONS

DESIGN DATA

LIVE LOAD:
LIVE LOAD SURCHARGE (ROADWAY) = 240 PSF
MATERIAL PROPERTIES:
CONCRETE MASONRY RETAINING WALLS f'c = 4,000 PSI
PRECAST CONCRETE WALL PANEL f'c = 4,000 PSI
BAR STEEL REINFORCEMENT fy = 60,000 PSI
STRUCTURAL CARBON STEEL fy = 36,000 PSI
(ASTM A709 GR. 36)

FOUNDATION DATA:
ALLOWABLE SOIL BEARING CAPACITY-MSE (SEE TABLE)

THE WALL HAS BEEN DESIGNED FOR LIVE LOAD SURCHARGES AS NOTED. CONTRACTOR IS RESPONSIBLE FOR EVALUATING WALL FOR ANTICIPATED CONSTRUCTION LIVE LOADS IN EXCESS OF 240 psf.

TRAFFIC DATA USH 41 NB

ADT = 45,700 (2015)
= 59,500 (2035)
RDS = 70 MPH

TRAFFIC DATA USH 41 SB

ADT = 45,900 (2015)
= 59,600 (2035)
RDS = 70 MPH

TRAFFIC DATA CORMIER ROAD

ADT = 11,400 (2015)
= 14,100 (2035)
RDS = 35 MPH

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-214

DRAWN BY TRW | PLANS CK'D. JFR

DESIGN DATA & QUANTITIES

SHEET 2 OF 14
2448

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SCALE = 10:0 " : " / IN.

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SAFETY FACTORS & DIMENSIONS (AT EAST WING WALL)

FACTOR OF SAFETY	
SLIDING (FS>1.5)	1.9
OVERTURNING (FS>2.0)	5.3
GLOBAL STABILITY (FS>1.3)	2.0 [a]
BEARING CAPACITY (FS>2.5)	2.5
ALLOWABLE BEARING CAPACITY (psf)	3,700
MINIMUM EMBEDMENT DEPTH	3.5 FEET [b]
MINIMUM REINFORCEMENT LENGTH	8.0 FEET [c]
REQUIRED MINIMUM RATIO OF LENGTH TO WALL HEIGHT	1.1 [d]

FINAL DESIGN FOR INTERNAL AND EXTERNAL STABILITY IS THE RESPONSIBILITY OF THE WALL DESIGNER AND MAY BE DIFFERENT IN VALUES THAN TABLE.

a. ASSUMES NOISE WALL AT TOP OF MSE WALL IS ANCHOR SLAB SUPPORTED.
b. MSE WALLS WITH WIRE FACING HAVE 3.5 FEET OF EMBEDMENT PER US 41 DESIGN MANUAL.
c. LENGTH OF REINFORCEMENT IS ASSUMED TO BE 8 FOOT MINIMUM PER WISDOT BRIDGE MANUAL.
d. MAXIMUM WALL HEIGHT FROM TOP OF WALL TO BOTTOM OF LEVEL PAD WAS ASSUMED TO BE 19 FEET.

SAFETY FACTORS & DIMENSIONS (AT WEST WING WALL)

FACTOR OF SAFETY	
SLIDING (FS>1.5)	1.6
OVERTURNING (FS>2.0)	3.6
GLOBAL STABILITY (FS>1.3)	2.0 [a]
BEARING CAPACITY (FS>2.5)	3.1
ALLOWABLE BEARING CAPACITY (psf)	4,900
MINIMUM EMBEDMENT DEPTH	3.5 FEET [b]
MINIMUM REINFORCEMENT LENGTH	8.0 FEET [c]
REQUIRED MINIMUM RATIO OF LENGTH TO WALL HEIGHT	0.9 [d]

FINAL DESIGN FOR INTERNAL AND EXTERNAL STABILITY IS THE RESPONSIBILITY OF THE WALL DESIGNER AND MAY BE DIFFERENT IN VALUES THAN TABLE.

a. ASSUMES NOISE WALL AT TOP OF MSE WALL IS ANCHOR SLAB SUPPORTED.
b. MSE WALLS WITH WIRE FACING HAVE 3.5 FEET OF EMBEDMENT PER US 41 DESIGN MANUAL.
c. LENGTH OF REINFORCEMENT IS ASSUMED TO BE 8 FOOT MINIMUM PER WISDOT BRIDGE MANUAL.
d. MAXIMUM WALL HEIGHT FROM TOP OF WALL TO BOTTOM OF LEVEL PAD WAS ASSUMED TO BE 17 FEET.

SAFETY FACTORS & DIMENSIONS (AT ABUTMENT)

FACTOR OF SAFETY	
SLIDING (FS>1.5)	1.6
OVERTURNING (FS>2.0)	5.5
GLOBAL STABILITY (FS>1.3)	1.5
BEARING CAPACITY (FS>2.5)	3.3
ALLOWABLE BEARING CAPACITY (psf)	3,700
MINIMUM EMBEDMENT DEPTH	3.5 FEET [a]
REQUIRED MINIMUM RATIO OF LENGTH TO WALL HEIGHT	1.5 [b]

FINAL DESIGN FOR INTERNAL AND EXTERNAL STABILITY IS THE RESPONSIBILITY OF THE WALL DESIGNER AND MAY BE DIFFERENT IN VALUES THAN TABLE.

a. MSE WALLS WITH WIRE FACING HAVE 3.5 FEET OF EMBEDMENT PER US 41 DESIGN MANUAL.
b. MAXIMUM WALL HEIGHT FROM TOP OF WALL TO BOTTOM OF LEVEL PAD WAS ASSUMED TO BE 14 FEET.

SOIL PARAMETERS TABLE 3A (BORING B572)

			UNDRAINED		DRAINED	
SOIL LAYER	BOTTOM ELEVATION (FEET)	SOIL UNIT WEIGHT (pcf)	COHESION (psf)	FRICTION ANGLE (DEGREES)	COHESION (psf)	FRICTION ANGLE (DEGREES)
EXISTING FILL, LOOSE SILTY SAND	627.5	120	---	28	---	28
EMBANKMENT FILL (WITHIN MSE WALL)	627.5	125	---	30	---	30
MEDIUM STIFF TO STIFF SILTY CLAY	622.0	130	1,500	---	---	28
VERY STIFF TO HARD LEAN CLAY	616.5	135	3,500	---	---	30
VERY STIFF TO HARD SILTY CLAY	586.5	135	4,000	---	---	32
MEDIUM STIFF TO VERY STIFF SILTY CLAY	560.0	130	1,000	---	---	28

SOIL PARAMETERS TABLE 3B (BORING B554)

			UNDRAINED		DRAINED	
SOIL LAYER	BOTTOM ELEVATION (FEET)	SOIL UNIT WEIGHT (pcf)	COHESION (psf)	FRICTION ANGLE (DEGREES)	COHESION (psf)	FRICTION ANGLE (DEGREES)
EXISTING FILL, LOOSE SILTY SAND	637.1	120	---	28	---	28
EMBANKMENT FILL (WITHIN MSE WALL)	629.7	125	---	30	---	30
MEDIUM STIFF TO VERY STIFF LEAN CLAY (FILL)	629.1	130	1,500	---	---	28
VERY STIFF SILTY CLAY	626.1	130	2,500	---	---	30
HARD SILTY CLAY	620.6	135	4,500	---	---	32
VERY DENSE SAND	609.6	130	---	36	---	36
HARD SILTY CLAY	605.6	135	4,500	---	---	32
VERY STIFF TO HARD SILT	577.6	135	---	---	---	32

SOIL PARAMETERS 3C (BORING B571)

			UNDRAINED		DRAINED	
SOIL LAYER	BOTTOM ELEVATION (FEET)	SOIL UNIT WEIGHT (pcf)	COHESION (psf)	FRICTION ANGLE (DEGREES)	COHESION (psf)	FRICTION ANGLE (DEGREES)
EXISTING FILL, LOOSE SILTY SAND (OUTSIDE MSE WALL)	628.5	120	---	28	---	28
EMBANKMENT FILL (WITHIN MSE WALL)	627.5 TO 629.7	120	---	30	---	30
STIFF SILTY CLAY	625.6	130	1,000	---	---	28
STIFF TO VERY STIFF LEAN CLAY	616.6	130	2,500	---	---	30
STIFF TO HARD LAN CLAY	602.1	135	3,500	---	---	32
STIFF LEAN CLAY	597.1	130	1,000	---	---	28
VERY STIFF TO HARD SILTY CLAY	580.1	135	3,000	---	---	32

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-214

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GEOTECHNICAL DATA

SHEET 3 OF 14
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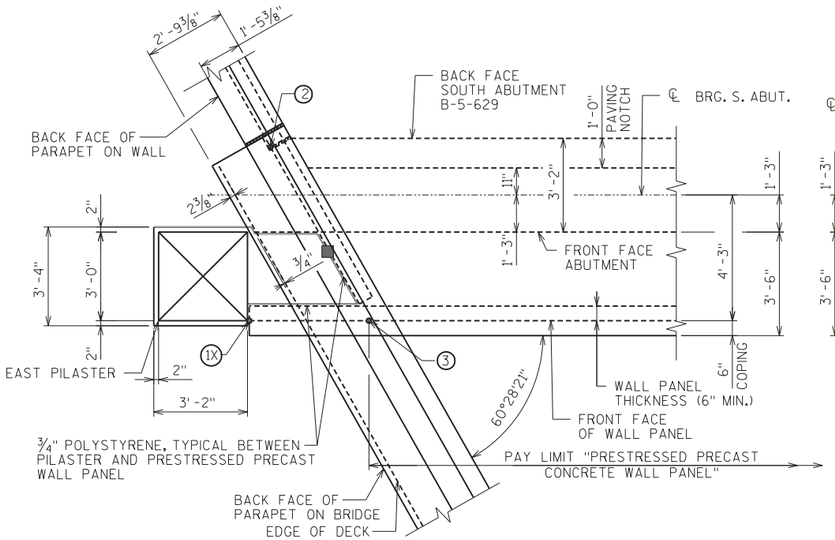
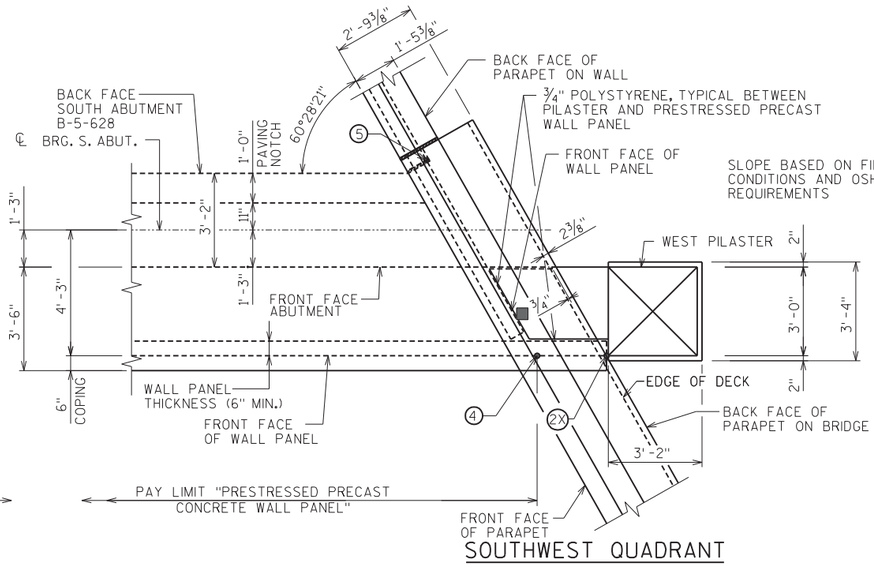
3/28/2013

STATE PROJECT NUMBER

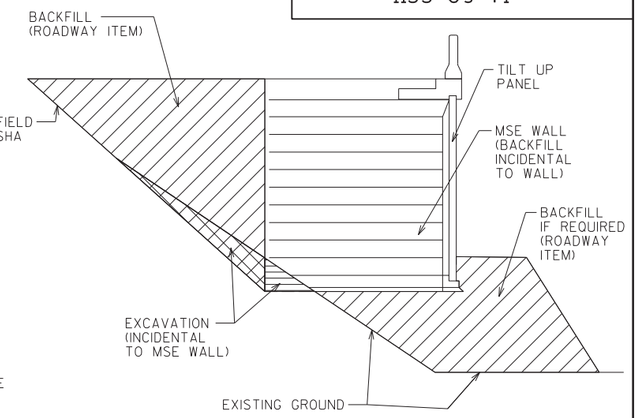
1133-09-71



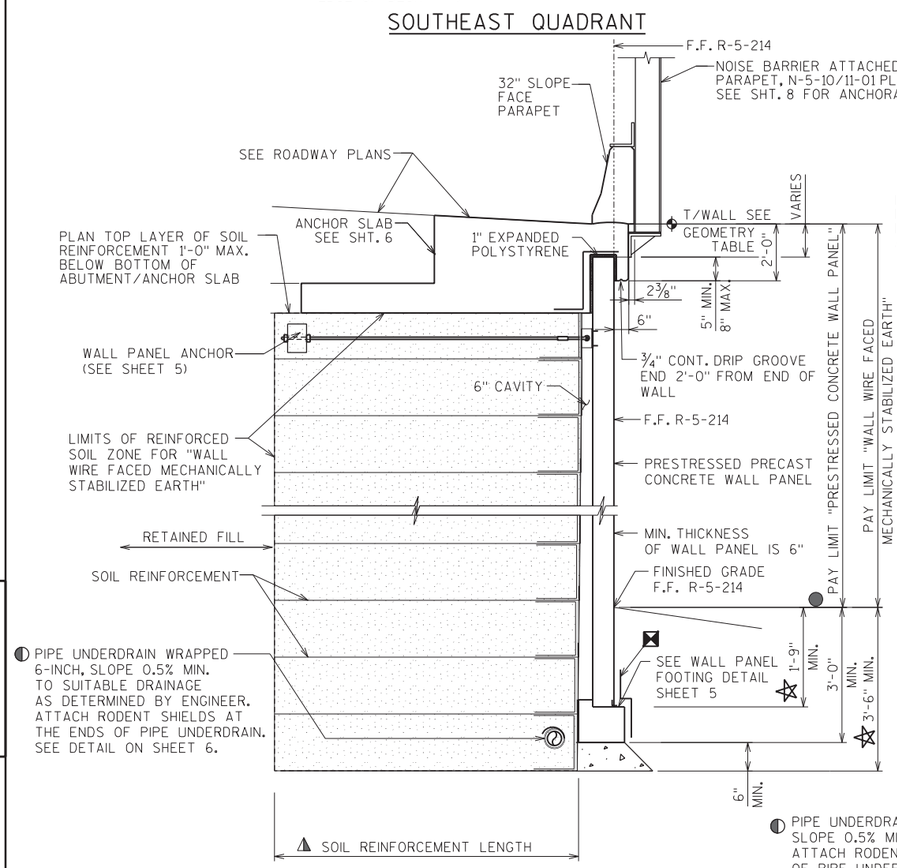
SOUTHEAST QUADRANT



SOUTHWEST QUADRANT

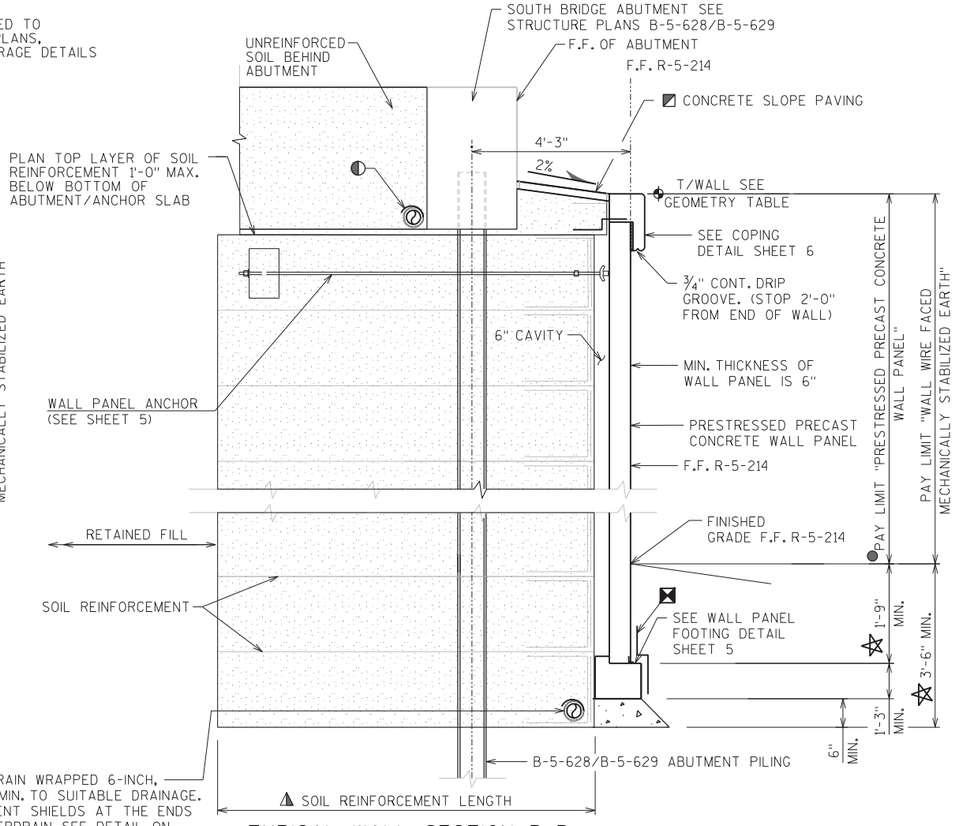


EXCAVATION/BACKFILL DETAIL



TYPICAL WALL SECTION A-A

LOOKING NORTH AT EAST SIDE OF WALL, WEST SIDE MIRROR IMAGE W.P.① TO W.P.② AND W.P.⑤ TO W.P.⑥ SEE B-5-628 AND B-5-629 PLANS FOR APPROACH PANEL COPING DETAILS.



TYPICAL WALL SECTION B-B

LOOKING WEST AT SOUTH ABUTMENT W.P.③ TO W.P.④
INSTALL BRIDGE PILING BEFORE MSE WALL. PLACE REINFORCING MAT AROUND PILING FOR BRIDGE ABUTMENT.

INSTALLATION OF BRIDGE PILING IS NOT A RETAINING WALL BID ITEM.

LEGEND

● THE PLAN QUANTITY FOR THE BID ITEMS "WALL WIRE FACED MECHANICALLY STABILIZED EARTH" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL" ARE BASED ON A WALL HEIGHT MEASURED FROM THE FINISHED GRADE AT THE FRONT FACE OF THE WALL TO THE TOP OF THE WALL AS SHOWN. THE TOP OF THE FOOTING IS ASSUMED TO BE A CONSTANT 1'-9" BELOW FINISHED GRADE. COPING CONCRETE AND COPING REINFORCEMENT ARE TO BE INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

⚠ SEE SHT. 2 FOR SOIL REINFORCEMENT REQUIREMENTS.

☆ MINIMUM EMBEDMENT DEPTHS SHALL BE BASED ON FINISHED GRADE NOTED IN "GEOMETRY TABLE" ON SHEET 2.

■ MINIMUM CLEARANCE FROM PARAPET TO PILASTER.

◪ CONCRETE SLOPE PAVING TO BE A MIN. OF 4" THICK. PLACE CONSTRUCTION JOINTS EVERY 10' MAX. SEE SLOPE PAVING CONSTRUCTION JOINT DETAIL ON SHEET 5.

◐ PROVIDE VERTICAL PIPE UNDERDRAIN UNPERFORATED 6-INCH TO CONNECT R-5-214 WALL UNDERDRAIN TO B-5-628 AND B-5-629 ABUTMENT UNDERDRAIN. LOCATE THE VERTICAL PIPE APROXIMATELY 7 FEET FROM THE SOUTH CORNER OF THE RETAINING WALL. CAP THE UNPERFORATED UNDERDRAIN AT ELEVATION 618.16 FOR CONNECTION TO THE ABUTMENT UNDERDRAIN.

Ⓧ WORKING POINT

▩ GEOTEXTILE FABRIC TYPE DF, 2'-0" WIDE, LENGTH OF FOOTING

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-214

DRAWN BY TRW | PLANS CK'D. JFR

WALL DETAILS-1

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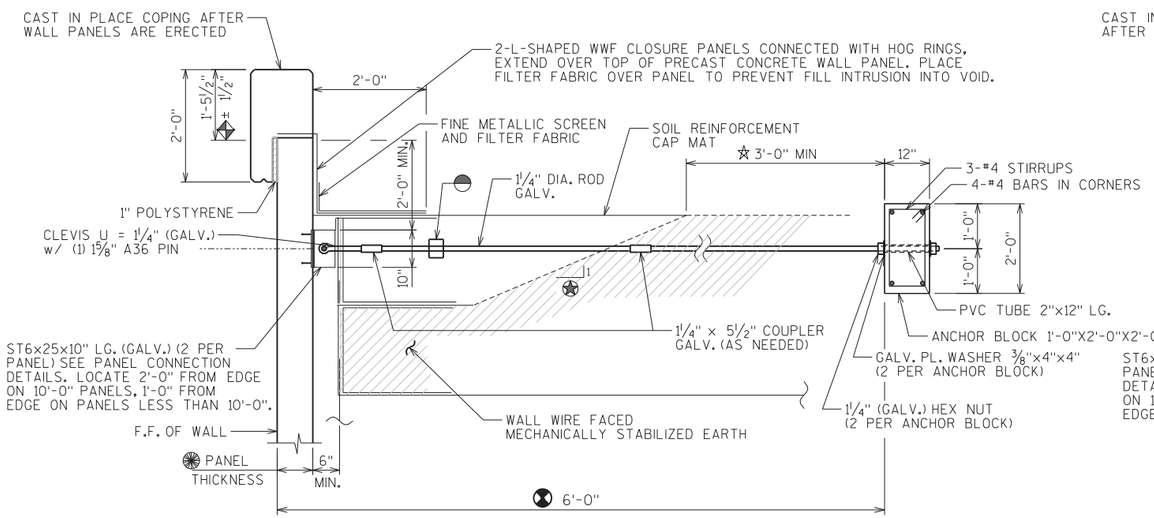
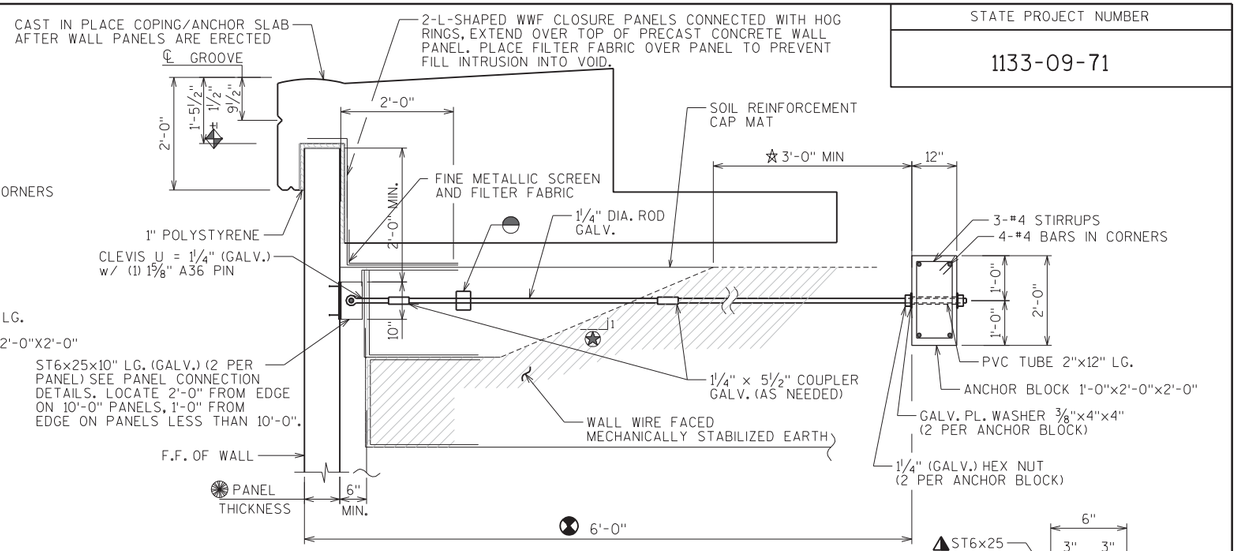
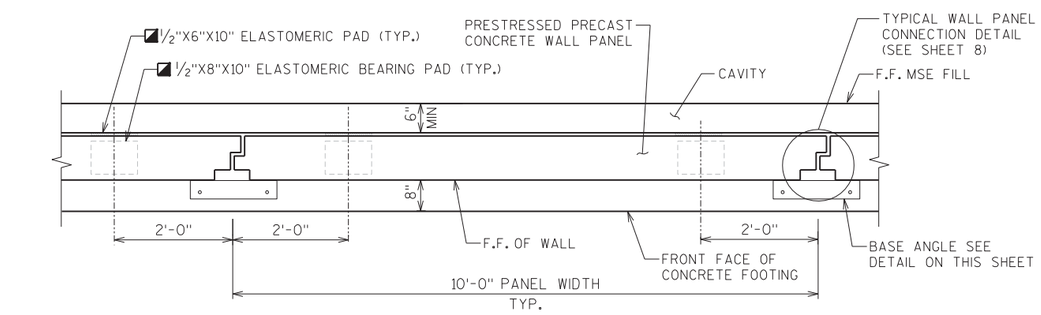


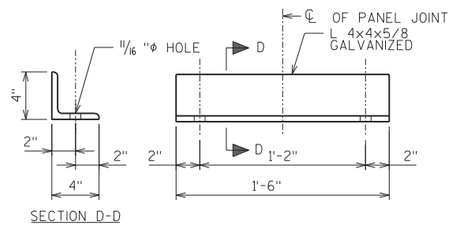
WALL PANEL ANCHOR DETAIL SECTION B-B ▲



WALL PANEL ANCHOR DETAIL SECTION A-A ▲

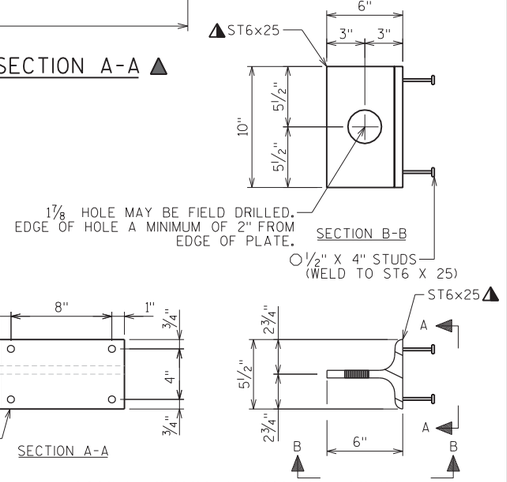


PLAN VIEW WALL PANEL CONNECTION



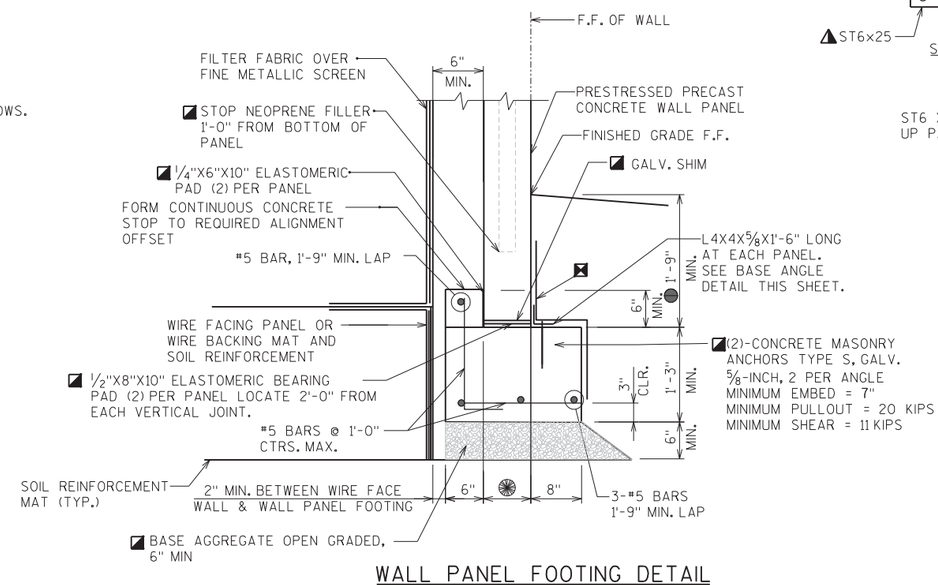
BASE ANGLE DETAIL

(1) AT EACH PANEL JOINT INCLUDED IN BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."



PANEL CONNECTION DETAILS

ST6 X 25 MAY BE WELDED TO ¾" THICK PLATE ANCHORED IN TILT UP PANEL. DETAILS SUBJECT TO APPROVAL BY THE ENGINEER.



WALL PANEL FOOTING DETAIL

(NOTE: FOOTING CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL")

NOTES

AN ALTERNATE WALL PANEL ANCHOR AND PANEL CONNECTION SYSTEM MAY BE SUBMITTED FOR REVIEW BY THE ENGINEER.

TILT UP PANEL ANCHOR SYSTEM MAY BE TRENCHED IN IF THE GEOMETRY OF THE ANCHOR SYSTEM LOCATION ALLOWS.

LEGEND

▲ WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1¼" DIA. ANCHOR ROD, CLEVIS AND OTHER PANEL CONNECTION COMPONENTS. DETAILING, AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL." INSTALLATION OF THESE ITEMS IS INCLUDED IN THE THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH.")

☆ EXCAVATED SLOPE PER OSHA REQUIREMENTS.

✳ = WALL PANEL THICKNESS AS DETERMINED IN ACCORDANCE WITH THE DESIGN REQUIREMENTS DEFINED IN THE SPECIAL PROVISIONS. (6" MINIMUM)

◭ S12X50 (GALV.) CUT IN HALF TO FORM "T" SECTION BF=5.477", TW=0.687.

⊖ OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. (CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼ DIAM. BAR)

★ DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION AND ROD TO BE 2'-0" MIN. BELOW FINISHED GRADE.

○ AS AN ALTERNATE, ½" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.

⊗ LENGTH MAY BE INCREASED TO AVOID OBSTRUCTIONS, SUCH AS ABUTMENT PILING.

⊖ MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE PRECAST PANELS.

◪ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

▣ GEOTEXTILE FABRIC TYPE DF, 2'-0" WIDE, LENGTH OF FOOTING.

✥ MUST BE 1'-4" AT W.P. ②, ③, ④, & ⑤.

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STRUCTURE R-5-214

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WALL DETAILS - 2

SHEET 5 OF 14
2451

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SCALE = 10:0 " / IN.

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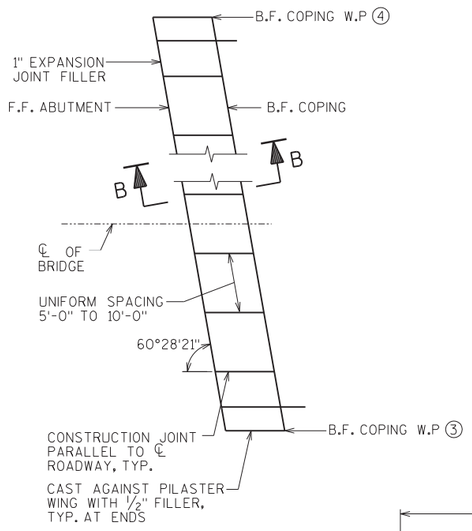
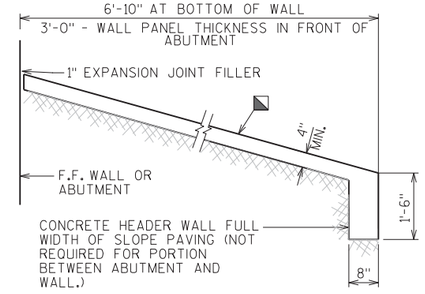
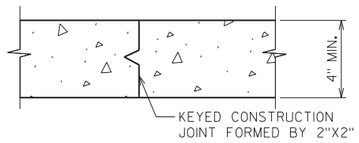


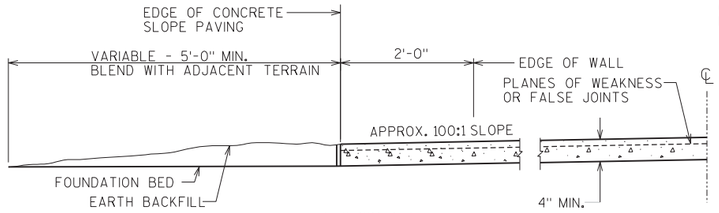
PLAN AT TOP OF WALL



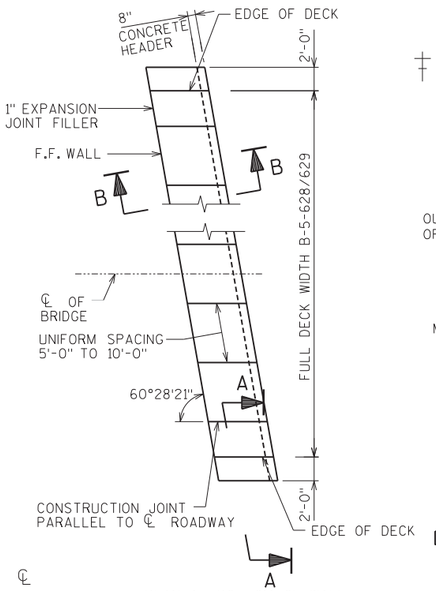
SECTION B-B



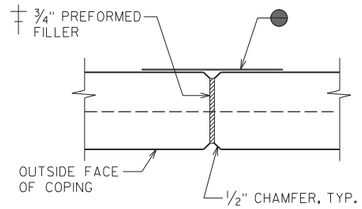
CONSTRUCTION JOINT DETAIL



SECTION A-A

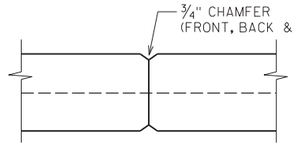


PLAN AT BOTTOM OF WALL

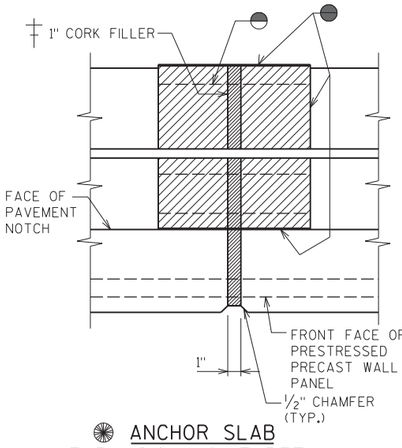


COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.



COPING CONTRACTION JOINT

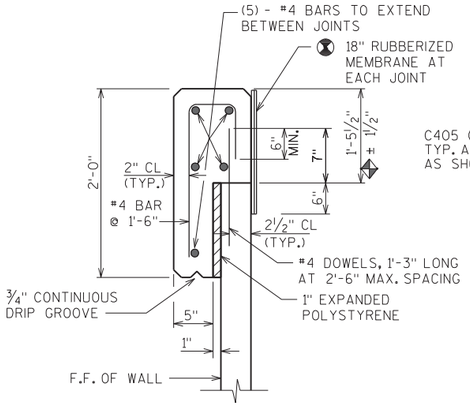


ANCHOR SLAB EXPANSION JOINT DETAIL

SLOPE PAVING CONCRETE DETAILS

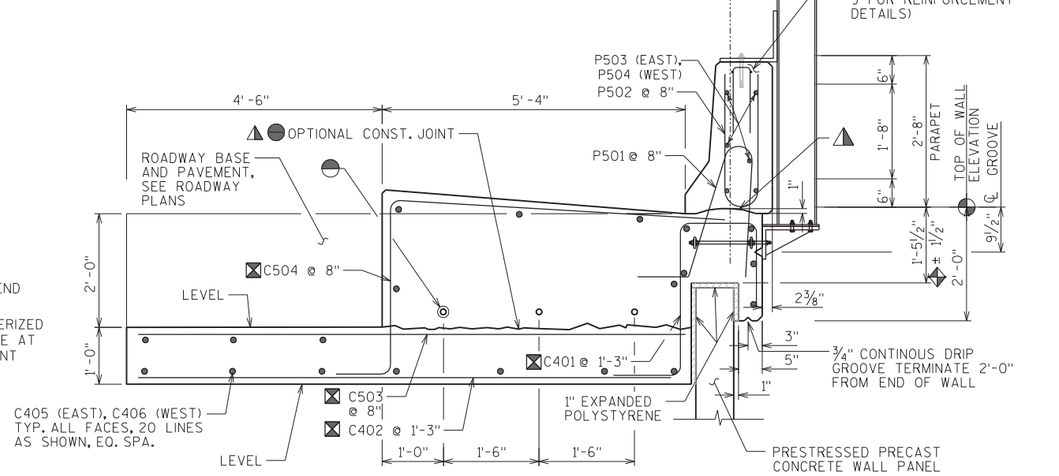
LEGEND & NOTES

- CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. JOINT WITHIN ANCHOR SLAB IS OPTIONAL.
- PLACE (3) -¾"ϕ (SMOOTH) DOWEL BARS, 1'-6" LONG BETWEEN SEGMENTS. EMBED 9", SPACE EQUALLY, 6" MIN. CLR. FROM EDGE, 1'-6" MIN. SPACING. USE APPROVED DEBONDER ON ½ OF BAR LENGTH. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. COST OF ITEMS ARE INCLUDED IN BID ITEM "CONCRETE MASONRY RETAINING WALLS."
- SEE SHEET 8 & 9 FOR AESTHETIC DETAILS.
- SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH STAIN. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)
- EXPANSION JOINTS TO BE SPACED AS SHOWN ON SHEET 1. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT. EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.
- 2% AT TOP OF WALL, SEE ROADWAY PLANS FOR SLOPE AT BOTTOM OF WALL.
- AT WALL COPING AND ABUTMENT INTERFACE, PLACE 18" RUBBERIZED MEMBRANE ON TOP AND ALONG BACK OF COPING.
- LOCATE CONTRACTION JOINTS IN COPING OVER WALL JOINTS. DO NOT RUN BAR STEEL THROUGH JOINT.
- 18" RUBBERIZED MEMBRANE WATERPROOFING (RMW), USE AT FULL WIDTH OF ALL EXPANSION JOINTS.
- PLACE REINFORCEMENT ALONG SKEW AT APPROACH APRON INTERFACE. FAN REINFORCEMENT TO MAINTAIN EQUAL SPACING ACROSS SLAB.
- MUST BE 1'-4" AT W.P. 2, 3, 4, & 5.
- DIMENSIONS ARE APPROXIMATE. GRATE TO BE SIZED TO FIT INTO A PIPE COUPLING. ORIENT RODENT SHIELD SO SLOTS ARE VERTICAL. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN UNPERFORATED 6-INCH." THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL . THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



CAST-IN-PLACE CONCRETE COPING DETAIL

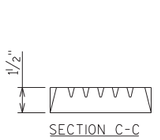
(NOTE: COPING CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL.")



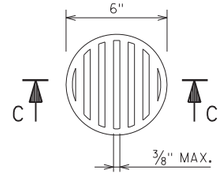
CAST-IN-PLACE CONCRETE TRAFFIC BARRIER DETAIL

LOOKING NORTH AT EAST SIDE OF WALL. WEST SIDE MIRROR IMAGE
(SEE PLAN VIEW SHT. 7 FOR LAYOUT)

SEE SHT. 9 FOR BILL OF BARS



SECTION C-C



RODENT SHIELD

(FOR PIPE UNDERDRAIN)

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WALL DETAILS-3

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2452

SCALE = 2:1 " : " / IN.

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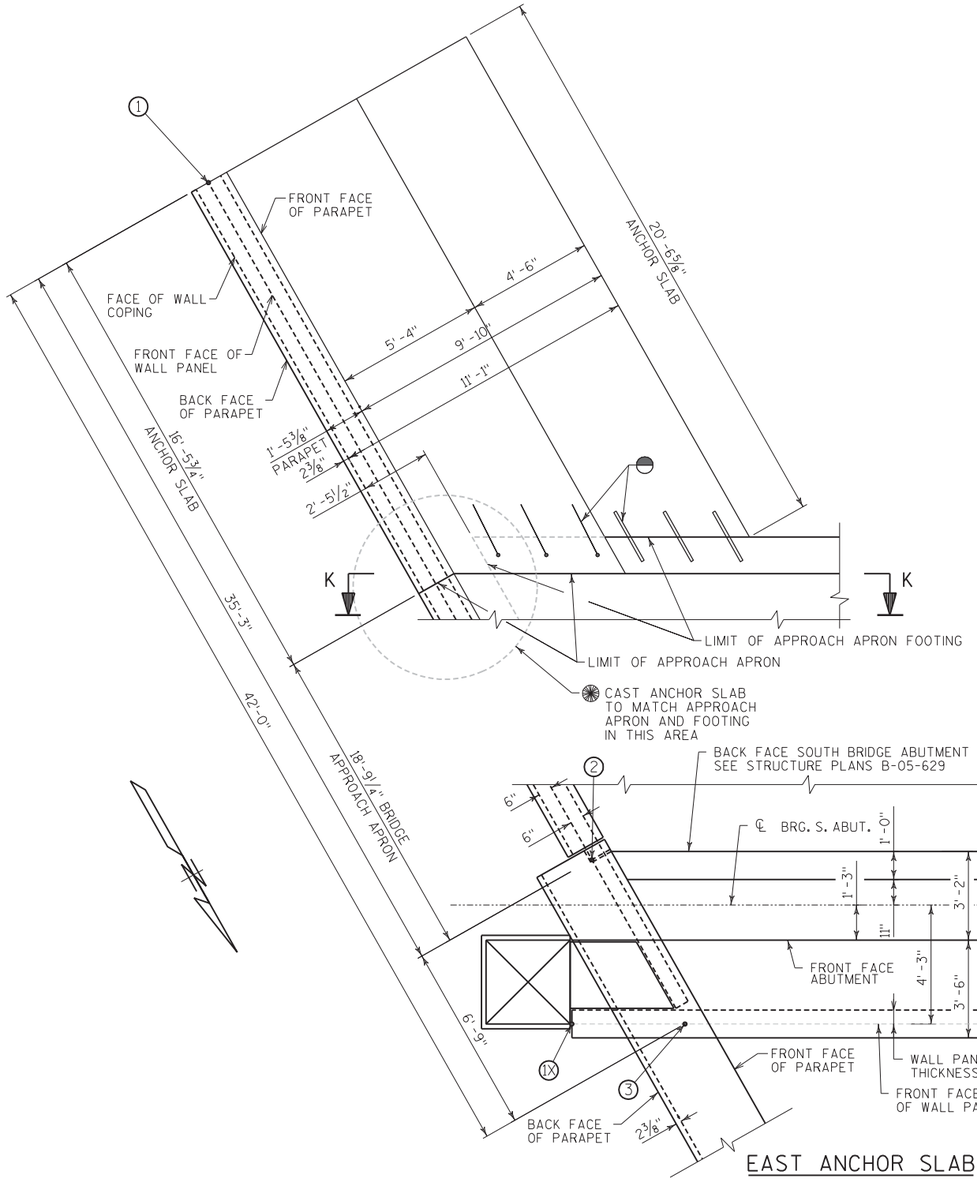
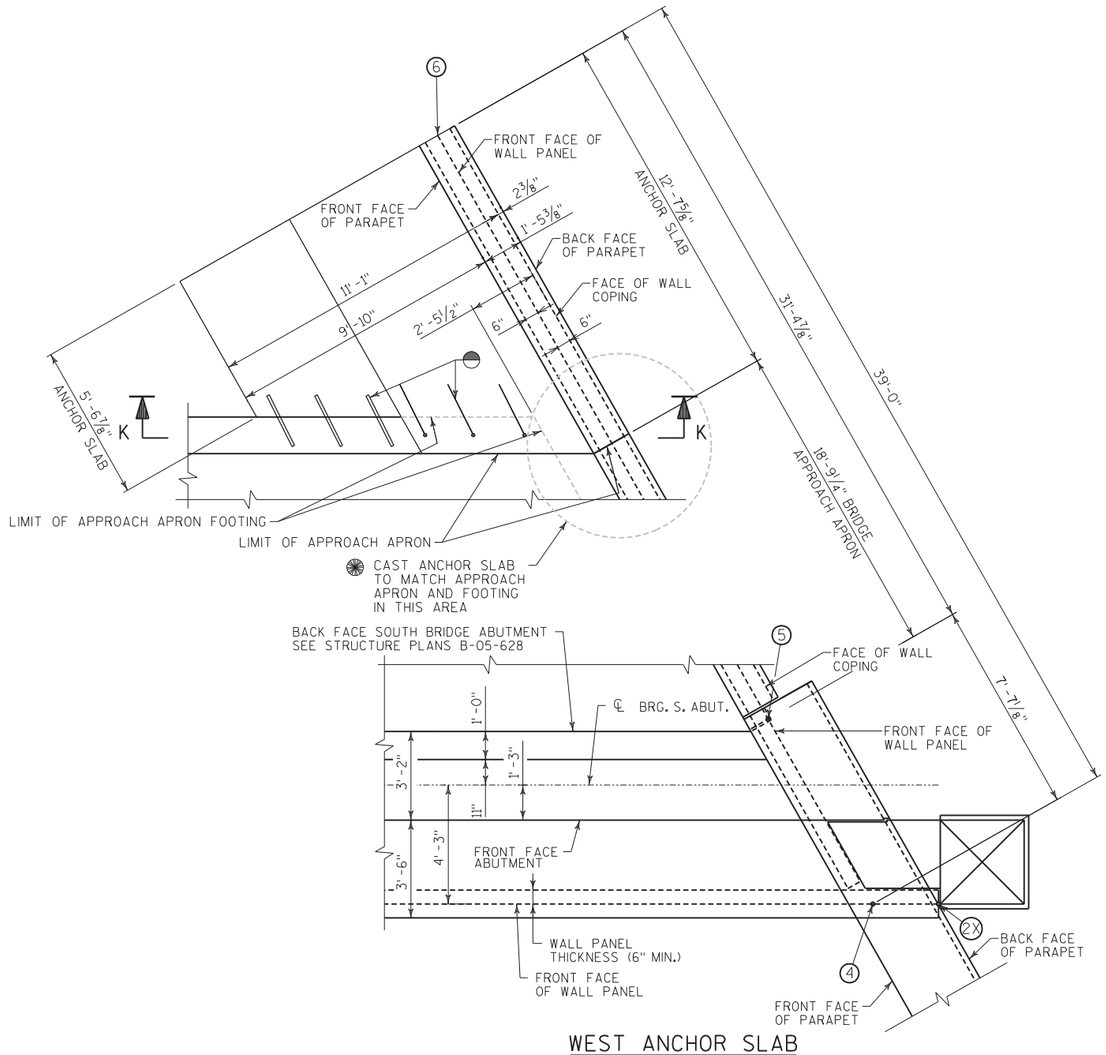
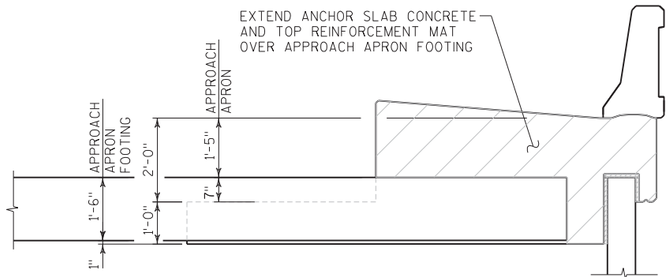


EAST ANCHOR SLAB



WEST ANCHOR SLAB



SECTION K-K

(AT MSE WINGWALLS)

LEGEND

- L-BARS AND DOWELS CONNECTING ANCHOR SLAB TO APPROACH APRON FOOTING INCLUDED IN B-5-628/B-5-629 PLANS.
- EXPANSION JOINTS TO BE SPACED AS SHOWN ON SHEET 1. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT. EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.
- (X) WORKING POINT

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STRUCTURE R-5-214

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ANCHOR SLAB LAYOUT

SHEET 7 OF 14
2453

SCALE = 5:5 " : " / IN.

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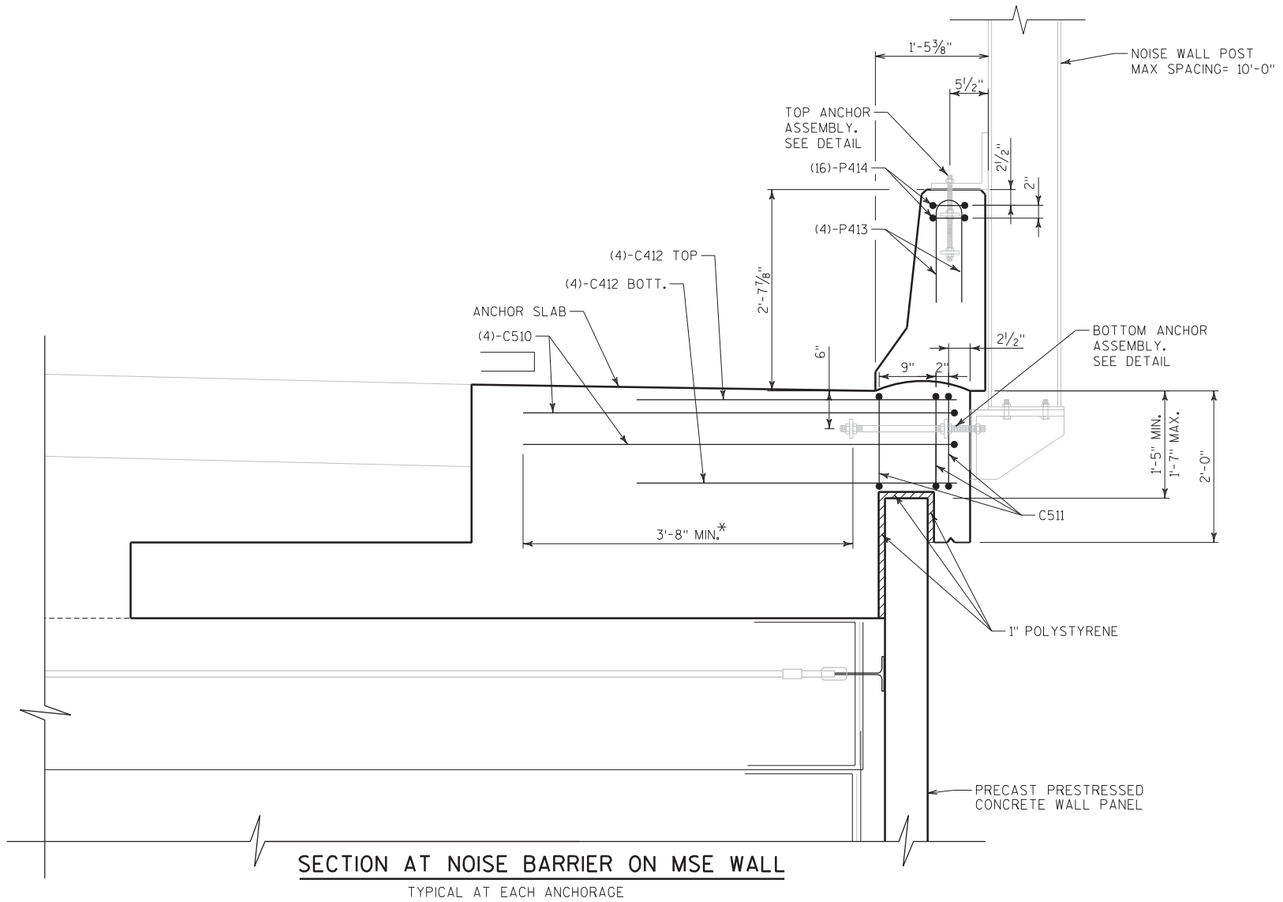
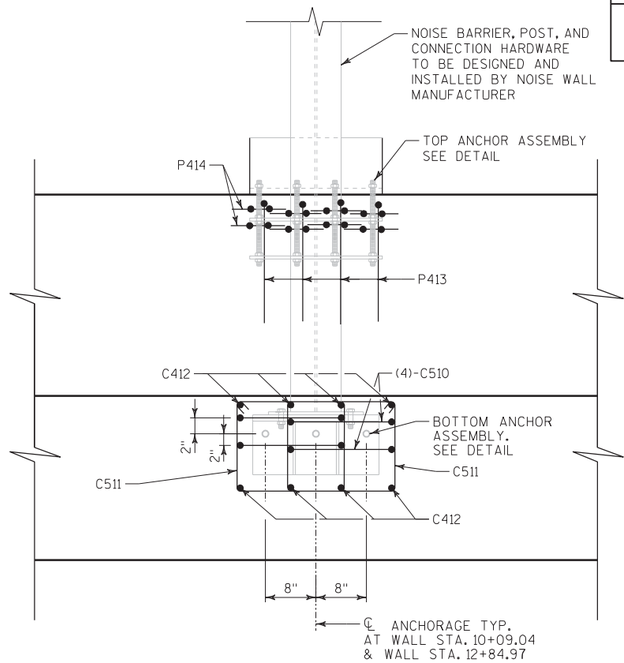


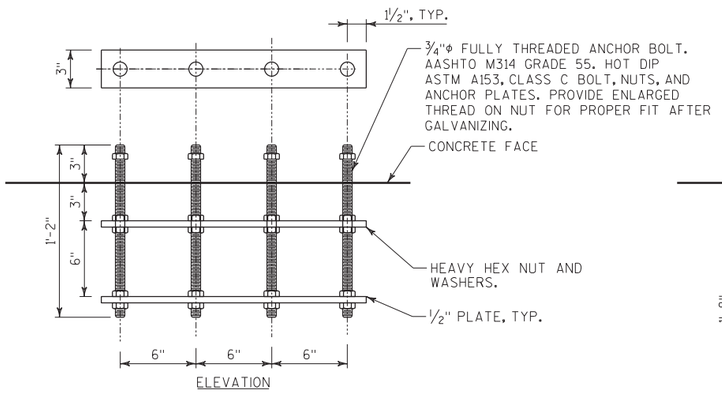
SECTION AT NOISE BARRIER ON MSE WALL

TYPICAL AT EACH ANCHORAGE



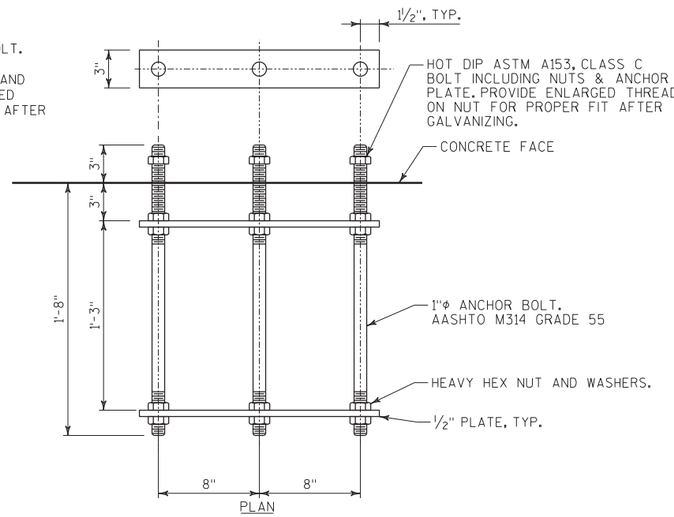
ELEVATION AT NOISE BARRIER POST

TYPICAL AT EACH POST LOCATION



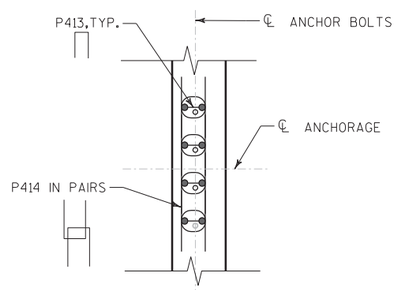
TOP ANCHOR BOLT ASSEMBLY

INCIDENTAL TO BID ITEM SPV.0060.701
"ANCHORAGE NOISE WALL POST".



BOTTOM ANCHOR BOLT ASSEMBLY

INCIDENTAL TO BID ITEM SPV.0060.701
"ANCHORAGE NOISE WALL POST".



TOP VIEW AT PARAPET

NOTES:

NOISE WALL POSTS AND ANCHOR STEEL ARE NOT RETAINING WALL PAY ITEMS SEE N-5-11-01 AND N-5-10-01 PLANS.

DESIGN WIND LOAD = 42 PSF.

BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES, INCLUDES UPPER AND LOWER ANCHPRAGES AT EACH POST LOCATIONS.

SEE SHEET 9 FOR BILL OF REINFORCEMENT.

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STRUCTURE R-5-214

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NOISE WALL ANCHORAGE ON MSE WALL

SHEET 8 OF 14
2454

SCALE = 2:0 " : 1" / IN.

8

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STATE PROJECT NUMBER

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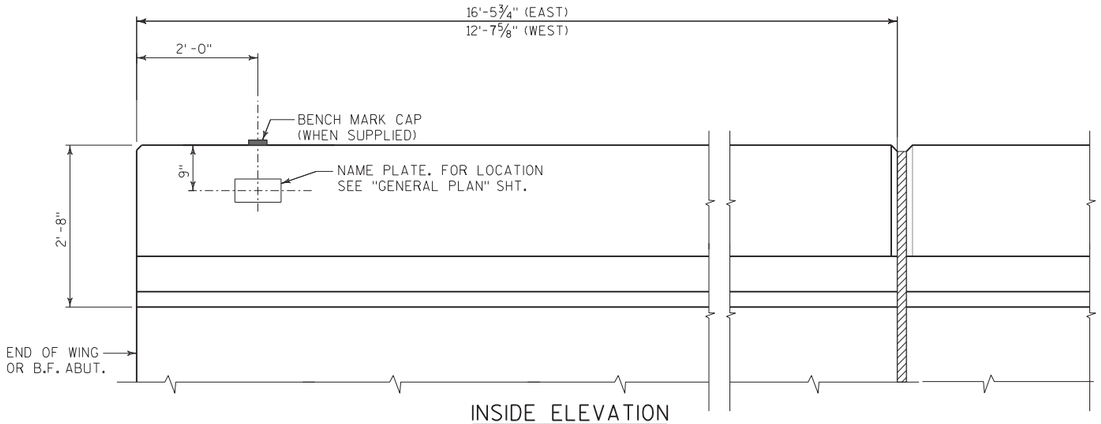
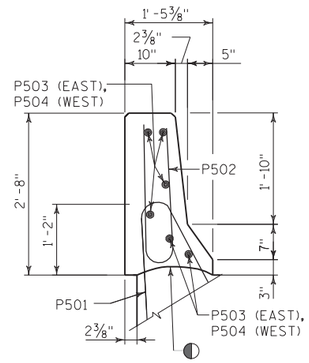
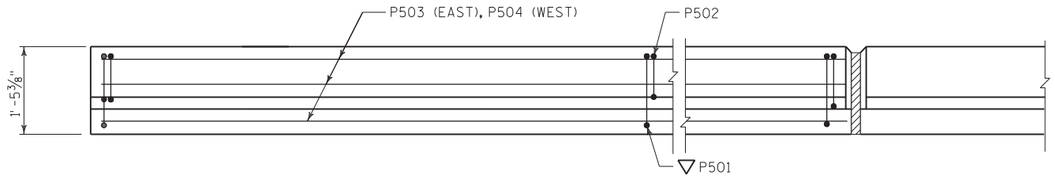


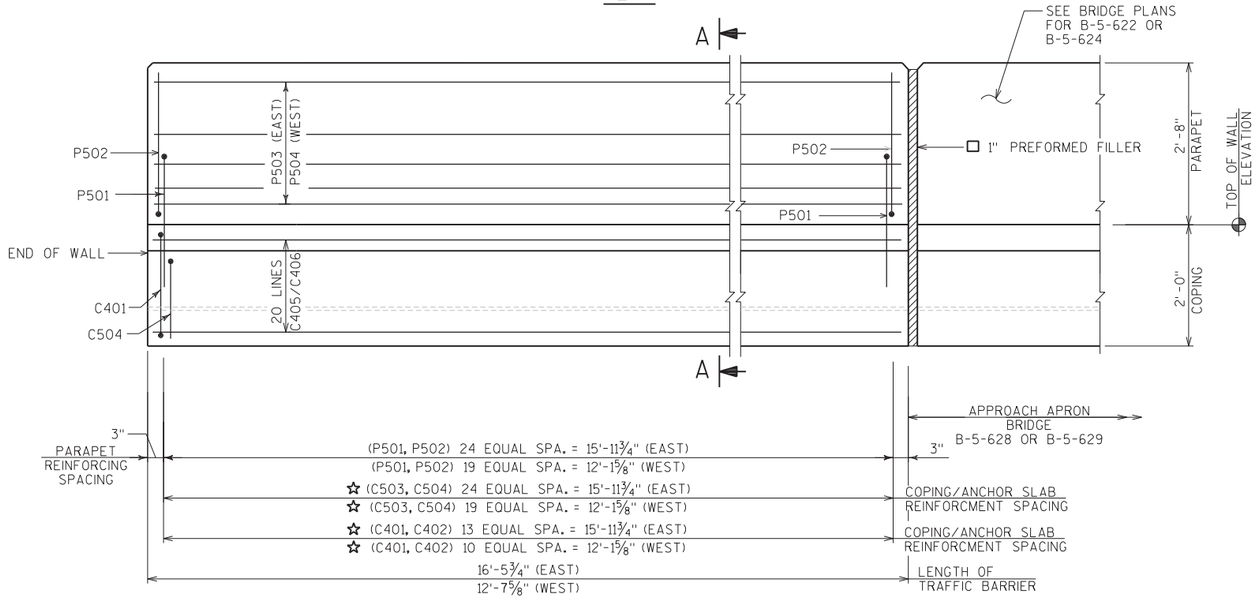
INSIDE ELEVATION



SECTION A



PLAN



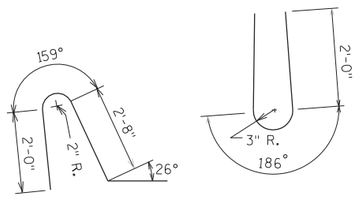
OUTSIDE ELEVATION

BILL OF BARS - PARAPET

BAR MARK	COATED	NO. REQ'D. WEST	NO. REQ'D. EAST	LENGTH	BENT	LOCATION
P501	X	20	25	5'-8"	X	PARAPET VERT.
P502	X	20	25	4'-10"	X	PARAPET VERT.
P503	X	--	6	16'-0"		EAST PARAPET HORIZ.
P504	X	6	--	12'-2"		WEST PARAPET HORIZ.
P413	X	4	4	3'-3"		PARAPET VERT.
P414	X	16	16	1'-8"		PARAPET HORIZ.

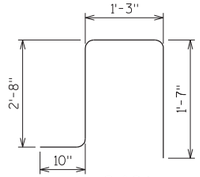
BILL OF BARS - TRAFFIC BARRIER

MARK	COATED	NO. REQ'D. WEST	NO. REQ'D. EAST	LENGTH	BENT	LOCATION
C401	X	11	14	6'-1"	X	COPING TIE-TRANSVERSE
C402	X	11	14	9'-6"		ANCHOR SLAB BOTTOM-TRANSVERSE
C503	X	20	25	9'-7"		ANCHOR SLAB TOP-TRANSVERSE
C504	X	20	25	9'-0"	X	ANCHOR SLAB TOP-TRANSVERSE
C405	X	---	40	12'-2"		EAST ANCHOR SLAB-LONGIT.
C406	X	49	---	5'-2'		WEST ANCHOR SLAB-LONGIT.
C510	X	4	4	9'-0"	X	ANCHOR SLAB-TRANSVERSE
C511	X	6	6	4'-9"	X	ANCHOR SLAB-LONGIT.
C412	X	8	8	5'-1"		ANCHOR SLAB-TRANSVERSE



P501

P502



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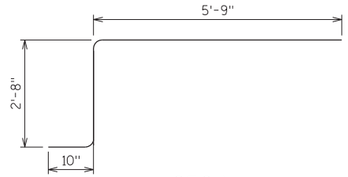

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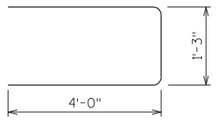

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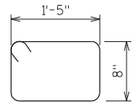

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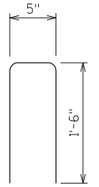
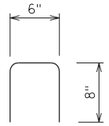


P413



P414

LEGEND

- □ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH CONCRETE STAIN (1" DEEP AND HOLD ⅛" BELOW CONCRETE SURFACE).
- ☆ DIMENSION SHOWN ALONG OUTSIDE OF COPING MAINTAIN EQUAL SPACING ACROSS SLAB.
- ◐ CONSTRUCTION JOINT, STRIKE OFF AND LEAVE ROUGH AS SHOWN.
- ▽ P501 BARS TO BE TIED TO ANCHOR SLAB STEEL PRIOR TO POURING ANCHOR SLAB.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-214

DRAWN BY TRW | PLANS CK'D. JFR

PARAPET & ANCHOR SLAB DETAILS

SHEET 9 OF 14

2455

SCALE = 2:6 " / IN.

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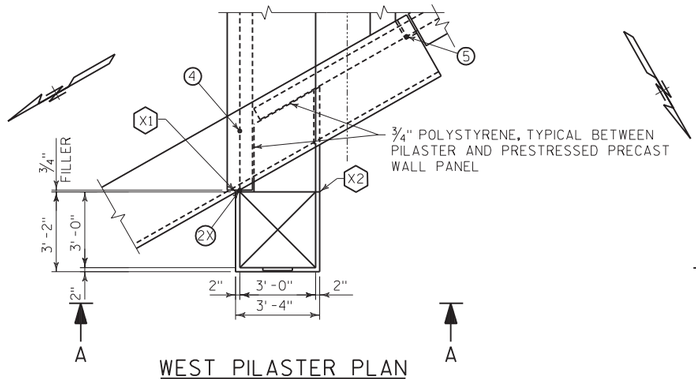
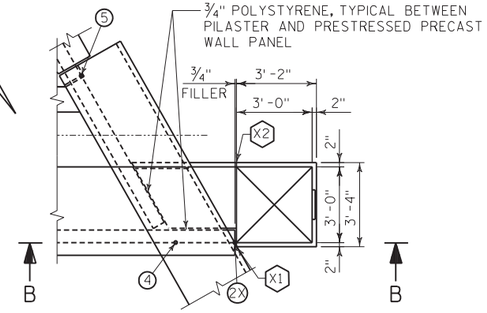
m:\cad\active\ne\1133-09-00 cormier\structures\final\R-05-214\R-05-214_pln-09-PARAPET.dgn

$$...plottingtime...$$

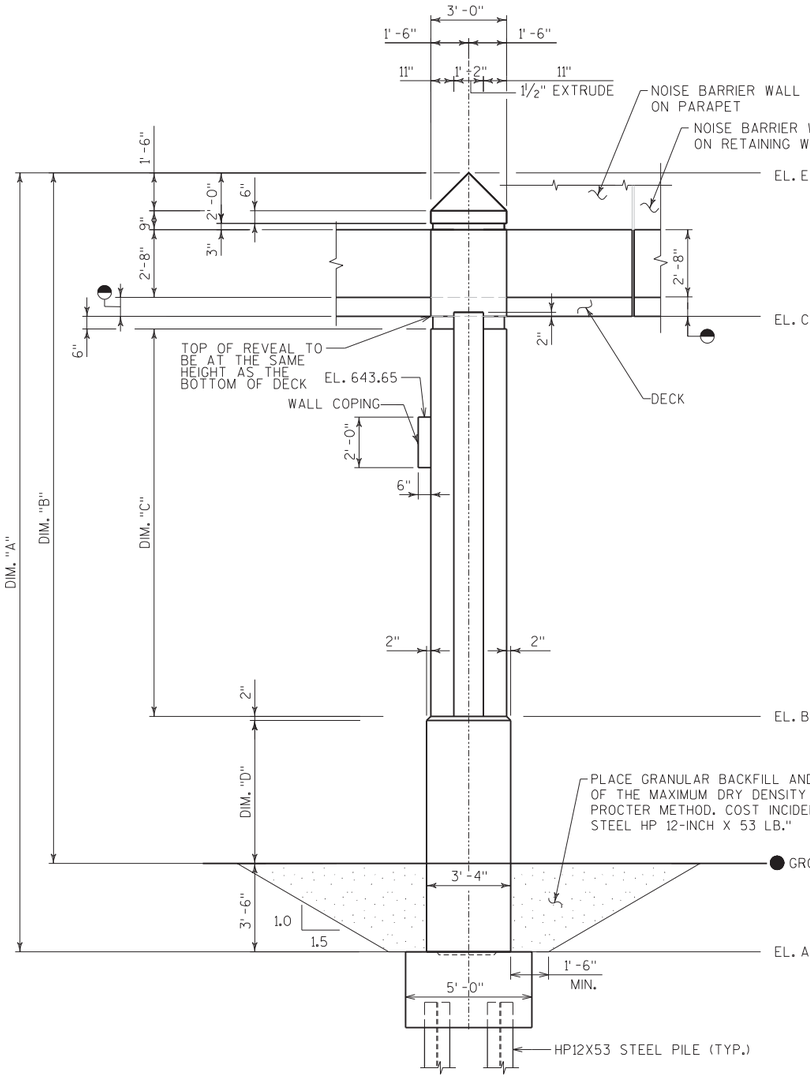
3/28/2013



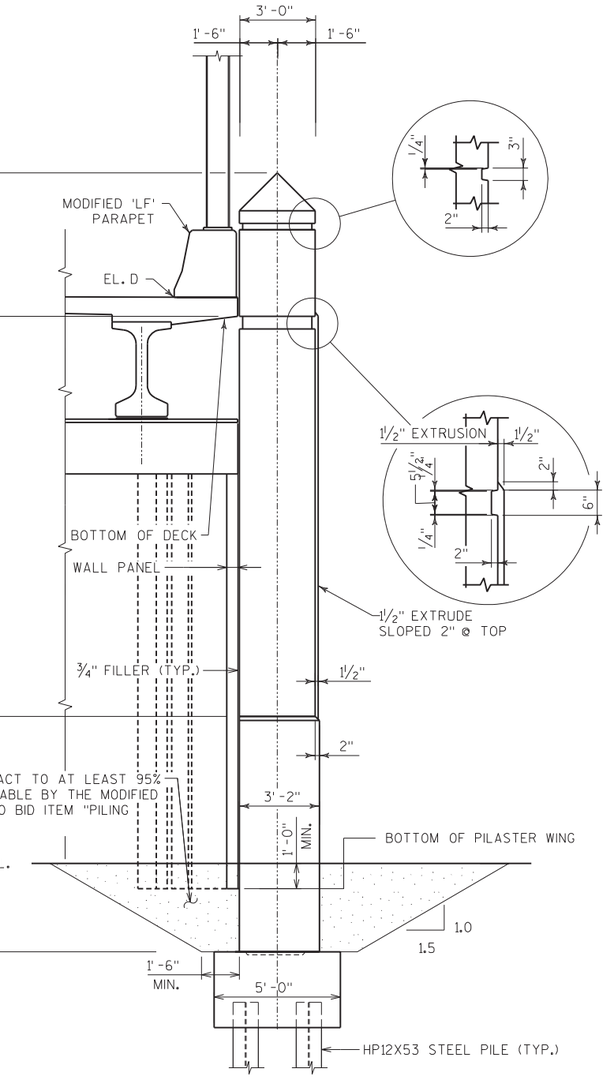
WEST PILASTER PLAN



WEST PILASTER PLAN



✳ ELEVATION A-A



✳ ELEVATION B-B

PILASTER DIMENSIONS

LOCATION	EAST	WEST
DIM. "A"	29'-8¼"	27'-11⅝"
DIM. "B"	26'-2¼"	24'-5⅝"
DIM. "C"	15'-10⅞"	14'-3¼"
DIM. "D"	3'-11"	3'-9⅞""

PILASTER ELEVATIONS

LOCATION	EAST	WEST
EL. A	627.43	629.95
EL. B	635.01	637.44
EL. C	651.41	652.21
■ EL. D	652.20	653.00
EL. E	657.12	657.92
● GROUND EL. @ FACE CLOSEST TO CORMIER RD.	630.93	633.45

PILASTER LOCATIONS

LOCATION		41 NB STA.	OFFSET
EAST	X1	930+46.63	62.84' RT
	X2	930+45.15	65.45' RT
WEST	X3	931+55.54	123.34' LT
	X4	931+57.02	125.95' LT

LEGEND

■ EL. "D" = TOP OF DECK @ FACE OF PARAPET

◓ DISTANCE IS FROM TOP OF DECK AT FACE OF PARAPET TO BOTTOM OF DECK AT OUTSIDE EDGE = 9½".

● GROUND ELEVATION IS FINISHED GRADE.

✳ WEST PILASTER SHOWN, EAST SIMILAR

PILASTER FOUNDATION DATA

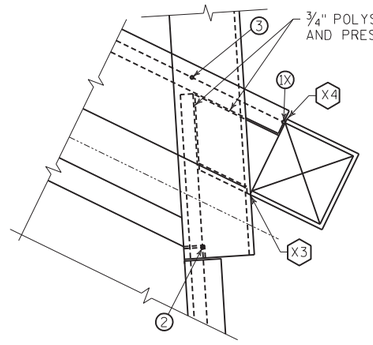
PILASTER TO BE SUPPORTED ON 4-HP12X53 STEEL PILES DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 75 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. THE REQUIRED UPLIFT IS 68 TONS ** PER PILE. ESTIMATED LENGTH = 36 FEET (EAST PILASTER), AND 49 FEET (WEST PILASTER)EXCAVATE TO ELVATION "A" PRIOR TO DRIVING PILE.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY. THE FACTORED AXIAL RESISTANCE OF PILES IN TENSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.25 USING STATIC ANALYSIS-ALPHA METHOD TO DETERMINE DRIVEN PILE CAPACITY.

DESIGN DATA

PILASTER AND FOUNDATION WERE DESIGNED PER AASHTO LRFD 5TH EDITION DESIGN SPECIFICATION.

DESIGN WIND LOAD = 47 PSF



EAST PILASTER PLAN

STATE PROJECT NUMBER

1133-09-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-214

DRAWN BY TRW | PLANS CK'D. JFR

PILASTER DETAILS

SHEET 10 OF 14
2456

SCALE = 6:0 " : " / IN.

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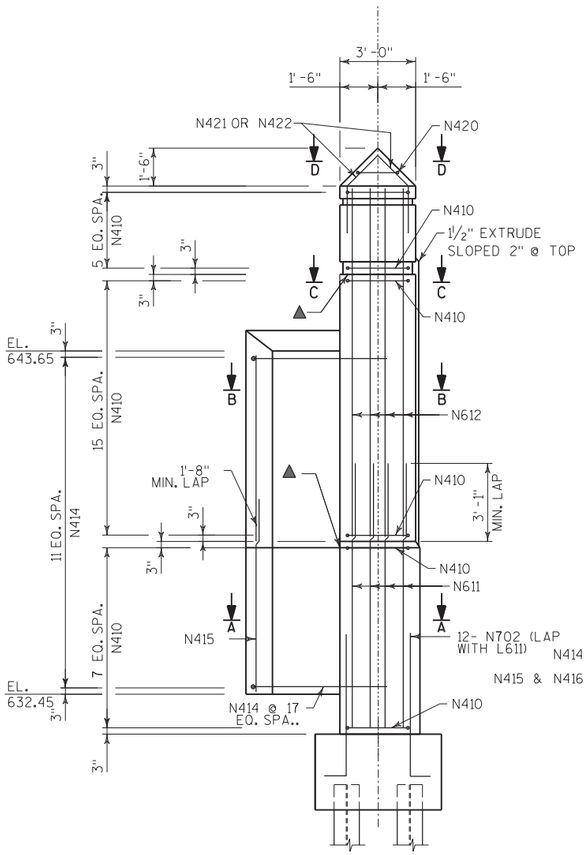
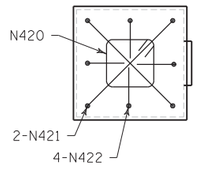
STATE PROJECT NUMBER

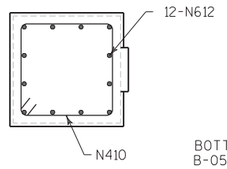
1133-09-71



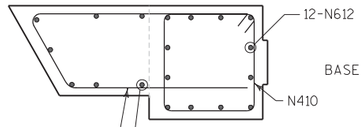
NORTH ELEVATION WITH REINFORCEMENT



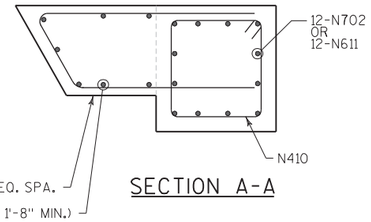
SECTION D-D



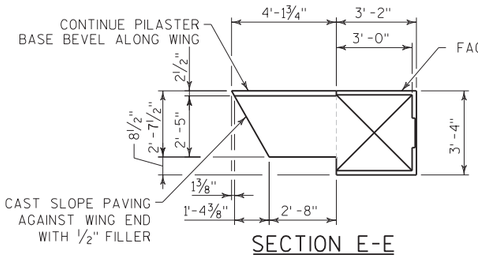
SECTION C-C



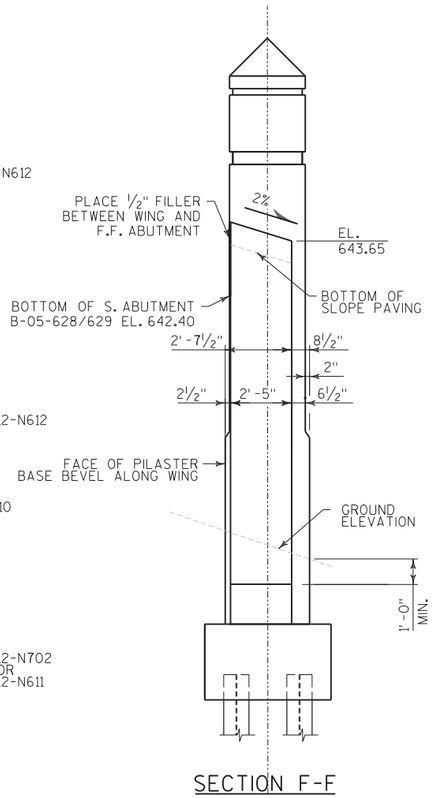
SECTION B-B



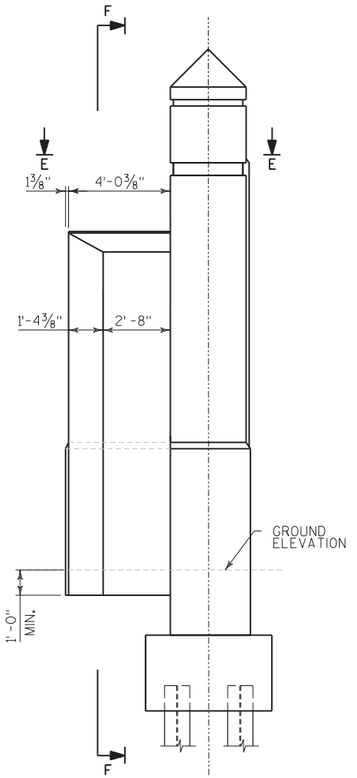
SECTION A-A



SECTION E-E



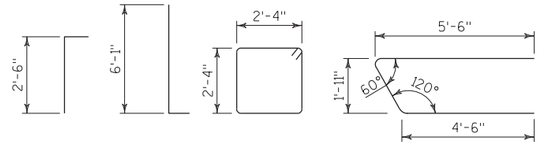
SECTION F-F



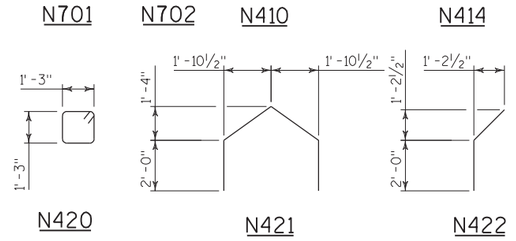
NORTH ELEVATION

BILL OF BARS - PILASTERS					
MARK	COATED	NO. REQ'D.	LENGTH	BENT	LOCATION
N701	X	16	3'-4"	X	BAR WELDED TO PILE
N702	X	24	6'-11"	X	FOOTING VERTICAL DOWELS
N503	X	40	4'-8"		FOOTING BOTTOM BARS
N410	X	62	9'-9"	X	COLUMN - STIRRUPS
N611	X	24	10'-6"		COLUMN - VERT.
N612	X	12	19'-0"		COLUMN - VERT. - (WEST)
N613	X	12	20'-9"		COLUMN - VERT. - (EAST)
N414	X	26	12'-1"	X	COLUMN @ WALL PANELS - HORIZ.
N415	X	14	8'-8"		COLUMN @ LOWER WALL PANELS - VERT.
N416	X	14	6'-0"		COLUMN @ WALL PANELS - VERT.
N420	X	2	5'-5'	X	PILASTER CAP - HORIZ.
N421	X	4	8'-5"	X	PILASTER CAP - VERT.
N422	X	8	3'-8"	X	COLUMN @ UPPER WALL PANELS - VERT.

NOTE: QUANTITIES IN BILL OF BARS ARE FOR BOTH PILASTERS



N701 N702 N410 N414



N420 N421 N422

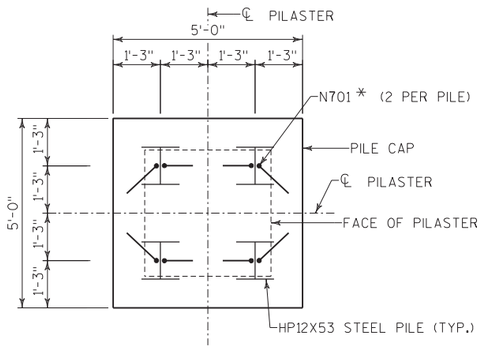
LEGEND & NOTES

* REINFORCEMENT WELDED TO PILE SHALL CONFORM TO ASTM A706.

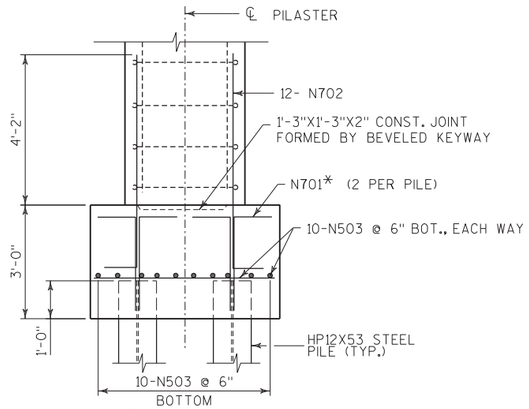
SEE AESTHETIC DETAIL SHEETS FOR AESTHETIC INFORMATION

▲ OPTIONAL CONSTRUCTION JOINT FORMED BY 1'-6" x 1'-6" x 2" BEVELED KEYWAY.

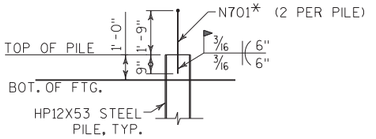
THE PILASTER CAP MAY BE PRECAST. DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.



PILE CAP PLAN



PILE CAP ELEVATION



PILE HEAD DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-214

DRAWN BY TRW | PLANS CK'D. JFR

WEST PILASTER

SHEET 11 OF 14
2457

SCALE = 6:0 " :" / IN.

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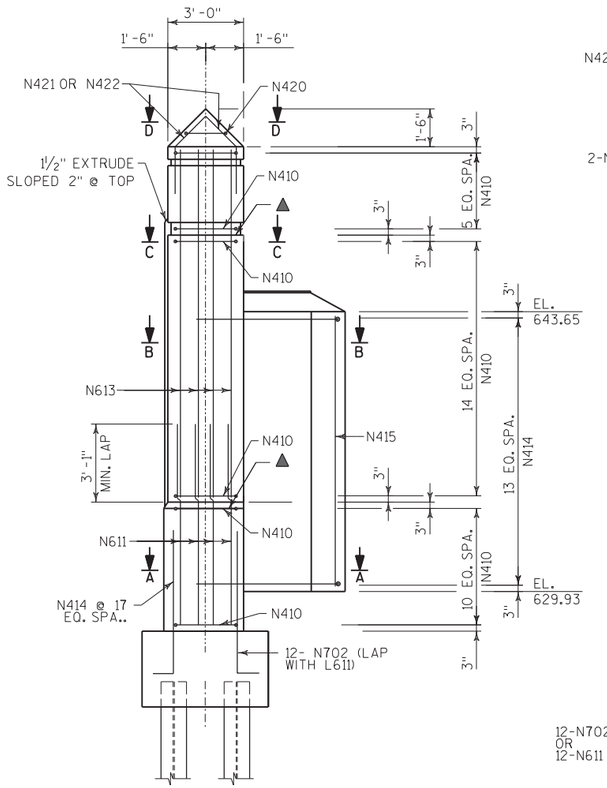
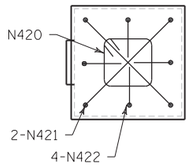
STATE PROJECT NUMBER

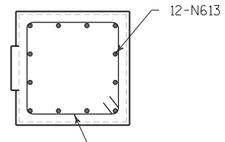
1133-09-71



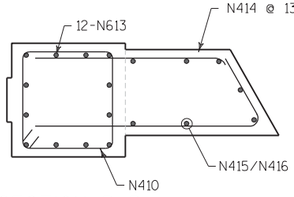
NORTH ELEVATION WITH REINFORCEMENT



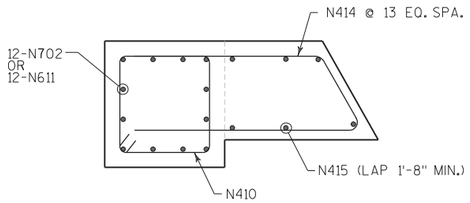
SECTION D-D



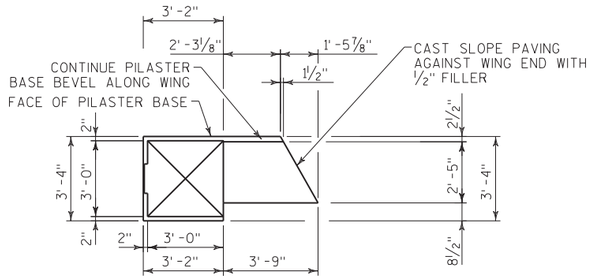
SECTION C-C



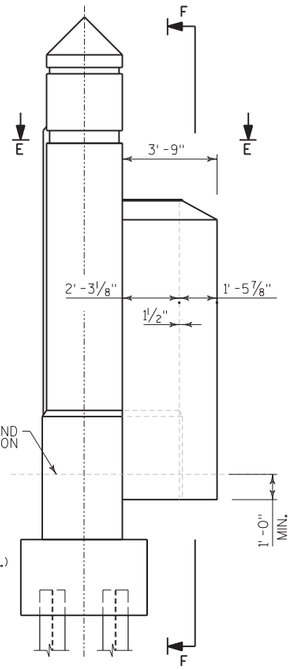
SECTION B-B



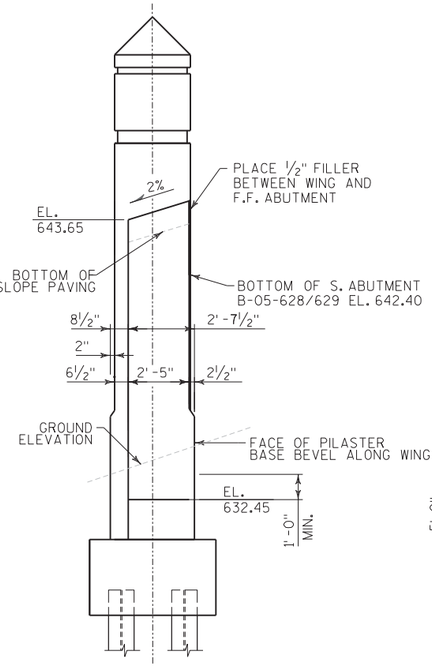
SECTION A-A



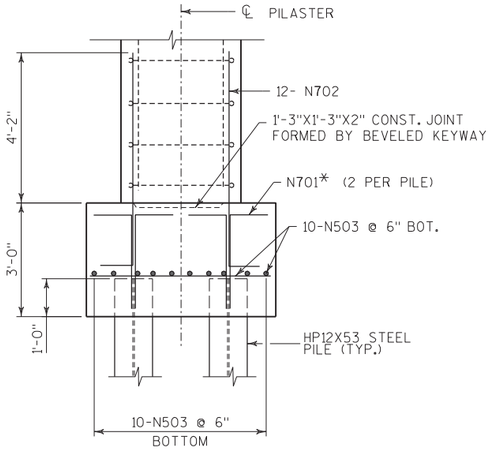
SECTION E-E



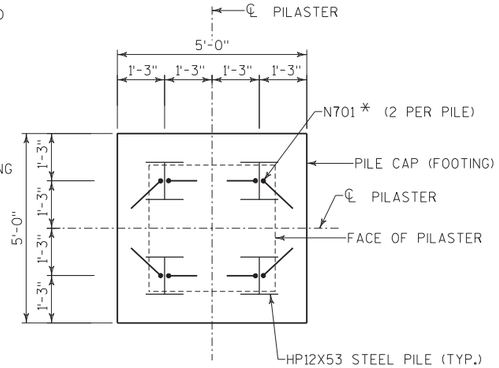
NORTH ELEVATION



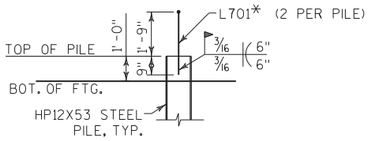
SECTION F-F



PILE CAP ELEVATION



PILE CAP PLAN



PILE HEAD DETAIL

LEGEND & NOTES

* REINFORCEMENT WELDED TO PILE SHALL CONFORM TO ASTM A706.
SEE AESTHETIC DETAIL SHEETS FOR AESTHETIC INFORMATION

▲ OPTIONAL CONSTRUCTION JOINT FORMED BY 1'-6" x 1'-6" x 2" BEVELED KEYWAY.
THE PILASTER CAP MAY BE PRECAST. DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
SEE SHT. 11 FOR BILL OF REINFORCEMENT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-214

DRAWN BY TRW | PLANS CK'D. JFR

EAST PILASTER

SHEET 12 OF 14
2458

SCALE = 6:0 " . " / IN.

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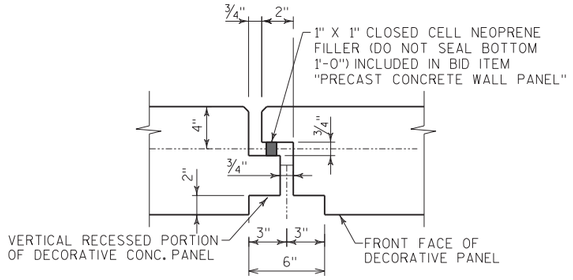
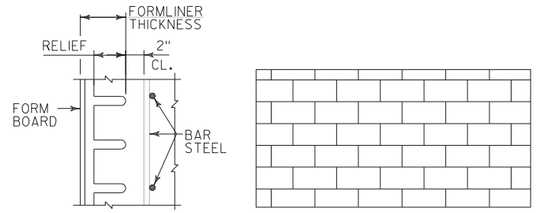
STATE PROJECT NUMBER

1133-09-71



SECTION A-A

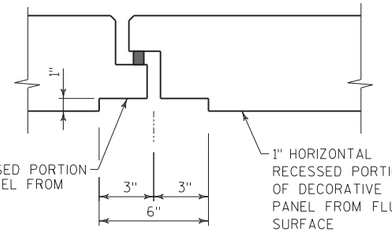
CHAMFER REVEALS 1/16" PER INCH OF DEPTH



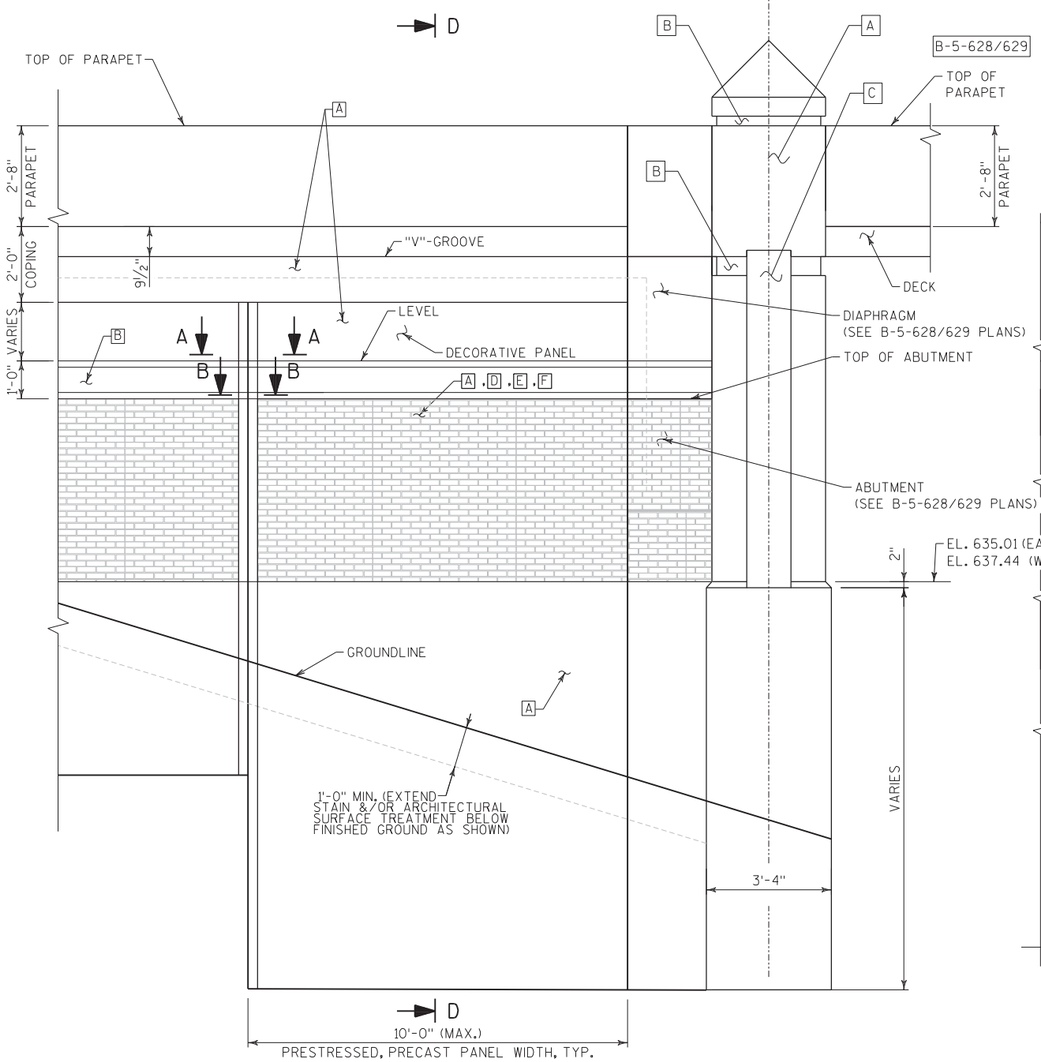
SECTION THRU FORMLINER

ARCHITECTURAL SURFACE TREATMENT
RECTANGULAR BRICK

SIZE = 2 1/4" TO 2 3/8" x 7 5/8" TO 8"
MAX. RELIEF = 1/2"

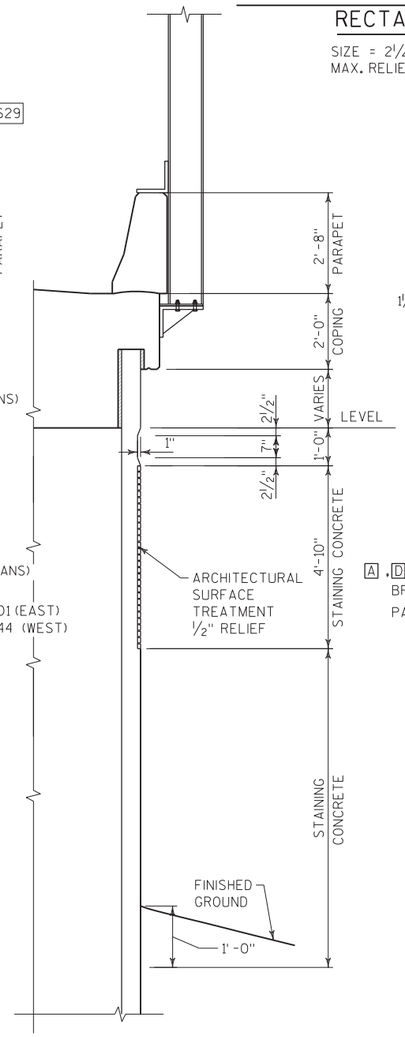


SECTION B-B

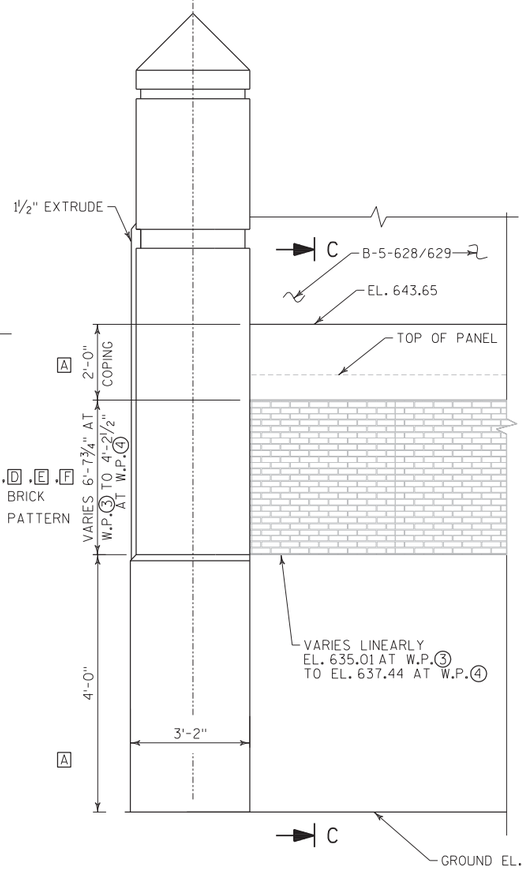


PARTIAL ELEVATION R-5-214

(LOOKING WEST AT EAST SIDE OF WALL, WEST SIDE MIRROR IMAGE)

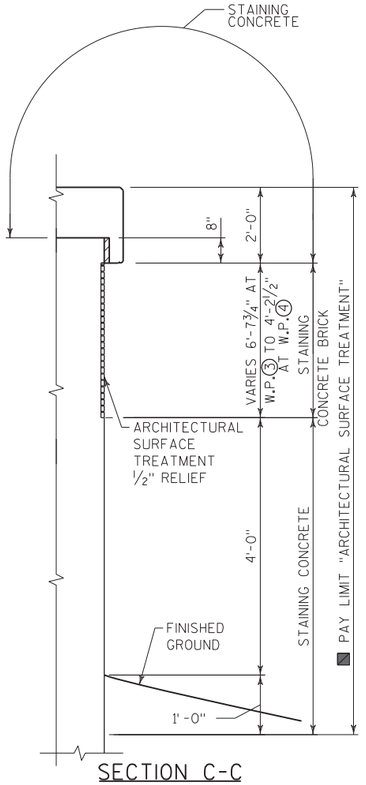


SECTION D-D



PARTIAL ELEVATION R-5-214

(LOOKING SOUTH AT EAST END OF WALL, WEST END MIRROR IMAGE)



SECTION C-C

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS, PILASTERS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	NOT USED

LEGEND

▩ PAY LIMIT FOR "ARCHITECTURAL SURFACE TREATMENT" FOR THE WALL PANELS IS FROM TOP OF WALL TO 1'-0" BELOW GRADE. SEE SPECIAL PROVISIONS AND FORMLINER DETAILS THIS SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-214

DRAWN BY TRW | PLANS CK'D. JFR

AESTHETIC DETAILS-1

SHEET 13 OF 14
2459

SCALE = 4:0 ' :" / IN.

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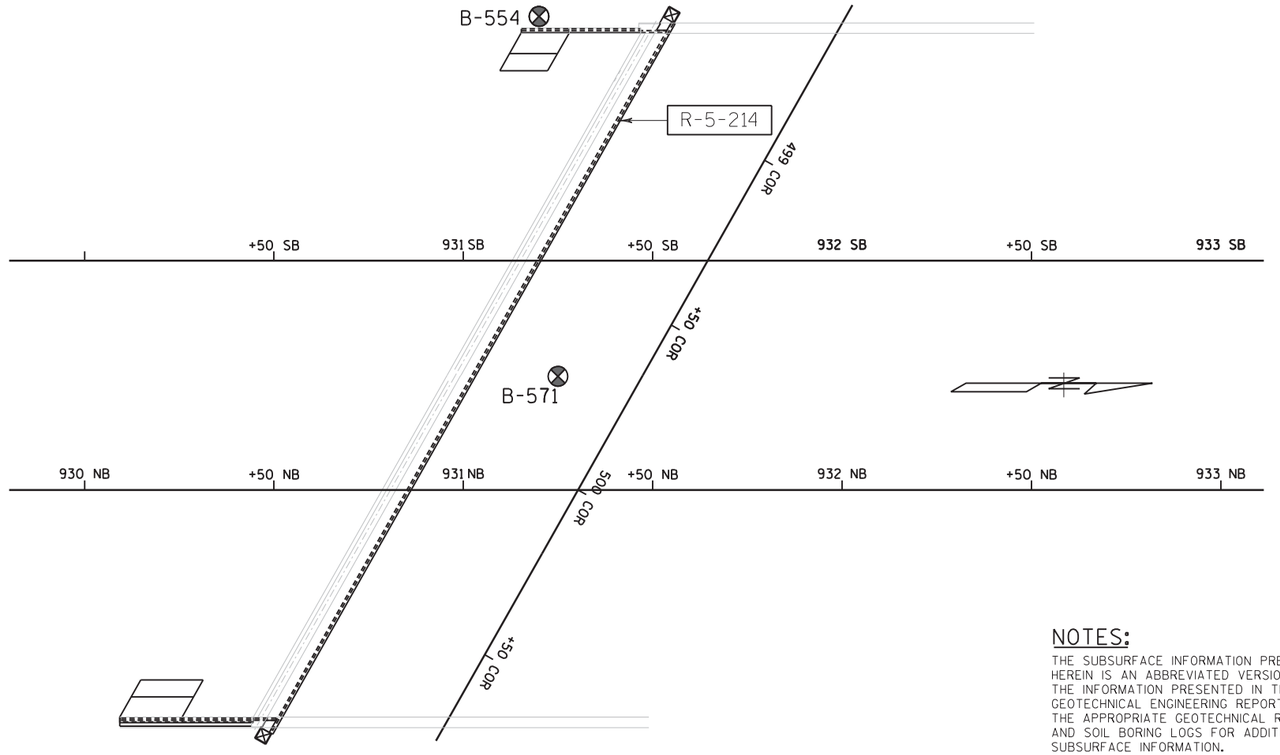
$$...plottingtime...$$

3/28/2013



PLAN

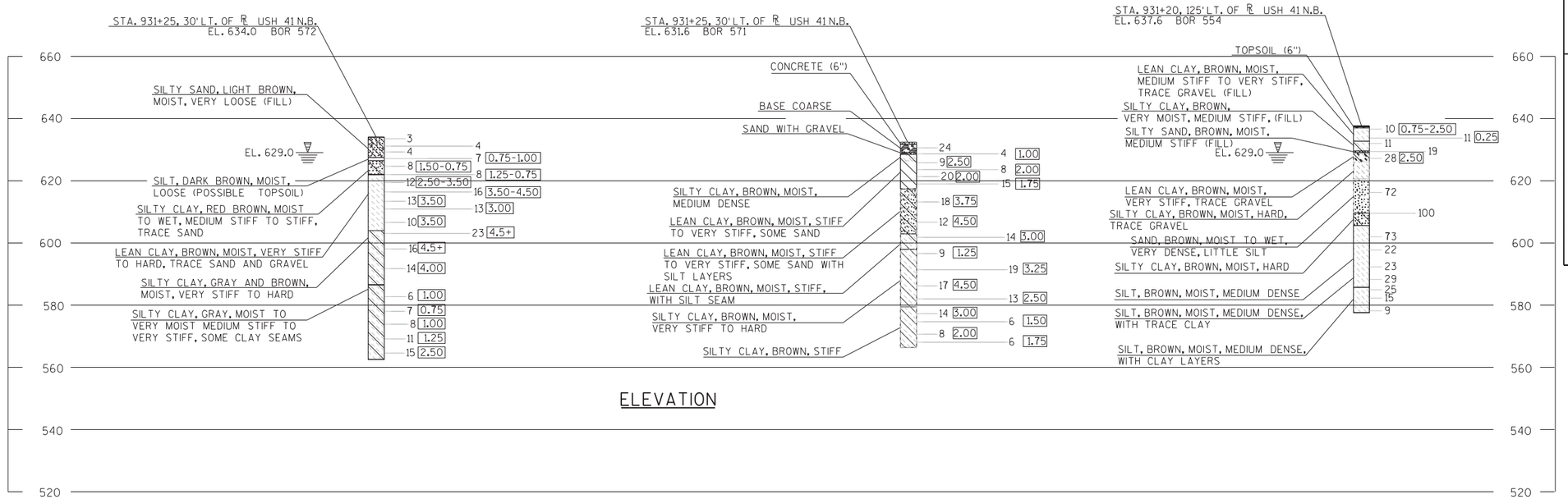
MSE RETAINING WALL WITH TILT-UP PANELS

NOTES:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

⊗ DENOTES SOIL BORING LOCATION

SOIL BORING WAS COMPLETED BY WISDOT
SOIL BORING TAKEN:
MARCH 25, 2009 - B-571
MARCH 30, 2009 - B-572
MAY 21. 2008 - B-554



ELEVATION

STATE PROJECT NUMBER

1133-09-71

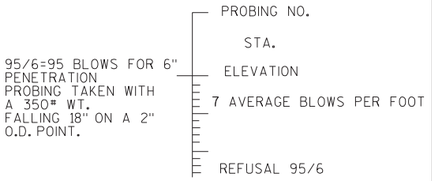
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

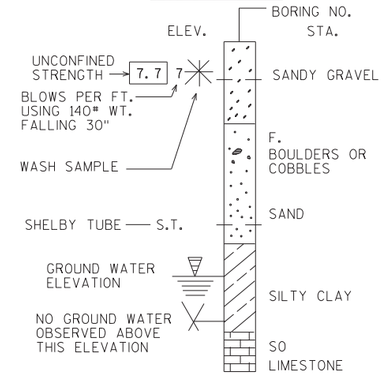
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE, SAND, PEAT, LIMESTONE, GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-214

DRAWN BY TRW | PLANS CK'D. JFR

SUBSURFACE EXPLORATION

SHEET 14 OF 14
2460

8

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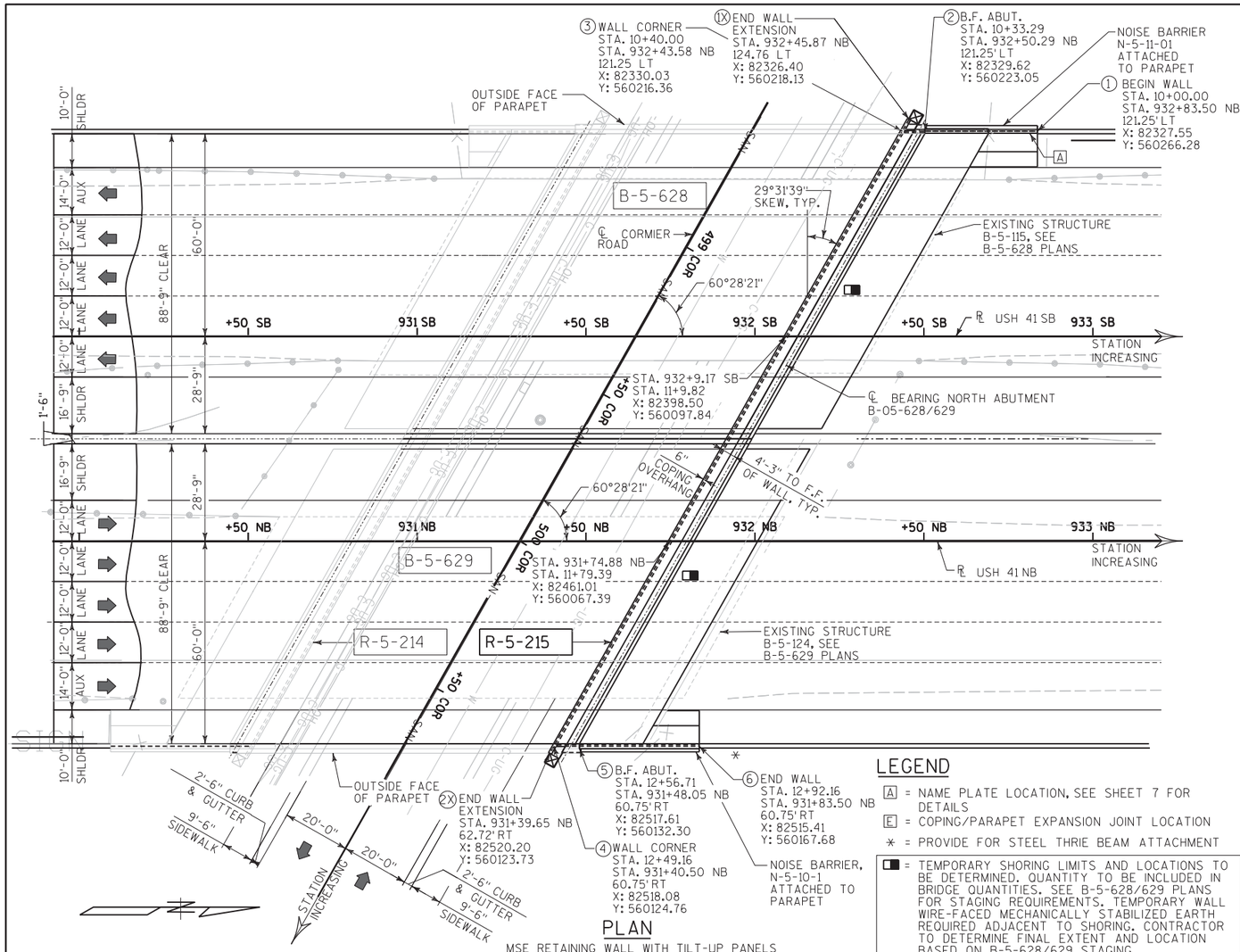
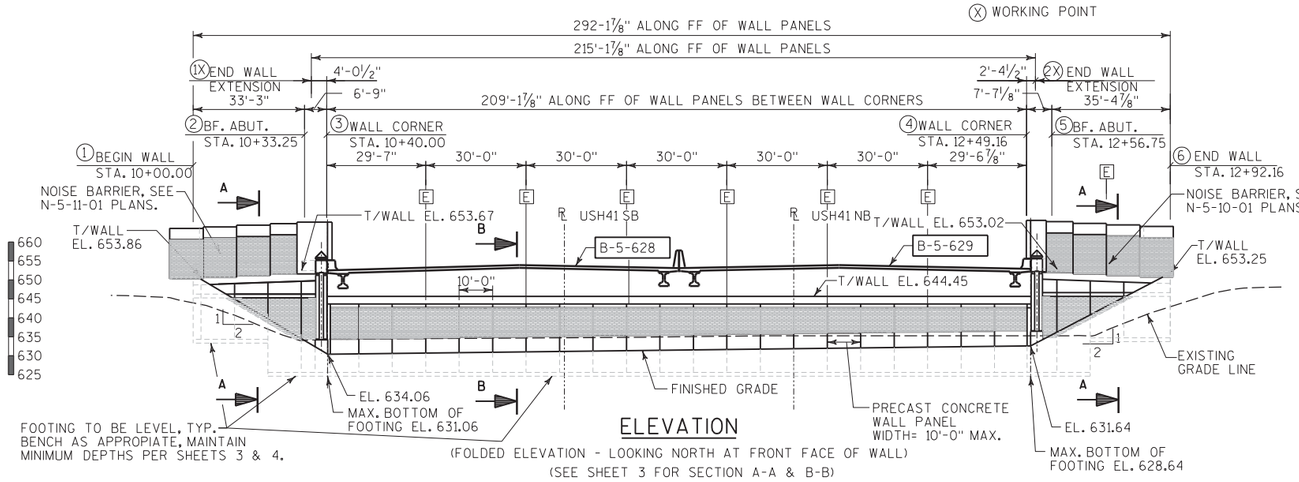


PLAN

MSE RETAINING WALL WITH TILT-UP PANELS

LEGEND

- [A] = NAME PLATE LOCATION, SEE SHEET 7 FOR DETAILS
- [E] = COPING/PARAPET EXPANSION JOINT LOCATION
- ✳ = PROVIDE FOR STEEL THRIE BEAM ATTACHMENT
- = TEMPORARY SHORING LIMITS AND LOCATIONS TO BE DETERMINED. QUANTITY TO BE INCLUDED IN BRIDGE QUANTITIES. SEE B-5-628/629 PLANS FOR STAGING REQUIREMENTS. TEMPORARY WALL WIRE-FACED MECHANICALLY STABILIZED EARTH REQUIRED ADJACENT TO SHORING. CONTRACTOR TO DETERMINE FINAL EXTENT AND LOCATION BASED ON B-5-628/629 STAGING.
- (X) WORKING POINT



ELEVATION

(FOLDED ELEVATION - LOOKING NORTH AT FRONT FACE OF WALL)
(SEE SHEET 3 FOR SECTION A-A & B-B)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN IN THE GEOMETRY TABLE.

THE EXISTING GROUNDLINE IS THE UPPER LIMIT OF EXCAVATION FOR STRUCTURES.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THIS WALL WITH CONSTRUCTION OF THE NORTH ABUTMENT OF BRIDGES B-5-628 AND B-5-629.

DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

APPLY PROTECTIVE SURFACE TREATMENT TO THE EXPOSED SURFACE OF THE ANCHOR SLAB AND THE PARAPETS. DO NOT APPLY PROTECTIVE SURFACE TREATMENT TO AREAS INTENDED TO BE STAINED.

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE ANCHOR SLAB, PARAPETS, AND PILASTERS IS INCLUDED IN THE ITEM "CONCRETE MASONRY RETAINING WALLS."

WALL STATIONS ARE GIVEN AT THE FRONT FACE OF THE WALL PANEL, UNLESS SHOWN OTHERWISE.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFY THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M 153, TYPE I, II OR III OR AASHTO DESIGNATION M 213.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACK FILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

OPTIONAL TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE FOOTING WITH A MINIMUM SPACING OF TWO PANEL JOINTS. FOOTING JOINTS SHOULD BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THRU FOOTING JOINTS.

DO NOT ALLOW CONCRETE OR FILL TO DROP OR ACCUMULATE IN WALL PANEL CAVITY.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

PROVIDE A RUBBED SURFACE FINISH IN ACCORDANCE WITH SECTION 502.3.7.3 TO ALL PERMANENTLY EXPOSED SURFACES OF CONCRETE MASONRY RETAINING WALLS.

SEE SPECIAL PROVISIONS FOR AESTHETIC TREATMENT TO WALL.

DESIGN THE MSE WALL FOR A SUCTION LOAD OF 20 PSF ACTING ON THE PRECAST WALL PANELS.

DESIGN FOR RETAINING WALL TO PROVIDE FOR A FINISHED GRADE SLOPE BEHIND THE WALL AS SHOWN IN THESE PLANS AND THE ROADWAY CROSS SECTIONS.

ALL STATIONS AND OFFSETS ARE REFERENCED TO THE USH 41 NB ALIGNMENT.

THE FOLLOWING DESIGN PRESSURES ARE USED TO DESIGN THE NOISE BARRIERS IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND SHALL BE ACCOUNTED FOR IN THE DESIGN OF THE WALL:
- 32 P.S.F. FOR GROUND MOUNTED BARRIERS
- 42 P.S.F. FOR STRUCTURE MOUNTED BARRIERS

NOISE BARRIERS MOUNTED ON RETAINING WALLS REQUIRE THE COMPLETE ROADWAY PAVEMENT STRUCTURE (OR EQUIVALENT EARTH FILL) OVER THE TOP OF THE ANCHOR SLAB TO RESIST DESIGN WIND PRESSURE. LIMIT ERECTION OF PANELS TO 2/3 THE HEIGHT OF THE ACOUSTIC LINE PRIOR TO PLACEMENT OF PAVEMENT.

FOR UTILITY OWNERSHIP AND CONTACT INFORMATION SEE ROADWAY PLAN.

AT ENDS OF WALL, SEAL CAVITY BETWEEN WIRE FACE AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE, 1'-6" WIDE. INCIDENTAL TO BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANELS". "FINE METALLIC SCREEN" TO HAVE A MAXIMUM ¼" x ¼" MESH AND MIMIMUM 0.025 WIRE DIAMETER. WIRES TO BE HOT DIPPED GALVANIZED AFTER WELDING.

LIST OF DRAWINGS

1. GENERAL PLAN
2. DESIGN DATA & QUANTITIES
3. GEOTECHNICAL DATA
4. WALL DETAILS-1
5. WALL DETAILS-2
6. WALL DETAILS-3
7. ANCHOR SLAB LAYOUT
8. NOISE WALL ANCHORAGE
9. PARAPET & ANCHOR SLAB DETAILS
10. PILASTER DETAILS
11. EAST PILASTER REINFORCEMENT
12. WEST PILASTER REINFORCEMENT
13. AESTHETIC DETAILS-1
14. STANDPIPE DETAILS
15. SUBSURFACE EXPLORATION

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

NE REGION CONTACT:
KURT PETERS (920) 492-2213

CONSULTANT CONTACT:
JOHN RUBLEIN (608) 229-1434

WISCONSIN
JOHN F. RUBLEIN
E-38700
MADISON
WI
PROFESSIONAL ENGINEER
3/28/13

STATE PROJECT NUMBER
1133-09-71

NO.	DATE	REVISION	BY

DAAR ENGINEERING, INC.
www.daarcorp.com
Madison, WI 53703
608-249-0140

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR 04/01/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-5-215

NORTH RETAINING WALL @ USH 41 & CORMIER ROAD

COUNTY	VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STD. SPEC

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JFR	ACT	TRW	JFR

GENERAL PLAN AND ELEVATION

SHEET 1 OF 15

2461

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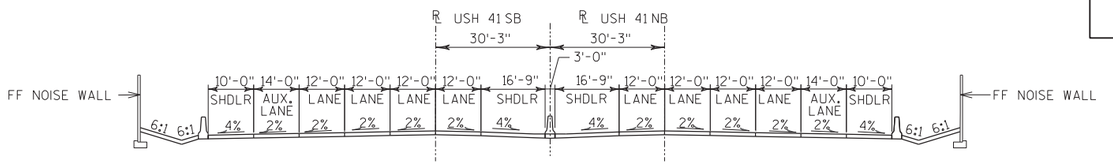
I.D.

DATE: 3/28/2013

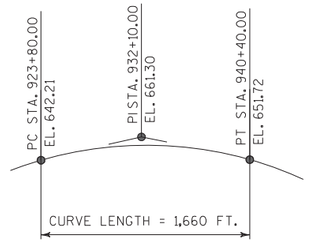
STATE PROJECT NUMBER
1133-09-71

TOTAL ESTIMATED QUANTITIES			
ITEM NUMBER	BID - ITEMS	UNIT	QUANTITY
502.3200	PROTECTIVE SURFACE TREATMENT	SY	40
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	64
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	5320
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	4
532.0700.S	WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	3210
532.0750.S	TEMPORARY WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF	390
550.1120	PILING STEEL HP 12-INCH X 53 LB.	LF	272
604.0400	SLOPE PAVING CONCRETE	SY	230
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	120
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	250
SPV.0060.701	ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES	EACH	2
SPV.0060.901	STAND PIPE SYSTEM	EACH	2
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	3512
SPV.0165.501	STAINING CONCRETE	SF	2770
SPV.0165.502	STAINING CONCRETE BRICK	SF	1630
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	3283
	NON BID - ITEMS		
	PREFORMED FILLER	SIZE	¾" & 1"
	CORK FILLER	SIZE	1"
	EXPANDED POLYSTYRENE	SIZE	1"

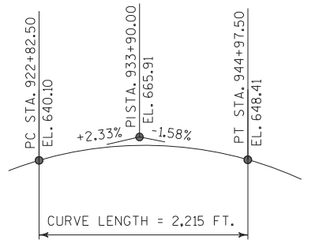
ALL ITEMS ARE CATEGORY 4170.



TYPICAL SECTION THRU USH 41



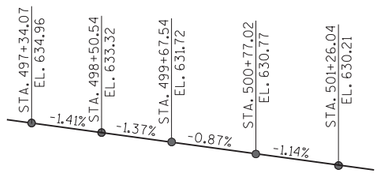
PROFILE GRADE LINE USH 41 NB



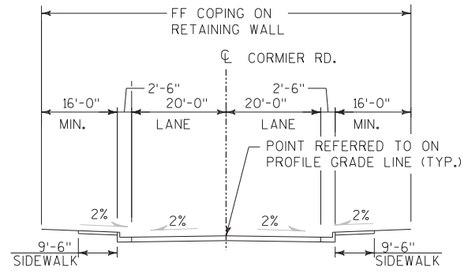
PROFILE GRADE LINE USH 41 SB

GEOMETRY TABLE ▨								
WORKING POINT	WALL STATION	USH 41 NB STATION	OFFSET TO F.F. WALL PANEL	TOP OF WALL	FINISHED GRADE	EXISTING GRADE	X	Y
①	10+00.00	932+83.50	121.25'LT	653.86	653.86	649.82	82327.55	560266.28
②	10+33.25	932+50.29	121.25'LT	653.67/644.45	637.34	637.34	82329.62	560223.05
③	10+40.00	932+43.58	121.25 LT	644.45	634.06	634.06	82330.03	560216.36
④	12+49.16	931+40.50	60.75'RT	644.45	631.64	631.64	82518.08	560124.76
⑤	12+56.75	931+48.05	60.75'RT	644.45/653.02	635.39	635.39	82517.61	560132.30
⑥	12+92.16	931+83.50	60.75'RT	653.25	653.25	653.25	82515.41	560167.68
⑴X	------	932+45.87	124.76 LT	------	------	------	82326.40	560218.13
⑵Y	------	931+39.65	62.72'RT	------	------	------	82520.20	560123.73

BENCH MARK			
NO.	STATION	DESCRIPTION	ELEVATION
10	765+65.43 NB 48.33'RT.	CH. SO. ON WEST SIDE EAST SIGN BASE OF THE ONIEIDA ST-WAUBE LANE 1/2 MILE EXIT 164 AHEAD SIGN 350 FT SOUTH OF GLORY ROAD	599.37



PROFILE GRADE
LINE CORMIER ROAD



TYPICAL SECTION
THRU CORMIER ROAD

8

LEGEND

▨ LINEARLY INTERPOLATE ELEVATIONS BETWEEN STATIONS

DESIGN DATA

LIVE LOAD:
LIVE LOAD SURCHARGE (ROADWAY) = 240 PSF
MATERIAL PROPERTIES:
CONCRETE MASONRY RETAINING WALLS f'c = 4,000 PSI
PRECAST CONCRETE WALL PANEL f'c = 4,000 PSI
BAR STEEL REINFORCEMENT fy = 60,000 PSI
STRUCTURAL CARBON STEEL fy = 36,000 PSI
(ASTM A709 GR. 36)

FOUNDATION DATA:
ALLOWABLE SOIL BEARING CAPACITY-MSE (SEE TABLE)

THE WALL HAS BEEN DESIGNED FOR LIVE LOAD SURCHARGES AS NOTED. CONTRACTOR IS RESPONSIBLE FOR EVALUATING WALL FOR ANTICIPATED CONSTRUCTION LIVE LOADS IN EXCESS OF 240 psf.

TRAFFIC DATA USH 41 NB

ADT = 45,700 (2015)
= 59,500 (2035)
RDS = 70 MPH

TRAFFIC DATA USH 41 SB

ADT = 45,900 (2015)
= 59,600 (2035)
RDS = 70 MPH

TRAFFIC DATA CORMIER ROAD

ADT = 11,400 (2015)
= 14,100 (2035)
RDS = 35 MPH

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-215

DRAWN BY TRW | PLANS CK'D. JFR

DESIGN DATA & QUANTITIES

SHEET 2 OF 15
2462

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SCALE = 10:0 " : " / IN.

STATE PROJECT NUMBER

1133-09-71

SAFETY FACTORS & DIMENSIONS (AT EAST WING WALL)

FACTOR OF SAFETY	
SLIDING (FS>1.5)	1.6
OVERTURNING (FS>2.0)	3.4
GLOBAL STABILITY (FS>1.3)	2.0 [a]
BEARING CAPACITY (FS>2.5)	4.3
ALLOWABLE BEARING CAPACITY (psf)	7,400
MINIMUM EMBEDMENT DEPTH	3.5 FEET [b]
MINIMUM REINFORCEMENT LENGTH	8.0 FEET [c]
REQUIRED MINIMUM RATIO OF LENGTH TO WALL HEIGHT	0.8 [d]

FINAL DESIGN FOR INTERNAL AND EXTERNAL STABILITY IS THE RESPONSIBILITY OF THE WALL DESIGNER AND MAY BE DIFFERENT IN VALUES THAN TABLE.

a. ASSUMES NOISE WALL AT TOP OF MSE WALL IS ANCHOR SLAB SUPPORTED.
b. MSE WALLS WITH WIRE FACING HAVE 3.5 FEET OF EMBEDMENT PER US 41 DESIGN MANUAL.
c. LENGTH OF REINFORCEMENT IS ASSUMED TO BE 8 FOOT MINIMUM PER WISDOT BRIDGE MANUAL.
d. MAXIMUM WALL HEIGHT FROM TOP OF WALL TO BOTTOM OF LEVEL PAD WAS ASSUMED TO BE 18.9 FEET.

SAFETY FACTORS & DIMENSIONS (AT WEST WING WALL)

FACTOR OF SAFETY	
SLIDING (FS>1.5)	1.6
OVERTURNING (FS>2.0)	3.3
GLOBAL STABILITY (FS>1.3)	2.1 [a]
BEARING CAPACITY (FS>2.5)	4.0
ALLOWABLE BEARING CAPACITY (psf)	6,800
MINIMUM EMBEDMENT DEPTH	3.5 FEET [b]
MINIMUM REINFORCEMENT LENGTH	8.0 FEET [c]
REQUIRED MINIMUM RATIO OF LENGTH TO WALL HEIGHT	0.8 [d]

FINAL DESIGN FOR INTERNAL AND EXTERNAL STABILITY IS THE RESPONSIBILITY OF THE WALL DESIGNER AND MAY BE DIFFERENT IN VALUES THAN TABLE.

a. ASSUMES NOISE WALL AT TOP OF MSE WALL IS ANCHOR SLAB SUPPORTED.
b. MSE WALLS WITH WIRE FACING HAVE 3.5 FEET OF EMBEDMENT PER US 41 DESIGN MANUAL.
c. LENGTH OF REINFORCEMENT IS ASSUMED TO BE 8 FOOT MINIMUM PER WISDOT BRIDGE MANUAL.
d. MAXIMUM WALL HEIGHT FROM TOP OF WALL TO BOTTOM OF LEVEL PAD WAS ASSUMED TO BE 17.6 FEET.

SAFETY FACTORS & DIMENSIONS (AT ABUTMENT)

FACTOR OF SAFETY	
SLIDING (FS>1.5)	1.6
OVERTURNING (FS>2.0)	5.1
GLOBAL STABILITY (FS>1.5)	1.8
BEARING CAPACITY (FS>2.5)	4.6
ALLOWABLE BEARING CAPACITY (psf)	6,800
MINIMUM EMBEDMENT DEPTH	3.5 FEET [a]
REQUIRED MINIMUM RATIO OF LENGTH TO WALL HEIGHT	1.4 [b]

FINAL DESIGN FOR INTERNAL AND EXTERNAL STABILITY IS THE RESPONSIBILITY OF THE WALL DESIGNER AND MAY BE DIFFERENT IN VALUES THAN TABLE.

a. MSE WALLS WITH WIRE FACING HAVE 3.5 FEET OF EMBEDMENT PER US 41 DESIGN MANUAL.
b. MAXIMUM WALL HEIGHT FROM TOP OF WALL TO BOTTOM OF LEVEL PAD WAS ASSUMED TO BE 13.9 FEET.

SOIL PARAMETERS TABLE 3A (BORING B555)

			UNDRAINED		DRAINED	
SOIL LAYER	BOTTOM ELEVATION (FEET)	SOIL UNIT WEIGHT (pcf)	COHESION (psf)	FRICTION ANGLE (DEGREES)	COHESION (psf)	FRICTION ANGLE (DEGREES)
EXISTING FILL	631.3	120	---	28	---	28
EMBANKMENT FILL (WITHIN MSE WALL)	628.1	125	---	30	---	30
LOOSE GRAVEL WITH SAND	628.3	130	---	32	---	32
VERY STIFF TO HARD SILTY CLAY	586.8	135	3,000	---	---	30

SOIL PARAMETERS TABLE 3B (BORING R215-G1)

			UNDRAINED		DRAINED	
SOIL LAYER	BOTTOM ELEVATION (FEET)	SOIL UNIT WEIGHT (pcf)	COHESION (psf)	FRICTION ANGLE (DEGREES)	COHESION (psf)	FRICTION ANGLE (DEGREES)
EXISTING FILL	632.6	120	---	28	---	28
EMBANKMENT FILL (WITHIN MSE WALL)	630.3	125	---	30	---	30
VERY STIFF TO HARD LEAN CLAY (VARVED SOIL)	625.7	130	3,500	---	---	30
HARD LEAN CLAY	617.5	135	4,000	---	---	30
LOOSE TO DENSE SAND WITH SILT	606.2	130	---	30	---	30

SOIL PARAMETERS 3C (BORING B556)

			UNDRAINED		DRAINED	
SOIL LAYER	BOTTOM ELEVATION (FEET)	SOIL UNIT WEIGHT (pcf)	COHESION (psf)	FRICTION ANGLE (DEGREES)	COHESION (psf)	FRICTION ANGLE (DEGREES)
EXISTING FILL	628.2	120	---	28	---	28
EMBANKMENT FILL (WITHIN MSE WALL)	630.3 TO 628.1	120	---	30	---	30
VERY STIFF TO HARD LEAN CLAY	624.2	130	3,000	---	---	30
DENSE TO VERY DENSE SAND	619.2	130	---	34	---	34
HARD SILTY CLAY	612.7	135	4,500	---	---	32
VERY DENSE SAND	604.7	130	---	34	---	34
VERY STIFF TO HARD SILTY CLAY	581.2	135	4,000	---	---	31

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-215

DRAWN BY TRW | PLANS CK'D. JFR

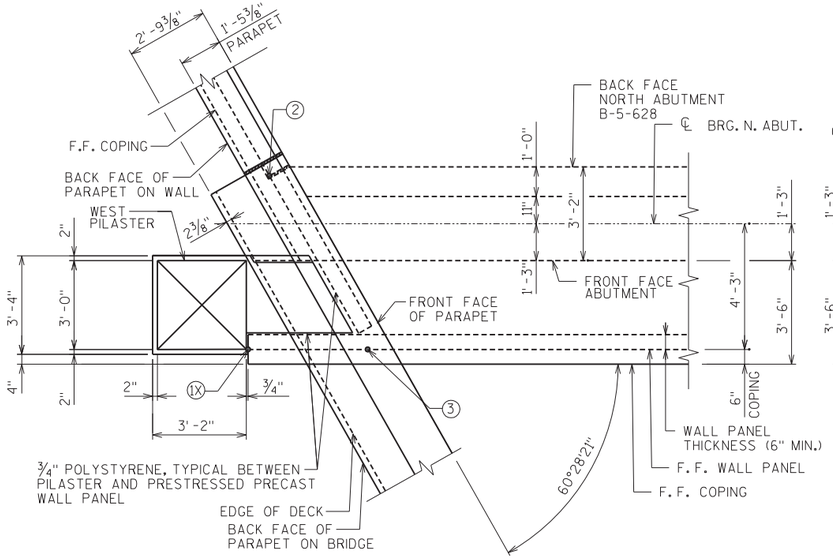
GEOTECHNICAL DATA

SHEET 3 OF 15
2463

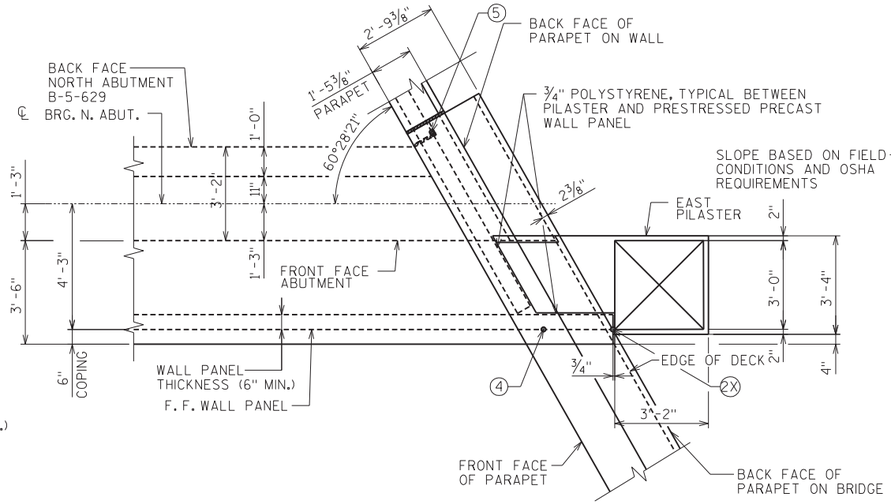
SCALE = 10:0 ' :" / IN.

STATE PROJECT NUMBER

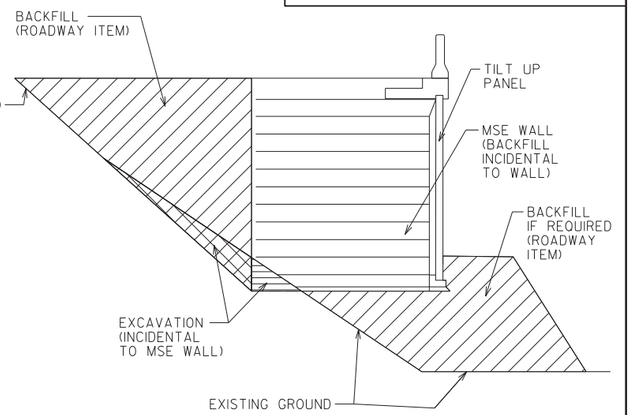
1133-09-71



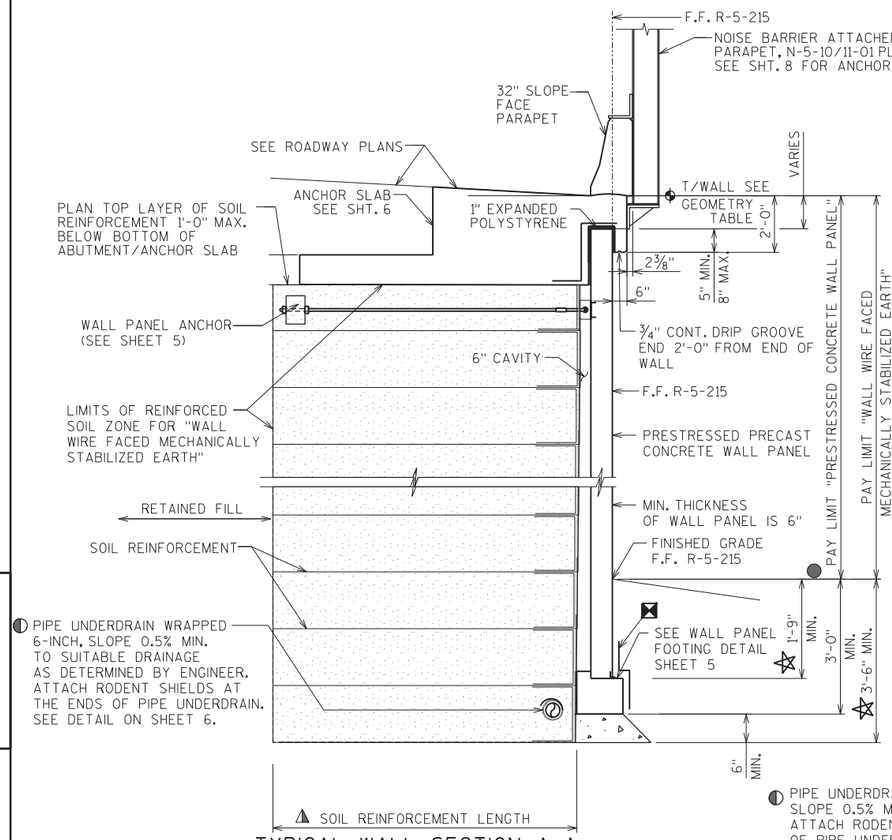
NORTHWEST QUADRANT



NORTHEAST QUADRANT

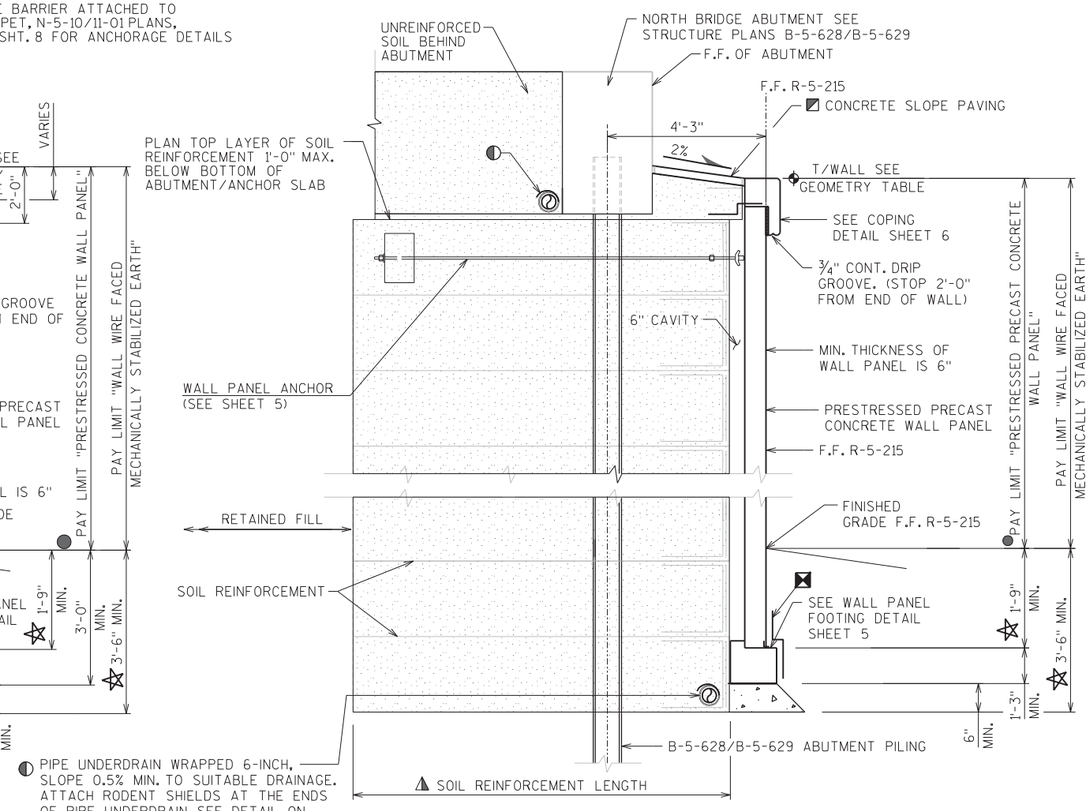


EXCAVATION/BACKFILL DETAIL



TYPICAL WALL SECTION A-A

LOOKING SOUTH AT WEST SIDE OF WALL, EAST SIDE MIRROR IMAGE W.P.① TO W.P.② AND W.P.⑤ TO W.P.⑥ SEE B-5-628 AND B-5-629 PLANS FOR APPROACH PANEL COPING DETAILS.



TYPICAL WALL SECTION B-B

LOOKING EAST AT NORTH ABUTMENT W.P.③ TO W.P.④ INSTALL BRIDGE PILING BEFORE MSE WALL. PLACE REINFORCING MAT AROUND PILING FOR BRIDGE ABUTMENT.

INSTALLATION OF BRIDGE PILING IS NOT A RETAINING WALL BID ITEM.

LEGEND

- THE PLAN QUANTITY FOR THE BID ITEMS "WALL WIRE FACED MECHANICALLY STABILIZED EARTH" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL" ARE BASED ON A WALL HEIGHT MEASURED FROM THE FINISHED GRADE AT THE FRONT FACE OF THE WALL TO THE TOP OF THE WALL AS SHOWN. THE TOP OF THE FOOTING IS ASSUMED TO BE A CONSTANT 1'-9" BELOW FINISHED GRADE. COPING CONCRETE AND COPING REINFORCEMENT ARE TO BE INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."
- ⚠ SEE SHT. 2 FOR SOIL REINFORCEMENT REQUIREMENTS.
- ✱ MINIMUM EMBEDMENT DEPTHS SHALL BE BASED ON FINISHED GRADE NOTED IN "GEOMETRY TABLE" ON SHEET 2.
- ■ MINIMUM CLEARANCE FROM PARAPET TO PILASTER.
- ◪ CONCRETE SLOPE PAVING TO BE A MIN. OF 4" THICK. PLACE CONSTRUCTION JOINTS EVERY 10' MAX. SEE SLOPE PAVING CONSTRUCTION JOINT DETAIL ON SHEET 5.
- ◐ PROVIDE VERTICAL PIPE UNDERDRAIN UNPERFORATED 6-INCH TO CONNECT R-5-214 WALL UNDERDRAIN TO B-5-628 AND B-5-629 ABUTMENT UNDERDRAIN. LOCATE THE VERTICAL PIPE APROXIMATELY 7 FEET FROM THE SOUTH CORNER OF THE RETAINING WALL. CAP THE UNPERFORATED UNDERDRAIN AT ELEVATION 618.16 FOR CONNECTION TO THE ABUTMENT UNDERDRAIN.
- Ⓧ WORKING POINT
- ⊠ GEOTEXTILE FABRIC TYPE DF, 2'-0" WIDE, LENGTH OF FOOTING

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-215

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WALL DETAILS-1

SHEET 4 OF 15
2464

8

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SCALE = 5:1 1/2 " :" / IN.

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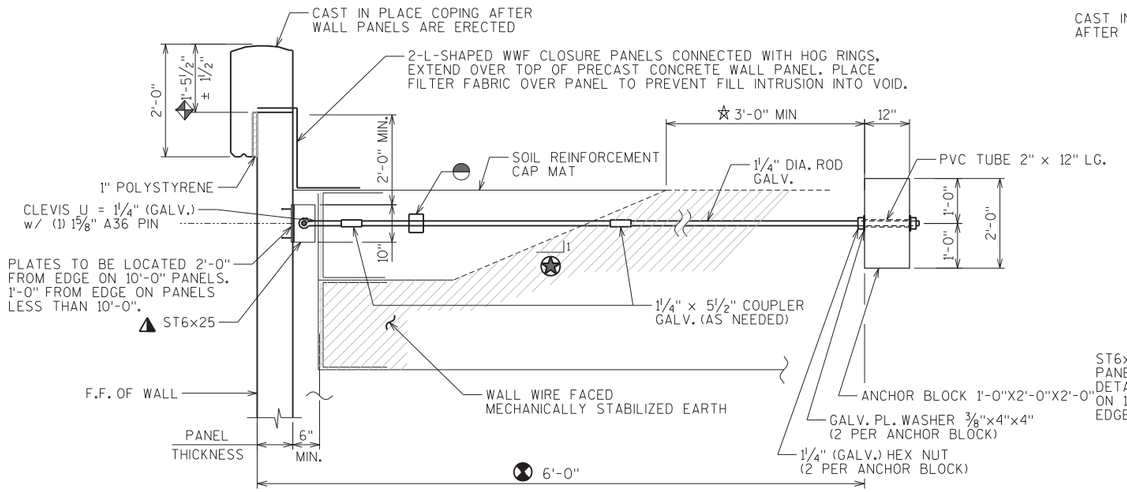
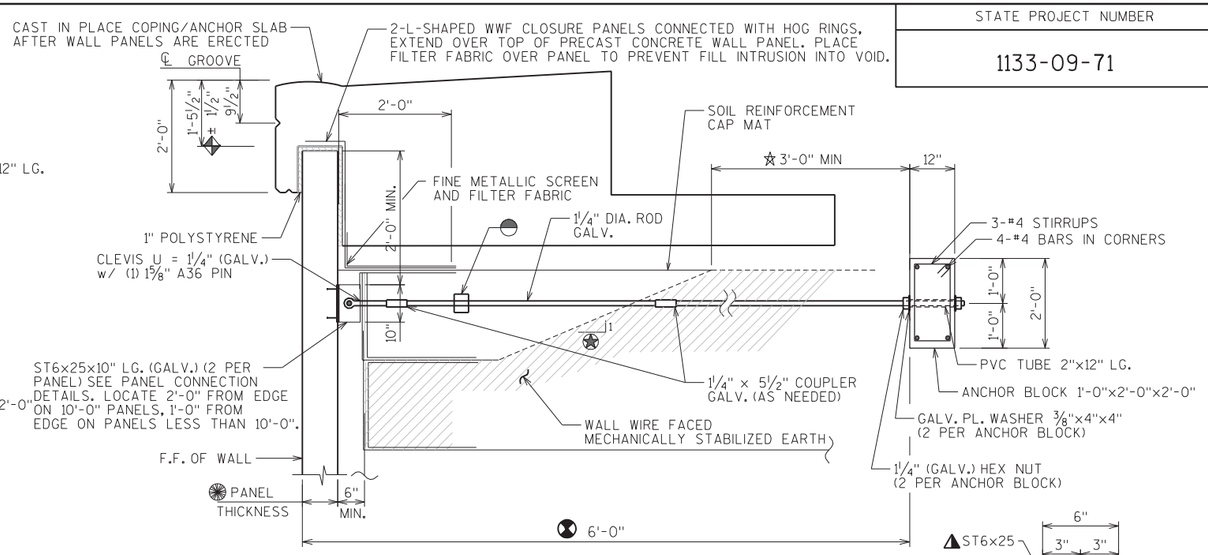
3/28/2013

STATE PROJECT NUMBER

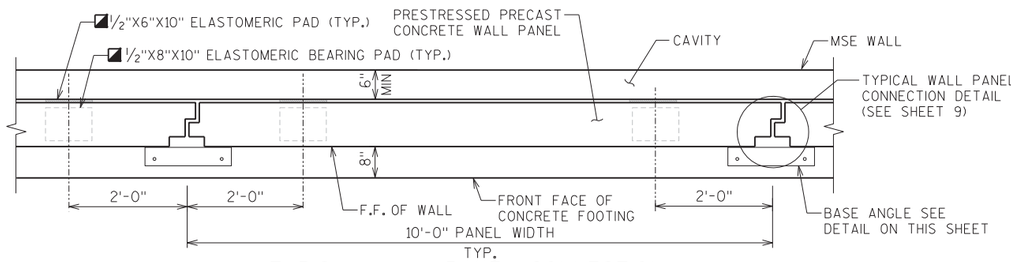
1133-09-71



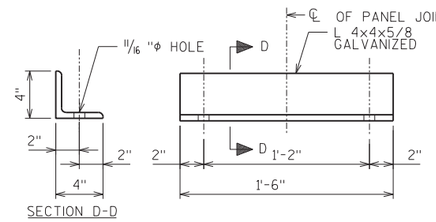
WALL PANEL ANCHOR DETAIL SECTION B-B ▲



WALL PANEL ANCHOR DETAIL SECTION A-A ▲

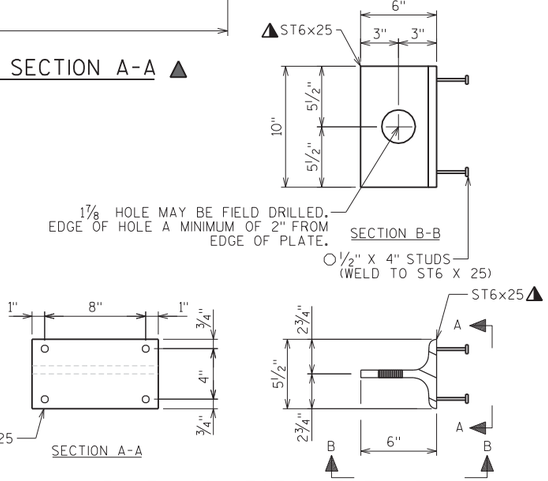


TYPICAL WALL PANEL CONNECTION



BASE ANGLE DETAIL

(1) AT EACH PANEL JOINT INCLUDED IN BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."



PANEL CONNECTION DETAILS

ST6 X 25 MAY BE WELDED TO ¾" THICK PLATE ANCHORED IN TILT UP PANEL. DETAILS SUBJECT TO APPROVAL BY THE ENGINEER.

NOTES

AN ALTERNATE DEADMAN AND PANEL CONNECTION SYSTEM MAY BE SUBMITTED FOR REVIEW BY THE ENGINEER.

ORIENT RODENT SHIELD SO SLOTS ARE VERTICAL. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH." THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL . THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

TILT-UP PANEL ANCHOR SYSTEM MAY BE TRENCHED IN IF GEOMETRY ALLOWS

LEGEND

▲ WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1¼" DIA. ANCHOR ROD, CLEVIS AND OTHER PANEL CONNECTION COMPONENTS. DETAILING, AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL." INSTALLATION OF THESE ITEMS IS INCLUDED IN THE THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH.")

☆ EXCAVATED SLOPE PER OSHA REQUIREMENTS.

℄ = WALL PANEL THICKNESS AS DETERMINED IN ACCORDANCE WITH THE DESIGN REQUIREMENTS DEFINED IN THE SPECIAL PROVISIONS. (6" MINIMUM)

▲ S12X50 (GALV.) CUT IN HALF TO FORM "T" SECTION BF=5.477", TW=0.687.

⊖ OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. (CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼ DIAM. BAR)

★ DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION AND ROD TO BE 2'-0" MIN. BELOW FINISHED GRADE.

○ AS AN ALTERNATE, ½" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.

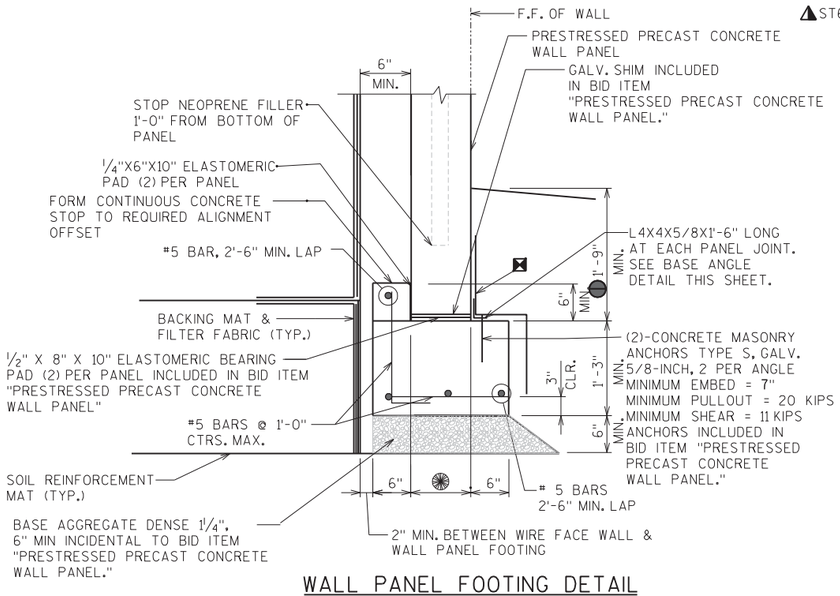
⊗ LENGTH MAY BE INCREASED TO AVOID OBSTRUCTIONS, SUCH AS ABUTMENT PILING.

⊖ MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE PRECAST PANELS.

◪ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

⊠ GEOTEXTILE FABRIC TYPE DF, 2'-0" WIDE, LENGTH OF FOOTING.

⌖ MUST BE 1'-4" AT W.P. ②, ③, ④, & ⑤.



WALL PANEL FOOTING DETAIL

(NOTE: FOOTING CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL")

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-215

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WALL DETAILS - 2

SHEET 5 OF 15
2465

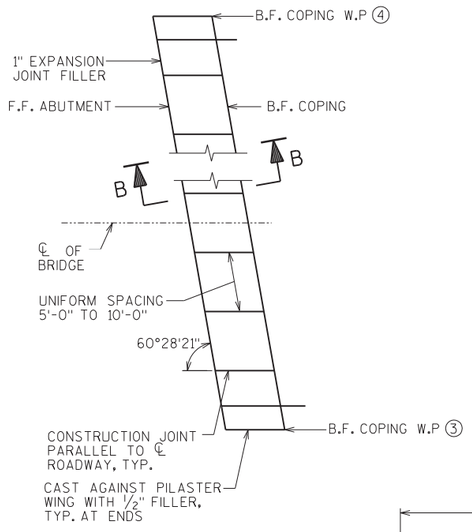
8

8

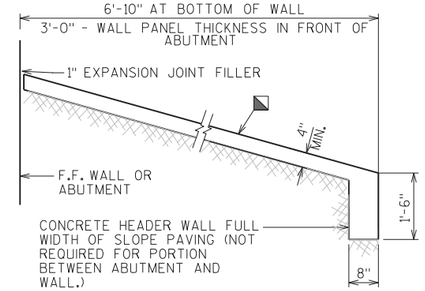
SCALE = 10:0 " : " / IN.

STATE PROJECT NUMBER

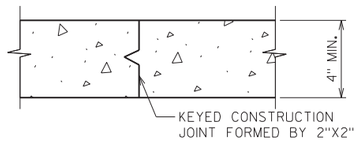
1133-09-71



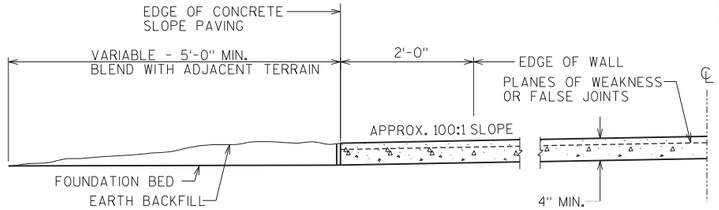
PLAN AT TOP OF WALL



SECTION B-B

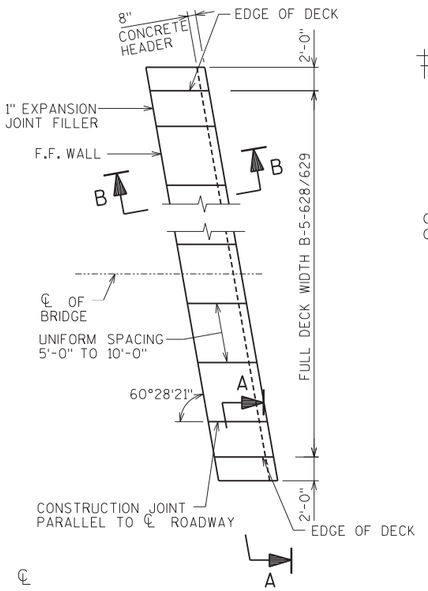


CONSTRUCTION JOINT DETAIL

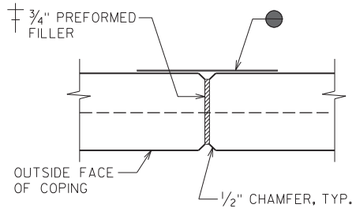


SECTION A-A

SLOPE PAVING CONCRETE DETAILS

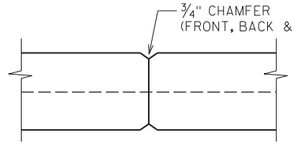


PLAN AT BOTTOM OF WALL

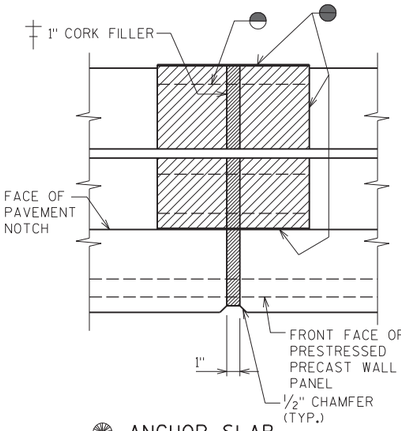


COPING EXPANSION JOINT

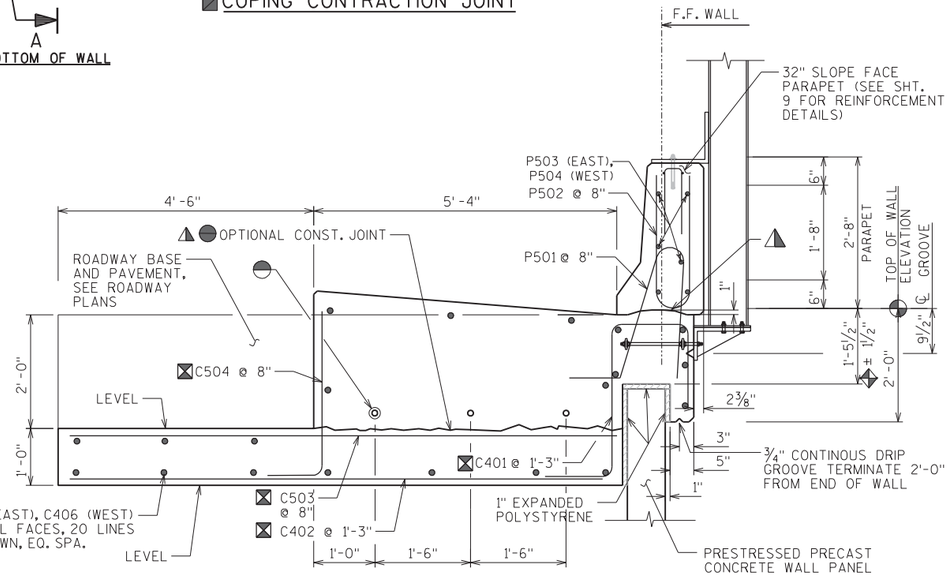
DO NOT RUN BAR STEEL THRU JOINT.
MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.



COPING CONTRACTION JOINT



ANCHOR SLAB EXPANSION JOINT DETAIL



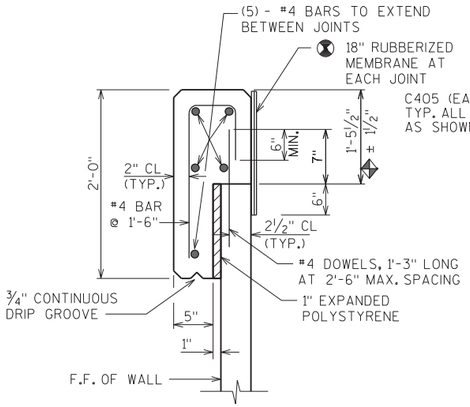
CAST-IN-PLACE CONCRETE TRAFFIC BARRIER DETAIL

LOOKING SOUTH AT WEST SIDE OF WALL, EAST SIDE MIRROR IMAGE
(SEE PLAN VIEW SHT. 7 FOR LAYOUT)

SEE SHT. 9 FOR BILL OF BARS

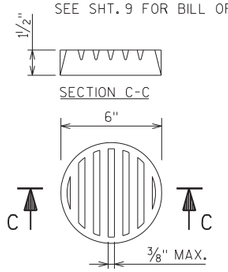
LEGEND & NOTES

- CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. JOINT WITHIN ANCHOR SLAB IS OPTIONAL.
- PLACE (3) - ¾"ϕ (SMOOTH) DOWEL BARS, 1'-6" LONG BETWEEN SEGMENTS. EMBED 9", SPACE EQUALLY, 6" MIN. CLR. FROM EDGE, 1'-6" MIN. SPACING. USE APPROVED DEBONDER ON ½ OF BAR LENGTH. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. COST OF ITEMS ARE INCLUDED IN BID ITEM "CONCRETE MASONRY RETAINING WALLS."
- SEE SHEET 8 & 9 FOR AESTHETIC DETAILS.
- SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH STAIN. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)
- EXPANSION JOINTS TO BE SPACED AS SHOWN ON SHEET 1. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT. EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.
- 2% AT TOP OF WALL, SEE ROADWAY PLANS FOR SLOPE AT BOTTOM OF WALL.
- AT WALL COPING AND ABUTMENT INTERFACE, PLACE 18" RUBBERIZED MEMBRANE ON TOP AND ALONG BACK OF COPING.
- LOCATE CONTRACTION JOINTS IN COPING OVER WALL JOINTS. DO NOT RUN BAR STEEL THROUGH JOINT.
- 18" RUBBERIZED MEMBRANE WATERPROOFING (RMW), USE AT FULL WIDTH OF ALL EXPANSION JOINTS.
- PLACE REINFORCEMENT ALONG SKEW AT APPROACH APRON INTERFACE. FAN REINFORCEMENT TO MAINTAIN EQUAL SPACING ACROSS SLAB.
- MUST BE 1'-4" AT W.P. 2, 3, 4, & 5.
- DIMENSIONS ARE APPROXIMATE, GRATE TO BE SIZED TO FIT INTO A PIPE COUPLING. ORIENT RODENT SHIELD SO SLOTS ARE VERTICAL. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN UNPERFORATED 6-INCH." THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL . THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



CAST-IN-PLACE CONCRETE COPING DETAIL

(NOTE: COPING CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL.")



RODENT SHIELD

(FOR PIPE UNDERDRAIN)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-215

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WALL DETAILS-3

SHEET 6 OF 15
2466

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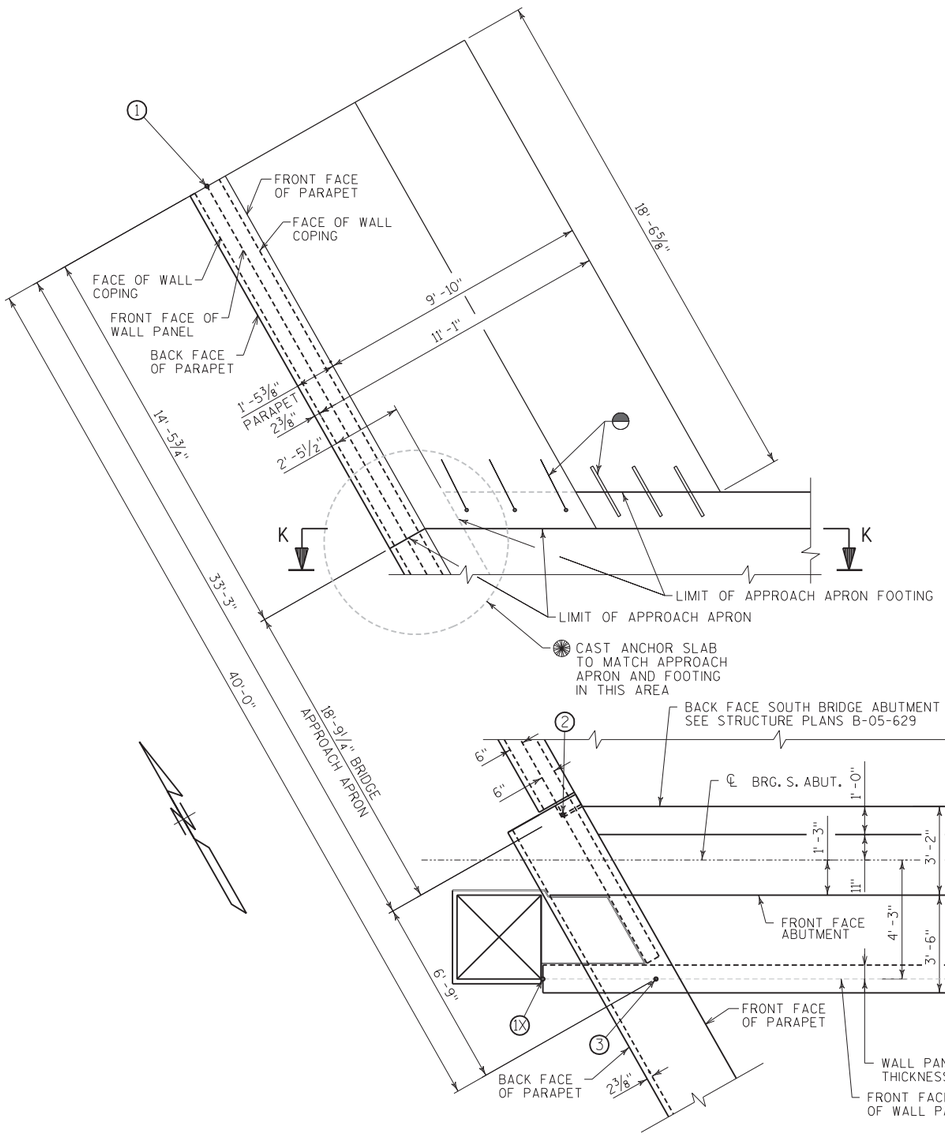
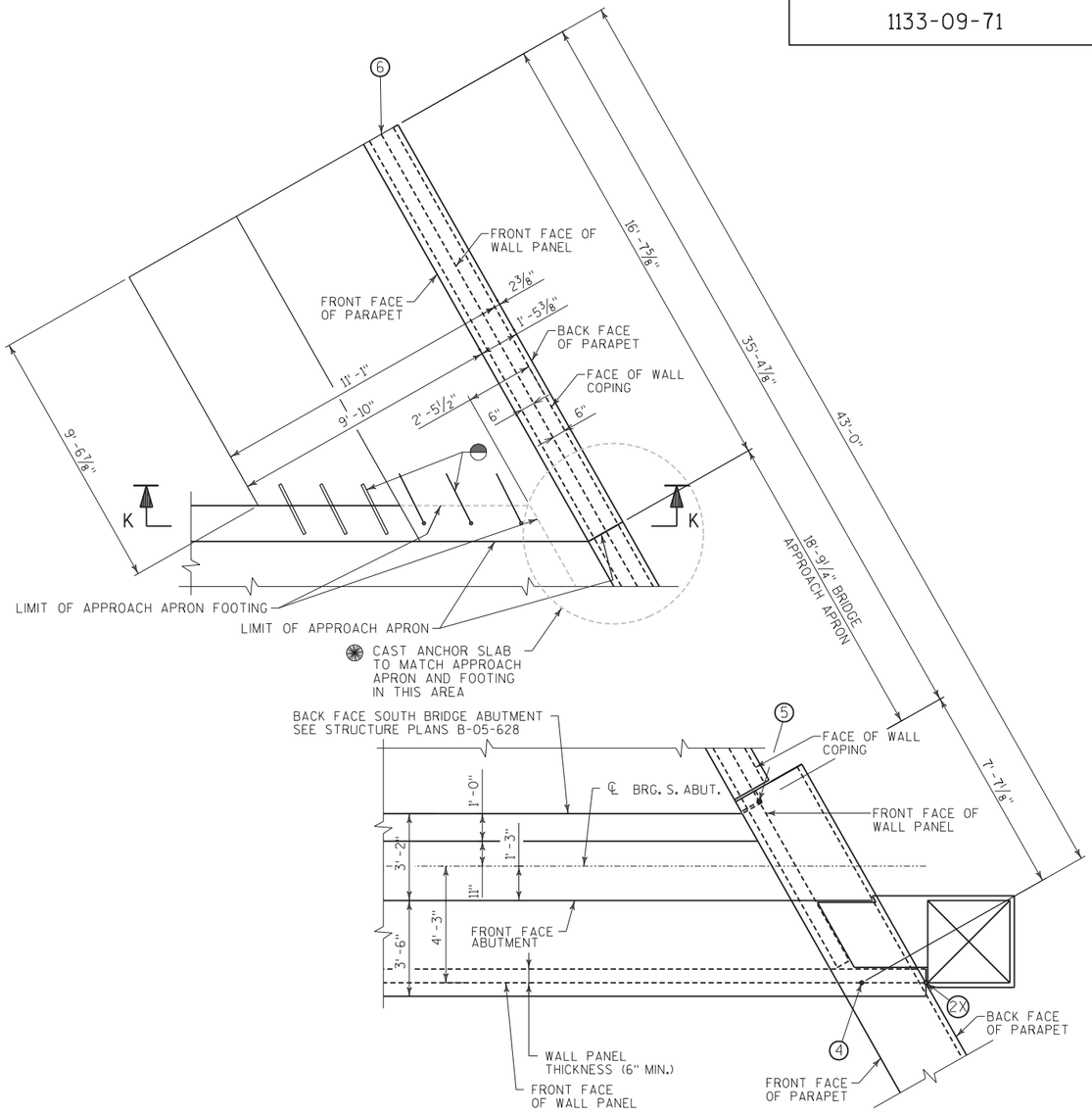
SCALE = 2:8 " : " / IN.

STATE PROJECT NUMBER

1133-09-71



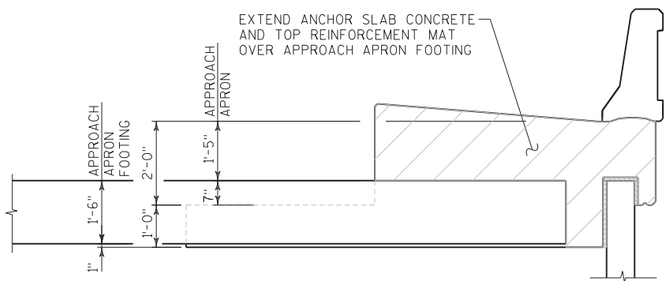
EAST ANCHOR SLAB



WEST ANCHOR SLAB

LEGEND

- L-BARS AND DOWELS CONNECTING ANCHOR SLAB TO APPROACH APRON FOOTING INCLUDED IN B-5-628/B-5-629 PLANS.
- EXPANSION JOINTS TO BE SPACED AS SHOWN ON SHEET 1. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT. EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.
- (X) WORKING POINT



SECTION K-K

(AT MSE WINGWALLS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-215

DRAWN BY TRW | PLANS CK'D. JFR

ANCHOR SLAB LAYOUT

SHEET 7 OF 15

2467

SCALE = 5:5 ' :" / IN.

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STATE PROJECT NUMBER

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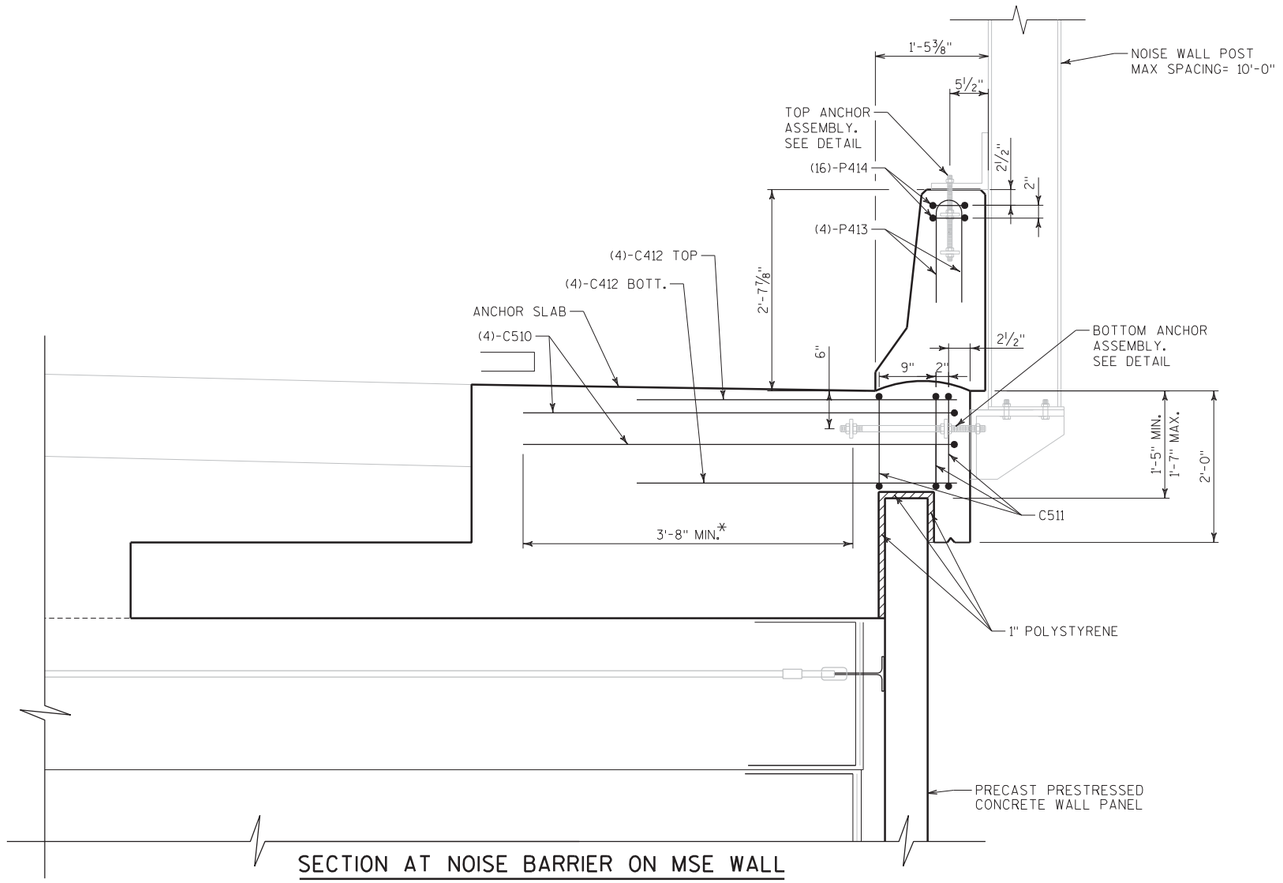
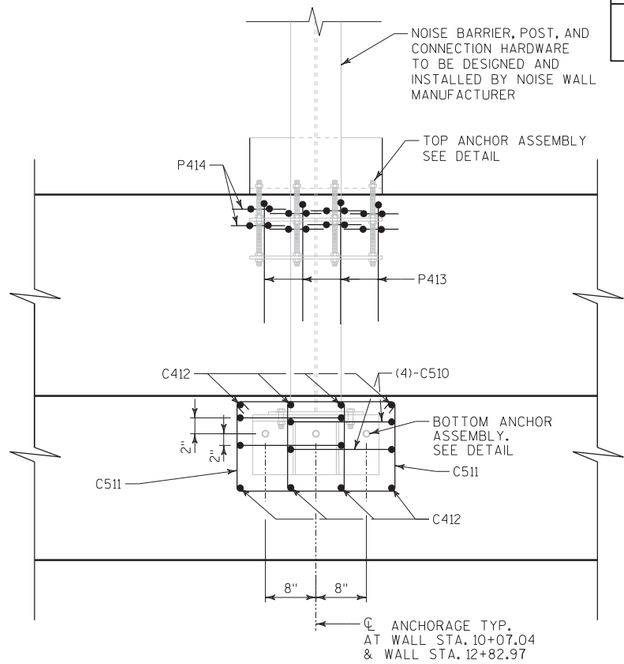


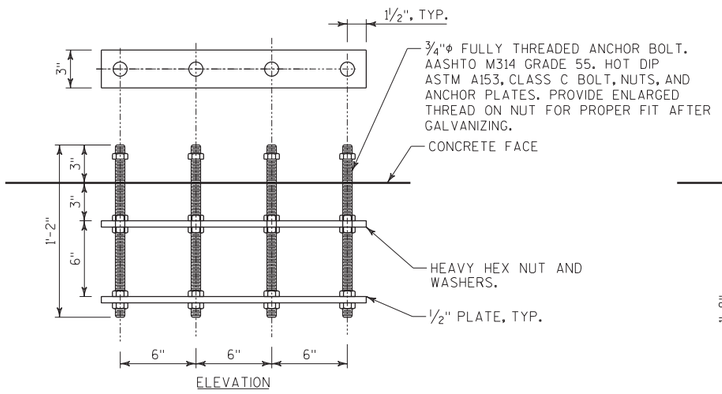
SECTION AT NOISE BARRIER ON MSE WALL

TYPICAL AT EACH ANCHORAGE



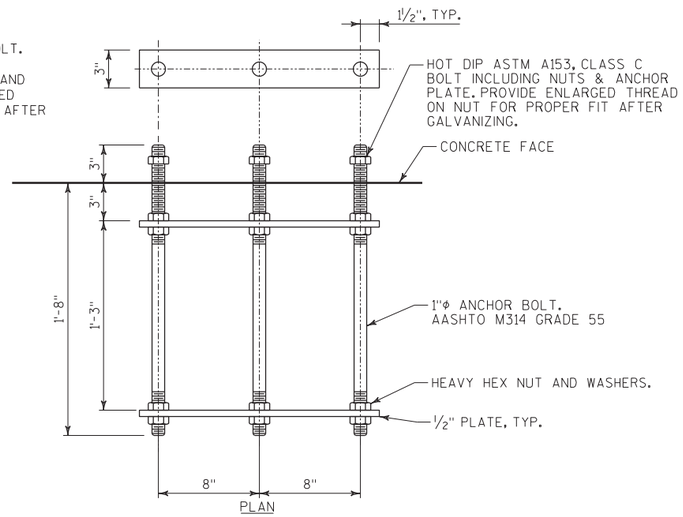
ELEVATION AT NOISE BARRIER POST

TYPICAL AT EACH POST LOCATION



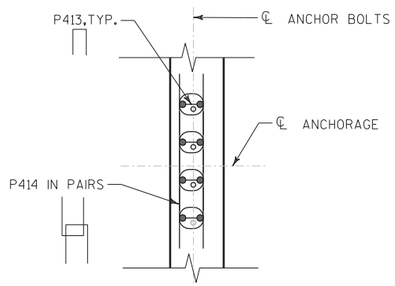
TOP ANCHOR BOLT ASSEMBLY

INCIDENTAL TO BID ITEM SPV.0060.701
"ANCHORAGE NOISE WALL POST".



BOTTOM ANCHOR BOLT ASSEMBLY

INCIDENTAL TO BID ITEM SPV.0060.701
"ANCHORAGE NOISE WALL POST".



TOP VIEW AT PARAPET

NOTES:

NOISE WALL POSTS AND ANCHOR STEEL ARE NOT RETAINING WALL PAY ITEMS SEE N-5-11-01 AND N-5-10-01 PLANS.

DESIGN WIND LOAD = 42 PSF.

BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES, INCLUDES UPPER AND LOWER ANCHPRAGES AT EACH POST LOCATIONS.

SEE SHEET 9 FOR BILL OF REINFORCEMENT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-215

DRAWN BY TRW | PLANS CK'D. JFR

NOISE WALL ANCHORAGE ON MSE WALL

SHEET 8 OF 15
2468

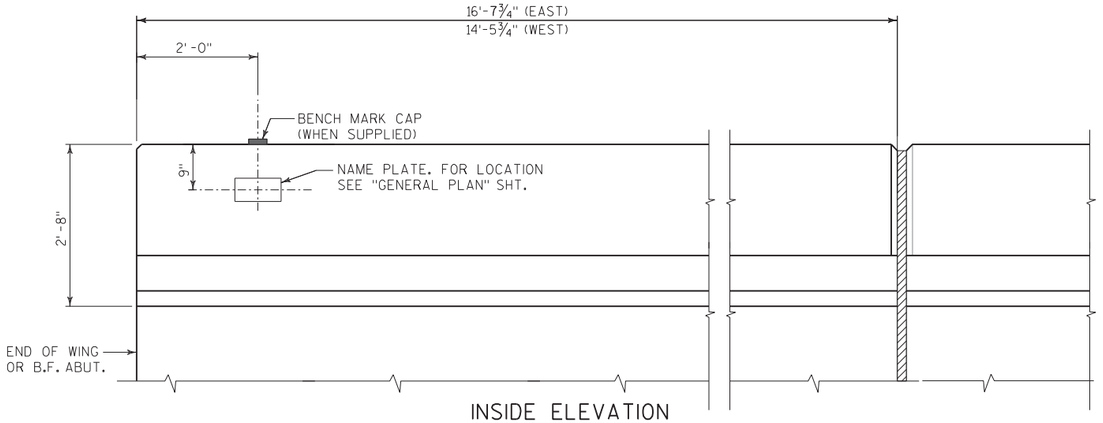
8

8

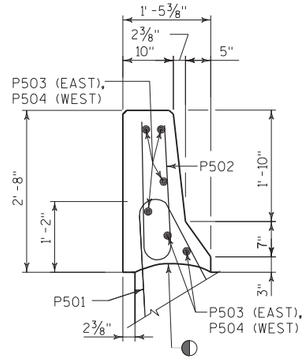
SCALE = 2:0 " : " / IN.

STATE PROJECT NUMBER

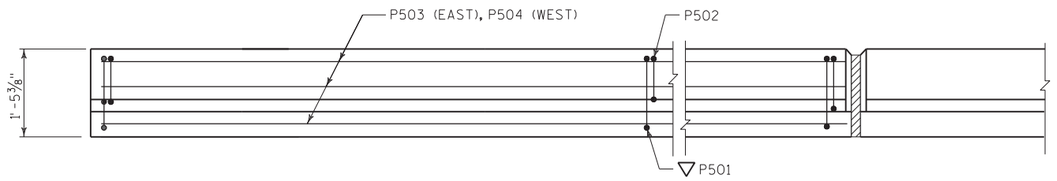
1133-09-71



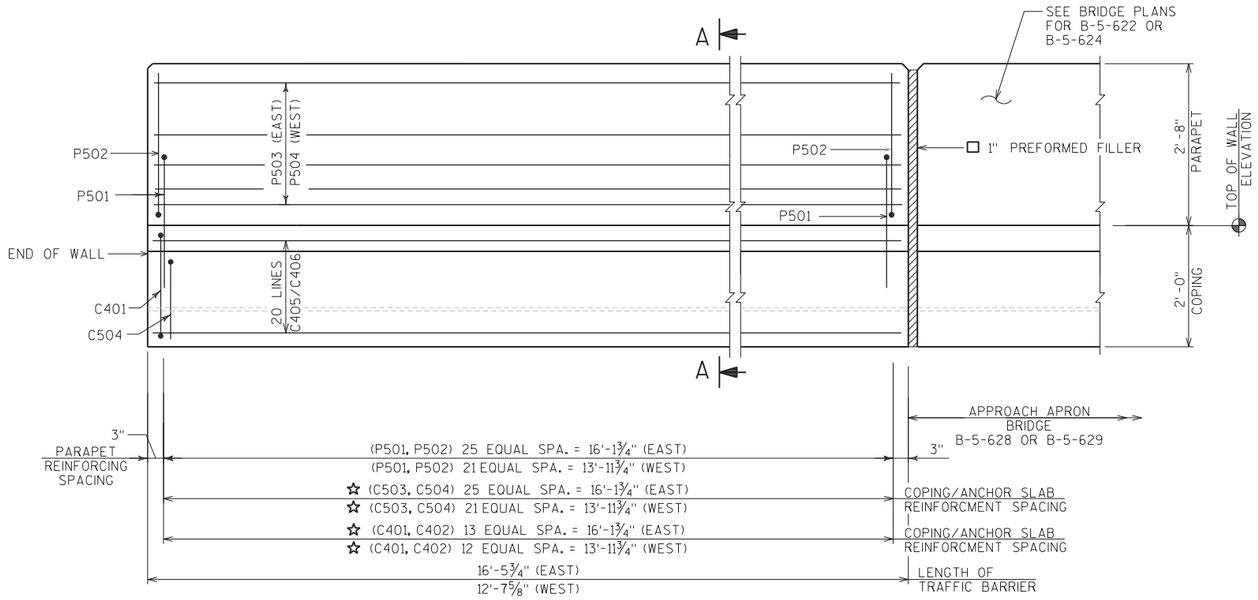
INSIDE ELEVATION



SECTION A



PLAN



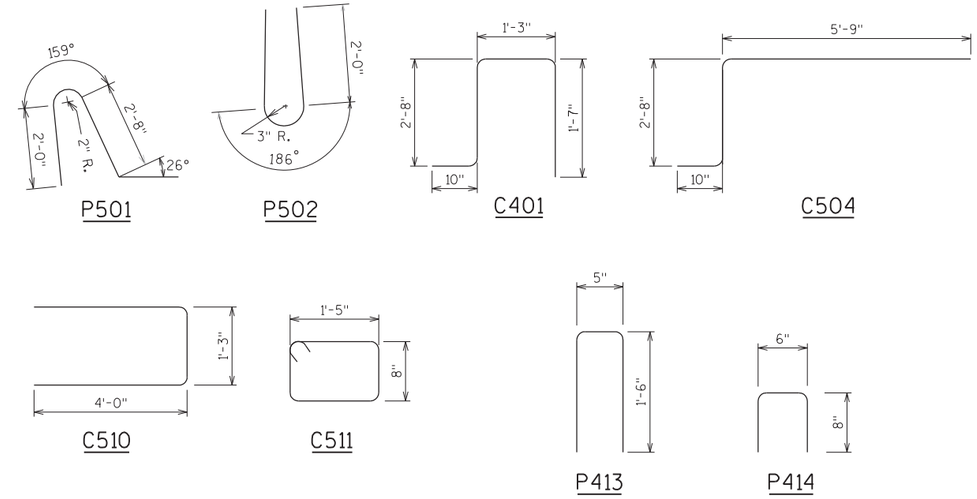
OUTSIDE ELEVATION

BILL OF BARS - PARAPET

BAR MARK	COATED	NO. REQ'D. WEST	NO. REQ'D. EAST	LENGTH	BENT	LOCATION
P501	X	22	26	5'-8"	X	PARAPET VERT.
P502	X	22	26	4'-10"	X	PARAPET VERT.
P503	X	--	6	16'-2"		EAST PARAPET HORIZ.
P504	X	6	--	14'-0"		WEST PARAPET HORIZ.
P413	X	4	4	3'-3"		PARAPET VERT.
P414	X	16	16	1'-8"		PARAPET HORIZ.

BILL OF BARS - TRAFFIC BARRIER

MARK	COATED	NO. REQ'D. WEST	NO. REQ'D. EAST	LENGTH	BENT	LOCATION
C401	X	13	14	6'-1"	X	COPING TIE-TRANSVERSE
C402	X	13	14	9'-6"		ANCHOR SLAB BOTTOM-TRANSVERSE
C503	X	22	26	9'-7"		ANCHOR SLAB TOP-TRANSVERSE
C504	X	22	26	9'-0"	X	ANCHOR SLAB TOP-TRANSVERSE
C405	X	---	40	9'-4"		EAST ANCHOR SLAB-LONGIT.
C406	X	40	---	10'-6"		WEST ANCHOR SLAB-LONGIT.
C510	X	4	4	9'-0"	X	ANCHOR SLAB-TRANSVERSE
C511	X	6	6	4'-9"	X	ANCHOR SLAB-LONGIT.
C412	X	8	8	5'-1"		ANCHOR SLAB-TRANSVERSE



LEGEND

□ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH CONCRETE STAIN (1" DEEP AND HOLD ⅛" BELOW CONCRETE SURFACE).

☆ DIMENSION SHOWN ALONG OUTSIDE OF COPING MAINTAIN EQUAL SPACING ACROSS SLAB.

◐ CONSTRUCTION JOINT, STRIKE OFF AND LEAVE ROUGH AS SHOWN.

▽ P501 BARS TO BE TIED TO ANCHOR SLAB STEEL PRIOR TO POURING ANCHOR SLAB.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-215

DRAWN BY TRW | PLANS CK'D. JFR

PARAPET & ANCHOR SLAB DETAILS

SHEET 9 OF 15
2469

SCALE = 2:6 " : " / IN.

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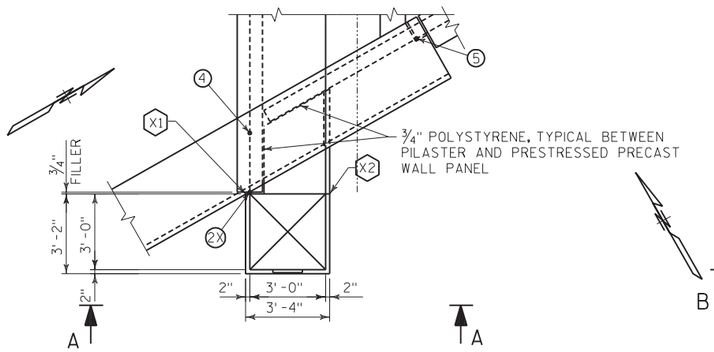
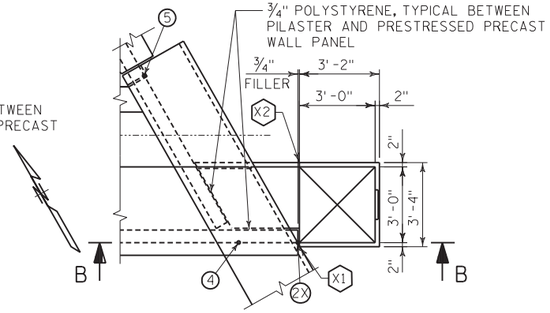
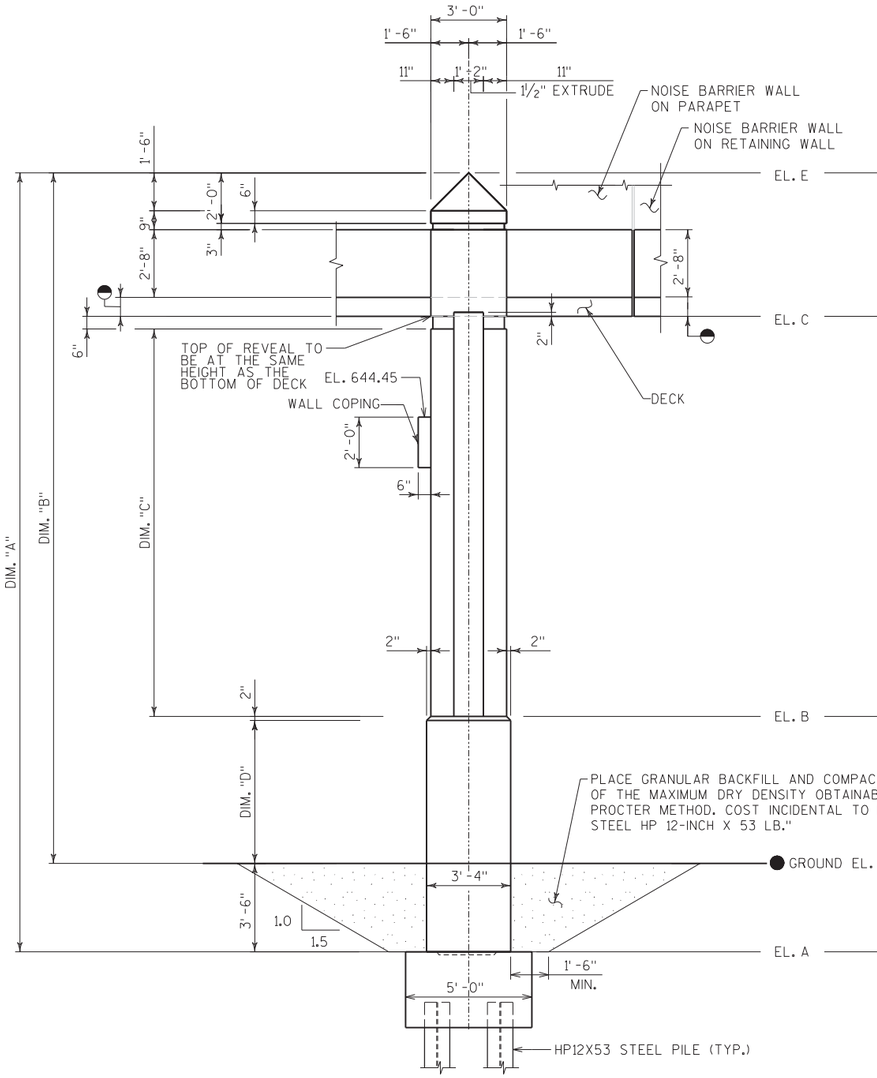


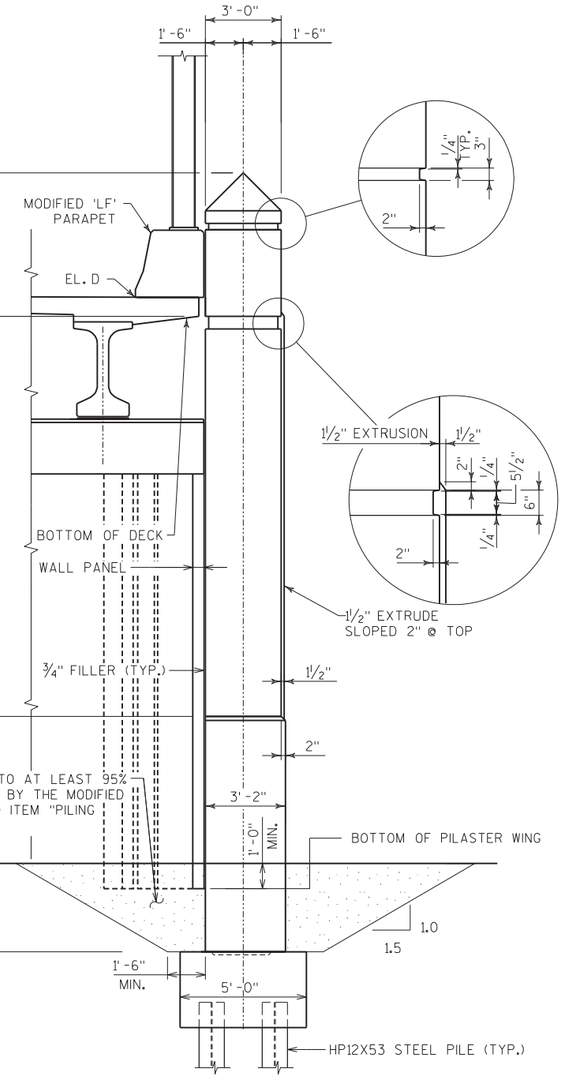
EAST PILASTER PLAN



EAST PILASTER PLAN



✳ ELEVATION A-A



✳ ELEVATION B-B

PILASTER DIMENSIONS

LOCATION	EAST	WEST
DIM. "A"	29'-9½"	27'-11½"
DIM. "B"	26'-3½"	24'-5½"
DIM. "C"	16'-0⅜"	14'-3⅝"
DIM. "D"	3'-10⅝"	3'-9⅜"

PILASTER ELEVATIONS

LOCATION	EAST	WEST
EL. A	628.09	630.61
EL. B	635.64	638.06
EL. C	652.17	652.86
■ EL. D	652.96	653.65
EL. E	657.88	658.57
● GROUND EL.	631.59	634.11

PILASTER LOCATIONS

LOCATION		41 NB STA.	OFFSET
WEST	X1	932+48.22	123.34' LT
	X2	932+49.70	125.95' LT
EAST	X3	931+39.31	62.84' RT
	X4	931+37.83	65.45' RT

LEGEND

- ■ EL. "D" = TOP OF DECK @ FACE OF PARAPET
- ◓ DISTANCE IS FROM TOP OF DECK AT FACE OF PARAPET TO BOTTOM OF DECK AT OUTSIDE EDGE = 9½".
- ● GROUND ELEVATION IS FINISHED GRADE.
- ✳ WEST PILASTER SHOWN, EAST SIMILAR

PILASTER FOUNDATION DATA

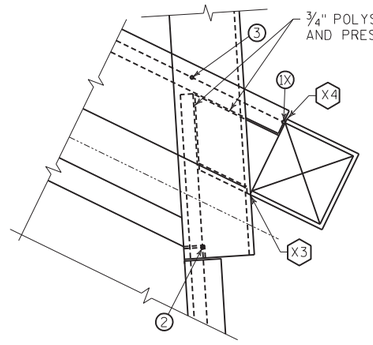
PILASTER TO BE SUPPORTED ON 4-HP12X53 STEEL PILES DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 75 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. THE REQUIRED UPLIFT IS 68 TONS ** PER PILE. ESTIMATED LENGTH = 31 FEET (EAST PILASTER), AND 37 FEET (WEST PILASTER) EXCAVATE TO ELVATION "A" PRIOR TO DRIVING PILE.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY. THE FACTORED AXIAL RESISTANCE OF PILES IN TENSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.25 USING STATIC ANALYSIS-ALPHA METHOD TO DETERMINE DRIVEN PILE CAPACITY.

DESIGN DATA

PILASTER AND FOUNDATION WERE DESIGNED PER AASHTO LRFD 5TH EDITION DESIGN SPECIFICATION.

DESIGN WIND LOAD = 47 PSF



WEST PILASTER PLAN

STATE PROJECT NUMBER

1133-09-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-215

DRAWN BY TRW | PLANS CK'D. JFR

PILASTER DETAILS

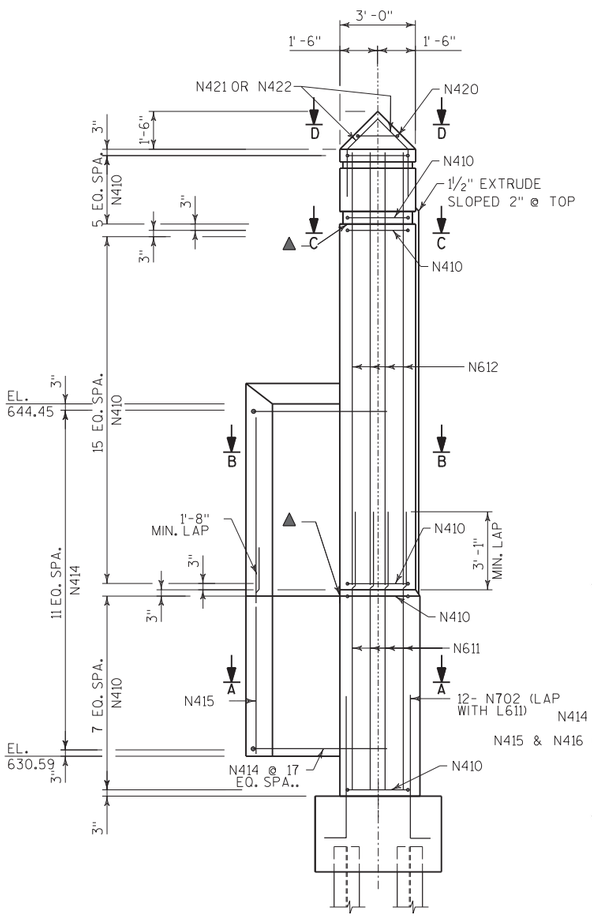
SHEET 10 OF 15
2470

8

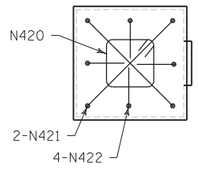
8

SCALE = 6:0 " : " / IN.

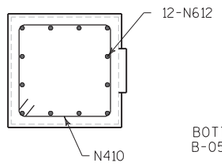
STATE PROJECT NUMBER
1133-09-71



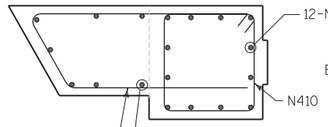
NORTH ELEVATION WITH REINFORCEMENT



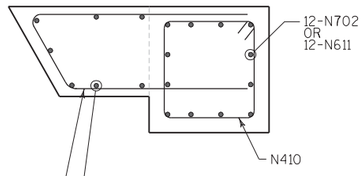
SECTION D-D



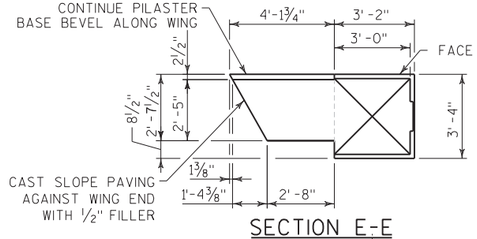
SECTION C-C

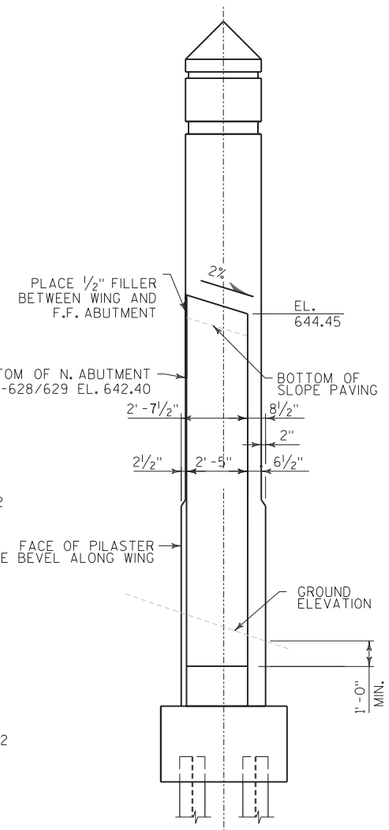


SECTION B-B

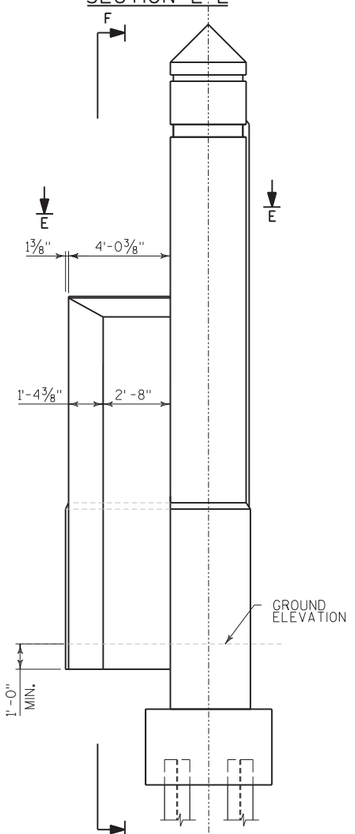


SECTION A-A





SECTION F-F

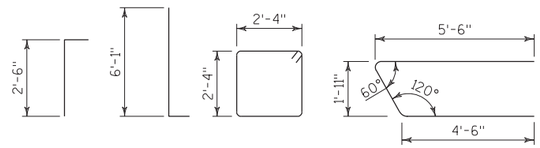


NORTH ELEVATION

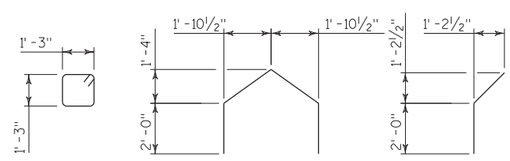
BILL OF BARS - PILASTERS

MARK	COATED	NO. REQ'D.	LENGTH	BENT	LOCATION
N701	X	16	3'-4"	X	BAR WELDED TO PILE
N702	X	24	6'-11"	X	FOOTING VERTICAL DOWELS
N503	X	40	4'-8"		FOOTING BOTTOM BARS
N410	X	63	10'-2"	X	COLUMN - STIRRUPS
N611	X	24	10'-6"		COLUMN - VERT.
N612	X	12	20'-9"		COLUMN - VERT. - (EAST)
N613	X	12	21'-5"		COLUMN - VERT. - (WEST)
N414	X	27	12'-1"	X	COLUMN @ WALL PANELS - HORIZ.
N415	X	14	7'-8"		COLUMN @ LOWER WALL PANELS - VERT.
N416	X	14	7'-3"		COLUMN @ WALL PANELS - VERT.
N420	X	2	5'-5"	X	PILASTER CAP - HORIZ.
N421	X	4	8'-5"	X	PILASTER CAP - VERT.
N422	X	8	3'-8"	X	COLUMN @ UPPER WALL PANELS - VERT.

NOTE: QUANTITIES IN BILL OF BARS ARE FOR BOTH PILASTERS



N701 N702 N410 N414



N420 N421 N422

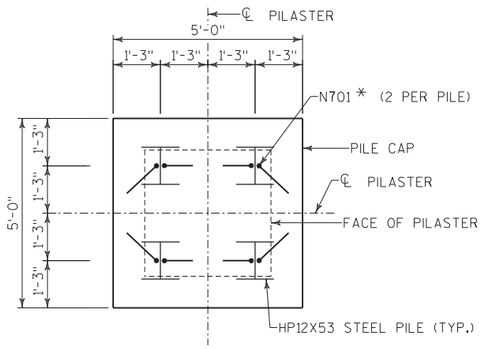
LEGEND & NOTES

* REINFORCEMENT WELDED TO PILE SHALL CONFORM TO ASTM A706.

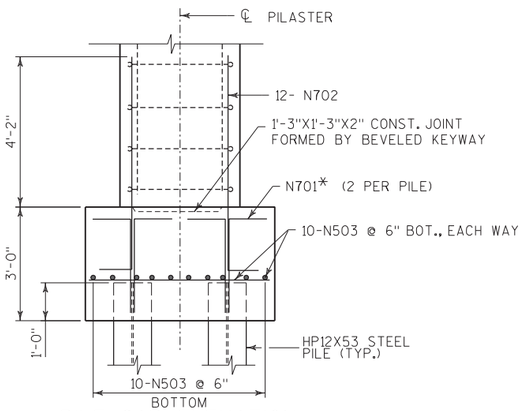
SEE AESTHETIC DETAIL SHEETS FOR AESTHETIC INFORMATION

▲ OPTIONAL CONSTRUCTION JOINT FORMED BY 1'-6" x 1'-6" x 2" BEVELED KEYWAY.

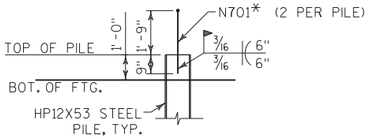
THE PILASTER CAP MAY BE PRECAST. DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.



PILE CAP PLAN



PILE CAP ELEVATION



PILE HEAD DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-215

DRAWN BY TRW | PLANS CK'D. JFR

EAST PILASTER

SHEET 11 OF 15
2471

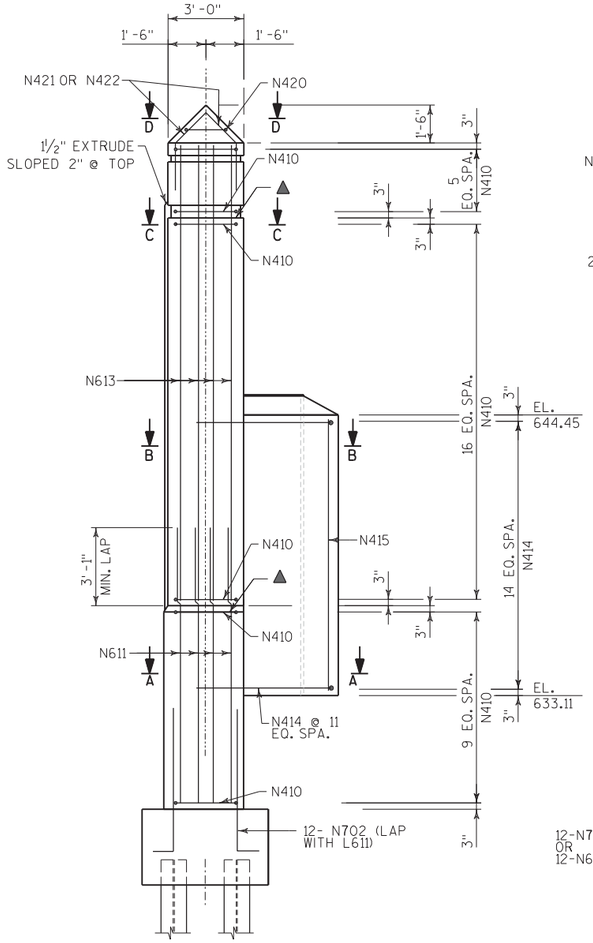
8

8

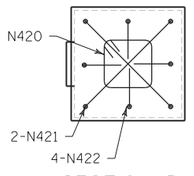
SCALE = 6:0 " :" / IN.

STATE PROJECT NUMBER

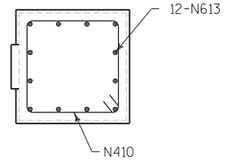
1133-09-71



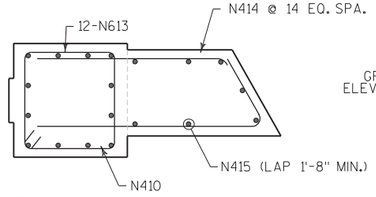
NORTH ELEVATION WITH REINFORCEMENT



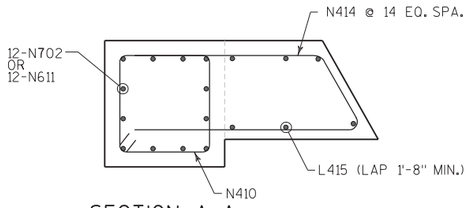
SECTION D-D



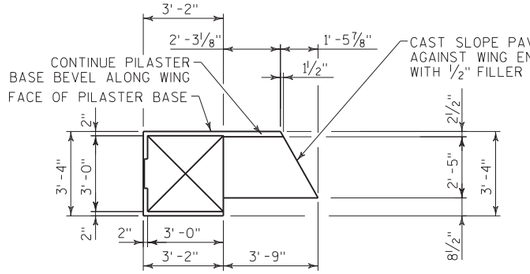
SECTION C-C



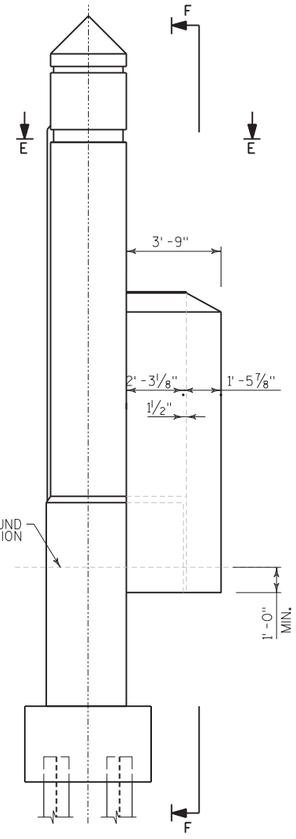
SECTION B-B



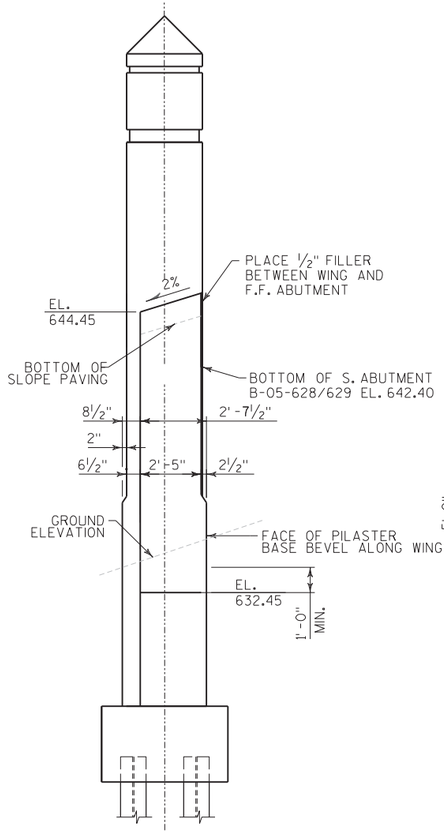
SECTION A-A



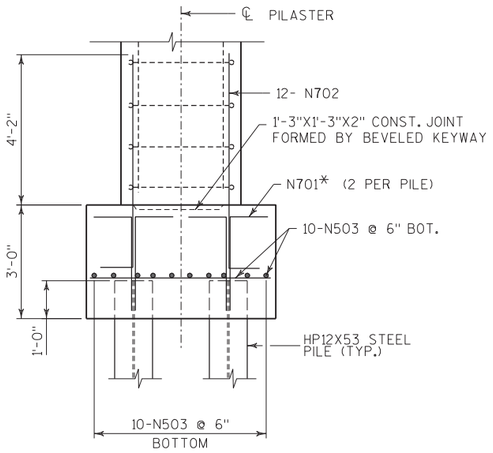
SECTION E-E



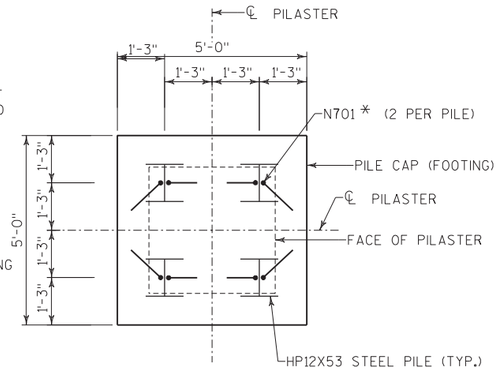
NORTH ELEVATION



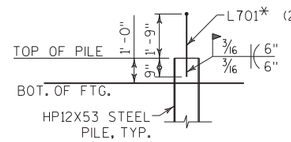
SECTION F-F



PILE CAP ELEVATION



PILE CAP PLAN



PILE HEAD DETAIL

LEGEND & NOTES

* REINFORCEMENT WELDED TO PILE SHALL CONFORM TO ASTM A706.
  SEE AESTHETIC DETAIL SHEETS FOR AESTHETIC INFORMATION
▲ OPTIONAL CONSTRUCTION JOINT FORMED BY 1'-6" x 1'-6" x 2" BEVELED KEYWAY.
  THE PILASTER CAP MAY BE PRECAST. DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
  SEE SHT. 11 FOR BILL OF REINFORCEMENT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-215

DRAWN BY TRW | PLANS CK'D. JFR

WEST PILASTER

SHEET 12 OF 15
2472

SCALE = 6:0 " / IN.

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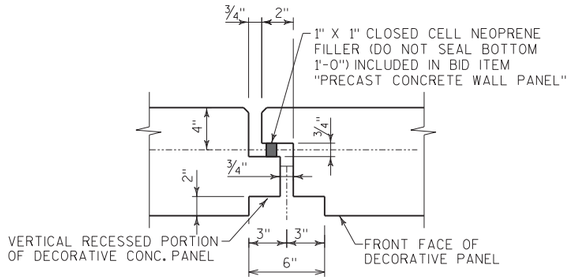
$$...plottingtime...$$

3/28/2013

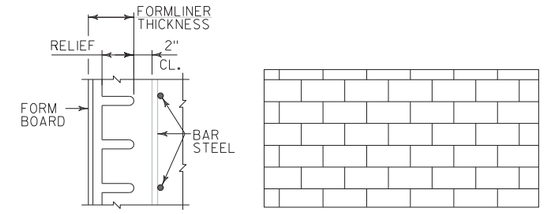
STATE PROJECT NUMBER

1133-09-71



SECTION A-A

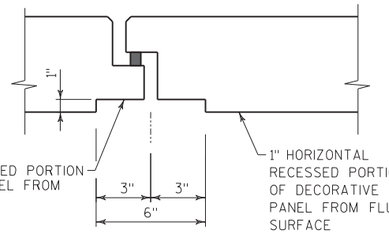
CHAMFER REVEALS 1/16" PER INCH OF DEPTH



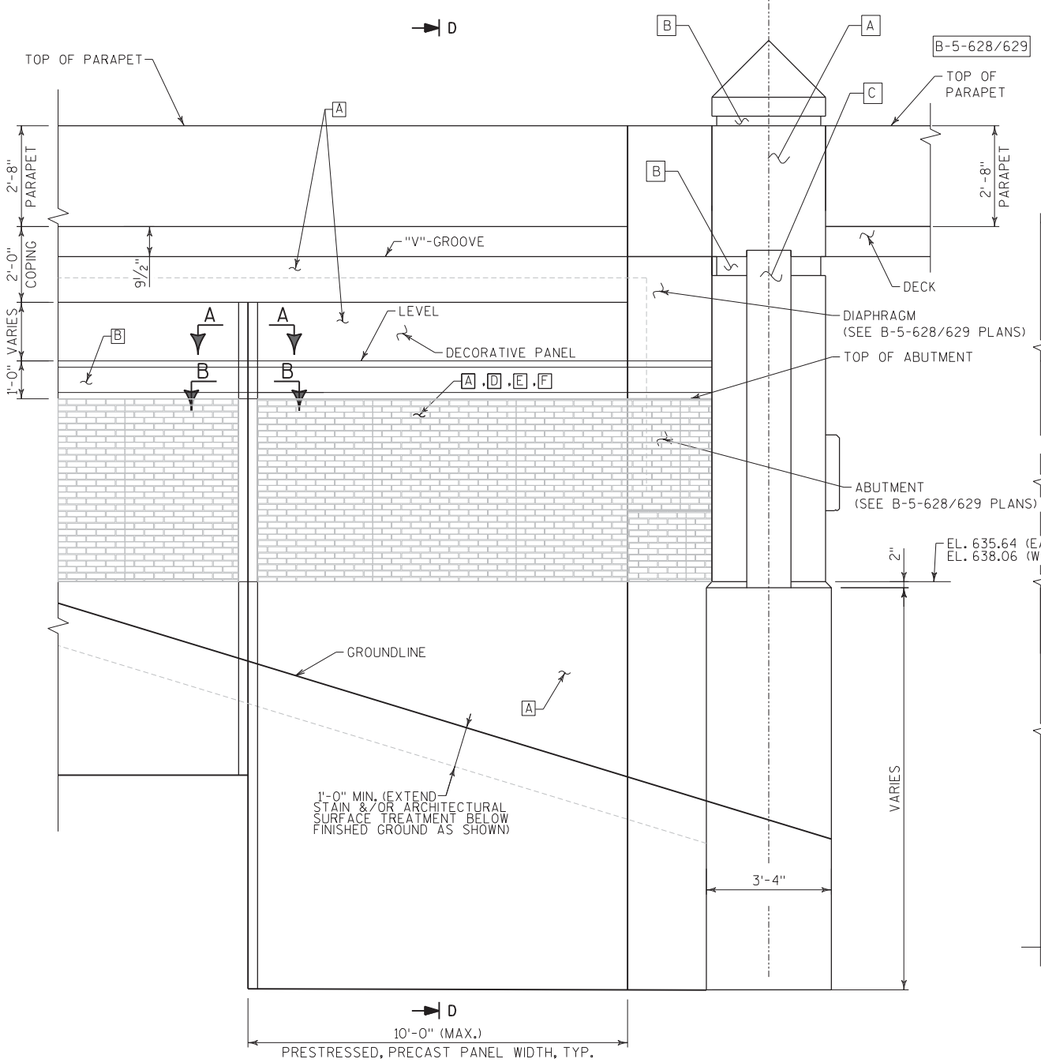
SECTION THRU FORMLINER

ARCHITECTURAL SURFACE TREATMENT
RECTANGULAR BRICK

SIZE = 2 1/4" TO 2 3/8" x 7 5/8" TO 8"
MAX. RELIEF = 1/2"

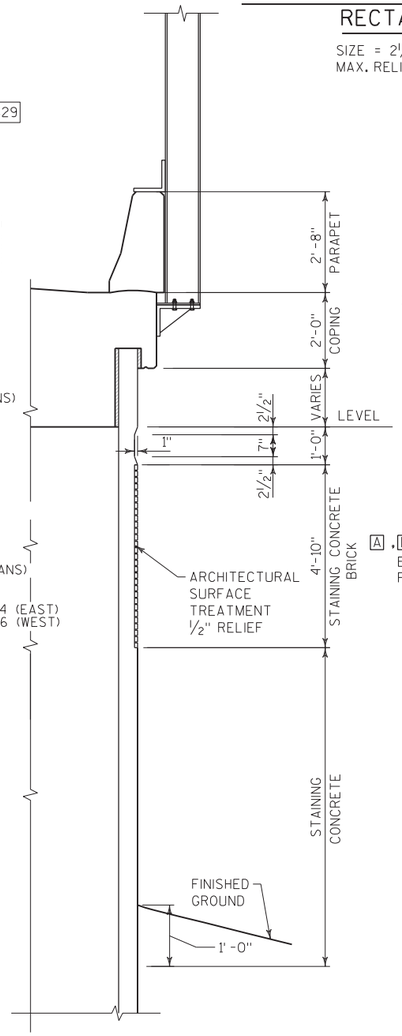


SECTION B-B

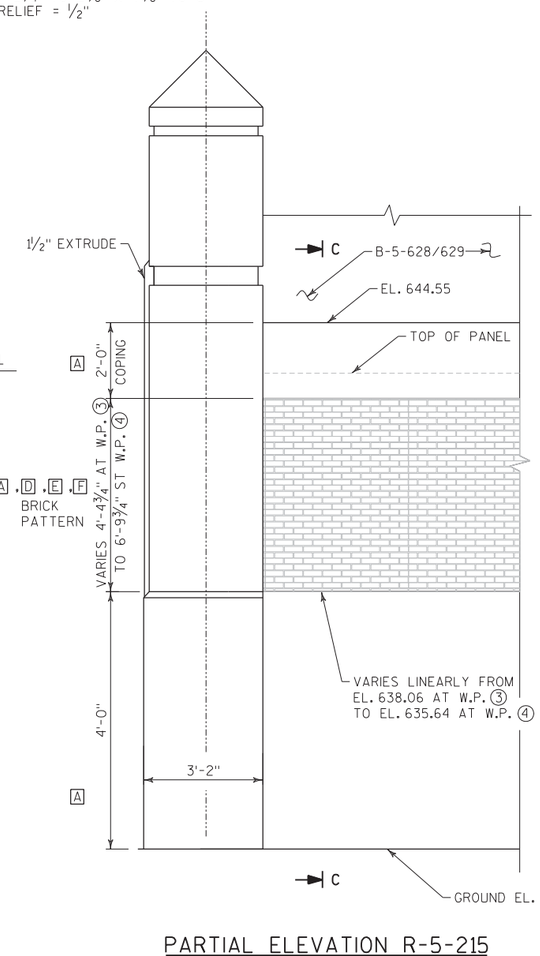


PARTIAL ELEVATION R-5-215

(LOOKING EAST AT WEST SIDE OF WALL, EAST SIDE MIRROR IMAGE)

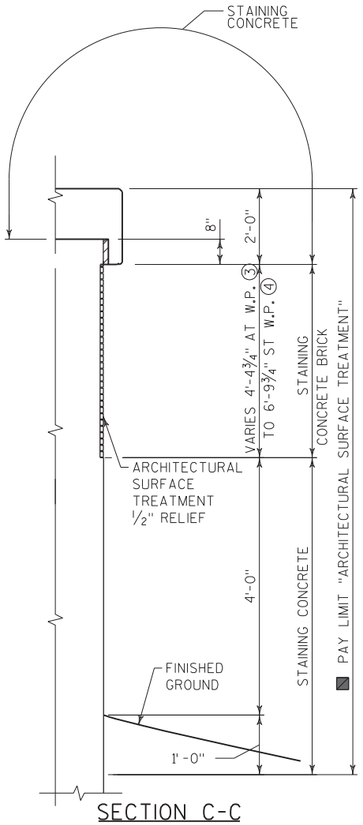


SECTION D-D



PARTIAL ELEVATION R-5-215

(LOOKING NORTH AT WEST END OF WALL, EAST END MIRROR IMAGE)



SECTION C-C

LEGEND

▨ PAY LIMIT FOR "ARCHITECTURAL SURFACE TREATMENT" FOR THE WALL PANELS IS FROM TOP OF WALL TO 1'-0" BELOW GRADE. SEE SPECIAL PROVISIONS AND FORMLINER DETAILS THIS SHEET.

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS, PILASTERS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS
C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)
G	ACCENT COLOR #6	NOT USED

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-215

DRAWN BY TRW | PLANS CK'D. JFR

AESTHETIC DETAILS-1

SHEET 13 OF 15
2473

SCALE = 4:0 " :" / IN.

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STATE PROJECT NUMBER

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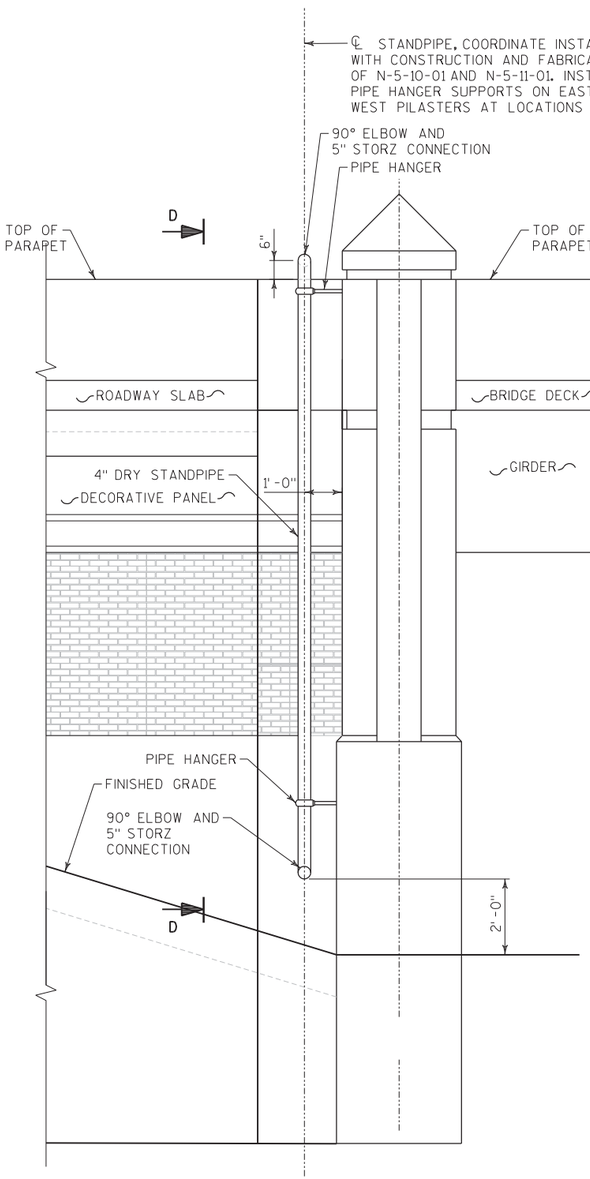
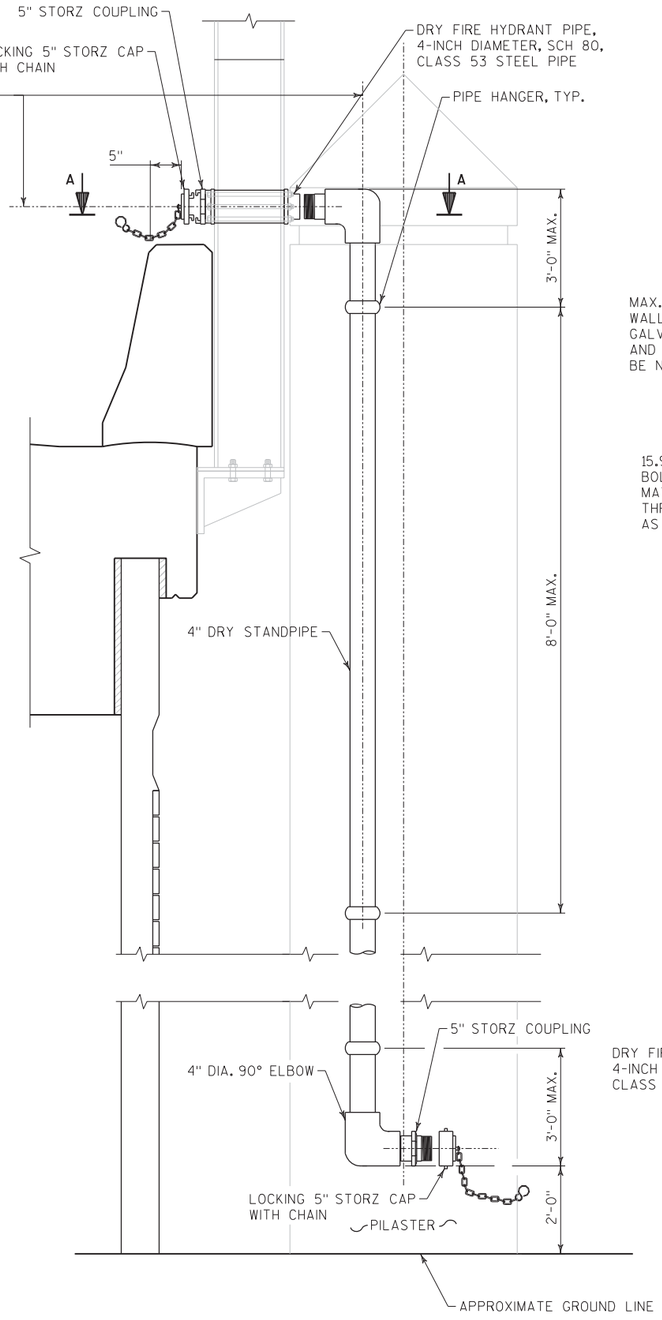
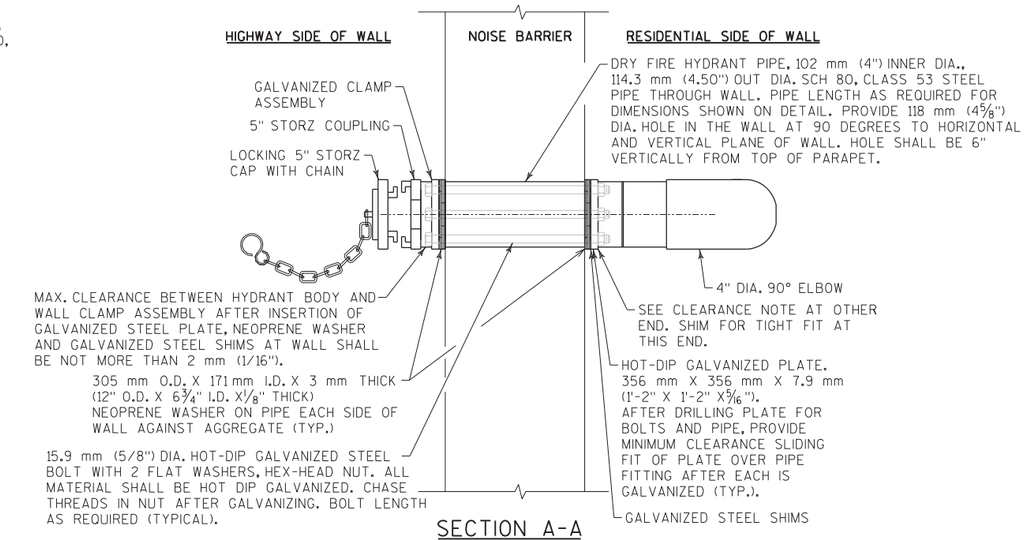


TYPICAL STANDPIPE LOCATION



SECTION D-D
DISCHARGE CONNECTION ELEVATION



SECTION A-A

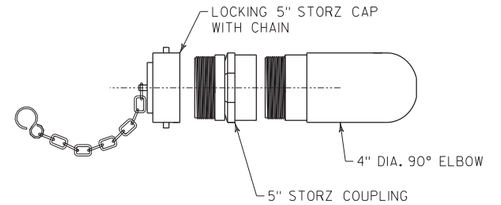
MATERIALS AND SPECIFICATIONS;

STEEL PLATE	ASTM A36-84a
BOLTS	ASTM A30-86a GRADE
PIPE	ASTM A53-84a SEAMLESS GRADE B
GALVANIZING	ASTM A123-84 HOT DIP FOR STEEL PLATE, ETC. ASTM A153-87 HOT-DIP GALVANIZED CLASS C FOR HARDWARE, BOLTS, ETC.

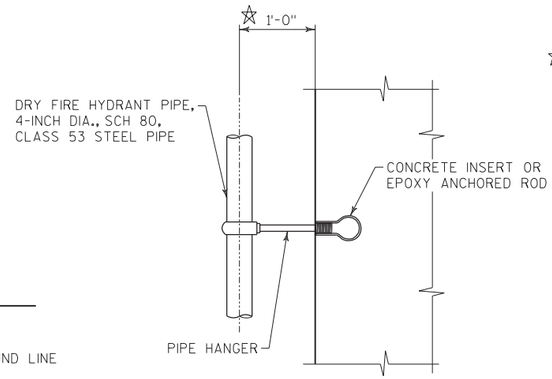
NOTES;

1) TIP CONNECTOR SLIGHTLY TOWARD HIGHWAY SIDE OF WALL TO PROVIDE DRAINAGE.

2) SEE FIRE HYDRANT LOCATION/HOSE ACCESS CONSTRUCTION DETAIL FOR PLACEMENT OF SIGNS.



DISCHARGE CONNECTION PLAN



CONCRETE INSERT

LEGEND

☆ ℄ PIPE TO CONCRETE SURFACE, TYP. MAY VARY DUE TO AESTHETIC IRREGULARITIES IN SURFACE

NOTES

PAINT 4" DIA. CLASS 53 STEEL PIPE WITH URETHANE PAINT PER SPV.0060.901 "STANDPIPE SYSTEM." PAINT COLOR TO BE BASKET BEIGE SW 6143.

PIPE, PIPE CLAMPS, HAMGERS, ADHESIVE ANCHOR RODS, STORZ COUPLINGS, FITTING AND MISC. ITEMS ARE INCIDENTAL TO BID ITEM SPV.0060.901 "STANDPIPE SYSTEMS."

PIPE SUPPORTED AT 8'-0" MAX.

STANDPIPE NO.	PILASTER	℄ STATION	℄ OFFSET	℞
1	EAST	931+43.33	63.78'RT	USH 41 NB
2	WEST	932+49.90	124.28'LT	USH 41 NB

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-215

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STANDPIPE DETAILS

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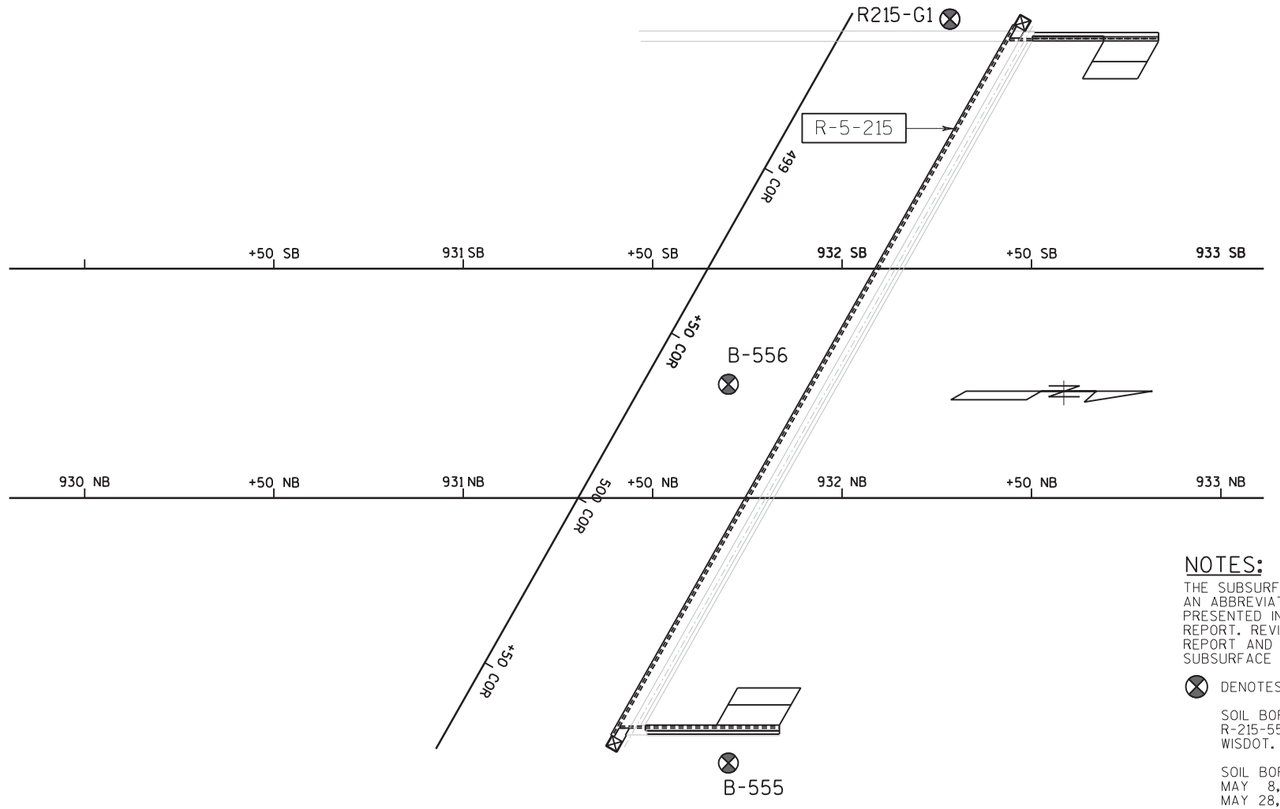
SCALE = 4:0 " / IN.



PLAN

MSE RETAINING WALL WITH TILT-UP PANELS

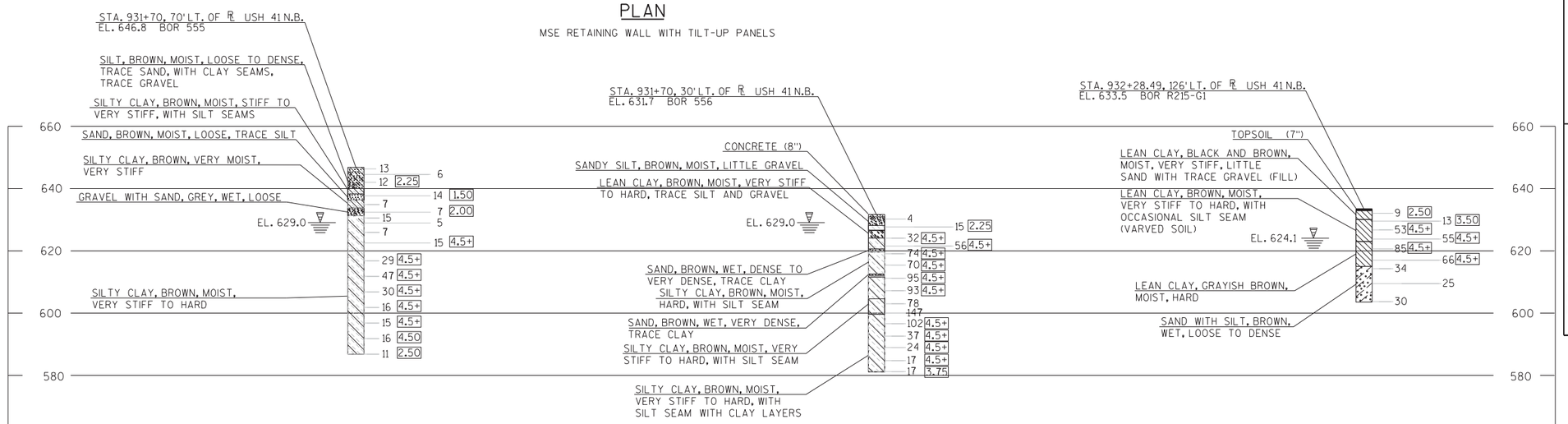
NOTES:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

⊗ DENOTES SOIL BORING LOCATION

SOIL BORING R-215-G-1, R-215-555 AND R-215-556 WERE COMPLETED BY WISDOT.

SOIL BORING TAKEN:
MAY 8, 2008 - BOR-R-215-G1
MAY 28, 2008 - BOR-R-215-555
MAY 28, 2009 - BOR-R-215-556



ELEVATION

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STATE PROJECT NUMBER

1133-09-71

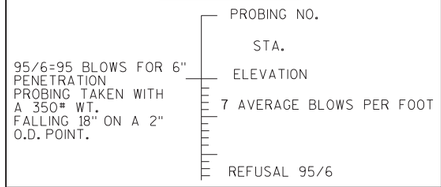
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

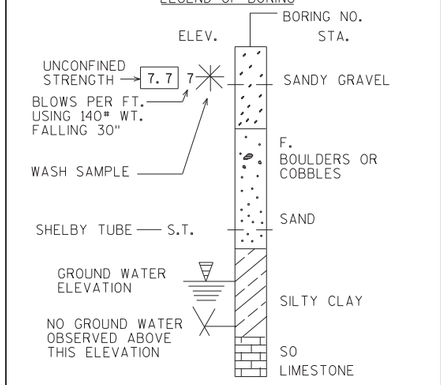
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE, SAND, PEAT, LIMESTONE, GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-5-215

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SUBSURFACE EXPLORATION

SHEET 15 OF 15
2475

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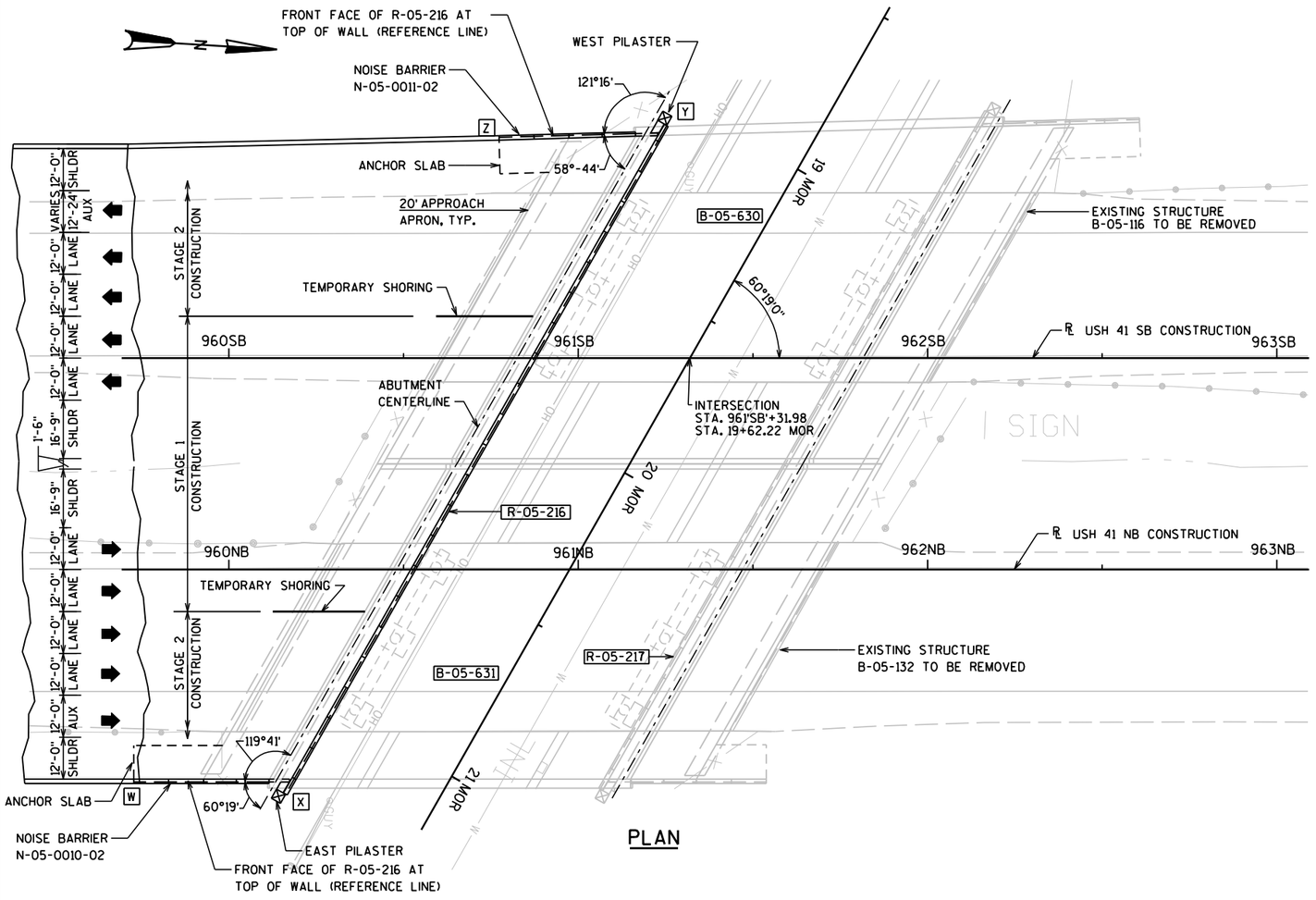
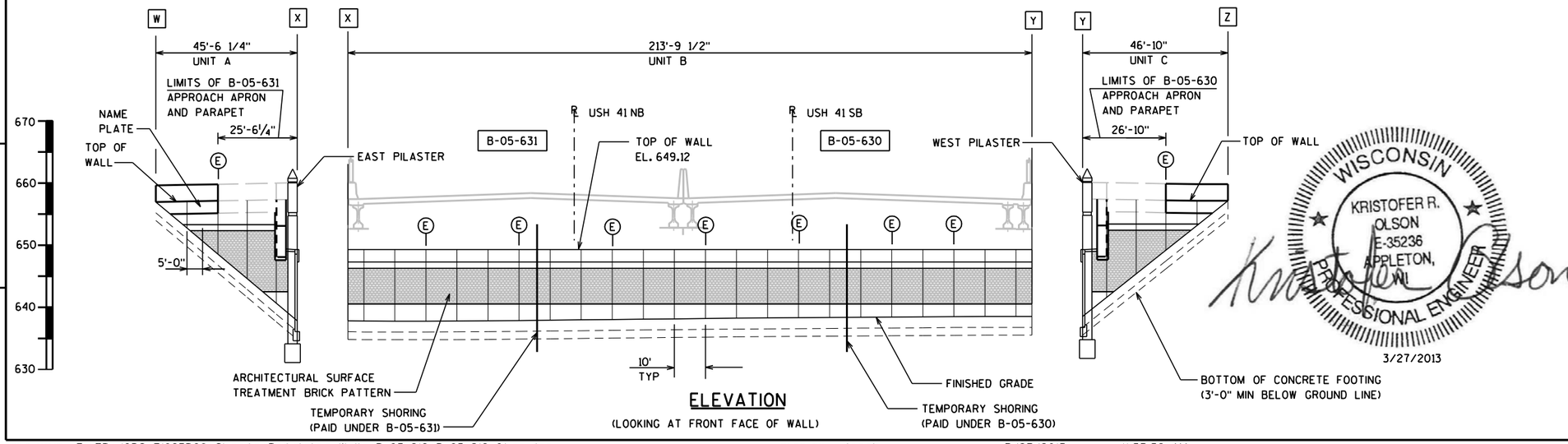


PLAN



ELEVATION

(LOOKING AT FRONT FACE OF WALL)

DESIGN DATA

LIVE LOAD

LIVE LOAD SURCHARGE (TRAFFIC) —— 240 P.S.F.

MATERIAL PROPERTIES

CONCRETE MASONRY RETAINING WALLS —— f'c = 4,000 psi

HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 —— fy = 60,000 psi

PRESTRESSED PRECAST CONCRETE WALL PANELS —— f'c = 5,000 psi

STRUCTURAL STEEL CARBON (ASTM A709 GRADE 36) —— f'c = 36,000 psi

FOUNDATION DATA

ALLOWABLE SOIL BEARING CAPACITIES

MSE WALL —— SEE TABLE

PILASTER TO BE SUPPORTED ON HP 12 X 53 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 75 TONS ** PER PILE DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 75 FEET LONG.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC VOLUME

USH 41	MORRIS AVE.
A.D.T. = 73,400 (2009)	A.D.T. = 3,000 (2003)
= 102,400 (2032)	= 3,400 (2032)
R.D.S. = 70 M.P.H.	R.D.S. = 30 M.P.H.

WALL COORDINATES

POINT	WALL STATION	REFERENCE LINE STATION	OFFSET TO FRONT FACE OF WALL	NORTHING	EASTING	TOP OF WALL	FINISHED GROUND
W	50+00.00	959NB+72.74	60.75	562951.58	82342.4	656.96	656.96
X	50+45.52	960NB+18.26	60.75	562997.02	82339.57	649.12	637.82
	50+45.52	21MOR+23.89	38.75	562997.02	82339.57	649.12	637.82
Y	52+59.31	19MOR+10.10	38.75	563091.16	82147.63	649.12	638.52
	52+59.31	961SB+24.13	64.48	563091.16	82147.63	649.12	638.52
Z	53+06.14	960SB+77.32	63.18	563044.52	82151.83	657.64	657.15

STATE PROJECT NUMBER

1133-03-77

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. QUANTITIES & GENERAL NOTES
3. DESIGN DATA AND WALL DETAILS
4. SUBSURFACE EXPLORATION
5. WALL SECTIONS
6. WALL DETAILS
7. ANCHOR SLAB UNIT A
8. ANCHOR SLAB UNIT C
9. COPING AND PARAPET
10. NOISE BARRIER ANCHORAGE
11. NOISE BARRIER ANCHORAGE DETAILS
12. PILASTER
13. PILASTER DETAILS
14. AESTHETIC DETAILS (1 OF 2)
15. AESTHETIC DETAILS (2 OF 2)

BRIDGE OFFICE CONTACT

WILLIAM DREHER
(608) 266-8499

CONSULTANT CONTACT

OMNNI ASSOCIATES
KRISTOFER OLSON
(920) 735-6900

LEGEND

Ⓔ EXPANSION JOINT

WISCONSIN
KRISTOFER R. OLSON
E-35236
APPLETON, WI
PROFESSIONAL ENGINEER

3/27/2013

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY

OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/03/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-05-216

RETAINING WALL AT USH 41 S. OF MORRIS AVE

COUNTY	VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC.	LOAD
AASHTO STD SPEC. 2003	NA

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JAW	KRO	DPP	JAW

GENERAL PLAN AND ELEVATION

SHEET 1 OF 15

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STATE PROJECT NUMBER
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GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL RETAINING WALL STATIONS AND OFFSETS ARE MEASURED ALONG USH 41 NB/SB REFERENCE LINES OR MORRIS AVENUE CENTERLINE.

LENGTH OF RETAINING WALL IS MEASURED ALONG THE FRONT FACE AT THE REFERENCE LINE.

OFFSETS ARE MEASURED TO THE FRONT FACE OF RETAINING WALL.

APPLY PROTECTIVE SURFACE TREATMENT TO THE EXPOSED SURFACE OF THE ANCHOR SLABS, AND TO THE INSIDE AND TOP FACES OF PARAPET.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

ALL BAR STEEL REINFORCEMENT IS TO BE EPOXY COATED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK OR FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK INDICATE THE SIZE OF BAR.

REINFORCING BARS SHALL BE TAGGED SO THAT THE STRUCTURE UNIT IN WHICH THEY ARE TO BE PLACED IS IDENTIFIABLE.

THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATIONS AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE.

THESE PLANS ARE FOR A WIRE FACED MECHANICALLY STABILIZED EARTH WALL WITH PRESTRESSED PRECAST CONCRETE FACING PANELS.

COORDINATE THE CONSTRUCTION OF WALL R-05-216 WITH THE SOUTH ABUTMENTS OF B-05-630 AND B-05-631.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, AND SHOP DRAWINGS FOR THE RETAINING WALL, DEADMEN ANCHOR BLOCKS AND RODS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEMS "WALL WIRE FACED MECHANICALLY STABILIZED EARTH" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL".

THE COST OF FURNISHING AND PLACING THE FOOTING UNDER THE PRESTRESSED PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

THE COST OF FURNISHING AND PLACING THE CAST-IN-PLACE CONCRETE COPING IN UNIT B IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE ANCHOR SLAB, PARAPETS AND PILASTERS IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".

PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

OPTIONAL TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE FOOTING WITH A MINIMUM SPACING OF TWO PANEL JOINTS. FOOTING JOINTS SHOULD BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THRU FOOTING JOINTS.

DO NOT ALLOW CONCRETE OR FILL TO DROP OR ACCUMULATE IN CAVITY BETWEEN THE WIRE FACED WALL AND PRECAST CONCRETE WALL PANEL.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

DESIGN FOR RETAINING WALL TO PROVIDE FOR A FINISHED GRADE SLOPE BEHIND THE WALL AS SHOWN IN THESE PLANS AND THE ROADWAY CROSS SECTIONS.

PLAN DIMENSIONS, QUANTITIES AND REINFORCEMENT DETAILS ARE BASED ON A CONCRETE WALL PANEL THICKNESS OF 9 ½ INCHES. FOR PANEL THICKNESSES OTHER THAN 9 ½ INCHES, THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, REINFORCEMENT BAR DETAILS, AND QUANTITIES AND WILL BE RESPONSIBLE FOR ANY QUANTITY VARIATIONS.

TEMPORARY SHORING MAY BE LEFT IN PLACE. TOP OF SHORING MUST BE 3' BELOW FINISHED GRADE IF LEFT IN PLACE.

DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURES ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

THE FOLLOWING DESIGN PRESSURES ARE USED TO DESIGN THE NOISE BARRIERS IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND SHALL BE ACCOUNTED FOR IN THE DESIGN OF THE WALL:
- 28.5 P.S.F. FOR GROUND MOUNTED BARRIERS
- 37.5 P.S.F. FOR STRUCTURE MOUNTED BARRIERS

NOISE BARRIERS MOUNTED ON RETAINING WALLS REQUIRE THE COMPLETE ROADWAY PAVEMENT STRUCTURE (OR EQUIVALENT EARTH FILL) OVER THE TOP OF THE MOMENT SLAB TO RESIST DESIGN WIND PRESSURE. LIMIT ERECTION OF THE PANELS TO 2/3 THE HEIGHT OF THE ACOUSTIC LINE PRIOR TO PLACEMENT OF PAVEMENT.

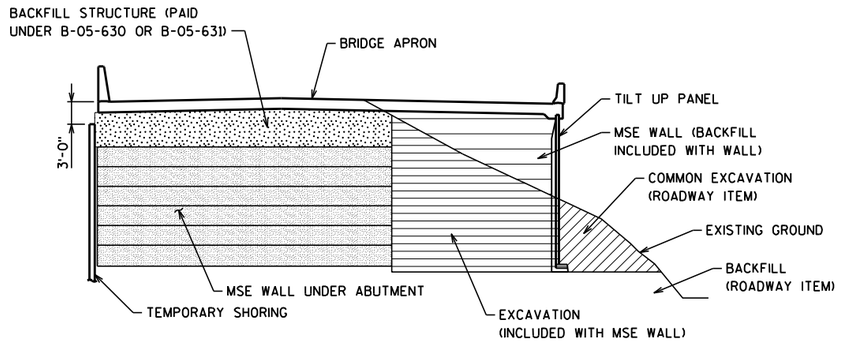
DRIVE PILING FOR PILASTER BEFORE THE MSE WALL IS CONSTRUCTED. CONTRACTOR MAY PROPOSE ALTERNATE SUPPORT SYSTEM FOR THE PILASTER.

AT THE ENDS OF WALL SEAL CAVITY BETWEEN WIRE FACE WALL AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE 1'-6" WIDE. INCIDENTAL TO BID ITEM PRESTRESSED PRECAST CONCRETE WALL PANEL.

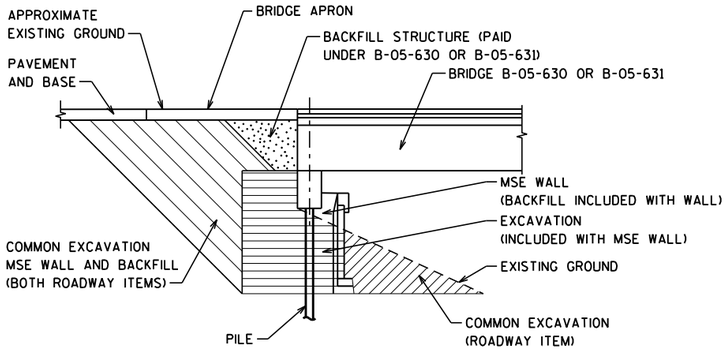
TOTAL ESTIMATED QUANTITIES

ALL BID ITEMS ARE CATEGORY 4180

ITEM NUMBER	BID ITEM	UNIT	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	40
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	67
505.0415	BAR STEEL REINFORCEMENT HS RETAINING WALLS	LB	310
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	5,980
532.0700.S	WALL WIRE FACED MECAHNICALLY STABILIZED EARTH	SF	3,140
550.1120	PILING STEEL DELIVERED AND DRIVEN HP 12-INCH X 53 LB	LF	600
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	400
SPV.0060.701	ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES	EACH	4
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	1,650
SPV.0165.501	STAINING CONCRETE	SF	2,700
SPV.0165.502	STAINING CONCRETE BRICK	SF	1,650
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	3,140
	NON-BID ITEMS		
	PREFORMED JOINT FILLER, 3/4-INCH		
	CORK FILLER, 1-INCH		
	EXPANDED POLYSTYRENE, 3/4-INCH, 1-INCH		



MSE WALL UNDER BRIDGE APRON (TYP)



MSE WALL UNDER ABUTMENT (TYP)

BENCH MARKS

NO.	DESCRIPTION	ELEV.
529	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE SOUTHWEST QUADRANT OF SANTA BARBARA DR. & EMINENCE ST. 35' WEST OF THE SANTA BARBARA DR. AND 25' NORTH OF PRIVATE ENTRANCE 1351.	646.43
530	CHISELED "X" ON A FIRE HYDRANT BURY BOLT ON THE WEST SIDE OF HILLTOP RD. 155' NORTH OF THE INTERSECTION OF MORRIS AVE. & HILLTOP DR. 35' FEET WEST OF THE CENTERLINE OF HILLTOP DR.	644.33
551	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE NORTHWEST QUADRANT OF MORRIS AVE & ARGONNE ST. 40' NORTH OF MORRIS AVE. & 60' WEST OF ARGONNE ST.	640.59

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-216

DRAWN BY BRE | PLANS CK'D. KRO

QUANTITIES AND GENERAL NOTES

SHEET 2 OF 15

2477

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STATE PROJECT NUMBER
1133-03-77

WALL GEOMETRY

WALL STATION	TOP OF WALL	FINISHED GROUND
UNIT A		
50+00.00	656.96	656.96
50+10.00	657.05	652.76
50+20.00	657.14	648.55
50+29.38	657.23	644.61
50+38.76	657.32	640.66
50+45.52	649.12	637.82
UNIT B		
50+45.52	649.12	637.82
50+46.58	649.12	637.78
50+56.58	649.12	637.77
50+66.58	649.12	637.77
50+76.58	649.12	637.79
50+86.58	649.12	637.82
50+96.58	649.12	637.87
51+06.58	649.12	637.93
51+16.58	649.12	637.98
51+26.58	649.12	638.04
51+36.58	649.12	638.09
51+46.58	649.12	638.14
51+56.58	649.12	638.20
51+66.58	649.12	638.25
51+76.58	649.12	638.28
51+86.58	649.12	638.32
51+96.58	649.12	638.35
52+06.58	649.12	638.39
52+16.58	649.12	638.42
52+26.58	649.12	638.45
52+36.58	649.12	638.49
52+46.58	649.12	638.52
52+56.58	649.12	638.56
52+59.31	649.12	638.52
UNIT C		
52+59.31	649.12	638.52
52+67.06	657.89	641.60
52+76.60	657.84	645.40
52+86.14	657.77	649.19
52+96.14	657.71	653.17
53+06.14	657.64	657.15

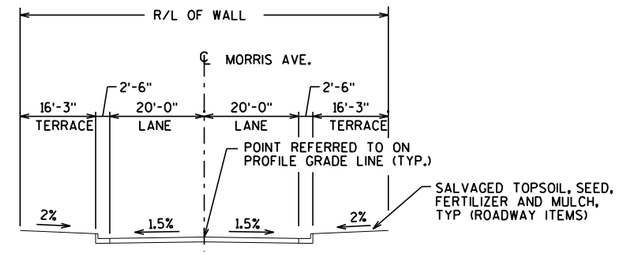
SOIL PARAMETERS

SOIL DESCRIPTION	BOTTOM ELEVATION (FEET)	UNIT WEIGHT (PCF)	UNDRAINED		DRAINED	
			COHESION (PSF)	FRICTION ANGLE (DEGREES)	COHESION (PSF)	FRICTION ANGLE (DEGREES)
BORING B557						
EXISTING FILL	637.0	125	---	28	---	28
MEDIUM STIFF LEAN CLAY	635.5	130	1,000	---	---	26
GRANULAR FILL (WITHIN MSE WALL)	635.0	125	---	30	---	30
LOOSE TO MEDIUM DENSE SILT	621.7	120	---	28	---	28
MEDIUM DENSE SAND	614.5	120	---	30	---	30
STIFF LEAN CLAY	611.0	130	1,500	---	---	28
VERY STIFF TO HARD SILTY CLAY	584.0	135	4,000	---	---	32
BORING B-3						
EXISTING FILL	635.0	125	---	28	---	28
GRANULAR FILL (WITHIN MSE WALL)	635.0	125	---	30	---	30
LOOSE TO MEDIUM DENSE SAND	615.2	120	---	28	---	28
VERY STIFF TO HARD SILTY CLAY	601.0	135	3,000	---	---	31
HARD LEAN CLAY	595.0	135	4,500	---	---	32
STIFF SILTY CLAY	575.2	130	1,500	---	---	28
BORING B-2						
EXISTING FILL	637.6	125	---	28	---	28
GRANULAR FILL (WITHIN MSE WALL)	634.3	125	---	32	---	30
LOOSE TO MEDIUM DENSE SAND	617.0	120	---	30	---	30
MED STIFF LEAN CLAY	611.8	130	1,000	---	---	28
VERY STIFF TO HARD SILTY CLAY	601.1	135	3,000	---	---	32
STIFF SILTY CLAY	575.6	130	1,500	---	---	30

SAFETY FACTORS FOR MSE WALLS

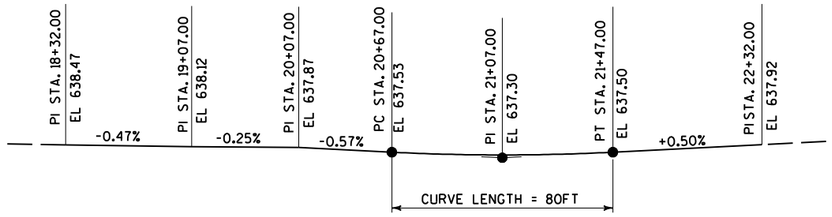
UNIT	DRAIN CONDITION	MAXIMUM WALL HEIGHT [1] (FEET)	REINFORCED LENGTH (FEET)	MINIMUM REINFORCEMENT RATIO	CONDITION	CALCULATED SAFETY FACTOR	MINIMUM REQUIRED SAFETY FACTOR
A	DRAINED / UNDRAINED	21	19.0	0.9	GLOBAL	1.7 [7]	1.3
					OVERTURNING	4.1	2.0
					SLIDING	1.9	1.5
					BEARING	2.6	2.5
					ALLOWABLE BEARING CAPACITY = 4,400 PSF		
B	DRAINED / UNDRAINED	13 [2]	18.0	1.4	GLOBAL	1.9	1.3
					OVERTURNING	4.3	2.0
					SLIDING	1.6	1.5
					BEARING	3.8	2.5
					ALLOWABLE BEARING CAPACITY = 5,800 PSF		
C	DRAINED / UNDRAINED	20	19.0	0.9	GLOBAL	1.8 [7]	1.3
					OVERTURNING	4.6	2.0
					SLIDING	1.9	1.5
					BEARING	2.6	2.5
					ALLOWABLE BEARING CAPACITY = 4,400 PSF		

1. MAXIMUM WALL HEIGHT INCLUDES 3 FOOT MINIMUM EMBEDMENT BELOW FINISHED GROUND IN FRONT OF WALL.
2. SOIL RETENTION BEHIND THE ABUTMENT IS 11 FEET, SO ACTUAL SOIL RETENTION IS 24 FEET.
3. THE LENGTH OF REINFORCING STRIPS IS THE MINIMUM REQUIRED LENGTH FOR THE WALL HEIGHT AT THE EVALUATED SECTION.
4. FINAL DESIGN FOR INTERNAL STABILITY AND EXTERNAL SLIDING AND OVERTURNING IS THE RESPONSIBILITY OF THE CONTRACTOR'S WALL DESIGNER AND MAY BE DIFFERENT FROM VALUES IN THE TABLE.
5. THE NORTH EAST REGION SOILS ENGINEER SHOULD BE PRESENT TO EVALUATE THE SUBSURFACE AT THE TIME OF CONSTRUCTION.
6. THE WALL HAS BEEN DESIGNED FOR TRAFFIC LOADING ONLY. IF DURING CONSTRUCTION HEAVY EQUIPMENT IS OPERATING IN CLOSE PROXIMITY TO THE WALL, OR IF MATERIAL IS STOCKPILED NEAR THE WALL, THE SAFETY FACTORS FOR THIS WALL SIGNIFICANTLY DECREASE.
7. ASSUMES NOISE WALL AT TOP OF MSE WALL IS SUPPORTED ON ANCHOR SLAB.

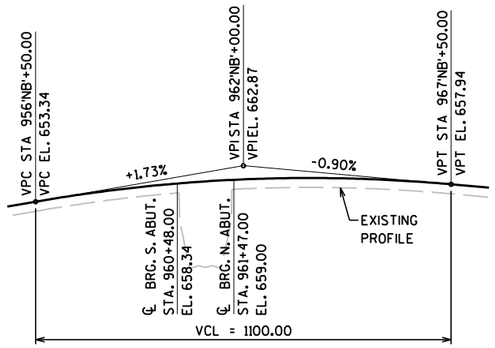


TYPICAL SECTION THRU MORRIS AVENUE

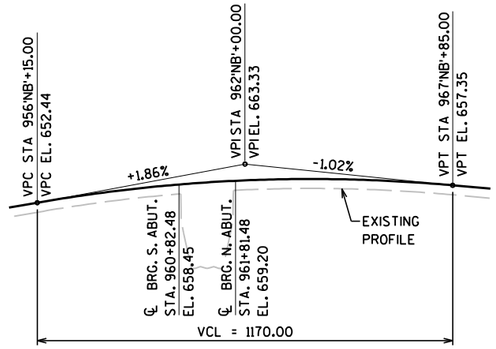
(LOOKING EAST)



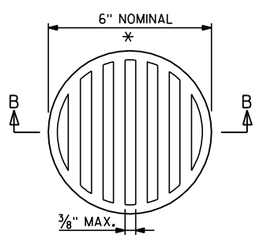
EXISTING PROFILE GRADE LINE MORRIS AVENUE

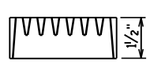


PROFILE GRADE LINE - NORTHBOUND USH 41



PROFILE GRADE LINE - SOUTHBOUND USH 41





SECTION B-B

RODENT SCREEN DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH SHEET METAL SCREWS.

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STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

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DESIGN DATA & WALL DETAILS

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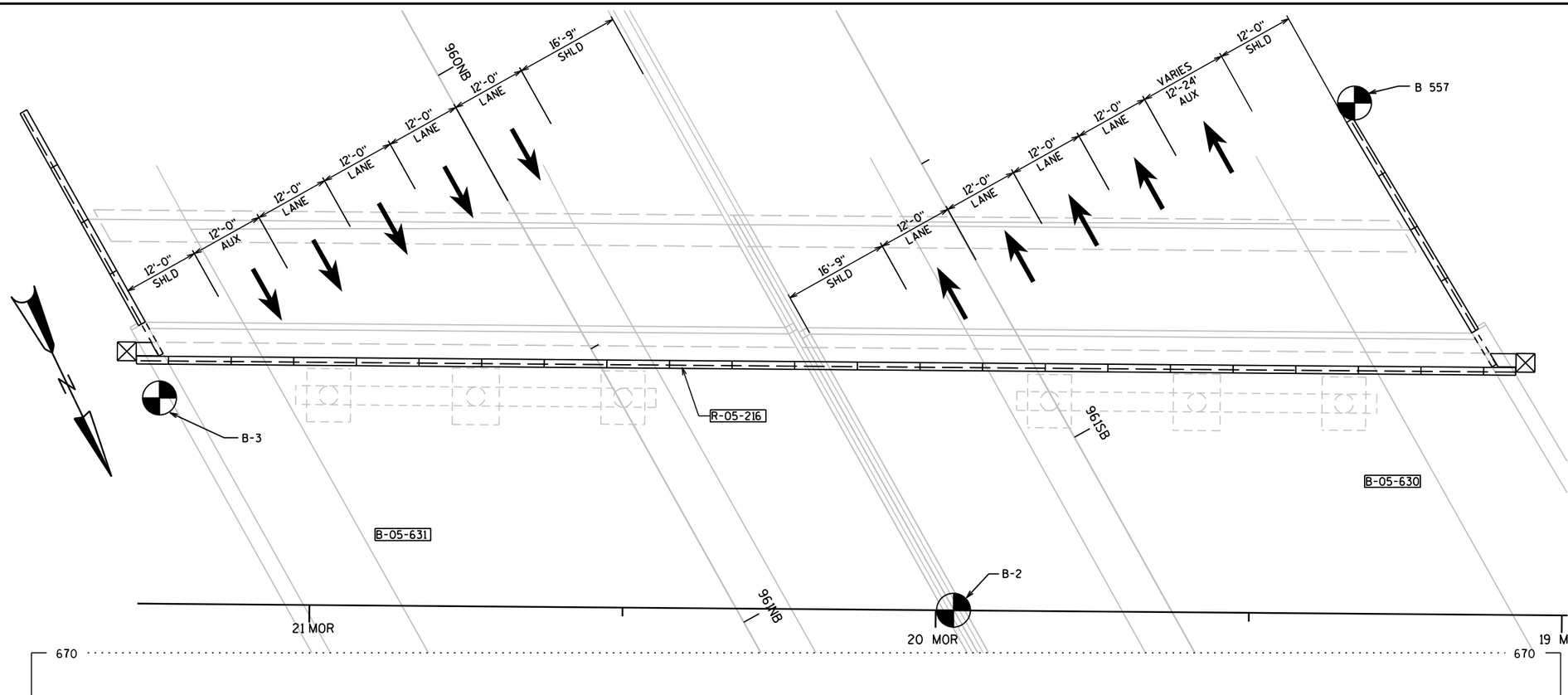

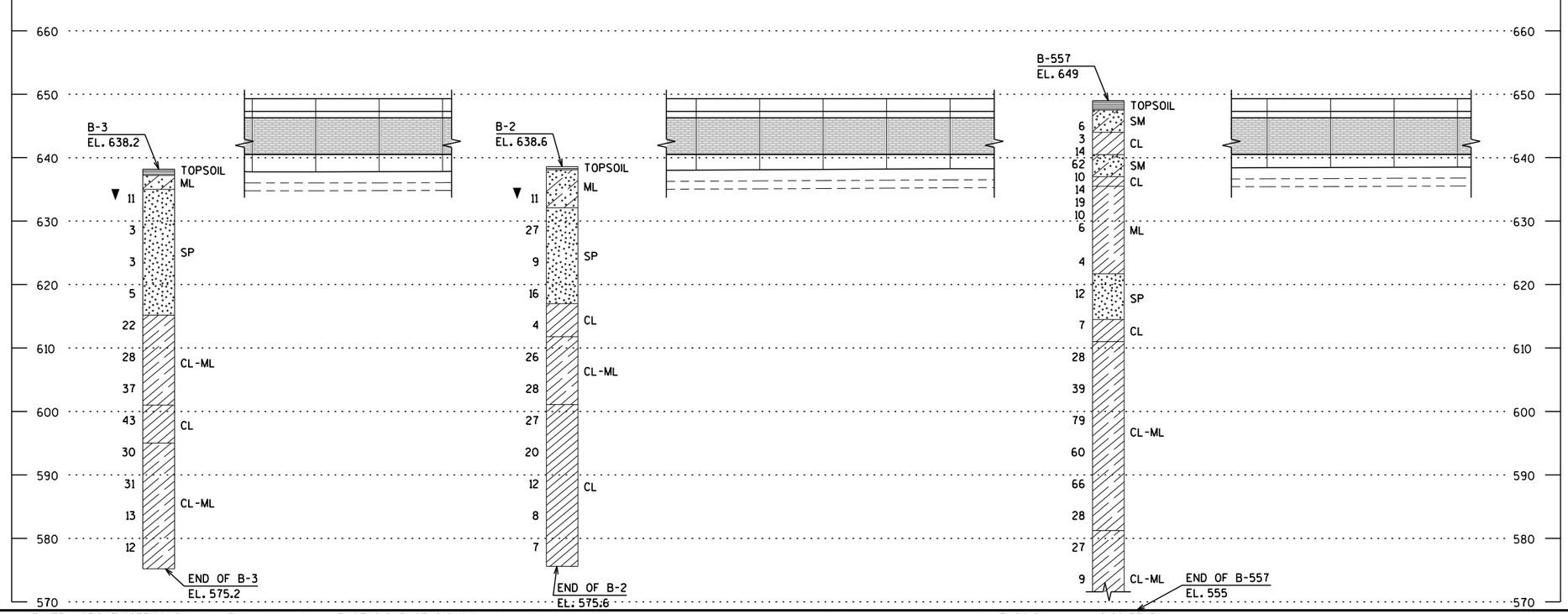

ABBREVIATIONS

F — Fine M — Medium C — Coarse
Ws — Weathered So — Sound

MATERIAL SYMBOLS

Topsoil, Silt, Sandstone
Sand, Peat, Limestone
Gravel, Clay, Igneous Rock

LEGEND OF PROBING

Probing No.
Sta.
Elevation
7 Average Blows Per Foot
Refusal 95/6

95/6=95 Blows for 6" Penetration
Probing taken with a 350#wt.
Falling 18" on a 2" O.D. Point.

LEGEND OF BORING

Boring No.
Elev.
Sta.
Unconfined Strength → 7.7 7
Sandy Gravel
Blows Per Ft. Using 140# Wt. Falling 30"
Wash Sample
F.
Boulders or Cobbles
Sand
Shelby Tube — S.T.
Ground Water Elevation
Silty Clay
No Ground Water Observed Above This Elevation
So
Limestone

Unless otherwise specified, the blows per foot at the locations indicated are based on driving a O.D.x1.4" I.D. split spoon sampler with a 140# hammer having a free fall of 30". The blow count is taken in undisturbed soil immediately below a cased or open hole eliminating side friction on the drive pipe.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

To obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing. The data presented herein represents the findings of the subsurface explorations made. However, because the depths investigated are limited and the area of the borings and/or soundings is very small in relation to the entire area, the Division of Highways does not warrant conditions below the depths investigated or that the classification of material encountered in these investigations is necessarily typical of the entire site.

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SUBSURFACE EXPLORATION

SHEET 4 OF 15

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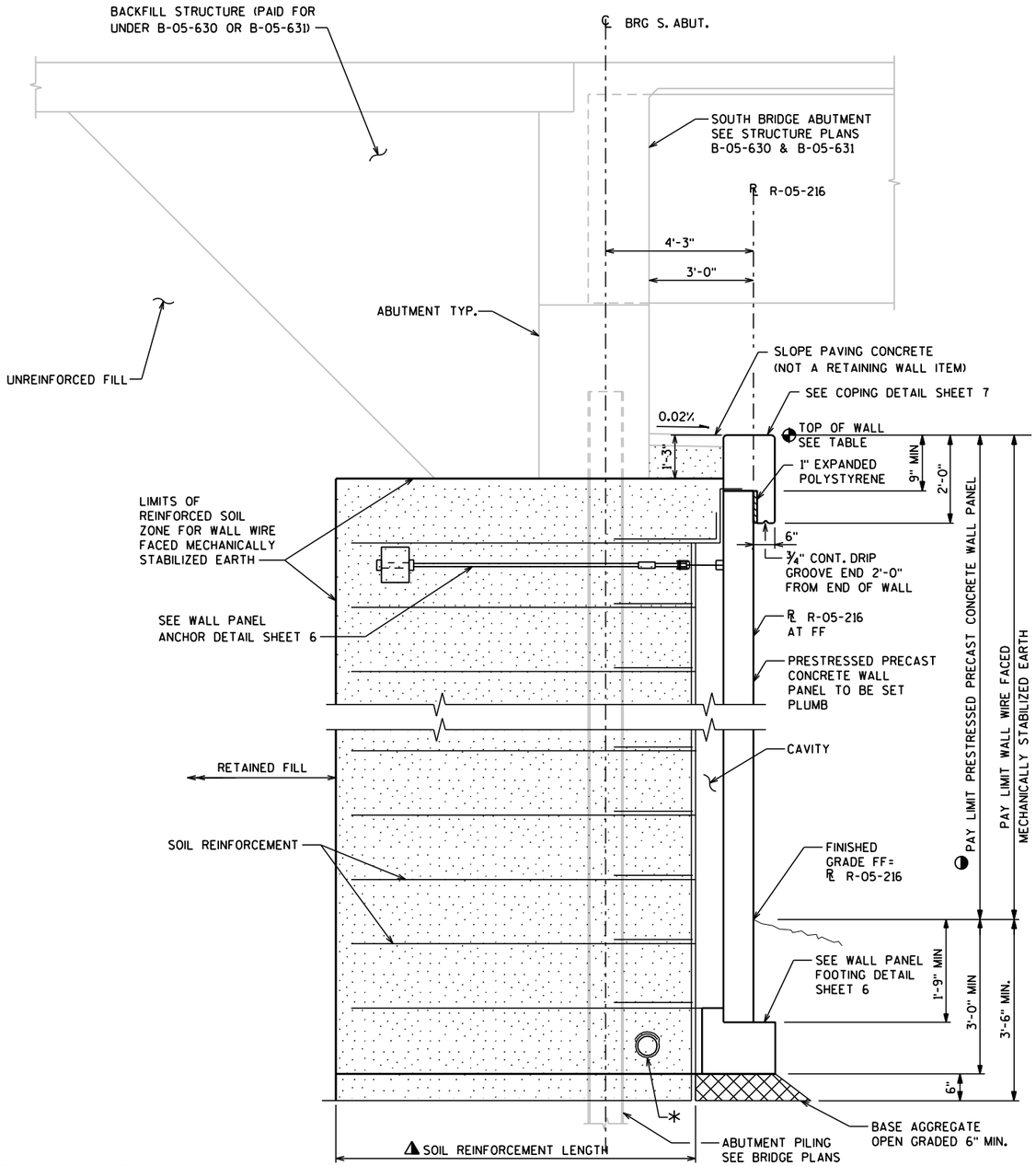
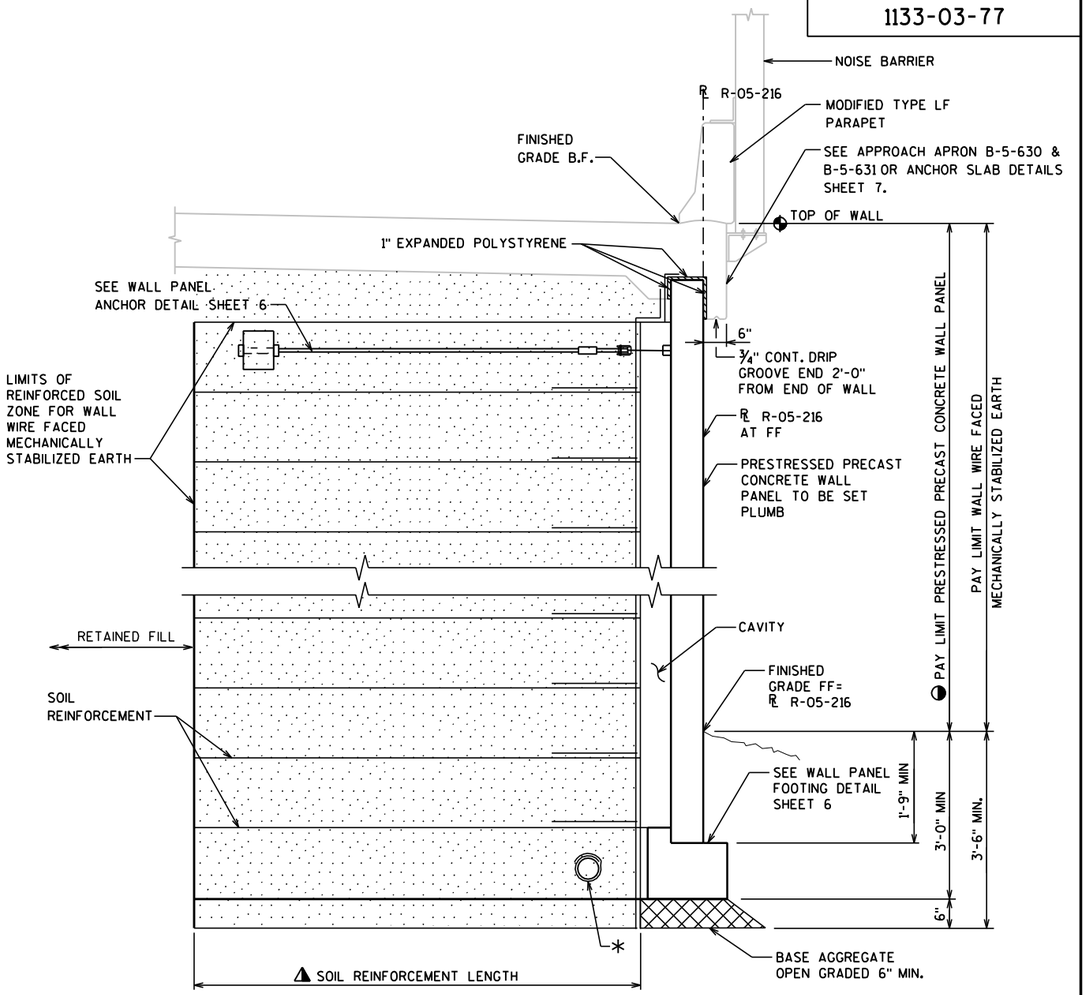


TYPICAL WALL SECTION AT ABUTMENT (UNIT B)



TYPICAL WALL SECTION AT UNIT A & C

LEGEND

◑ THE PLAN QUANTITY FOR THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL" IS BASED ON A WALL HEIGHT MEASURED FROM THE FINISHED GRADE AT THE FRONT FACE OF THE WALL TO THE TOP OF THE WALL AS SHOWN. THE TOP OF THE FOOTING IS ASSUMED TO BE A CONSTANT 1'-9" BELOW FINISHED GRADE.

⚠ PER WISDOT, MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS MUST BE 70% THE TOTALWALL HEIGHT (EXPOSED HEIGHT PLUS EMBEDMENT DEPTH) OR 8.0 FEET, WHICHEVER IS GREATER. SOIL REINFORCEMENT MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS. ACTUAL CALCULATED LENGTHS OF REINFORCING STRIPS WILL NEED TO EXCEED THESE MINIMUM FACTORS OF SAFETY FOR VARIOUS MSE PARAMETERS. SEE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.

* PIPE UNDERDRAIN WRAPPED 6-INCH, SLOPE 0.5% MIN. TO SUITABLE DRAINAGE, OR TIE INTO OTHER CLOSED DRAINAGE SYSTEM. ATTACH RODENT SHIELDS AT THE OUTLET ENDS OF PIPE UNDERDRAIN. SEE DETAIL.

MSE WALL NOTES

INSTALL BRIDGE PILING BEFORE CONSTRUCTING MSE WALL. INSTALLATION OF BRIDGE PILING IS NOT A RETAINING WALL ITEM.

FOR ROADWAY DETAILS AT THE FACE OF THE WALL, SEE ROADWAY TYPICAL SECTIONS.

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WALL SECTIONS

SHEET 5 OF 15

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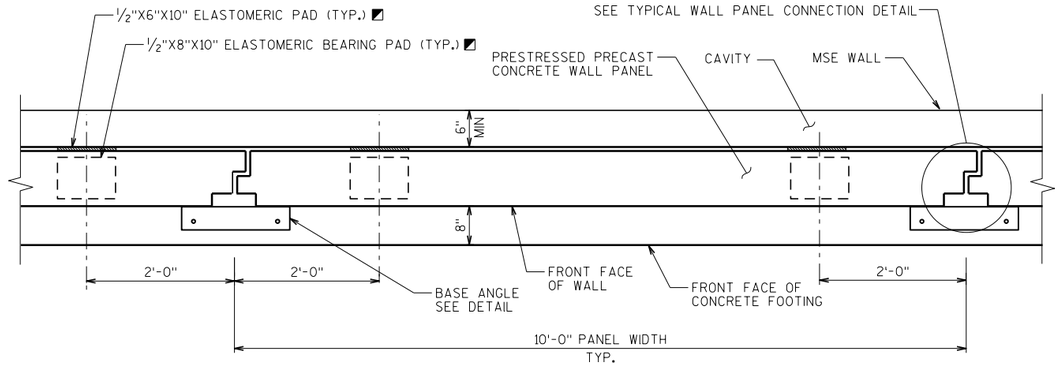
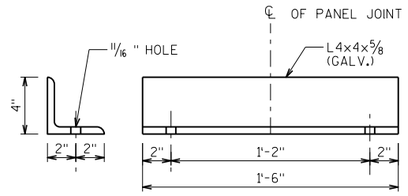
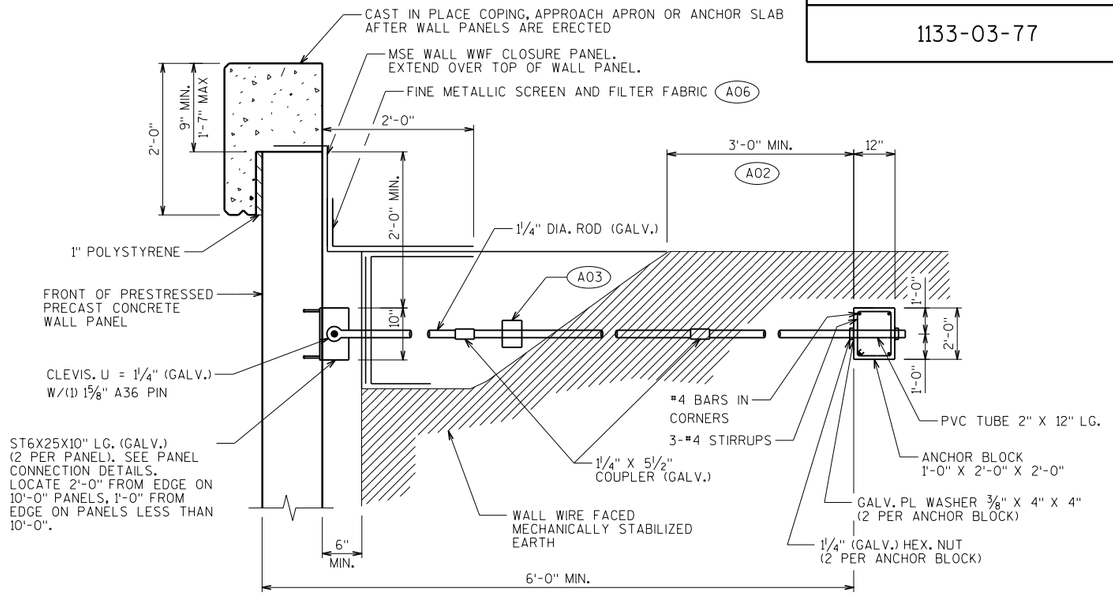


TYPICAL WALL PANEL CONNECTION



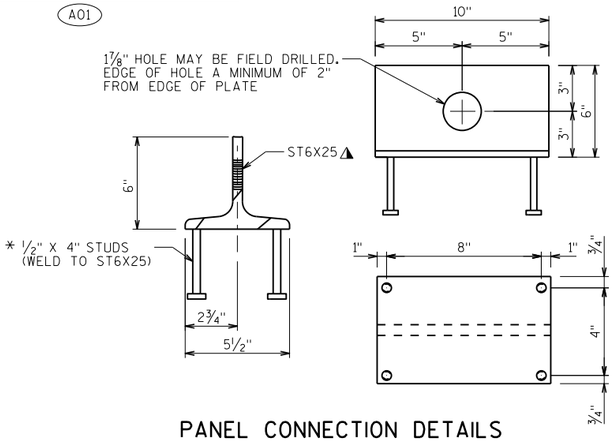
BASE ANGLE DETAIL

(1 AT EACH PANEL JOINT) ◩



WALL PANEL ANCHOR DETAIL

(A01)



PANEL CONNECTION DETAILS

(2 PER PANEL)

◭ S12X50 (GALV.) CUT IN ½ TO FORM "T" SECTION. BF = 5.477" TW = 0.687".

* AS AN ALTERNATE, ½" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.

ST6X25 MAY BE WELDED TO ¾" THICK PLATE WITH (4) ½" X 4" STUDS ANCHORED IN PRECAST PANEL. RESTORE ZINC COATING AROUND ANY WELDED AREAS. SUBMIT DETAILS FOR APPROVAL BY ENGINEER.

LEGEND

(A01) WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1¼" DIA. ANCHOR ROD, CLEVIS, AND OTHER PANEL CONNECTION COMPONENTS. DESIGN, DETAILING, AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL." INSTALLATION OF THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH."

(A02) DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION. ROD MIN. 2'-0" BELOW FINISH GRADE.

(A03) OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼" DIA. BAR)

(A04) BASE AGGREGATE OPEN GRADED, 6" MIN. INCIDENTAL TO BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

(A05) MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE PRECAST PANELS.

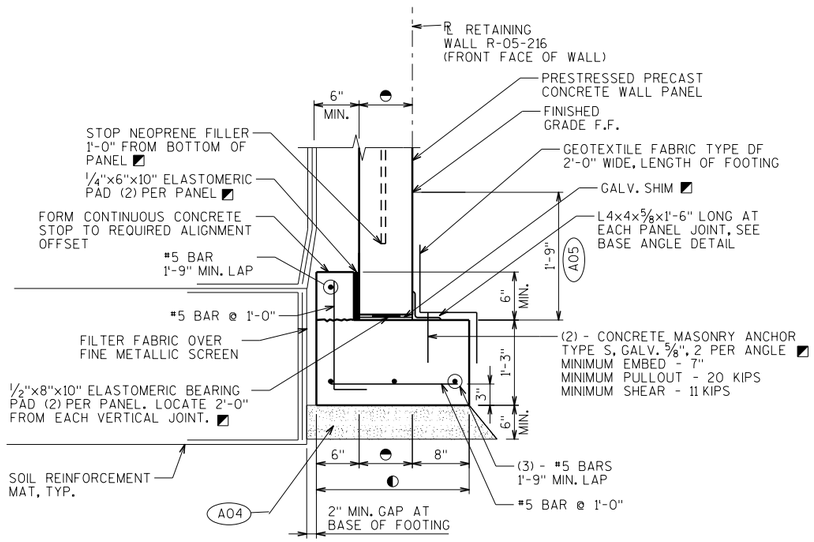
(A06) ALTERNATE METHODS OF SEALING OFF THE 6" VOID IN FRONT OF THE MSE WALL MAY BE SUBMITTED TO WISDOT FOR CONSIDERATION.

◩ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

NOTES

AN ALTERNATE WALL PANEL ANCHOR AND PANEL CONSTRUCTION SYSTEM MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER.

TILT UP PANEL ANCHOR SYSTEM MAY BE TRENCHED IN IF THE GEOMETRY OF THE ANCHOR SYSTEM LOCATION ALLOWS.



WALL PANEL FOOTING DETAIL

CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

◓ = 7½" OR 9½"

◐ FOOTING DIMENSION EQUALS PANEL THICKNESS PLUS 1'-2"

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WALL DETAILS

SHEET 6 OF 15

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FILE NAME : F:\TR\JOBS\E1863B08\Sheets\Retaining Walls\R-05-216\R-05-216 06 WALL DETAILS.dgn PLOT DATE : 4/1/2013 PLOT BY : epleyb PLOT NAME : $FILE$ PLOT SCALE : 8.0000 ' / in.

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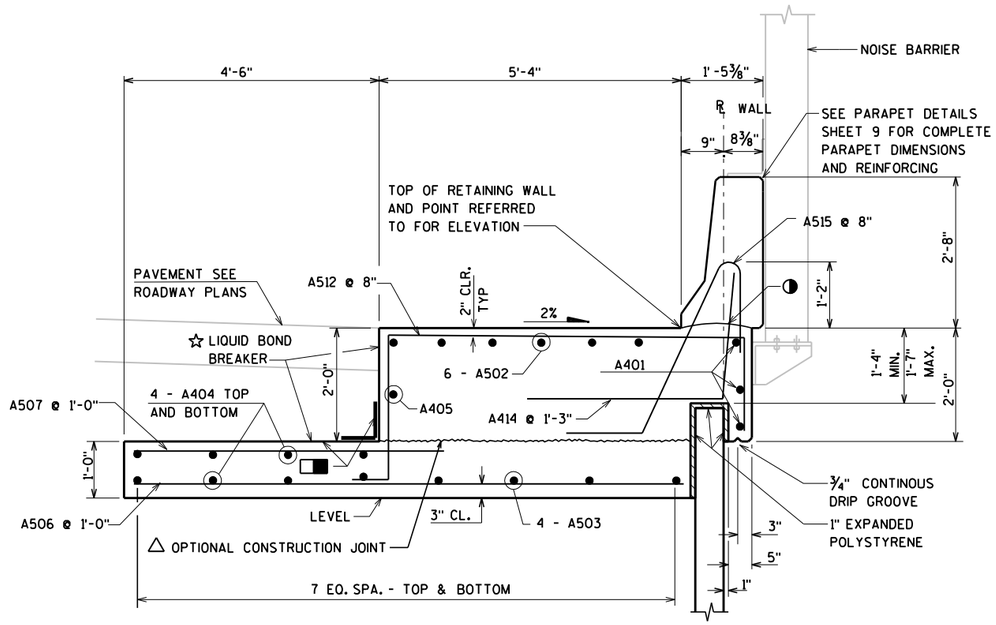
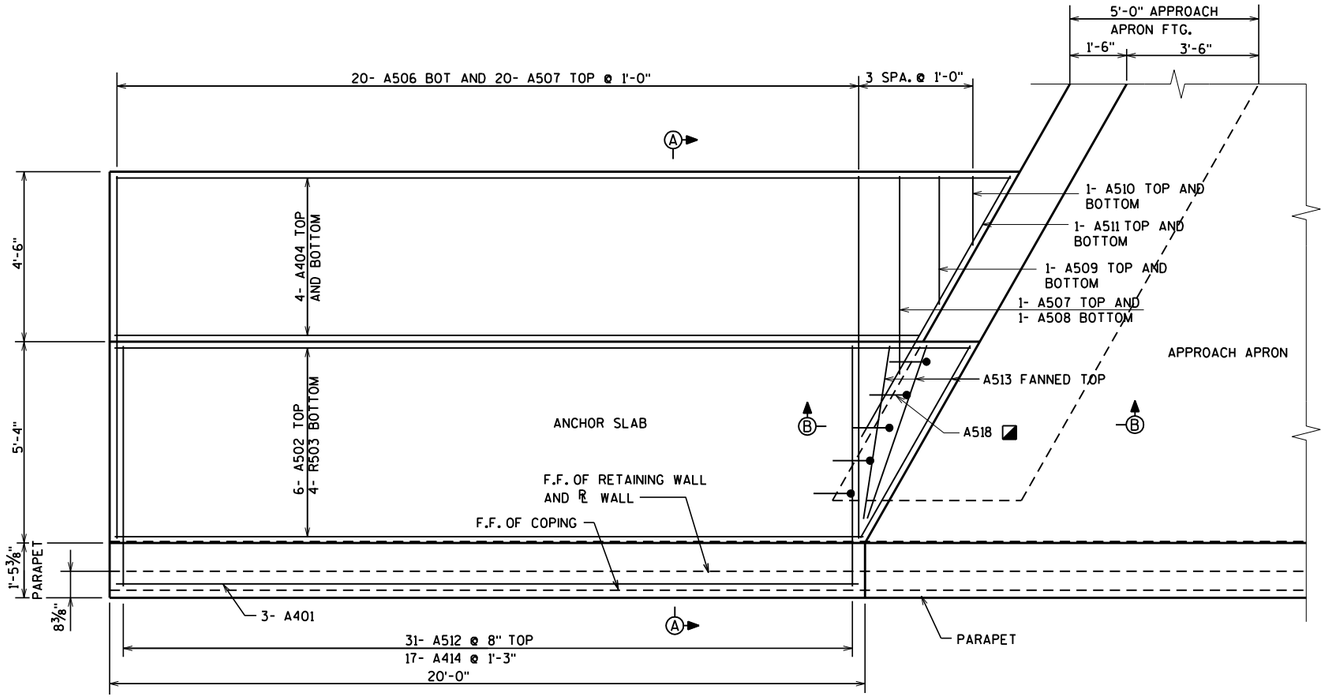


SECTION A-A THRU ANCHOR SLAB UNIT A



PLAN OF ANCHOR SLAB UNIT A

BAR SERIES

BAR NO.	NO. REQ'D.	LENGTH
A502	1 SERIES OF 6	19'-8" TO 22'-6"
A503	1 SERIES OF 4	18'-2" TO 21'-0"
A404	2 SERIES OF 4	21'-4" TO 23'-8"

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	SERIES	LOCATION
A401	X	3	19'-8"			ANCHOR SLAB LONGITUDINAL
A502	X	6	21'-1"		Δ	ANCHOR SLAB LONGITUDINAL - TOP
A503	X	4	19'-7"		Δ	ANCHOR SLAB LONGITUDINAL - BOTTOM
A404	X	8	22'-6"		Δ	ANCHOR SLAB LONGITUDINAL - TOP & BOTTOM
A405	X	1	22'-6"			ANCHOR SLAB LONGITUDINAL
A506	X	20	9'-4"			ANCHOR SLAB TRANSVERSE - BOTTOM
A507	X	21	6'-3"			ANCHOR SLAB TRANSVERSE - TOP
A508	X	1	7'-0"			ANCHOR SLAB TRANSVERSE - BOTTOM
A509	X	2	5'-0"			ANCHOR SLAB TRANSVERSE
A510	X	2	3'-2"			ANCHOR SLAB TRANSVERSE
A511	X	2	10'-0"			ANCHOR SLAB TRANSVERSE
A512	X	31	10'-8"	X		ANCHOR SLAB TRANSVERSE - TOP
A513	X	3	6'-5"	X		ANCHOR SLAB TRANSVERSE - TOP
A414	X	17	5'-8"	X		ANCHOR SLAB TO PARAPET DOWEL
A515	X	31	6'-6"	X		ANCHOR SLAB & PARAPET VERTICAL
A516	X	31	4'-10"	X		PARAPET VERTICAL
A517	X	7	19'-8"			PARAPET HORIZONTAL
A518	X	5	1'-11"	X		ANCHOR SLAB DOWEL AT APPROACH APRON
N424	X	32	2'-3"	X		NOISE BARRIER POST ANCHORAGE
N425	X	8	2'-9"	X		NOISE BARRIER POST ANCHORAGE
N426	X	16	2'-0"			NOISE BARRIER POST ANCHORAGE
N527	X	8	11'-1"	X		NOISE BARRIER POST ANCHORAGE
N528	X	12	5'-6"	X		NOISE BARRIER POST ANCHORAGE

NOTES:

SEE SHEET 9 FOR BAR BENDING DIAGRAMS.

◑ HORIZ. CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

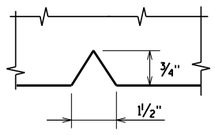
CONCRETE QUANTITY BASED ON 5" EMBEDMENT OF WALL PANEL IN ANCHOR SLAB.

◪ CONCRETE MASONRY ANCHORS, TYPE S NO. 5 BAR HAVING A MAXIMUM PULLOUT CAPACITY OF 20 KIPS. EMBED 7" IN CONCRETE.

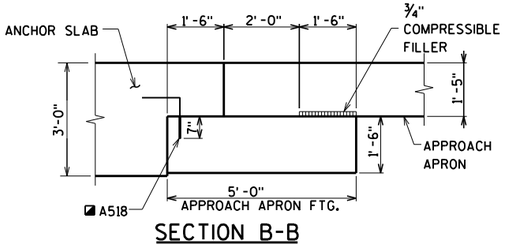
☆ APPLY TO ALL HORIZONTAL AND VERTICAL FACES WHERE CONCRETE PAVEMENT CONTACTS ANCHOR SLAB.

▬ 18" RUBBERIZED MEMBRANE WATERPROOFING - SEAL ALL HORIZONTAL & VERTICAL JOINTS IN ANCHOR SLAB.

△ OPTIONAL CONSTRUCTION JOINT MAY BE USED WITH THE CONCURRENCE OF THE ENGINEER. RUBBERIZED MEMBRANE WATERPROOFING REQUIRED FOR THE OPTIONAL JOINT IS INCIDENTAL TO CONCRETE MASONRY RETAINING WALLS.



¾" DRIP GROOVE DETAIL



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-216

DRAWN BY DPP | PLANS CK'D. JAW

ANCHOR SLAB UNIT A

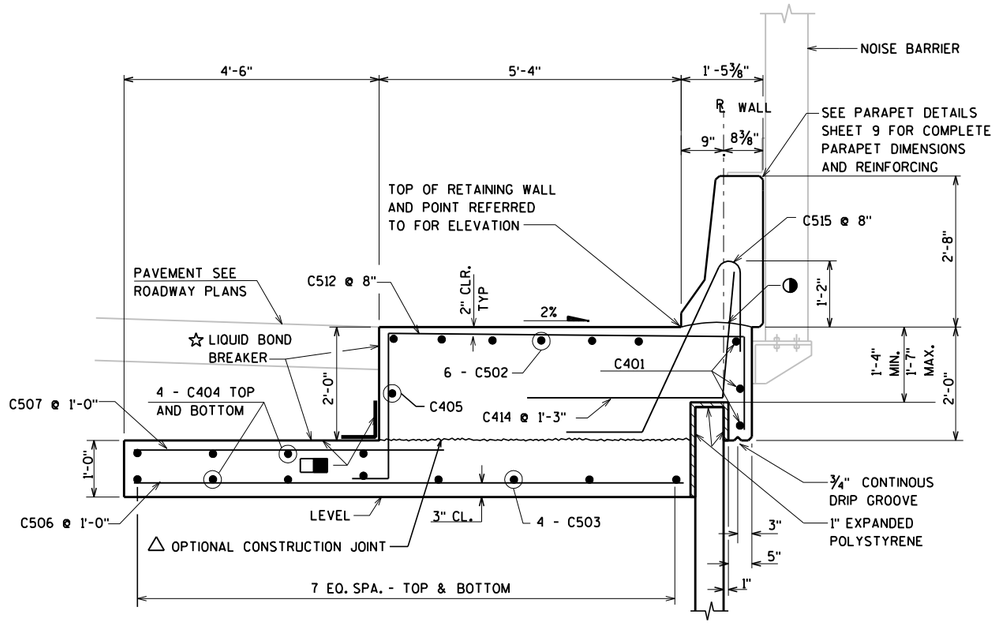
SHEET 7 OF 15

2482

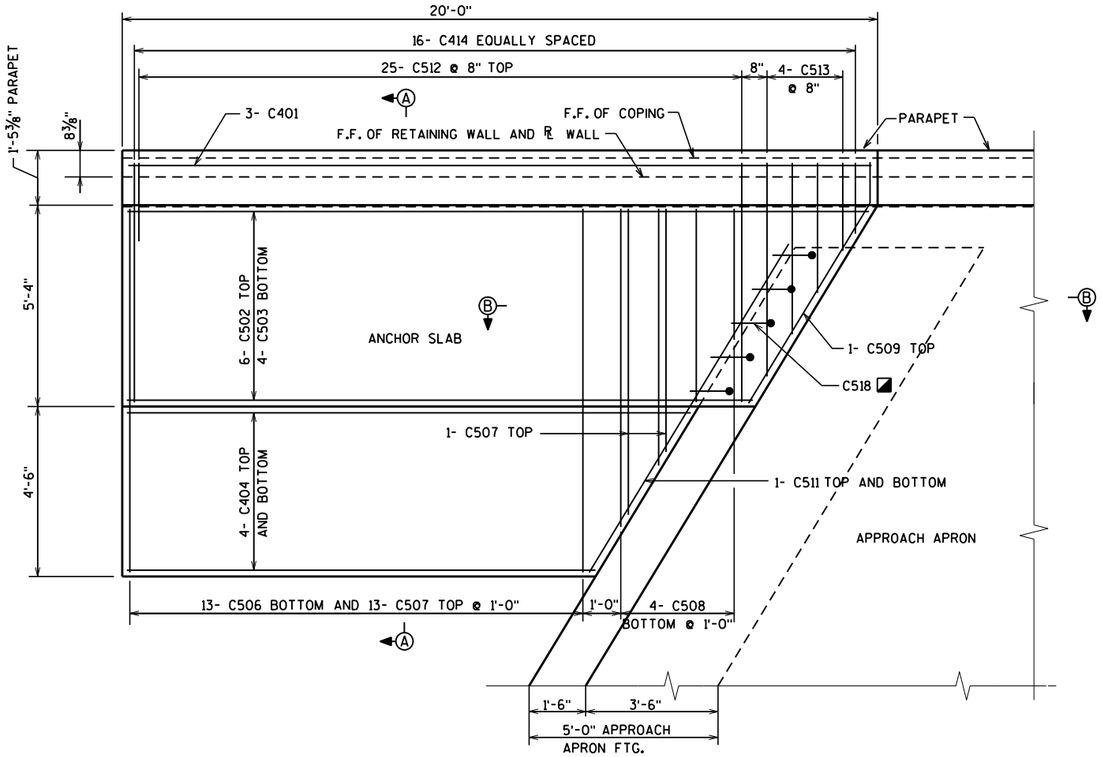
8

8

STATE PROJECT NUMBER
1133-03-77



SECTION A-A THRU ANCHOR SLAB UNIT C



PLAN OF ANCHOR SLAB UNIT C

BAR SERIES

BAR NO.	NO. REQ'D.	LENGTH
C502	1 SERIES OF 6	16'-6" TO 19'-8"
C503	1 SERIES OF 4	15'-0" TO 18'-2"
C404	2 SERIES OF 4	12'-4" TO 14'-8"
C508	1 SERIES OF 4	3'-3" TO 8'-3"
C513	1 SERIES OF 4	4'-3" TO 7'-5"

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	SERIES	LOCATION
C401	X	3	19'-8"			ANCHOR SLAB LONGITUDINAL
C502	X	6	18'-1"		Δ	ANCHOR SLAB LONGITUDINAL - TOP
C503	X	4	16'-7"		Δ	ANCHOR SLAB LONGITUDINAL - BOTTOM
C404	X	8	13'-6"		Δ	ANCHOR SLAB LONGITUDINAL - TOP & BOTTOM
C405	X	1	16'-6"			ANCHOR SLAB LONGITUDINAL
C506	X	13	9'-4"			ANCHOR SLAB TRANSVERSE - BOTTOM
C507	X	15	6'-3"			ANCHOR SLAB TRANSVERSE - TOP
C508	X	4	5'-9"		Δ	ANCHOR SLAB TRANSVERSE - BOTTOM
C509	X	1	7'-3"	X		ANCHOR SLAB TRANSVERSE
C511	X	2	10'-0"			ANCHOR SLAB TRANSVERSE
C512	X	25	10'-8"	X		ANCHOR SLAB TRANSVERSE - TOP
C513	X	4	5'-10"		Δ	ANCHOR SLAB TRANSVERSE - TOP
C414	X	16	5'-8"	X		ANCHOR SLAB TO PARAPET DOWEL
C515	X	31	6'-6"	X		ANCHOR SLAB & PARAPET VERTICAL
C516	X	31	4'-10"	X		PARAPET VERTICAL
C517	X	7	19'-8"			PARAPET HORIZONTAL
C518	X	5	1'-11"	X		ANCHOR SLAB DOWEL AT APPROACH APRON
			'-"			
N424	X	32	2'-3"	X		NOISE BARRIER POST ANCHORAGE
N425	X	8	2'-9"	X		NOISE BARRIER POST ANCHORAGE
N426	X	16	2'-0"			NOISE BARRIER POST ANCHORAGE
N527	X	8	11'-1"	X		NOISE BARRIER POST ANCHORAGE
N528	X	12	5'-6"	X		NOISE BARRIER POST ANCHORAGE

NOTES:

SEE SHEET 9 FOR BAR BENDING DIAGRAMS.

◑ HORIZ. CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

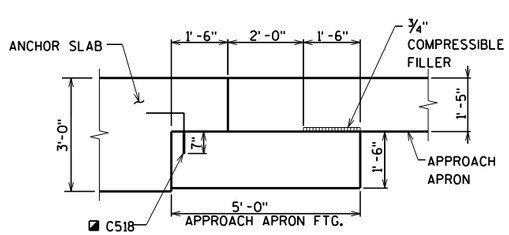
CONCRETE QUANTITY BASED ON 5" EMBEDMENT OF WALL PANEL IN ANCHOR SLAB.

◪ CONCRETE MASONRY ANCHORS, TYPE S NO. 5 BAR HAVING A MAXIMUM PULLOUT CAPACITY OF 20 KIPS. EMBED 7" IN CONCRETE.

☆ APPLY TO ALL HORIZONTAL AND VERTICAL FACES WHERE CONCRETE PAVEMENT CONTACTS ANCHOR SLAB.

▬ 18" RUBBERIZED MEMBRANE WATERPROOFING - SEAL ALL HORIZONTAL & VERTICAL JOINTS IN ANCHOR SLAB.

△ OPTIONAL CONSTRUCTION JOINT MAY BE USED WITH THE CONCURRENCE OF THE ENGINEER. RUBBERIZED MEMBRANE WATERPROOFING REQUIRED FOR THE OPTIONAL JOINT IS INCIDENTAL TO CONCRETE MASONRY RETAINING WALLS.



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-216

DRAWN BY DPP | PLANS CK'D. JAW

ANCHOR SLAB UNIT C

SHEET 8 OF 15

2483

8

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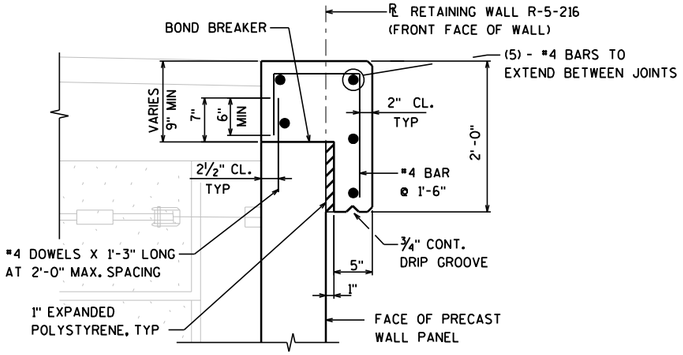
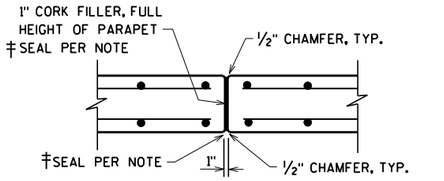
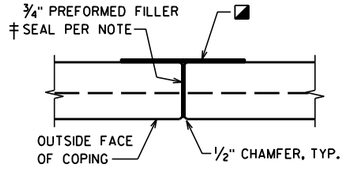


COPING DETAIL AT ABUTMENT (UNIT B)

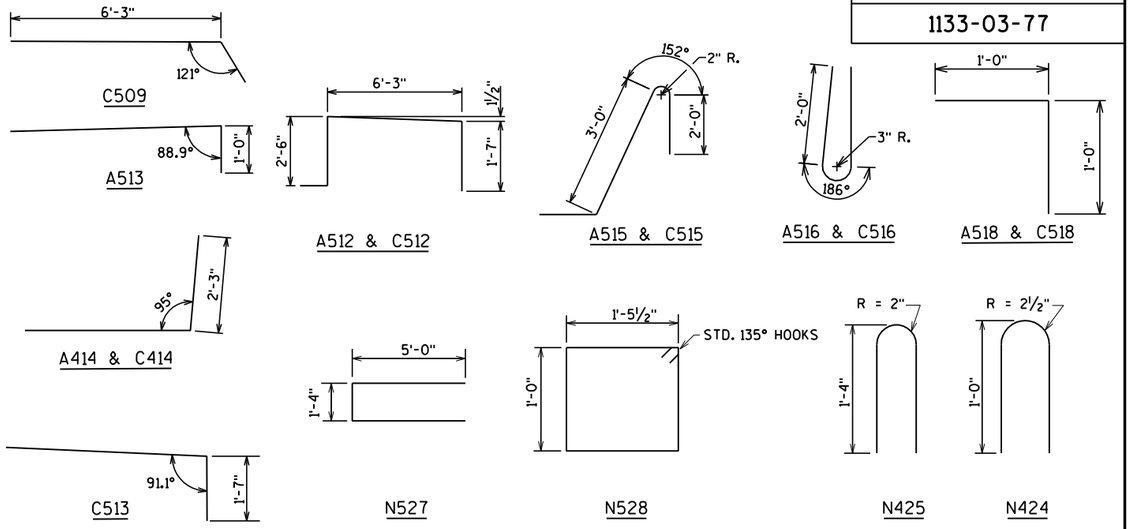
CONCRETE AND REINFORCEMENT INCLUDED IN THE BID
ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"



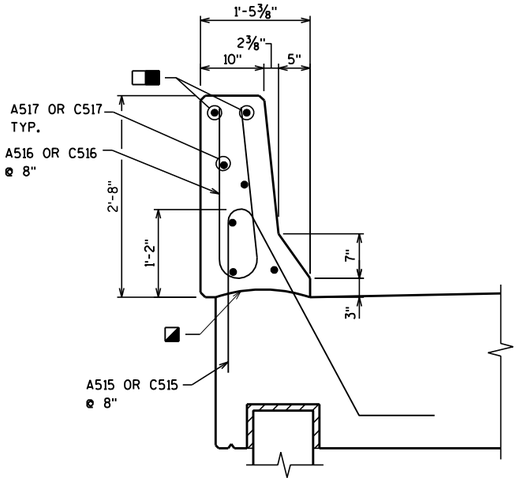
⊛ PARAPET EXPANSION JOINT DETAIL



⊛ COPING EXPANSION JOINT



BAR BEND DIAGRAMS



SECTION THROUGH PARAPET

NOTES:

- ▭ ONLY THESE TWO BARS TO BE PLACED OUTSIDE OF THE VERTICAL REINFORCEMENT TO AVOID THE ANCHOR BOLTS/PLATES FROM THE NOISE BARRIER POSTS. PLACE BARS WITH 2" CLEAR FROM TOP, BACK, AND FRONT FACES OF THE PARAPET. ALL OTHER HORIZONTAL BARS IN THE PARAPET ARE TO BE PLACED INSIDE THE VERTICAL REINFORCEMENT AS SHOWN.
- ◑ HORIZ. CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- ‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING COLOR TO MATCH STAIN OF NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).
- ⊛ EXPANSION JOINTS TO BE SPACED A MINIMUM OF 20' AND MAXIMUM OF 30'. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT. JOINT TO EXTEND FULL DEPTH OF PARAPET OR COPING.

STATE PROJECT NUMBER
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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-216

DRAWN BY DPP | PLANS CK'D. JAW

COPING AND PARAPET DETAILS

SHEET 9 OF 15

2484

8

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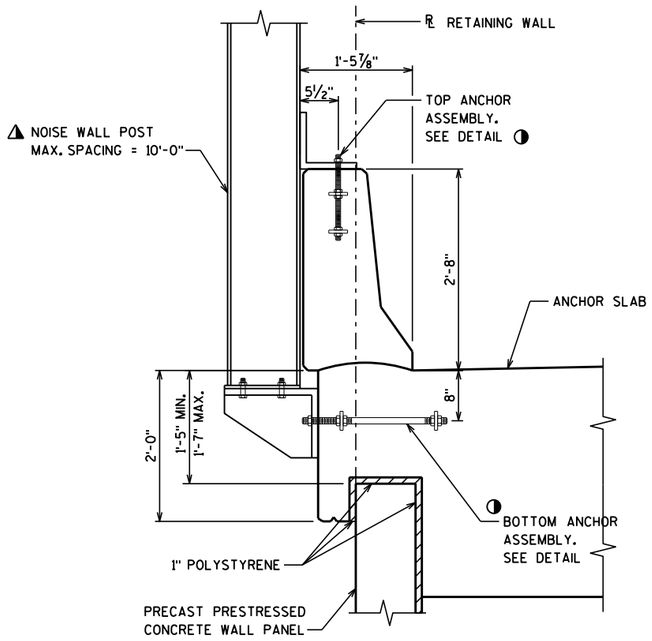
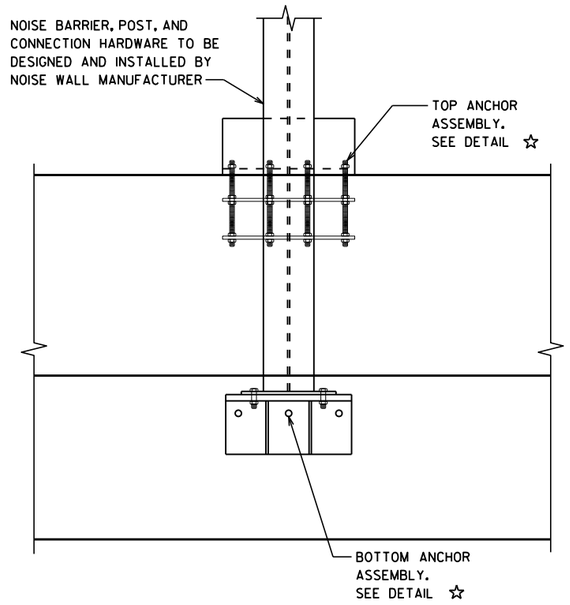
STATE PROJECT NUMBER

1133-03-77

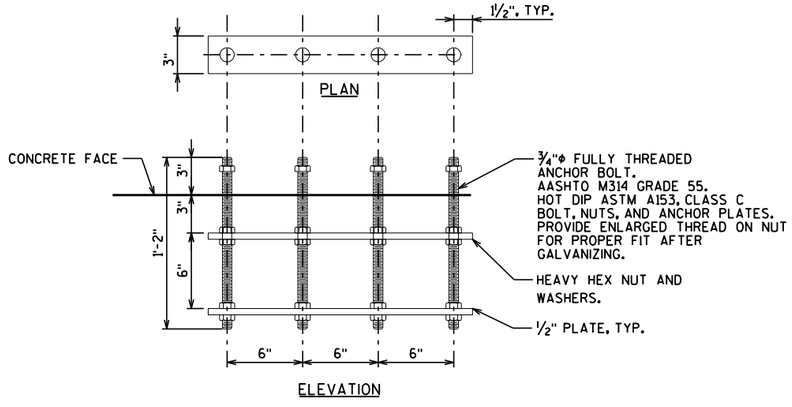


SECTION AT NOISE BARRIER

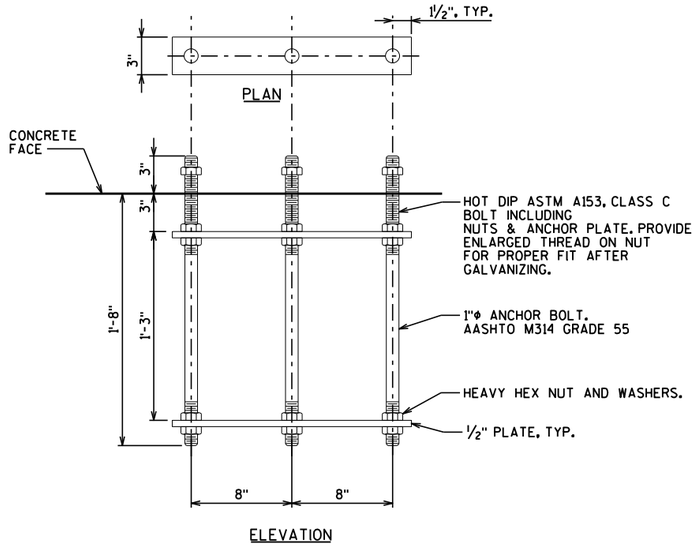


ELEVATION AT NOISE BARRIER POST

TYPICAL AT EACH POST LOCATION



TOP ANCHOR BOLT ASSEMBLY



BOTTOM ANCHOR BOLT ASSEMBLY

NOTES

◑ EXACT LOCATION AND SPACING OF EMBEDDED ANCHOR ASSEMBLY NOISE BARRIER TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.

☆ BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES" INCLUDES UPPER AND LOWER ANCHORAGES AT EACH POST LOCATION.

⚠ NOT A RETAINING WALL ITEM. NOISE BARRIER PANELS, POSTS, SUPPORT BRACKETS AND TOP OF PARAPET CONNECTION TO BE DESIGNED AND INSTALLED BY OTHERS.

REINFORCEMENT FOR DEVELOPING THE NOISE BARRIER ANCHORAGE IS SHOWN ON SHEET 11.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-216

DRAWN BY BRE | PLANS CK'D. KRO

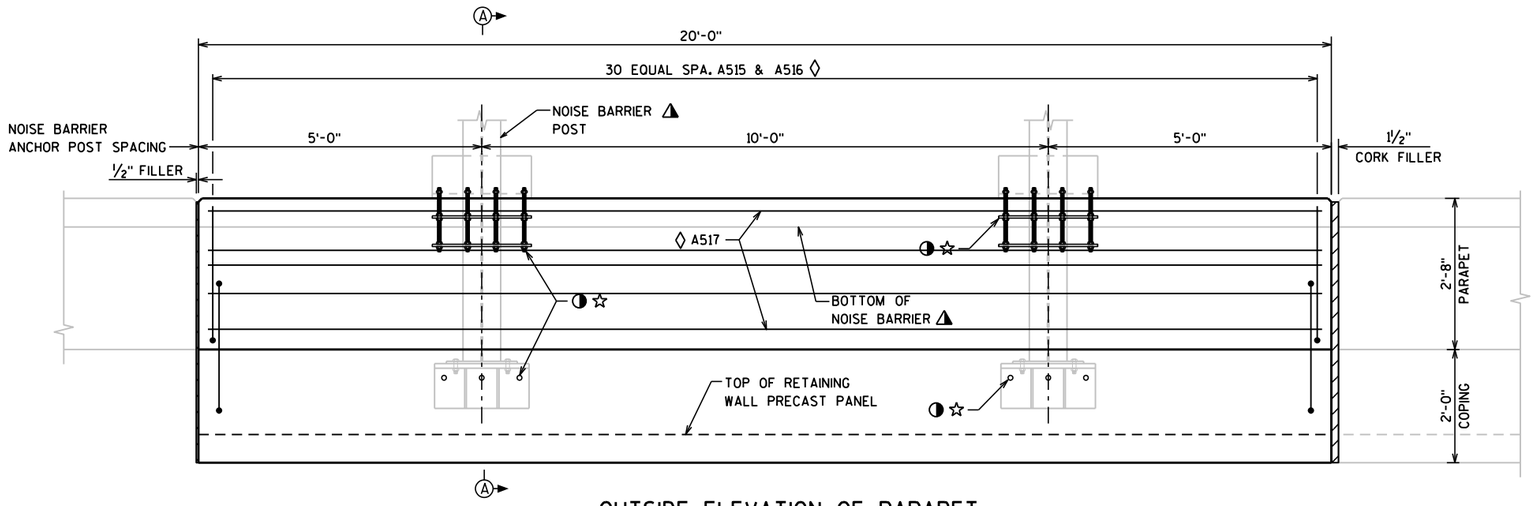
NOISE BARRIER ANCHORAGE

SHEET 10 OF 15

2485

FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Retaining Walls±R-05-216±R-05-216 10 noise barrier anchorage.dgn PLOT BY : epleyb PLOT DATE: 1/17/2013 11:13:16 AM

STATE PROJECT NUMBER
1133-03-77

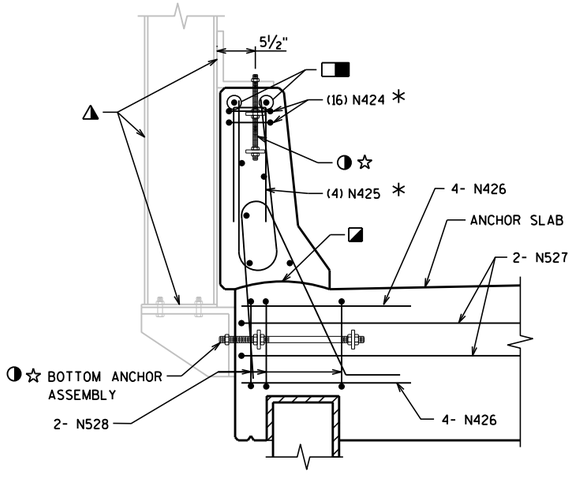


OUTSIDE ELEVATION OF PARAPET

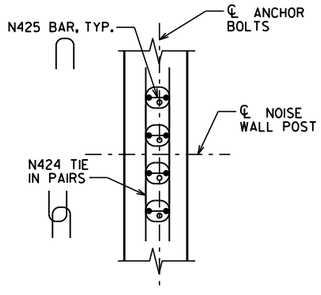
LOOKING WEST (UNIT A SHOWN, UNIT C SIMILAR)

NOTES

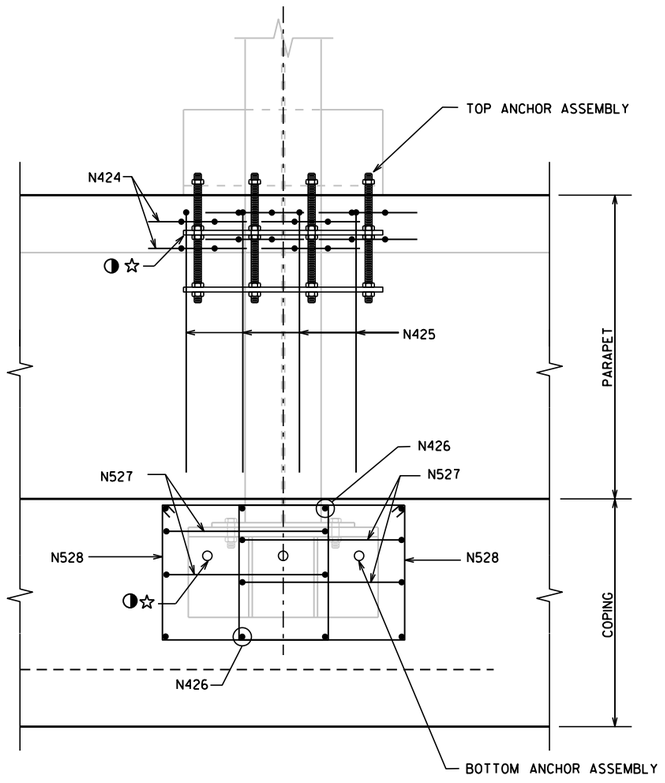
- CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.
- EXACT LOCATION AND SPACING OF EMBEDDED ANCHOR ASSEMBLIES FOR NOISE BARRIER TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.
- ☆ BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES" INCLUDES ANCHORAGES AT EACH POST LOCATION.
- △ NOT A RETAINING WALL ITEM. NOISE BARRIER PANELS, POSTS, SUPPORT BRACKETS AND TOP OF PARAPET CONNECTION TO BE DESIGNED AND INSTALLED BY OTHERS.
- ONLY THESE TWO BARS TO BE PLACED OUTSIDE OF THE VERTICAL REINFORCEMENT TO AVOID THE ANCHOR BOLTS/PLATES FROM THE NOISE BARRIER POSTS. PLACE BARS WITH 2" CLEAR FROM TOP, BACK, AND FRONT FACES OF THE PARAPET. ALL OTHER HORIZONTAL BARS IN THE PARAPET ARE TO BE PLACED INSIDE THE VERTICAL REINFORCEMENT AS SHOWN.
- ✳ EXACT LOCATION AND SPACING OF N424 AND N425 BARS TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.
- ◊ SEE SHEET 9 FOR PARAPET REINFORCING.



SECTION A-A



TOP VIEW AT PARAPET



ELEVATION AT NOISE BARRIER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-216

DRAWN BY BRE | PLANS CK'D. KRO

NOISE BARRIER ANCHORAGE DETAILS

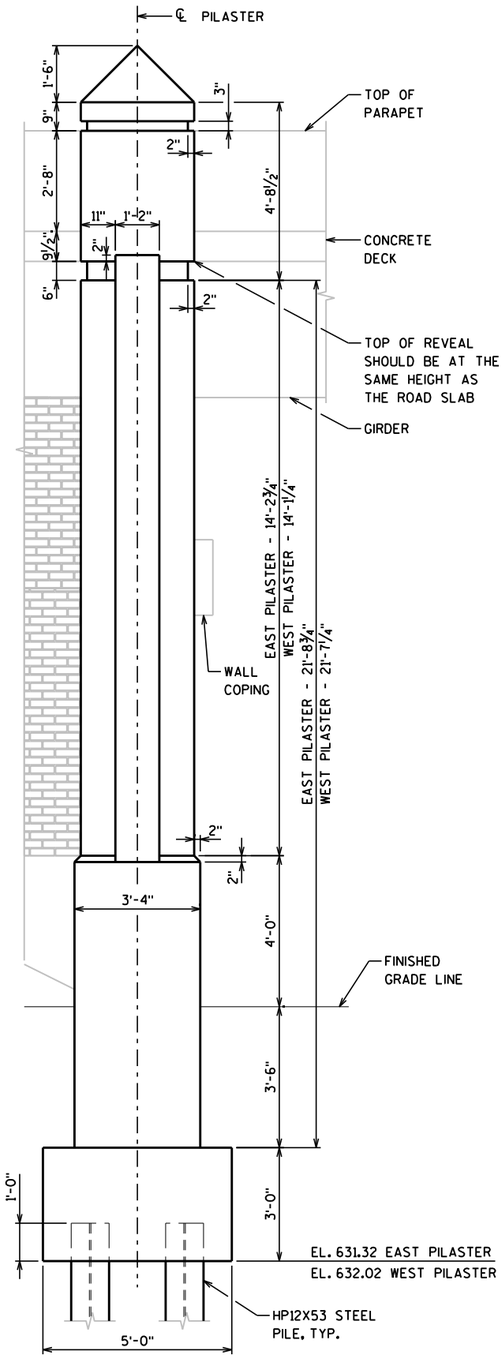
SHEET 11 OF 15

2486

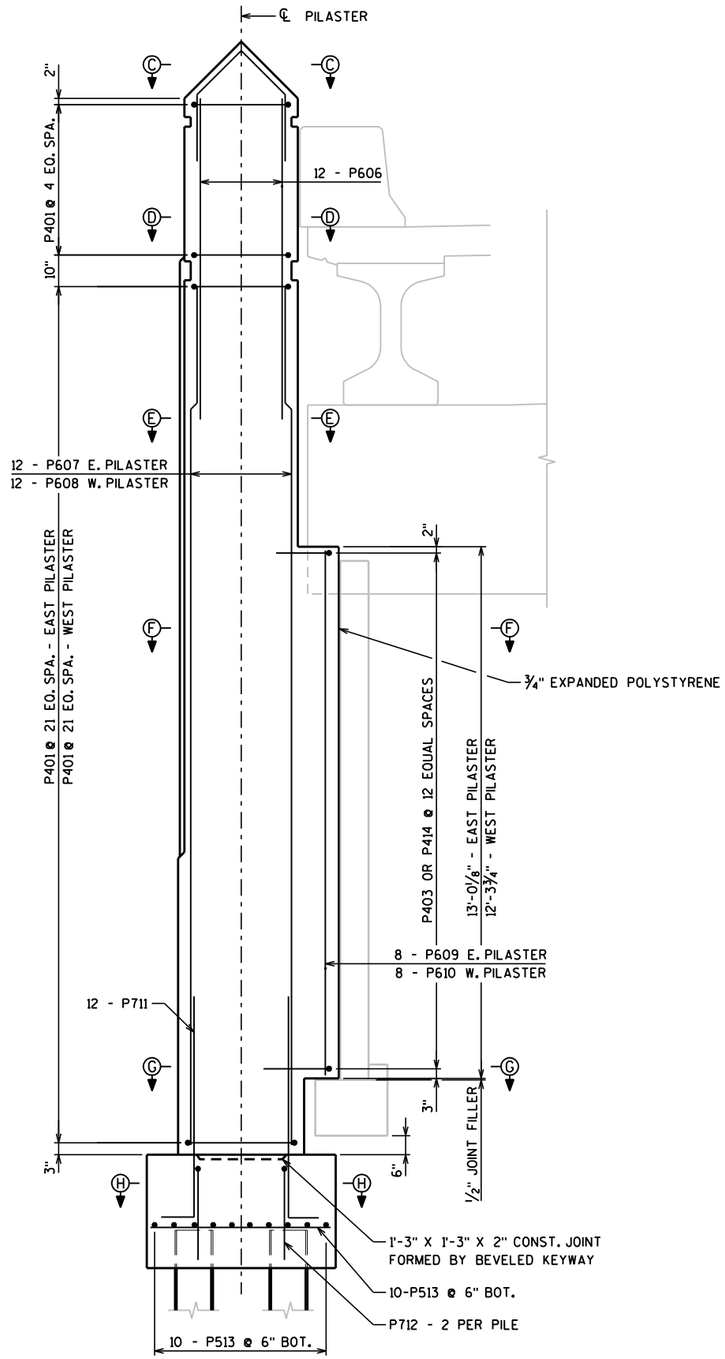
8

8

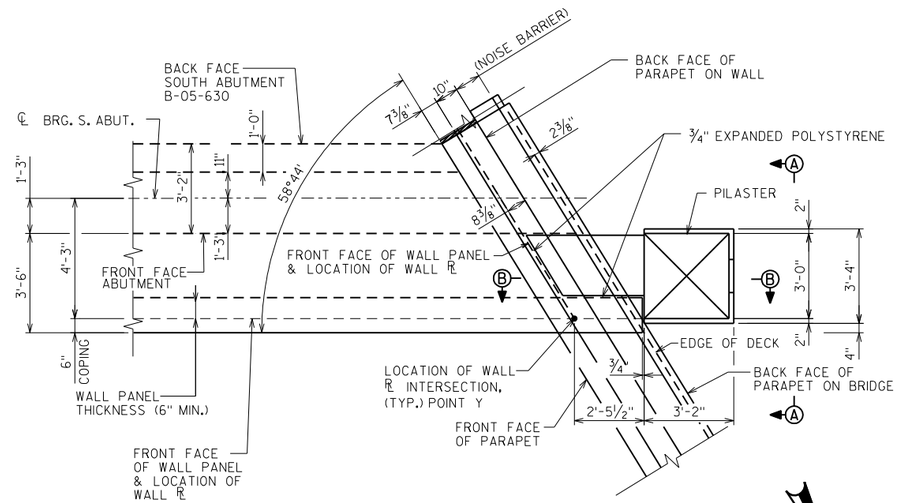
STATE PROJECT NUMBER
1133-03-77



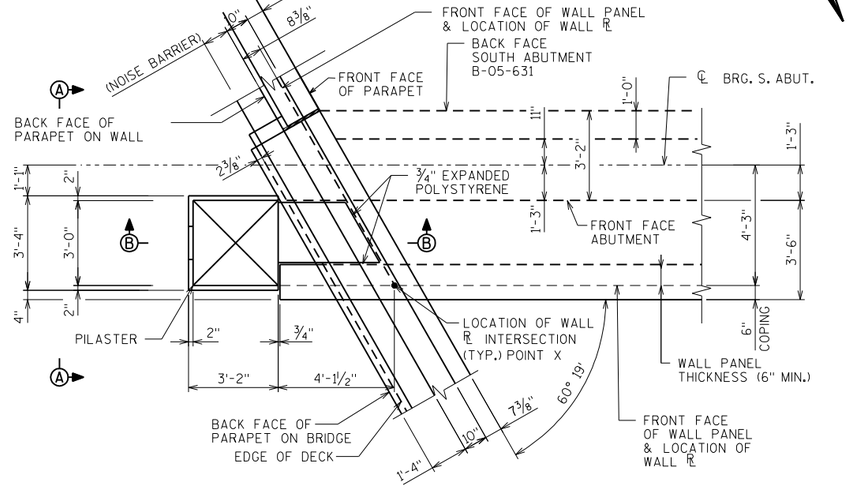
SECTION A-A



SECTION B-B



SOUTHWEST QUADRANT



SOUTHEAST QUADRANT

NOTES:

SEE SHEET 13 FOR SECTIONS THRU PILASTER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-216

DRAWN BY BRE | PLANS CK'D. KRO

PILASTER

SHEET 12 OF 15

2487

8

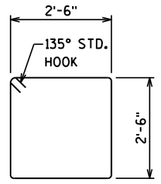
8

FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Retaining Walls±R-05-216±R-05-216 12 pilaster.dgn PLOT BY : olsonk PLOT DATE: 3/27/2013 10:28:37 AM

STATE PROJECT NUMBER
1133-03-77

BILL OF BARS

	BAR MARK	COAT	NO. REQ'D. WEST	NO. REQ'D. EAST	LENGTH	BENT	LOCATION
	P401	X	27	27	10'-6"	X	PILASTER STIRRUPS
	P403	X		13	9'-11"	X	PILASTER STIRRUPS - EAST
	P404	X	2	2	8'-0"	X	PILASTER TOP
	P405	X	4	4	3'-7"	X	PILASTER TOP
	P606	X	12	12	8'-6"		PILASTER TOP, VERTICAL
	P607	X		12	21'-4"		EAST PILASTER VERTICAL
	P608	X	12		21'-2"		WEST PILASTER VERTICAL
	P609	X		8	12'-7"		EAST PILASTER WING VERTICAL
	P610	X	8		11'-10"		WEST PILASTER WING VERTICAL
	P711	X	12	12	7'-1"	X	PILASTER FOOTING DOWELS
*	P712		8	8	3'-6"	X	BAR WELDED TO PILE
	P513		20	20	4'-8"		PILASTER FOOTING BOTTOM MAT
	P414	X	13		10'-11"	X	PILASTER STIRRUPS - WEST



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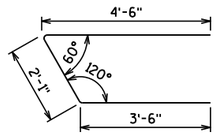

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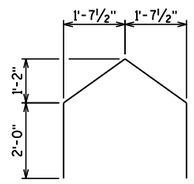

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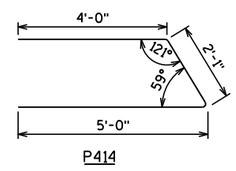

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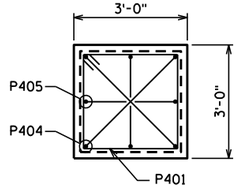
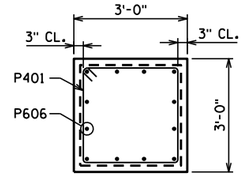
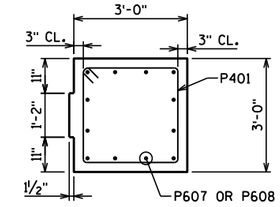


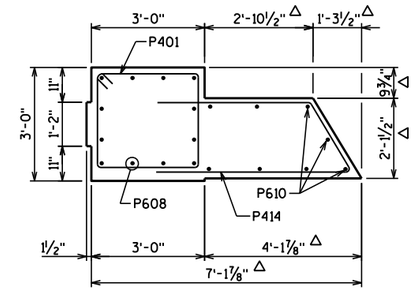
SECTION C-C



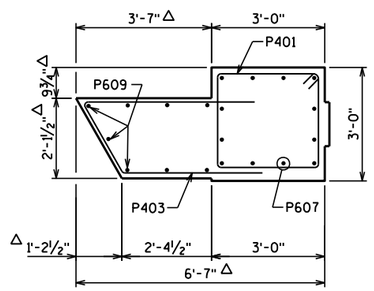
SECTION D-D



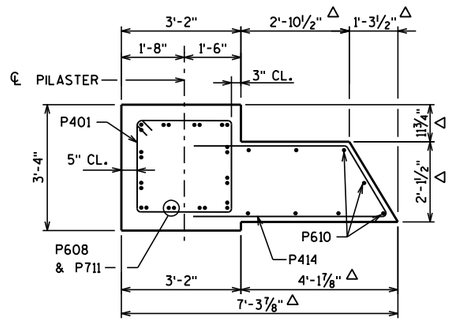
SECTION E-E



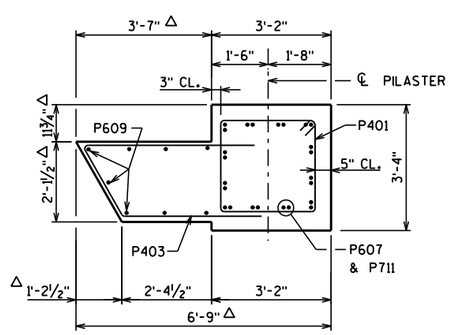
SECTION F-F
WEST PILASTER



SECTION F-F
EAST PILASTER

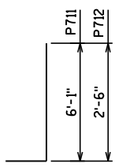


SECTION G-G
WEST PILASTER

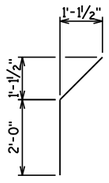


SECTION G-G
EAST PILASTER

△ DIMENSIONS GIVEN ASSUME 9" THICK TILT UP WALL PANELS. DIMENSIONS SHALL BE ADJUSTED IF OTHER THICKNESS IS USED.



P711, P712



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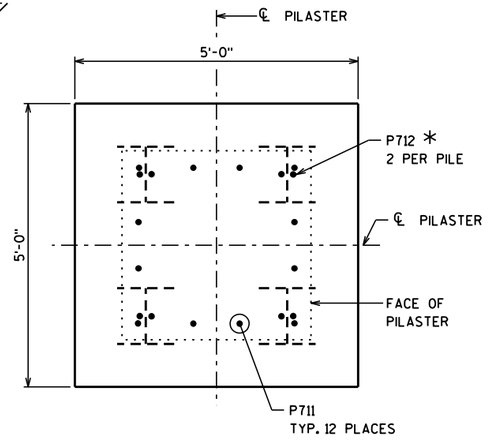
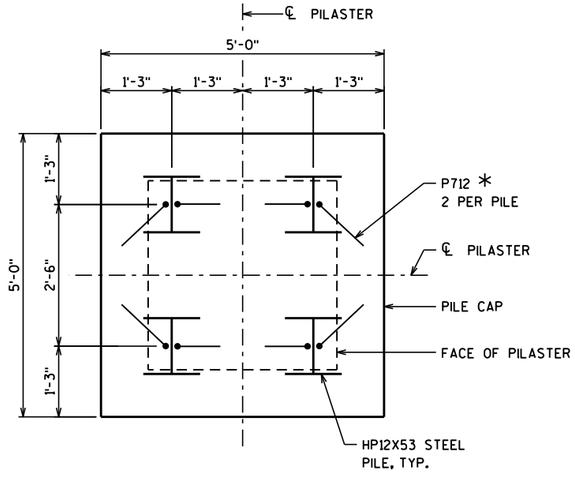
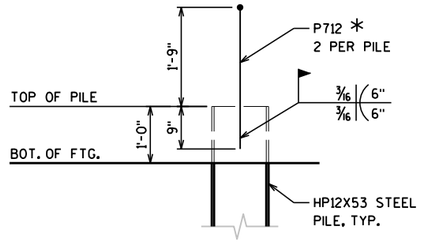


SECTION H-H



PILASTER FOOTING PLAN



PILE HEAD DETAIL

* REINFORCEMENT WELDED TO PILE SHALL CONFORM TO ASTM A706

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-216

DRAWN BY BRE | PLANS CK'D. KRO

PILASTER DETAILS

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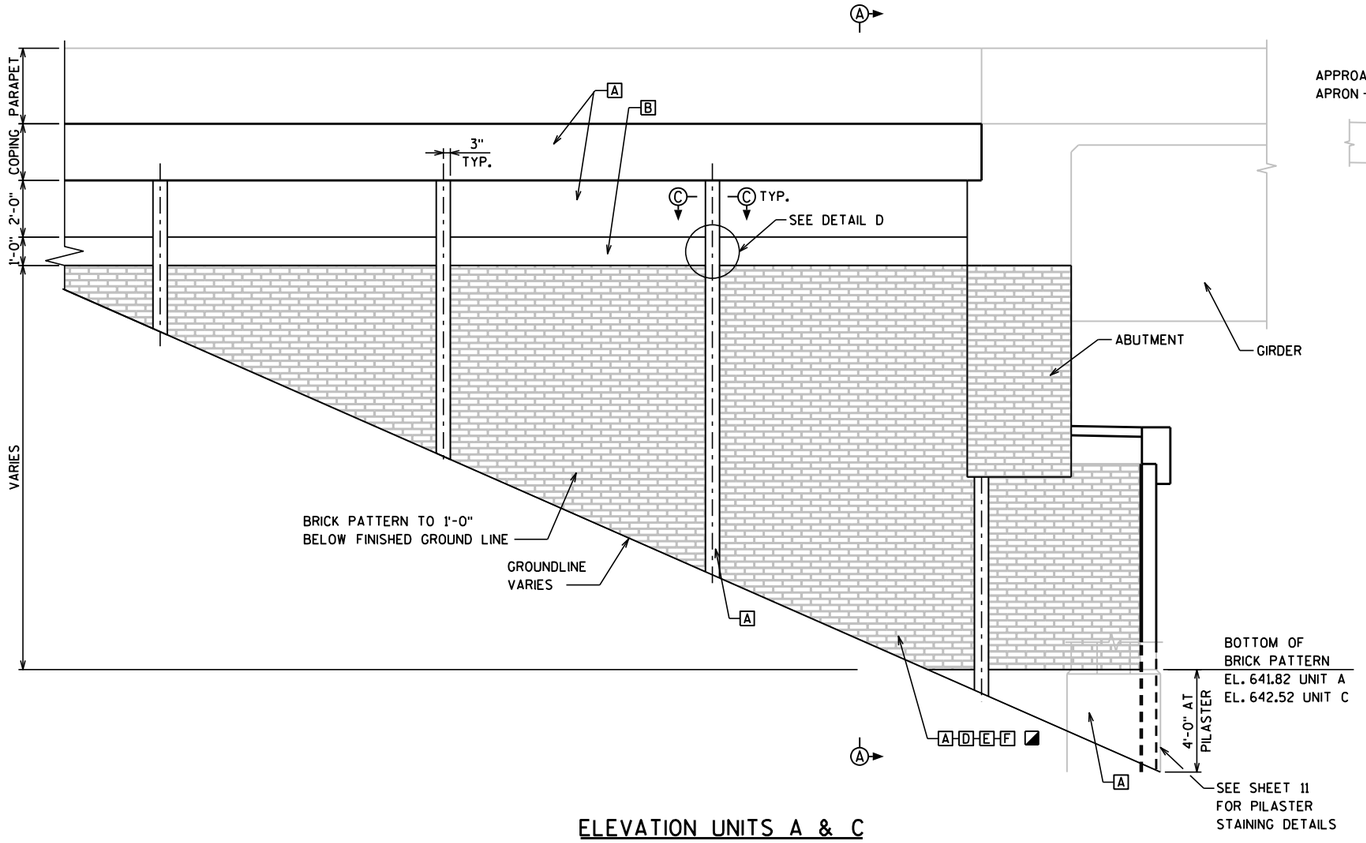
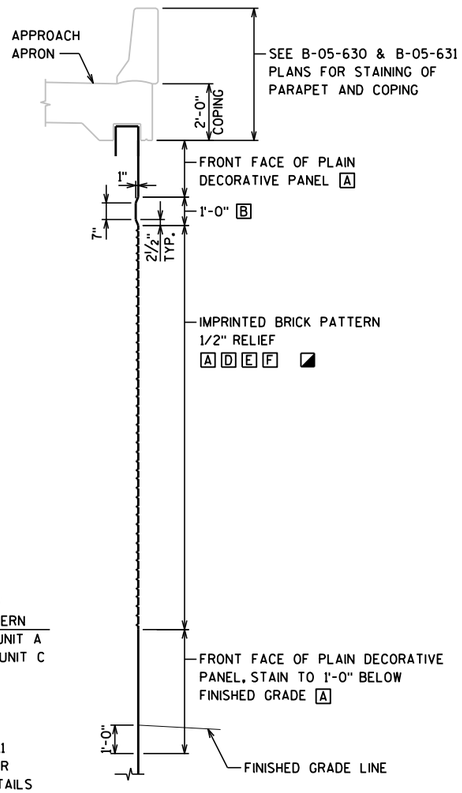
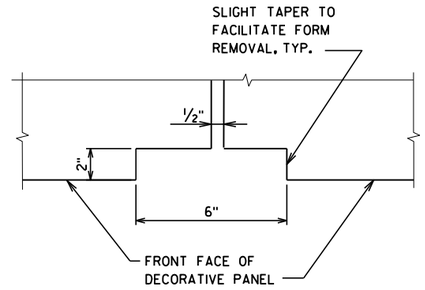


ELEVATION UNITS A & C

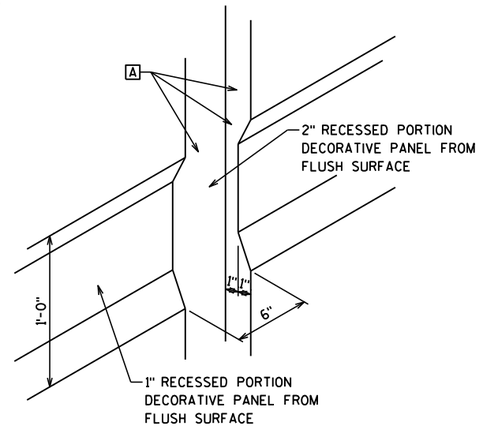
AT FRONT FACE OF PRECAST PANEL UNIT 'A' SHOWN, UNIT 'C' OPPOSITE HAND



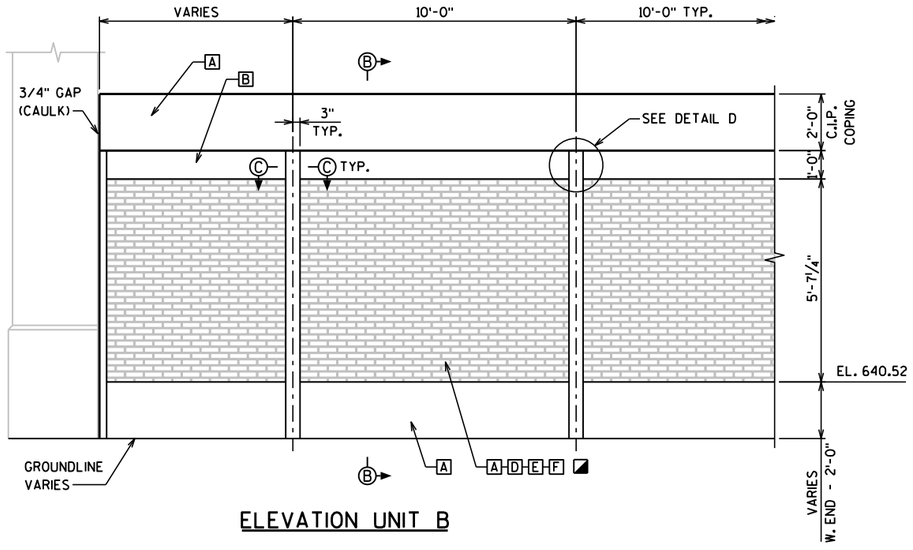
SECTION A-A



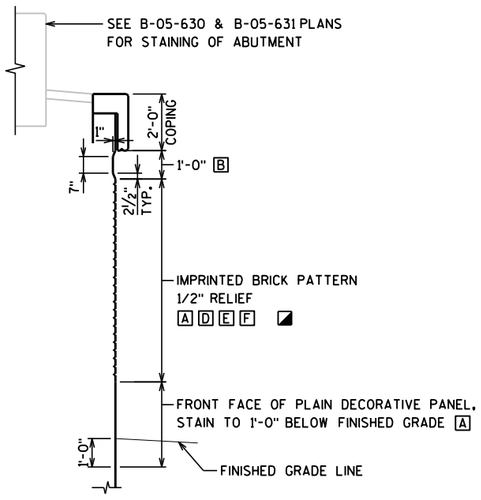
SECTION C-C



DETAIL D - ISOMETRIC REVEAL



ELEVATION UNIT B



SECTION B-B

NOTES

A STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

SEE SHEET 15 FOR "COLOR STAINING SCHEDULE".

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-216

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AESTHETIC DETAILS (1 OF 2)

SHEET 14 OF 15

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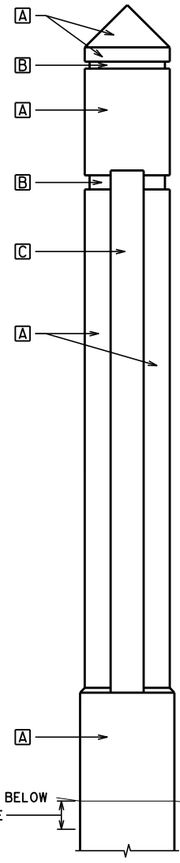
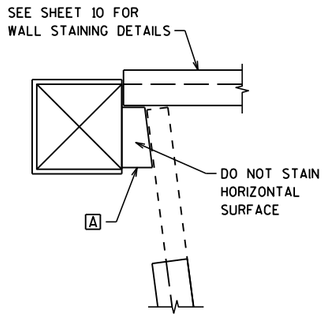
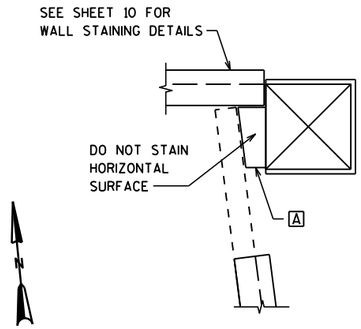


ELEVATION - PILASTER



PLAN - WEST PILASTER



PLAN - EAST PILASTER

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER
C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)

SEE SPECIAL PROVISIONS FOR STAIN COLORS.

NOTES

STAIN UNDERSIDE OF COPING AT UNIT B.

STAINING THE UNDERSIDE OF BRIDGE APPROACH APRON COPING INCLUDED WITH B-05-632 & B-05-633.

THE COST OF BRICK PATTERN FORMLINER TREATMENT ON PRESTRESSED PRECAST CONCRETE WALL PANELS IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT". SEE SPECIAL PROVISION FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

THE COST FOR ALL OTHER CONCRETE FORMING AESTHETIC DETAILS ARE INCIDENTAL TO BID ITEM "CONCRETE MASONRY RETAINING WALLS".

STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

8

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-216

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AESTHETIC DETAILS
(2 OF 2)

SHEET 15 OF 15

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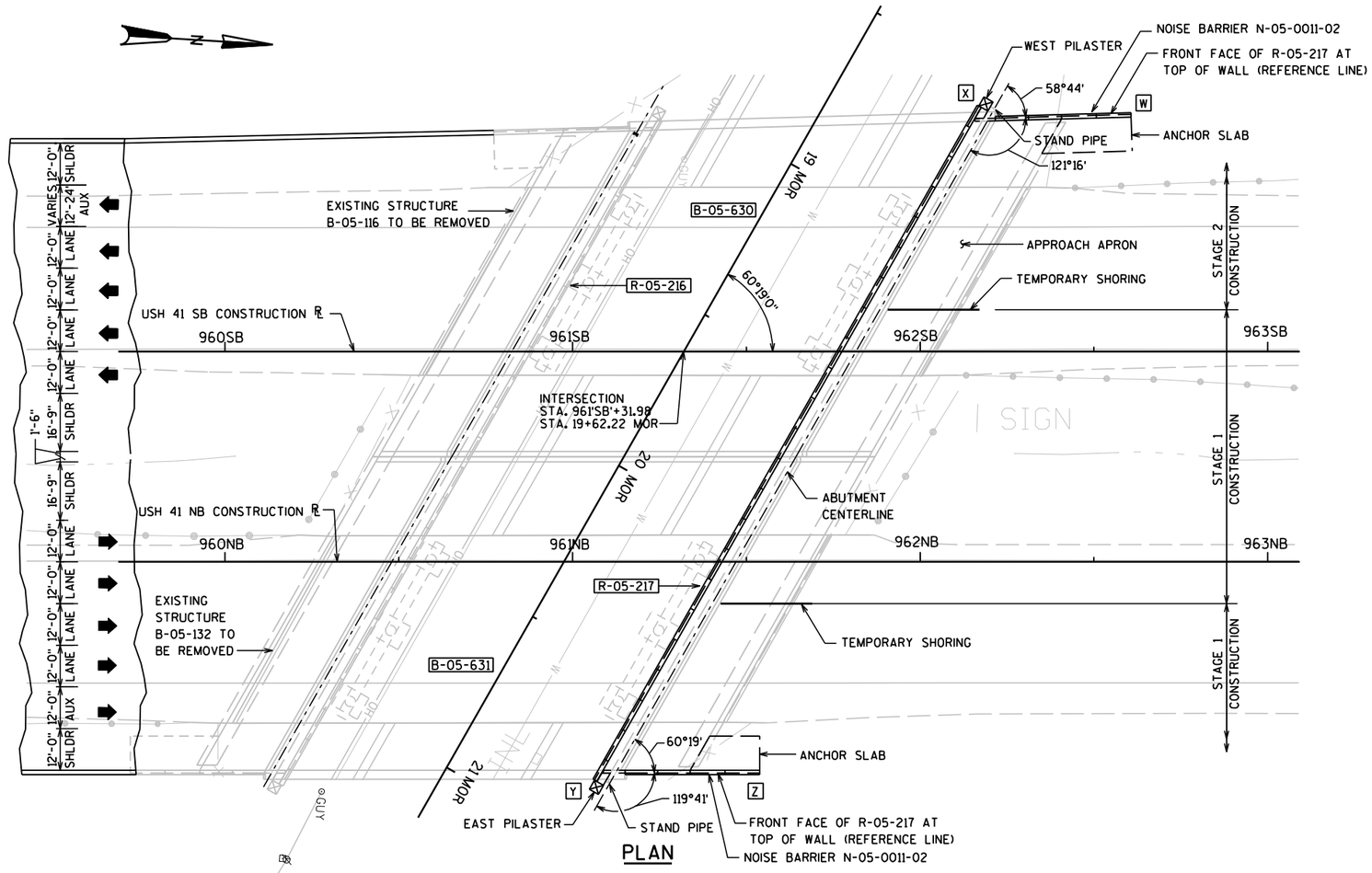
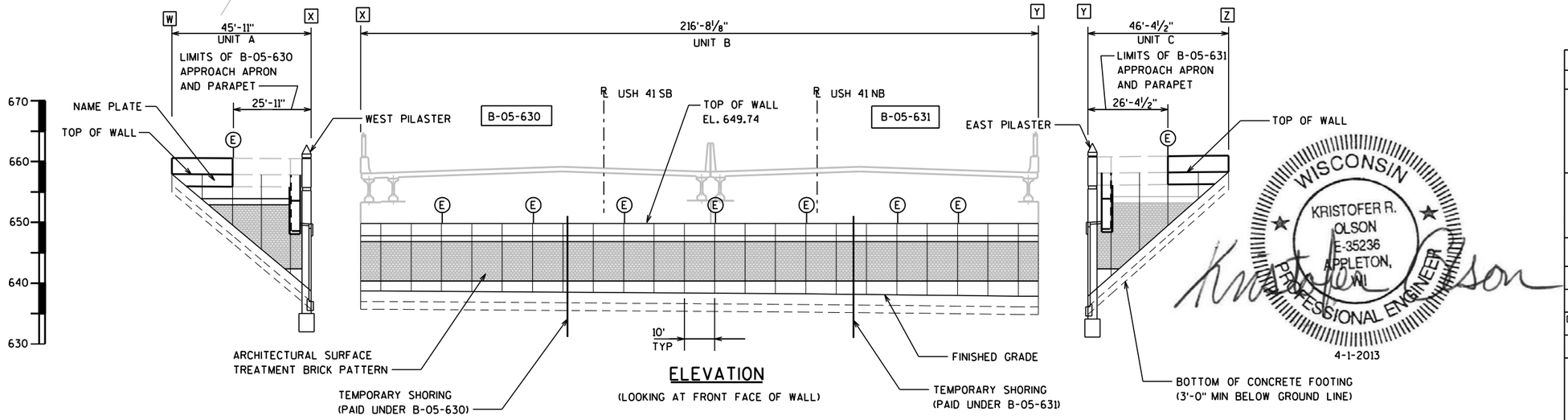
FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Retaining Walls±R-05-216±R-05-216 15 aesthetic details 2.dgn PLOT BY : epleyb PLOT DATE: 11/15/2012 6:29:48 PM



PLAN



ELEVATION

(LOOKING AT FRONT FACE OF WALL)

DESIGN DATA

LIVE LOAD

LIVE LOAD SURCHARGE (TRAFFIC) —— 240 P.S.F.

MATERIAL PROPERTIES

CONCRETE MASONRY RETAINING WALLS —— f'c = 4,000 psi

HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 —— fy = 60,000 psi

PRESTRESSED PRECAST CONCRETE WALL PANELS —— f'c = 5,000 psi

STRUCTURAL STEEL CARBON (ASTM A709 GRADE 36) —— f'c = 36,000 psi

FOUNDATION DATA

ALLOWABLE SOIL BEARING CAPACITIES

MSE WALL —— SEE TABLE

PILASTER TO BE SUPPORTED ON HP 12 X 53 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 75 TONS ** PER PILE DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 80 FEET LONG.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC VOLUME

USH 41	MORRIS AVE.
A.D.T. = 73,400 (2009)	A.D.T. = 3,000 (2003)
= 102,400 (2032)	= 3,400 (2032)
R.D.S. = 70 M.P.H.	R.D.S. = 30 M.P.H.

WALL COORDINATES

POINT	WALL STATION	REFERENCE LINE STATION	OFFSET TO FRONT FACE OF WALL	NORTHING	EASTING	TOP OF WALL	FINISHED GROUND
W	70+00.00	962SB+60.68	68.27	563227.22	82135.38	658.45	657.93
X	70+45.92	962SB+14.78	67.00	563181.48	82139.5	649.74	638.72
	70+45.92	18MOR+63.02	38.76	563181.48	82139.5	649.74	638.72
Y	72+62.60	20MOR+79.70	38.76	563086.06	82334.04	649.74	637.84
	72+62.60	961NB+07.48	60.75	563086.06	82334.04	649.74	637.84
Z	73+08.97	961NB+53.85	60.75	563132.35	82331.16	658.32	658.32

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LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. QUANTITIES & GENERAL NOTES
3. DESIGN DATA AND WALL DETAILS
4. SUBSURFACE EXPLORATION
5. WALL SECTIONS
6. WALL DETAILS
7. ANCHOR SLAB UNIT A
8. ANCHOR SLAB UNIT C
9. COPING AND PARAPET
10. NOISE BARRIER ANCHORAGE
11. NOISE BARRIER ANCHORAGE DETAILS
12. PILASTER
13. PILASTER DETAILS
14. AESTHETIC DETAILS 1
15. AESTHETIC DETAILS 2
16. STAND PIPE DETAILS
17. STAND PIPE

BRIDGE OFFICE CONTACT

WILLIAM DREHER
(608) 266-8499

CONSULTANT CONTACT

OMNNI ASSOCIATES
KRISTOFER OLSON
(920) 735-6900

LEGEND

* PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT

Ⓔ EXPANSION JOINT

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY

OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/03/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

WISCONSIN
KRISTOFER R. OLSON
E-35236
APPLETON, WI
PROFESSIONAL ENGINEER
4-1-2013

STRUCTURE R-05-217

RETAINING WALL AT USH 41 N. OF MORRIS AVE

COUNTY	VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC.	LOAD
AASHTO STD SPEC. 2003	NA

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JAW	KRO	DPP	JAW

GENERAL PLAN AND ELEVATION

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GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL RETAINING WALL STATIONS AND OFFSETS ARE MEASURED ALONG USH 41 NB/SB REFERENCE LINES OR MORRIS AVENUE CENTERLINE.

LENGTH OF RETAINING WALL IS MEASURED ALONG THE FRONT FACE AT THE REFERENCE LINE.

OFFSETS ARE MEASURED TO THE FRONT FACE OF RETAINING WALL.

APPLY PROTECTIVE SURFACE TREATMENT TO THE EXPOSED SURFACE OF THE ANCHOR SLABS, AND TO THE INSIDE AND TOP FACES OF PARAPET.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

ALL BAR STEEL REINFORCEMENT IS TO BE EPOXY COATED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK OR FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK INDICATE THE SIZE OF BAR.

REINFORCING BARS SHALL BE TAGGED SO THAT THE STRUCTURE UNIT IN WHICH THEY ARE TO BE PLACED IS IDENTIFIABLE.

THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATIONS AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE.

THESE PLANS ARE FOR A WIRE FACED MECHANICALLY STABILIZED EARTH WALL WITH PRESTRESSED PRECAST CONCRETE FACING PANELS.

COORDINATE THE CONSTRUCTION OF WALL R-05-216 WITH THE SOUTH ABUTMENTS OF B-05-630 AND B-05-631.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, AND SHOP DRAWINGS FOR THE RETAINING WALL, DEADMEN ANCHOR BLOCKS AND RODS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEMS "WALL WIRE FACED MECHANICALLY STABILIZED EARTH" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL".

THE COST OF FURNISHING AND PLACING THE FOOTING UNDER THE PRESTRESSED PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

THE COST OF FURNISHING AND PLACING THE CAST-IN-PLACE CONCRETE COPING IN UNIT B IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE ANCHOR SLAB, PARAPETS AND PILASTERS IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".

PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

OPTIONAL TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE FOOTING WITH A MINIMUM SPACING OF TWO PANEL JOINTS. FOOTING JOINTS SHOULD BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THRU FOOTING JOINTS.

DO NOT ALLOW CONCRETE OR FILL TO DROP OR ACCUMULATE IN CAVITY BETWEEN THE WIRE FACED WALL AND PRECAST CONCRETE WALL PANEL.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

DESIGN FOR RETAINING WALL TO PROVIDE FOR A FINISHED GRADE SLOPE BEHIND THE WALL AS SHOWN IN THESE PLANS AND THE ROADWAY CROSS SECTIONS.

PLAN DIMENSIONS, QUANTITIES AND REINFORCEMENT DETAILS ARE BASED ON A CONCRETE WALL PANEL THICKNESS OF 9 ½ INCHES. FOR PANEL THICKNESSES OTHER THAN 9 ½ INCHES, THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, REINFORCEMENT BAR DETAILS, AND QUANTITIES AND WILL BE RESPONSIBLE FOR ANY QUANTITY VARIATIONS.

TEMPORARY SHORING MAY BE LEFT IN PLACE. TOP OF SHORING MUST BE 3' BELOW FINISHED GRADE IF LEFT IN PLACE.

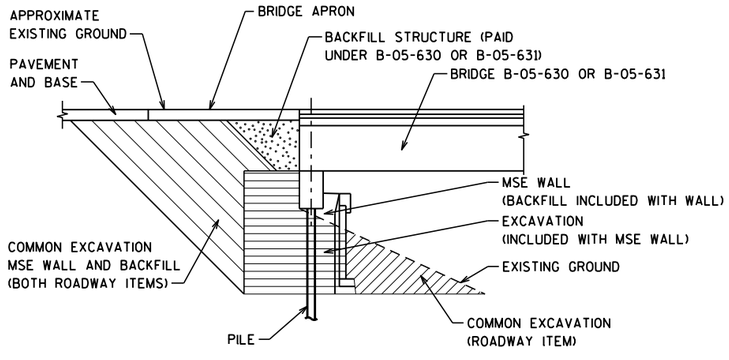
DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURES ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

THE FOLLOWING DESIGN PRESSURES ARE USED TO DESIGN THE NOISE BARRIERS IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND SHALL BE ACCOUNTED FOR IN THE DESIGN OF THE WALL:
- 28.5 P.S.F. FOR GROUND MOUNTED BARRIERS
- 37.5 P.S.F. FOR STRUCTURE MOUNTED BARRIERS

NOISE BARRIERS MOUNTED ON RETAINING WALLS REQUIRE THE COMPLETE ROADWAY PAVEMENT STRUCTURE (OR EQUIVALENT EARTH FILL) OVER THE TOP OF THE MOMENT SLAB TO RESIST DESIGN WIND PRESSURE. LIMIT ERECTION OF THE PANELS TO 2/3 THE HEIGHT OF THE ACOUSTIC LINE PRIOR TO PLACEMENT OF PAVEMENT.

DRIVE PILING FOR PILASTER BEFORE THE MSE WALL IS CONSTRUCTED. CONTRACTOR MAY PROPOSE ALTERNATE SUPPORT SYSTEM FOR THE PILASTER.

AT THE ENDS OF WALL SEAL CAVITY BETWEEN WIRE FACE WALL AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE 1'-6" WIDE. INCIDENTAL TO BID ITEM PRESTRESSED PRECAST CONCRETE WALL PANEL.

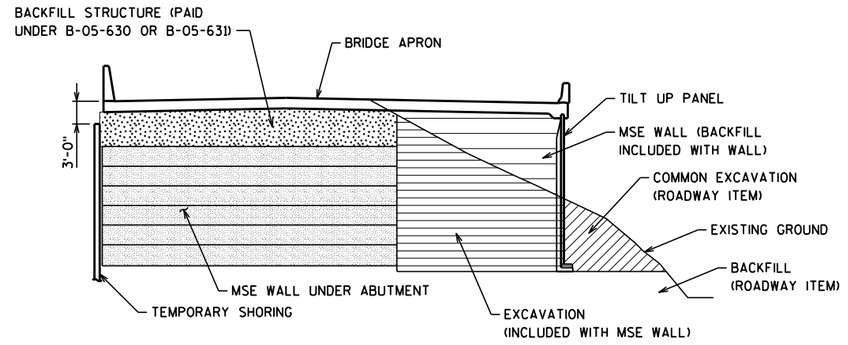


MSE WALL UNDER ABUTMENT (TYP)

TOTAL ESTIMATED QUANTITIES

ALL BID ITEMS ARE CATEGORY 4190

ITEM NUMBER	BID ITEM	UNIT	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	40
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	68
505.0415	BAR STEEL REINFORCEMENT HS RETAINING WALLS	LB	310
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	6,020
532.0700.S	WALL WIRE FACED MECAHNICALLY STABILIZED EARTH	SF	3,280
550.1120	PILING STEEL DELIVERED AND DRIVEN HP 12-INCH X 53 LB	LF	640
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	400
SPV.0060.701	ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES	EACH	4
SPV.0060.901	STANDPIPE SYSTEM	EACH	2
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	1,780
SPV.0165.501	STAINING CONCRETE	SF	2,730
SPV.0165.502	STAINING CONCRETE BRICK	SF	1,780
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	3,280
	NON-BID ITEMS		
	PREFORMED JOINT FILLER, 3/4-INCH		
	CORK FILLER, 1-INCH		
	EXPANDED POLYSTYRENE, 3/4-INCH, 1-INCH		



MSE WALL UNDER BRIDGE APRON (TYP)

BENCH MARKS

NO.	DESCRIPTION	ELEV.
529	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE SOUTHWEST QUADRANT OF SANTA BARBARA DR. & EMINENCE ST. 35' WEST OF THE SANTA BARBARA DR. AND 25' NORTH OF PRIVATE ENTRANCE 1351.	646.43
530	CHISELED "X" ON A FIRE HYDRANT BURY BOLT ON THE WEST SIDE OF HILLTOP RD. 155' NORTH OF THE INTERSECTION OF MORRIS AVE. & HILLTOP DR. 35' FEET WEST OF THE CENTERLINE OF HILLTOP DR.	644.33
551	CHISELED "X" ON A FIRE HYDRANT BURY BOLT IN THE NORTHWEST QUADRANT OF MORRIS AVE & ARGONNE ST. 40' NORTH OF MORRIS AVE. & 60' WEST OF ARGONNE ST.	640.59

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-217

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QUANTITIES AND GENERAL NOTES

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STATE PROJECT NUMBER
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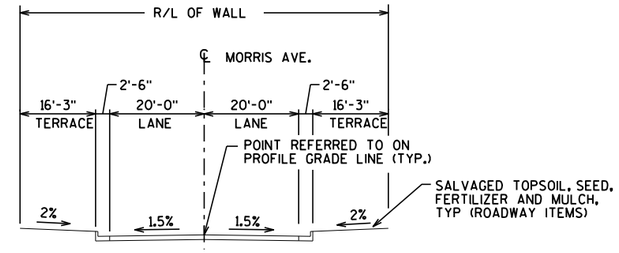
WALL GEOMETRY

WALL STATION	TOP OF WALL	FINISHED GROUND
UNIT A		
70+00.00	658.45	657.93
70+10.00	658.43	653.75
70+20.00	658.40	649.56
70+29.54	658.38	645.57
70+39.08	658.35	641.58
70+45.92	649.74	638.72
UNIT B		
70+45.92	649.74	638.72
70+48.33	649.74	638.72
70+58.33	649.74	638.68
70+68.33	649.74	638.65
70+78.33	649.74	638.61
70+88.33	649.74	638.58
70+98.33	649.74	638.55
71+08.33	649.74	638.51
71+18.33	649.74	638.48
71+28.33	649.74	638.44
71+38.33	649.74	638.41
71+48.33	649.74	638.38
71+58.33	649.74	638.34
71+68.33	649.74	638.31
71+78.33	649.74	638.27
71+88.33	649.74	638.24
71+98.33	649.74	638.18
72+08.33	649.74	638.13
72+18.33	649.74	638.08
72+28.33	649.74	638.02
72+38.33	649.74	637.97
72+48.33	649.74	637.91
72+58.33	649.74	637.85
72+62.60	649.74	637.84
UNIT C		
72+62.60	649.74	637.84
72+70.21	658.09	641.20
72+79.59	658.15	645.34
72+88.97	658.21	649.48
72+98.97	658.27	653.90
73+08.97	658.32	658.32

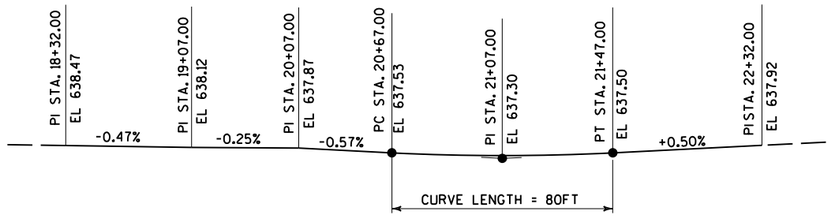
SOIL PARAMETERS

SOIL DESCRIPTION	BOTTOM ELEVATION (FEET)	UNIT WEIGHT (PCF)	UNDRAINED COHESION (PSF)	UNDRAINED FRICTION ANGLE (DEGREES)	DRAINED COHESION (PSF)	DRAINED FRICTION ANGLE (DEGREES)
BORING B558						
EXISTING FILL	637.2	125	---	28	---	28
VERY LOOSE TO LOOSE SAND	635.8	120	---	28	---	28
GRANULAR FILL (WITHIN MSE WALL)	633.7	125	---	30	---	30
STIFF TO VERY STIFF LEAN CLAY	625.8	130	1,500	---	---	28
MEDIUM DENSE SAND	610.8	120	---	30	---	30
HARD SILTY CLAY	583.8	135	4,000	---	---	32
BORING R217-G1						
EXISTING FILL	638.7	125	---	28	---	28
FAT CLAY	635.4	130	750	---	---	25
GRANULAR FILL (WITHIN MSE WALL)	635.2	125	---	30	---	30
MEDIUM STIFF SILTY CLAY	632.7	130	1,500	---	---	28
LOOSE SILT LITTLE SAND	625.2	120	---	28	---	28
VERY LOOSE SILT SAND	622.7	120	---	26	---	26
SOFT SANDY LEAN CLAY	620.2	120	250	---	---	24
LOOSE SAND	611.4	125	---	28	---	28
HARD LEAN CLAY	---	135	4,000	---	---	32
BORING B-2						
EXISTING FILL	637.6	125	---	28	---	28
GRANULAR FILL (WITHIN MSE WALL)	634.3	125	---	30	---	30
LOOSE TO MEDIUM DENSE SAND	617.0	120	---	30	---	30
MED STIFF LEAN CLAY	611.8	130	1,000	---	---	26
VERY STIFF TO HARD SILTY CLAY	601.1	135	3,000	---	---	32
STIFF SILTY CLAY	575.6	130	1,500	---	---	30

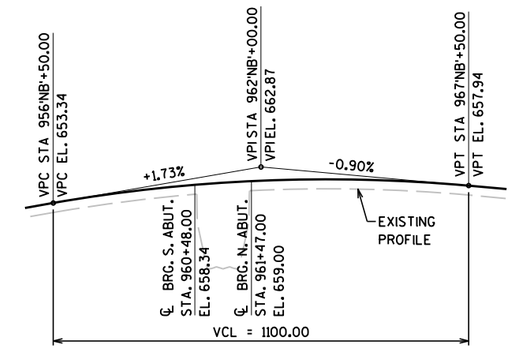


TYPICAL SECTION THRU MORRIS AVENUE

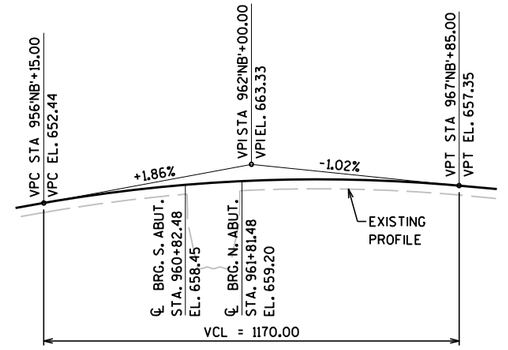
(LOOKING EAST)



EXISTING PROFILE GRADE LINE MORRIS AVENUE



PROFILE GRADE LINE - NORTHBOUND USH 41

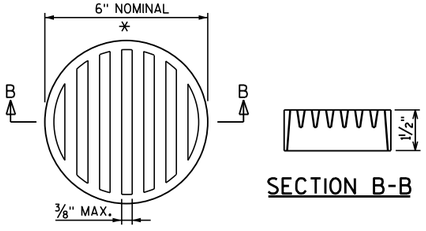


PROFILE GRADE LINE - SOUTHBOUND USH 41

SAFETY FACTORS FOR MSE WALLS

UNIT	DRAIN CONDITION	MAXIMUM WALL HEIGHT [1] (FEET)	REINFORCED LENGTH (FEET)	MINIMUM REINFORCEMENT RATIO	CONDITION	CALCULATED SAFETY FACTOR	MINIMUM REQUIRED SAFETY FACTOR
A	DRAINED / UNDRAINED	21	24.0	1.1	GLOBAL	1.6 [7]	1.3
					OVERTURNING	6.5	2.0
					SLIDING	2.1	1.5
					BEARING	2.5	2.5
					ALLOWABLE BEARING CAPACITY = 3,700 PSF		
B	DRAINED / UNDRAINED	14 [2]	21.0	1.5	GLOBAL	1.9	1.3
					OVERTURNING	4.6	2.0
					SLIDING	1.5	1.5
					BEARING	2.7	2.5
					ALLOWABLE BEARING CAPACITY = 3,700 PSF		
C	DRAINED / UNDRAINED	22	26.0	1.2	GLOBAL	1.9 [7]	1.3
					OVERTURNING	7.1	2.0
					SLIDING	2.3	1.5
					BEARING	2.5	2.5
					ALLOWABLE BEARING CAPACITY = 3,700 PSF		

1. MAXIMUM WALL HEIGHT INCLUDES 3 FOOT MINIMUM EMBEDMENT BELOW FINISHED GROUND IN FRONT OF WALL.
2. SOIL RETENTION BEHIND THE ABUTMENT IS 11 FEET, SO ACTUAL SOIL RETENTION IS 24 FEET.
3. THE LENGTH OF REINFORCING STRIPS IS THE MINIMUM REQUIRED LENGTH FOR THE WALL HEIGHT AT THE EVALUATED SECTION.
4. FINAL DESIGN FOR INTERNAL STABILITY AND EXTERNAL SLIDING AND OVERTURNING IS THE RESPONSIBILITY OF THE CONTRACTOR'S WALL DESIGNER AND MAY BE DIFFERENT FROM VALUES IN THE TABLE.
5. THE NORTH EAST REGION SOILS ENGINEER SHOULD BE PRESENT TO EVALUATE THE SUBSURFACE AT THE TIME OF CONSTRUCTION.
6. THE WALL HAS BEEN DESIGNED FOR TRAFFIC LOADING ONLY. IF DURING CONSTRUCTION HEAVY EQUIPMENT IS OPERATING IN CLOSE PROXIMITY TO THE WALL, OR IF MATERIAL IS STOCKPILED NEAR THE WALL, THE SAFETY FACTORS FOR THESE WALLS WILL SIGNIFICANTLY DECREASE.
7. ASSUMES NOISE WALL AT TOP OF MSE WALL IS SUPPORTED ON ANCHOR SLAB.



SECTION B-B

RODENT SCREEN DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH SHEET METAL SCREWS.

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DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-217

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DESIGN DATA & WALL DETAILS

SHEET 3 OF 17

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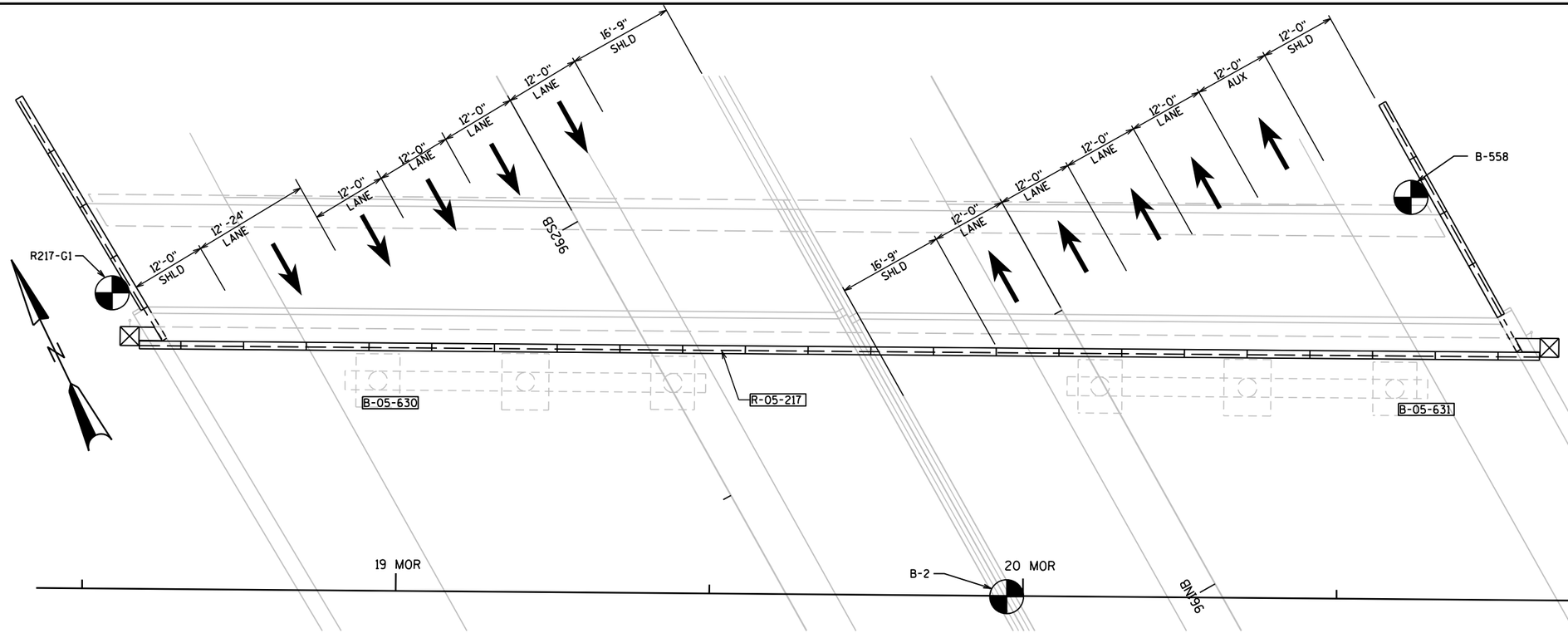
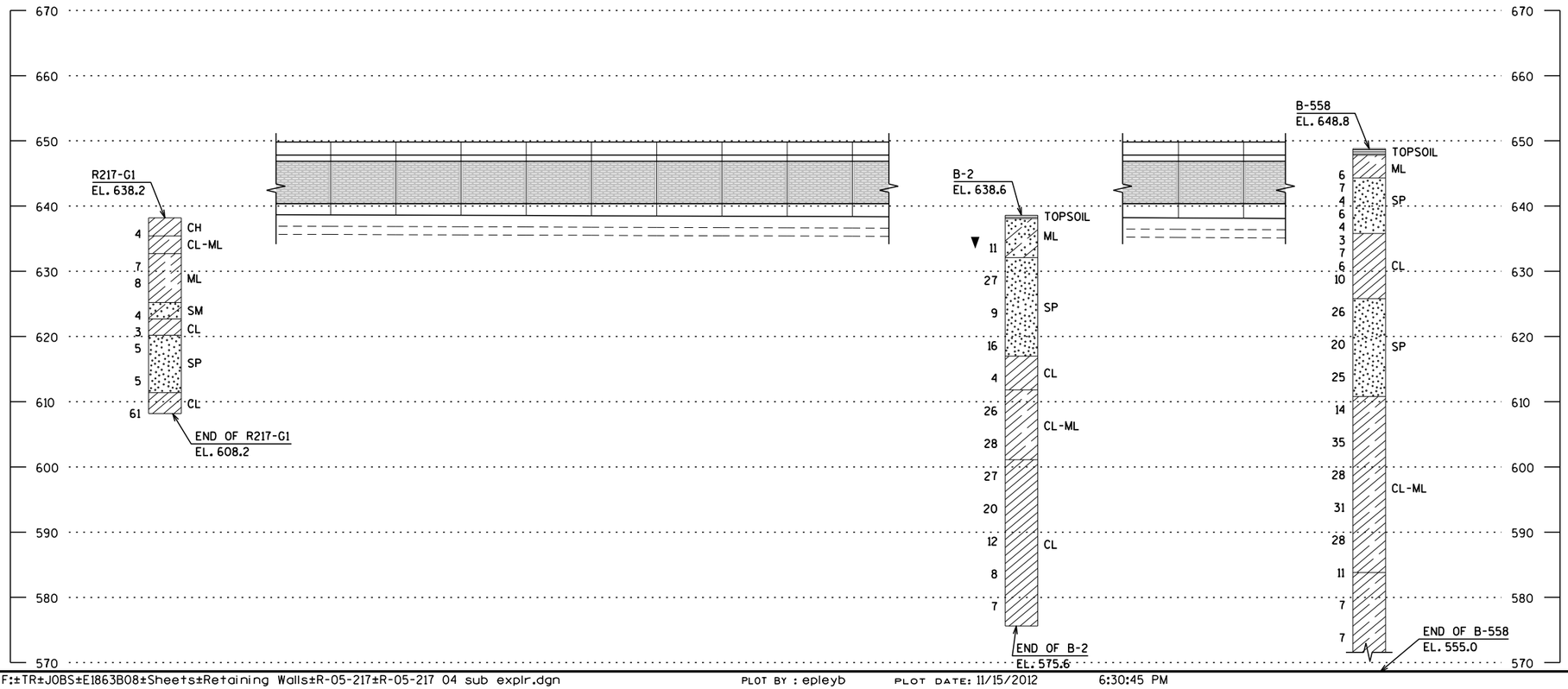
1133-03-77





ABBREVIATIONS

F — Fine M — Medium C — Coarse
Ws — Weathered So — Sound

MATERIAL SYMBOLS

Topsoil, Sand, Gravel, Silt, Peat, Clay, Sandstone, Limestone, Igneous Rock

LEGEND OF PROBING

Probing No.
Sta.
Elevation
7 Average Blows Per Foot
Refusal 95/6

95/6=95 Blows for 6" Penetration
Probing taken with a 350#wt.
Falling 18" on a 2" O.D. Point.

LEGEND OF BORING

Boring No.
Sta.
Elev.
Unconfined Strength → 7.7 7
Blows Per Ft. Using 140# Wt. Falling 30"
Wash Sample
Shelby Tube — S.T.
Ground Water Elevation
No Ground Water Observed Above This Elevation
Sandy Gravel
F. Boulders or Cobbles
Sand
Silty Clay
So Limestone

Unless otherwise specified, the blows per foot at the locations indicated are based on driving a O.D. x 1. 4" I.D. split spoon sampler with a 140# hammer having a free fall of 30". The blow count is taken in undisturbed soil immediately below a cased or open hole eliminating side friction on the drive pipe.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

To obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing. The data presented herein represents the findings of the subsurface explorations made. However, because the depths investigated are limited and the area of the borings and/or soundings is very small in relation to the entire area, the Division of Highways does not warrant conditions below the depths investigated or that the classification of material encountered in these investigations is necessarily typical of the entire site.

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SUBSURFACE EXPLORATION

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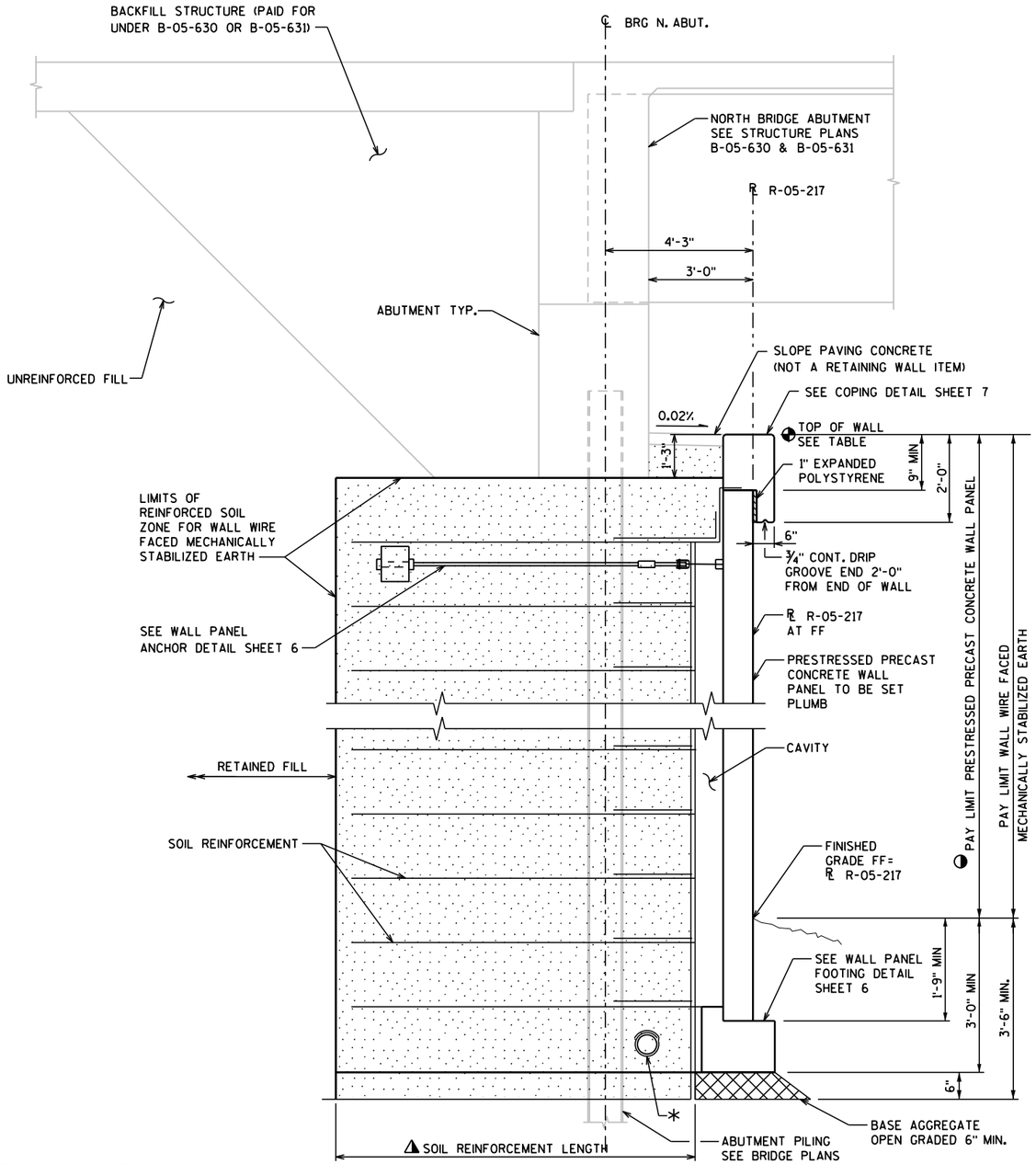
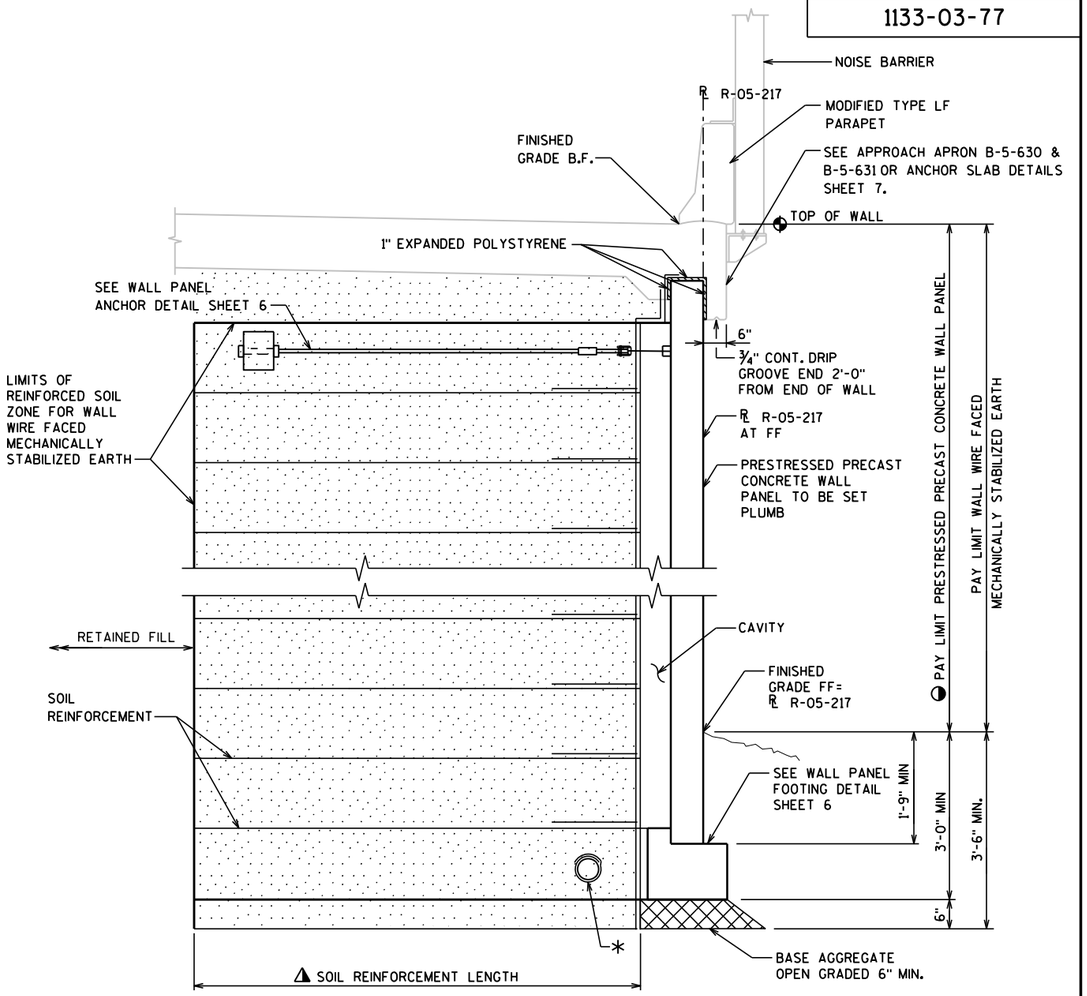


TYPICAL WALL SECTION AT ABUTMENT (UNIT B)



TYPICAL WALL SECTION AT UNIT A & C

LEGEND

◑ THE PLAN QUANTITY FOR THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL" IS BASED ON A WALL HEIGHT MEASURED FROM THE FINISHED GRADE AT THE FRONT FACE OF THE WALL TO THE TOP OF THE WALL AS SHOWN. THE TOP OF THE FOOTING IS ASSUMED TO BE A CONSTANT 1'-9" BELOW FINISHED GRADE.

⚠ PER WISDOT, MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS MUST BE 70% THE TOTALWALL HEIGHT (EXPOSED HEIGHT PLUS EMBEDMENT DEPTH) OR 8.0 FEET, WHICHEVER IS GREATER. SOIL REINFORCEMENT MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS. ACTUAL CALCULATED LENGTHS OF REINFORCING STRIPS WILL NEED TO EXCEED THESE MINIMUM FACTORS OF SAFETY FOR VARIOUS MSE PARAMETERS. SEE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.

* PIPE UNDERDRAIN WRAPPED 6-INCH, SLOPE 0.5% MIN. TO SUITABLE DRAINAGE, OR TIE INTO OTHER CLOSED DRAINAGE SYSTEM. ATTACH RODENT SHIELDS AT THE OUTLET ENDS OF PIPE UNDERDRAIN. SEE DETAIL.

MSE WALL NOTES

INSTALL BRIDGE PILING BEFORE CONSTRUCTING MSE WALL. INSTALLATION OF BRIDGE PILING IS NOT A RETAINING WALL ITEM.

FOR ROADWAY DETAILS AT THE FACE OF THE WALL, SEE ROADWAY TYPICAL SECTIONS.

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WALL SECTIONS

SHEET 5 OF 17

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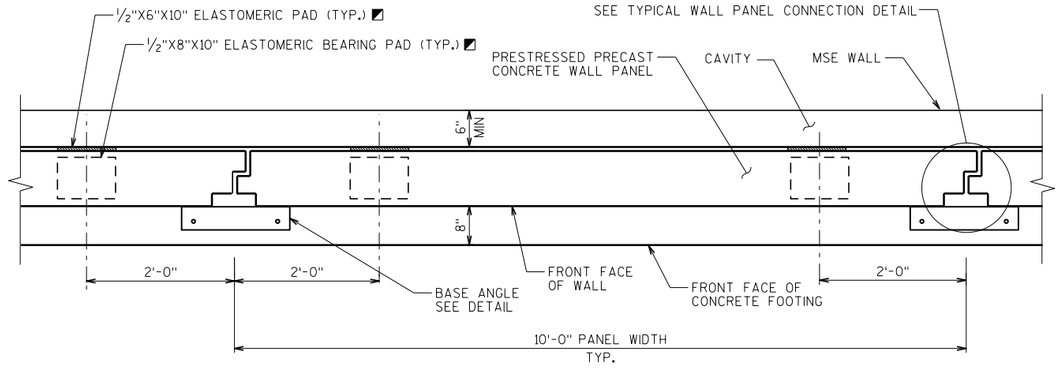
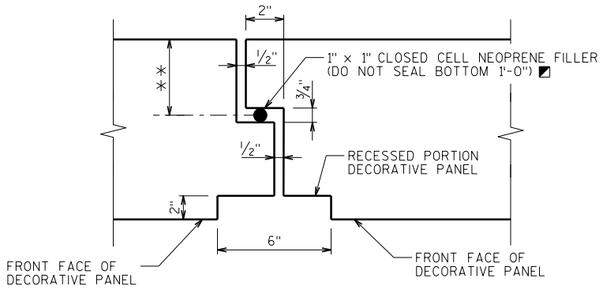
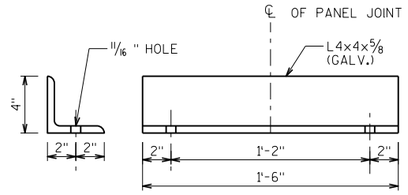


TYPICAL WALL PANEL CONNECTION



TYPICAL WALL PANEL CONNECTION

** 4" FOR 9½" PANEL
3" FOR 7½" PANEL



BASE ANGLE DETAIL

(1 AT EACH PANEL JOINT)

LEGEND

(A01) WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1¼" DIA. ANCHOR ROD, CLEVIS, AND OTHER PANEL CONNECTION COMPONENTS. DESIGN, DETAILING, AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL." INSTALLATION OF THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH."

(A02) DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION. ROD MIN. 2'-0" BELOW FINISH GRADE.

(A03) OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼" DIA. BAR)

(A04) BASE AGGREGATE OPEN GRADED, 6" MIN. INCIDENTAL TO BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

(A05) MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE PRECAST PANELS.

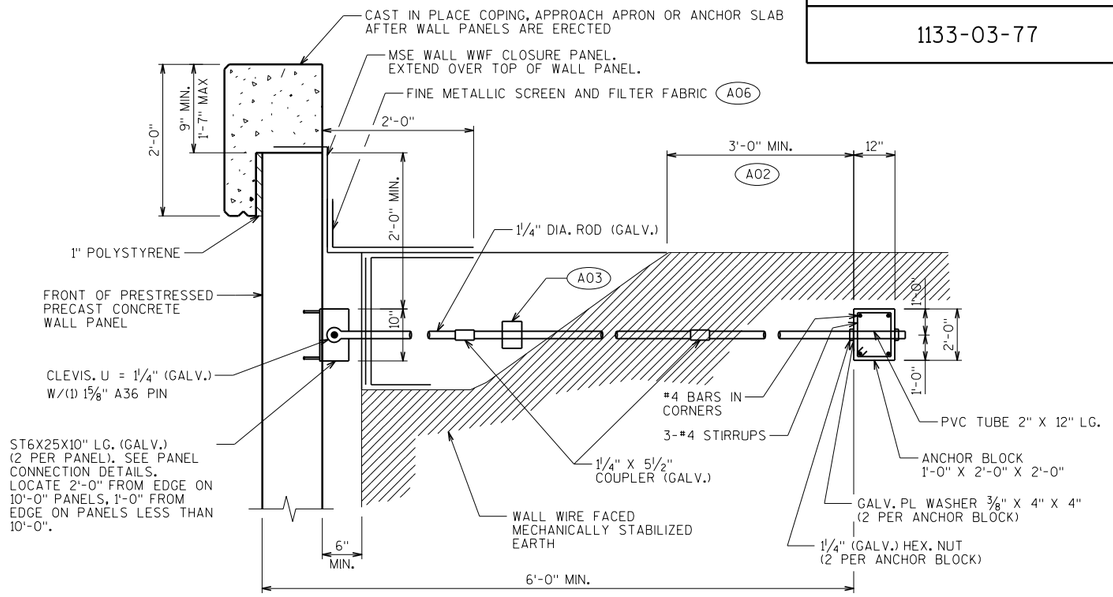
(A06) ALTERNATE METHODS OF SEALING OFF THE 6" VOID IN FRONT OF THE MSE WALL MAY BE SUBMITTED TO WISDOT FOR CONSIDERATION.

◩ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

NOTES

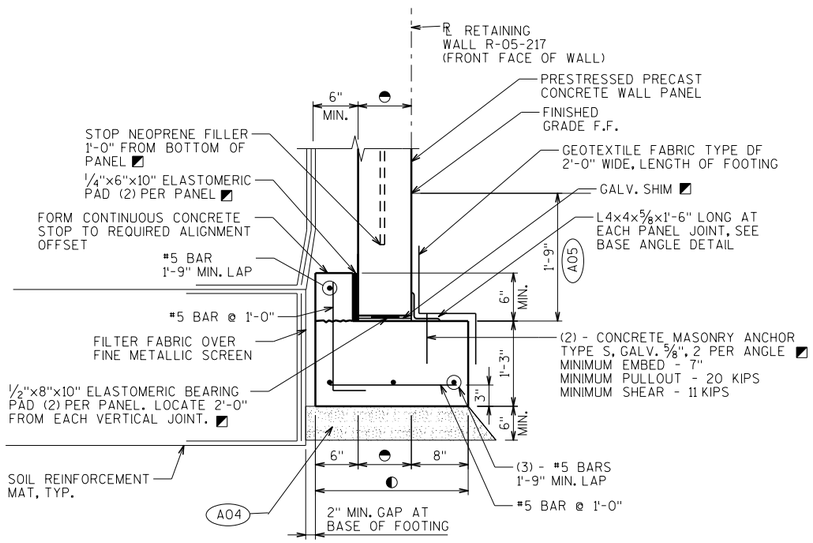
AN ALTERNATE WALL PANEL ANCHOR AND PANEL CONSTRUCTION SYSTEM MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER.

TILT UP PANEL ANCHOR SYSTEM MAY BE TRENCHED IN IF THE GEOMETRY OF THE ANCHOR SYSTEM LOCATION ALLOWS.



WALL PANEL ANCHOR DETAIL

(A01)

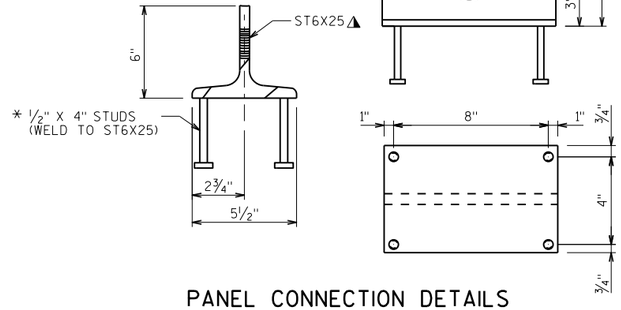


WALL PANEL FOOTING DETAIL

CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

◓ = 7½" OR 9½"

◐ FOOTING DIMENSION EQUALS PANEL THICKNESS PLUS 1'-2"



PANEL CONNECTION DETAILS

(2 PER PANEL)

◭ S12X50 (GALV.) CUT IN ½ TO FORM "T" SECTION. BF = 5.477" TW = 0.687".

* AS AN ALTERNATE, ½" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.

ST6X25 MAY BE WELDED TO ¾" THICK PLATE WITH (4) ½" X 4" STUDS ANCHORED IN PRECAST PANEL. RESTORE ZINC COATING AROUND ANY WELDED AREAS. SUBMIT DETAILS FOR APPROVAL BY ENGINEER.

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WALL DETAILS

SHEET 6 OF 17

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FILE NAME : F:\TR\JOBS\E1863B08\Sheets\Retaining Walls\R-05-217\R-05-217 06 WALL DETAILS.dgn
PLOT DATE : 4/1/2013
PLOT BY : epleyb
PLOT NAME : $FILE$
PLOT SCALE : 8.0000 ' / in.

STATE PROJECT NUMBER
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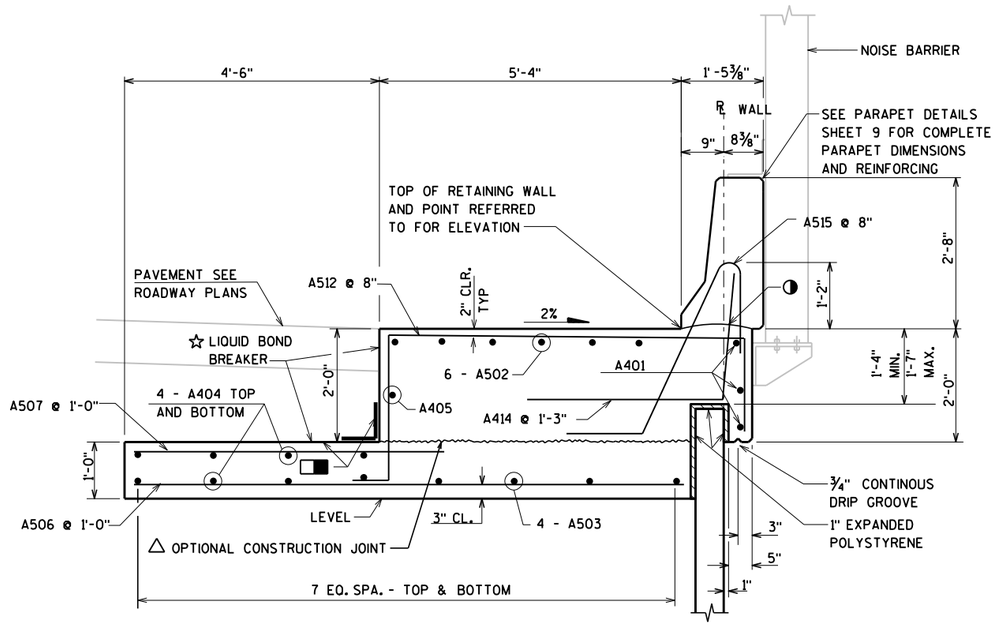


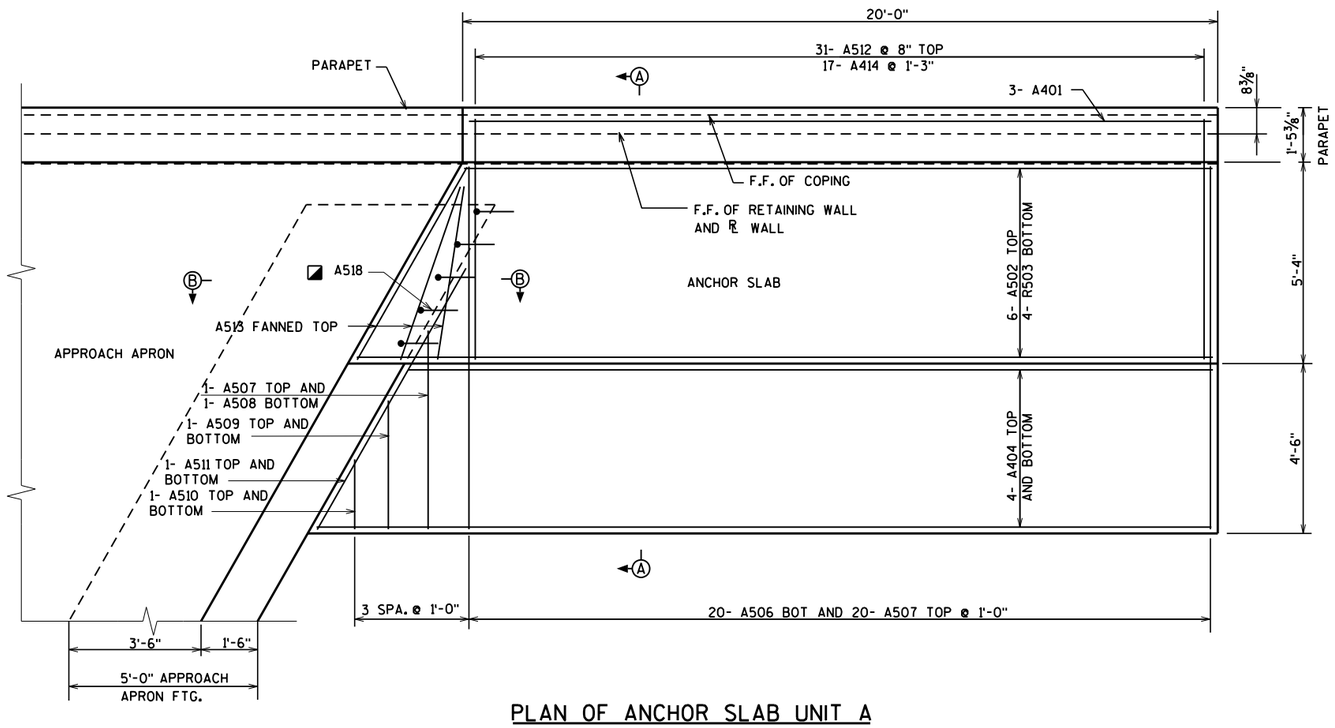
SECTION A-A THRU ANCHOR SLAB UNIT A

BAR SERIES

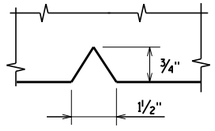
BAR NO.	NO. REQ'D.	LENGTH
A502	1 SERIES OF 6	19'-8" TO 22'-6"
A503	1 SERIES OF 4	18'-2" TO 21'-0"
A404	2 SERIES OF 4	21'-4" TO 23'-8"

BILL OF BARS

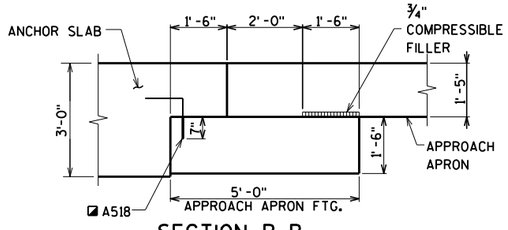
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	SERIES	LOCATION
A401	X	3	19'-8"			ANCHOR SLAB LONGITUDINAL
A502	X	6	21'-1"		Δ	ANCHOR SLAB LONGITUDINAL - TOP
A503	X	4	19'-7"		Δ	ANCHOR SLAB LONGITUDINAL - BOTTOM
A404	X	8	22'-6"		Δ	ANCHOR SLAB LONGITUDINAL - TOP & BOTTOM
A405	X	1	22'-6"			ANCHOR SLAB LONGITUDINAL
A506	X	20	9'-4"			ANCHOR SLAB TRANSVERSE - BOTTOM
A507	X	21	6'-3"			ANCHOR SLAB TRANSVERSE - TOP
A508	X	1	7'-0"			ANCHOR SLAB TRANSVERSE - BOTTOM
A509	X	2	5'-0"			ANCHOR SLAB TRANSVERSE
A510	X	2	3'-2"			ANCHOR SLAB TRANSVERSE
A511	X	2	10'-0"			ANCHOR SLAB TRANSVERSE
A512	X	31	10'-8"	X		ANCHOR SLAB TRANSVERSE - TOP
A513	X	3	6'-5"	X		ANCHOR SLAB TRANSVERSE - TOP
A414	X	17	5'-8"	X		ANCHOR SLAB TO PARAPET DOWEL
A515	X	31	6'-6"	X		ANCHOR SLAB & PARAPET VERTICAL
A516	X	31	4'-10"	X		PARAPET VERTICAL
A517	X	7	19'-8"			PARAPET HORIZONTAL
A518	X	5	1'-11"	X		ANCHOR SLAB DOWEL AT APPROACH APRON
N424	X	32	2'-3"	X		NOISE BARRIER POST ANCHORAGE
N425	X	8	2'-9"	X		NOISE BARRIER POST ANCHORAGE
N426	X	16	2'-0"			NOISE BARRIER POST ANCHORAGE
N527	X	8	11'-1"	X		NOISE BARRIER POST ANCHORAGE
N528	X	12	5'-6"	X		NOISE BARRIER POST ANCHORAGE



PLAN OF ANCHOR SLAB UNIT A



¾" DRIP GROOVE DETAIL



SECTION B-B

NOTES:

SEE SHEET 9 FOR BAR BENDING DIAGRAMS.

◑ HORIZ. CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

CONCRETE QUANTITY BASED ON 5" EMBEDMENT OF WALL PANEL IN ANCHOR SLAB.

◪ CONCRETE MASONRY ANCHORS, TYPE S NO. 5 BAR HAVING A MAXIMUM PULLOUT CAPACITY OF 20 KIPS. EMBED 7" IN CONCRETE.

☆ APPLY TO ALL HORIZONTAL AND VERTICAL FACES WHERE CONCRETE PAVEMENT CONTACTS ANCHOR SLAB.

▬ 18" RUBBERIZED MEMBRANE WATERPROOFING - SEAL ALL HORIZONTAL & VERTICAL JOINTS IN ANCHOR SLAB.

△ OPTIONAL CONSTRUCTION JOINT MAY BE USED WITH THE CONCURRENCE OF THE ENGINEER. RUBBERIZED MEMBRANE WATERPROOFING REQUIRED FOR THE OPTIONAL JOINT IS INCIDENTAL TO CONCRETE MASONRY RETAINING WALLS.

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DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-217

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ANCHOR SLAB UNIT A

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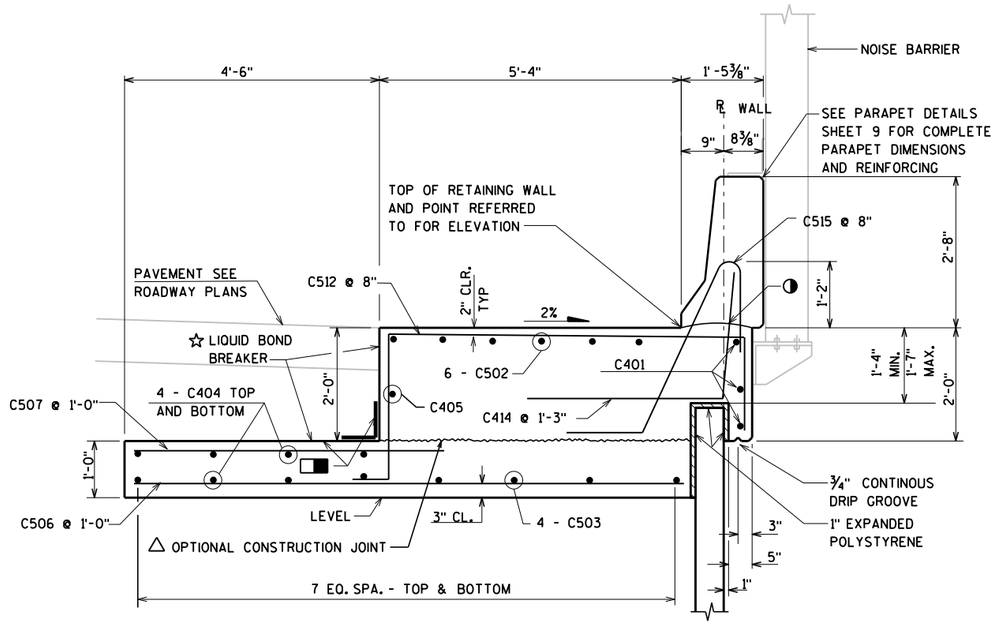
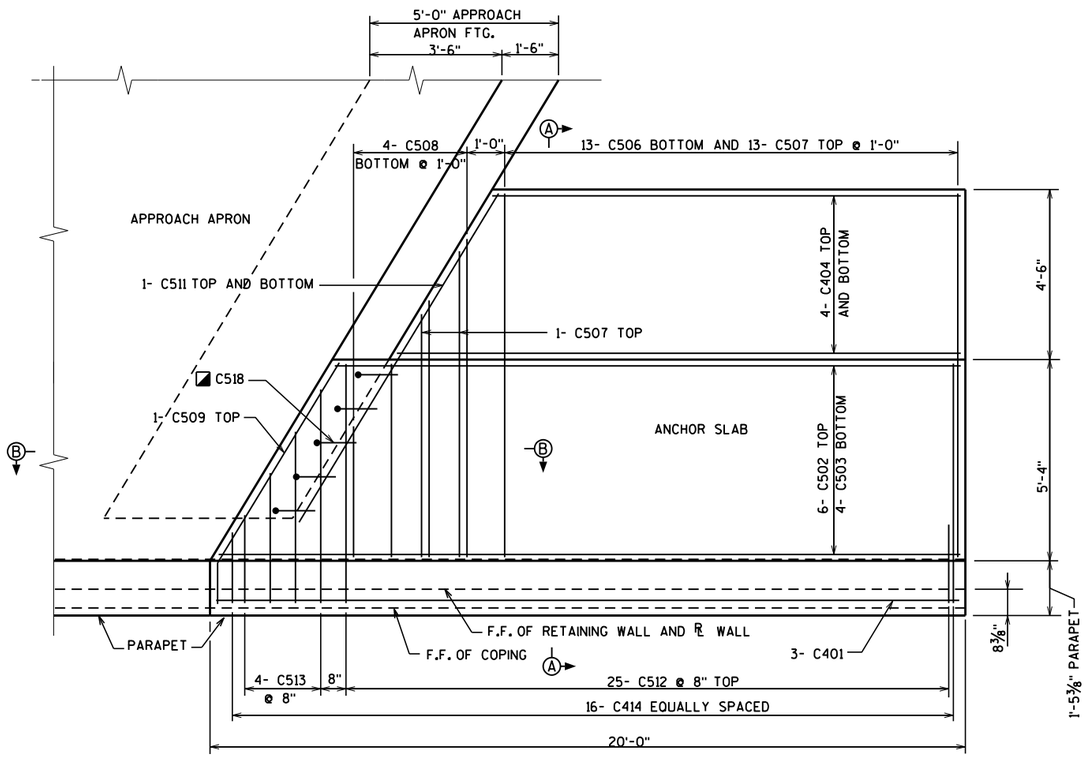


SECTION A-A THRU ANCHOR SLAB UNIT C



PLAN OF ANCHOR SLAB UNIT C

BAR SERIES

BAR NO.	NO. REQ'D.	LENGTH
C502	1 SERIES OF 6	16'-6" TO 19'-8"
C503	1 SERIES OF 4	15'-0" TO 18'-2"
C404	2 SERIES OF 4	12'-4" TO 14'-8"
C508	1 SERIES OF 4	3'-3" TO 8'-3"
C513	1 SERIES OF 4	4'-3" TO 7'-5"

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	SERIES	LOCATION
C401	X	3	19'-8"			ANCHOR SLAB LONGITUDINAL
C502	X	6	18'-1"		Δ	ANCHOR SLAB LONGITUDINAL - TOP
C503	X	4	16'-7"		Δ	ANCHOR SLAB LONGITUDINAL - BOTTOM
C404	X	8	13'-6"		Δ	ANCHOR SLAB LONGITUDINAL - TOP & BOTTOM
C405	X	1	16'-6"			ANCHOR SLAB LONGITUDINAL
C506	X	13	9'-4"			ANCHOR SLAB TRANSVERSE - BOTTOM
C507	X	15	6'-3"			ANCHOR SLAB TRANSVERSE - TOP
C508	X	4	5'-9"		Δ	ANCHOR SLAB TRANSVERSE - BOTTOM
C509	X	1	7'-3"	X		ANCHOR SLAB TRANSVERSE
C511	X	2	10'-0"			ANCHOR SLAB TRANSVERSE
C512	X	25	10'-8"	X		ANCHOR SLAB TRANSVERSE - TOP
C513	X	4	5'-10"		Δ	ANCHOR SLAB TRANSVERSE - TOP
C414	X	16	5'-8"	X		ANCHOR SLAB TO PARAPET DOWEL
C515	X	31	6'-6"	X		ANCHOR SLAB & PARAPET VERTICAL
C516	X	31	4'-10"	X		PARAPET VERTICAL
C517	X	7	19'-8"			PARAPET HORIZONTAL
C518	X	5	1'-11"	X		ANCHOR SLAB DOWEL AT APPROACH APRON
			"-"			
N424	X	32	2'-3"	X		NOISE BARRIER POST ANCHORAGE
N425	X	8	2'-9"	X		NOISE BARRIER POST ANCHORAGE
N426	X	16	2'-0"			NOISE BARRIER POST ANCHORAGE
N527	X	8	11'-1"	X		NOISE BARRIER POST ANCHORAGE
N528	X	12	5'-6"	X		NOISE BARRIER POST ANCHORAGE

NOTES:

SEE SHEET 9 FOR BAR BENDING DIAGRAMS.

◑ HORIZ. CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

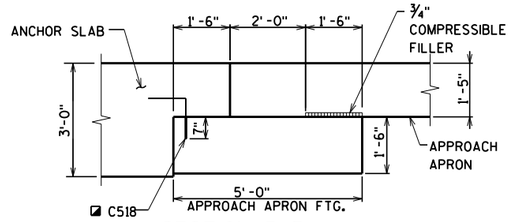
CONCRETE QUANTITY BASED ON 5" EMBEDMENT OF WALL PANEL IN ANCHOR SLAB.

◪ CONCRETE MASONRY ANCHORS, TYPE S NO. 5 BAR HAVING A MAXIMUM PULLOUT CAPACITY OF 20 KIPS. EMBED 7" IN CONCRETE.

☆ APPLY TO ALL HORIZONTAL AND VERTICAL FACES WHERE CONCRETE PAVEMENT CONTACTS ANCHOR SLAB.

▬ 18" RUBBERIZED MEMBRANE WATERPROOFING - SEAL ALL HORIZONTAL & VERTICAL JOINTS IN ANCHOR SLAB.

△ OPTIONAL CONSTRUCTION JOINT MAY BE USED WITH THE CONCURRENCE OF THE ENGINEER. RUBBERIZED MEMBRANE WATERPROOFING REQUIRED FOR THE OPTIONAL JOINT IS INCIDENTAL TO CONCRETE MASONRY RETAINING WALLS.



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-217

DRAWN BY DPP | PLANS CK'D. JAW

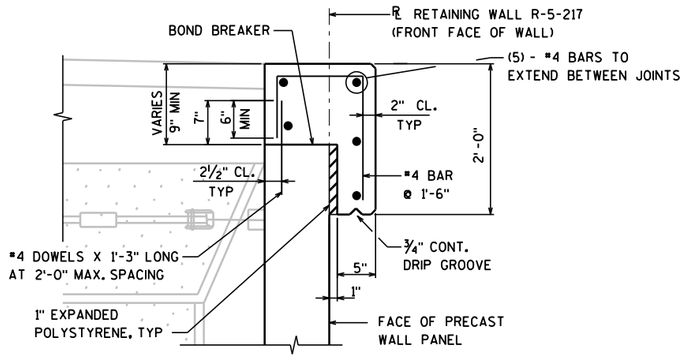
ANCHOR SLAB
UNIT C

SHEET 8 OF 17

2498

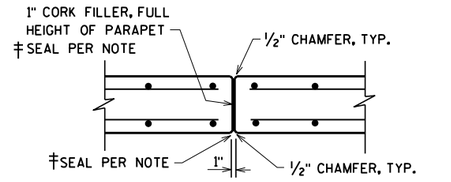
8

8

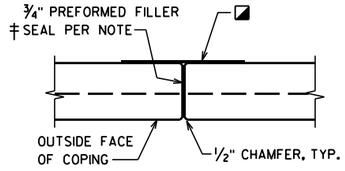


COPING DETAIL AT ABUTMENT (UNIT B)

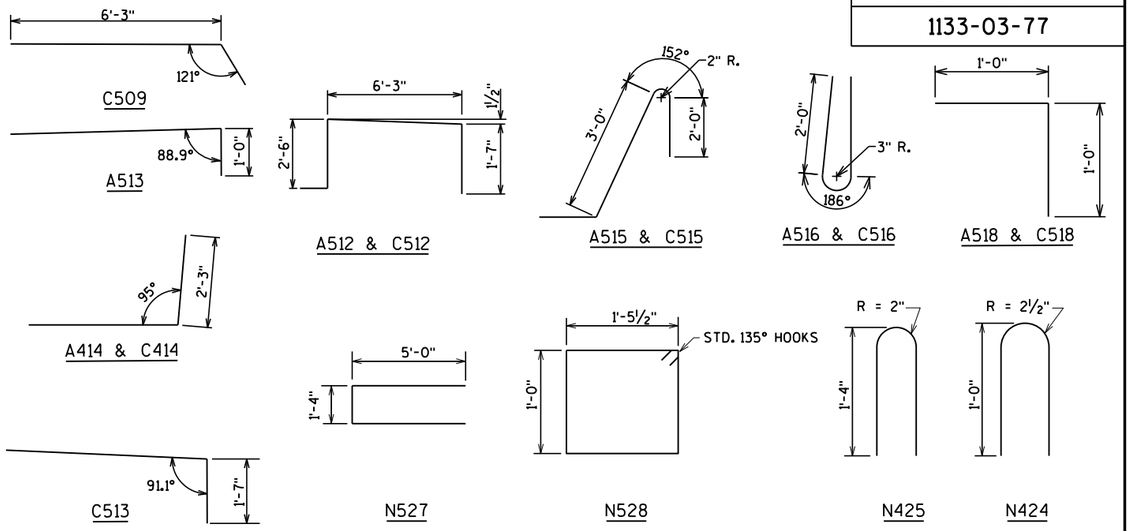
CONCRETE AND REINFORCEMENT INCLUDED IN THE BID
ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"



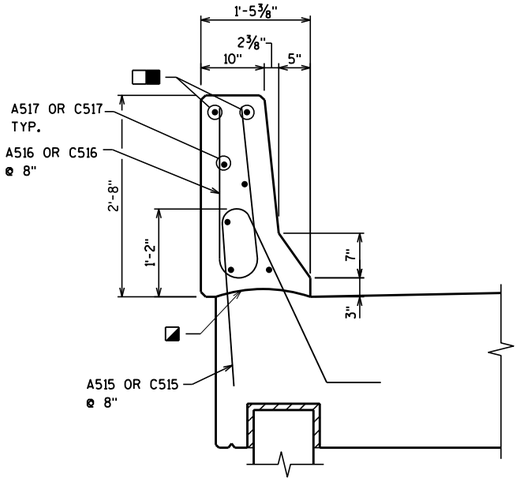
⊛ PARAPET EXPANSION JOINT DETAIL



⊛ COPING EXPANSION JOINT



BAR BEND DIAGRAMS



SECTION THROUGH PARAPET

NOTES:

◨ ONLY THESE TWO BARS TO BE PLACED OUTSIDE OF THE VERTICAL REINFORCEMENT TO AVOID THE ANCHOR BOLTS/PLATES FROM THE NOISE BARRIER POSTS. PLACE BARS WITH 2" CLEAR FROM TOP, BACK, AND FRONT FACES OF THE PARAPET. ALL OTHER HORIZONTAL BARS IN THE PARAPET ARE TO BE PLACED INSIDE THE VERTICAL REINFORCEMENT AS SHOWN.

◑ HORIZ. CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING COLOR TO MATCH STAIN OF NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

⊛ EXPANSION JOINTS TO BE SPACED A MINIMUM OF 20' AND MAXIMUM OF 30'. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT. JOINT TO EXTEND FULL DEPTH OF PARAPET OR COPING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-217

DRAWN BY DPP | PLANS CK'D. JAW

COPING AND PARAPET DETAILS

SHEET 9 OF 17

2499

8

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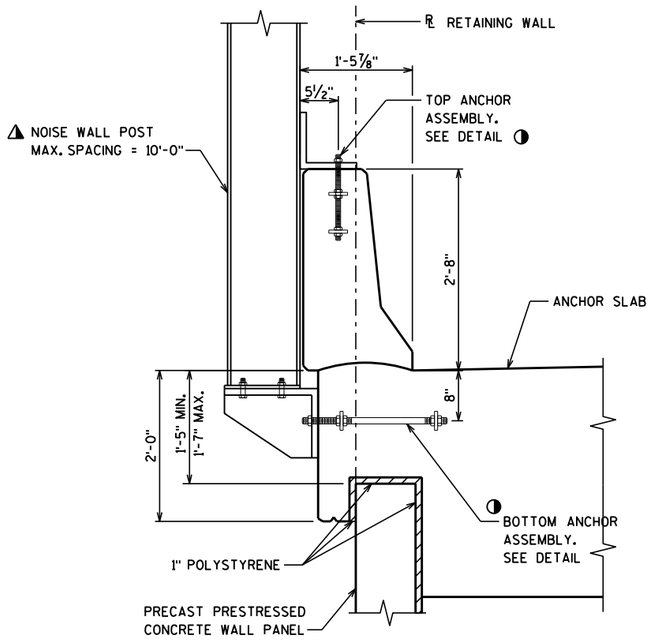
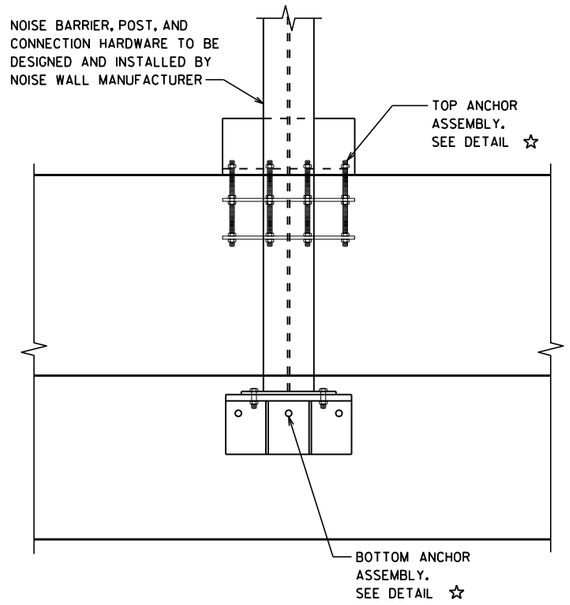
STATE PROJECT NUMBER

1133-03-77

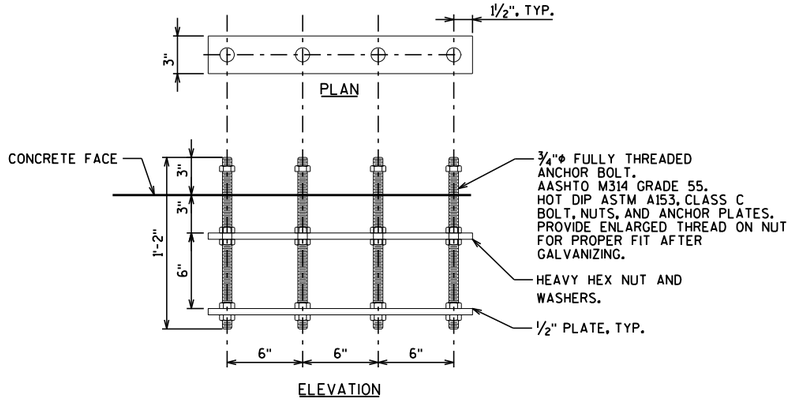


SECTION AT NOISE BARRIER

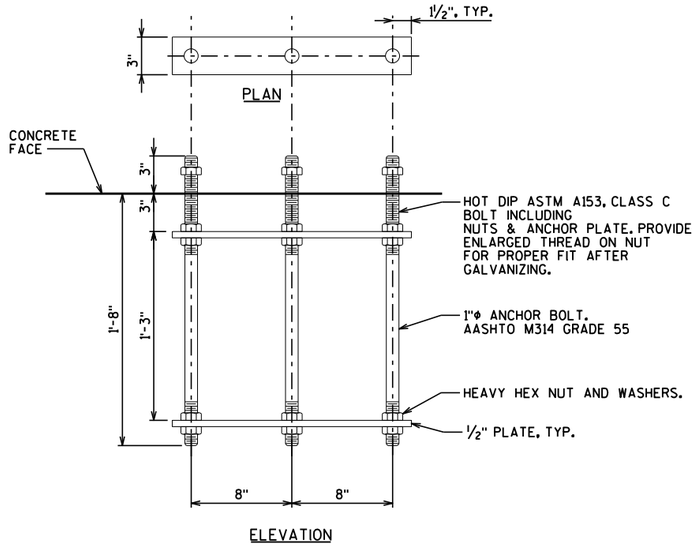


ELEVATION AT NOISE BARRIER POST

TYPICAL AT EACH POST LOCATION



TOP ANCHOR BOLT ASSEMBLY



BOTTOM ANCHOR BOLT ASSEMBLY

NOTES

◑ EXACT LOCATION AND SPACING OF EMBEDDED ANCHOR ASSEMBLY NOISE BARRIER TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.

☆ BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES" INCLUDES UPPER AND LOWER ANCHORAGES AT EACH POST LOCATION.

⚠ NOT A RETAINING WALL ITEM. NOISE BARRIER PANELS, POSTS, SUPPORT BRACKETS AND TOP OF PARAPET CONNECTION TO BE DESIGNED AND INSTALLED BY OTHERS.

REINFORCEMENT FOR DEVELOPING THE NOISE BARRIER ANCHORAGE IS SHOWN ON SHEET 11.

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-217

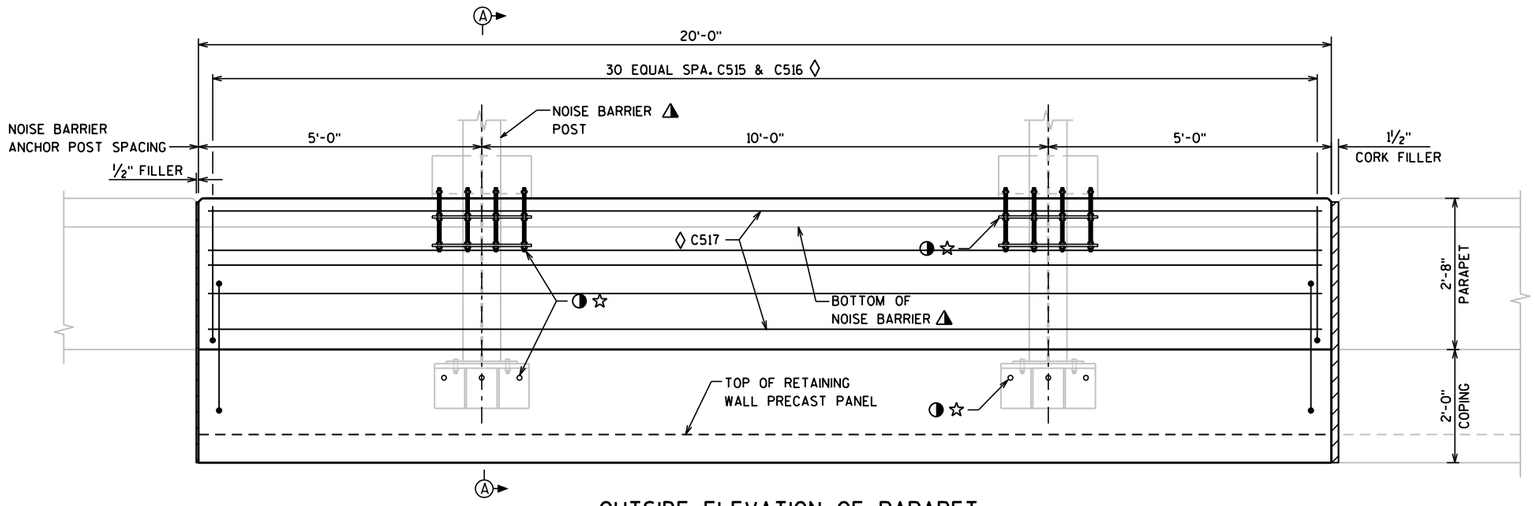
DRAWN BY BRE | PLANS CK'D. KRO

NOISE BARRIER ANCHORAGE

SHEET 10 OF 17

2500

STATE PROJECT NUMBER
1133-03-77

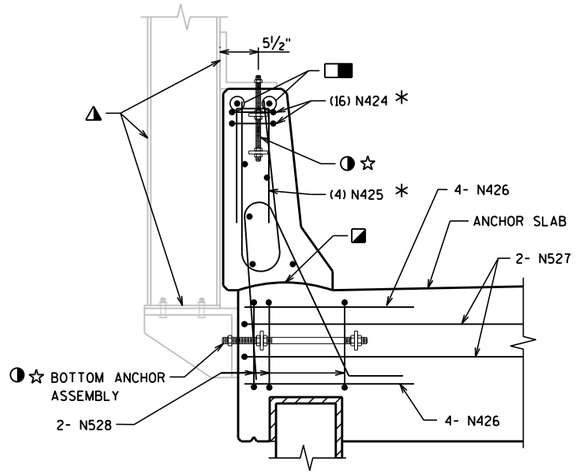


OUTSIDE ELEVATION OF PARAPET

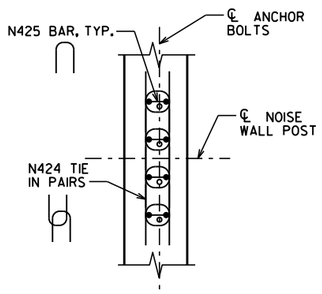
LOOKING EAST (UNIT C SHOWN, UNIT A SIMILAR)

NOTES

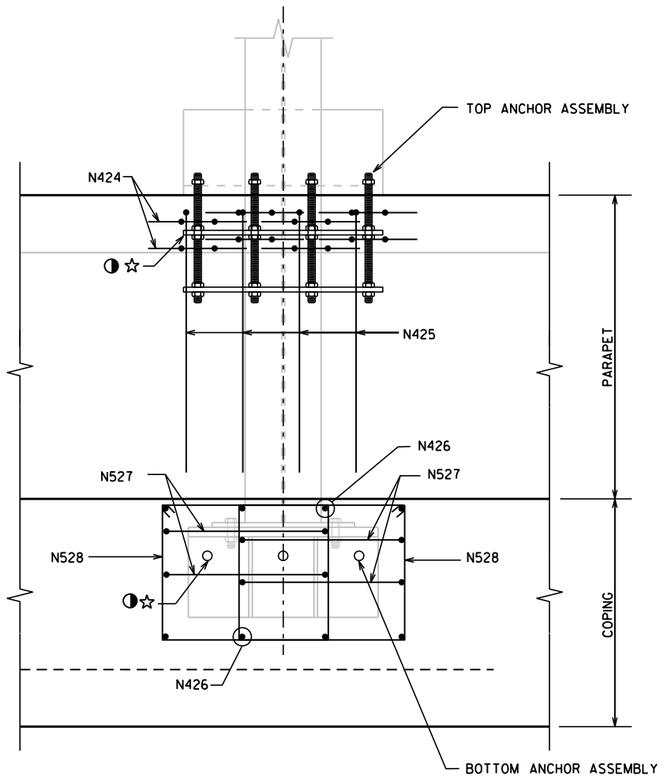
- ◪ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.
- ◑ EXACT LOCATION AND SPACING OF EMBEDDED ANCHOR ASSEMBLIES FOR NOISE BARRIER TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.
- ☆ BID ITEM "ANCHOR ASSEMBLIES NOISE BARRIER STRUCTURES" INCLUDES ANCHORAGES AT EACH POST LOCATION.
- ⚠ NOT A RETAINING WALL ITEM. NOISE BARRIER PANELS, POSTS, SUPPORT BRACKETS AND TOP OF PARAPET CONNECTION TO BE DESIGNED AND INSTALLED BY OTHERS.
- ◨ ONLY THESE TWO BARS TO BE PLACED OUTSIDE OF THE VERTICAL REINFORCEMENT TO AVOID THE ANCHOR BOLTS/PLATES FROM THE NOISE BARRIER POSTS. PLACE BARS WITH 2" CLEAR FROM TOP, BACK, AND FRONT FACES OF THE PARAPET. ALL OTHER HORIZONTAL BARS IN THE PARAPET ARE TO BE PLACED INSIDE THE VERTICAL REINFORCEMENT AS SHOWN.
- ✳ EXACT LOCATION AND SPACING OF N424 AND N425 BARS TO BE COORDINATED AND COINCIDE WITH NOISE BARRIER POST SPACING AND MOUNTING DETAILS SHOWN ON APPROVED NOISE BARRIER SHOP DRAWINGS.
- ◊ SEE SHEET 9 FOR PARAPET REINFORCING.



SECTION A-A



TOP VIEW AT PARAPET



ELEVATION AT NOISE BARRIER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-217

DRAWN BY BRE | PLANS CK'D. KRO

NOISE BARRIER ANCHORAGE DETAILS

SHEET 11 OF 17

2501

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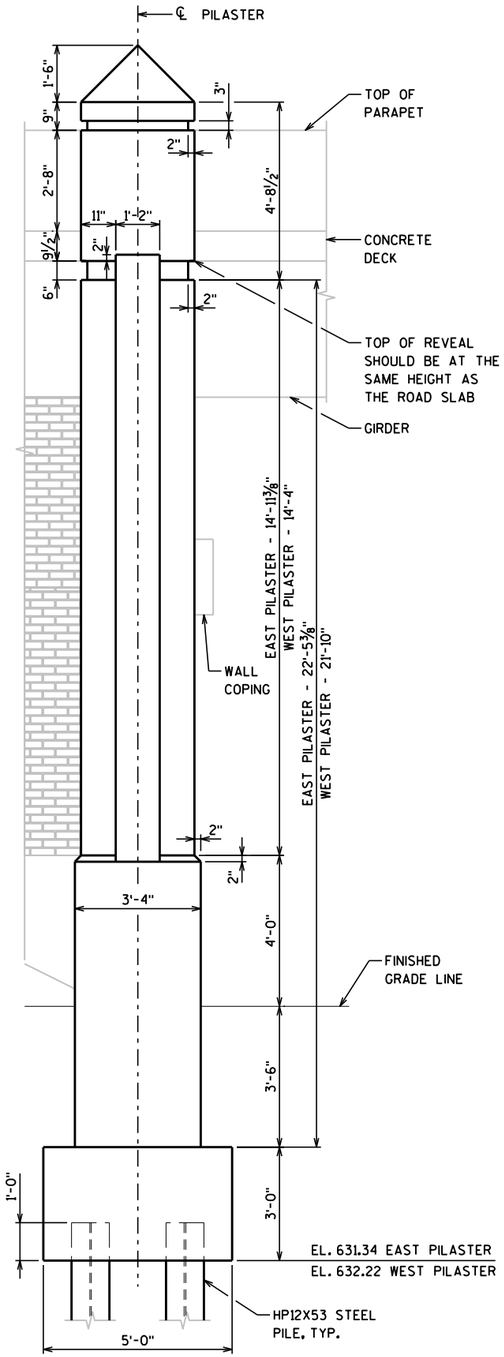
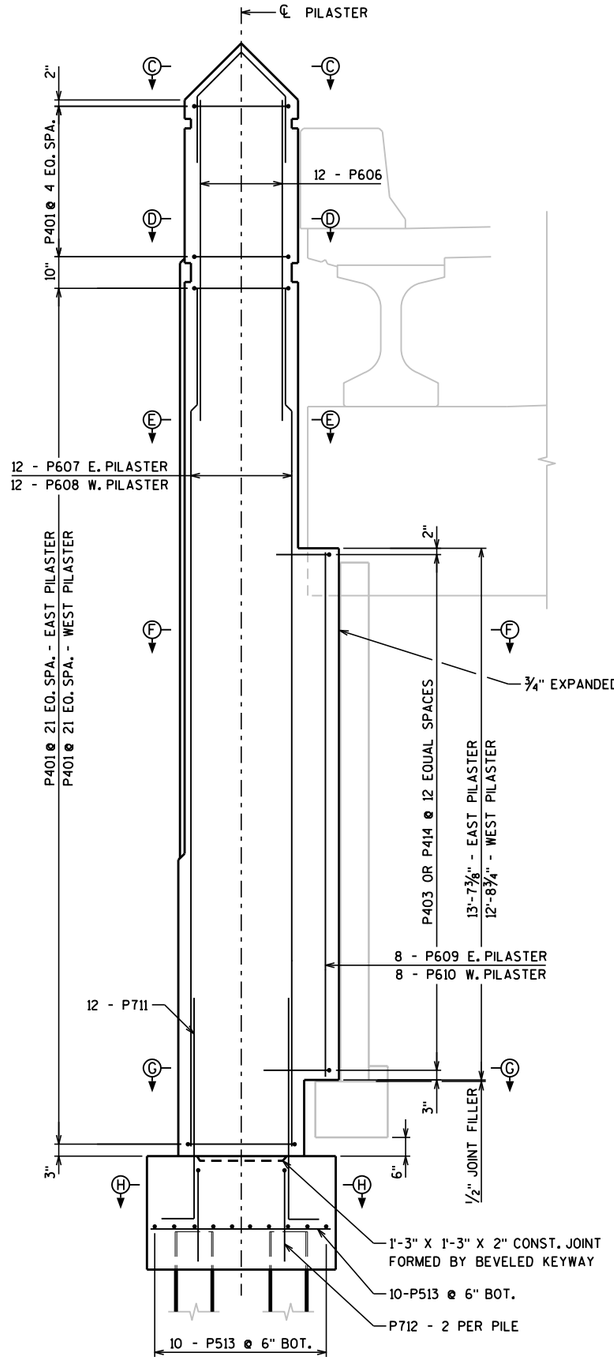
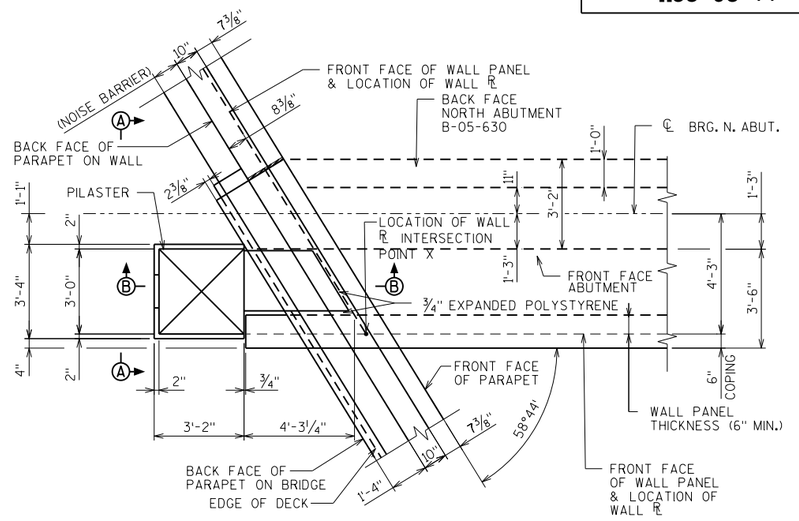
STATE PROJECT NUMBER
1133-03-77



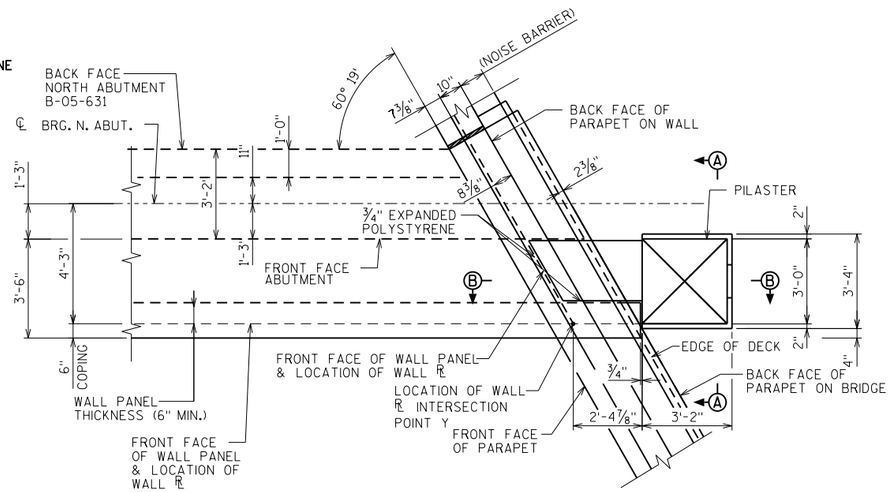
SECTION A-A



SECTION B-B



NORTHWEST QUADRANT



NORTHEAST QUADRANT

NOTES:

SEE SHEET 13 FOR SECTIONS THRU PILASTER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-217

DRAWN BY BRE | PLANS CK'D. KRO

PILASTER

SHEET 12 OF 17

2502

8

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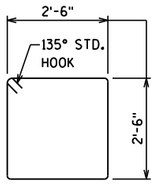
STATE PROJECT NUMBER
1133-03-77

BILL OF BARS

BAR MARK	COAT	NO. REQ'D. WEST	NO. REQ'D. EAST	LENGTH	BENT	LOCATION
P401	X	27	27	10'-6"	X	PILASTER STIRRUPS
P403	X		13	10'-9"	X	PILASTER STIRRUPS - EAST
P404	X	2	2	8'-0"	X	PILASTER TOP
P405	X	4	4	3'-7"	X	PILASTER TOP
P606	X	12	12	8'-6"		PILASTER TOP, VERTICAL
P607	X		12	22'-1"		EAST PILASTER VERTICAL
P608	X	12		21'-6"		WEST PILASTER VERTICAL
P609	X		8	13'-3"		EAST PILASTER WING VERTICAL
P610	X	8		12'-4"		WEST PILASTER WING VERTICAL
P711	X	12	12	7'-1"	X	PILASTER FOOTING DOWEL
P712		8	8	3'-6"	X	BAR WELDED TO PILE
P513		20	20	4'-8"		PILASTER FOOTING BOTTOM MAT
P414	X	13		10'-0"	X	PILASTER STIRRUPS - WEST



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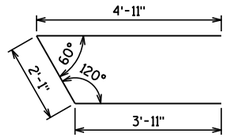

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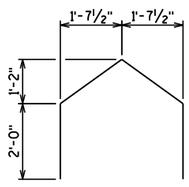

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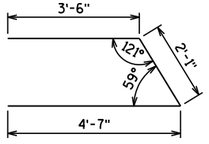

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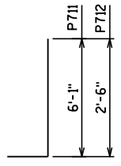
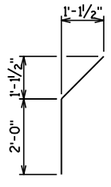


P711, P712



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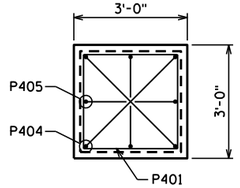
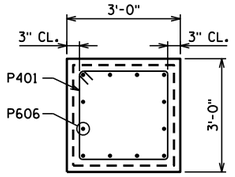
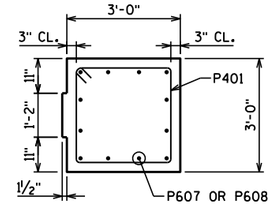


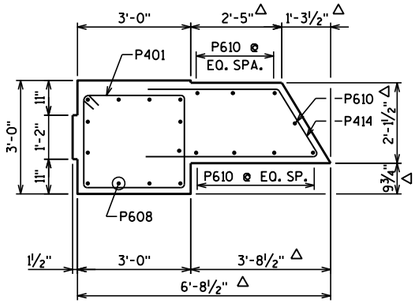
SECTION C-C



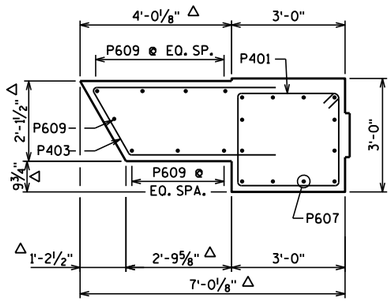
SECTION D-D



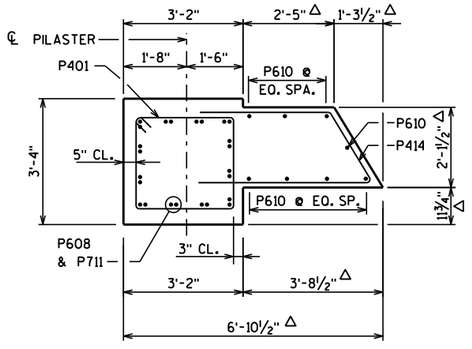
SECTION E-E



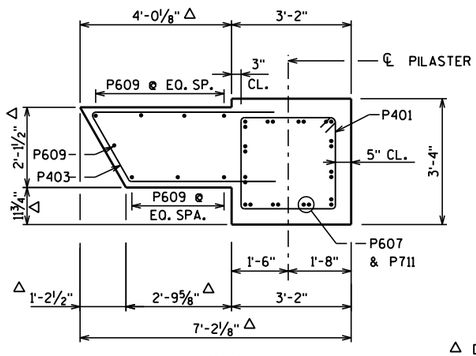
SECTION F-F
WEST PILASTER



SECTION F-F
EAST PILASTER

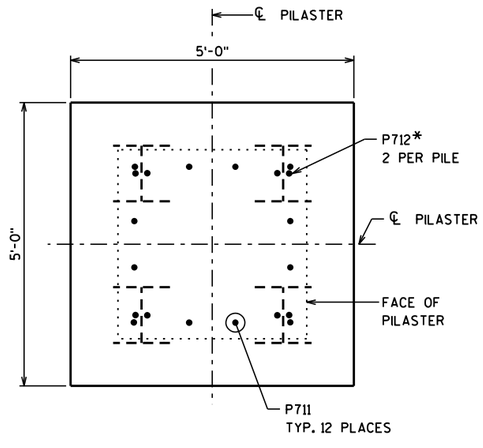


SECTION G-G
WEST PILASTER

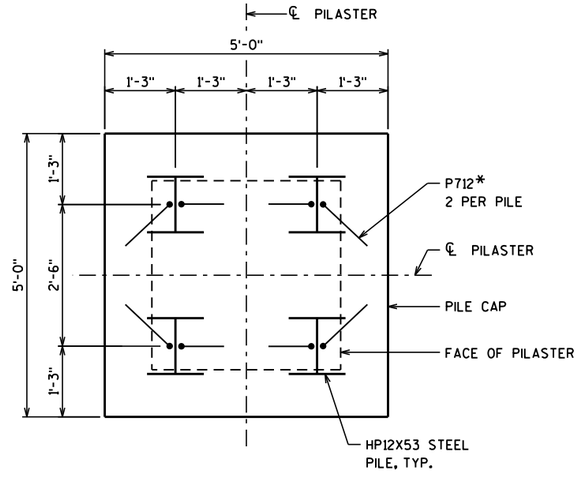


SECTION G-G
EAST PILASTER

△ DIMENSIONS GIVEN ASSUME 9" THICK TILT UP WALL PANELS. DIMENSIONS SHALL BE ADJUSTED IF OTHER THICKNESS IS USED.

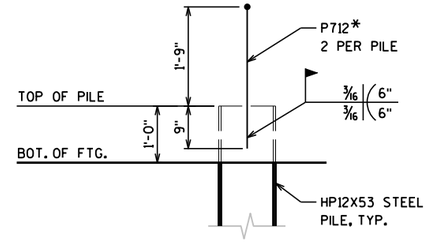


SECTION H-H



PILASTER FOOTING PLAN

* REINFORCEMENT WELDED TO PILE SHALL CONFORM TO ASTM A706



PILE HEAD DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-217

DRAWN BY BRE | PLANS CK'D. KRO

PILASTER DETAILS

SHEET 13 OF 17

2503

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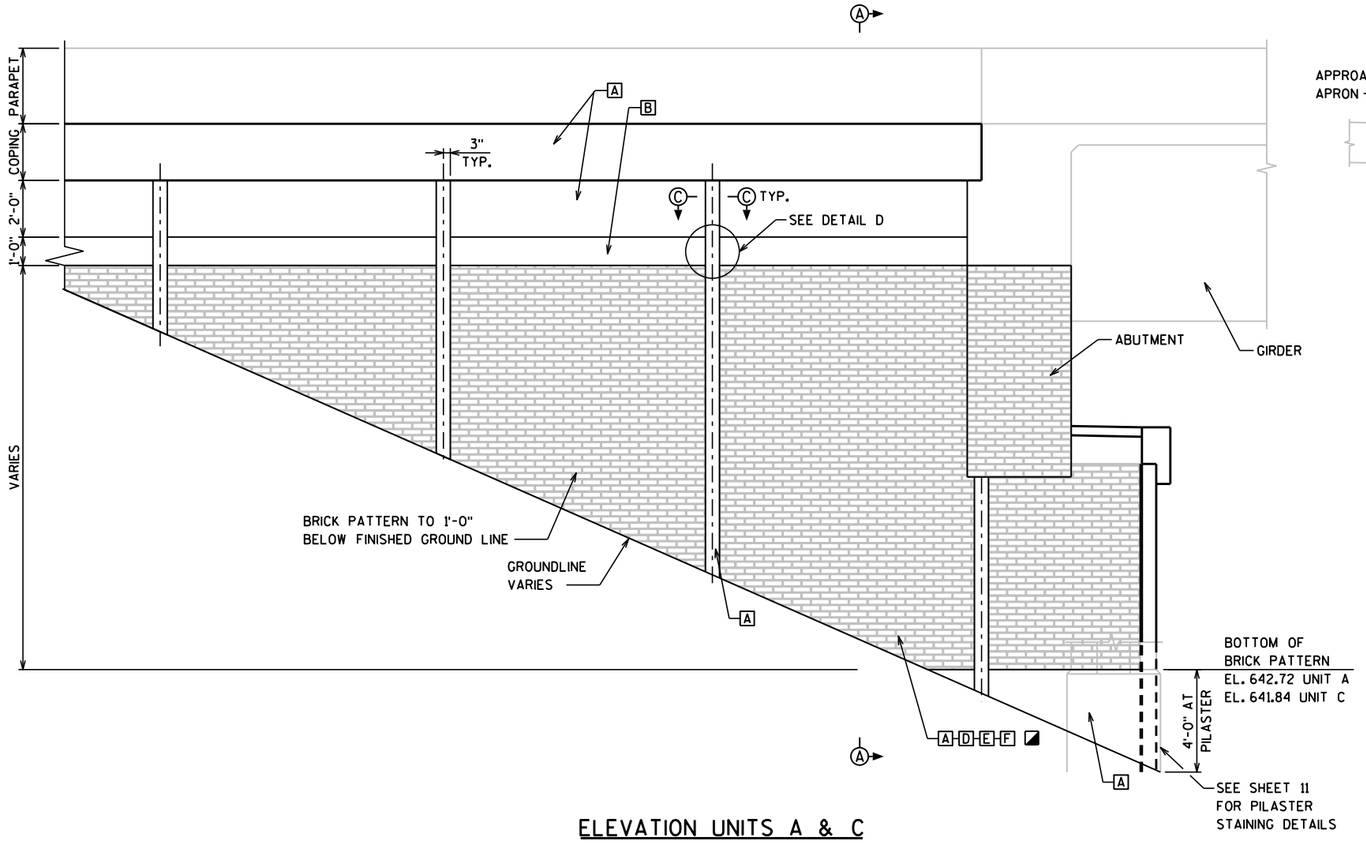
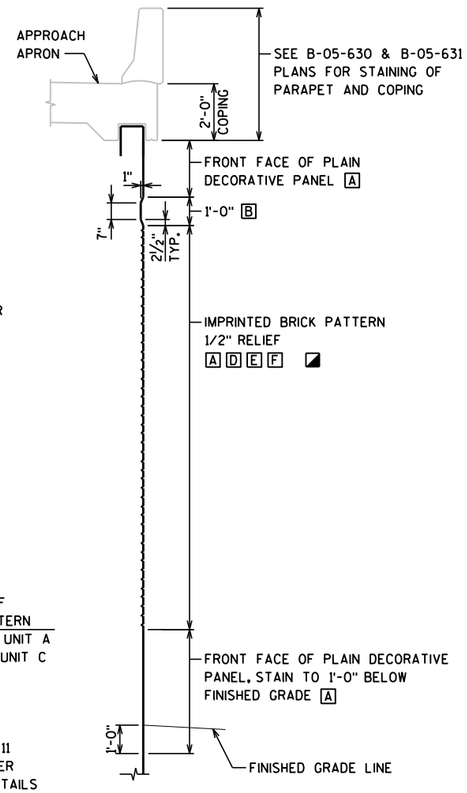
STATE PROJECT NUMBER
1133-03-77

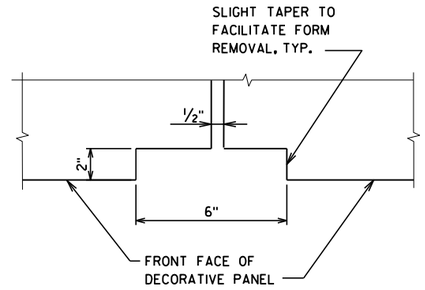


ELEVATION UNITS A & C

AT FRONT FACE OF PRECAST PANEL UNIT 'A' SHOWN, UNIT 'C' OPPOSITE HAND



SECTION A-A



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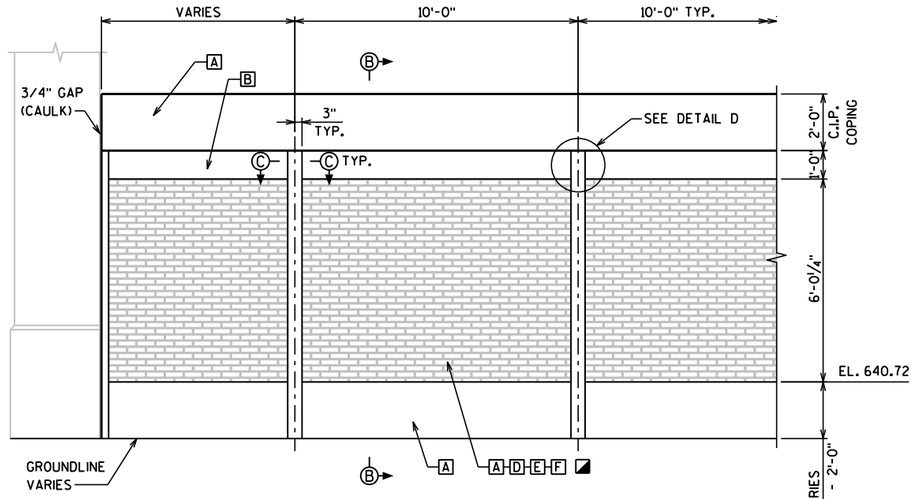
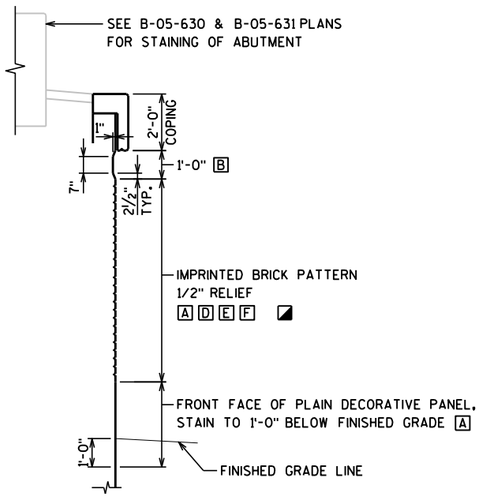
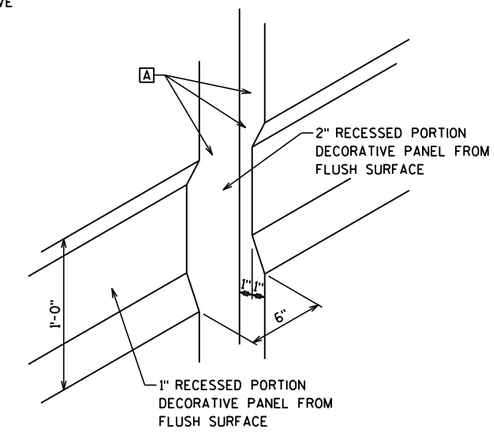


ELEVATION UNIT B



SECTION B-B



DETAIL D - ISOMETRIC REVEAL

NOTES

◪ STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

SEE SHEET 15 FOR "COLOR STAINING SCHEDULE".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE R-05-217

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AESTHETIC DETAILS (1 OF 2)

SHEET 14 OF 17

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8

STATE PROJECT NUMBER
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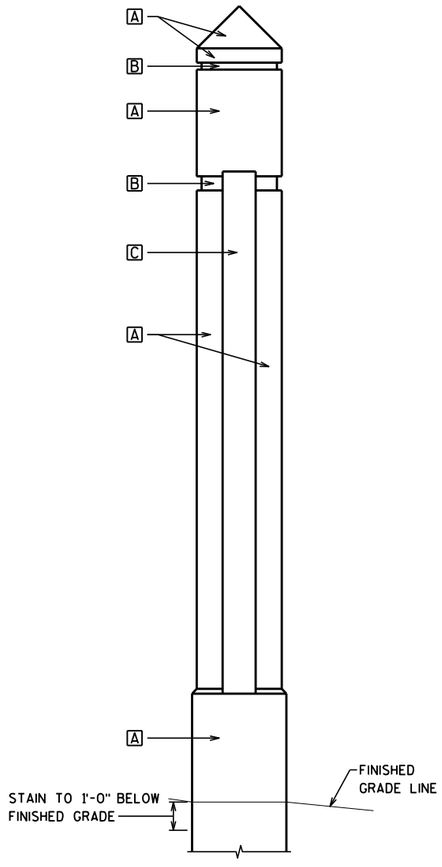
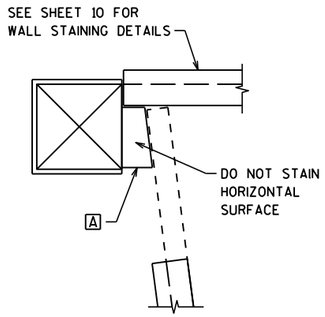
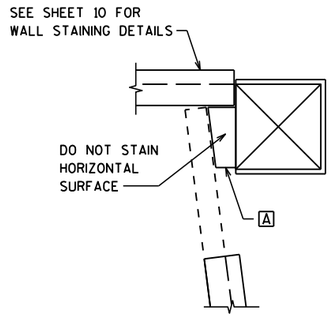


ELEVATION - PILASTER



PLAN - EAST PILASTER



PLAN - WEST PILASTER

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER
C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)

SEE SPECIAL PROVISIONS FOR STAIN COLORS.

NOTES

STAIN UNDERSIDE OF COPING AT UNIT B.

STAINING THE UNDERSIDE OF BRIDGE APPROACH APRON COPING INCLUDED WITH B-05-632 & B-05-633.

THE COST OF BRICK PATTERN FORMLINER TREATMENT ON PRESTRESSED PRECAST CONCRETE WALL PANELS IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT". SEE SPECIAL PROVISION FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

THE COST FOR ALL OTHER CONCRETE FORMING AESTHETIC DETAILS ARE INCIDENTAL TO BID ITEM "CONCRETE MASONRY RETAINING WALLS".

STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

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8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-217

DRAWN BY BRE | PLANS CK'D. KRO

AESTHETIC DETAILS (2 OF 2)

SHEET 15 OF 17

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FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Retaining Walls±R-05-217±R-05-217 15 aesthetic details 2.dgn PLOT BY : epleyb PLOT DATE: 11/15/2012 6:30:55 PM

STATE PROJECT NUMBER
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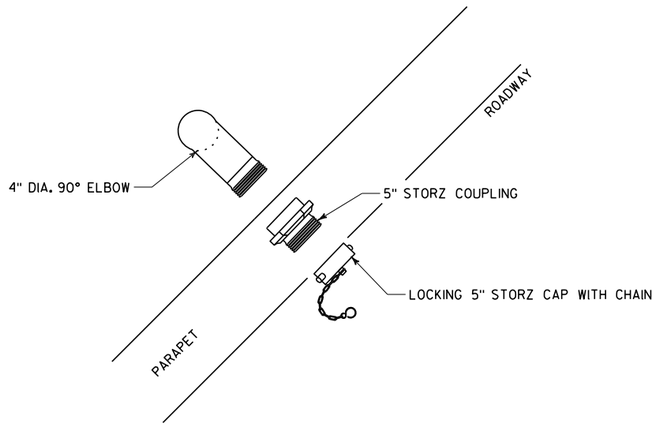
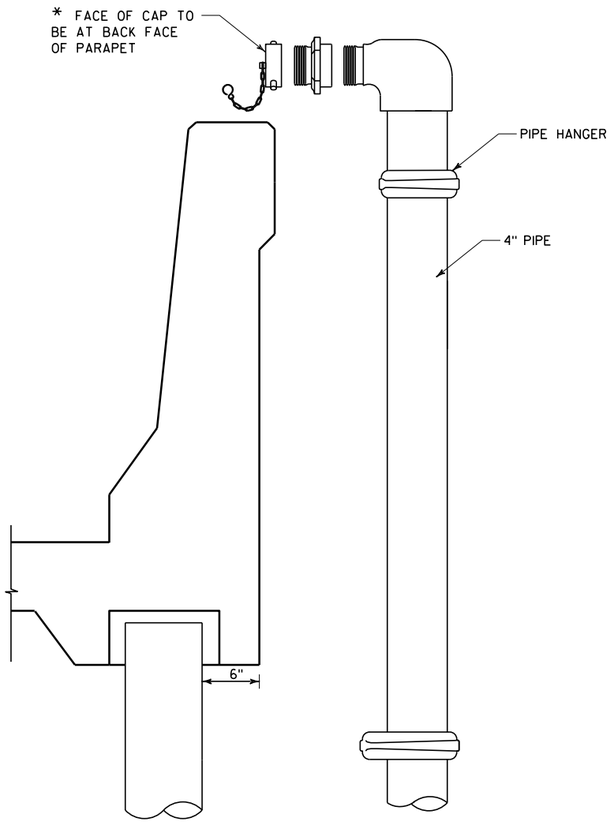
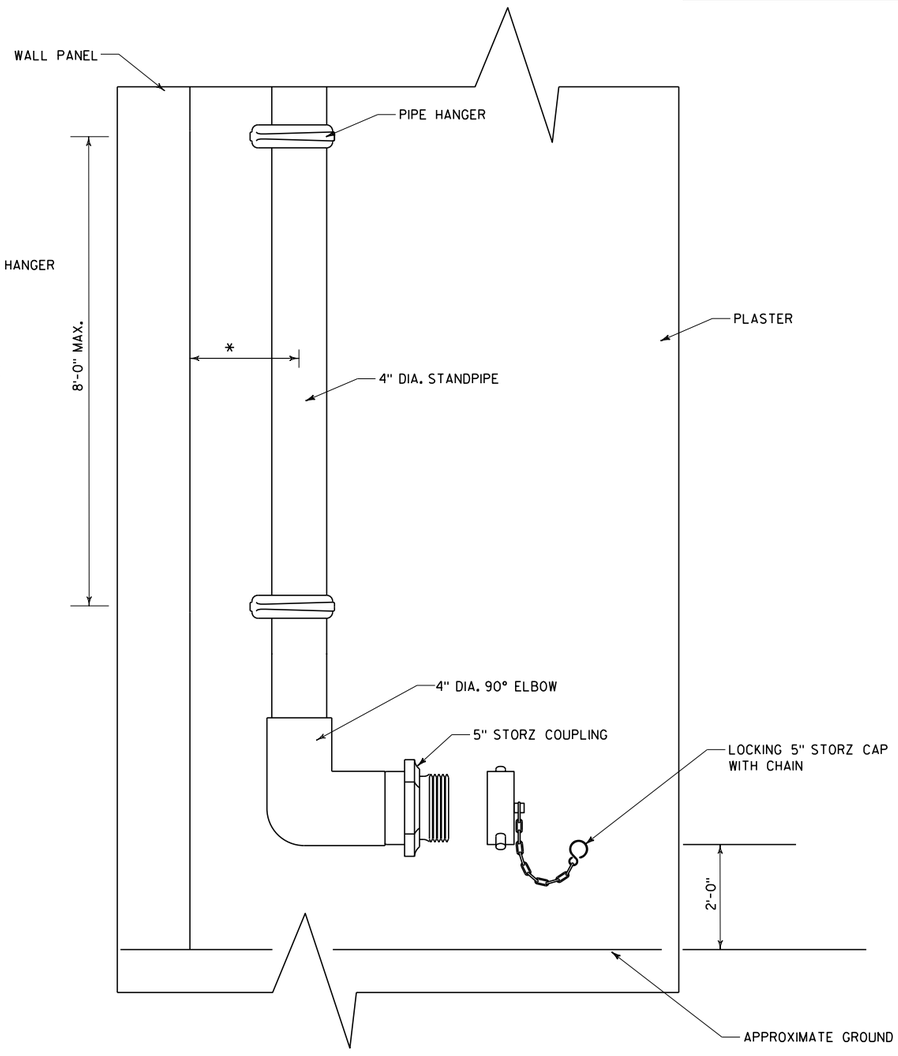
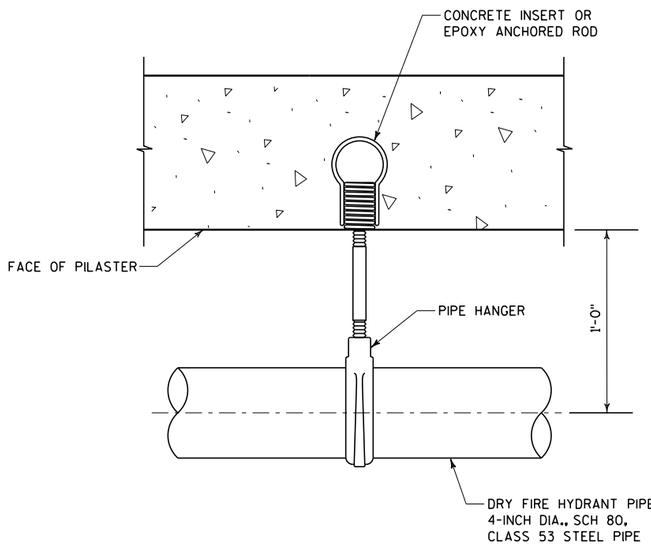


DISCHARGE CONNECTION PLAN



DISCHARGE CONNECTION ELEVATION





CONCRETE INSERT

NOTES

PAINT 4" DIA. CLASS 53 STEEL PIPE WITH URETHANE PAINT PER SPV.0060.901 "STANDPIPE SYSTEM." PAINT COLOR TO BE BASKET BEIGE - SW 6143

PIPE, PIPE CLAMPS, HANGERS, ADHESIVE ANCHOR RODS, STORZ COUPLINGS, FITTINGS AND MISC. ITEMS ARE INCLUDED IN BID ITEMS SPV.0060.901 "STANDPIPE SYSTEM."

PIPE TO BE SUPPORTED AT 8'-0" MAX.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-217

DRAWN BY DPP | PLANS CK'D. JAW

STANDPIPE SYSTEMS DETAILS

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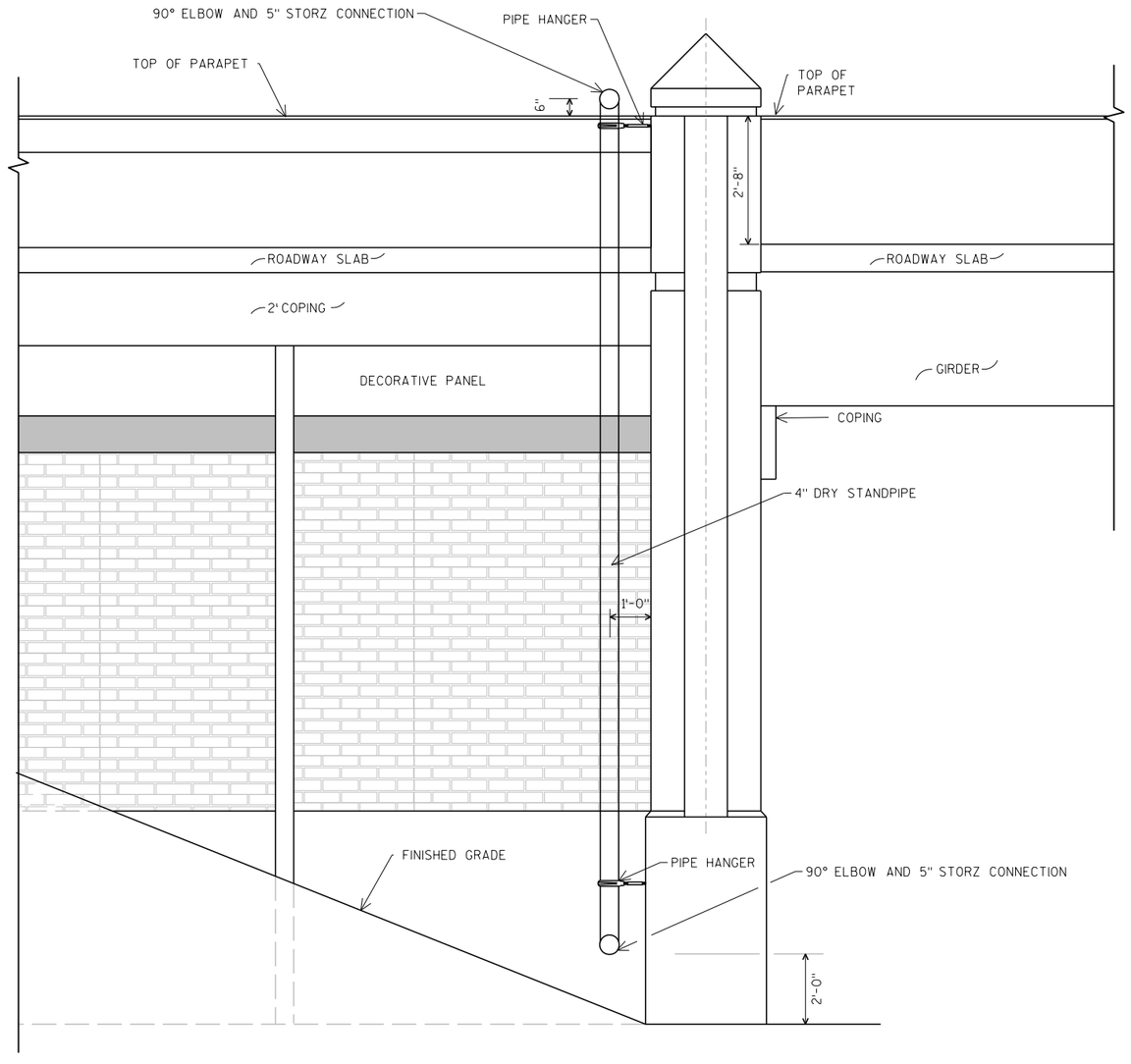

STANDPIPE LOCATION

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-217

DRAWN BY DPP | PLANS CK'D. JAW

STANDPIPE

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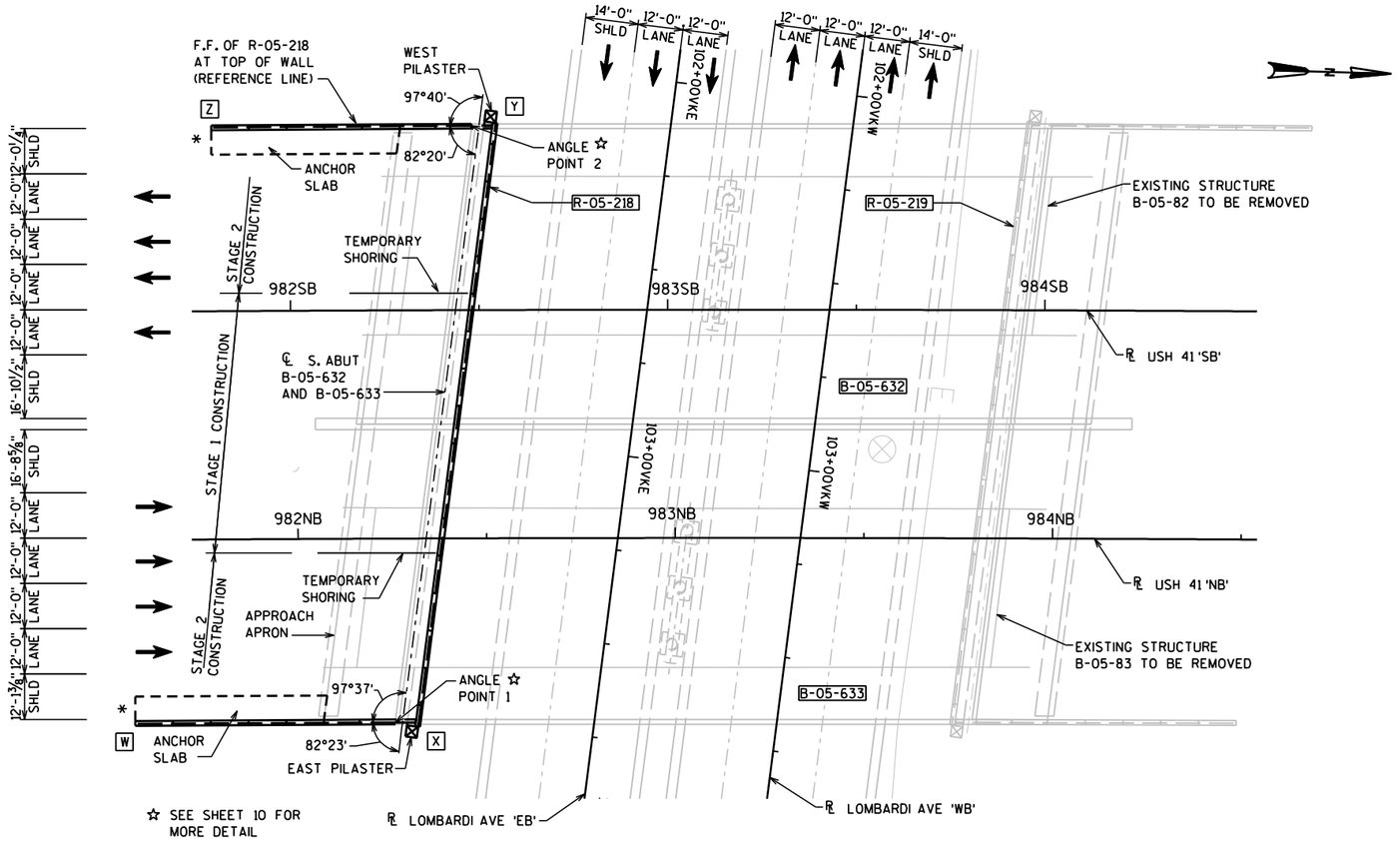
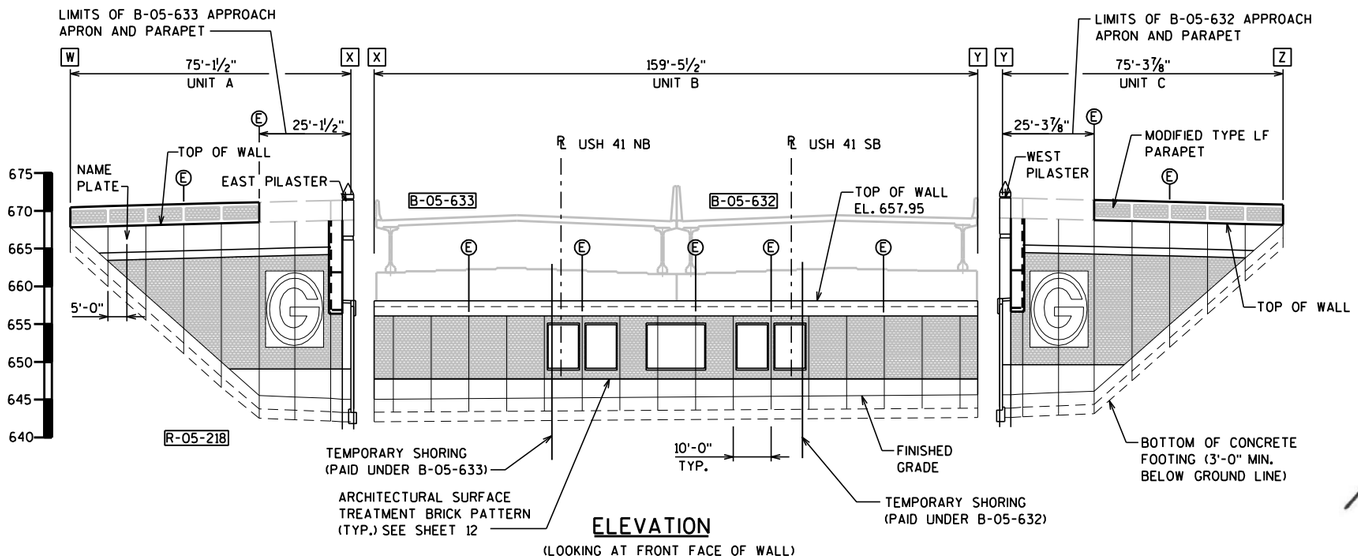
2507



PLAN



ELEVATION

(LOOKING AT FRONT FACE OF WALL)

DESIGN DATA

LIVE LOAD

LIVE LOAD SURCHARGE (TRAFFIC) —— 240 P.S.F.

MATERIAL PROPERTIES

CONCRETE MASONRY RETAINING WALLS —— f'c = 4,000 psi

HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 —— fy = 60,000 psi

PRESTRESSED PRECAST CONCRETE WALL PANELS —— f'c = 5,000 psi

STRUCTURAL STEEL CARBON (ASTM A709 GRADE 36) —— f'c = 36,000 psi

FOUNDATION DATA

ALLOWABLE SOIL BEARING CAPACITIES

MSE WALL —— SEE TABLE

PILASTER TO BE SUPPORTED ON HP 12 X 53 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 75 TONS ** PER PILE DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 70 FEET LONG.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC VOLUME

USH 41	LOMBARDI AVE.
A.D.T. 100,400 (2035)	A.D.T. 33,700 (2035)
R.D.S.= 70 M.P.H.	R.D.S.= 40 M.P.H.

WALL COORDINATES

POINT	WALL STATION	REFERENCE LINE STATION	OFFSET TO FRONT FACE OF WALL	NORTHING	EASTING	TOP OF WALL	FINISHED GROUND
W	10+00.00	981NB+46.53	48.75	565129.56	82202.97	667.80	667.80
1	10+68.92	982NB+25.60	48.73	565198.44	82200.61	668.70	645.16
X	10+75.12	982NB+31.81	48.72	565204.64	82200.43	657.95	645.05
	10+75.12	103VKE+77.00	46.12	565204.64	82200.43	657.95	645.05
Y	12+34.58	102VKE+17.54	46.13	565220.35	82041.74	657.95	645.63
	12+34.58	982SB+54.41	48.89	565220.35	82041.74	657.95	645.63
2	12+40.98	982SB+48.02	48.87	565213.95	82041.93	668.98	645.75
Z	13+09.90	981SB+79.24	48.75	565145.07	82044.34	668.13	668.13

BRIDGE OFFICE CONTACT

WILLIAM DREHER
(608) 266-8499

CONSULTANT CONTACT

OMNNI ASSOCIATES
KRISTOFER OLSON
(920) 735-6900

4-1-2013

STATE PROJECT NUMBER
1133-03-77

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. QUANTITIES & GENERAL NOTES
3. DESIGN DATA AND WALL DETAILS
4. SUBSURFACE EXPLORATION
5. WALL SECTIONS
6. WALL DETAILS
7. ANCHOR SLAB AND COPING
8. ANCHOR SLAB DETAILS
9. MODIFIED SLOPED FACE PARAPET LF
10. PILASTER
11. PILASTER DETAILS
12. AESTHETIC DETAILS 1
13. AESTHETIC DETAILS 2
14. AESTHETIC DETAILS 3

CURVE DATA

SB USH 41	NB USH 41
P.I. = STA 987SB+69.75	P.I. = STA 987NB+66.54
△ = 6°04'20"	△ = 6°04'20"
T = 1217.19	T = 1213.98
L = 2432.10	L = 2425.69
R = 22,948.56	R = 22,888.06
S.E.= NC	S.E.= NC
P.C.= STA 975SB+52.56	P.C.= STA 975NB+52.56
P.T.= STA 999SB+84.66	P.T.= STA 999NB+78.25

LEGEND

* PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT

Ⓔ EXPANSION JOINT

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/03/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-05-218

RETAINING WALL AT USH 41 S. OF LOMBARDI AVE

COUNTY	VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STD SPEC. 2003 — LOAD NA

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
KRO	JAW	BRE	KRO

GENERAL PLAN AND ELEVATION

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STATE PROJECT NUMBER
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GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL RETAINING WALL STATIONS AND OFFSETS ARE MEASURED ALONG USH 41 NB/SB OR EASTBOUND LOMBARDI AVENUE REFERENCE LINES.

LENGTH OF RETAINING WALL IS MEASURED ALONG THE FRONT FACE AT THE REFERENCE LINE.

OFFSETS ARE MEASURED TO THE FRONT FACE OF RETAINING WALL.

APPLY PROTECTIVE SURFACE TREATMENT TO THE EXPOSED SURFACE OF THE ANCHOR SLABS, AND TO THE INSIDE AND TOP FACES OF PARAPET.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

ALL BAR STEEL REINFORCEMENT IS TO BE EPOXY COATED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK OR FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK INDICATE THE SIZE OF BAR.

REINFORCING BARS SHALL BE TAGGED SO THAT THE STRUCTURE UNIT IN WHICH THEY ARE TO BE PLACED IS IDENTIFIABLE.

THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATIONS AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE.

THESE PLANS ARE FOR A WIRE FACED MECHANICALLY STABILIZED EARTH WALL WITH PRESTRESSED PRECAST CONCRETE FACING PANELS.

COORDINATE THE CONSTRUCTION OF WALL R-05-218 WITH THE SOUTH ABUTMENTS OF B-05-632 AND B-05-633.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, AND SHOP DRAWINGS FOR THE RETAINING WALL, DEADMEN ANCHOR BLOCKS AND RODS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEMS "WALL WIRE FACED MECHANICALLY STABILIZED EARTH" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL".

THE COST OF FURNISHING AND PLACING THE FOOTING UNDER THE PRESTRESSED PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

THE COST OF FURNISHING AND PLACING THE CAST-IN-PLACE CONCRETE COPING IN UNIT B IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE ANCHOR SLAB, PARAPETS AND PILASTERS IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".

PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

OPTIONAL TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE FOOTING WITH A MINIMUM SPACING OF TWO PANEL JOINTS. FOOTING JOINTS SHOULD BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THRU FOOTING JOINTS.

DO NOT ALLOW CONCRETE OR FILL TO DROP OR ACCUMULATE IN CAVITY BETWEEN THE WIRE FACED WALL AND PRECAST CONCRETE WALL PANEL.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

DESIGN FOR RETAINING WALL TO PROVIDE FOR A FINISHED GRADE SLOPE BEHIND THE WALL AS SHOWN IN THESE PLANS AND THE ROADWAY CROSS SECTIONS.

PLAN DIMENSIONS, QUANTITIES AND REINFORCEMENT DETAILS ARE BASED ON A CONCRETE WALL PANEL THICKNESS OF 9 ½ INCHES. FOR PANEL THICKNESSES OTHER THAN 9 ½ INCHES, THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, REINFORCEMENT BAR DETAILS, AND QUANTITIES AND WILL BE RESPONSIBLE FOR ANY QUANTITY VARIATIONS.

TEMPORARY SHORING MAY BE LEFT IN PLACE. TOP OF SHORING MUST BE 3'BELOW FINISHED GRADE IF LEFT IN PLACE.

DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURES ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

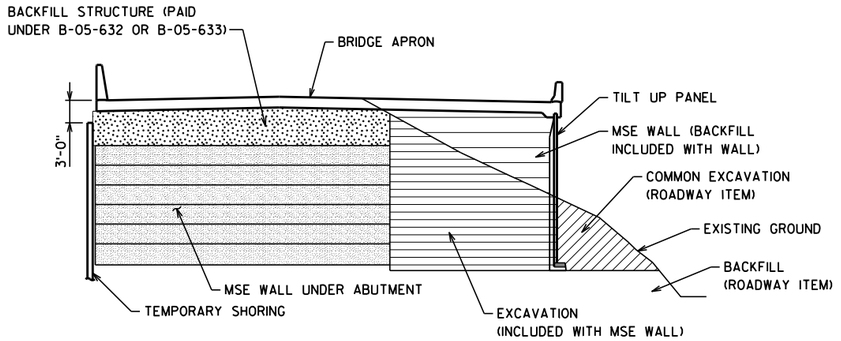
DRIVE PILING FOR PILASTER BEFORE THE MSE WALL IS CONSTRUCTED. CONTRACTOR MAY PROPOSE ALTERNATE SUPPORT SYSTEM FOR THE PILASTER.

AT THE ENDS OF WALL SEAL CAVITY BETWEEN WIRE FACE WALL AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE 1'-6" WIDE. INCIDENTAL TO BID ITEM PRESTRESSED PRECAST CONCRETE WALL PANEL.

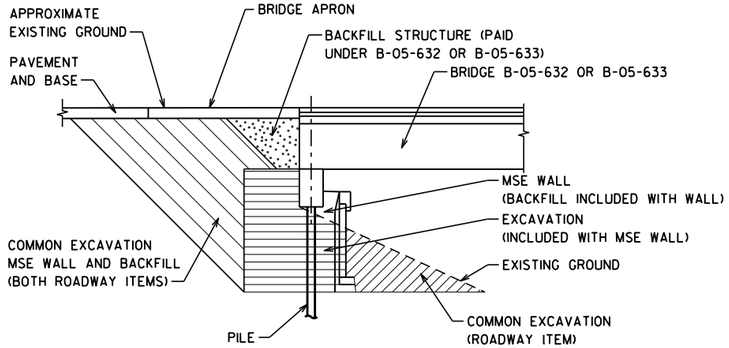
TOTAL ESTIMATED QUANTITIES

ALL BID ITEMS ARE CATEGORY 4200

ITEM NUMBER	BID ITEM	UNIT	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	52
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	75
505.0415	BAR STEEL REINFORCEMENT HS RETAINING WALLS	LB	310
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	7,690
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10
532.0700.S	WALL WIRE FACED MECAHNICALLY STABILIZED EARTH	SF	4,190
550.1120	PILING STEEL DELIVERED AND DRIVEN HP 12-INCH X 53 LB	LF	560
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	400
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	2,260
SPV.0165.501	STAINING CONCRETE	SF	3,320
SPV.0165.502	STAINING CONCRETE BRICK	SF	2,260
SPV.0165.503	ARCHITECTURAL SURFACE TREATMENT SPECIAL	SF	600
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	4,190
	NON-BID ITEMS		
	PREFORMED JOINT FILLER, 3/4-INCH		
	CORK FILLER, 1-INCH		
	EXPANDED POLYSTYRENE, 3/4-INCH, 1-INCH		



MSE WALL UNDER BRIDGE APRON (TYP)



MSE WALL UNDER ABUTMENT (TYP)

BENCH MARKS

NO.	DESCRIPTION	ELEV.
530	CHISELED "X" ON A FIRE HYDRANT BURY BOLT ON THE WEST SIDE OF HILLTOP RD. 155' NORTH OF THE INTERSECTION OF MORRIS AVE. & HILLTOP DR. 35' FEET WEST OF THE CENTERLINE OF HILLTOP DR.	644.33
530A	RAIL ROAD SPIKE IN LIGHT POLE #"142BB67" LOCATED IN THE SOUTHWEST QUADRANT FO PARK PLACE AND HILLTOP DR.	663.03
531	CHISELED "X" ON A FIRE HYDRANT BOLT MARKED "56" IN THE NORTHWEST QUADRANT OF BEECH TREE DR. & OAKWOOD DR. 30' NORTH OF THE CENTERLINE OF OAKWOOD DR. & 55' WEST OF THE CENTERLINE OF BEECH TREE DR.	647.23
554	CHISELED SQUARE ON 18" RCCP IN THE NORTH EAST QUADRANT OF LOMBARDI ACCESS RD. AND ARGONNE ST. 115' NORTH OF THE CENTERLINE OF LOMBARDI ACCESS RD & 85' EAST OF THE CENTERLINE OF ARGONNE ST.	637.74

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STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE R-05-218

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QUANTITIES AND GENERAL NOTES

SHEET 2 OF 14

2509

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FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Retaining Walls±R-05-218±R-05-218 02 xc & quan.dgn PLOT BY : epleyb PLOT DATE: 4/1/2013 10:43:41 AM

STATE PROJECT NUMBER
1133-03-77

WALL GEOMETRY

WALL STATION	TOP OF WALL	FINISHED GROUND
UNIT A		
10+00.	667.80	667.80
10+10.00	667.94	663.35
10+20.00	668.08	658.89
10+30.00	668.21	654.44
10+40.00	668.34	649.98
10+50.00	668.47	645.53
10+59.46	668.59	645.35
10+68.92	668.70	645.16
10+75.12	657.95	645.05
UNIT B		
10+75.12	657.95	645.05
10+79.66	657.95	645.06
10+89.66	657.95	645.09
10+99.66	657.95	645.12
11+09.66	657.95	645.15
11+19.66	657.95	645.18
11+29.66	657.95	645.21
11+39.66	657.95	645.24
11+49.66	657.95	645.27
11+59.66	657.95	645.31
11+69.66	657.95	645.35
11+79.66	657.95	645.39
11+89.66	657.95	645.44
11+99.66	657.95	645.48
12+09.66	657.95	645.53
12+19.66	657.95	645.57
12+29.66	657.95	645.61
12+34.58	657.95	645.63
UNIT C		
12+34.58	657.95	645.63
12+40.98	668.98	645.75
12+50.44	668.87	645.93
12+59.90	668.76	646.12
12+69.90	668.64	650.52
12+79.90	668.52	654.92
12+89.90	668.39	659.33
12+99.90	668.26	663.73
13+09.90	668.13	668.13

SOIL PARAMETERS

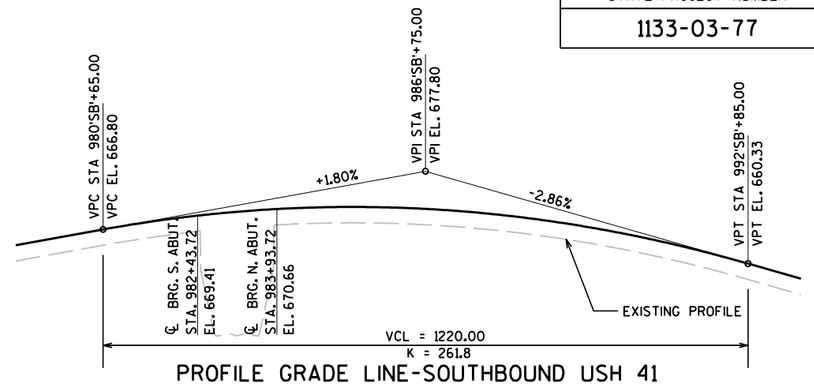
SOIL DESCRIPTION	BOTTOM ELEVATION (FEET)	UNIT WEIGHT (PCF)	UNDRAINED		DRAINED	
			COHESION (PSF)	FRICTION ANGLE (DEGREES)	COHESION (PSF)	FRICTION ANGLE (DEGREES)
BORING B-1						
V. LOOSE TO M. DENSE SAND	605.0	115	0	28	0	28
SILT, LITTLE SAND	603.0	120	2,000	0	100	28
SILTY CLAY	600.0	125	2,000	0	100	28
SILTY CLAY	597.0	135	4,000	0	200	30
CLAYEY SILT	592.0	120	2,000	0	100	28
V. DENSE SILT	585.5	120	0	30	0	30
SILT	580.0	120	2,000	0	100	28
SANDY CLAY	577.0	130	4,000	0	200	28
LIMESTONE	572.0	170	200,000	0	200,000	0
BORING B-2						
LOOSE TO DENSE SAND	602.0	115	0	30	0	30
SILT WITH CLAY	598.0	130	4,000	0	200	30
CLAYEY SILT	586.0	130	4,000	0	200	30
SLT, TRACE CLAY AND GRAVEL	580.0	130	0	32	0	32
SILT, SOME CLAY, GRAVEL	575.5	128	1,500	0	100	28
LIMESTONE	573.0	170	200,000	0	200,000	0
BORING B 633-G2						
FILL, LEAN CLAY WITH ORG	661.6	125	750	0	0	26
FILL, SAND WITH SILT	651.6	120	0	32	0	32
FILL, SILTY SAND	636.6	120	0	30	0	30
SILTY SAND	629.8	115	0	29	0	29
SILTY SAND	603.6	120	0	30	0	30
SILT	599.6	120	0	28	0	28
LEAN CLAY	589.6	135	4,000	0	200	30
LEAN CLAY	578.6	130	2,000	0	100	28
APPARENT BEDROCK	---[1]	170	200,000	0	200,000	0
BORING B 632-G1						
LOOSE TO M. DENSE SAND	640.5	120	0	30	0	30
SILTY SAND	628.5	115	0	29	0	29
SILTY SAND	614.5	120	0	33	0	33
SILTY SAND	609.5	110	0	28	0	28
SILTY SAND	606.5	115	0	31	0	31
SILTY CLAY	604.5	135	4,000	0	200	30
LEAN CLAY	599.5	128	750	0	100	26
LEAN CLAY	584.5	135	4,000	0	200	30
CLAYEY GRAVEL	582.0	140	0	42	0	42
DOLOMITE	569.5	170	200,000	0	200,000	0

1. APPARENT TOP OF BEDROCK. NO CORE PERFORMED BORING B632-G1

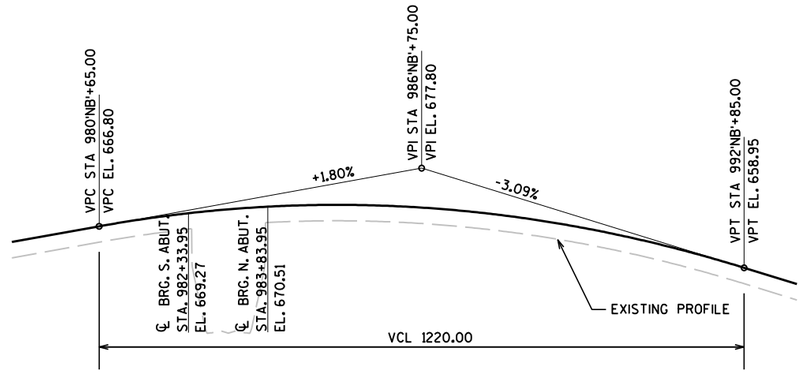
SAFETY FACTORS FOR MSE WALLS

WALL HEIGHT [1] (FEET)	RETAINED WALL HEIGHT [3] (FEET)	REINFORCED LENGTH (FEET)	MINIMUM REINFORCEMENT RATIO	CONDITION	CALCULATED SAFETY FACTOR	MINIMUM REQUIRED SAFETY FACTOR
20	27.5	20.0	0.9	GLOBAL [2]	1.5	1.3
				OVERTURNING	3.2	2.0
				SLIDING	1.6	1.5
				BEARING	2.3	2.0
				ALLOWABLE BEARING CAPACITY = 5,000 PSF		

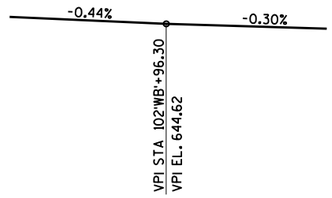
1. WALL HEIGHT INCLUDES 3.5 FOOT MINIMUM EMBEDMENT DEPTH FROM FINISHED GROUND TO BOTTOM OF SOIL REINFORCEMENT ZONE.
2. CRITICAL CONDITION CASE
3. THE RETAINED HEIGHT IS EQUAL TO THE WALL HEIGHT PLUS THE THICKNESS OF UNREINFORCED FILL.
4. THE LENGTH OF REINFORCING STRIPS IS THE MINIMUM REQUIRED LENGTH FOR THE WALL HEIGHT AT THE EVALUATED SECTION.
5. FINAL DESIGN FOR INTERNAL STABILITY AND EXTERNAL SLIDING AND OVERTURNING IS THE RESPONSIBILITY OF THE CONTRACTOR'S WALL DESIGNER AND MAY BE DIFFERENT FROM VALUES IN THE TABLE.
6. THE NORTH EAST REGION SOILS ENGINEER SHOULD BE PRESENT TO EVALUATE THE SUBSURFACE AT THE TIME OF CONSTRUCTION.
7. THE WALL HAS BEEN DESIGNED FOR TRAFFIC LOADING ONLY. IF DURING CONSTRUCTION HEAVY EQUIPMENT IS OPERATING IN CLOSE PROXIMITY TO THE WALL, OR IF MATERIAL IS STOCKPILED NEAR THE WALL, THE SAFETY FACTORS FOR THESE WALLS WILL SIGNIFICANTLY DECREASE.



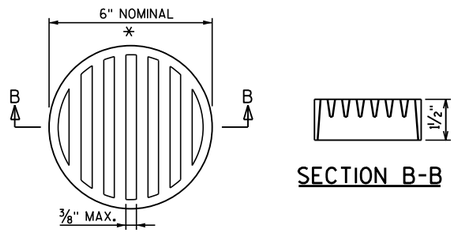
PROFILE GRADE LINE-SOUTHBOUND USH 41



PROFILE GRADE LINE-NORTHBOUND USH 41



PROFILE GRADE LINE-WESTBOUND LOMBARDI AVENUE



SECTION B-B

RODENT SCREEN DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH SHEET METAL SCREWS.

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STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE R-05-218

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DESIGN DATA & WALL DETAILS

SHEET 3 OF 14

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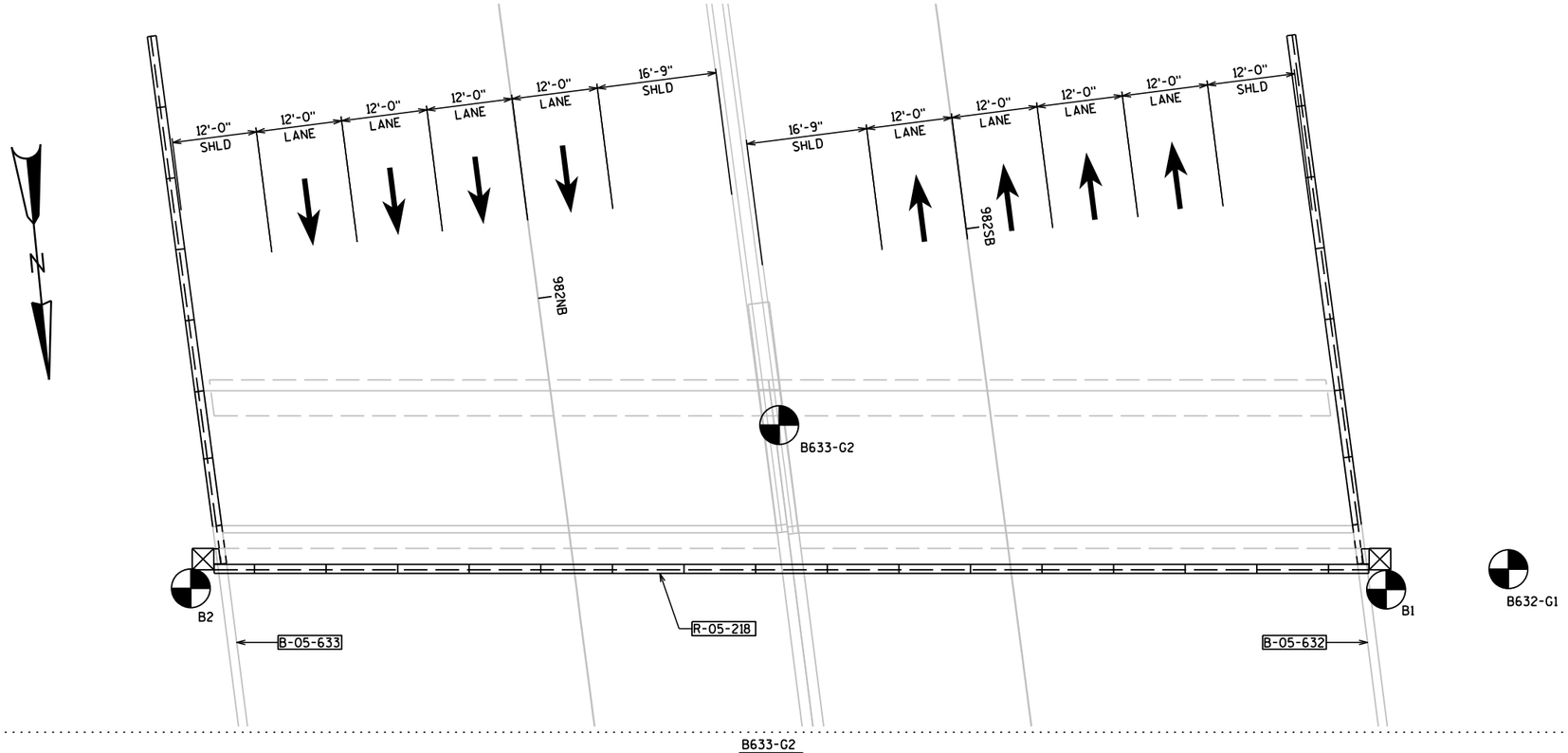
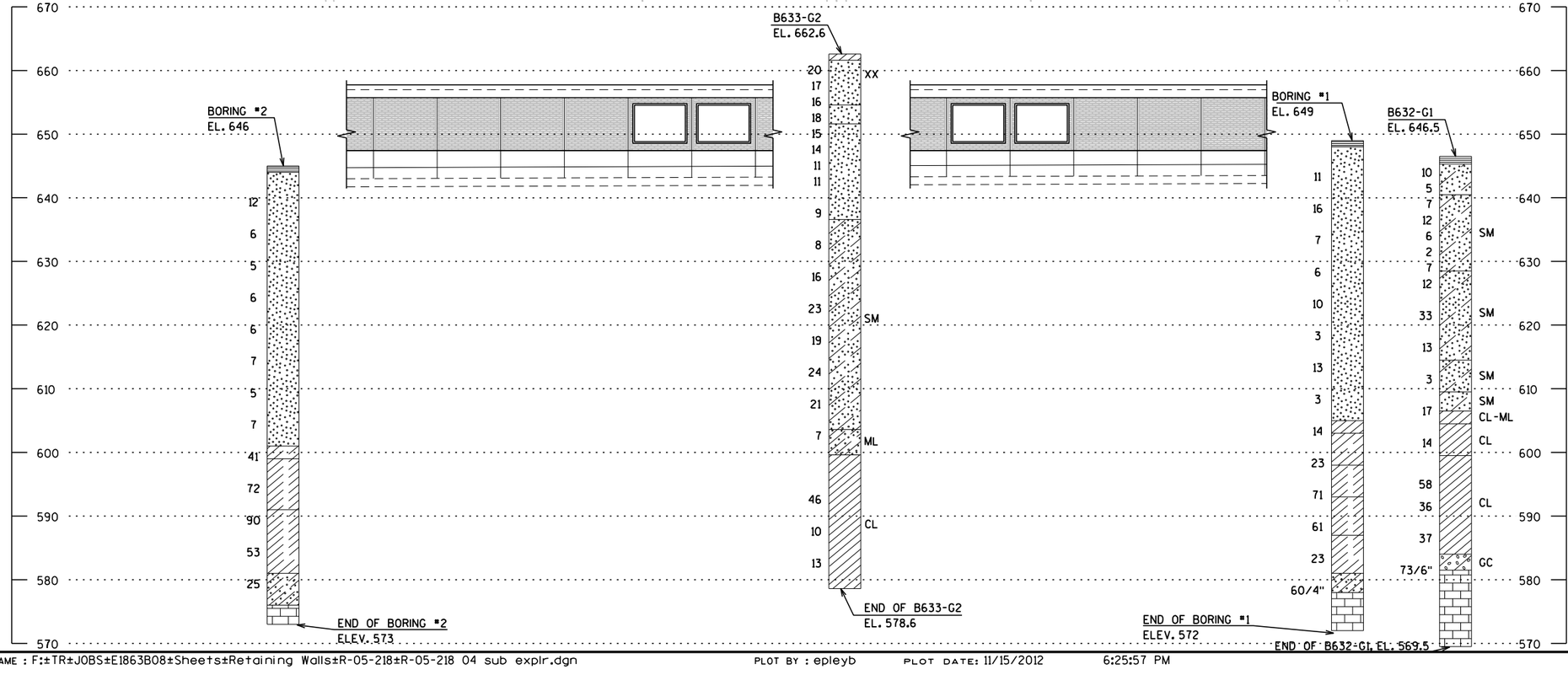




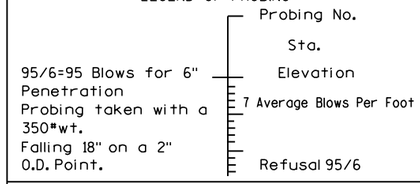
ABBREVIATIONS

F — Fine M — Medium C — Coarse
Ws — Weathered So — Sound

MATERIAL SYMBOLS

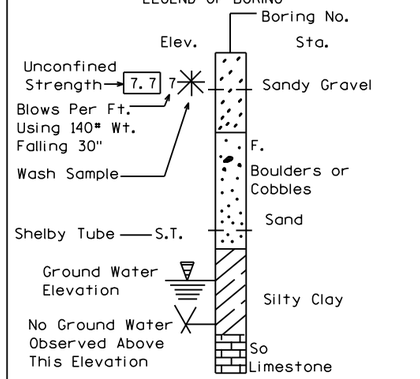
Topsoil, Silt, Sandstone
Sand, Peat, Limestone
Gravel, Clay, Igneous Rock

LEGEND OF PROBING



95/6=95 Blows for 6" Penetration
Probing taken with a 350#wt.
Falling 18" on a 2" O.D. Point.

LEGEND OF BORING



Unless otherwise specified, the blows per foot at the locations indicated are based on driving a O.D.x1.4" I.D. split spoon sampler with a 140# hammer having a free fall of 30". The blow count is taken in undisturbed soil immediately below a cased or open hole eliminating side friction on the drive pipe.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

To obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing. The data presented herein represents the findings of the subsurface explorations made. However, because the depths investigated are limited and the area of the borings and/or soundings is very small in relation to the entire area, the Division of Highways does not warrant conditions below the depths investigated or that the classification of material encountered in these investigations is necessarily typical of the entire site.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE R-05-218

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SUBSURFACE EXPLORATION

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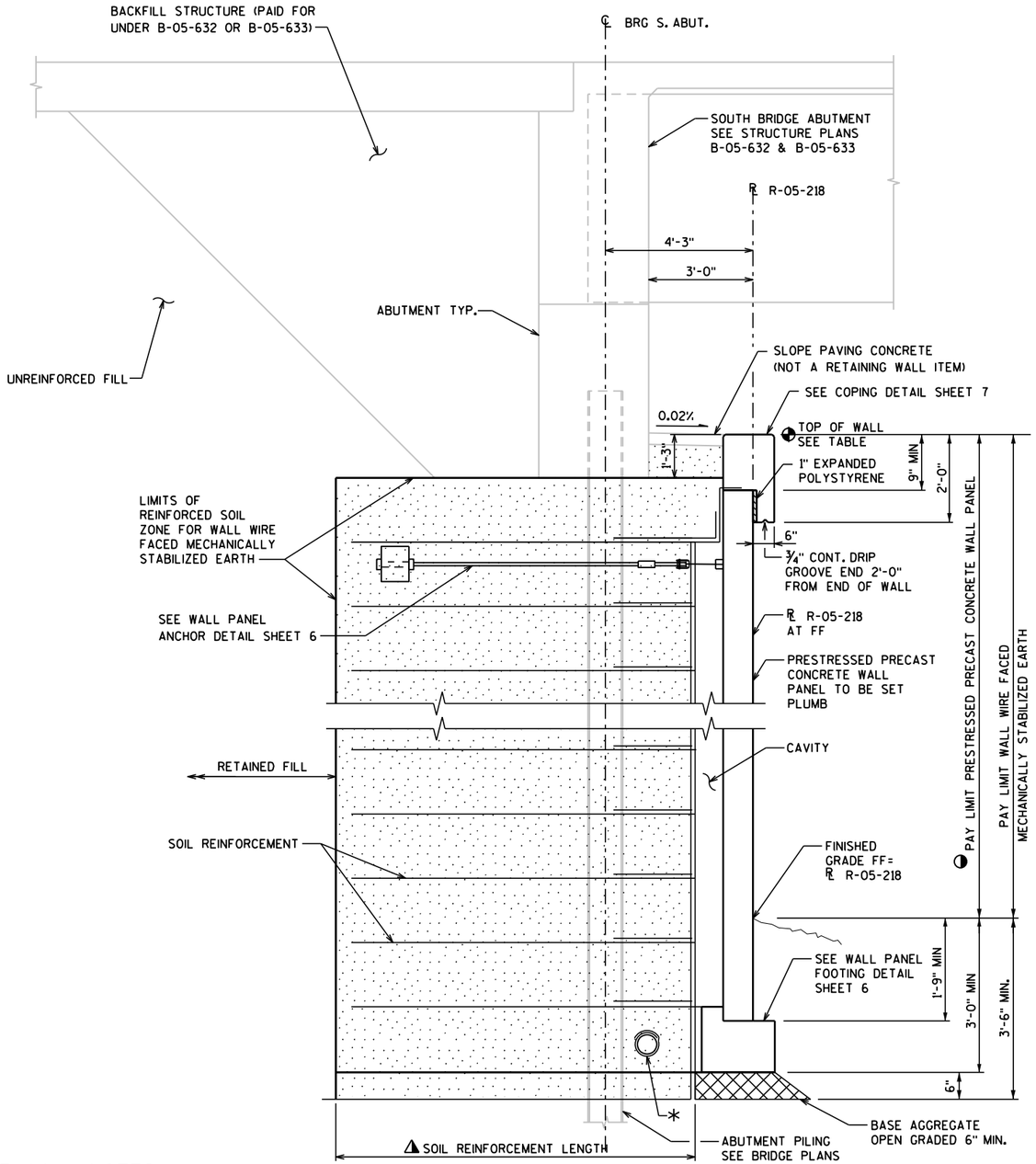
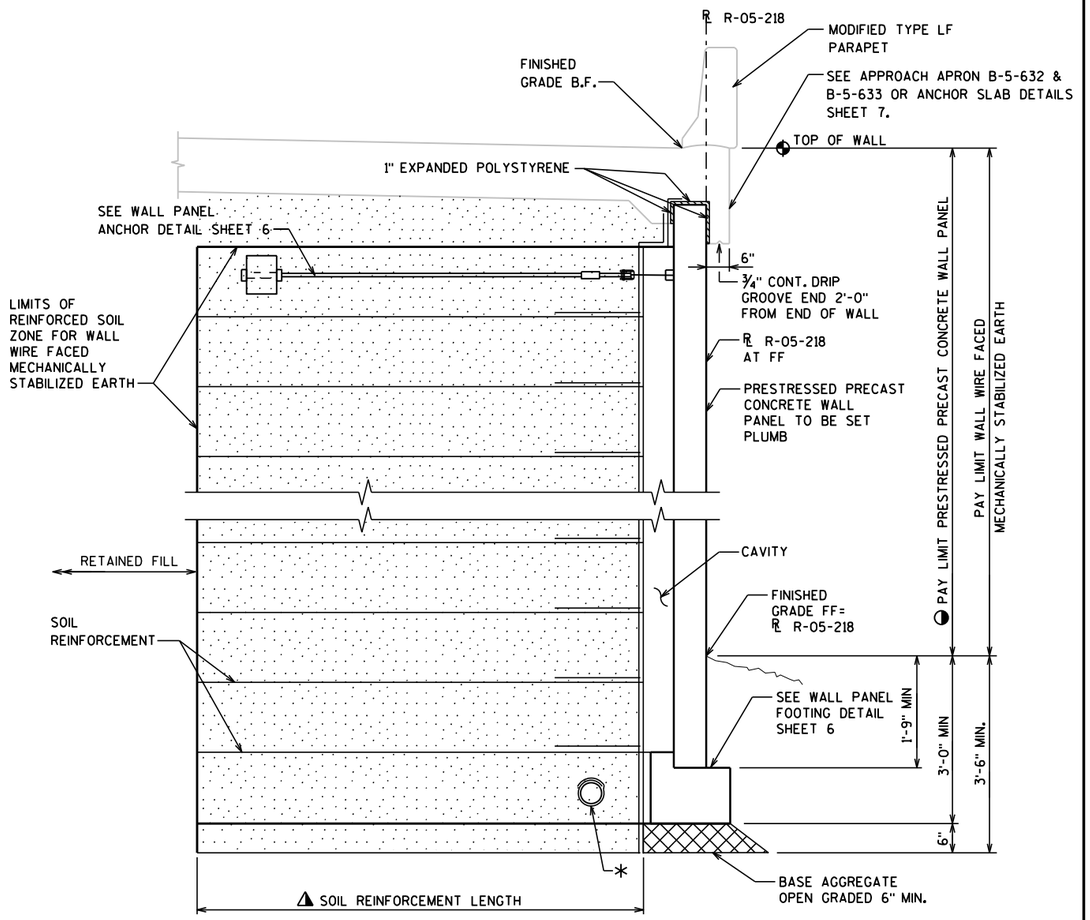


TYPICAL WALL SECTION AT ABUTMENT (UNIT B)



TYPICAL WALL SECTION AT UNIT A & C

MSE WALL NOTES

INSTALL BRIDGE PILING BEFORE CONSTRUCTING MSE WALL. INSTALLATION OF BRIDGE PILING IS NOT A RETAINING WALL ITEM.

FOR ROADWAY DETAILS AT THE FACE OF THE WALL, SEE ROADWAY TYPICAL SECTIONS.

LEGEND

◑ THE PLAN QUANTITY FOR THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL" IS BASED ON A WALL HEIGHT MEASURED FROM THE FINISHED GRADE AT THE FRONT FACE OF THE WALL TO THE TOP OF THE WALL AS SHOWN. THE TOP OF THE FOOTING IS ASSUMED TO BE A CONSTANT 1'-9" BELOW FINISHED GRADE.

⚠ PER WISDOT, MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS MUST BE 70% THE TOTALWALL HEIGHT (EXPOSED HEIGHT PLUS EMBEDMENT DEPTH) OR 8.0 FEET, WHICHEVER IS GREATER. SOIL REINFORCEMENT MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS. ACTUAL CALCULATED LENGTHS OF REINFORCING STRIPS WILL NEED TO EXCEED THESE MINIMUM FACTORS OF SAFETY FOR VARIOUS MSE PARAMETERS. SEE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.

* PIPE UNDERDRAIN WRAPPED 6-INCH, SLOPE 0.5% MIN. TO SUITABLE DRAINAGE, OR TIE INTO OTHER CLOSED DRAINAGE SYSTEM. ATTACH RODENT SHIELDS AT THE OUTLET ENDS OF PIPE UNDERDRAIN. SEE DETAIL.

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STATE OF WISCONSIN
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WALL SECTIONS

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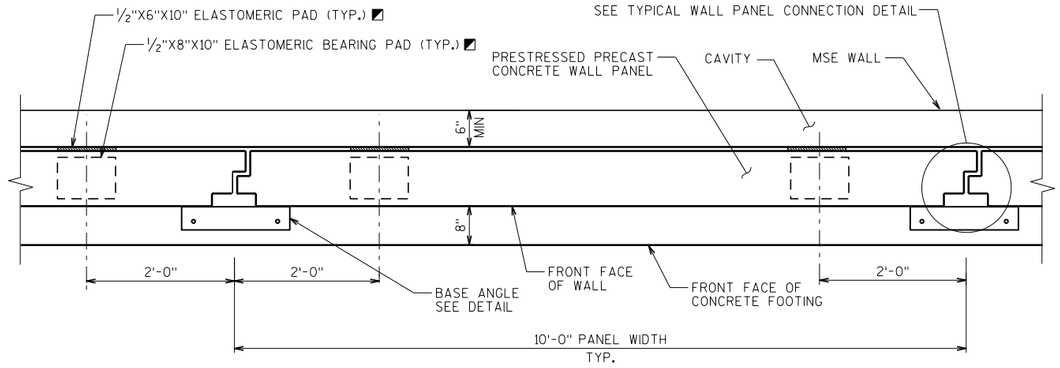
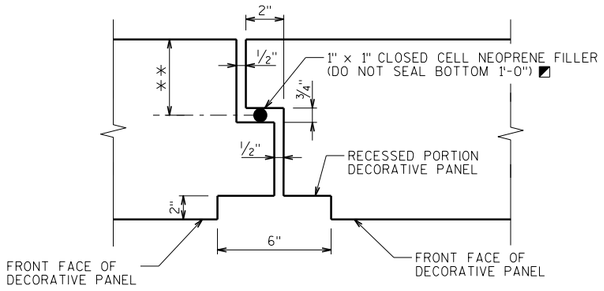
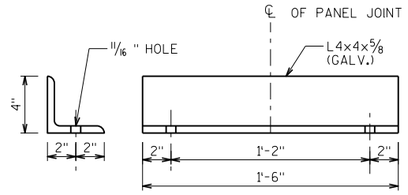


TYPICAL WALL PANEL CONNECTION



TYPICAL WALL PANEL CONNECTION

** 4" FOR 9 1/2" PANEL
3" FOR 7 1/2" PANEL



BASE ANGLE DETAIL

(1 AT EACH PANEL JOINT)

LEGEND

(A01) WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1¼" DIA. ANCHOR ROD, CLEVIS, AND OTHER PANEL CONNECTION COMPONENTS. DESIGN, DETAILING, AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL." INSTALLATION OF THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH."

(A02) DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION. ROD MIN. 2'-0" BELOW FINISH GRADE.

(A03) OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼" DIA. BAR)

(A04) BASE AGGREGATE OPEN GRADED, 6" MIN. INCIDENTAL TO BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

(A05) MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE PRECAST PANELS.

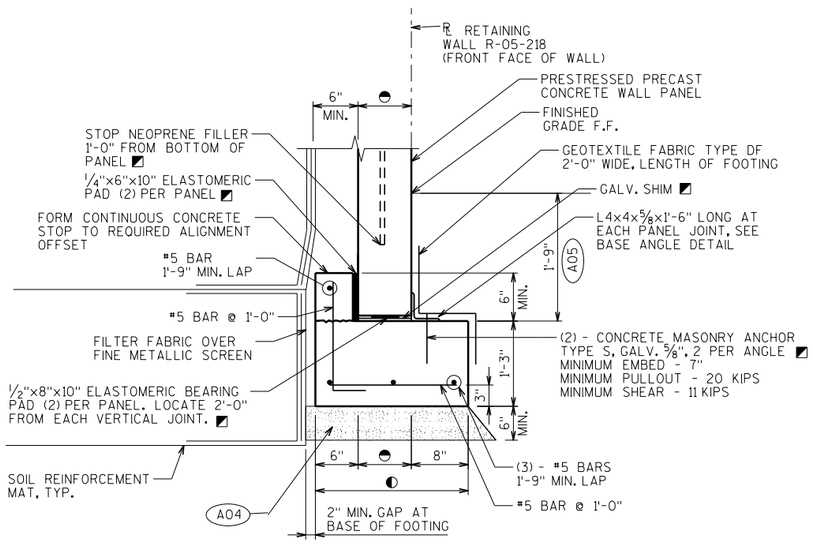
(A06) ALTERNATE METHODS OF SEALING OFF THE 6" VOID IN FRONT OF THE MSE WALL MAY BE SUBMITTED TO WISDOT FOR CONSIDERATION.

◩ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

NOTES

AN ALTERNATE WALL PANEL ANCHOR AND PANEL CONSTRUCTION SYSTEM MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER.

TILT UP PANEL ANCHOR SYSTEM MAY BE TRENCHED IN IF THE GEOMETRY OF THE ANCHOR SYSTEM LOCATION ALLOWS.



WALL PANEL FOOTING DETAIL

CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

◓ = 7½" OR 9½"

◐ FOOTING DIMENSION EQUALS PANEL THICKNESS PLUS 1'-2"

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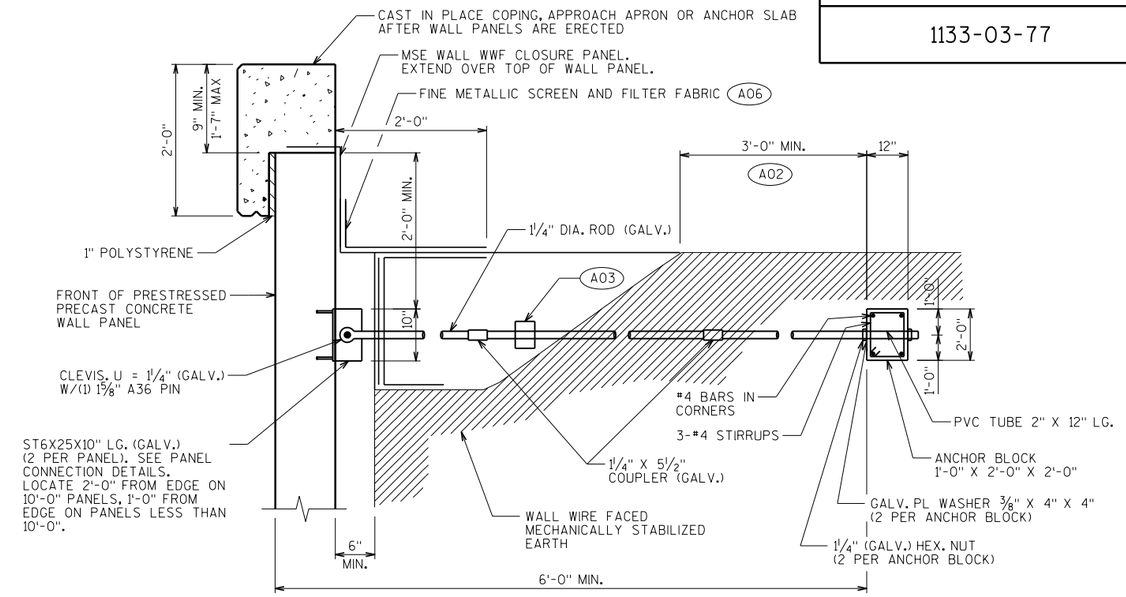
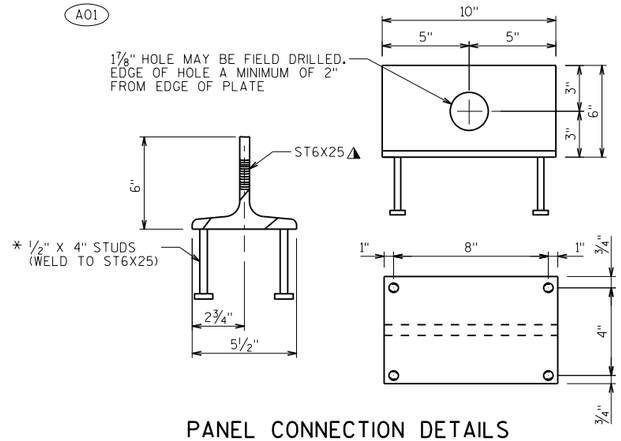


WALL PANEL ANCHOR DETAIL

(A01)



PANEL CONNECTION DETAILS

(2 PER PANEL)

◭ S12X50 (GALV.) CUT IN ½ TO FORM "T" SECTION. BF = 5.477" TW = 0.687".

* AS AN ALTERNATE, ½" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.

ST6X25 MAY BE WELDED TO ¾" THICK PLATE WITH (4) ½" X 4" STUDS ANCHORED IN PRECAST PANEL. RESTORE ZINC COATING AROUND ANY WELDED AREAS. SUBMIT DETAILS FOR APPROVAL BY ENGINEER.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-218

DRAWN BY	MEF	PLANS CK'D.	JAW

WALL DETAILS

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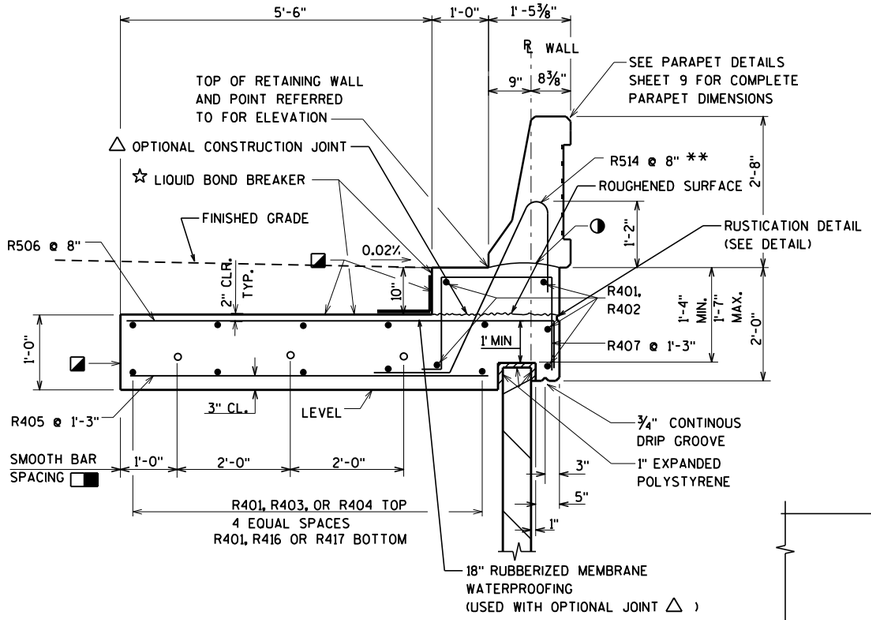
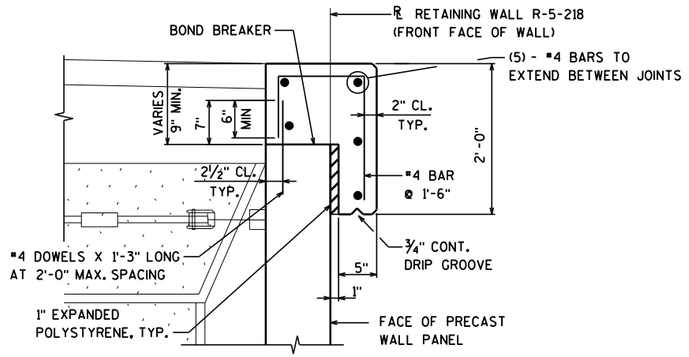
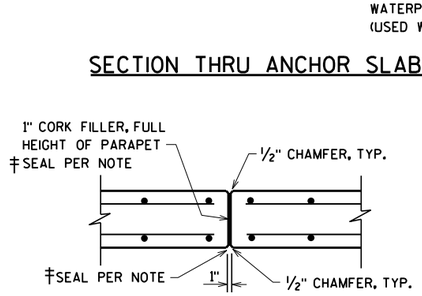


SECTION THRU ANCHOR SLAB UNIT A & C

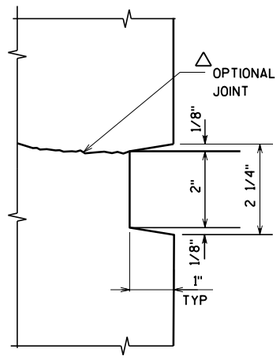


COPING DETAIL AT ABUTMENT (UNIT B)

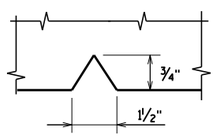
CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"



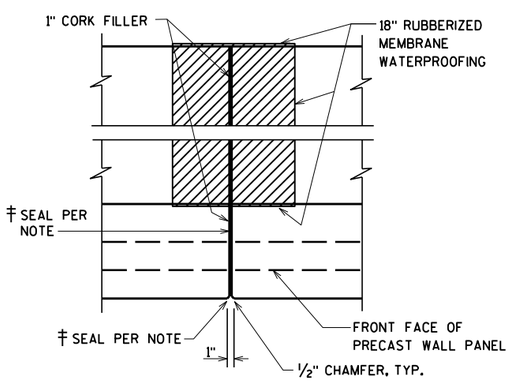
⊛ PARAPET EXPANSION JOINT DETAIL



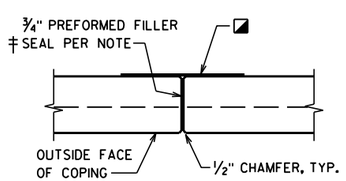
RUSTICATION DETAIL



¾" DRIP GROOVE DETAIL



⊛ ANCHOR SLAB EXPANSION JOINT DETAIL



⊛ COPING EXPANSION JOINT

NOTES:

◑ HORIZ. CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

◨ (3) -¾" ϕ SMOOTH EPOXY COATED DOWEL BARS, 1'-6" LONG, AT EXPANSION JOINT, EMBED 9", USE APPROVED DEBONDER ON ½ OF BAR LENGTH, COST INCLUDED IN "CONCRETE MASONRY RETAINING WALLS".

◪ 18" RUBBERIZED MEMBRANE WATERPROOFING - SEAL ALL HORIZONTAL & VERTICAL JOINTS IN ANCHOR SLAB.

CONCRETE QUANTITY BASED ON 5" EMBEDMENT OF WALL PANEL IN ANCHOR SLAB.

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING COLOR TO MATCH STAIN OF NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

⊛ EXPANSION JOINTS TO BE SPACED AT 30'. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT, EXCEPT FOR DOWEL BARS IN ANCHOR SLAB. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB OR COPING.

△ OPTIONAL CONSTRUCTION JOINT MAY BE USED WITH THE CONCURRENCE OF THE ENGINEER. RUBBERIZED MEMBRANE WATERPROOFING REQUIRED FOR THE OPTIONAL JOINT IS INCIDENTAL TO CONCRETE MASONRY RETAINING WALLS.

** USE R512 AND R513 AT PARAPET END TRANSITION SEE SHEET 9

☆ APPLY TO ALL HORIZONTAL AND VERTICAL FACES WHERE CONCRETE PAVEMENT CONTACTS ANCHOR SLAB.

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-218

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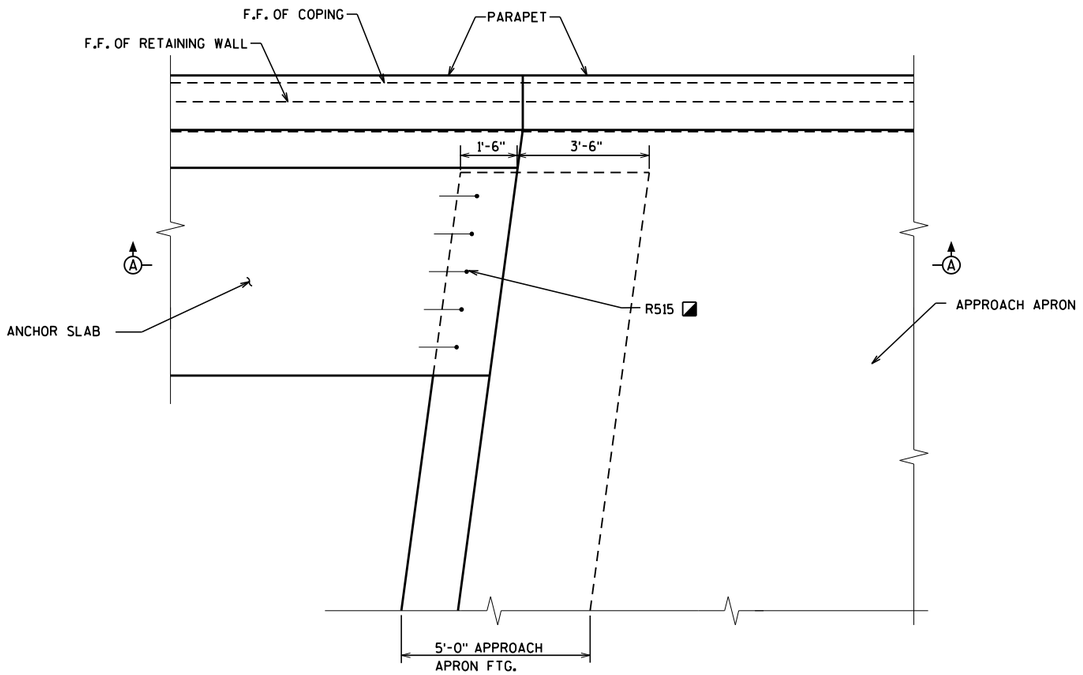
ANCHOR SLAB AND COPING

SHEET 7 OF 14

2514

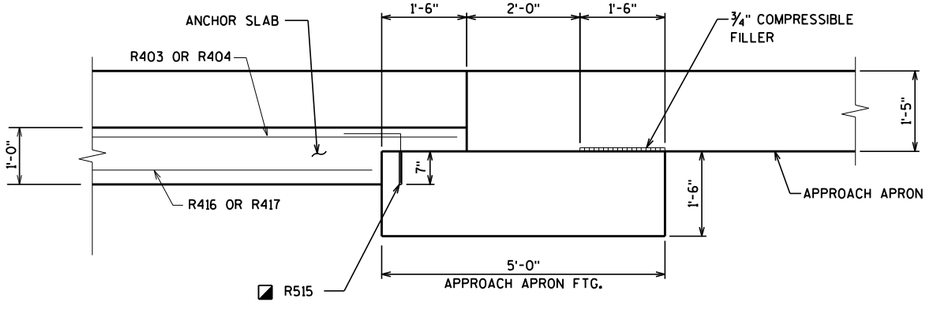
FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Retaining Walls±R-05-218±R-05-218 07 anchor slab.dgn PLOT BY : epleyb PLOT DATE: 4/1/2013 11:18:10 AM

STATE PROJECT NUMBER
1133-03-77

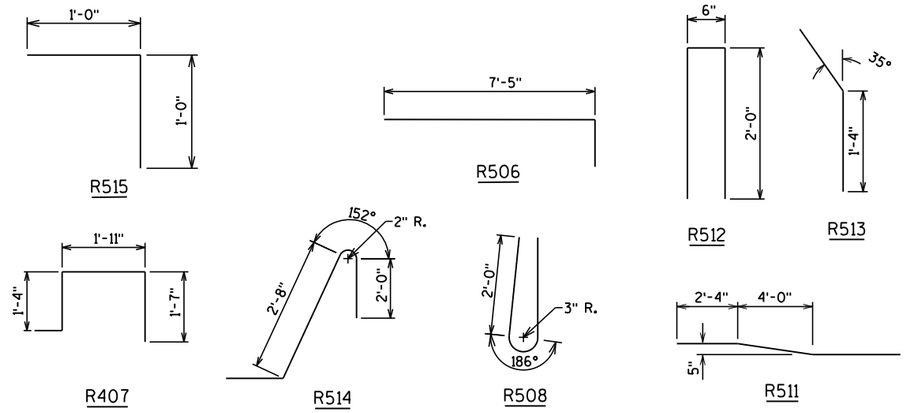


PLAN OF ANCHOR SLAB AT APPROACH APRON

(UNIT C SHOWN; UNIT A SIMILAR)



SECTION A-A



BAR BEND DIAGRAMS

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	SERIES	LOCATION
R401	X	30	29'-8"			ANCHOR SLAB LONGITUDINAL - 30' SECTIONS
R402	X	20	19'-7"			ANCHOR SLAB LONGITUDINAL - 20' SECTIONS
R403	X	5	20'-1"		Δ	ANCHOR SLAB LONGITUDINAL - 20' SECTION UNIT A TOP
R404	X	5	19'-2"		Δ	ANCHOR SLAB LONGITUDINAL - 20' SECTION UNIT C TOP
R405	X	84	6'-0"			ANCHOR SLAB - BOTTOM TRANSVERSE
R506	X	154	8'-3"	X		ANCHOR SLAB - TOP TRANSVERSE
R407	X	84	5'-3"	X		ANCHOR SLAB - TRANSVERSE, VERTICAL
R508	X	160	4'-10"	X		PARAPET - VERTICAL
R509	X	8	29'-8"			PARAPET HORIZONTAL 30' SECTIONS
R510	X	10	19'-8"			PARAPET HORIZONTAL 20' SECTIONS
R511	X	2	29'-8"	X		PARAPET HORIZONTAL 30' SECTIONS AT END
R512	X	28	4'-3"	X		PARAPET HORIZONTAL 30' SECTIONS AT END
R513	X	16	2'-4"	X		PARAPET HORIZONTAL 30' SECTIONS AT END
R514	X	132	6'-2"	X		ANCHOR SLAB & PARAPET - VERTICAL
◪ R515	X	10	1'-11"	X		ANCHOR SLAB DOWEL AT APPROACH APRON
R416	X	5	18'-7"		Δ	ANCHOR SLAB LONGITUDINAL - 20' SECTION UNIT A BOTTOM
R417	X	5	17'-8"		Δ	ANCHOR SLAB LONGITUDINAL - 20' SECTION UNIT C BOTTOM

BAR SERIES

BAR NO.	NO. REQ'D.	LENGTH
R402	1 SERIES OF 5	19'-8" TO 20'-6"
R403	1 SERIES OF 5	18'-9" TO 19'-7"
R416	1 SERIES OF 5	18'-2" TO 19'-0"
R417	1 SERIES OF 5	17'-3 TO 18'-1"

◪ CONCRETE MASONRY ANCHORS, TYPE S
NO. 5 BAR HAVING A MAXIMUM PULLOUT
CAPACITY OF 20 KIPS. EMBED 7" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-218

DRAWN BY DPP | PLANS CK'D. JAW

ANCHOR SLAB DETAILS

SHEET 8 OF 14

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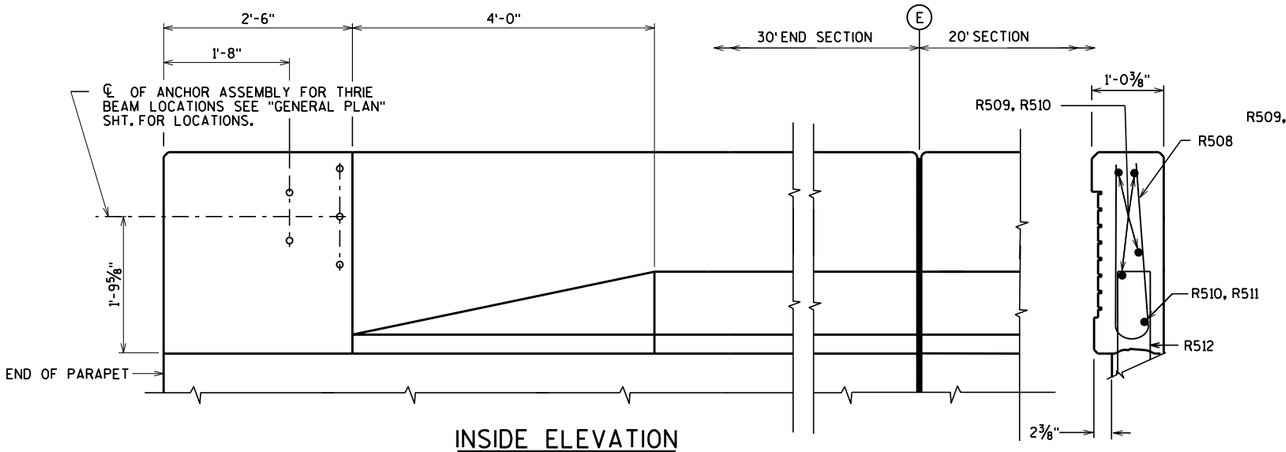
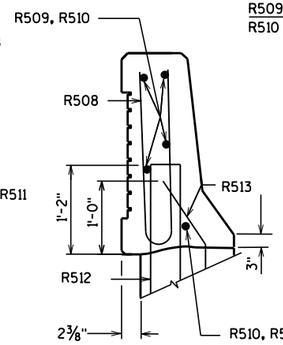
8

8

STATE PROJECT NUMBER
1133-03-77

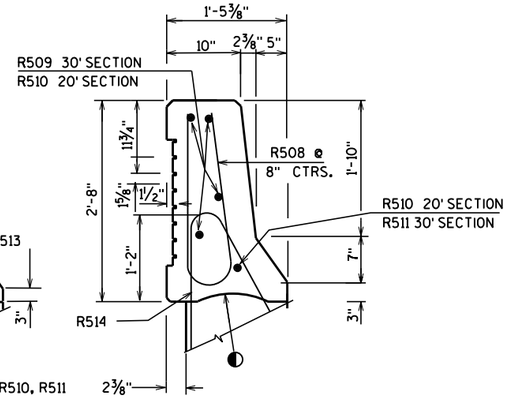


INSIDE ELEVATION

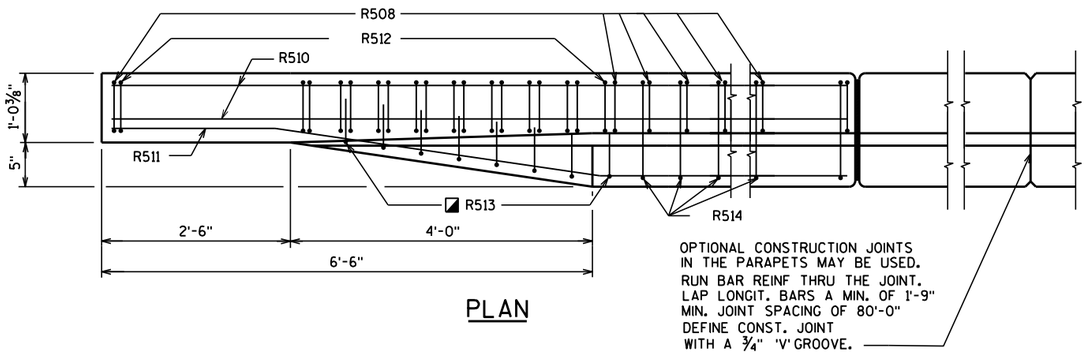


SECTION A

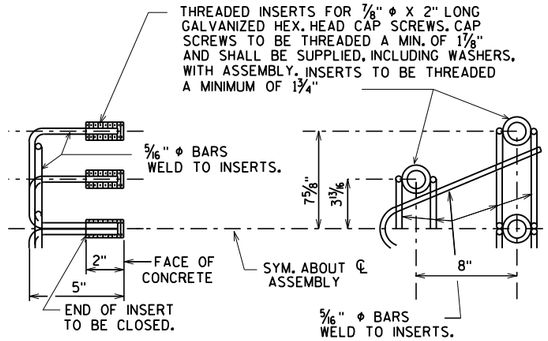
SECTION B



SECTION C

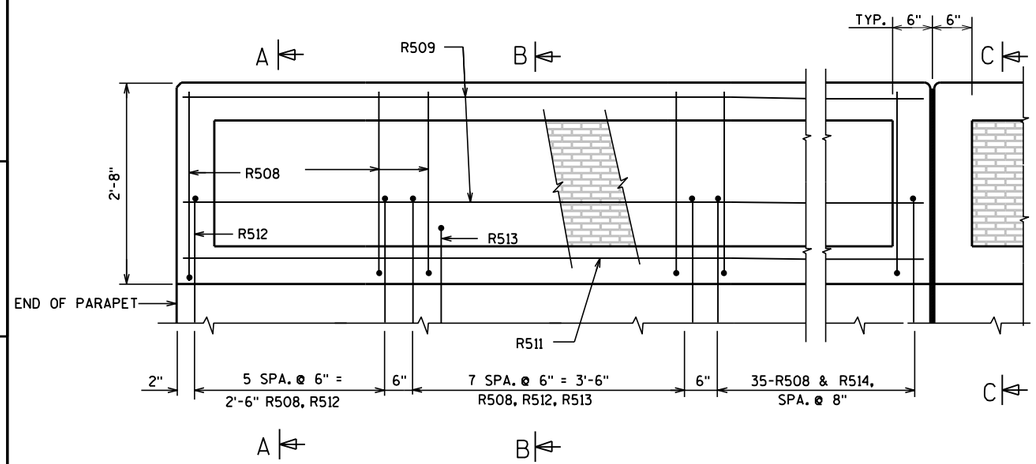


PLAN

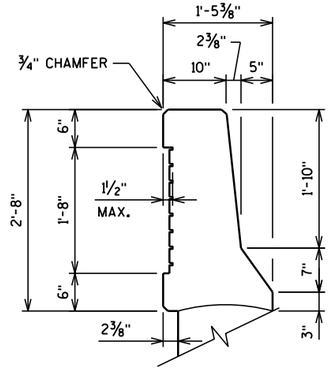


DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX. HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.



OUTSIDE ELEVATION



SECTION THRU PARAPET

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ R513 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R513 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

Ⓔ EXPANSION JOINT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-218

DRAWN BY MEF | PLANS CK'D. JAW

MODIFIED SLOPED FACE PARAPET LF

SHEET 9 OF 14

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STATE PROJECT NUMBER
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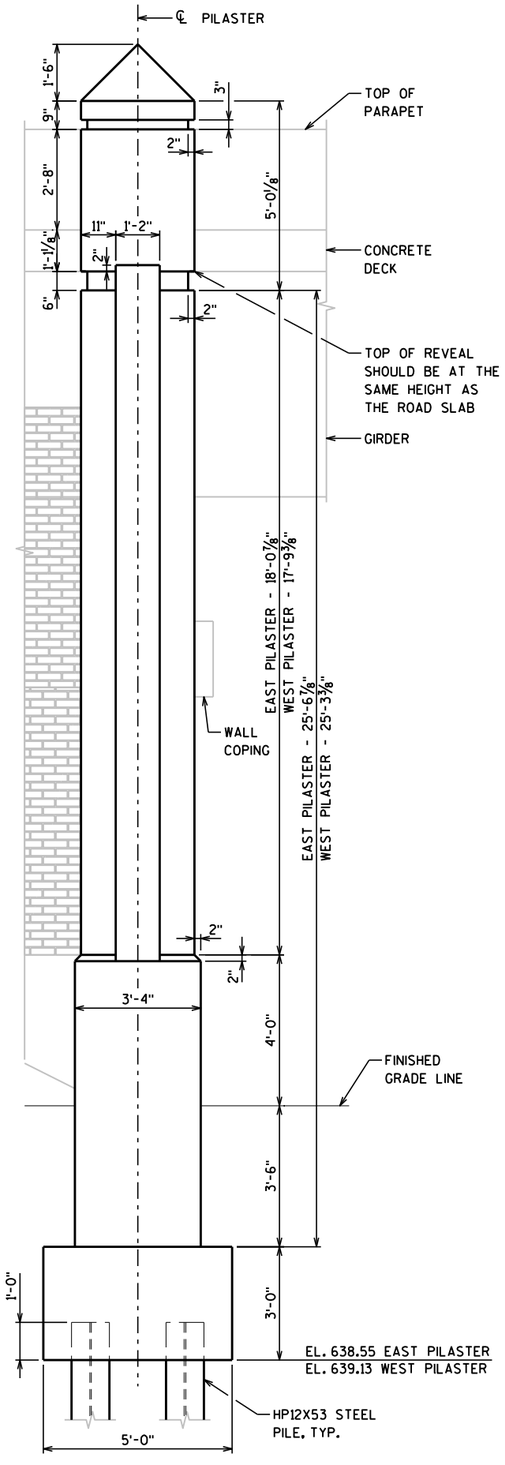
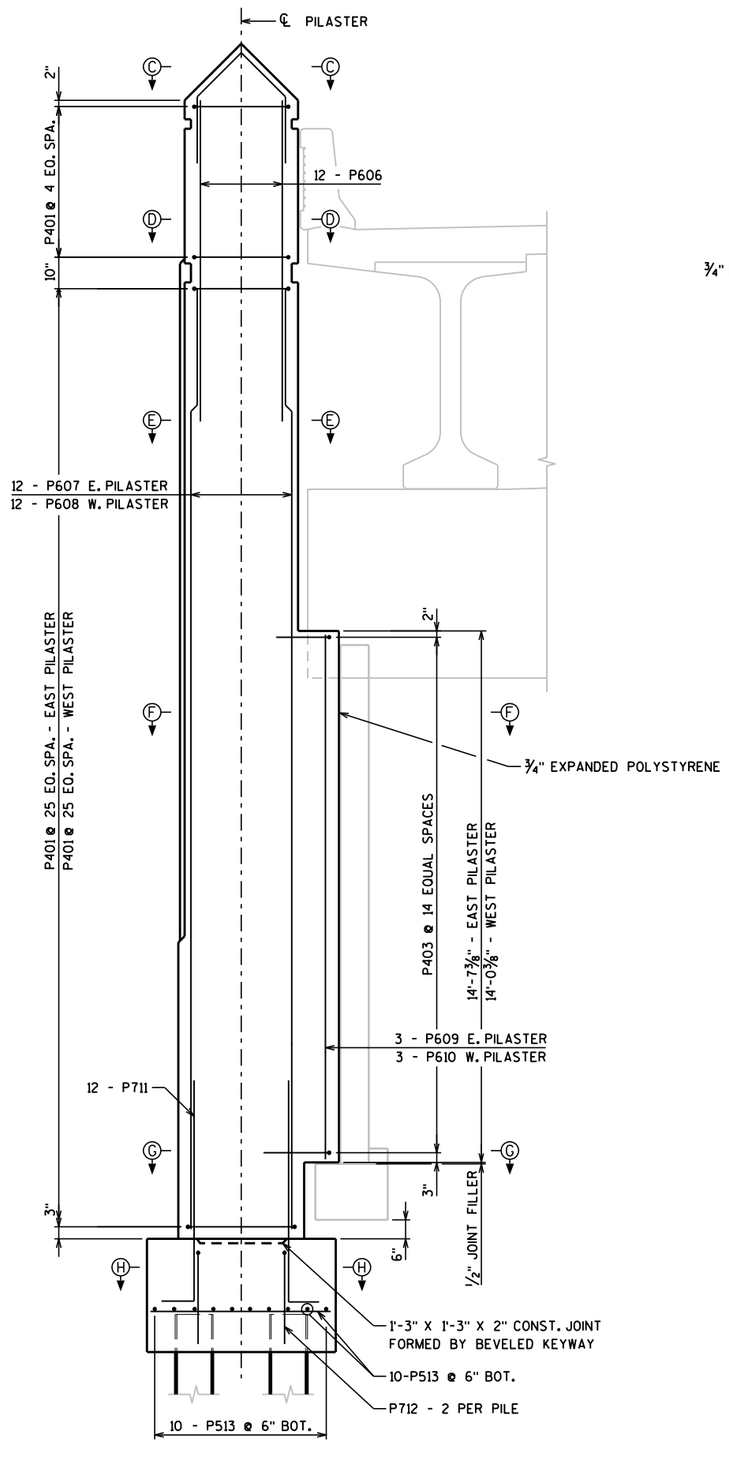
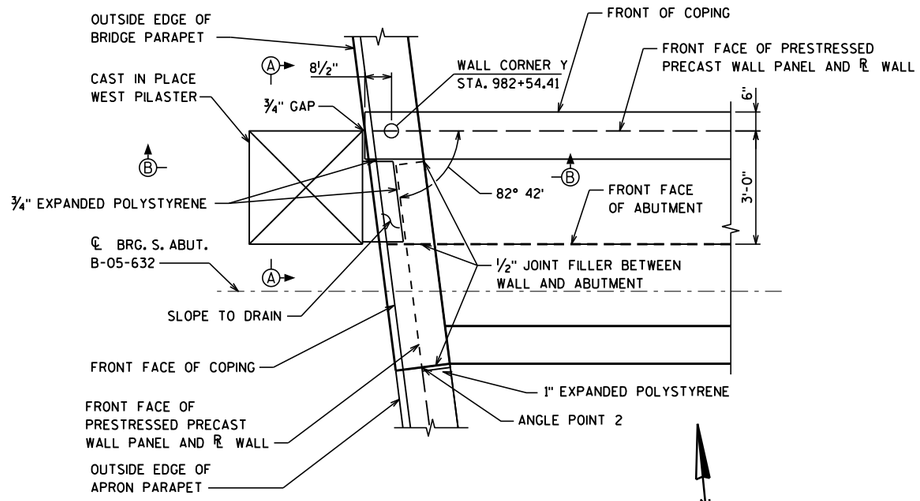


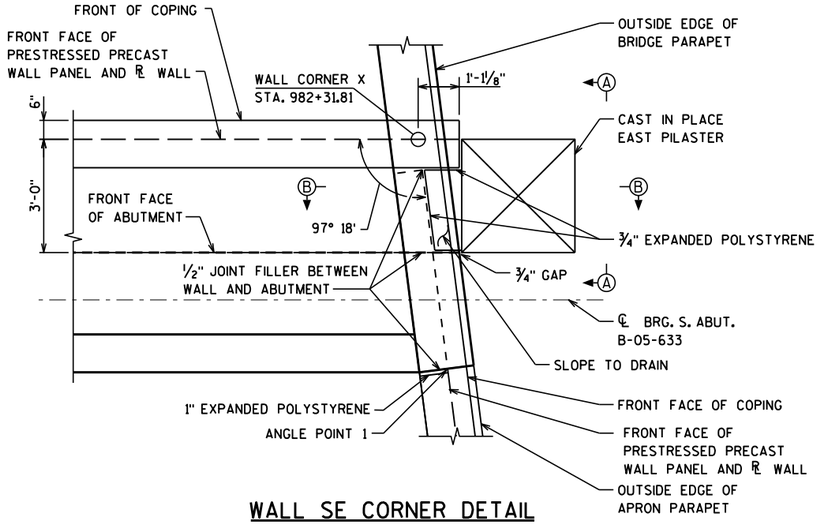
SECTION A-A



SECTION B-B



WALL SW CORNER DETAIL



WALL SE CORNER DETAIL

NOTES:

SEE SHEET 11 FOR SECTIONS THRU PILASTER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-218

DRAWN BY BRE | PLANS CK'D. KRO

PILASTER

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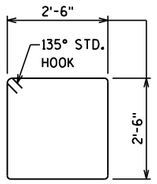
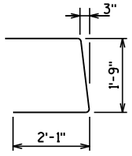
STATE PROJECT NUMBER
1133-03-77

BILL OF BARS

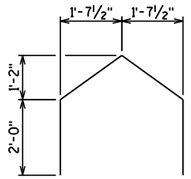
	BAR MARK	COAT	NO. REQ'D. WEST	NO. REQ'D. EAST	LENGTH	BENT	LOCATION
	P401	X	31	31	10'-6"	X	PILASTER STIRRUPS
	P403	X	15	15	5'-9"	X	PILASTER STIRRUPS
	P404	X	2	2	8'-0"	X	PILASTER TOP
	P405	X	4	4	3'-7"	X	PILASTER TOP
	P606	X	12	12	8'-6"		PILASTER TOP, VERTICAL
	P607	X		12	25'-2"		EAST PILASTER VERTICAL
	P608	X	12		24'-10"		WEST PILASTER VERTICAL
	P609	X		3	14'-2"		EAST PILASTER WING VERTICAL
	P610	X	3		13'-7"		WEST PILASTER WING VERTICAL
	P711	X	12	12	7'-1"	X	PILASTER FOOTING DOWELS
*	P712		8	8	3'-6"	X	BAR WELDED TO PILE
	P513		20	20	4'-8"		PILASTER FOOTING BOTTOM MAT



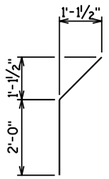
P401



P403



P404



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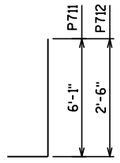
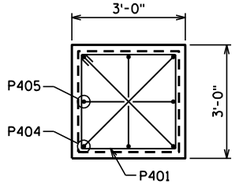
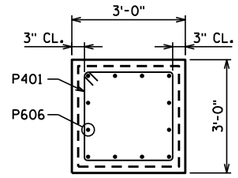


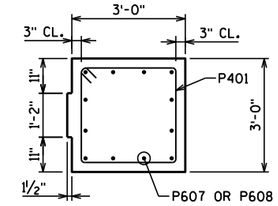
P711, P712



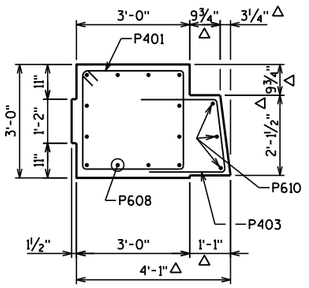
SECTION C-C



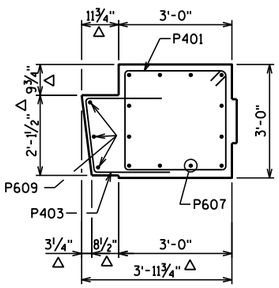
SECTION D-D



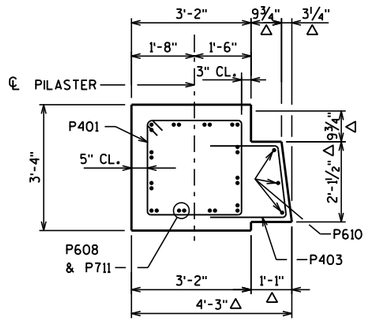
SECTION E-E



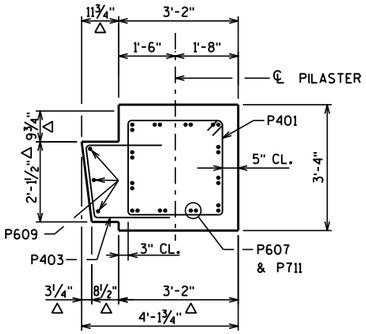
SECTION F-F
WEST PILASTER



SECTION F-F
EAST PILASTER

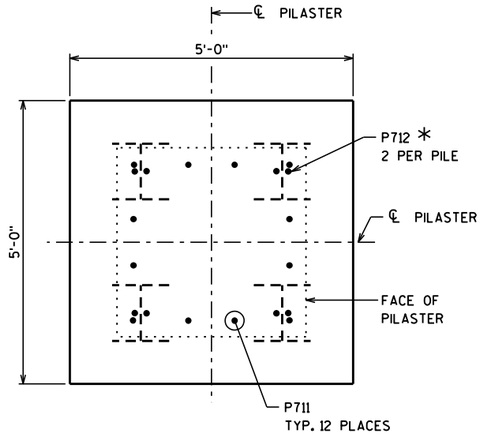


SECTION G-G
WEST PILASTER

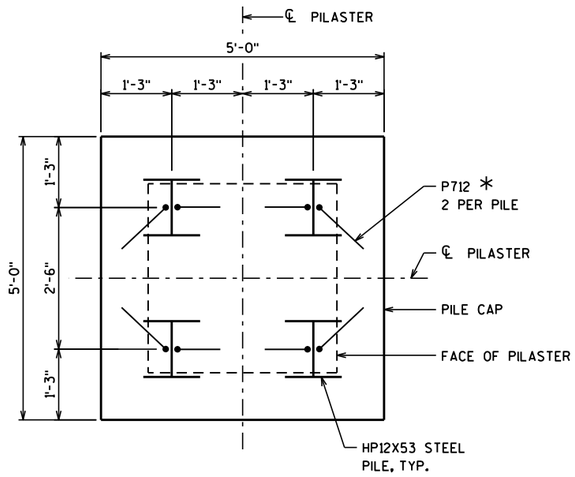


SECTION G-G
EAST PILASTER

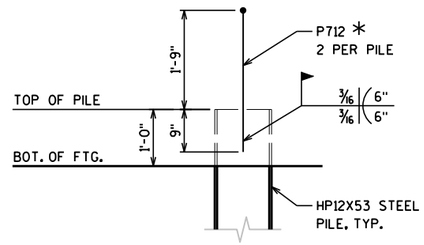
△ DIMENSIONS GIVEN ASSUME 9" THICK TILT UP WALL PANELS. DIMENSIONS SHALL BE ADJUSTED IF OTHER THICKNESS IS USED.



SECTION H-H



PILASTER FOOTING PLAN



PILE HEAD DETAIL

* REINFORCEMENT WELDED TO PILE SHALL CONFORM TO ASTM A706

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-218

DRAWN BY BRE | PLANS CK'D. KRO

PILASTER DETAILS

SHEET 11 OF 14

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8

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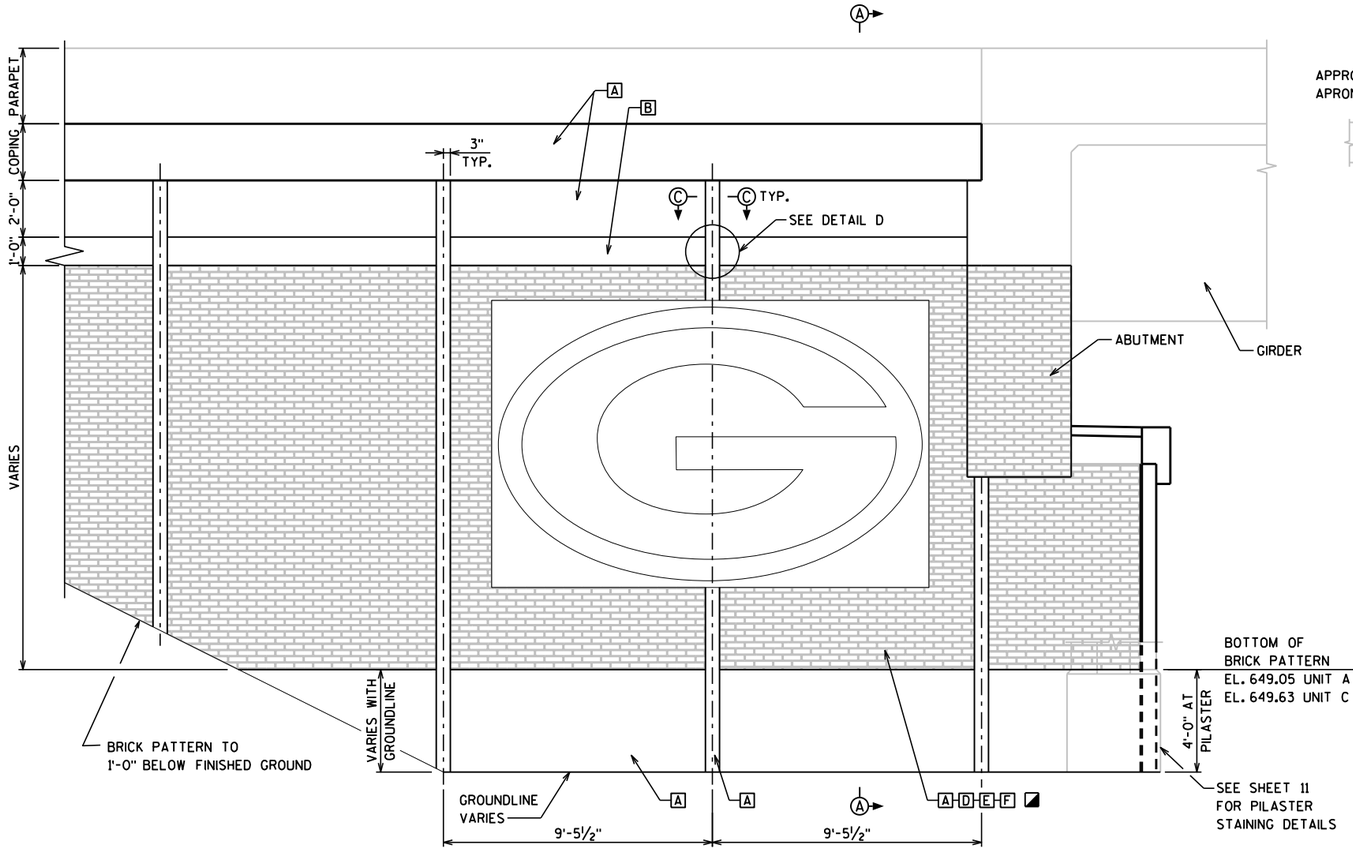
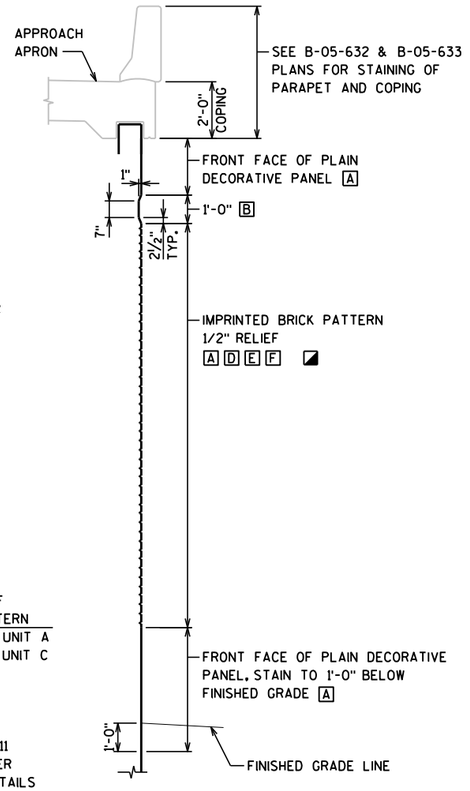
STATE PROJECT NUMBER
1133-03-77

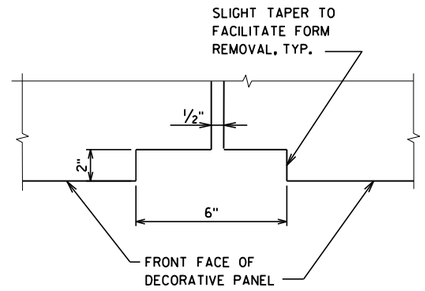


ELEVATION UNITS A & C

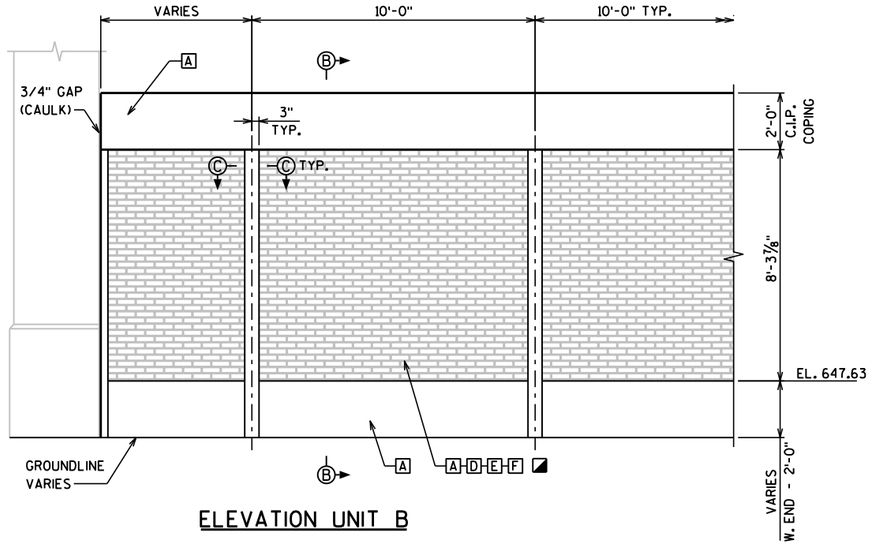
AT FRONT FACE OF PRECAST PANEL UNIT 'A' SHOWN, UNIT 'C' OPPOSITE HAND



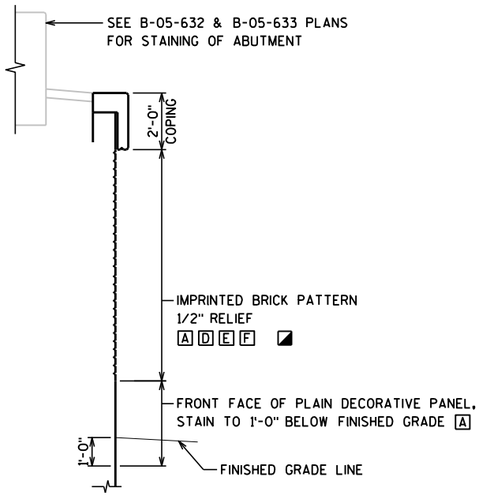
SECTION A-A



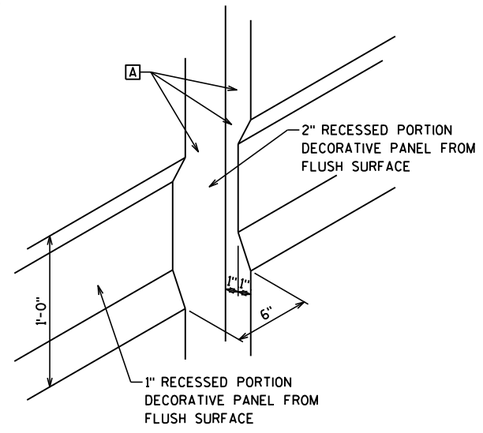
SECTION C-C



ELEVATION UNIT B



SECTION B-B



DETAIL D - ISOMETRIC REVEAL

NOTES

◪ STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

SEE SHEET 13 FOR "COLOR STAINING SCHEDULE".

SEE SHEET 14 FOR AESTHETIC MURALS WITHIN THE AREAS OF BRICK ARCHITECTURAL SURFACE TREATMENT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-218

DRAWN BY BRE | PLANS CK'D. KRO

AESTHETIC DETAILS (1 OF 3)

SHEET 12 OF 14

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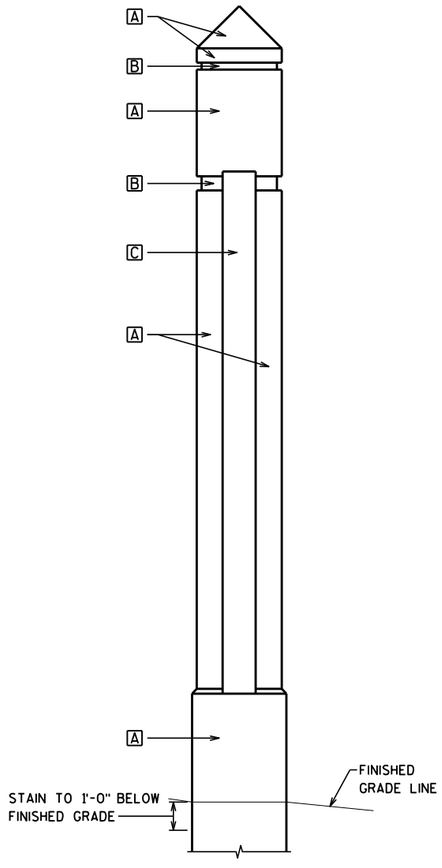
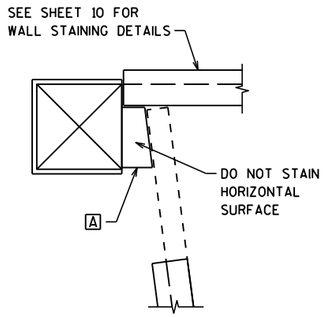
8

8

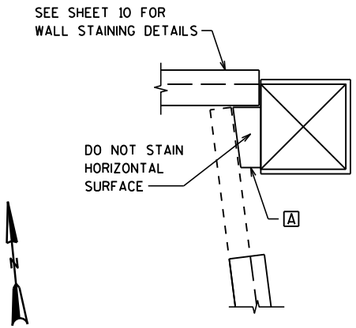
STATE PROJECT NUMBER
1133-03-77



ELEVATION - PILASTER



PLAN - WEST PILASTER



PLAN - EAST PILASTER

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER
C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)

SEE SPECIAL PROVISIONS FOR STAIN COLORS.

NOTES

STAIN UNDERSIDE OF COPING AT UNIT B.

STAINING THE UNDERSIDE OF BRIDGE APPROACH APRON COPING INCLUDED WITH B-05-632 & B-05-633.

THE COST OF BRICK PATTERN FORMLINER TREATMENT ON PRESTRESSED PRECAST CONCRETE WALL PANELS IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT". SEE SPECIAL PROVISION FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

THE COST FOR ALL OTHER CONCRETE FORMING AESTHETIC DETAILS ARE INCIDENTAL TO BID ITEM "CONCRETE MASONRY RETAINING WALLS".

STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

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STRUCTURE R-05-218

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AESTHETIC DETAILS (2 OF 3)

SHEET 13 OF 14

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FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Retaining Walls±R-05-218±R-05-218 13 aesthetic details 2.dgn PLOT BY : epleyb PLOT DATE: 11/15/2012 6:26:08 PM

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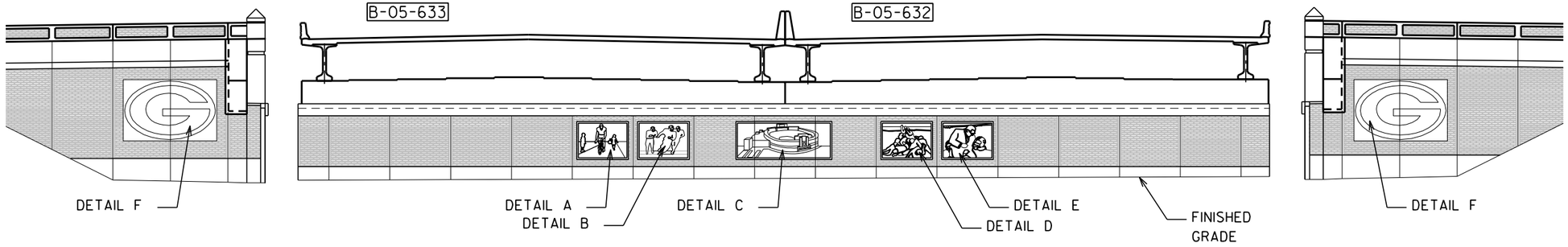
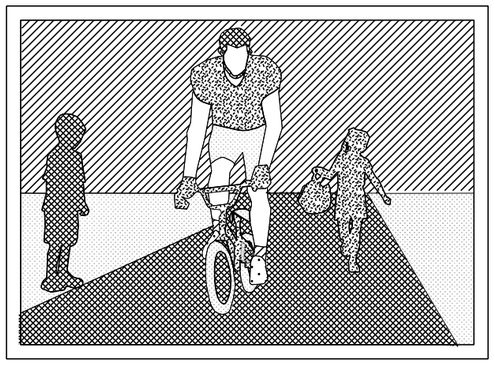
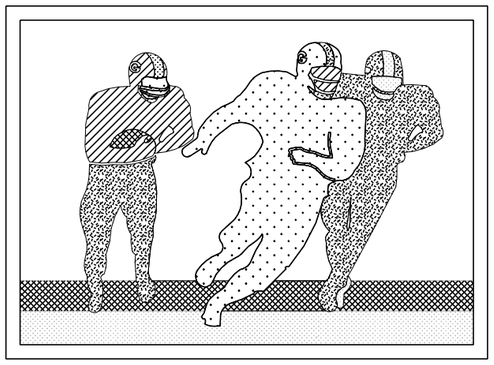
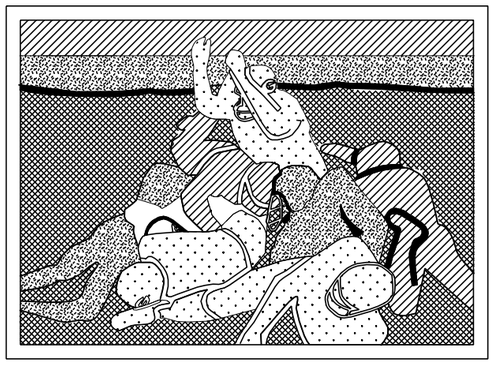




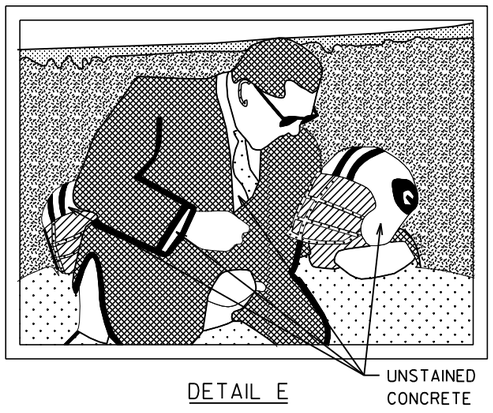
DETAIL A



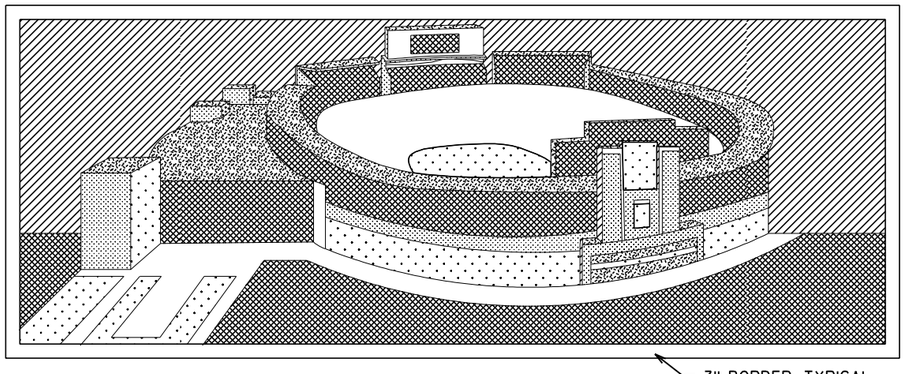
DETAIL B



DETAIL D



DETAIL E



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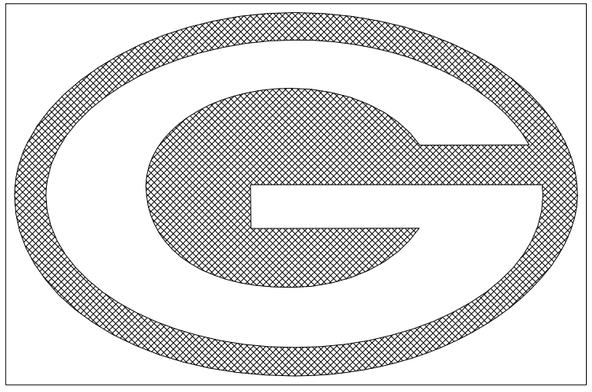

DETAIL F

CONCRETE STAINING SCHEDULE

MARK	HATCH	COLOR	RELIEF (INCHES)
A		BASE COLOR	0
B		ACCENT COLOR #1	-1
C		ACCENT COLOR #2	-2
D		ACCENT COLOR #3	-1.25
E		ACCENT COLOR #4	-1.5
F		ACCENT COLOR #5	-0.75
G		ACCENT COLOR #6	-.5

SEE SPECIAL PROVISIONS FOR STAIN COLORS.

AESTHETIC MURALS PAID FOR AS ARCHITECTURAL SURFACE TREATMENT AND STAINING MULTI-COLOR

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STRUCTURE R-05-218

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AESTHETIC DETAILS (3 OF 3)

SHEET 14 OF 14

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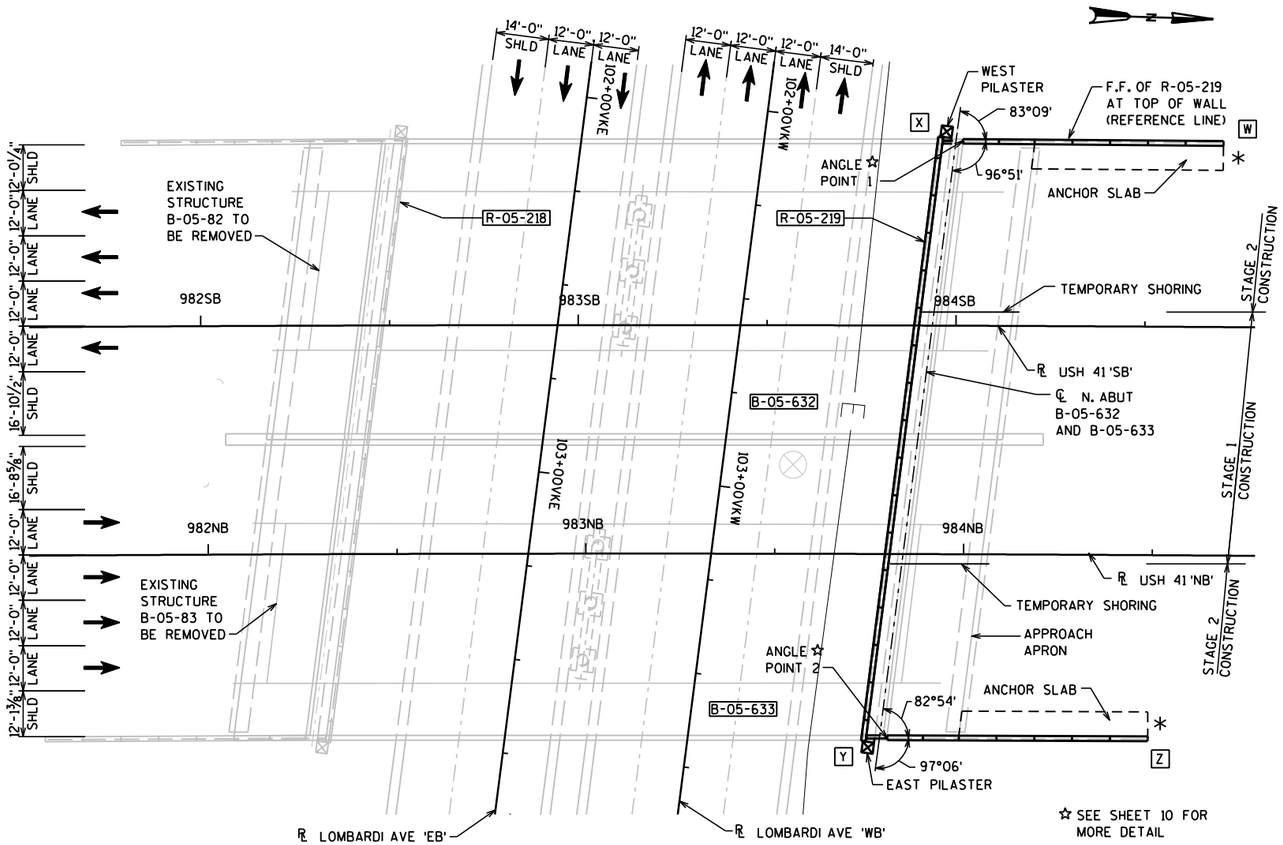
14'-0" SHLD
12'-0" LANE
12'-0" LANE
102+00VKE
102+00VKW
12'-0" LANE
12'-0" LANE
14'-0" SHLD
WEST PILASTER
83°09'
F.F. OF R-05-219 AT TOP OF WALL (REFERENCE LINE)
W
X
ANGLE ☆ POINT 1
96°51'
ANCHOR SLAB
EXISTING STRUCTURE B-05-82 TO BE REMOVED
R-05-218
R-05-219
982SB
983SB
984SB
TEMPORARY SHORING
STAGE 2 CONSTRUCTION
℄ USH 41 'SB'
℄ N. ABUT B-05-632 AND B-05-633
B-05-632
103+00VKE
103+00VKW
STAGE 1 CONSTRUCTION
982NB
983NB
984NB
℄ USH 41 'NB'
TEMPORARY SHORING
EXISTING STRUCTURE B-05-83 TO BE REMOVED
APPROACH APRON
ANGLE ☆ POINT 2
82°54'
ANCHOR SLAB
B-05-633
Y
Z
97°06'
EAST PILASTER
℄ LOMBARDI AVE 'EB'
℄ LOMBARDI AVE 'WB'
☆ SEE SHEET 10 FOR MORE DETAIL
16'-10½" SHLD
16'-8⅝" SHLD
12'-1⅜" SHLD
12'-0" LANE
12'-0" LANE
12'-0" LANE
12'-0" LANE
12'-0" LANE
12'-0" LANE
12'-0" LANE
12'-0" LANE
12'-0" SHLD
12'-0" SHLD
12'-0" SHLD

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GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL RETAINING WALL STATIONS AND OFFSETS ARE MEASURED ALONG USH 41 NB/SB OR EASTBOUND LOMBARDI AVENUE REFERENCE LINES.

LENGTH OF RETAINING WALL IS MEASURED ALONG THE FRONT FACE AT THE REFERENCE LINE.

OFFSETS ARE MEASURED TO THE FRONT FACE OF RETAINING WALL.

APPLY PROTECTIVE SURFACE TREATMENT TO THE EXPOSED SURFACE OF THE ANCHOR SLABS, AND TO THE INSIDE AND TOP FACES OF PARAPET.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

ALL BAR STEEL REINFORCEMENT IS TO BE EPOXY COATED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK OR FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK INDICATE THE SIZE OF BAR.

REINFORCING BARS SHALL BE TAGGED SO THAT THE STRUCTURE UNIT IN WHICH THEY ARE TO BE PLACED IS IDENTIFIABLE.

THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATIONS AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE.

THESE PLANS ARE FOR A WIRE FACED MECHANICALLY STABILIZED EARTH WALL WITH PRESTRESSED PRECAST CONCRETE FACING PANELS.

COORDINATE THE CONSTRUCTION OF WALL R-05-219 WITH THE NORTH ABUTMENTS OF B-05-632 AND B-05-633.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, AND SHOP DRAWINGS FOR THE RETAINING WALL, DEADMEN ANCHOR BLOCKS AND RODS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEMS "WALL WIRE FACED MECHANICALLY STABILIZED EARTH" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL".

THE COST OF FURNISHING AND PLACING THE FOOTING UNDER THE PRESTRESSED PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

THE COST OF FURNISHING AND PLACING THE CAST-IN-PLACE CONCRETE COPING IN UNIT B IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE ANCHOR SLAB, PARAPETS AND PILASTERS IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".

PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

OPTIONAL TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE FOOTING WITH A MINIMUM SPACING OF TWO PANEL JOINTS. FOOTING JOINTS SHOULD BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THRU FOOTING JOINTS.

DO NOT ALLOW CONCRETE OR FILL TO DROP OR ACCUMULATE IN CAVITY BETWEEN THE WIRE FACED WALL AND PRECAST CONCRETE WALL PANEL.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

DESIGN FOR RETAINING WALL TO PROVIDE FOR A FINISHED GRADE SLOPE BEHIND THE WALL AS SHOWN IN THESE PLANS AND THE ROADWAY CROSS SECTIONS.

PLAN DIMENSIONS, QUANTITIES AND REINFORCEMENT DETAILS ARE BASED ON A CONCRETE WALL PANEL THICKNESS OF 9½ INCHES. FOR PANEL THICKNESSES OTHER THAN 9½ INCHES, THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, REINFORCEMENT BAR DETAILS, AND QUANTITIES AND WILL BE RESPONSIBLE FOR ANY QUANTITY VARIATIONS.

TEMPORARY SHORING MAY BE LEFT IN PLACE. TOP OF SHORING MUST BE 3' BELOW FINISHED GRADE IF LEFT IN PLACE.

DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURES ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

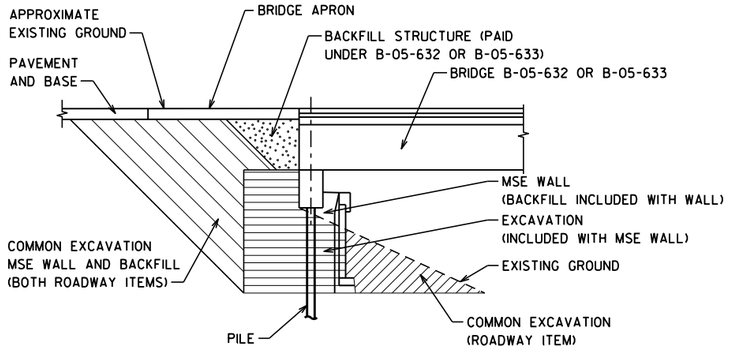
DRIVE PILING FOR PILASTER BEFORE THE MSE WALL IS CONSTRUCTED. CONTRACTOR MAY PROPOSE ALTERNATE SUPPORT SYSTEM FOR THE PILASTER.

AT THE ENDS OF WALL SEAL CAVITY BETWEEN WIRE FACE WALL AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE 1'-6" WIDE. INCIDENTAL TO BID ITEM PRESTRESSED PRECAST CONCRETE WALL PANEL.

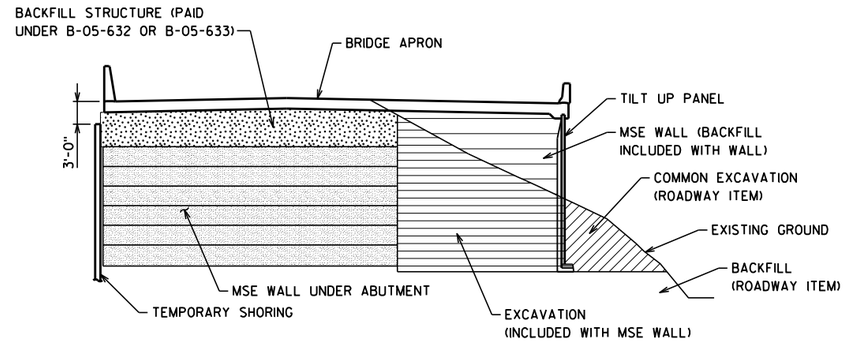
TOTAL ESTIMATED QUANTITIES

ALL BID ITEMS ARE CATEGORY 4210

ITEM NUMBER	BID ITEM	UNIT	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	52
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	76
505.0415	BAR STEEL REINFORCEMENT HS RETAINING WALLS	LB	310
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	7,760
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10
532.0700.S	WALL WIRE FACED MECAHNICALLY STABILIZED EARTH	SF	4,520
550.1120	PILING STEEL DELIVERED AND DRIVEN HP 12-INCH X 53 LB	LF	520
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	400
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	2,590
SPV.0165.501	STAINING CONCRETE	SF	3,350
SPV.0165.502	STAINING CONCRETE BRICK	SF	2,590
SPV.0165.503	ARCHITECTURAL SURFACE TREATMENT SPECIAL	SF	600
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	4,520
	NON-BID ITEMS		
	PREFORMED JOINT FILLER, 3/4-INCH		
	CORK FILLER, 1-INCH		
	EXPANDED POLYSTYRENE, 3/4-INCH, 1-INCH		



MSE WALL UNDER ABUTMENT (TYP)



MSE WALL UNDER BRIDGE APRON (TYP)

BENCH MARKS

NO.	DESCRIPTION	ELEV.
530	CHISELED "X" ON A FIRE HYDRANT BURY BOLT ON THE WEST SIDE OF HILLTOP RD. 155' NORTH OF THE INTERSECTION OF MORRIS AVE. & HILLTOP DR. 35' FEET WEST OF THE CENTERLINE OF HILLTOP DR.	644.33
530A	RAIL ROAD SPIKE IN LIGHT POLE #"142BB67" LOCATED IN THE SOUTHWEST QUADRANT FO PARK PLACE AND HILLTOP DR.	663.03
531	CHISELED "X" ON A FIRE HYDRANT BOLT MARKED "56" IN THE NORTHWEST QUADRANT OF BEECH TREE DR. & OAKWOOD DR. 30' NORTH OF THE CENTERLINE OF OAKWOOD DR. & 55' WEST OF THE CENTERLINE OF BEECH TREE DR.	647.23
554	CHISELED SQUARE ON 18" RCCP IN THE NORTH EAST QUADRANT OF LOMBARDI ACCESS RD. AND ARGONNE ST. 115' NORTH OF THE CENTERLINE OF LOMBARDI ACCESS RD & 85' EAST OF THE CENTERLINE OF ARGONNE ST.	637.74

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QUANTITIES AND GENERAL NOTES

SHEET 2 OF 14

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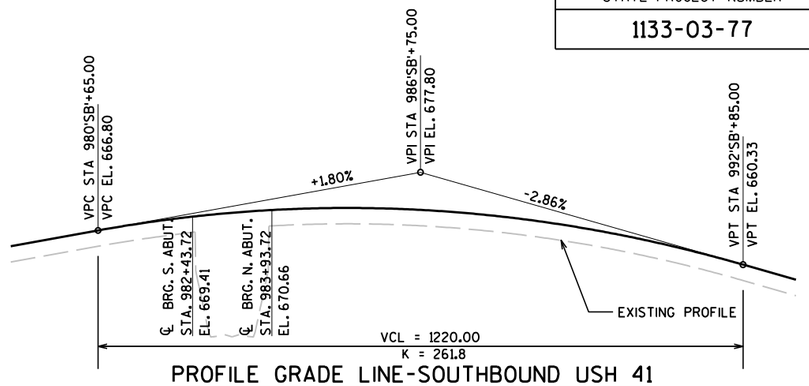
WALL GEOMETRY

WALL STATION	TOP OF WALL	FINISHED GROUND
UNIT A		
30+00.00	670.49	670.49
30+10.00	670.46	665.64
30+20.00	670.43	660.78
30+30.00	670.39	655.93
30+40.00	670.35	651.07
30+50.00	670.31	646.22
30+59.44	670.27	646.02
30+68.88	670.22	645.83
30+75.09	659.21	645.71
UNIT B		
30+75.09	659.21	645.71
30+79.63	659.21	645.69
30+89.63	659.21	645.65
30+99.63	659.21	645.60
31+09.63	659.21	645.56
31+19.63	659.21	645.51
31+29.63	659.21	645.47
31+39.63	659.21	645.43
31+49.63	659.21	645.38
31+59.63	659.21	645.34
31+69.63	659.21	645.29
31+79.63	659.21	645.26
31+89.63	659.21	645.23
31+99.63	659.21	645.20
32+09.63	659.21	645.17
32+19.63	659.21	645.14
32+29.63	659.21	645.11
32+34.55	659.21	645.10
UNIT C		
32+34.55	659.21	645.10
32+40.95	670.01	645.23
32+50.4	670.06	645.43
32+59.85	670.10	645.61
32+69.85	670.15	650.55
32+79.85	670.19	655.48
32+89.85	670.23	660.42
32+99.85	670.26	665.35
33+09.85	670.29	670.29

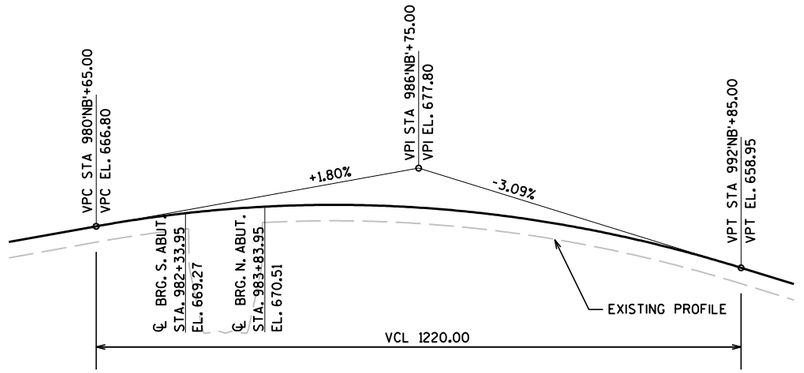
SOIL PARAMETERS

SOIL DESCRIPTION	BOTTOM ELEVATION (FEET)	UNIT WEIGHT (PCF)	UNDRAINED		DRAINED	
			COHESION (PSF)	FRICTION ANGLE (DEGREES)	COHESION (PSF)	FRICTION ANGLE (DEGREES)
BORING B-3						
LOOSE TO DENSE SAND	606.0	115	0	28	0	28
SILTY SAND	602.0	120	0	28	0	28
SILT TRACE GRAVEL	600.0	120	0	28	0	28
SILTY CLAY	597.0	130	1,500	0	100	28
SILTY CLAY	580.0	135	4,000	0	200	30
SANDY SILT TRACE GRAVEL	577.0	120	0	43	0	43
LIMESTONE	576.0	170	200,000	0	200,000	0
BORING B 633-G1						
FILL, LEAN CLAY WITH ORG	662.6	125	750	0	0	26
FILL, SAND WITH SILT	656.4	120	0	32	0	32
FILL, SILTY SAND	638.6	120	0	30	0	30
SILTY SAND	632.6	115	0	29	0	29
SILTY SAND	605.1	120	0	30	0	30
SILT	597.6	120	0	28	0	28
LEAN CLAY	591.6	135	4,000	0	200	30
LEAN CLAY	580.6	130	2,000	0	100	28
APPARENT BEDROCK	---[1]	170	200,000	0	200,000	0

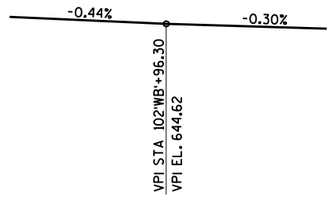
1. APPARENT TOP OF BEDROCK. NO CORE PERFORMED



PROFILE GRADE LINE-SOUTHBOUND USH 41



PROFILE GRADE LINE-NORTHBOUND USH 41

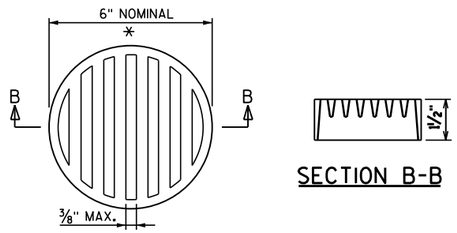


PROFILE GRADE LINE-WESTBOUND LOMBARDI AVENUE

SAFETY FACTOR FOR MSE WALLS

WALL HEIGHT [1] (FEET)	RETAINED WALL HEIGHT [3] (FEET)	REINFORCED LENGTH (FEET)	MINIMUM REINFORCEMENT RATIO	CONDITION	CALCULATED SAFETY FACTOR	MINIMUM REQUIRED SAFETY FACTOR
23.5	29	19.0	0.81	GLOBAL [2]	1.4	1.3
				OVERTURNING	3.2	2.0
				SLIDING	1.7	1.5
				BEARING	2.2	2.0
				ALLOWABLE BEARING CAPACITY = 5,000 PSF		

1. WALL HEIGHT INCLUDES 3.5 FOOT MINIMUM EMBEDMENT DEPTH FROM FINISHED GROUND TO BOTTOM OF SOIL REINFORCEMENT ZONE.
2. CRITICAL CONDITION CASE
3. THE RETAINED HEIGHT IS EQUAL TO THE WALL HEIGHT PLUS THE THICKNESS OF UNREINFORCED FILL.
4. THE LENGTH OF REINFORCING STRIPS IS THE MINIMUM REQUIRED LENGTH FOR THE WALL HEIGHT AT THE EVALUATED SECTION.
5. FINAL DESIGN FOR INTERNAL STABILITY AND EXTERNAL SLIDING AND OVERTURNING IS THE RESPONSIBILITY OF THE CONTRACTOR'S WALL DESIGNER AND MAY BE DIFFERENT FROM VALUES IN THE TABLE.
6. THE NORTH EAST REGION SOILS ENGINEER SHOULD BE PRESENT TO EVALUATE THE SUBSURFACE AT THE TIME OF CONSTRUCTION.
7. THE WALL HAS BEEN DESIGNED FOR TRAFFIC LOADING ONLY. IF DURING CONSTRUCTION HEAVY EQUIPMENT IS OPERATING IN CLOSE PROXIMITY TO THE WALL, OR IF MATERIAL IS STOCKPILED NEAR THE WALL, THE SAFETY FACTORS FOR THESE WALLS WILL SIGNIFICANTLY DECREASE.



SECTION B-B

RODENT SCREEN DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH SHEET METAL SCREWS.

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STRUCTURES DESIGN SECTION

STRUCTURE R-05-219

DRAWN BY BRE | PLANS CK'D. KRO

DESIGN DATA & WALL DETAILS

SHEET 3 OF 14

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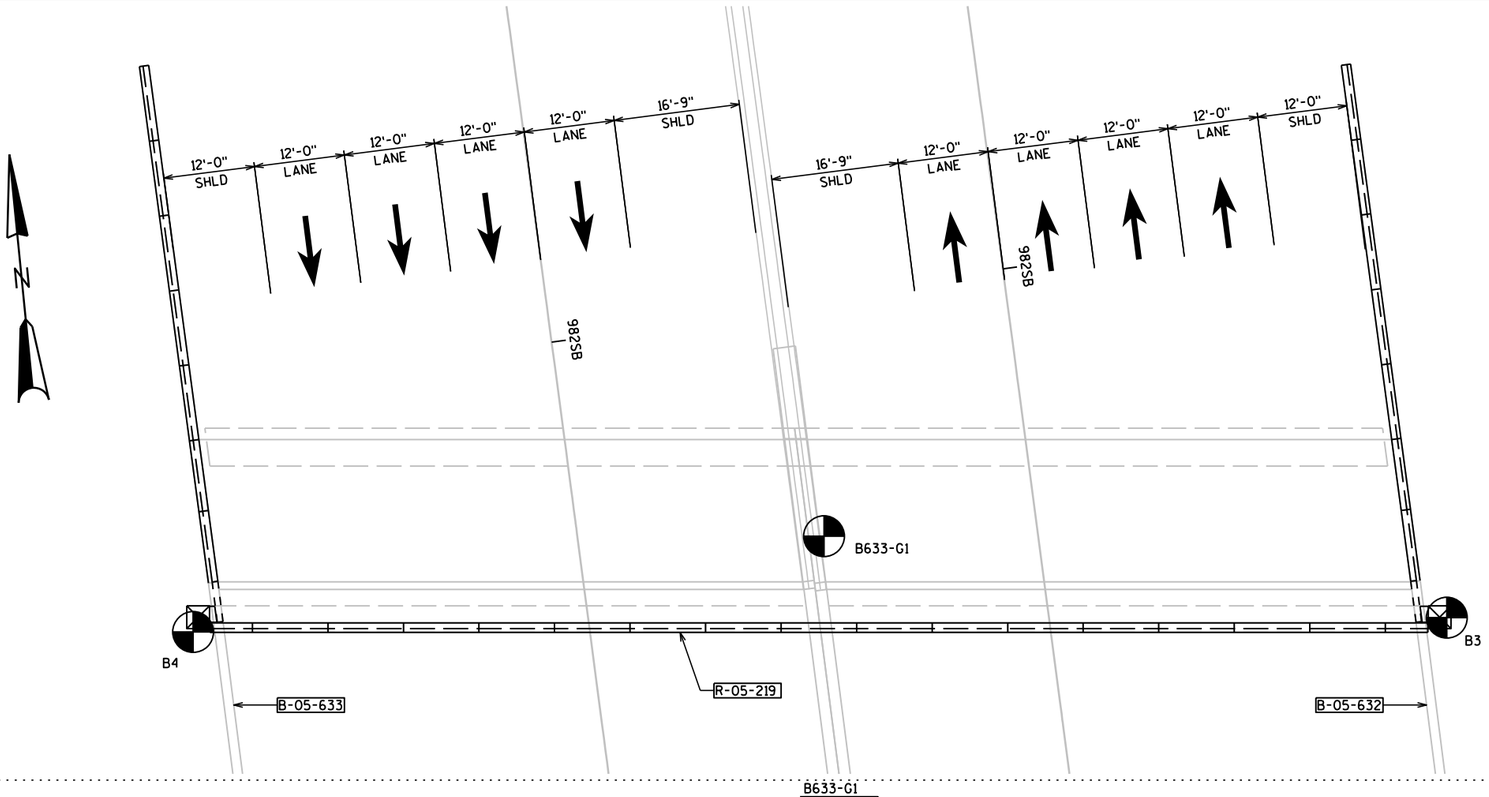
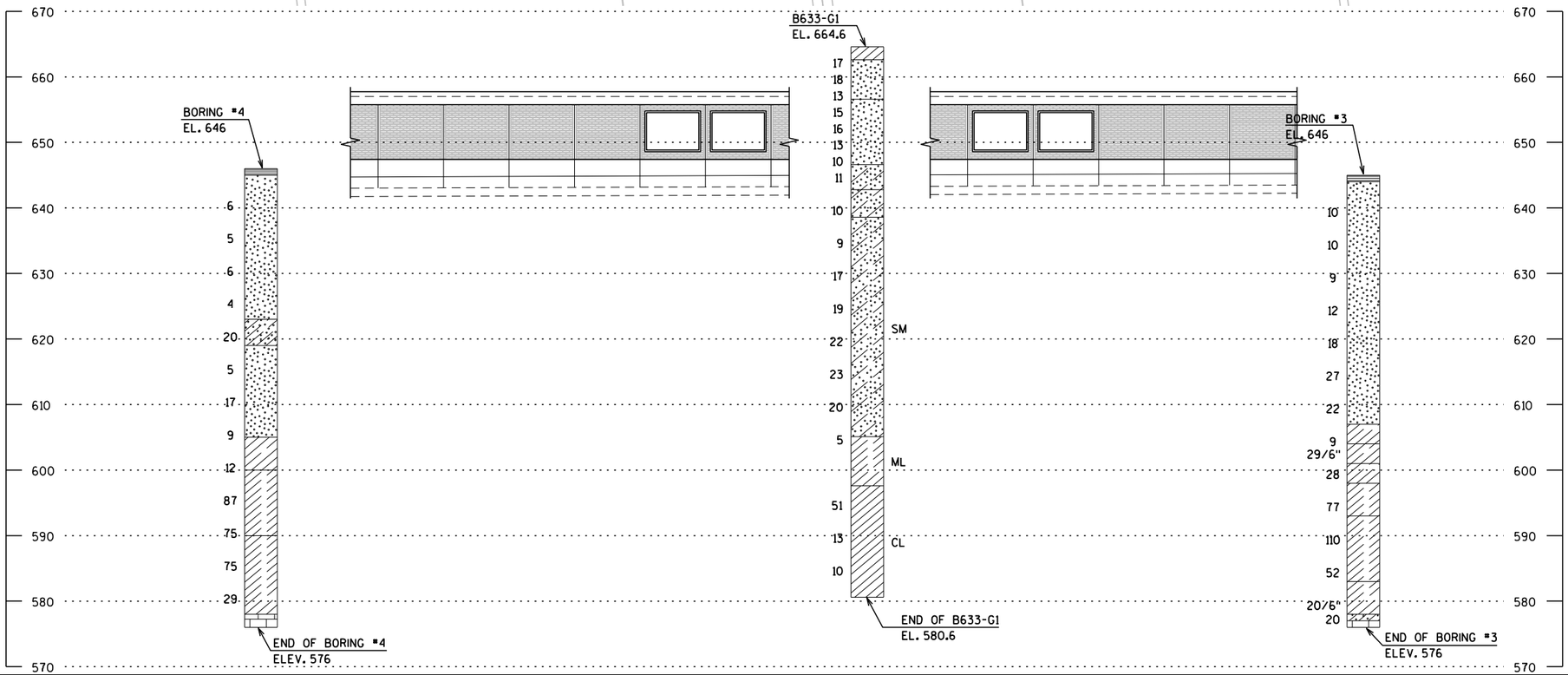
STATE PROJECT NUMBER

1103-03-77





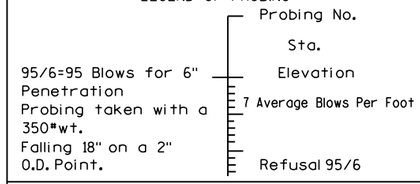
ABBREVIATIONS

F — Fine M — Medium C — Coarse
Ws — Weathered So — Sound

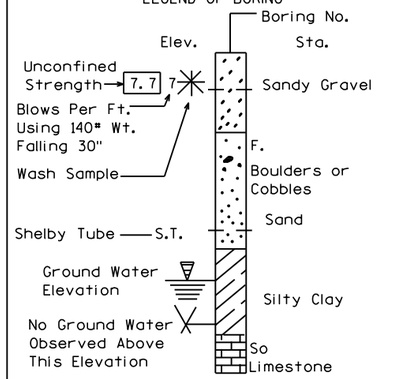
MATERIAL SYMBOLS

Topsoil, Silt, Sandstone
Sand, Peat, Limestone
Gravel, Clay, Igneous Rock

LEGEND OF PROBING



LEGEND OF BORING



Unless otherwise specified, the blows per foot at the locations indicated are based on driving a O.D.x1.4" I.D. split spoon sampler with a 140# hammer having a free fall of 30". The blow count is taken in undisturbed soil immediately below a cased or open hole eliminating side friction on the drive pipe.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

To obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing. The data presented herein represents the findings of the subsurface explorations made. However, because the depths investigated are limited and the area of the borings and/or soundings is very small in relation to the entire area, the Division of Highways does not warrant conditions below the depths investigated or that the classification of material encountered in these investigations is necessarily typical of the entire site.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE R-05-219

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SUBSURFACE EXPLORATION

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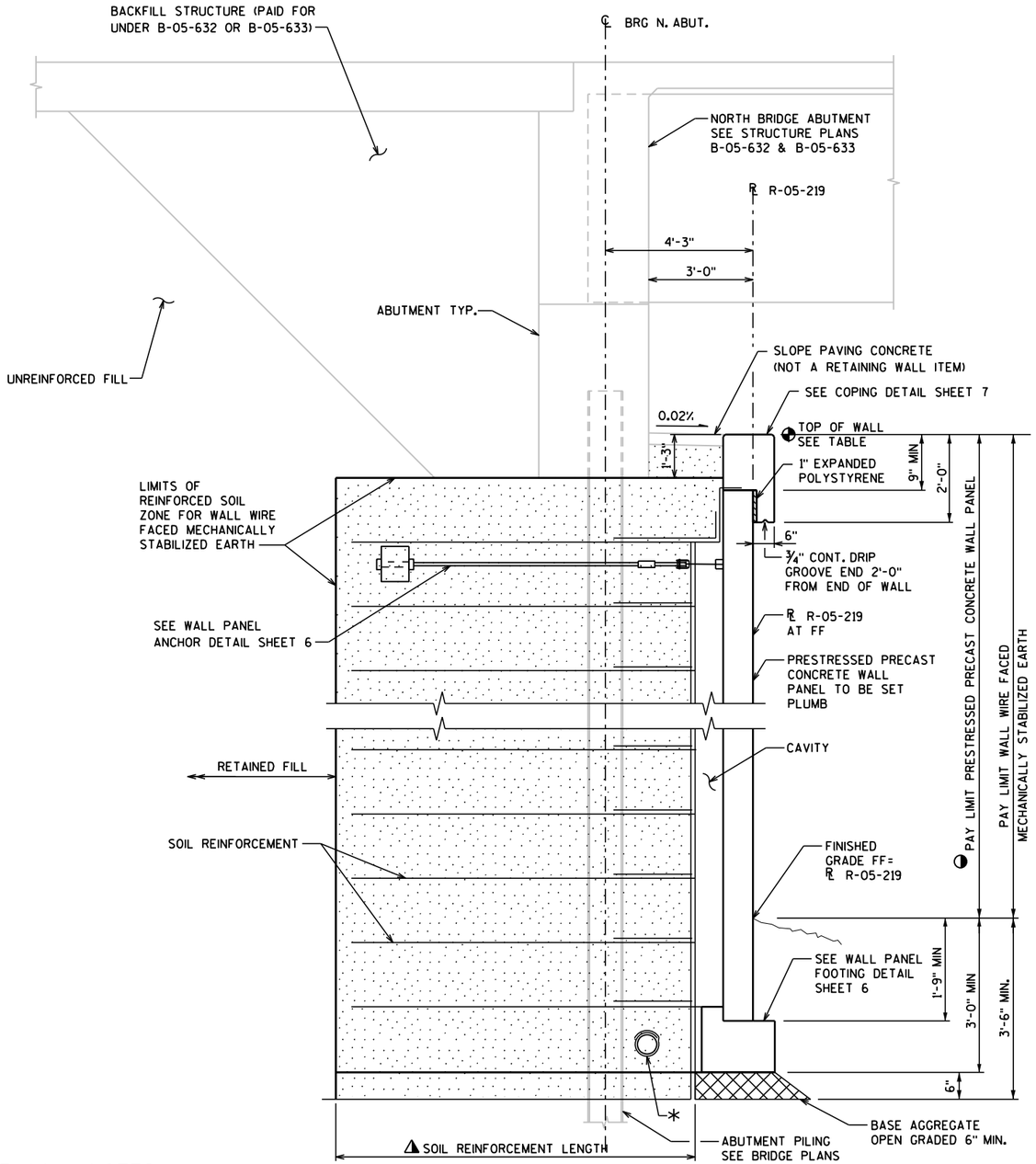
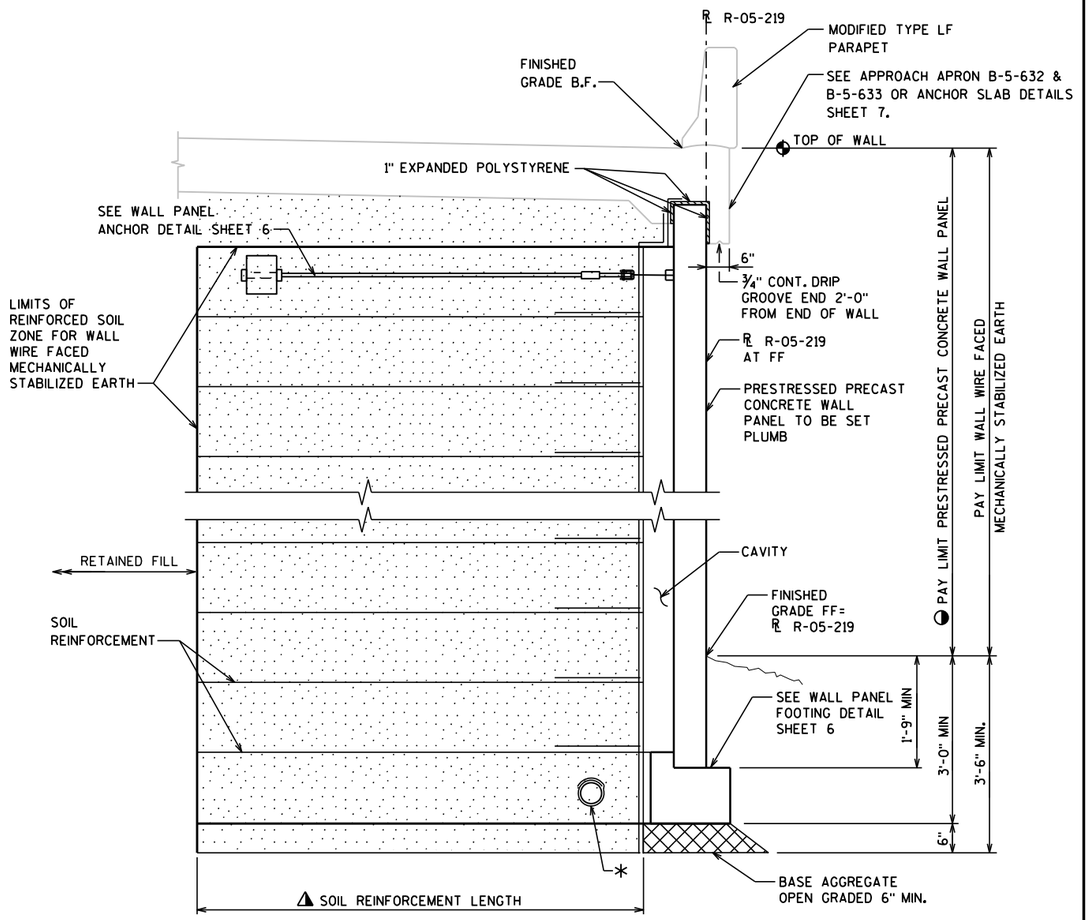


TYPICAL WALL SECTION AT ABUTMENT (UNIT B)



TYPICAL WALL SECTION AT UNIT A & C

MSE WALL NOTES

INSTALL BRIDGE PILING BEFORE CONSTRUCTING MSE WALL. INSTALLATION OF BRIDGE PILING IS NOT A RETAINING WALL ITEM.

FOR ROADWAY DETAILS AT THE FACE OF THE WALL, SEE ROADWAY TYPICAL SECTIONS.

LEGEND

◑ THE PLAN QUANTITY FOR THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL" IS BASED ON A WALL HEIGHT MEASURED FROM THE FINISHED GRADE AT THE FRONT FACE OF THE WALL TO THE TOP OF THE WALL AS SHOWN. THE TOP OF THE FOOTING IS ASSUMED TO BE A CONSTANT 1'-9" BELOW FINISHED GRADE.

⚠ PER WISDOT, MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS MUST BE 70% THE TOTALWALL HEIGHT (EXPOSED HEIGHT PLUS EMBEDMENT DEPTH) OR 8.0 FEET, WHICHEVER IS GREATER. SOIL REINFORCEMENT MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS. ACTUAL CALCULATED LENGTHS OF REINFORCING STRIPS WILL NEED TO EXCEED THESE MINIMUM FACTORS OF SAFETY FOR VARIOUS MSE PARAMETERS. SEE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.

* PIPE UNDERDRAIN WRAPPED 6-INCH, SLOPE 0.5% MIN. TO SUITABLE DRAINAGE, OR TIE INTO OTHER CLOSED DRAINAGE SYSTEM. ATTACH RODENT SHIELDS AT THE OUTLET ENDS OF PIPE UNDERDRAIN. SEE DETAIL.

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STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE R-05-219

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WALL SECTIONS

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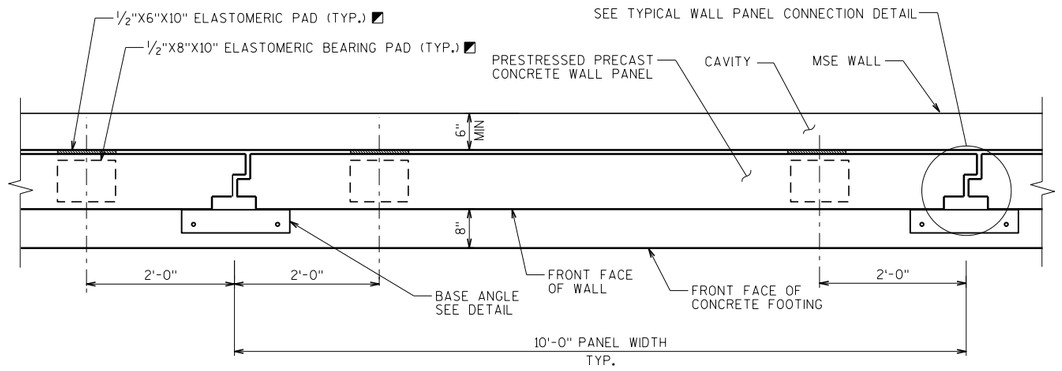
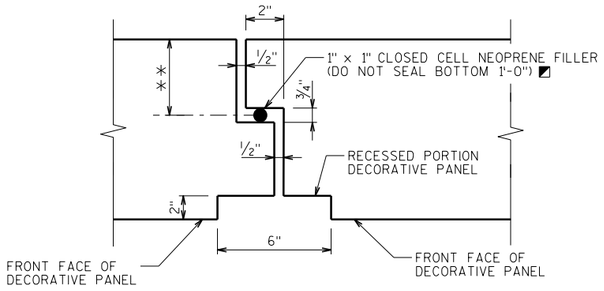
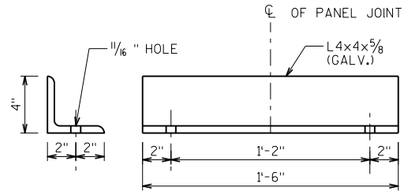


TYPICAL WALL PANEL CONNECTION



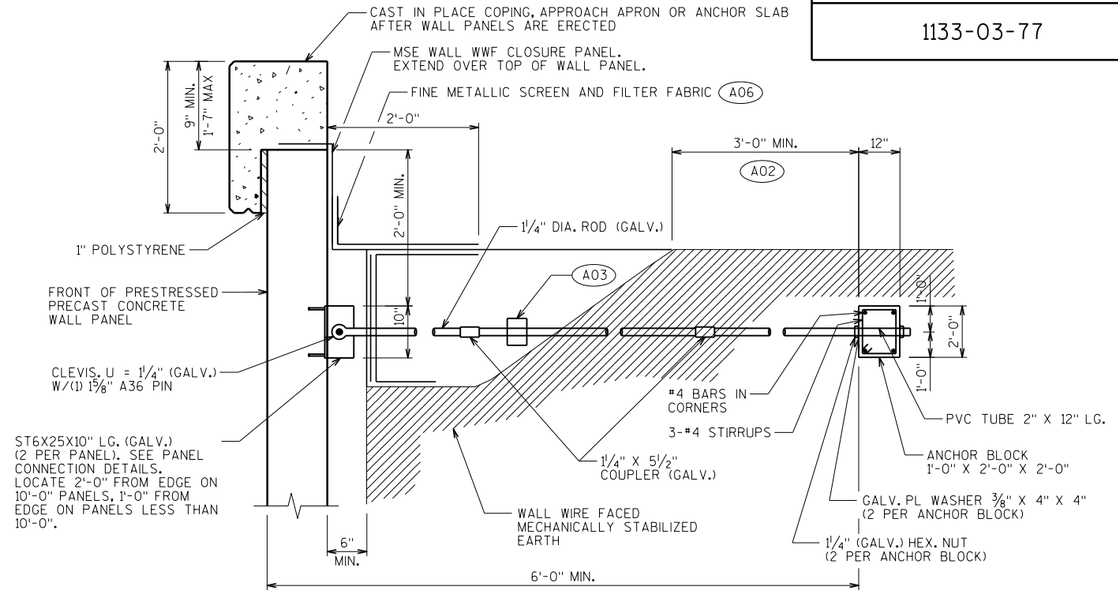
TYPICAL WALL PANEL CONNECTION

** 4" FOR 9½" PANEL
3" FOR 7½" PANEL



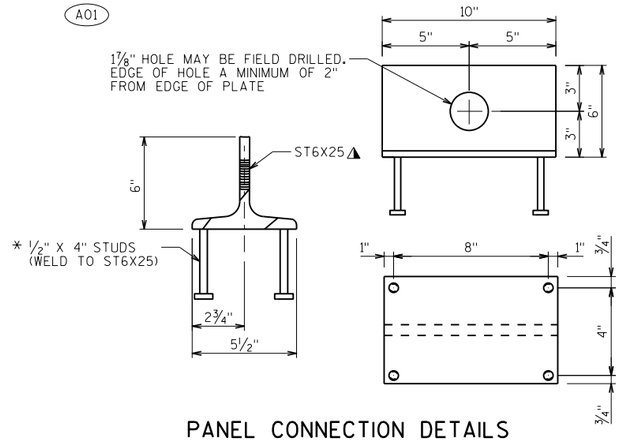
BASE ANGLE DETAIL

(1 AT EACH PANEL JOINT)



WALL PANEL ANCHOR DETAIL

(A01)



PANEL CONNECTION DETAILS

(2 PER PANEL)

◭ S12X50 (GALV.) CUT IN ½ TO FORM "T" SECTION. BF = 5.477" TW = 0.687".

* AS AN ALTERNATE, ½" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.

ST6X25 MAY BE WELDED TO ¾" THICK PLATE WITH (4) ½" X 4" STUDS ANCHORED IN PRECAST PANEL. RESTORE ZINC COATING AROUND ANY WELDED AREAS. SUBMIT DETAILS FOR APPROVAL BY ENGINEER.

LEGEND

(A01) WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1¼" DIA. ANCHOR ROD, CLEVIS, AND OTHER PANEL CONNECTION COMPONENTS. DESIGN, DETAILING, AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL." INSTALLATION OF THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH."

(A02) DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION. ROD MIN. 2'-0" BELOW FINISH GRADE.

(A03) OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼" DIA. BAR)

(A04) BASE AGGREGATE OPEN GRADED, 6" MIN. INCIDENTAL TO BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

(A05) MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE PRECAST PANELS.

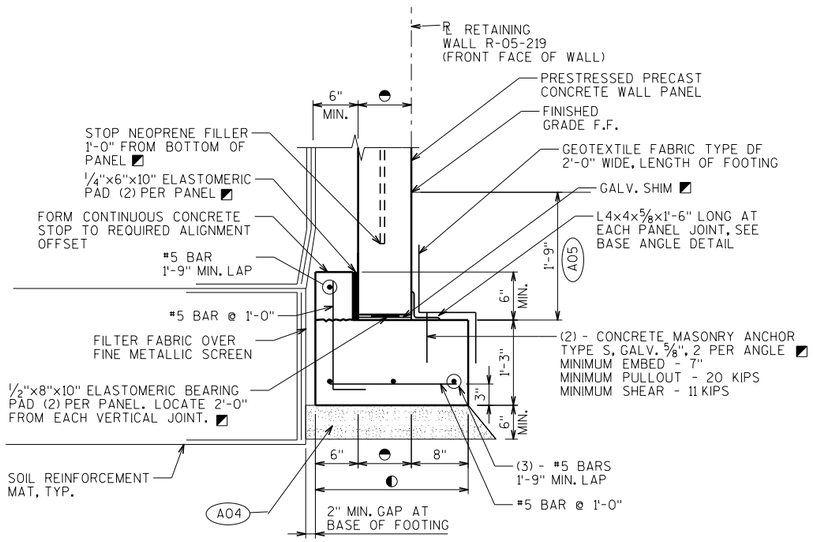
(A06) ALTERNATE METHODS OF SEALING OFF THE 6" VOID IN FRONT OF THE MSE WALL MAY BE SUBMITTED TO WISDOT FOR CONSIDERATION.

◩ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

NOTES

AN ALTERNATE WALL PANEL ANCHOR AND PANEL CONSTRUCTION SYSTEM MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER.

TILT UP PANEL ANCHOR SYSTEM MAY BE TRENCHED IN IF THE GEOMETRY OF THE ANCHOR SYSTEM LOCATION ALLOWS.



WALL PANEL FOOTING DETAIL

CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

◓ = 7½" OR 9½"

◐ FOOTING DIMENSION EQUALS PANEL THICKNESS PLUS 1'-2"

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STRUCTURES DESIGN SECTION

STRUCTURE R-05-219

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WALL DETAILS

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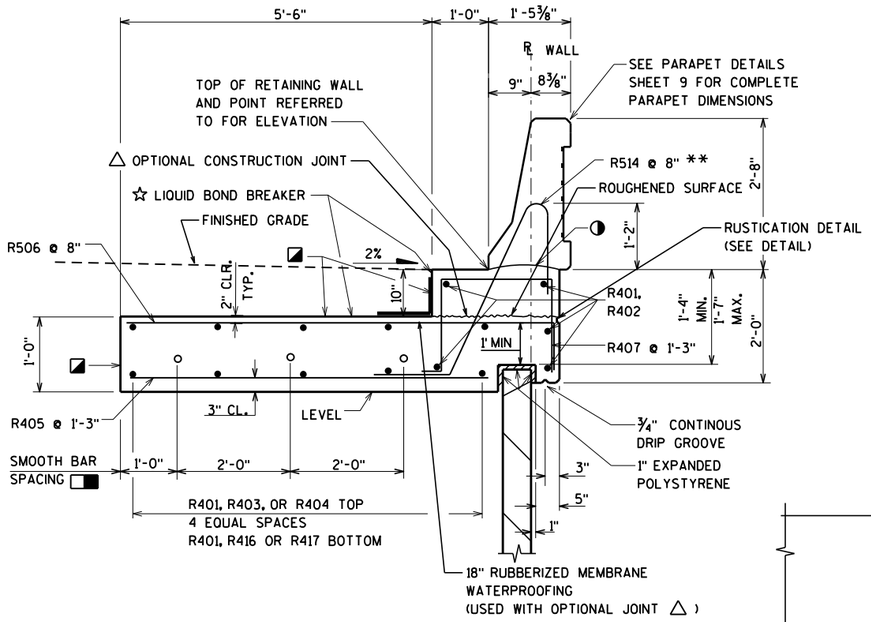
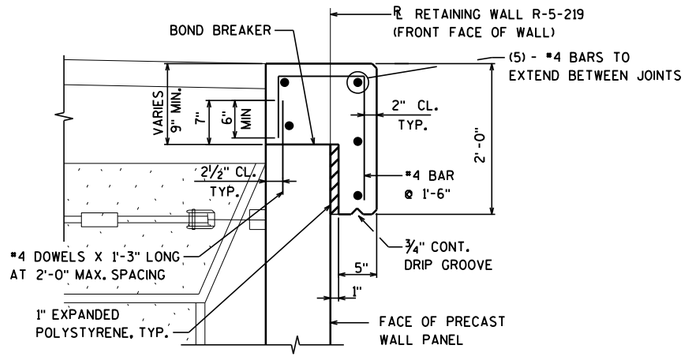
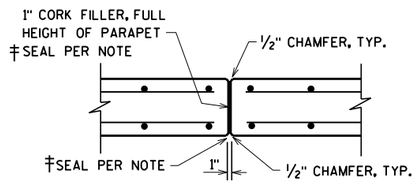


SECTION THRU ANCHOR SLAB UNIT A & C

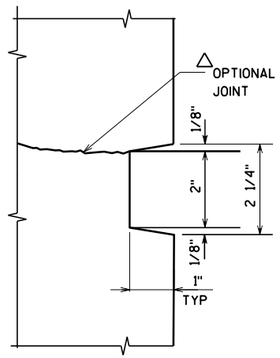


COPING DETAIL AT ABUTMENT (UNIT B)

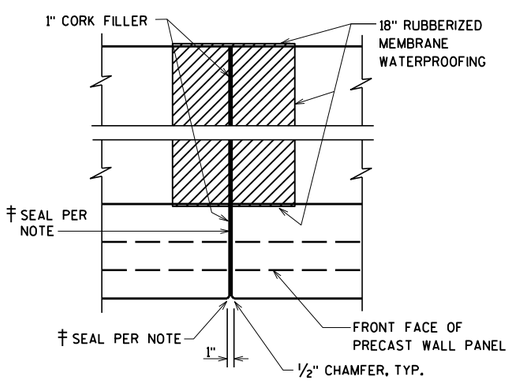
CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"



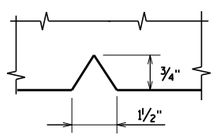
⊛ PARAPET EXPANSION JOINT DETAIL



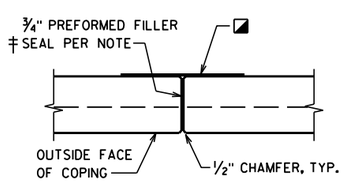
RUSTICATION DETAIL



⊛ ANCHOR SLAB EXPANSION JOINT DETAIL



¾" DRIP GROOVE DETAIL



⊛ COPING EXPANSION JOINT

NOTES:

◑ HORIZ. CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

◨ (3) -¾" ϕ SMOOTH EPOXY COATED DOWEL BARS, 1'-6" LONG, AT EXPANSION JOINT, EMBED 9", USE APPROVED DEBONDER ON ½ OF BAR LENGTH, COST INCLUDED IN "CONCRETE MASONRY RETAINING WALLS".

◪ 18" RUBBERIZED MEMBRANE WATERPROOFING - SEAL ALL HORIZONTAL & VERTICAL JOINTS IN ANCHOR SLAB.

CONCRETE QUANTITY BASED ON 5" EMBEDMENT OF WALL PANEL IN ANCHOR SLAB.

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING COLOR TO MATCH STAIN OF NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

⊛ EXPANSION JOINTS TO BE SPACED AT 30'. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT, EXCEPT FOR DOWEL BARS IN ANCHOR SLAB. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB OR COPING.

△ OPTIONAL CONSTRUCTION JOINT MAY BE USED WITH THE CONCURRENCE OF THE ENGINEER. RUBBERIZED MEMBRANE WATERPROOFING REQUIRED FOR THE OPTIONAL JOINT IS INCIDENTAL TO CONCRETE MASONRY RETAINING WALLS.

** USE R512 AND R513 AT PARAPET END TRANSITION SEE SHEET 9

☆ APPLY TO ALL HORIZONTAL AND VERTICAL FACES WHERE CONCRETE PAVEMENT CONTACTS ANCHOR SLAB.

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-219

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ANCHOR SLAB AND COPING

SHEET 7 OF 14

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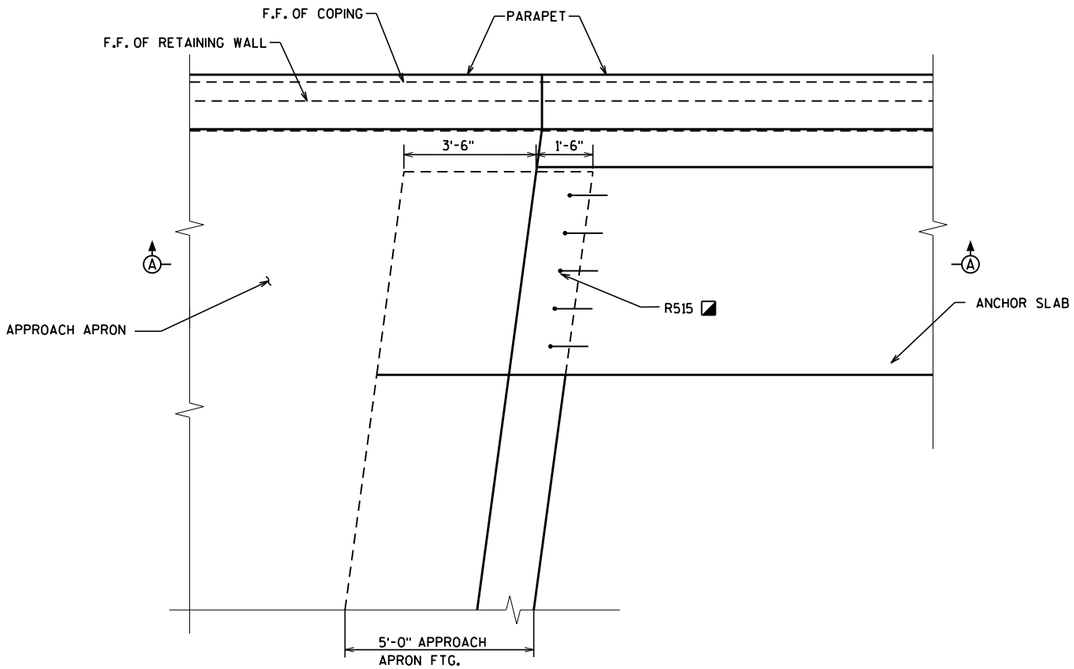
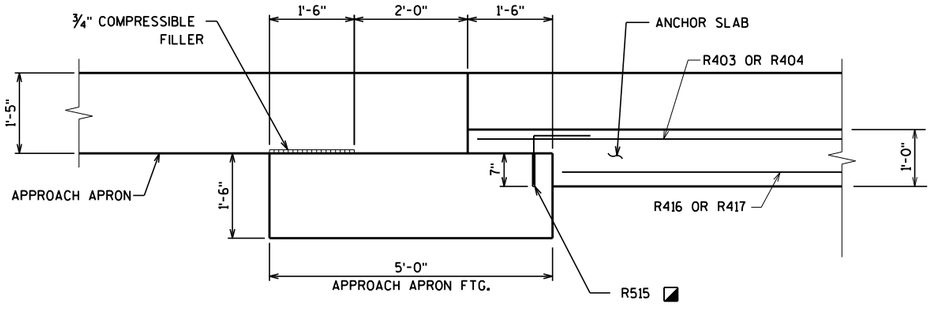
FILE NAME : F:±TR±JOBS±E1863B08±Sheets±Retaining Walls±R-05-219±R-05-219 07 anchor slab.dgn PLOT BY : epleyb PLOT DATE: 4/1/2013 11:59:00 AM

STATE PROJECT NUMBER
1133-03-77

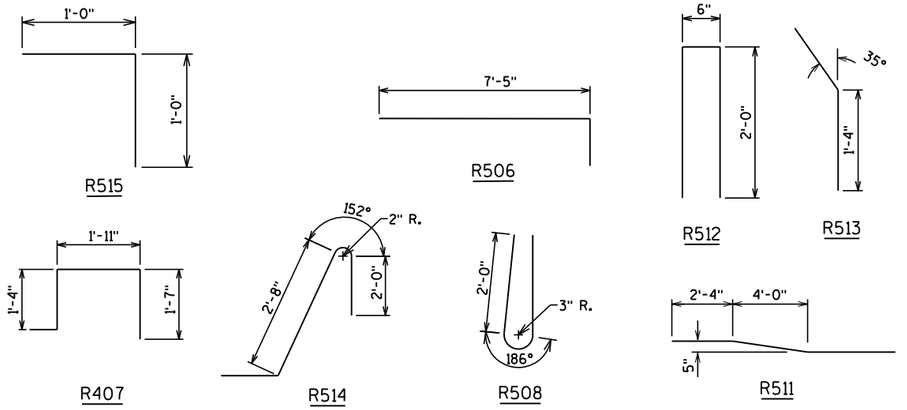


PLAN OF ANCHOR SLAB AT APPROACH APRON

(UNIT A SHOWN; UNIT C SIMILAR)



SECTION A-A



BAR BEND DIAGRAMS

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	SERIES	LOCATION
R401	X	30	29'-8"			ANCHOR SLAB LONGITUDINAL - 30' SECTIONS
R402	X	20	19'-7"			ANCHOR SLAB LONGITUDINAL - 20' SECTIONS
R403	X	5	20'-1"		Δ	ANCHOR SLAB LONGITUDINAL - 20' SECTION UNIT A TOP
R404	X	5	19'-2"		Δ	ANCHOR SLAB LONGITUDINAL - 20' SECTION UNIT C TOP
R405	X	84	6'-0"			ANCHOR SLAB - BOTTOM TRANSVERSE
R506	X	154	8'-3"	X		ANCHOR SLAB - TOP TRANSVERSE
R407	X	84	5'-3"	X		ANCHOR SLAB - TRANSVERSE, VERTICAL
R508	X	160	4'-10"	X		PARAPET - VERTICAL
R509	X	8	29'-8"			PARAPET HORIZONTAL 30' SECTIONS
R510	X	10	19'-8"			PARAPET HORIZONTAL 20' SECTIONS
R511	X	2	29'-8"	X		PARAPET HORIZONTAL 30' SECTIONS AT END
R512	X	28	4'-3"	X		PARAPET HORIZONTAL 30' SECTIONS AT END
R513	X	16	2'-4"	X		PARAPET HORIZONTAL 30' SECTIONS AT END
R514	X	132	6'-2"	X		ANCHOR SLAB & PARAPET - VERTICAL
◪ R515	X	10	1'-11"	X		ANCHOR SLAB DOWEL AT APPROACH APRON
R416	X	5	18'-7"		Δ	ANCHOR SLAB LONGITUDINAL - 20' SECTION UNIT A BOTTOM
R417	X	5	17'-8"		Δ	ANCHOR SLAB LONGITUDINAL - 20' SECTION UNIT C BOTTOM

BAR SERIES

BAR NO.	NO. REQ'D.	LENGTH
R402	1 SERIES OF 5	19'-8" TO 20'-6"
R403	1 SERIES OF 5	18'-9" TO 19'-7"
R416	1 SERIES OF 5	18'-2" TO 19'-0"
R417	1 SERIES OF 5	17'-3 TO 18'-1"

◪ CONCRETE MASONRY ANCHORS, TYPE S
NO. 5 BAR HAVING A MAXIMUM PULLOUT
CAPACITY OF 20 KIPS. EMBED 7" IN CONCRETE.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-219

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ANCHOR SLAB DETAILS

SHEET 8 OF 14

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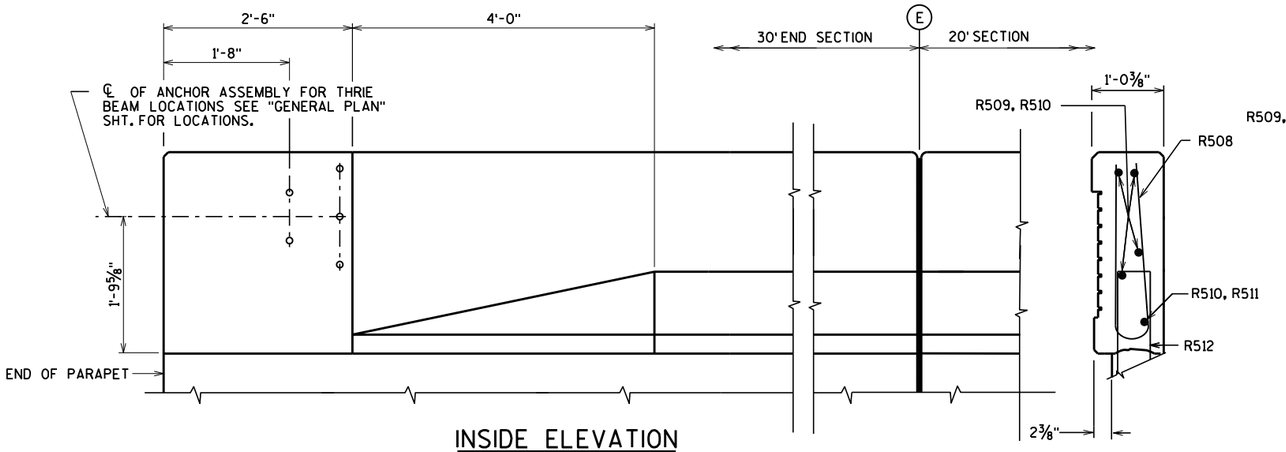
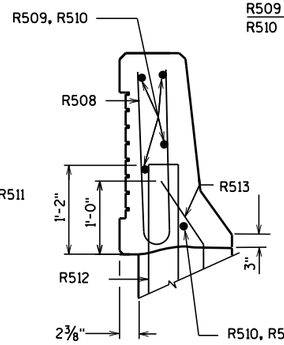
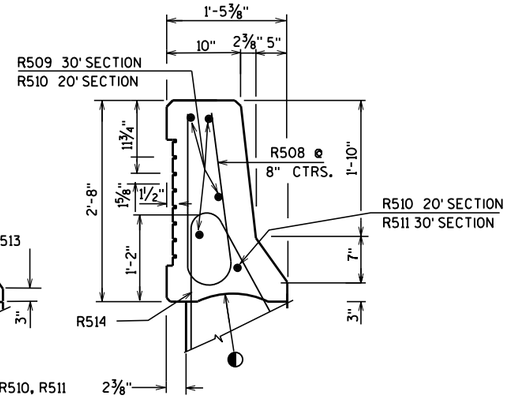


INSIDE ELEVATION

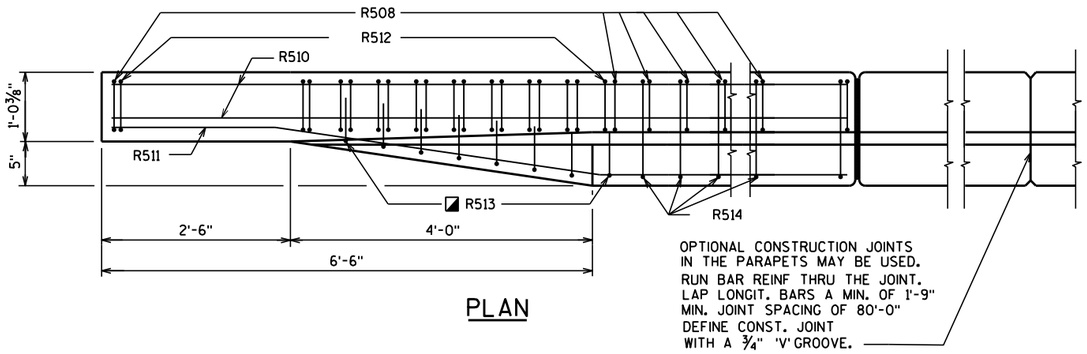
SECTION A



SECTION B

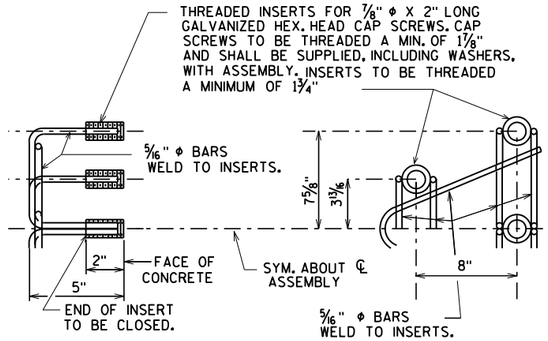


SECTION C



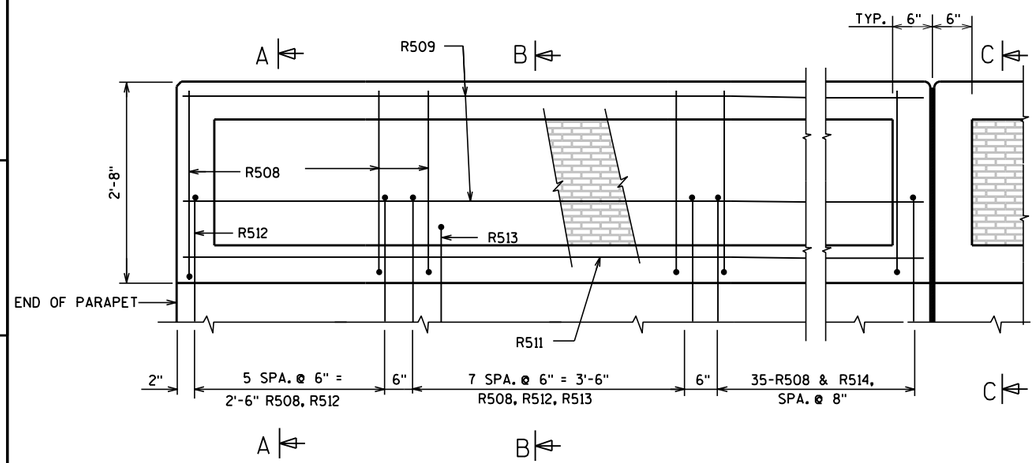
PLAN

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9" MIN. JOINT SPACING OF 80'-0" DEFINE CONST. JOINT WITH A ¾" 'V' GROOVE.

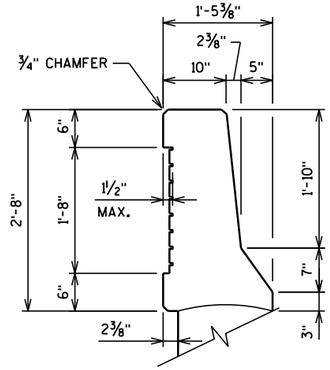


DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX. HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.



OUTSIDE ELEVATION



SECTION THRU PARAPET

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ R513 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R513 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

Ⓔ EXPANSION JOINT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-219

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MODIFIED SLOPED FACE PARAPET LF

SHEET 9 OF 14

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STATE PROJECT NUMBER
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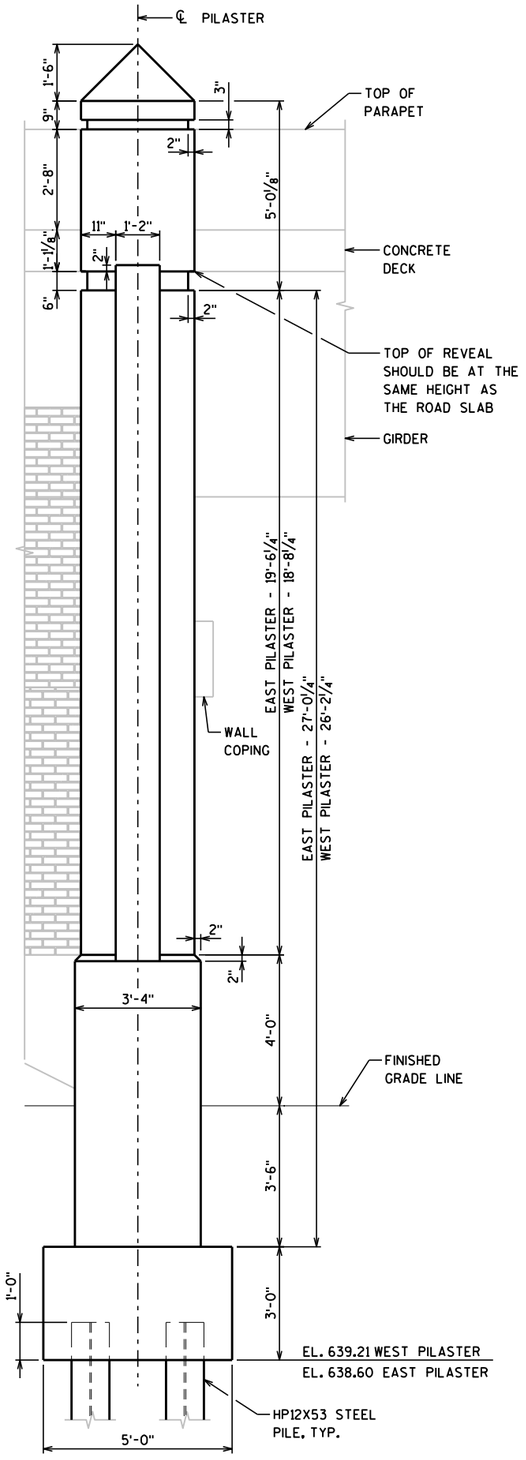
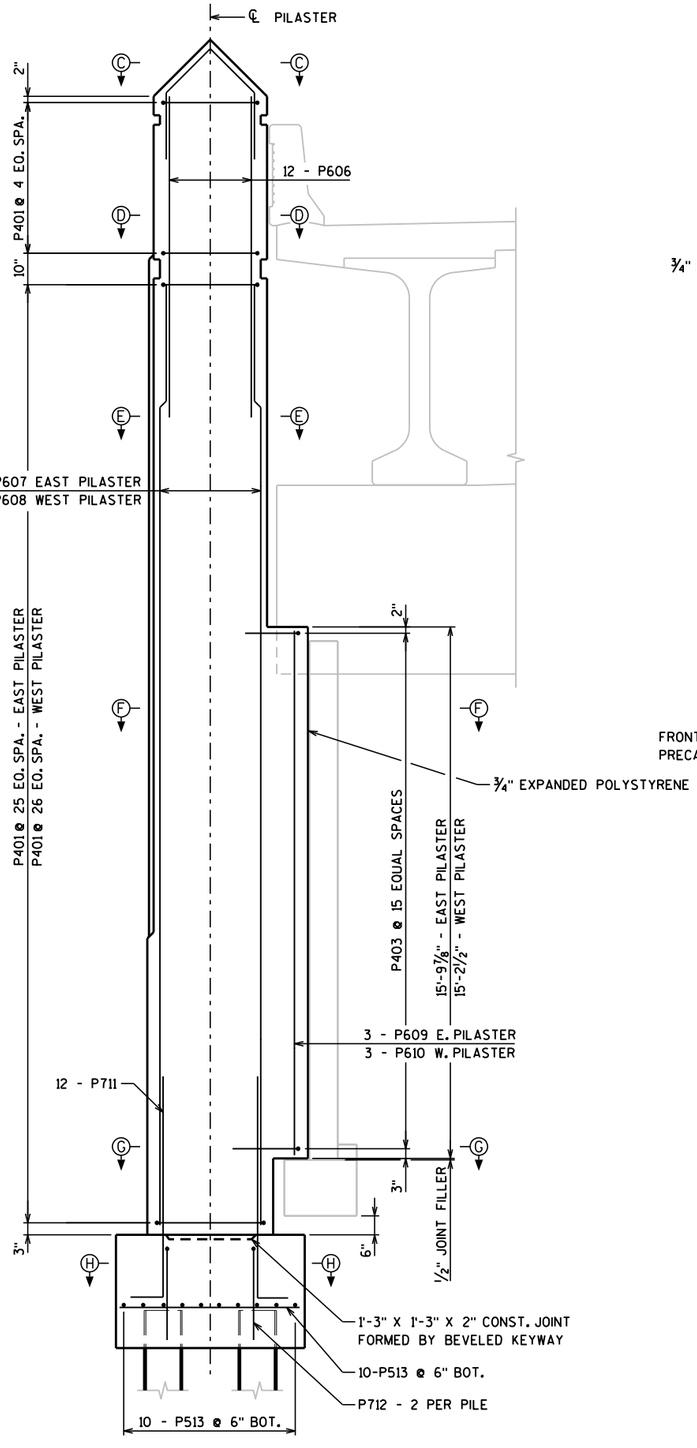


SECTION A-A



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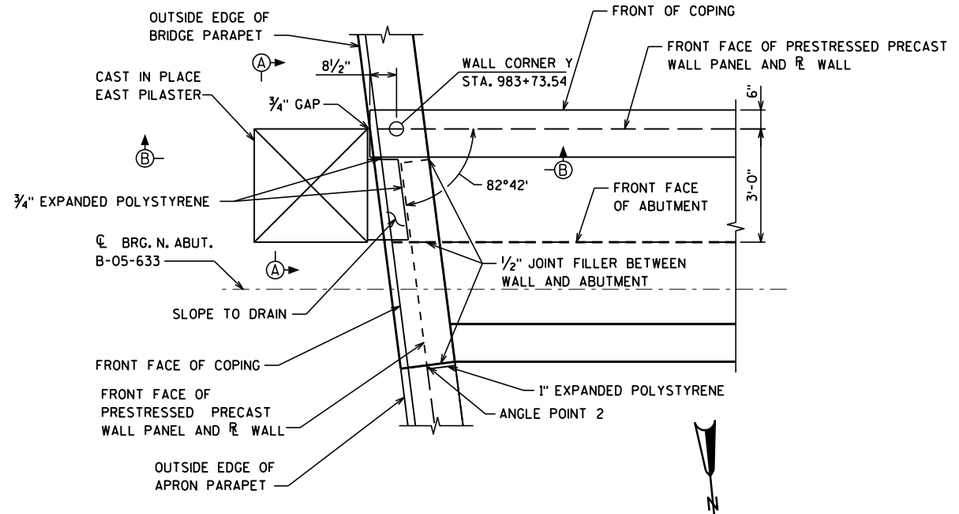
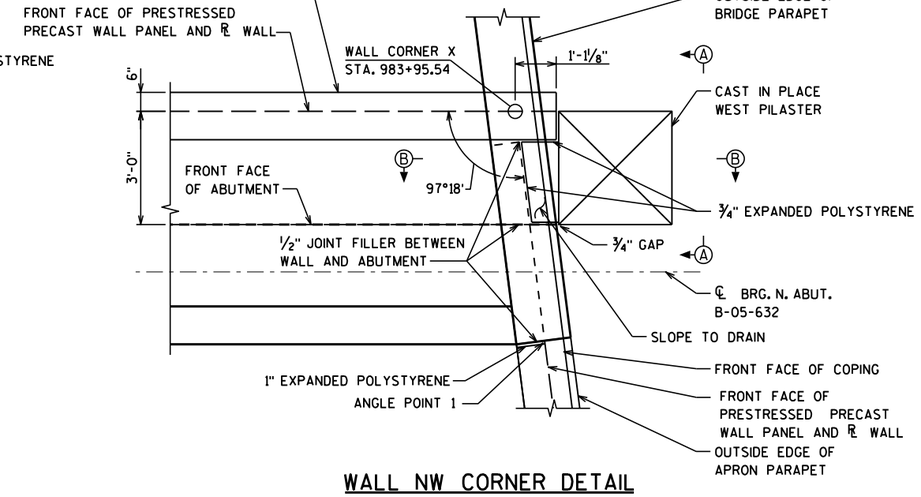


WALL NE CORNER DETAIL



WALL NW CORNER DETAIL

NOTES:

SEE SHEET 8 FOR SECTIONS THRU PILASTER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-219

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PILASTER DETAILS

SHEET 10 OF 14

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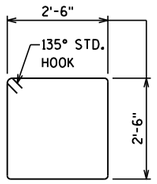
STATE PROJECT NUMBER
1133-03-77

BILL OF BARS

	BAR MARK	COAT	NO. REQ'D. WEST	NO. REQ'D. EAST	LENGTH	BENT	LOCATION
	P401	X	31	32	10'-6"	X	PILASTER STIRRUPS
	P403	X	16	16	5'-9"	X	PILASTER STIRRUPS
	P404	X	2	2	8'-0"	X	PILASTER TOP
	P405	X	4	4	3'-7"	X	PILASTER TOP
	P606	X	12	12	8'-6"		PILASTER TOP, VERTICAL
	P607	X		12	26'-7"		EAST PILASTER VERTICAL
	P608	X	12		25'-9"		WEST PILASTER VERTICAL
	P609	X		3	15'-5"		EAST PILASTER WING VERTICAL
	P610	X	3		14'-9"		WEST PILASTER WING VERTICAL
	P711	X	12	12	7'-1"	X	PILASTER FOOTING DOWELS
*	P712		8	8	3'-6"	X	BAR WELDED TO PILE
	P513		20	20	4'-8"		PILASTER FOOTING BOTTOM MAT



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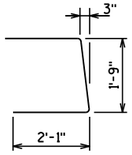

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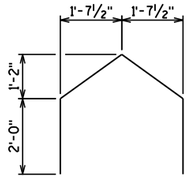

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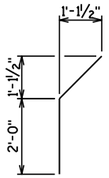

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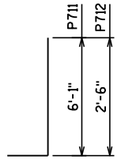
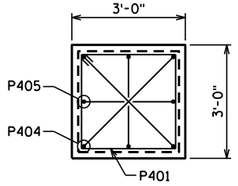
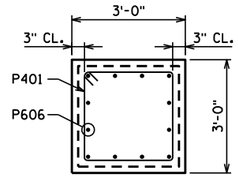


P711, P712



SECTION C-C



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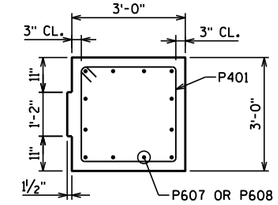

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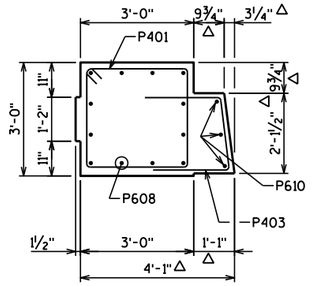
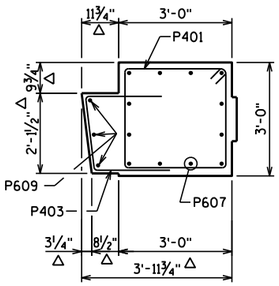
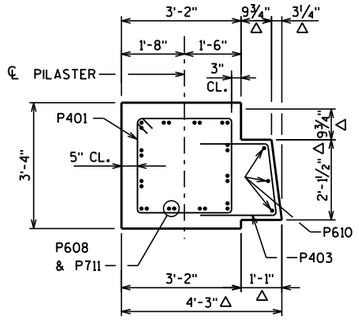


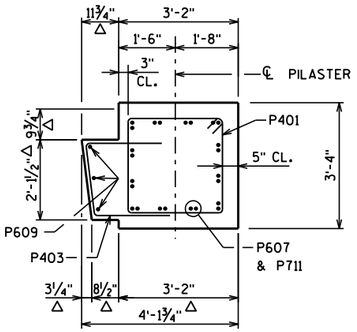
SECTION F-F
WEST PILASTER



SECTION F-F
EAST PILASTER

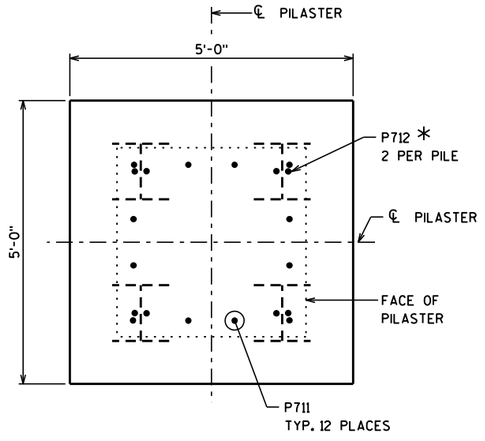


SECTION G-G
WEST PILASTER

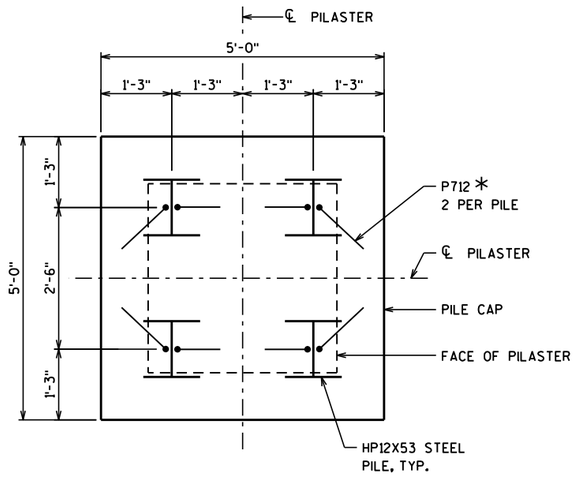


SECTION G-G
EAST PILASTER

△ DIMENSIONS GIVEN ASSUME 9" THICK TILT UP WALL PANELS. DIMENSIONS SHALL BE ADJUSTED IF OTHER THICKNESS IS USED.

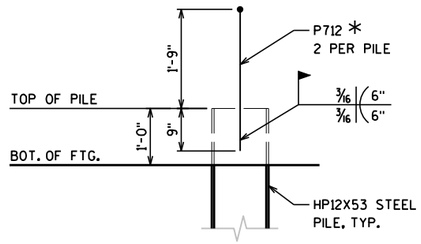


SECTION H-H



PILASTER FOOTING PLAN

* REINFORCEMENT WELDED TO PILE SHALL CONFORM TO ASTM A706



PILE HEAD DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-219

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PILASTER DETAILS

SHEET 11 OF 14

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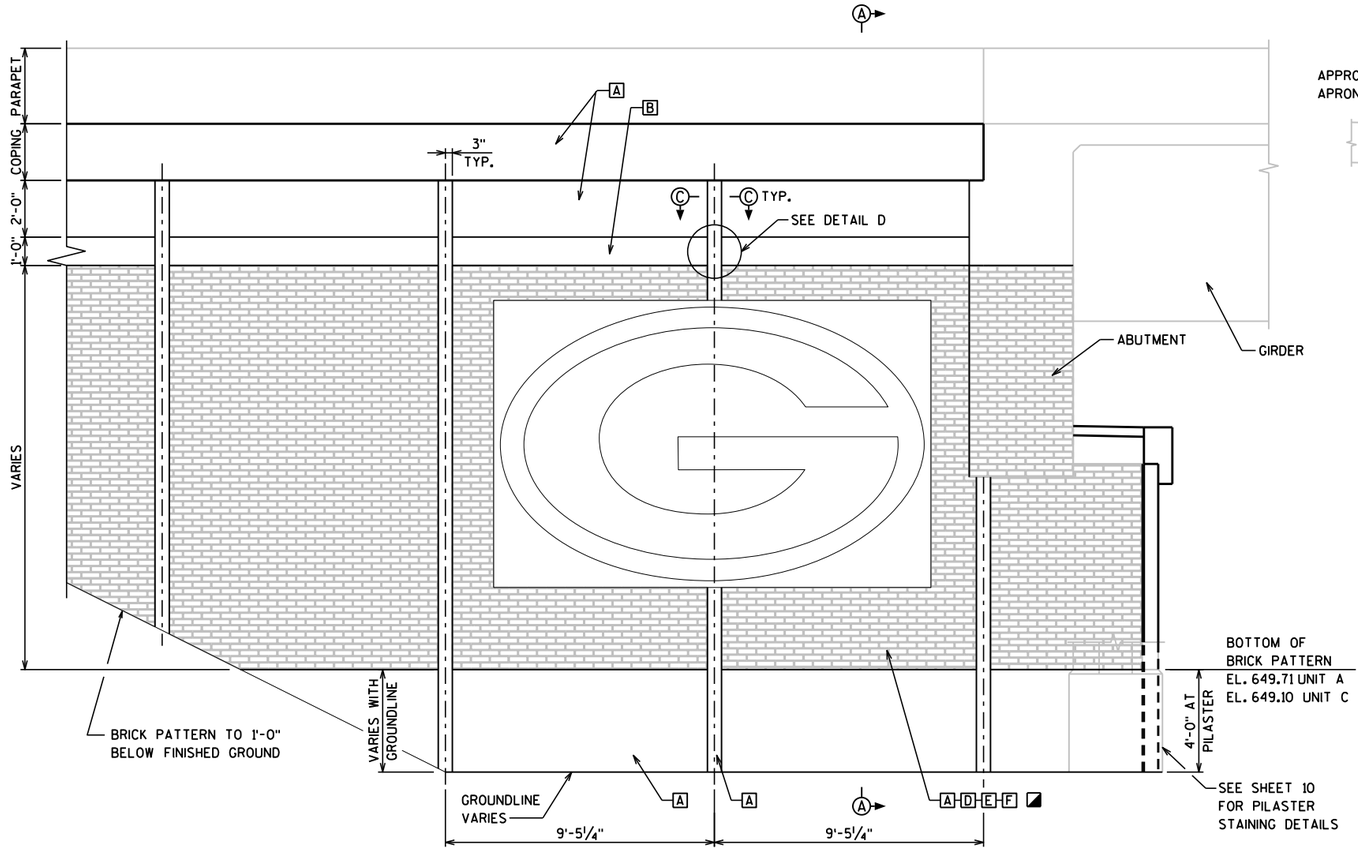
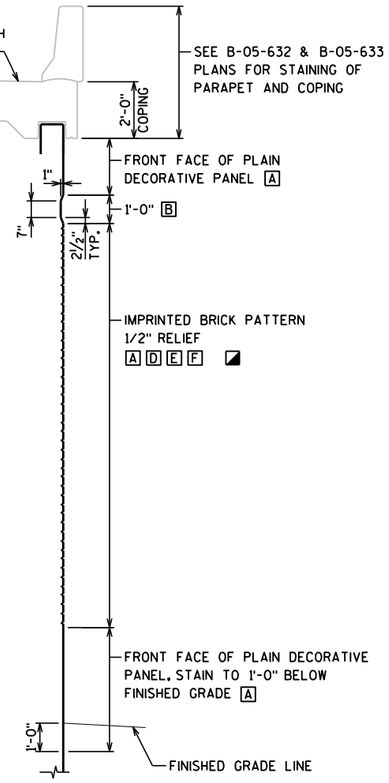
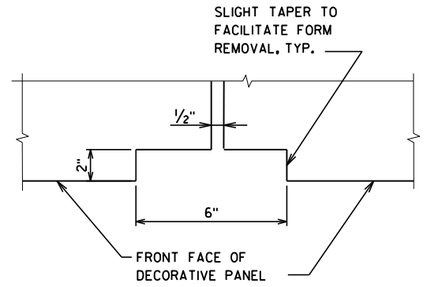


ELEVATION UNITS A & C

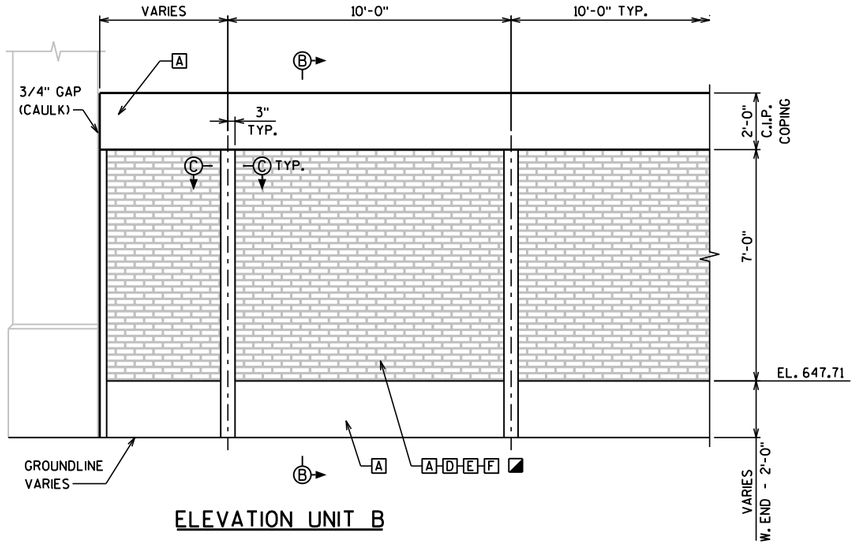
AT FRONT FACE OF PRECAST PANEL UNIT 'A' SHOWN, UNIT 'C' OPPOSITE HAND



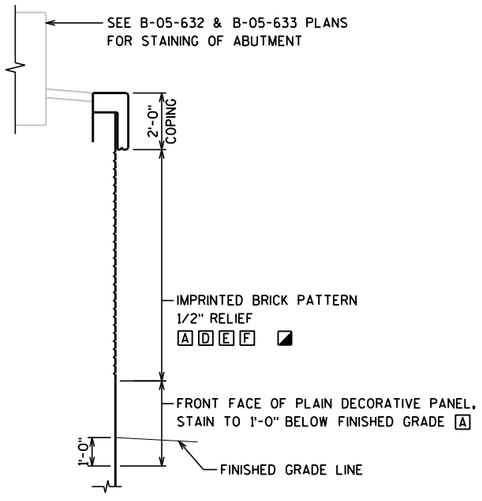
SECTION A-A



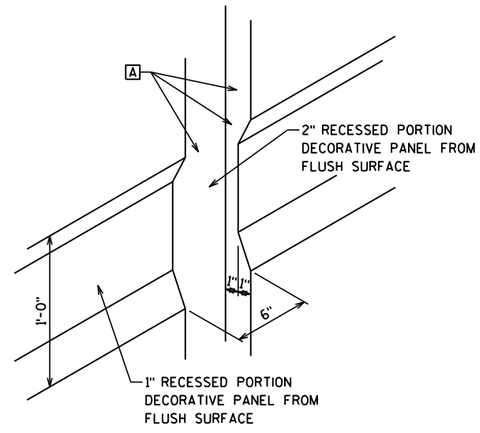
SECTION C-C



ELEVATION UNIT B



SECTION B-B



DETAIL D - ISOMETRIC REVEAL

NOTES

◪ STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

SEE SHEET 13 FOR "COLOR STAINING SCHEDULE".

SEE SHEET 14 FOR AESTHETIC MURALS WITHIN THE AREAS OF BRICK ARCHITECTURAL SURFACE TREATMENT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-219

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AESTHETIC DETAILS (1 OF 3)

SHEET 12 OF 14

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8

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STATE PROJECT NUMBER
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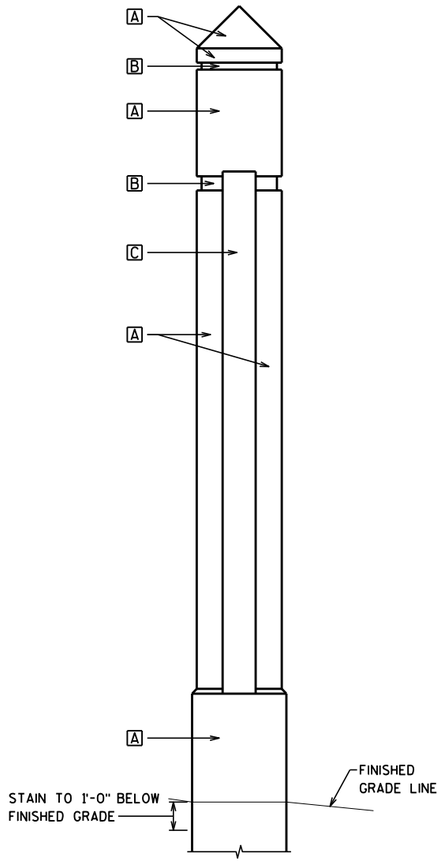
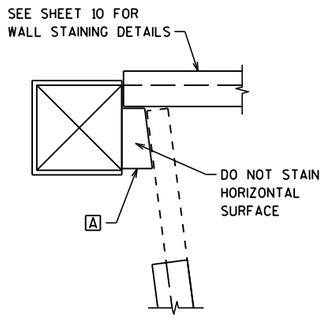
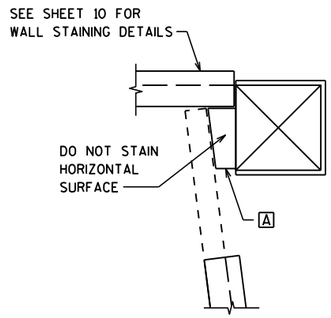


ELEVATION - PILASTER



PLAN - EAST PILASTER



PLAN - WEST PILASTER

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION
A	BASE COLOR	BRIDGES, PARAPETS, WALLS
B	ACCENT COLOR #1	REVEALS, OUTSIDE OF CONC. GIRDER
C	ACCENT COLOR #2	VERTICAL PILASTER CENTER ELEMENT
D	ACCENT COLOR #3	BRICK COLOR (70% OF BRICK)
E	ACCENT COLOR #4	BRICK COLOR (15% OF BRICK)
F	ACCENT COLOR #5	BRICK COLOR (15% OF BRICK)

SEE SPECIAL PROVISIONS FOR STAIN COLORS.

NOTES

STAIN UNDERSIDE OF COPING AT UNIT B.

STAINING THE UNDERSIDE OF BRIDGE APPROACH APRON COPING INCLUDED WITH B-05-632 & B-05-633.

THE COST OF BRICK PATTERN FORMLINER TREATMENT ON PRESTRESSED PRECAST CONCRETE WALL PANELS IS PAID FOR UNDER "ARCHITECTURAL SURFACE TREATMENT". SEE SPECIAL PROVISION FOR DESCRIPTION OF BRICK PATTERN FORMLINER.

THE COST FOR ALL OTHER CONCRETE FORMING AESTHETIC DETAILS ARE INCIDENTAL TO BID ITEM "CONCRETE MASONRY RETAINING WALLS".

STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS. APPLICATION OF ALL FOUR STAIN COLORS AT BRICK PATTERN AREAS PAID FOR AS "STAINING CONCRETE BRICK".

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-219

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AESTHETIC DETAILS (2 OF 3)

SHEET 13 OF 14

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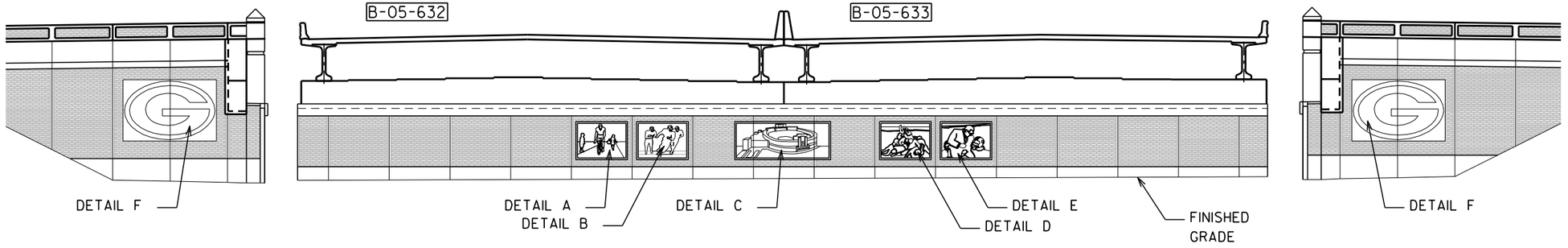
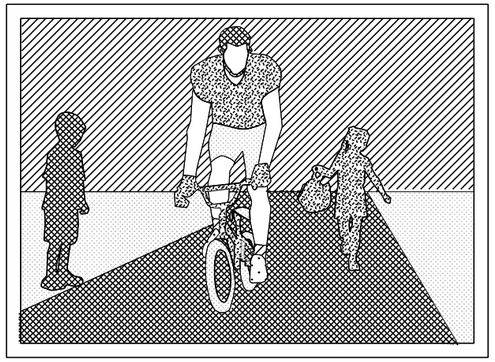
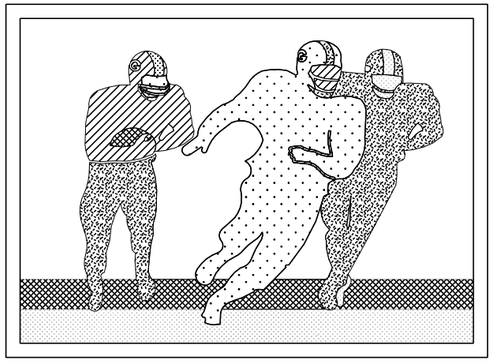
STATE PROJECT NUMBER
1133-03-77

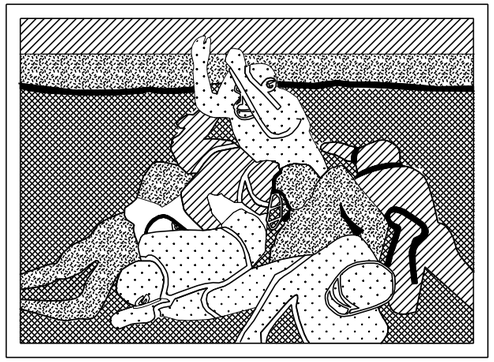




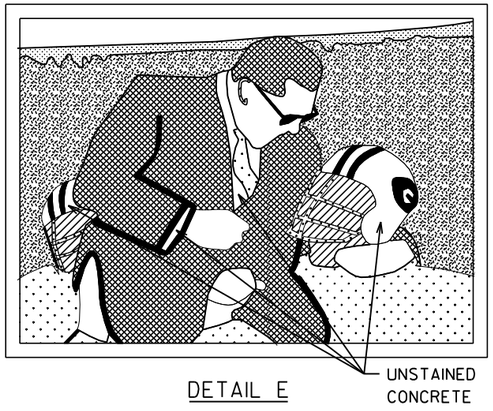
DETAIL A



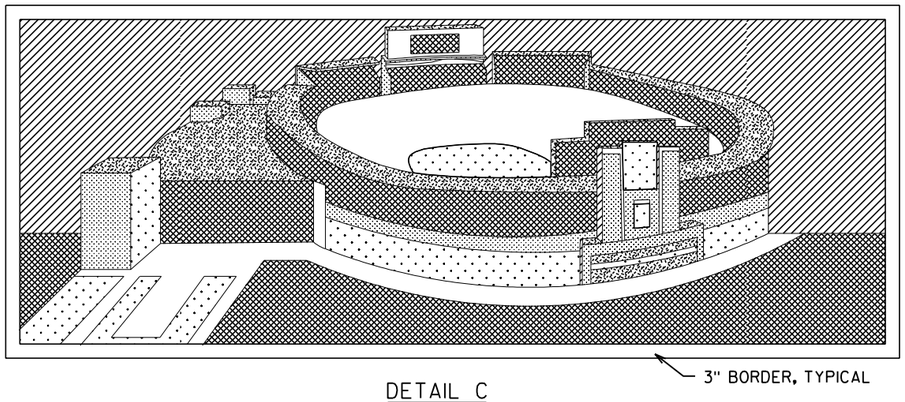
DETAIL B



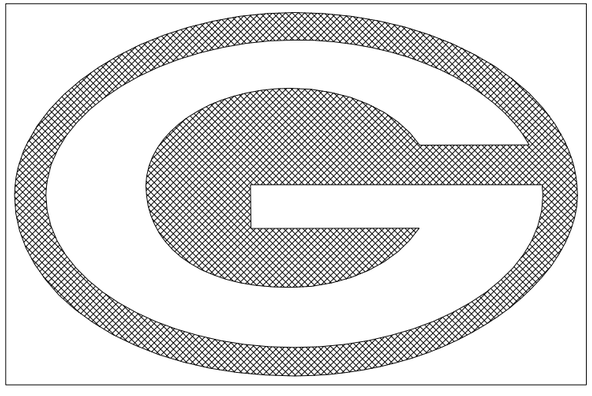
DETAIL D



DETAIL E



DETAIL C



DETAIL F

CONCRETE STAINING SCHEDULE

MARK	HATCH	COLOR	RELIEF (INCHES)
A		BASE COLOR	0
B		ACCENT COLOR #1	-1
C		ACCENT COLOR #2	-2
D		ACCENT COLOR #3	-1.25
E		ACCENT COLOR #4	-1.5
F		ACCENT COLOR #5	-0.75
G		ACCENT COLOR #6	-.5

SEE SPECIAL PROVISIONS FOR STAIN COLORS.

AESTHETIC MURALS PAID FOR AS ARCHITECTURAL SURFACE TREATMENT AND STAINING MULTI-COLOR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-05-219

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AESTHETIC DETAILS (3 OF 3)

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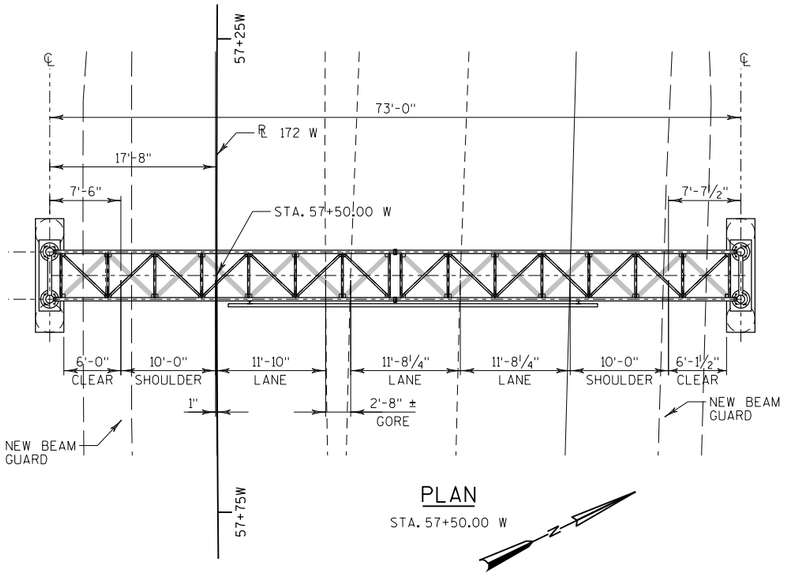
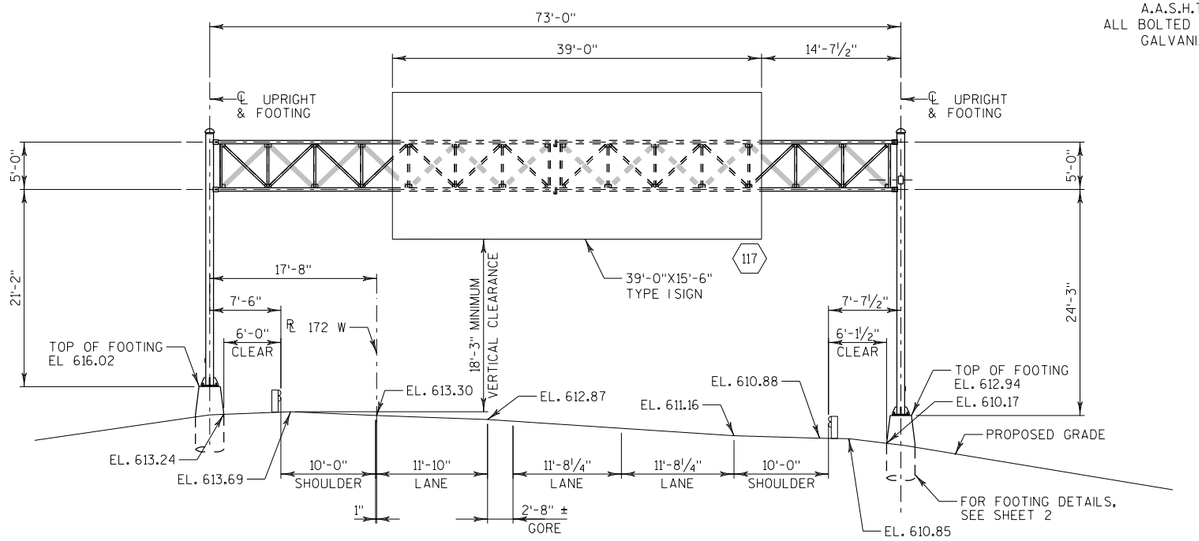
STATE PROJECT NUMBER

1133-09-71



PLAN

STA. 57+50.00 W



ELEVATION

4-CHORD SIGN BRIDGE
S-05-12
(LOOKING WEST AT FRONT FACE OF SIGN)

DESIGN DATA

DEAD LOAD: WT. OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.

LIVE LOAD: NONE.

ICE LOAD: 3 P.S.F. TO 1 FACE OF SIGN AND AROUND SURFACE OF MEMBERS

WIND PRESSURE: 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA AND EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND*)	133

*MIN. VALUE OF 25 PSF FOR GR. 3

ULTIMATE DESIGN STRESSES:

FOUNDATION

CONCRETE: ..... f'c = 3,500 psi
HIGH STRENGTH BAR STEEL REINFORCEMENT: ..... fy = 60,000 psi

SIGN BRIDGE

STEEL COLUMN PIPE: ..... fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
STEEL PIPE MEMBERS OF TRUSS: ..... fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
PLATES, BARS, STRUCTURAL ANGLES: ..... fy = 36,000 psi
A.S.T.M. A709 GRADE 36
STEEL ANCHOR BOLTS: ..... fy= 55,000 psi
A.A.S.H.T.O. M314-90 GRADE 55
ALL BOLTED CONNECTIONS: ¾" ϕ A325 BOLTS, GALVANIZED A.S.T.M. A153, CLASS C

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CENTER TYPE 1 SIGNS OVER THEIR RESPECTIVE LANES.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ABOVE THE DRILLED SHAFTS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE FOUNDATION USING 3 - ¼" DIAMETER BY 1¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE S-05-12".

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN CENTER TO CENTER OF CHORDS AND SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS.

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

WELD TESTS AS PER AWD D1.1.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

⬡ "" - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

TYPE 1 SIGN DESIGN DATA

MAX. DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE 1 SIGN DEPTH
744	15'-6"

WISCONSIN
JEFFREY S. ROSNER
34316-006
DE PERE, WI
PROFESSIONAL ENGINEER

4-08-13

ESTIMATE OF QUANTITIES

BID NUMBER	BID ITEM	UNIT	TOTAL
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	20
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	1700
641.6600	SIGN BRIDGE S-05-12	LS	1

LIST OF DRAWINGS

1. PLAN AND ELEVATION
2. FOOTING DETAILS
3. GALVANIZED STEEL SIGN BRIDGE
4. SIGN BRIDGE DETAILS

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
WILLIAM DREHER (608) 266-8949
CONSULTANT:
JEFFREY S. ROSNER (920) 592-9440

NO.	DATE	REVISION	BY

PRELIMINARY PLANS PREPARED BY: GRAEF
1150 Springhurst Drive, Suite 201
Green Bay, WI 54304
920-592-9440
920-592-9445 fax
www.graef-usa.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/09/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-12

STH 172 WB WEST OF ONEIDA STREET OVERPASS

COUNTY	CITY
BROWN	ASHWAUBENON

DESIGN SPEC.	LOAD
LATEST AASHTO STD. SPEC. AND INTERIM	90 MPH 3 SEC. SP

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
SAC	JSR	AMZ	JSR

PLAN AND ELEVATION

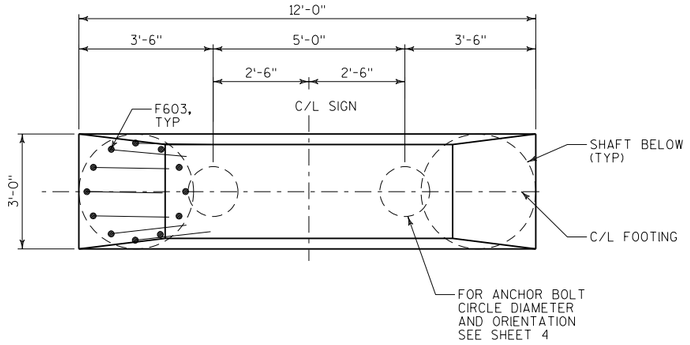
SHEET 1 OF 4

2536

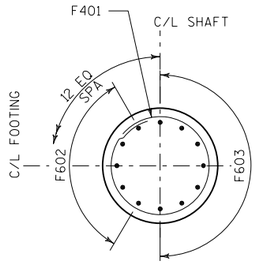
8

8

STATE PROJECT NUMBER
1133-09-71



PLAN

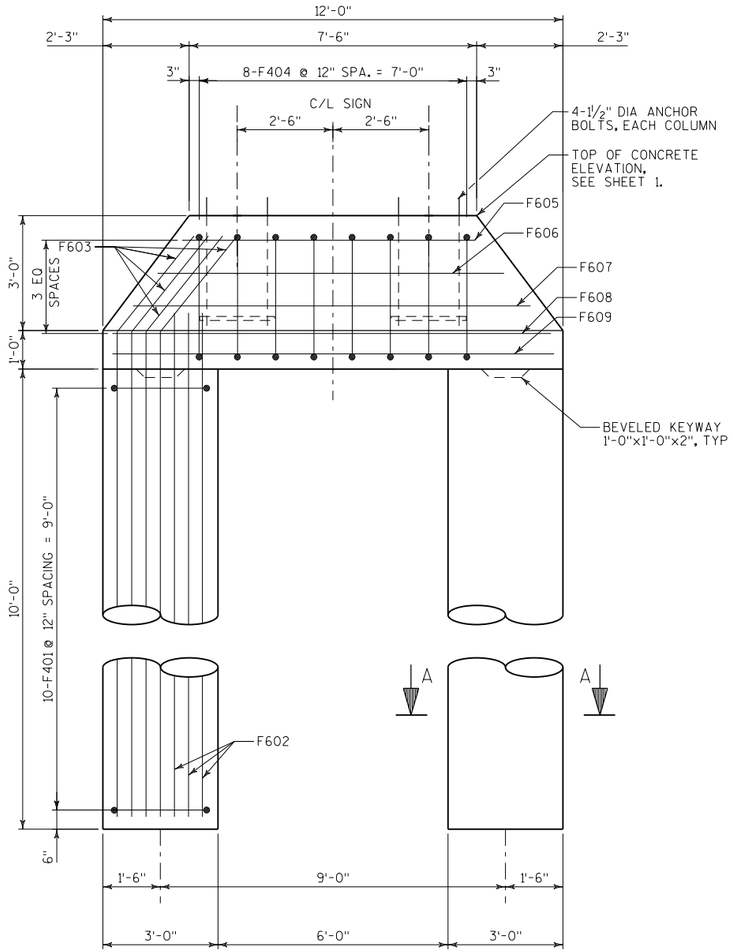


SECTION A-A

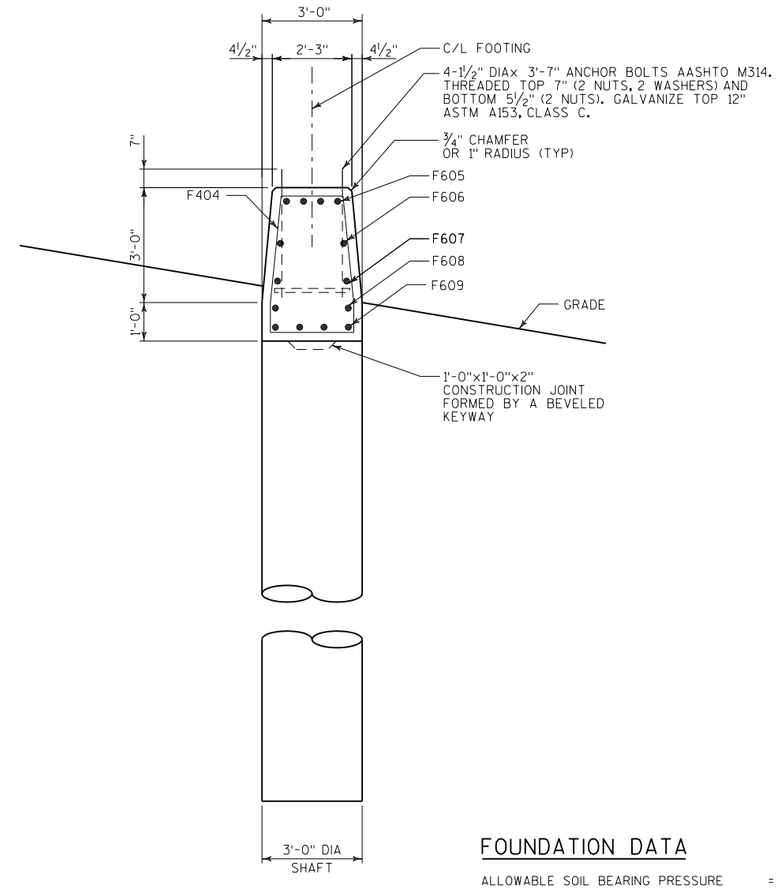
BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	LOCATION
F401	X	20	8'-11"	X	FOOTING - HOOPS
F602	X	10	11'-3"		FOOTING - VERTICAL
F603	X	14	14'-0"	X	FOOTING - VERTICAL
F404	X	8	12'-5"	X	FOOTING - STIRRUPS
F605	X	4	7'-4"		FOOTING - HORIZONTAL
F606	X	2	8'-7"		FOOTING - HORIZONTAL
F607	X	2	9'-11"		FOOTING - HORIZONTAL
F608	X	2	11'-2"		FOOTING - HORIZONTAL
F609	X	4	11'-6"		FOOTING - HORIZONTAL

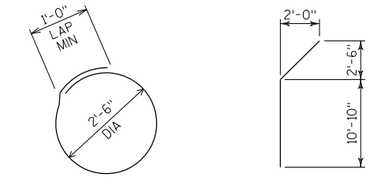
QUANTITY OF BARS IN TABLE IS FOR ONE FOOTING.



ELEVATION

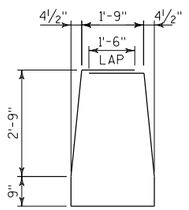


END VIEW



F401

F603



F404

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR UNLESS OTHERWISE NOTED.

ALL REINFORCING BARS ARE ENGLISH. THE FIRST DIGIT OF A THREE DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

SEE SHEET 4 FOR ANCHOR BOLT CIRCLE DIAMETER AND DETAILS.

FOUNDATION DATA

ALLOWABLE SOIL BEARING PRESSURE	=	5,400 PSF
ALLOWABLE SKIN FRICTION (COMPRESSION)	=	400 PSF
ALLOWABLE SKIN FRICTION (UPLIFT)	=	300 PSF

ESTIMATED QUANTITIES (1 FTG.)

SIGN SUPPORTS CONCRETE MASONRY	10 CY
SIGN SUPPORTS STEEL REINFORCEMENT HS	850 LB

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-05-12

DRAWN BY AMZ | PLANS CK'D. JSR

FOOTING DETAILS

SHEET 2 OF 4

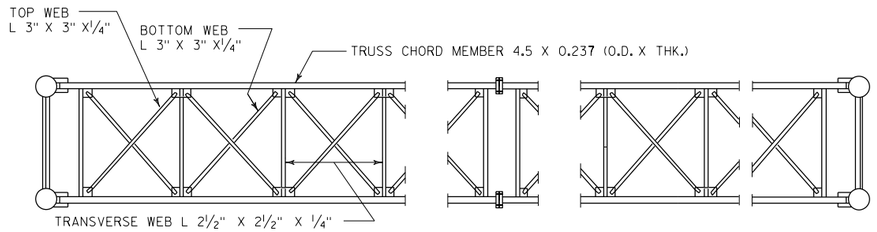
2537

8

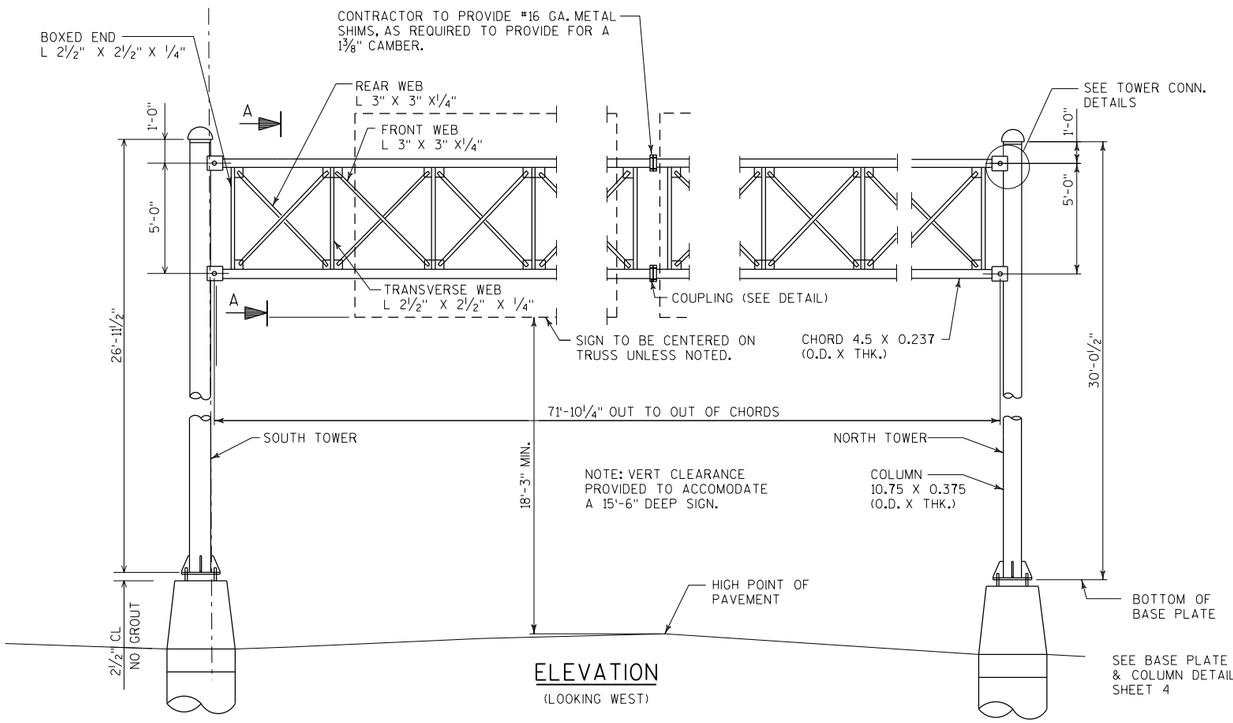
8

STATE PROJECT NUMBER

1133-09-71

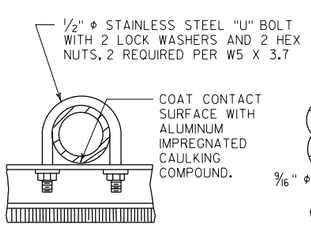


PLAN

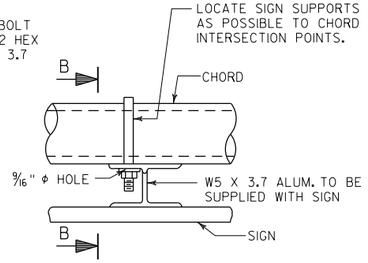


ELEVATION

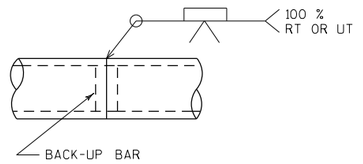
(LOOKING WEST)



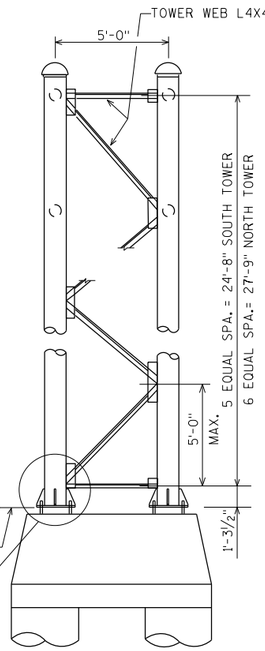
SECTION B



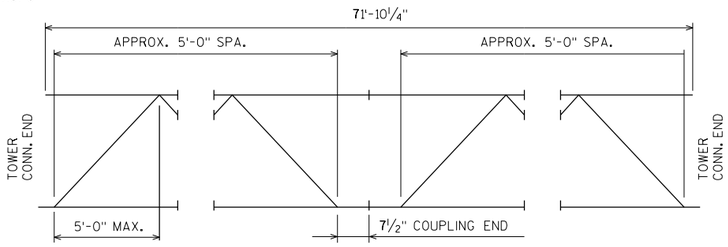
TYPICAL SIGN CONNECTION



CHORD SPLICE

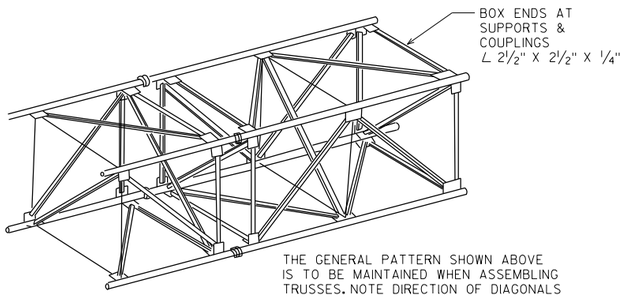


END VIEW



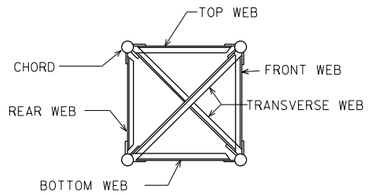
TRUSS ARRANGEMENT

FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 20'-0" & A MULTPLE OF 5'-0". CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS. CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.



THE GENERAL PATTERN SHOWN ABOVE IS TO BE MAINTAINED WHEN ASSEMBLING TRUSSES. NOTE DIRECTION OF DIAGONALS AT JOINTS.

TYPICAL TRUSS SECTION



SECTION A

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-05-12

DRAWN BY AMZ | PLANS CK'D. JSR

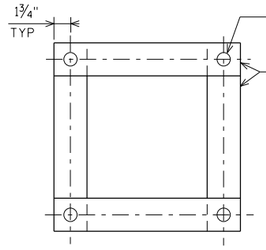
GALVANIZED STEEL SIGN BRIDGE

SHEET 3 OF 4

2538

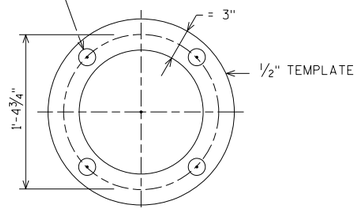
STATE PROJECT NUMBER

1133-09-71

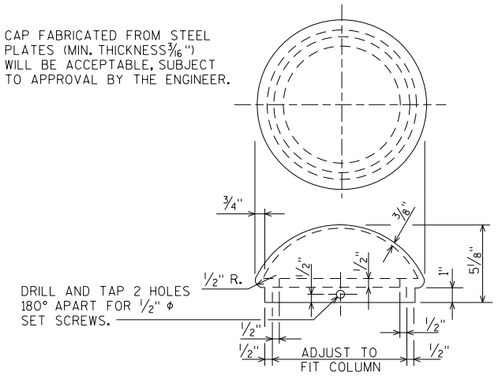


ALTERNATE

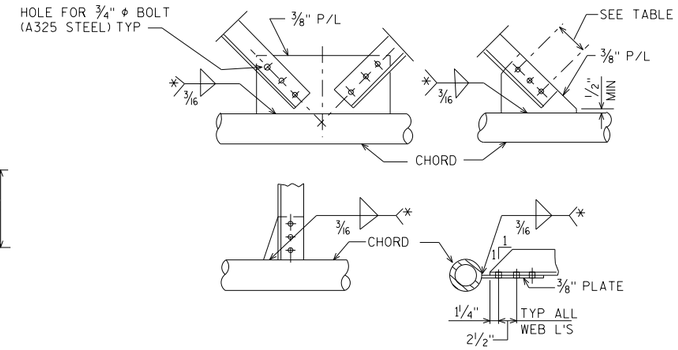
ANCHOR PLATE/TEMPLATE PLAN



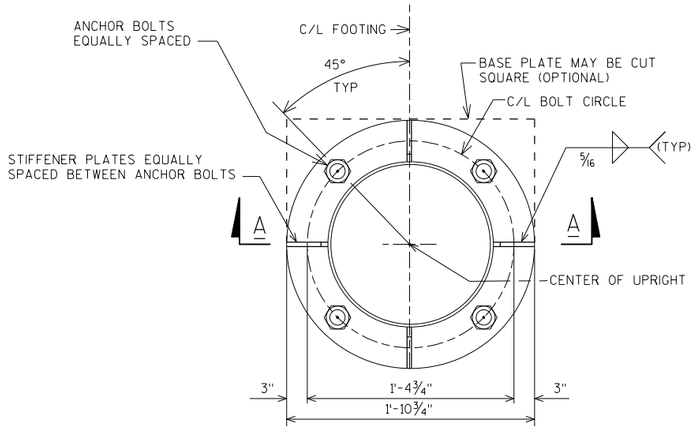
ANCHOR PLATE/TEMPLATE PLAN



TOWER CAP DETAIL

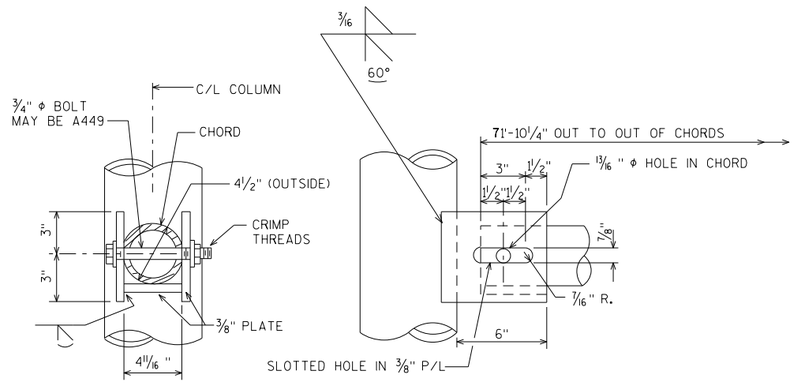


TYPICAL TRUSS CONNECTION DETAILS

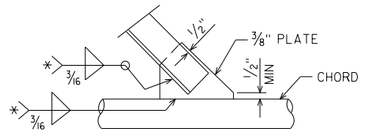


PLAN VIEW

(BASE PLATE)



TOWER CONNECTION DETAIL

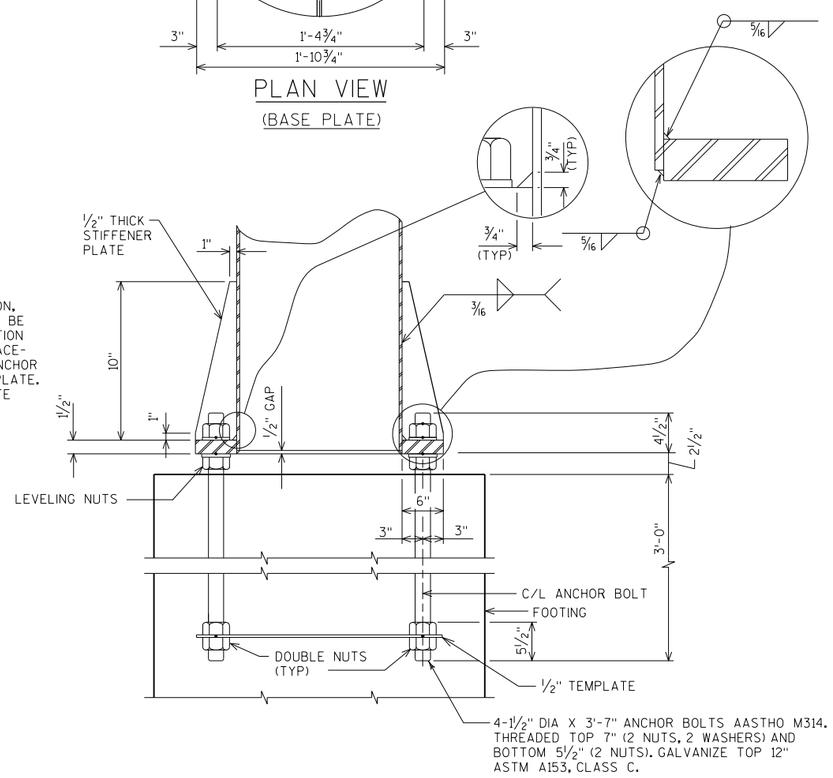


TYPICAL WELDED ALTERNATE

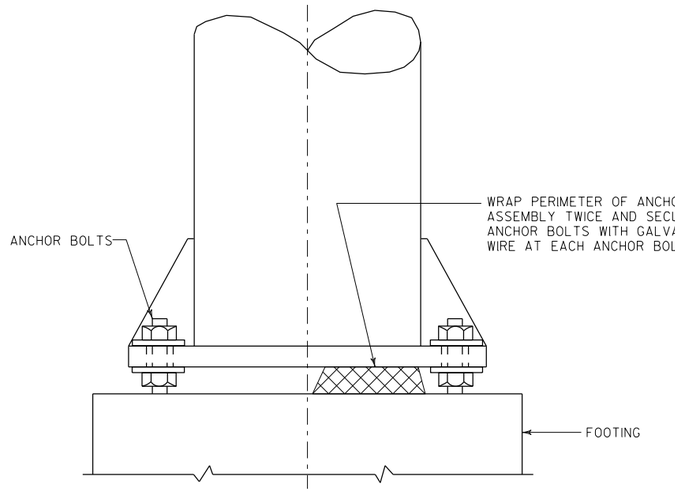
*ANGLE	WELD LENGTH	NO. OF BOLTS
● 2½"×2½"×¼"	11"	3
3"×3"×⅜"	10"	3
3"×3"×¼"	13"	4
3"×3"×⅝"	16½"	5
3"×3"×⅜"	19½"	6
4"×4"×¼"	18"	5
4"×4"×⅝"	22"	6
4"×4"×⅜"	26"	8
4"×4"×7/16"	30"	9
4"×4"×½"	34"	10

● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.

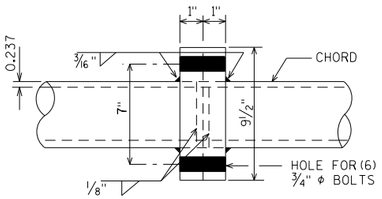
NOTE:
PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE. REMOVE TOP TEMPLATE (NOT SHOWN) AFTER CONCRETE SETS.



SECTION A-A



RODENT SCREEN



COUPLING DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-05-12

DRAWN BY AMZ | PLANS CK'D. JSR

SIGN BRIDGE DETAILS

SHEET 4 OF 4

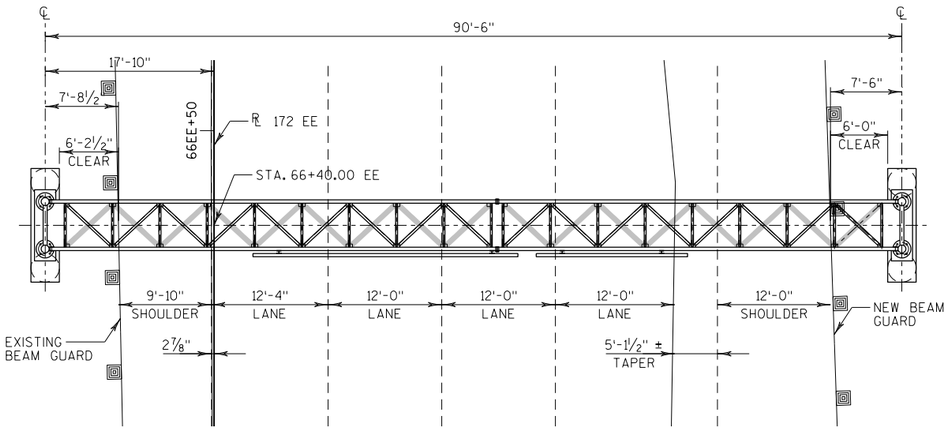
2539

8

8

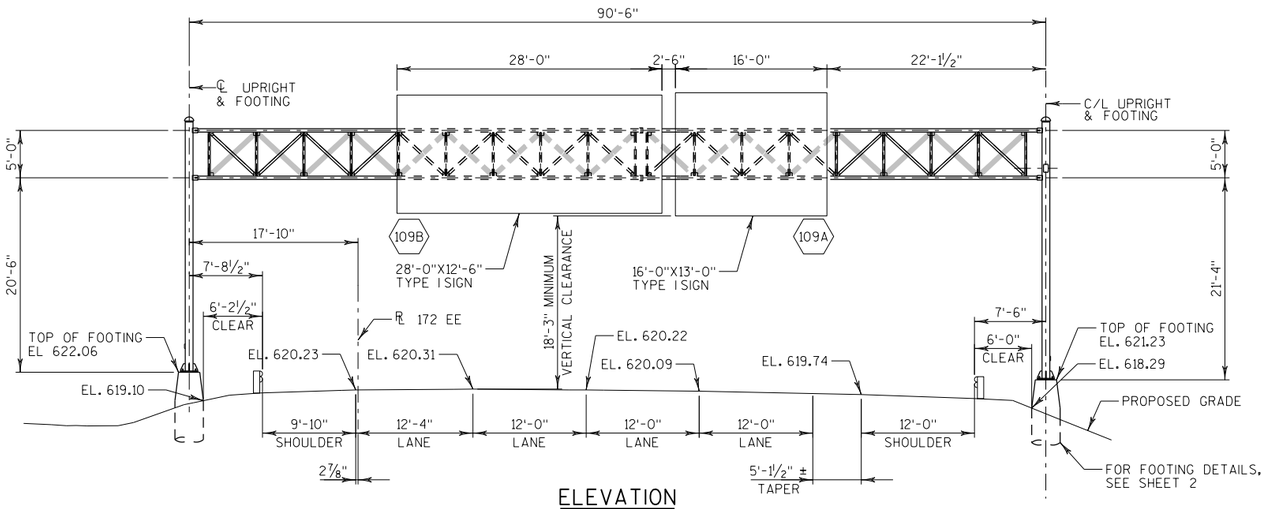
STATE PROJECT NUMBER

1133-09-71



PLAN

STA. 66+40.00 EE



ELEVATION

4-CHORD SIGN BRIDGE
S-05-96
(LOOKING EAST AT FRONT FACE OF SIGN)

DESIGN DATA

DEAD LOAD: WT. OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.

LIVE LOAD: NONE.

ICE LOAD: 3 P.S.F. TO 1 FACE OF SIGN AND AROUND SURFACE OF MEMBERS

WIND PRESSURE: 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA AND EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND*)	133

*MIN. VALUE OF 25 PSF FOR GR. 3

ULTIMATE DESIGN STRESSES:

FOUNDATION

CONCRETE: ..... f'c = 3,500 psi
HIGH STRENGTH BAR STEEL REINFORCEMENT: ..... fy = 60,000 psi

SIGN BRIDGE

STEEL COLUMN PIPE: ..... fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
STEEL PIPE MEMBERS OF TRUSS: ..... fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
PLATES, BARS, STRUCTURAL ANGLES: ..... fy = 36,000 psi
A.S.T.M. A709 GRADE 36
STEEL ANCHOR BOLTS: ..... fy= 55,000 psi
A.A.S.H.T.O. M314-90 GRADE 55
ALL BOLTED CONNECTIONS: ¾" ϕ A325 BOLTS, GALVANIZED A.S.T.M. A153, CLASS C

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CENTER TYPE 1 SIGNS OVER THEIR RESPECTIVE LANES.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ABOVE THE DRILLED SHAFTS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

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WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

WELD TESTS AS PER AWD D1.1.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

⬡ ## - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

TYPE 1 SIGN DESIGN DATA

MAX. DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE 1 SIGN DEPTH
780	13'-0"

WISCONSIN
JEFFREY S. ROSNER
34316-006
DE PERE, WI
PROFESSIONAL ENGINEER

4-08-13

LIST OF DRAWINGS

1. PLAN AND ELEVATION
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ESTIMATE OF QUANTITIES

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636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	24
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	2080
641.6600	SIGN BRIDGE S-05-96	LS	1

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
WILLIAM DREHER (608) 266-8949
CONSULTANT:
JEFFREY S. ROSNER (920) 592-9440

NO.	DATE	REVISION	BY

PRELIMINARY PLANS PREPARED BY: GRAEF
1150 Springhurst Drive, Suite 201
Green Bay, WI 54304
920-592-9440
920-592-9445 fax
www.graef-usa.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/09/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-96

STH 172 EB

COUNTY	CITY
BROWN	ASHWAUBENON

DESIGN SPEC.	LOAD
LATEST AASHTO STD. SPEC. AND INTERIM	90 MPH 3 SEC. SP

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
SAC	JSR	AMZ	JSR

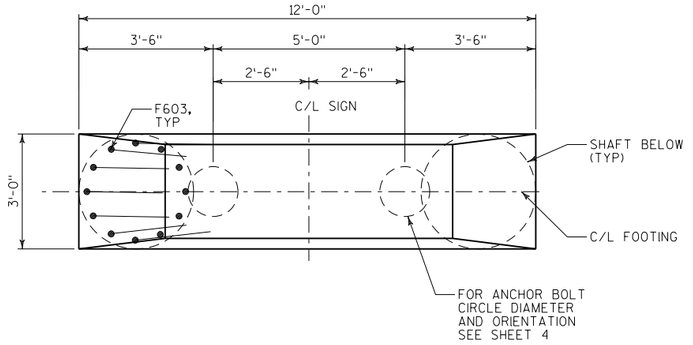
PLAN AND ELEVATION

SHEET 1 OF 4
2540

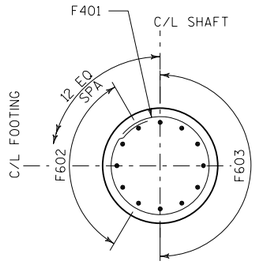
8

8

STATE PROJECT NUMBER
1133-09-71



PLAN

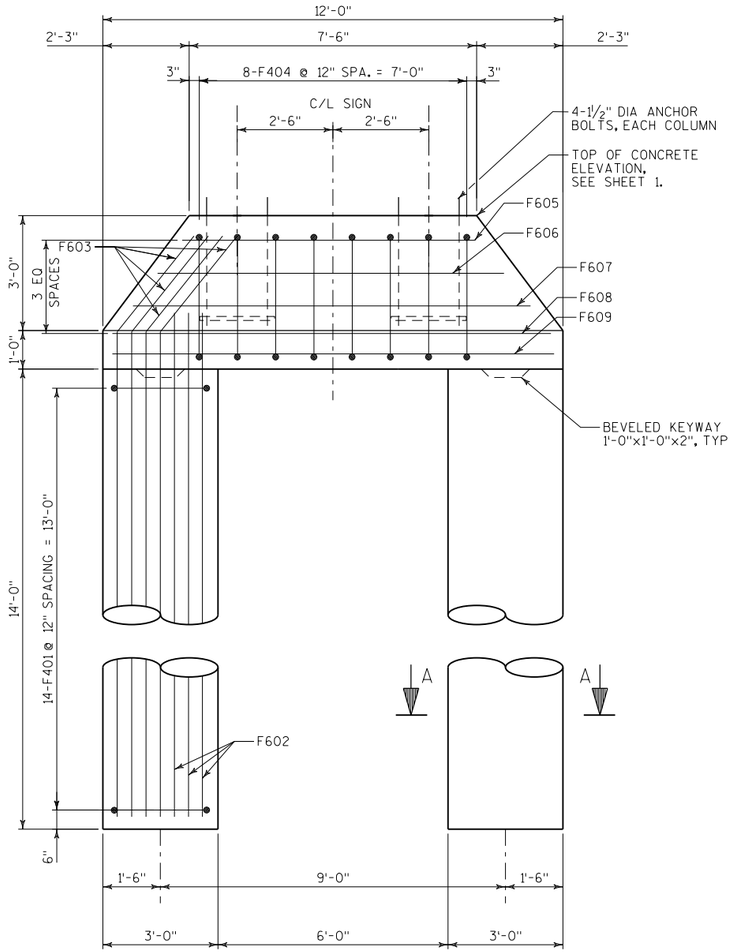


SECTION A-A

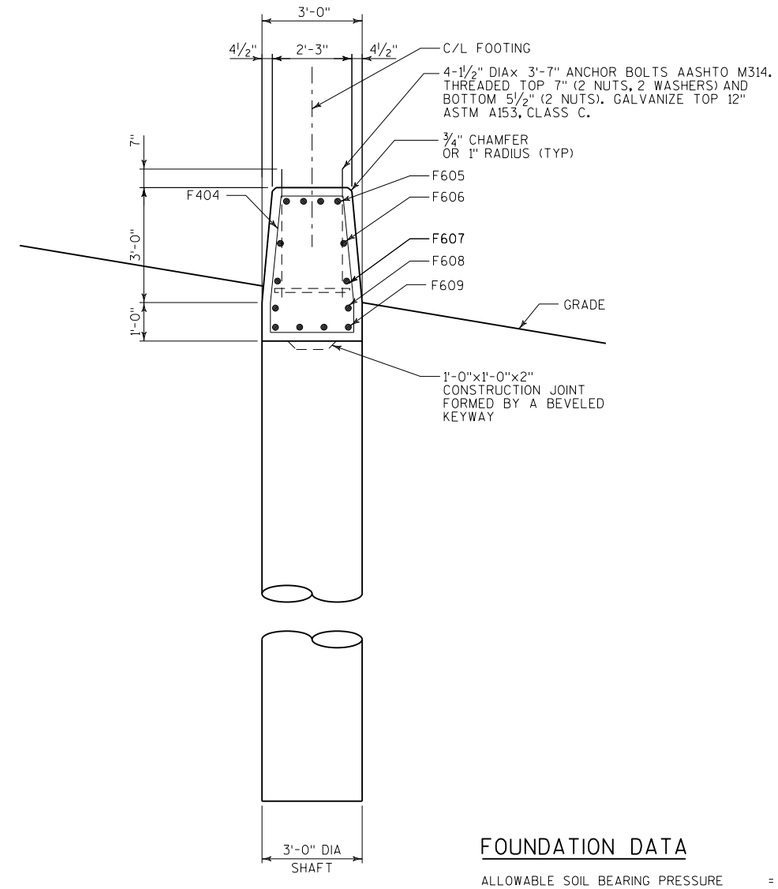
BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	LOCATION
F401	X	28	8'-11"	X	FOOTING - HOOPS
F602	X	10	15'-3"		FOOTING - VERTICAL
F603	X	14	18'-0"	X	FOOTING - VERTICAL
F404	X	8	12'-5"	X	FOOTING - STIRRUPS
F605	X	4	7'-4"		FOOTING - HORIZONTAL
F606	X	2	8'-7"		FOOTING - HORIZONTAL
F607	X	2	9'-11"		FOOTING - HORIZONTAL
F608	X	2	11'-2"		FOOTING - HORIZONTAL
F609	X	4	11'-6"		FOOTING - HORIZONTAL

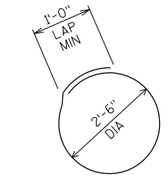
QUANTITY OF BARS IN TABLE IS FOR ONE FOOTING.



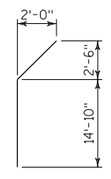
ELEVATION



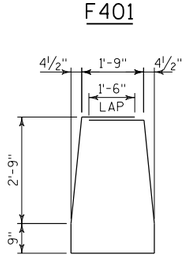
END VIEW



F401



F603



F404

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR UNLESS OTHERWISE NOTED.

ALL REINFORCING BARS ARE ENGLISH. THE FIRST DIGIT OF A THREE DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

SEE SHEET 4 FOR ANCHOR BOLT CIRCLE DIAMETER AND DETAILS.

FOUNDATION DATA

ALLOWABLE SOIL BEARING PRESSURE	=	5,400 PSF
ALLOWABLE SKIN FRICTION (COMPRESSION)	=	400 PSF
ALLOWABLE SKIN FRICTION (UPLIFT)	=	300 PSF

ESTIMATED QUANTITIES (1 FTG.)

SIGN SUPPORTS CONCRETE MASONRY	12 CY
SIGN SUPPORTS STEEL REINFORCEMENT HS	1040 LB

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-05-96

DRAWN BY AMZ | PLANS CK'D. JSR

FOOTING DETAILS

SHEET 2 OF 4

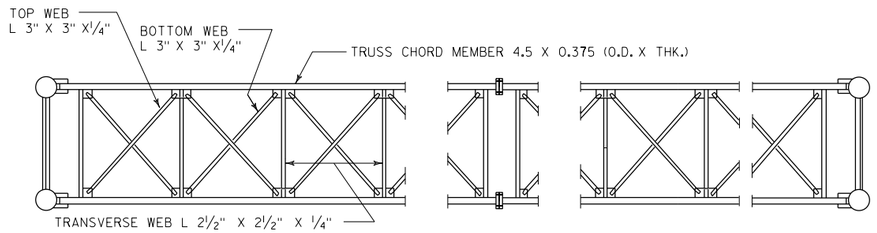
2541

8

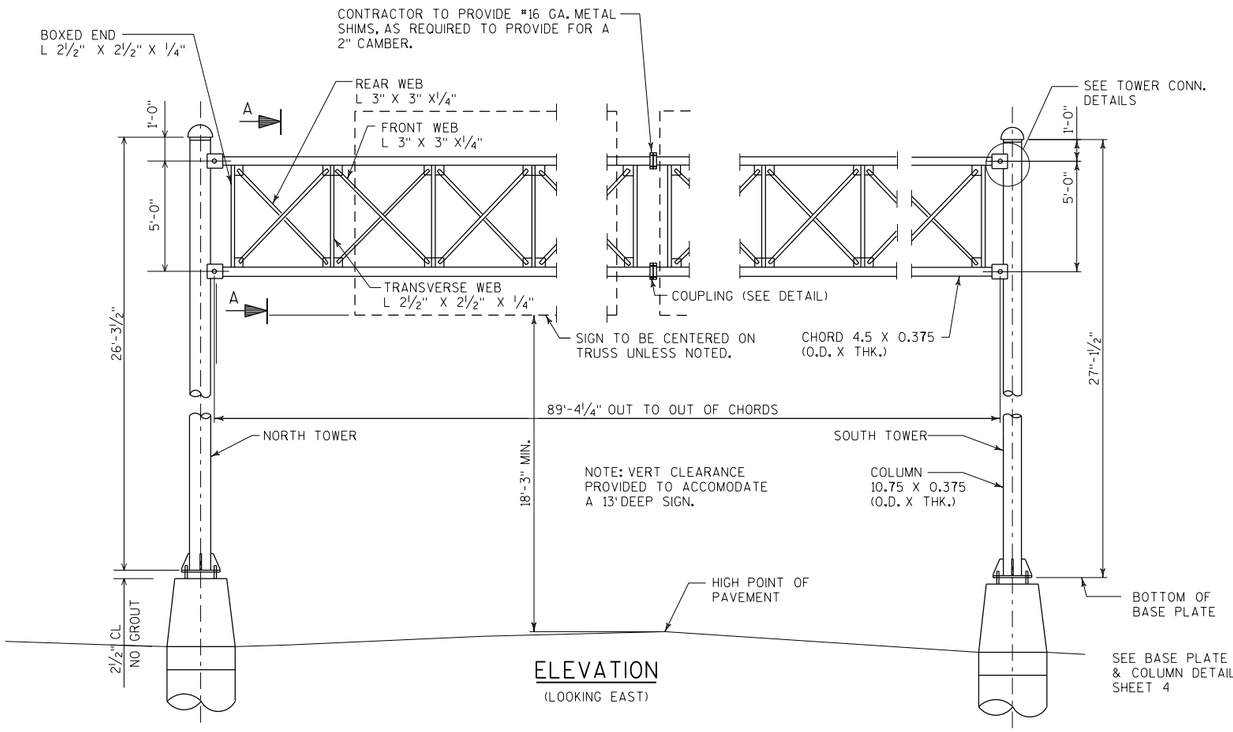
8

STATE PROJECT NUMBER

1133-09-71

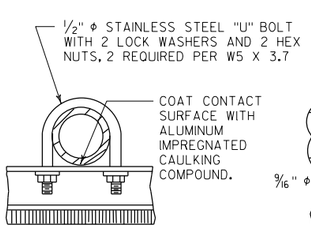


PLAN

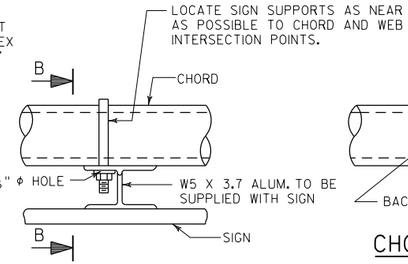


ELEVATION

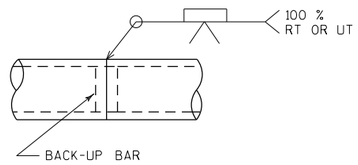
(LOOKING EAST)



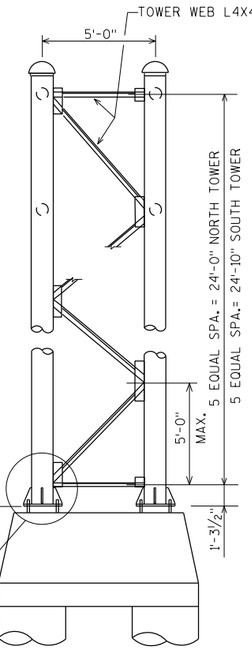
SECTION B



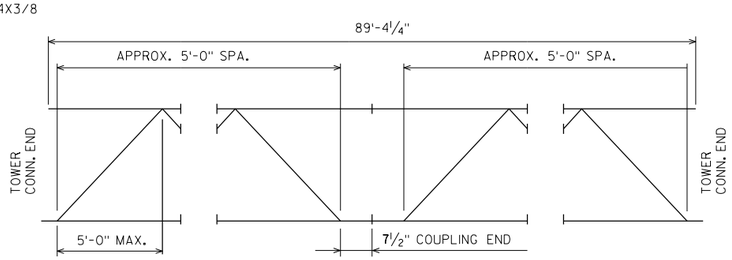
TYPICAL SIGN CONNECTION



CHORD SPLICE

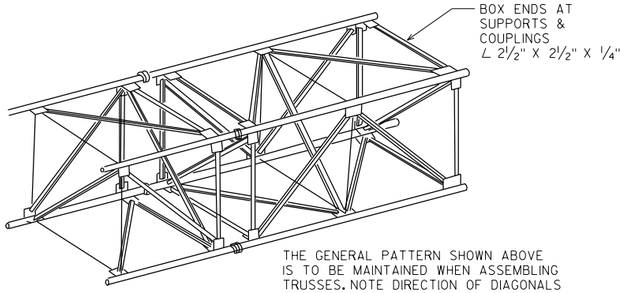


END VIEW



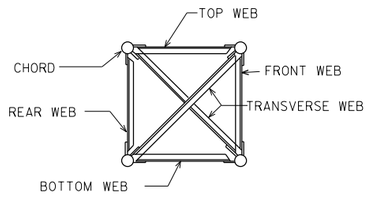
TRUSS ARRANGEMENT

FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 20'-0" & A MULTPLE OF 5'-0". CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS. CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.



THE GENERAL PATTERN SHOWN ABOVE IS TO BE MAINTAINED WHEN ASSEMBLING TRUSSES. NOTE DIRECTION OF DIAGONALS AT JOINTS.

TYPICAL TRUSS SECTION



SECTION A

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-05-96

DRAWN BY AMZ | PLANS CK'D. JSR

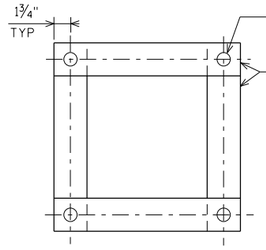
GALVANIZED STEEL SIGN BRIDGE

SHEET 3 OF 4

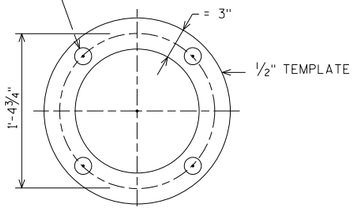
2542

STATE PROJECT NUMBER

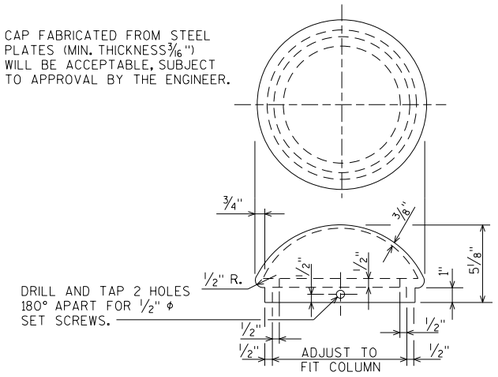
1133-09-71



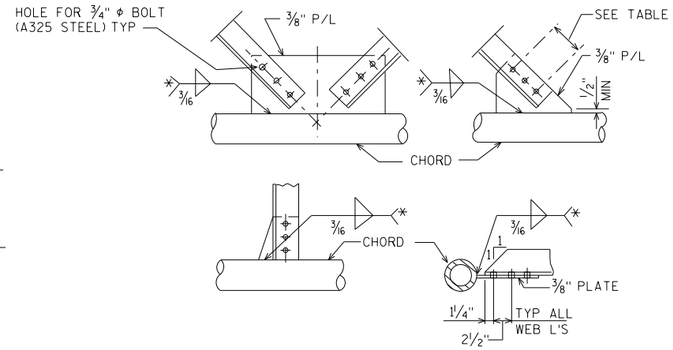
ALTERNATE
ANCHOR PLATE/TEMPLATE PLAN



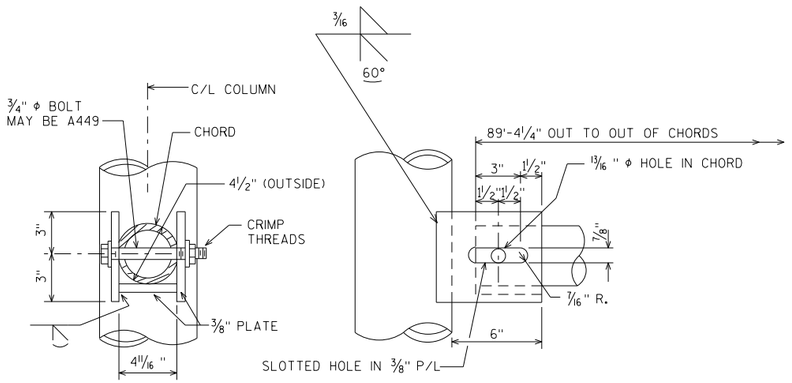
ANCHOR PLATE/TEMPLATE PLAN



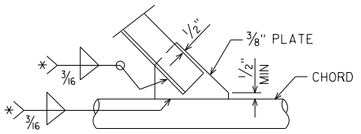
TOWER CAP DETAIL



TYPICAL TRUSS CONNECTION DETAILS



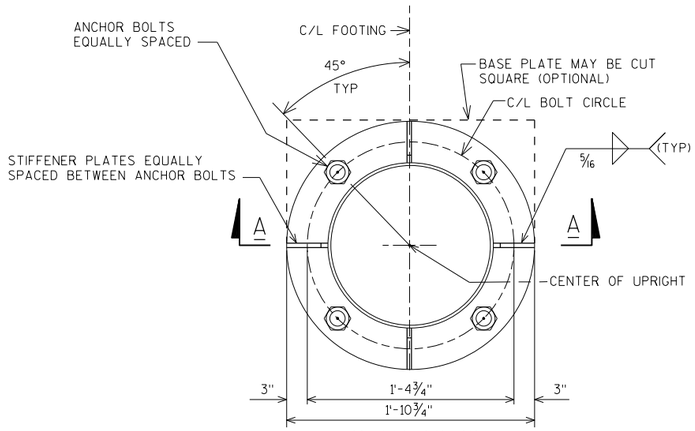
TOWER CONNECTION DETAIL



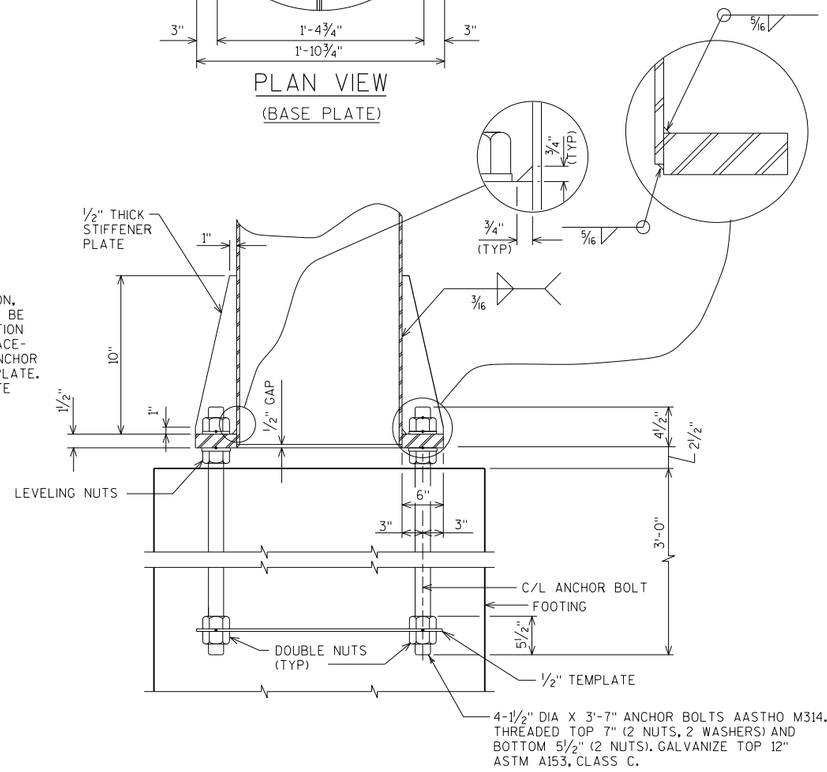
TYPICAL WELDED ALTERNATE

*ANGLE	WELD LENGTH	NO. OF BOLTS
● 2½"×2½"×¼"	11"	3
3"×3"×⅜"	10"	3
3"×3"×¼"	13"	4
3"×3"×⅝"	16½"	5
3"×3"×⅜"	19½"	6
4"×4"×¼"	18"	5
4"×4"×⅝"	22"	6
4"×4"×⅜"	26"	8
4"×4"×7/16"	30"	9
4"×4"×½"	34"	10

● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.

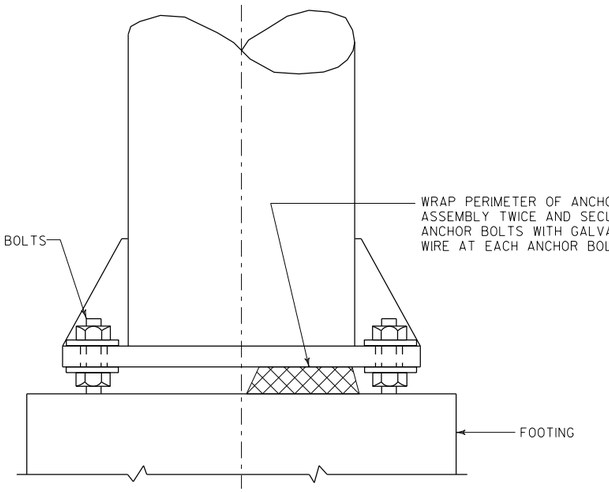


PLAN VIEW
(BASE PLATE)

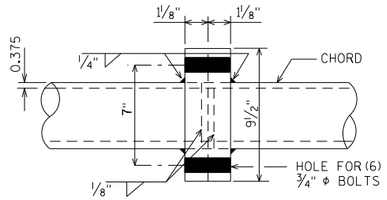


SECTION A-A

NOTE:
PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE. REMOVE TOP TEMPLATE (NOT SHOWN) AFTER CONCRETE SETS.



RODENT SCREEN



COUPLING DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-05-96

DRAWN BY AMZ | PLANS CK'D. JSR

SIGN BRIDGE DETAILS

SHEET 4 OF 4

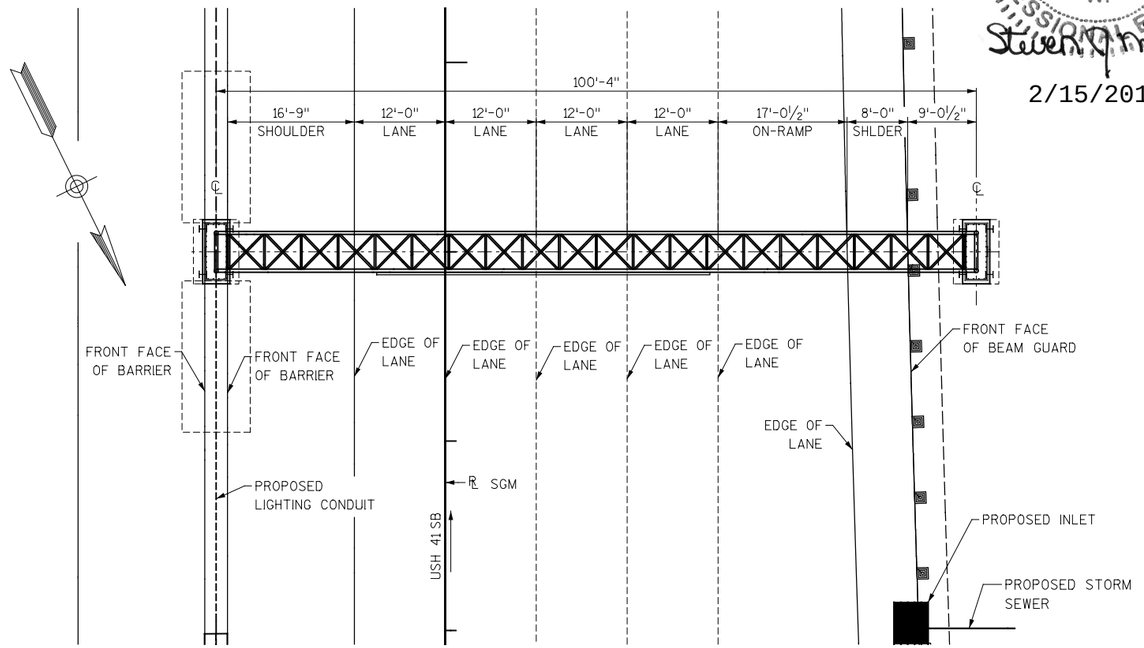
2543

8

8

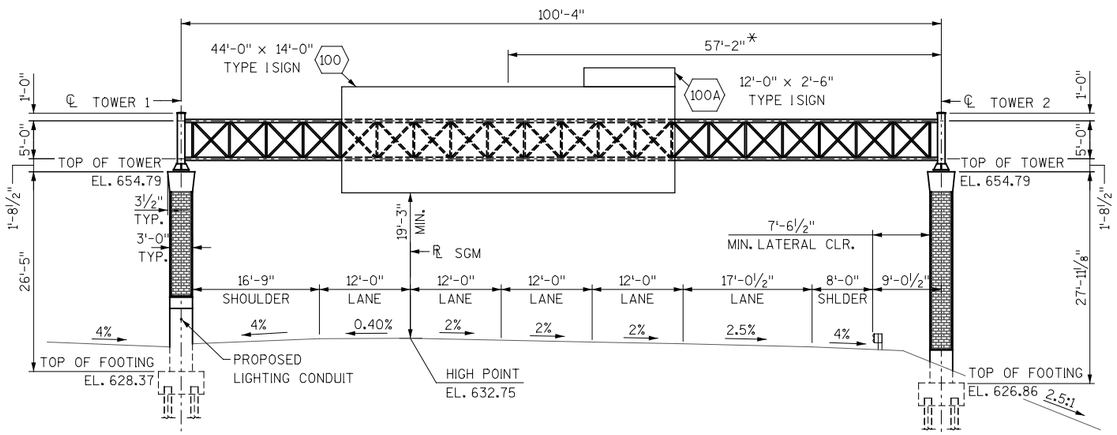
STATE PROJECT NUMBER

1133-09-71



PLAN

STA. 820SGM+25



ELEVATION

(LOOKING SOUTHWEST AT FRONT FACE OF SIGN)

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER

Steven J. Miller

2/15/2013

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CONCRETE TOWER 1 FOUNDATION DETAILS
3. CONCRETE TOWER 1 DETAILS
4. CONCRETE TOWER 2 FOUNDATION DETAILS
5. CONCRETE TOWER 2 DETAILS
6. GALVANIZED STEEL SIGN BRIDGE
7. SIGN BRIDGE DETAILS
8. CONCRETE TOWER 1 AESTHETIC DETAILS
9. CONCRETE TOWER 2 AESTHETIC DETAILS
10. SUBSURFACE EXPLORATION

ULTIMATE DESIGN STRESSES:

TOWER

CONCRETE: .....f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

SIGN BRIDGE

STEEL COLUMN PIPE: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
STEEL PIPE MEMBERS OF TRUSS: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
PLATES, BARS, STRUCTURAL ANGLES: .....fy = 36,000 psi
A.S.T.M. A709 GRADE 36
STEEL ANCHOR BOLTS: .....fy = 55,000 psi
A.A.S.H.T.O. M314-90 GRADE 55
ALL BOLTED CONNECTIONS: ¾" ϕ A325 BOLTS,
GALVANIZED A.S.T.M. A153, CLASS C

DESIGN DATA

DEAD LOAD - WT. OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.
LIVE LOAD - NONE.
ICE LOAD - 3 P.S.F. TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND‡)	133

‡ MIN. VALUE OF 25 PSF FOR GR. 3

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
1152	16'-0"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ON THE PILES SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 - ¼" DIAMETER BY 1¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE S-05-159 "

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN CENTER TO CENTER OF CHORDS & SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-159 "

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS. WELD TEST AS PER AWS D1.1.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

(##) - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

* SIGN PANEL DIMENSIONS ARE TO THE CENTER OF THE SIGN PANEL. CONTRACTOR TO FIELD VERIFY SIGN PANEL DISPLAYS CORRELATE WITH ROADWAY LANE LAYOUT.

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	660
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	54
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	800
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	8550
641.6600.950	SIGN BRIDGE S-05-159	LS	1
652.0135	CONDUIT RIGID METALLIC 3-INCH	LF	8
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	570
SPV.0165.501	STAINING CONCRETE	SF	1020
SPV.0165.502	STAINING CONCRETE BRICK	SF	570

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-159

DE PERE - SUAMICO

COUNTY	TOWN/CITY/VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	CES	DESIGN CK'D.	SJM	DRAWN BY	MJH	PLANS CK'D.	CES

PLAN & ELEVATION

SHEET 1 OF 10
2544

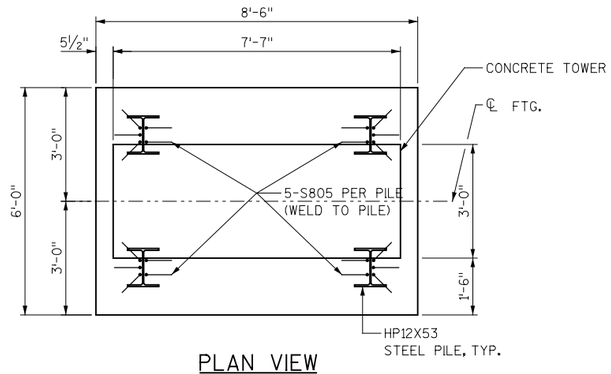
8

8

FILE NAME : S-05-159.dgn
PLOT DATE 12/18/2013 8:05:31 AM PLOT BY : MatthewHolandvBL DRV : Pdf_bw_HS.by level.pit PEN : CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

1133-09-71

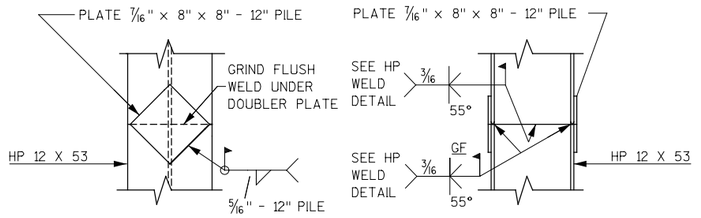


PLAN VIEW

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY



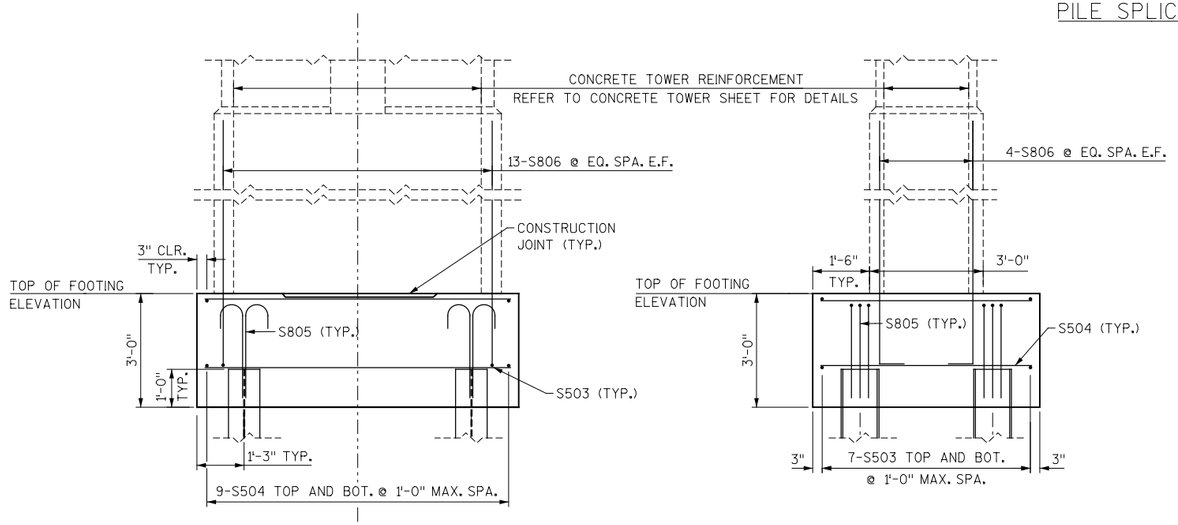
PILE SPLICE DETAIL

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

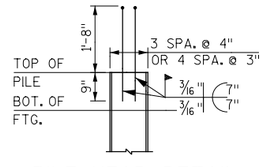
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S503		14	8'-0"			CAP LONGITUDINAL
S504		18	5'-6"			CAP TRANSVERSE
S805		20	3'-4"	▲		WELDED TO PILES
S806	X	30	12'-6"	▲		CAP BEAM VERTICAL
S507	X	22	12'-5"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S808	X	30	26'-2"			VERT. REINF., MIDDLE OF TOWER
S409	X	4	13'-11"			VERT. REINF., MIDDLE OF TOWER
S510	X	38	11'-6"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	30	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	33	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	57	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

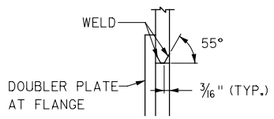


ELEVATION VIEW

END VIEW



PILE HEAD DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

SIGN BRIDGE TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. BEDROCK IS EXPECTED TO BE ENCOUNTERED AT EL. 543.37. ESTIMATED LENGTH 83 FEET LONG.

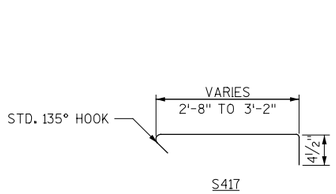
**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

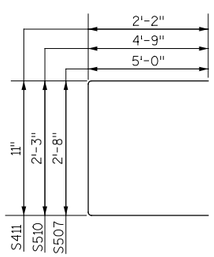
STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".

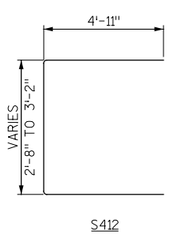
544.00



S417



S507,S510,S411



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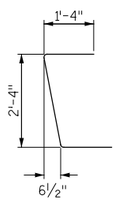

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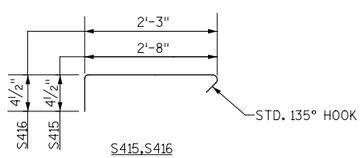
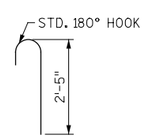


S415,S416

S806



S805

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-159

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 FOUNDATION DETAILS

SHEET 2 OF 10

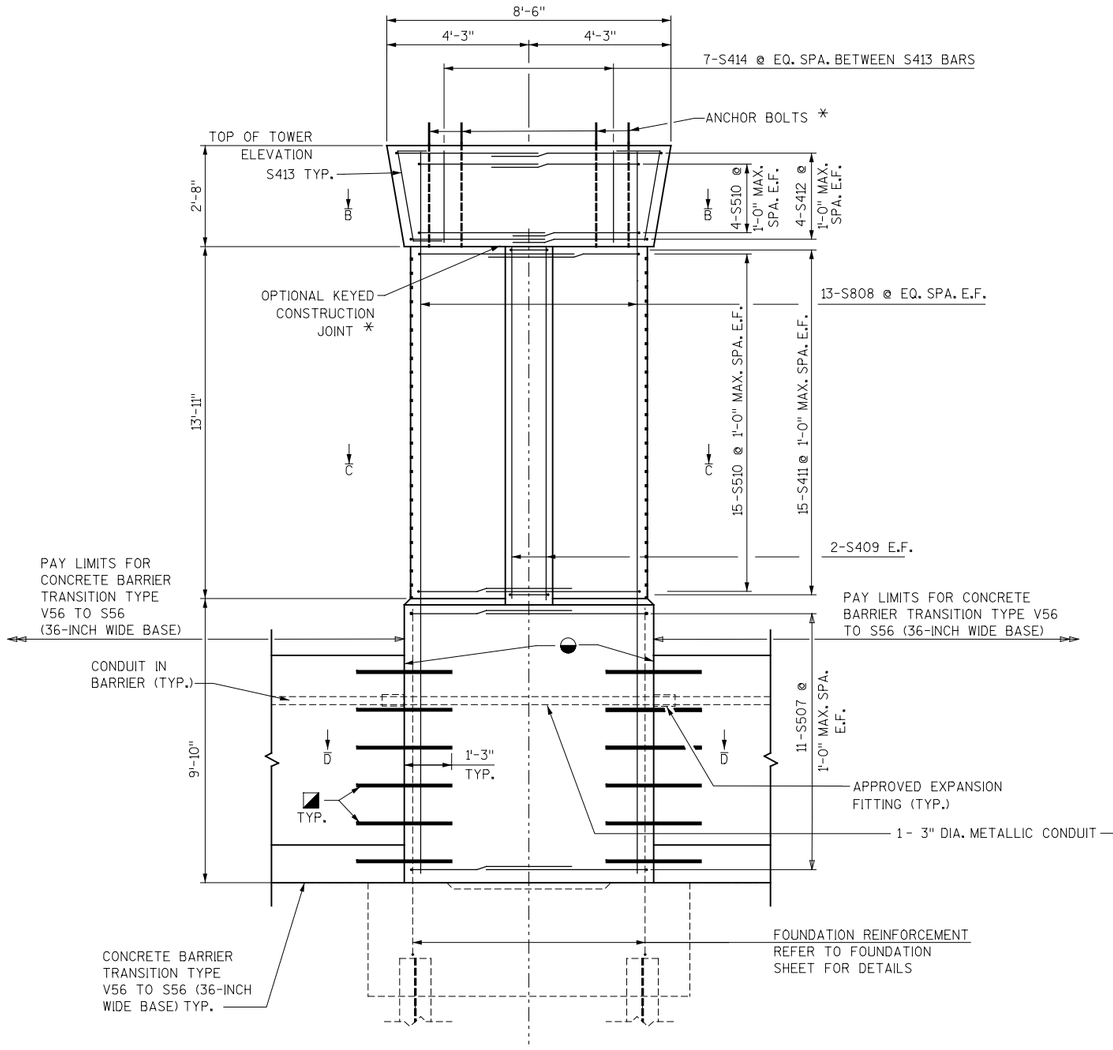
2545

8

8

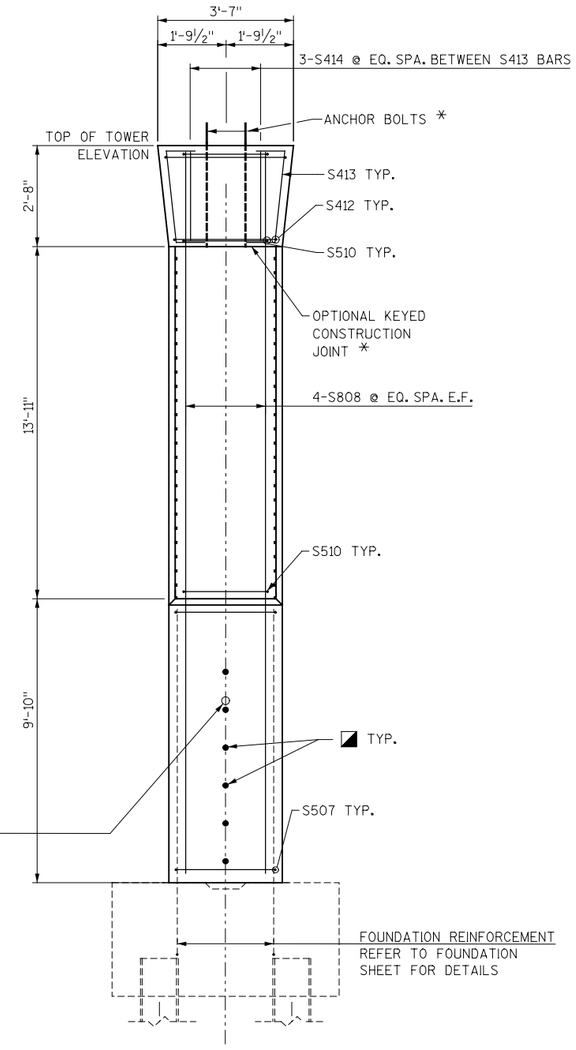
FILE NAME :S-05-159.dgn
PLOT DATE :2/15/2023 8:05:36 AM PLOT BY : MatthewHeGandvRl DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-09-71



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

APPROVED EXPANSION FITTING SHALL BE CAST INTO THE BARRIER OR TOWER CONCRETE, WHICH EVER ELEMENT IS CAST FIRST.

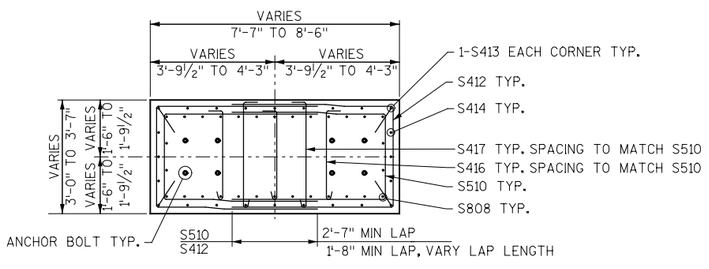
COORDINATE THE LOCATION OF THE ELECTRICAL CONDUIT IN THE TOWER TO MATCH THE LOCATION OF THE CONDUIT IN THE CONCRETE BARRIER.

SPACE S507 BARS TO MISS CONDUIT.

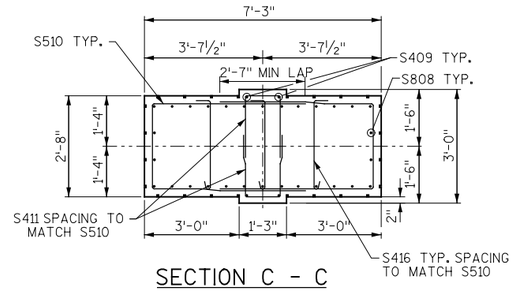
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.

◪ PLACE 1" ϕ PLAIN (SMOOTH) ROUND DOWEL BARS, 2'-6" LONG BETWEEN BARRIER AND CONCRETE TOWER. USE DEBONDER ON EXTENSION INTO BARRIER. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. SPACE DOWELS AT 1'-0". COST OF ITEMS ARE TO BE INCLUDED IN THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

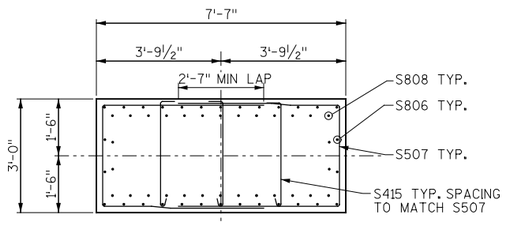
◒ PLACE 1/2" EXPANSION JOINT FILLLER BETWEEN TOWER AND BARRIER WALL, TYP. THE JOINT FILLER SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".



SECTION B - B



SECTION C - C



SECTION D - D

(DOWEL BARS OMITTED FOR CLARITY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-159

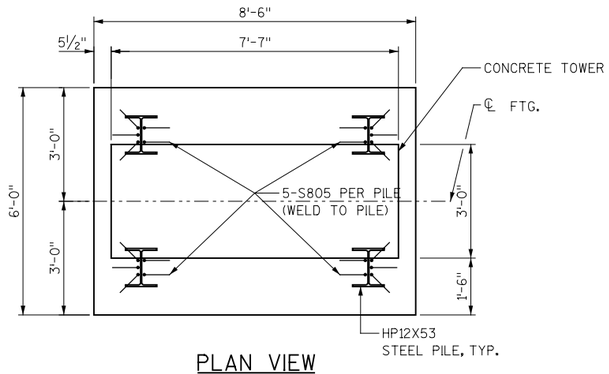
DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 DETAILS

SHEET 3 OF 10
2546

FILE NAME :S-05-159.dgn
PLOT DATE :2/25/2013 8:05:57 AM PLOT BY : MatthewH@sandv81 DRV :Pdf_bw_HS.by level.dt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-09-71

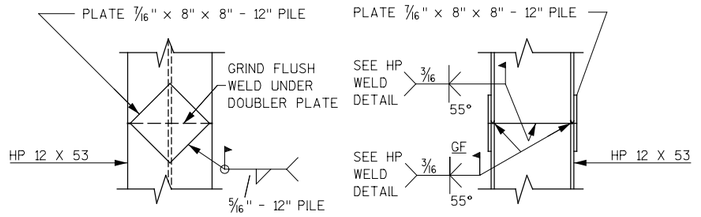


PLAN VIEW

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY



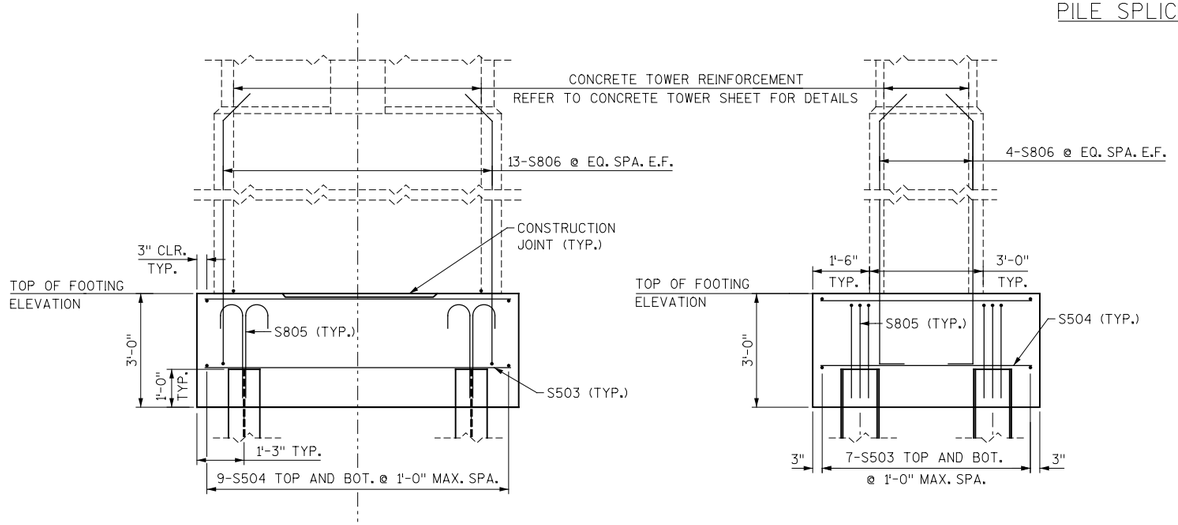
PILE SPLICE DETAIL

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

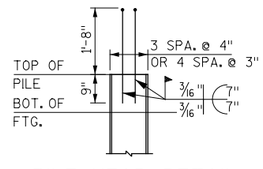
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S503		14	8'-0"			CAP LONGITUDINAL
S504		18	5'-6"			CAP TRANSVERSE
S805		20	3'-4"	▲		WELDED TO PILES
S806	X	30	8'-5"	▲		CAP BEAM VERTICAL
S507	X	10	12'-5"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S808	X	30	28'-10"	▲		VERT. REINF., MIDDLE OF TOWER
S409	X	4	20'-9"			VERT. REINF., MIDDLE OF TOWER
S510	X	52	11'-6"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	44	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	15	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	78	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

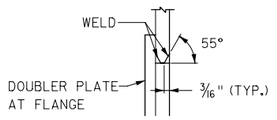


ELEVATION VIEW

END VIEW



PILE HEAD DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

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ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

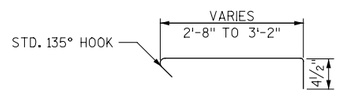
SIGN BRIDGE TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. BEDROCK IS EXPECTED TO BE ENCOUNTERED AT EL. 542.86. ESTIMATED LENGTH 82 FEET LONG.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

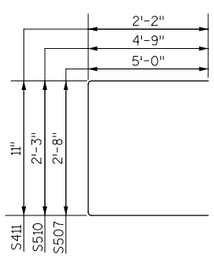
IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

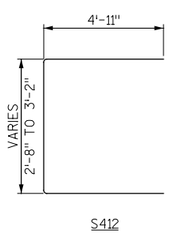
WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".



S417



S507,S510,S411



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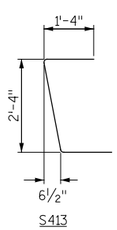

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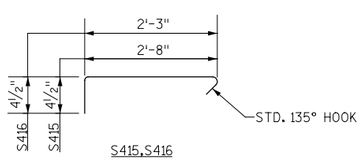
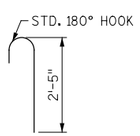
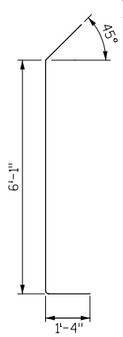


S415,S416



S805



S806

S808

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-159

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 FOUNDATION DETAILS

SHEET 4 OF 10

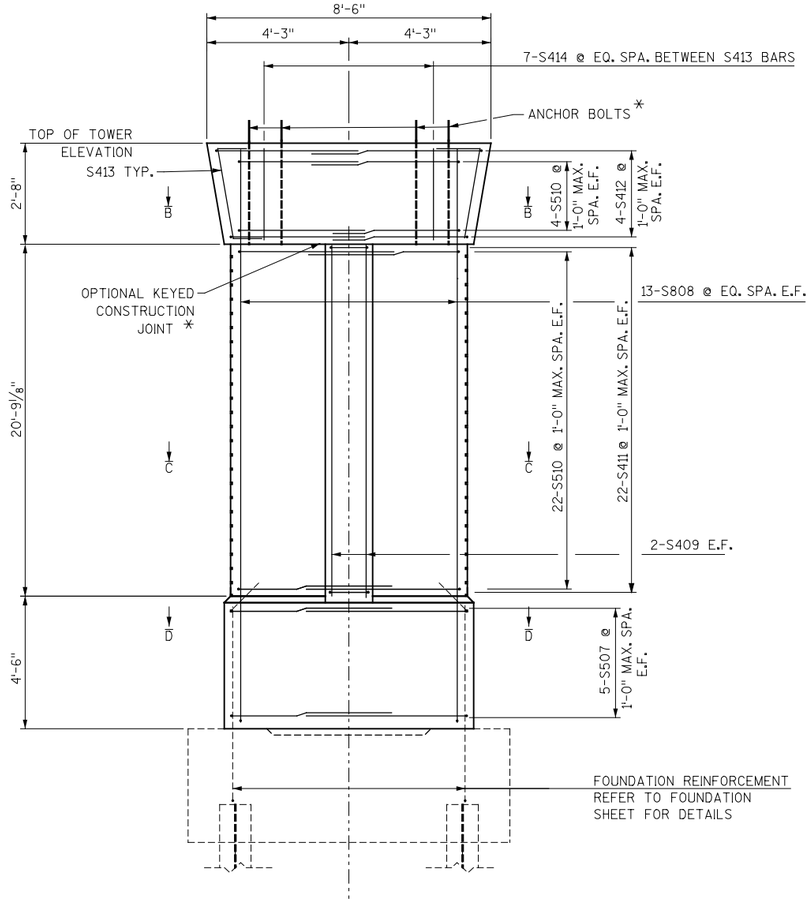
2547

8

8

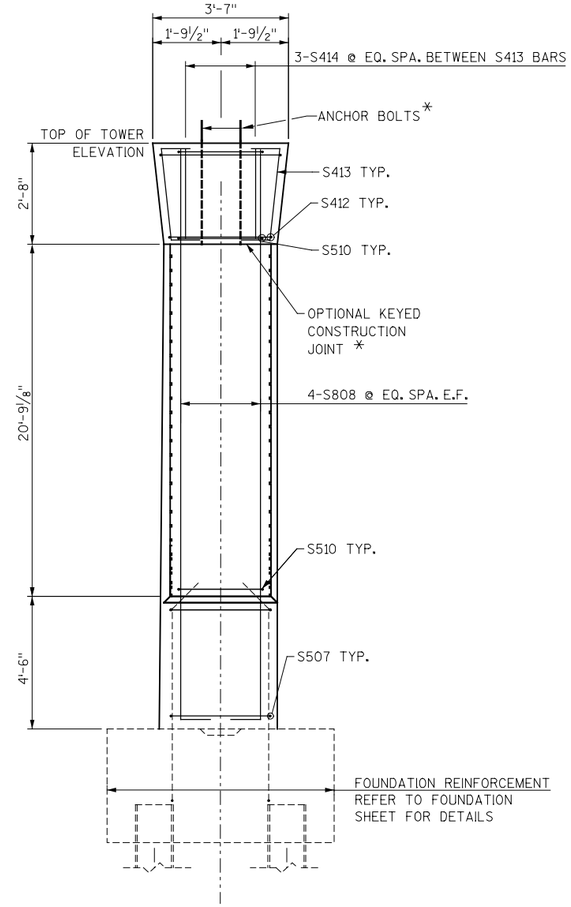
FILE NAME :S-05-159.dgn
PLOT DATE :12/15/2023 8:05:39 AM PLOT BY : MatthewHe@landvR DRV :Pdf_bw_HS.by levelplt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-09-71



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

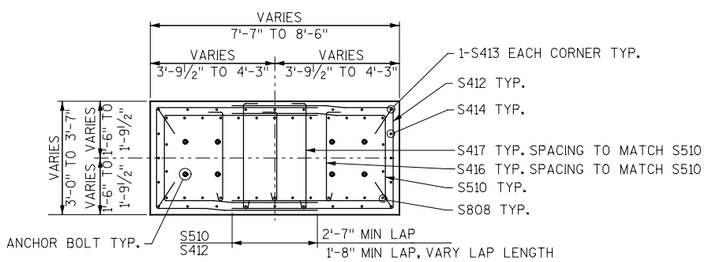
"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

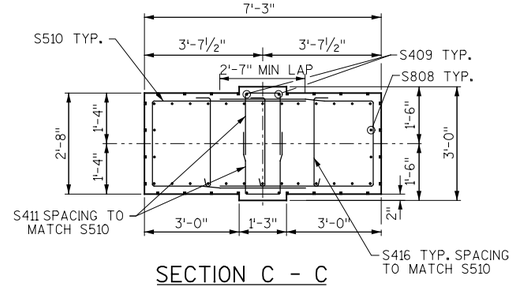
REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

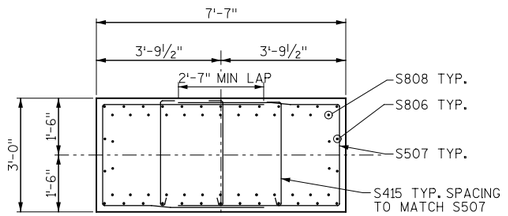
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.



SECTION B - B



SECTION C - C



SECTION D - D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-159

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 DETAILS 2548

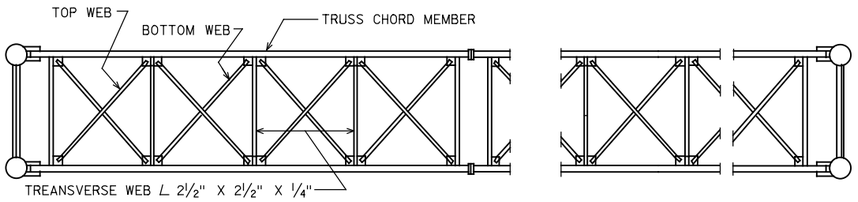
SHEET 5 OF 10

8

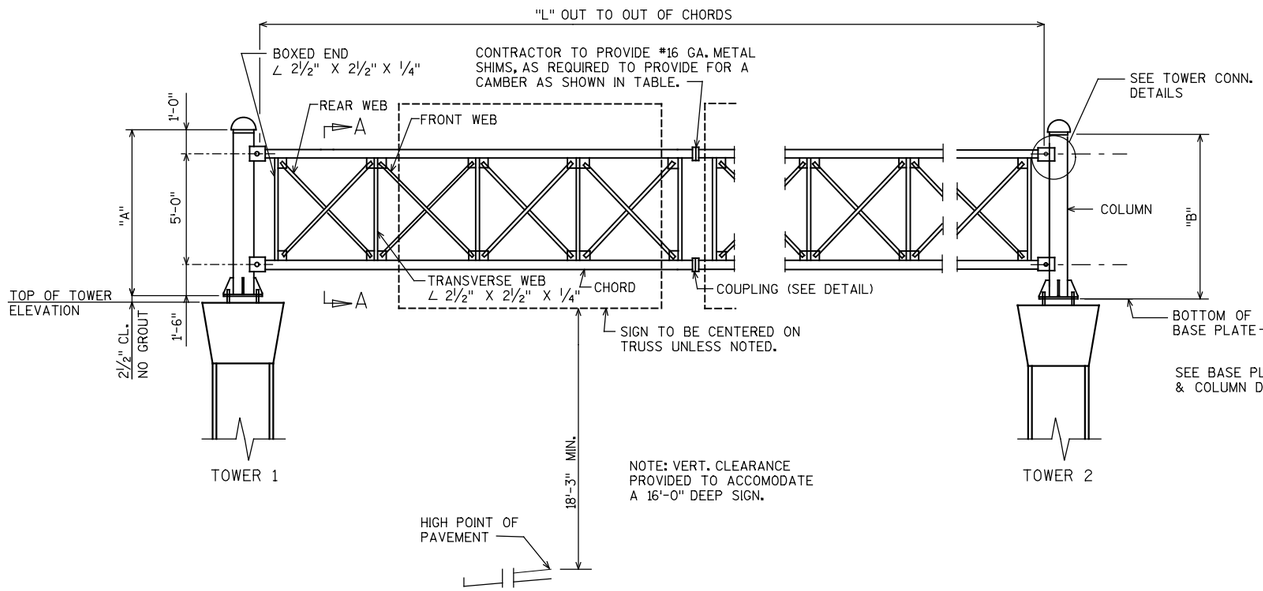
FILE NAME :S-05-159.dgn
PLOT DATE :2/15/2013 8:05:41 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by level.pit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

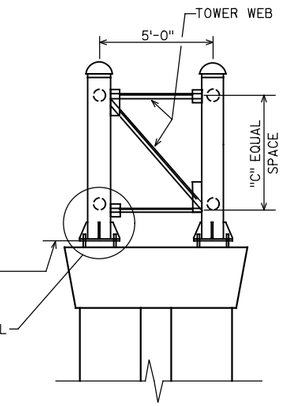
1133-09-71



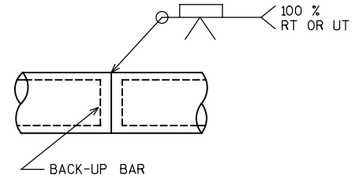
PLAN



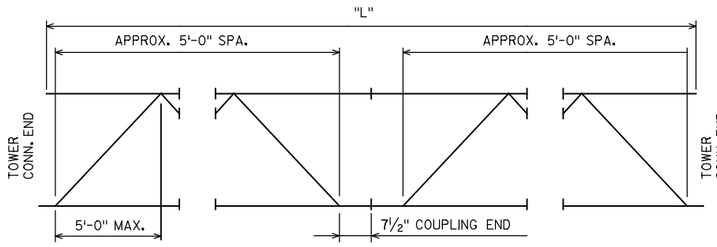
ELEVATION



TOWER 2 END VIEW
(TOWER 1 OPPOSITE HAND)

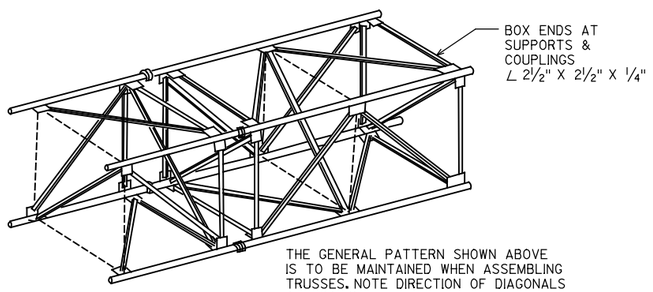


OPTIONAL COLUMN OR CHORD SPLICE DETAIL

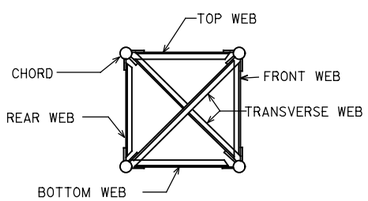


TRUSS ARRANGEMENT

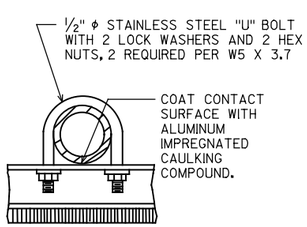
FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 20'-0" & A MULTPLE OF 5'-0". CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS. CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.



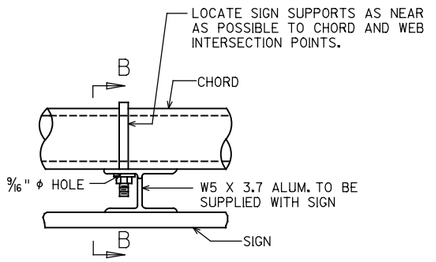
TYPICAL TRUSS SECTION



SECTION A



SECTION B



TYPICAL SIGN CONNECTION

GENERAL NOTES

DRAWING SHALL NOT BE SCALED

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

STRUCTURE MEMBER TABLE

A	B	C	CHORDS O.D. X THK.	TOP & BOTTOM WEB	FRONT & REAR WEB	COUPLING PLATE D1 & "T"	BOLT CIRCLE DIA. "D2"	NO. OF BOLTS IN COUPLING	CAMBER	COLUMN O.D. X THK.	TOWER WEBS	"L"
7'-6"	7'-6"	1	4.5"x0.237"	3"x3"x1/4"	3"x3"x1/4"	10.5" x 1.125"	7.5"	6	2"	10.75"x0.5"	3"x3"x3/16"	99'-2 ¼"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-159

DRAWN BY VC | PLANS CK'D. CES

GALVANIZED STEEL SIGN BRIDGE

SHEET 6 OF 10

2549

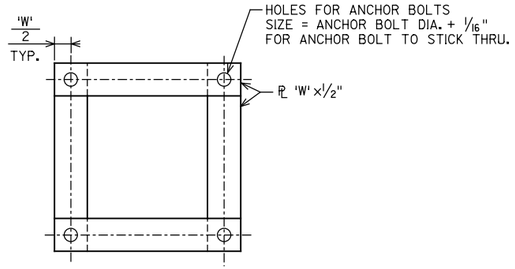
8

8

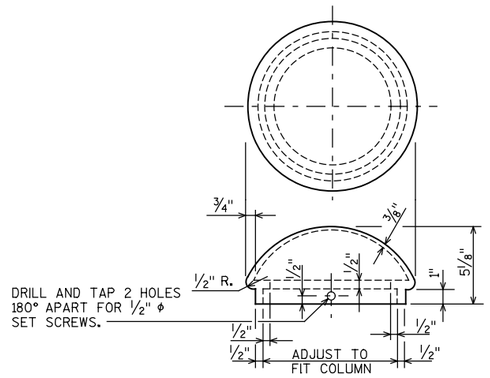
FILE NAME :S-05-159.dgn
PLOT DATE :2/25/2013 8:05:42 AM
100'
PLOT BY : MatthewHeiland\v8i
DRV :Pdf_bw_HS.by levels.pit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

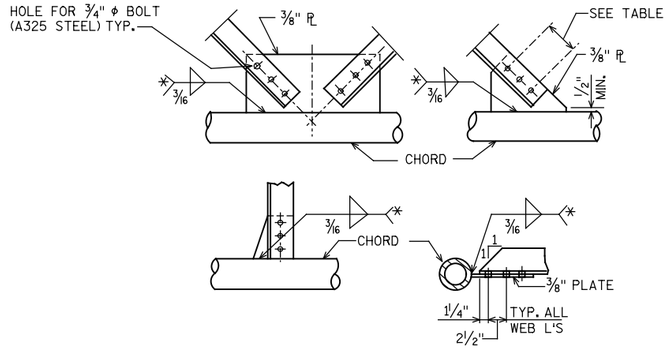
1133-09-71



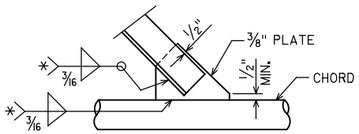
ANCHOR PLATE/TEMPLATE PLAN



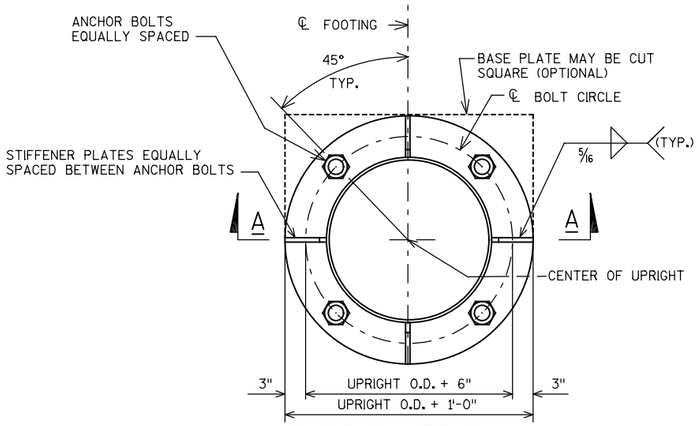
TOWER CAP DETAIL



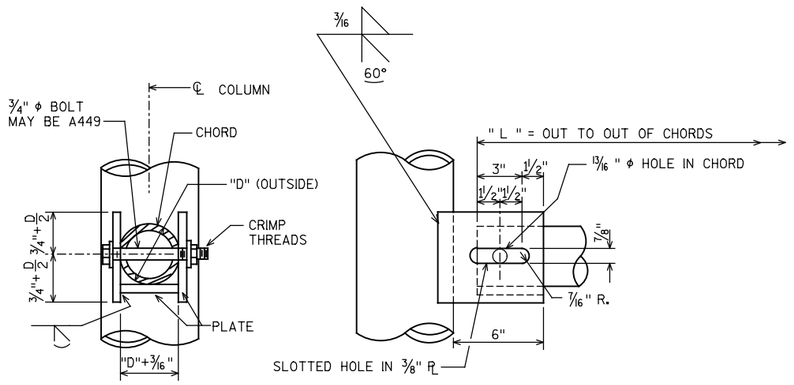
TYPICAL TRUSS CONNECTION DETAILS



TYPICAL WELDED ALTERNATE



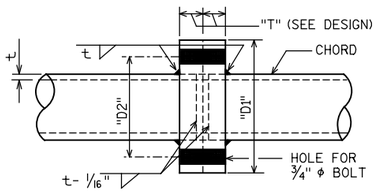
BASE PLATE PLAN



TOWER CONNECTION DETAIL

*ANGLE	WELD LENGTH	NO. OF BOLTS
● 2 1/2"x2 1/2"x1/4"	11"	3
3"x3"x3/16"	10"	3
3"x3"x1/4"	13"	4
3"x3"x5/16"	16 1/2"	5
3"x3"x3/8"	19 1/2"	6
4"x4"x1/4"	18"	5
4"x4"x5/16"	22"	6
4"x4"x3/8"	26"	8
4"x4"x7/16"	30"	9
4"x4"x1/2"	34"	10

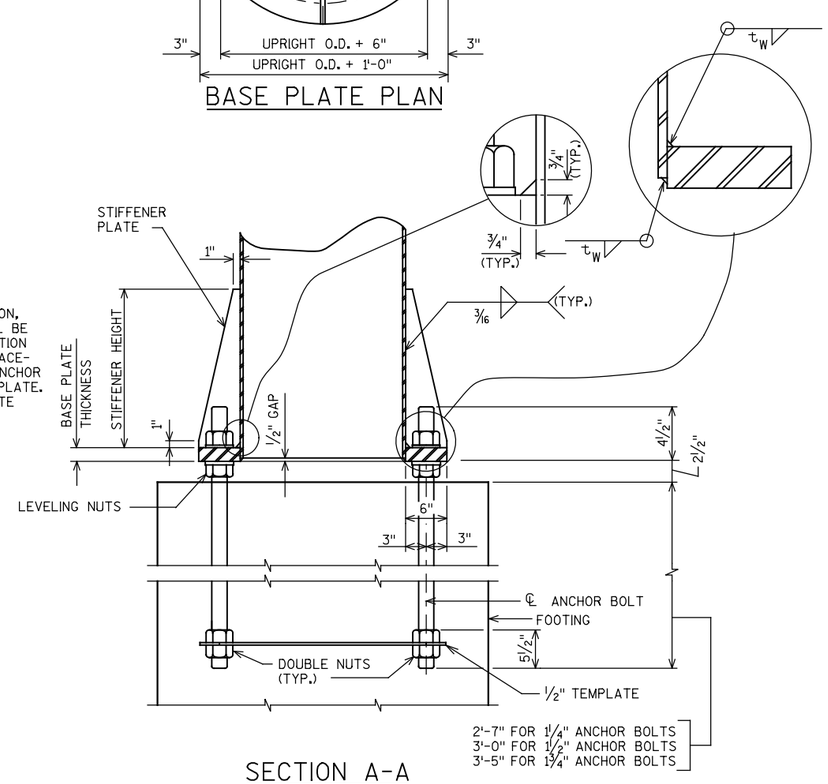
● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.



COUPLING DETAIL

(CONNECTION BOLTS OMITTED FOR CLARITY)

NOTE:
PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE. REMOVE TOP TEMPLATE (NOT SHOWN) AFTER CONCRETE SETS.



SECTION A-G

BASE PLATE & UPRIGHT COLUMN DETAILS

COLUMN O.D. X THK.	ANCHOR BOLTS	BASE PLATE THICKNESS (IN.)	STIFFENER PLATE THICKNESS (IN.)	STIFFENER PLATE HEIGHT (IN.)	t_W (IN.)
10.75"X0.5"	1 3/4"	1 3/4"	3/4"	10"	3/8"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-159

DRAWN BY VC | PLANS CK'D. CES

GALVANIZED STEEL SIGN BRIDGE DETAILS

SHEET 7 OF 10

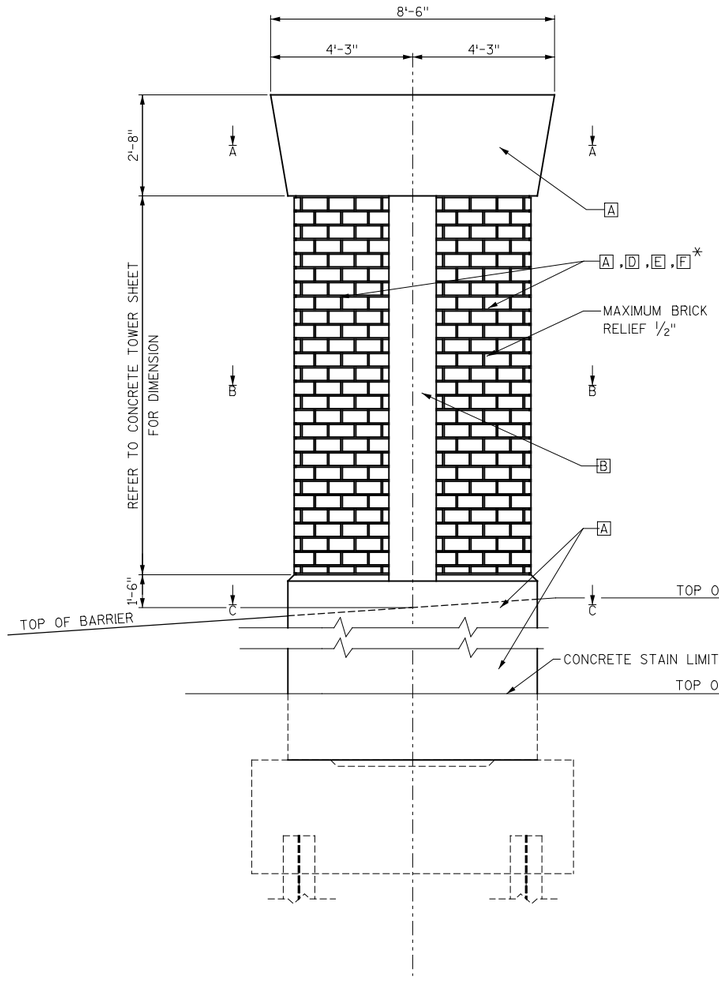
2550

8

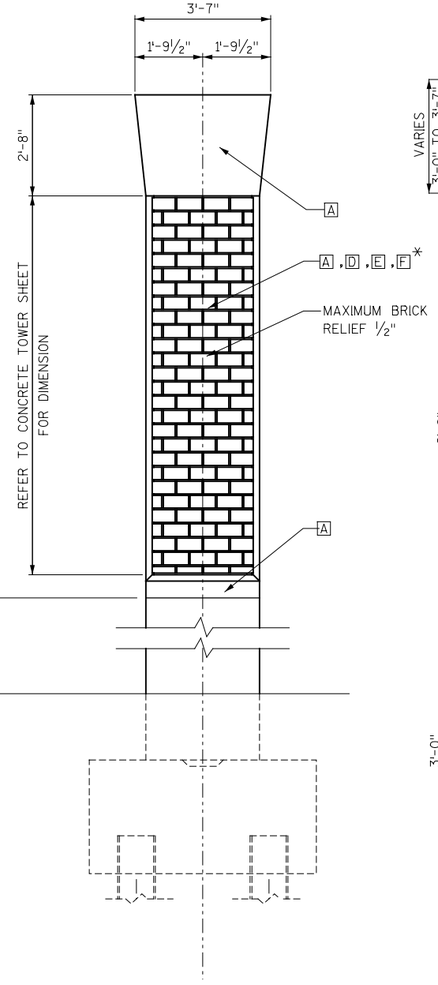
8

FILE NAME 15-05-159.dgn
PLOT DATE 12/15/2013 8:05:42 AM
100*
PLOT BY : MatthewHeiland81
DRV :Pdf_bw_HS.by levelplt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

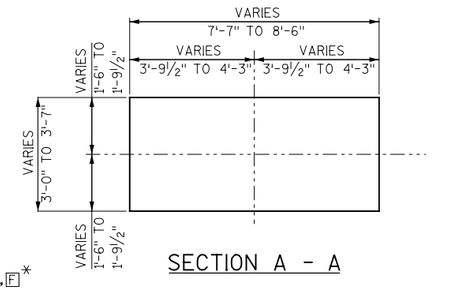
STATE PROJECT NUMBER
1133-09-71



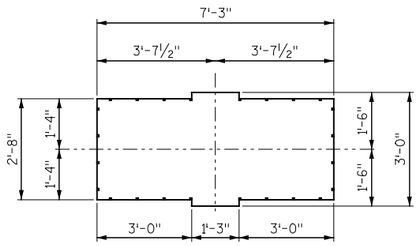
ELEVATION VIEW



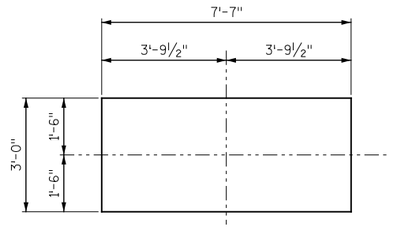
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-159

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 AESTHETIC DETAILS

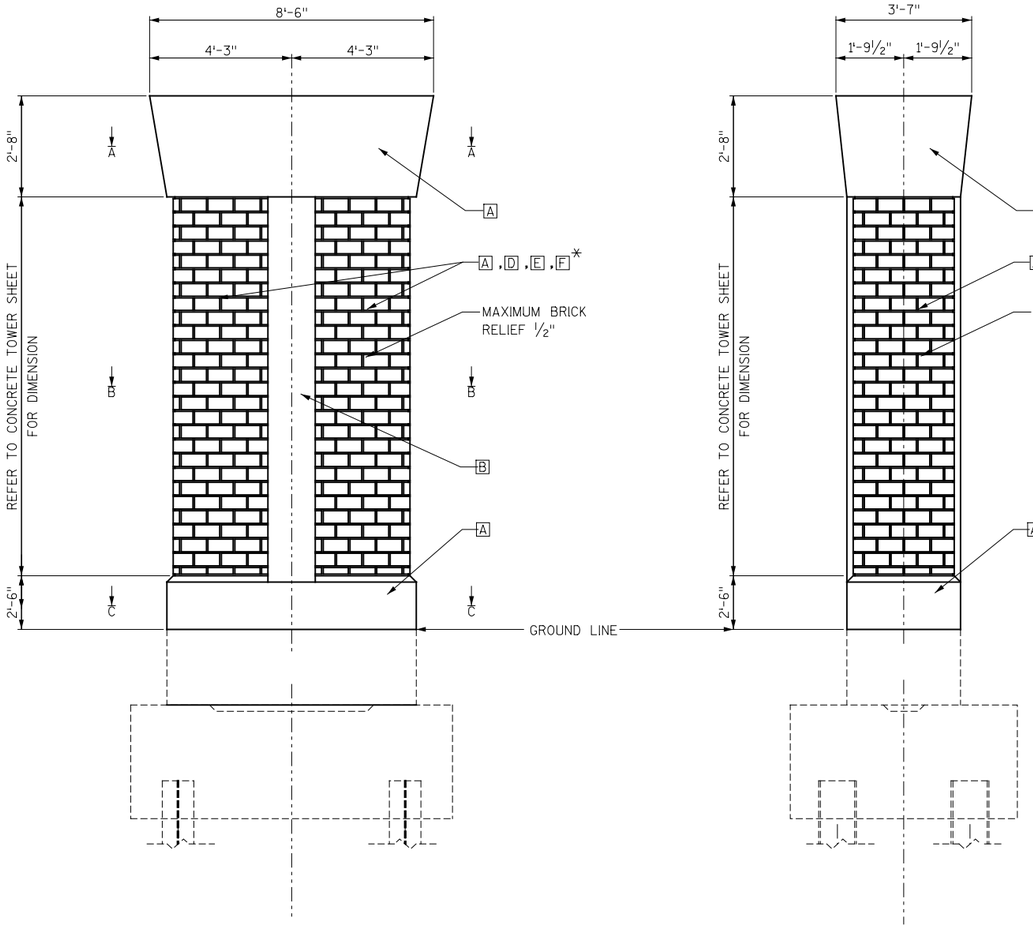
SHEET 8 OF 10

2551

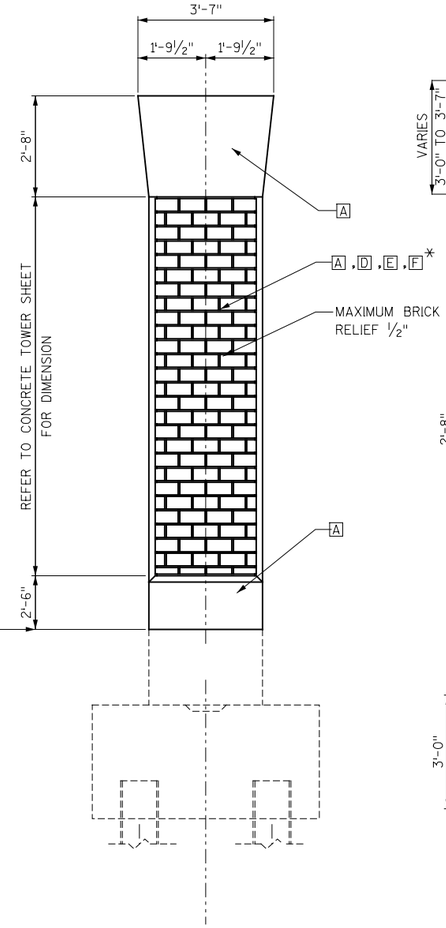
FILE NAME :S-05-159.dgn
PLOT DATE :2/15/2013 8:05:44 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

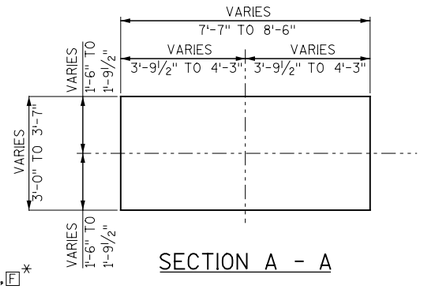
1133-09-71



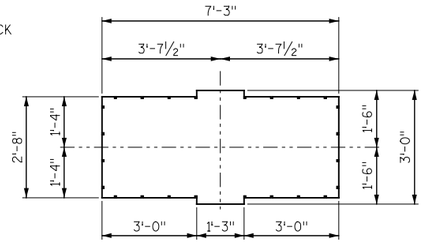
ELEVATION VIEW



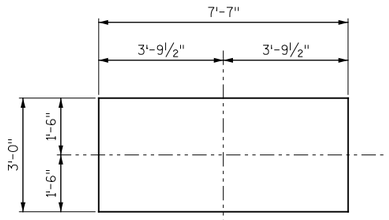
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-159

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 AESTHETIC DETAILS

SHEET 9 OF 10

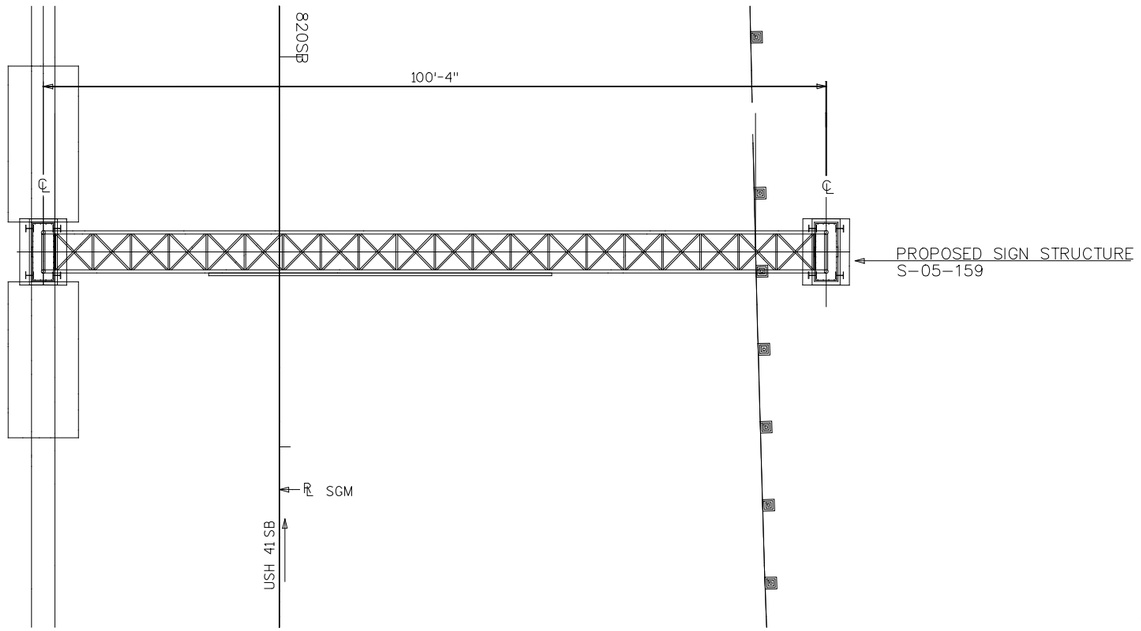
2552

8

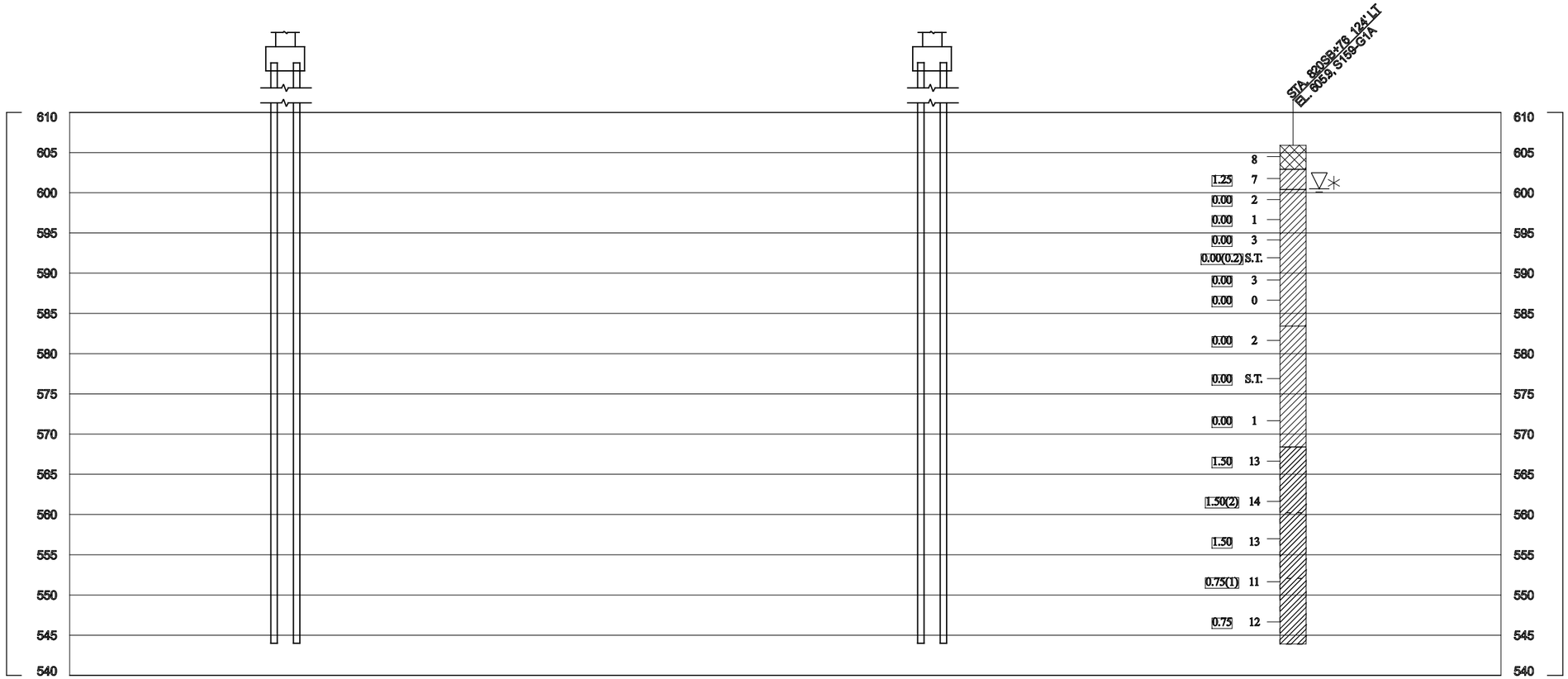
8

FILE NAME :S-05-159.dgn
PLOT DATE :2/15/2013 8:05:45 AM PLOT BY : MatthewHeiandvik DRV :Pdf_bw_HS.by level.plt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

USH-41 (S-05-159)
05-BROWN, WI



S159-G1A



NOTE: ▽* —WATER LEVEL ASSUMED FROM SAMPLE CONDITION

DRILLING REFUSAL ON APPARENT BEDROCK @ ELEV. 543.9 FT

STATE PROJECT NUMBER

1133-09-71

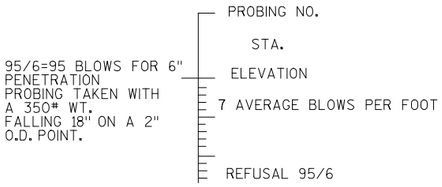
ABBREVIATIONS

F— FINE M— MEDIUM C— COARSE
WS— WEATHERED SO — SOUND

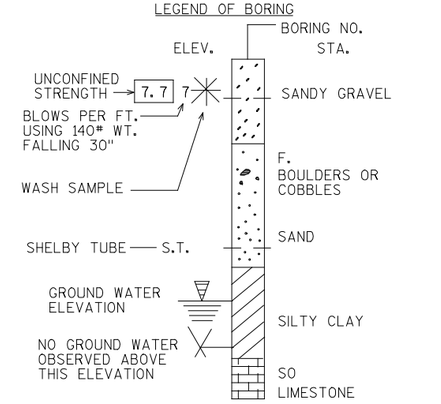
MATERIAL SYMBOLS

TOPSOIL SILT FAT CLAY
SAND PEAT DOLOMITE
GRAVEL CLAY FILL

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-159

DRAWN BY RE PLANS CK'D. DB

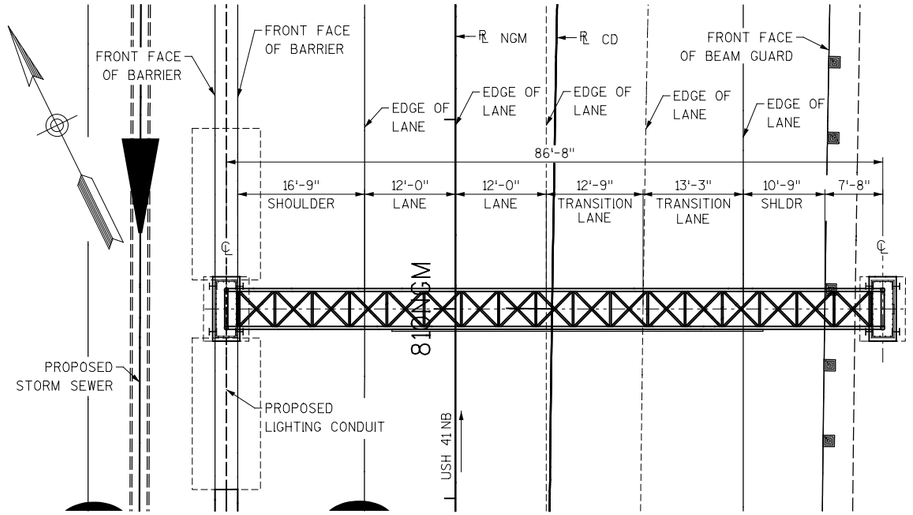
SUBSURFACE EXPLORATION

SHEET 10 OF 10
2553

SCALE 1"=20'

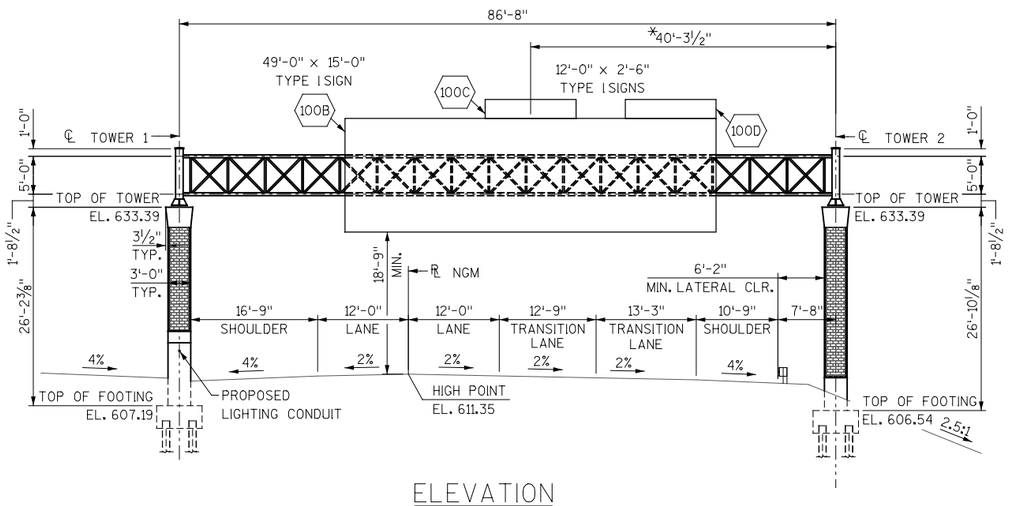
STATE PROJECT NUMBER

1133-09-71



PLAN

STA. 810NGM+00



ELEVATION

(LOOKING NORTHEAST AT FRONT FACE OF SIGN)

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER

Steven J. Miller

2/15/2013

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CONCRETE TOWER 1 FOUNDATION DETAILS
3. CONCRETE TOWER 1 DETAILS
4. CONCRETE TOWER 2 FOUNDATION DETAILS
5. CONCRETE TOWER 2 DETAILS
6. GALVANIZED STEEL SIGN BRIDGE
7. SIGN BRIDGE DETAILS
8. CONCRETE TOWER 1 AESTHETIC DETAILS
9. CONCRETE TOWER 2 AESTHETIC DETAILS
10. SUBSURFACE EXPLORATION

ULTIMATE DESIGN STRESSES:

TOWER

CONCRETE: .....f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

SIGN BRIDGE

STEEL COLUMN PIPE: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
STEEL PIPE MEMBERS OF TRUSS: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
PLATES, BARS, STRUCTURAL ANGLES: .....fy = 36,000 psi
A.S.T.M. A709 GRADE 36
STEEL ANCHOR BOLTS: .....fy = 55,000 psi
A.A.S.H.T.O. M314-90 GRADE 55
ALL BOLTED CONNECTIONS: ¾" ϕ A325 BOLTS,
GALVANIZED A.S.T.M. A153, CLASS C

DESIGN DATA

DEAD LOAD - WT. OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.
LIVE LOAD - NONE.
ICE LOAD - 3 P.S.F. TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND‡)	133

‡ MIN. VALUE OF 25 PSF FOR GR. 3

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
960	16'-0"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ON THE PILES SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 - ¼" DIAMETER BY 1¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE S-05-160 "

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN CENTER TO CENTER OF CHORDS & SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-160 "

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS. WELD TEST AS PER AWS D1.1.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

(##) - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

* SIGN PANEL DIMENSIONS ARE TO THE CENTER OF THE SIGN PANEL. CONTRACTOR TO FIELD VERIFY SIGN PANEL DISPLAYS CORRELATE WITH ROADWAY LANE LAYOUT.

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	630
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	54
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	710
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	7810
641.6600.951	SIGN BRIDGE S-05-160	LS	1
652.1350	CONDUIT RIGID METALLIC 3-INCH	LF	8
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	560
SPV.0165.501	STAINING CONCRETE	SF	1000
SPV.0165.502	STAINING CONCRETE BRICK	SF	560

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-160

DE PERE - SUAMICO

COUNTY	TOWN/CITY/VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CES	SJM	MJH	CES

PLAN & ELEVATION

SHEET 1 OF 10
2554

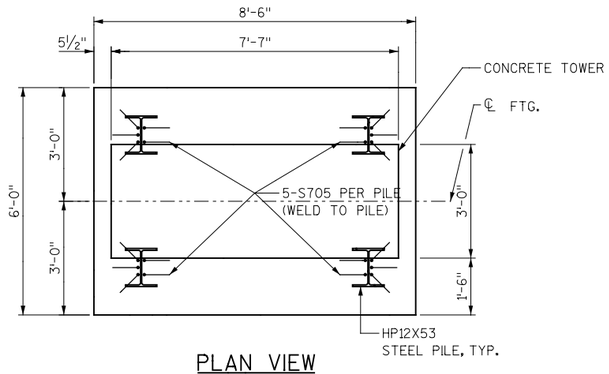
8

8

FILE NAME :S-05-160.dgn
PLOT DATE :2/15/2013 8:07:48 AM PLOT BY : MatthewHeiland\BI DRV :Pdf_bw_HS.by levelpit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

1133-09-71

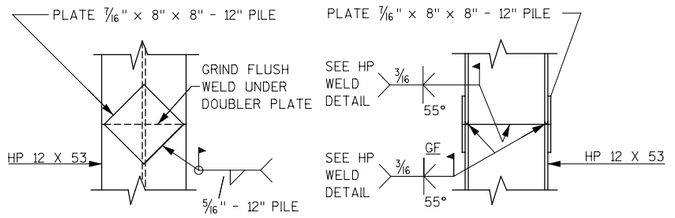


PLAN VIEW

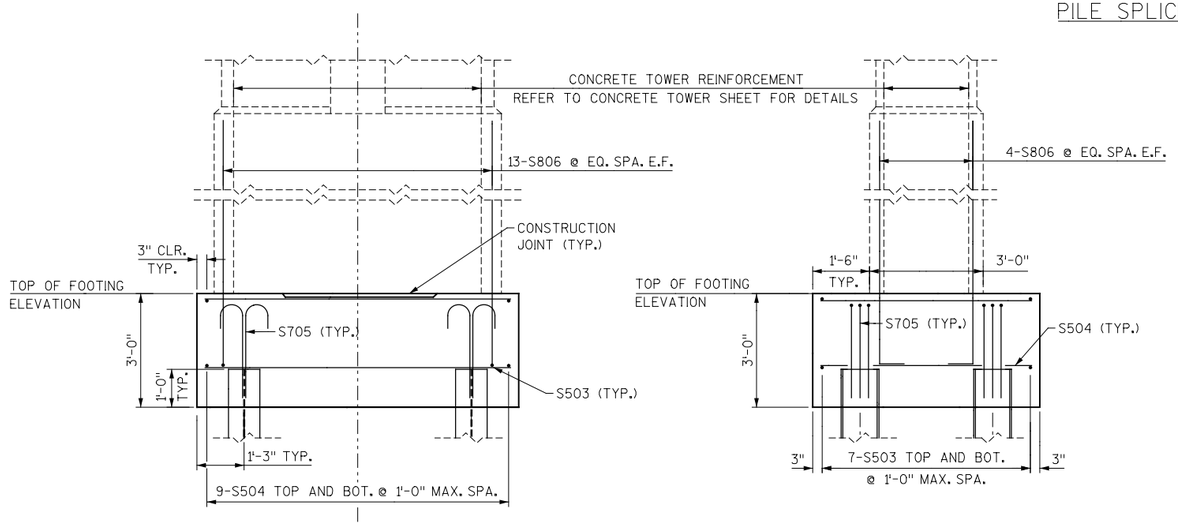
BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY

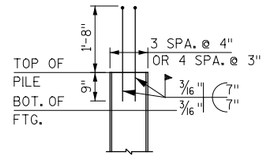


PILE SPLICE DETAIL

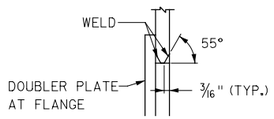


ELEVATION VIEW

END VIEW



PILE HEAD DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S503		14	8'-0"			CAP LONGITUDINAL
S504		18	5'-6"			CAP TRANSVERSE
S705		20	3'-3"	▲		WELDED TO PILES
S806	X	30	12'-5"	▲		CAP BEAM VERTICAL
S407	X	22	11'-6"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S808	X	30	26'-0"			VERT. REINF., MIDDLE OF TOWER
S409	X	4	13'-8"			VERT. REINF., MIDDLE OF TOWER
S410	X	38	10'-7"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	30	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	33	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	57	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

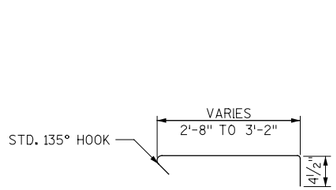
SIGN BRIDGE TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. BEDROCK IS EXPECTED TO BE ENCOUNTERED AT EL. 527.19 . ESTIMATED LENGTH 78 FEET LONG.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

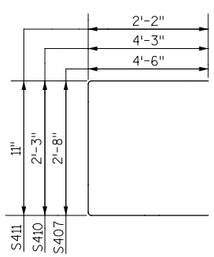
IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

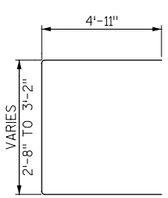
WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".



S417



S407,S410,S411



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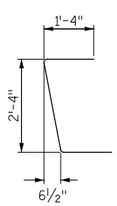

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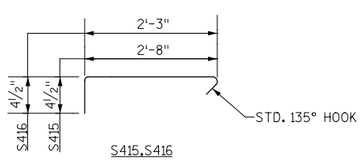
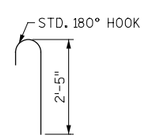


S415,S416

S806



S705

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-160

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 FOUNDATION DETAILS

SHEET 2 OF 10

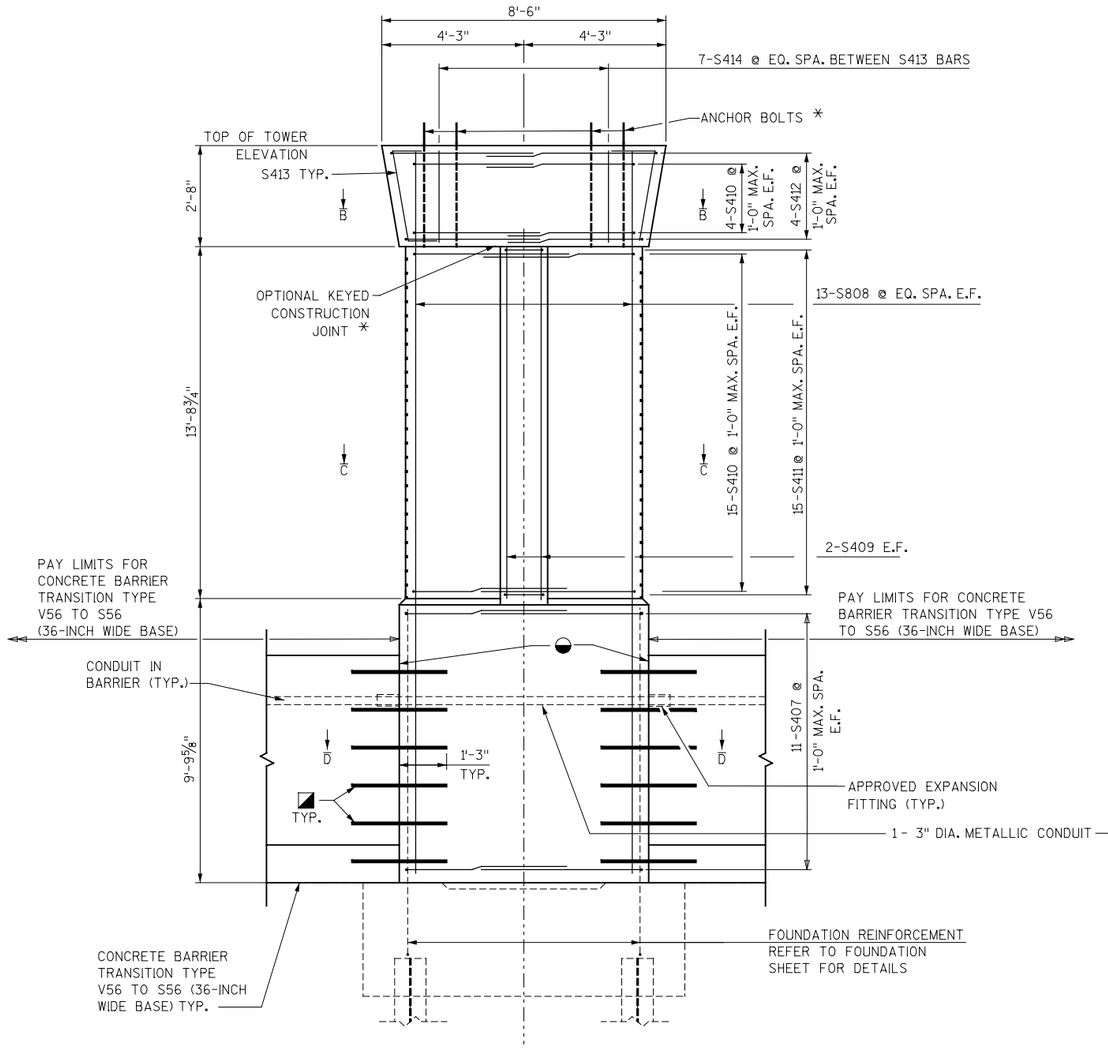
2555

8

8

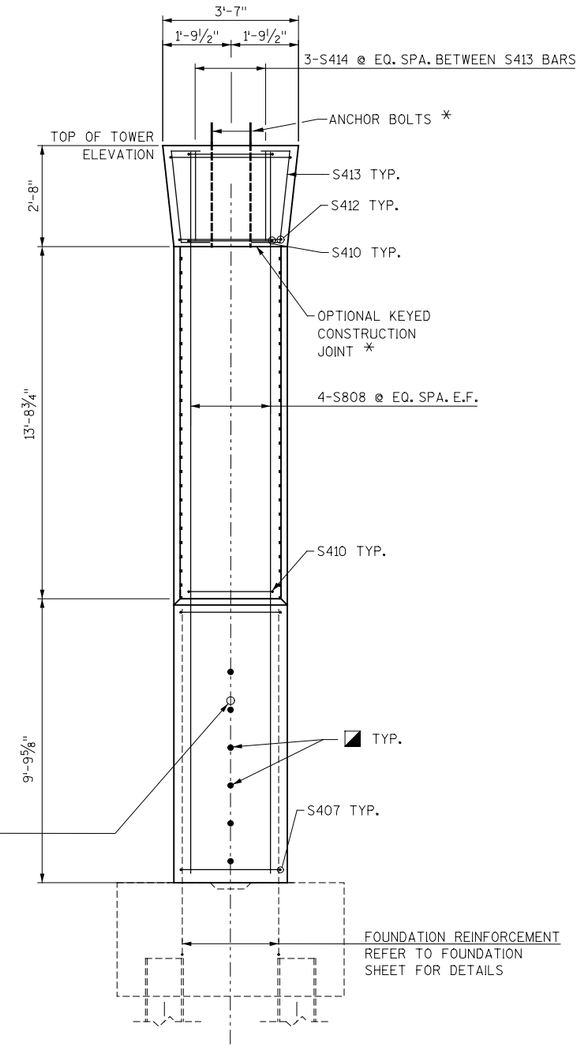
FILE NAME :S-05-160.dgn
PLOT DATE :2/15/2023 8:07:50 AM PLOT BY : MatthewH@landvR DRV :Pdf_bw_HS.by levelplt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-09-71



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

APPROVED EXPANSION FITTING SHALL BE CAST INTO THE BARRIER OR TOWER CONCRETE, WHICH EVER ELEMENT IS CAST FIRST.

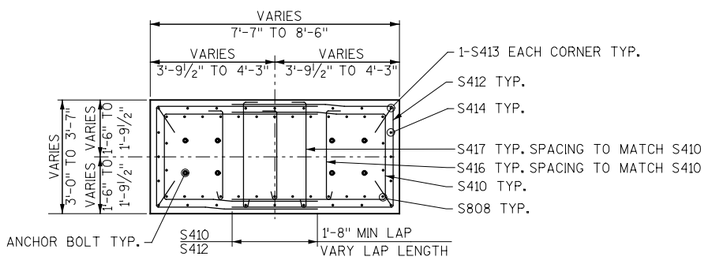
COORDINATE THE LOCATION OF THE ELECTRICAL CONDUIT IN THE TOWER TO MATCH THE LOCATION OF THE CONDUIT IN THE CONCRETE BARRIER.

SPACE S407 BARS TO MISS CONDUIT.

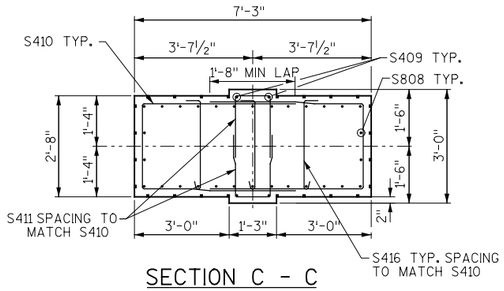
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.

◪ PLACE 1" ϕ PLAIN (SMOOTH) ROUND DOWEL BARS, 2'-6" LONG BETWEEN BARRIER AND CONCRETE TOWER. USE DEBONDER ON EXTENSION INTO BARRIER. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. SPACE DOWELS AT 1'-0". COST OF ITEMS ARE TO BE INCLUDED IN THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

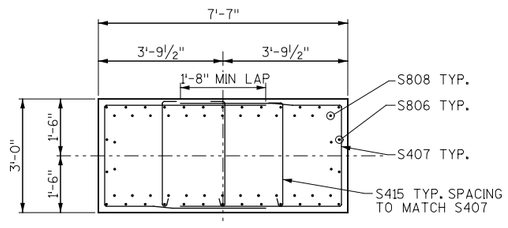
◒ PLACE 1/2" EXPANSION JOINT FILLLER BETWEEN TOWER AND BARRIER WALL, TYP. THE JOINT FILLER SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".



SECTION B - B



SECTION C - C



SECTION D - D

(DOWEL BARS OMITTED FOR CLARITY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-160

DRAWN BY VC | PLANS CK'D. CES

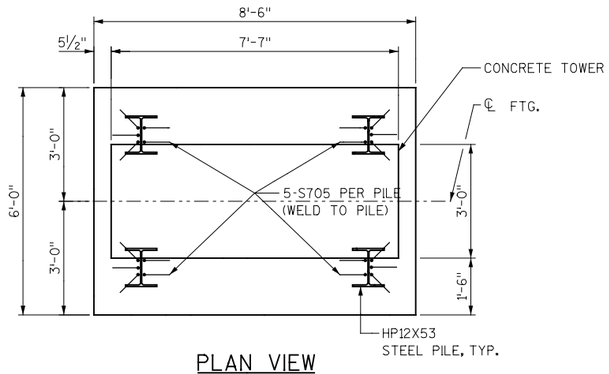
CONCRETE TOWER 1 DETAILS

SHEET 3 OF 10
2556

FILE NAME :S-05-160.dgn
PLOT DATE :2/25/2013 8:07:52 AM PLOT BY : MatthewH@andv81 DRV :Pdf_bw_HS.by level.dt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

1133-09-71

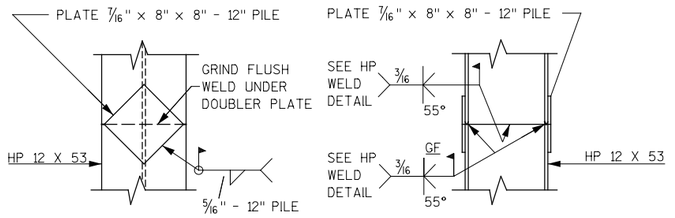


PLAN VIEW

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY



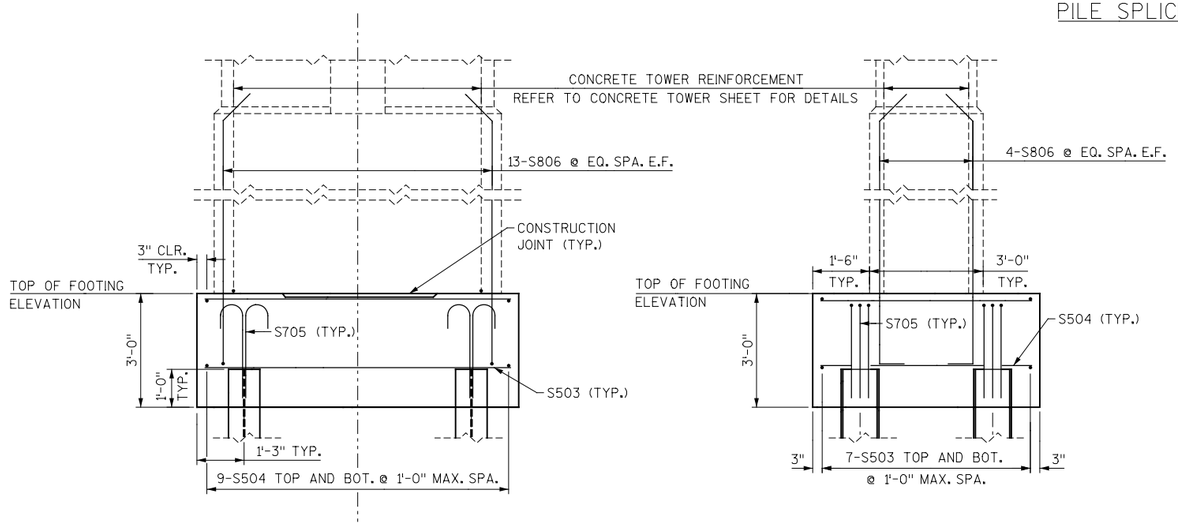
PILE SPLICE DETAIL

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

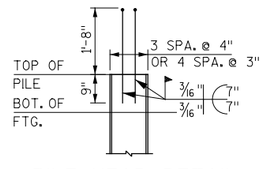
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S503		14	8'-0"			CAP LONGITUDINAL
S504		18	5'-6"			CAP TRANSVERSE
S705		20	3'-3"	▲		WELDED TO PILES
S806	X	30	8'-5"	▲		CAP BEAM VERTICAL
S407	X	10	11'-6"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S808	X	30	27'-9"	▲		VERT. REINF., MIDDLE OF TOWER
S409	X	4	19'-8"			VERT. REINF., MIDDLE OF TOWER
S410	X	50	10'-7"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	42	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	15	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	75	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

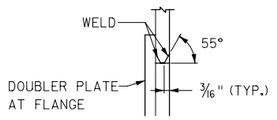


ELEVATION VIEW

END VIEW



PILE HEAD DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

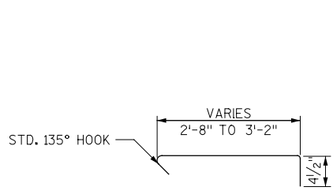
SIGN BRIDGE TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. BEDROCK IS EXPECTED TO BE ENCOUNTERED AT EL. 526.54. ESTIMATED LENGTH 78 FEET LONG.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

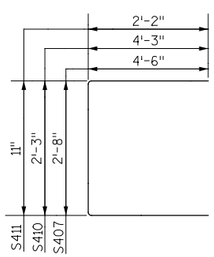
IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

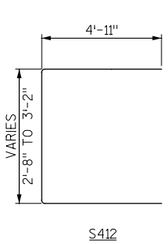
WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".



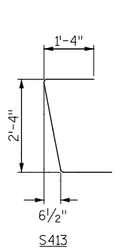
S417



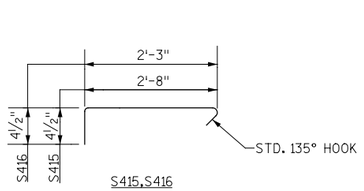
S407,S410,S411



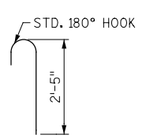
S412



S413



S415,S416



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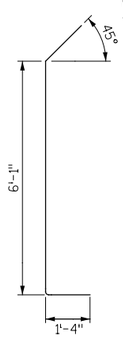


S806

S808

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-160

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 FOUNDATION DETAILS

SHEET 4 OF 10

2557

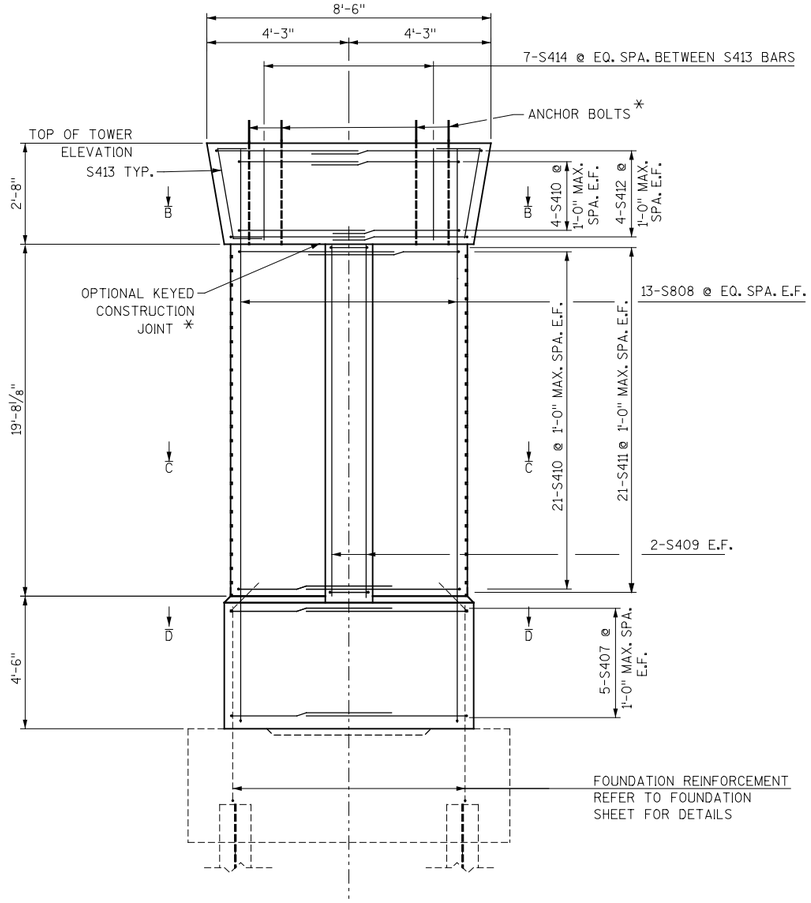
8

8

FILE NAME :S-05-160.dgn
PLOT DATE :12/15/2023 8:07:53 AM PLOT BY : MatthewHe@landvR DRV :Pdf_bw_HS.by levelplt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

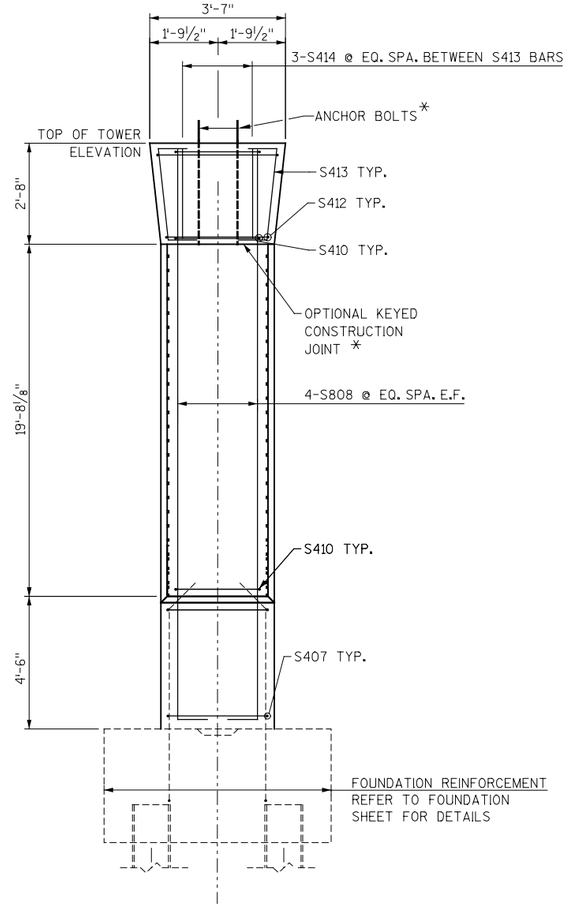
STATE PROJECT NUMBER

1133-09-71



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

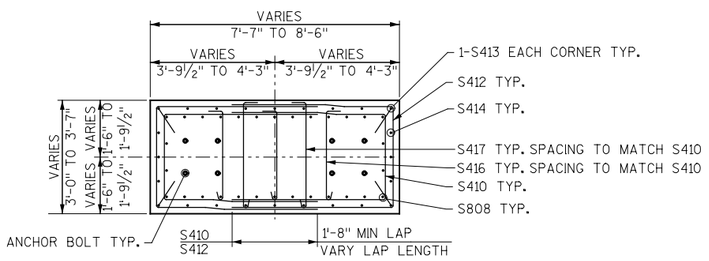
"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

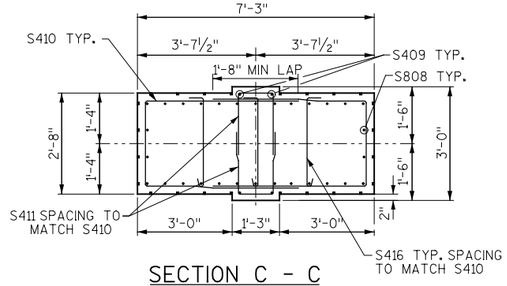
REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

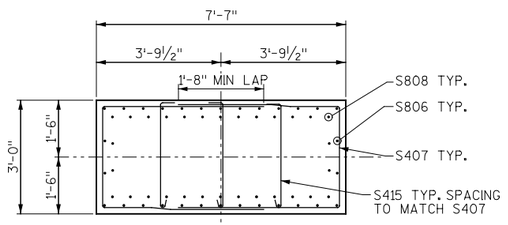
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.



SECTION B - B



SECTION C - C



SECTION D - D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-160

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 DETAILS 2558

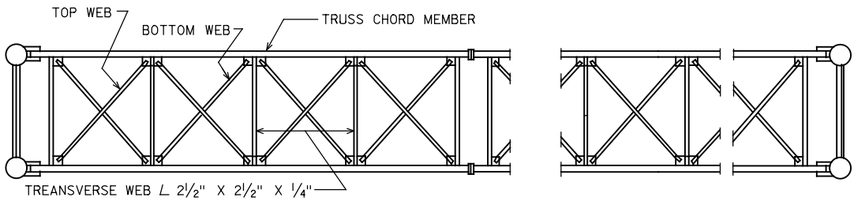
SHEET 5 OF 10

8

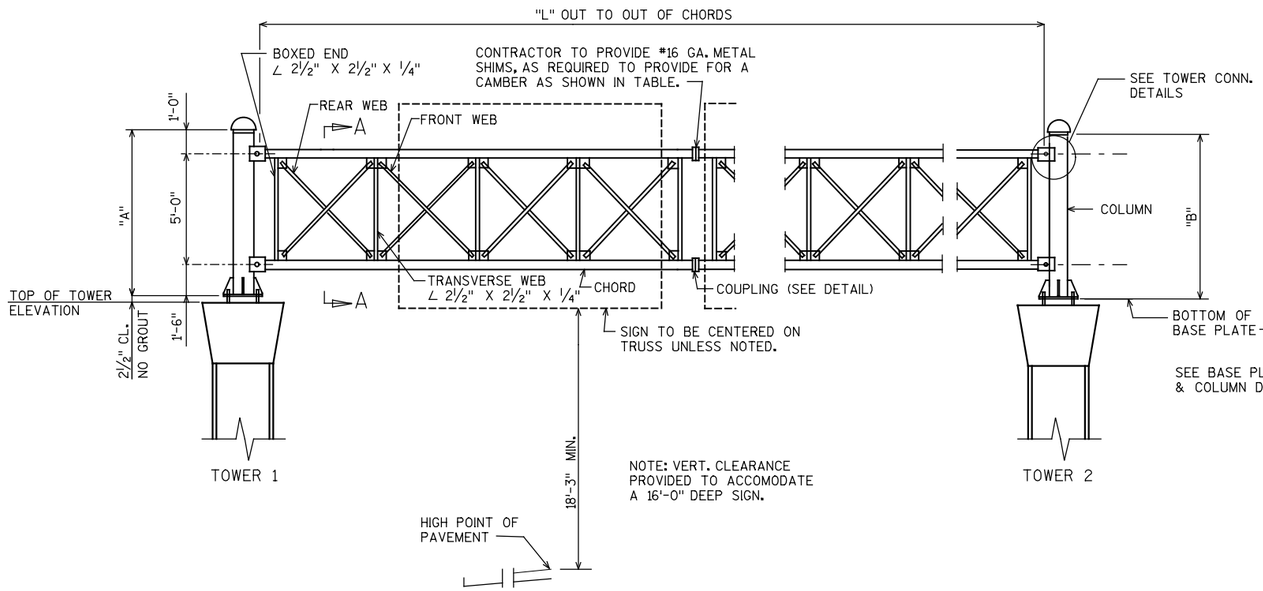
FILE NAME : S-05-160.dgn
PLOT DATE : 2/15/2013 8:07:54 AM PLOT BY : MatthewHeiandvik DRV : Pdf_bw_HS.by levelzit PEN : CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

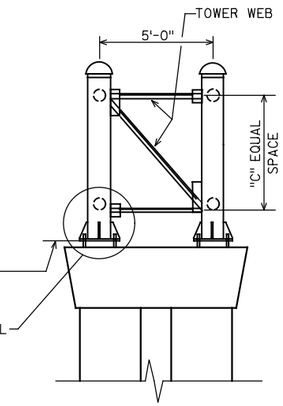
1133-09-71



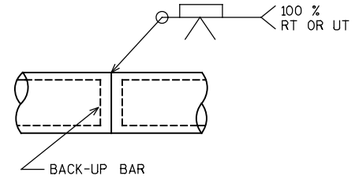
PLAN



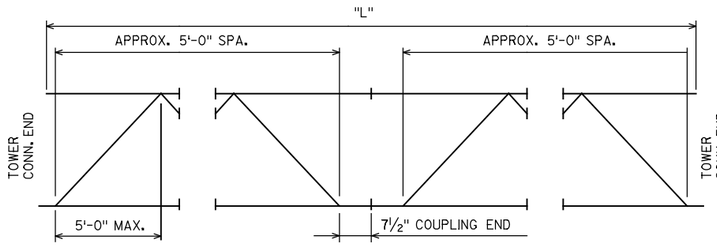
ELEVATION



TOWER 2 END VIEW
(TOWER 1 OPPOSITE HAND)

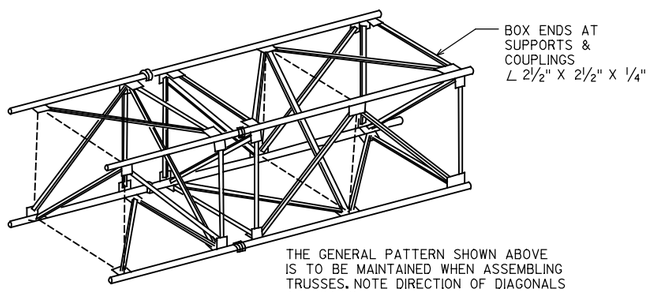


OPTIONAL COLUMN OR CHORD SPLICE DETAIL

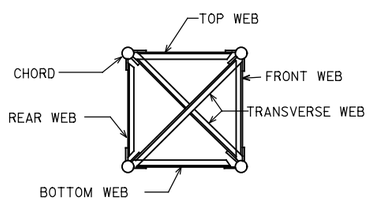


TRUSS ARRANGEMENT

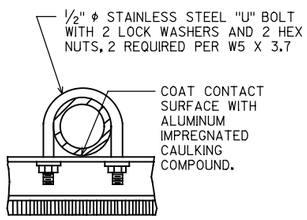
FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 20'-0" & A MULTPLE OF 5'-0". CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS. CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.



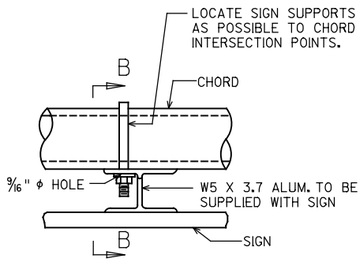
TYPICAL TRUSS SECTION



SECTION A



SECTION B



TYPICAL SIGN CONNECTION

GENERAL NOTES

DRAWING SHALL NOT BE SCALED

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

STRUCTURE MEMBER TABLE

A	B	C	CHORDS O.D. X THK.	TOP & BOTTOM WEB	FRONT & REAR WEB	COUPLING PLATE D1 & "T"	BOLT CIRCLE DIA. "D2"	NO. OF BOLTS IN COUPLING	CAMBER	COLUMN O.D. X THK.	TOWER WEBS	"L"
7'-6"	7'-6"	1	4"x0.226"	3"x3"x1/4"	3"x3"x1/4"	10.5" x 1"	7.5"	6	1⅜"	10.75"x0.365"	3"x3"x3/16"	85'-6¼"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-160

DRAWN BY VC | PLANS CK'D. CES

GALVANIZED STEEL SIGN BRIDGE

SHEET 6 OF 10

2559

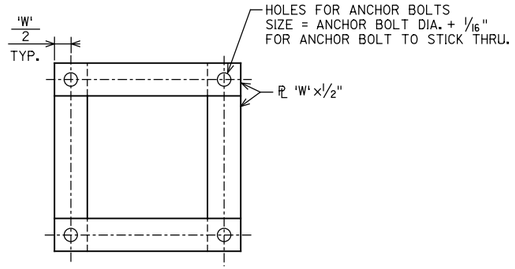
8

8

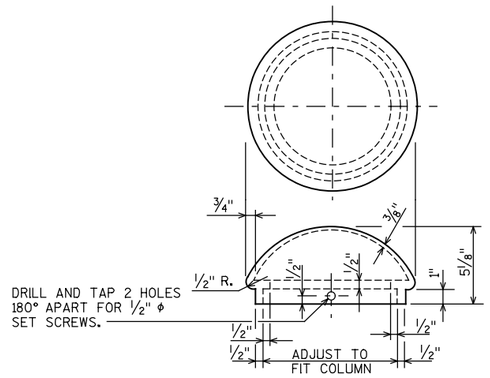
FILE NAME :S-05-160.dgn
PLOT DATE 12/15/2013 8:07:55 AM
85"
PLOT BY : MatthewHeiland v8i
DRV :Pdf_bw_HS.by levels.pit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

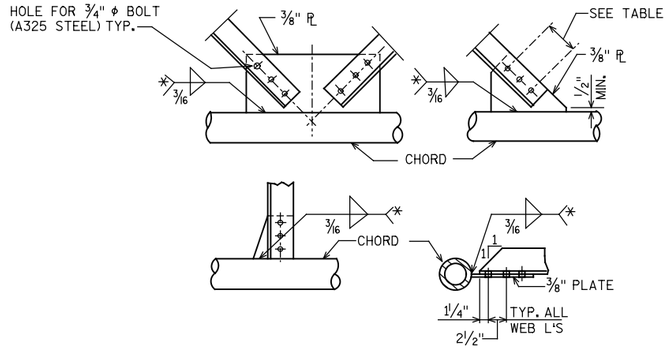
1133-09-71



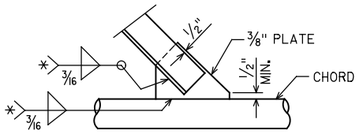
ANCHOR PLATE/TEMPLATE PLAN



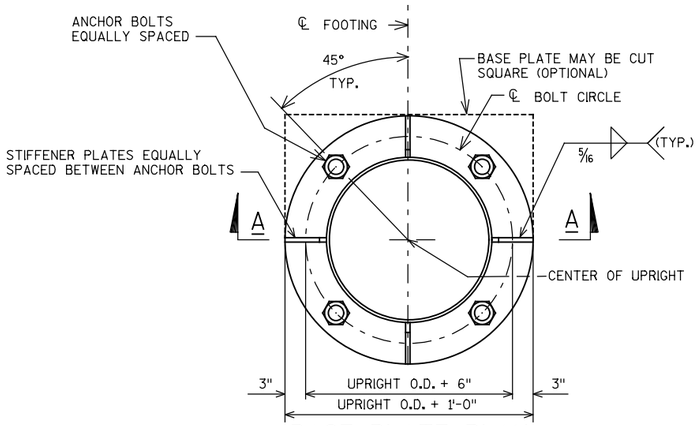
TOWER CAP DETAIL



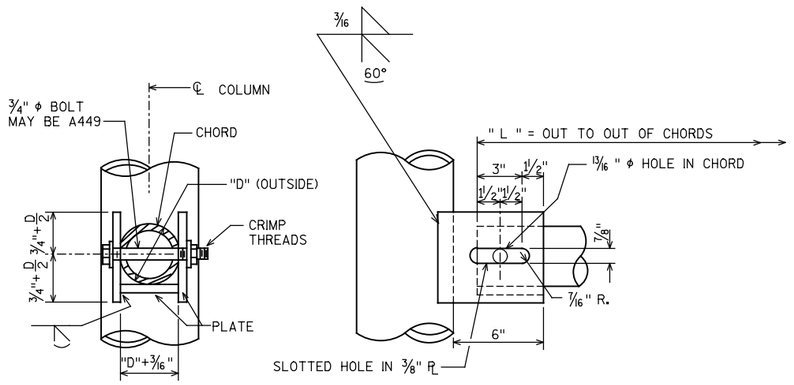
TYPICAL TRUSS CONNECTION DETAILS



TYPICAL WELDED ALTERNATE



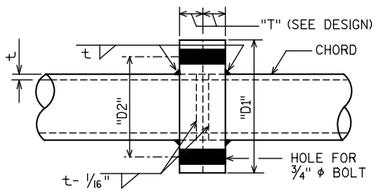
BASE PLATE PLAN



TOWER CONNECTION DETAIL

*ANGLE	WELD LENGTH	NO. OF BOLTS
● 2 1/2"x2 1/2"x1/4"	11"	3
3"x3"x3/16"	10"	3
3"x3"x1/4"	13"	4
3"x3"x5/16"	16 1/2"	5
3"x3"x3/8"	19 1/2"	6
4"x4"x1/4"	18"	5
4"x4"x5/16"	22"	6
4"x4"x3/8"	26"	8
4"x4"x7/16"	30"	9
4"x4"x1/2"	34"	10

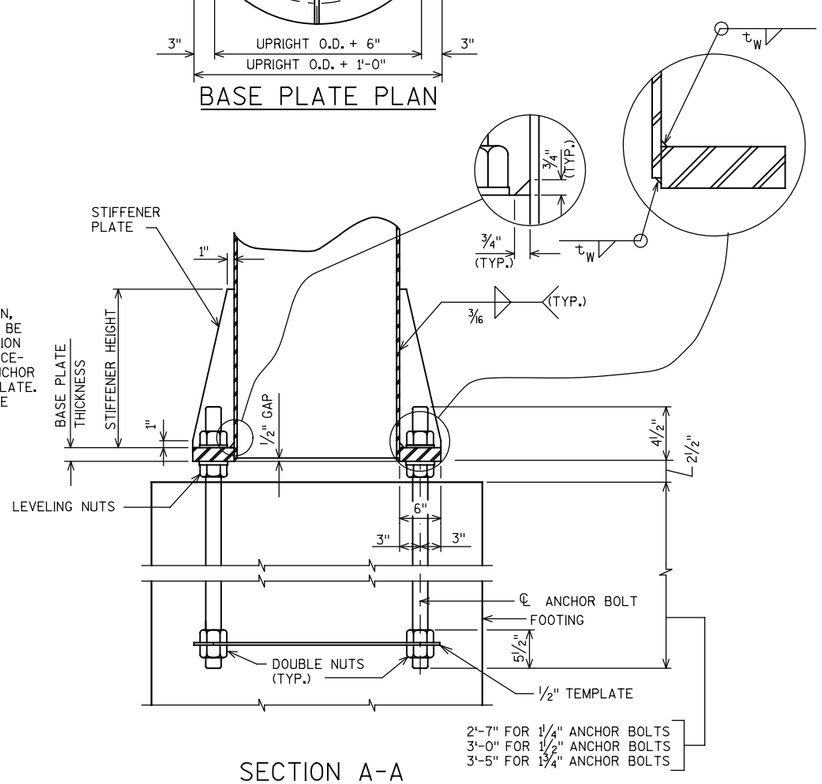
● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.



COUPLING DETAIL

(CONNECTION BOLTS OMITTED FOR CLARITY)

NOTE:
PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE. REMOVE TOP TEMPLATE (NOT SHOWN) AFTER CONCRETE SETS.



SECTION A-B

BASE PLATE & UPRIGHT COLUMN DETAILS

COLUMN O.D. X THK.	ANCHOR BOLTS	BASE PLATE THICKNESS (IN.)	STIFFENER PLATE THICKNESS (IN.)	STIFFENER PLATE HEIGHT (IN.)	t_W (IN.)
10.75"X0.365"	1 3/4"	1 3/4"	5/8"	10"	5/16"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-160

DRAWN BY VC | PLANS CK'D. CES

GALVANIZED STEEL SIGN BRIDGE DETAILS

SHEET 7 OF 10

2560

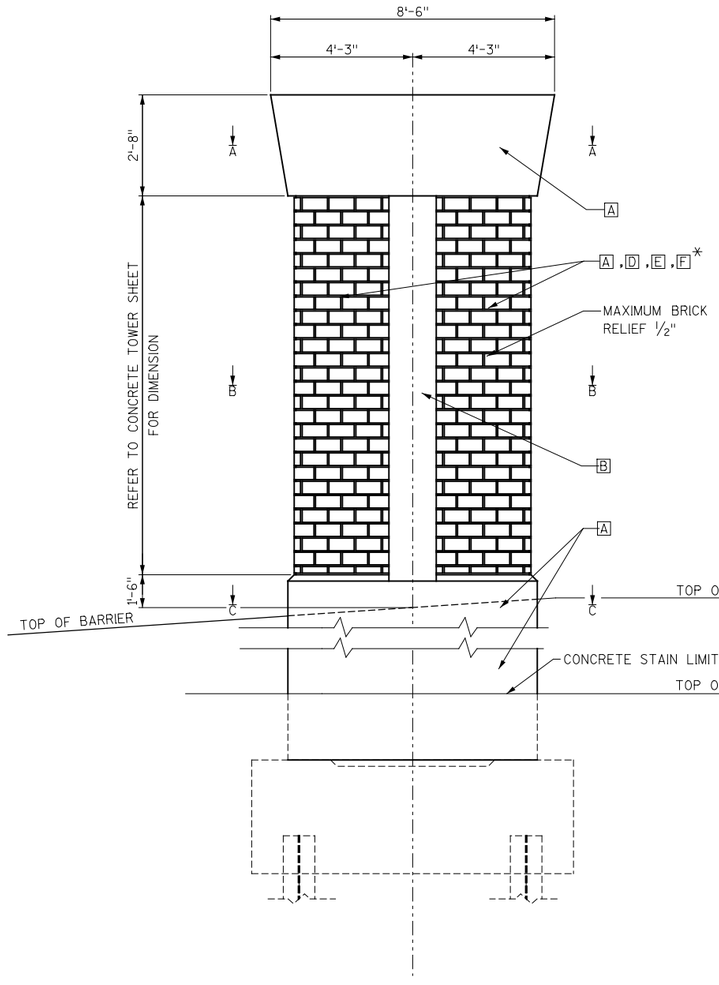
8

8

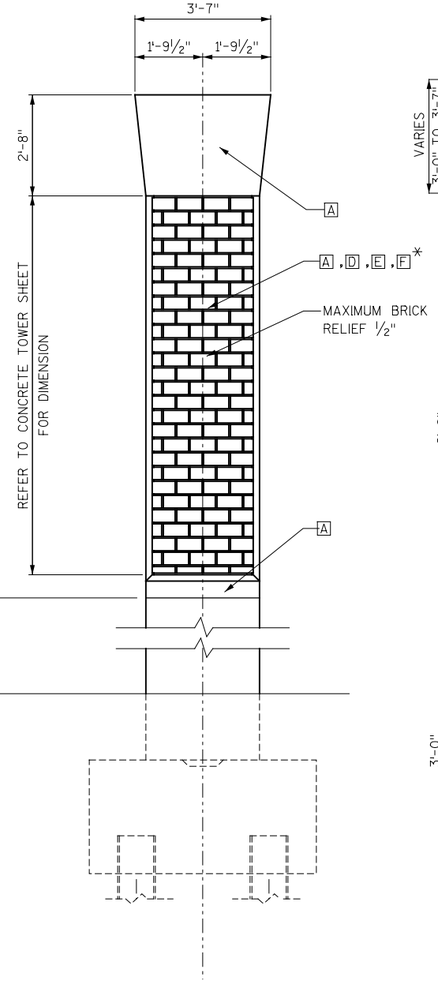
FILE NAME 15-05-160.dgn
PLOT DATE 12/25/2013 8:07:55 AM
PLOT BY : MatthewHeiland48
DRV :Pdf.bw.HS.by levelplt PEN :CEL.TEXTSUB.SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

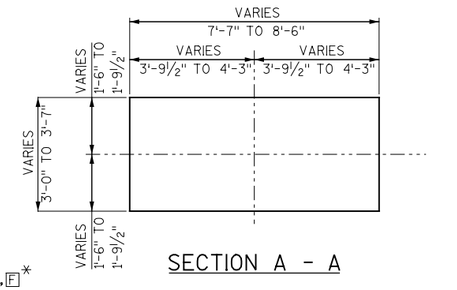
1133-09-71



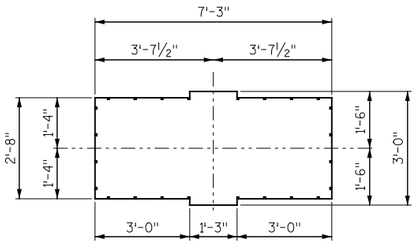
ELEVATION VIEW



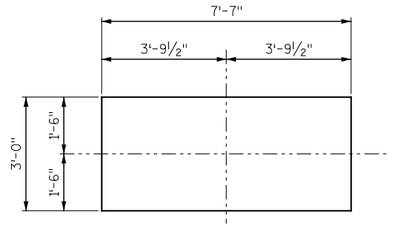
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-160

DRAWN BY VC | PLANS CK'D. CES

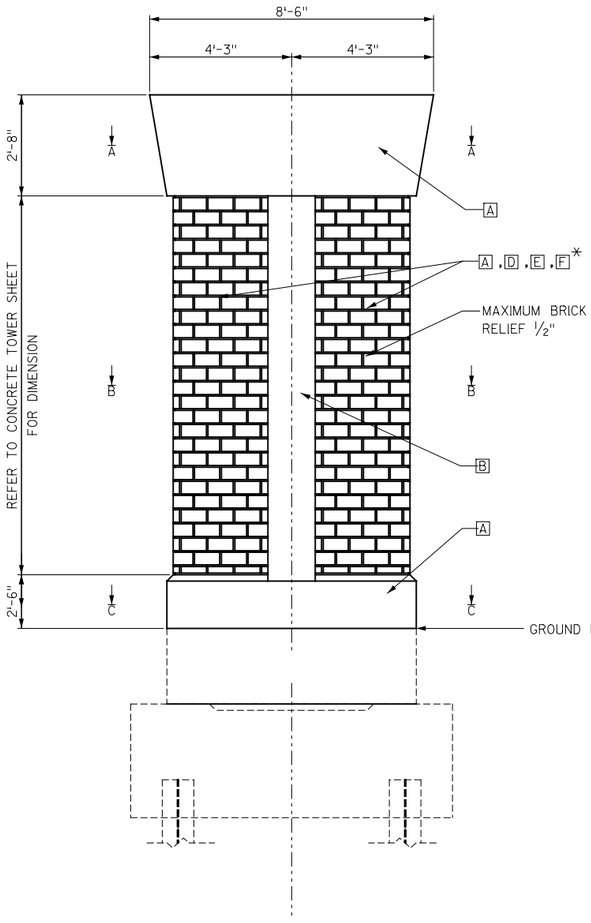
CONCRETE TOWER 1 AESTHETIC DETAILS

SHEET 8 OF 10

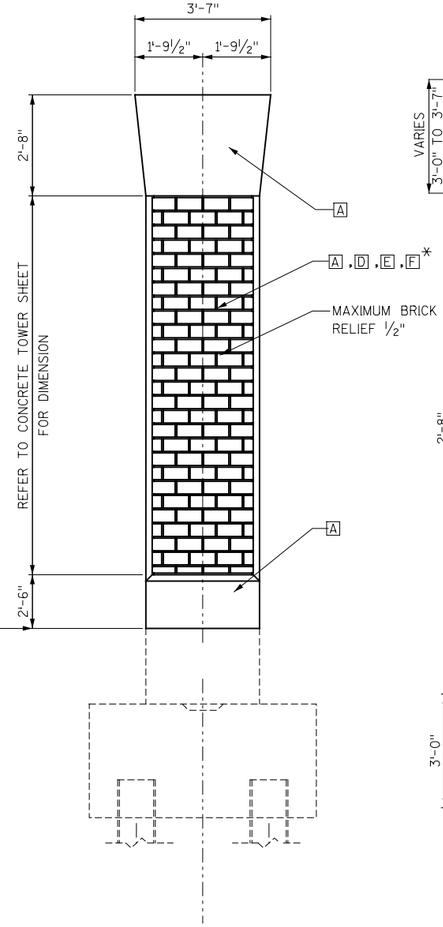
2561

FILE NAME :S-05-160.dgn
PLOT DATE :2/15/2013 8:07:56 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

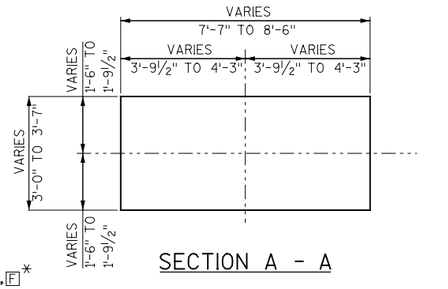
STATE PROJECT NUMBER
1133-09-71



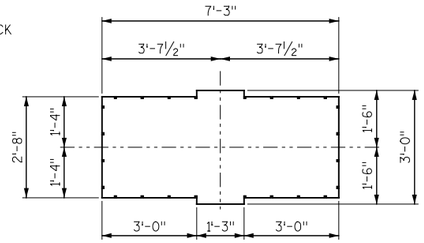
ELEVATION VIEW



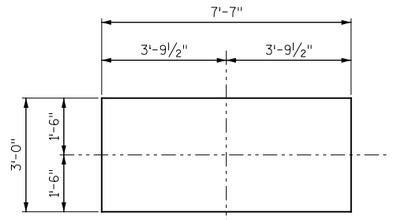
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-160

DRAWN BY	PLANS CK'D.
VC	CES

CONCRETE TOWER 2
AESTHETIC
DETAILS

SHEET 9 OF 10

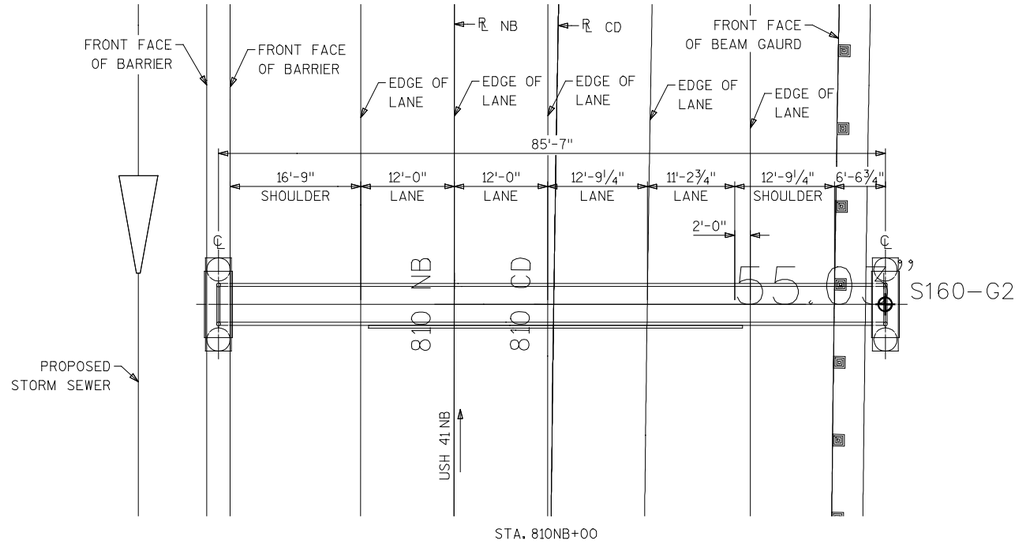
2562

8

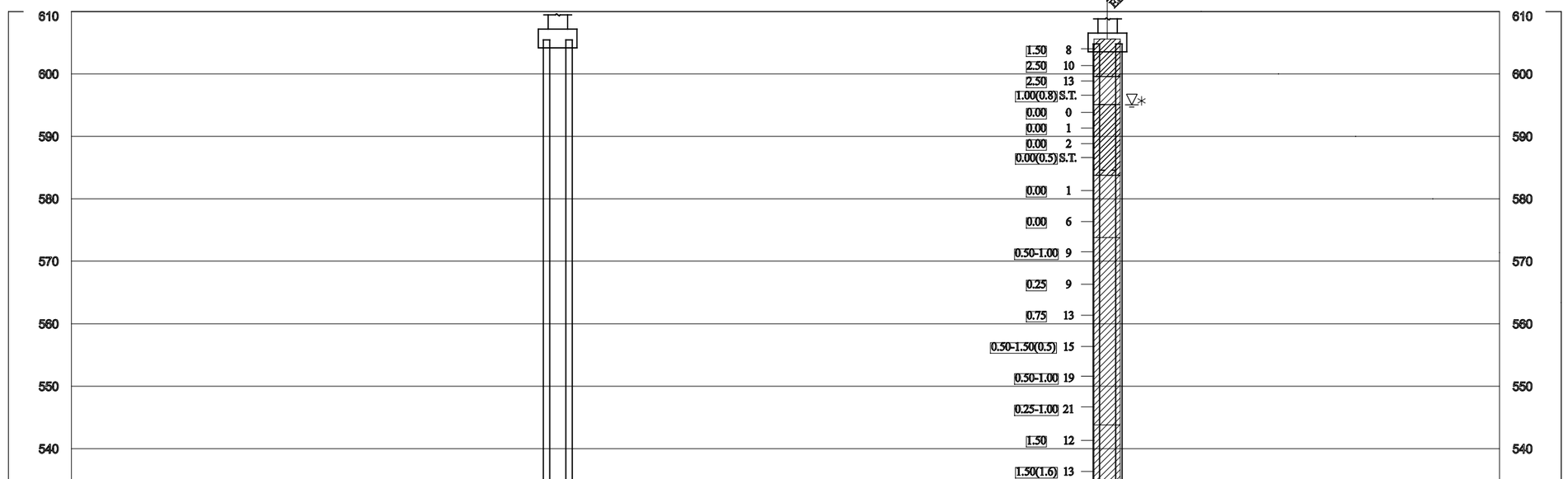
8

FILE NAME :S-05-160.dgn
PLOT DATE :2/15/2013 8:07:58 AM PLOT BY : MatthewHeiland:8l DRV :Pdf_bw_HS.by level.plt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL_TBL

USH-41 (S-05-160)
05-Brown, WI



STA. 810NB+00



Note: ▽ -Water level assumed from sample condition*

STATE PROJECT NUMBER

1133-09-71

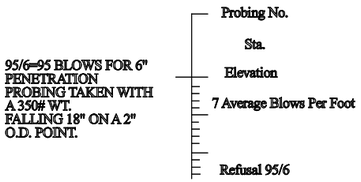
ABBREVIATIONS

F—Fine M—Medium C—Coarse
Ws—Weathered So—Sound

MATERIAL SYMBOLS

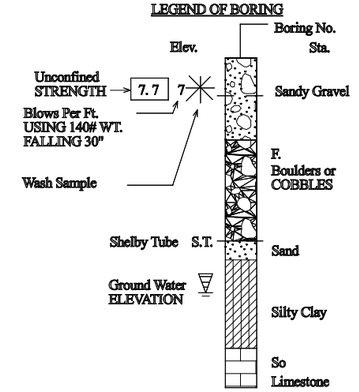
Topsoil	Silt	Fat Clay
Sand	Peat	Limestone
Gravel	Clay	Fill

LEGEND OF PROBING



95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

STRUCTURE S-05-160

DRAWN BY RHE | PLANS CK'D. NS

subsurface exploration

SHEET 10 OF 10

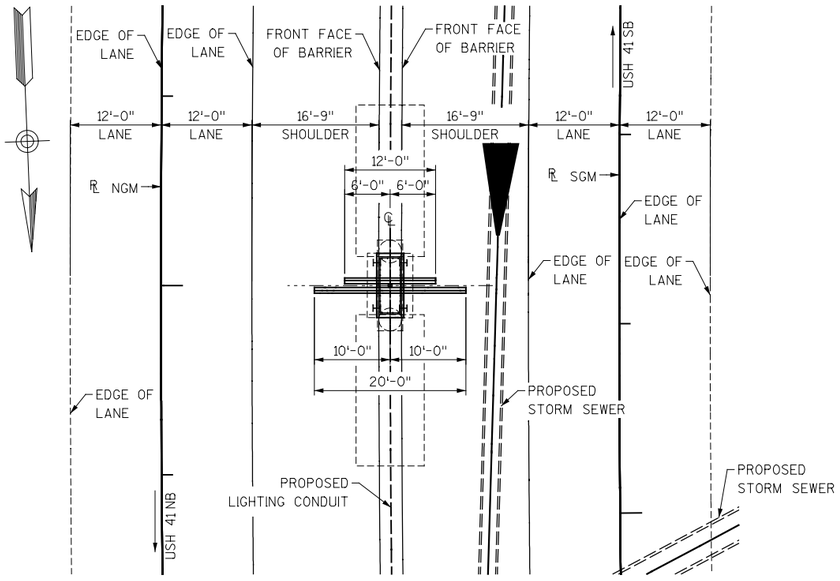
2563

08/30/2012

SCALE 1"=20'

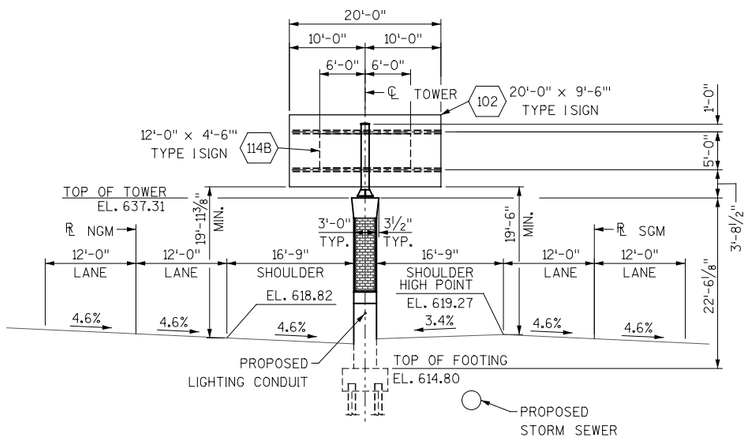
STATE PROJECT NUMBER

1133-09-71



PLAN

STA. 843NGM+00



ELEVATION

(LOOKING SOUTH AT FRONT FACE OF SIGN)

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CONCRETE TOWER FOUNDATION DETAILS
3. CONCRETE TOWER DETAILS
4. BUTTERFLY DETAILS
5. CONCRETE TOWER AESTHETIC DETAILS
6. SUBSURFACE EXPLORATION

ULTIMATE DESIGN STRESSES:

TOWER

CONCRETE: .....f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

SIGN BRIDGE

STEEL CHORDS & COLUMN: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
PLATES & BARS: .....fy = 36,000 psi
A.S.T.M. A709 GRADE 36
STEEL ANCHOR BOLTS: .....fy = 55,000 psi
A.A.S.H.T.O. M314 GRADE 55
HIGH STRENGTH BOLTS A325 .....fy=92,000 psi
STRUCTURAL MEMBERS GALVANIZED A123
HARDWARE GALVANIZED .....A153 CLASS C

DESIGN DATA

DEAD LOAD - WT. OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.
LIVE LOAD - NONE.
ICE LOAD - 3 P.S.F. TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND‡)	133

‡ MIN. VALUE OF 25 PSF FOR GR. 3

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
SOUTHBOUND PANEL 276	12'-0"
NORTHBOUND PANEL 276	12'-0"

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER

Steven J. Miller

2/15/2013

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	310
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	24
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	300
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	2920
641.0600.952	SIGN BRIDGE SINGE POLE SIGN SUPPORT TWO SIGNS S-05-161	LS	1
652.0135	CONDUIT RIGID METALLIC 3-INCH	LF	8
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	150
SPV.0165.501	STAINING CONCRETE	SF	300
SPV.0165.502	STAINING CONCRETE BRICK	SF	150

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER TYPE I SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ABOVE THE PILE SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 - ¼" DIAMETER BY 1¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE SINGLE POLE SIGN SUPPORT TWO SIGNS S-05-161 "

SIGNS OR BLANKS SHALL BE INSTALLED ON THE OVERHEAD SIGN SUPPORT AT THE TIME OF ERECTION. BLANKS, IF USED, SHALL BE OF THE SAME SIZE AND LOCATION AS PERMANENT SIGNS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-161 "

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS. WELD TEST AS PER AWS D1.1.

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

(##) - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-161

DE PERE - SUAMICO

COUNTY	TOWN/CITY/VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CES	SJM	MJH	CES

PLAN & ELEVATION

SHEET 1 OF 6

2564

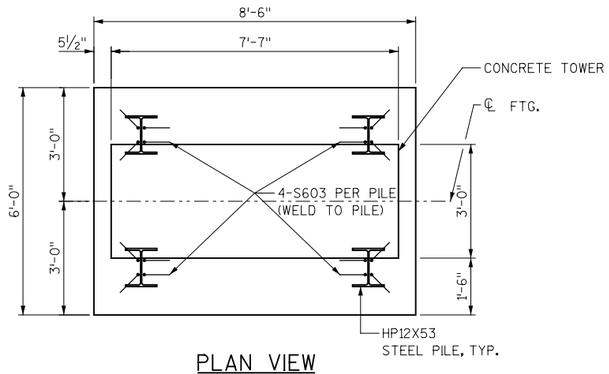
8

8

FILE NAME :S-05-161.dgn
PLOT DATE :2/15/2013 8:09:09 AM PLOT BY : MatthewHolandvBl DRV :Pdf_bw_HS.by levelplt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

1133-09-71

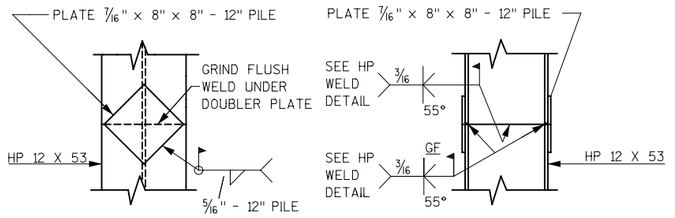


PLAN VIEW

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY



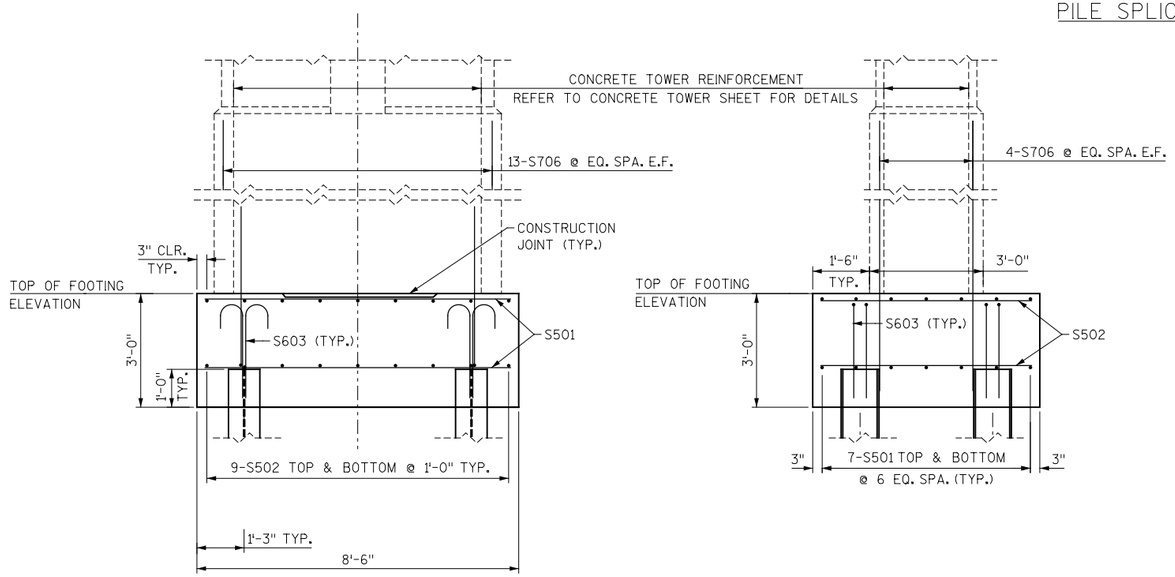
PILE SPLICE DETAIL

BILL OF BARS

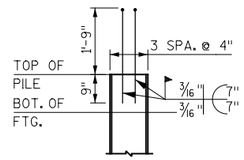
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S501		14	8'-0"			CAP LONGITUDINAL
S502		18	5'-6"			CAP TRANSVERSE
S603		16	3'-2"	▲		WELDED TO PILES
S706	X	30	12'-7"	▲		CAP BEAM VERTICAL
S407	X	22	11'-6"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S708	X	30	22'-4"			VERT. REINF., MIDDLE OF TOWER
S409	X	4	9'-9"			VERT. REINF., MIDDLE OF TOWER
S410	X	30	10'-7"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	22	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	33	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	45	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

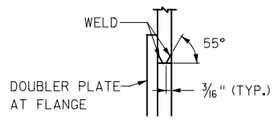
△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



ELEVATION VIEW



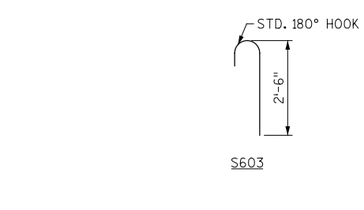
PILE HEAD DETAIL



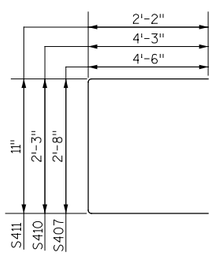
HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

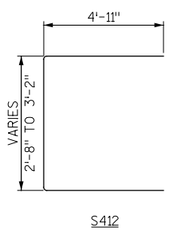
END VIEW



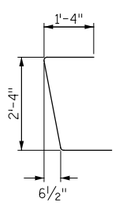
S603



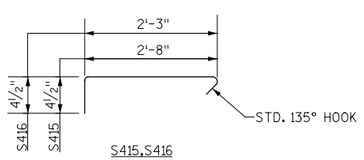
S407,S410,S411



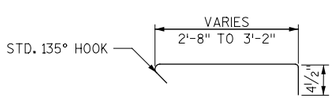
S412



S413



S415,S416



S417

S706

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

SIGN BRIDGE TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. BEDROCK IS EXPECTED TO BE ENCOUNTERED AT EL. 534.80. ESTIMATED LENGTH 78 FEET LONG. A MINIMUM PILE LENGTH OF 69 FEET IS REQUIRED FOR UPLIFT.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-161

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 FOUNDATION DETAILS

SHEET 2 OF 6

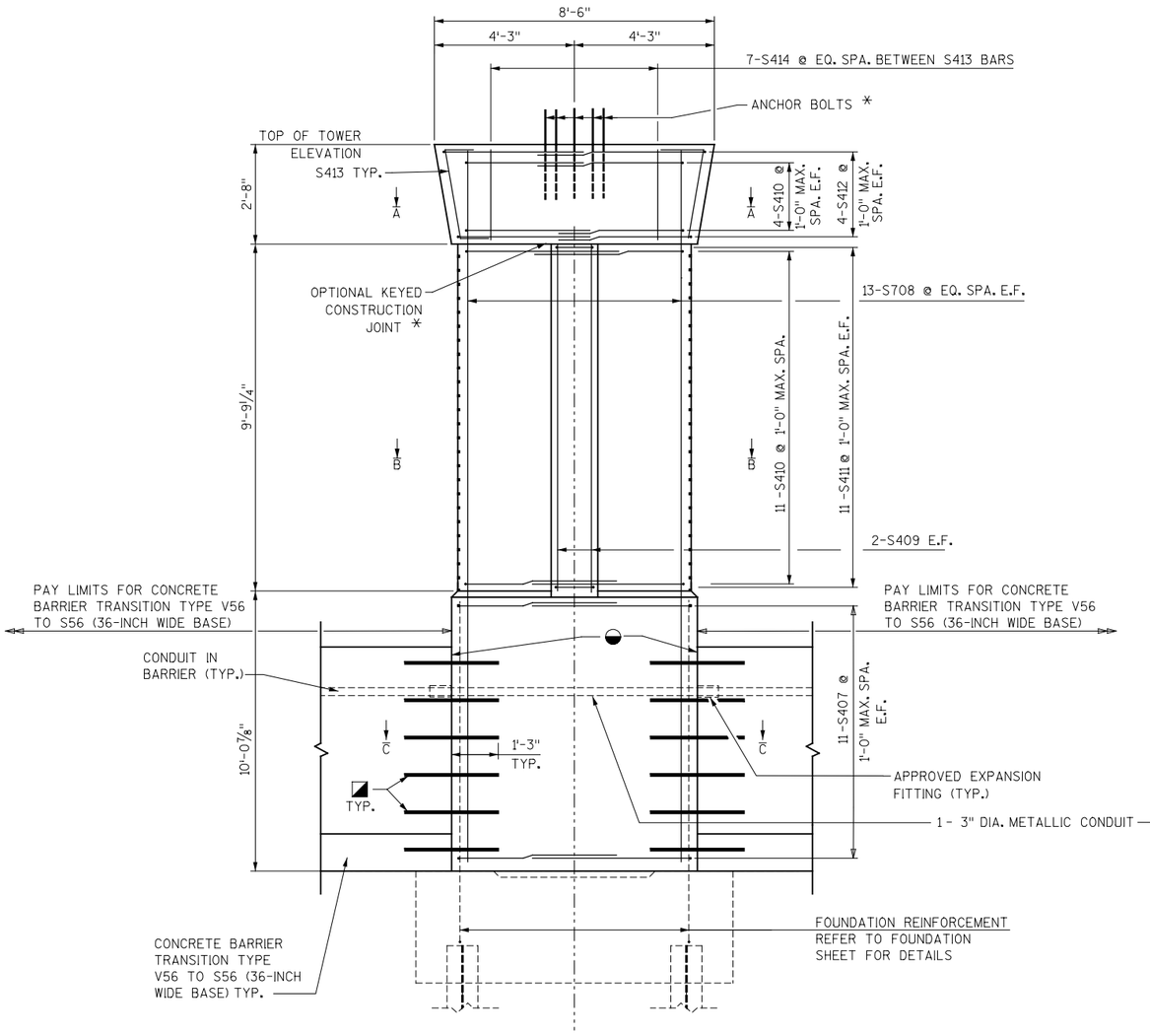
2565

8

8

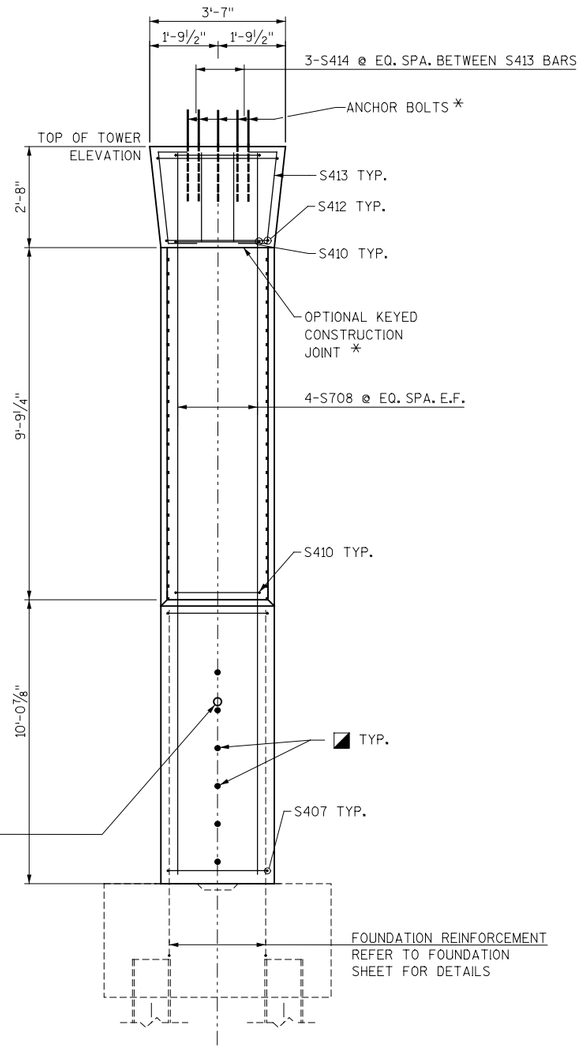
FILE NAME :S-05-161.dgn
PLOT DATE :2/25/2013 8:09:11 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by levels.pit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-09-71



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

APPROVED EXPANSION FITTING SHALL BE CAST INTO THE BARRIER OR TOWER CONCRETE, WHICH EVER ELEMENT IS CAST FIRST.

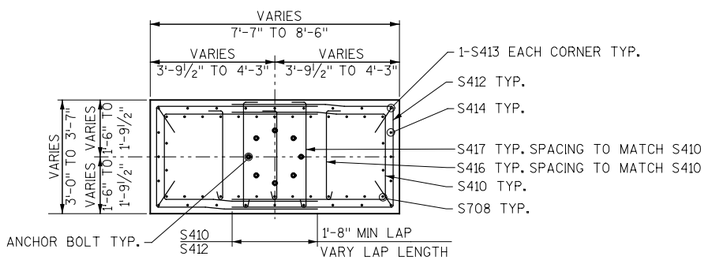
COORDINATE THE LOCATION OF THE ELECTRICAL CONDUIT IN THE TOWER TO MATCH THE LOCATION OF THE CONDUIT IN THE CONCRETE BARRIER.

SPACE S407 BARS TO MISS CONDUIT.

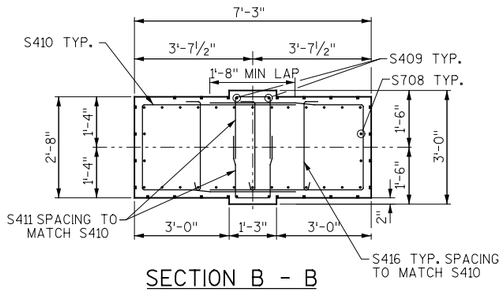
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.

◪ PLACE 1" ϕ PLAIN (SMOOTH) ROUND DOWEL BARS, 2'-6" LONG BETWEEN BARRIER AND CONCRETE TOWER. USE DEBONDER ON EXTENSION INTO BARRIER. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. SPACE DOWELS AT 1'-0". COST OF ITEMS ARE TO BE INCLUDED IN THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

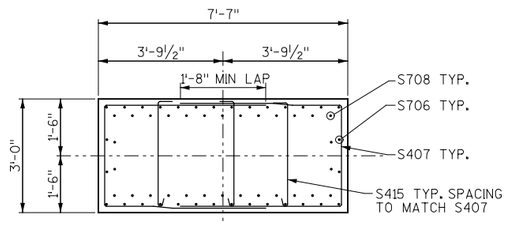
◒ PLACE 1/2" EXPANSION JOINT FILLLER BETWEEN TOWER AND BARRIER WALL, TYP. THE JOINT FILLER SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".



SECTION A - A



SECTION B - B



SECTION C - C

(DOWEL BARS OMITTED FOR CLARITY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-161

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 DETAILS

SHEET 3 OF 6
2566

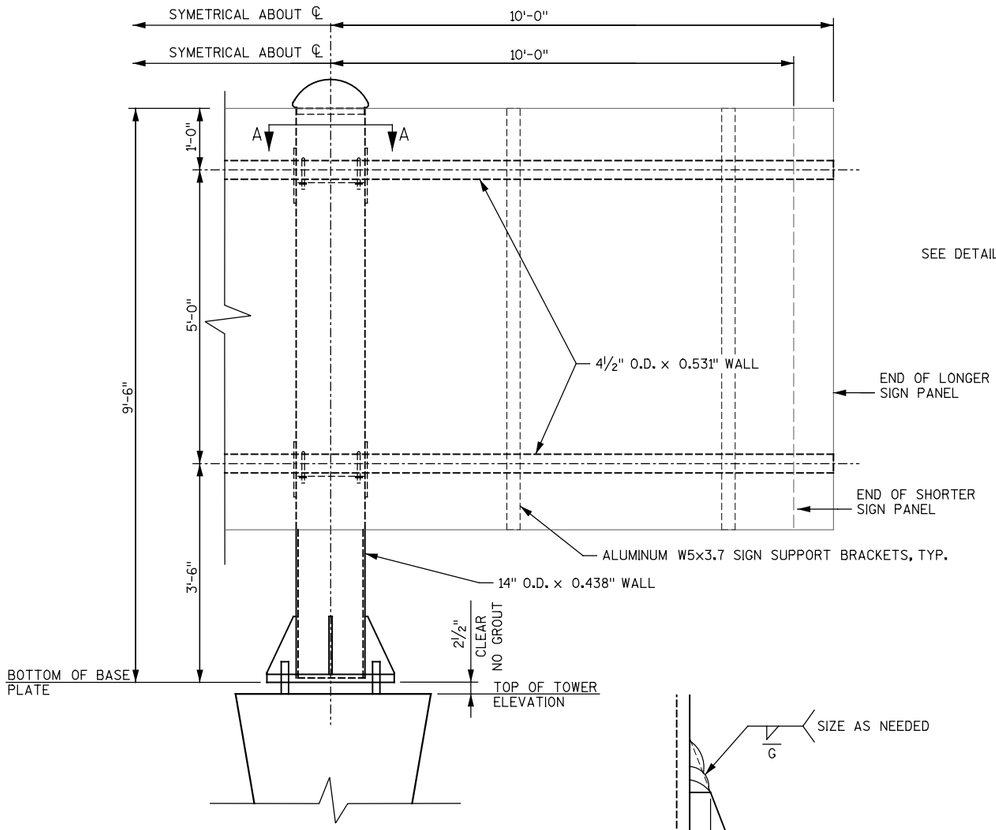
8

8

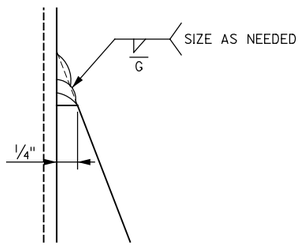
FILE NAME :S-05-161.dgn
PLOT DATE :2/25/2013 8:09:32 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by levels.pit PEN :CEL.TEXTSUB.SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

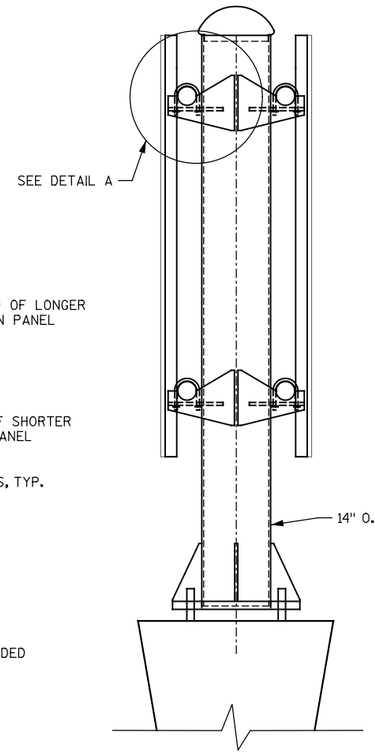
1133-09-71



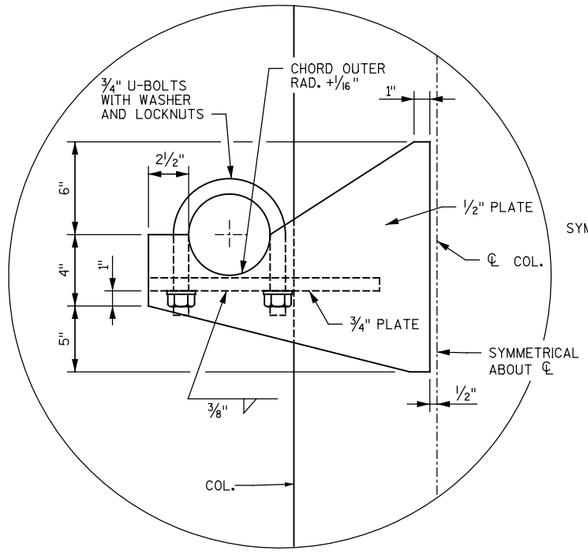
ELEVATION



DETAIL B



END VIEW



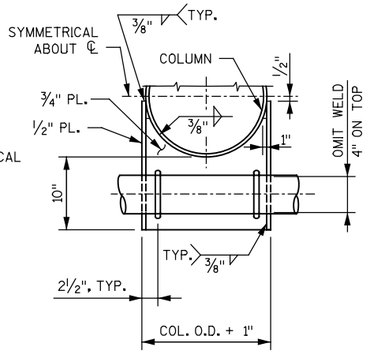
DETAIL A

(BRACKETS NOT SHOWN)

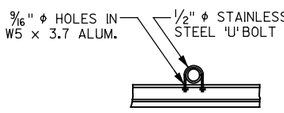
GENERAL NOTES:

DRAWING SHALL NOT BE SCALED

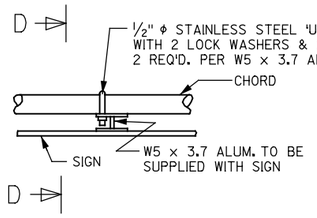
REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.



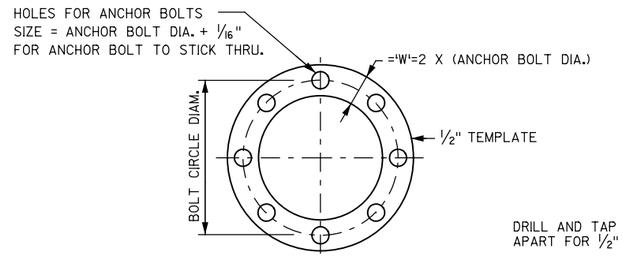
SECTION A-A



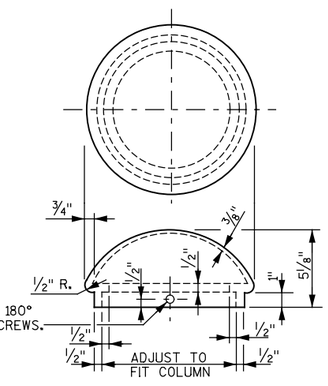
SECTION D-D



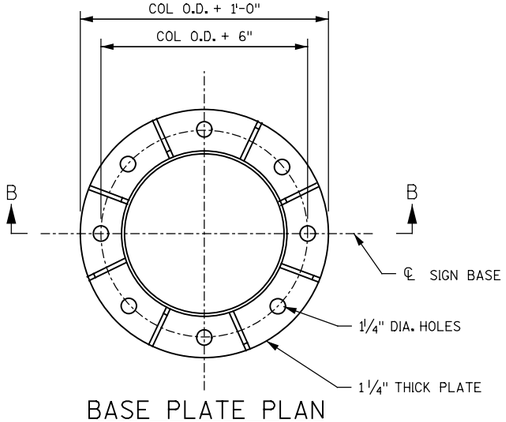
TYPICAL SIGN CONNECTION



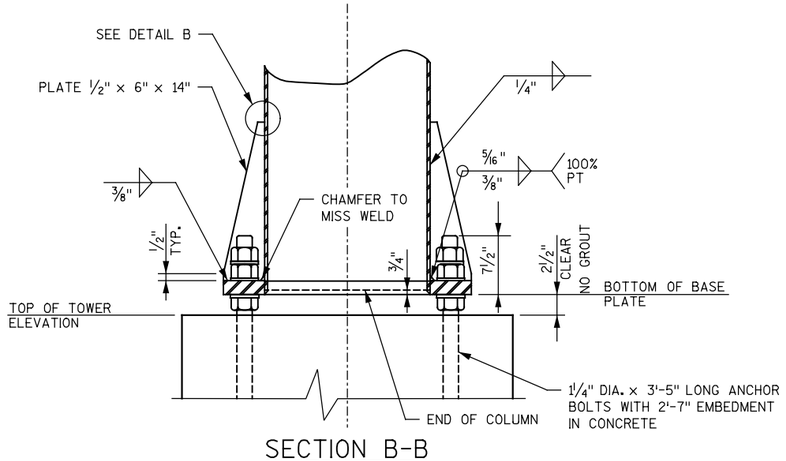
TOP VIEW OF TOP & BOTTOM TEMPLATES



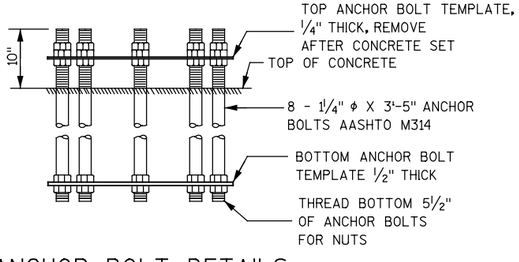
TOWER CAP DETAIL



BASE PLATE PLAN



SECTION B-B



ANCHOR BOLT DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-161

DRAWN BY	PLANS CK'D.
VC	CES

BUTTERFLY DETAILS

SHEET 4 OF 6

2567

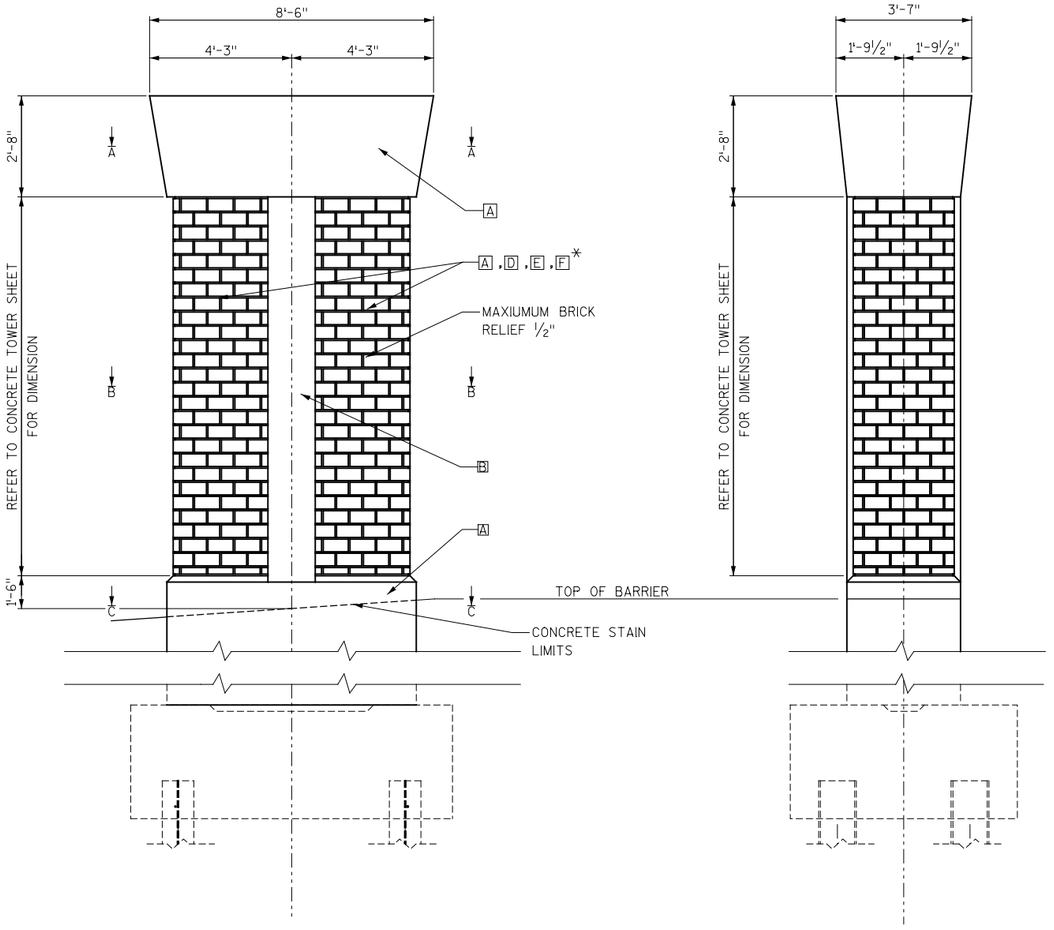
8

8

FILE NAME :S-05-161.dgn
PLOT DATE :12/31/2013 8:09:13 AM PLOT BY : MatthewHeiland\v81 DRV :Pdf_bw_HS.drv levelplot PEN :CEL.TEXTSUB.SCREENCONTROLBYLEVEL.TBL

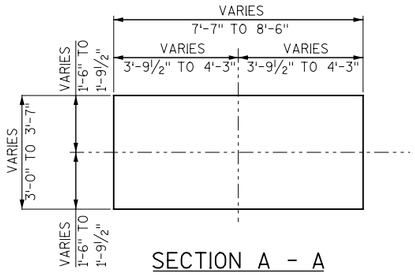
STATE PROJECT NUMBER

1133-09-71

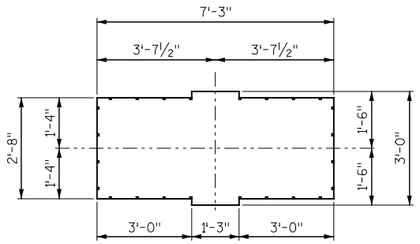


ELEVATION VIEW

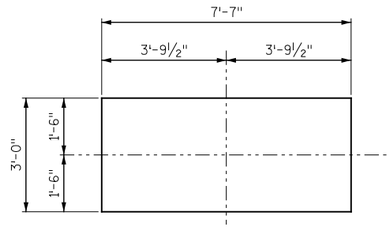
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

*STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-161

DRAWN BY VC | PLANS CK'D. CES

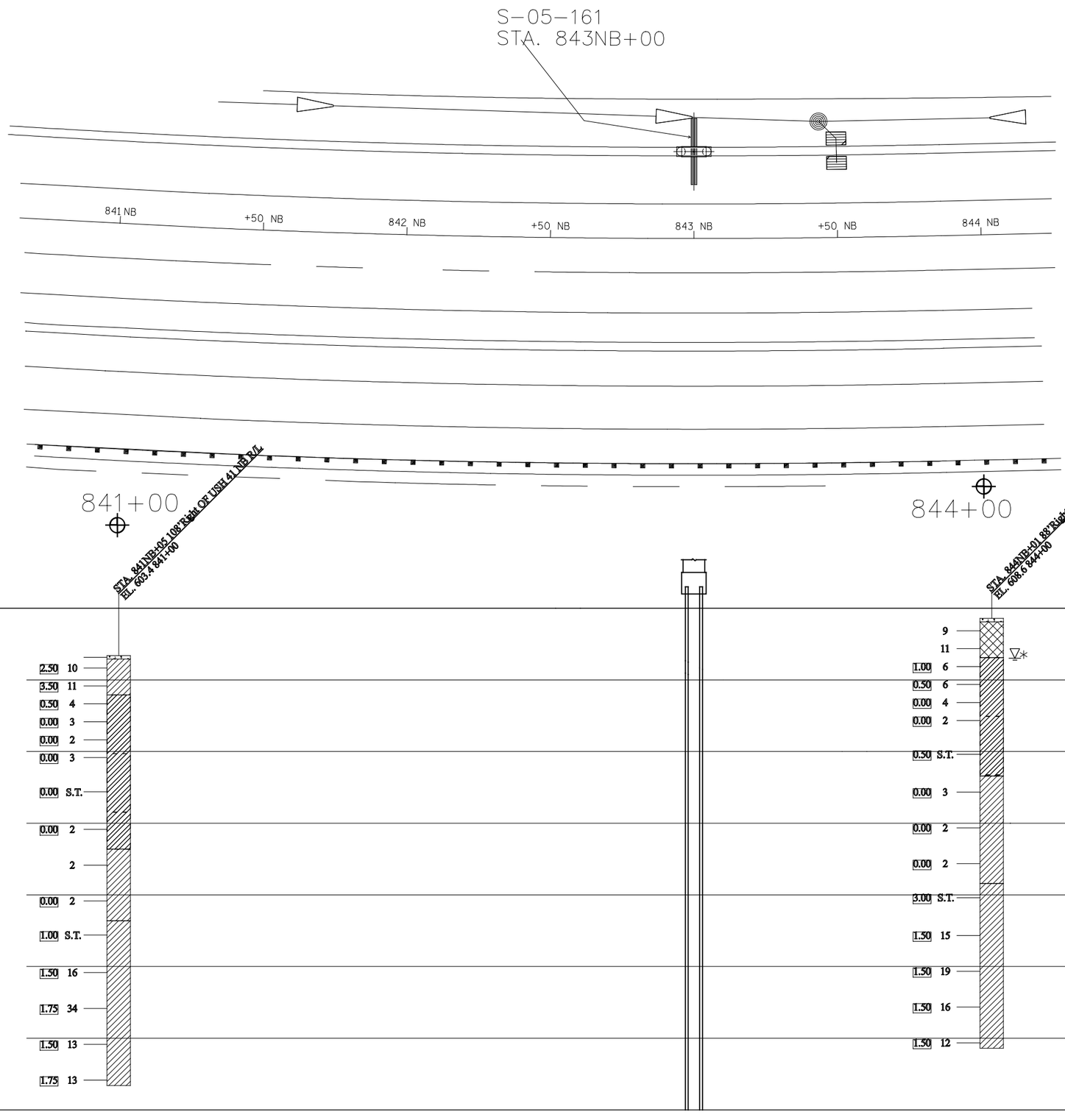
CONCRETE TOWER 1 AESTHETIC DETAILS

SHEET 5 OF 6

2568

FILE NAME :S-05-161.dgn
PLOT DATE :2/25/2013 8:09:13 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by level.pit PEN :CEL.TEXTSUB.SCREENCONTROLBYLEVEL.TBL

USH 41 (S-05-161)
Green Bay, WI



Note: ▽∗ -Water level assumed from sample condition

STATE PROJECT NUMBER

1133-09-71

ABBREVIATIONS

F—Fine M—Medium C—Coarse
Ws—Weathered So—Sound

MATERIAL SYMBOLS

Topsoil, Silt, Fat Clay
Sand, Peat, Limestone
Gravel, Clay, Fill

LEGEND OF PROBING

95/6—95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

Probing No.
Sta.
Elevation
7 Average Blows Per Foot
Refusal 95/6

LEGEND OF BORING

Boring No.
Sta.
Elev.
Unconfined STRENGTH → 7.7 7
Blows Per Ft. USING 140# WT. FALLING 30"
Wash Sample
Shelby Tube S.T.
Ground Water ELEVATION
No Ground Water OBSERVED ABOVE THIS ELEVATION
Sandy Gravel
F. Boulders or COBBLES
Sand
Silty Clay
So Limestone

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

STRUCTURE S-05-161

DRAWN BY	RHE	PLANS CK'D.	NS

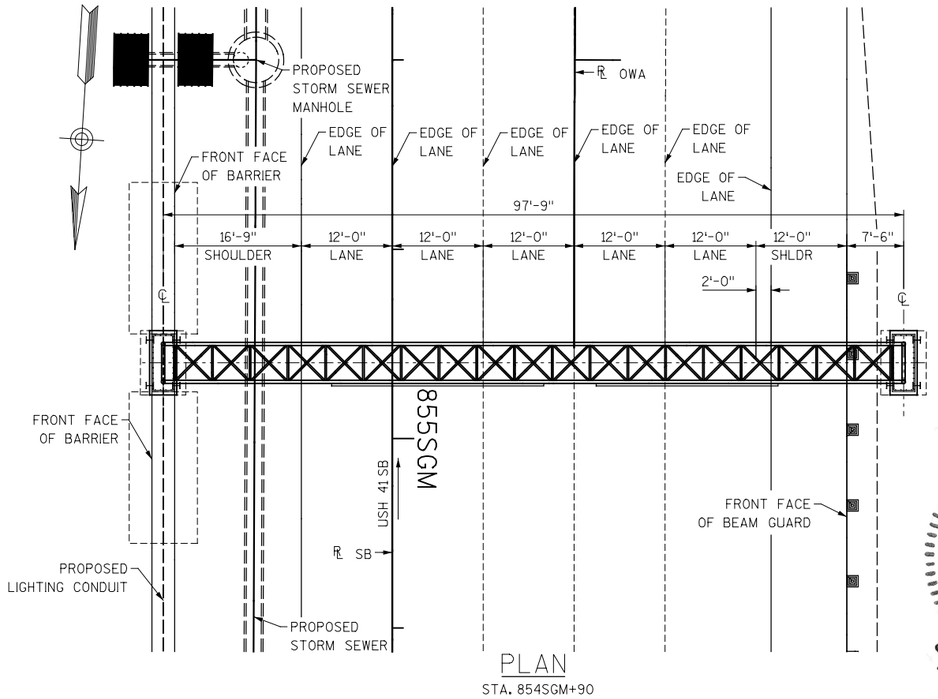
subsurface exploration

SHEET 6 of 6
2569
05/30/2012

SCALE 1"=40'

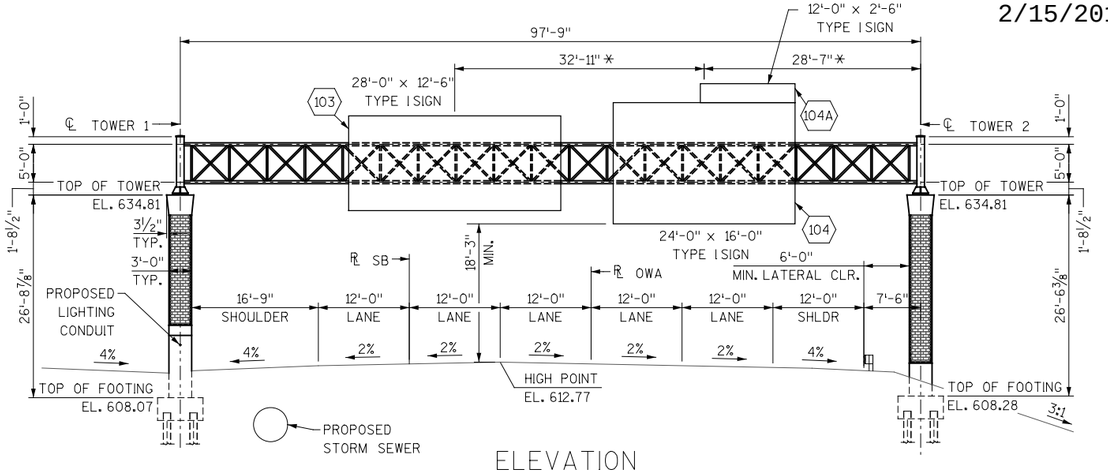
STATE PROJECT NUMBER

1133-09-71



PLAN

STA. 854SGM+90



ELEVATION

(LOOKING SOUTH AT FRONT FACE OF SIGN)

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER

Steven J. Miller

2/15/2013

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CONCRETE TOWER 1 FOUNDATION DETAILS
3. CONCRETE TOWER 1 DETAILS
4. CONCRETE TOWER 2 FOUNDATION DETAILS
5. CONCRETE TOWER 2 DETAILS
6. GALVANIZED STEEL SIGN BRIDGE
7. SIGN BRIDGE DETAILS
8. CONCRETE TOWER 1 AESTHETIC DETAILS
9. CONCRETE TOWER 2 AESTHETIC DETAILS
10. SUBSURFACE EXPLORATION

ULTIMATE DESIGN STRESSES:

TOWER

CONCRETE: .....f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

SIGN BRIDGE

STEEL COLUMN PIPE: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
STEEL PIPE MEMBERS OF TRUSS: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
PLATES, BARS, STRUCTURAL ANGLES: .....fy = 36,000 psi
A.S.T.M. A709 GRADE 36
STEEL ANCHOR BOLTS: .....fy = 55,000 psi
A.A.S.H.T.O. M314-90 GRADE 55
ALL BOLTED CONNECTIONS: ¾" ϕ A325 BOLTS,
GALVANIZED A.S.T.M. A153, CLASS C

DESIGN DATA

DEAD LOAD - WT. OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.
LIVE LOAD - NONE.
ICE LOAD - 3 P.S.F. TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND‡)	133

‡ MIN. VALUE OF 25 PSF FOR GR. 3

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
1152	16'-0"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ON THE PILES SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 - ¼" DIAMETER BY 1¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE S-05-162 "

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN CENTER TO CENTER OF CHORDS & SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-162 "

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS. WELD TEST AS PER AWS D1.1.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

(##) - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

* SIGN PANEL DIMENSIONS ARE TO THE CENTER OF THE SIGN PANEL. CONTRACTOR TO FIELD VERIFY SIGN PANEL DISPLAYS CORRELATE WITH ROADWAY LANE LAYOUT.

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	720
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	54
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	800
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	8450
641.6600.953	SIGN BRIDGE S-05-162	LS	1
652.1350	CONDUIT RIGID METALLIC 3-INCH	LF	8
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	560
SPV.0165.501	STAINING CONCRETE	SF	1010
SPV.0165.502	STAINING CONCRETE BRICK	SF	560

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE S-05-162

DE PERE - SUAMICO

COUNTY: BROWN
TOWN/CITY/VILLAGE: ASHWAUBENON
DESIGN SPEC.: AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CES	SJM	MJH	CES

PLAN & ELEVATION

SHEET 1 OF 10
2570

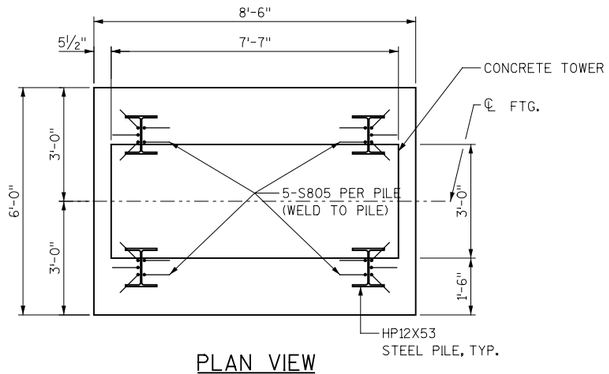
8

8

FILE NAME : S-05-162.dgn
PLOT DATE 12/20/2013 8:20:23 AM PLOT BY : MatthewHolandvBL DRV : Pdf_bw_HS.by levelplt PEN : CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

1133-09-71

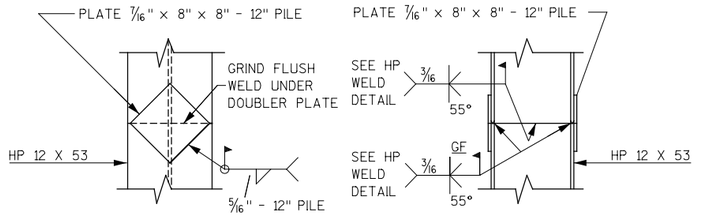


PLAN VIEW

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY



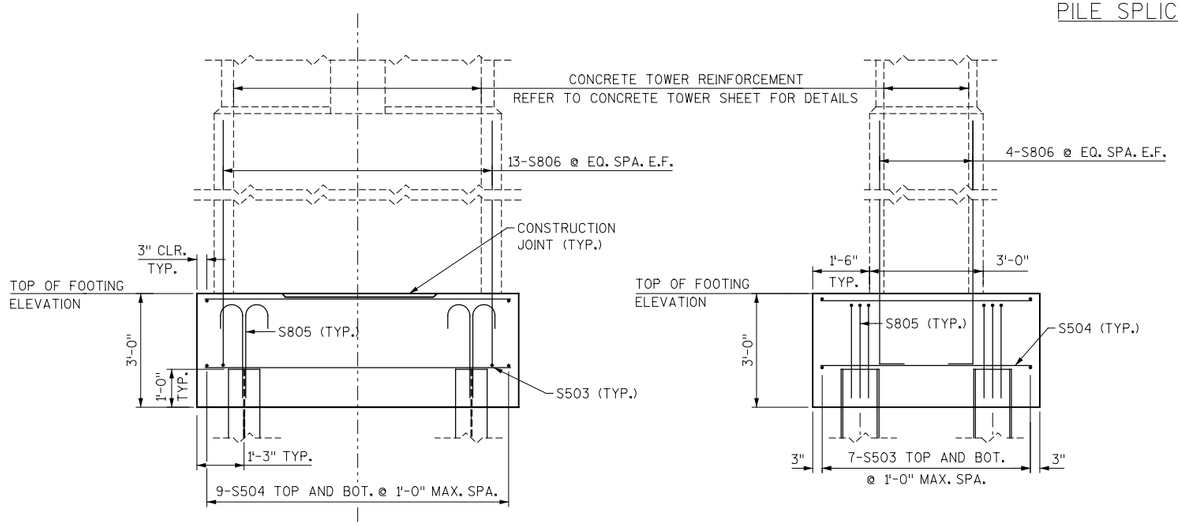
PILE SPLICE DETAIL

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

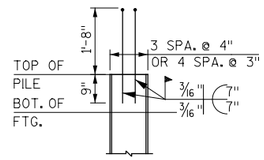
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S503		14	8'-0"			CAP LONGITUDINAL
S504		18	5'-6"			CAP TRANSVERSE
S805		20	3'-4"	▲		WELDED TO PILES
S806	X	30	12'-4"	▲		CAP BEAM VERTICAL
S507	X	22	12'-5"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S808	X	30	26'-6"			VERT. REINF., MIDDLE OF TOWER
S409	X	4	14'-4"			VERT. REINF., MIDDLE OF TOWER
S510	X	40	11'-6"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	32	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	33	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	60	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

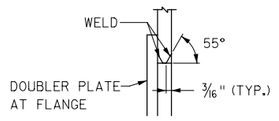


ELEVATION VIEW

END VIEW



PILE HEAD DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

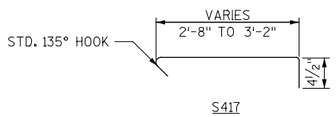
SIGN BRIDGE TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. BEDROCK IS EXPECTED TO BE ENCOUNTERED AT EL. 517.07. ESTIMATED LENGTH 89 FEET LONG.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

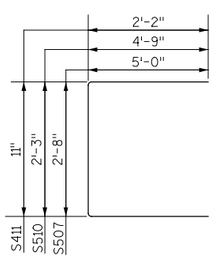
IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

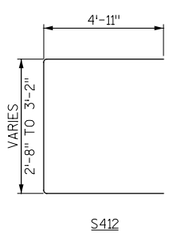
WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".



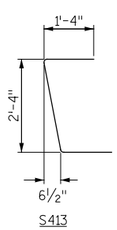
S417



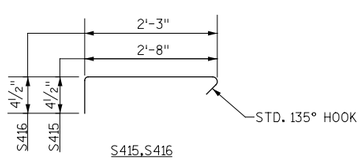
S507,S510,S411



S412

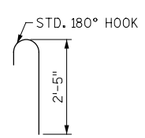


S413



S415,S416

S806



S805

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-162

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 FOUNDATION DETAILS

SHEET 2 OF 10

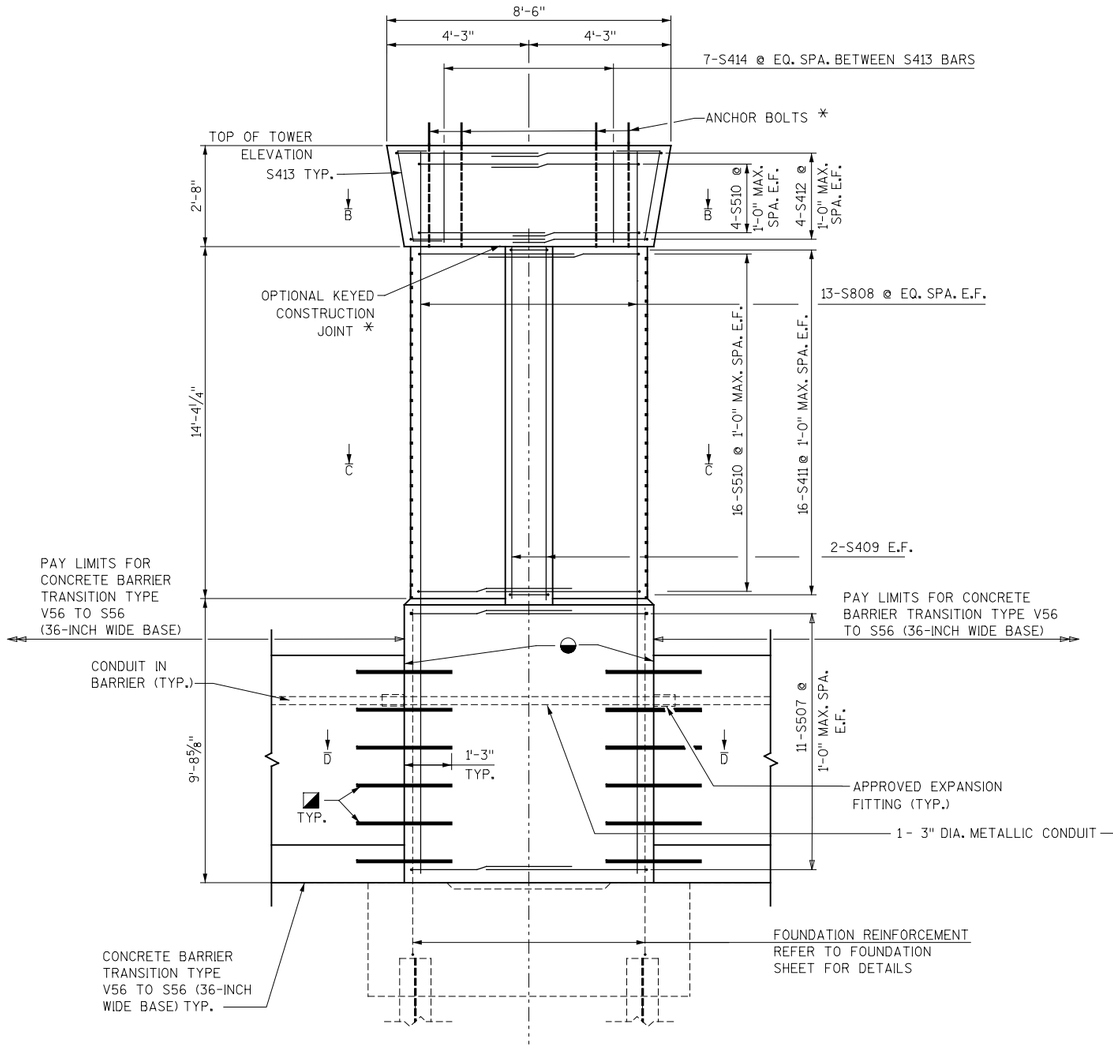
2571

8

8

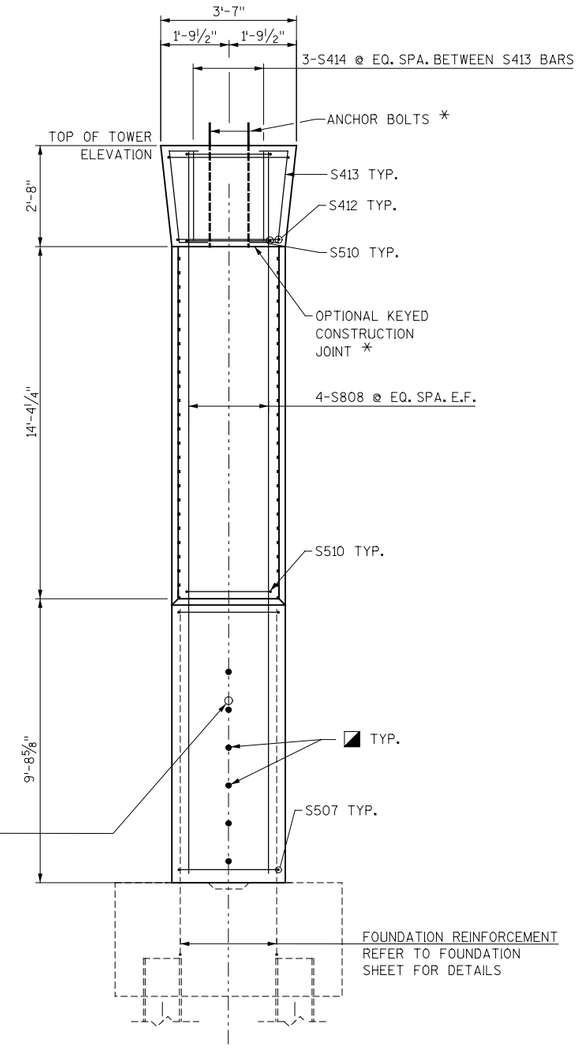
FILE NAME :S-05-162.dgn
PLOT DATE :12/15/2023 8:20:25 AM PLOT BY : MatthewHe@landvR DRV :Pdf_bw_HS.by levelplt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-09-71



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2 1/2" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

APPROVED EXPANSION FITTING SHALL BE CAST INTO THE BARRIER OR TOWER CONCRETE, WHICH EVER ELEMENT IS CAST FIRST.

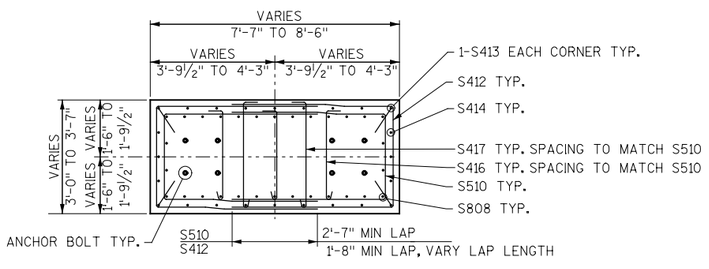
COORDINATE THE LOCATION OF THE ELECTRICAL CONDUIT IN THE TOWER TO MATCH THE LOCATION OF THE CONDUIT IN THE CONCRETE BARRIER.

SPACE S507 BARS TO MISS CONDUIT.

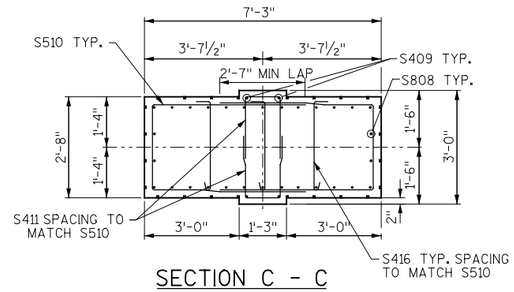
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.

◪ PLACE 1" ϕ PLAIN (SMOOTH) ROUND DOWEL BARS, 2'-6" LONG BETWEEN BARRIER AND CONCRETE TOWER. USE DEBONDER ON EXTENSION INTO BARRIER. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. SPACE DOWELS AT 1'-0". COST OF ITEMS ARE TO BE INCLUDED IN THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

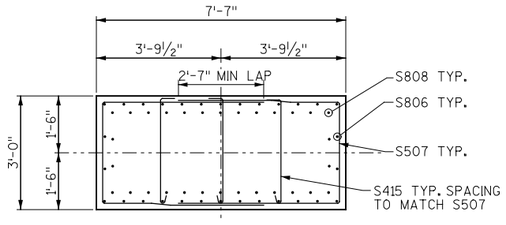
◒ PLACE 1/2" EXPANSION JOINT FILLLER BETWEEN TOWER AND BARRIER WALL, TYP. THE JOINT FILLER SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".



SECTION B - B



SECTION C - C



SECTION D - D

(DOWEL BARS OMITTED FOR CLARITY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-162

DRAWN BY	VC	PLANS CK'D.	CES

CONCRETE TOWER 1 DETAILS

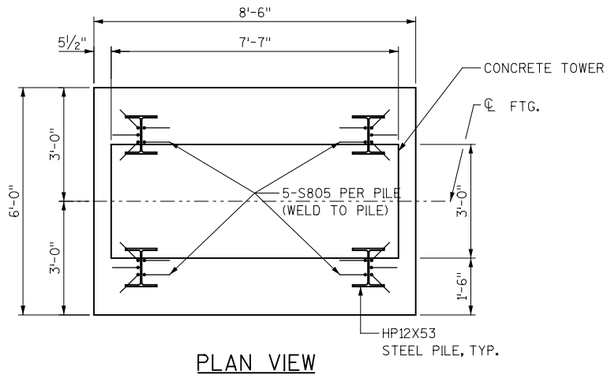
SHEET 3 OF 10
2572

8

FILE NAME :S-05-162.dgn
PLOT DATE :2/15/2013 8:20:27 AM PLOT BY : MatthewH@sandv81 DRV :Pdf_bw_HS.by level.dt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

1133-09-71

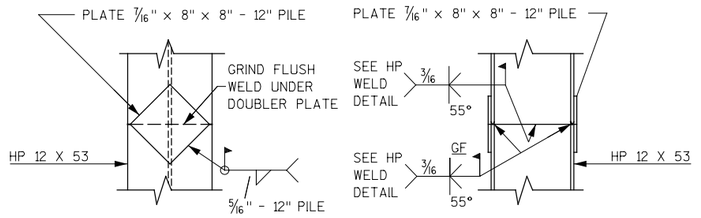


PLAN VIEW

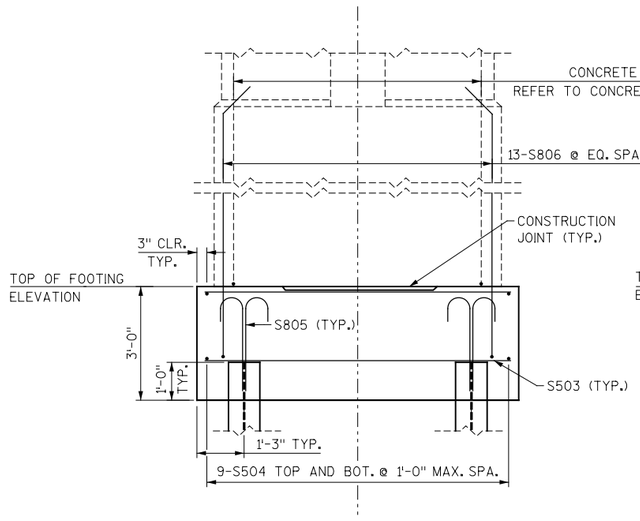
BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

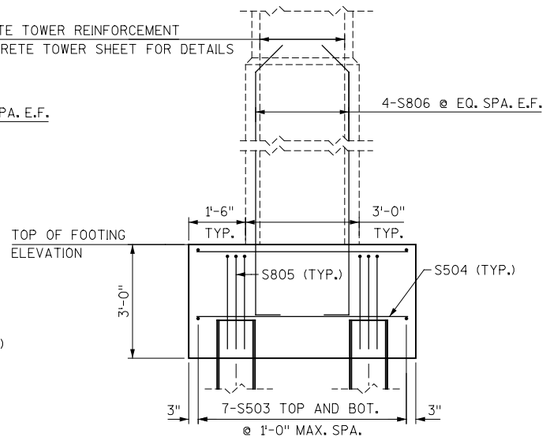
BUNDLE AND TAG EACH SERIES SEPARATELY



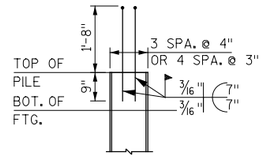
PILE SPLICE DETAIL



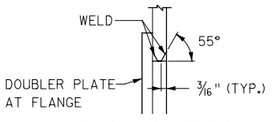
ELEVATION VIEW



END VIEW



PILE HEAD DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S503		14	8'-0"			CAP LONGITUDINAL
S504		18	5'-6"			CAP TRANSVERSE
S805		20	3'-4"	▲		WELDED TO PILES
S806	X	30	8'-5"	▲		CAP BEAM VERTICAL
S507	X	10	12'-5"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S808	X	30	27'-5"	▲		VERT. REINF., MIDDLE OF TOWER
S409	X	4	19'-4"			VERT. REINF., MIDDLE OF TOWER
S510	X	50	11'-6"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	42	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	15	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	75	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

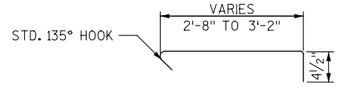
SIGN BRIDGE TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. BEDROCK IS EXPECTED TO BE ENCOUNTERED AT EL. 517.28. ESTIMATED LENGTH 89 FEET LONG.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

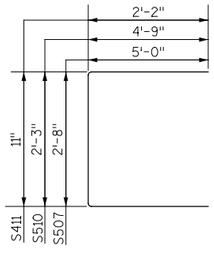
IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

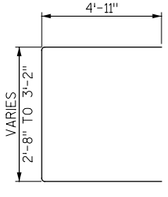
WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".



S417



S507,S510,S411



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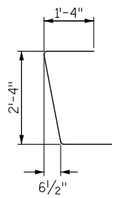

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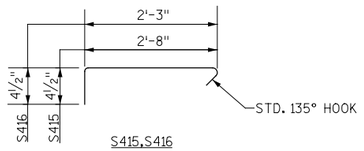
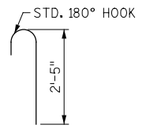
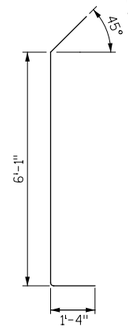


S415,S416



S805



S806

S808

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-162

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 FOUNDATION DETAILS

SHEET 4 OF 10

2573

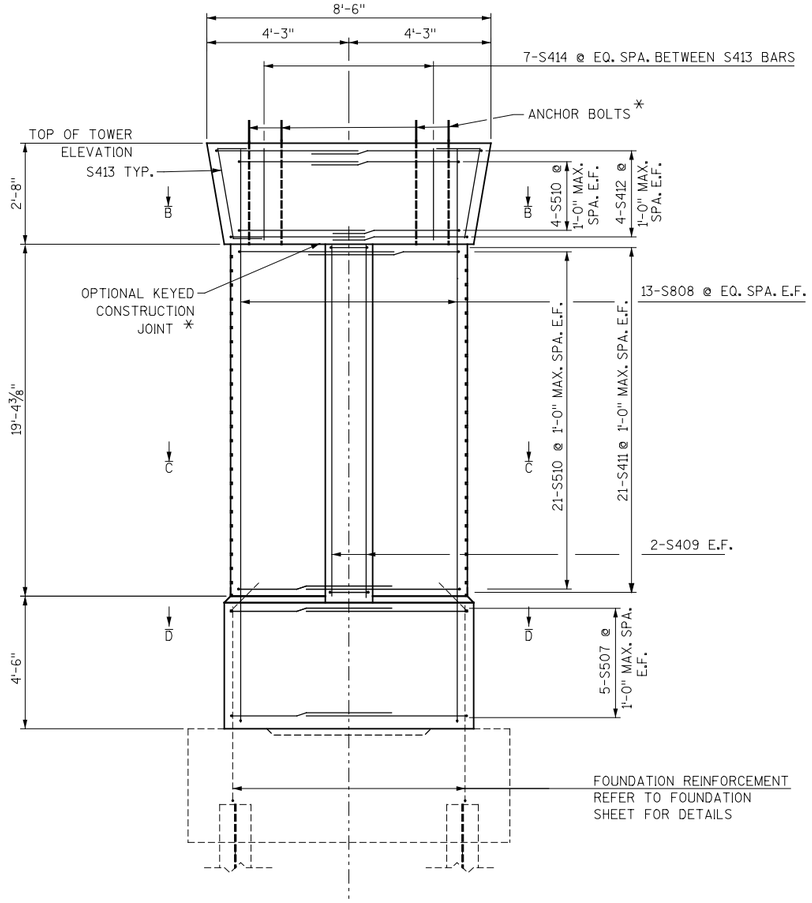
8

8

FILE NAME :S-05-162.dgn
PLOT DATE :2/15/2013 82029 AM PLOT BY : MatthewHe@dot.wi.gov DRV :Pdf.bw_HS.by levelzit PEN :CEL.TEXTSUB.SCREENCONTROLBYLEVEL.TBL

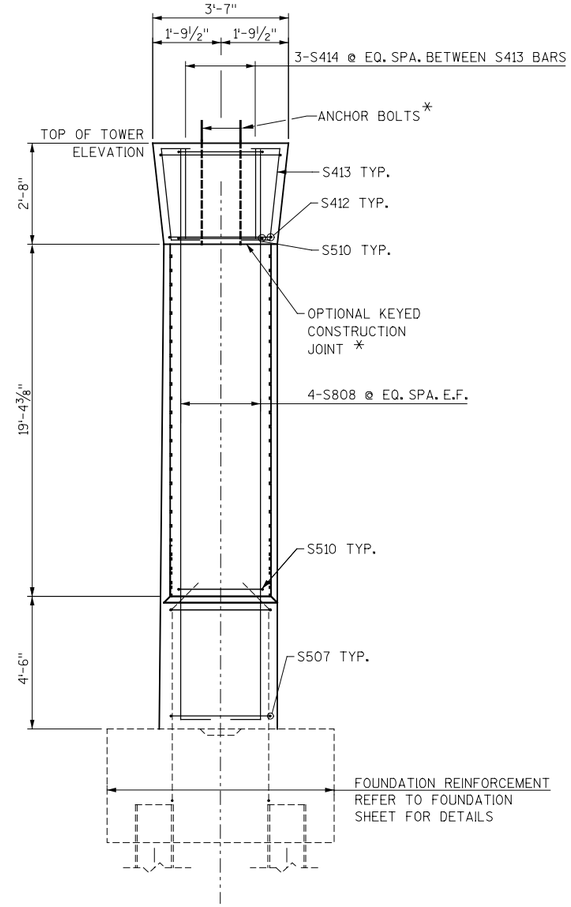
STATE PROJECT NUMBER

1133-09-71



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

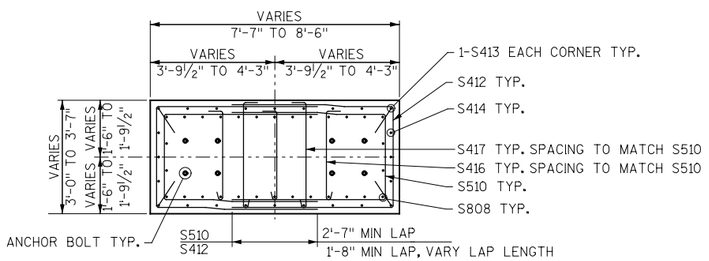
"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

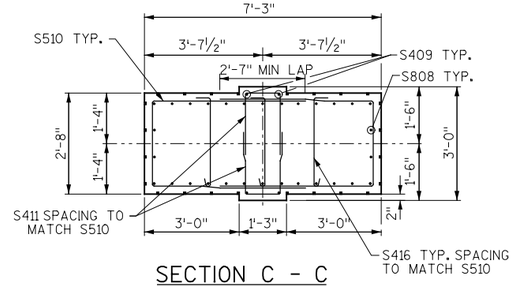
REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

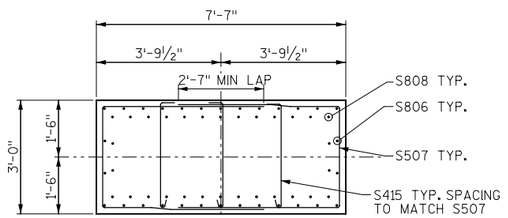
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.



SECTION B - B



SECTION C - C



SECTION D - D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-162

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 DETAILS 2574

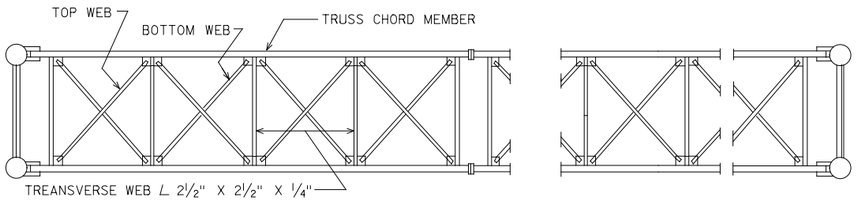
SHEET 5 OF 10

8

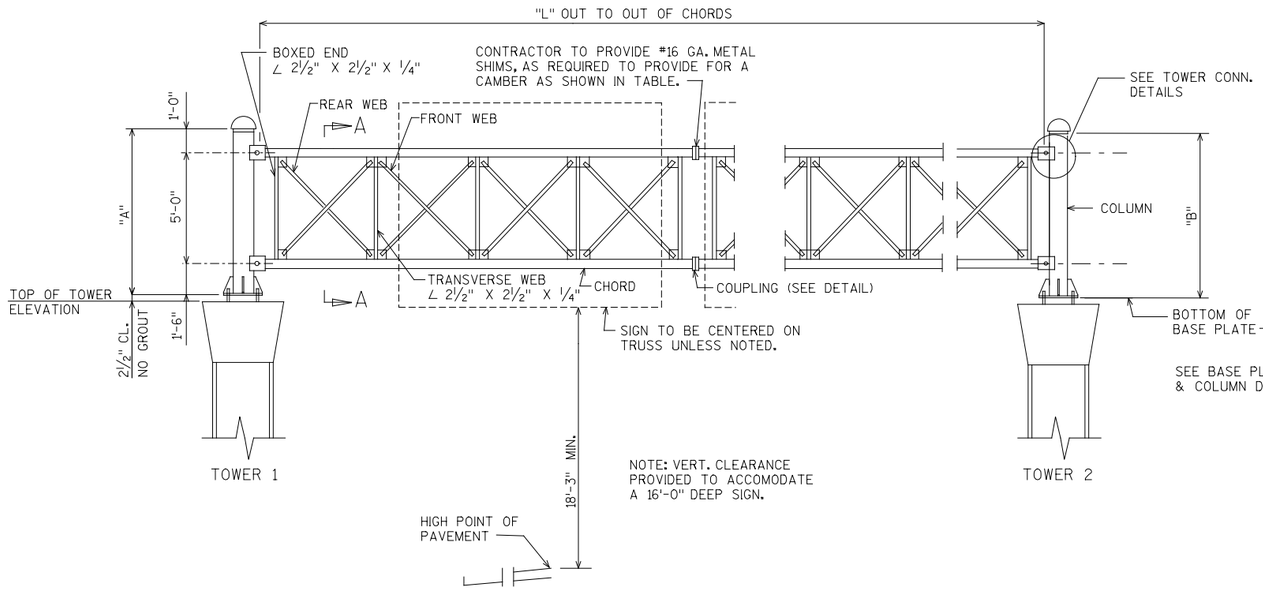
8

FILE NAME :S-05-162.dgn
PLOT DATE :2/15/2013 8:10:30 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by levelzit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-09-71

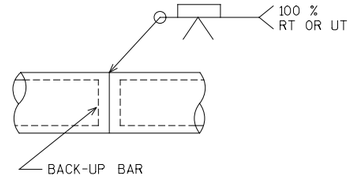


PLAN

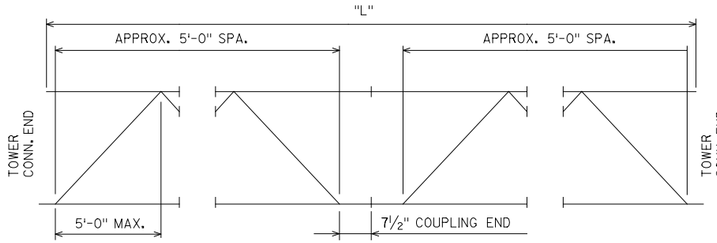


ELEVATION

TOWER 2 END VIEW
(TOWER 1 OPPOSITE HAND)

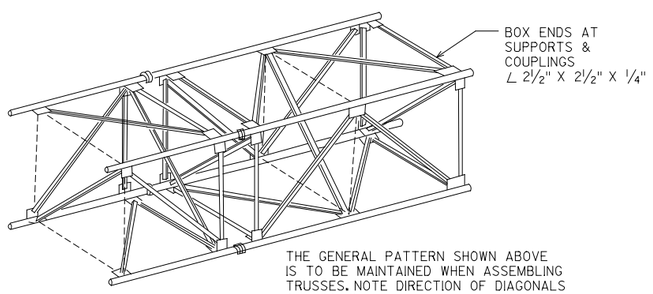


OPTIONAL COLUMN OR CHORD SPLICE DETAIL



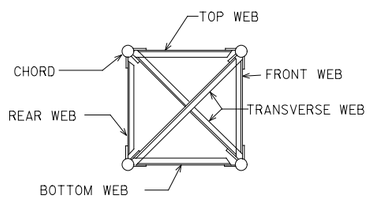
TRUSS ARRANGEMENT

FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 20'-0" & A MULTPLE OF 5'-0". CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS. CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.

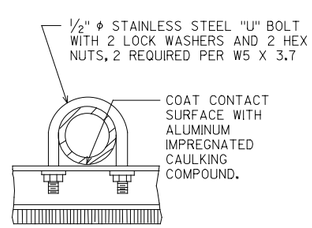


THE GENERAL PATTERN SHOWN ABOVE IS TO BE MAINTAINED WHEN ASSEMBLING TRUSSES. NOTE DIRECTION OF DIAGONALS AT JOINTS.

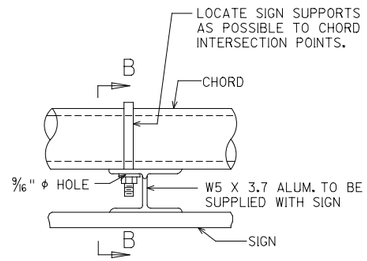
TYPICAL TRUSS SECTION



SECTION A



SECTION B



TYPICAL SIGN CONNECTION

GENERAL NOTES

DRAWING SHALL NOT BE SCALED

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

STRUCTURE MEMBER TABLE

A	B	C	CHORDS O.D. X THK.	TOP & BOTTOM WEB	FRONT & REAR WEB	COUPLING PLATE D1 & "T"	BOLT CIRCLE DIA. "D2"	NO. OF BOLTS IN COUPLING	CAMBER	COLUMN O.D. X THK.	TOWER WEBS	"L"
7'-6"	7'-6"	1	4.5"x0.237"	3"x3"x1/4"	3"x3"x1/4"	10.5" x 1.125"	7.5"	6	2"	10.75"x0.5"	3"x3"x3/16"	96'-7¼"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-162

DRAWN BY	PLANS CK'D.
VC	CES

GALVANIZED STEEL SIGN BRIDGE

SHEET 6 OF 10

2575

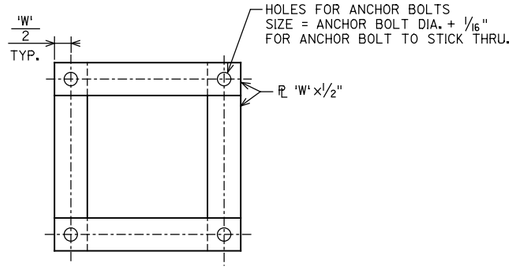
8

8

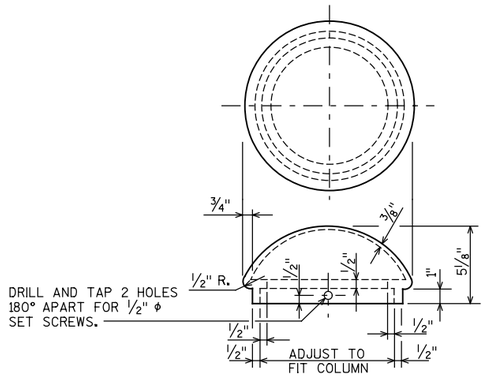
FILE NAME : S-05-162.dgn
PLOT DATE : 12/15/2013 8:02:31 AM
100%
PLOT BY : MatthewHeiland v8i
DRV : Pdf_bw_HS.by level.plt PEN : CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

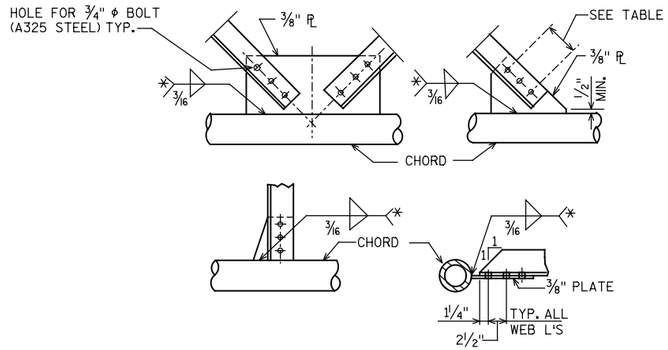
1133-09-71



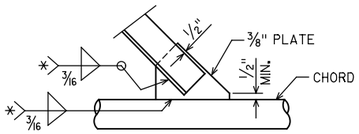
ANCHOR PLATE/TEMPLATE PLAN



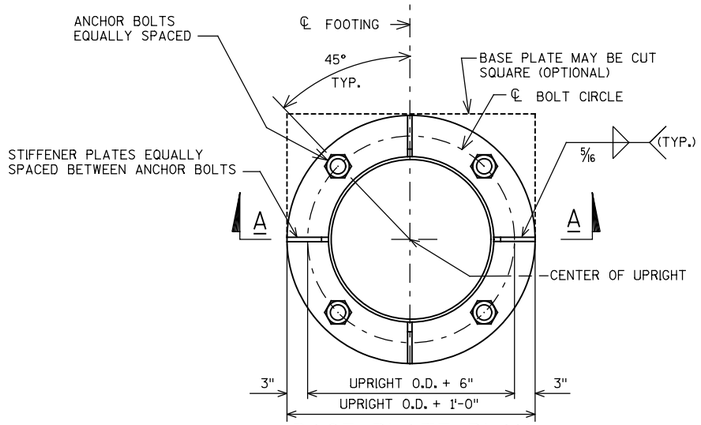
TOWER CAP DETAIL



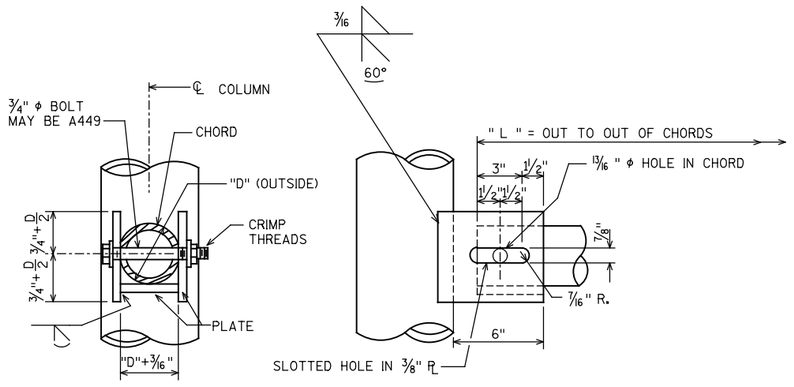
TYPICAL TRUSS CONNECTION DETAILS



TYPICAL WELDED ALTERNATE



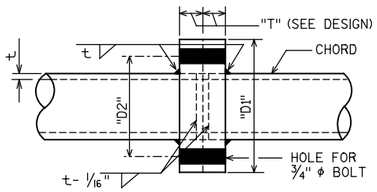
BASE PLATE PLAN



TOWER CONNECTION DETAIL

*ANGLE	WELD LENGTH	NO. OF BOLTS
● 2 1/2"x2 1/2"x1/4"	11"	3
3"x3"x3/16"	10"	3
3"x3"x1/4"	13"	4
3"x3"x5/16"	16 1/2"	5
3"x3"x3/8"	19 1/2"	6
4"x4"x1/4"	18"	5
4"x4"x5/16"	22"	6
4"x4"x3/8"	26"	8
4"x4"x7/16"	30"	9
4"x4"x1/2"	34"	10

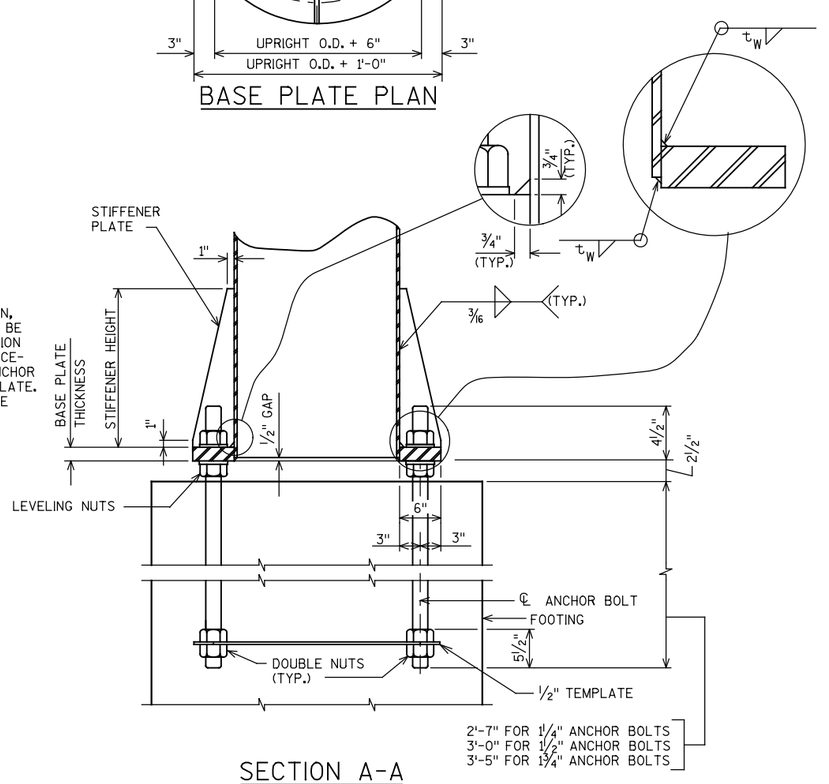
● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.



COUPLING DETAIL

(CONNECTION BOLTS OMITTED FOR CLARITY)

NOTE:
PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE. REMOVE TOP TEMPLATE (NOT SHOWN) AFTER CONCRETE SETS.



SECTION A-G

BASE PLATE & UPRIGHT COLUMN DETAILS

COLUMN O.D. X THK.	ANCHOR BOLTS	BASE PLATE THICKNESS (IN.)	STIFFENER PLATE THICKNESS (IN.)	STIFFENER PLATE HEIGHT (IN.)	t_W (IN.)
10.75"X0.5"	1 3/4"	1 3/4"	3/4"	10"	3/8"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-162

DRAWN BY VC | PLANS CK'D. CES

GALVANIZED STEEL SIGN BRIDGE DETAILS

SHEET 7 OF 10

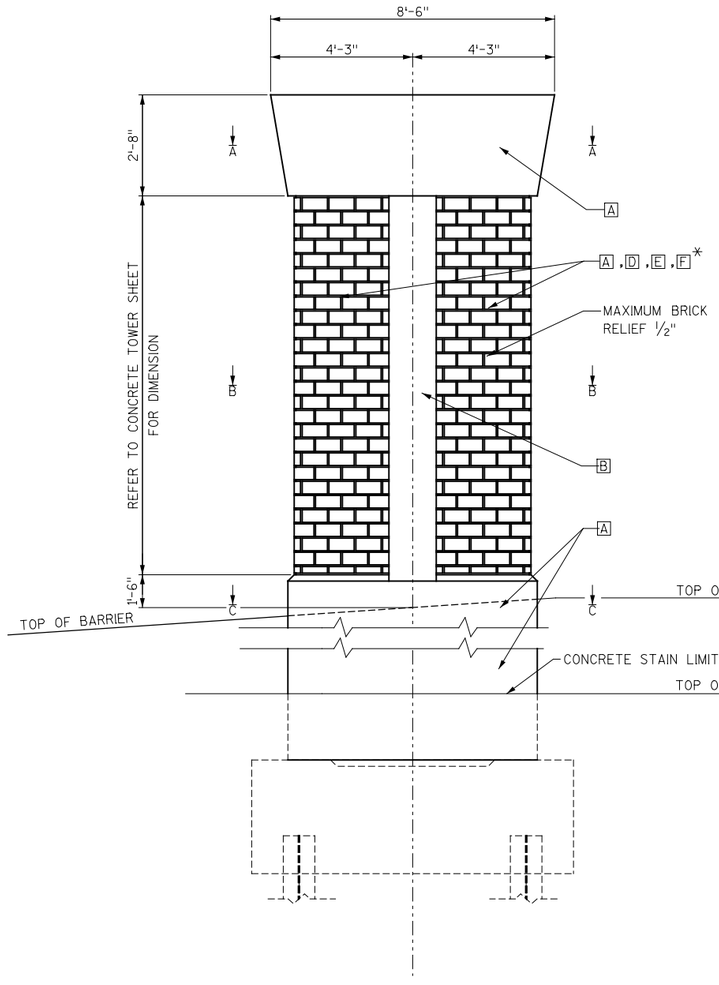
2576

8

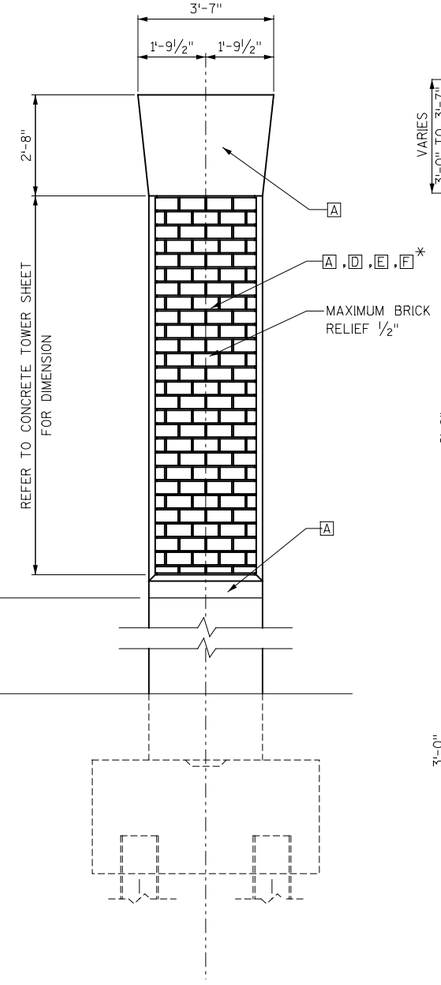
8

FILE NAME 15-05-162.dgn
PLOT DATE 12/25/2013 8:10:31 AM
PLOT BY : MatthewHeiland48
DRV :Pdf.bw.HS.by levelplt PEN :CEL.TEXTSUB.SCREENCONTROLBYLEVEL.TBL

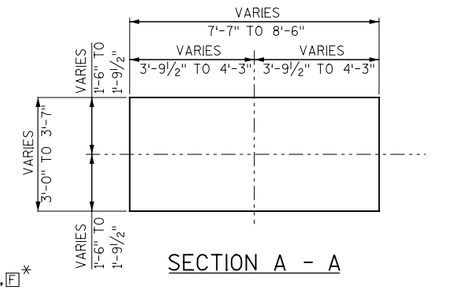
STATE PROJECT NUMBER
1133-09-71



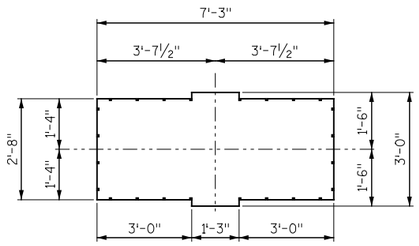
ELEVATION VIEW



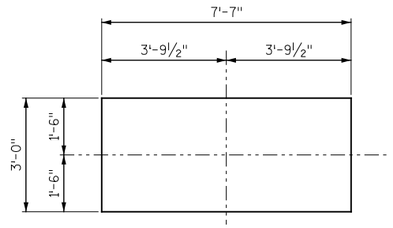
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-162

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 AESTHETIC DETAILS

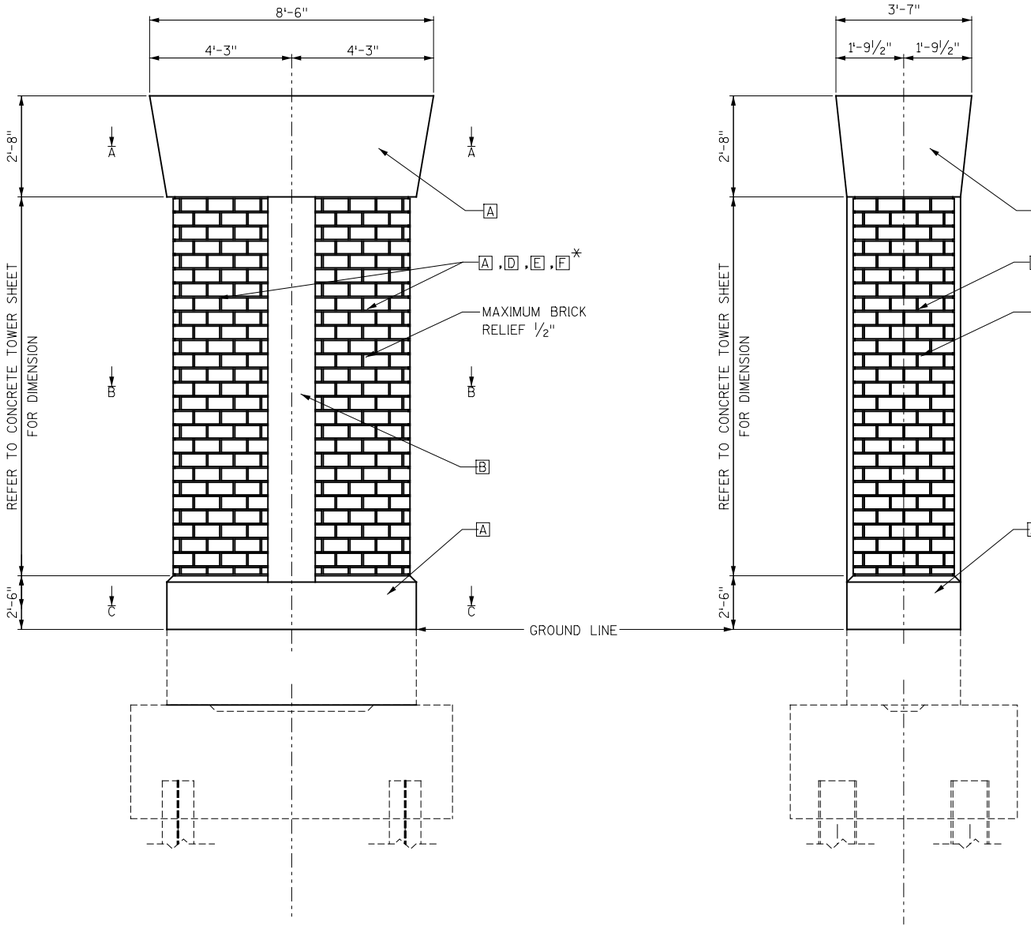
SHEET 8 OF 10

2577

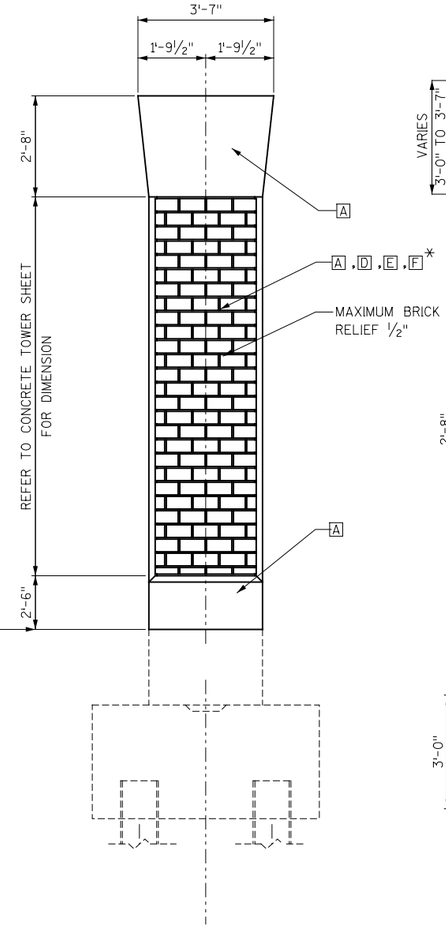
FILE NAME :S-05-162.dgn
PLOT DATE :2/15/2013 8:20:33 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

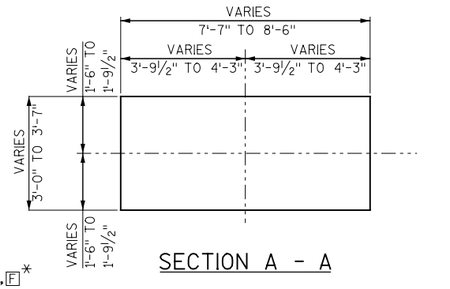
1133-09-71



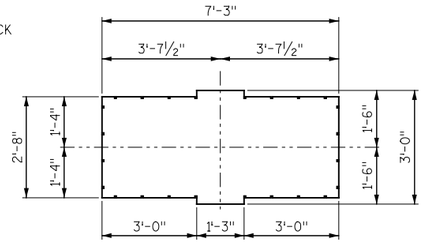
ELEVATION VIEW



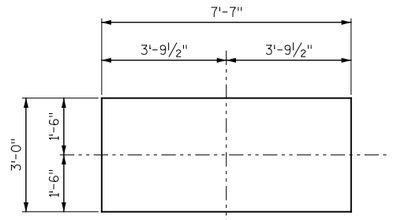
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-162

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 AESTHETIC DETAILS

SHEET 9 OF 10

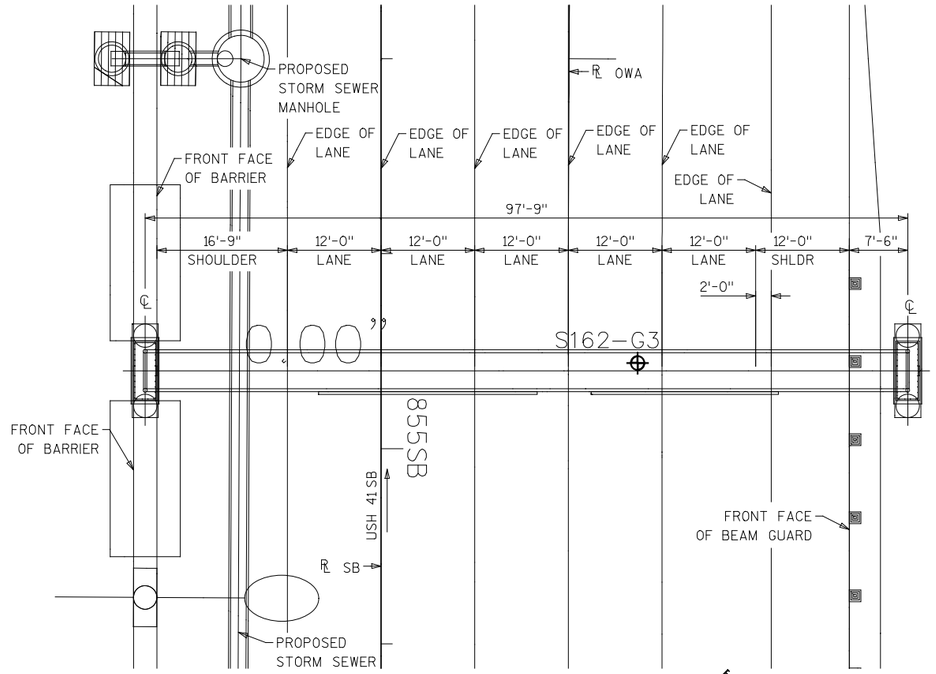
2578

8

8

FILE NAME :S-05-162.dgn
PLOT DATE :2/15/2013 8:20:34 AM PLOT BY : MatthewHeiland98 DRV :Pdf_bw_HS.by level.plt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

USH-41 (S-05-162)
05-Brown, WI



STA. 854SB+90

SOIL BORING TAKEN:

10.31.2011 - BORING S162-G1
08.13.2012 - BORING S162-G3

STATE PROJECT NUMBER

1133-09-71

ABBREVIATIONS

F—Fine M—Medium C—Coarse
Ws—Weathered So—Sound

MATERIAL SYMBOLS

Topsoil, Silt, Fat Clay, Sand, Peat, Limestone, Gravel, Lean Clay, Fill

LEGEND OF PROBING

95/6"=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

Probing No.
Sta.
Elevation
7 Average Blows Per Foot
Refusal 95/6"

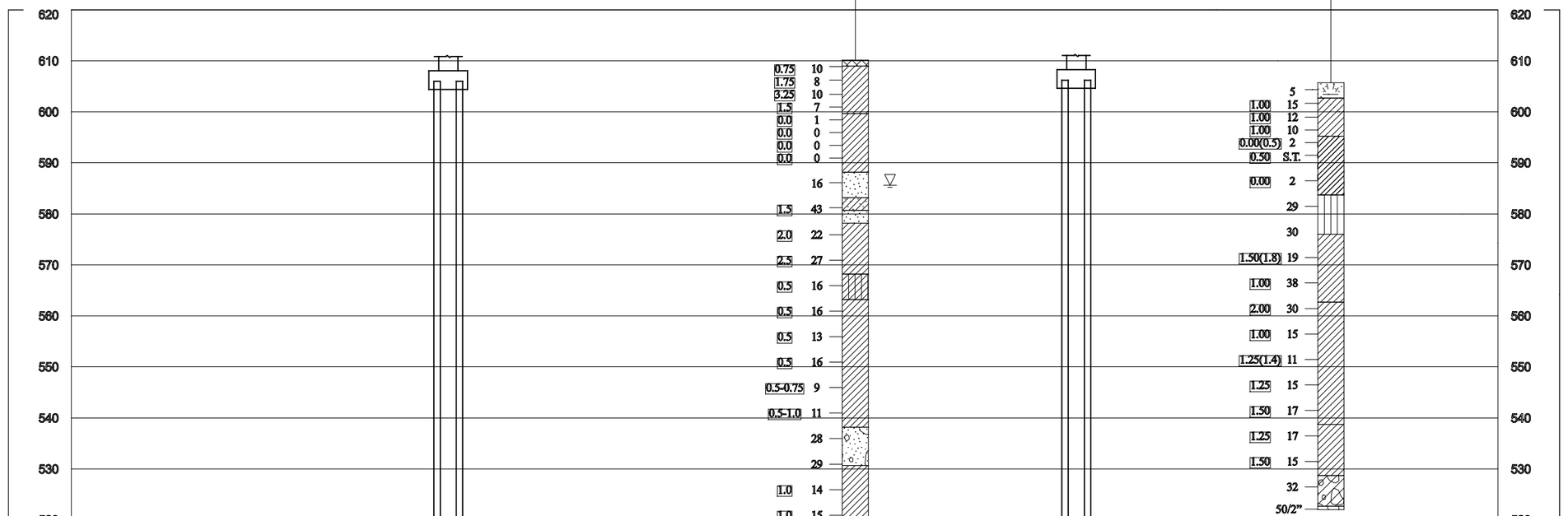
LEGEND OF BORING

Boring No.
Sta.
Elev.
Unconfined STRENGTH → 7.7 7
Blows Per Ft. USING 140# WT. FALLING 30"
Wash Sample
Sandy Gravel
F. Boulders or COBBLES
Shelby Tube S.T.
Sand
Ground Water ELEVATION
Silty Clay
So Limestone

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.



Note: ▽ -Water level during drilling.
S162-G1 was drilled at original sign location approx. 290ft south of S-05-162 revised location

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

STRUCTURE S-05-162

DRAWN BY RE | PLANS CK'D. NS

subsurface exploration

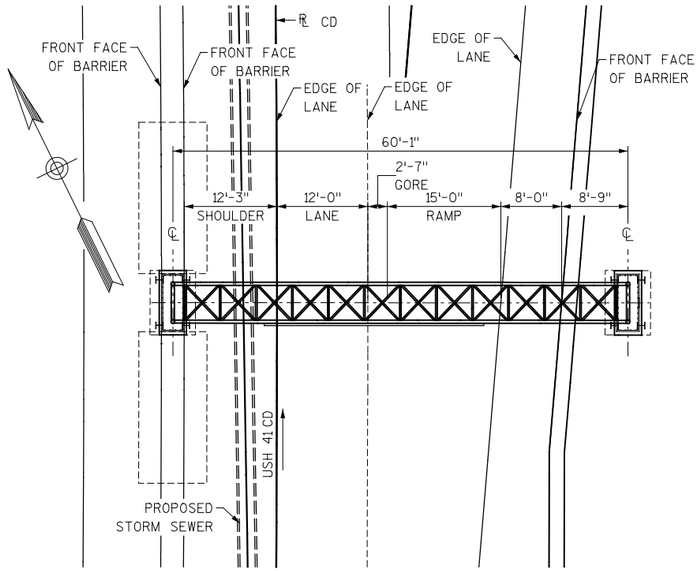
SHEET 10 OF 10

2579

08/28/2012

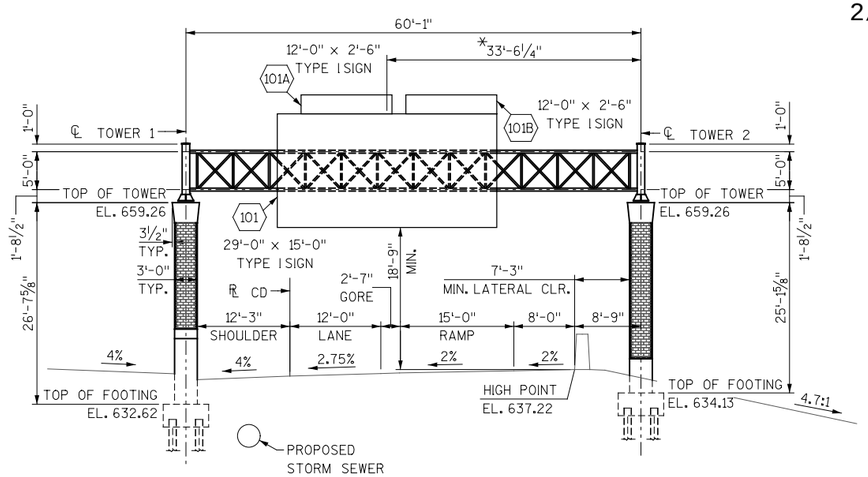
SCALE 1" = 20'

STATE PROJECT NUMBER
1133-09-71



PLAN

STA. 824CD+00



ELEVATION

(LOOKING NORTHEAST AT FRONT FACE OF SIGN)

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER

Steven J. Miller

2/15/2013

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CONCRETE TOWER 1 FOUNDATION DETAILS
3. CONCRETE TOWER 1 DETAILS
4. CONCRETE TOWER 2 FOUNDATION DETAILS
5. CONCRETE TOWER 2 DETAILS
6. GALVANIZED STEEL SIGN BRIDGE
7. SIGN BRIDGE DETAILS
8. CONCRETE TOWER 1 AESTHETIC DETAILS
9. CONCRETE TOWER 2 AESTHETIC DETAILS
10. SUBSURFACE EXPLORATION

ULTIMATE DESIGN STRESSES:

TOWER

CONCRETE: .....f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

SIGN BRIDGE

STEEL COLUMN PIPE: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
STEEL PIPE MEMBERS OF TRUSS: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
PLATES, BARS, STRUCTURAL ANGLES: .....fy = 36,000 psi
A.S.T.M. A709 GRADE 36
STEEL ANCHOR BOLTS: .....fy = 55,000 psi
A.A.S.H.T.O. M314-90 GRADE 55
ALL BOLTED CONNECTIONS: ¾" ϕ A325 BOLTS,
GALVANIZED A.S.T.M. A153, CLASS C

DESIGN DATA

DEAD LOAD - WT. OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.
LIVE LOAD - NONE.
ICE LOAD - 3 P.S.F. TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND‡)	133

‡ MIN. VALUE OF 25 PSF FOR GR. 3

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
768	16'-0"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ON THE PILES SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 - ¼" DIAMETER BY 1¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE S-05-163 "

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN CENTER TO CENTER OF CHORDS & SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-163 "

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS. WELD TEST AS PER AWS D1.1.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

(##) - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

* SIGN PANEL DIMENSIONS ARE TO THE CENTER OF THE SIGN PANEL. CONTRACTOR TO FIELD VERIFY SIGN PANEL DISPLAYS CORRELATE WITH ROADWAY LANE LAYOUT.

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	750
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	52
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	660
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	6270
641.6600.954	SIGN BRIDGE S-05-163	LS	1
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	520
SPV.0165.501	STAINING CONCRETE	SF	970
SPV.0165.502	STAINING CONCRETE BRICK	SF	520

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Drecher KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-163

DE PERE - SUAMICO

COUNTY	TOWN/CITY/VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CES	SJM	MJH	CES

PLAN & ELEVATION

SHEET 1 OF 10
2580

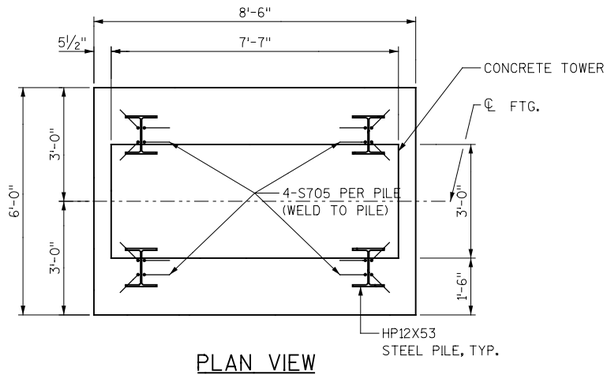
8

8

FILE NAME :S-05-163.dgn
PLOT DATE :2/25/2013 8:11:40 AM PLOT BY : MatthewHolandvik DRV :Pdf_bw_HS.by levels.pit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

1133-09-71

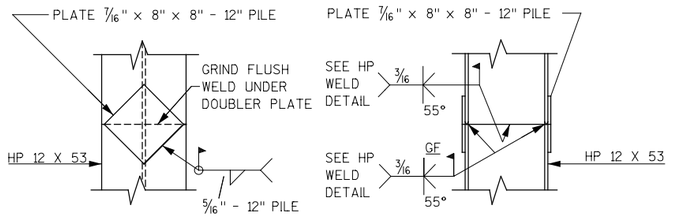


PLAN VIEW

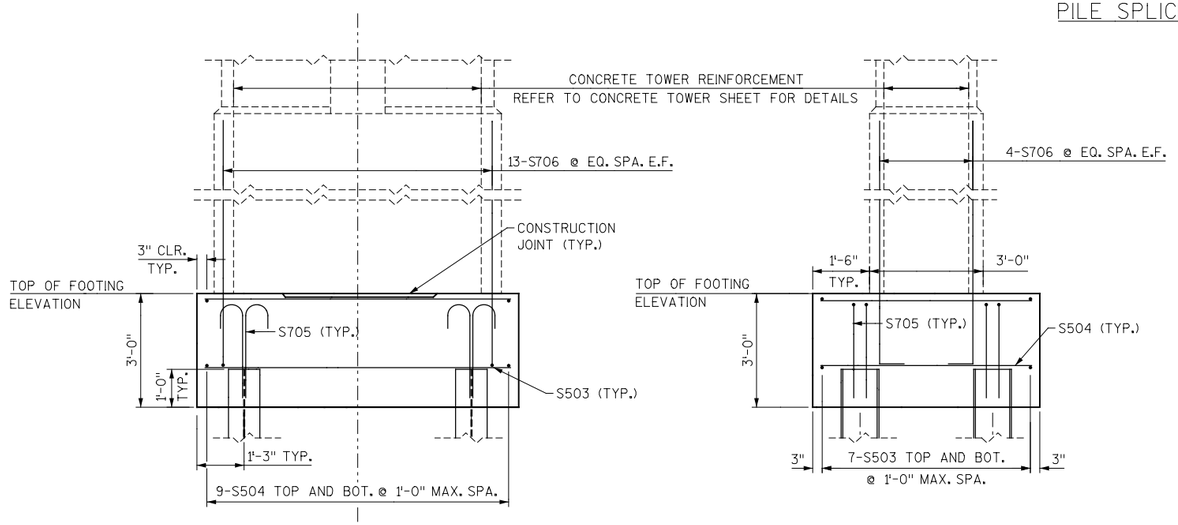
BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY

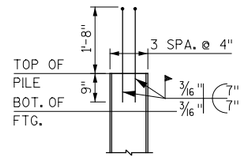


PILE SPLICE DETAIL

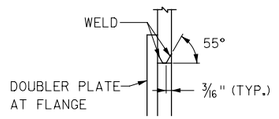


ELEVATION VIEW

END VIEW



PILE HEAD DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S503		14	8'-0"			CAP LONGITUDINAL
S504		18	5'-6"			CAP TRANSVERSE
S705		16	3'-3"	▲		WELDED TO PILES
S706	X	30	12'-9"	▲		CAP BEAM VERTICAL
S407	X	22	11'-6"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S708	X	30	26'-5"			VERT. REINF., MIDDLE OF TOWER
S409	X	4	13'-9"			VERT. REINF., MIDDLE OF TOWER
S410	X	38	10'-7"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	30	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	33	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	57	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

SIGN BRIDGE TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. BEDROCK IS EXPECTED TO BE ENCOUNTERED AT EL. 537.62. ESTIMATED LENGTH 93 FEET LONG.

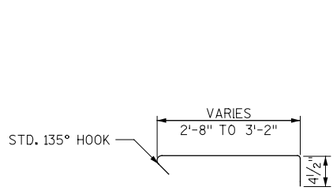
**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

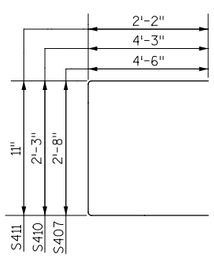
STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".

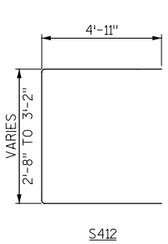
EMBANKMENT FILL PLACEMENT MUST MEET 90% AT PRIMARY CONSOLIDATION BEFORE PILES ARE DRIVEN. ENGINEER WILL NOTIFY WHEN 90% OF PRIMARY CONSOLIDATION IS MET. SEE GEOTECHNICAL REPORT FOR FURTHER DETAILS.



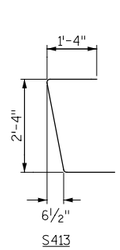
S417



S407,S410,S411



S412



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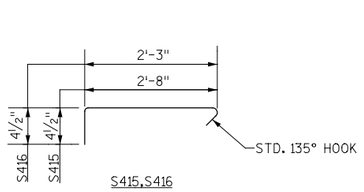
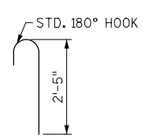


S415,S416

S706



S705

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-163

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 FOUNDATION DETAILS

SHEET 2 OF 10

2581

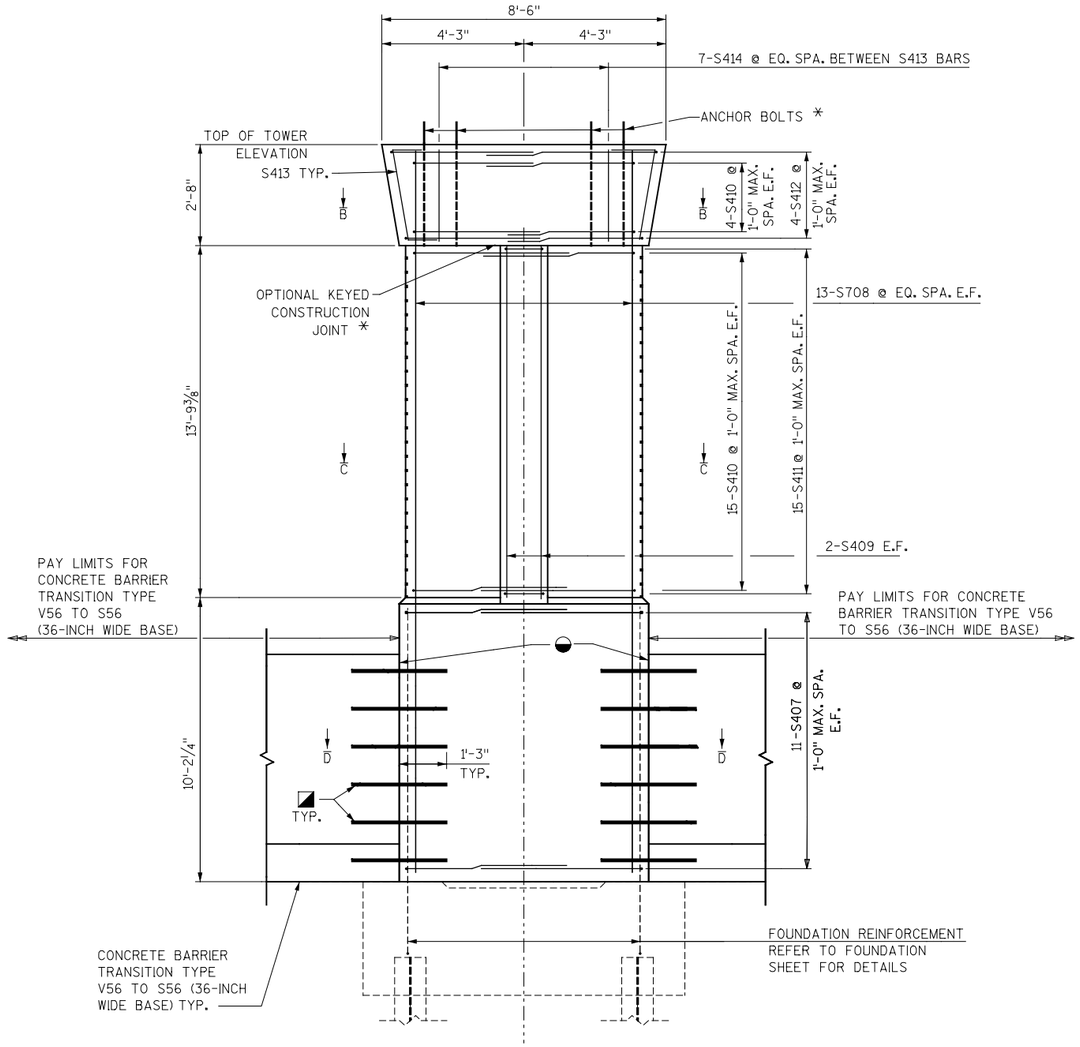
8

8

FILE NAME :S-05-163.dgn
PLOT DATE :2/15/2023 8:22:42 AM PLOT BY : MatthewHa@and.vR DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

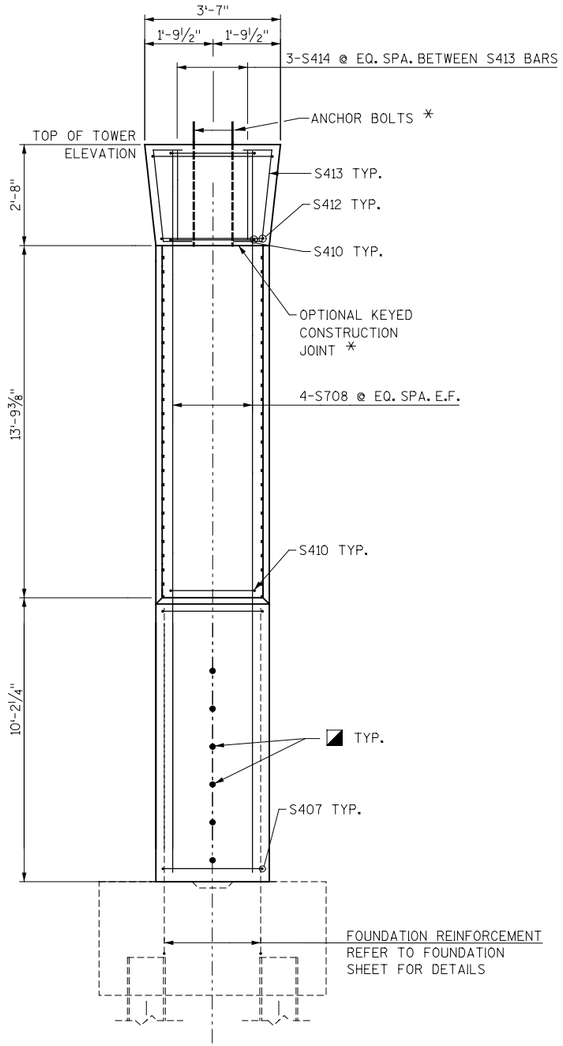
STATE PROJECT NUMBER

1133-09-71



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2 1/2" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

APPROVED EXPANSION FITTING SHALL BE CAST INTO THE BARRIER OR TOWER CONCRETE, WHICH EVER ELEMENT IS CAST FIRST.

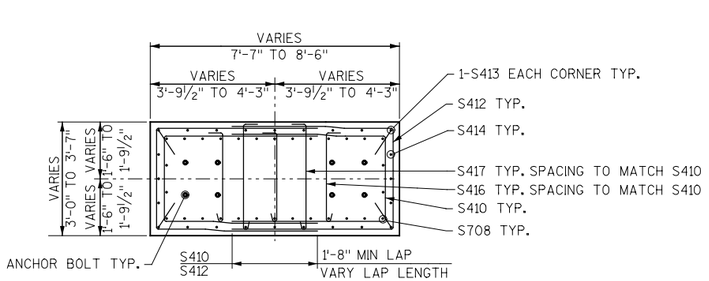
COORDINATE THE LOCATION OF THE ELECTRICAL CONDUIT IN THE TOWER TO MATCH THE LOCATION OF THE CONDUIT IN THE CONCRETE BARRIER.

SPACE S407 BARS TO MISS CONDUIT.

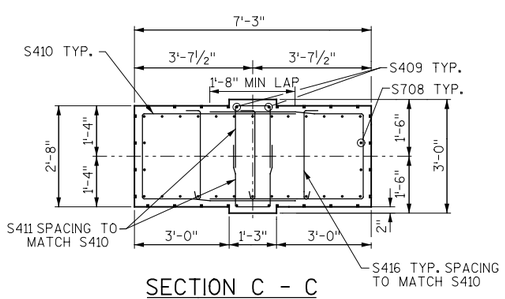
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.

◪ PLACE 1" ϕ PLAIN (SMOOTH) ROUND DOWEL BARS, 2'-6" LONG BETWEEN BARRIER AND CONCRETE TOWER. USE DEBONDER ON EXTENSION INTO BARRIER. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. SPACE DOWELS AT 1'-0". COST OF ITEMS ARE TO BE INCLUDED IN THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

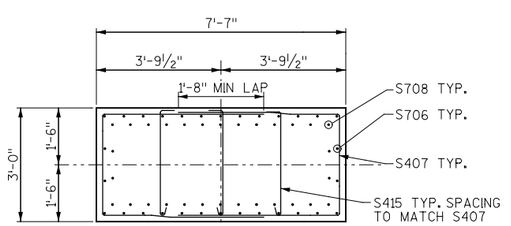
◒ PLACE 1/2" EXPANSION JOINT FILLLER BETWEEN TOWER AND BARRIER WALL, TYP. THE JOINT FILLER SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".



SECTION B - B



SECTION C - C



SECTION D - D

(DOWEL BARS OMITTED FOR CLARITY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-163

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 DETAILS

SHEET 3 OF 10

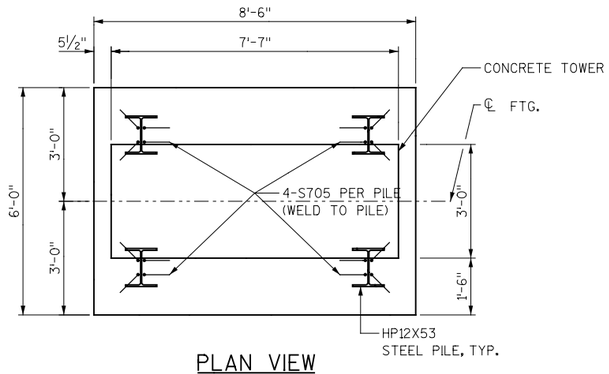
2582

8

8

FILE NAME :S-05-163.dgn
PLOT DATE :2/15/2013 8:22:43 AM PLOT BY : MatthewHe@and.st DRV :Pdf_bw_HS.by levelzit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-09-71

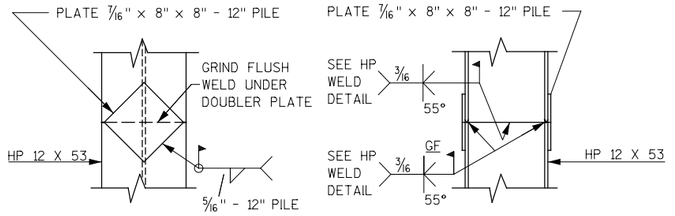


PLAN VIEW

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY



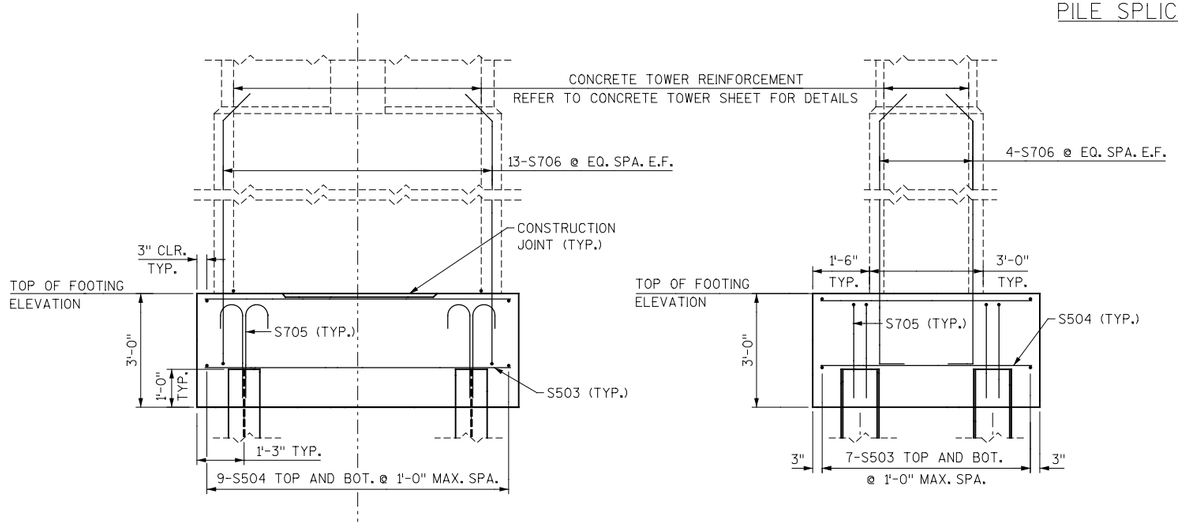
PILE SPLICE DETAIL

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

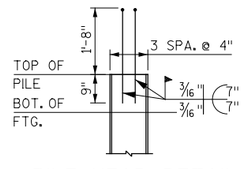
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S503		14	8'-0"			CAP LONGITUDINAL
S504		18	5'-6"			CAP TRANSVERSE
S705		16	3'-3"	▲		WELDED TO PILES
S706	X	30	8'-4"	▲		CAP BEAM VERTICAL
S407	X	10	11'-6"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S708	X	30	25'-11"	▲		VERT. REINF., MIDDLE OF TOWER
S409	X	4	17'-11"			VERT. REINF., MIDDLE OF TOWER
S410	X	46	10'-7"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	38	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	15	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	69	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

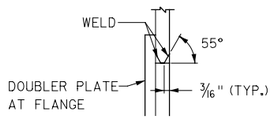


ELEVATION VIEW

END VIEW



PILE HEAD DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

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FOUNDATION DATA

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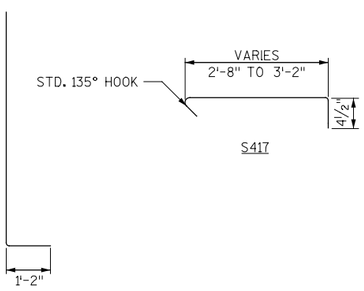
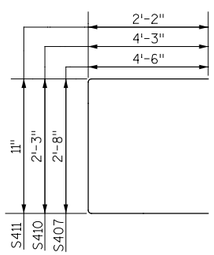
STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".

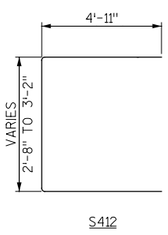
EMBANKMENT FILL PLACEMENT MUST MEET 90% AT PRIMARY CONSOLIDATION BEFORE PILES ARE DRIVEN. ENGINEER WILL NOTIFY WHEN 90% OF PRIMARY CONSOLIDATION IS MET. SEE GEOTECHNICAL REPORT FOR FURTHER DETAILS.



S417



S407,S410,S411



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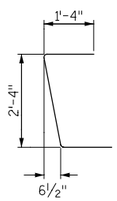

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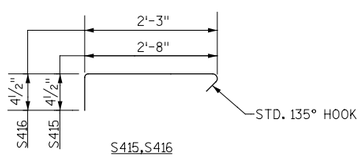
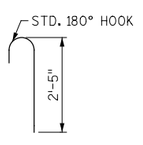
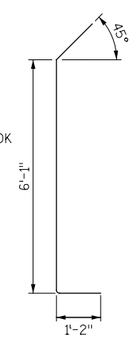


S415,S416



S705



S706

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-163

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 FOUNDATION DETAILS

SHEET 4 OF 10

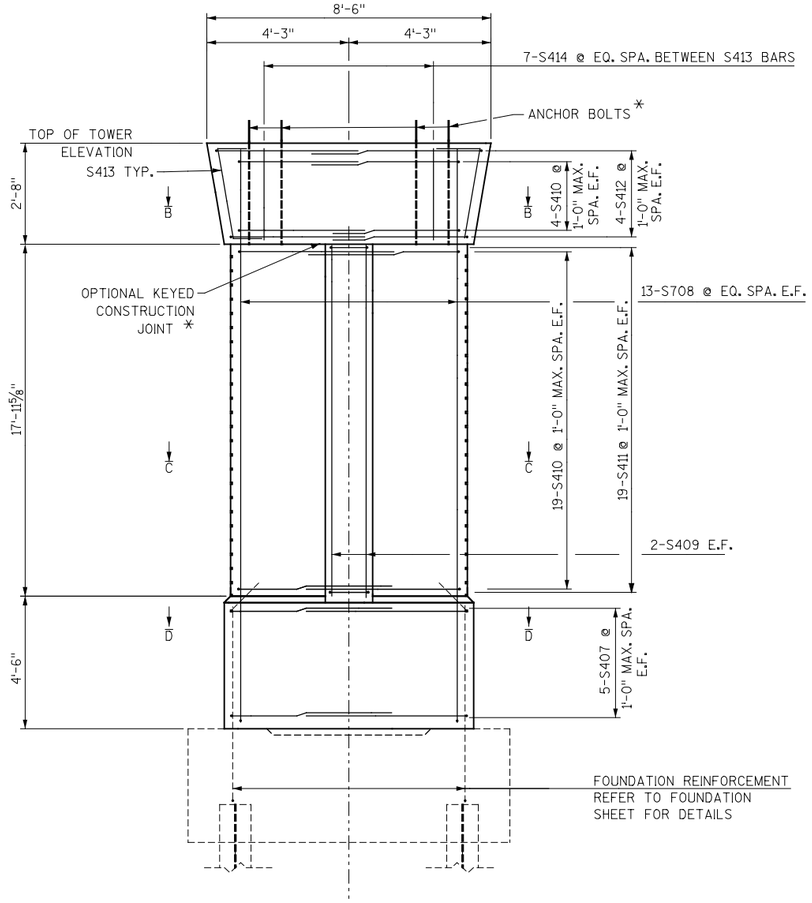
2583

8

8

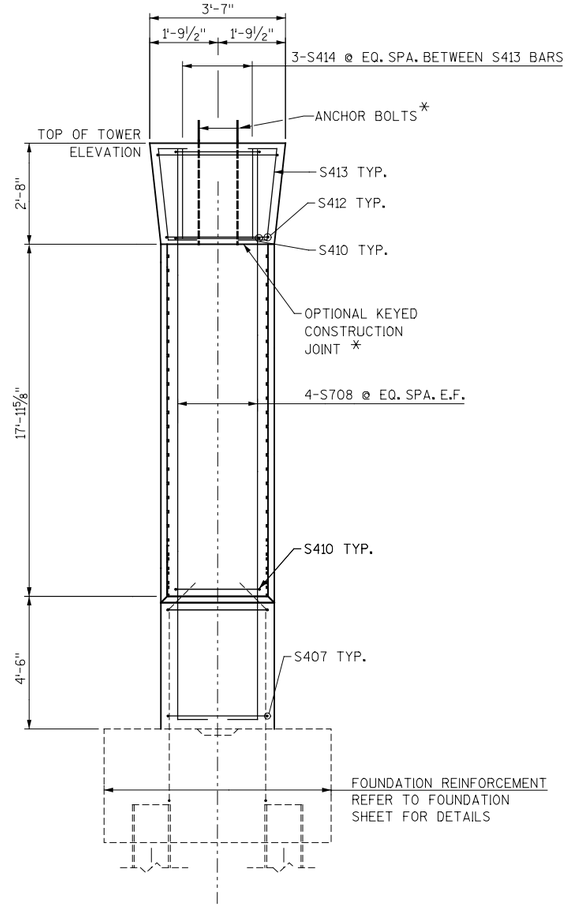
FILE NAME :S-05-163.dgn
PLOT DATE :12/15/2023 8:22:45 AM PLOT BY : MatthewHa@landvR DRV :Pdf_bw_HS.by levelplt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-09-71



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

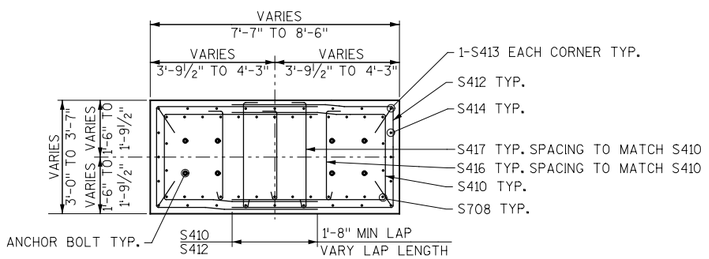
"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

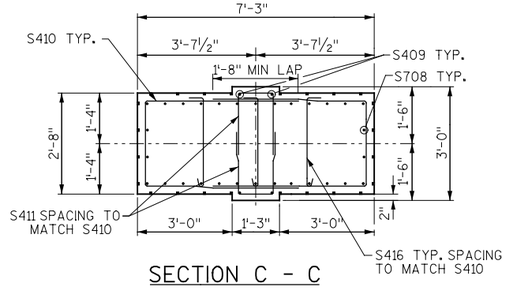
REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

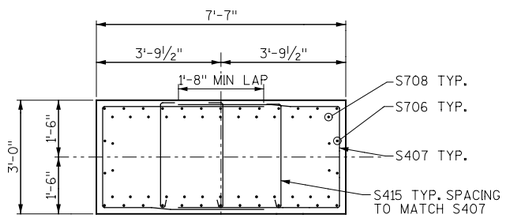
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.



SECTION B - B



SECTION C - C



SECTION D - D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-163

DRAWN BY VC | PLANS CK'D. CES

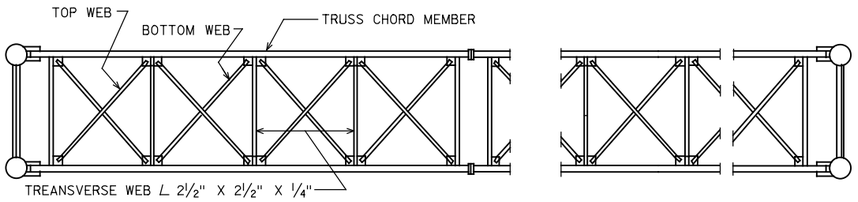
CONCRETE TOWER 2 DETAILS 2584

SHEET 5 OF 10

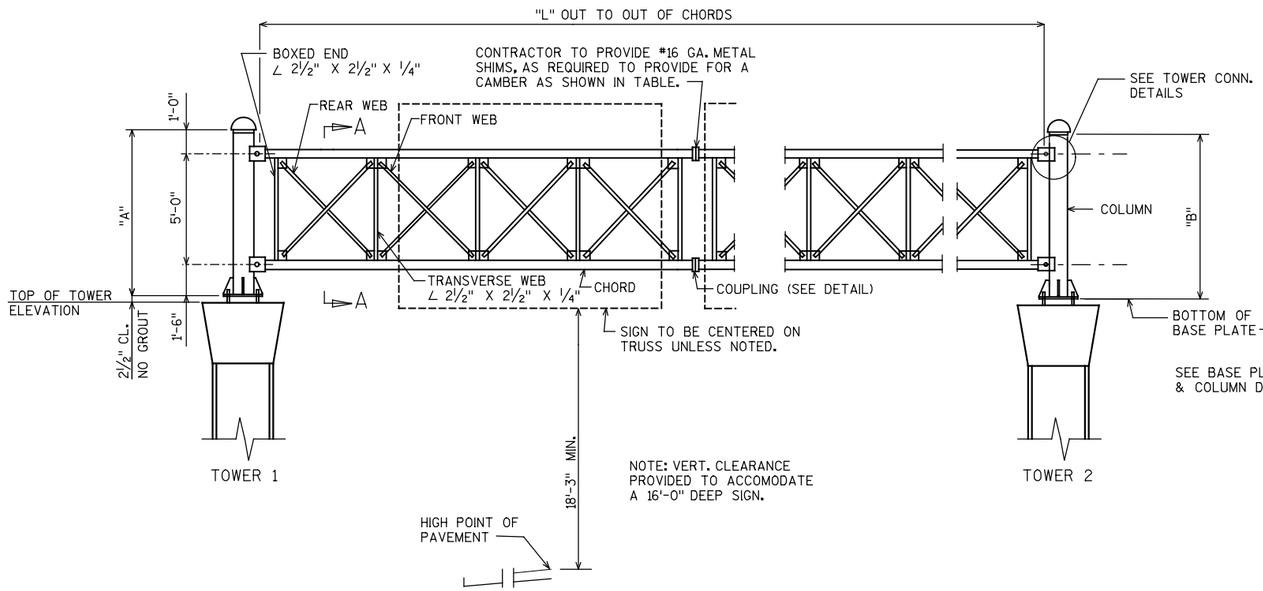
FILE NAME :S-05-163.dgn
PLOT DATE :2/15/2013 8:12:46 AM PLOT BY : MatthewHeiland81 DRV :Pdf_bw_HS.by level.pit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

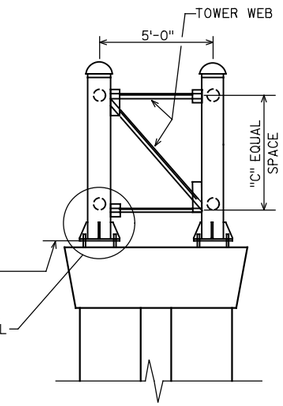
1133-09-71



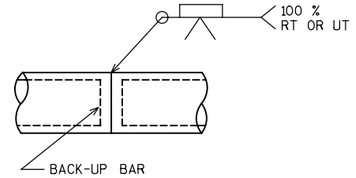
PLAN



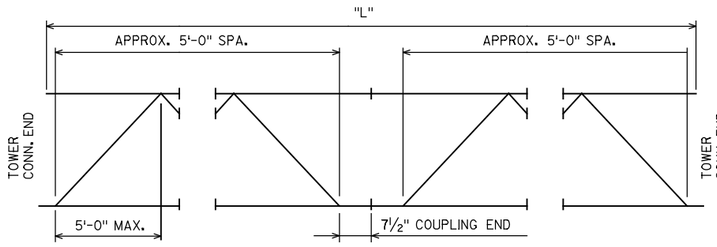
ELEVATION



TOWER 2 END VIEW
(TOWER 1 OPPOSITE HAND)

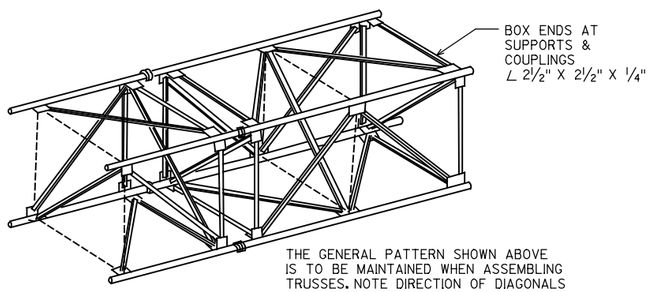


OPTIONAL COLUMN OR CHORD SPLICE DETAIL

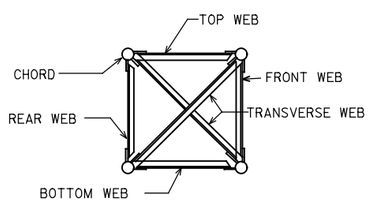


TRUSS ARRANGEMENT

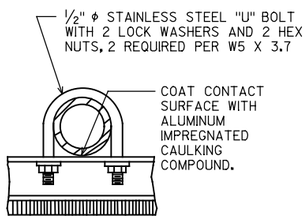
FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 20'-0" & A MULTPLE OF 5'-0". CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS. CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.



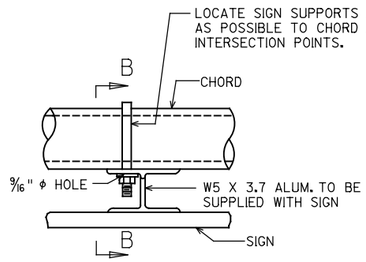
TYPICAL TRUSS SECTION



SECTION A



SECTION B



TYPICAL SIGN CONNECTION

GENERAL NOTES

DRAWING SHALL NOT BE SCALED

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

STRUCTURE MEMBER TABLE

A	B	C	CHORDS O.D. X THK.	TOP & BOTTOM WEB	FRONT & REAR WEB	COUPLING PLATE D1 & "T"	BOLT CIRCLE DIA. "D2"	NO. OF BOLTS IN COUPLING	CAMBER	COLUMN O.D. X THK.	TOWER WEBS	"L"
7'-6"	7'-6"	1	4"x0.226"	3"x3"x3/16"	3"x3"x3/16"	10.5" x 1"	7.5"	6	1"	10.75"x0.25"	3"x3"x3/16"	58'-11 ¼"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-163

DRAWN BY VC | PLANS CK'D. CES

GALVANIZED STEEL SIGN BRIDGE

SHEET 6 OF 10

2585

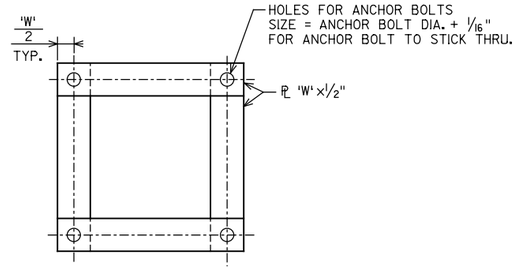
8

8

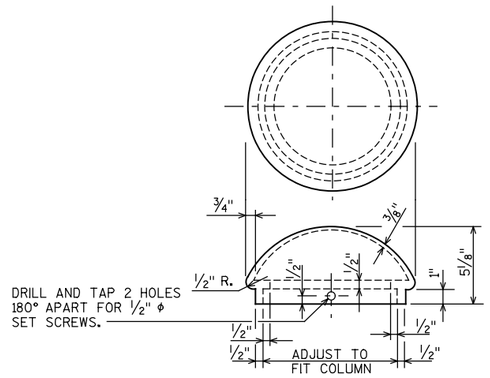
FILE NAME :S-05-163.dgn
PLOT DATE 12/15/2013 8:12:47 AM
65°
PLOT BY : MatthewHeiland v8i
DRV :Pdf_bw_HS.by levels.pit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

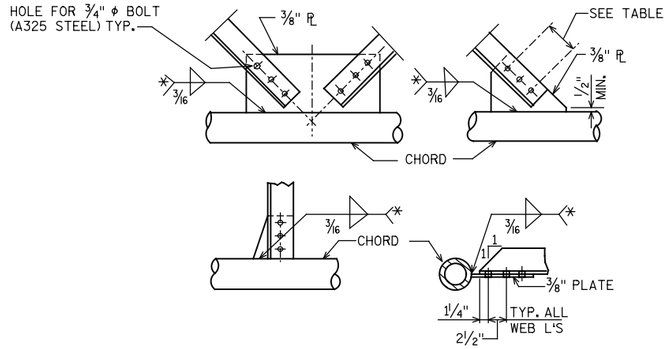
1133-09-71



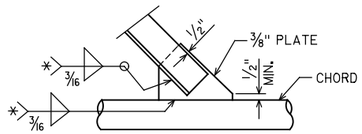
ANCHOR PLATE/TEMPLATE PLAN



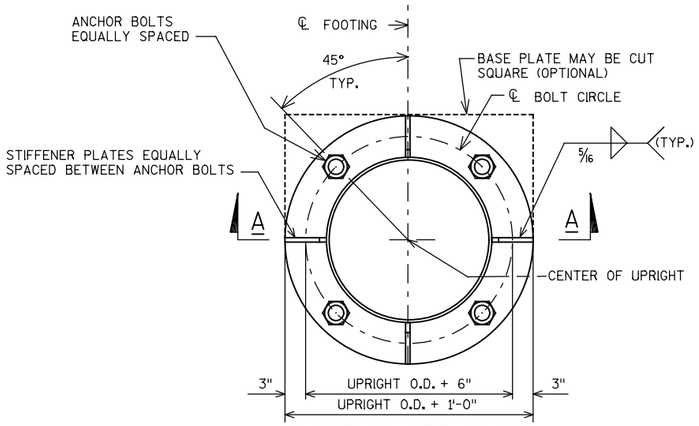
TOWER CAP DETAIL



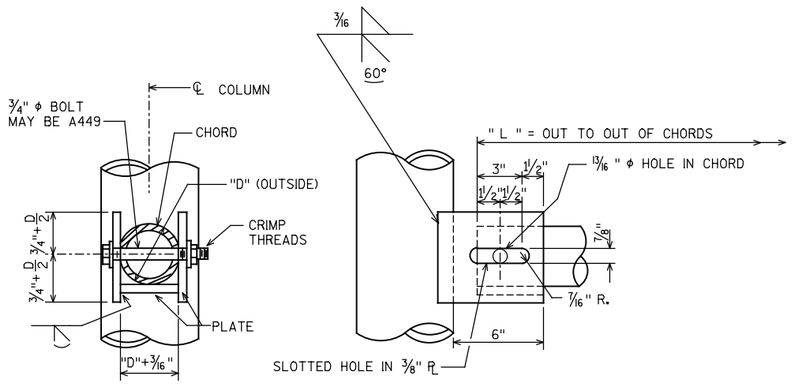
TYPICAL TRUSS CONNECTION DETAILS



TYPICAL WELDED ALTERNATE



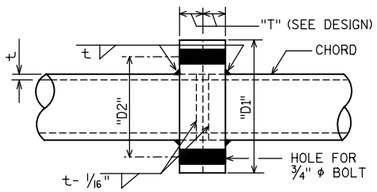
BASE PLATE PLAN



TOWER CONNECTION DETAIL

*ANGLE	WELD LENGTH	NO. OF BOLTS
● 2 1/2"x2 1/2"x1/4"	11"	3
3"x3"x3/16"	10"	3
3"x3"x1/4"	13"	4
3"x3"x5/16"	16 1/2"	5
3"x3"x3/8"	19 1/2"	6
4"x4"x1/4"	18"	5
4"x4"x5/16"	22"	6
4"x4"x3/8"	26"	8
4"x4"x7/16"	30"	9
4"x4"x1/2"	34"	10

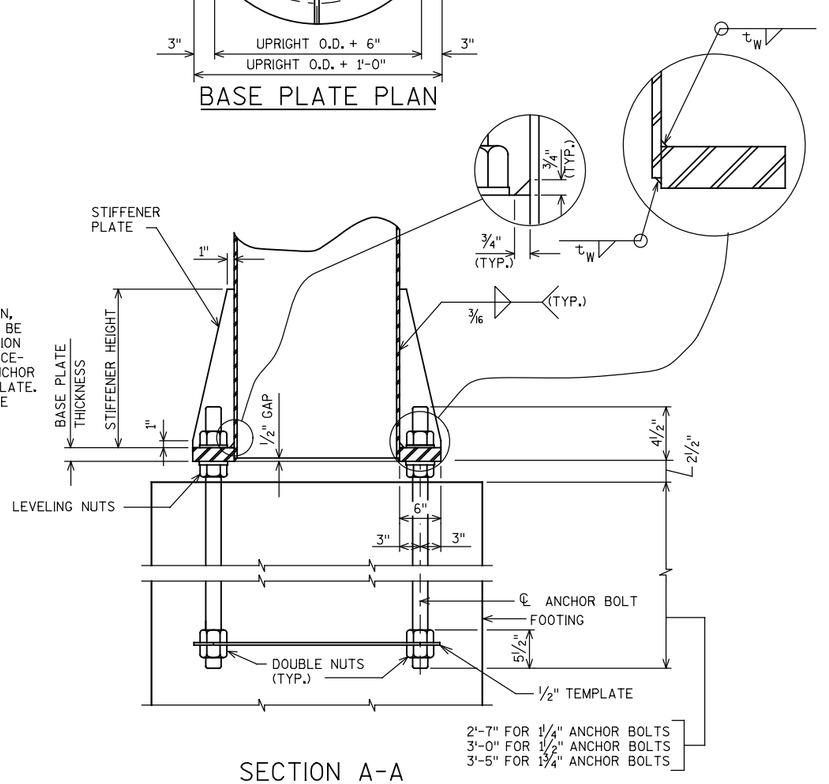
● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.



COUPLING DETAIL

(CONNECTION BOLTS OMITTED FOR CLARITY)

NOTE:
PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE. REMOVE TOP TEMPLATE (NOT SHOWN) AFTER CONCRETE SETS.



SECTION A-G

BASE PLATE & UPRIGHT COLUMN DETAILS

COLUMN O.D. X THK.	ANCHOR BOLTS	BASE PLATE THICKNESS (IN.)	STIFFENER PLATE THICKNESS (IN.)	STIFFENER PLATE HEIGHT (IN.)	t_W (IN.)
10.75"X0.25"	1 1/4"	1 1/4"	1/2"	10"	5/16"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-163

DRAWN BY VC | PLANS CK'D. CES

GALVANIZED STEEL SIGN BRIDGE DETAILS

SHEET 7 OF 10

2586

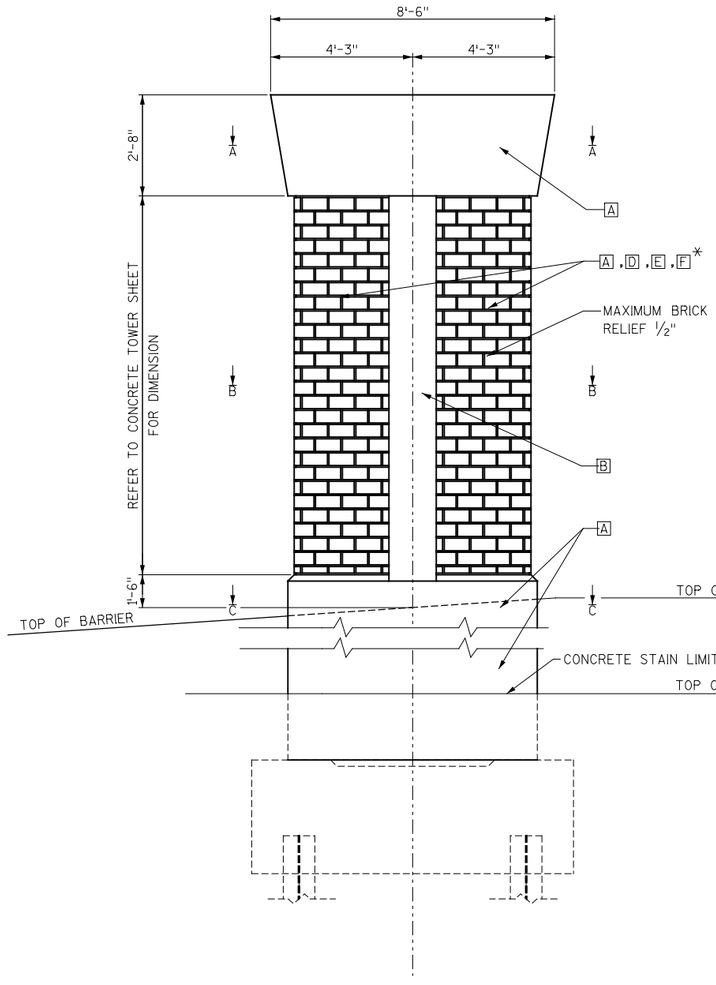
8

8

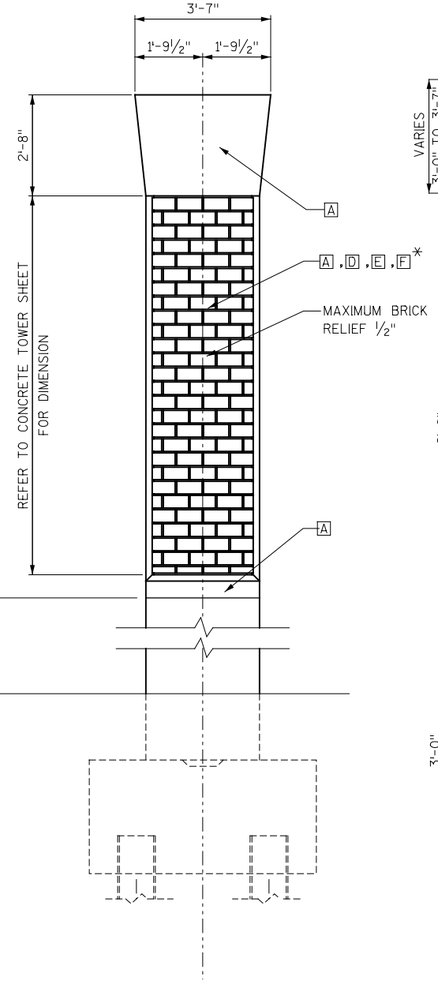
FILE NAME 15-05-163.dgn
PLOT DATE 12/15/2013 8:12:47 AM
PLOT BY : MatthewHeiland48
DRV :Pdf_bw_HS.by levelplt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

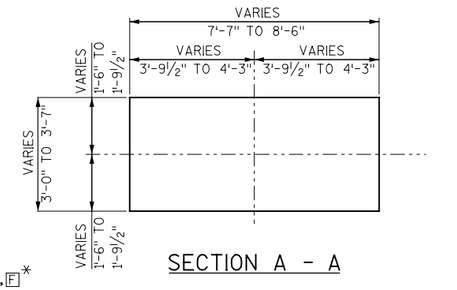
1133-09-71



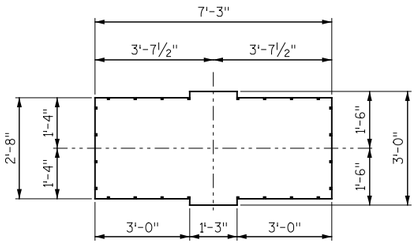
ELEVATION VIEW



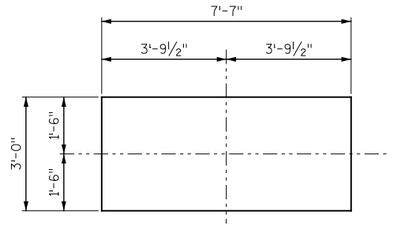
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-163

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 AESTHETIC DETAILS

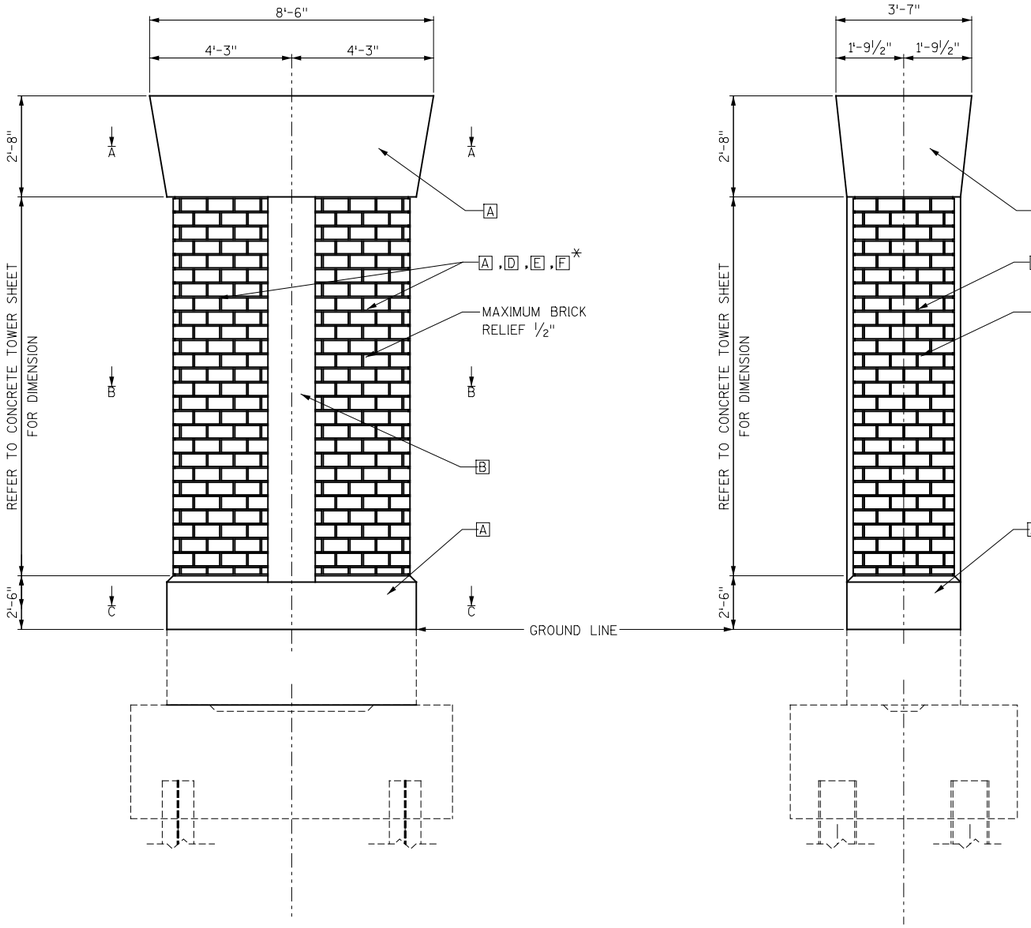
SHEET 8 OF 10

2587

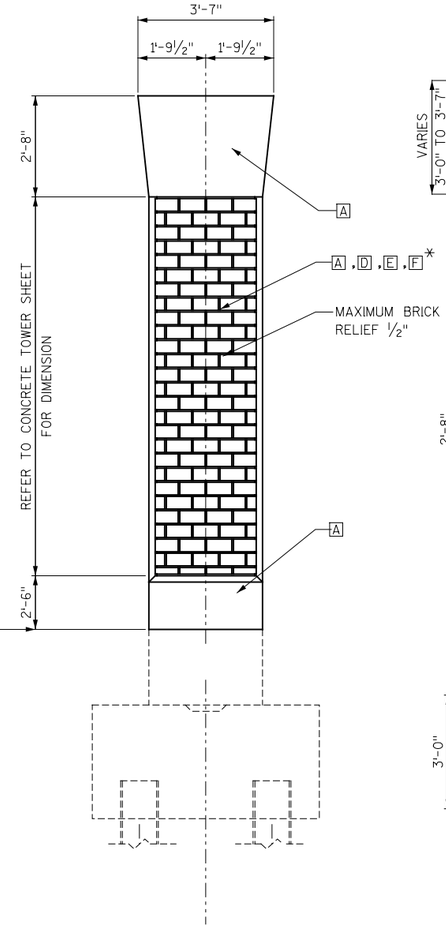
FILE NAME :S-05-163.dgn
PLOT DATE :2/15/2013 8:12:49 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

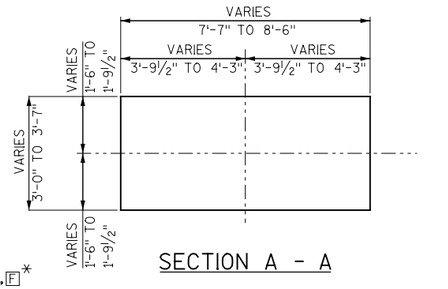
1133-09-71



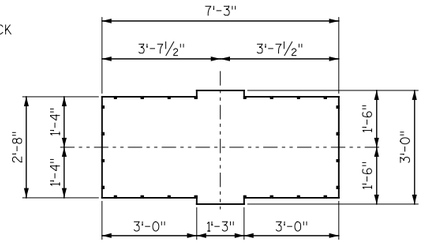
ELEVATION VIEW



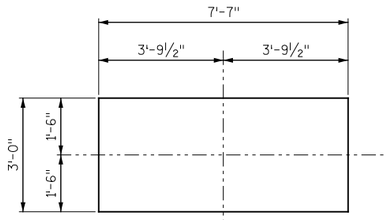
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-163

DRAWN BY VC | PLANS CK'D. CES

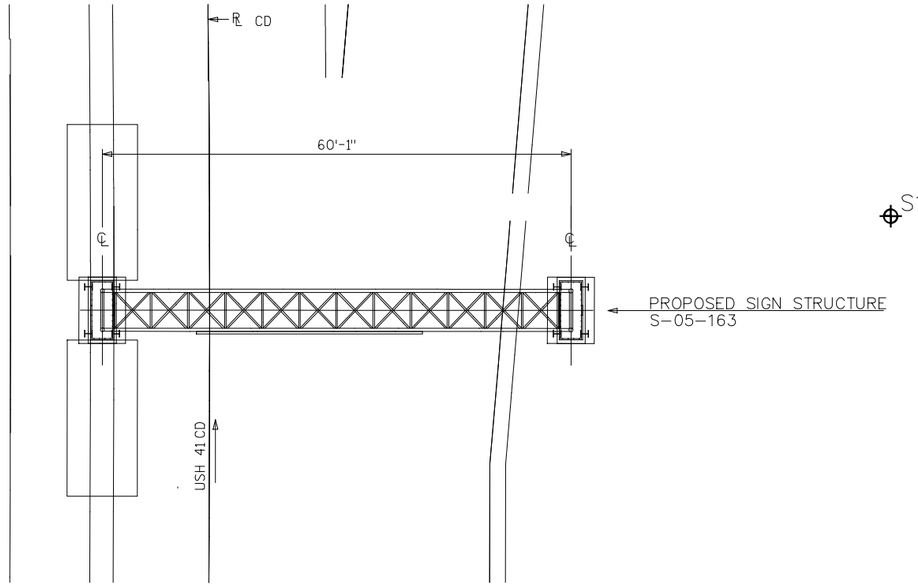
CONCRETE TOWER 2 AESTHETIC DETAILS

SHEET 9 OF 10

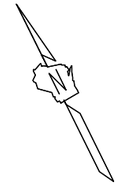
2588

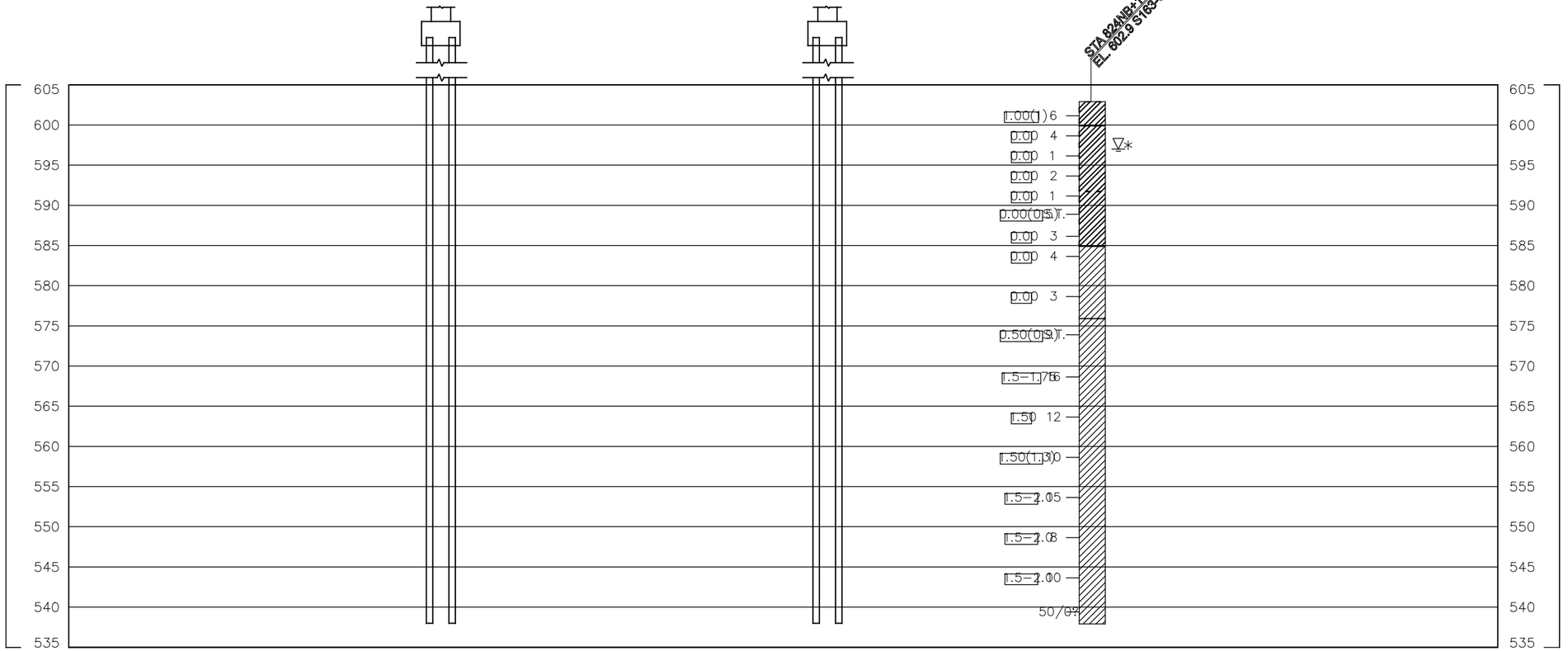
FILE NAME :S-05-163.dgn
PLOT DATE :2/15/2013 8:22:50 AM PLOT BY : MatthewHeiland:8l DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

USH-41 (S-05-163)
05-BROWN, WI



S163-G2A





NOTE: ▽* —WATER LEVEL ASSUMED FROM SAMPLE CONDITION

STATE PROJECT NUMBER

1133-09-71

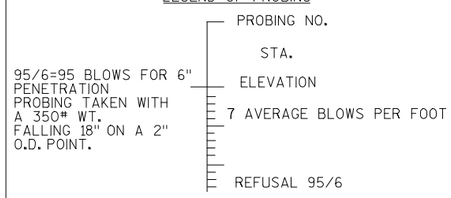
ABBREVIATIONS

F— FINE M— MEDIUM C— COARSE
WS— WEATHERED SO — SOUND

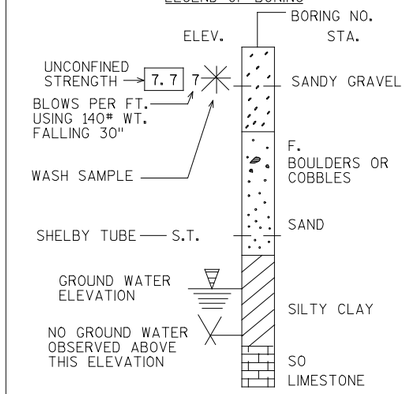
MATERIAL SYMBOLS

TOPSOIL, SILT, FAT CLAY, SAND, PEAT, DOLOMITE, GRAVEL, CLAY, FILL

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-163

DRAWN BY RE | PLANS CK'D. DB

SUBSURFACE EXPLORATION

SHEET 10 OF 10
2589

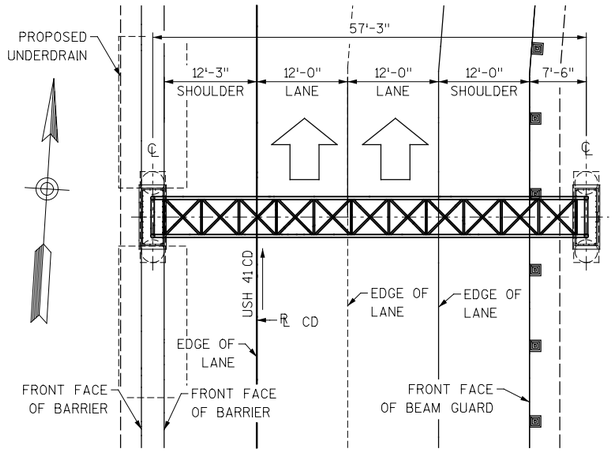
SCALE 1"=40'

8

8

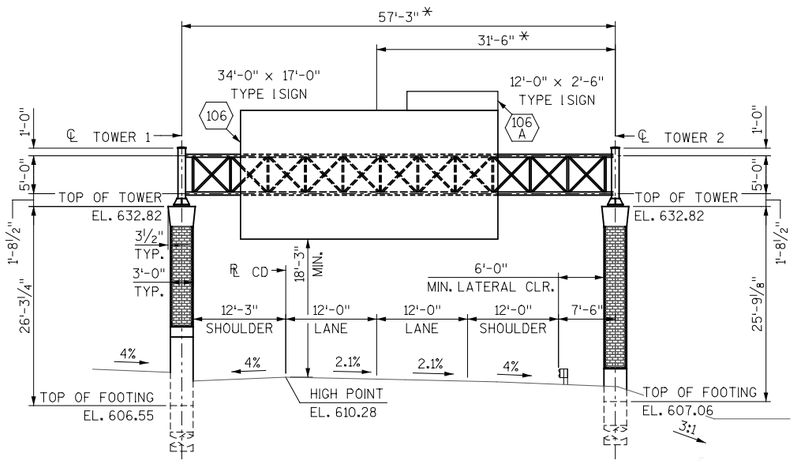
STATE PROJECT NUMBER

1133-09-71



PLAN

STA. 864CD+40



ELEVATION

(LOOKING NORTH AT FRONT FACE OF SIGN)

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER

Steven J. Miller

2/15/2013

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CONCRETE TOWER 1 FOUNDATION DETAILS
3. CONCRETE TOWER 1 DETAILS
4. CONCRETE TOWER 2 FOUNDATION DETAILS
5. CONCRETE TOWER 2 DETAILS
6. GALVANIZED STEEL SIGN BRIDGE
7. SIGN BRIDGE DETAILS
8. CONCRETE TOWER 1 AESTHETIC DETAILS
9. CONCRETE TOWER 2 AESTHETIC DETAILS

ULTIMATE DESIGN STRESSES:

TOWER

CONCRETE: .....f'c = 3,500 psi

HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

SIGN BRIDGE

STEEL COLUMN PIPE: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42

STEEL PIPE MEMBERS OF TRUSS: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42

PLATES, BARS, STRUCTURAL ANGLES: .....fy = 36,000 psi
A.S.T.M. A709 GRADE 36

STEEL ANCHOR BOLTS: .....fy = 55,000 psi
A.A.S.H.T.O. M314-90 GRADE 55

ALL BOLTED CONNECTIONS: ¾" ϕ A325 BOLTS,
GALVANIZED A.S.T.M. A153, CLASS C

DESIGN DATA

DEAD LOAD - WT. OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.

LIVE LOAD - NONE.

ICE LOAD - 3 P.S.F. TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.

WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND‡)	133

‡ MIN. VALUE OF 25 PSF FOR GR. 3

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
652	17'-0"

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	68
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	3340
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	6580
641.6600.955	SIGN BRIDGE S-05-164	LS	1
652.0135	CONDUIT RIGID METALLIC 3 - INCH	LF	8
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	550
SPV.0165.501	STAINING CONCRETE	SF	980
SPV.0165.502	STAINING CONCRETE BRICK	SF	550

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ABOVE THE DRILLED SHAFTS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 - ¼" DIAMETER BY 1¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE S-05-164 "

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN CENTER TO CENTER OF CHORDS & SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-164"

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

⬡ ## - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

* SIGN PANEL DIMENSIONS ARE TO THE CENTER OF THE SIGN PANEL. CONTRACTOR TO FIELD VERIFY SIGN PANEL DISPLAYS CORRELATE WITH ROADWAY LANE LAYOUT.

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-164

DE PERE - SUAMICO

COUNTY	TOWN/CITY/VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CES	SJM	MJH	CES

PLAN & ELEVATION

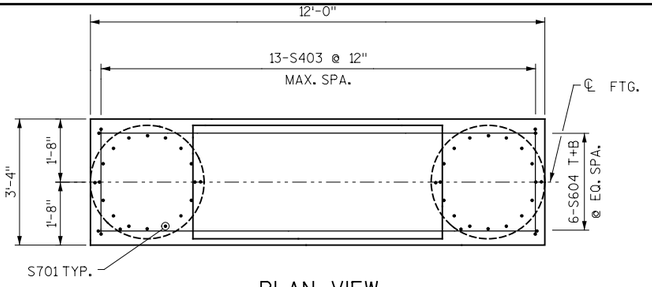
SHEET 1 OF 9

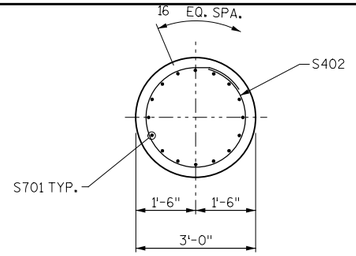
2590

8

8

FILE NAME: 15-05-164.dgn
PLOT DATE 12/25/2013 8:14:12 AM PLOT BY : MatthewHolland:EL DRV :Pdf_bw_HS.by level.plt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL





BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S701		32	15'-6"			DRILLED SHAFT VERTICAL
S402		26	9'-4"	▲		DRILLED SHAFT HOOP
S403		13	13'-2"	▲		CAP BEAM STIRRUP
S604		12	13'-2"	▲		CAP BEAM LONGITUDINAL
S605		8	11'-6"			CAP BEAM LONGITUDINAL
S706	X	30	15'-3"	▲		CAP BEAM VERTICAL
S407	X	22	11'-6"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S708	X	30	26'-1"			VERT. REINF., MIDDLE OF TOWER
S409	X	4	13'-0"			VERT. REINF., MIDDLE OF TOWER
S410	X	36	10'-7"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	28	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	33	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	54	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

THE BOTTOM OF THE DRILLED HOLE SHALL BE FIRM AND THOROUGHLY CLEANED SO NO LOOSE OR COMPRESSIBLE MATERIALS ARE PRESENT AT THE TIME OF THE CONCRETE PLACEMENT.

IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

IF THE ENGINEER DETERMINES THE POSSIBILITY OF CAVE-INS, OR SOIL DISPLACEMENT FROM THE WALLS EXISTS, OR IF NECESSARY TO SHUT OFF SEEPAGE WATER, THEN LINE THE REMAINING DEPTH OF THE FOOTING SHAFT WITH A SUITABLE TEMPORARY CASING. PROVIDE, INSTALL AND REMOVE THE TEMPORARY CASING ACCORDING TO SECTION 636 OF THE STANDARD SPECIFICATIONS.

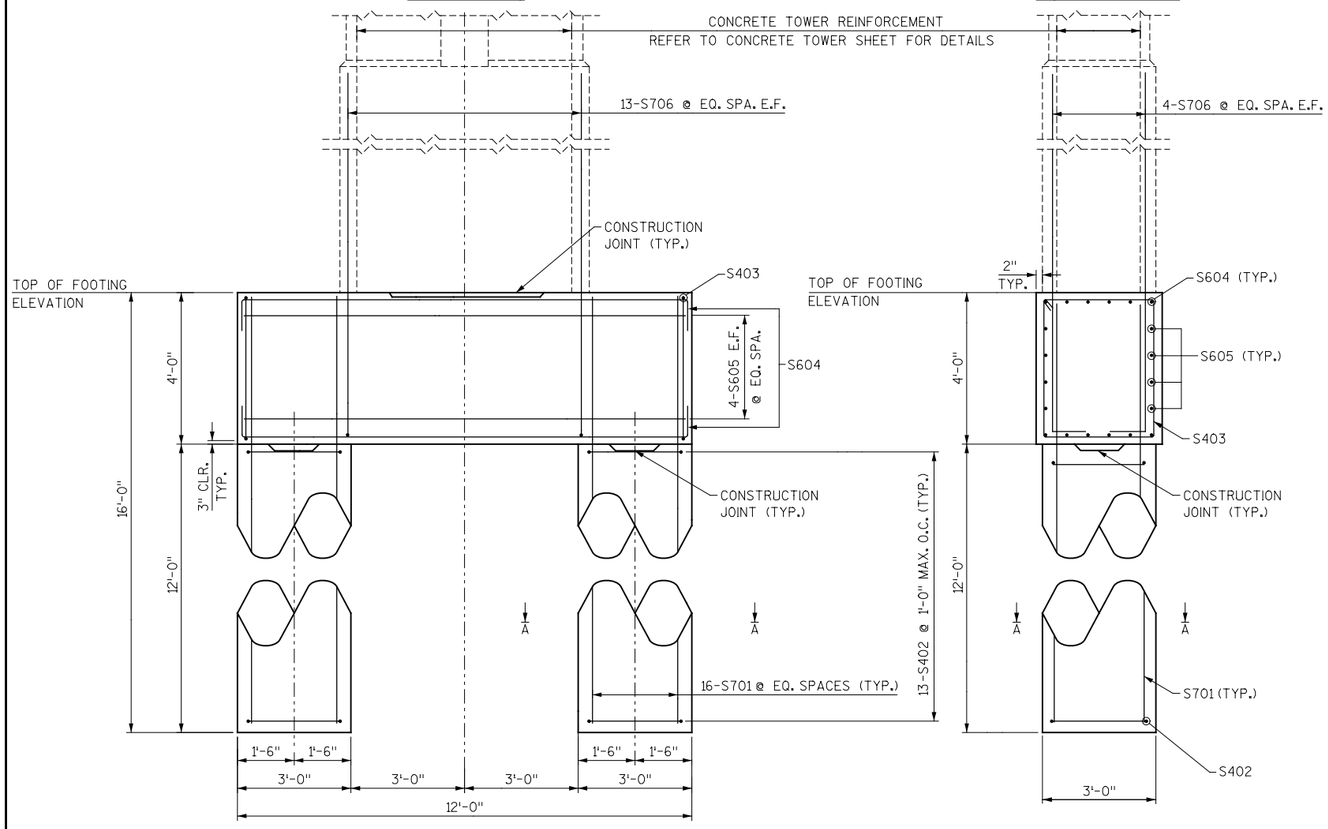
FOUNDATION DATA

THE FOLLOWING SOIL PARAMETERS WERE USED FOR THE DESIGN OF THE FOUNDATION SYSTEM. IF VARIATIONS IN THE SOIL PARAMETERS ARE FOUND DURING CONSTRUCTION NOTIFY PROJECT ENGINEER FOR REQUIRED MODIFICATION TO THE FOUNDATION SYSTEM.

			UNDRAINED		DRAINED	
APPROXIMATE BOTTOM ELEVATION	ALLOWABLE SKIN FRICTION	ALLOWABLE END BEARING	COHESION	FRICTION ANGLE	COHESION	FRICTION ANGLE
(FT)	(PSF)	(PSF)	(PSF)	(DEGREE)	(PSF)	(DEGREE)
601	100	1,000	300	-	-	-
590	500	9,000	2,500	-	-	-
580	130	10,500	-	32	-	-
-	800	14,400	4,000	-	-	-

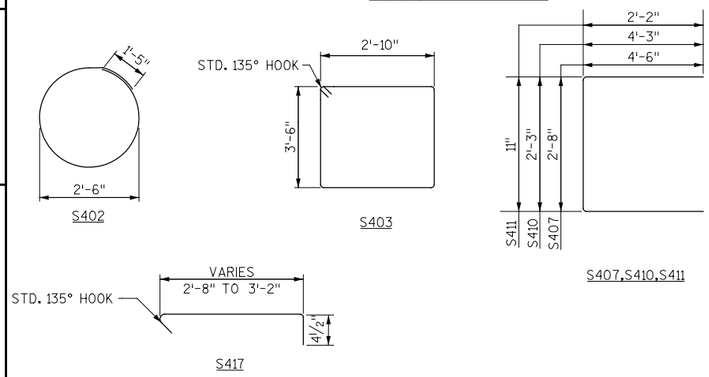
THE GROUNDWATER ELEVATION WAS ESTIMATED AT 604.0 FEET DURING SUBSURFACE EXPLORATION.

PLAN VIEW

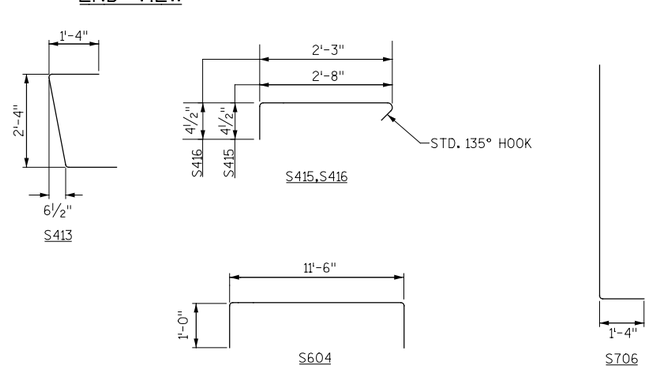


SECTION A-A

ELEVATION VIEW



END VIEW



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-164

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 FOUNDATION DETAILS

SHEET 2 OF 9

2591

STATE PROJECT NUMBER

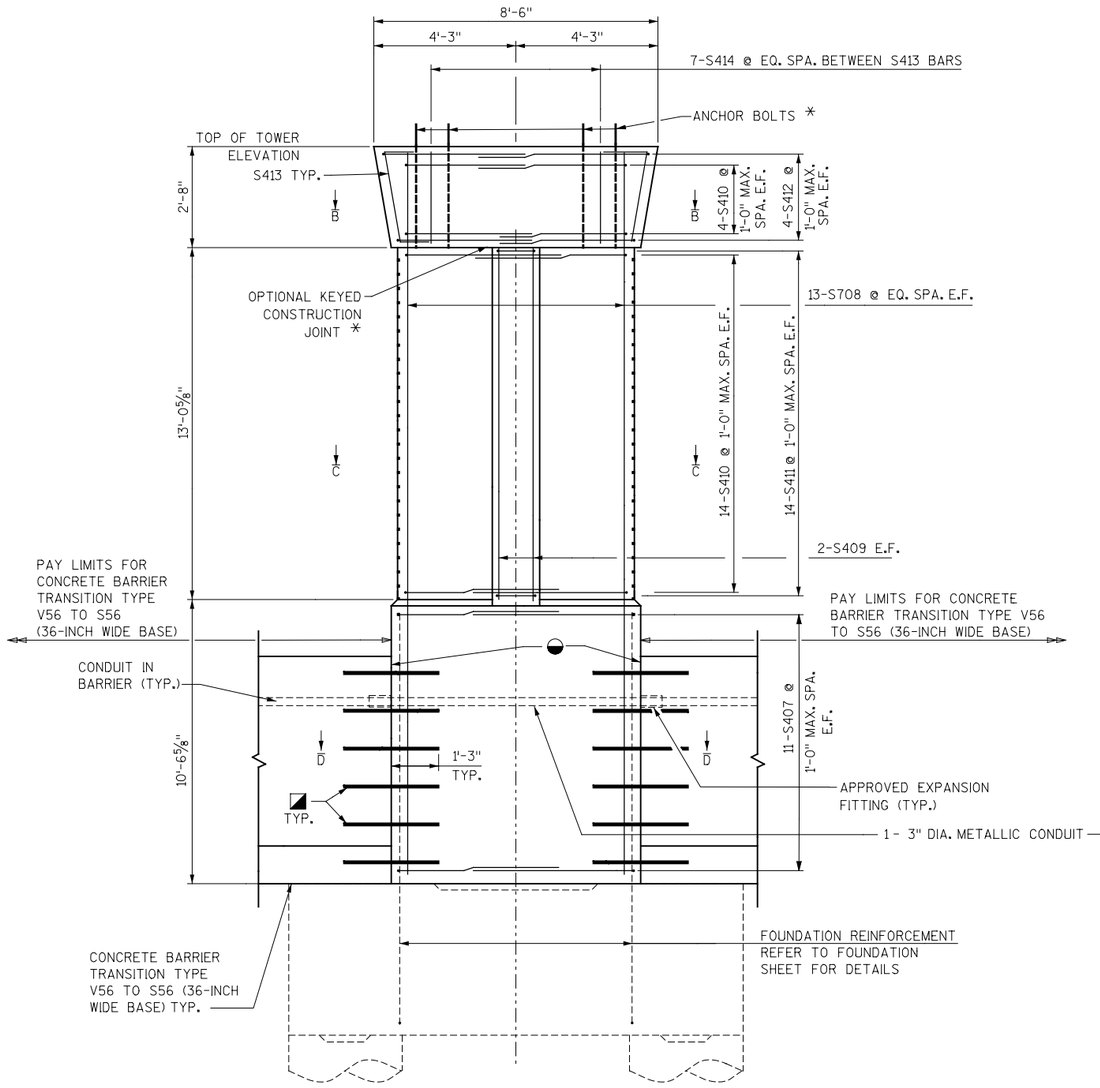
1133-09-71

8

8

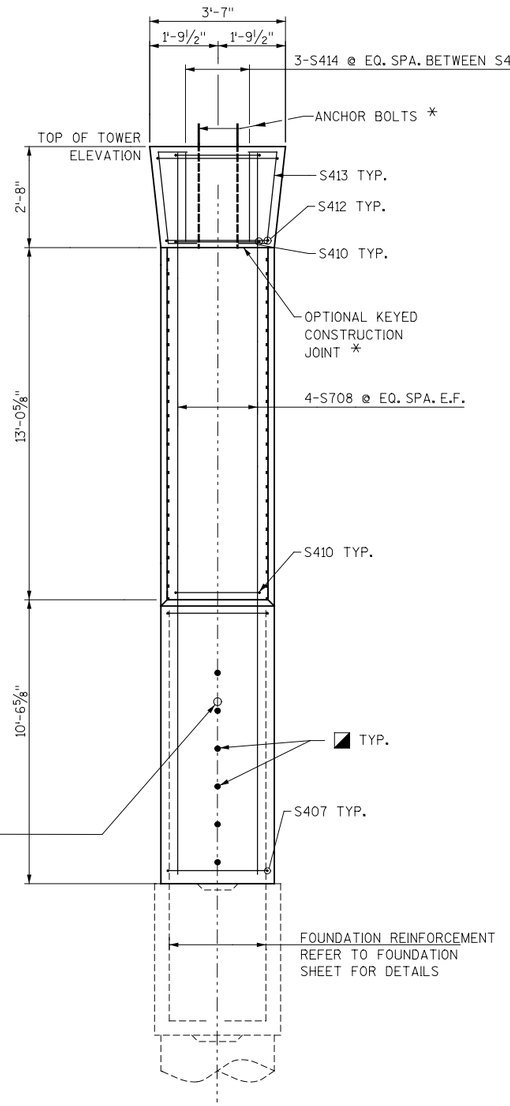
FILE NAME :S-05-164.dgn
PLOT DATE :12/19/2013 8:14:12 AM PLOT BY : MatthewHe@and481 DRV :Pdf_bw_HS.by level.pit PEN :CEL.TEXTSUB.SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-09-71



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

APPROVED EXPANSION FITTING SHALL BE CAST INTO THE BARRIER OR TOWER CONCRETE, WHICH EVER ELEMENT IS CAST FIRST.

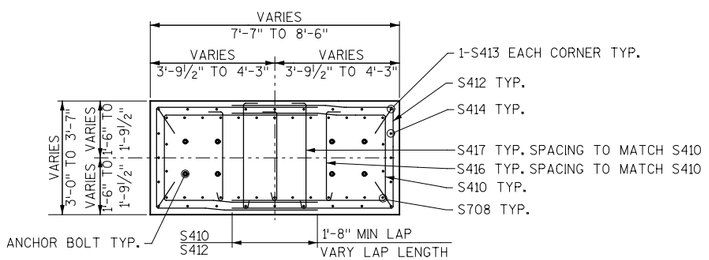
COORDINATE THE LOCATION OF THE ELECTRICAL CONDUIT IN THE TOWER TO MATCH THE LOCATION OF THE CONDUIT IN THE CONCRETE BARRIER.

SPACE S407 BARS TO MISS CONDUIT.

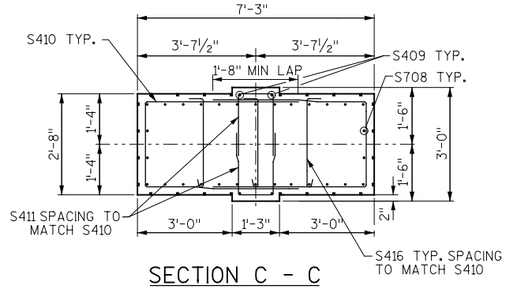
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.

◪ PLACE 1" ϕ PLAIN (SMOOTH) ROUND DOWEL BARS, 2'-6" LONG BETWEEN BARRIER AND CONCRETE TOWER. USE DEBONDER ON EXTENSION INTO BARRIER. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. SPACE DOWELS AT 1'-0". COST OF ITEMS ARE TO BE INCLUDED IN THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

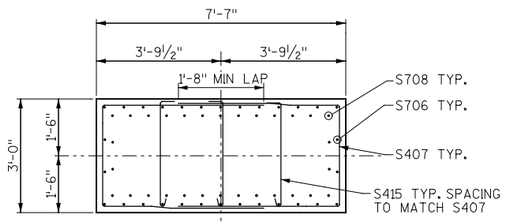
◒ PLACE 1/2" EXPANSION JOINT FILLLER BETWEEN TOWER AND BARRIER WALL, TYP. THE JOINT FILLER SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".



SECTION B - B



SECTION C - C



SECTION D - D

(DOWEL BARS OMITTED FOR CLARITY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-164

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 DETAILS

SHEET 3 OF 9
2592

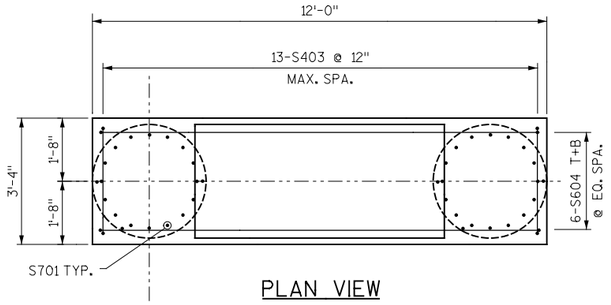
8

8

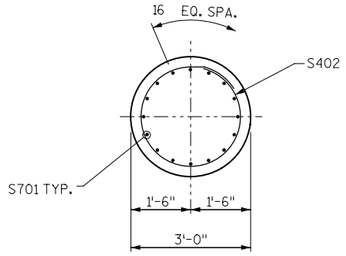
FILE NAME :S-05-164.dgn
PLOT DATE :2/15/2013 8:14:13 AM PLOT BY : MatthewHa@dot.wi.gov DRV :Pdf_bw_HS.by level.dit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

1133-09-71



PLAN VIEW



SECTION A-A

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
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BUNDLE AND TAG EACH SERIES SEPARATELY

BILL OF BARS

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S604		12	13'-2"	▲		CAP BEAM LONGITUDINAL
S605		8	11'-6"			CAP BEAM LONGITUDINAL
S706	X	30	10'-3"	▲		CAP BEAM VERTICAL
S407	X	10	11'-6"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S708	X	30	26'-9"	▲		VERT. REINF., MIDDLE OF TOWER
S409	X	4	18'-7"			VERT. REINF., MIDDLE OF TOWER
S410	X	48	10'-7"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	40	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	15	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	72	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

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ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

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IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

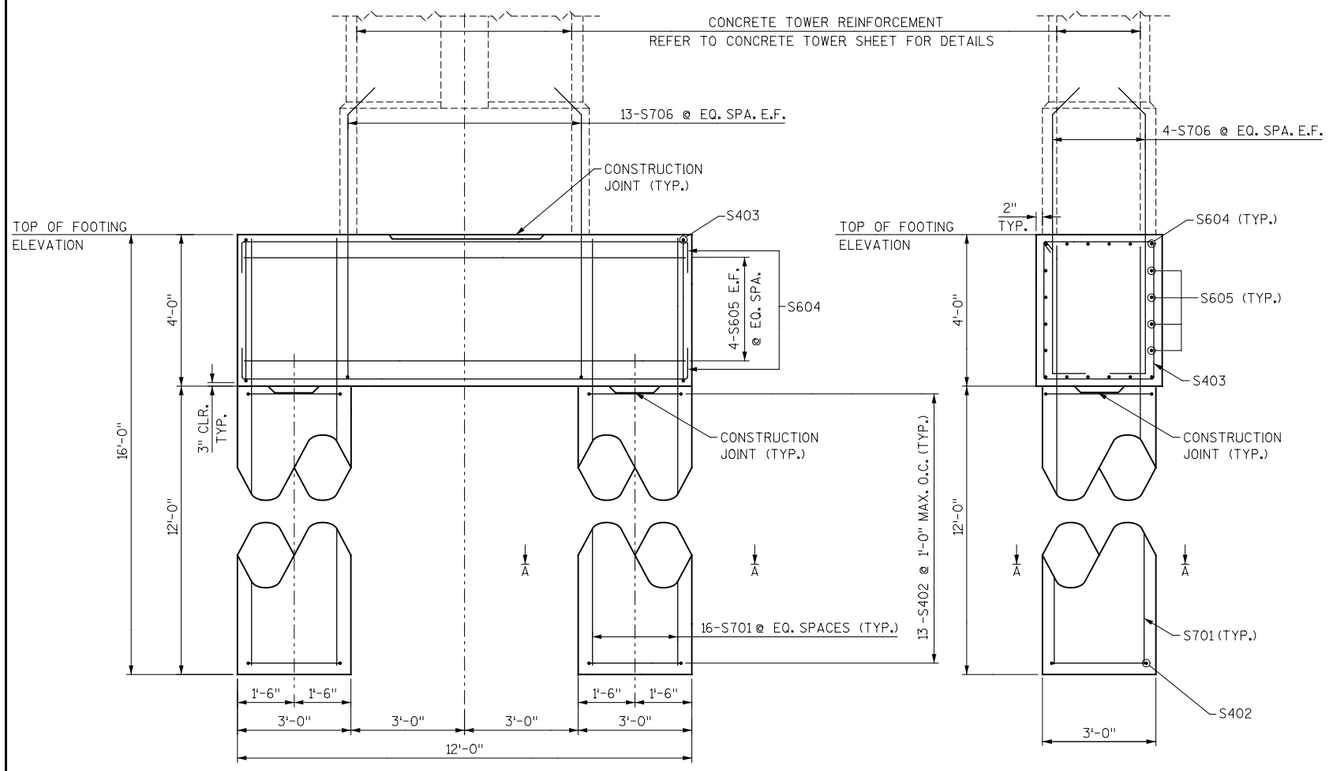
IF THE ENGINEER DETERMINES THE POSSIBILITY OF CAVE-INS, OR SOIL DISPLACEMENT FROM THE WALLS EXISTS, OR IF NECESSARY TO SHUT OFF SEEPAGE WATER, THEN LINE THE REMAINING DEPTH OF THE FOOTING SHAFT WITH A SUITABLE TEMPORARY CASING. PROVIDE, INSTALL AND REMOVE THE TEMPORARY CASING ACCORDING TO SECTION 636 OF THE STANDARD SPECIFICATIONS.

FOUNDATION DATA

THE FOLLOWING SOIL PARAMETERS WERE USED FOR THE DESIGN OF THE FOUNDATION SYSTEM. IF VARIATIONS IN THE SOIL PARAMETERS ARE FOUND DURING CONSTRUCTION NOTIFY PROJECT ENGINEER FOR REQUIRED MODIFICATION TO THE FOUNDATION SYSTEM.

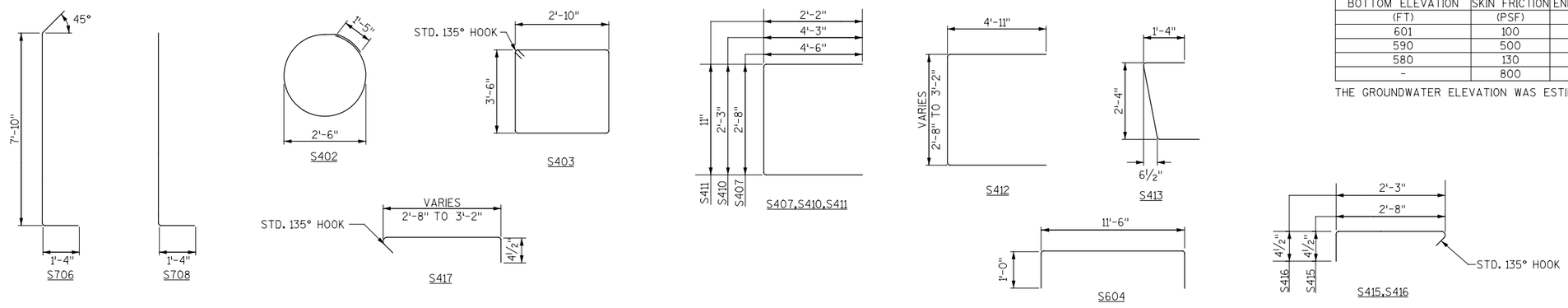
			UNDRAINED		DRAINED	
APPROXIMATE BOTTOM ELEVATION	ALLOWABLE SKIN FRICTION	ALLOWABLE END BEARING	COHESION	FRICTION ANGLE	COHESION	FRICTION ANGLE
(FT)	(PSF)	(PSF)	(PSF)	(DEGREE)	(PSF)	(DEGREE)
601	100	1,000	300	-	-	-
590	500	9,000	2,500	-	-	-
580	130	10,500	-	32	-	-
-	800	14,400	4,000	-	-	-

THE GROUNDWATER ELEVATION WAS ESTIMATED AT 604.0 FEET DURING SUBSURFACE EXPLORATION.



ELEVATION VIEW

END VIEW



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-164

DRAWN BY VC | PLANS CK'D. CES

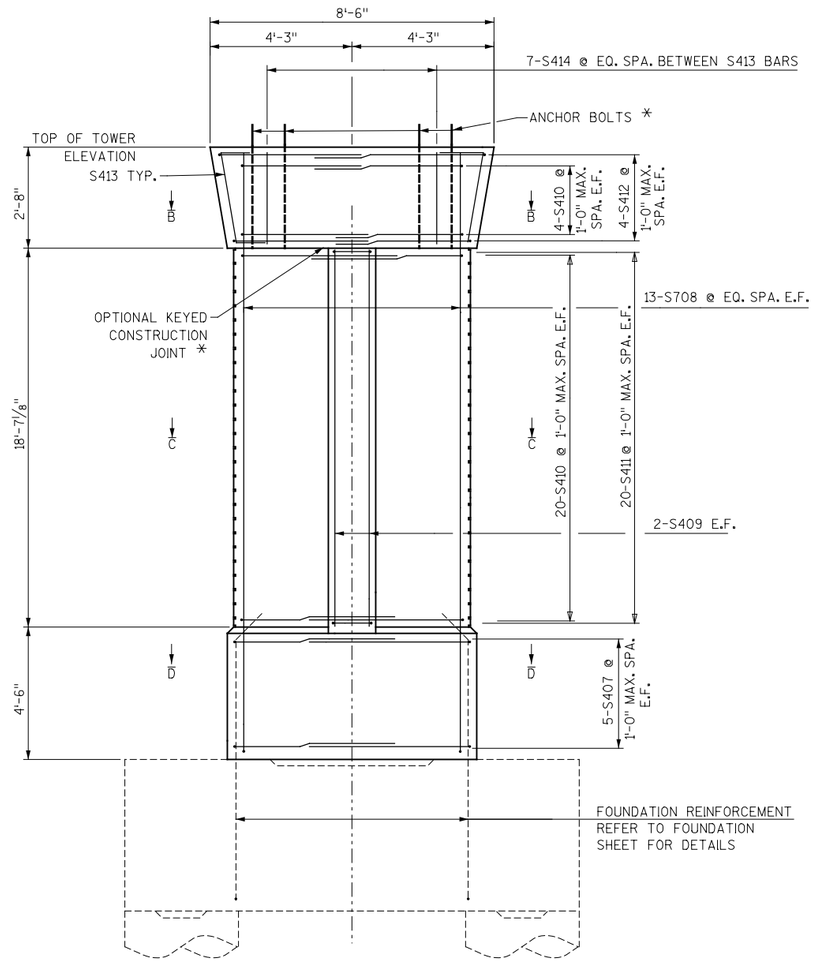
CONCRETE TOWER 2 FOUNDATION DETAILS

SHEET 4 OF 9
2593

8

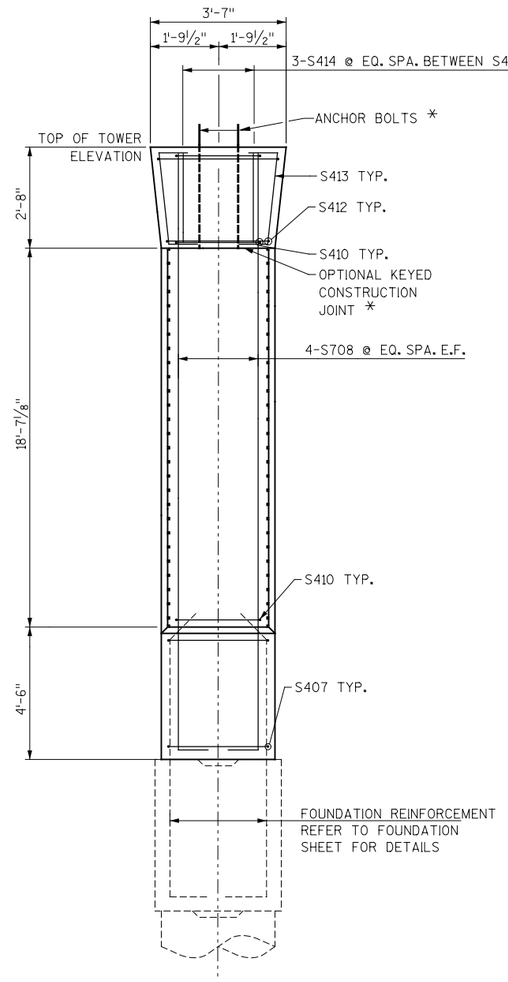
8

FILE NAME :S-05-164.dgn
PLOT DATE :12/15/2023 8:14:25 AM PLOT BY : MatthewHe@and.v81 DRV :Pdf_bw_HS.by level.pit PEN :CEL.TEXTSUB.SCREENCONTROLBYLEVEL.TBL



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

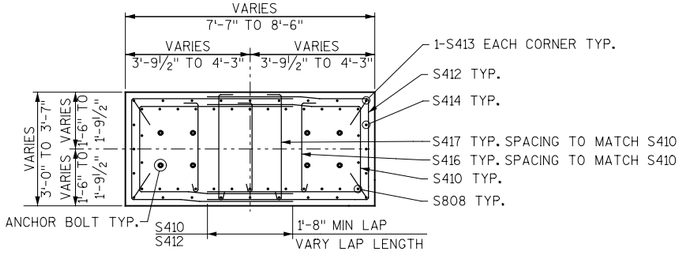
"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

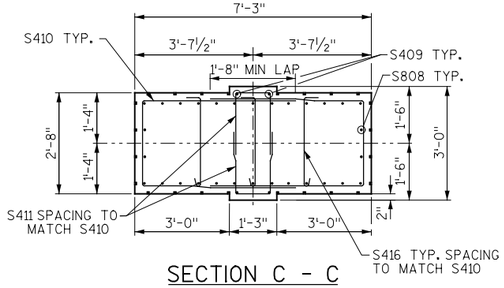
REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

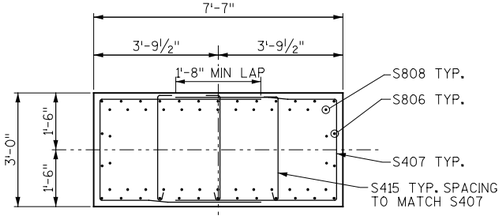
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.



SECTION B - B



SECTION C - C



SECTION D - D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-164

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 DETAILS

SHEET 5 OF 9

2594

STATE PROJECT NUMBER

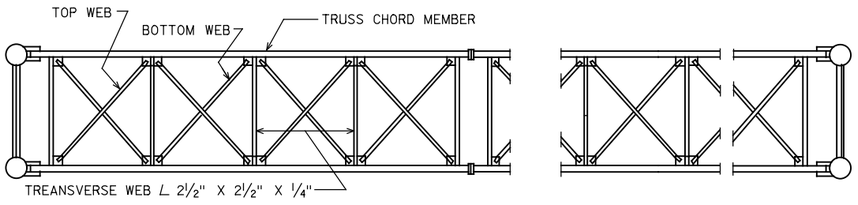
1133-09-71

8

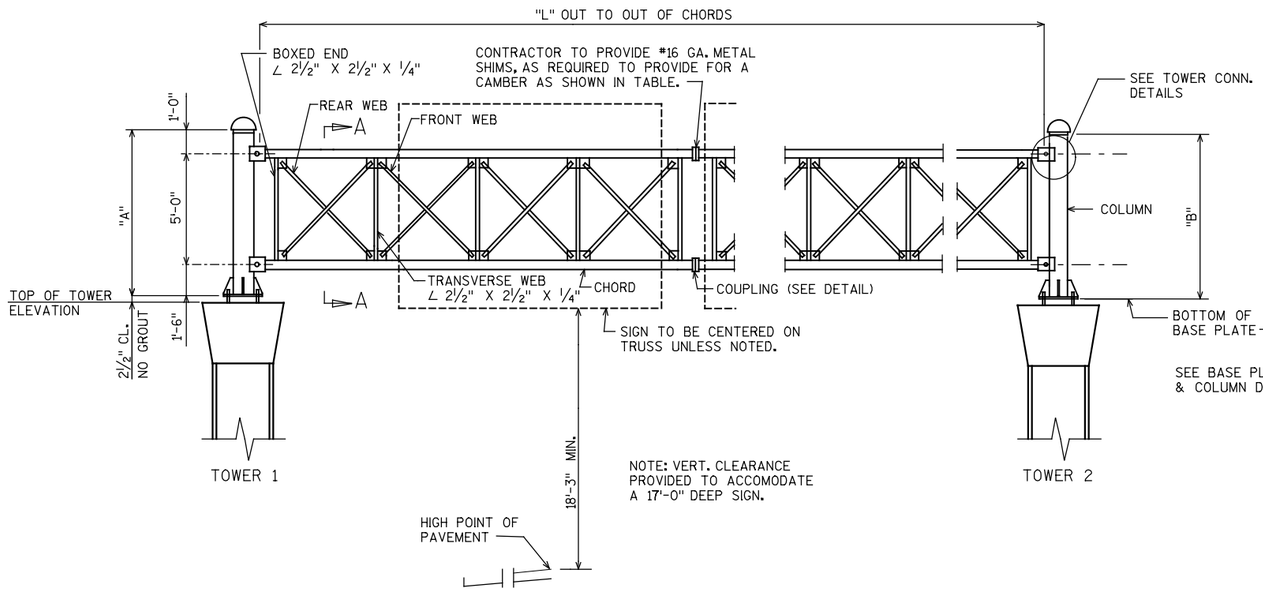
8

FILE NAME :S-05-164.dgn
PLOT DATE :2/15/2013 8:14:36 AM PLOT BY : MatthewHa@and.v8i DRV :Pdf_bw_HS.by level.plt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

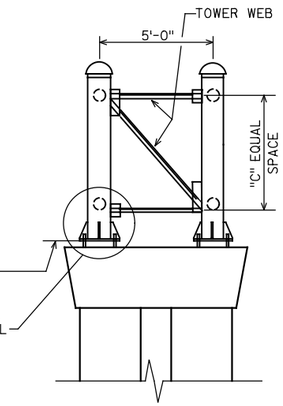
STATE PROJECT NUMBER
1133-09-71



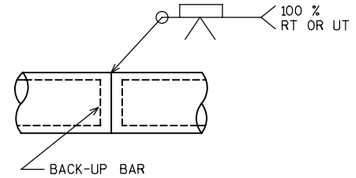
PLAN



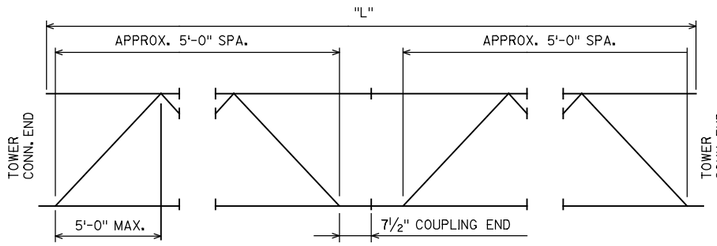
ELEVATION



TOWER 2 END VIEW
(TOWER 1 OPPOSITE HAND)

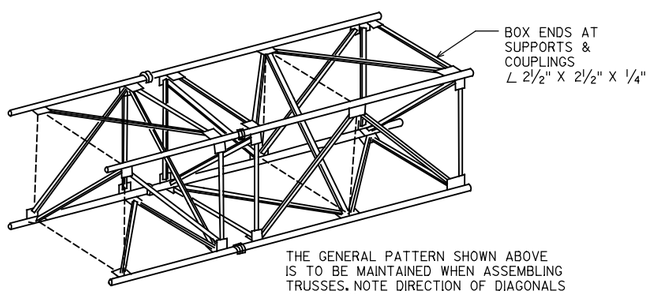


OPTIONAL COLUMN OR CHORD SPLICE DETAIL



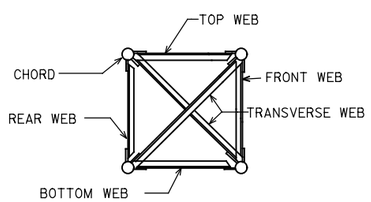
TRUSS ARRANGEMENT

FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 20'-0" & A MULTPLE OF 5'-0". CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS. CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.

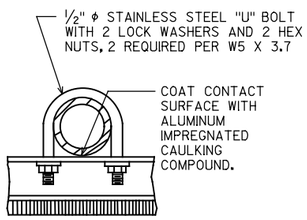


THE GENERAL PATTERN SHOWN ABOVE IS TO BE MAINTAINED WHEN ASSEMBLING TRUSSES. NOTE DIRECTION OF DIAGONALS AT JOINTS.

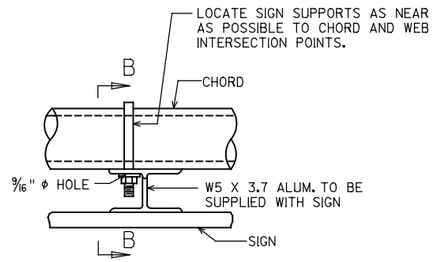
TYPICAL TRUSS SECTION



SECTION A



SECTION B



TYPICAL SIGN CONNECTION

NOTE: FOR 17' SIGN DEPTH, W5 X 3.7 ALUM. BEAMS TO BE SPACED NO MORE THAN 5 FEET APART WITH A MAXIMUM END OVERHANG OF 2.5 FEET.

GENERAL NOTES

DRAWING SHALL NOT BE SCALED

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

STRUCTURE MEMBER TABLE

A	B	C	CHORDS O.D. X THK.	TOP & BOTTOM WEB	FRONT & REAR WEB	COUPLING PLATE D1 & "T"	BOLT CIRCLE DIA. "D2"	NO. OF BOLTS IN COUPLING	CAMBER	COLUMN O.D. X THK.	TOWER WEBS	"L"
7'-6"	7'-6"	1	4"x0.226"	3"x3"x3/16"	3"x3"x3/16"	10.5" x 1"	7.5"	6	1"	10.75"x0.25"	3"x3"x3/16"	56'-1¼"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-164

DRAWN BY	PLANS CK'D.
VC	CES

GALVANIZED STEEL SIGN BRIDGE

SHEET 6 OF 9
2595

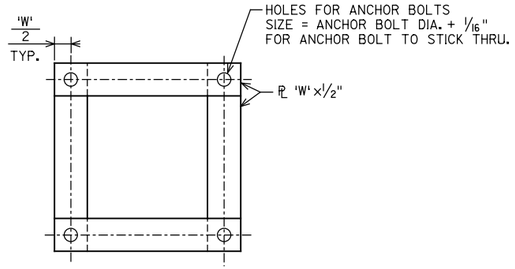
8

8

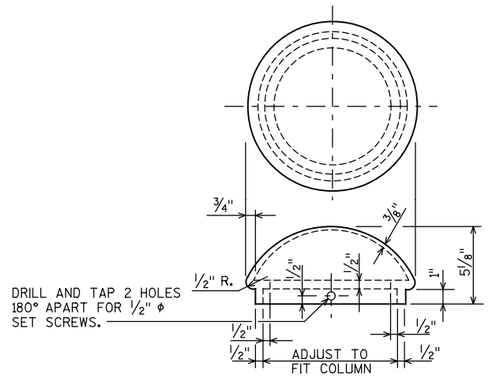
FILE NAME :S-05-164.dgn
PLOT DATE :2/25/2013 8:24:57 AM
65°
PLOT BY : MatthewHeiland v8i
DRV :Pdf_bw_HS.by levels.pit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

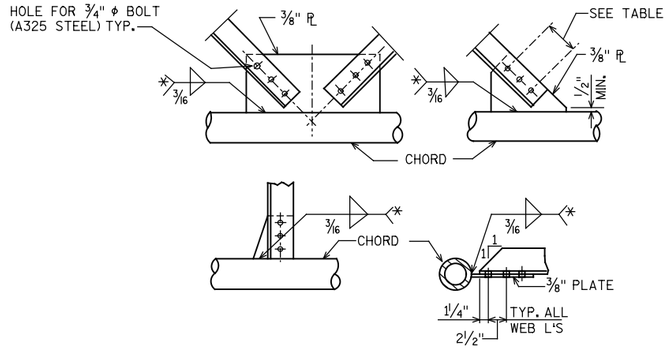
1133-09-71



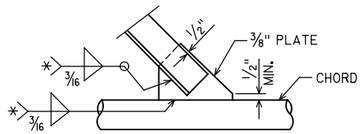
ANCHOR PLATE/TEMPLATE PLAN



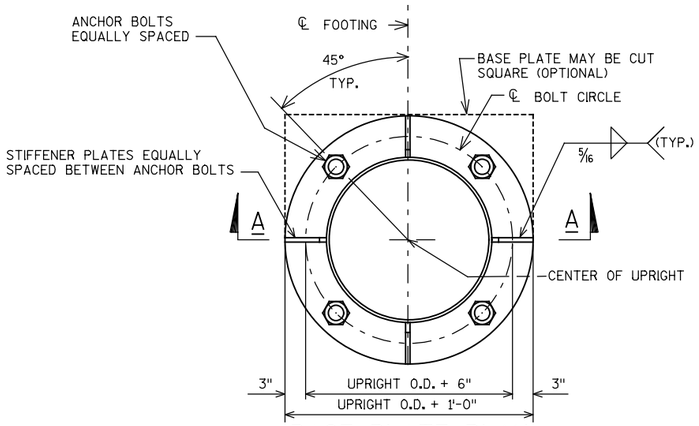
TOWER CAP DETAIL



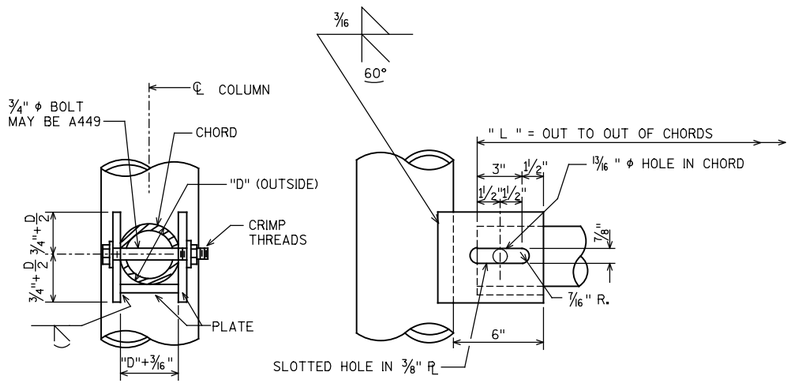
TYPICAL TRUSS CONNECTION DETAILS



TYPICAL WELDED ALTERNATE



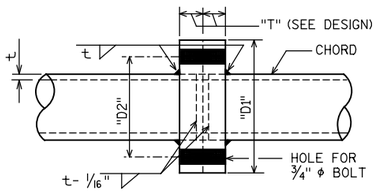
BASE PLATE PLAN



TOWER CONNECTION DETAIL

*ANGLE	WELD LENGTH	NO. OF BOLTS
● 2 1/2"x2 1/2"x1/4"	11"	3
3"x3"x3/16"	10"	3
3"x3"x1/4"	13"	4
3"x3"x5/16"	16 1/2"	5
3"x3"x3/8"	19 1/2"	6
4"x4"x1/4"	18"	5
4"x4"x5/16"	22"	6
4"x4"x3/8"	26"	8
4"x4"x7/16"	30"	9
4"x4"x1/2"	34"	10

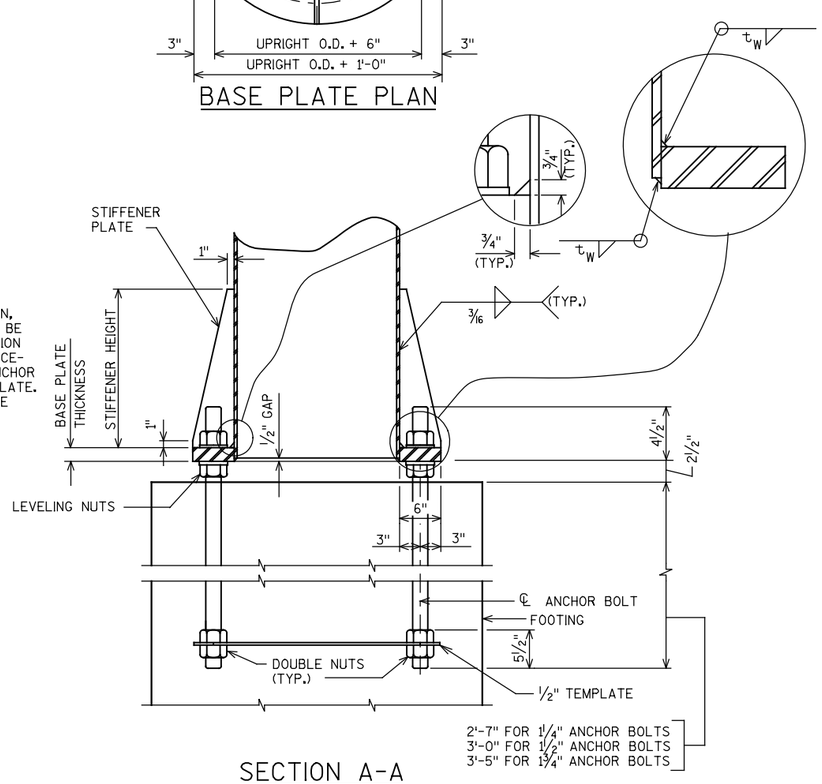
● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.



COUPLING DETAIL

(CONNECTION BOLTS OMITTED FOR CLARITY)

NOTE:
PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE. REMOVE TOP TEMPLATE (NOT SHOWN) AFTER CONCRETE SETS.



SECTION A-G

BASE PLATE & UPRIGHT COLUMN DETAILS

COLUMN O.D. X THK.	ANCHOR BOLTS	BASE PLATE THICKNESS (IN.)	STIFFENER PLATE THICKNESS (IN.)	STIFFENER PLATE HEIGHT (IN.)	t_w (IN.)
10.75"X0.25"	1 1/4"	1 1/4"	1/2"	10"	5/16"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-164

DRAWN BY VC | PLANS CK'D. CES

GALVANIZED STEEL SIGN BRIDGE DETAILS

SHEET 7 OF 9

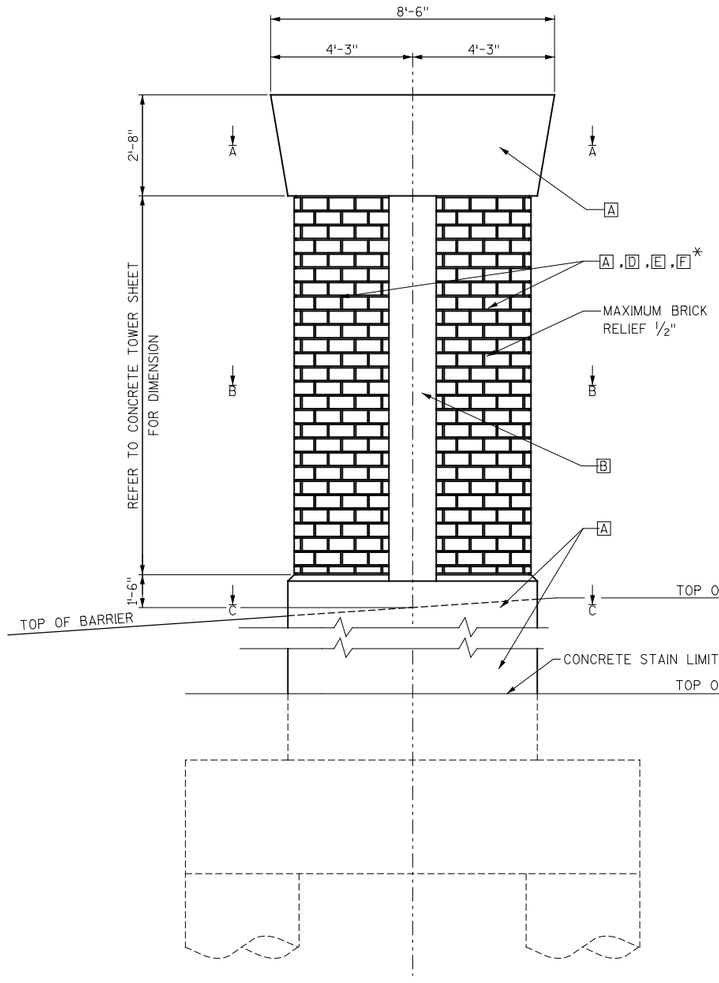
2596

8

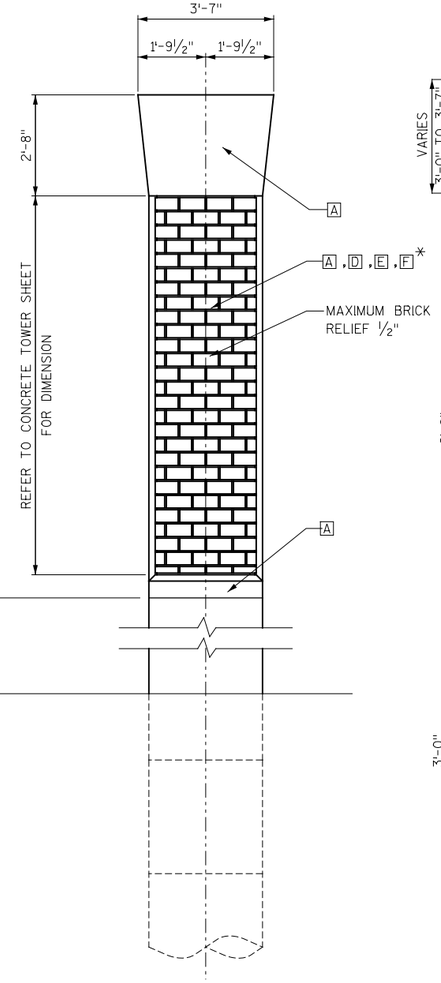
8

FILE NAME 15-05-164.dgn
PLOT DATE 12/15/2015 8:14:17 AM
PLOT BY : MatthewHeiland48
DRV :Pdf.bw.HS.by levelplt PEN :CEL.TEXTSUB.SCREENCONTROLBYLEVEL.TBL

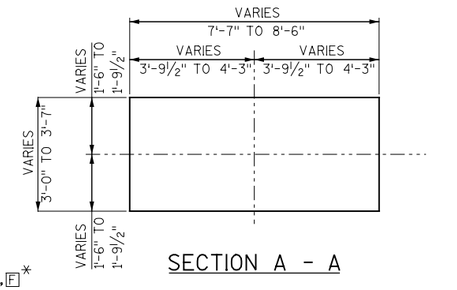
STATE PROJECT NUMBER
1133-09-71



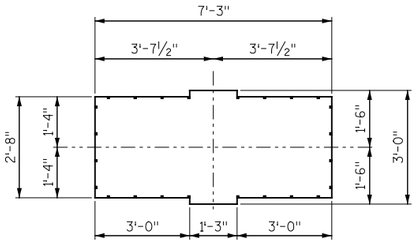
ELEVATION VIEW



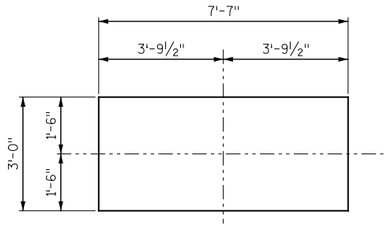
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-164

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 AESTHETIC DETAILS

SHEET 8 OF 9

2597

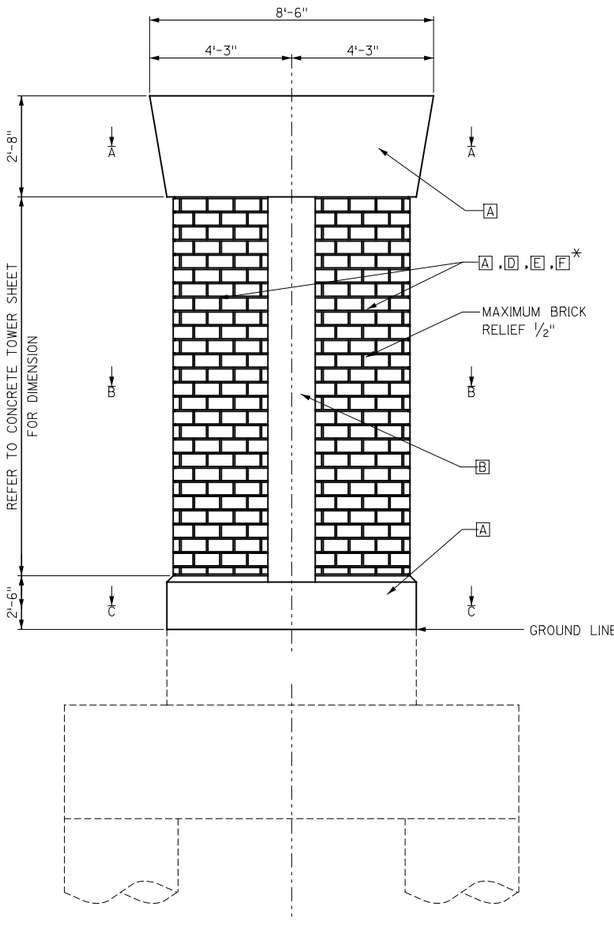
8

8

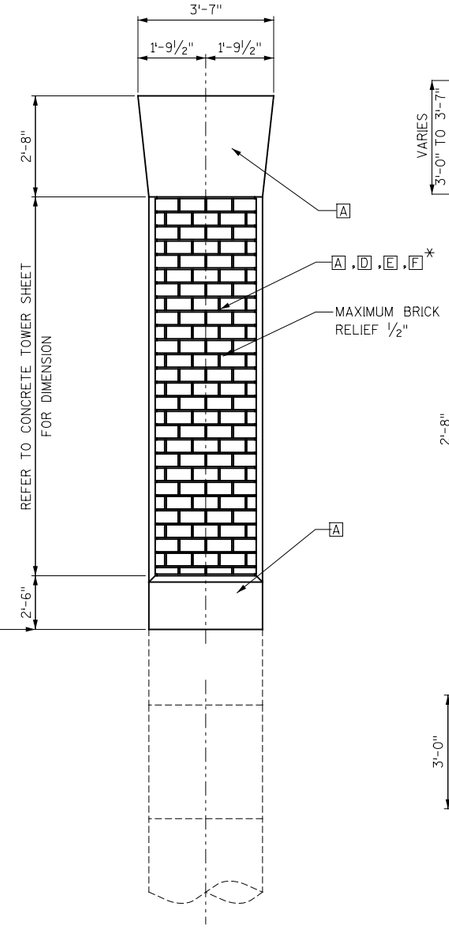
FILE NAME :S-05-164.dgn
PLOT DATE :2/15/2013 8:14:17 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

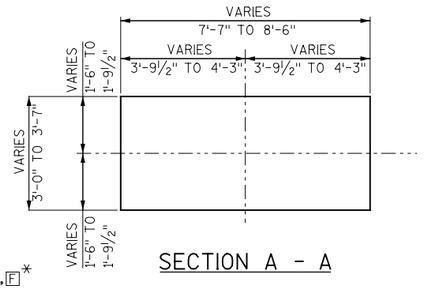
1133-09-71



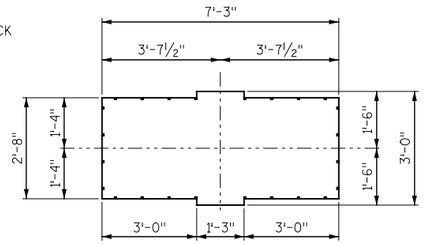
ELEVATION VIEW



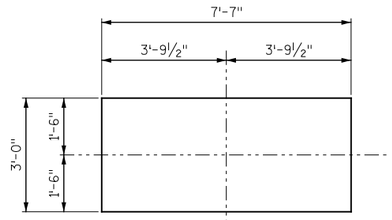
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-164

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 AESTHETIC DETAILS

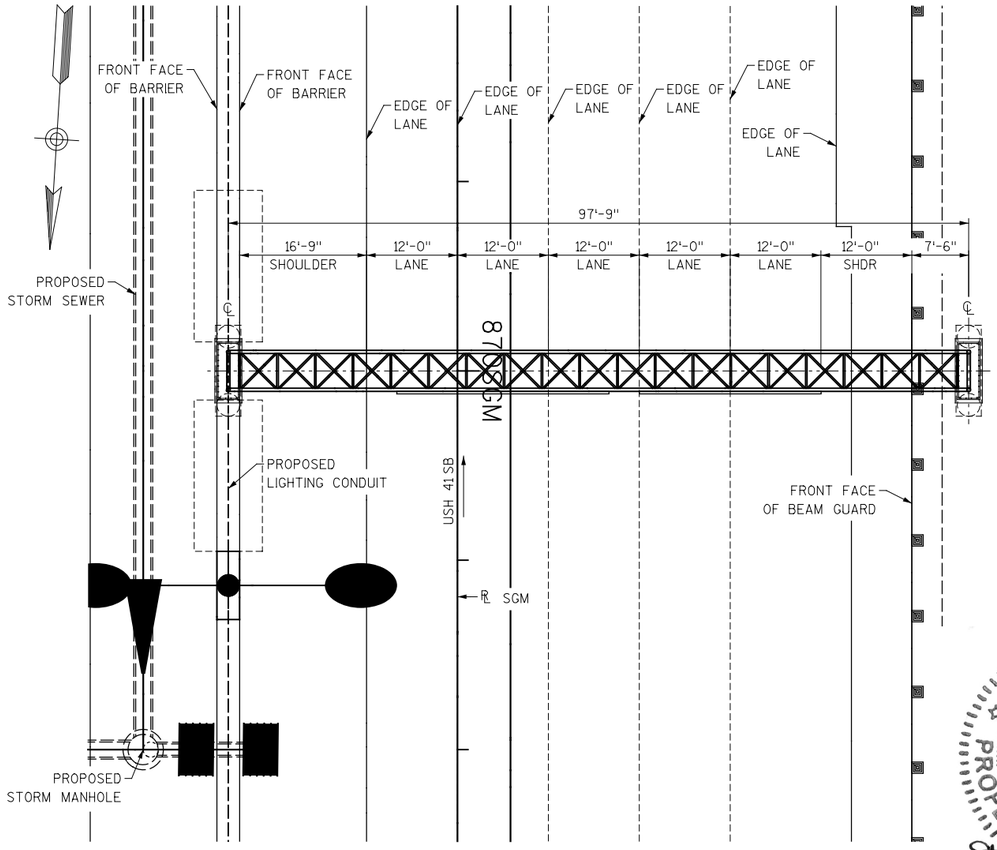
SHEET 9 OF 9

2598

8

8

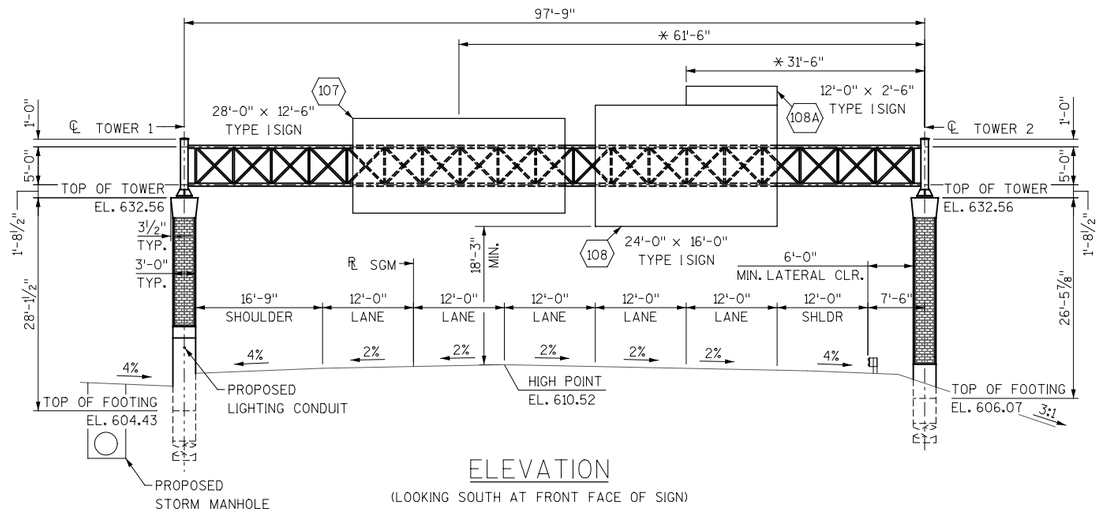
FILE NAME :S-05-164.dgn
PLOT DATE :2/15/2013 8:54:18 AM PLOT BY : MatthewHeiland:8l DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL



PLAN

STA. 870SGM+00

2/15/2013



ELEVATION

(LOOKING SOUTH AT FRONT FACE OF SIGN)

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CONCRETE TOWER 1 FOUNDATION DETAILS
3. CONCRETE TOWER 1 DETAILS
4. CONCRETE TOWER 2 FOUNDATION DETAILS
5. CONCRETE TOWER 2 DETAILS
6. GALVANIZED STEEL SIGN BRIDGE
7. SIGN BRIDGE DETAILS
8. CONCRETE TOWER 1 AESTHETIC DETAILS
9. CONCRETE TOWER 2 AESTHETIC DETAILS

ULTIMATE DESIGN STRESSES:

TOWER

CONCRETE: .....f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

SIGN BRIDGE

STEEL COLUMN PIPE: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
STEEL PIPE MEMBERS OF TRUSS: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
PLATES, BARS, STRUCTURAL ANGLES: .....fy = 36,000 psi
A.S.T.M. A709 GRADE 36
STEEL ANCHOR BOLTS: .....fy = 55,000 psi
A.A.S.H.T.O. M314-90 GRADE 55
ALL BOLTED CONNECTIONS: ¾" ϕ A325 BOLTS,
GALVANIZED A.S.T.M. A153, CLASS C

DESIGN DATA

DEAD LOAD - WT. OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.
LIVE LOAD - NONE.
ICE LOAD - 3 P.S.F. TO 1FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND‡)	133

‡ MIN. VALUE OF 25 PSF FOR GR. 3

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
1152	16'-0"

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	77
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	4100
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	8980
641.6600.956	SIGN BRIDGE S-05-165	LS	1
652.0135	CONDUIT RIGID METALLIC 3 - INCH	LF	8
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	590
SPV.0165.501	STAINING CONCRETE	SF	1030
SPV.0165.502	STAINING CONCRETE BRICK	SF	590

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ABOVE THE DRILLED SHAFTS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 - ¼" DIAMETER BY 1¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE S-05-165 "

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN CENTER TO CENTER OF CHORDS & SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-165 "

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

⬡ ## - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

* SIGN PANEL DIMENSIONS ARE TO THE CENTER OF THE SIGN PANEL. CONTRACTOR TO FIELD VERIFY SIGN PANEL DISPLAYS CORRELATE WITH ROADWAY LANE LAYOUT.

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Drehen KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-165

DE PERE - SUAMICO

COUNTY: BROWN
TOWN/CITY/VILLAGE: ASHWAUBENON

DESIGN SPEC. AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	CES	DESIGN CK'D.	SJM	DRAWN BY	MJH	PLANS CK'D.	CES

PLAN & ELEVATION

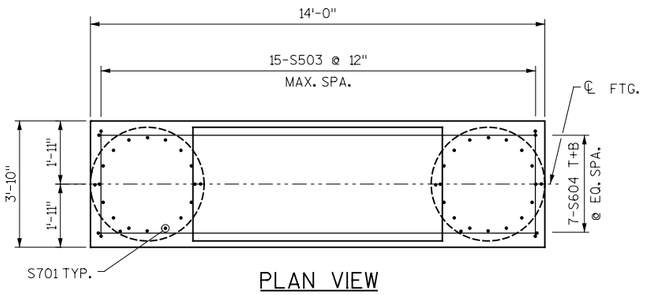
SHEET 1 OF 9
2599

STATE PROJECT NUMBER
1133-09-71

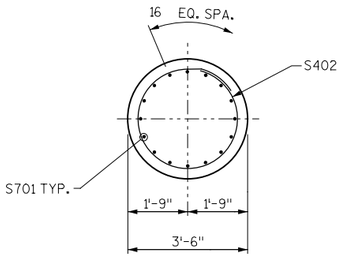
8

8

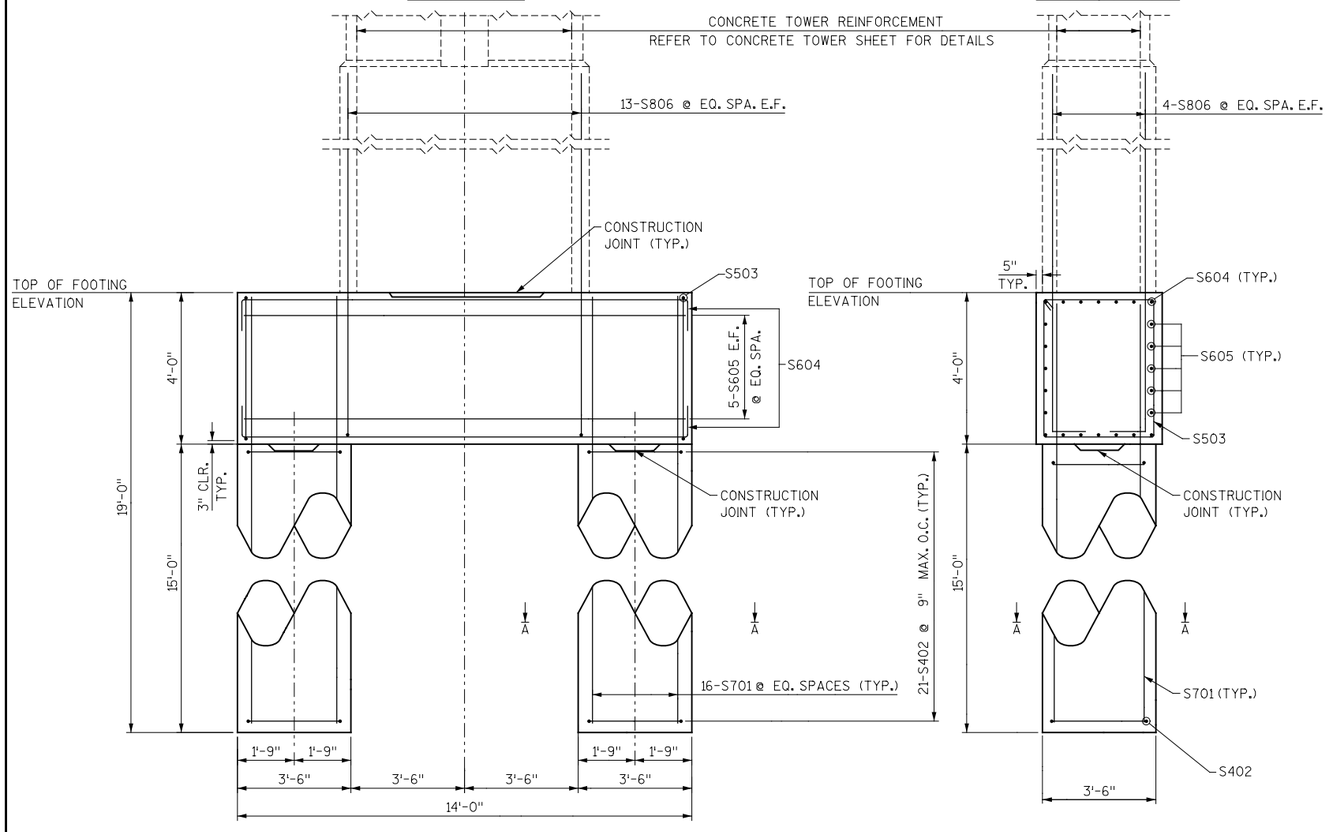
FILE NAME: 1S-05-165.dgn
PLOT DATE 12/25/2013 8:11:11 AM PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS.by levelplt PEN :OEL.TextSub.ScreenControlByLevel.tbl



PLAN VIEW



SECTION A-A



BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S701		32	18'-6"			DRILLED SHAFT VERTICAL
S402		42	10'-11"	▲		DRILLED SHAFT HOOP
S503		15	14'-3"	▲		CAP BEAM STIRRUP
S604		14	15'-2"	▲		CAP BEAM LONGITUDINAL
S605		10	13'-6"			CAP BEAM LONGITUDINAL
S806	X	30	15'-9"	▲		CAP BEAM VERTICAL
S507	X	24	12'-5"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S808	X	30	27'-11"			VERT. REINF., MIDDLE OF TOWER
S409	X	4	14'-4"			VERT. REINF., MIDDLE OF TOWER
S510	X	40	11'-6"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	32	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	36	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	60	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

THE BOTTOM OF THE DRILLED HOLE SHALL BE FIRM AND THOROUGHLY CLEANED SO NO LOOSE OR COMPRESSIBLE MATERIALS ARE PRESENT AT THE TIME OF THE CONCRETE PLACEMENT.

IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

IF THE ENGINEER DETERMINES THE POSSIBILITY OF CAVE-INS, OR SOIL DISPLACEMENT FROM THE WALLS EXISTS, OR IF NECESSARY TO SHUT OFF SEEPAGE WATER, THEN LINE THE REMAINING DEPTH OF THE FOOTING SHAFT WITH A SUITABLE TEMPORARY CASING. PROVIDE, INSTALL AND REMOVE THE TEMPORARY CASING ACCORDING TO SECTION 636 OF THE STANDARD SPECIFICATIONS.

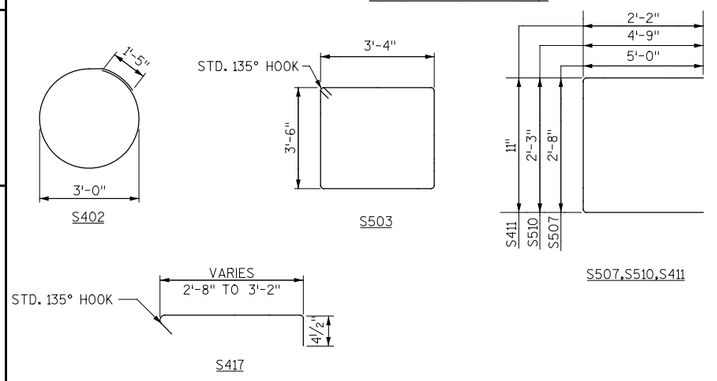
FOUNDATION DATA

THE FOLLOWING SOIL PARAMETERS WERE USED FOR THE DESIGN OF THE FOUNDATION SYSTEM. IF VARIATIONS IN THE SOIL PARAMETERS ARE FOUND DURING CONSTRUCTION NOTIFY PROJECT ENGINEER FOR REQUIRED MODIFICATION TO THE FOUNDATION SYSTEM.

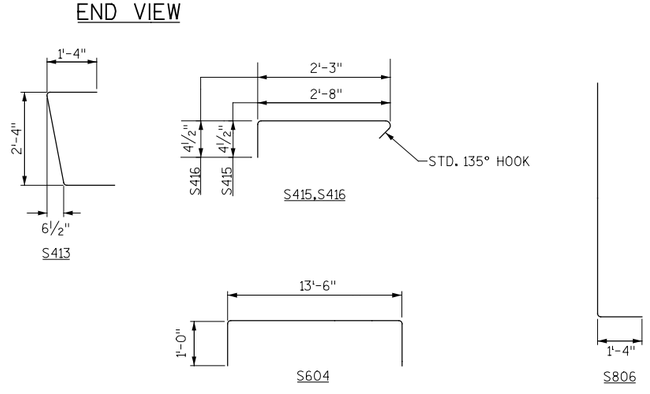
APPROXIMATE BOTTOM ELEVATION	ALLOWABLE SKIN FRICTION	ALLOWABLE END BEARING	UNDRAINED		DRAINED	
			COHESION	FRICTION ANGLE	COHESION	FRICTION ANGLE
(FT)	(PSF)	(PSF)	(PSF)	(DEGREE)	(PSF)	(DEGREE)
604.6	-	-	-	30	-	30
595.1	800	14,400	4,000	-	-	-
0	410	5,400	1,500	-	-	-

THE GROUNDWATER ELEVATION WAS ESTIMATED AT 605.00 FEET DURING THE SUBSURFACE EXPLORATION.

ELEVATION VIEW



END VIEW



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-5-165

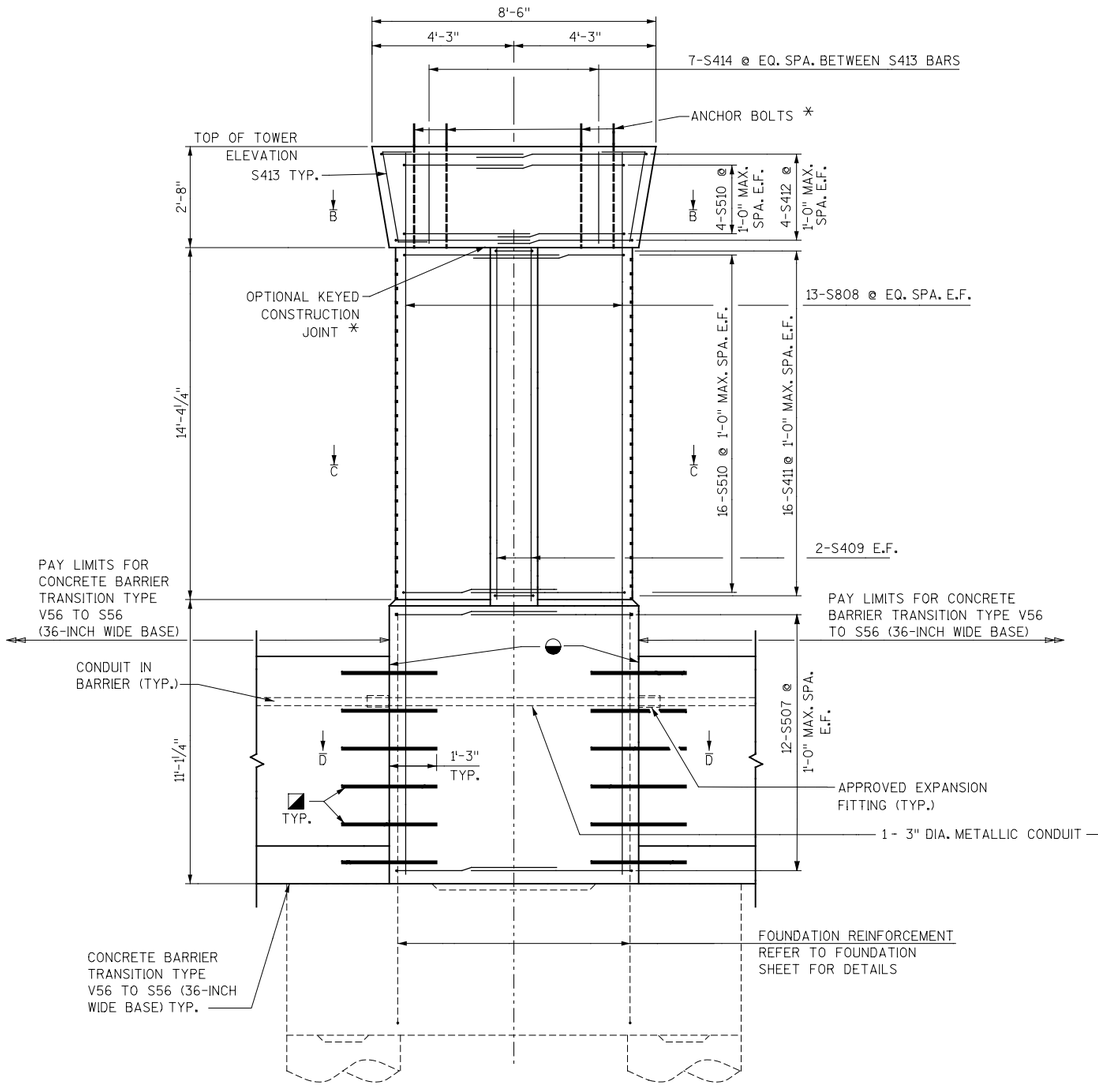
DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 FOUNDATION DETAILS | SHEET 2 OF 9 | 2600

8

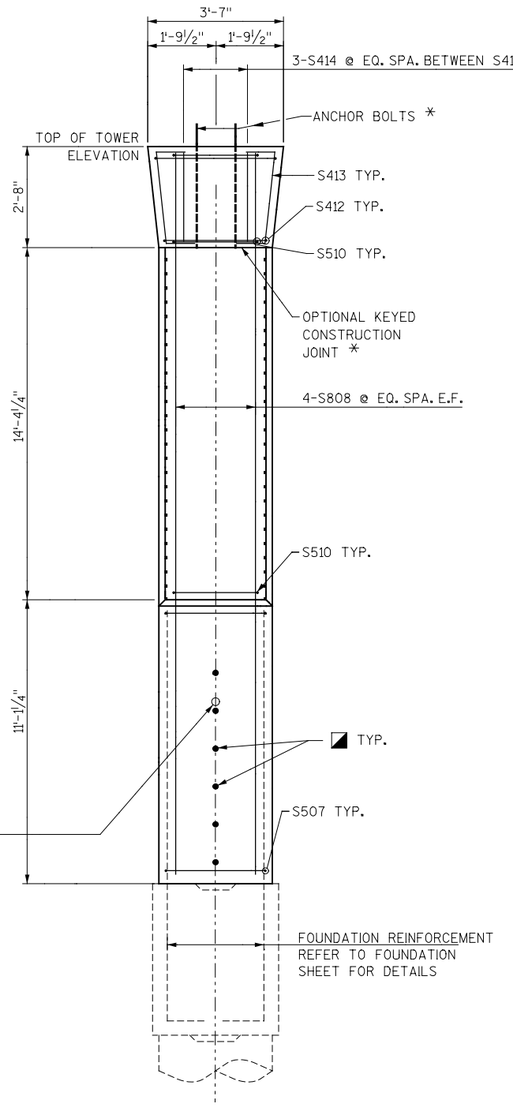
FILE NAME :S-05-165.dgn
PLOT DATE :12/15/2023 8:13:13 AM PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS.by levelplt PEN :CEL_TextSub_ScreenControlByLevel.tbl

STATE PROJECT NUMBER
1133-09-71



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

APPROVED EXPANSION FITTING SHALL BE CAST INTO THE BARRIER OR TOWER CONCRETE, WHICH EVER ELEMENT IS CAST FIRST.

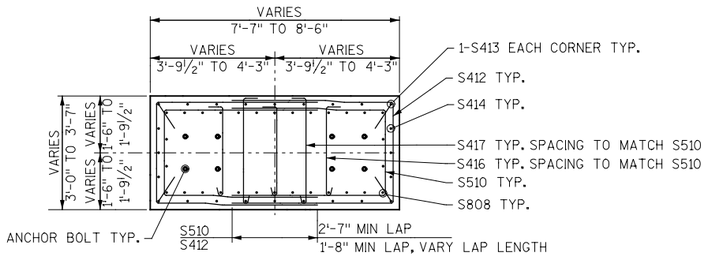
COORDINATE THE LOCATION OF THE ELECTRICAL CONDUIT IN THE TOWER TO MATCH THE LOCATION OF THE CONDUIT IN THE CONCRETE BARRIER.

SPACE S507 BARS TO MISS CONDUIT.

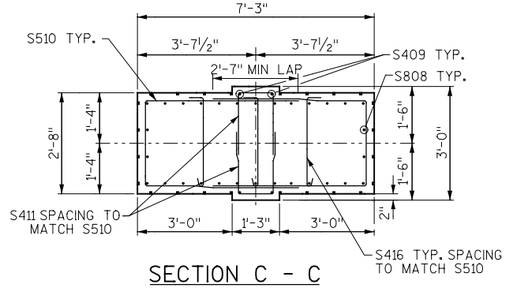
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.

◪ PLACE 1" ϕ PLAIN (SMOOTH) ROUND DOWEL BARS, 2'-6" LONG BETWEEN BARRIER AND CONCRETE TOWER. USE DEBONDER ON EXTENSION INTO BARRIER. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. SPACE DOWELS AT 1'-0". COST OF ITEMS ARE TO BE INCLUDED IN THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

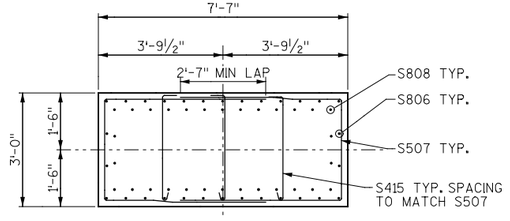
◒ PLACE 1/2" EXPANSION JOINT FILLLER BETWEEN TOWER AND BARRIER WALL, TYP. THE JOINT FILLER SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".



SECTION B - B



SECTION C - C



SECTION D - D

(DOWEL BARS OMITTED FOR CLARITY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-165

DRAWN BY	PLANS CK'D.
VC	CES

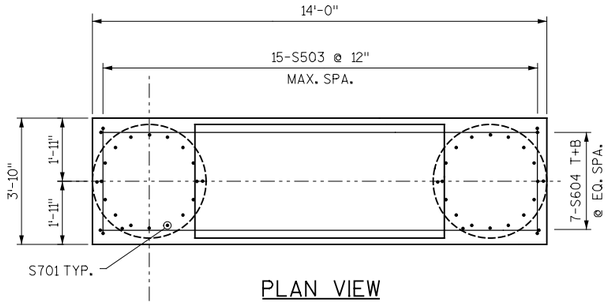
CONCRETE TOWER 1 DETAILS

SHEET 3 OF 9

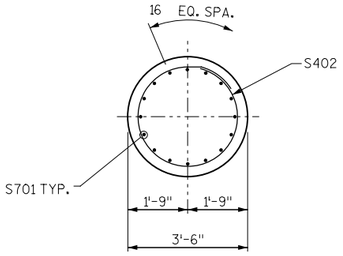
2601

FILE NAME :S-05-165.dgn
PLOT DATE :2/15/2013 8:25:25 AM PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS.by levelplt PEN :CEL_TextSub_ScreenControlByLevel.tbl

STATE PROJECT NUMBER
1133-09-71



PLAN VIEW



SECTION A-A

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S701		32	13'-6"			DRILLED SHAFT VERTICAL
S402		28	10'-11"	▲		DRILLED SHAFT HOOP
S503		15	14'-3"	▲		CAP BEAM STIRRUP
S604		14	15'-2"	▲		CAP BEAM LONGITUDINAL
S605		10	13'-6"			CAP BEAM LONGITUDINAL
S806	X	30	10'-3"	▲		CAP BEAM VERTICAL
S507	X	10	12'-5"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S808	X	30	27'-5"	▲		VERT. REINF., MIDDLE OF TOWER
S409	X	4	19'-3"			VERT. REINF., MIDDLE OF TOWER
S510	X	48	11'-6"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	40	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	15	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	72	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

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ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

THE BOTTOM OF THE DRILLED HOLE SHALL BE FIRM AND THOROUGHLY CLEANED SO NO LOOSE OR COMPRESSIBLE MATERIALS ARE PRESENT AT THE TIME OF THE CONCRETE PLACEMENT.

IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

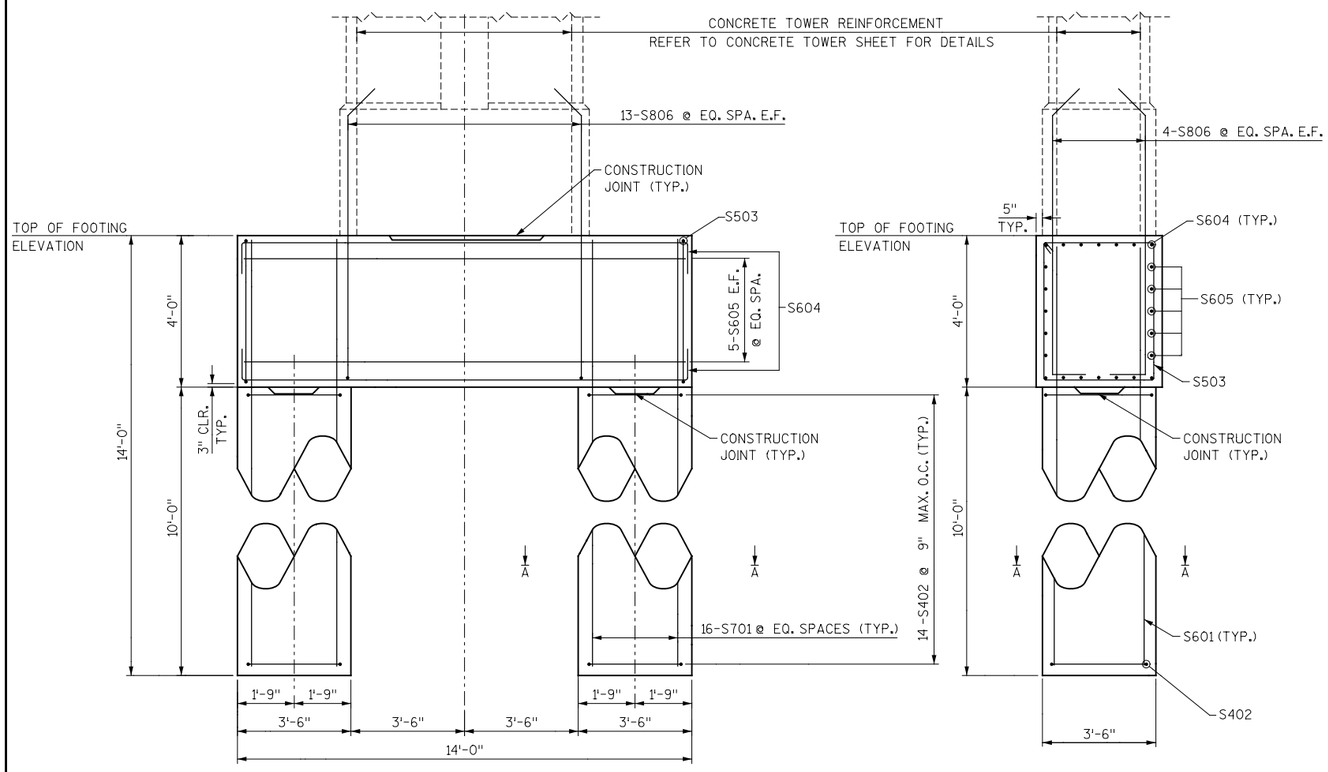
IF THE ENGINEER DETERMINES THE POSSIBILITY OF CAVE-INS, OR SOIL DISPLACEMENT FROM THE WALLS EXISTS, OR IF NECESSARY TO SHUT OFF SEEPAGE WATER, THEN LINE THE REMAINING DEPTH OF THE FOOTING SHAFT WITH A SUITABLE TEMPORARY CASING. PROVIDE, INSTALL AND REMOVE THE TEMPORARY CASING ACCORDING TO SECTION 636 OF THE STANDARD SPECIFICATIONS.

FOUNDATION DATA

THE FOLLOWING SOIL PARAMETERS WERE USED FOR THE DESIGN OF THE FOUNDATION SYSTEM. IF VARIATIONS IN THE SOIL PARAMETERS ARE FOUND DURING CONSTRUCTION NOTIFY PROJECT ENGINEER FOR REQUIRED MODIFICATION TO THE FOUNDATION SYSTEM.

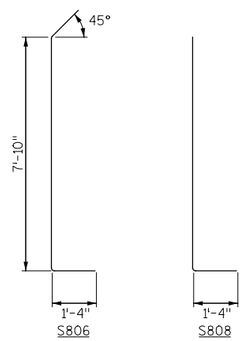
APPROXIMATE BOTTOM ELEVATION	ALLOWABLE SKIN FRICTION	ALLOWABLE END BEARING	UNDRAINED		DRAINED	
			COHESION	FRICTION ANGLE	COHESION	FRICTION ANGLE
(FT)	(PSF)	(PSF)	(PSF)	(DEGREE)	(PSF)	(DEGREE)
598.0	15	1,100	-	30	-	30
591.0	700	12,600	3,500	-	-	-
589.0	95	15,400	-	35	-	35
0	1,000	18,000	5,000	-	-	-

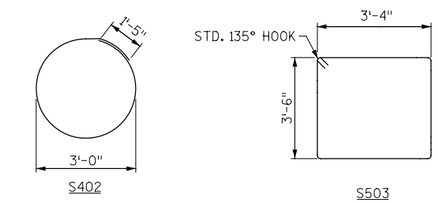
THE GROUNDWATER ELEVATION WAS ESTIMATED AT 605.00 FEET DURING SUBSURFACE EXPLORATION.



ELEVATION VIEW

END VIEW





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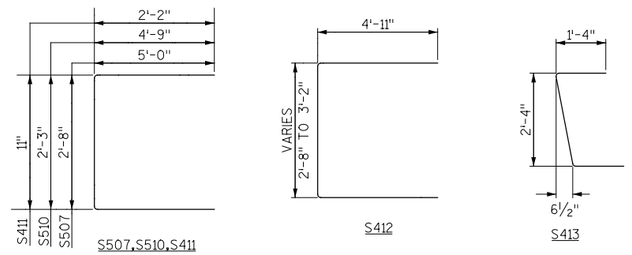
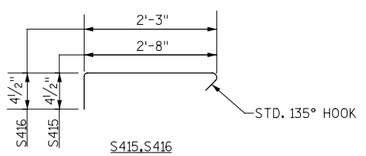




NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-165

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 FOUNDATION DETAILS

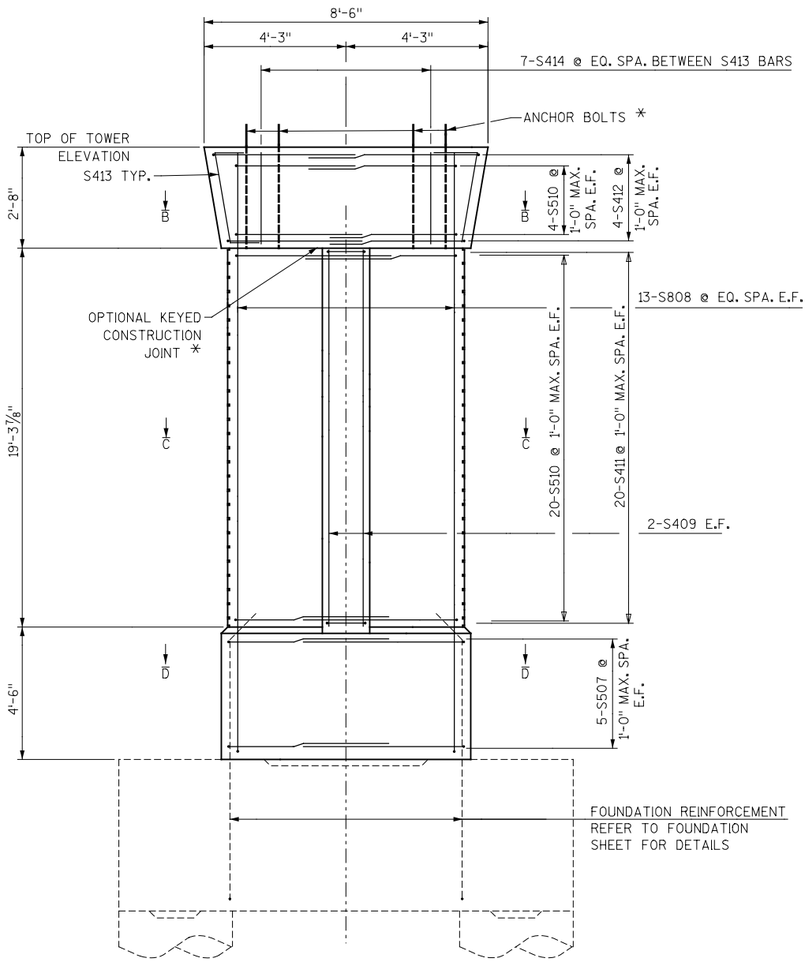
SHEET 4 OF 9

2602

8

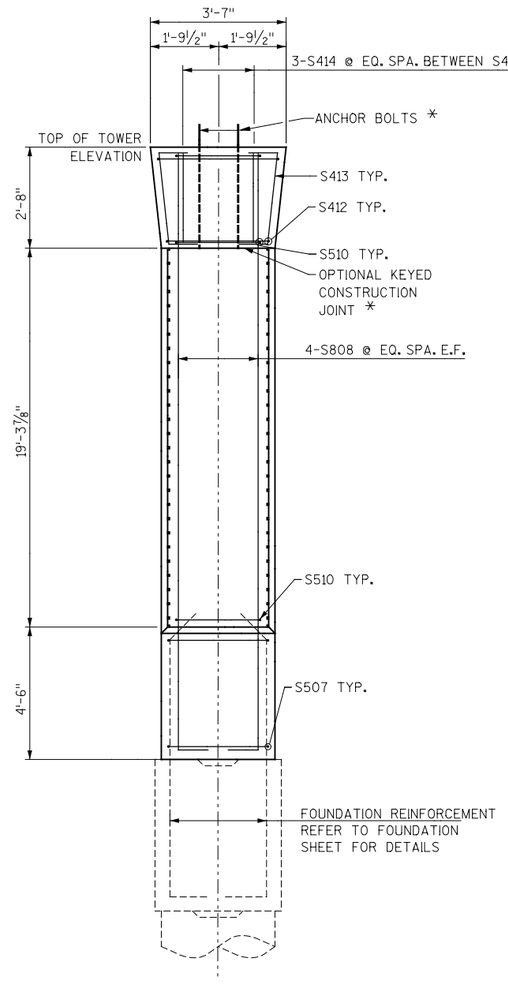
8

FILE NAME :S-05-165.dgn
PLOT DATE :12/15/2023 8:13:17 AM PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS.by level.plt PEN :CEL_TextSub_ScreenControlByLevel.tbl



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

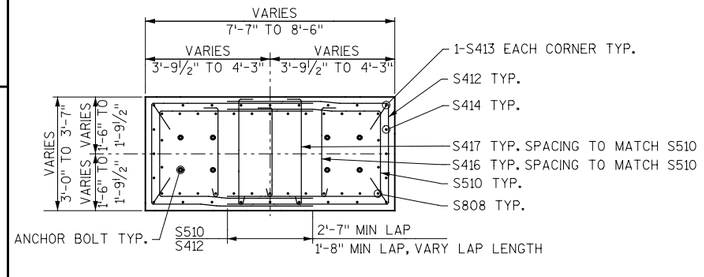
ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

APPROVED EXPANSION FITTING SHALL BE CAST INTO THE BARRIER OR TOWER CONCRETE, WHICH EVER ELEMENT IS CAST FIRST.

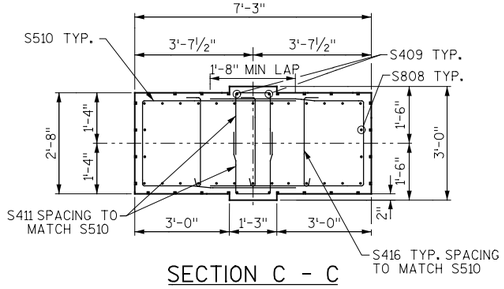
COORDINATE THE LOCATION OF THE ELECTRICAL CONDUIT IN THE TOWER TO MATCH THE LOCATION OF THE CONDUIT IN THE CONCRETE BARRIER.

SPACE S507 BARS TO MISS CONDUIT.

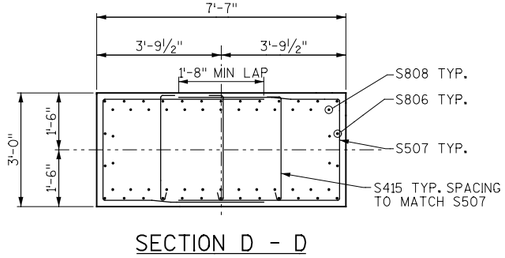
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.



SECTION B - B



SECTION C - C



SECTION D - D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-165

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 DETAILS

SHEET 5 OF 9

2603

STATE PROJECT NUMBER

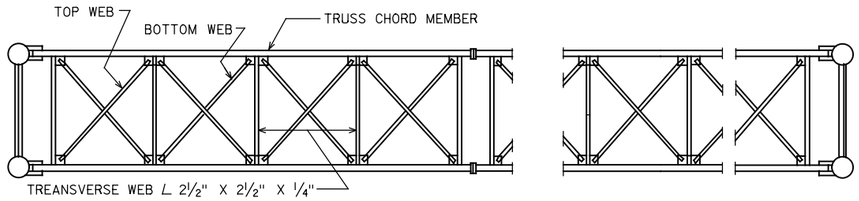
1133-09-71

8

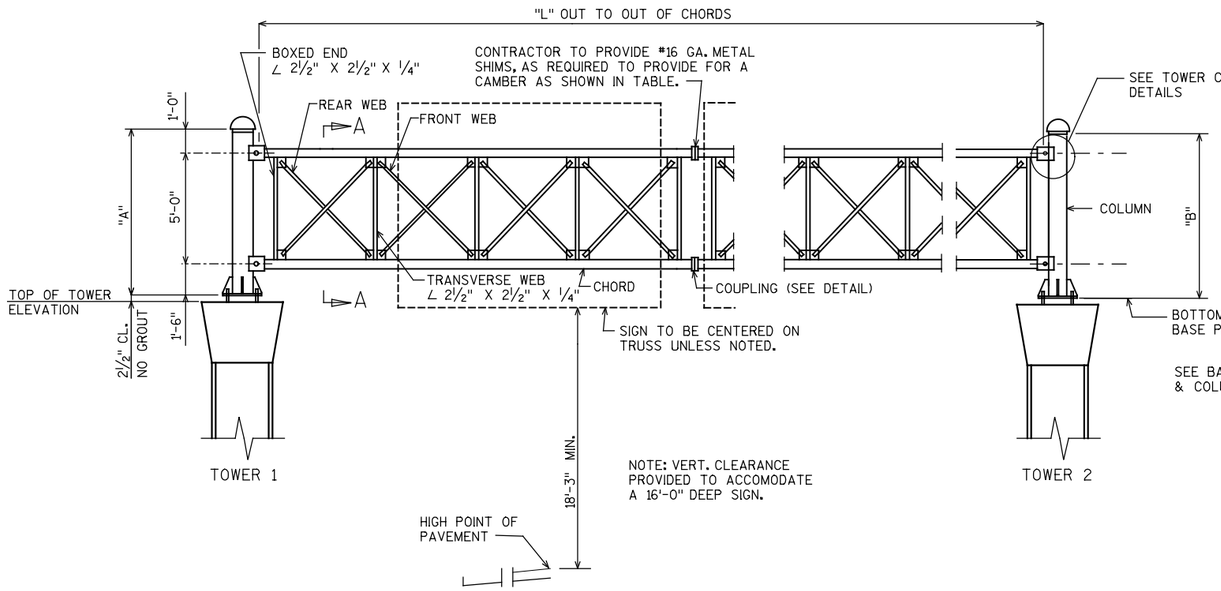
8

FILE NAME :S-05-165.dgn
PLOT DATE :2/15/2013 8:13:29 AM PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS.by level.plt PEN :CEL.TextSub_ScreenControlByLevel.tbl

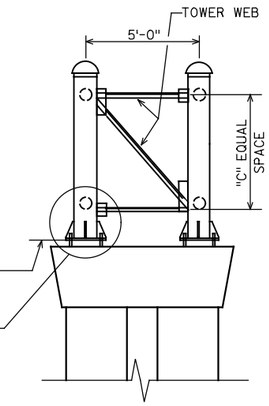
STATE PROJECT NUMBER
1133-09-71



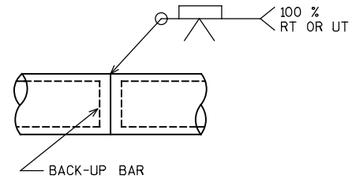
PLAN



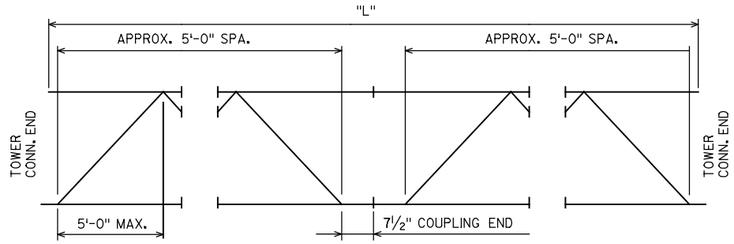
ELEVATION



TOWER 2 END VIEW
(TOWER 1 OPPOSITE HAND)

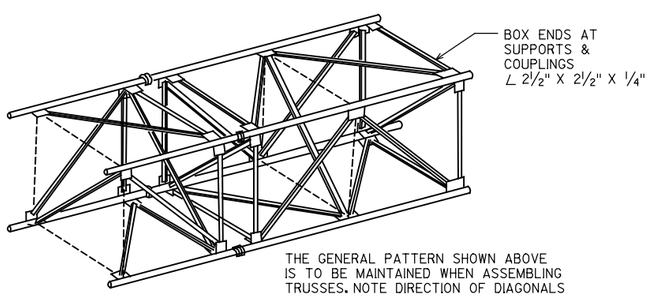


OPTIONAL COLUMN OR CHORD SPLICE DETAIL

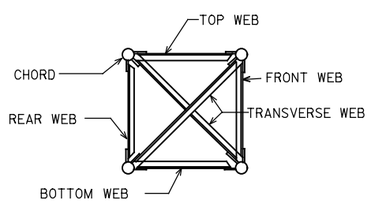


TRUSS ARRANGEMENT

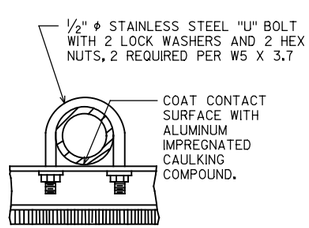
FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 20'-0" & A MULTPLE OF 5'-0". CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS. CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.



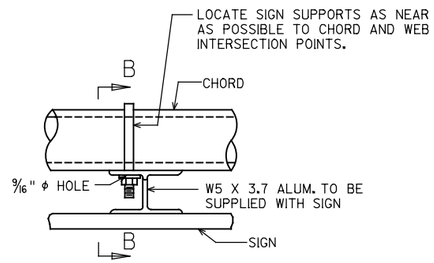
TYPICAL TRUSS SECTION



SECTION A



SECTION B



TYPICAL SIGN CONNECTION

GENERAL NOTES

DRAWING SHALL NOT BE SCALED

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

STRUCTURE MEMBER TABLE

A	B	C	CHORDS O.D. X THK.	TOP & BOTTOM WEB	FRONT & REAR WEB	COUPLING PLATE D1 & "T"	BOLT CIRCLE DIA. "D2"	NO. OF BOLTS IN COUPLING	CAMBER	COLUMN O.D. X THK.	TOWER WEBS	"L"
7'-6"	7'-6"	1	4.5"x0.237"	3"x3"x1/4"	3"x3"x1/4"	10.5" x 1.125"	7.5"	6	2"	10.75"x0.5"	3"x3"x3/16"	96'-7¼"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-165

DRAWN BY	PLANS CK'D.
VC	CES

GALVANIZED STEEL SIGN BRIDGE

SHEET 6 OF 9
2604

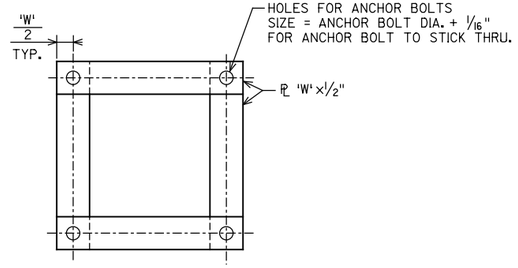
8

8

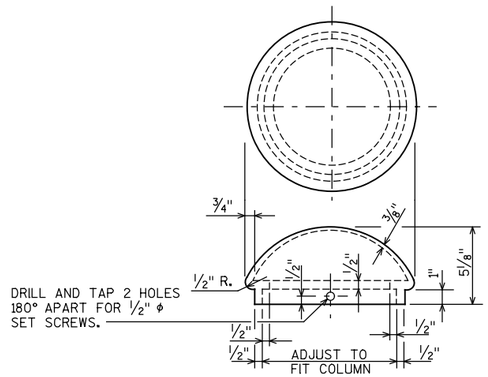
FILE NAME :S-05-165.dgn
PLOT DATE :2/15/2013 8:13:19 AM
100%
PLOT BY : Veronica Chavez-Vil
DRV :Pdf_bw_HS.by level.plt
PEN :CEL.TextSub_ScreenControlByLevel.tbl

STATE PROJECT NUMBER

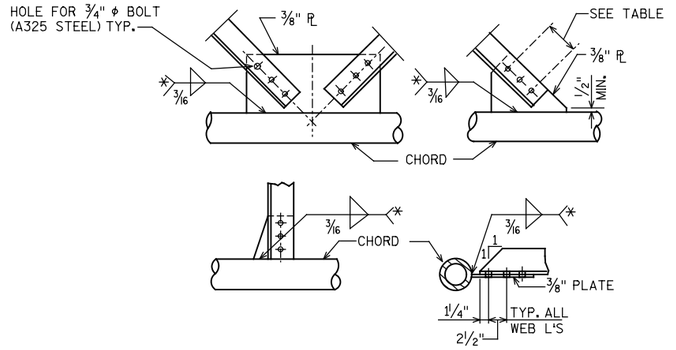
1133-09-71



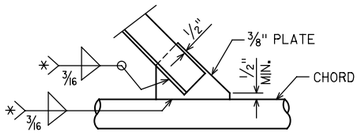
ANCHOR PLATE/TEMPLATE PLAN



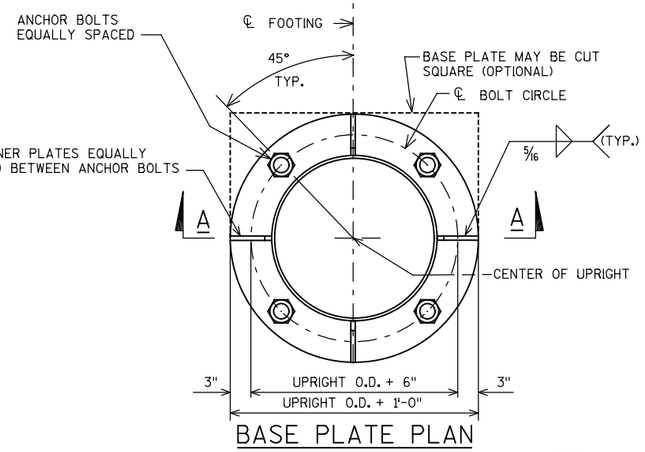
TOWER CAP DETAIL



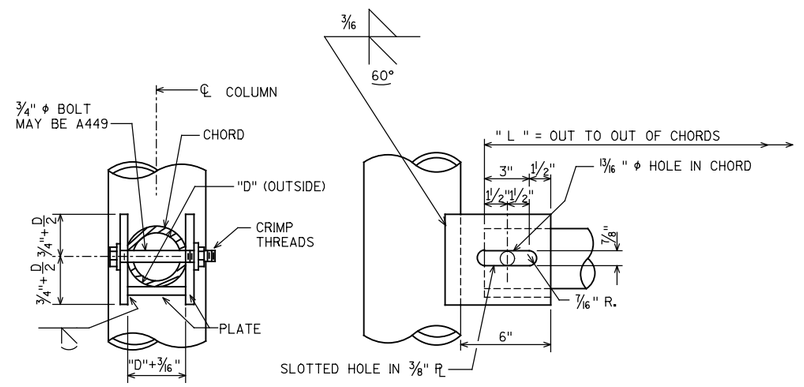
TYPICAL TRUSS CONNECTION DETAILS



TYPICAL WELDED ALTERNATE



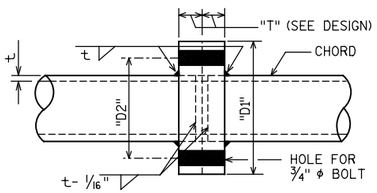
BASE PLATE PLAN



TOWER CONNECTION DETAIL

*ANGLE	WELD LENGTH	NO. OF BOLTS
● 2 1/2"x2 1/2"x1/4"	11"	3
3"x3"x3/16"	10"	3
3"x3"x1/4"	13"	4
3"x3"x5/16"	16 1/2"	5
3"x3"x3/8"	19 1/2"	6
4"x4"x1/4"	18"	5
4"x4"x5/16"	22"	6
4"x4"x3/8"	26"	8
4"x4"x7/16"	30"	9
4"x4"x1/2"	34"	10

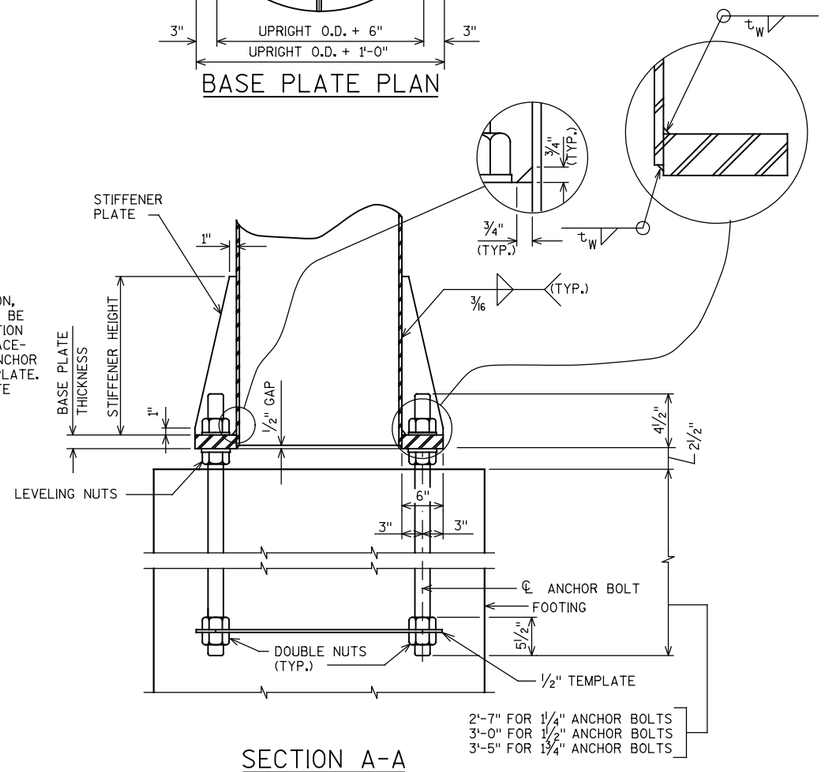
● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.



COUPLING DETAIL

(CONNECTION BOLTS OMITTED FOR CLARITY)

NOTE:
PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE. REMOVE TOP TEMPLATE (NOT SHOWN) AFTER CONCRETE SETS.



SECTION A-A

BASE PLATE & UPRIGHT COLUMN DETAILS

COLUMN O.D. X THK.	ANCHOR BOLTS	BASE PLATE THICKNESS (IN.)	STIFFENER PLATE THICKNESS (IN.)	STIFFENER PLATE HEIGHT (IN.)	t_W (IN.)
10.75"X0.5"	1 3/4"	1 3/4"	3/4"	10"	3/8"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-165

DRAWN BY VC | PLANS CK'D. CES

GALVANIZED STEEL SIGN BRIDGE DETAILS

SHEET 7 OF 9

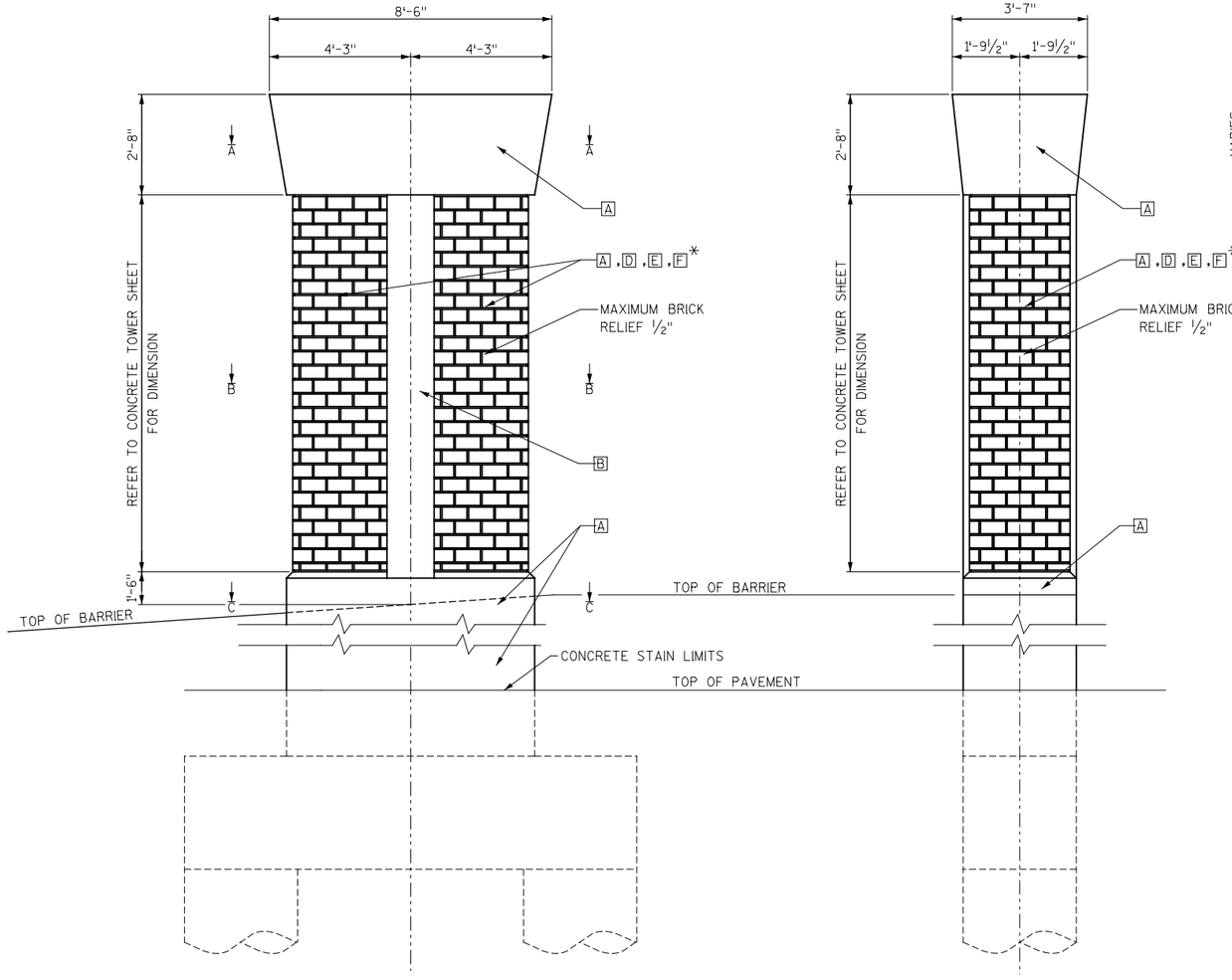
2605

8

8

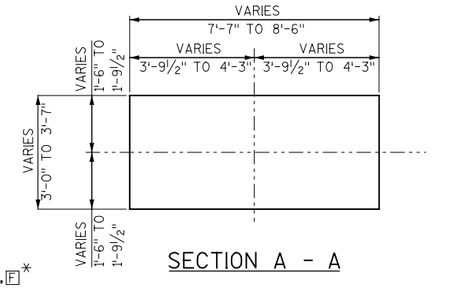
FILE NAME :S-05-165.dgn
PLOT DATE :2/15/2013 8:13:20 AM
PLOT BY : Veronica Chavez-Bi
DRV :Pdf_bw_HS.by level.plt
PEN :CE_TextSub_ScreenControlByLevel.tbl

STATE PROJECT NUMBER
1133-09-71

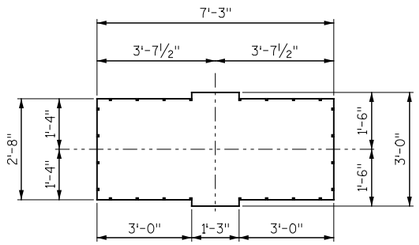


ELEVATION VIEW

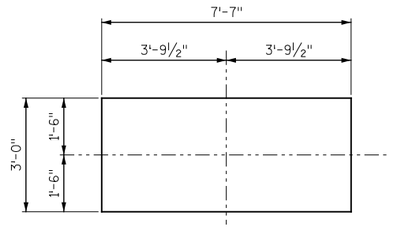
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-165

DRAWN BY VC | PLANS CK'D. CES

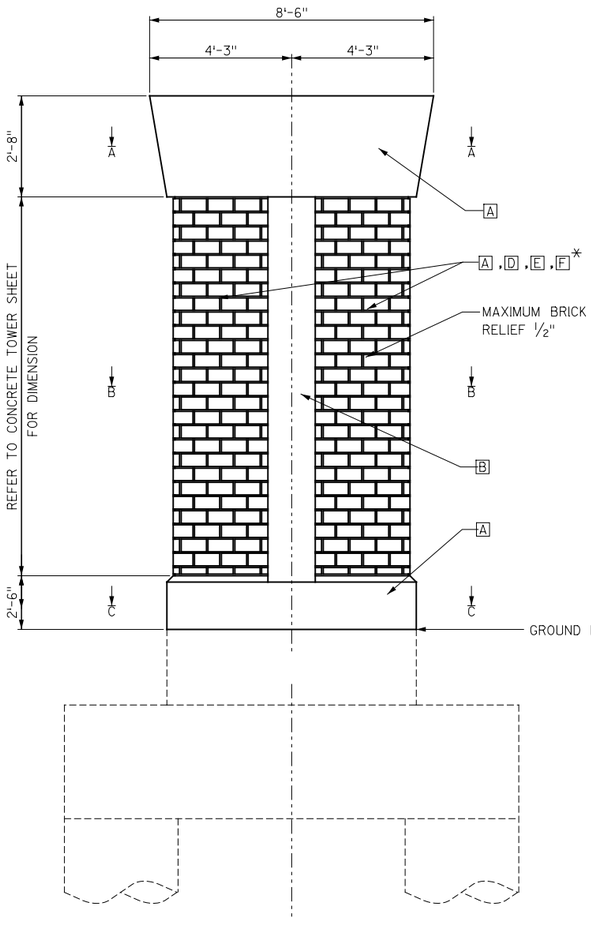
CONCRETE TOWER 1 AESTHETIC DETAILS

SHEET 8 OF 9

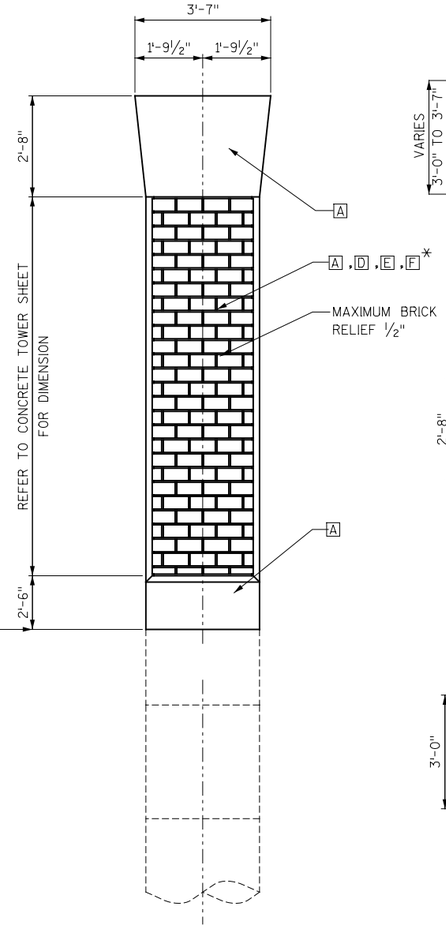
2606

FILE NAME :S-05-165.dgn
PLOT DATE :2/15/2013 8:52:21 AM PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS.by levelplt PEN :CEL_TextSub_ScreenControlByLevel.tbl

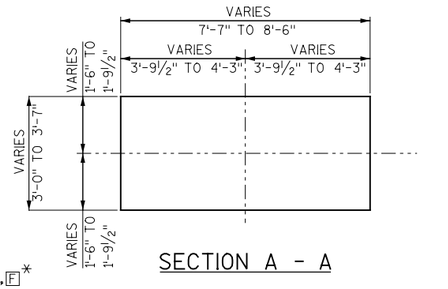
STATE PROJECT NUMBER
1133-09-71



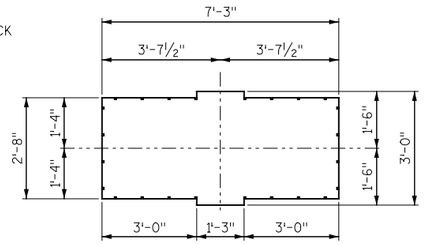
ELEVATION VIEW



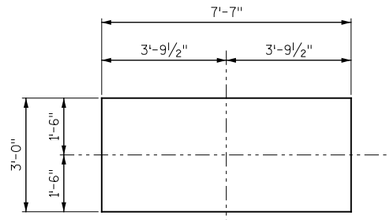
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-165

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 AESTHETIC DETAILS

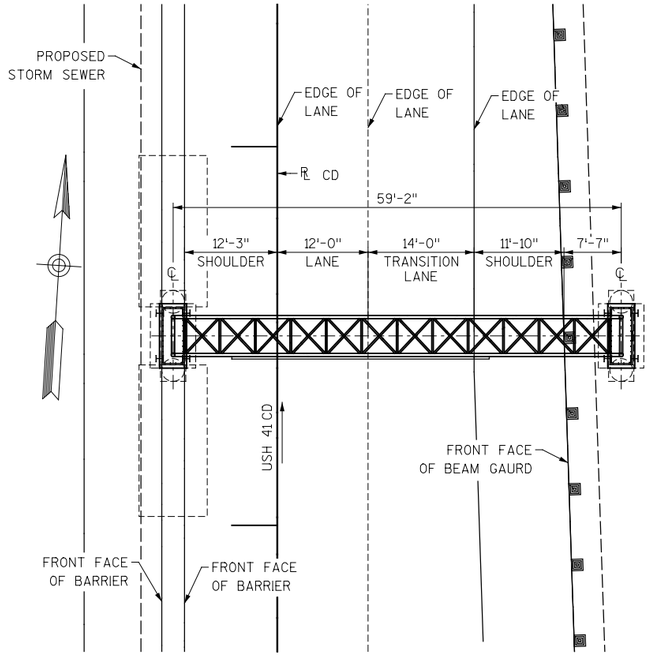
SHEET 9 OF 9

2607

FILE NAME :S-05-165.dgn
PLOT DATE :2/15/2013 8:13:22 AM PLOT BY : Veronica Chavez-Bi DRV :Pdf_bw_HS.by level.plt PEN :CEL_TextSub_ScreenControlByLevel.tbl

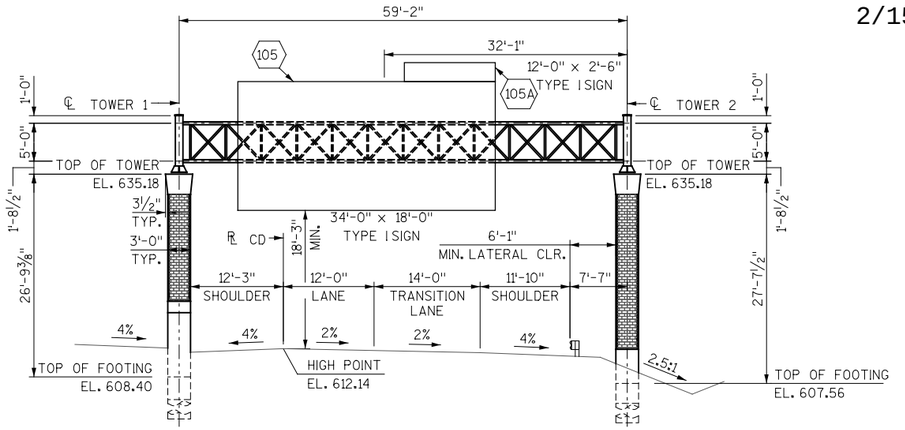
STATE PROJECT NUMBER

1133-09-71



PLAN

STA. 855CD+75



ELEVATION

(LOOKING NORTH AT FRONT FACE OF SIGN)

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER

2/15/2013

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CONCRETE TOWER 1 FOUNDATION DETAILS
3. CONCRETE TOWER 1 DETAILS
4. CONCRETE TOWER 2 FOUNDATION DETAILS
5. CONCRETE TOWER 2 DETAILS
6. GALVANIZED STEEL SIGN BRIDGE
7. SIGN BRIDGE DETAILS
8. CONCRETE TOWER 1 AESTHETIC DETAILS
9. CONCRETE TOWER 2 AESTHETIC DETAILS

ULTIMATE DESIGN STRESSES:

TOWER

CONCRETE: .....f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

SIGN BRIDGE

STEEL COLUMN PIPE: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
STEEL PIPE MEMBERS OF TRUSS: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
PLATES, BARS, STRUCTURAL ANGLES: .....fy = 36,000 psi
A.S.T.M. A709 GRADE 36
STEEL ANCHOR BOLTS: .....fy = 55,000 psi
A.A.S.H.T.O. M314-90 GRADE 55
ALL BOLTED CONNECTIONS: ¾" ϕ A325 BOLTS,
GALVANIZED A.S.T.M. A153, CLASS C

DESIGN DATA

DEAD LOAD - WT. OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.
LIVE LOAD - NONE.
ICE LOAD - 3 P.S.F. TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND‡)	133

‡ MIN. VALUE OF 25 PSF FOR GR. 3

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
642	18'-0"

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	83
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	4770
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	6750
641.6600.957	SIGN BRIDGE S-05-166	LS	1
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	600
SPV.0165.501	STAINING CONCRETE	SF	1030
SPV.0165.502	STAINING CONCRETE BRICK	SF	600

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ABOVE THE DRILLED SHAFTS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 - ¼" DIAMETER BY 1¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE S-05-166 "

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN CENTER TO CENTER OF CHORDS & SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-166 "

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

⬡ ** - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

* SIGN PANEL DIMENSIONS ARE TO THE CENTER OF THE SIGN PANEL. CONTRACTOR TO FIELD VERIFY SIGN PANEL DISPLAYS CORRELATE WITH ROADWAY LANE LAYOUT.

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-166

DE PERE - SUAMICO

COUNTY	TOWN/CITY/VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC.
AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	CES	DESIGN CK'D.	SJM	DRAWN BY	MJH	PLANS CK'D.	CES

PLAN & ELEVATION

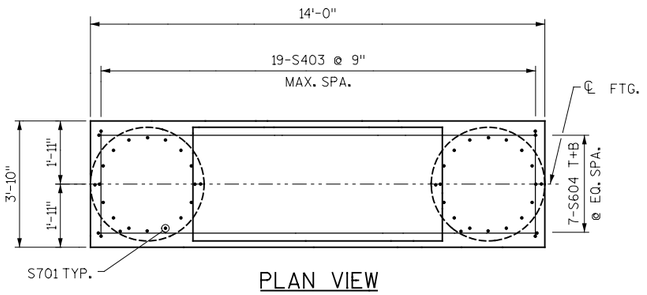
SHEET 1 OF 9
2608

8

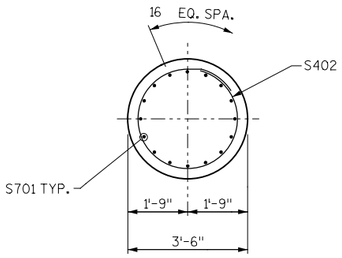
8

FILE NAME : S-05-166.dgn
PLOT DATE : 2/15/2013 8:15:33 AM PLOT BY : MatthewHolandvSi DRV : Pdf_bw_HS.by levelsplt PEN : CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

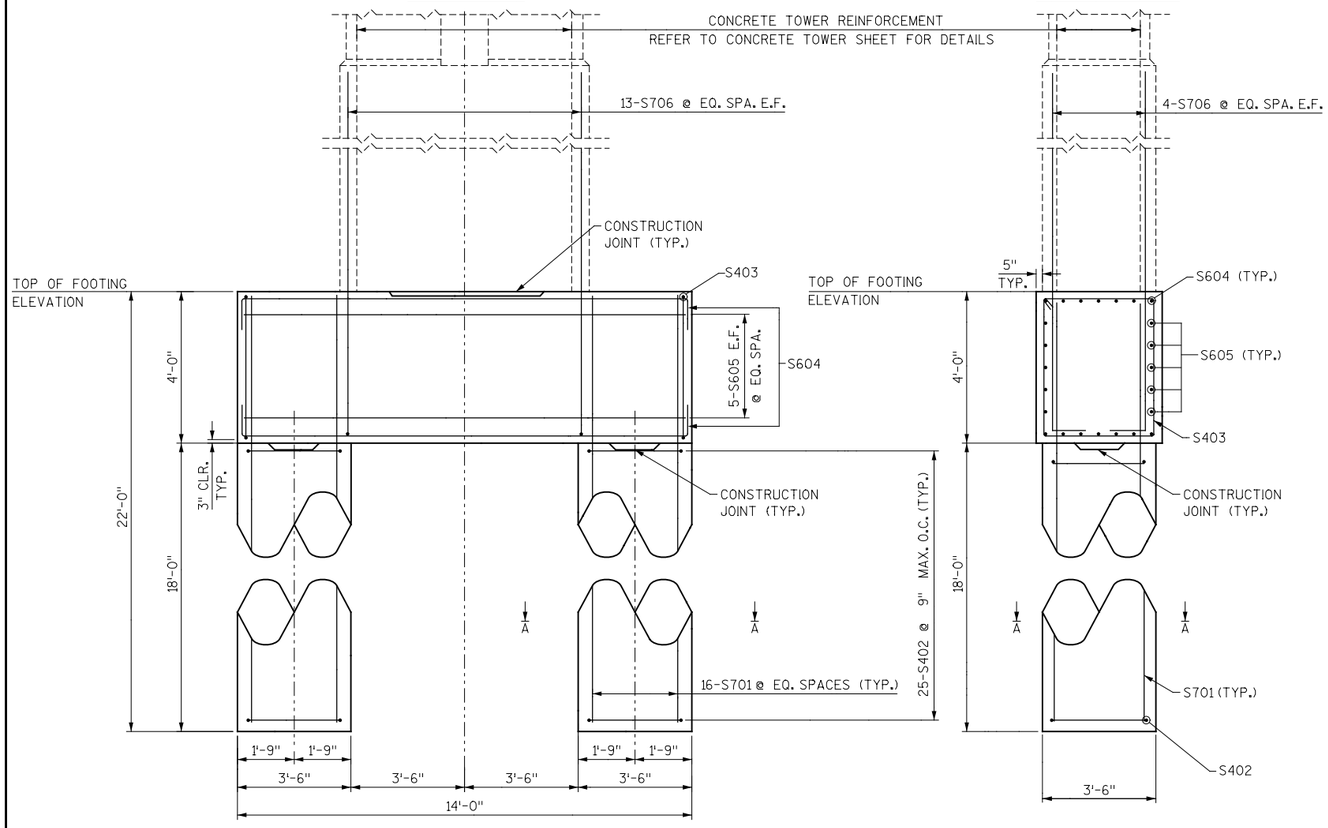
STATE PROJECT NUMBER
1133-09-71



PLAN VIEW



SECTION A-A



BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S701		32	21'-6"			DRILLED SHAFT VERTICAL
S402		50	10'-11"	▲		DRILLED SHAFT HOOP
S403		19	14'-2"	▲		CAP BEAM STIRRUP
S604		14	15'-2"	▲		CAP BEAM LONGITUDINAL
S605		10	13'-6"			CAP BEAM LONGITUDINAL
S706	X	30	14'-6"	▲		CAP BEAM VERTICAL
S407	X	22	11'-6"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S708	X	30	26'-7"			VERT. REINF., MIDDLE OF TOWER
S409	X	4	14'-1"			VERT. REINF., MIDDLE OF TOWER
S410	X	38	10'-7"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	30	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	33	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	57	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

THE BOTTOM OF THE DRILLED HOLE SHALL BE FIRM AND THOROUGHLY CLEANED SO NO LOOSE OR COMPRESSIBLE MATERIALS ARE PRESENT AT THE TIME OF THE CONCRETE PLACEMENT.

IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

IF THE ENGINEER DETERMINES THE POSSIBILITY OF CAVE-INS, OR SOIL DISPLACEMENT FROM THE WALLS EXISTS, OR IF NECESSARY TO SHUT OFF SEEPAGE WATER, THEN LINE THE REMAINING DEPTH OF THE FOOTING SHAFT WITH A SUITABLE TEMPORARY CASING. PROVIDE, INSTALL AND REMOVE THE TEMPORARY CASING ACCORDING TO SECTION 636 OF THE STANDARD SPECIFICATIONS.

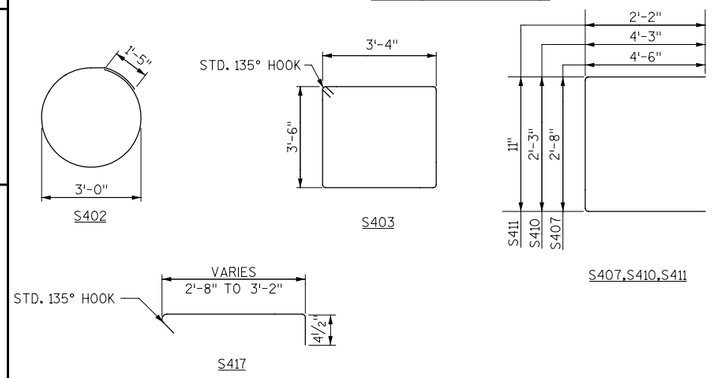
FOUNDATION DATA

THE FOLLOWING SOIL PARAMETERS WERE USED FOR THE DESIGN OF THE FOUNDATION SYSTEM. IF VARIATIONS IN THE SOIL PARAMETERS ARE FOUND DURING CONSTRUCTION NOTIFY PROJECT ENGINEER FOR REQUIRED MODIFICATION TO THE FOUNDATION SYSTEM.

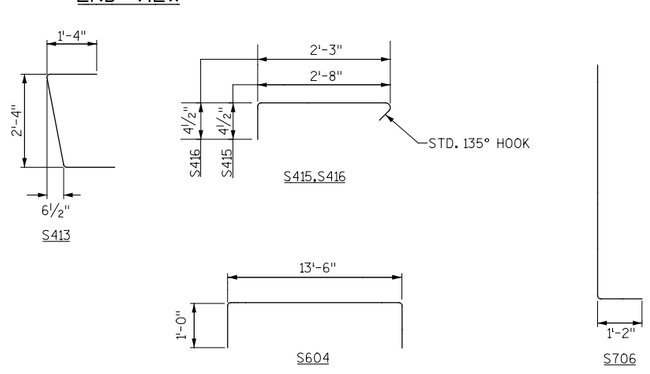
APPROXIMATE BOTTOM ELEVATION	ALLOWABLE SKIN FRICTION	ALLOWABLE END BEARING	UNDRAINED		DRAINED	
			COHESION	FRICTION ANGLE	COHESION	FRICTION ANGLE
(FT)	(PSF)	(PSF)	(PSF)	(DEGREE)	(PSF)	(DEGREE)
606.9	-	-	-	28	-	28
600.0	350	4,600	1,300	-	-	-
586.5	140	1,400	400	-	-	-
577.0	140	10,000	-	31	-	31
569.5	140	1,400	400	-	-	-
548.5	280	2,880	800	-	-	-
545.9	410	16,500	-	40	-	40

THE GROUNDWATER ELEVATION WAS ESTIMATED AT 606.00 FEET DURING SUBSURFACE EXPLORATION.

ELEVATION VIEW



END VIEW



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-166

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 FOUNDATION DETAILS

SHEET 2 OF 9

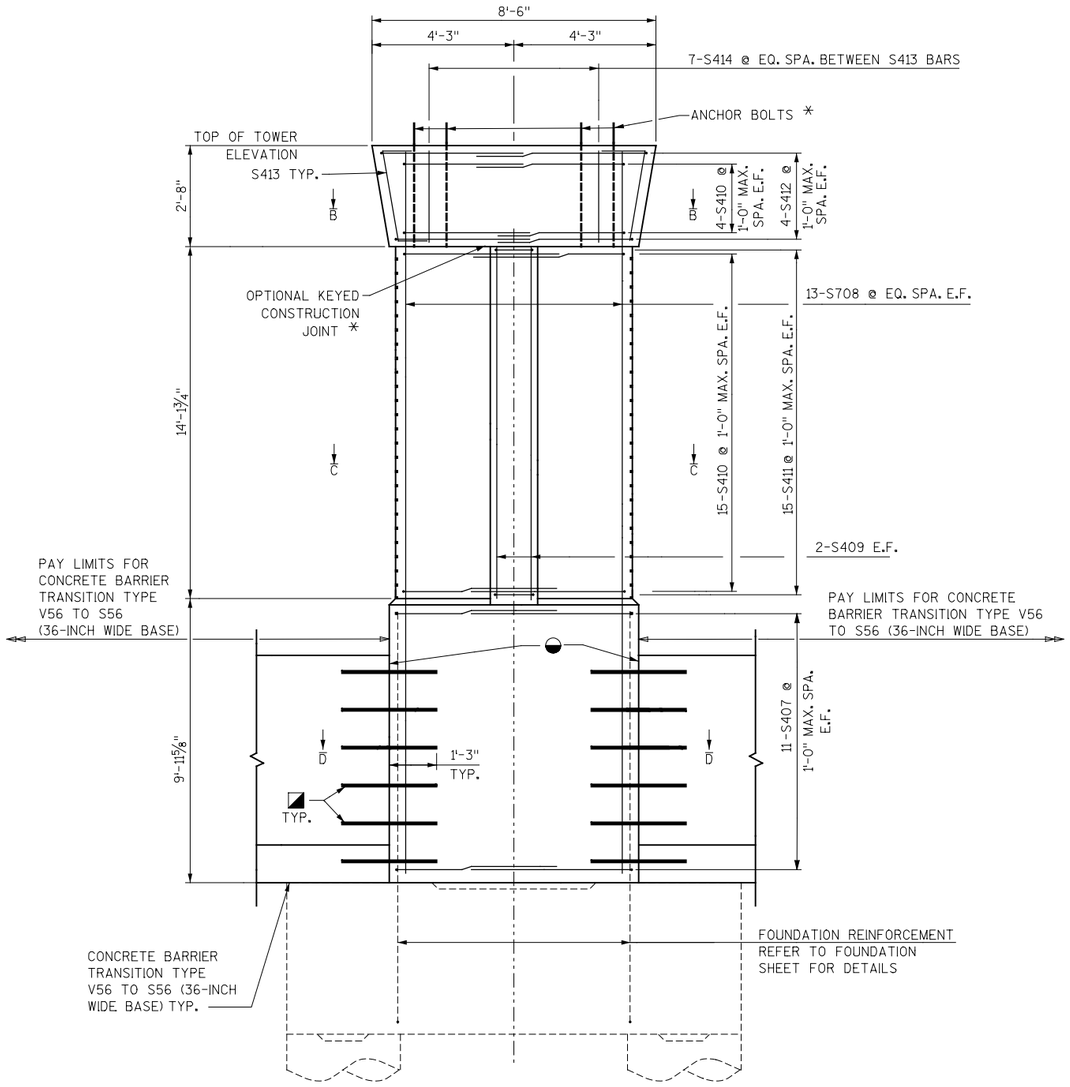
2609

8

8

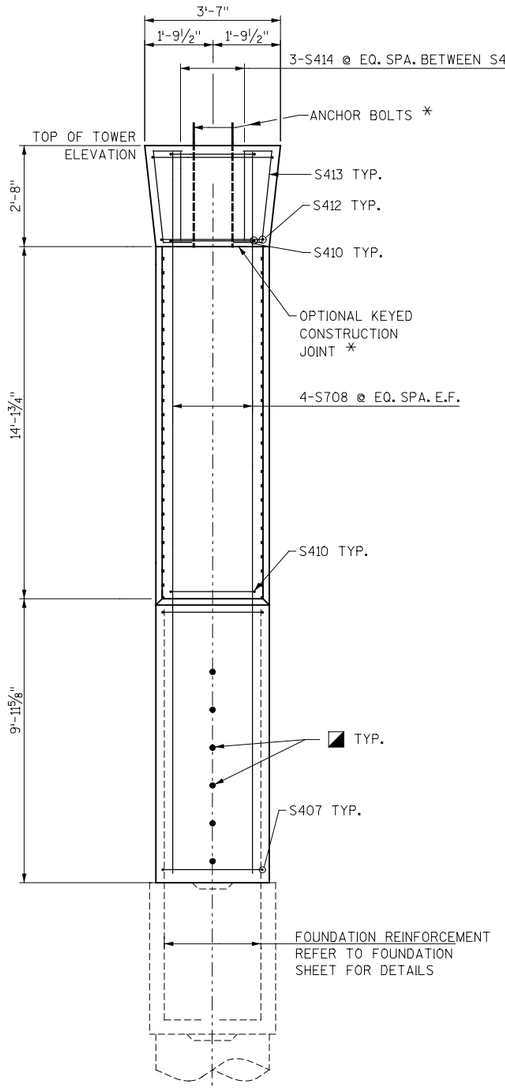
FILE NAME :S-05-166.dgn
PLOT DATE 12/15/2023 8:25:34 AM PLOT BY : MatthewHe@and v8i DRV :Pdf_bw_HS.by levelzit PEN :CEL.TEXTSUB.SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-09-71



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

APPROVED EXPANSION FITTING SHALL BE CAST INTO THE BARRIER OR TOWER CONCRETE, WHICH EVER ELEMENT IS CAST FIRST.

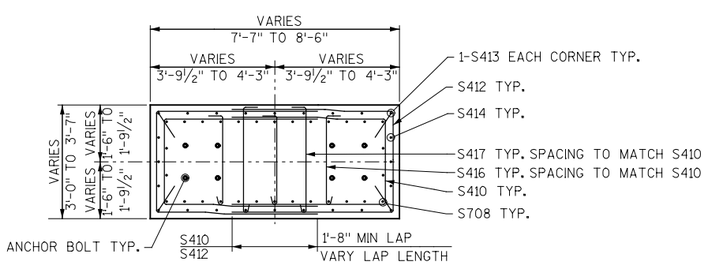
COORDINATE THE LOCATION OF THE ELECTRICAL CONDUIT IN THE TOWER TO MATCH THE LOCATION OF THE CONDUIT IN THE CONCRETE BARRIER.

SPACE S407 BARS TO MISS CONDUIT.

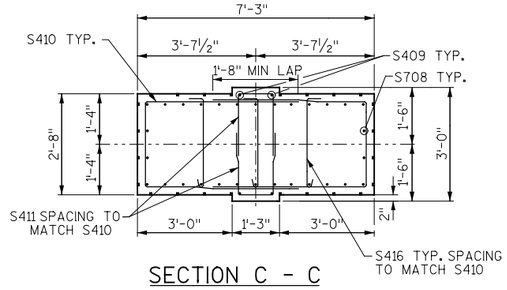
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.

◪ PLACE 1" ϕ PLAIN (SMOOTH) ROUND DOWEL BARS, 2'-6" LONG BETWEEN BARRIER AND CONCRETE TOWER. USE DEBONDER ON EXTENSION INTO BARRIER. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. SPACE DOWELS AT 1'-0". COST OF ITEMS ARE TO BE INCLUDED IN THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

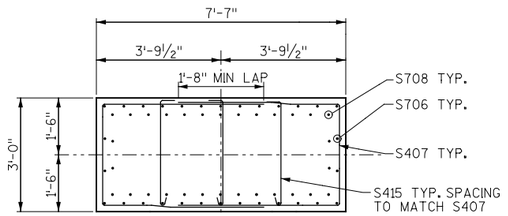
◒ PLACE 1/2" EXPANSION JOINT FILLLER BETWEEN TOWER AND BARRIER WALL, TYP. THE JOINT FILLER SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".



SECTION B - B



SECTION C - C



SECTION D - D

(DOWEL BARS OMITTED FOR CLARITY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-166

DRAWN BY VC | PLANS CK'D. CES

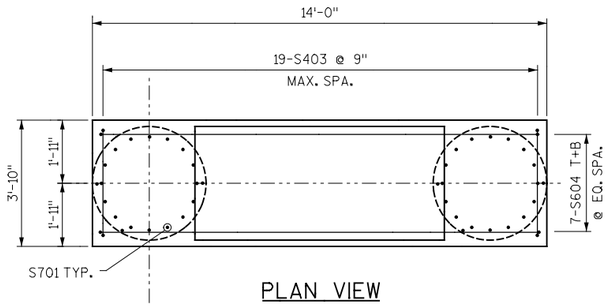
CONCRETE TOWER 1 DETAILS

SHEET 3 OF 9

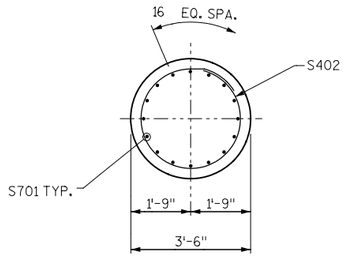
2610

8

8



PLAN VIEW



SECTION A-A

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S701		32	19'-6"			DRILLED SHAFT VERTICAL
S402		44	10'-11"	▲		DRILLED SHAFT HOOP
S403		19	14'-2"	▲		CAP BEAM STIRRUP
S604		14	15'-2"	▲		CAP BEAM LONGITUDINAL
S605		10	13'-6"			CAP BEAM LONGITUDINAL
S706	X	30	10'-2"	▲		CAP BEAM VERTICAL
S407	X	10	11'-6"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S708	X	30	28'-5"	▲		VERT. REINF., MIDDLE OF TOWER
S409	X	4	20'-5"			VERT. REINF., MIDDLE OF TOWER
S410	X	52	10'-7"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	44	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	15	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	78	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

FOUNDATION NOTES

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IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

IF THE ENGINEER DETERMINES THE POSSIBILITY OF CAVE-INS, OR SOIL DISPLACEMENT FROM THE WALLS EXISTS, OR IF NECESSARY TO SHUT OFF SEEPAGE WATER, THEN LINE THE REMAINING DEPTH OF THE FOOTING SHAFT WITH A SUITABLE TEMPORARY CASING. PROVIDE, INSTALL AND REMOVE THE TEMPORARY CASING ACCORDING TO SECTION 636 OF THE STANDARD SPECIFICATIONS.

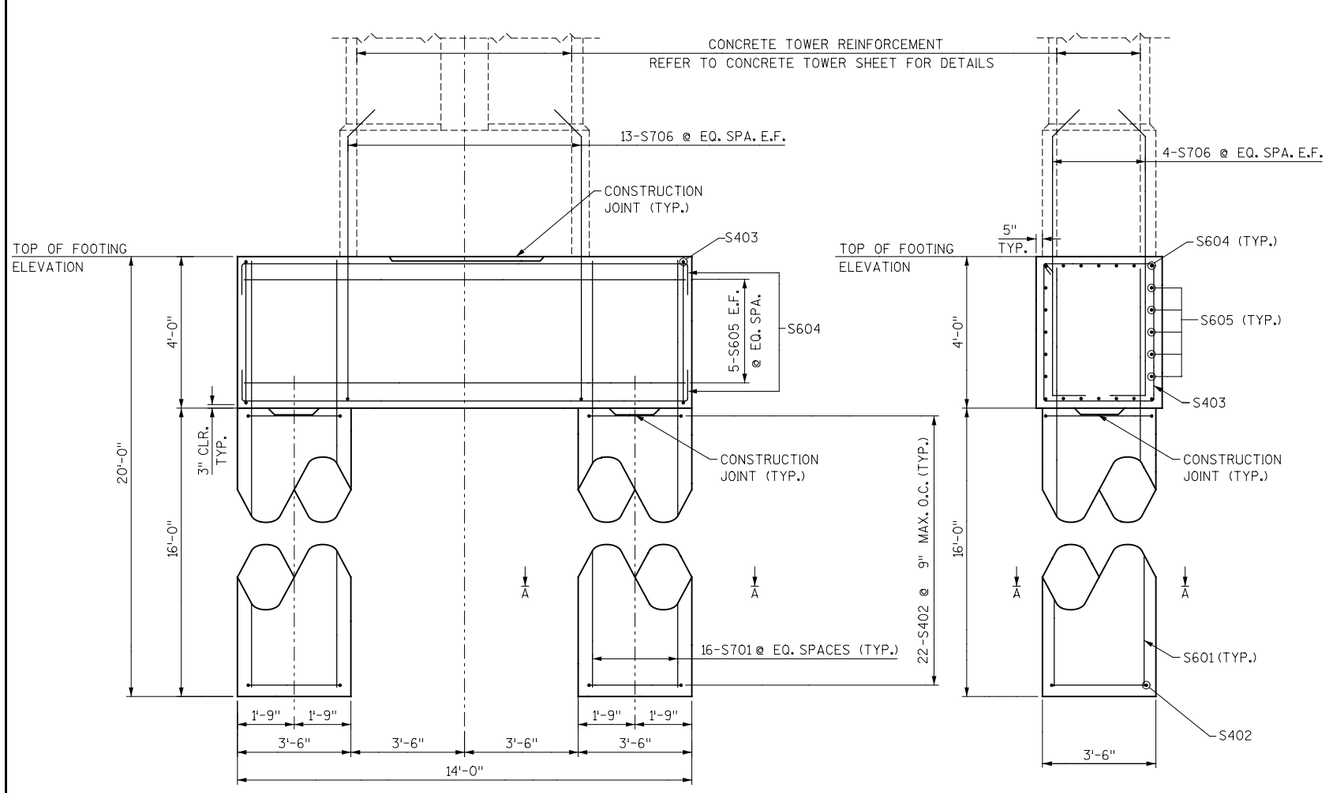
A THREE MONTH DELAY IS REQUIRED FROM FILL PLACEMENT TO DRILLED SHAFT PLACEMENT. SEE GEOTECHNICAL REPORT FOR MORE DETAILS.

FOUNDATION DATA

THE FOLLOWING SOIL PARAMETERS WERE USED FOR THE DESIGN OF THE FOUNDATION SYSTEM. IF VARIATIONS IN THE SOIL PARAMETERS ARE FOUND DURING CONSTRUCTION NOTIFY PROJECT ENGINEER FOR REQUIRED MODIFICATION TO THE FOUNDATION SYSTEM.

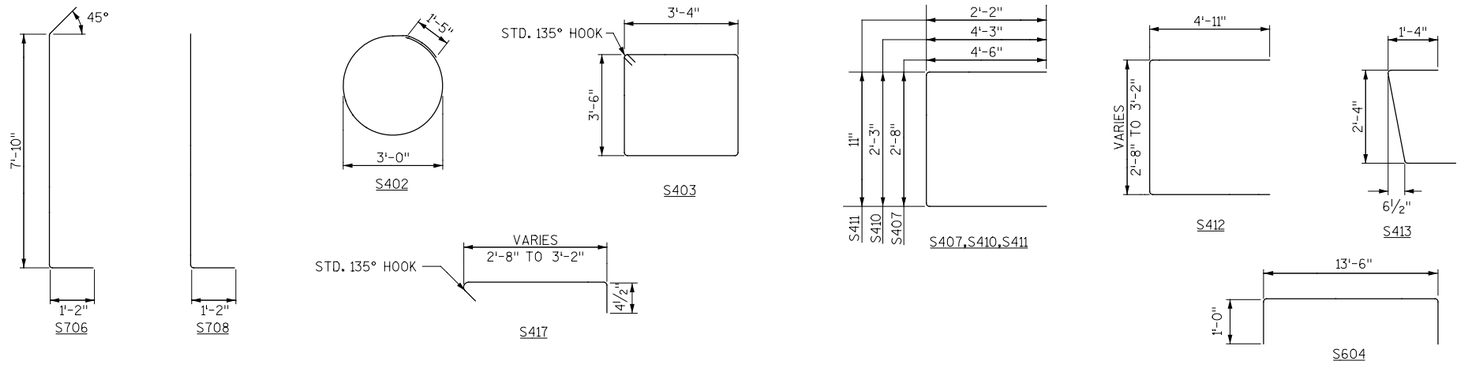
APPROXIMATE BOTTOM ELEVATION	ALLOWABLE SKIN FRICTION	ALLOWABLE END BEARING	UNDRAINED COHESION	UNDRAINED FRICTION ANGLE	DRAINED COHESION	DRAINED FRICTION ANGLE
(FT)	(PSF)	(PSF)	(PSF)	(DEGREE)	(PSF)	(DEGREE)
606.9	-	-	-	28	-	28
600.0	350	4,600	1,300	-	-	-
588.5	140	1,400	400	-	-	-
577.0	140	10,000	-	31	-	31
569.5	140	1,400	400	-	-	-
548.5	280	2,880	800	-	-	-
545.9	410	16,500	-	40	-	40

THE GROUNDWATER ELEVATION WAS ESTIMATED AT 606.00 FEET DURING SUBSURFACE EXPLORATION.



ELEVATION VIEW

END VIEW



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-166

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 FOUNDATION DETAILS

SHEET 4 OF 9

2611

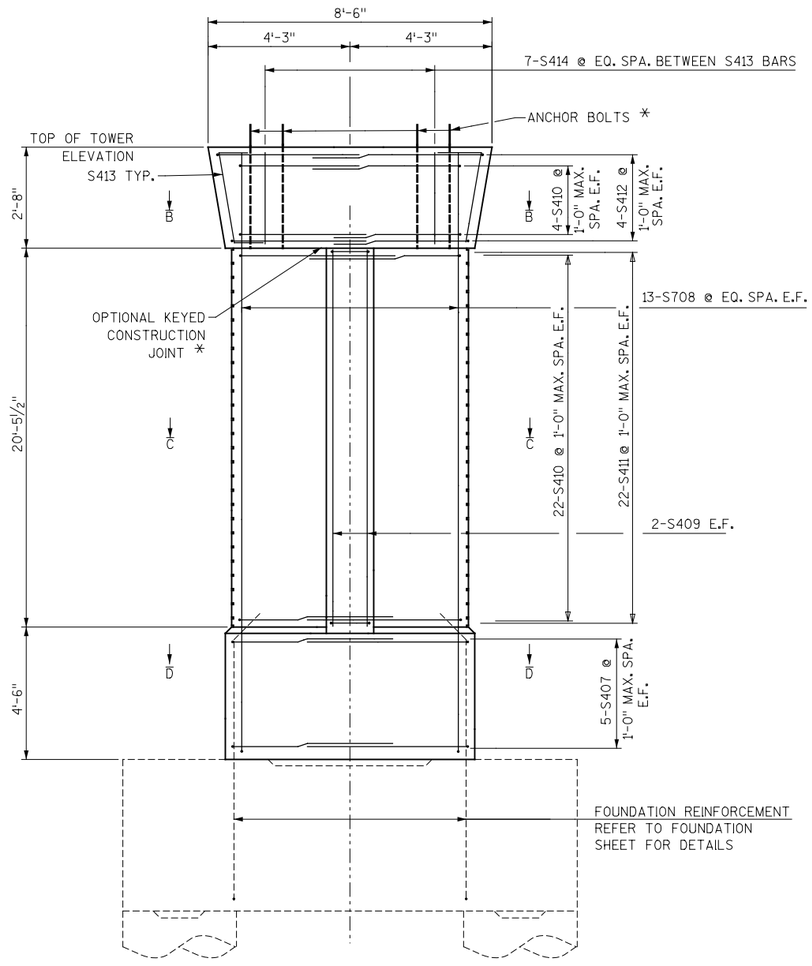
STATE PROJECT NUMBER

1133-09-71

8

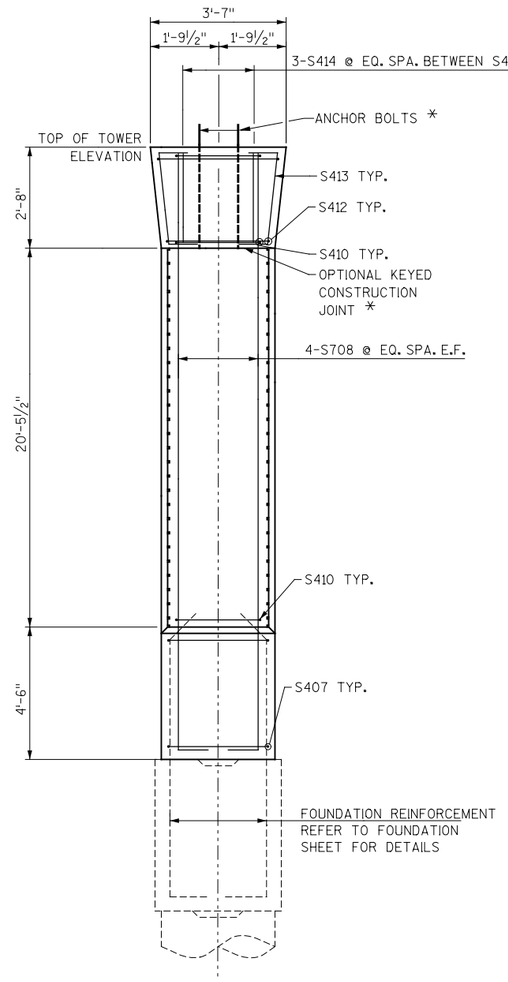
8

FILE NAME :S-05-166.dgn
PLOT DATE :12/15/2023 8:25:38 AM PLOT BY : MatthewHe@sandv81 DRV :Pdf_bw_HS.by level.pit PEN :CEL.TEXTSUB.SCREENCONTROLBYLEVEL.TBL



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

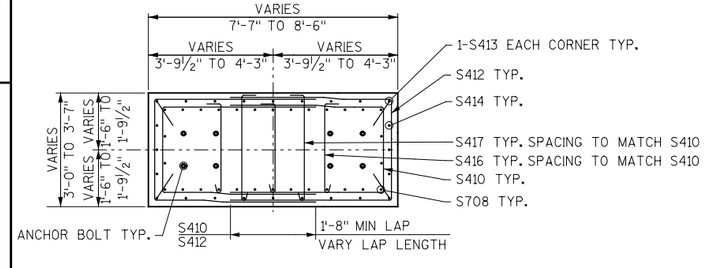
ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

APPROVED EXPANSION FITTING SHALL BE CAST INTO THE BARRIER OR TOWER CONCRETE, WHICH EVER ELEMENT IS CAST FIRST.

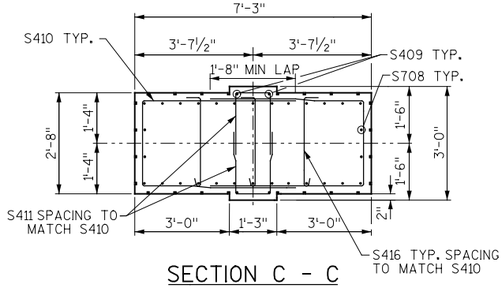
COORDINATE THE LOCATION OF THE ELECTRICAL CONDUIT IN THE TOWER TO MATCH THE LOCATION OF THE CONDUIT IN THE CONCRETE BARRIER.

SPACE S407 BARS TO MISS CONDUIT.

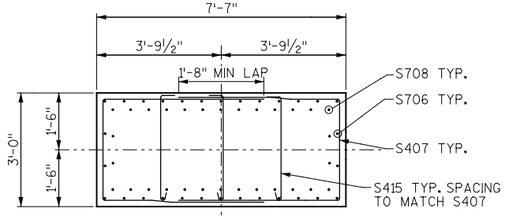
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.



SECTION B - B



SECTION C - C



SECTION D - D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-166

DRAWN BY: VC | PLANS CK'D.: CES

CONCRETE TOWER 2 DETAILS

SHEET 5 OF 9

2612

STATE PROJECT NUMBER

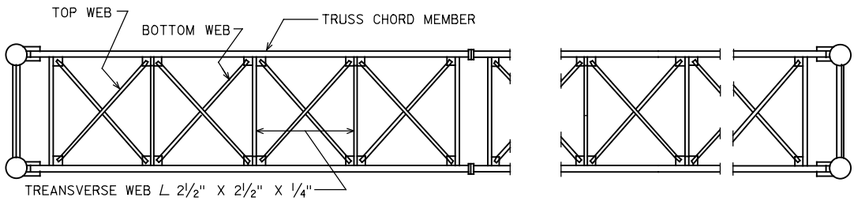
1133-09-71

8

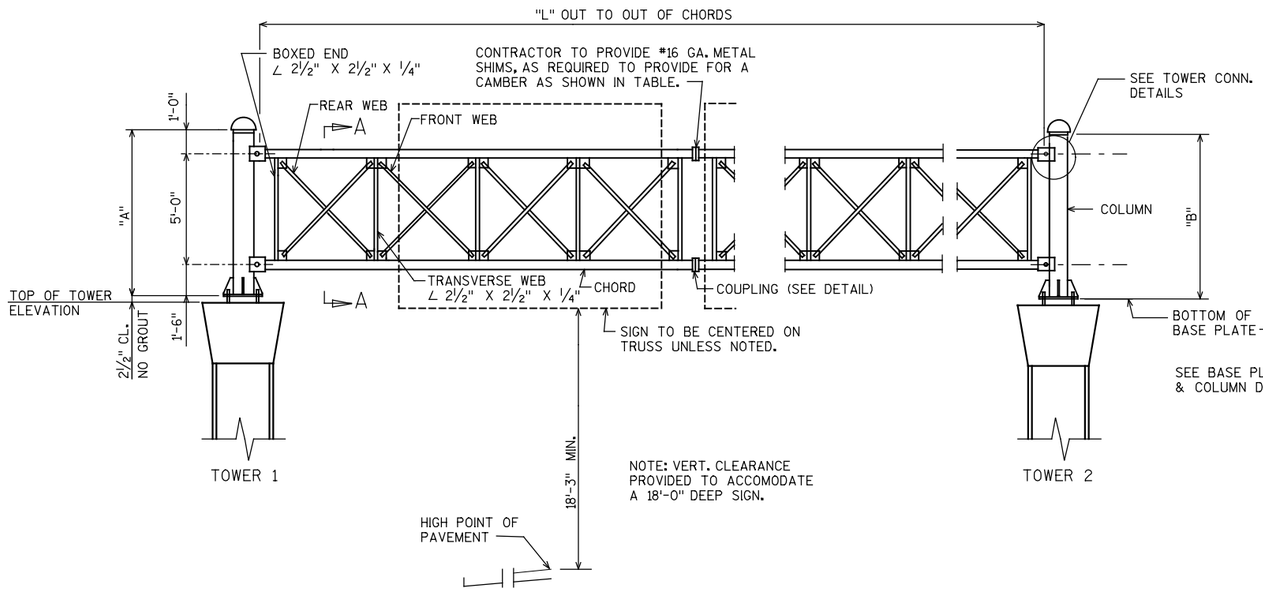
8

FILE NAME :S-05-166.dgn
PLOT DATE :2/15/2013 8:25:39 AM PLOT BY : MatthewHa@candvsi DRV :Pdf_bw_HS.by level.plt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

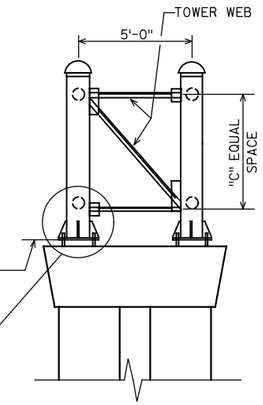
STATE PROJECT NUMBER
1133-09-71



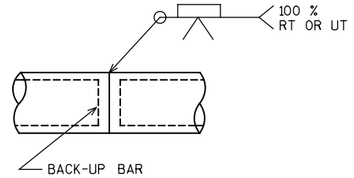
PLAN



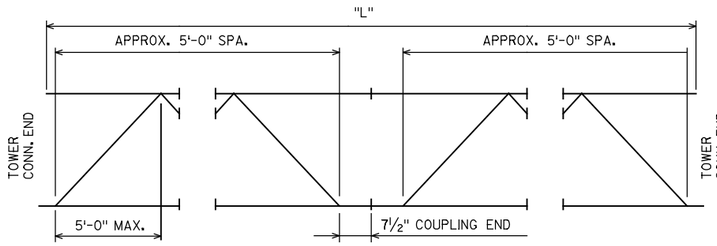
ELEVATION



TOWER 2 END VIEW
(TOWER 1 OPPOSITE HAND)

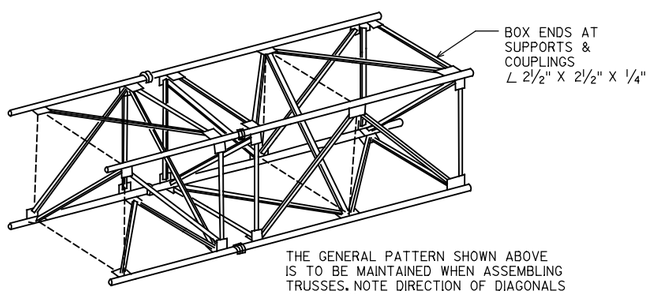


OPTIONAL COLUMN OR CHORD SPLICE DETAIL

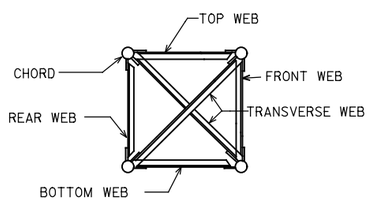


TRUSS ARRANGEMENT

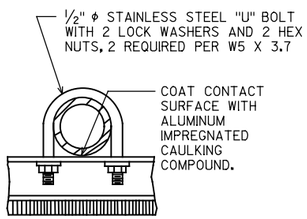
FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 20'-0" & A MULTPLE OF 5'-0". CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS. CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.



TYPICAL TRUSS SECTION



SECTION A



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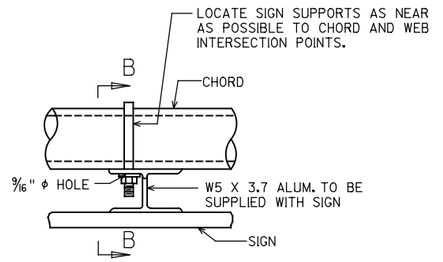


TYPICAL SIGN CONNECTION

NOTE: FOR 18' SIGN DEPTH, W5 X 3.7 ALUM. BEAMS TO BE SPACED NO MORE THAN 5 FEET APART WITH A MAXIMUM END OVERHANG OF 2.5 FEET.

GENERAL NOTES

DRAWING SHALL NOT BE SCALED

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

STRUCTURE MEMBER TABLE

A	B	C	CHORDS O.D. X THK.	TOP & BOTTOM WEB	FRONT & REAR WEB	COUPLING PLATE D1 & "T"	BOLT CIRCLE DIA. "D2"	NO. OF BOLTS IN COUPLING	CAMBER	COLUMN O.D. X THK.	TOWER WEBS	"L"
7'-6"	7'-6"	1	4"x0.226"	3"x3"x3/16"	3"x3"x3/16"	10.5" x 1"	7.5"	6	1"	10.75"x0.25"	3"x3"x3/16"	58'-0 1/4"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-166

DRAWN BY	PLANS CK'D.
VC	CES

GALVANIZED STEEL SIGN BRIDGE

SHEET 6 OF 9
2613

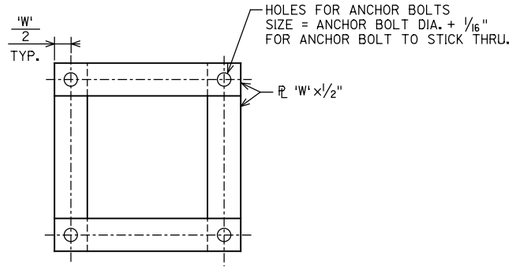
8

8

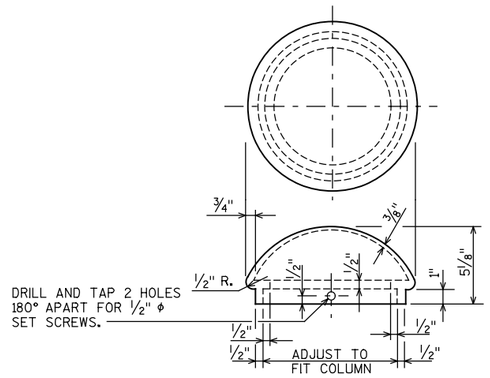
FILE NAME :S-05-166.dgn
PLOT DATE :2/25/2013 8:52:40 AM
65°
PLOT BY : MatthewHeiland\81
DRV :Pdf_bw_HS.by levels.pit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

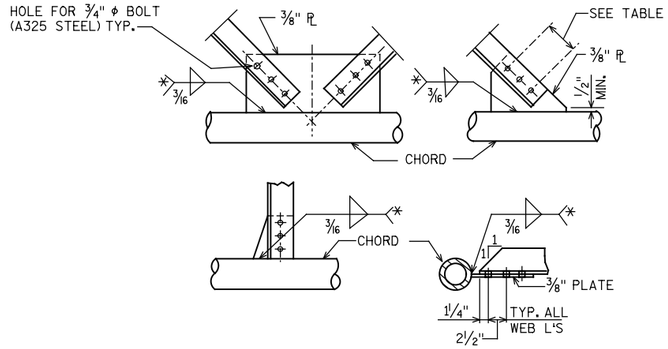
1133-09-71



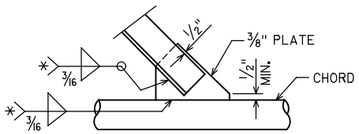
ANCHOR PLATE/TEMPLATE PLAN



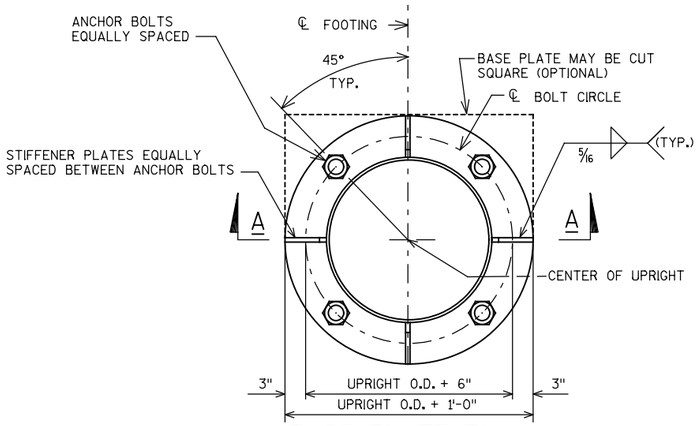
TOWER CAP DETAIL



TYPICAL TRUSS CONNECTION DETAILS

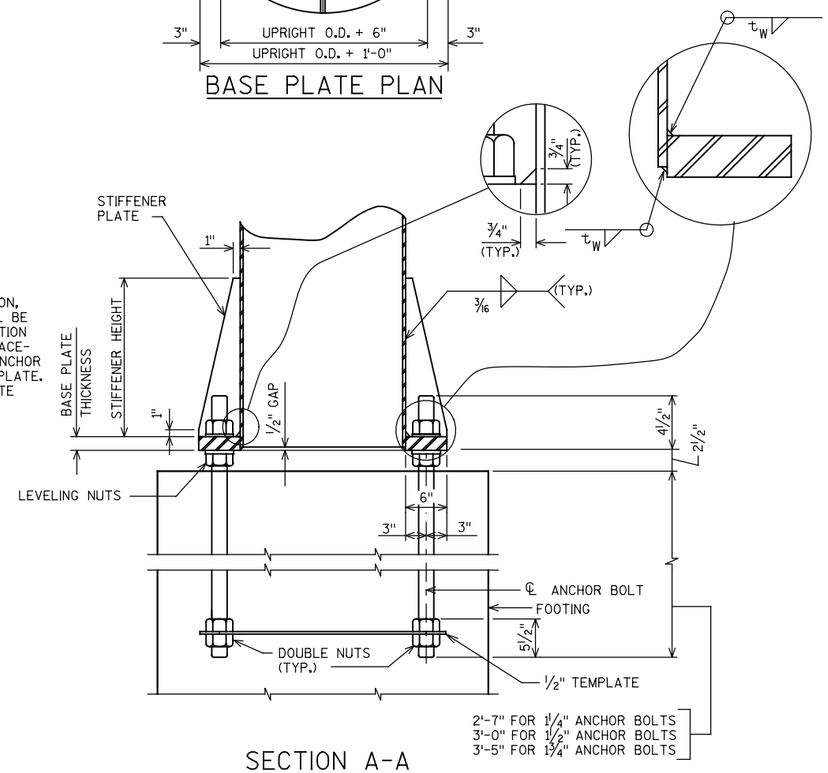


TYPICAL WELDED ALTERNATE

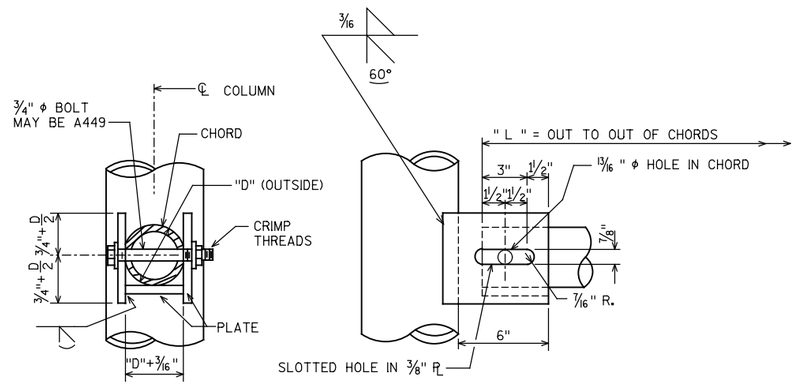


BASE PLATE PLAN

NOTE:
PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE. REMOVE TOP TEMPLATE (NOT SHOWN) AFTER CONCRETE SETS.



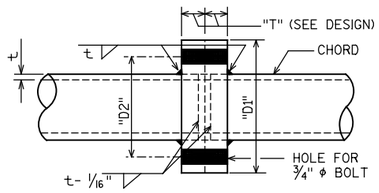
SECTION A-G



TOWER CONNECTION DETAIL

*ANGLE	WELD LENGTH	NO. OF BOLTS
● 2 1/2"x2 1/2"x1/4"	11"	3
3"x3"x3/16"	10"	3
3"x3"x1/4"	13"	4
3"x3"x5/16"	16 1/2"	5
3"x3"x3/8"	19 1/2"	6
4"x4"x1/4"	18"	5
4"x4"x5/16"	22"	6
4"x4"x3/8"	26"	8
4"x4"x7/16"	30"	9
4"x4"x1/2"	34"	10

● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.



COUPLING DETAIL

(CONNECTION BOLTS OMITTED FOR CLARITY)

BASE PLATE & UPRIGHT COLUMN DETAILS

COLUMN O.D. X THK.	ANCHOR BOLTS	BASE PLATE THICKNESS (IN.)	STIFFENER PLATE THICKNESS (IN.)	STIFFENER PLATE HEIGHT (IN.)	t_W (IN.)
10.75"X0.25"	1 1/4"	1 1/4"	1/2"	10"	5/16"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-166

DRAWN BY VC | PLANS CK'D. CES

GAVANIZED STEEL SIGN BRIDGE DETAILS

SHEET 7 OF 9

2614

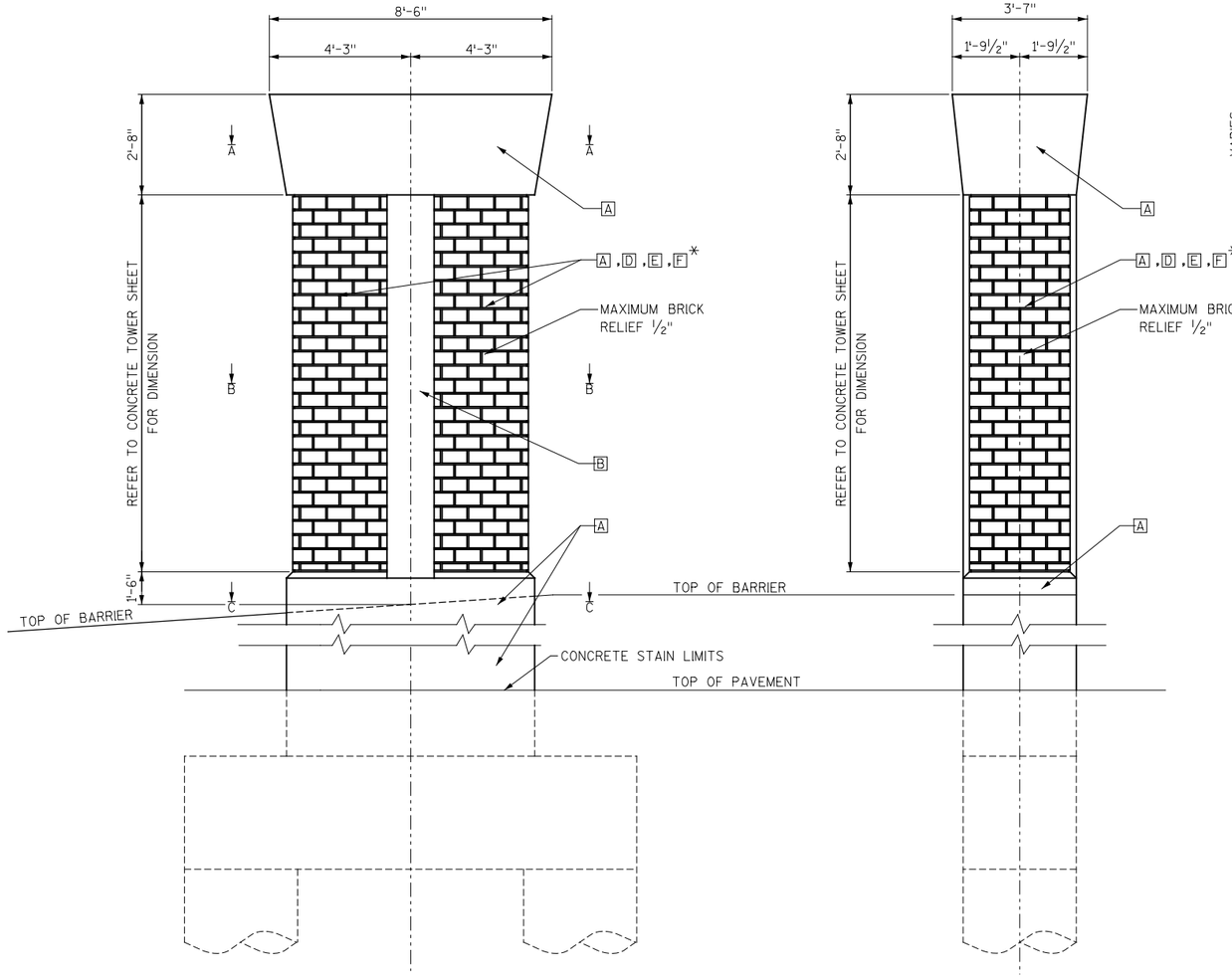
8

8

FILE NAME 15-05-166.dgn
PLOT DATE 12/25/2013 8:25:40 AM
65°
PLOT BY : MatthewHeiland81
DRV :Pdf_bw_HS.by levelplt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

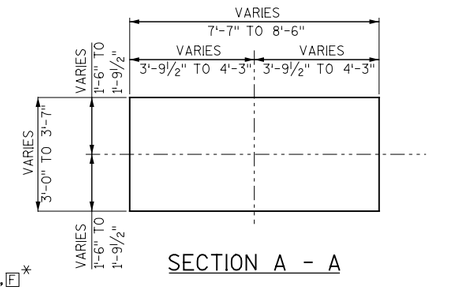
STATE PROJECT NUMBER

1133-09-71

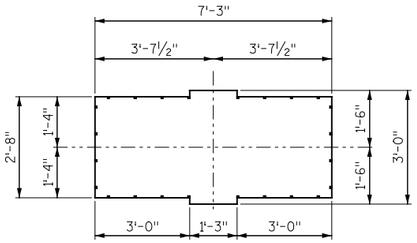


ELEVATION VIEW

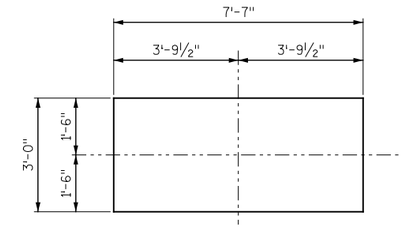
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-166

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 AESTHETIC DETAILS

SHEET 8 OF 9

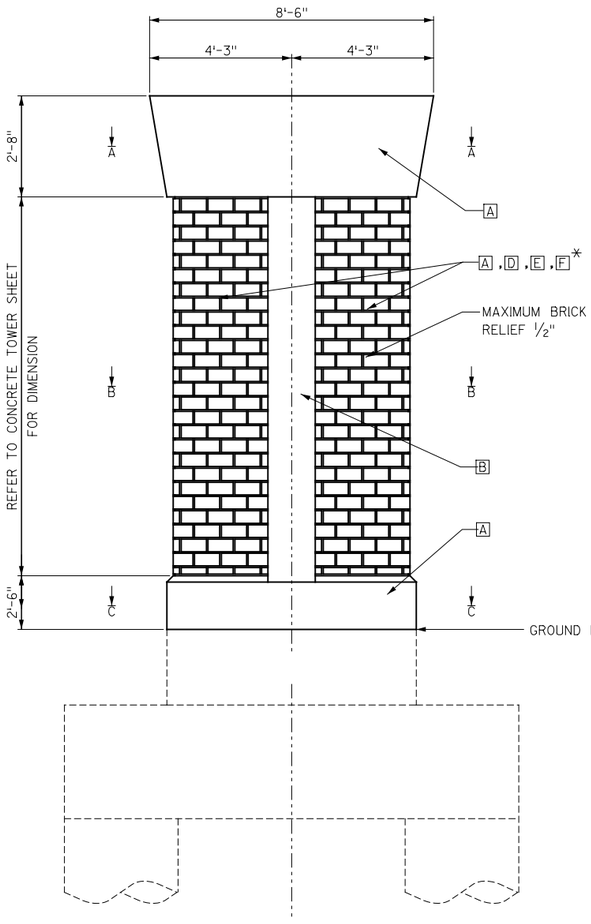
2615

8

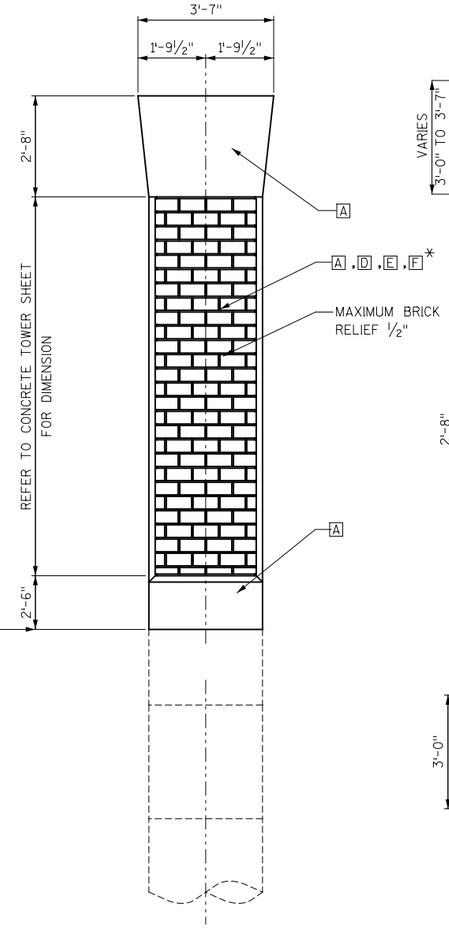
8

FILE NAME :S-05-166.dgn
PLOT DATE :2/15/2013 8:25:42 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

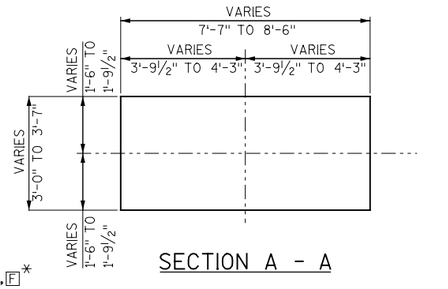
STATE PROJECT NUMBER
1133-09-71



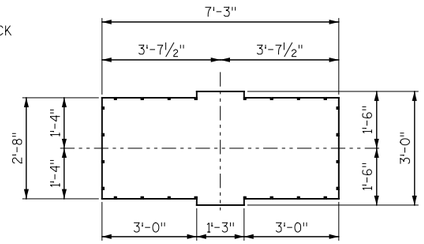
ELEVATION VIEW



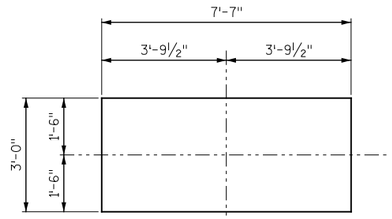
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-166

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2
AESTHETIC
DETAILS

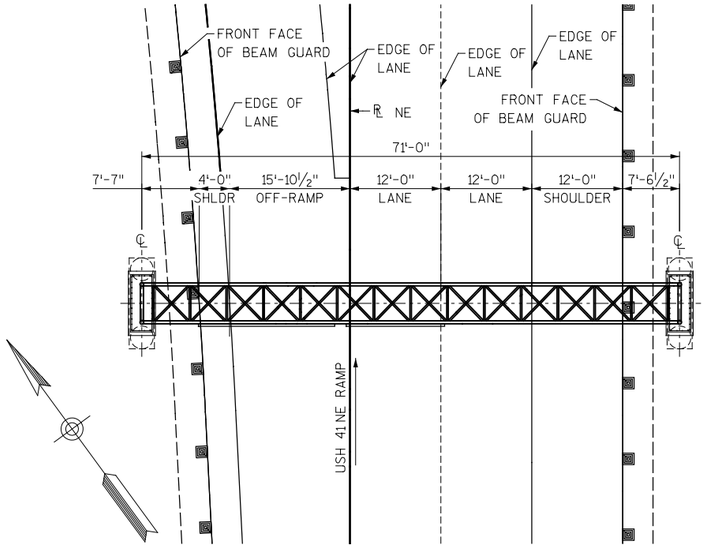
SHEET 9 OF 9

2616

FILE NAME :S-05-166.dgn
PLOT DATE :2/15/2013 8:25:43 AM PLOT BY : MatthewHeiandvik DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

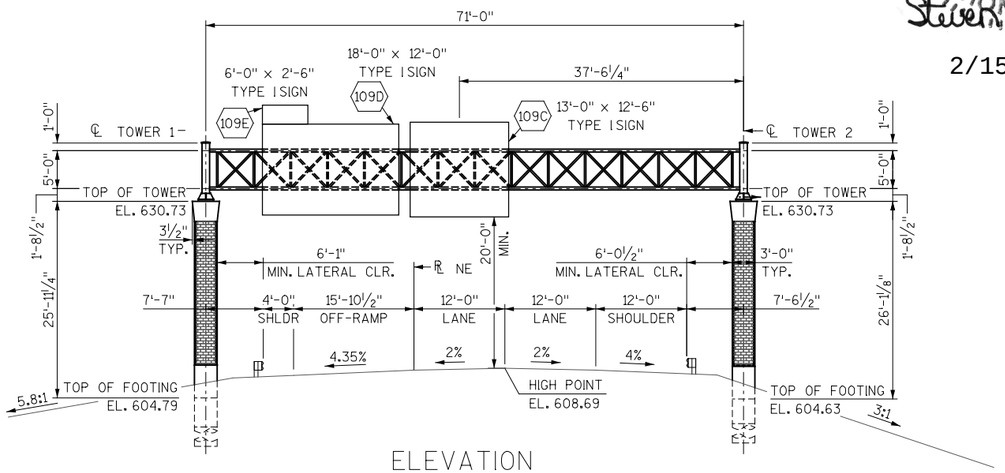
STATE PROJECT NUMBER

1133-09-71



PLAN

STA. 877NE+50



ELEVATION

(LOOKING NORTHEAST AT FRONT FACE OF SIGN)

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER

Steven J. Miller

2/15/2013

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CONCRETE TOWER 1 FOUNDATION DETAILS
3. CONCRETE TOWER 1 DETAILS
4. CONCRETE TOWER 2 FOUNDATION DETAILS
5. CONCRETE TOWER 2 DETAILS
6. GALVANIZED STEEL SIGN BRIDGE
7. SIGN BRIDGE DETAILS
8. CONCRETE TOWER 1 AESTHETIC DETAILS
9. CONCRETE TOWER 2 AESTHETIC DETAILS

ULTIMATE DESIGN STRESSES:

TOWER

CONCRETE: .....f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

SIGN BRIDGE

STEEL COLUMN PIPE: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
STEEL PIPE MEMBERS OF TRUSS: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
PLATES, BARS, STRUCTURAL ANGLES: .....fy = 36,000 psi
A.S.T.M. A709 GRADE 36
STEEL ANCHOR BOLTS: .....fy = 55,000 psi
A.A.S.H.T.O. M314-90 GRADE 55
ALL BOLTED CONNECTIONS: ¾" ϕ A325 BOLTS,
GALVANIZED A.S.T.M. A153, CLASS C

DESIGN DATA

DEAD LOAD - WT. OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.
LIVE LOAD - NONE.
ICE LOAD - 3 P.S.F. TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND‡)	133

‡ MIN. VALUE OF 25 PSF FOR GR. 3

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
960	16'-0"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ABOVE THE DRILLED SHAFTS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 - ¼" DIAMETER BY 1¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE S-05-167 "

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN CENTER TO CENTER OF CHORDS & SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-167 "

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

(##) - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

* SIGN PANEL DIMENSIONS ARE TO THE CENTER OF THE SIGN PANEL. CONTRACTOR TO FIELD VERIFY SIGN PANEL DISPLAYS CORRELATE WITH ROADWAY LANE LAYOUT.

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	67
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	3640
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	7760
641.6600.958	SIGN BRIDGE S-05-167	LS	1
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	660
SPV.0165.501	STAINING CONCRETE	SF	1000
SPV.0165.502	STAINING CONCRETE BRICK	SF	660

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-167

DE PERE - SUAMICO

COUNTY	TOWN/CITY/VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CES	SJM	MJH	CES

PLAN & ELEVATION

SHEET 1 OF 9

2617

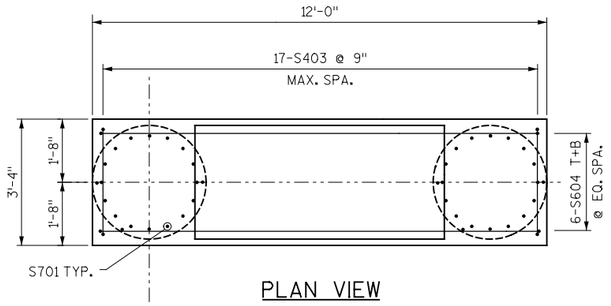
8

8

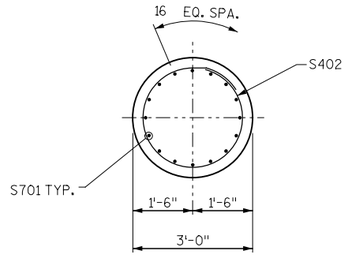
FILE NAME :S-05-167.dgn
PLOT DATE :2/15/2013 8:16:56 AM PLOT BY : MatthewHolandvik DRV :Pdf_bw_HS.by levelplt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

1133-09-71



PLAN VIEW



SECTION A-A

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S701		32	17'-6"			DRILLED SHAFT VERTICAL
S402		30	9'-4"	▲		DRILLED SHAFT HOOP
S403		17	13'-2"	▲		CAP BEAM STIRRUP
S604		12	13'-2"	▲		CAP BEAM LONGITUDINAL
S605		8	11'-6"			CAP BEAM LONGITUDINAL
S806	X	30	10'-3"	▲		CAP BEAM VERTICAL
S407	X	10	11'-6"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S808	X	30	26'-9"	▲		VERT. REINF., MIDDLE OF TOWER
S409	X	4	18'-9"			VERT. REINF., MIDDLE OF TOWER
S410	X	48	10'-7"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	40	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	15	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	72	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

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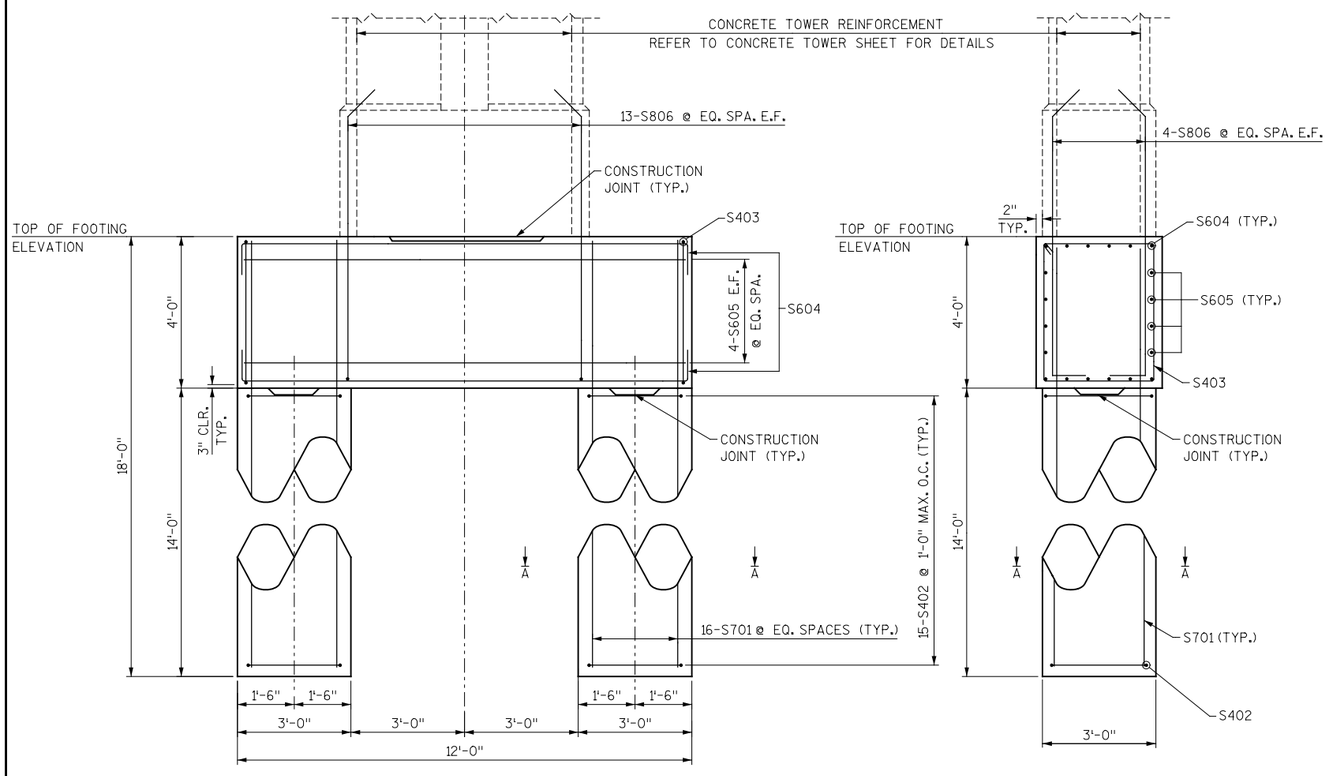
IF THE ENGINEER DETERMINES THE POSSIBILITY OF CAVE-INS, OR SOIL DISPLACEMENT FROM THE WALLS EXISTS, OR IF NECESSARY TO SHUT OFF SEEPAGE WATER, THEN LINE THE REMAINING DEPTH OF THE FOOTING SHAFT WITH A SUITABLE TEMPORARY CASING. PROVIDE, INSTALL AND REMOVE THE TEMPORARY CASING ACCORDING TO SECTION 636 OF THE STANDARD SPECIFICATIONS.

FOUNDATION DATA

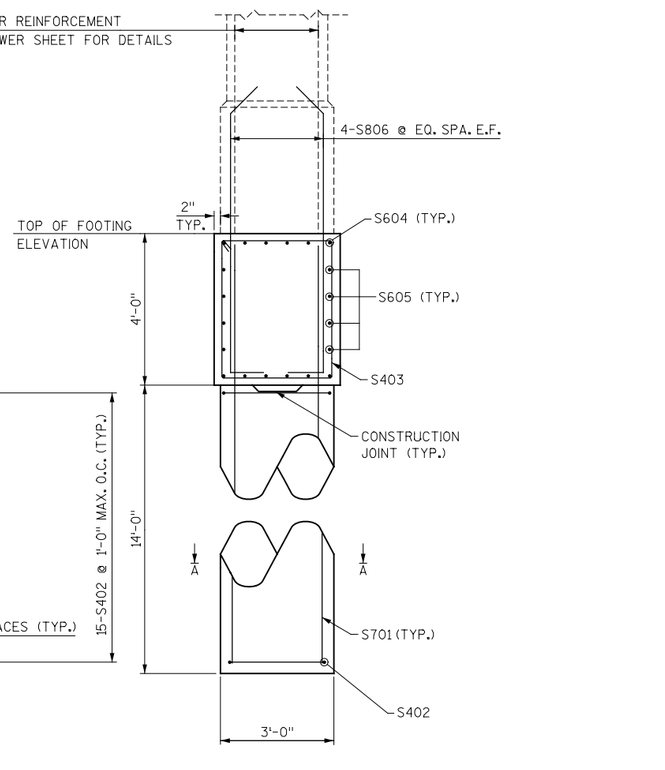
THE FOLLOWING SOIL PARAMETERS WERE USED FOR THE DESIGN OF THE FOUNDATION SYSTEM. IF VARIATIONS IN THE SOIL PARAMETERS ARE FOUND DURING CONSTRUCTION NOTIFY PROJECT ENGINEER FOR REQUIRED MODIFICATION TO THE FOUNDATION SYSTEM.

			UNDRAINED		DRAINED	
APPROXIMATE BOTTOM ELEVATION	ALLOWABLE SKIN FRICTION	ALLOWABLE END BEARING	COHESION	FRICTION ANGLE	COHESION	FRICTION ANGLE
(FT)	(PSF)	(PSF)	(PSF)	(DEGREE)	(PSF)	(DEGREE)
600.5	175	1,800	500	-	-	-
593.5	700	12,600	3,500	-	-	-
579.0	400	7,200	2,000	-	-	-
-	330	4,300	1,200	-	-	-

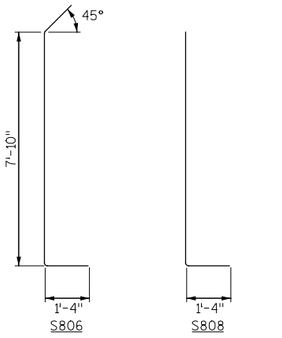
THE GROUNDWATER ELEVATION WAS ESTIMATED AT 588.5 FEET DURING SUBSURFACE EXPLORATION.

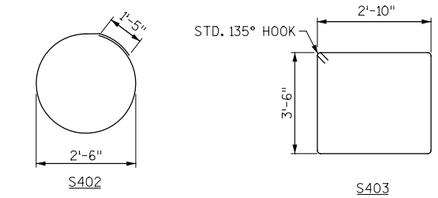


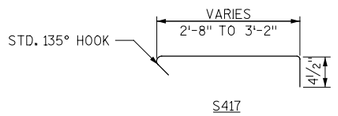
ELEVATION VIEW

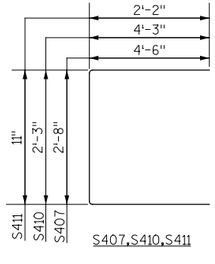


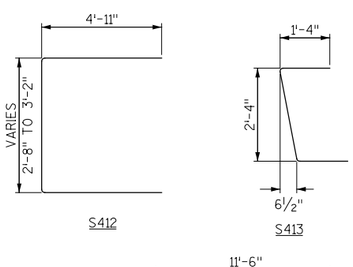
END VIEW

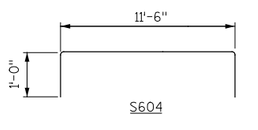


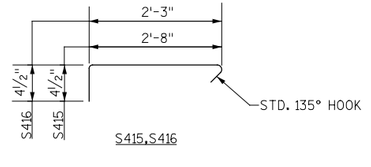












NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-167

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER FOUNDATION DETAILS 1

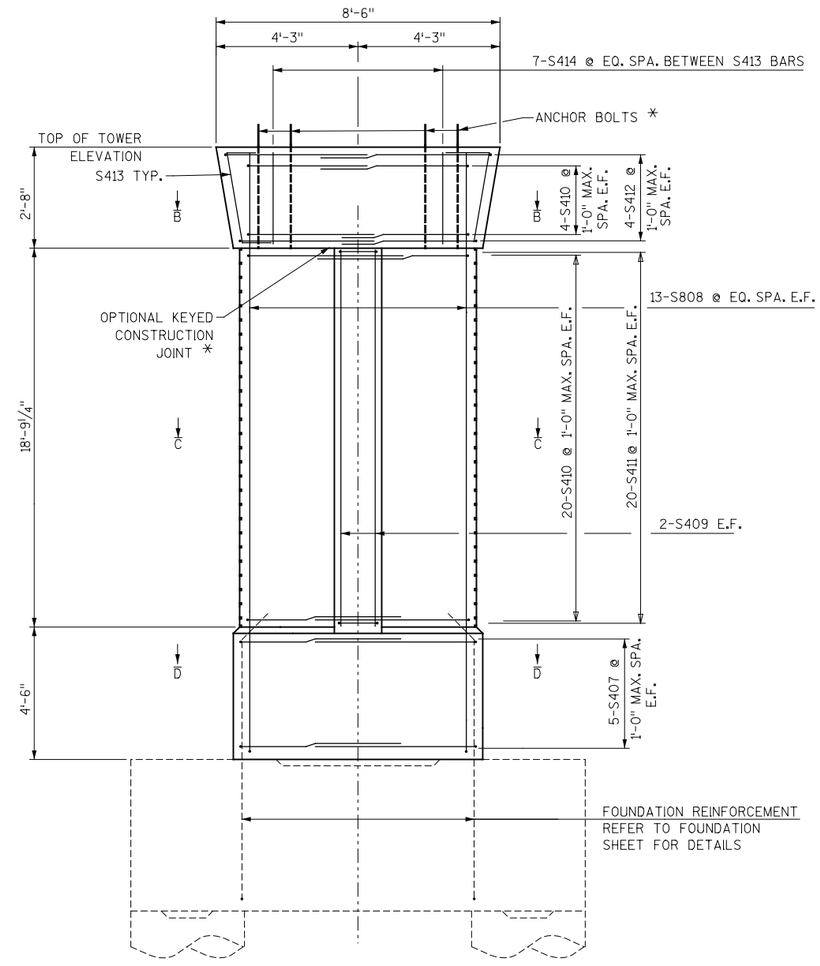
SHEET 2 OF 9

2618

8

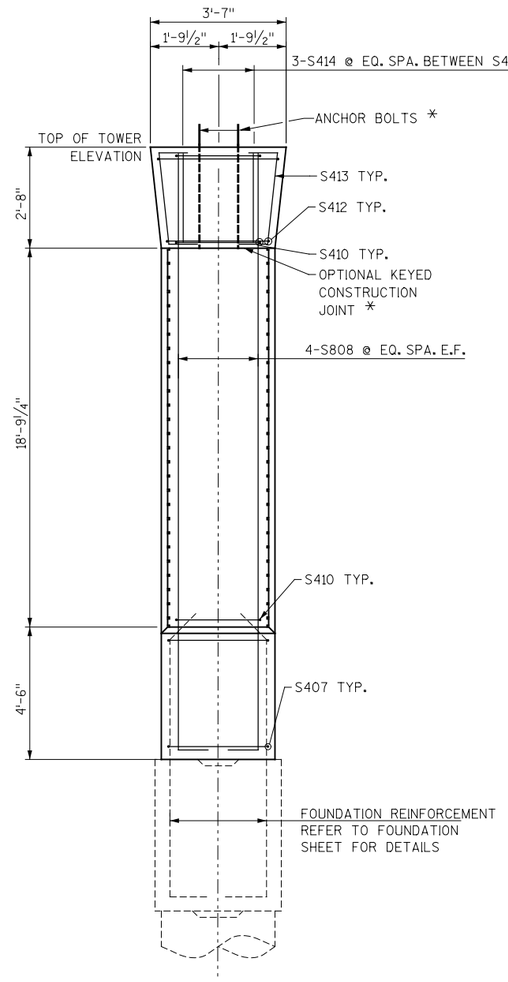
8

FILE NAME :S-05-167.dgn
PLOT DATE :2/15/2013 8:56:59 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by level.pit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

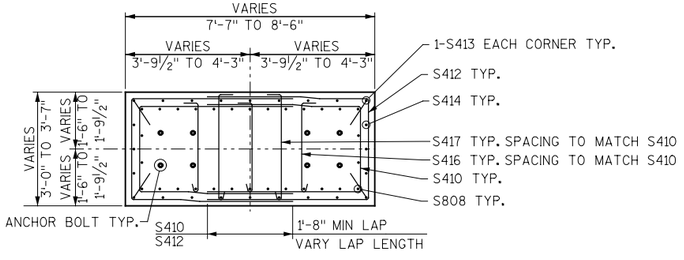
"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

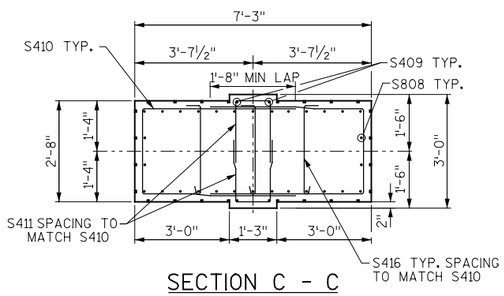
REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

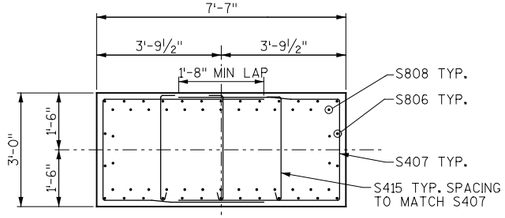
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.



SECTION B - B



SECTION C - C



SECTION D - D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-167

DRAWN BY	PLANS CK'D.
VC	CES

CONCRETE TOWER 1 DETAILS

SHEET 3 OF 9

2619

STATE PROJECT NUMBER

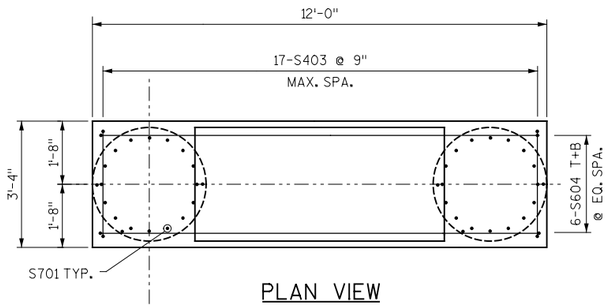
1133-09-71

8

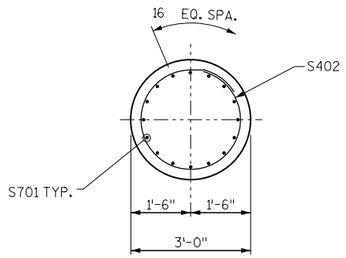
8

FILE NAME :S-05-167.dgn
PLOT DATE :2/15/2013 8:17:00 AM PLOT BY : MatthewHa@candvsi DRV :Pdf_bw_HS.by level.plt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-09-71



PLAN VIEW



SECTION A-A

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S701		32	16'-6"			DRILLED SHAFT VERTICAL
S402		28	9'-4"	▲		DRILLED SHAFT HOOP
S403		17	13'-3"	▲		CAP BEAM STIRRUP
S604		12	13'-2"	▲		CAP BEAM LONGITUDINAL
S605		8	11'-6"			CAP BEAM LONGITUDINAL
S806	X	30	10'-3"	▲		CAP BEAM VERTICAL
S407	X	10	11'-6"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S808	X	30	26'-11"	▲		VERT. REINF., MIDDLE OF TOWER
S409	X	4	18'-11"			VERT. REINF., MIDDLE OF TOWER
S410	X	48	10'-7"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	40	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	15	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	72	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

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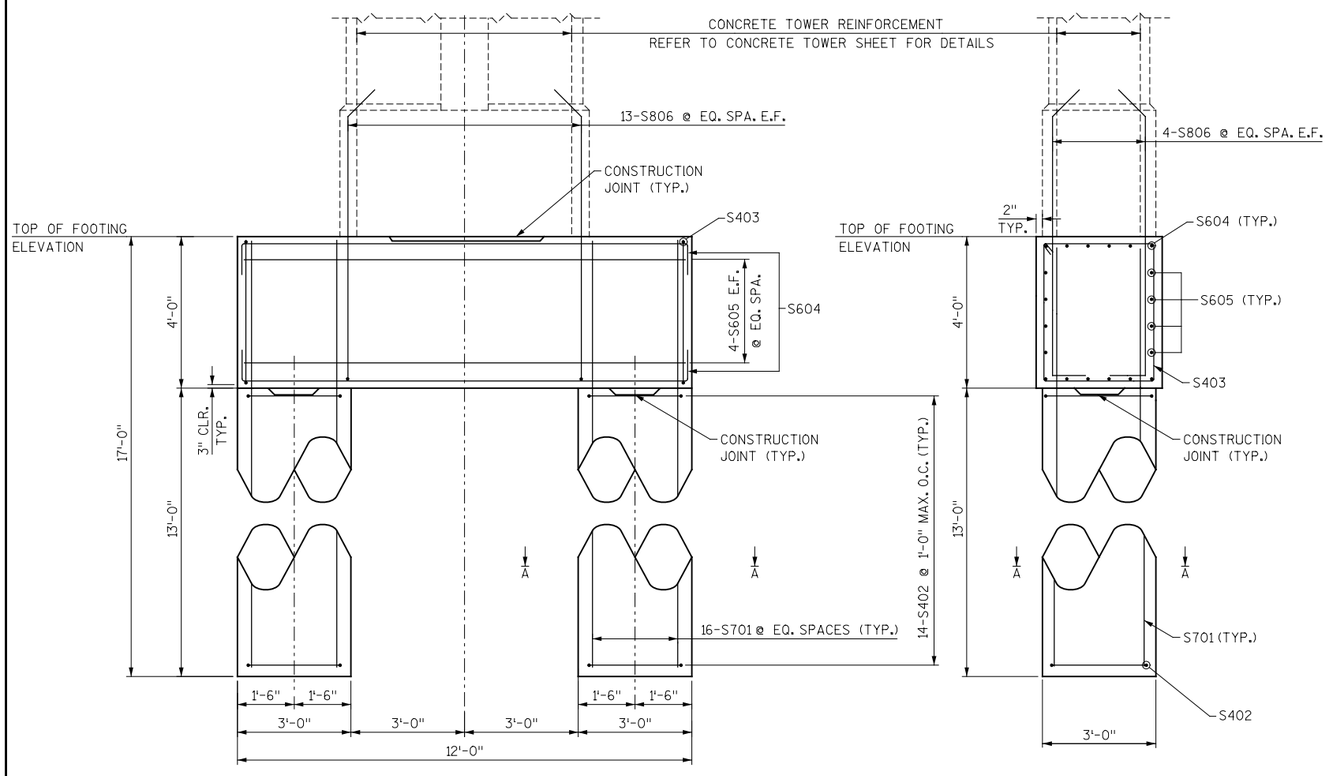
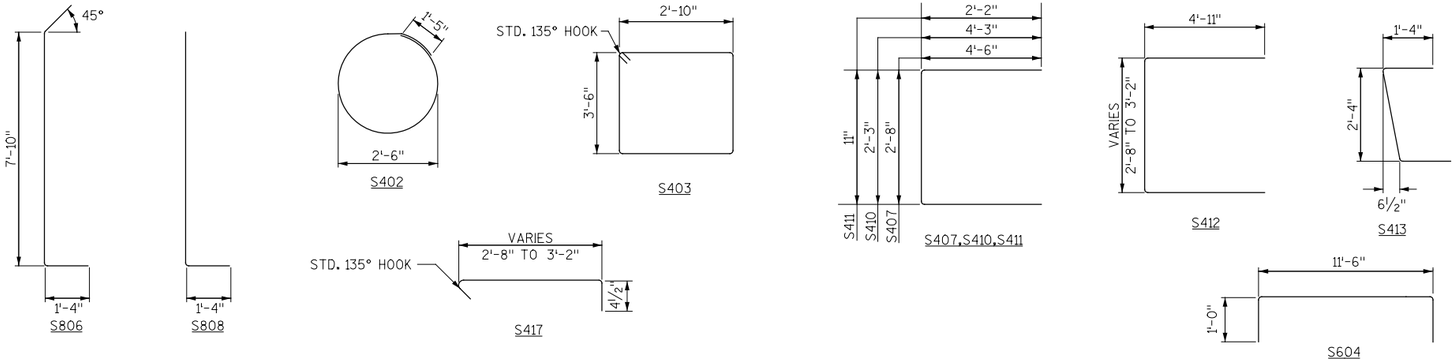
APPROXIMATE BOTTOM ELEVATION	ALLOWABLE SKIN FRICTION	ALLOWABLE END BEARING	UNDRAINED		DRAINED	
			COHESION	FRICTION ANGLE	COHESION	FRICTION ANGLE
(FT)	(PSF)	(PSF)	(PSF)	(DEGREE)	(PSF)	(DEGREE)
604.0	-	-	-	28	-	28
601.5	175	1,800	500	-	-	-
594.0	800	14,400	4000	-	-	-
589.0	450	8,000	2,250	-	-	-
577.0	413	5,400	1,500	-	-	-
-	330	4,300	1,200	-	-	-

THE GROUNDWATER ELEVATION WAS ESTIMATED AT 588.5 FEET DURING SUBSURFACE EXPLORATION.



ELEVATION VIEW



END VIEW

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-167

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 FOUNDATION DETAILS

SHEET 4 OF 9

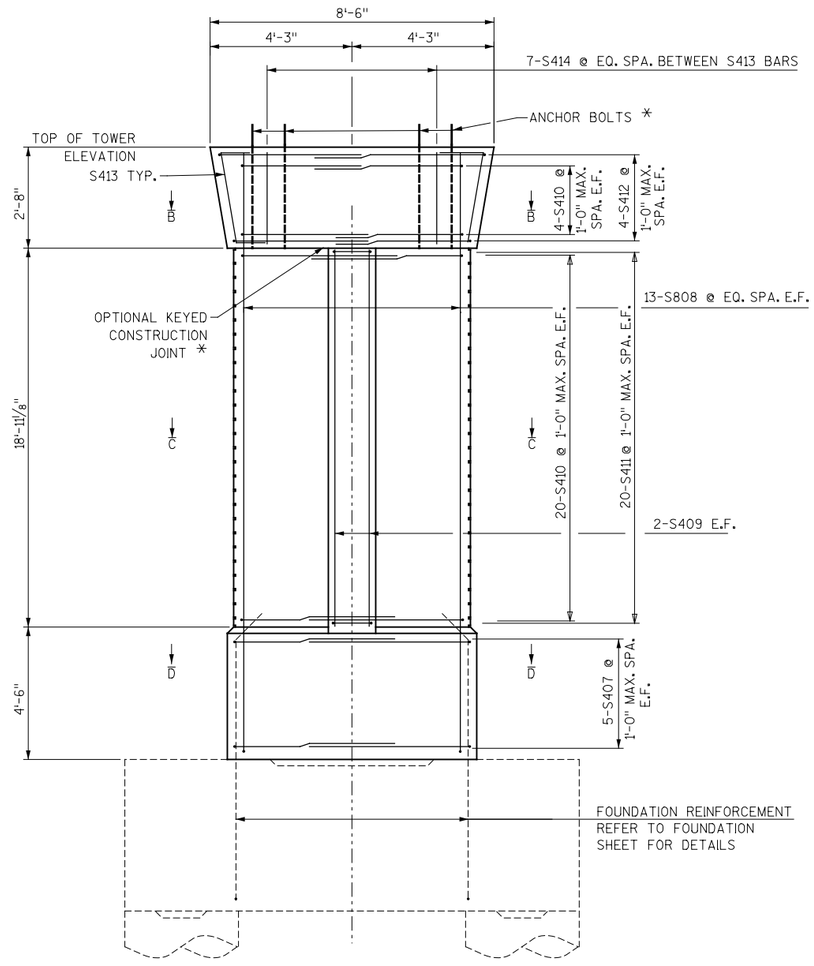
2620

8

8

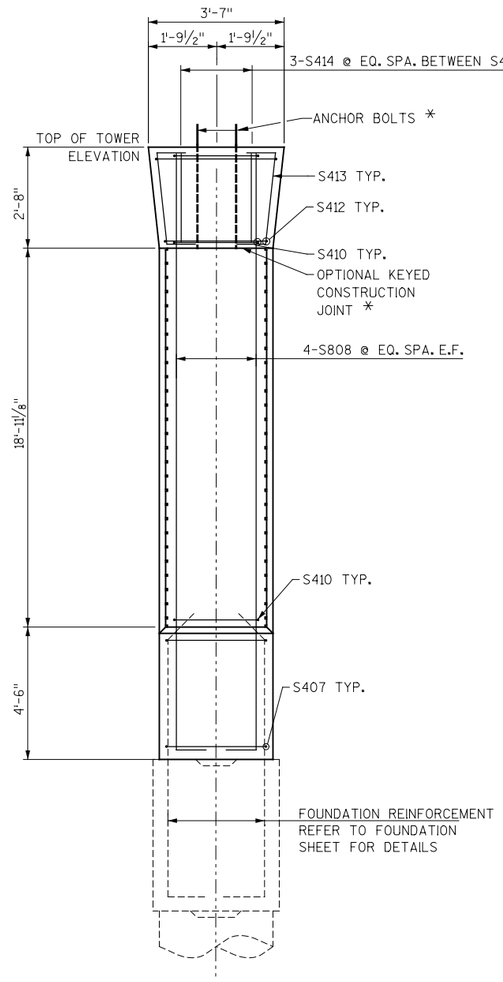
FILE NAME :S-05-167.dgn
PLOT DATE :12/15/2013 8:17:02 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by level.pit PEN :CEL.TEXTSUB.SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-09-71



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

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TOWER NOTES

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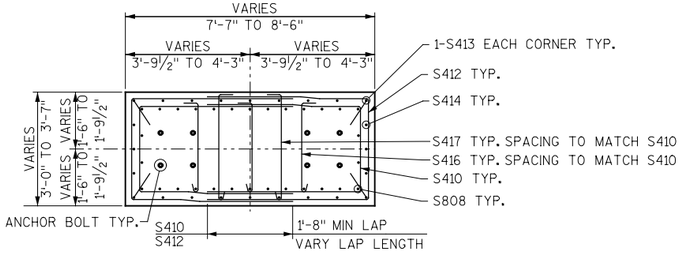
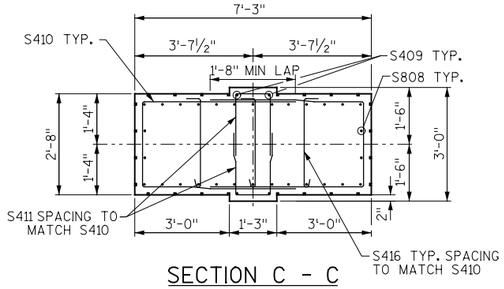
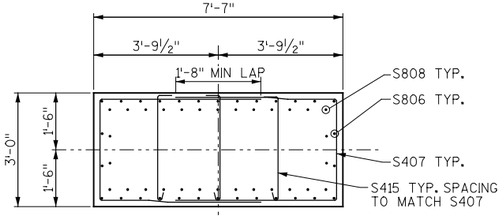


SECTION B - B



SECTION C - C



SECTION D - D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-167

DRAWN BY	PLANS CK'D.
VC	CES

CONCRETE TOWER 2 DETAILS

SHEET 5 OF 9

2621

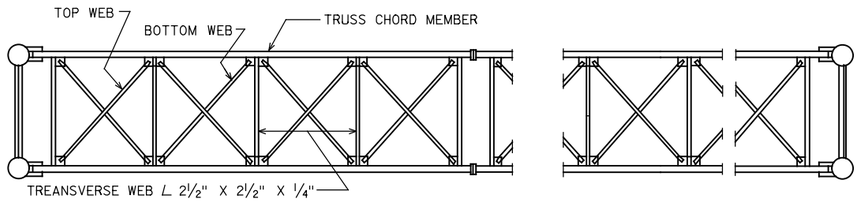
8

8

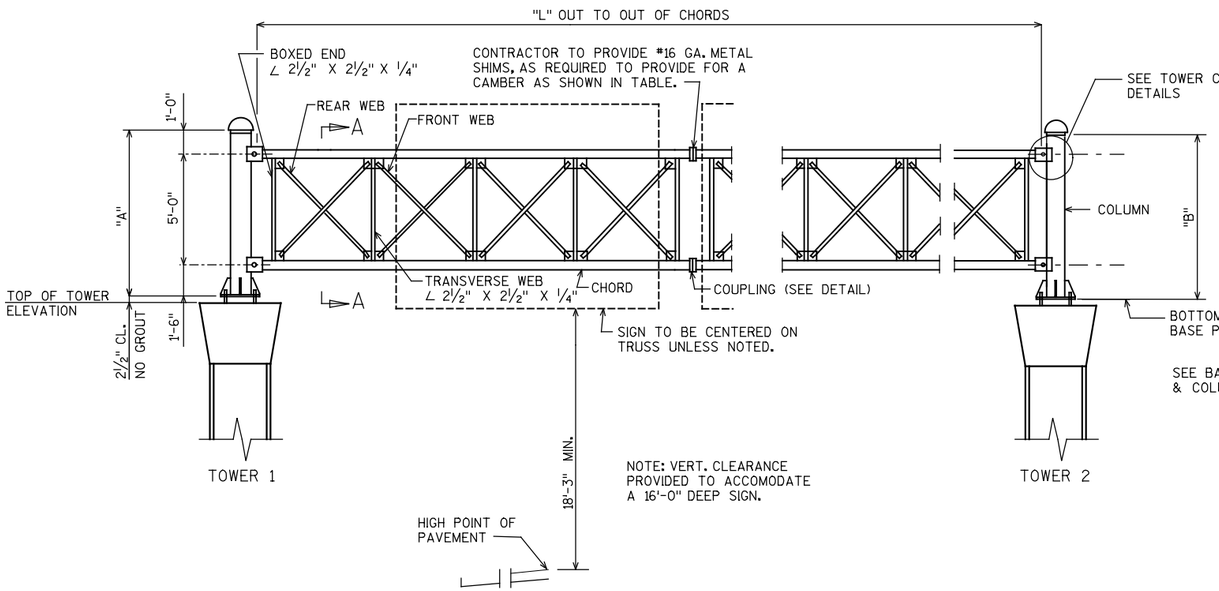
FILE NAME :S-05-167.dgn
PLOT DATE :2/15/2013 8:17:03 AM PLOT BY : MatthewHa@and.st DRV :Pdf_bw_HS.by level.plt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

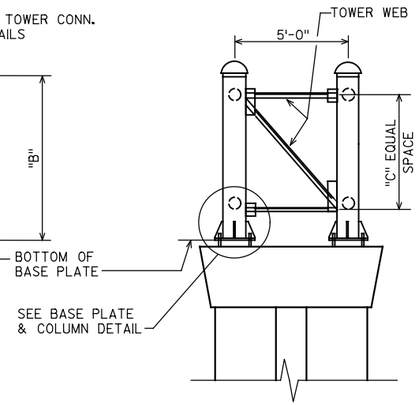
1133-09-71



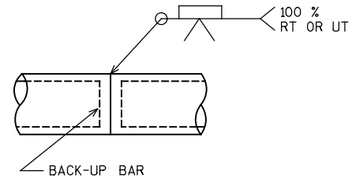
PLAN



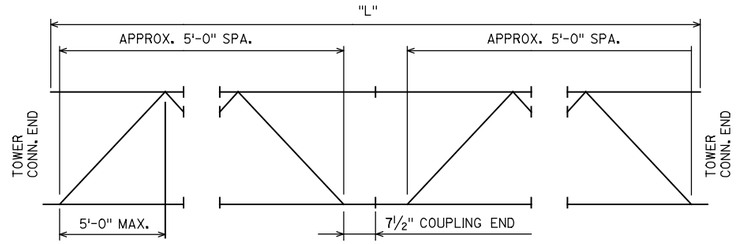
ELEVATION



TOWER 2 END VIEW
(TOWER 1 OPPOSITE HAND)

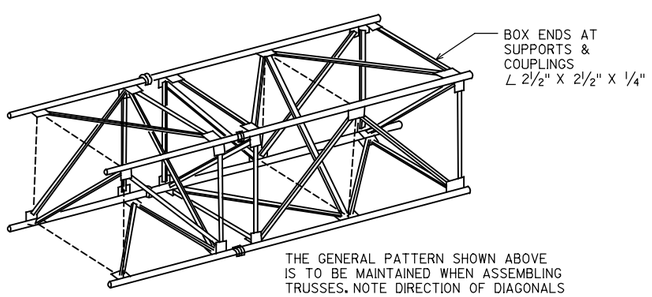


OPTIONAL COLUMN OR CHORD SPLICE DETAIL

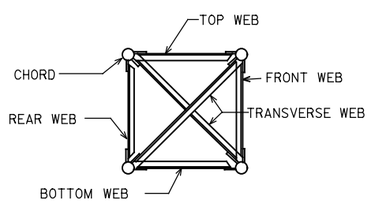


TRUSS ARRANGEMENT

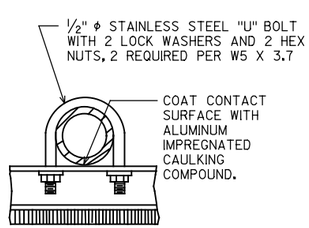
FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 20'-0" & A MULTPLE OF 5'-0". CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS. CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.



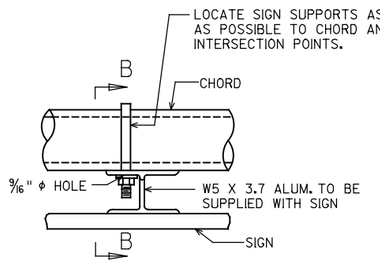
TYPICAL TRUSS SECTION



SECTION A



SECTION B



TYPICAL SIGN CONNECTION

GENERAL NOTES

DRAWING SHALL NOT BE SCALED

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

STRUCTURE MEMBER TABLE

A	B	C	CHORDS O.D. X THK.	TOP & BOTTOM WEB	FRONT & REAR WEB	COUPLING PLATE D1 & "T"	BOLT CIRCLE DIA. "D2"	NO. OF BOLTS IN COUPLING	CAMBER	COLUMN O.D. X THK.	TOWER WEBS	"L"
7'-6"	7'-6"	1	4"x0.226"	3"x3"x1/4"	3"x3"x1/4"	10.5" x 1"	7.5"	6	1"	10.75"x0.365"	3"x3"x3/16"	69'-10¼"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-167

DRAWN BY VC | PLANS CK'D. CES

GALVANIZED STEEL SIGN BRIDGE

SHEET 6 OF 9

2622

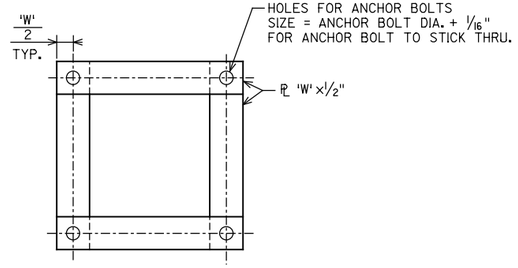
8

8

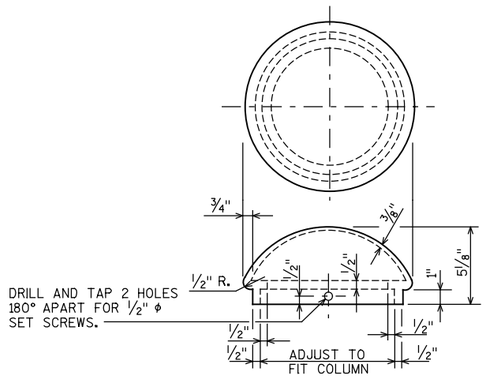
FILE NAME :S-05-167.dgn
PLOT DATE :2/15/2013 8:17:04 AM
75'
PLOT BY : MatthewHe@and.st
DRV :Pdf_bw_HS.by level.plt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

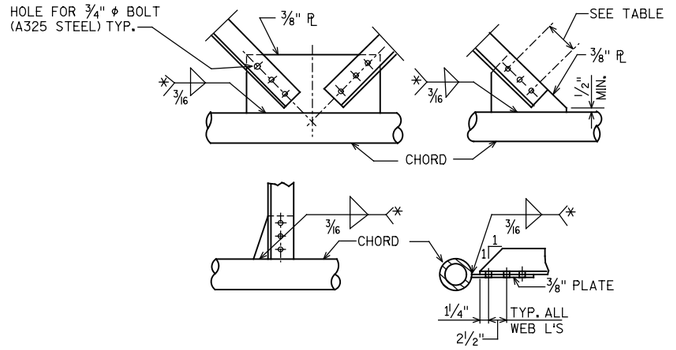
1133-09-71



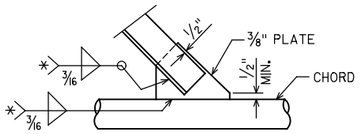
ANCHOR PLATE/TEMPLATE PLAN



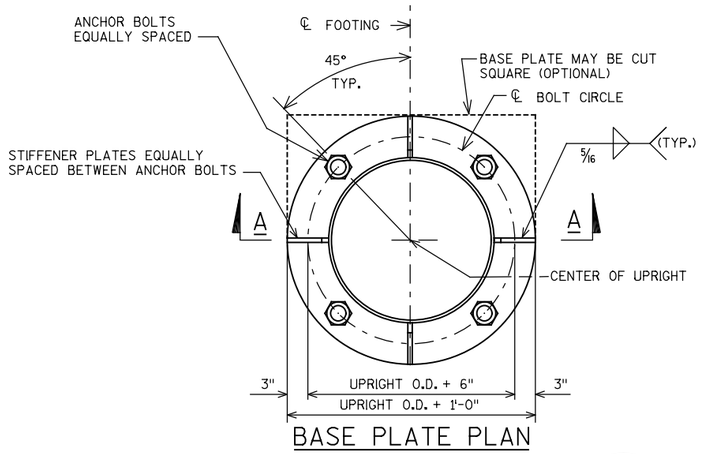
TOWER CAP DETAIL



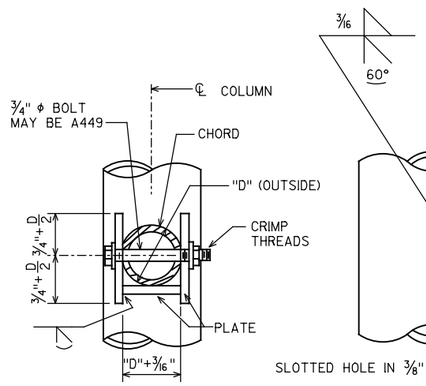
TYPICAL TRUSS CONNECTION DETAILS

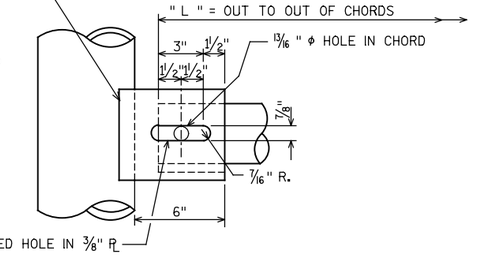


TYPICAL WELDED ALTERNATE



BASE PLATE PLAN

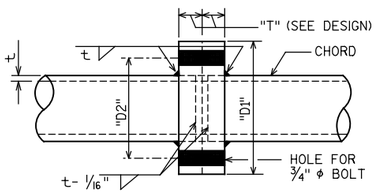




TOWER CONNECTION DETAIL

*ANGLE	WELD LENGTH	NO. OF BOLTS
● 2 1/2"x2 1/2"x1/4"	11"	3
3"x3"x3/16"	10"	3
3"x3"x1/4"	13"	4
3"x3"x5/16"	16 1/2"	5
3"x3"x3/8"	19 1/2"	6
4"x4"x1/4"	18"	5
4"x4"x5/16"	22"	6
4"x4"x3/8"	26"	8
4"x4"x7/16"	30"	9
4"x4"x1/2"	34"	10

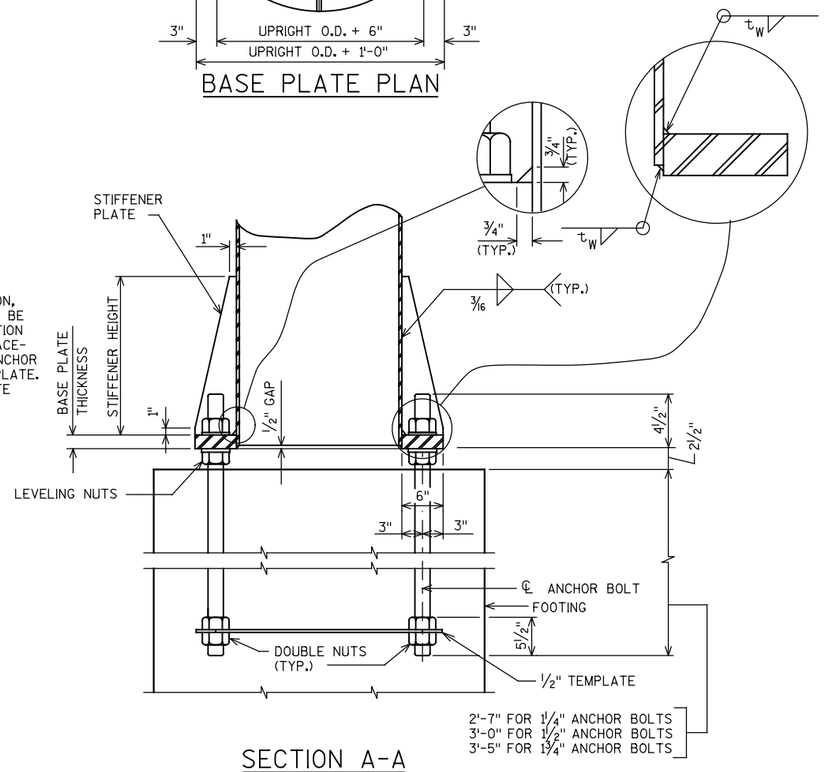
● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.



COUPLING DETAIL

(CONNECTION BOLTS OMITTED FOR CLARITY)

NOTE:
PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE. REMOVE TOP TEMPLATE (NOT SHOWN) AFTER CONCRETE SETS.



SECTION A-A

BASE PLATE & UPRIGHT COLUMN DETAILS

COLUMN O.D. X THK.	ANCHOR BOLTS	BASE PLATE THICKNESS (IN.)	STIFFENER PLATE THICKNESS (IN.)	STIFFENER PLATE HEIGHT (IN.)	t_W (IN.)
10.75"X0.365"	1 1/2"	1 1/2"	1/2"	10"	5/16"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-167

DRAWN BY VC | PLANS CK'D. CES

GALVANIZED STEEL SIGN BRIDGE DETAILS

SHEET 7 OF 9

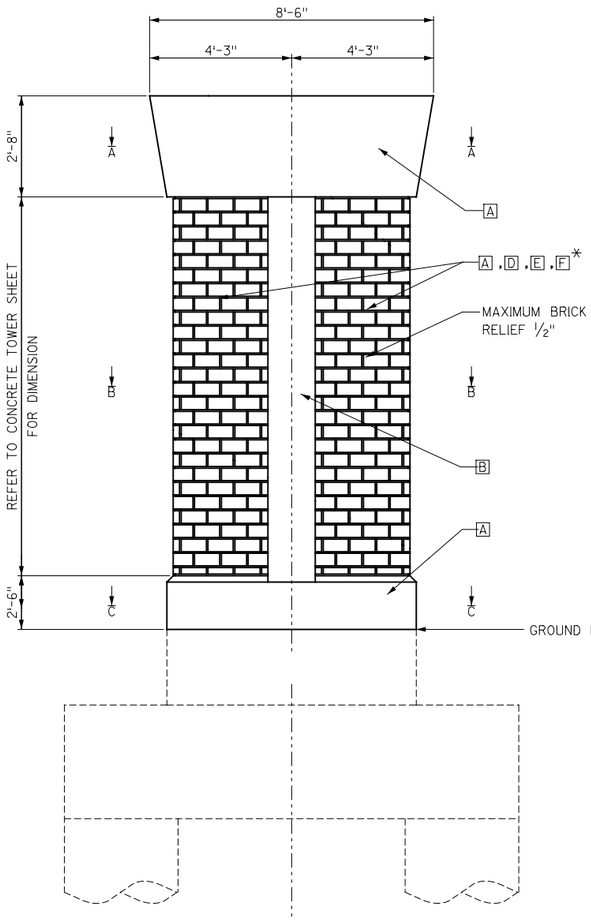
2623

8

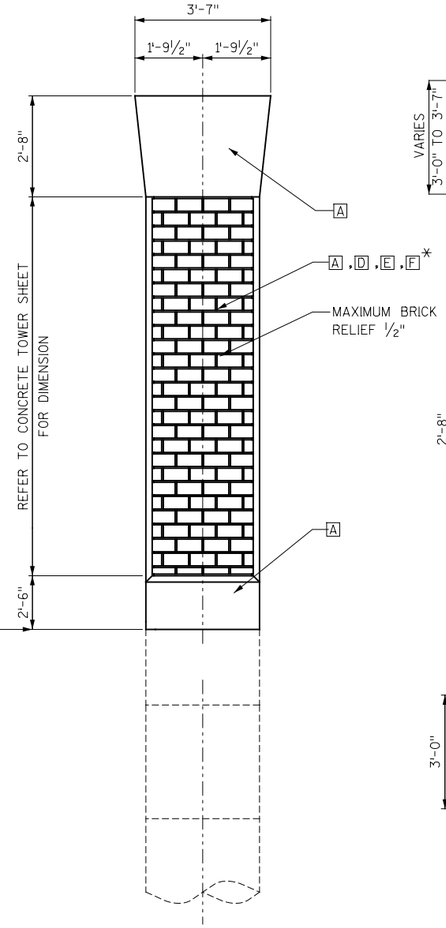
8

FILE NAME :S-05-167.dgn
PLOT DATE :2/15/2013 8:17:04 AM
PLOT BY : MatthewHeiland
DRV :Pdf_bw_HS.by level.plt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

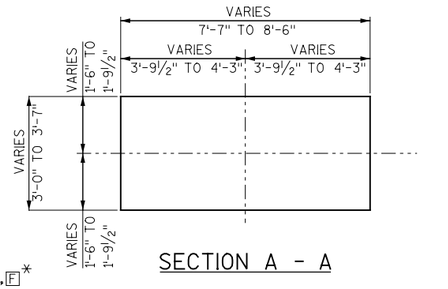
STATE PROJECT NUMBER
1133-09-71



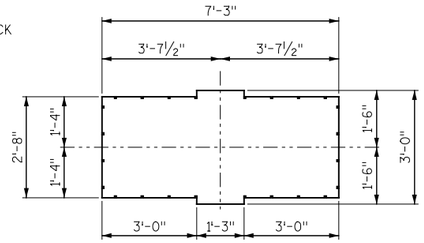
ELEVATION VIEW



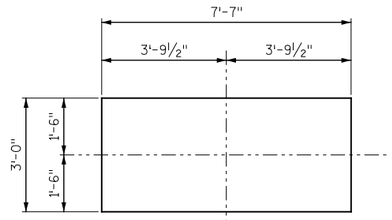
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-167

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 AESTHETIC DETAILS

SHEET 8 OF 9

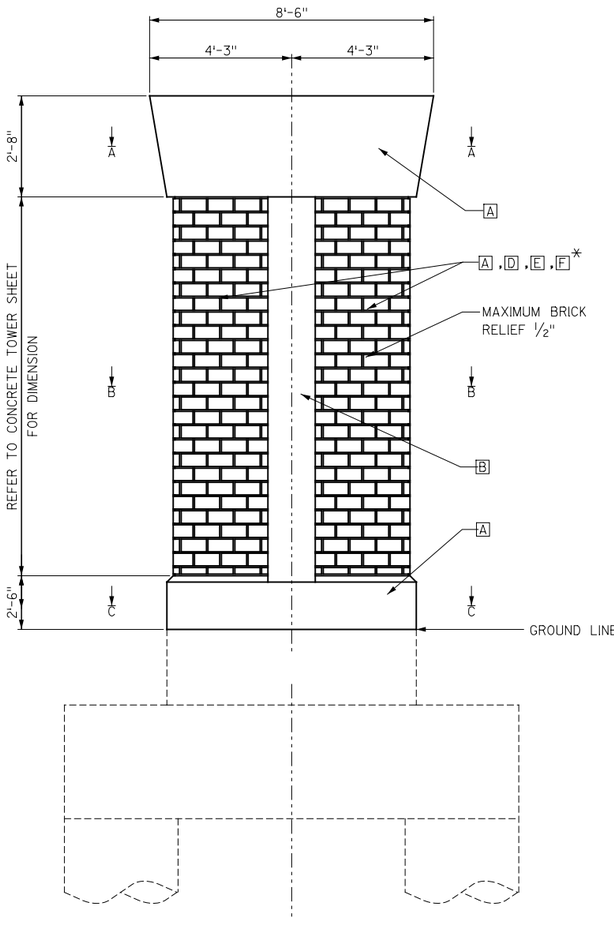
2624

8

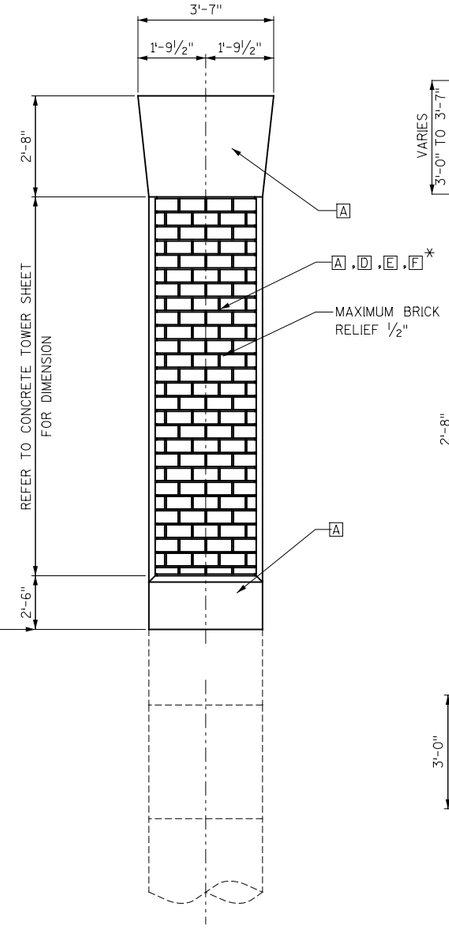
8

FILE NAME :S-05-167.dgn
PLOT DATE :2/15/2013 8:17:05 AM PLOT BY : MatthewHeiland:8 DRV :Pdf_bw_HS.by level.plt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

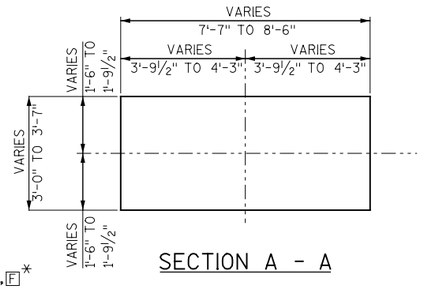
STATE PROJECT NUMBER
1133-09-71



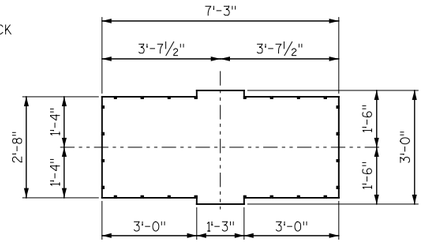
ELEVATION VIEW



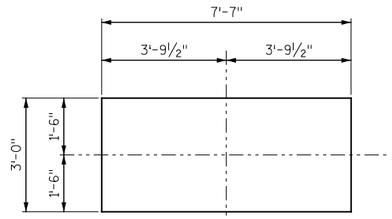
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

*STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-167

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 AESTHETIC DETAILS

SHEET 9 OF 9

2625

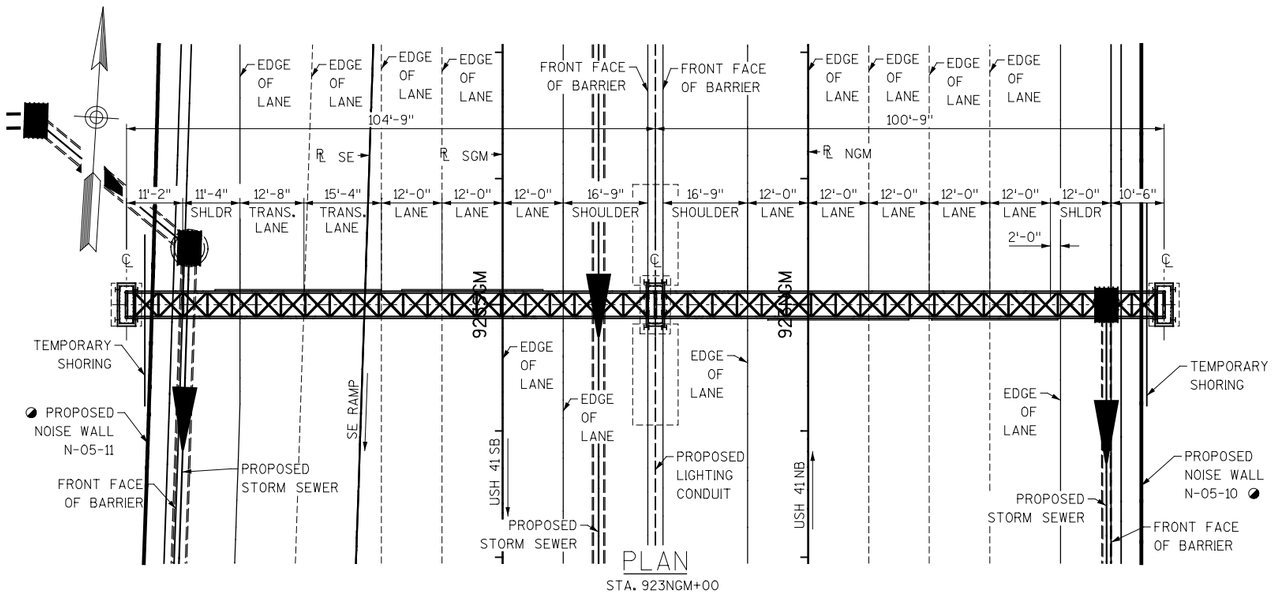
8

8

FILE NAME :S-05-167.dgn
PLOT DATE :2/15/2013 8:17:07 AM PLOT BY : MatthewHeiland
DRV :Pdf_bw_HS.by level.plt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

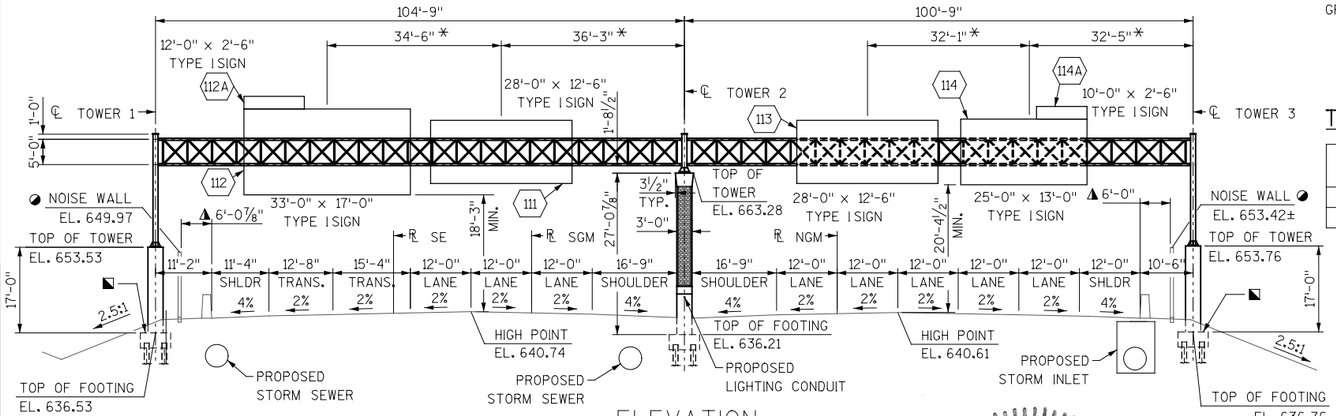
STATE PROJECT NUMBER

1133-09-71



PLAN

STA. 923NGM+00



ELEVATION

(LOOKING NORTH AT FRONT FACE OF SIGN)

◭ MINIMUM LATERAL CLEARANCE

◹ CONTRACTOR TO VERIFY IF TEMPORARY SHORING IS NEEDED BEFORE FOOTING IS CONSTRUCTED.

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CONCRETE TOWER 1& 3 DETAILS
3. CONCRETE TOWER 2 FOUNDATION DETAILS
4. CONCRETE TOWER 2 DETAILS
5. GALVANIZED STEEL SIGN BRIDGE
6. SIGN BRIDGE DETAILS
7. CONCRETE TOWER 1& 3 AESTHETIC DETAILS
8. CONCRETE TOWER 2 AESTHETIC DETAILS
9. SUBSURFACE EXPLORATION

ULTIMATE DESIGN STRESSES:

TOWER

CONCRETE: .....f'c = 3,500 psi

HIGH STRENGTH BAR STEEL REINFORCEMENT: .....fy = 60,000 psi

SIGN BRIDGE

STEEL COLUMN PIPE: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42

STEEL PIPE MEMBERS OF TRUSS: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42

PLATES, BARS, STRUCTURAL ANGLES: .....fy = 36,000 psi
A.S.T.M. A709 GRADE 36

STEEL ANCHOR BOLTS: .....fy = 55,000 psi
A.A.S.H.T.O. M314-90 GRADE 55

ALL BOLTED CONNECTIONS: ¾" ϕ A325 BOLTS, GALVANIZED A.S.T.M. A153, CLASS C

DESIGN DATA

DEAD LOAD - WT. OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.

LIVE LOAD - NONE.

ICE LOAD - 3 P.S.F. TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.

WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND†)	133

† MIN. VALUE OF 25 PSF FOR GR. 3

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH	SPAN
978	17'-0"	SOUTHBOUND
1152	16'-0"	NORTHBOUND

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
206.6000.S	TEMPORARY SHORING	SF	640
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	1360
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	70
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	1610
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	7840
641.6600.959	SIGN BRIDGE S-05-168	LS	1
652.1350	CONDUIT RIGID METALLIC 3-INCH	LF	8
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	230
SPV.0165.501	STAINING CONCRETE	SF	1140
SPV.0165.502	STAINING CONCRETE BRICK	SF	230

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ON THE PILES SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 - ¼" DIAMETER BY 1¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE S-05-168 "

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN CENTER TO CENTER OF CHORDS & SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-168" "

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS. WELD TEST AS PER AWS D1.1.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

⬡ ## - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

* SIGN PANEL DIMENSIONS ARE TO THE CENTER OF THE SIGN PANEL. CONTRACTOR TO FIELD VERIFY SIGN PANEL DISPLAYS CORRELATE WITH ROADWAY LANE LAYOUT.

◓ REFER TO NOISE WALL PLANS FOR LATERAL CLEARANCE.

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE S-05-168

DE PERE - SUAMICO

COUNTY	TOWN/CITY/VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	CES	DESIGN CK'D.	SJM	DRAWN BY	MJH	PLANS CK'D.	CES

PLAN & ELEVATION

SHEET 1 OF 9

2626

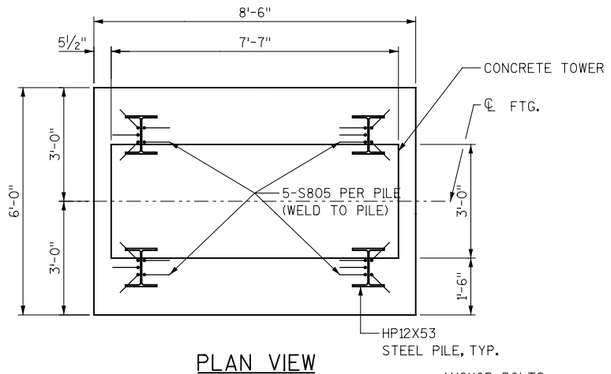
8

8

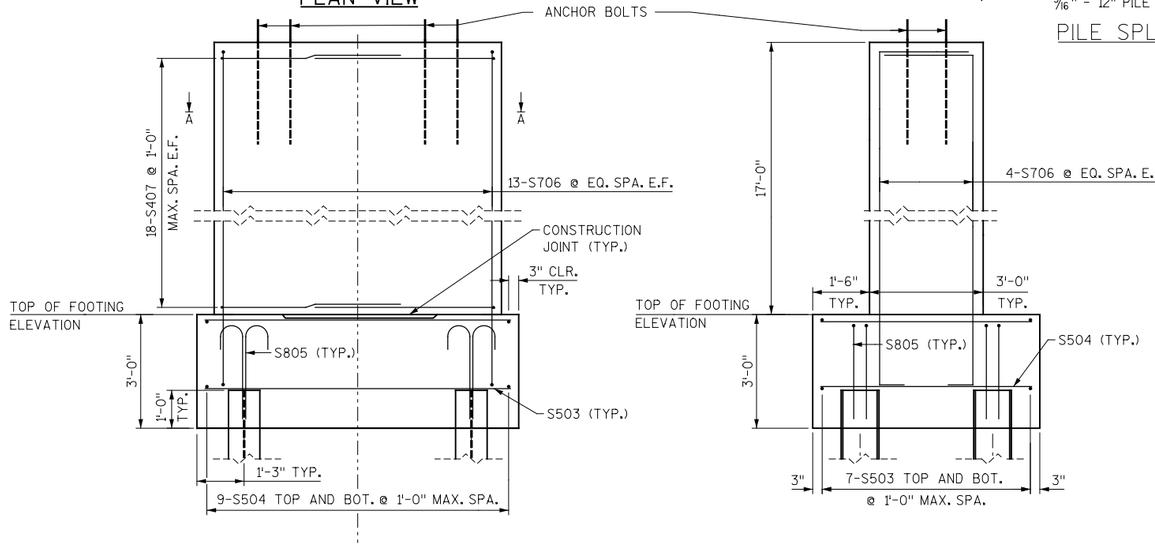
FILE NAME : S-05-168.dgn
PLOT DATE 12/20/2013 8:22:41 AM PLOT BY : Veronica Chavez-VE DRV : Pdf_bw_HS.by levelplt PEN : CEL TextSub_ScreenControlByLevel.tbl

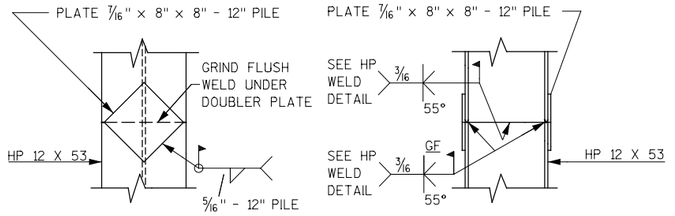
STATE PROJECT NUMBER

1133-09-71

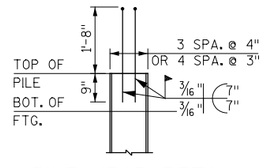


PLAN VIEW

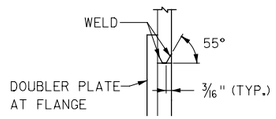




PILE SPLICE DETAIL



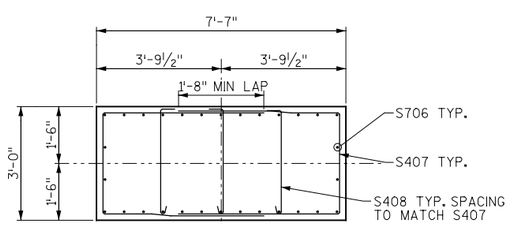
PILE HEAD DETAIL



HP WELD DETAIL

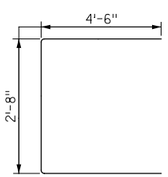
FLANGE SHOWN, WEB SIMILAR

ELEVATION VIEW

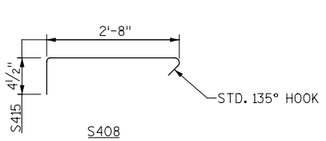


SECTION A - A

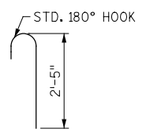
END VIEW



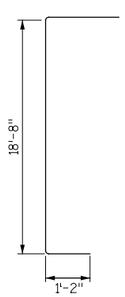
S407



S408



S805



S706

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S503		28	8'-0"			CAP LONGITUDINAL
S504		36	5'-6"			CAP TRANSVERSE
S805		40	3'-4"	▲		WELDED TO PILES
S706	X	60	22'-2"	▲		CAP BEAM VERTICAL
S407	X	72	11'-6"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S408	X	108	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

SIGN BRIDGE TOWERS 1 AND 3 TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. BEDROCK IS EXPECTED TO BE ENCOUNTERED AT EL. 549.53 FOR TOWER 1 AND EL. 549.76 FOR TOWER 3. ESTIMATED LENGTH 85 FEET LONG FOR BOTH TOWERS.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-168

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 & 3 DETAILS

SHEET 2 OF 9

2627

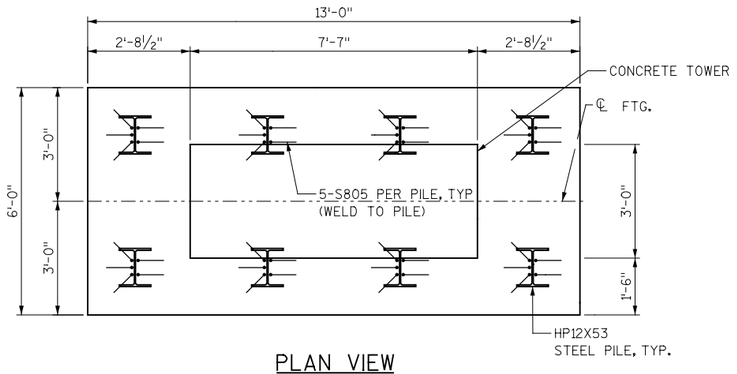
8

8

FILE NAME :S-05-168.dgn
PLOT DATE :12/15/2023 8:22:43 AM PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS_by level.plt PEN :CEL_TextSub_ScreenControlByLevel.tbl

STATE PROJECT NUMBER

1133-09-71

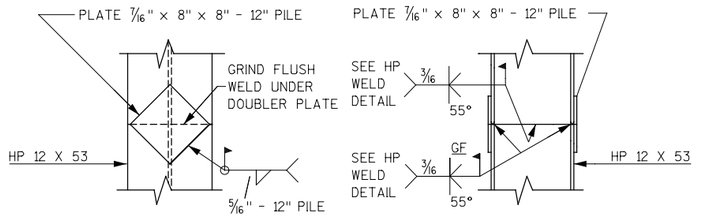


PLAN VIEW

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY

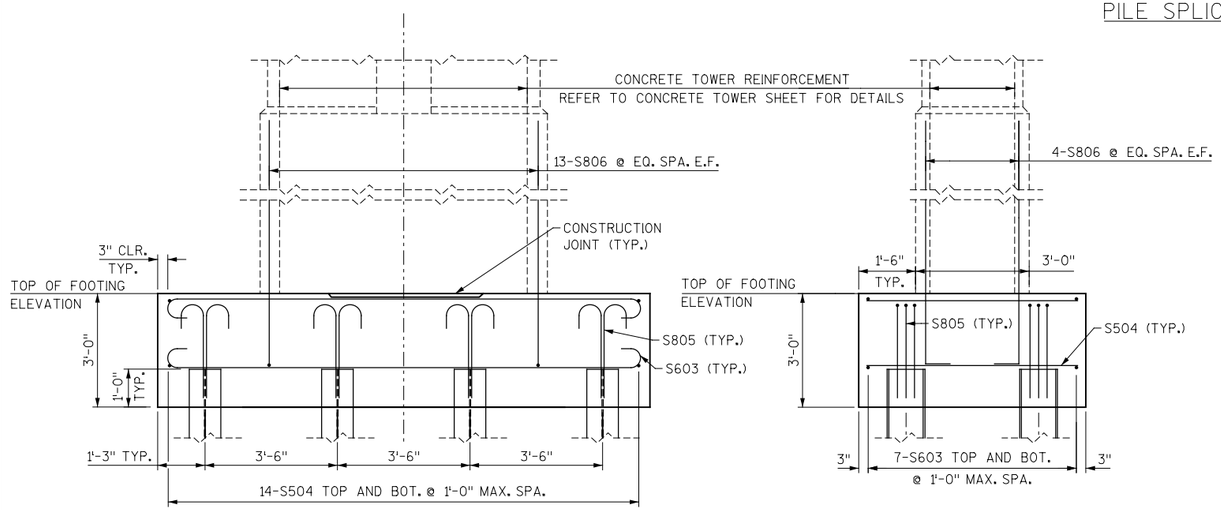


PILE SPLICE DETAIL

BILL OF BARS

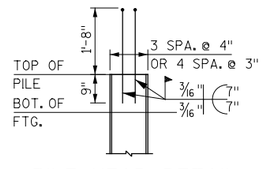
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S603		14	13'-10"	▲		CAP LONGITUDINAL
S504		28	5'-6"			CAP TRANSVERSE
S805		40	3'-4"	▲		WELDED TO PILES
S806	X	30	12'-2"	▲		CAP BEAM VERTICAL
S507	X	20	12'-5"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S808	X	30	26'-10"			VERT. REINF., MIDDLE OF TOWER
S409	X	4	14'-10"			VERT. REINF., MIDDLE OF TOWER
S510	X	40	11'-6"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	32	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	30	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	60	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

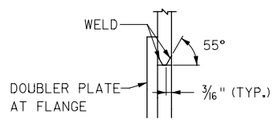


ELEVATION VIEW

END VIEW



PILE HEAD DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

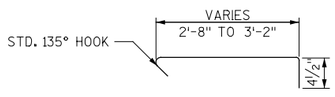
SIGN BRIDGE TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. BEDROCK IS EXPECTED TO BE ENCOUNTERED AT EL. 550.21. ESTIMATED LENGTH 84 FEET LONG.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

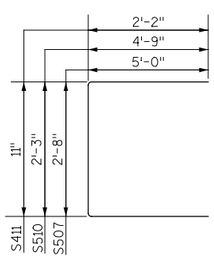
IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

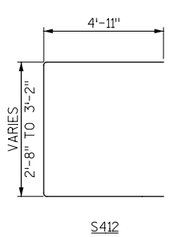
WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".



S417



S507,S510,S411



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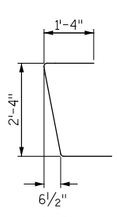

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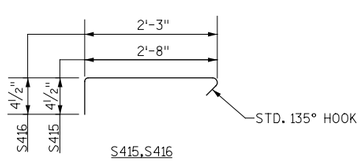
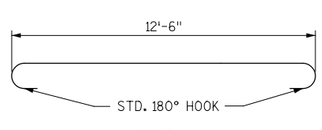
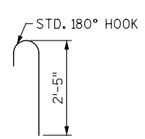


S415,S416



S603

S806



S805

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-168

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 FOUNDATION DETAILS

SHEET 3 OF 9

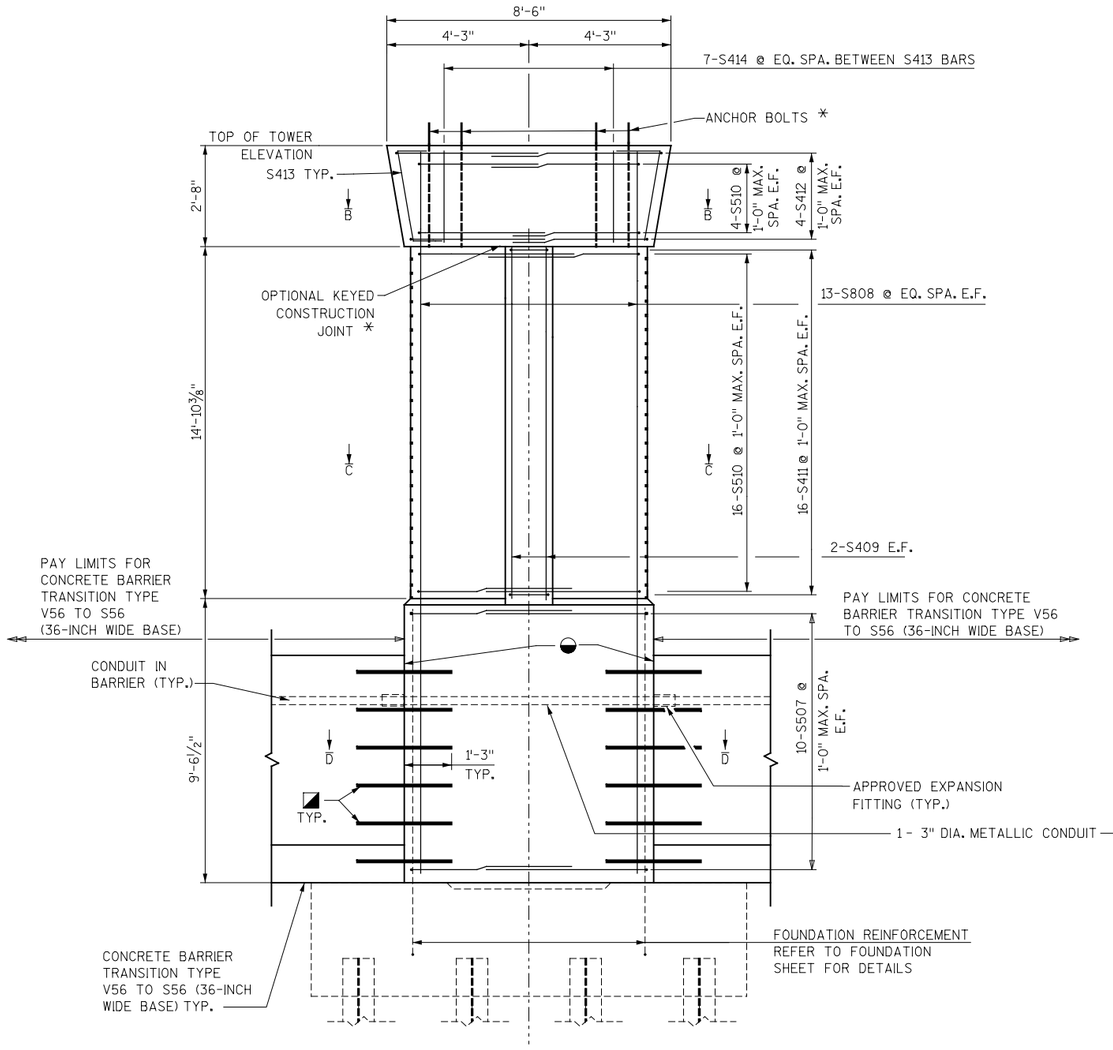
2628

8

8

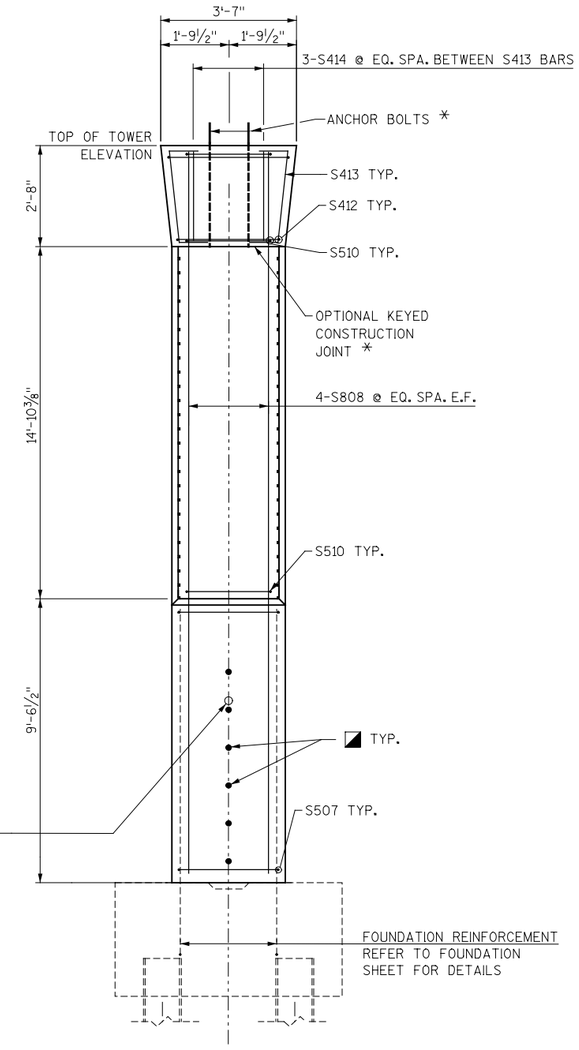
FILE NAME :S-05-168.dgn
PLOT DATE :12/15/2023 10:22:45 AM PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS.by levelplt PEN :CEL_TextSub_ScreenControlByLevel.tbl

STATE PROJECT NUMBER
1133-09-71



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

APPROVED EXPANSION FITTING SHALL BE CAST INTO THE BARRIER OR TOWER CONCRETE, WHICH EVER ELEMENT IS CAST FIRST.

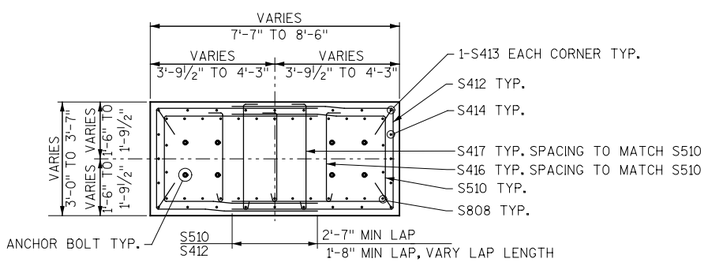
COORDINATE THE LOCATION OF THE ELECTRICAL CONDUIT IN THE TOWER TO MATCH THE LOCATION OF THE CONDUIT IN THE CONCRETE BARRIER.

SPACE S507 BARS TO MISS CONDUIT.

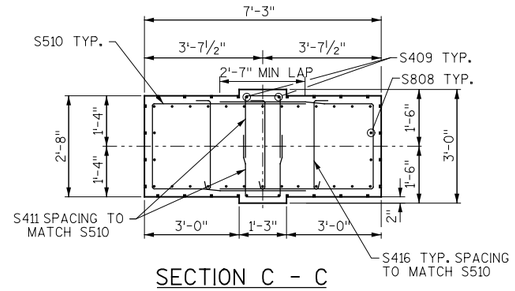
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.

◪ PLACE 1" ϕ PLAIN (SMOOTH) ROUND DOWEL BARS, 2'-6" LONG BETWEEN BARRIER AND CONCRETE TOWER. USE DEBONDER ON EXTENSION INTO BARRIER. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. SPACE DOWELS AT 1'-0". COST OF ITEMS ARE TO BE INCLUDED IN THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

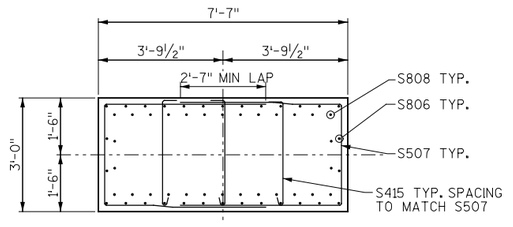
◒ PLACE 1/2" EXPANSION JOINT FILLLER BETWEEN TOWER AND BARRIER WALL, TYP. THE JOINT FILLER SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".



SECTION B - B



SECTION C - C



SECTION D - D

(DOWEL BARS OMITTED FOR CLARITY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-168

DRAWN BY VC | PLANS CK'D. CES

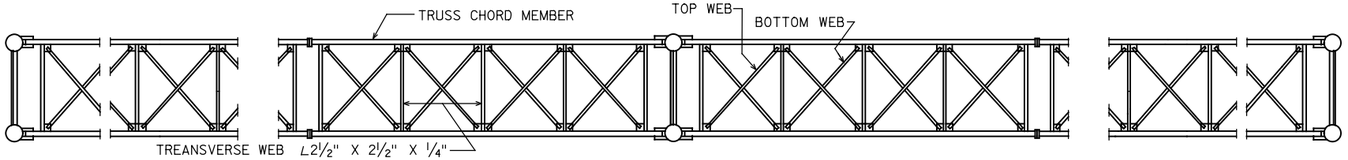
CONCRETE TOWER 2 DETAILS

SHEET 4 OF 9
2629

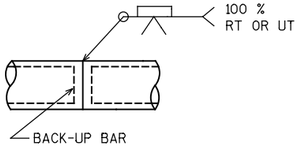
FILE NAME :S-05-168.dgn
PLOT DATE :2/15/2013 8:22:45 AM PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS.by level.pit PEN :CEL.TextSub_ScreenControlByLevel.tbl

STATE PROJECT NUMBER

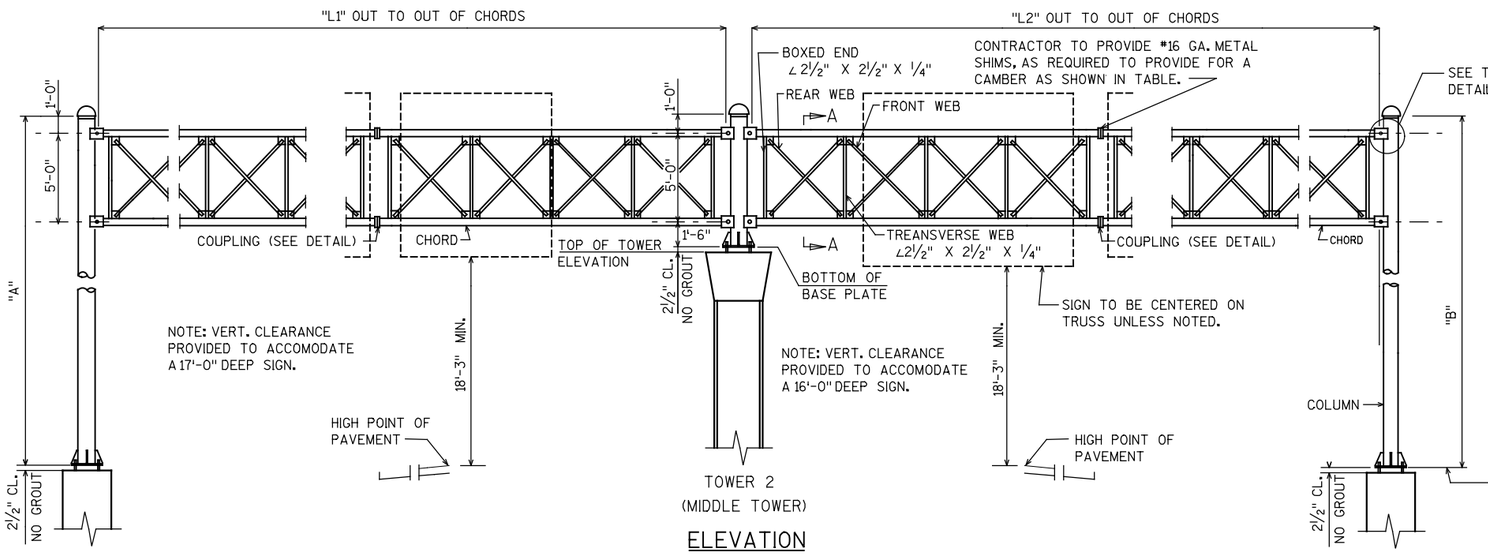
1133-09-71



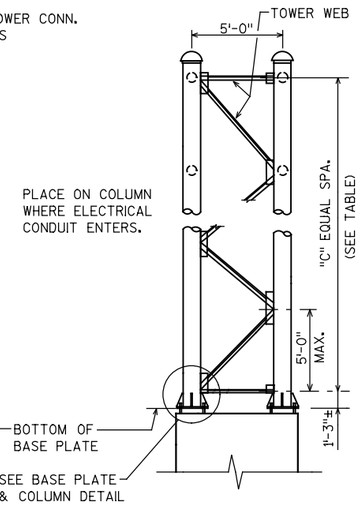
PLAN

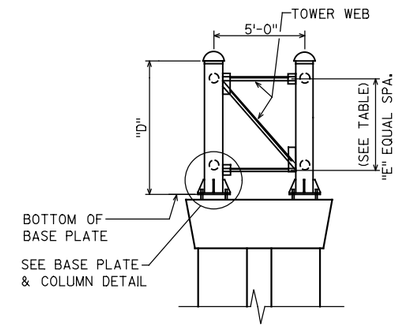


OPTIONAL COLUMN OR CHORD SPLICE DETAIL



ELEVATION



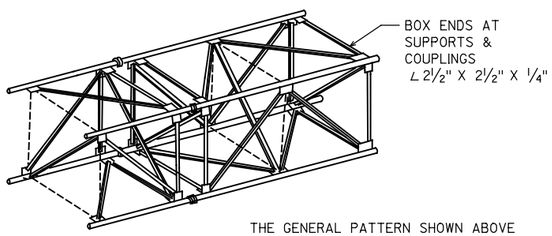


MIDDLE TOWER END VIEW

TOWER 2

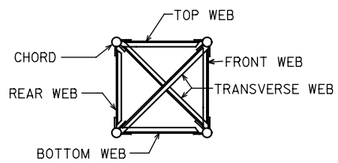
TOWER 3 END VIEW

(TOWER 1 OPPOSITE HAND)

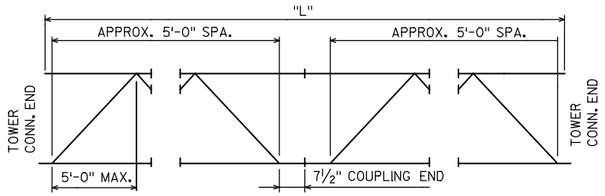


THE GENERAL PATTERN SHOWN ABOVE IS TO BE MAINTAINED WHEN ASSEMBLING TRUSSES. NOTE DIRECTION OF DIAGONALS AT JOINTS.

TYPICAL TRUSS SECTION

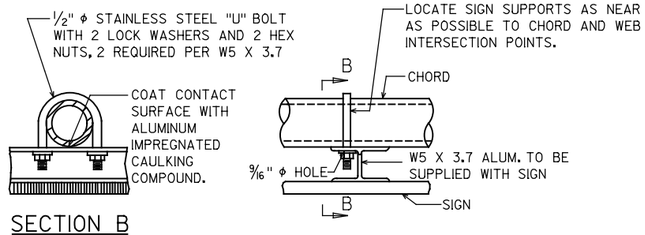


SECTION A



TRUSS ARRANGEMENT

FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 20'-0" & A MULTPLE OF 5'-0". CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS. CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.



SECTION B

TYPICAL SIGN CONNECTION

NOTE: FOR 17' SIGN DEPTH, W5 X 3.7 ALUM. BEAMS TO BE SPACED NO MORE THAN 5 FEET APART WITH A MAXIMUM END OVERHANG OF 2.5 FEET.

GENERAL NOTES

DRAWING SHALL NOT BE SCALED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

STRUCTURE MEMBER TABLE

A	B	C	D	E	CHORDS O.D. X THK.	TOP & BOTTOM WEB	FRONT & REAR WEB	COUPLING PLATE D1 & "T"	BOLT CIRCLE DIA. "D2"	NO. OF BOLTS IN COUPLING	CAMBER	COLUMN OD. X THK.	TOWER WEBS	"L1"	"L2"
17'-3"	17'-0¼"	3	7'-6"	1	4.5" X 0.337"	3"X3"X5/16"	3"X3"X5/16"	10.5" x 1.375"	7.5"	6	2 ⅛"	12.75"x0.406"	3"x3"x5/16"	103'-5¼"	99'-5¼"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-168

DRAWN BY VC | PLANS CK'D. CES

GALVANIZED STEEL SIGN BRIDGE

SHEET 5 OF 9

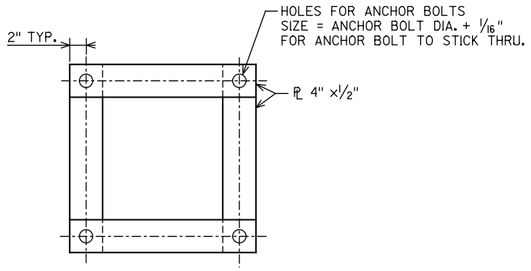
2630

8

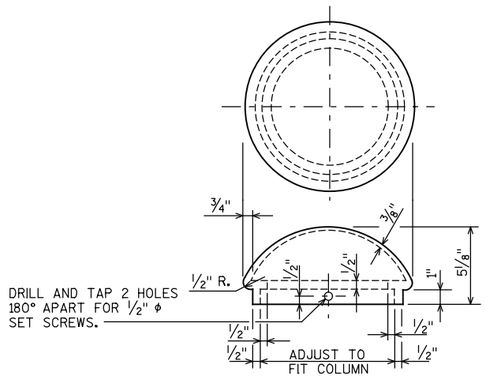
8

FILE NAME :S-05-168.dgn
PLOT DATE :12/15/2013 8:22:46 AM PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS.by level.pit PEN :CEL.TextSub_ScreenControlByLevel.tbl

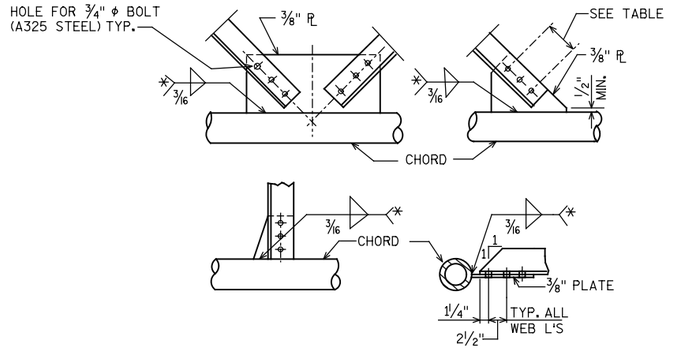
STATE PROJECT NUMBER
1133-09-71



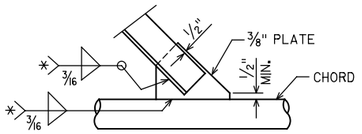
ANCHOR PLATE/TEMPLATE PLAN



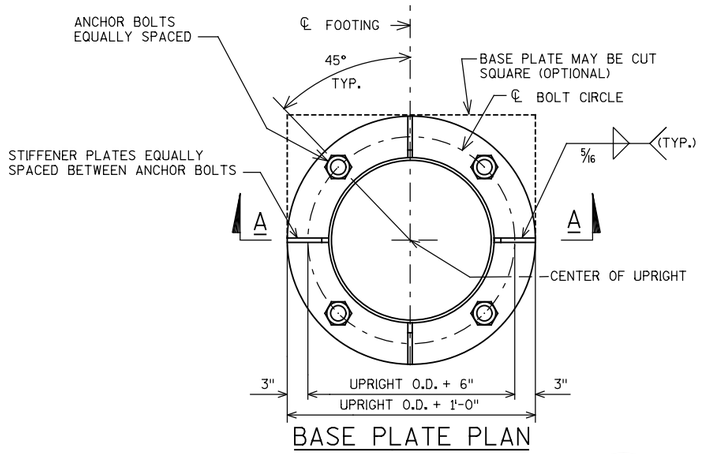
TOWER CAP DETAIL



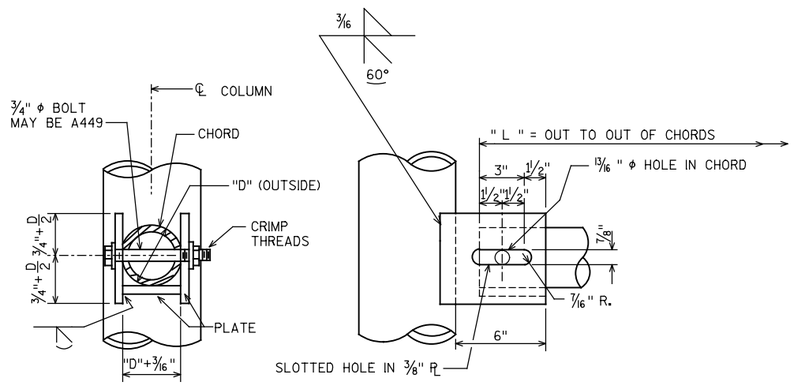
TYPICAL TRUSS CONNECTION DETAILS



TYPICAL WELDED ALTERNATE



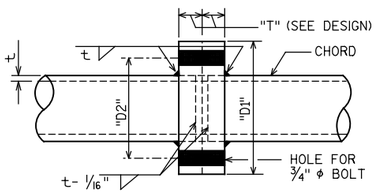
BASE PLATE PLAN



TOWER CONNECTION DETAIL

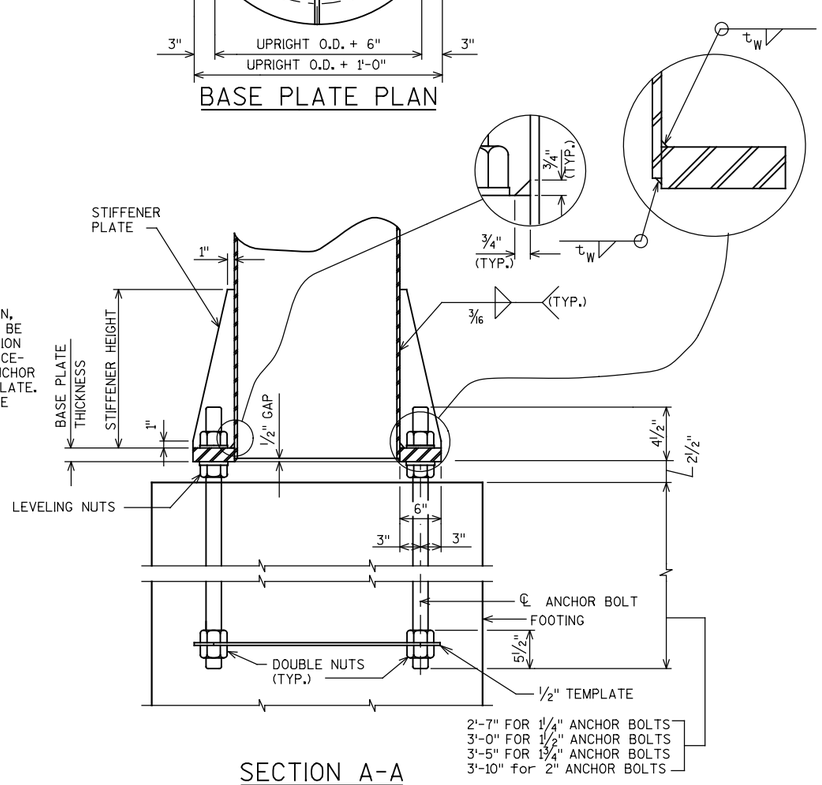
*ANGLE	WELD LENGTH	NO. OF BOLTS
● 2 1/2"×2 1/2"×1/4"	11"	3
3"×3"×3/16"	10"	3
3"×3"×1/4"	13"	4
3"×3"×5/16"	16 1/2"	5
3"×3"×3/8"	19 1/2"	6
4"×4"×1/4"	18"	5
4"×4"×5/16"	22"	6
4"×4"×3/8"	26"	8
4"×4"×7/16"	30"	9
4"×4"×1/2"	34"	10

● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.



COUPLING DETAIL
(CONNECTION BOLTS OMITTED FOR CLARITY)

NOTE:
PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE. REMOVE TOP TEMPLATE (NOT SHOWN) AFTER CONCRETE SETS.



SECTION A-A

BASE PLATE & UPRIGHT COLUMN DETAILS

COLUMN O.D. X THK.	ANCHOR BOLTS	BASE PLATE THICKNESS (IN.)	STIFFENER PLATE THICKNESS (IN.)	STIFFENER PLATE HEIGHT (IN.)	t_W (IN.)
12.75"X0.406"	2"	2"	1"	13"	3/8"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-168

DRAWN BY: VC | PLANS CK'D.: CES

GALVANIZED STEEL SIGN BRIDGE DETAILS

SHEET 6 OF 9

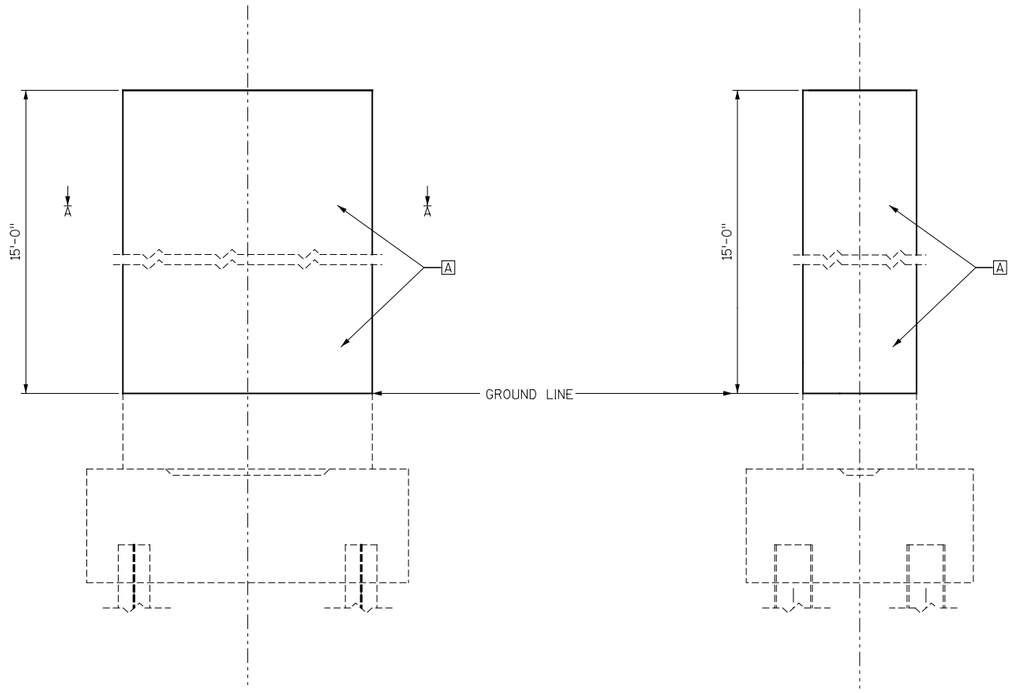
2631

8

8

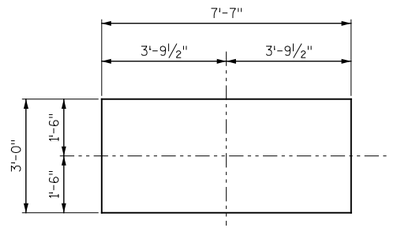
FILE NAME :S-05-168.dgn
PLOT DATE :2/15/2013 8:22:47 AM
PLOT BY : Veronica Chavez-Ri
DRV :Pdf_bw_HS.by levelplt PEN :CEL_TextSub_ScreenControlByLevel.tbl

STATE PROJECT NUMBER
1133-09-71



ELEVATION VIEW

END VIEW



SECTION A - A

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-168

DRAWN BY	PLANS CK'D.
VC	CES

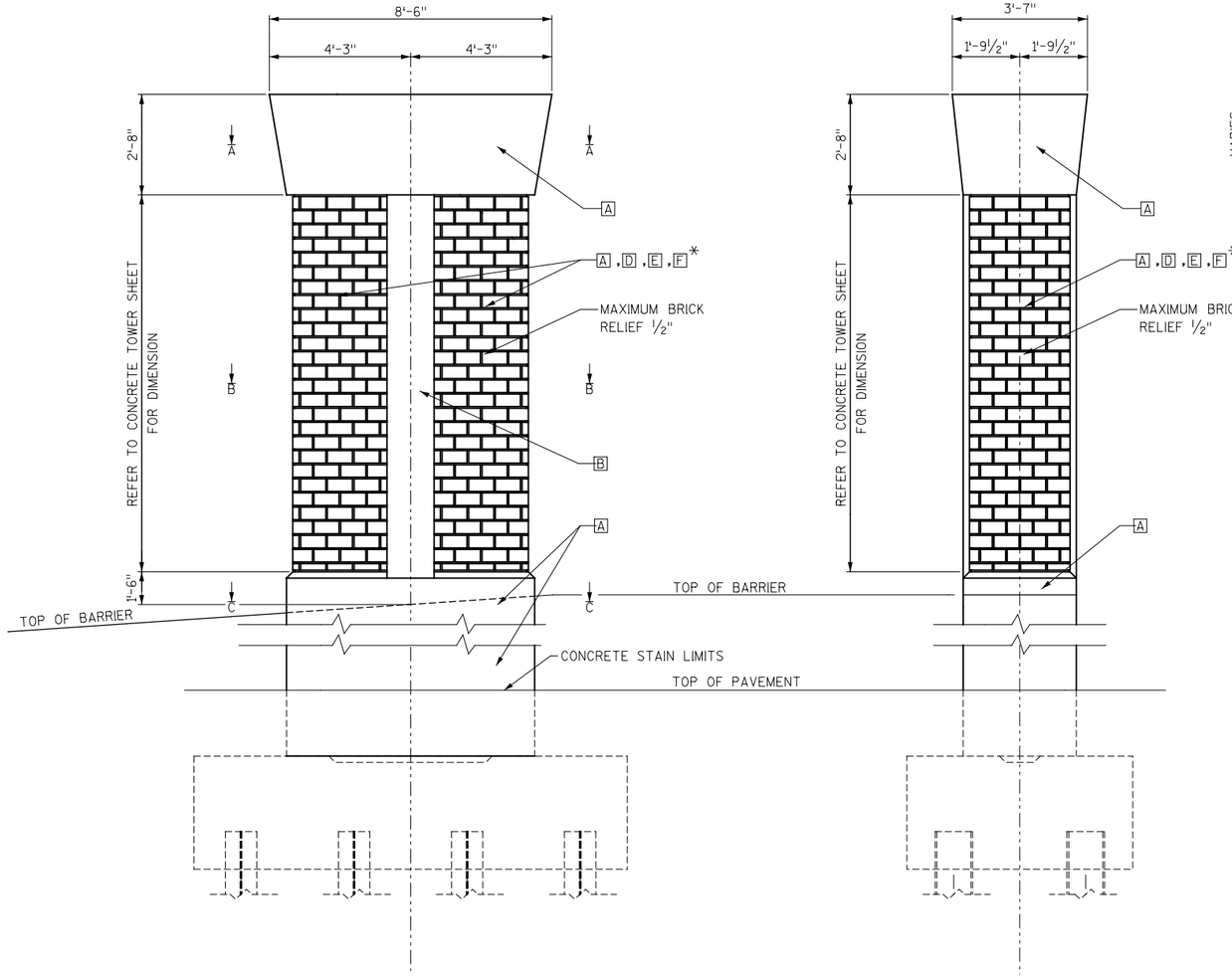
CONCRETE TOWER 1 & 3 AESTHETIC DETAILS

SHEET 7 OF 9

2632

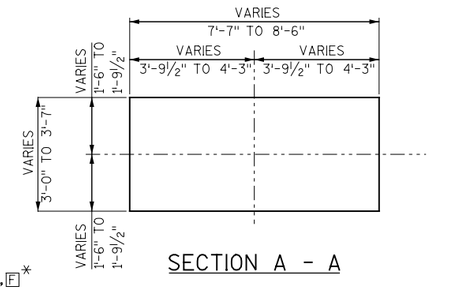
FILE NAME :S-05-168.dgn
PLOT DATE :2/15/2013 8:22:47 AM PLOT BY : Veronica Chavez-Bi DRV :Pdf_bw_HS.by level.plt PEN :CEL_TextSub_ScreenControlByLevel.tbl

STATE PROJECT NUMBER
1133-09-71

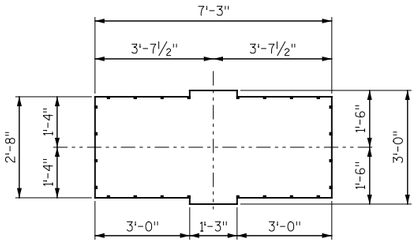


ELEVATION VIEW

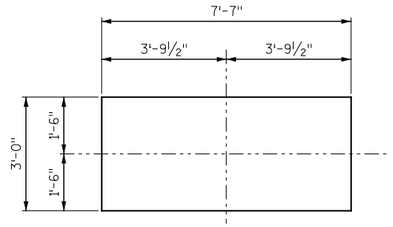
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-168

DRAWN BY VC | PLANS CK'D. CES

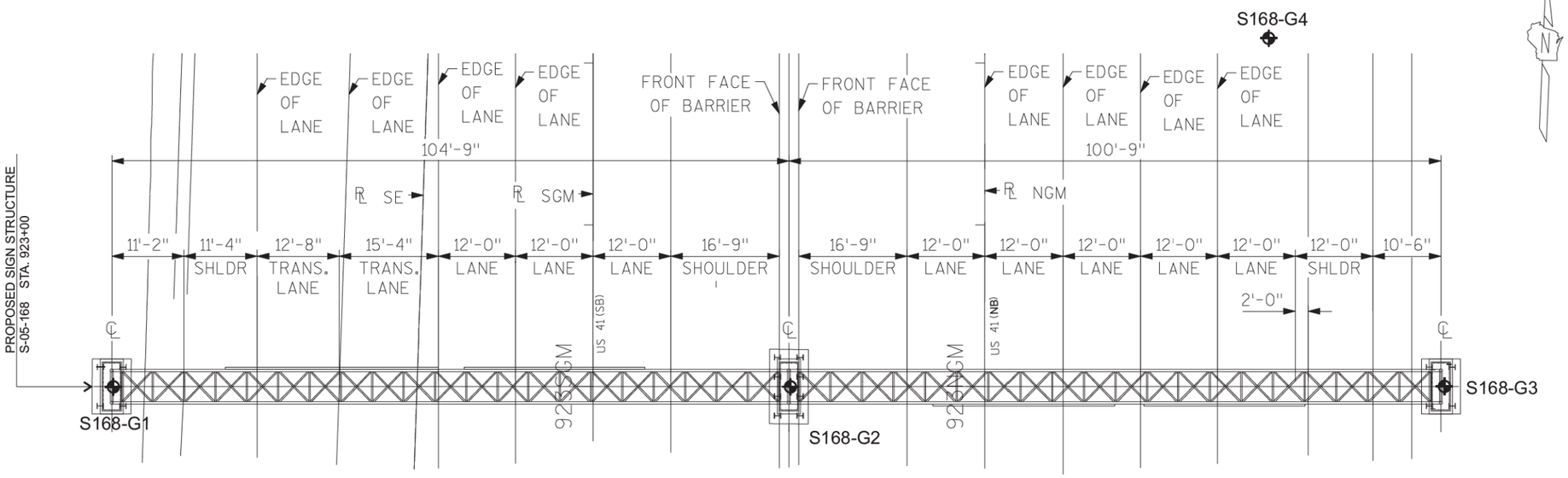
CONCRETE TOWER 2 AESTHETIC DETAILS

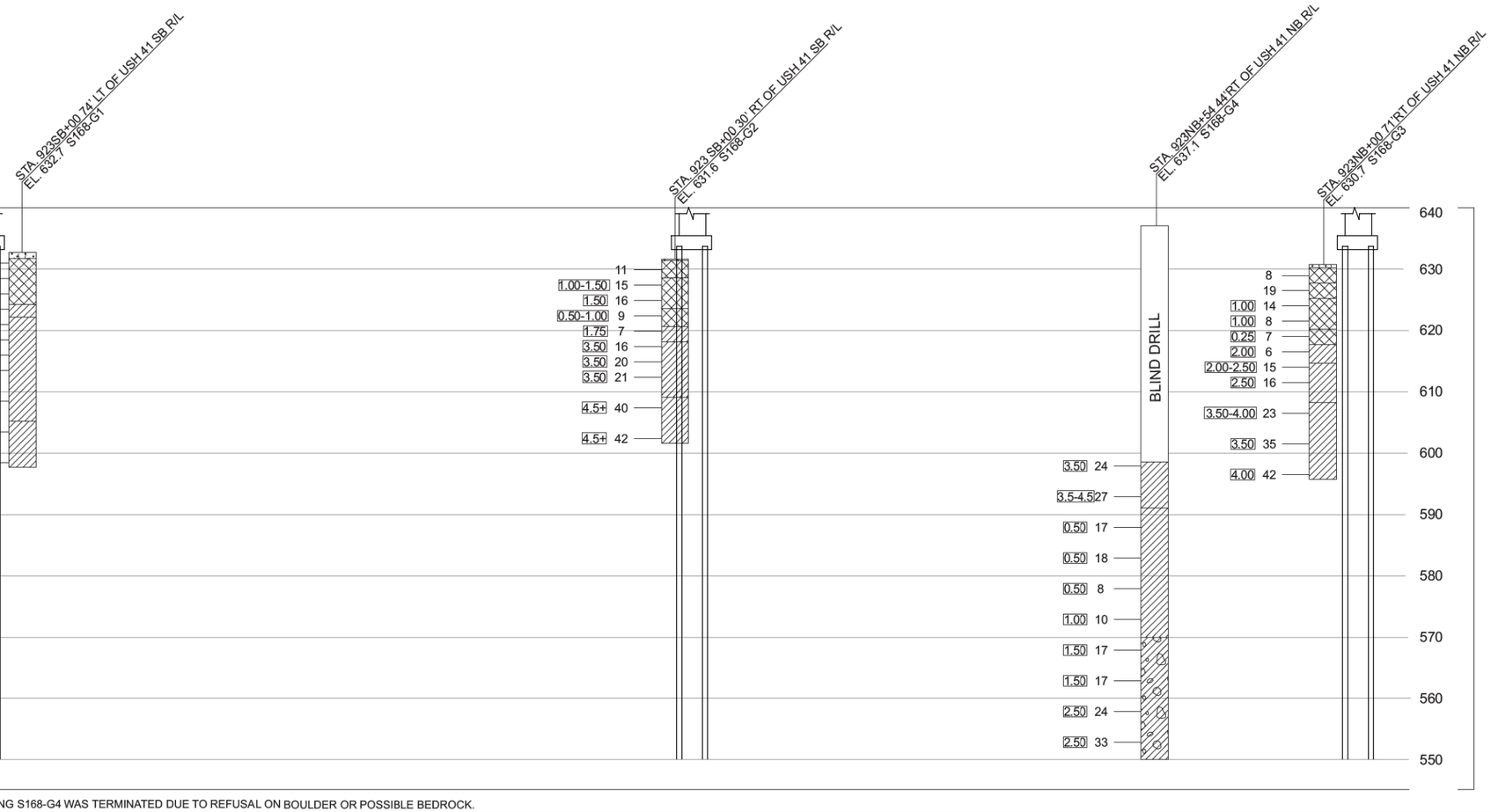
SHEET 8 OF 9

2633

FILE NAME :S-05-168.dgn
PLOT DATE :2/15/2013 8:22:47 AM PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS.by levelplt PEN :CEL_TextSub_ScreenControlByLevel.tbl

USH-41 (S-05-168)
05-BROWN, WI





NOTE: BORING S168-G4 WAS TERMINATED DUE TO REFUSAL ON BOULDER OR POSSIBLE BEDROCK.

STATE PROJECT NUMBER

1133-09-71

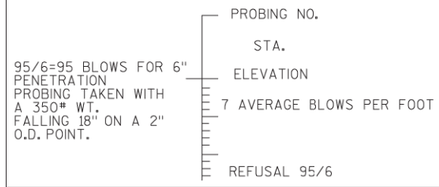
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

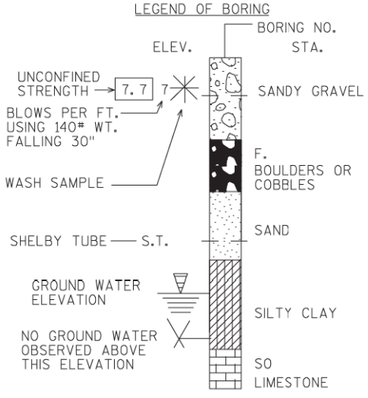
MATERIAL SYMBOLS

TOPSOIL SILT FAT CLAY
SAND PEAT DOLOMITE
GRAVEL CLAY FILL

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-168

DRAWN BY RH PLANS CK'D. DB

SUBSURFACE EXPLORATION

SHEET 9 OF 9

2634

SCALE 1"=20'

8

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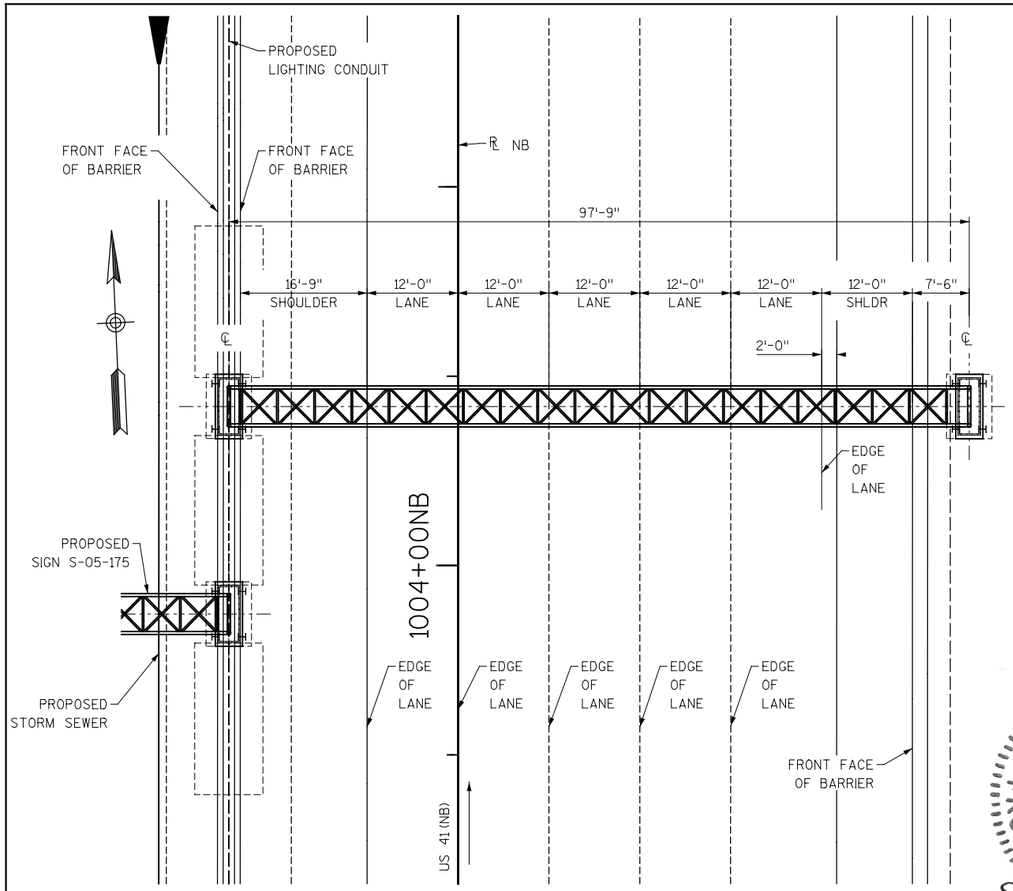
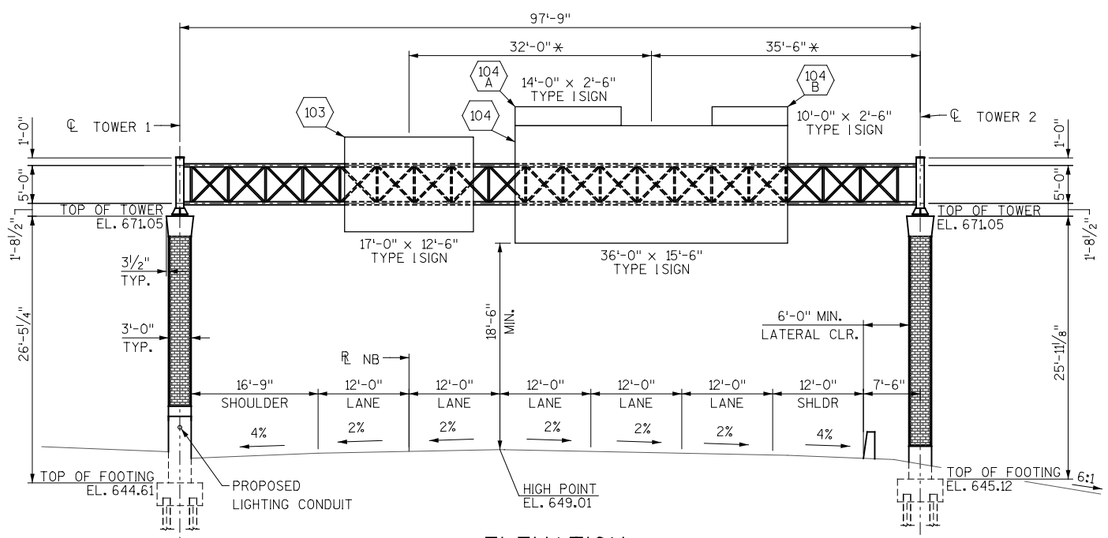


PLAN

STA. 1004NB+21



ELEVATION

(LOOKING NORTH AT FRONT FACE OF SIGN)

WISCONSIN
STEVEN J.
MILLER
36937
MILWAUKEE,
WI
PROFESSIONAL ENGINEER

Steven J. Miller

2/15/2013

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CONCRETE TOWER 1 FOUNDATION DETAILS
3. CONCRETE TOWER 1 DETAILS
4. CONCRETE TOWER 2 FOUNDATION DETAILS
5. CONCRETE TOWER 2 DETAILS
6. GALVANIZED STEEL SIGN BRIDGE
7. SIGN BRIDGE DETAILS
8. CONCRETE TOWER 1 AESTHETIC DETAILS
9. CONCRETE TOWER 2 AESTHETIC DETAILS
10. SUBSURFACE EXPLORATION

ULTIMATE DESIGN STRESSES:

TOWER

CONCRETE: .....f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

SIGN BRIDGE

STEEL COLUMN PIPE: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
STEEL PIPE MEMBERS OF TRUSS: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
PLATES, BARS, STRUCTURAL ANGLES: .....fy = 36,000 psi
A.S.T.M. A709 GRADE 36
STEEL ANCHOR BOLTS: .....fy = 55,000 psi
A.A.S.H.T.O. M314-90 GRADE 55
ALL BOLTED CONNECTIONS: ¾" ϕ A325 BOLTS,
GALVANIZED A.S.T.M. A153, CLASS C

DESIGN DATA

DEAD LOAD - WT. OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.
LIVE LOAD - NONE.
ICE LOAD - 3 P.S.F. TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND‡)	133

‡ MIN. VALUE OF 25 PSF FOR GR. 3

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
1152	16'-0"

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	510
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	53
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	800
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	8340
641.6600.967	SIGN BRIDGE S-05-169	LS	1
652.0135	CONDUIT RIGID METALLIC 3-INCH	LF	8
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	530
SPV.0165.501	STAINING CONCRETE	SF	990
SPV.0165.502	STAINING CONCRETE BRICK	SF	530

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ON THE PILES SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 - ¼" DIAMETER BY 1¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE S-05-169 "

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN CENTER TO CENTER OF CHORDS & SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-169 "

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS. WELD TEST AS PER AWS D1.1.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

(##) - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

* SIGN PANEL DIMENSIONS ARE TO THE CENTER OF THE SIGN PANEL. CONTRACTOR TO FIELD VERIFY SIGN PANEL DISPLAYS CORRELATE WITH ROADWAY LANE LAYOUT.

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Drehen KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-169

DE PERE - SUAMICO

COUNTY: BROWN
TOWN/CITY/VILLAGE: GREEN BAY
DESIGN SPEC.: AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	CES	DESIGN CK'D.	SJM	DRAWN BY	MJH	PLANS CK'D.	CES

PLAN & ELEVATION

SHEET 1 OF 10
2635

STATE PROJECT NUMBER
1133-03-77

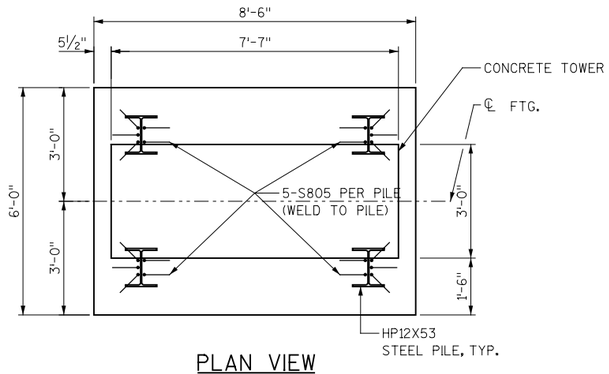
8

8

FILE NAME : S-05-0169.dgn
PLOT DATE : 2/25/2013 8:25:25 AM PLOT BY : MatthewHolandvBl DRV : Pdf_bw_HS.by levelplt PEN : CELTEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

1133-03-77

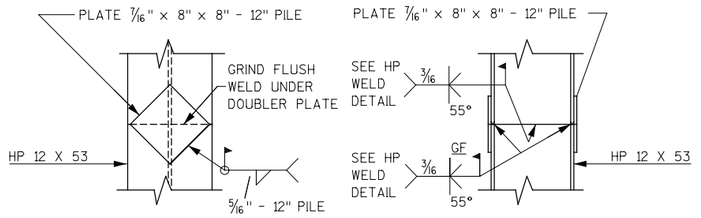


PLAN VIEW

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY



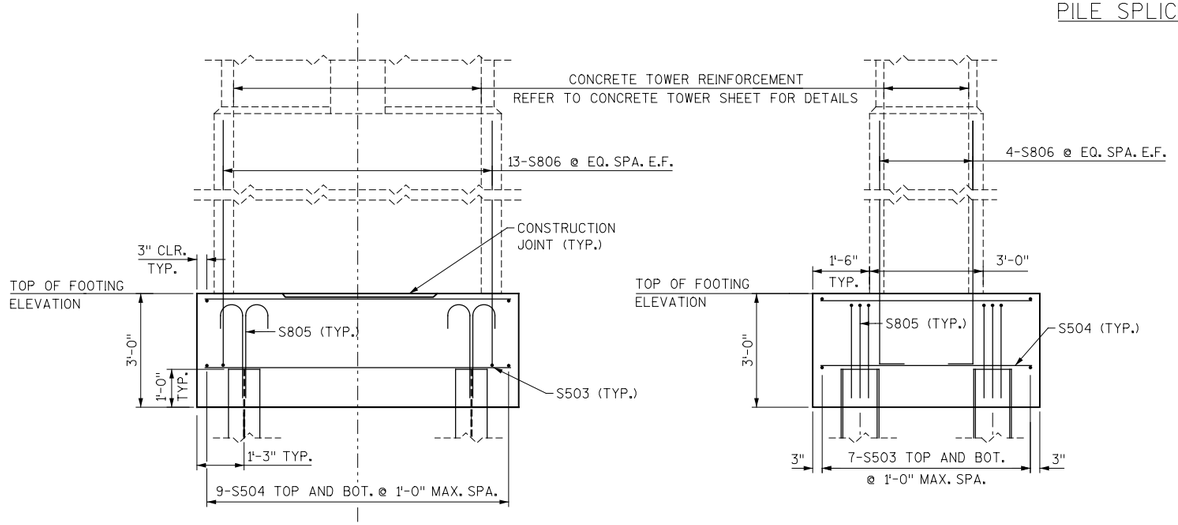
PILE SPLICE DETAIL

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

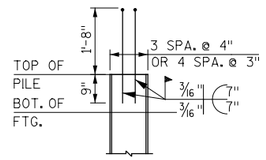
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S503		14	8'-0"			CAP LONGITUDINAL
S504		18	5'-6"			CAP TRANSVERSE
S805		20	3'-4"	▲		WELDED TO PILES
S806	X	30	13'-2"	▲		CAP BEAM VERTICAL
S507	X	22	12'-5"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S808	X	30	26'-3"			VERT. REINF., MIDDLE OF TOWER
S409	X	4	13'-2"			VERT. REINF., MIDDLE OF TOWER
S510	X	36	11'-6"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	28	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	33	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	54	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

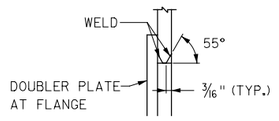


ELEVATION VIEW

END VIEW



PILE HEAD DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

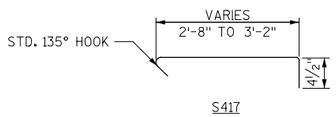
SIGN BRIDGE TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. BEDROCK IS EXPECTED TO BE ENCOUNTERED AT EL. 579.61. ESTIMATED LENGTH 63 FEET LONG.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".



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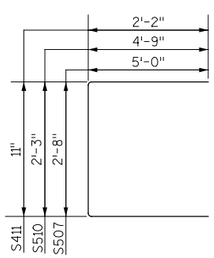
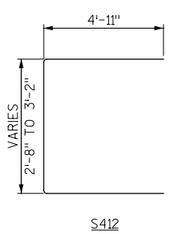


S507,S510,S411



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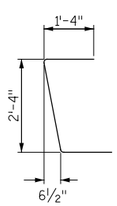

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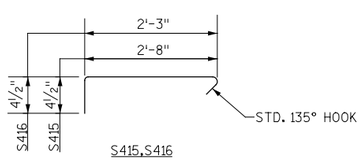
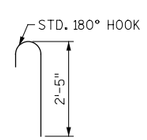


S415,S416

S806



S805

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-169

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 FOUNDATION DETAILS

SHEET 2 OF 10

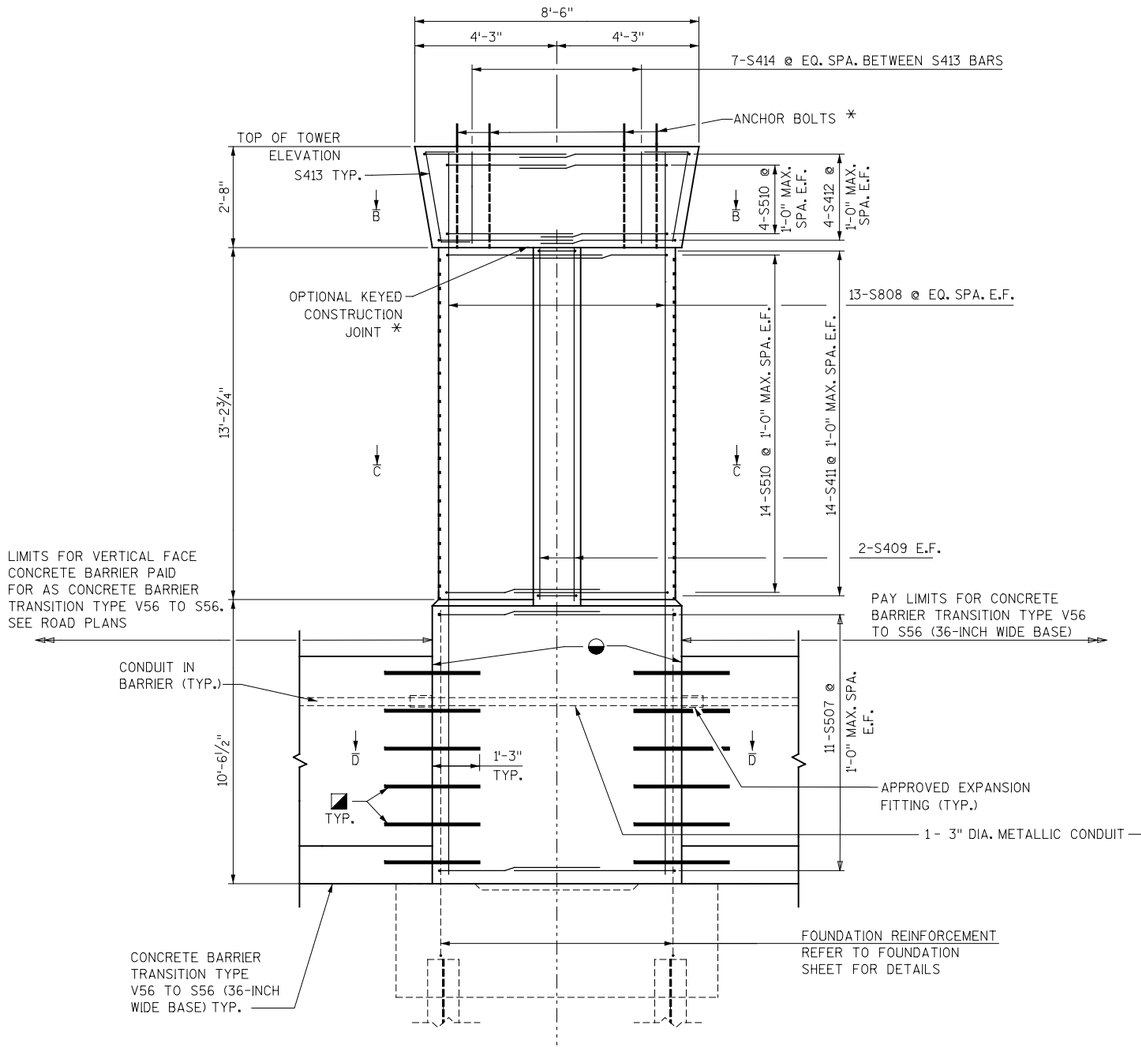
2636

8

8

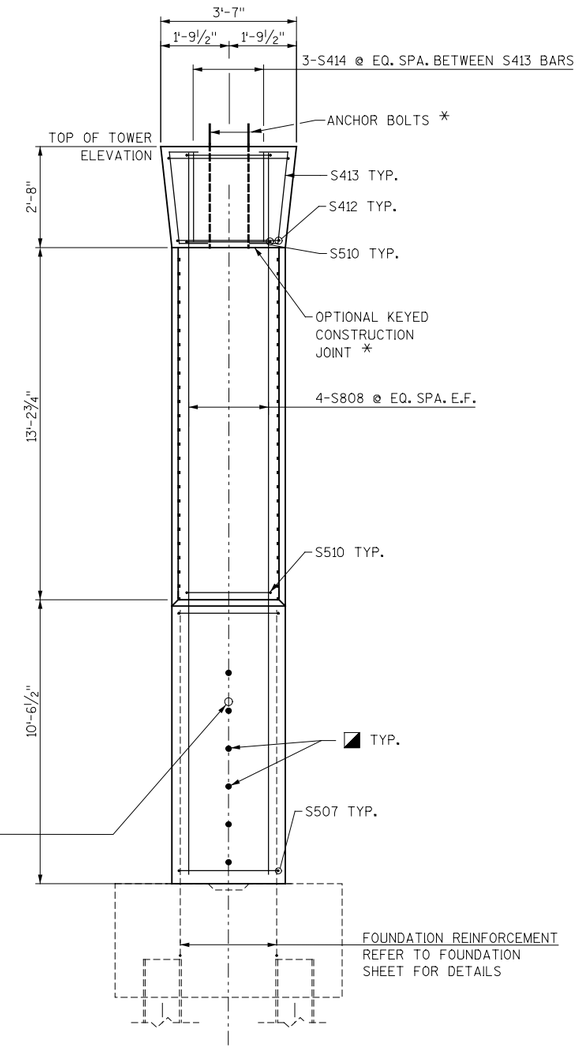
FILE NAME :S-05-0169.dgn
PLOT DATE :2/15/2023 8:25:17 AM PLOT BY : MatthewHe@landvR DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-03-77



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

APPROVED EXPANSION FITTING SHALL BE CAST INTO THE BARRIER OR TOWER CONCRETE, WHICH EVER ELEMENT IS CAST FIRST.

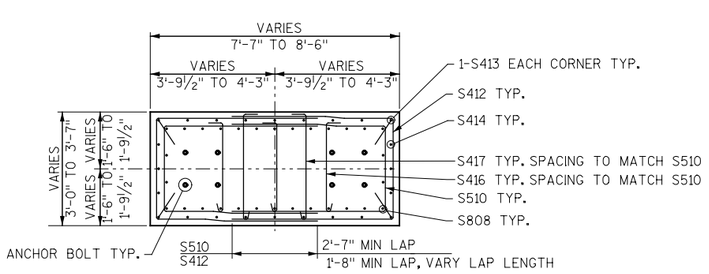
COORDINATE THE LOCATION OF THE ELECTRICAL CONDUIT IN THE TOWER TO MATCH THE LOCATION OF THE CONDUIT IN THE CONCRETE BARRIER.

SPACE S507 BARS TO MISS CONDUIT.

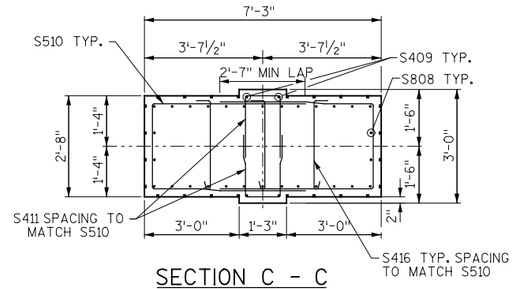
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.

◪ PLACE 1" ϕ PLAIN (SMOOTH) ROUND DOWEL BARS, 2'-6" LONG BETWEEN BARRIER AND CONCRETE TOWER. USE DEBONDER ON EXTENSION INTO BARRIER. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. SPACE DOWELS AT 1'-0". COST OF ITEMS ARE TO BE INCLUDED IN THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

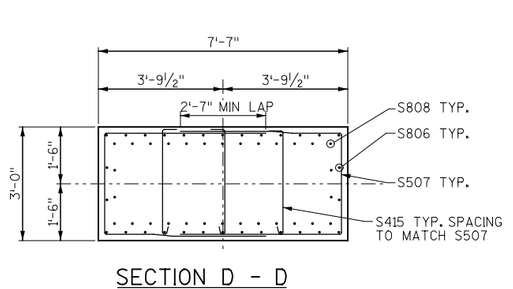
◒ PLACE 1/2" EXPANSION JOINT FILLLER BETWEEN TOWER AND BARRIER WALL, TYP. THE JOINT FILLER SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".



SECTION B - B



SECTION C - C



SECTION D - D

(DOWEL BARS OMITTED FOR CLARITY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-169

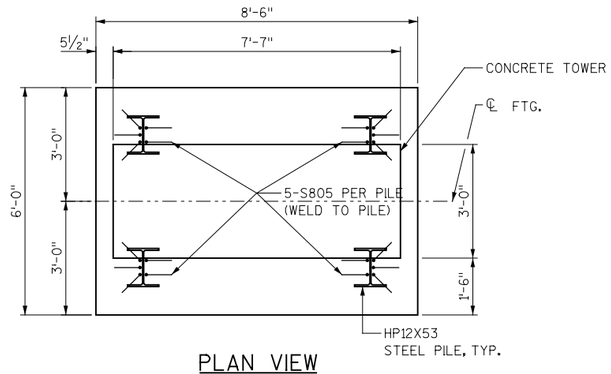
DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 DETAILS

SHEET 3 OF 10
2637

FILE NAME :S-05-0169.dgn
PLOT DATE :2/25/2013 8:25:18 AM PLOT BY : MatthewH@sandv81 DRV :Pdf_bw_HS.by levelzit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-03-77

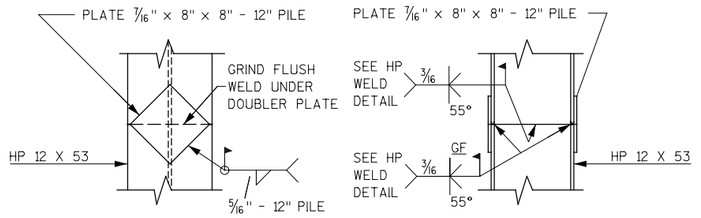


PLAN VIEW

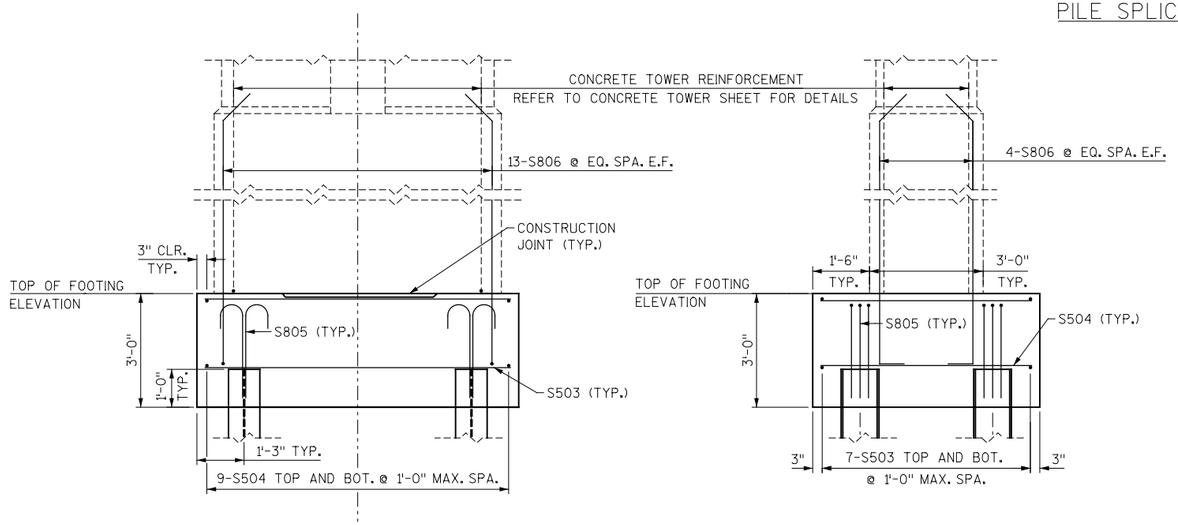
BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY

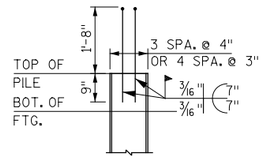


PILE SPLICE DETAIL

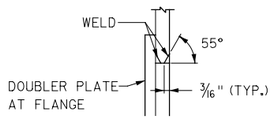


ELEVATION VIEW

END VIEW



PILE HEAD DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S503		14	8'-0"			CAP LONGITUDINAL
S504		18	5'-6"			CAP TRANSVERSE
S805		20	3'-4"	▲		WELDED TO PILES
S806	X	30	8'-5"	▲		CAP BEAM VERTICAL
S507	X	10	12'-5"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S808	X	30	26'-10"	▲		VERT. REINF., MIDDLE OF TOWER
S409	X	4	18'-9"			VERT. REINF., MIDDLE OF TOWER
S510	X	48	11'-6"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	40	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	15	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	72	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

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FOUNDATION DATA

SIGN BRIDGE TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. BEDROCK IS EXPECTED TO BE ENCOUNTERED AT EL. 580.12 . ESTIMATED LENGTH 63 FEET LONG.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

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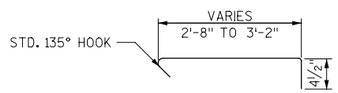
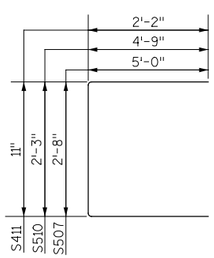
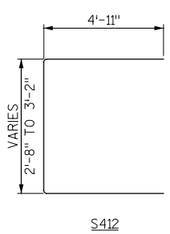


S417



S507,S510,S411



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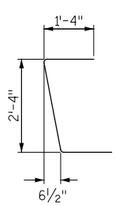

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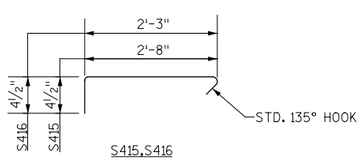
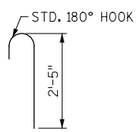
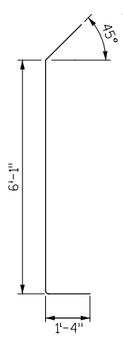


S415,S416



S805



S806

S808

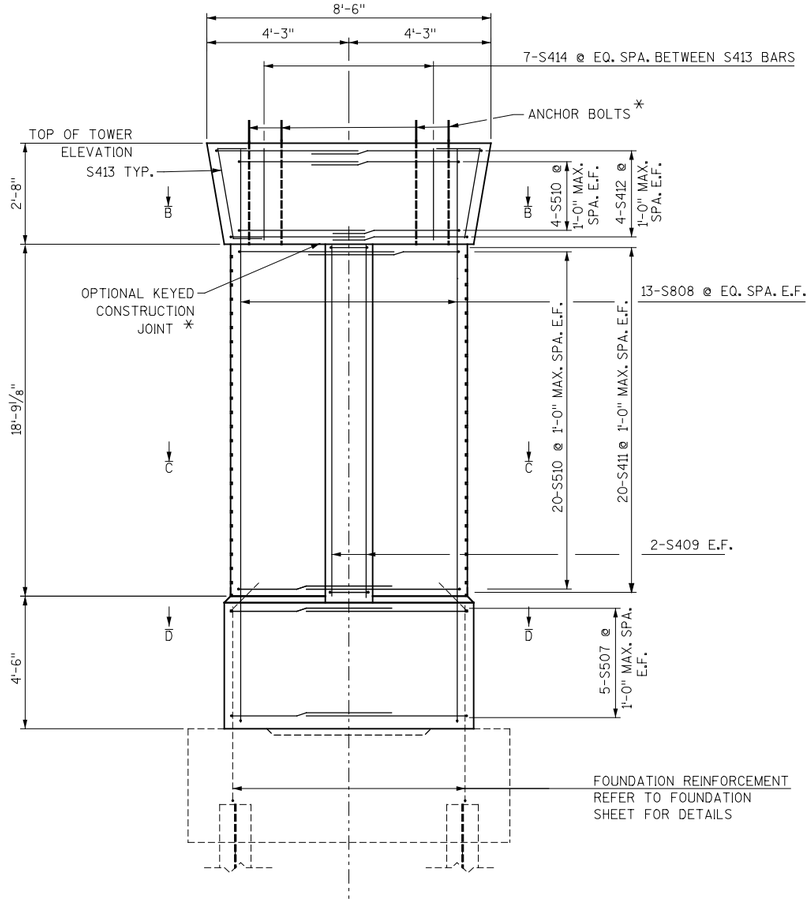
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION		
STRUCTURE S-05-169		
CONCRETE TOWER 2 FOUNDATION DETAILS	2638	SHEET 4 OF 10

8

8

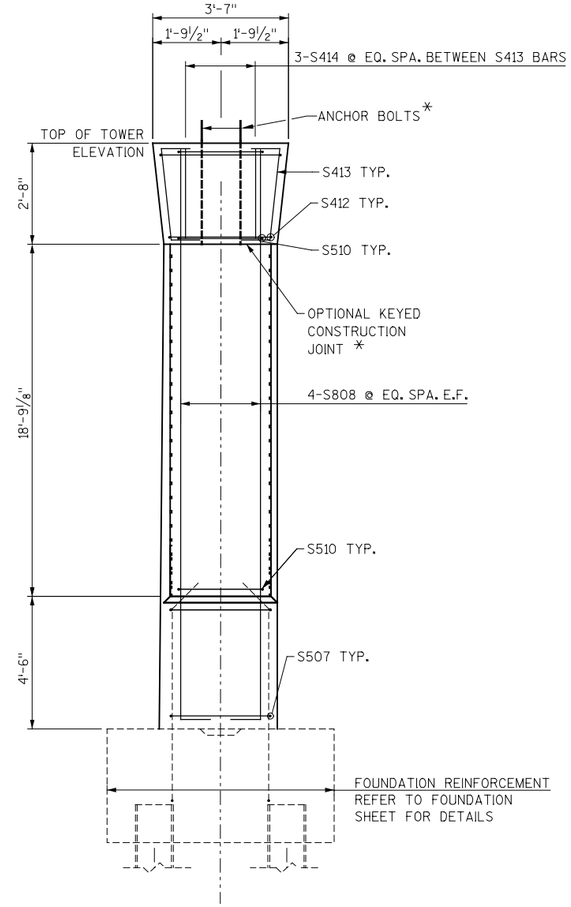
FILE NAME :S-05-0169.dgn
PLOT DATE :2/15/2023 8:25:20 AM PLOT BY : MatthewHeiland-VR DRV :Pdf_bw_HS.by levelplt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-03-77



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

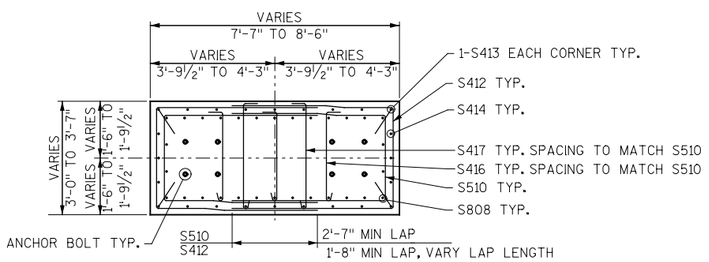
"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

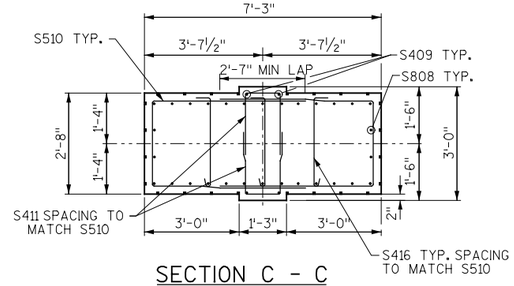
REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

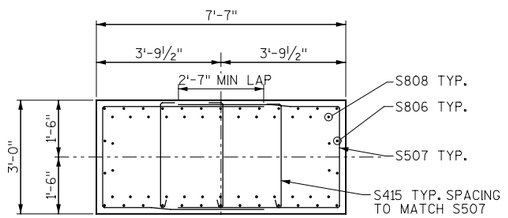
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.



SECTION B - B



SECTION C - C



SECTION D - D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-169

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 DETAILS

SHEET 5 OF 10

2639

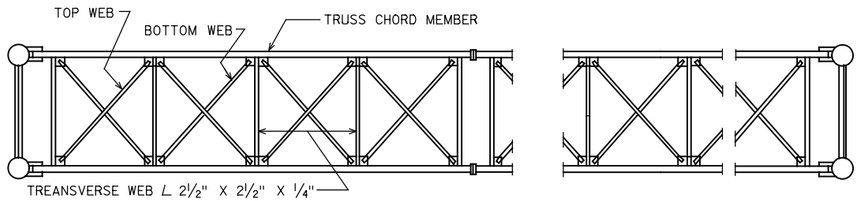
8

8

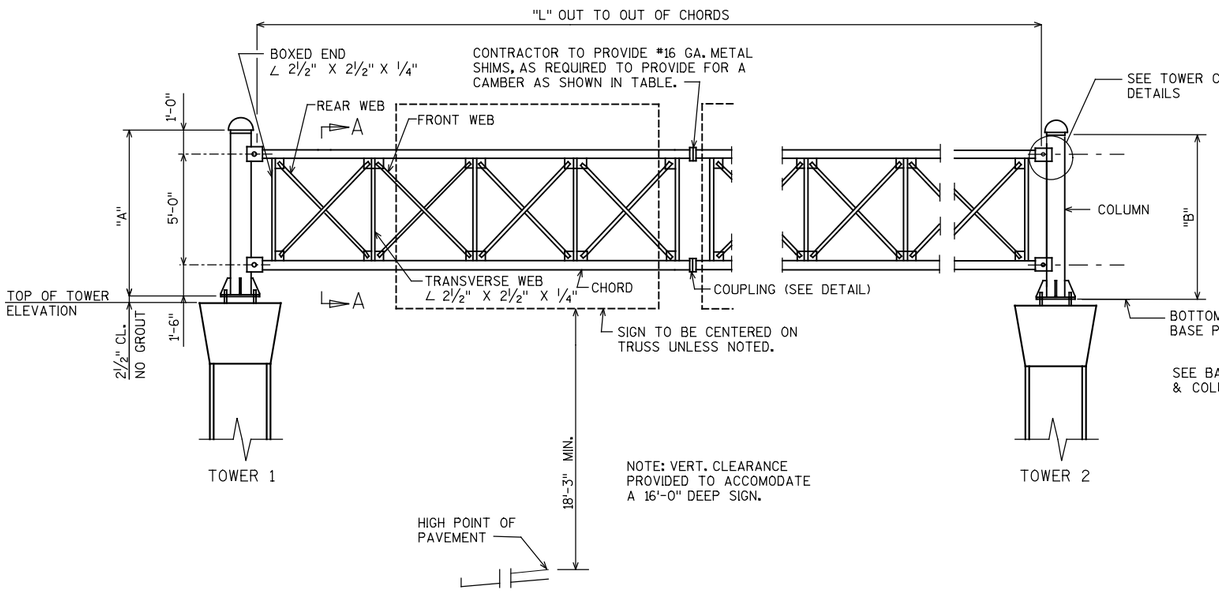
FILE NAME :S-05-0169.dgn
PLOT DATE :2/15/2013 825121 AM PLOT BY : MatthewHeiandv81 DRV :Pdf_bw_HS.by levelzit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

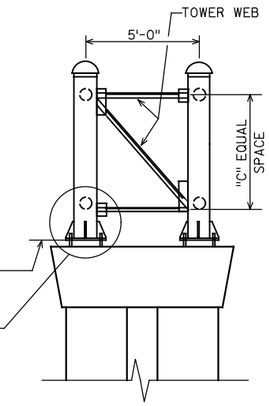
1133-03-77



PLAN

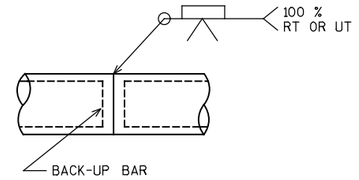


ELEVATION

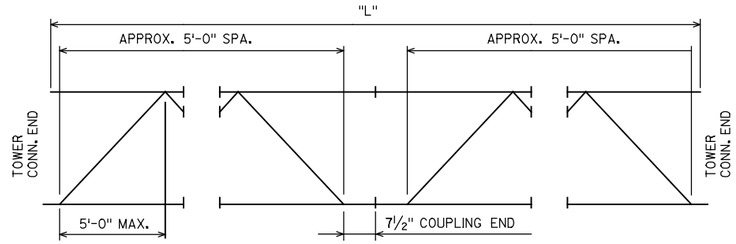


TOWER 2 END VIEW

(TOWER 1 OPPOSITE HAND)

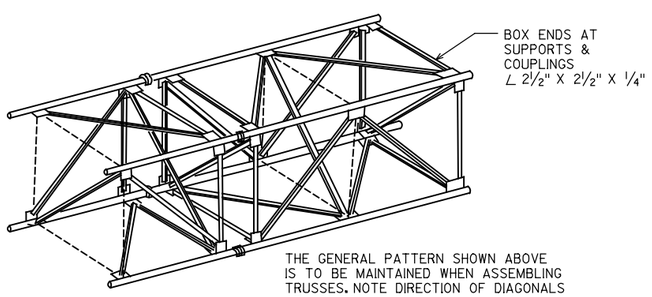


OPTIONAL COLUMN OR CHORD SPLICE DETAIL

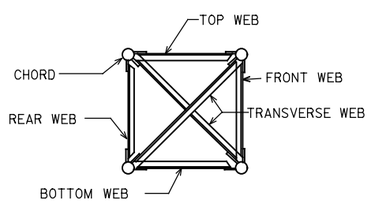


TRUSS ARRANGEMENT

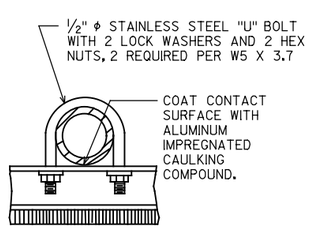
FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 20'-0" & A MULTPLE OF 5'-0". CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS. CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.



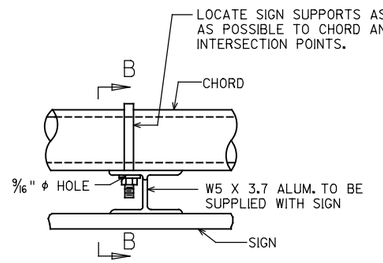
TYPICAL TRUSS SECTION



SECTION A



SECTION B



TYPICAL SIGN CONNECTION

GENERAL NOTES

DRAWING SHALL NOT BE SCALED

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

STRUCTURE MEMBER TABLE

A	B	C	CHORDS O.D. X THK.	TOP & BOTTOM WEB	FRONT & REAR WEB	COUPLING PLATE D1 & "T"	BOLT CIRCLE DIA. "D2"	NO. OF BOLTS IN COUPLING	CAMBER	COLUMN O.D. X THK.	TOWER WEBS	"L"
7'-6"	7'-6"	1	4.5"x0.237"	3"x3"x1/4"	3"x3"x1/4"	10.5" x 1.125"	7.5"	6	2"	10.75"x0.5"	3"x3"x3/16"	96'-7¼

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-169

DRAWN BY VC | PLANS CK'D. CES

GALVANIZED STEEL SIGN BRIDGE

SHEET 6 OF 10

2640

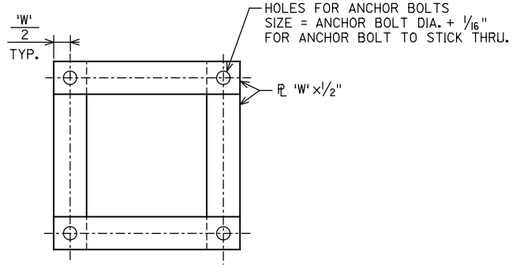
8

8

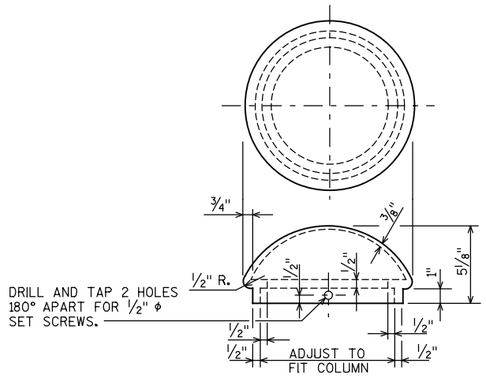
FILE NAME :S-05-0169.dgn
PLOT DATE :2/15/2013 8:25:22 AM
100%
PLOT BY : MatthewHe@dot.wi.gov
DRV :Pdf_bw_HS.by level.dgn
PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

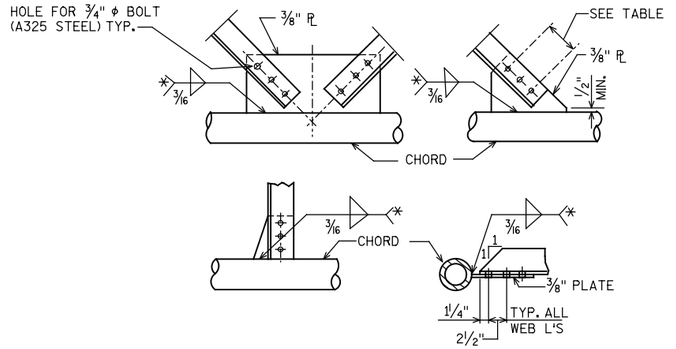
1133-03-77



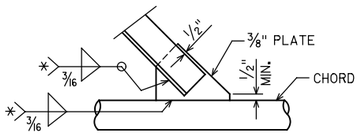
ANCHOR PLATE/TEMPLATE PLAN



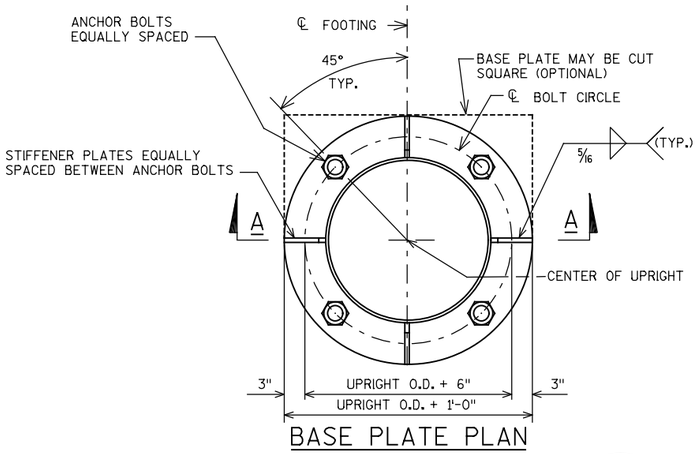
TOWER CAP DETAIL



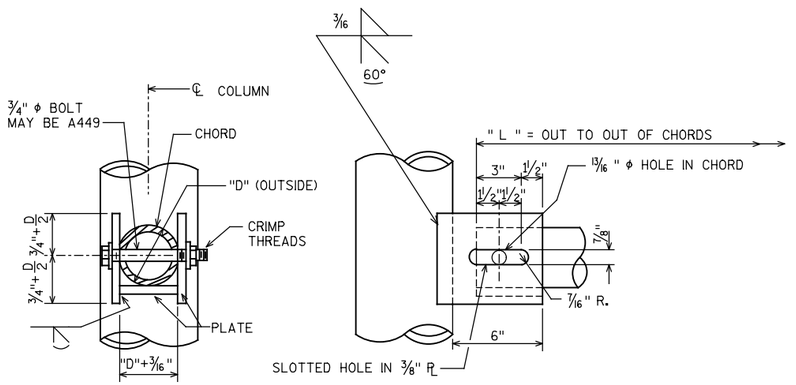
TYPICAL TRUSS CONNECTION DETAILS



TYPICAL WELDED ALTERNATE



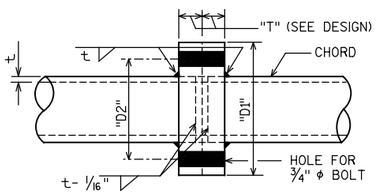
BASE PLATE PLAN



TOWER CONNECTION DETAIL

*ANGLE	WELD LENGTH	NO. OF BOLTS
● 2 1/2"x2 1/2"x1/4"	11"	3
3"x3"x3/16"	10"	3
3"x3"x1/4"	13"	4
3"x3"x5/16"	16 1/2"	5
3"x3"x3/8"	19 1/2"	6
4"x4"x1/4"	18"	5
4"x4"x5/16"	22"	6
4"x4"x3/8"	26"	8
4"x4"x7/16"	30"	9
4"x4"x1/2"	34"	10

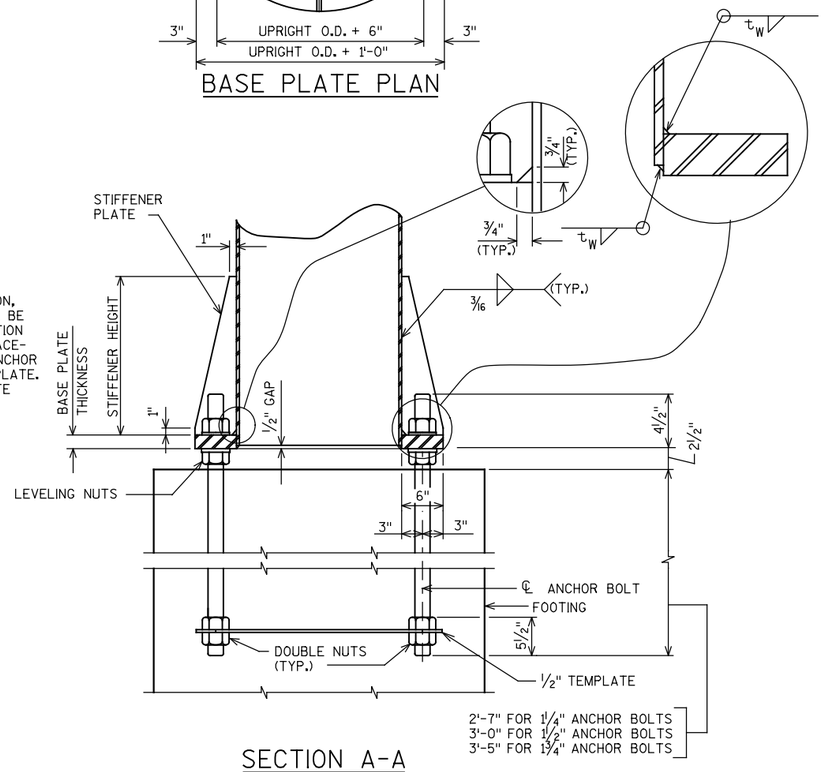
● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.



COUPLING DETAIL

(CONNECTION BOLTS OMITTED FOR CLARITY)

NOTE:
PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE. REMOVE TOP TEMPLATE (NOT SHOWN) AFTER CONCRETE SETS.



SECTION A-A

BASE PLATE & UPRIGHT COLUMN DETAILS

COLUMN O.D. X THK.	ANCHOR BOLTS	BASE PLATE THICKNESS (IN.)	STIFFENER PLATE THICKNESS (IN.)	STIFFENER PLATE HEIGHT (IN.)	t_W (IN.)
10.75"X0.5"	1 3/4"	1 3/4"	3/4"	10"	3/8"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-169

DRAWN BY VC | PLANS CK'D. CES

SIGN BRIDGE DETAILS

SHEET 7 OF 10

2641

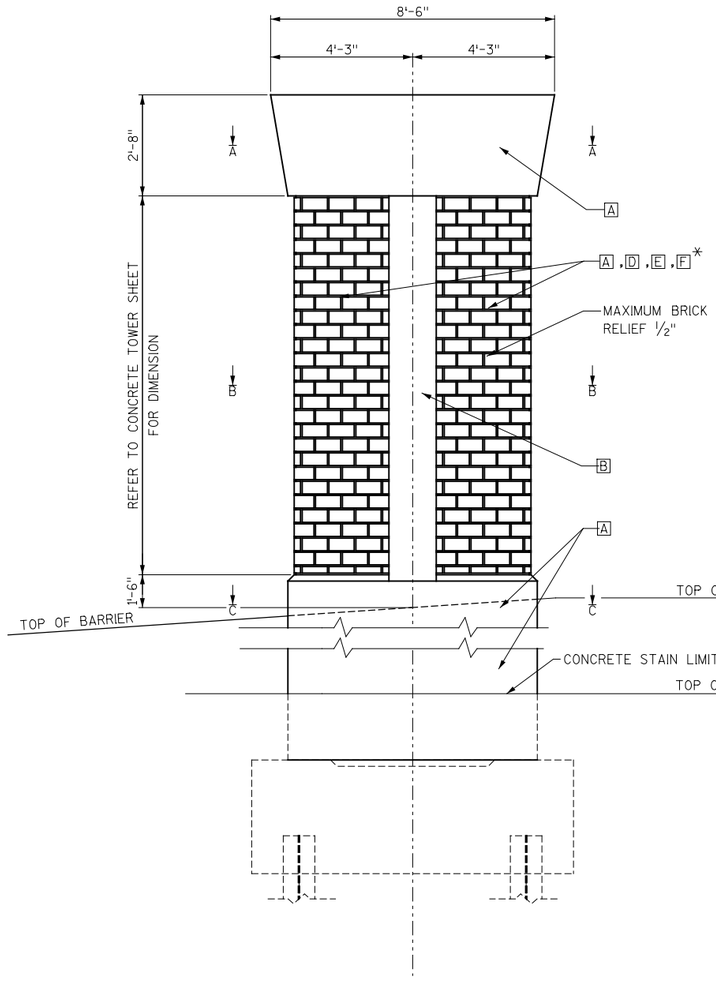
8

8

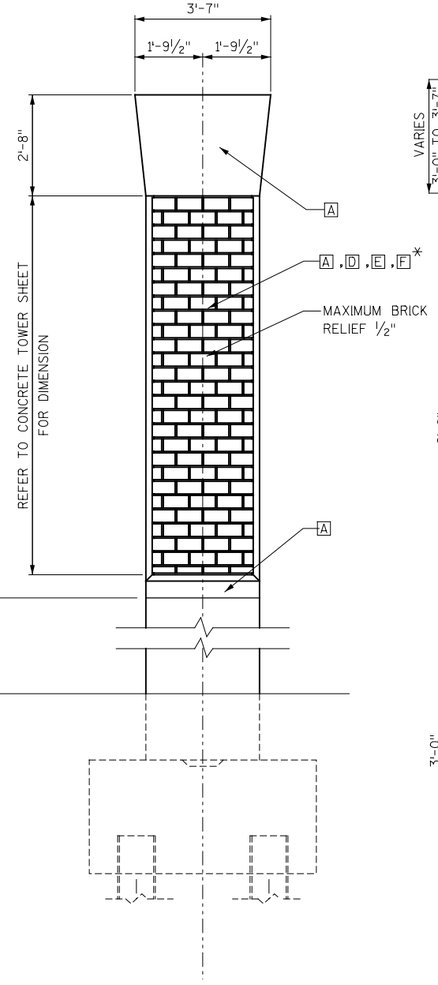
FILE NAME :S-05-0169.dgn
PLOT DATE :2/15/2013 8:25:22 AM
PLOT BY : MatthewHeiland
DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

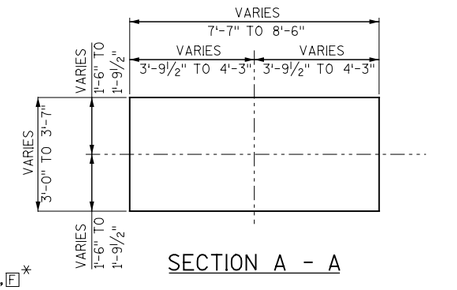
1133-03-77



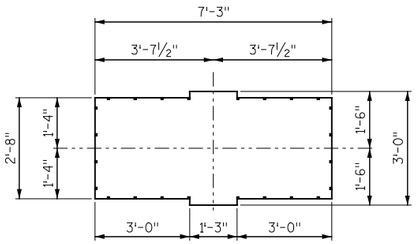
ELEVATION VIEW



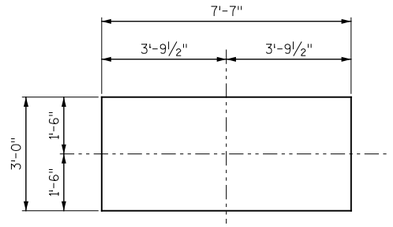
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-169

DRAWN BY VC | PLANS CK'D. CES

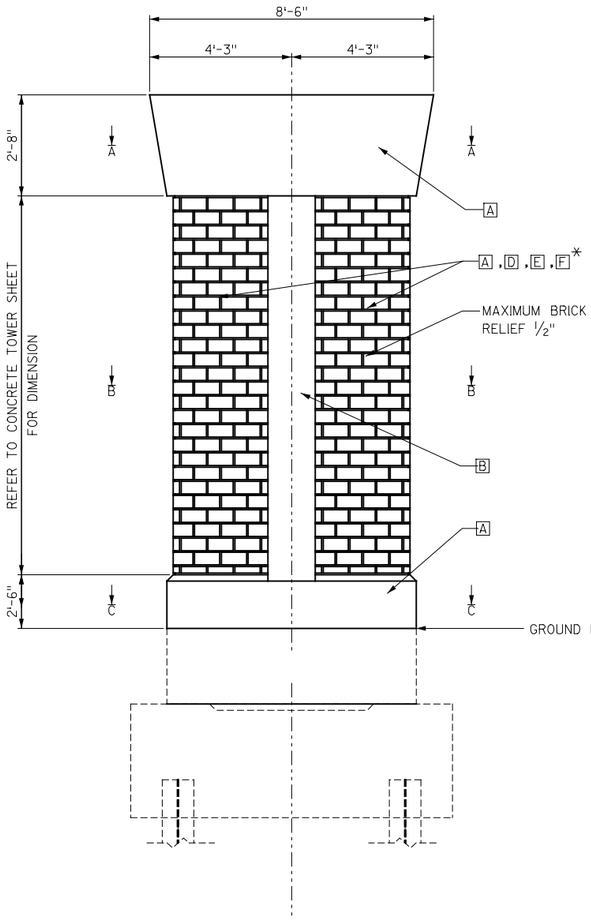
CONCRETE TOWER 1 AESTHETIC DETAILS

SHEET 8 OF 10

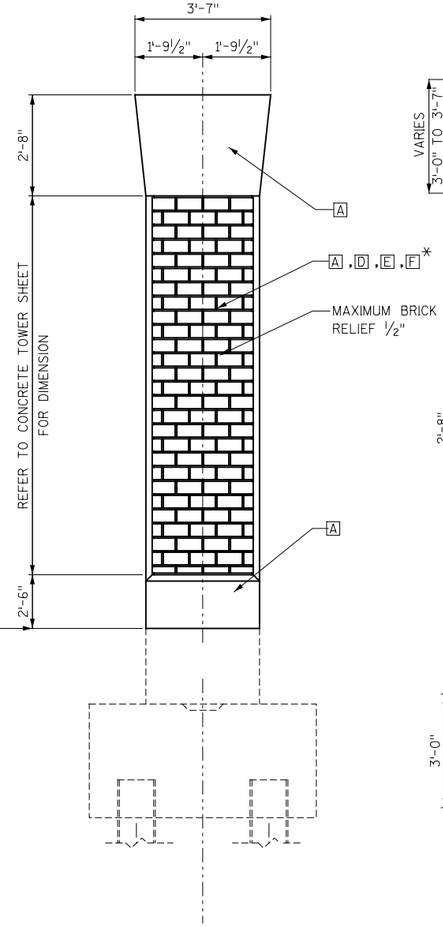
2642

FILE NAME :S-05-0169.dgn
PLOT DATE :2/15/2013 8:25:24 AM PLOT BY : MatthewHeiland v81 DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

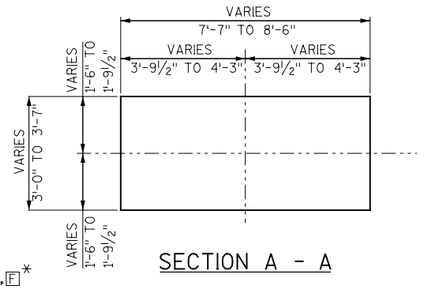
STATE PROJECT NUMBER
1133-03-77



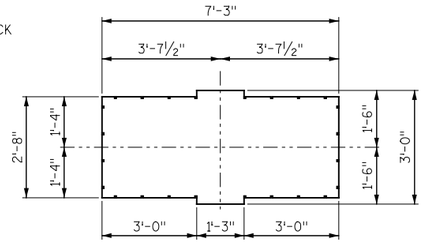
ELEVATION VIEW



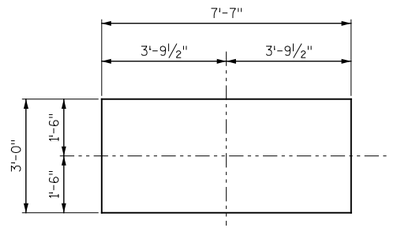
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-169

DRAWN BY	PLANS CK'D.
VC	CES

CONCRETE TOWER 2
AESTHETIC
DETAILS

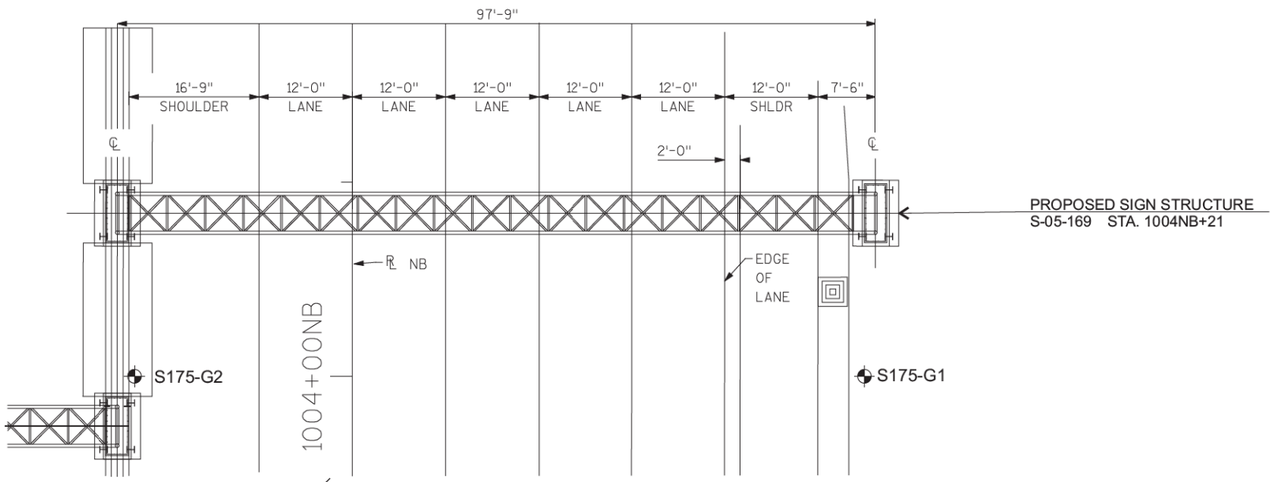
SHEET 9 OF 10
2643

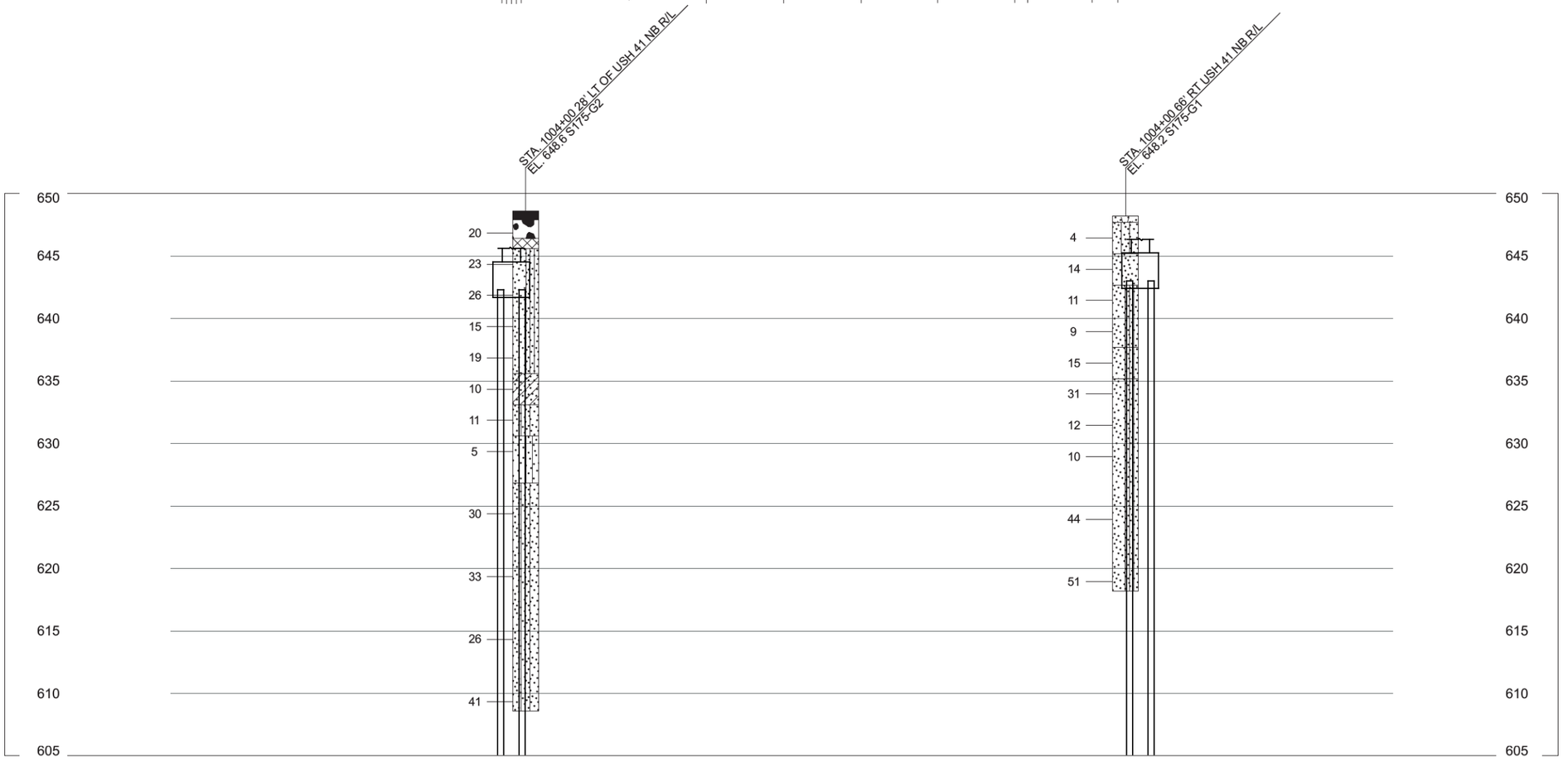
8

8

FILE NAME :S-05-0169.dgn
PLOT DATE :2/15/2013 8:25:25 AM PLOT BY : MatthewHeiandvik DRV :Pdf_bw_HS.by level.plt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

USH-41 (S-05-169)
05-BROWN, WI





STATE PROJECT NUMBER

1133-03-77

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL, SILT, FAT CLAY
SAND, PEAT, DOLOMITE
GRAVEL, CLAY, FILL

LEGEND OF PROBING

95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

LEGEND OF BORING

BORING NO.
ELEV.
STA.
UNCONFINED STRENGTH → 7.7 7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-169

DRAWN BY NS | PLANS CK'D. DB

SUBSURFACE EXPLORATION

SHEET 10 OF 10
2644

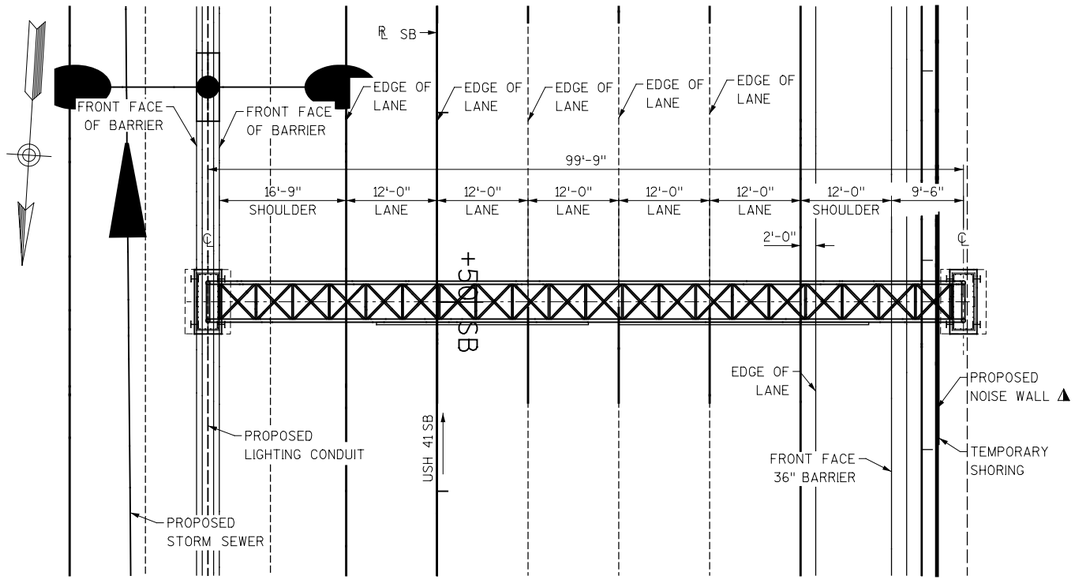
SCALE 1"=20'

8

8

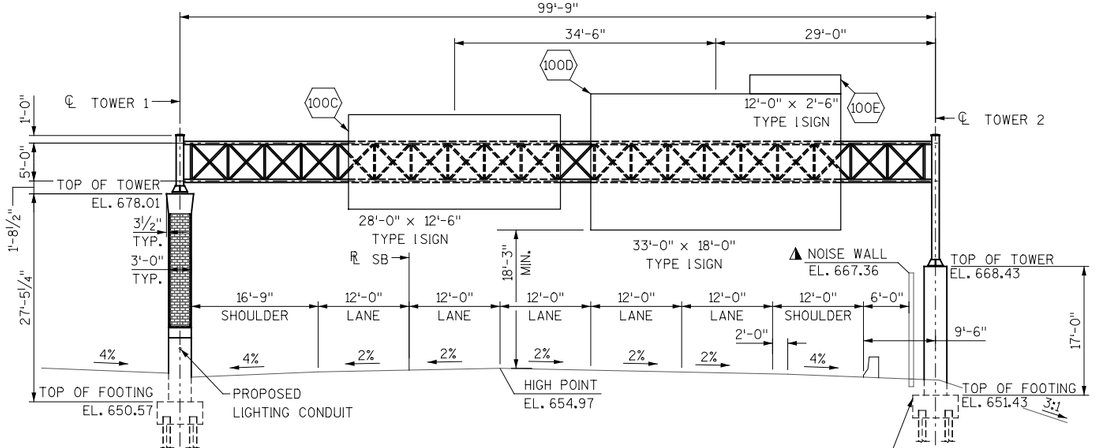
STATE PROJECT NUMBER

1133-03-77



PLAN

STA. 957SB+50



ELEVATION

(LOOKING SOUTH AT FRONT FACE OF SIGN)

NOTE: CONTRACTOR TO VERIFY IF TEMPORARY SHORING IS NEEDED BEFORE FOOTING IS CONSTRUCTED.

2/15/2013

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CONCRETE TOWER 1 FOUNDATION DETAILS
3. CONCRETE TOWER 1 DETAILS
4. CONCRETE TOWER 2 DETAILS
5. GALVANIZED STEEL SIGN BRIDGE
6. SIGN BRIDGE DETAILS
7. CONCRETE TOWER 1 AESTHETIC DETAILS
8. CONCRETE TOWER 2 AESTHETIC DETAILS
9. SUBSURFACE EXPLORATION

ULTIMATE DESIGN STRESSES:

TOWER

CONCRETE: .....f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

SIGN BRIDGE

STEEL COLUMN PIPE: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
STEEL PIPE MEMBERS OF TRUSS: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
PLATES, BARS, STRUCTURAL ANGLES: .....fy = 36,000 psi
A.S.T.M. A709 GRADE 36
STEEL ANCHOR BOLTS: .....fy = 55,000 psi
A.A.S.H.T.O. M314-90 GRADE 55
ALL BOLTED CONNECTIONS: ¾" ϕ A325 BOLTS,
GALVANIZED A.S.T.M. A153, CLASS C

DESIGN DATA

DEAD LOAD - WT. OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.
LIVE LOAD - NONE.
ICE LOAD - 3 P.S.F. TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND‡)	133

‡ MIN. VALUE OF 25 PSF FOR GR. 3

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
978	18'-0"

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
206.6000.S	TEMPORARY SHORING	SF	240
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	720
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	48
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	800
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	6160
641.6600.961	SIGN BRIDGE S-05-170	LS	1
652.1350	CONDUIT RIGID METALLIC 3-INCH	LF	8
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	240
SPV.0165.501	STAINING CONCRETE	SF	830
SPV.0165.502	STAINING CONCRETE BRICK	SF	240

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ON THE PILES SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 - ¼" DIAMETER BY 1¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE S-05-170 "

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN CENTER TO CENTER OF CHORDS & SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-170 "

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS. WELD TEST AS PER AWS D1.1.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

⬡ ## - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

* SIGN PANEL DIMENSIONS ARE TO THE CENTER OF THE SIGN PANEL. CONTRACTOR TO FIELD VERIFY SIGN PANEL DISPLAYS CORRELATE WITH ROADWAY LANE LAYOUT.

⚠ REFER TO NOISE WALL PLANS FOR LATERAL CLEARANCE.

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/09/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-170

DE PERE - SUAMICO

COUNTY: BROWN
TOWN/CITY/VILLAGE: ASHWAUBENON
DESIGN SPEC.: AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CES	SJM	MJH	CES

PLAN & ELEVATION

SHEET 1 OF 9
2645

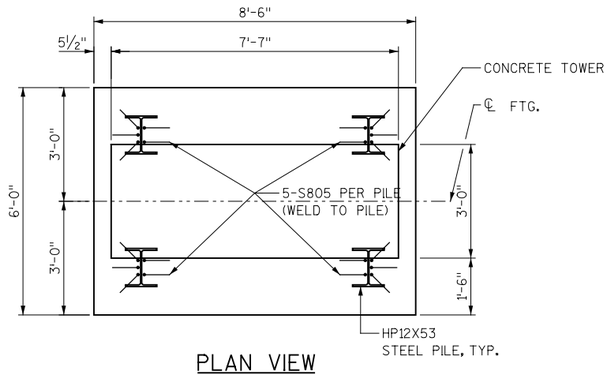
8

8

FILE NAME :S-05-0170.dgn
PLOT DATE :12/25/2013 8:26:35 AM PLOT BY : MatthewHolandvik DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

1133-03-77

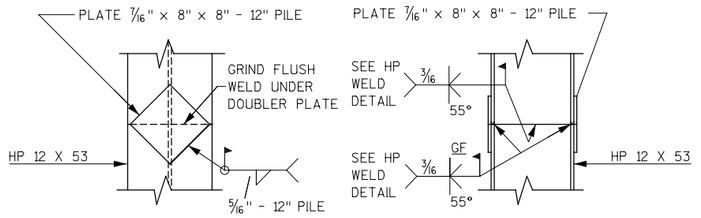


PLAN VIEW

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY



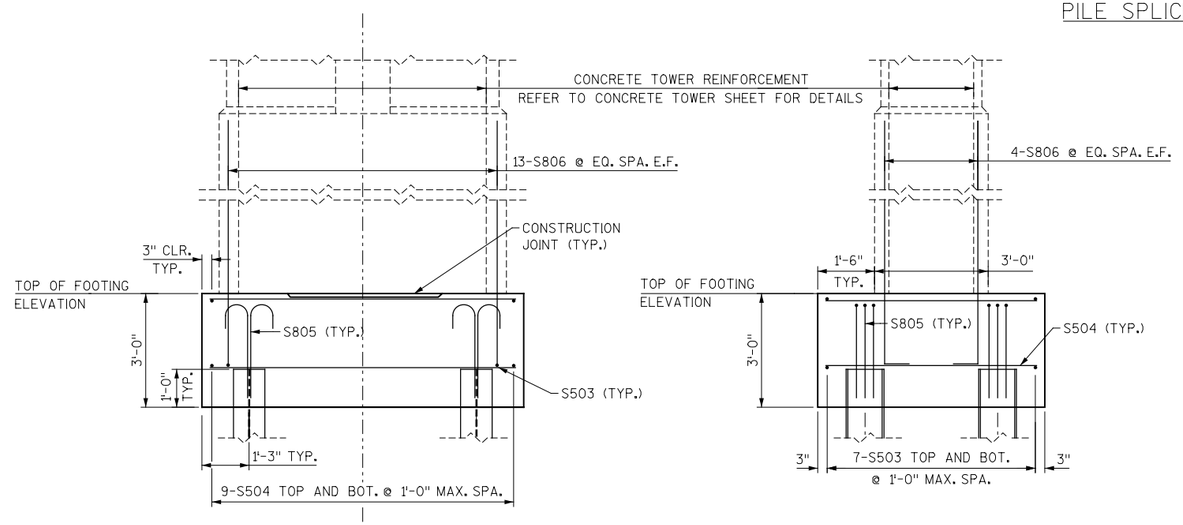
PILE SPLICE DETAIL

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

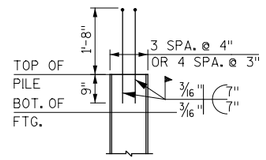
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S503		14	8'-0"			CAP LONGITUDINAL
S504		18	5'-6"			CAP TRANSVERSE
S805		20	3'-4"	▲		WELDED TO PILES
S806	X	30	12'-3"	▲		CAP BEAM VERTICAL
S507	X	22	12'-5"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S808	X	30	27'-3"			VERT. REINF., MIDDLE OF TOWER
S409	X	4	15'-1"			VERT. REINF., MIDDLE OF TOWER
S510	X	40	11'-6"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	32	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	33	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	60	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

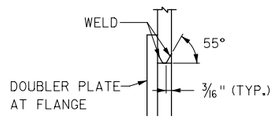


ELEVATION VIEW

END VIEW



PILE HEAD DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

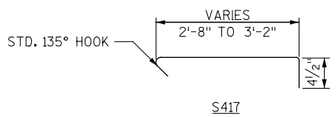
SIGN BRIDGE TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. BEDROCK IS EXPECTED TO BE ENCOUNTERED AT EL. 559.57. ESTIMATED LENGTH 89 FEET LONG.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

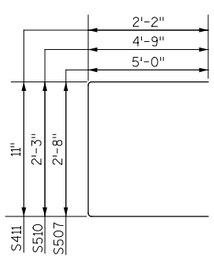
IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

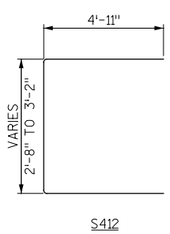
WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".



S417



S507,S510,S411



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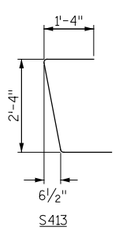

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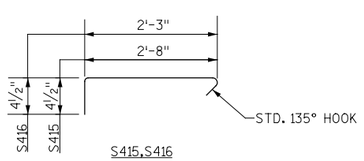
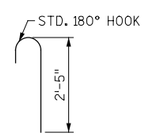


S415,S416

S806



S805

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-170

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 FOUNDATION DETAILS

SHEET 2 OF 9

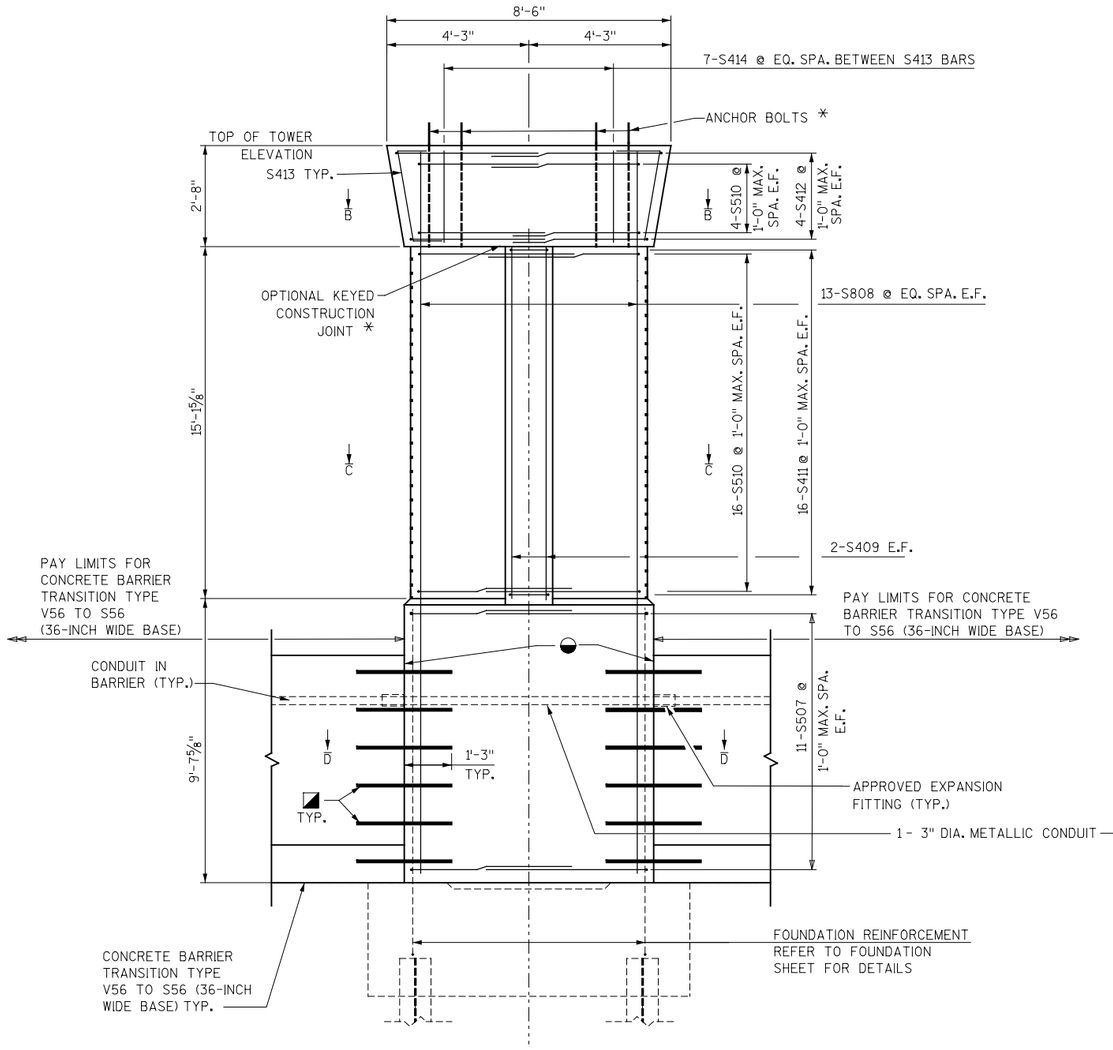
2646

8

8

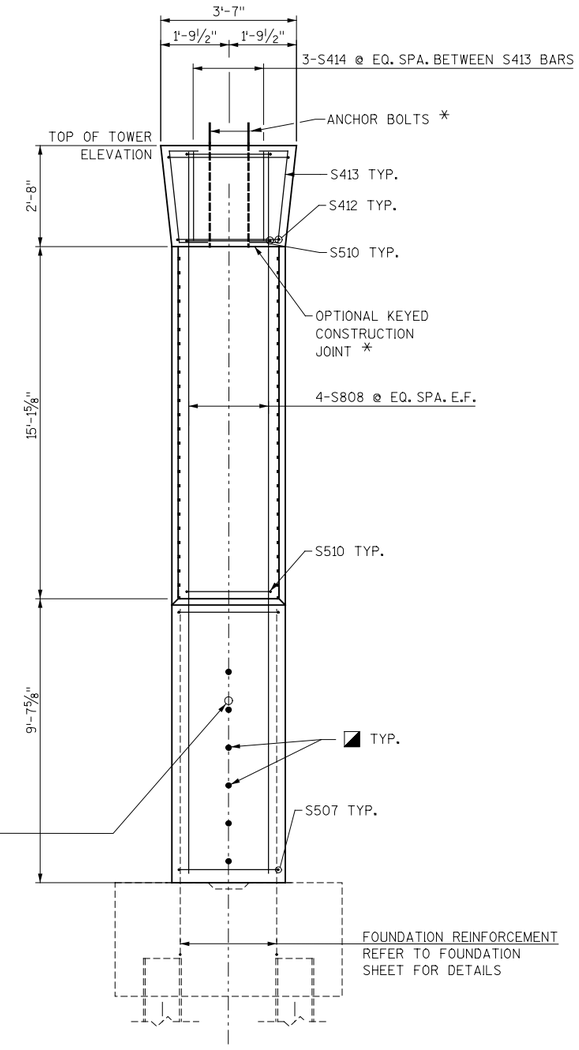
FILE NAME :S-05-0170.dgn
PLOT DATE :12/15/2023 826638 AM PLOT BY : MatthewHeGandvRl DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-03-77



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

APPROVED EXPANSION FITTING SHALL BE CAST INTO THE BARRIER OR TOWER CONCRETE, WHICH EVER ELEMENT IS CAST FIRST.

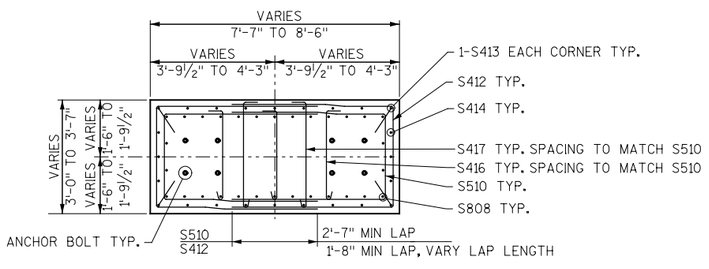
COORDINATE THE LOCATION OF THE ELECTRICAL CONDUIT IN THE TOWER TO MATCH THE LOCATION OF THE CONDUIT IN THE CONCRETE BARRIER.

SPACE S507 BARS TO MISS CONDUIT.

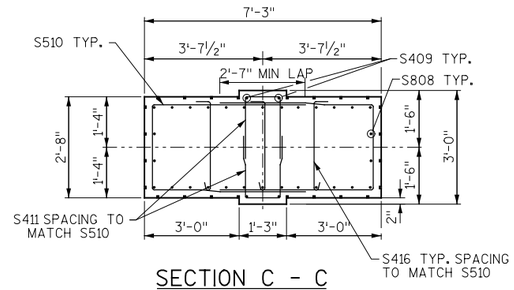
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.

◪ PLACE 1" ϕ PLAIN (SMOOTH) ROUND DOWEL BARS, 2'-6" LONG BETWEEN BARRIER AND CONCRETE TOWER. USE DEBONDER ON EXTENSION INTO BARRIER. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. SPACE DOWELS AT 1'-0". COST OF ITEMS ARE TO BE INCLUDED IN THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

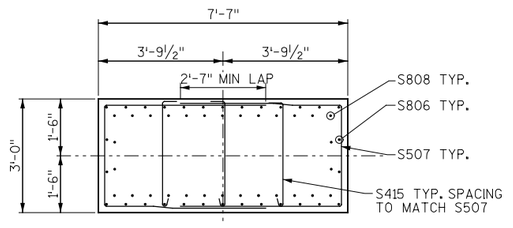
◒ PLACE 1/2" EXPANSION JOINT FILLLER BETWEEN TOWER AND BARRIER WALL, TYP. THE JOINT FILLER SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".



SECTION B - B



SECTION C - C



SECTION D - D

(DOWEL BARS OMITTED FOR CLARITY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-170

DRAWN BY VC | PLANS CK'D. CES

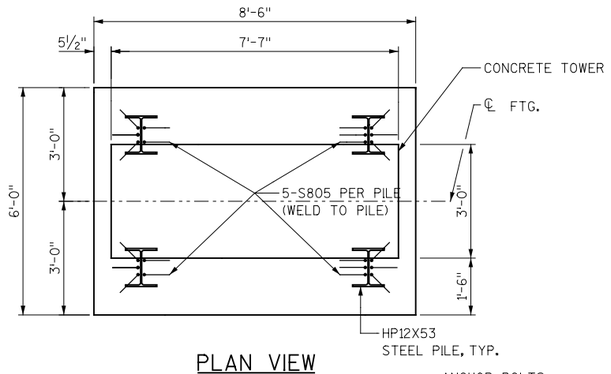
CONCRETE TOWER 1 DETAILS

SHEET 3 OF 9
2647

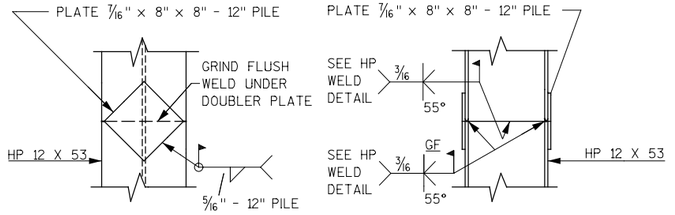
FILE NAME :S-05-0170.dgn
PLOT DATE :2/25/2013 826639 AM PLOT BY : MatthewH@sandv81 DRV :Pdf_bw_HS.by levelzit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

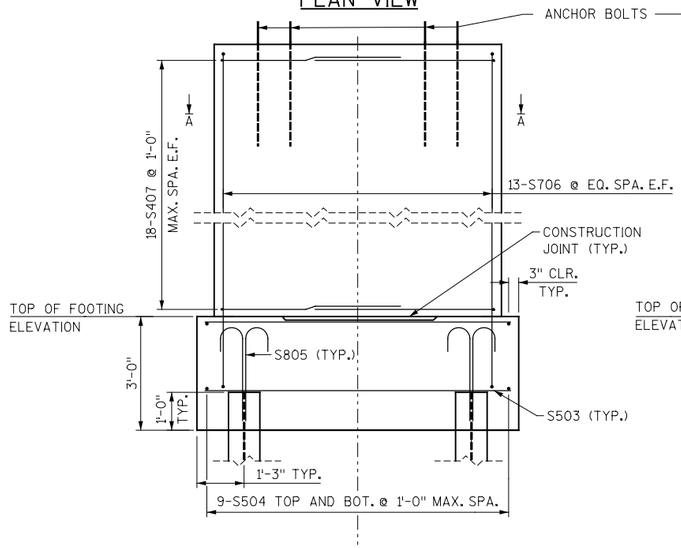
1133-03-77



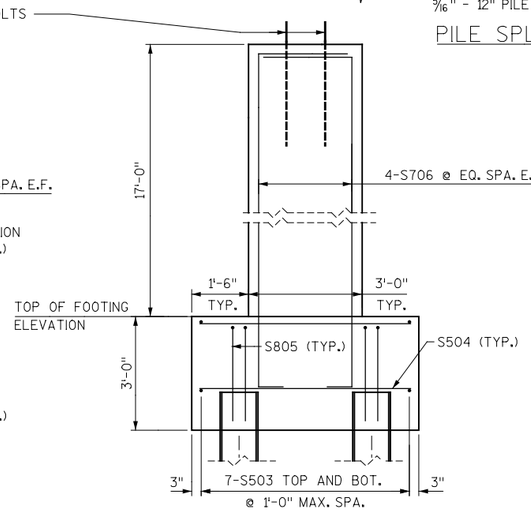
PLAN VIEW



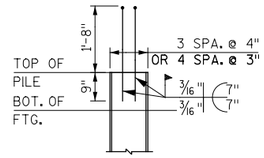
PILE SPLICE DETAIL



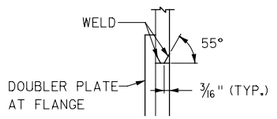
ELEVATION VIEW



END VIEW

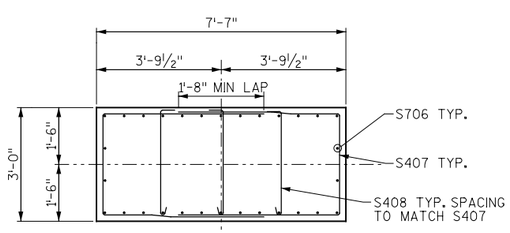


PILE HEAD DETAIL

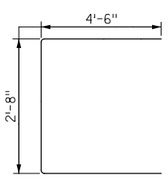


HP WELD DETAIL

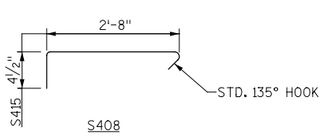
FLANGE SHOWN, WEB SIMILAR



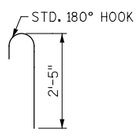
SECTION A - A



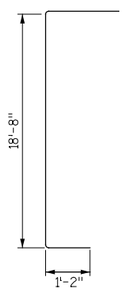
S407



S408



S805



S706

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S503		14	8'-0"			CAP LONGITUDINAL
S504		18	5'-6"			CAP TRANSVERSE
S805		20	3'-4"	▲		WELDED TO PILES
S706	X	30	22'-2"	▲		CAP BEAM VERTICAL
S407	X	36	11'-6"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S408	X	54	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

SIGN BRIDGE TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. BEDROCK IS EXPECTED TO BE ENCOUNTERED AT EL. 558.43. ESTIMATED LENGTH 91 FEET LONG.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-170

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 DETAILS

SHEET 4 OF 9
2648

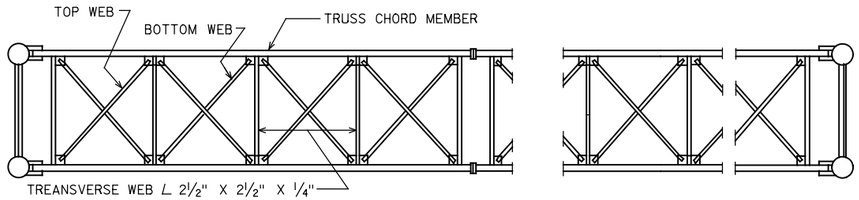
8

8

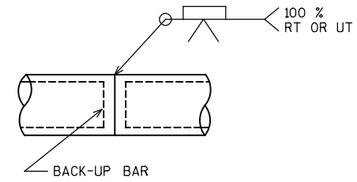
FILE NAME :S-05-0170.dgn
PLOT DATE :2/15/2023 8:26:41 AM PLOT BY : MatthewHeGandvRl DRV :Pdf_bw_HS.by level.plt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

1133-03-77



PLAN

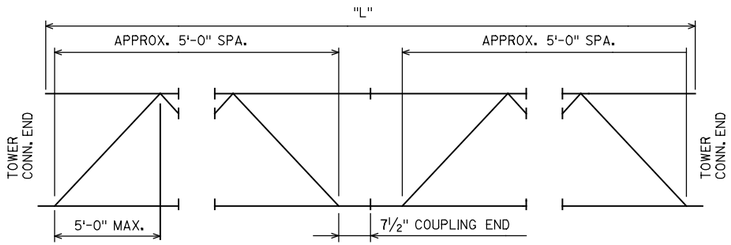


OPTIONAL COLUMN OR CHORD SPLICE DETAIL

GENERAL NOTES

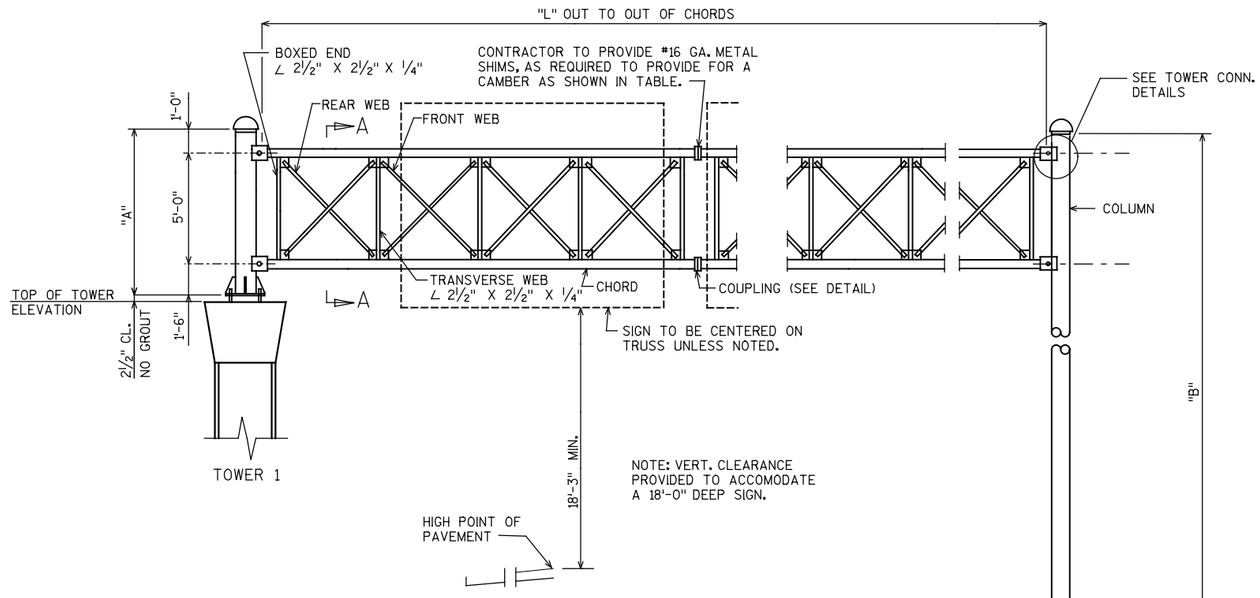
DRAWING SHALL NOT BE SCALED

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

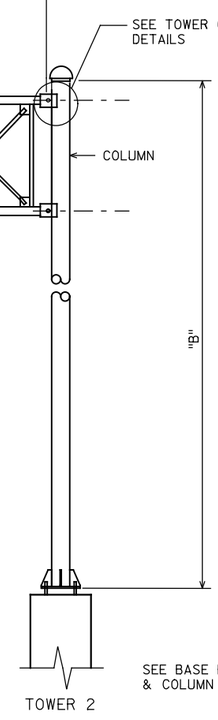


TRUSS ARRANGEMENT

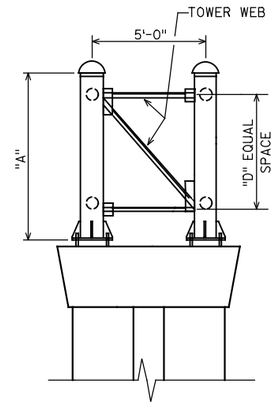
FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 20'-0" & A MULTPLE OF 5'-0". CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS. CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.



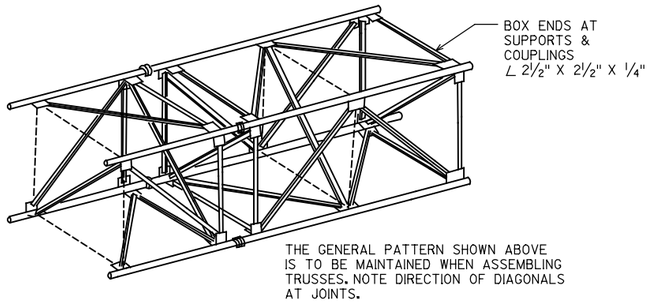
ELEVATION



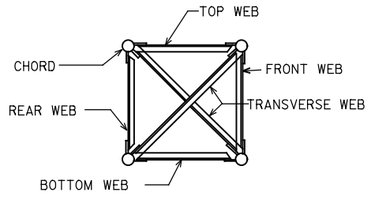
TOWER 2 END VIEW



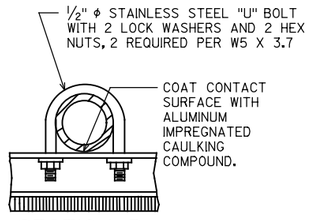
TOWER 1 END VIEW



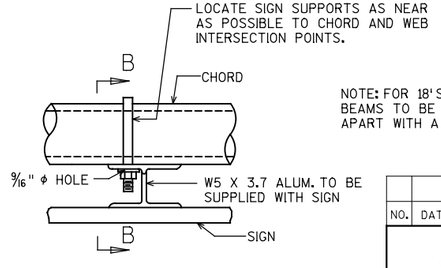
TYPICAL TRUSS SECTION



SECTION A



SECTION B



NOTE: FOR 18' SIGN DEPTH, W5 X 3.7 ALUM. BEAMS TO BE SPACED NO MORE THAN 5 FEET APART WITH A MAXIMUM END OVERHANG OF 2.5 FEET.

STRUCTURE MEMBER TABLE

A	B	C	D	CHORDS O.D. X THK.	TOP & BOTTOM WEB	FRONT & REAR WEB	COUPLING PLATE D1 & "T"	BOLT CIRCLE DIA. "D2"	NO. OF BOLTS IN COUPLING	CAMBER	COLUMN O.D. X THK.	TOWER WEBS	"L"
7'-6"	17'-1"	4	1	4.5" X 0.438"	3"X3"X1/4"	3"X3"X1/4"	10.5" x 1.375"	7.5"	6	2-1/4"	12.75"x0.688"	3"x3"x3/8"	98'-5¼

TYPICAL SIGN CONNECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-170

DRAWN BY VC | PLANS CK'D. CES

GALVANIZED STEEL SIGN BRIDGE

SHEET 5 OF 9

2649

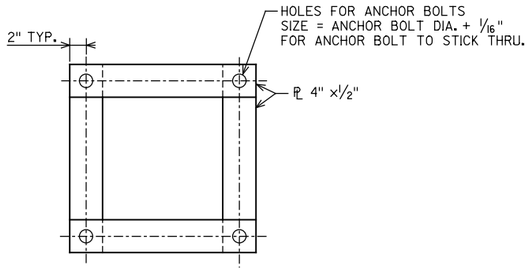
8

8

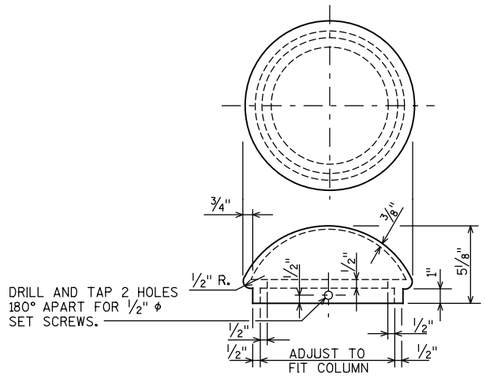
FILE NAME :S-05-0170.dgn
PLOT DATE :2/15/2013 8:26:41 AM
PLOT BY : MatthewHe@dot.wi.gov
DRV :Pdf_bw_HS.by level.plt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

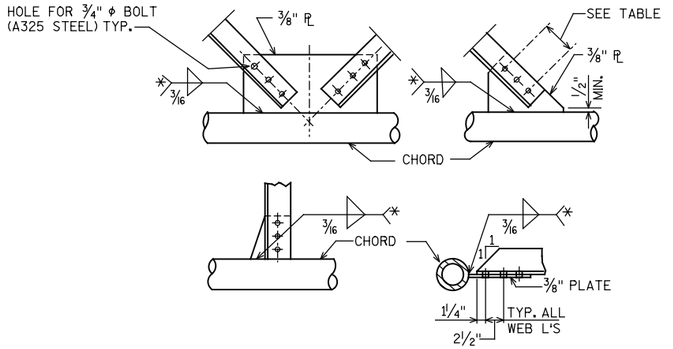
1133-03-77



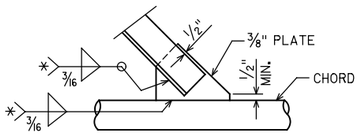
ANCHOR PLATE/TEMPLATE PLAN



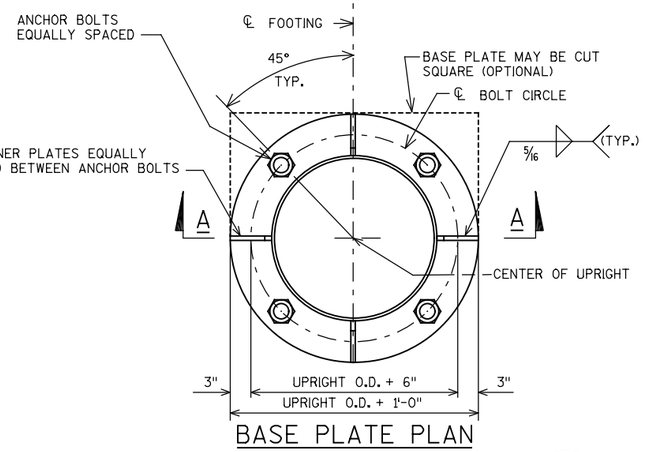
TOWER CAP DETAIL



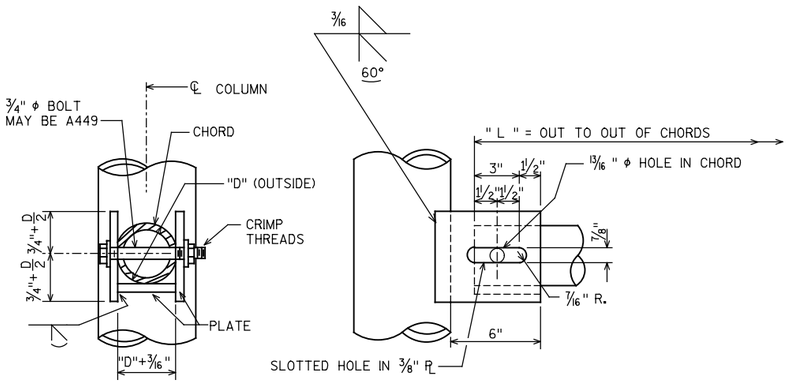
TYPICAL TRUSS CONNECTION DETAILS



TYPICAL WELDED ALTERNATE



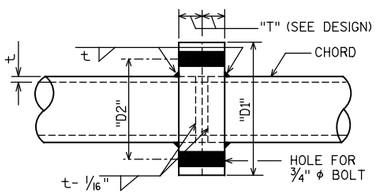
BASE PLATE PLAN



TOWER CONNECTION DETAIL

*ANGLE	WELD LENGTH	NO. OF BOLTS
● 2 1/2"×2 1/2"×1/4"	11"	3
3"×3"×3/16"	10"	3
3"×3"×1/4"	13"	4
3"×3"×5/16"	16 1/2"	5
3"×3"×3/8"	19 1/2"	6
4"×4"×1/4"	18"	5
4"×4"×5/16"	22"	6
4"×4"×3/8"	26"	8
4"×4"×7/16"	30"	9
4"×4"×1/2"	34"	10

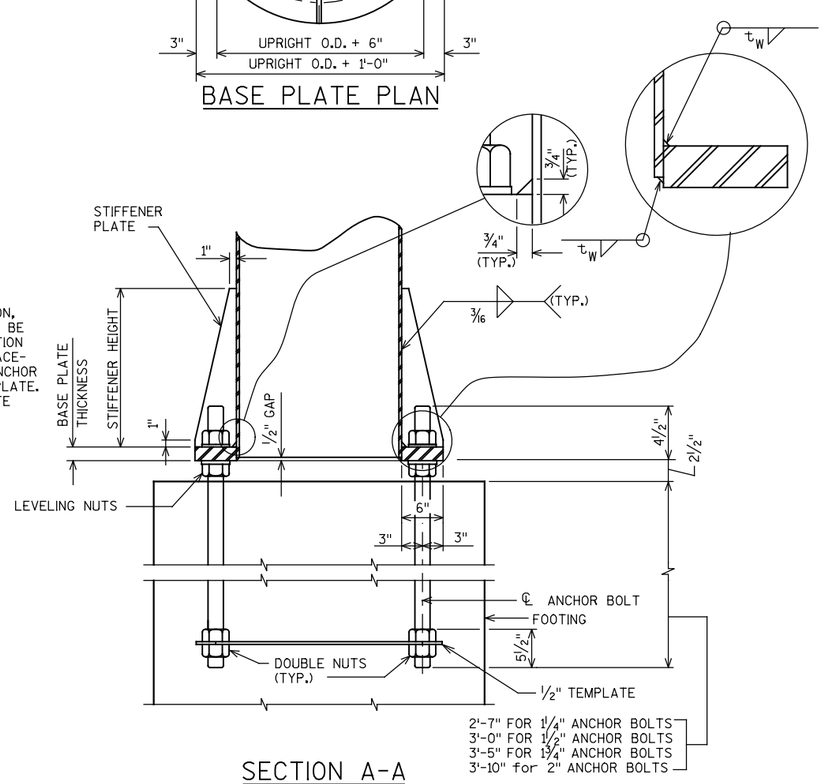
● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.



COUPLING DETAIL

(CONNECTION BOLTS OMITTED FOR CLARITY)

NOTE:
PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE. REMOVE TOP TEMPLATE (NOT SHOWN) AFTER CONCRETE SETS.



SECTION A-A

BASE PLATE & UPRIGHT COLUMN DETAILS

COLUMN O.D. X THK.	ANCHOR BOLTS	BASE PLATE THICKNESS (IN.)	STIFFENER PLATE THICKNESS (IN.)	STIFFENER PLATE HEIGHT (IN.)	t_W (IN.)
12.75"X0.688"	2"	2"	1"	13"	3/8"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-170

DRAWN BY VC | PLANS CK'D. CES

GALVANIZED STEEL SIGN BRIDGE DETAILS

SHEET 6 OF 9

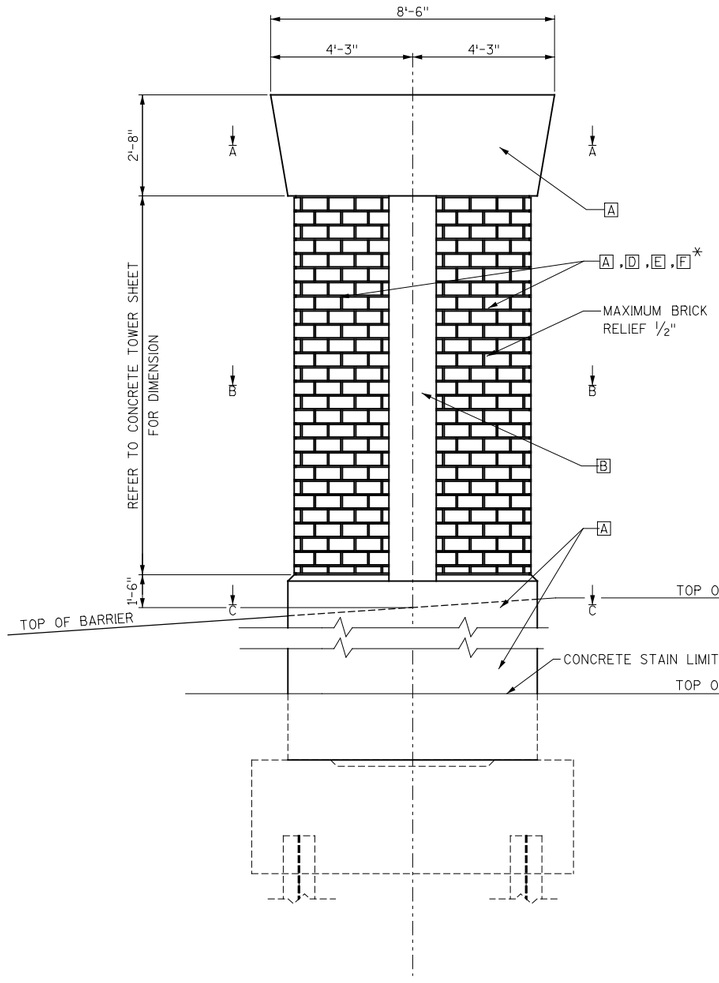
2650

8

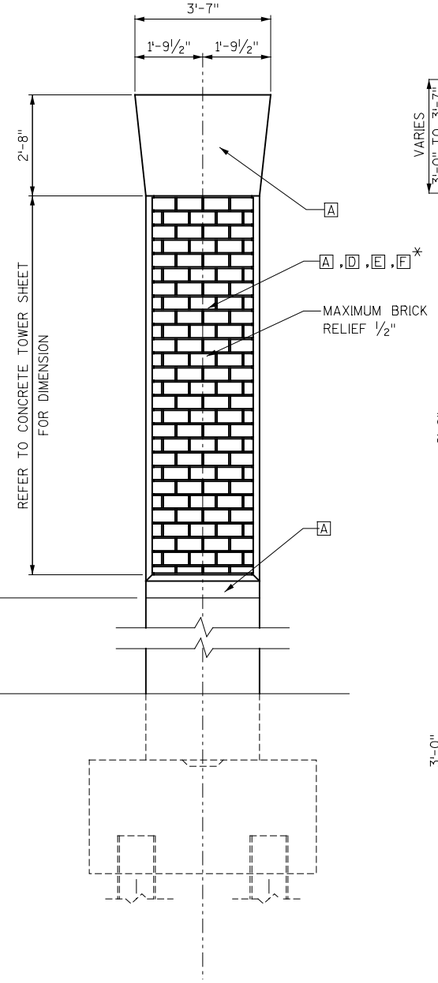
8

FILE NAME :S-05-0170.dgn
PLOT DATE :2/15/2013 8:26:42 AM
PLOT BY : MatthewHeiland
DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

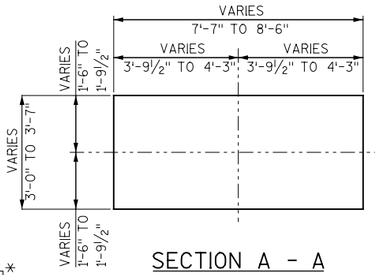
STATE PROJECT NUMBER
1133-03-77



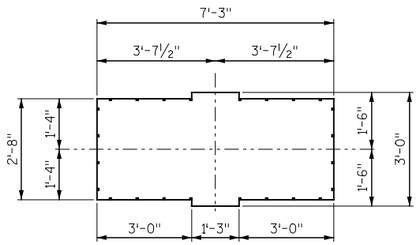
ELEVATION VIEW



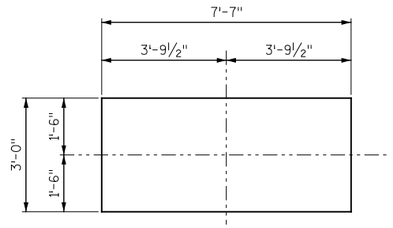
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-170

DRAWN BY VC | PLANS CK'D. CES

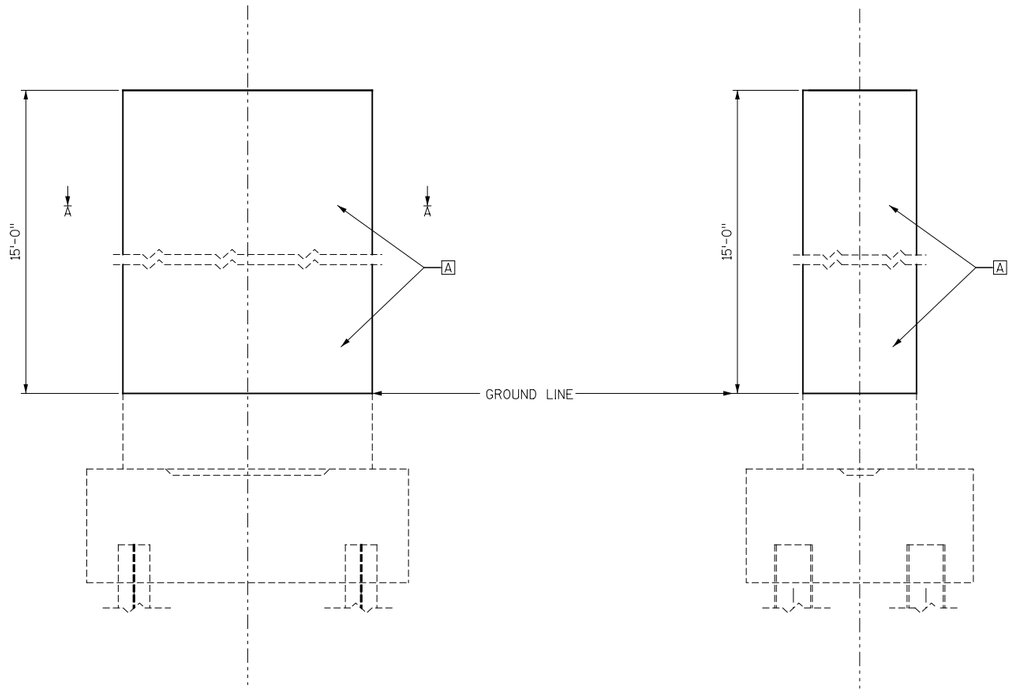
CONCRETE TOWER 1 AESTHETIC DETAILS

SHEET 7 OF 9

2651

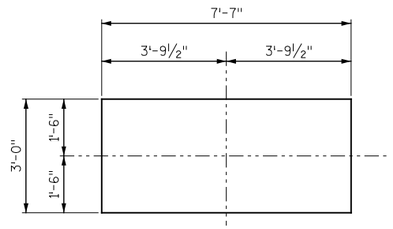
FILE NAME :S-05-0170.dgn
PLOT DATE :2/15/2013 8:26:42 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-03-77



ELEVATION VIEW

END VIEW



SECTION A - A

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-170

DRAWN BY VC | PLANS CK'D. CES

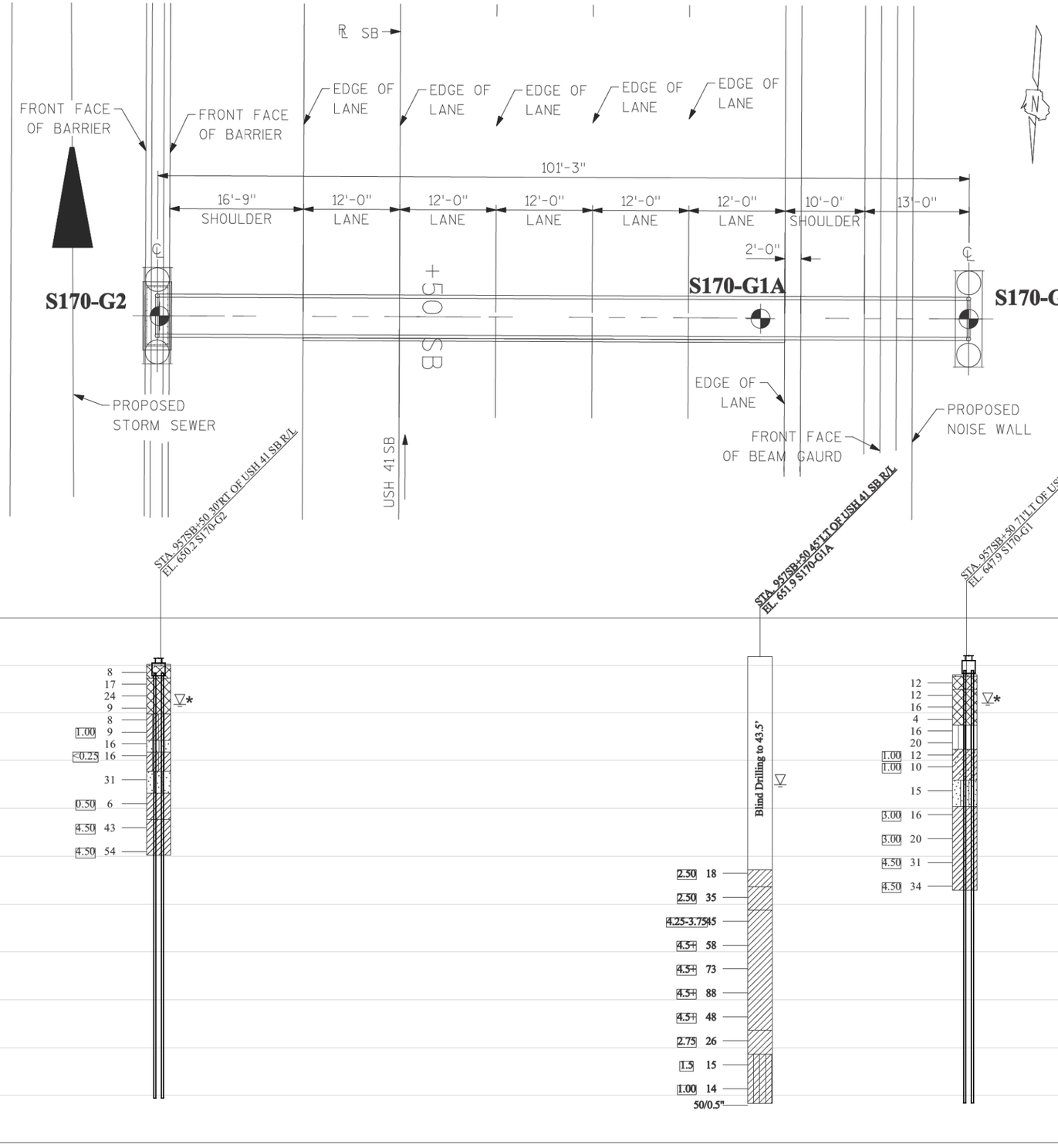
CONCRETE TOWER 2
AESTHETIC DETAILS

SHEET 8 OF 9

2652

FILE NAME :S-05-0170.dgn
PLOT DATE :2/15/2013 8:26:42 AM PLOT BY : MatthewHeiandvik DRV :Pdf_bw_HS.by levelplt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

USH 41 (S-05-170)
Green Bay, WI



Note: ▽ -Water level during drilling. ▽ -Water level assumed from sample condition. Boring S170-G1 and S170-G2 were performed in October 2011, and boring S170-G1A was performed in April 2012.*

STATE PROJECT NUMBER

1133-09-71

ABBREVIATIONS

F—Fine M—Medium C—Coarse
Ws—Weathered So—Sound

MATERIAL SYMBOLS

Topsoil, Silt, Sandstone, Sand, Peat, Limestone, Gravel, Clay, Fill

LEGEND OF PROBING

95/6=95 BLOWS FOR 6" PENETRATION PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

Probing No.
Sta.
Elevation
7 Average Blows Per Foot
Refusal 95/6

LEGEND OF BORING

Boring No.
Elev. Sta.
Unconfined STRENGTH → 7.7 7
Blows Per Ft. USING 140# WT. FALLING 30"
Wash Sample
Shelby Tube S.T.
Ground Water ELEVATION
No Ground Water OBSERVED ABOVE THIS ELEVATION
Sandy Gravel
F. Boulders or COBBLES
Sand
Silty Clay
So Limestone

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

GESTRA
Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

STRUCTURE S-05-170

04/20/2012	DRAWN BY RE	PLANS CK'D. NS

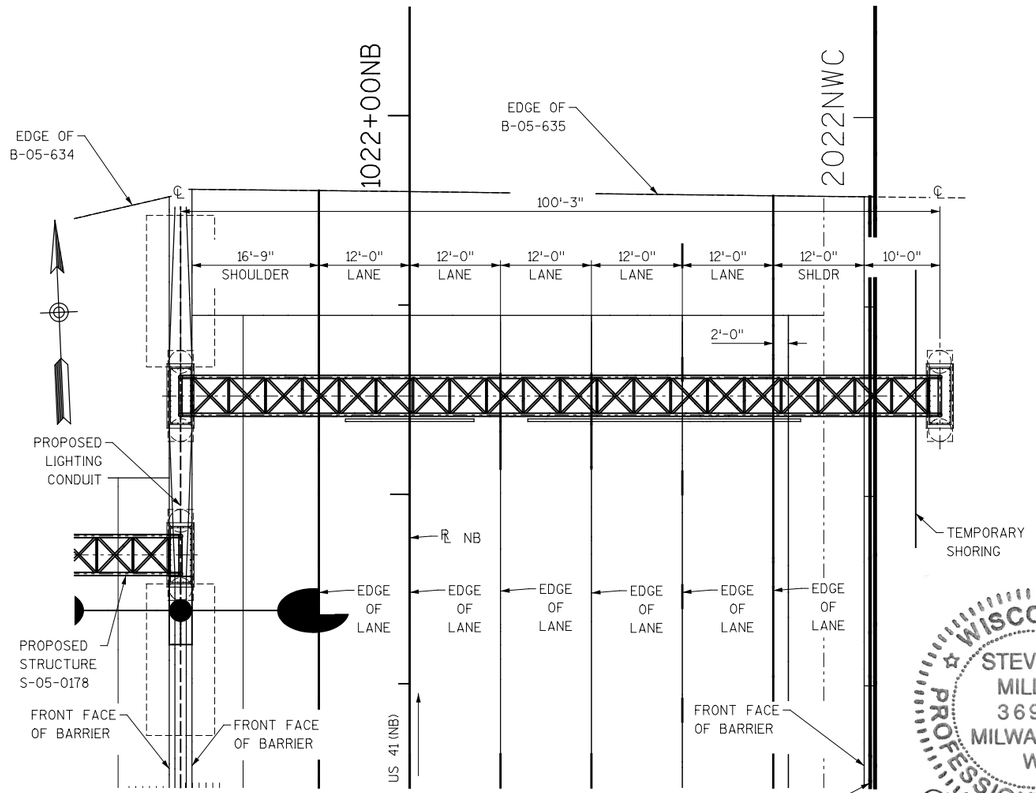
Subsurface Exploration

SHEET 9 of 9
2653

SCALE 1" = 15'

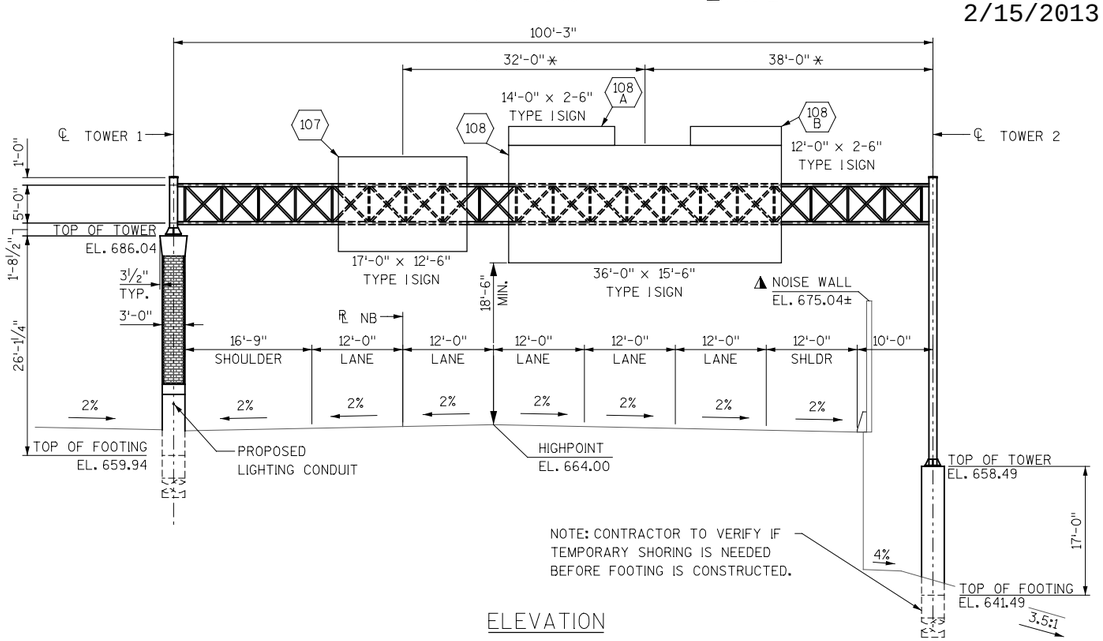
STATE PROJECT NUMBER

1133-03-77



PLAN

STA. 1021NB+63



NOTE: CONTRACTOR TO VERIFY IF TEMPORARY SHORING IS NEEDED BEFORE FOOTING IS CONSTRUCTED.

ELEVATION

(LOOKING NORTH AT FRONT FACE OF SIGN)

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER

Steven J. Miller

2/15/2013

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CONCRETE TOWER 1 FOUNDATION DETAILS
3. CONCRETE TOWER 1 DETAILS
4. CONCRETE TOWER 2 DETAILS
5. GALVANIZED STEEL SIGN BRIDGE
6. SIGN BRIDGE DETAILS
7. CONCRETE TOWER 1 AESTHETIC DETAILS
8. CONCRETE TOWER 2 AESTHETIC DETAILS

ULTIMATE DESIGN STRESSES:

TOWER

CONCRETE: .....f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

SIGN BRIDGE

STEEL COLUMN PIPE: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
STEEL PIPE MEMBERS OF TRUSS: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
PLATES, BARS, STRUCTURAL ANGLES: .....fy = 36,000 psi
A.S.T.M. A709 GRADE 36
STEEL ANCHOR BOLTS: .....fy = 55,000 psi
A.A.S.H.T.O. M314-90 GRADE 55
ALL BOLTED CONNECTIONS: ¾" ϕ A325 BOLTS,
GALVANIZED A.S.T.M. A153, CLASS C

DESIGN DATA

DEAD LOAD - WT. OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.
LIVE LOAD - NONE.
ICE LOAD - 3 P.S.F. TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND‡)	133

‡ MIN. VALUE OF 25 PSF FOR GR. 3

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
1152	16'-0"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ABOVE THE DRILLED SHAFTS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 - ¼" DIAMETER BY 1¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE S-05-171 "

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN CENTER TO CENTER OF CHORDS & SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-171 "

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

⬡ ** - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

* SIGN PANEL DIMENSIONS ARE TO THE CENTER OF THE SIGN PANEL. CONTRACTOR TO FIELD VERIFY SIGN PANEL DISPLAYS CORRELATE WITH ROADWAY LANE LAYOUT.

⚠ REFER TO NOISE WALL PLANS FOR LATERAL CLEARANCE.

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
206.6000.S	TEMPORARY SHORING	SF	320
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	69
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	4780
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	6540
641.6600.968	SIGN BRIDGE S-05-171	LS	1
652.0135	CONDUIT RIGID METALLIC 3 - INCH	LF	8
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	240
SPV.0165.501	STAINING CONCRETE	SF	800
SPV.0165.502	STAINING CONCRETE BRICK	SF	240

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE S-05-171

DE PERE - SUAMICO

COUNTY: BROWN
TOWN/CITY/VILLAGE: GREEN BAY

DESIGN SPEC. AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	CES	DESIGN CK'D.	SJM	DRAWN BY	MJH	PLANS CK'D.	CES

PLAN & ELEVATION

SHEET 1 OF 8

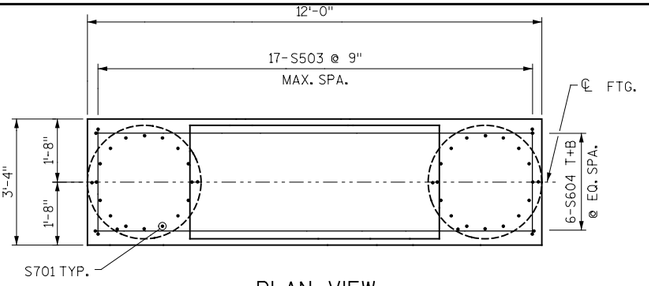
2654

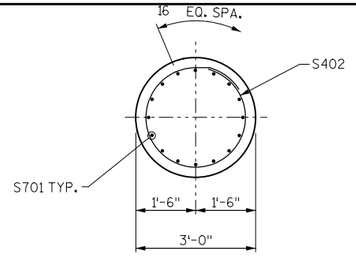
8

8

FILE NAME :S-05-171.dgn
PLOT DATE :2/15/2013 9:22:18 AM PLOT BY : MatthewHeiland@E DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-03-77





BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S701		32	20'-6"			DRILLED SHAFT VERTICAL
S402		36	9'-4"	▲		DRILLED SHAFT HOOP
S503		17	13'-3"	▲		CAP BEAM STIRRUP
S604		12	13'-2"	▲		CAP BEAM LONGITUDINAL
S605		8	11'-6"			CAP BEAM LONGITUDINAL
S806	X	30	14'-3"	▲		CAP BEAM VERTICAL
S507	X	26	12'-5"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S808	X	30	25'-11"			VERT. REINF., MIDDLE OF TOWER
S409	X	4	13'-10"			VERT. REINF., MIDDLE OF TOWER
S510	X	48	11'-6"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	40	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	39	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	72	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

THE BOTTOM OF THE DRILLED HOLE SHALL BE FIRM AND THOROUGHLY CLEANED SO NO LOOSE OR COMPRESSIBLE MATERIALS ARE PRESENT AT THE TIME OF THE CONCRETE PLACEMENT.

IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

IF THE ENGINEER DETERMINES THE POSSIBILITY OF CAVE-INS, OR SOIL DISPLACEMENT FROM THE WALLS EXISTS, OR IF NECESSARY TO SHUT OFF SEEPAGE WATER, THEN LINE THE REMAINING DEPTH OF THE FOOTING SHAFT WITH A SUITABLE TEMPORARY CASING. PROVIDE, INSTALL AND REMOVE THE TEMPORARY CASING ACCORDING TO SECTION 636 OF THE STANDARD SPECIFICATIONS.

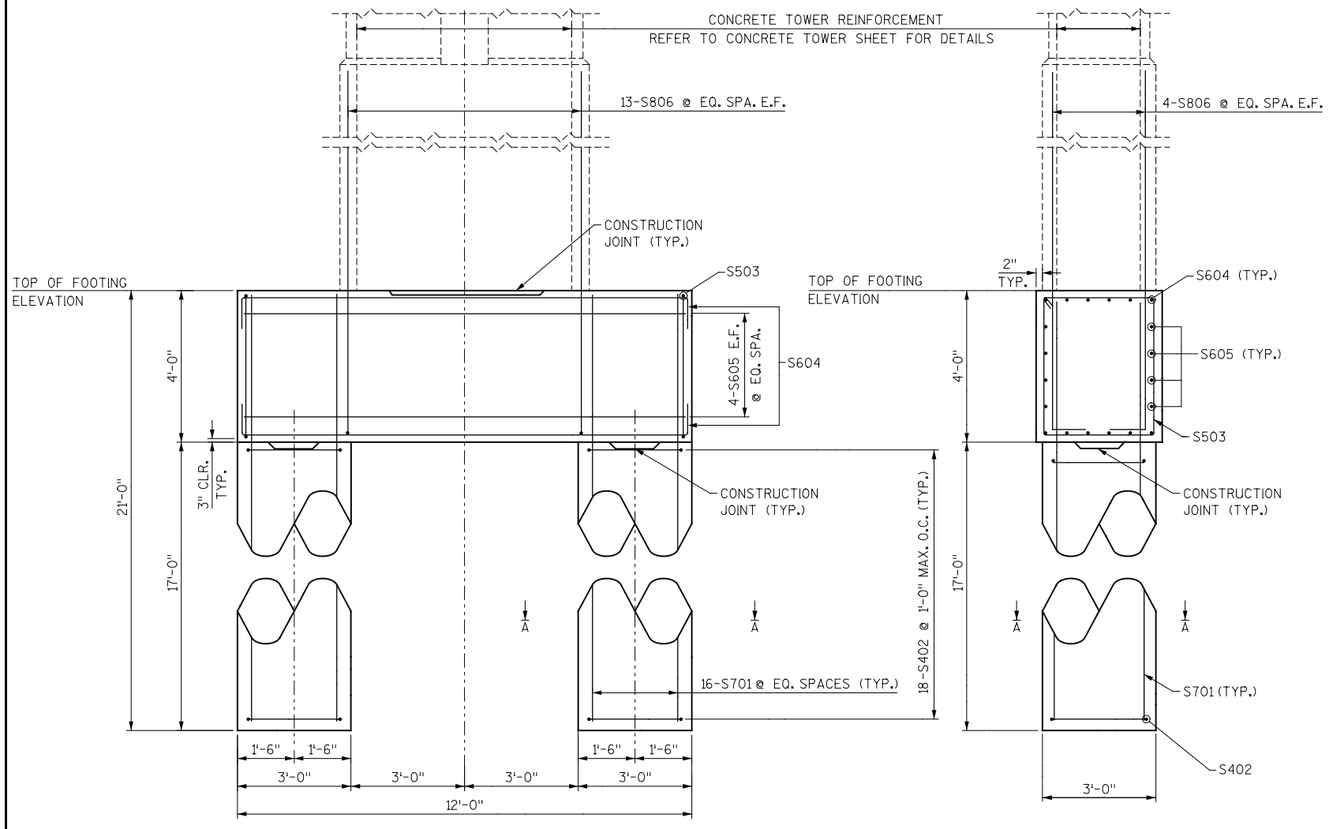
FOUNDATION DATA

THE FOLLOWING SOIL PARAMETERS WERE USED FOR THE DESIGN OF THE FOUNDATION SYSTEM. IF VARIATIONS IN THE SOIL PARAMETERS ARE FOUND DURING CONSTRUCTION NOTIFY PROJECT ENGINEER FOR REQUIRED MODIFICATION TO THE FOUNDATION SYSTEM.

APPROXIMATE BOTTOM ELEVATION	ALLOWABLE SKIN FRICTION	ALLOWABLE END BEARING	UNDRAINED COHESION	UNDRAINED FRICTION ANGLE	DRAINED COHESION	DRAINED FRICTION ANGLE
(FT)	(PSF)	(PSF)	(PSF)	(DEGREE)	(PSF)	(DEGREE)
643	490	6,000	-	30	-	30
640	160	3,600	1,000	-	100	24
632	1,000	16,800	-	30	-	30
626	1,000	8,000	-	28	-	28
622	320	7,000	2,000	-	100	28
-	960	21,600	6,000	-	200	35

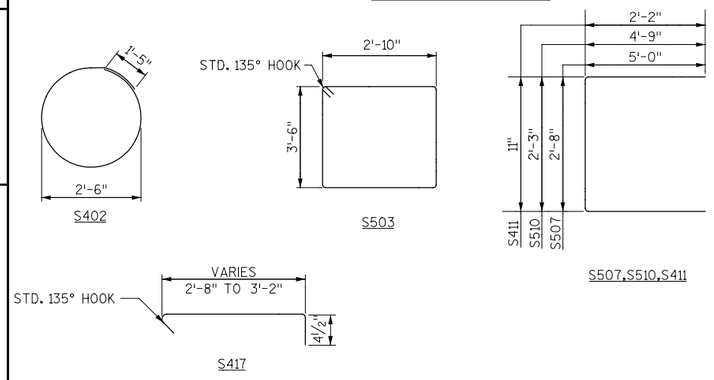
THE GROUNDWATER LEVEL WAS ESTIMATED AT ELEVATION 636.00 FEET DURING THE SUBSURFACE EXPLORATION.

PLAN VIEW

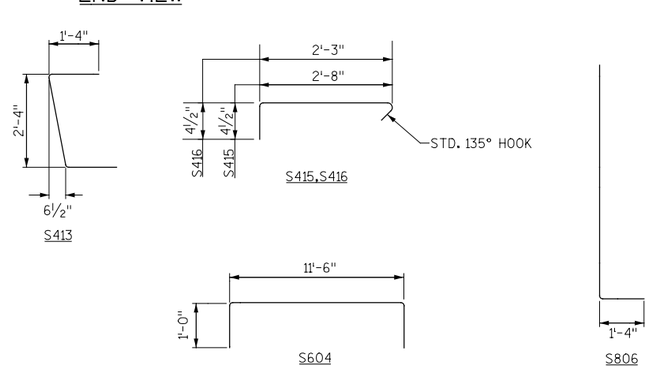


SECTION A-A

ELEVATION VIEW



END VIEW



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-171

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 FOUNDATION DETAILS

SHEET 2 OF 8

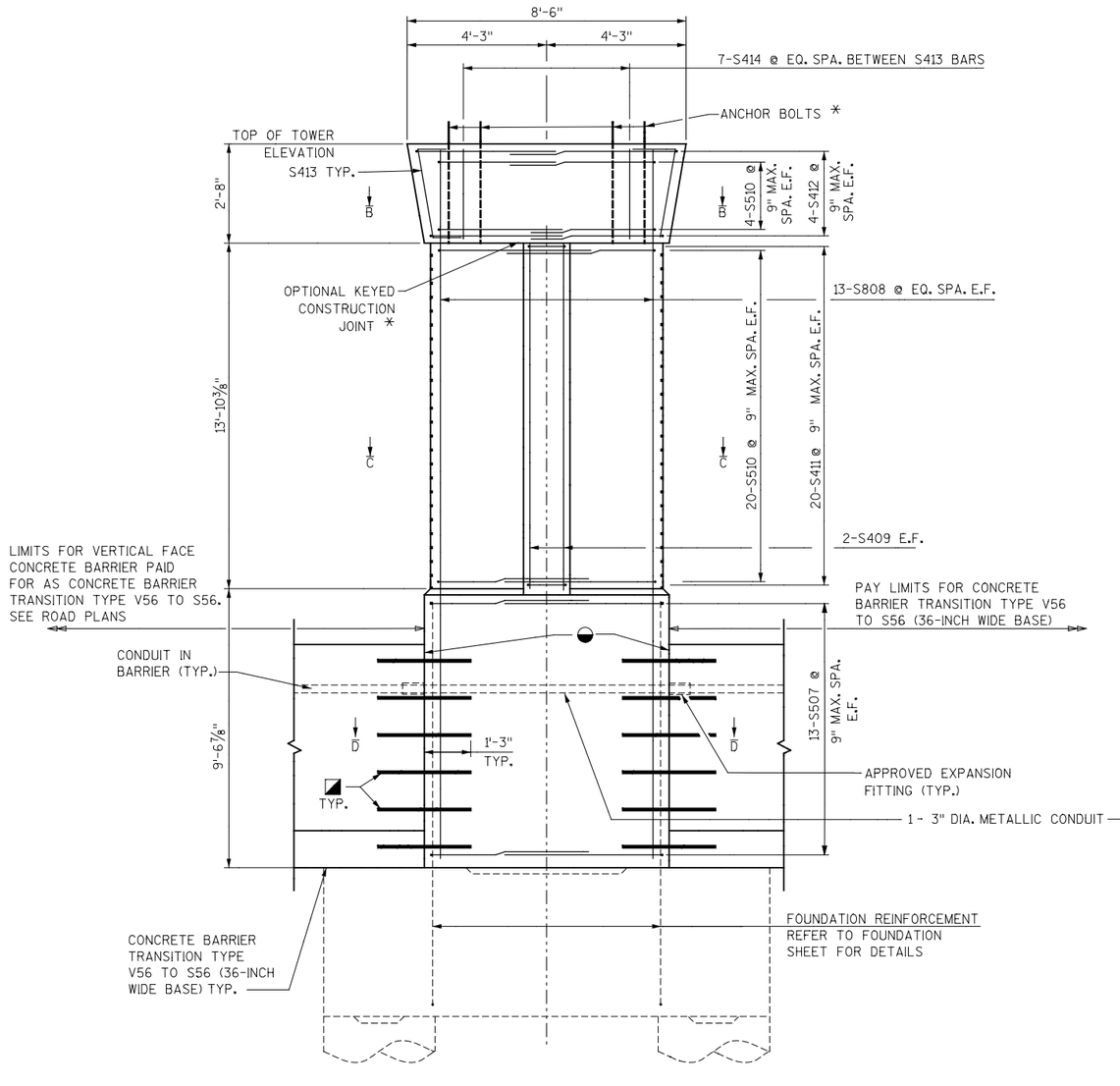
2655

8

8

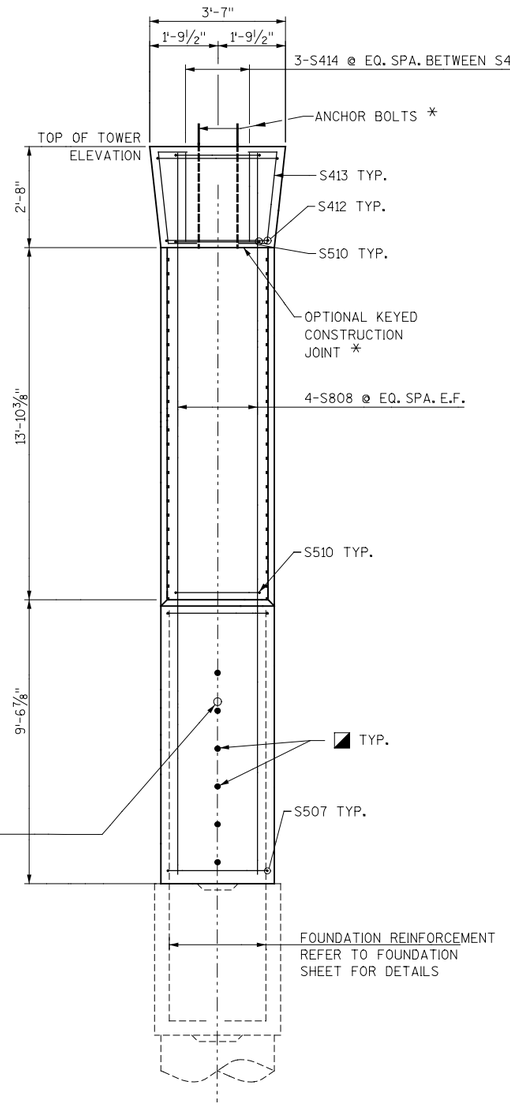
FILE NAME :S-05-0171.dgn
PLOT DATE :12/5/2013 9:22:21 AM PLOT BY : MatthewHe@and.v81 DRV :Pdf_bw_HS.by level.pit PEN :CEL.TEXTSUB.SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-03-77



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

APPROVED EXPANSION FITTING SHALL BE CAST INTO THE BARRIER OR TOWER CONCRETE, WHICH EVER ELEMENT IS CAST FIRST.

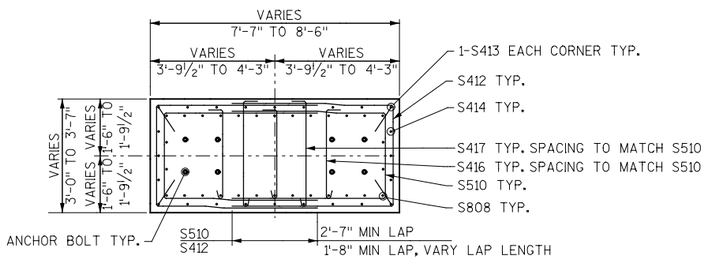
COORDINATE THE LOCATION OF THE ELECTRICAL CONDUIT IN THE TOWER TO MATCH THE LOCATION OF THE CONDUIT IN THE CONCRETE BARRIER.

SPACE S407 BARS TO MISS CONDUIT.

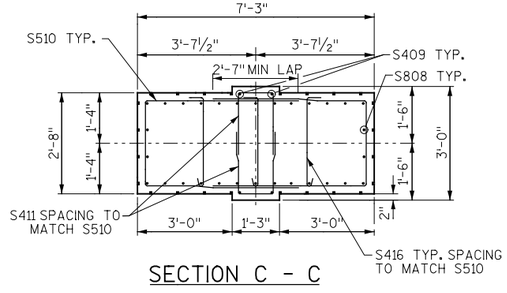
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.

◪ PLACE 1" ϕ PLAIN (SMOOTH) ROUND DOWEL BARS, 2'-6" LONG BETWEEN BARRIER AND CONCRETE TOWER. USE DEBONDER ON EXTENSION INTO BARRIER. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. SPACE DOWELS AT 1'-0". COST OF ITEMS ARE TO BE INCLUDED IN THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

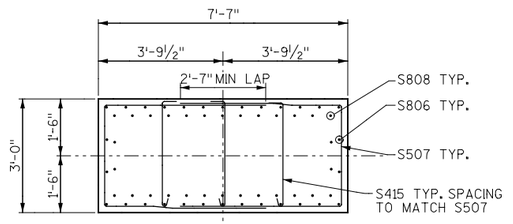
◒ PLACE 1/2" EXPANSION JOINT FILLLER BETWEEN TOWER AND BARRIER WALL, TYP. THE JOINT FILLER SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".



SECTION B - B



SECTION C - C



SECTION D - D

(DOWEL BARS OMITTED FOR CLARITY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-171

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 DETAILS

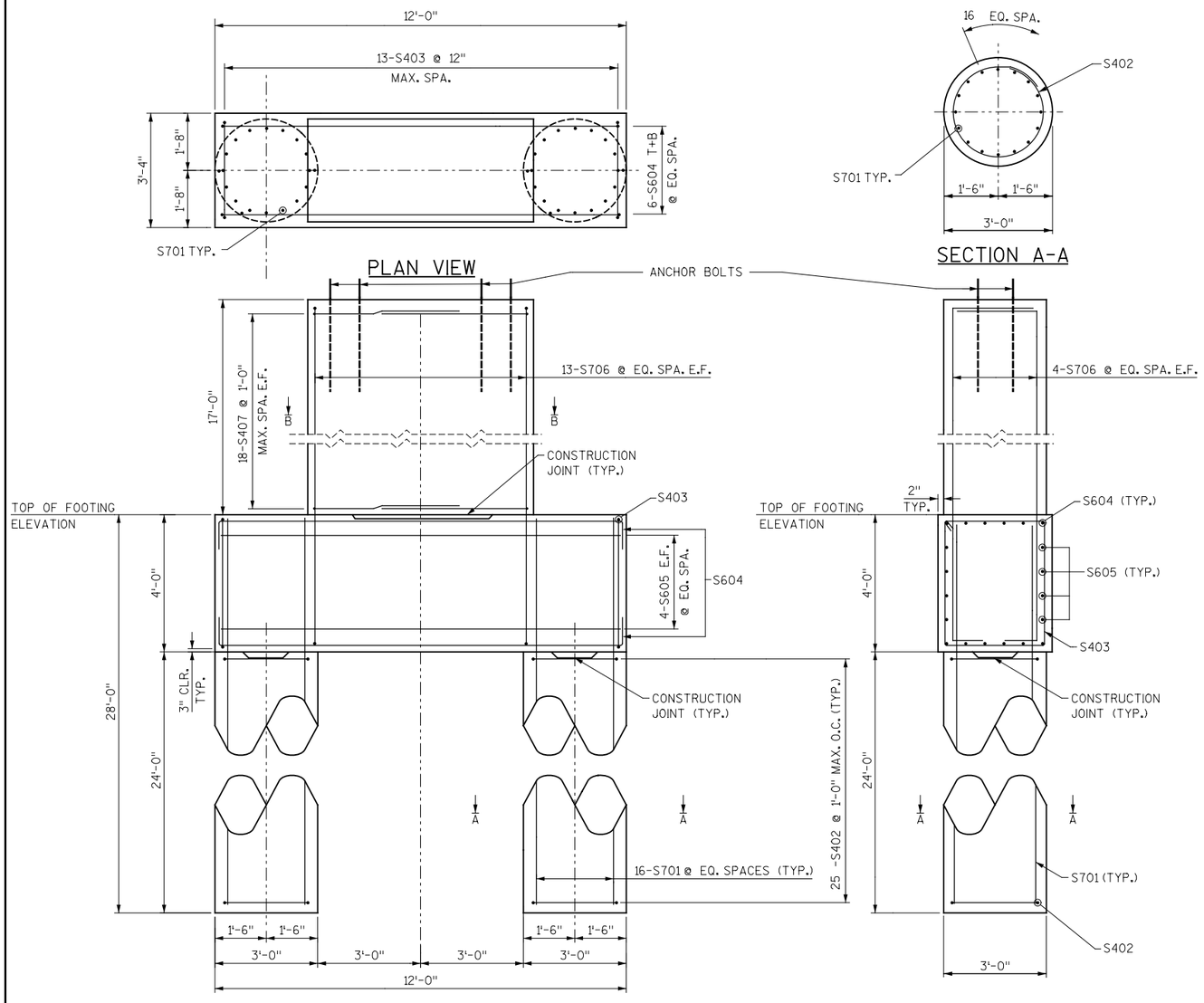
SHEET 3 OF 8
2656

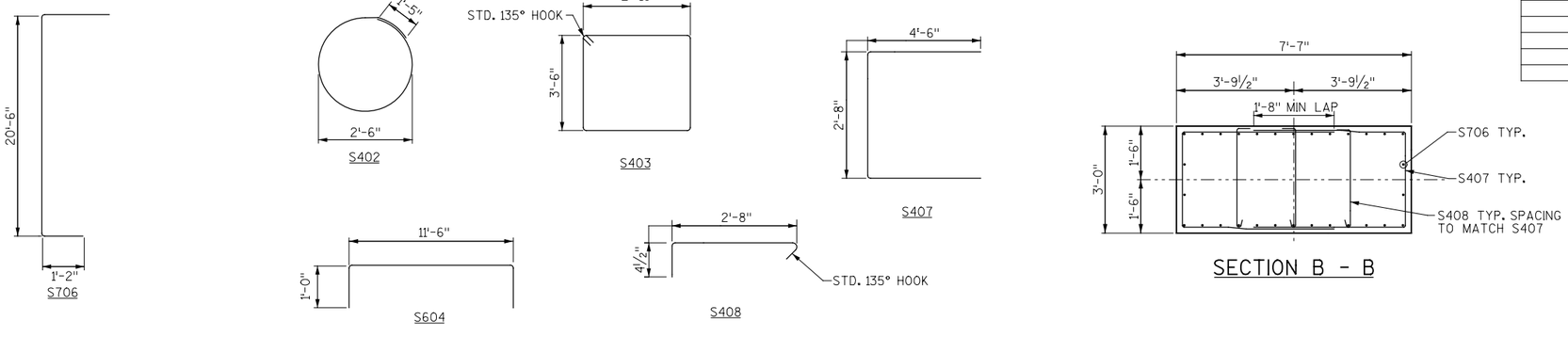
8

8

FILE NAME :S-05-171.dgn
PLOT DATE :2/15/2013 9:22:22 AM PLOT BY : MatthewHe@cdv81 DRV :Pdf_bw_HS.by level.dit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-03-77





BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S701		32	27'-6"			DRILLED SHAFT VERTICAL
S402		50	9'-4"	▲		DRILLED SHAFT HOOP
S403		13	13'-2"	▲		CAP BEAM STIRRUP
S604		12	13'-2"	▲		CAP BEAM LONGITUDINAL
S605		8	11'-6"			CAP BEAM LONGITUDINAL
S706	X	30	24'-2"	▲		CAP BEAM VERTICAL
S407	X	36	11'-6"	▲		HORZ. STIRRUP, TOWER
S408	X	54	3'-4"	▲		HORZ. CROSSTIE, TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

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IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

IF THE ENGINEER DETERMINES THE POSSIBILITY OF CAVE-INS, OR SOIL DISPLACEMENT FROM THE WALLS EXISTS, OR IF NECESSARY TO SHUT OFF SEEPAGE WATER, THEN LINE THE REMAINING DEPTH OF THE FOOTING SHAFT WITH A SUITABLE TEMPORARY CASING. PROVIDE, INSTALL AND REMOVE THE TEMPORARY CASING ACCORDING TO SECTION 636 OF THE STANDARD SPECIFICATIONS.

FOUNDATION DATA

THE FOLLOWING SOIL PARAMETERS WERE USED FOR THE DESIGN OF THE FOUNDATION SYSTEM. IF VARIATIONS IN THE SOIL PARAMETERS ARE FOUND DURING CONSTRUCTION NOTIFY PROJECT ENGINEER FOR REQUIRED MODIFICATION TO THE FOUNDATION SYSTEM.

			UNDRAINED		DRAINED	
APPROXIMATE BOTTOM ELEVATION	ALLOWABLE SKIN FRICTION	ALLOWABLE END BEARING	COHESION	FRICTION ANGLE	COHESION	FRICTION ANGLE
(FT)	(PSF)	(PSF)	(PSF)	(DEGREE)	(PSF)	(DEGREE)
639	115	2,400	-	30	-	30
632	160	3,600	1,000	-	100	25
622	520	7,000	-	28	-	28
618	600	15,300	-	30	-	30
-	960	21,600	6,000	-	200	35

THE GROUNDWATER LEVEL WAS ESTIMATED AT ELEVATION 636.00 FEET DURING THE SUBSURFACE EXPLORATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-171

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 DETAILS

SHEET 4 OF 8

2657

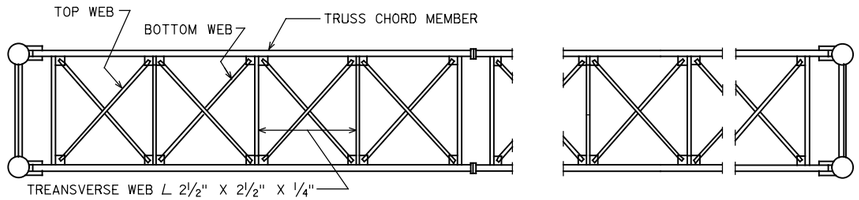
8

8

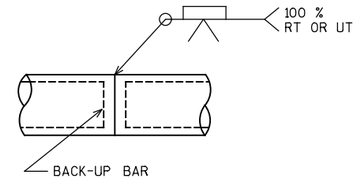
FILE NAME :S-05-171.dgn
PLOT DATE :2/15/2013 9:22:24 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by level.pit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

1133-03-77



PLAN

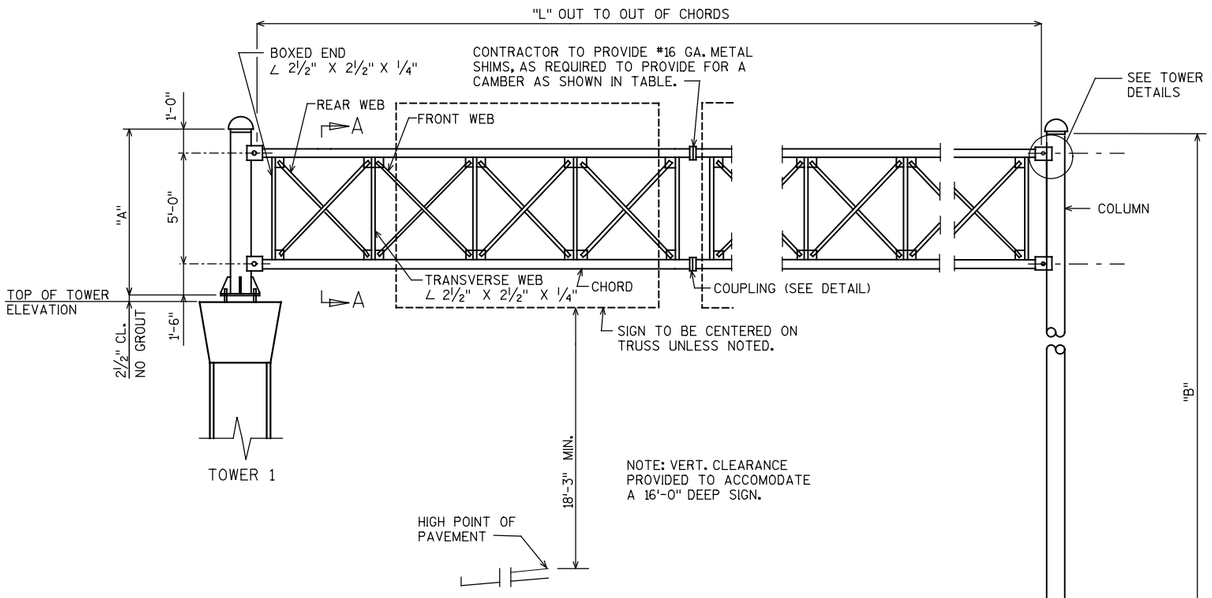


OPTIONAL COLUMN OR CHORD SPLICE DETAIL

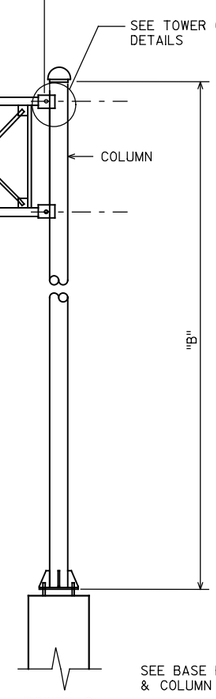
GENERAL NOTES

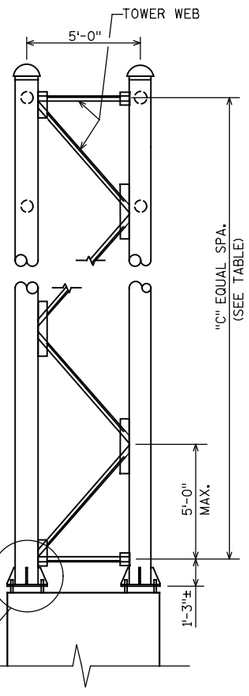
DRAWING SHALL NOT BE SCALED

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

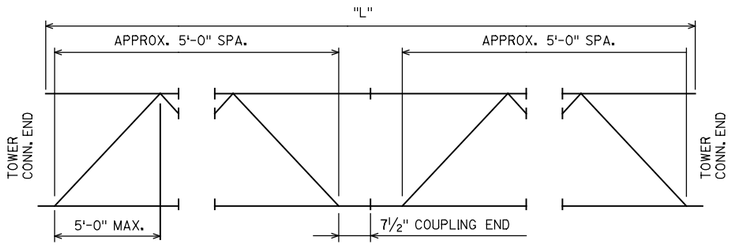


ELEVATION



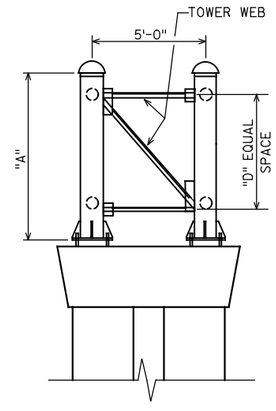


TOWER 2 END VIEW

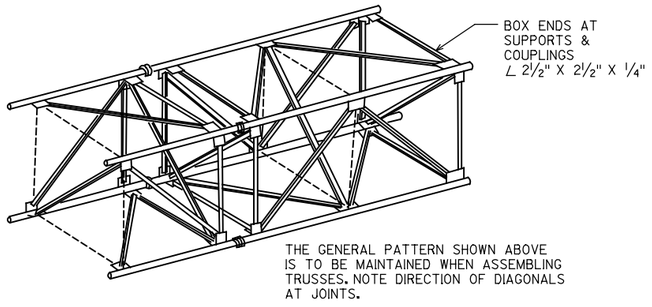


TRUSS ARRANGEMENT

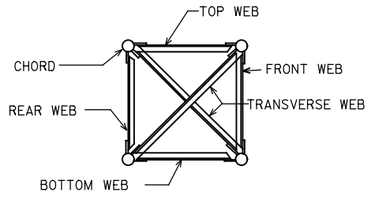
FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 20'-0" & A MULTPLE OF 5'-0". CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS. CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.



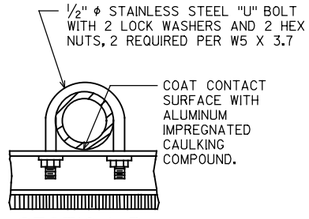
TOWER 1 END VIEW



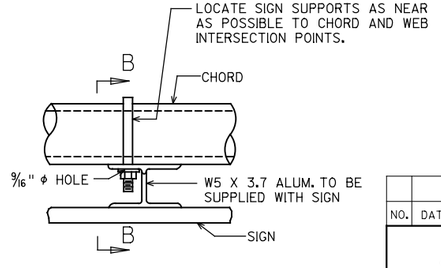
TYPICAL TRUSS SECTION



SECTION A



SECTION B



TYPICAL SIGN CONNECTION

STRUCTURE MEMBER TABLE

A	B	C	D	CHORDS O.D. X THK.	TOP & BOTTOM WEB	FRONT & REAR WEB	COUPLING PLATE D1 & "T"	BOLT CIRCLE DIA. "D2"	NO. OF BOLTS IN COUPLING	CAMBER	COLUMN O.D. X THK.	TOWER WEBS	"L"
7'-6"	35'-0⅝	7	1	4.5" X 0.438"	3"X3"X1/4"	3"X3"X1/4"	10.5" x 1.375"	7.5"	6	2-1/4"	12.75"x0.688"	3"x3"x3/8"	98'-11¼

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-171

DRAWN BY VC | PLANS CK'D. CES

GALVANIZED STEEL SIGN BRIDGE 2658

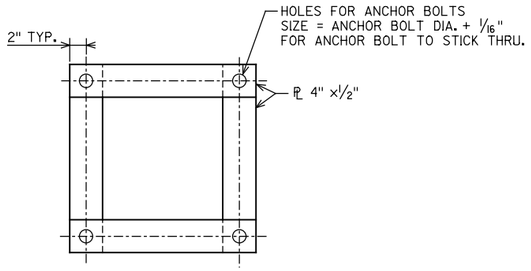
SHEET 5 OF 8

8

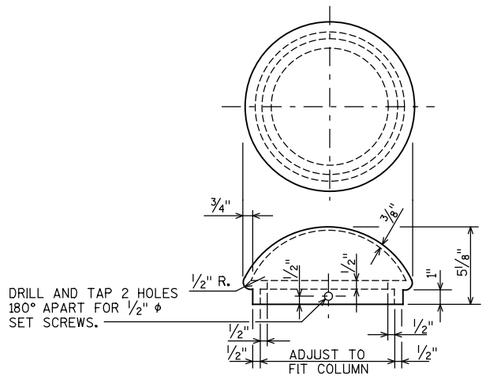
8

FILE NAME :S-05-171.dgn
PLOT DATE :2/15/2013 9:22:24 AM
PLOT BY : MatthewHe@dot.wi
DRV :Pdf_bw_HS.by level.pit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

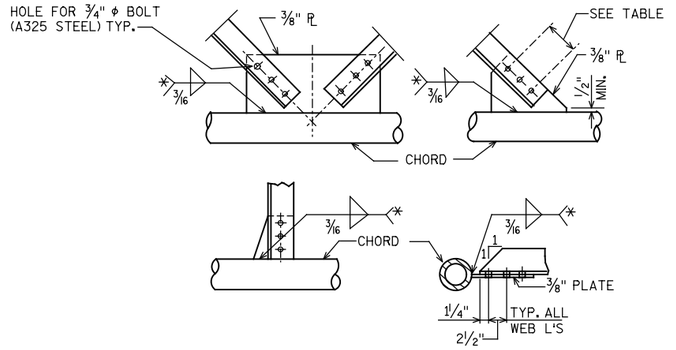
STATE PROJECT NUMBER
1133-03-77



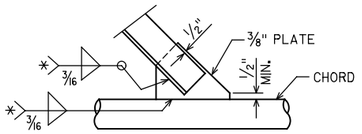
ANCHOR PLATE/TEMPLATE PLAN



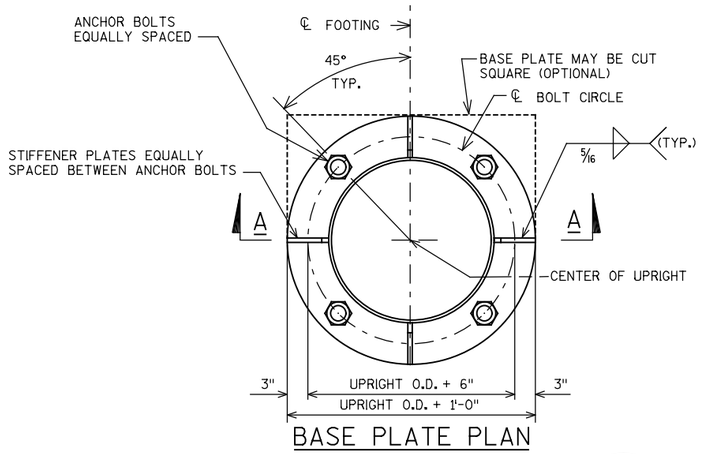
TOWER CAP DETAIL



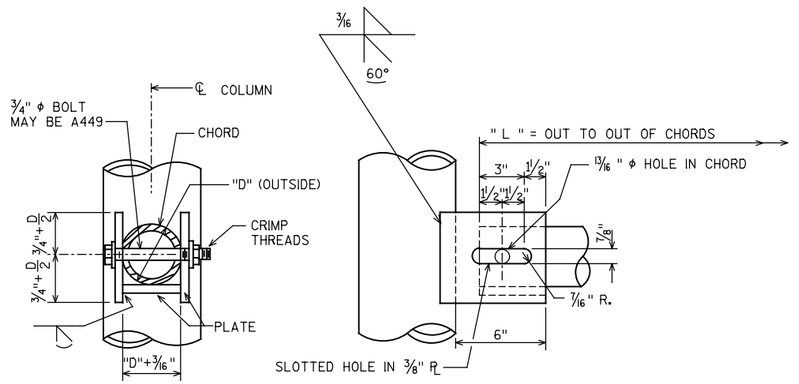
TYPICAL TRUSS CONNECTION DETAILS



TYPICAL WELDED ALTERNATE



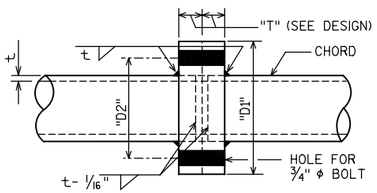
BASE PLATE PLAN



TOWER CONNECTION DETAIL

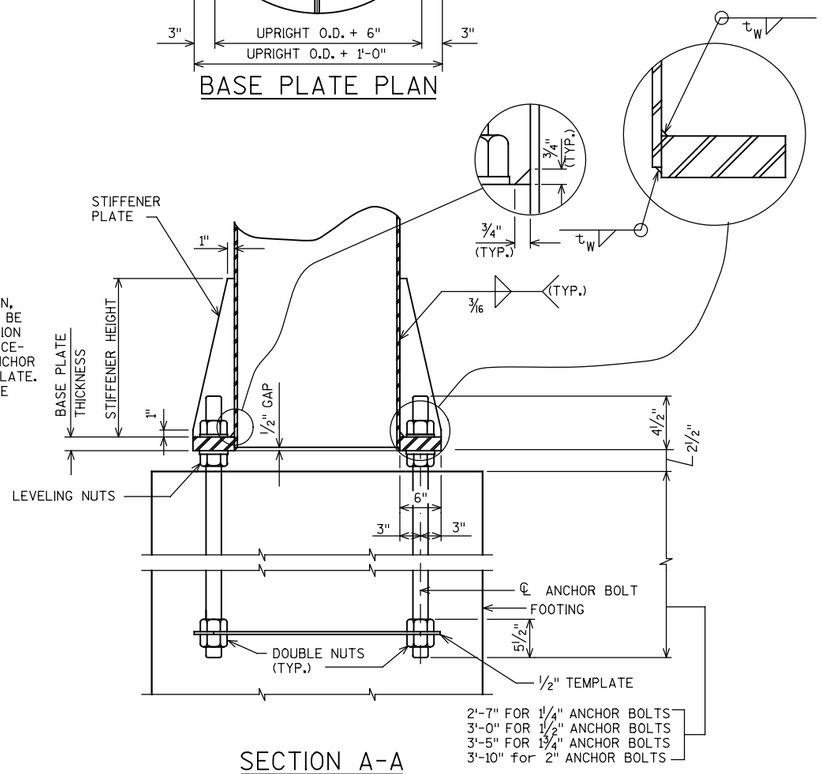
*ANGLE	WELD LENGTH	NO. OF BOLTS
● 2 1/2"×2 1/2"×1/4"	11"	3
3"×3"×3/16"	10"	3
3"×3"×1/4"	13"	4
3"×3"×5/16"	16 1/2"	5
3"×3"×3/8"	19 1/2"	6
4"×4"×1/4"	18"	5
4"×4"×5/16"	22"	6
4"×4"×3/8"	26"	8
4"×4"×7/16"	30"	9
4"×4"×1/2"	34"	10

● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.



COUPLING DETAIL
(CONNECTION BOLTS OMITTED FOR CLARITY)

NOTE:
PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE. REMOVE TOP TEMPLATE (NOT SHOWN) AFTER CONCRETE SETS.



SECTION A-A

BASE PLATE & UPRIGHT COLUMN DETAILS

COLUMN O.D. X THK.	ANCHOR BOLTS	BASE PLATE THICKNESS (IN.)	STIFFENER PLATE THICKNESS (IN.)	STIFFENER PLATE HEIGHT (IN.)	t_W (IN.)
12.75"X0.688"	2"	2"	1"	13"	3/8"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-171

DRAWN BY: VC | PLANS CK'D.: CES

GALVANIZED STEEL SIGN BRIDGE DETAILS

SHEET 6 OF 8

2659

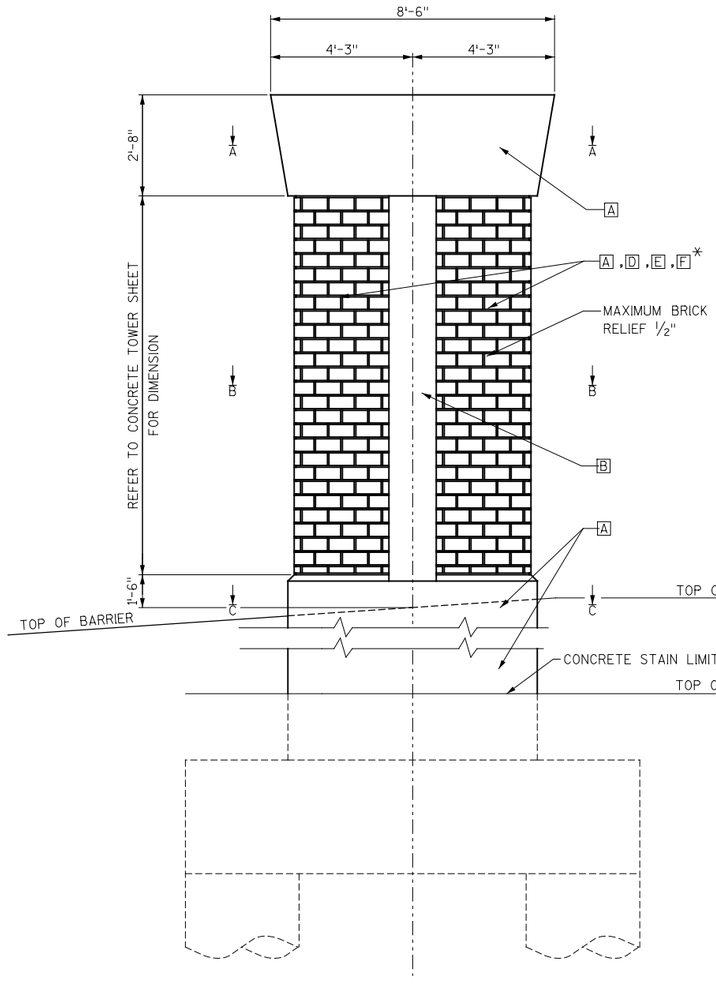
8

8

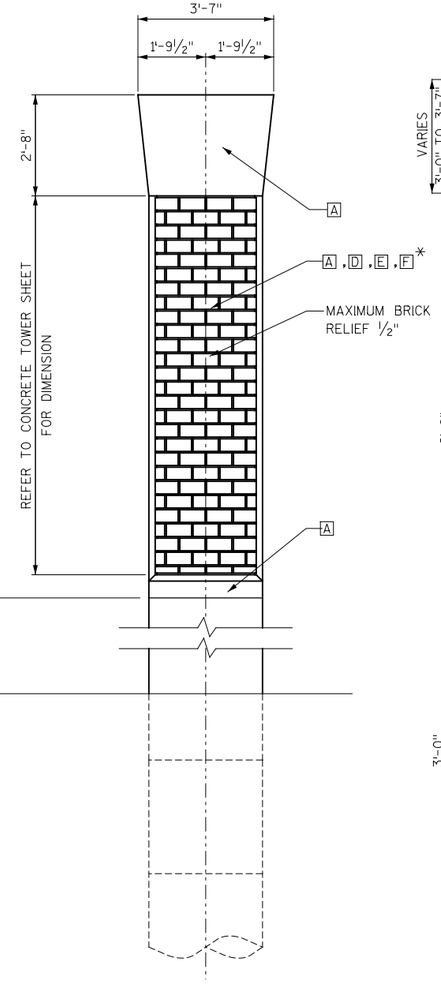
FILE NAME :S-05-171.dgn
PLOT DATE :12/18/2013 9:22:24 AM
PLOT BY : MatthewHeiland98
DRV :Pdf_bw_HS.by level.plt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL_TBL

STATE PROJECT NUMBER

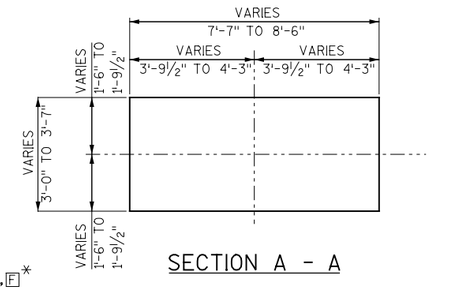
1133-03-77



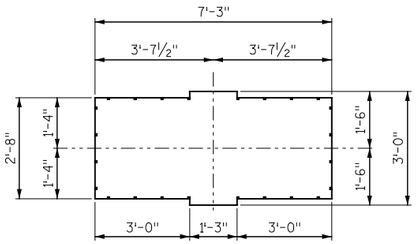
ELEVATION VIEW



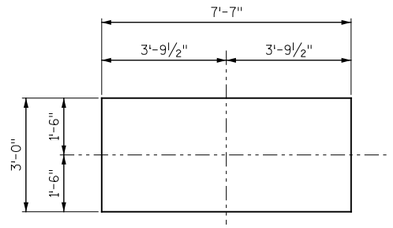
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-171

DRAWN BY VC | PLANS CK'D. CES

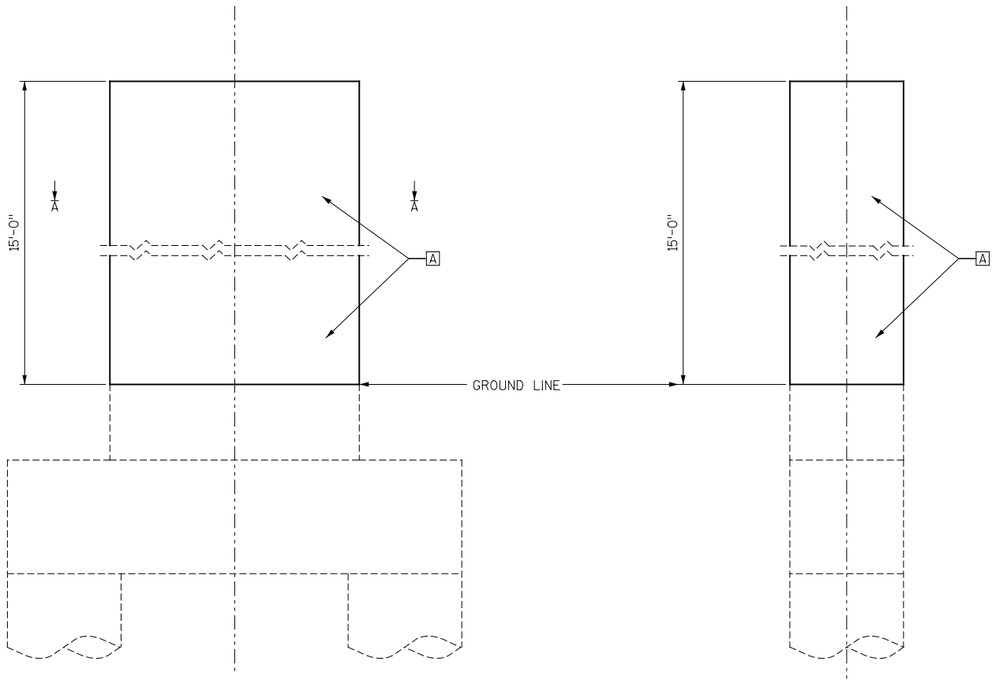
CONCRETE TOWER 1 AESTHETIC DETAILS

SHEET 7 OF 8

2660

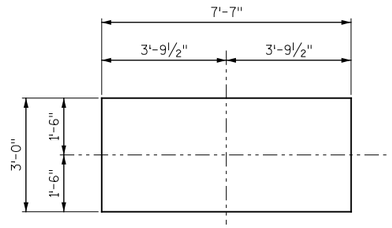
FILE NAME :S-05-171.dgn
PLOT DATE :2/15/2013 9:22:25 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-03-77



ELEVATION VIEW

END VIEW



SECTION A - A

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-171

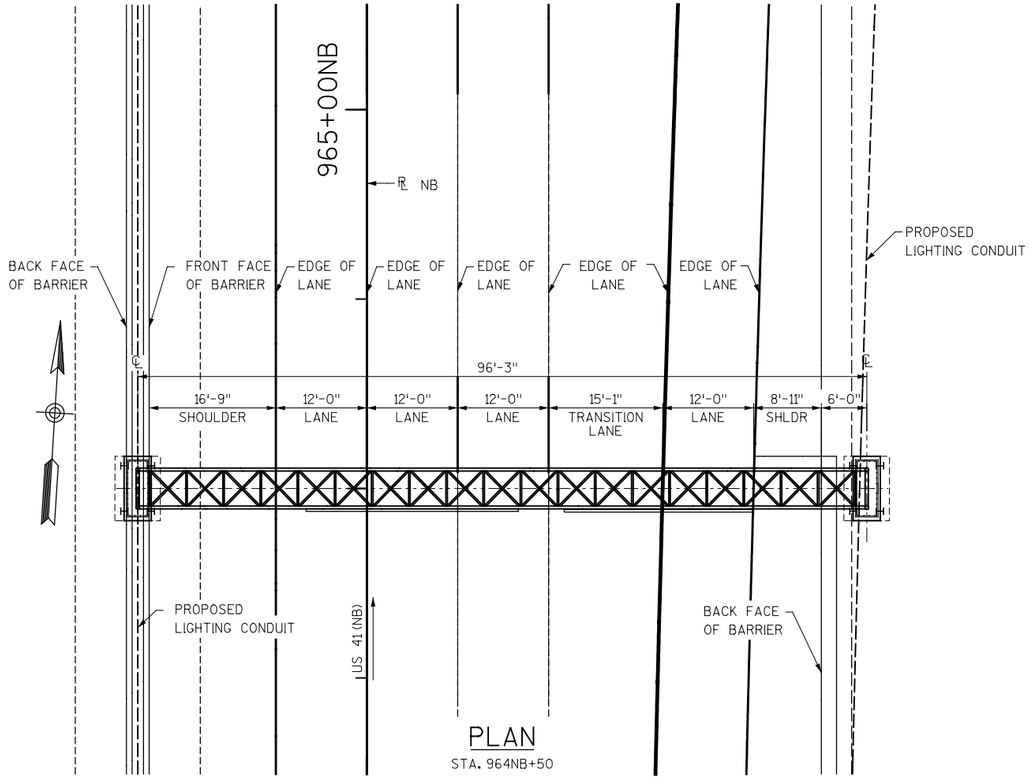
DRAWN BY	PLANS CK'D.
VC	CES

CONCRETE TOWER 2 AESTHETIC DETAILS

SHEET 8 OF 8

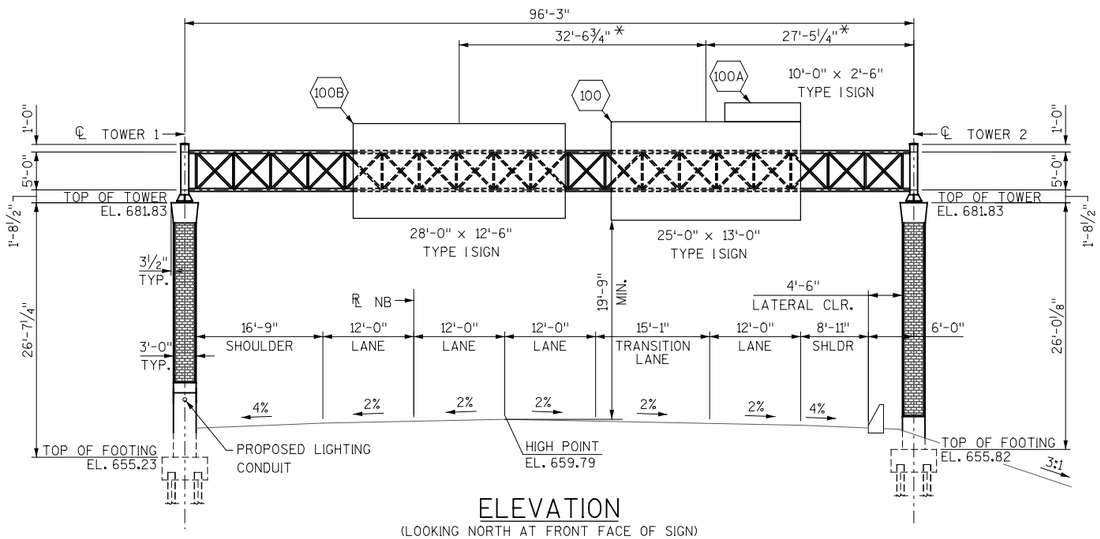
2661

FILE NAME :S-05-171.dgn
PLOT DATE :2/15/2013 9:22:25 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL



PLAN

STA. 964NB+50



ELEVATION

(LOOKING NORTH AT FRONT FACE OF SIGN)

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
1152	16'-0"

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CONCRETE TOWER 1 FOUNDATION DETAILS
3. CONCRETE TOWER 1 DETAILS
4. CONCRETE TOWER 2 FOUNDATION DETAILS
5. CONCRETE TOWER 2 DETAILS
6. GALVANIZED STEEL SIGN BRIDGE
7. SIGN BRIDGE DETAILS
8. CONCRETE TOWER 1 AESTHETIC DETAILS
9. CONCRETE TOWER 2 AESTHETIC DETAILS
10. SUBSURFACE EXPLORATION

ULTIMATE DESIGN STRESSES:

TOWER

CONCRETE: .....f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

SIGN BRIDGE

STEEL COLUMN PIPE: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
STEEL PIPE MEMBERS OF TRUSS: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
PLATES, BARS, STRUCTURAL ANGLES: .....fy = 36,000 psi
A.S.T.M. A709 GRADE 36
STEEL ANCHOR BOLTS: .....fy = 55,000 psi
A.A.S.H.T.O. M314-90 GRADE 55
ALL BOLTED CONNECTIONS: ¾" ϕ A325 BOLTS,
GALVANIZED A.S.T.M. A153, CLASS C

DESIGN DATA

DEAD LOAD - WT. OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.
LIVE LOAD - NONE.
ICE LOAD - 3 P.S.F. TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND‡)	133

‡ MIN. VALUE OF 25 PSF FOR GR. 3

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER

Steven J. Miller

2/15/2013

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ON THE PILES SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 - ¼" DIAMETER BY 1¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE S-05-172 "

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN CENTER TO CENTER OF CHORDS & SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-172 "

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS. WELD TEST AS PER AWS D1.1.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

(##) - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

* SIGN PANEL DIMENSIONS ARE TO THE CENTER OF THE SIGN PANEL. CONTRACTOR TO FIELD VERIFY SIGN PANEL DISPLAYS CORRELATE WITH ROADWAY LANE LAYOUT.

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	610
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	53
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	800
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	8330
641.6600.962	SIGN BRIDGE S-05-172	LS	1
652.1350	CONDUIT RIGID METALLIC 3-INCH	LF	8
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	550
SPV.0165.501	STAINING CONCRETE	SF	990
SPV.0165.502	STAINING CONCRETE BRICK	SF	550

STATE PROJECT NUMBER

1133-03-77

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-172

DE PERE - SUAMICO

COUNTY	~~TOWN/CITY/~~VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CES	SJM	MJH	CES

PLAN & ELEVATION

SHEET 1 OF 10
2662

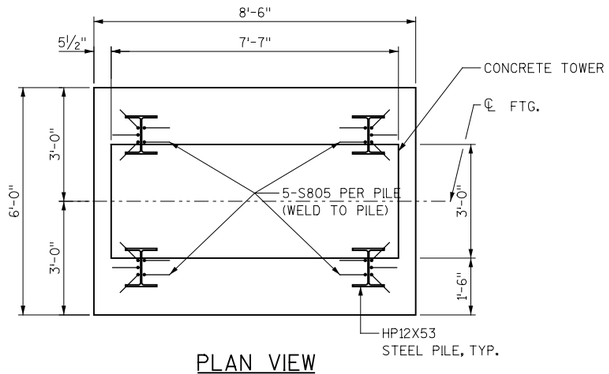
8

8

FILE NAME: 15-05-0172.dgn
PLOT DATE: 12/25/2013 8:28:48 AM PLOT BY: Veronica Chavez-Vit DRV: Pdf_bw_HS.by lavaLpit PEN: CEL_TextSub_ScreenControlByLevel.tbl

STATE PROJECT NUMBER

1133-03-77

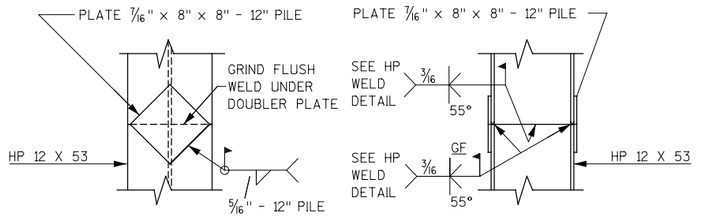


PLAN VIEW

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY



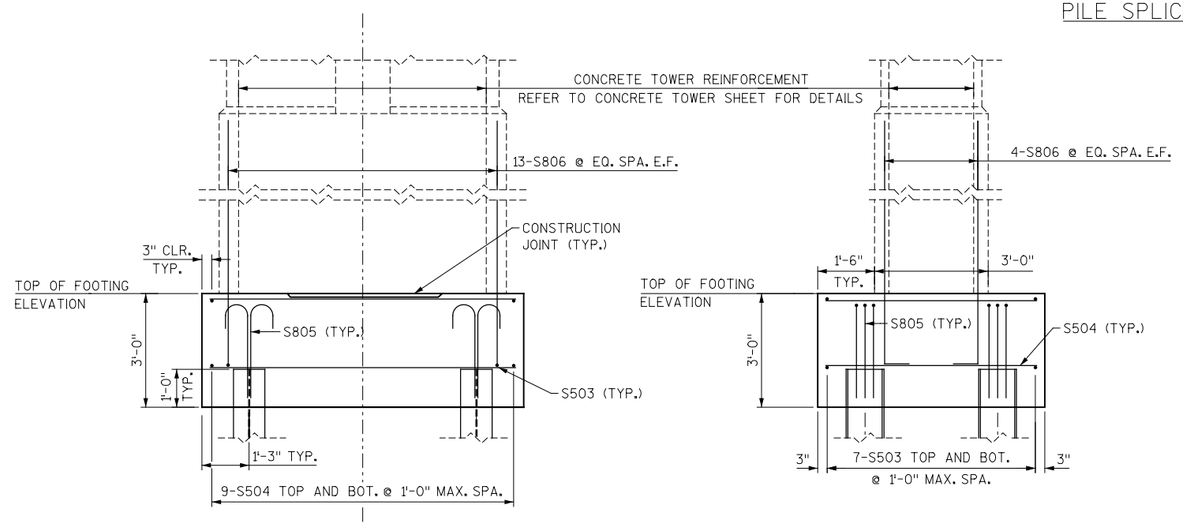
PILE SPLICE DETAIL

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

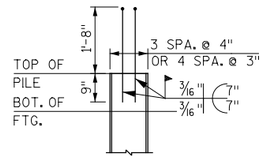
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S503		14	8'-0"			CAP LONGITUDINAL
S504		18	5'-6"			CAP TRANSVERSE
S805		20	3'-4"	▲		WELDED TO PILES
S806	X	30	12'-3"	▲		CAP BEAM VERTICAL
S507	X	20	12'-5"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S808	X	30	26'-5"			VERT. REINF., MIDDLE OF TOWER
S409	X	4	14'-4"			VERT. REINF., MIDDLE OF TOWER
S510	X	40	11'-6"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	32	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	30	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	60	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

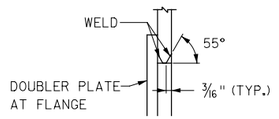


ELEVATION VIEW

END VIEW



PILE HEAD DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

SIGN BRIDGE TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 76 FEET LONG.

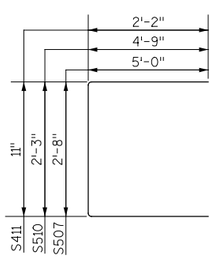
**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

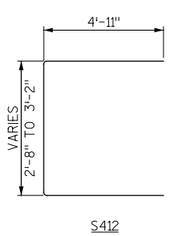
STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".

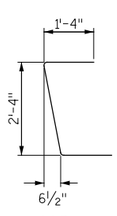
S417



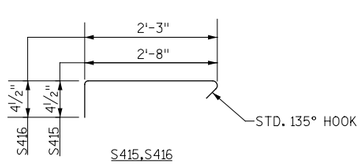
S507,S510,S411



S412

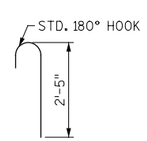


S413



S415,S416

S806



S805

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-172

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 FOUNDATION DETAILS

SHEET 2 OF 10

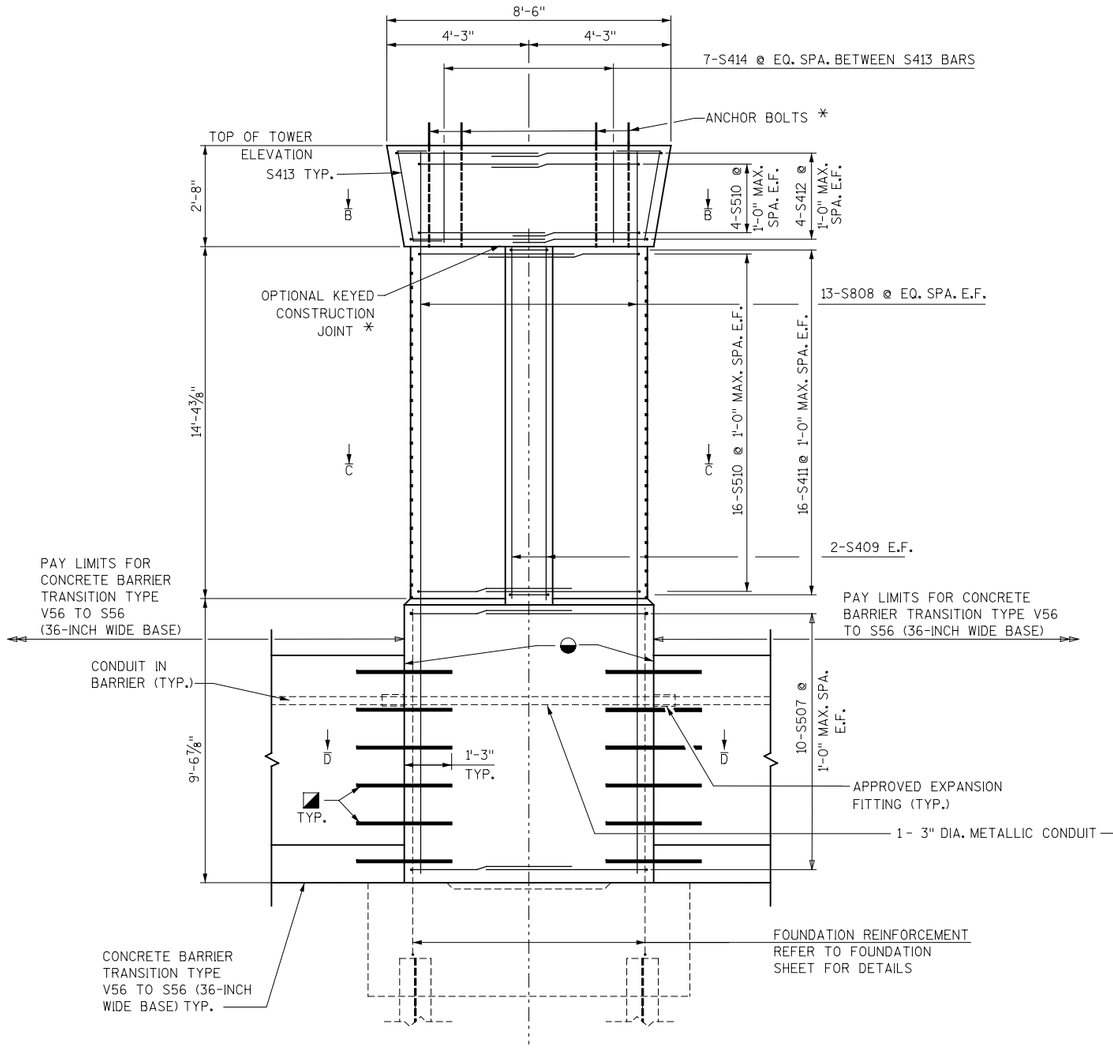
2663

8

8

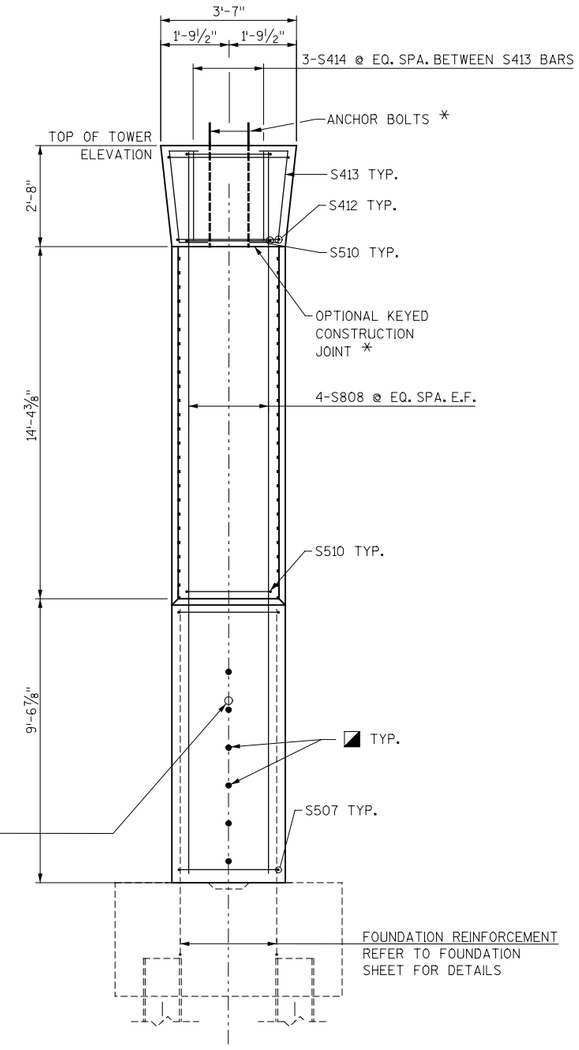
FILE NAME :S-05-0172.dgn
PLOT DATE :2/15/2023 8:28:49 AM PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS.by level.plt PEN :CEL_TextSub_ScreenControlByLevel.tbl

STATE PROJECT NUMBER
1133-03-77



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2 1/2" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

APPROVED EXPANSION FITTING SHALL BE CAST INTO THE BARRIER OR TOWER CONCRETE, WHICH EVER ELEMENT IS CAST FIRST.

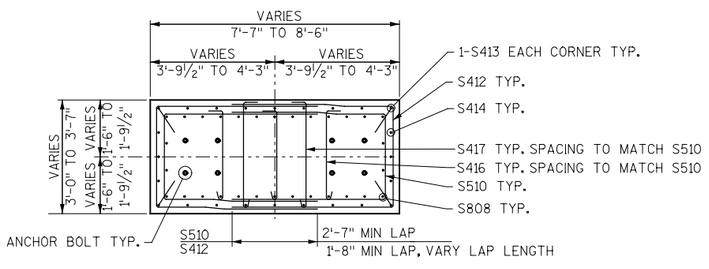
COORDINATE THE LOCATION OF THE ELECTRICAL CONDUIT IN THE TOWER TO MATCH THE LOCATION OF THE CONDUIT IN THE CONCRETE BARRIER.

SPACE S507 BARS TO MISS CONDUIT.

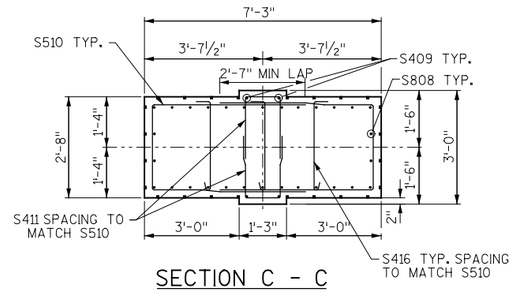
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.

◪ PLACE 1" ϕ PLAIN (SMOOTH) ROUND DOWEL BARS, 2'-6" LONG BETWEEN BARRIER AND CONCRETE TOWER. USE DEBONDER ON EXTENSION INTO BARRIER. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. SPACE DOWELS AT 1'-0". COST OF ITEMS ARE TO BE INCLUDED IN THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

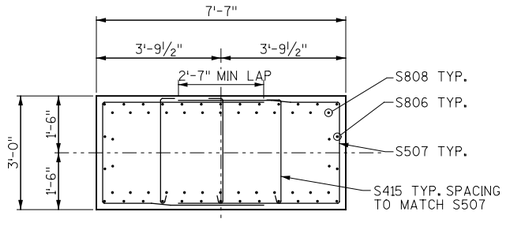
◒ PLACE 1/2" EXPANSION JOINT FILLLER BETWEEN TOWER AND BARRIER WALL, TYP. THE JOINT FILLER SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".



SECTION B - B



SECTION C - C



SECTION D - D

(DOWEL BARS OMITTED FOR CLARITY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-172

DRAWN BY VC | PLANS CK'D. CES

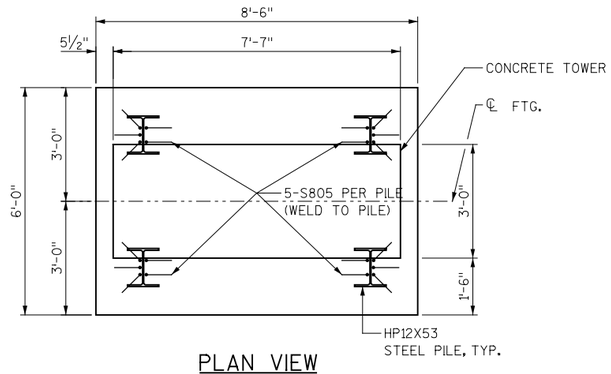
CONCRETE TOWER 1 DETAILS

SHEET 3 OF 10
2664

FILE NAME :S-05-0172.dgn
PLOT DATE :2/25/2013 82850 AM PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS.by level.pit PEN :CEL.TextSub_ScreenControlByLevel.tbl

STATE PROJECT NUMBER

1133-03-77

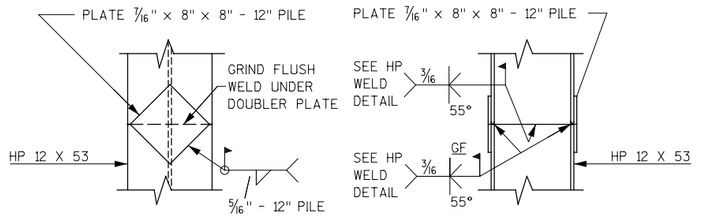


PLAN VIEW

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY



PILE SPLICE DETAIL

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S503		14	8'-0"			CAP LONGITUDINAL
S504		18	5'-6"			CAP TRANSVERSE
S805		20	3'-4"	▲		WELDED TO PILES
S806	X	30	8'-5"	▲		CAP BEAM VERTICAL
S507	X	10	12'-5"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S808	X	30	26'-11"	▲		VERT. REINF., MIDDLE OF TOWER
S409	X	4	18'-10"			VERT. REINF., MIDDLE OF TOWER
S510	X	48	11'-6"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	40	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	15	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	72	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

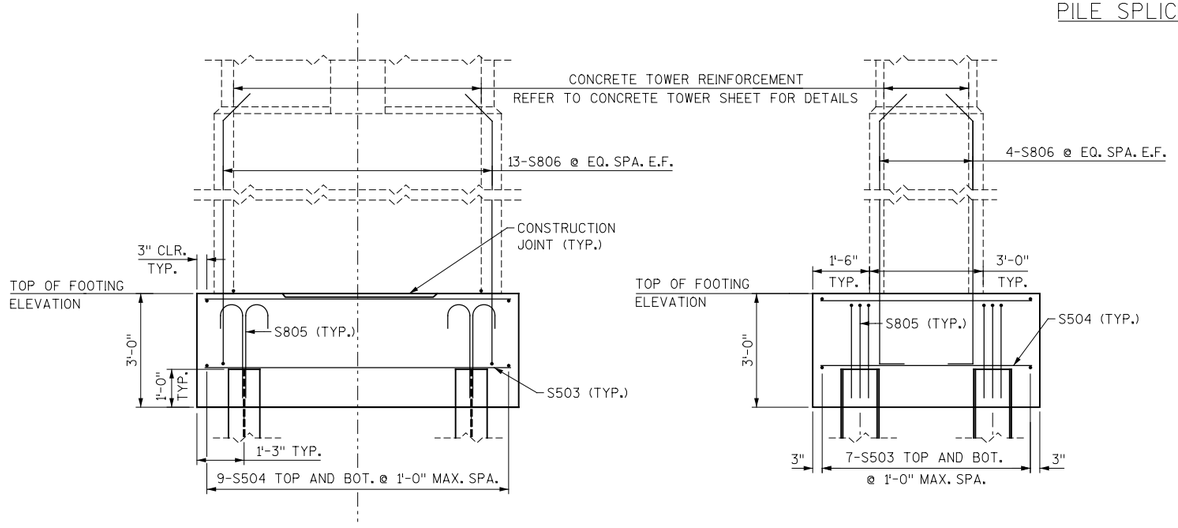
SIGN BRIDGE TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 76 FEET LONG.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

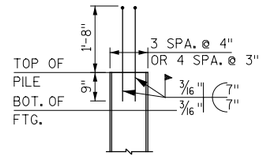
STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".

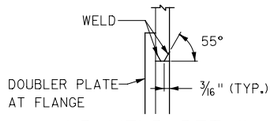


ELEVATION VIEW

END VIEW

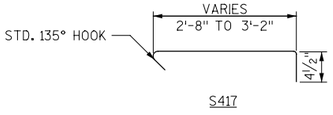


PILE HEAD DETAIL

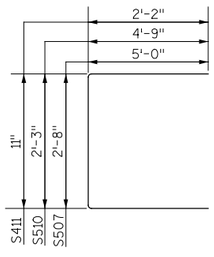


HP WELD DETAIL

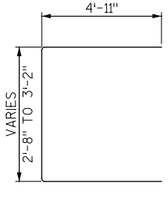
FLANGE SHOWN, WEB SIMILAR



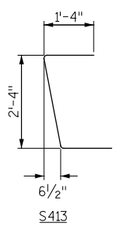
S417



S507,S510,S411



S412



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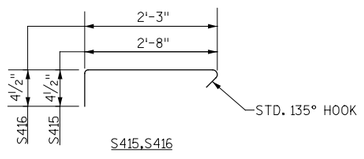
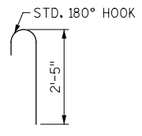
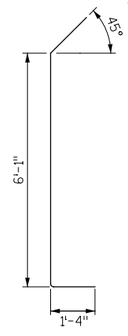


S415,S416



S805



S806

S808

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-172

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 FOUNDATION DETAILS

SHEET 4 OF 10

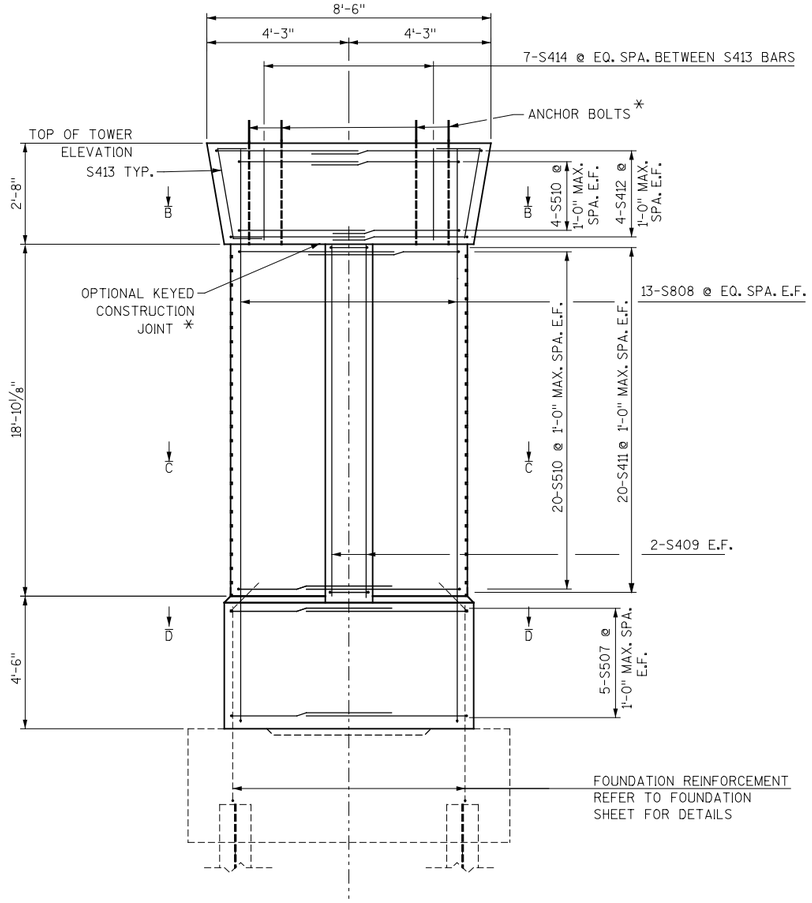
2665

8

8

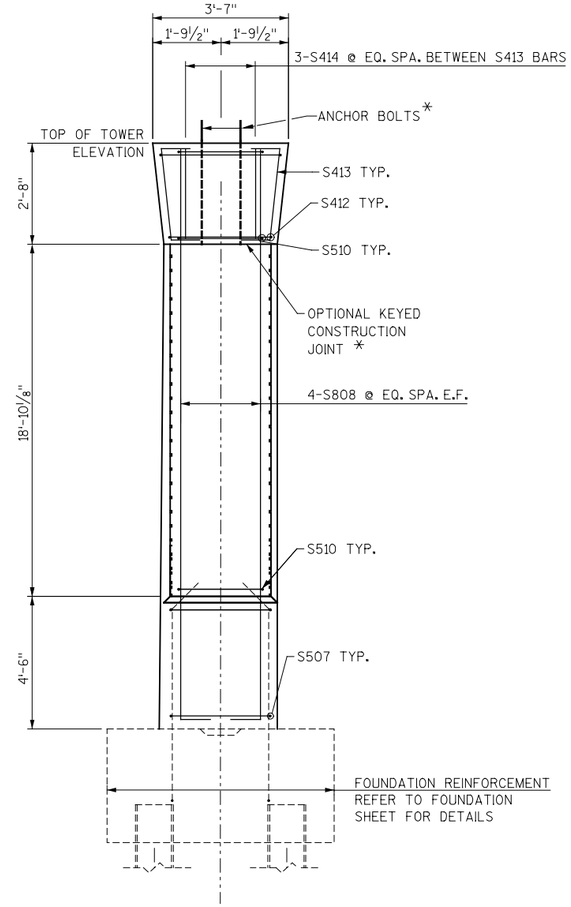
FILE NAME :S-05-0172.dgn
PLOT DATE :2/15/2013 8:28:51 AM PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS_by level.pit PEN :CEL_TextSub_ScreenControlByLevel.tbl

STATE PROJECT NUMBER
1133-03-77



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

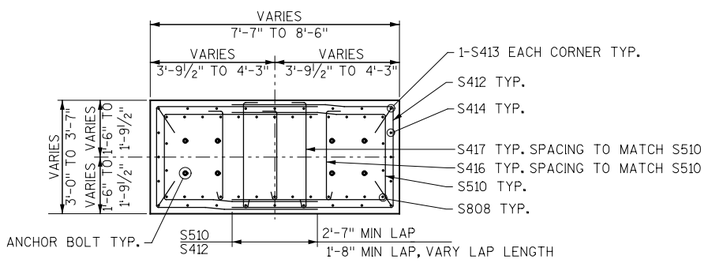
"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

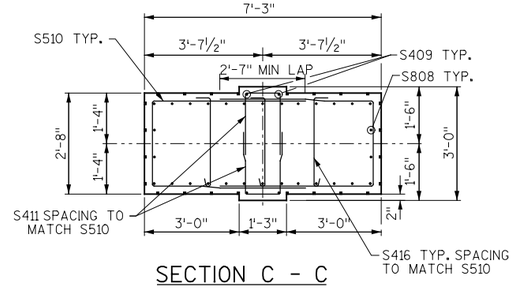
REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

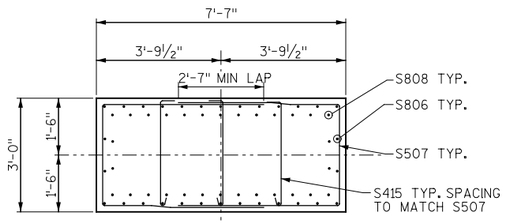
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.



SECTION B - B



SECTION C - C



SECTION D - D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-172

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 DETAILS

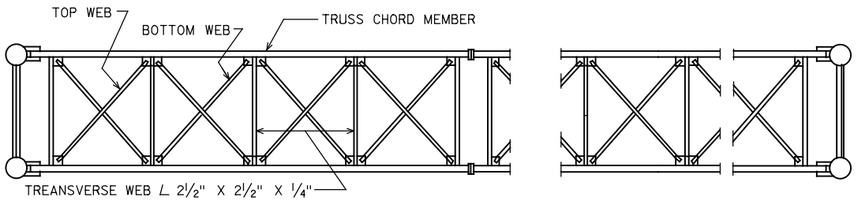
SHEET 5 OF 10

2666

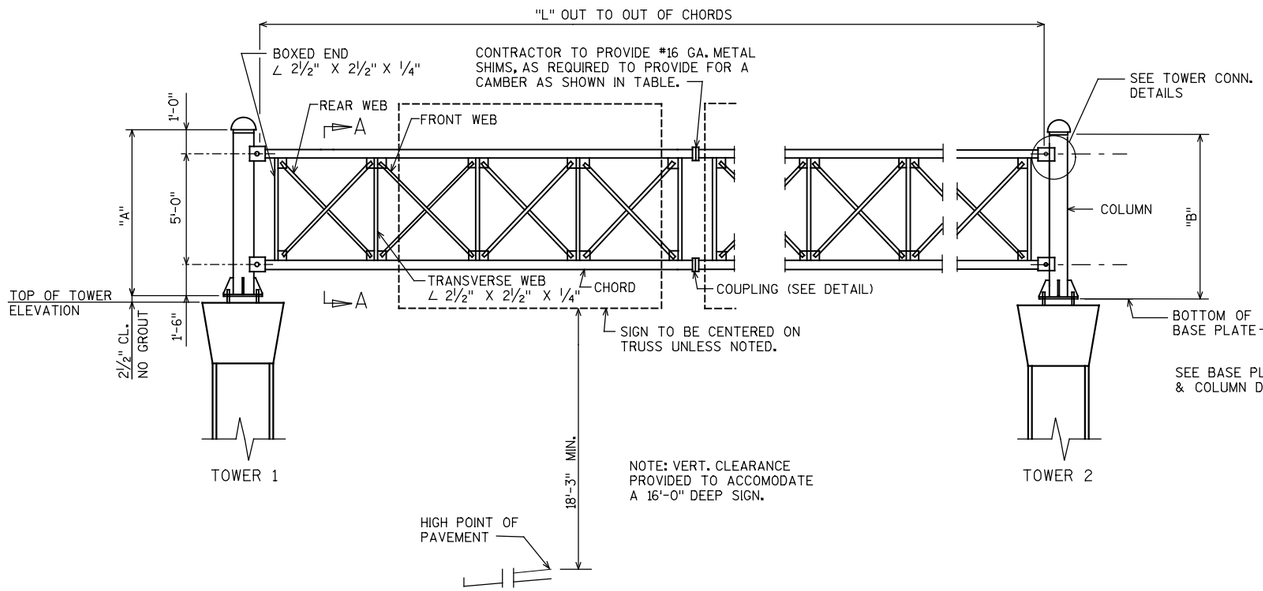
FILE NAME :S-05-172.dgn
PLOT DATE :2/15/2013 828852 AM PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS.by levelplt PEN :CEL_TextSub_ScreenControlByLevel.tbl

STATE PROJECT NUMBER

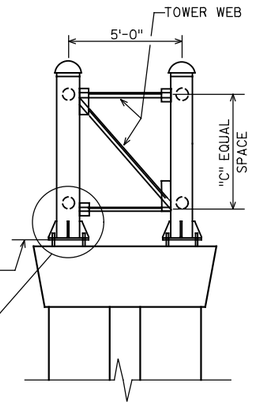
1133-03-77



PLAN

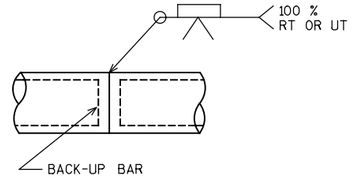


ELEVATION

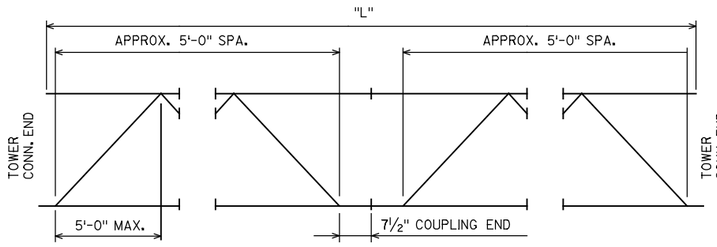


TOWER 2 END VIEW

(TOWER 1 OPPOSITE HAND)

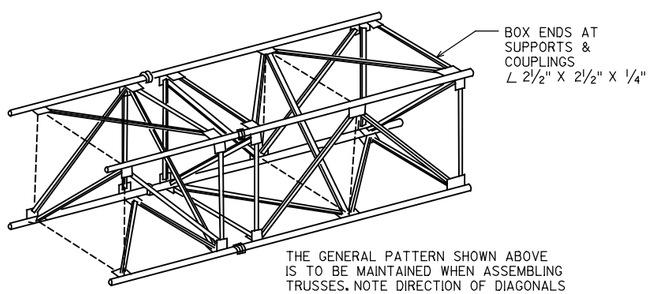


OPTIONAL COLUMN OR CHORD SPLICE DETAIL

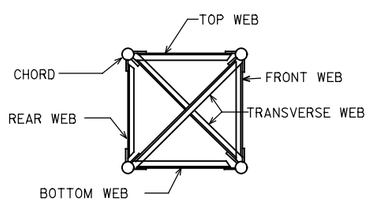


TRUSS ARRANGEMENT

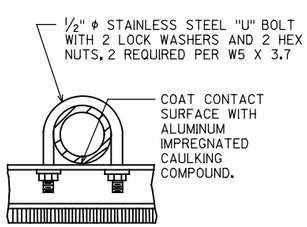
FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 20'-0" & A MULTPLE OF 5'-0". CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS. CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.



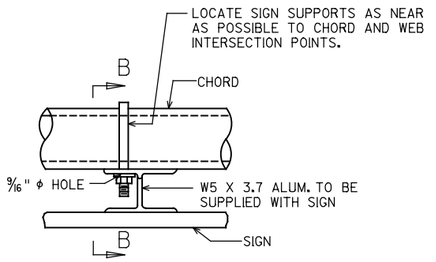
TYPICAL TRUSS SECTION



SECTION A



SECTION B



TYPICAL SIGN CONNECTION

GENERAL NOTES

DRAWING SHALL NOT BE SCALED

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

STRUCTURE MEMBER TABLE

A	B	C	CHORDS O.D. X THK.	TOP & BOTTOM WEB	FRONT & REAR WEB	COUPLING PLATE D1 & "T"	BOLT CIRCLE DIA. "D2"	NO. OF BOLTS IN COUPLING	CAMBER	COLUMN O.D. X THK.	TOWER WEBS	"L"
7'-6"	7'-6"	1	4.5"x0.237"	3"x3"x1/4"	3"x3"x1/4"	10.5" x 1.125"	7.5"	6	2"	10.75"x0.5"	3"x3"x3/16"	95'-1¼

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-172

DRAWN BY VC | PLANS CK'D. CES

GALVANIZED STEEL SIGN BRIDGE

SHEET 6 OF 10

2667

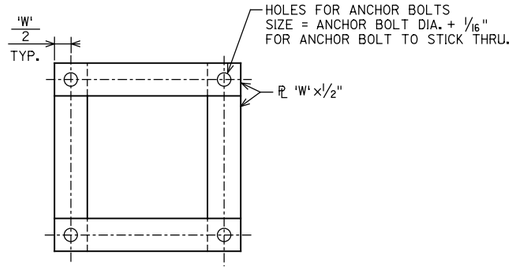
8

8

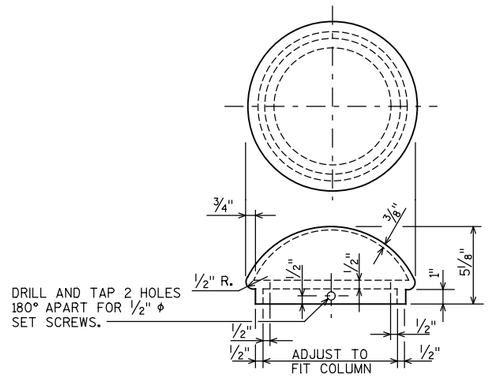
FILE NAME :S-05-0172.dgn
PLOT DATE 12/25/2013 828853 AM
100%
PLOT BY : Veronica Chavez-Vil
DRV :Pdf_bw_HS.by level.pit PEN :CEL_TextSub_ScreenControlByLevel.tbl

STATE PROJECT NUMBER

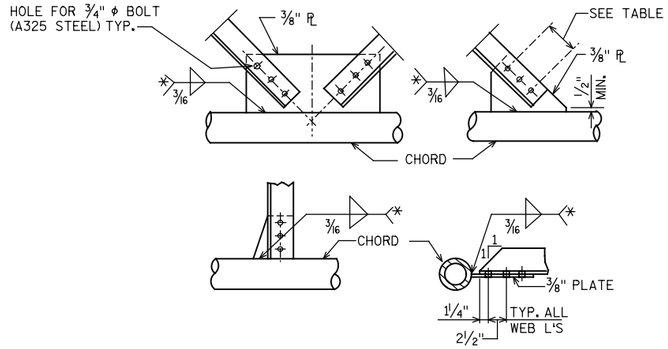
1133-03-77



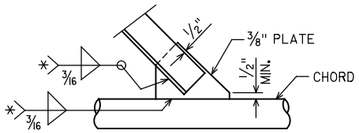
ANCHOR PLATE/TEMPLATE PLAN



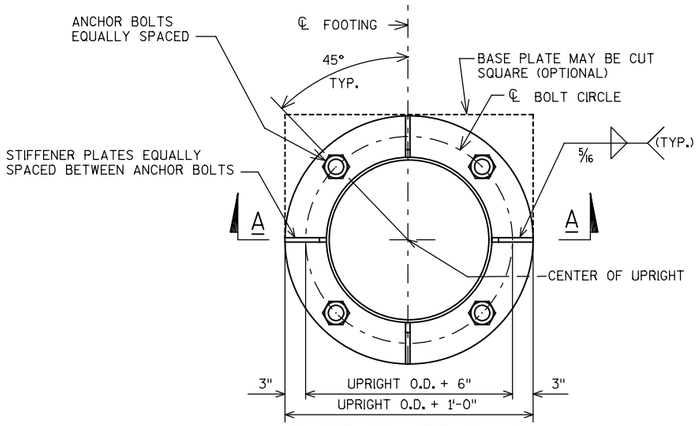
TOWER CAP DETAIL



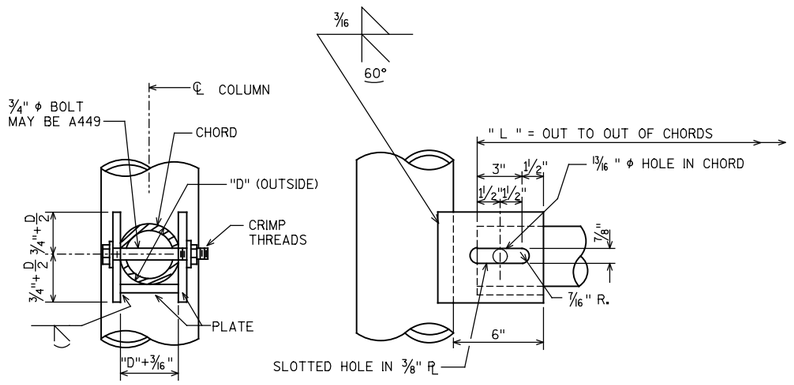
TYPICAL TRUSS CONNECTION DETAILS



TYPICAL WELDED ALTERNATE



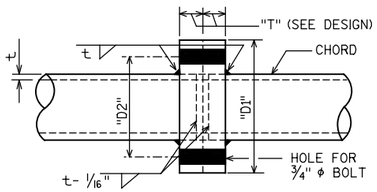
BASE PLATE PLAN



TOWER CONNECTION DETAIL

*ANGLE	WELD LENGTH	NO. OF BOLTS
● 2 1/2"x2 1/2"x1/4"	11"	3
3"x3"x3/16"	10"	3
3"x3"x1/4"	13"	4
3"x3"x5/16"	16 1/2"	5
3"x3"x3/8"	19 1/2"	6
4"x4"x1/4"	18"	5
4"x4"x5/16"	22"	6
4"x4"x3/8"	26"	8
4"x4"x7/16"	30"	9
4"x4"x1/2"	34"	10

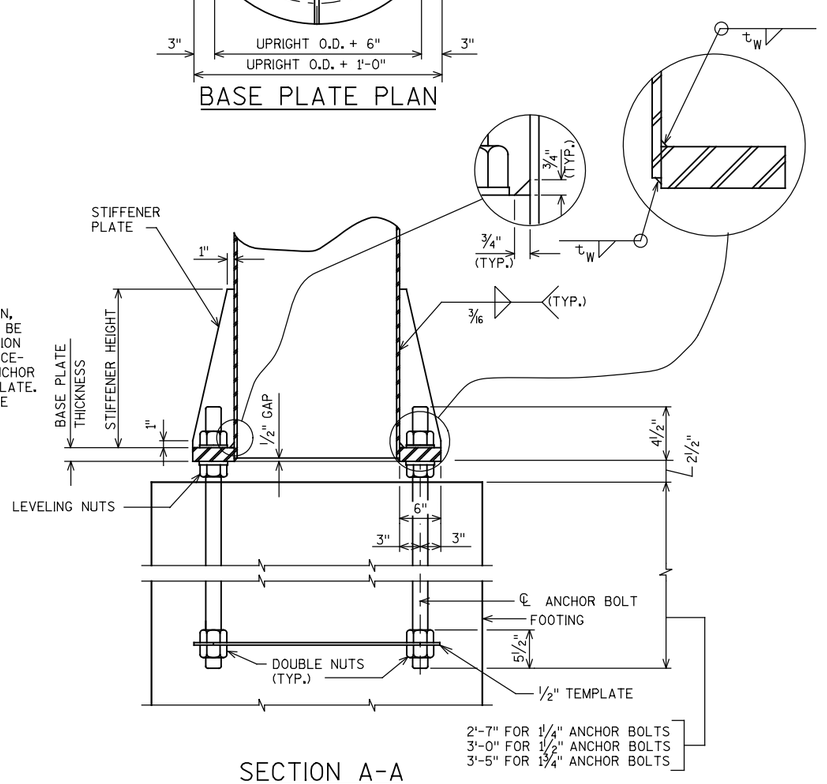
● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.



COUPLING DETAIL

(CONNECTION BOLTS OMITTED FOR CLARITY)

NOTE:
PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE. REMOVE TOP TEMPLATE (NOT SHOWN) AFTER CONCRETE SETS.



SECTION A-G

BASE PLATE & UPRIGHT COLUMN DETAILS

COLUMN O.D. X THK.	ANCHOR BOLTS	BASE PLATE THICKNESS (IN.)	STIFFENER PLATE THICKNESS (IN.)	STIFFENER PLATE HEIGHT (IN.)	t_W (IN.)
10.75"X0.5"	1 3/4"	1 3/4"	3/4"	10"	3/8"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-172

DRAWN BY VC | PLANS CK'D. CES

GALVANIZED STEEL SIGN BRIDGE DETAILS

SHEET 7 OF 10

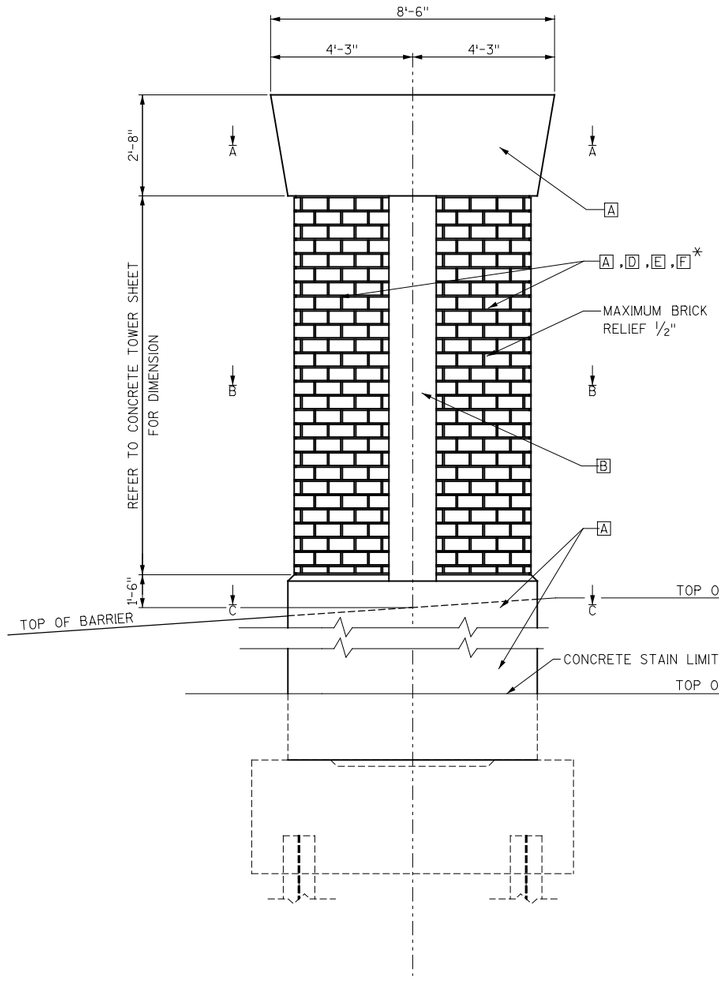
2668

8

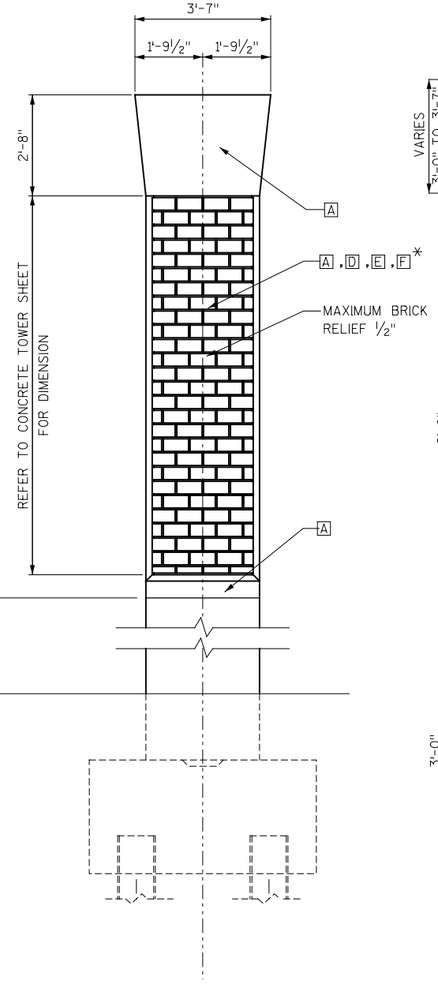
8

FILE NAME 15-05-0172.dgn
PLOT DATE 12/15/2013 8:28:53 AM
PLOT BY : Veronica Chavez-Gil
DRV :Pdf_bw_HS.by level.plt PEN :CEL.TextSub_ScreenControlByLevel.tbl

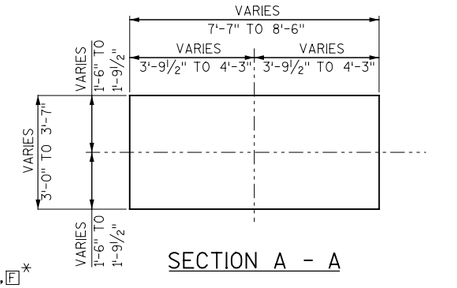
STATE PROJECT NUMBER
1133-03-77



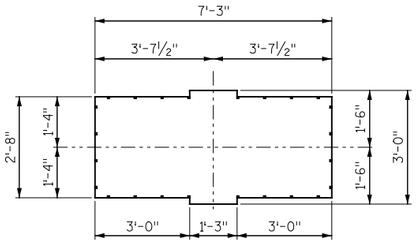
ELEVATION VIEW



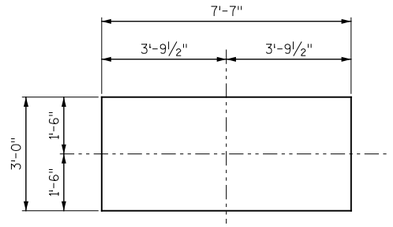
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

*STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-172

DRAWN BY	PLANS CK'D.
VC	CES

CONCRETE TOWER 1 AESTHETIC DETAILS

SHEET 8 OF 10

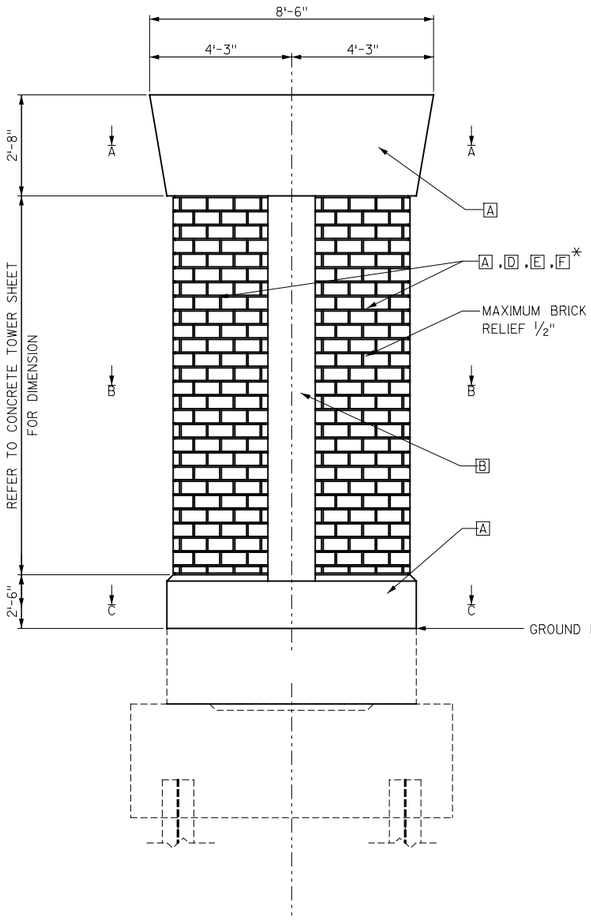
2669

8

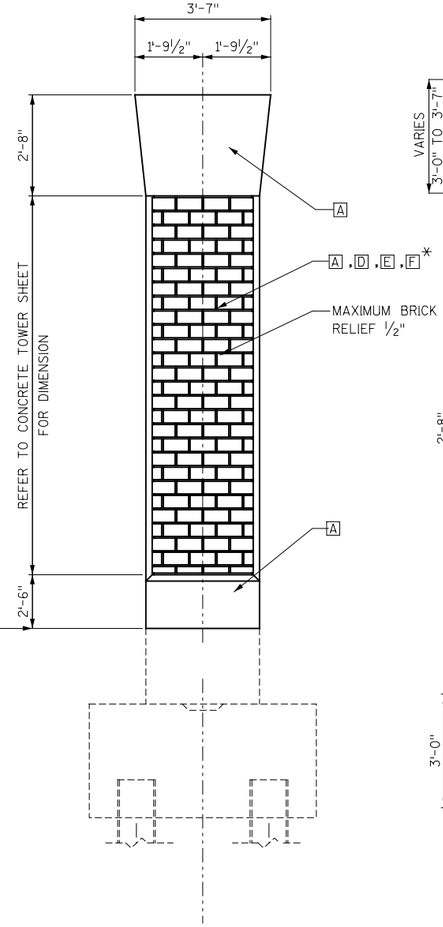
8

FILE NAME :S-05-0172.dgn
PLOT DATE :2/15/2013 8:28:54 AM PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS.by levelplt PEN :CEL_TextSub_ScreenControlByLevel.tbl

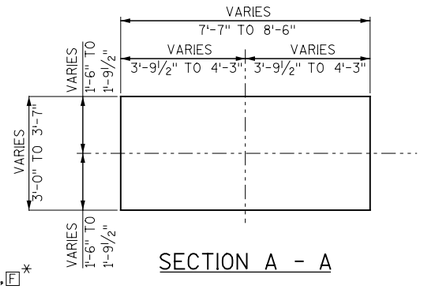
STATE PROJECT NUMBER
1133-03-77



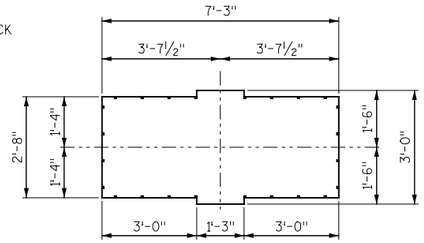
ELEVATION VIEW



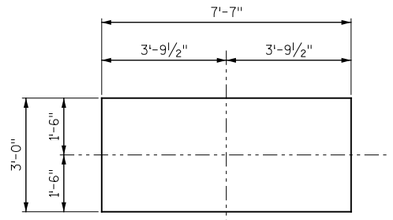
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-172

DRAWN BY	PLANS CK'D.
VC	CES

CONCRETE TOWER 2
AESTHETIC
DETAILS

SHEET 9 OF 10

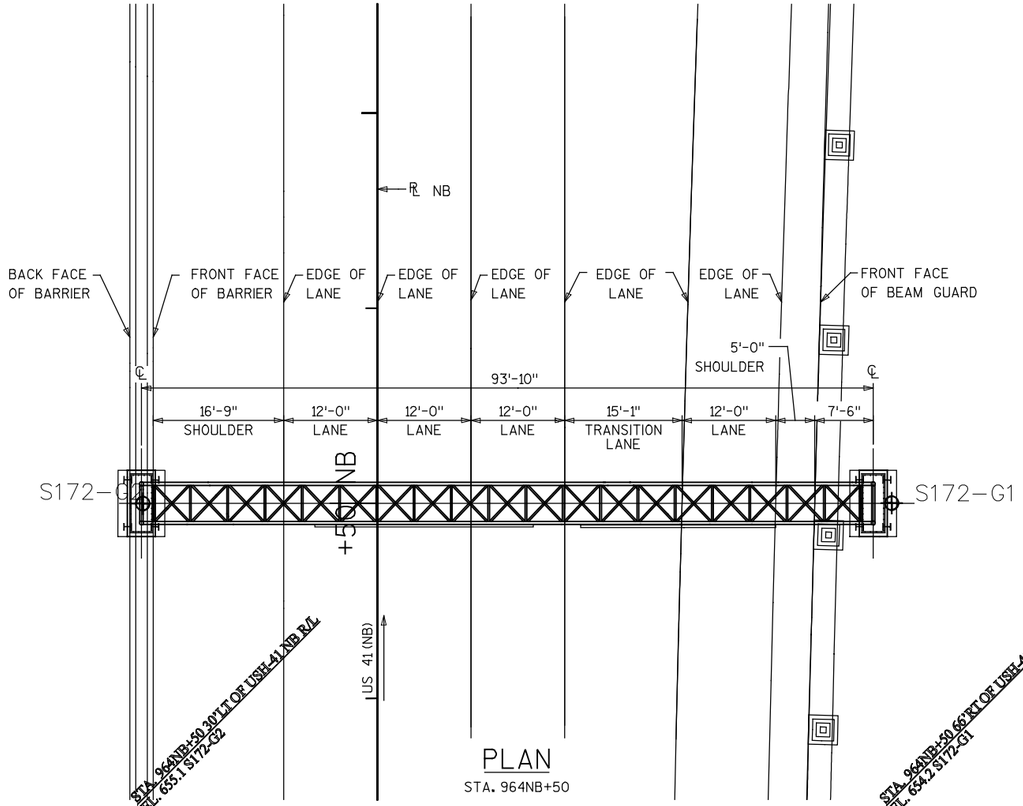
2670

8

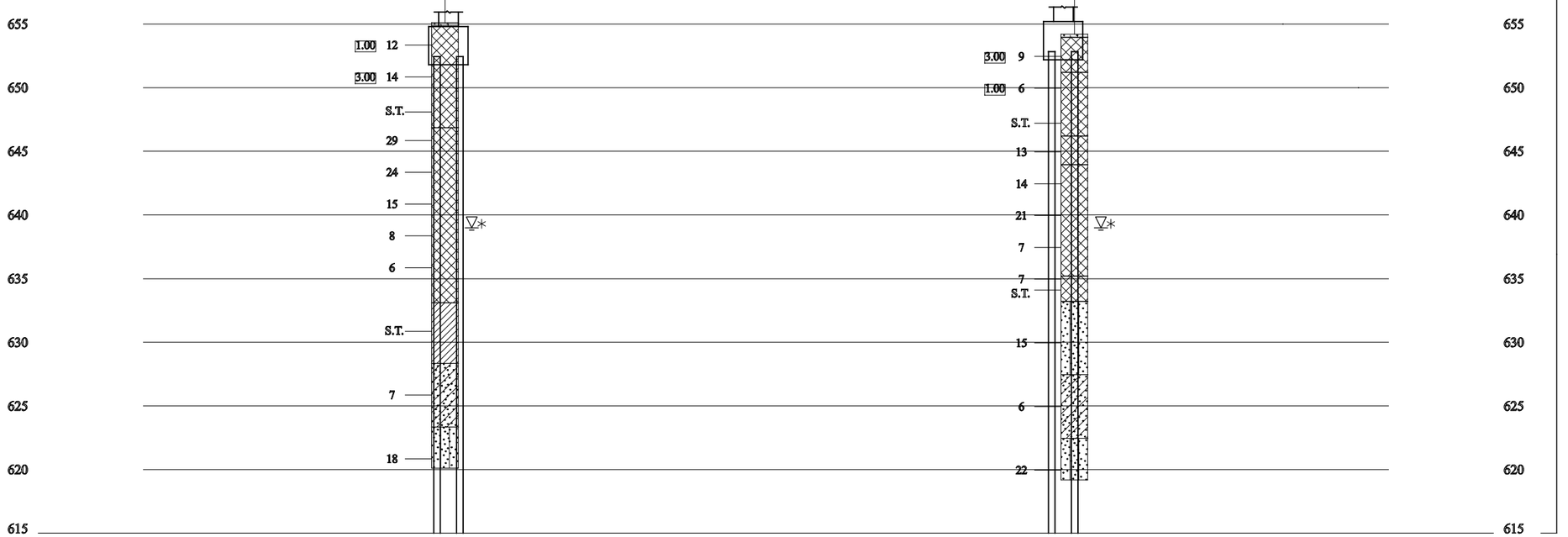
8

FILE NAME :S-05-0172.dgn
PLOT DATE :2/15/2013 8:28:56 AM PLOT BY : Veronica Chavez-Bi DRV :Pdf_bw_HS.by level.plt PEN :CEL_TextSub_ScreenControlByLevel.tbl

USH 41 (S-05-172)
Green Bay, WI



PLAN
STA. 964NB+50



Note: ▽ -Water level assumed from sample condition*

STATE PROJECT NUMBER

1133-03-77

ABBREVIATIONS

F—Fine M—Medium C—Coarse
Ws—Weathered So—Sound

MATERIAL SYMBOLS

Topsoil, Silt, Sandstone, Sand, Peat, Limestone, Gravel, Clay, Fill

LEGEND OF PROBING

95/6=95 BLOWS FOR 6" PENETRATION PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

Probing No.
Sta.
Elevation
7 Average Blows Per Foot
Refusal 95/6

LEGEND OF BORING

Boring No.
Elev. Sta.
Unconfined STRENGTH → 7.7 7
Blows Per Ft. USING 140# WT. FALLING 30"
Wash Sample
Shelby Tube S.T.
Ground Water ELEVATION
No Ground Water OBSERVED ABOVE THIS ELEVATION
Sandy Gravel
F. Boulders or COBBLES
Sand
Silty Clay
So Limestone

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

Gestra Engineering Inc.
1626 W. Fond du Lac Avenue
Milwaukee, WI 53205
Phone: 414-933-7444, Fax: 414-933-7844

STRUCTURE S-05-172

DRAWN BY RHE | PLANS CK'D. VS

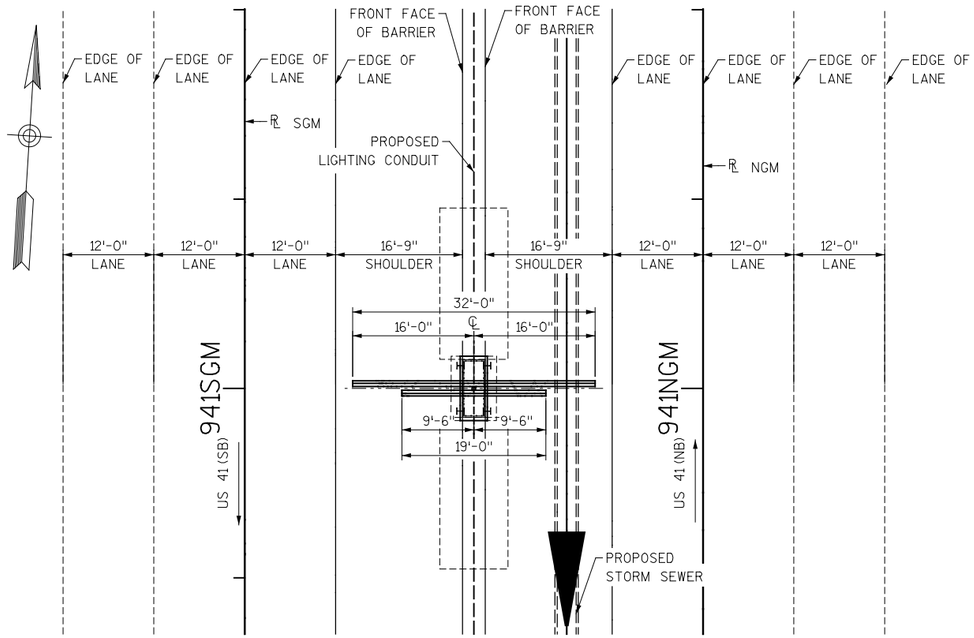
subsurface exploration

SHEET 10 OF 10

2671

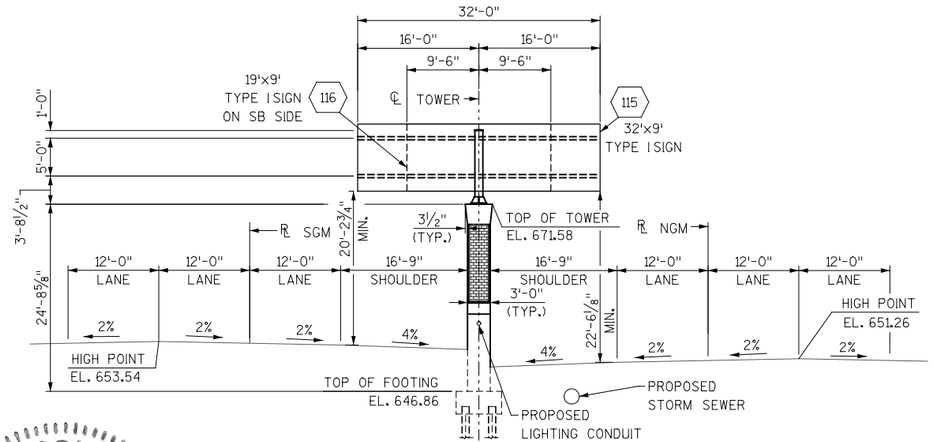
09/11/2012

SCALE 1"=20'



PLAN

STA. 941NGM+00



ELEVATION

(LOOKING NORTH AT FRONT FACE OF SIGN)

2/15/2013

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CONCRETE TOWER FOUNDATION DETAILS
3. CONCRETE TOWER DETAILS
4. BUTTERFLY DETAILS
5. CONCRETE TOWER AESTHETIC DETAILS
6. SUBSURFACE EXPLORATION

ULTIMATE DESIGN STRESSES:

TOWER

CONCRETE: .....f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

SIGN BRIDGE

STEEL CHORDS & COLUMN: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
PLATES & BARS: .....fy = 36,000 psi
A.S.T.M. A709 GRADE 36
STEEL ANCHOR BOLTS: .....fy = 55,000 psi
A.A.S.H.T.O. M314 GRADE 55
HIGH STRENGTH BOLTS A325 .....fy=92,000 psi
STRUCTURAL MEMBERS GALVANIZED A123
HARDWARE GALVANIZED .....A153 CLASS C

DESIGN DATA

DEAD LOAD - WT. OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.
LIVE LOAD - NONE.
ICE LOAD - 3 P.S.F. TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND‡)	133

‡ MIN. VALUE OF 25 PSF FOR GR. 3

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
SOUTHBOUND PANEL 288	12'-0"
NORTHBOUND PANEL 288	12'-0"

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	210
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	26
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	300
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	3230
641.0600.960	SIGN BRIDGE SINGLE POLE SIGN SUPPORT TWO SIGNS S-05-173	LS	1
652.0135	CONDUIT RIGID METALLIC 3-INCH	LF	8
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	160
SPV.0165.501	STAINING CONCRETE	SF	310
SPV.0165.502	STAINING CONCRETE BRICK	SF	160

STATE PROJECT NUMBER

1133-09-71

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER TYPE I SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ABOVE THE PILE SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 - ¼" DIAMETER BY 1¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE SINGLE POLE SIGN SUPPORT TWO SIGNS S-05-173 "

SIGNS OR BLANKS SHALL BE INSTALLED ON THE OVERHEAD SIGN SUPPORT AT THE TIME OF ERECTION. BLANKS, IF USED, SHALL BE OF THE SAME SIZE AND LOCATION AS PERMANENT SIGNS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-173 "

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641 OF THE WISDOT STANDARD SPECIFICATIONS. WELD TEST AS PER AWS D1.1.

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

⟨##⟩ - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-173

DE PERE - SUAMICO

COUNTY	~~TOWN/CITY~~/VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CES	SJM	MJH	CES

PLAN & ELEVATION

SHEET 1 OF 6
2672

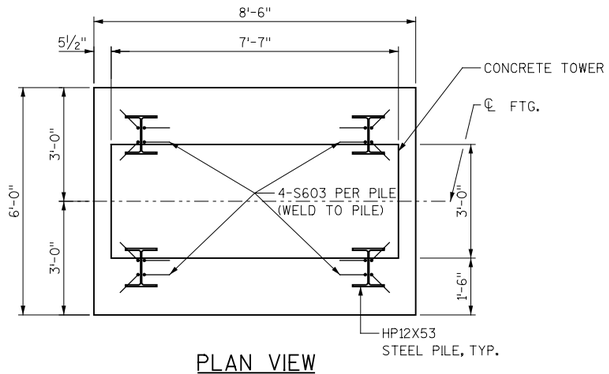
8

8

FILE NAME :S-05-173.dgn
PLOT DATE :2/15/2013 8:24:13 AM PLOT BY : MatthewHolandv81 DRV :Pdf_bw_HS.by levels.plt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

1133-09-71

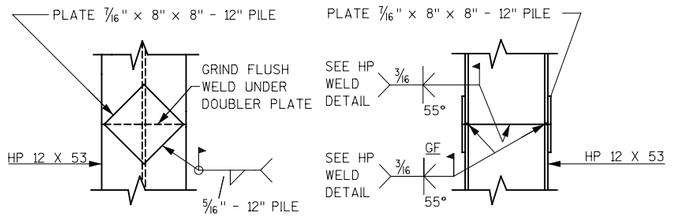


PLAN VIEW

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY



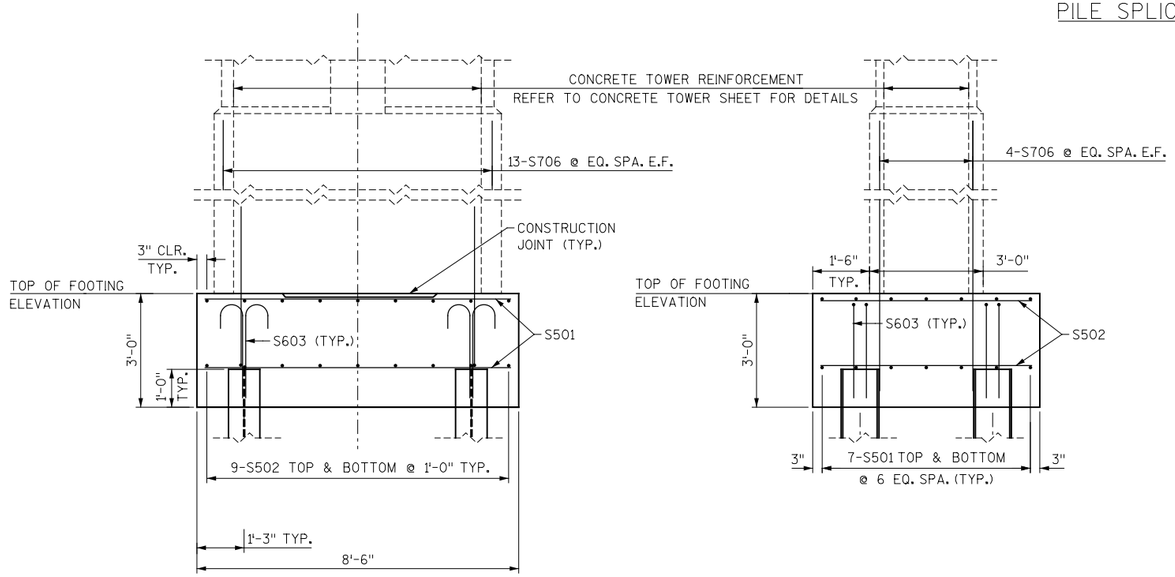
PILE SPLICE DETAIL

BILL OF BARS

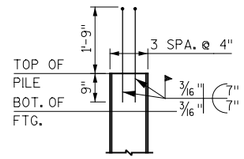
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S501		14	8'-0"			CAP LONGITUDINAL
S502		18	5'-6"			CAP TRANSVERSE
S603		16	3'-2"	▲		WELDED TO PILES
S706	X	30	14'-3"	▲		CAP BEAM VERTICAL
S407	X	26	11'-6"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S708	X	30	24'-6"			VERT. REINF., MIDDLE OF TOWER
S409	X	4	10'-4"			VERT. REINF., MIDDLE OF TOWER
S410	X	32	10'-7"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	24	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	39	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	48	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

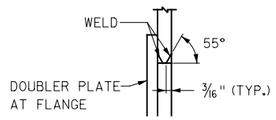
△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



ELEVATION VIEW



PILE HEAD DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

SIGN BRIDGE TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 53 FEET LONG.

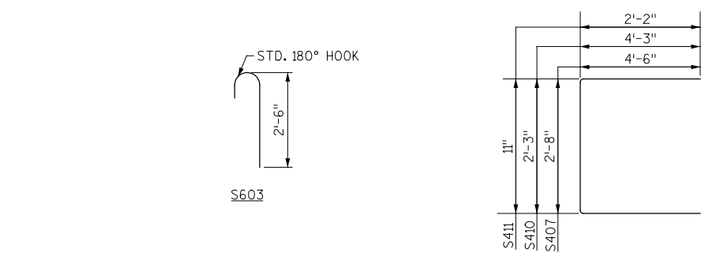
**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".

END VIEW



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-173

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 FOUNDATION DETAILS

SHEET 2 OF 6

2673

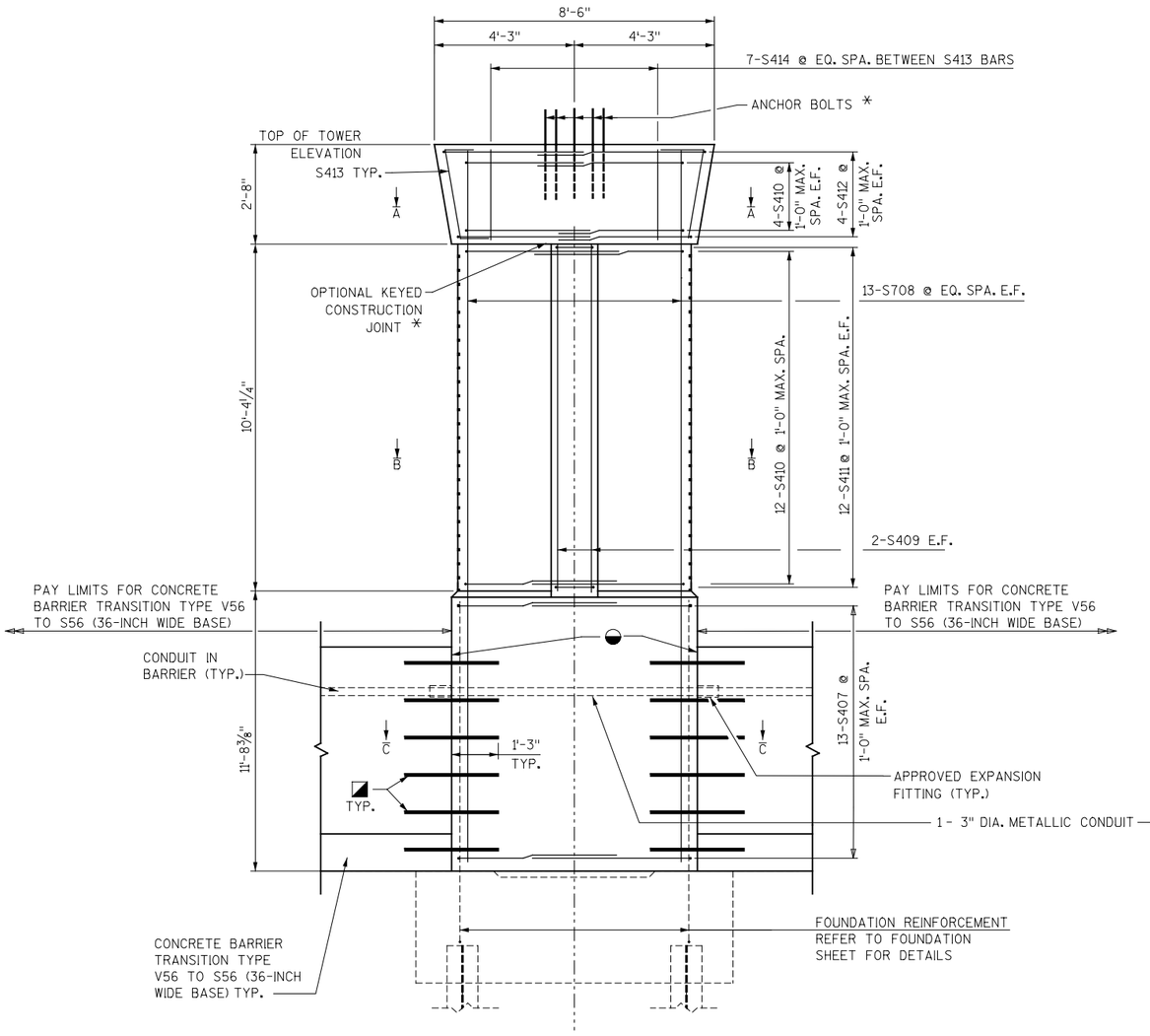
8

8

FILE NAME :S-05-173.dgn
PLOT DATE 12/25/2013 8:24:14 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by levels.pit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

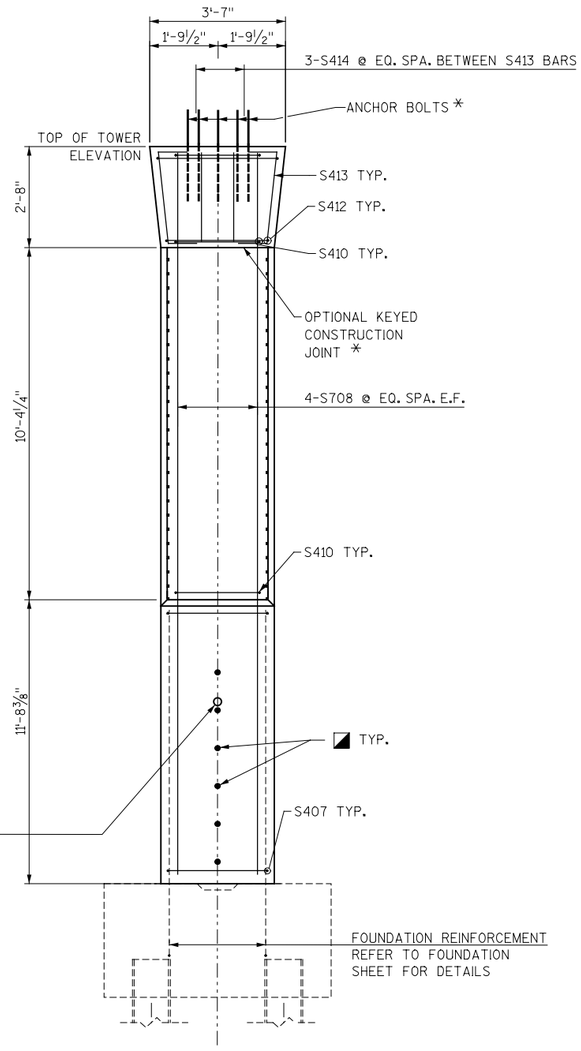
STATE PROJECT NUMBER

1133-09-71



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

APPROVED EXPANSION FITTING SHALL BE CAST INTO THE BARRIER OR TOWER CONCRETE, WHICH EVER ELEMENT IS CAST FIRST.

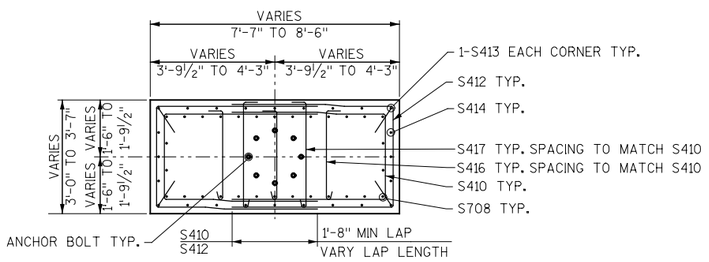
COORDINATE THE LOCATION OF THE ELECTRICAL CONDUIT IN THE TOWER TO MATCH THE LOCATION OF THE CONDUIT IN THE CONCRETE BARRIER.

SPACE S407 BARS TO MISS CONDUIT.

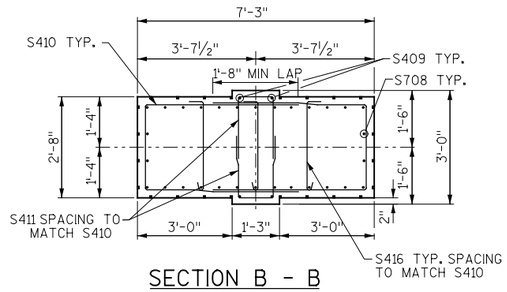
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.

◪ PLACE 1" ϕ PLAIN (SMOOTH) ROUND DOWEL BARS, 2'-6" LONG BETWEEN BARRIER AND CONCRETE TOWER. USE DEBONDER ON EXTENSION INTO BARRIER. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. SPACE DOWELS AT 1'-0". COST OF ITEMS ARE TO BE INCLUDED IN THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

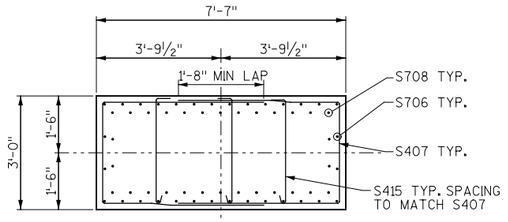
◒ PLACE 1/2" EXPANSION JOINT FILLLER BETWEEN TOWER AND BARRIER WALL, TYP. THE JOINT FILLER SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".



SECTION A - A



SECTION B - B



SECTION C - C

(DOWEL BARS OMITTED FOR CLARITY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-173

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 DETAILS

SHEET 3 OF 6

2674

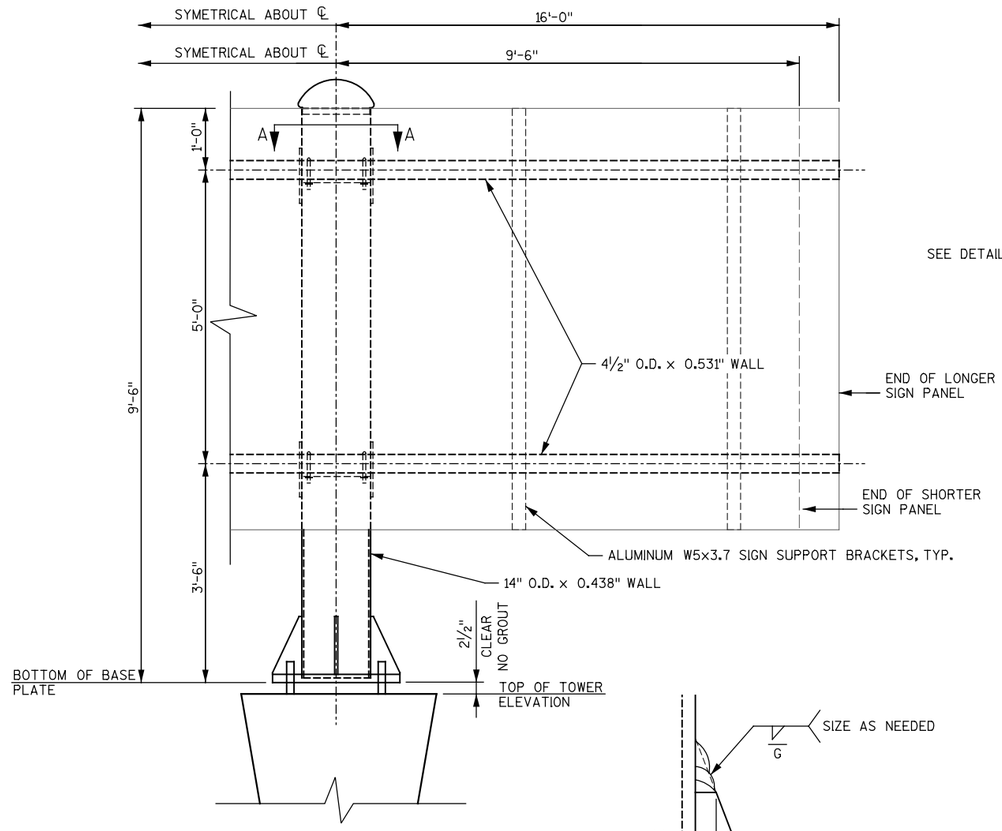
8

8

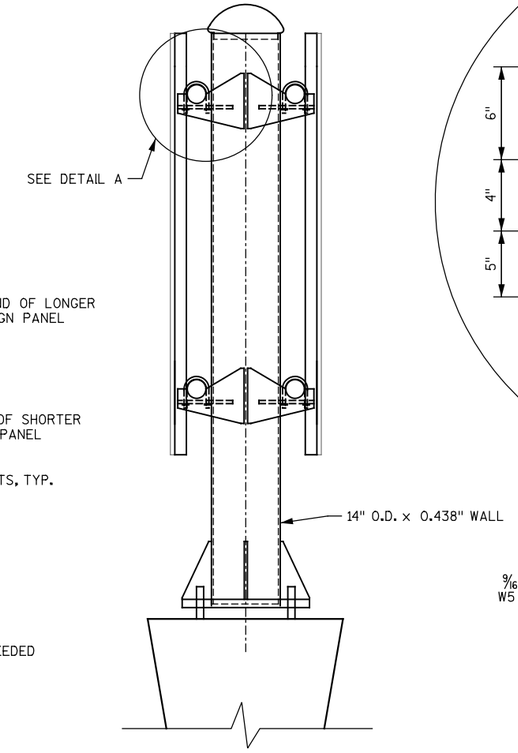
FILE NAME : S-05-173.dgn
PLOT DATE : 12/15/2013 8:24:35 AM PLOT BY : MatthewHeiland v8i DRV : Pdf_bw_HS.by levels.pit PEN : CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

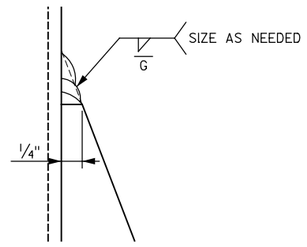
1133-09-71



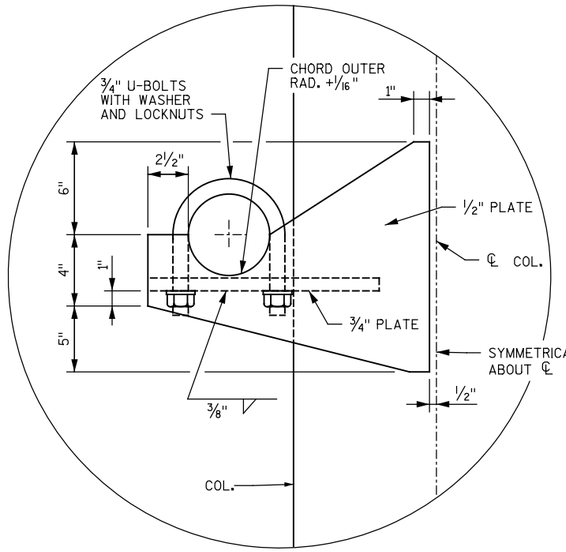
ELEVATION



END VIEW



DETAIL B



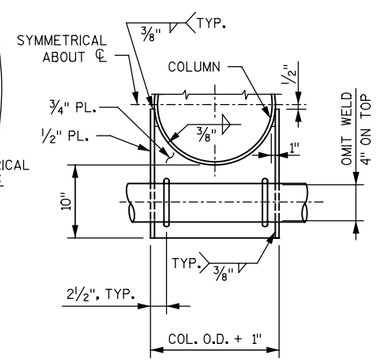
DETAIL A

(BRACKETS NOT SHOWN)

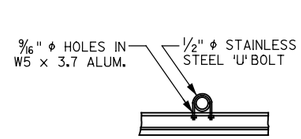
GENERAL NOTES:

DRAWING SHALL NOT BE SCALED

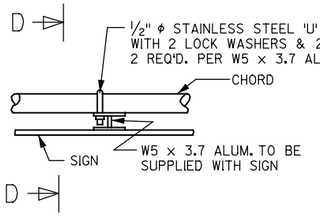
REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.



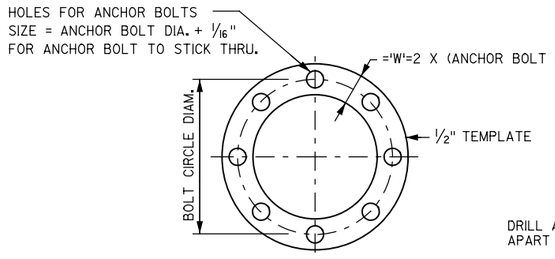
SECTION A-A



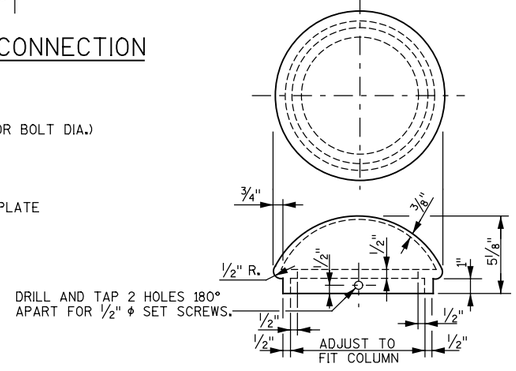
SECTION D-D



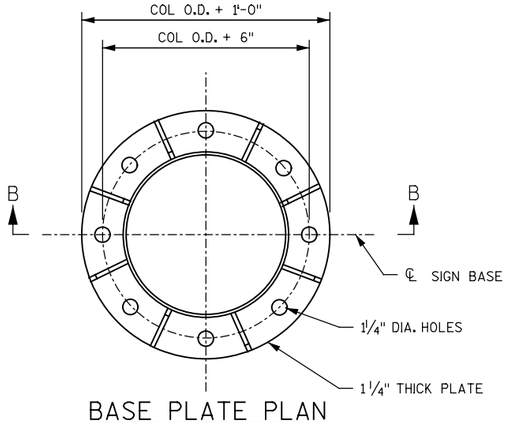
TYPICAL SIGN CONNECTION



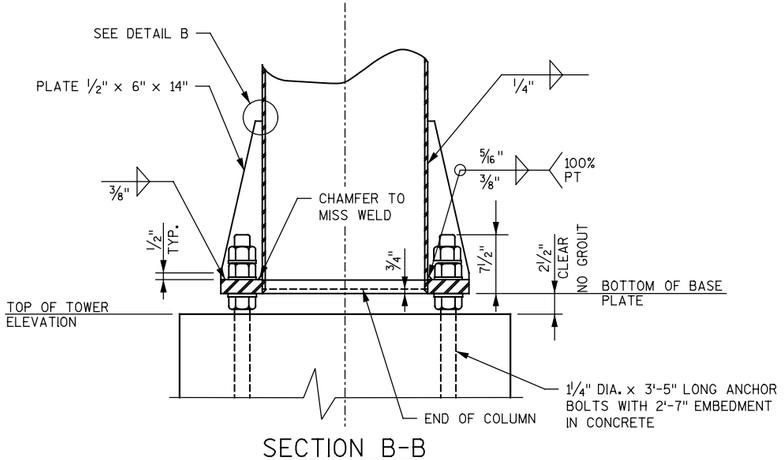
TOP VIEW OF TOP & BOTTOM TEMPLATES



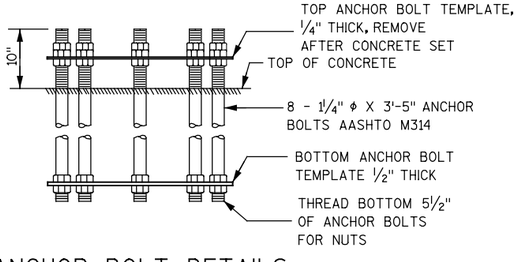
TOWER CAP DETAIL



BASE PLATE PLAN



SECTION B-B



ANCHOR BOLT DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-173

DRAWN BY	VC	PLANS CK'D.	CES

BUTTERFLY DETAILS

SHEET 4 OF 6

2675

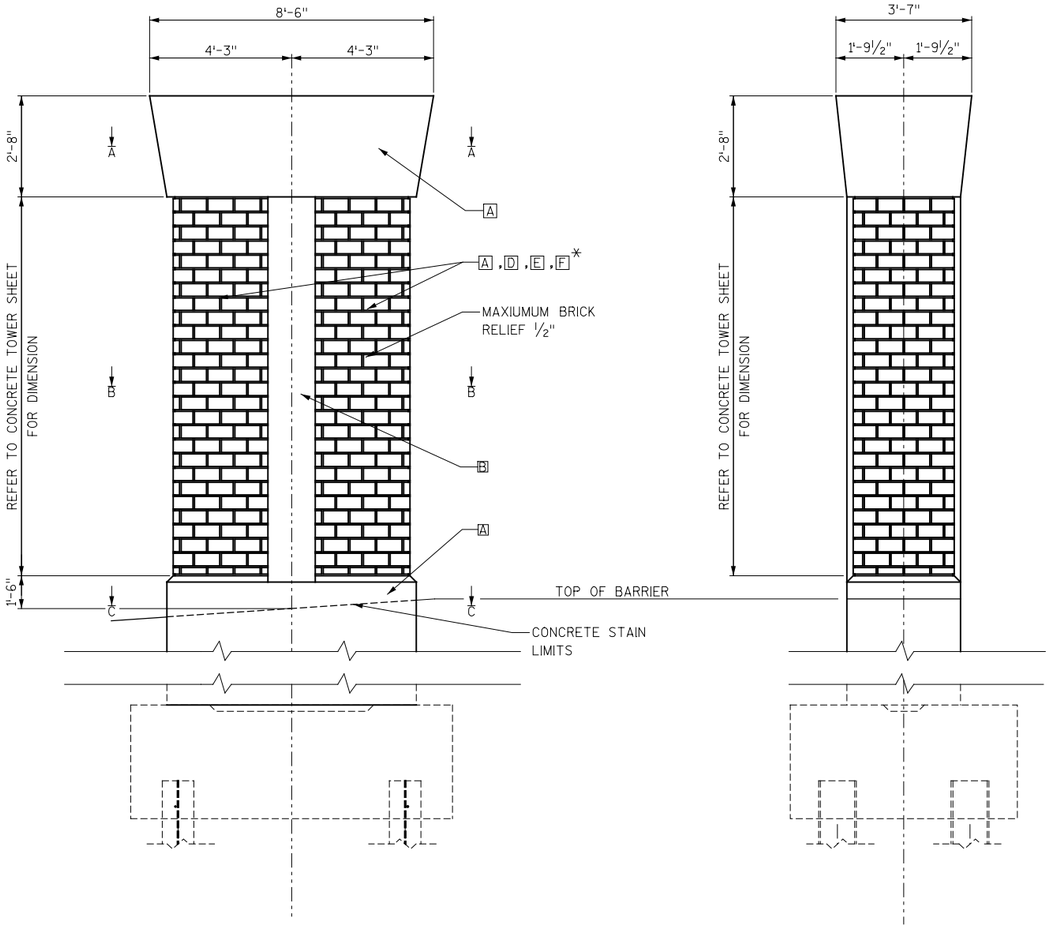
8

8

FILE NAME :S-05-173.dgn
PLOT DATE :12/31/2013 12:24:16 AM PLOT BY : MatthewHeiland\v8i DRV :Pdf_bw_HS.by levels.pt PEN :CEL.TEXTSUB.SCREENCONTROLBYLEVEL.TBL

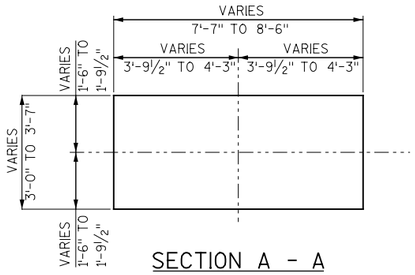
STATE PROJECT NUMBER

1133-09-71

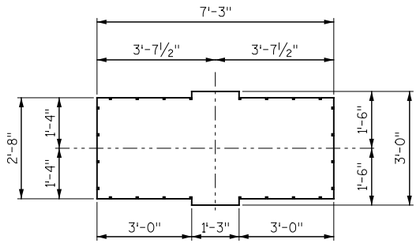


ELEVATION VIEW

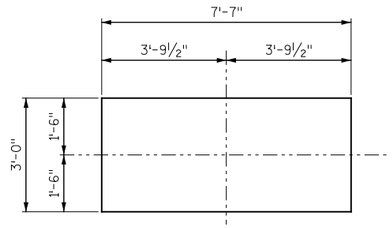
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

*STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-173

DRAWN BY VC | PLANS CK'D. CES

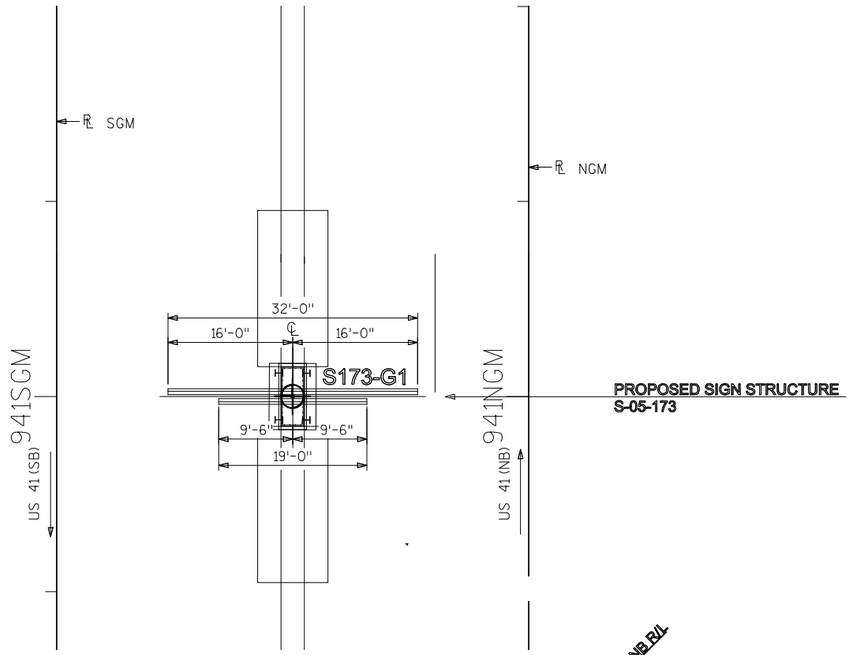
CONCRETE TOWER 1 AESTHETIC DETAILS

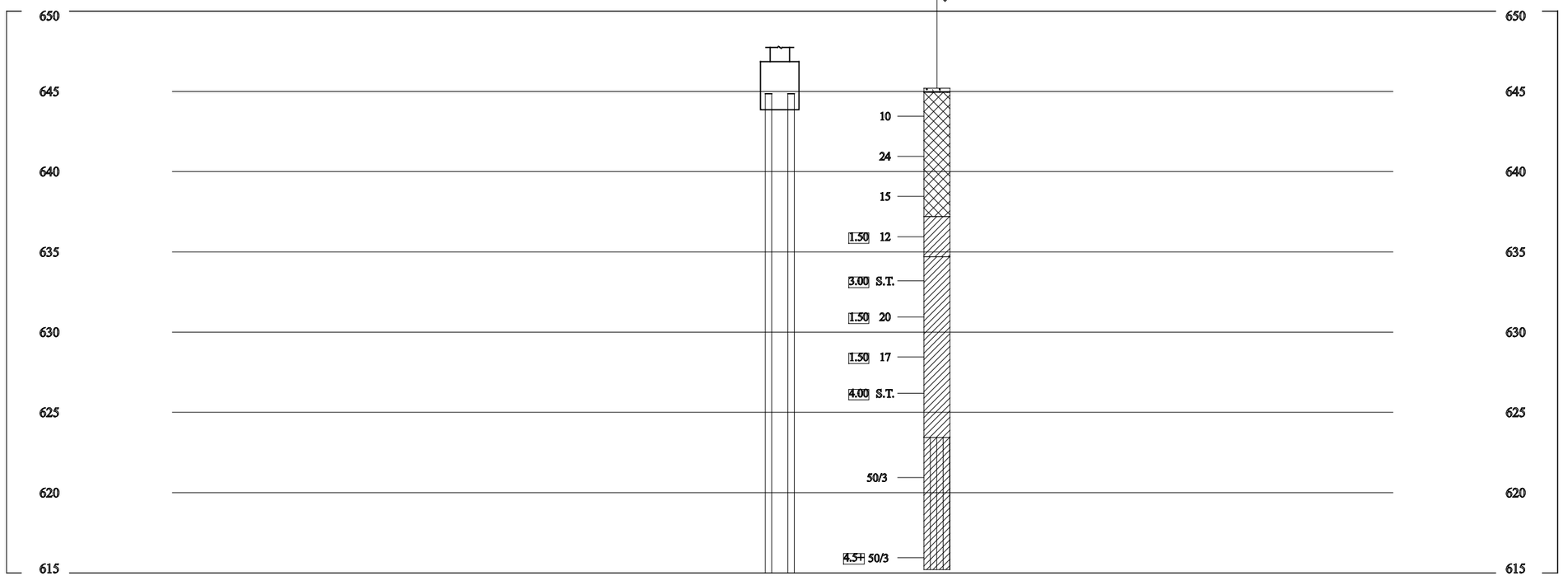
SHEET 5 OF 6

2676

FILE NAME :S-05-173.dgn
PLOT DATE :2/25/2013 8:24:17 AM PLOT BY : MatthewHe@and.v8i DRV :Pdf_bw_HS.by level.pit PEN :CEL.TEXTSUB.SCREENCONTROLBYLEVEL.TBL

USH-41 (S-05-173)
05-BROWN, WI





STATE PROJECT NUMBER

1133-09-71

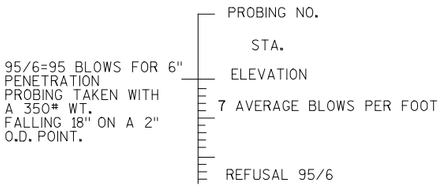
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

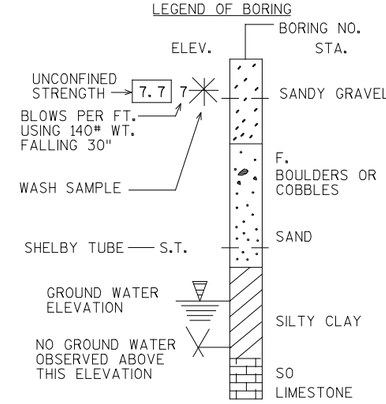
MATERIAL SYMBOLS

TOPSOIL SILT FAT CLAY
SAND PEAT DOLOMITE
GRAVEL CLAY FILL

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-173

DRAWN BY RE PLANS CK'D. DB

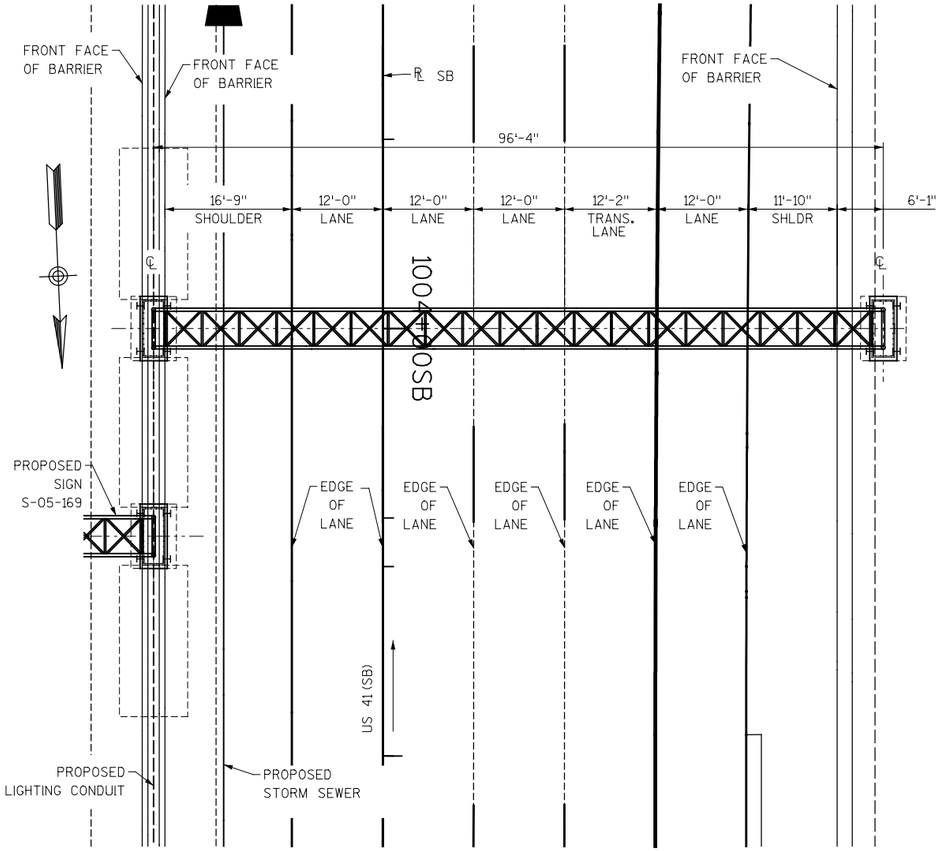
SUBSURFACE EXPLORATION

SHEET 6 OF 6
2677

SCALE 1"=20'

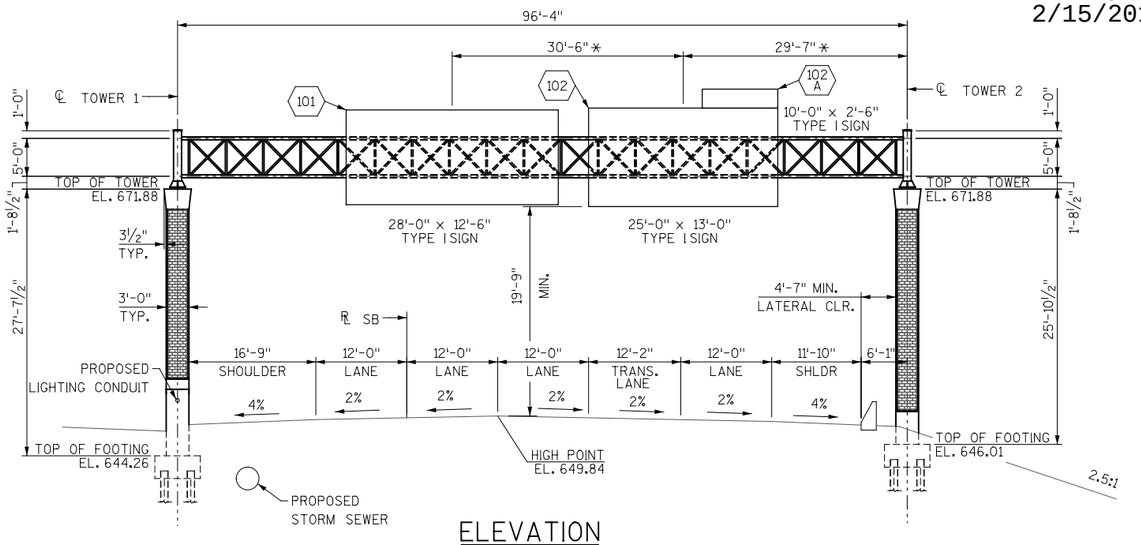
STATE PROJECT NUMBER

1133-03-77



PLAN

STA. 1004SB+00



ELEVATION

(LOOKING SOUTH AT FRONT FACE OF SIGN)

STEVEN J. MILLER 36937 MILWAUKEE, WI PROFESSIONAL ENGINEER WISCONSIN

Steven J. Miller

2/15/2013

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CONCRETE TOWER 1 FOUNDATION DETAILS
3. CONCRETE TOWER 1 DETAILS
4. CONCRETE TOWER 2 FOUNDATION DETAILS
5. CONCRETE TOWER 2 DETAILS
6. GALVANIZED STEEL SIGN BRIDGE
7. SIGN BRIDGE DETAILS
8. CONCRETE TOWER 1 AESTHETIC DETAILS
9. CONCRETE TOWER 2 AESTHETIC DETAILS
10. SUBSURFACE EXPLORATION

ULTIMATE DESIGN STRESSES:

TOWER

CONCRETE: .....f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

SIGN BRIDGE

STEEL COLUMN PIPE: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
STEEL PIPE MEMBERS OF TRUSS: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
PLATES, BARS, STRUCTURAL ANGLES: .....fy = 36,000 psi
A.S.T.M. A709 GRADE 36
STEEL ANCHOR BOLTS: .....fy = 55,000 psi
A.A.S.H.T.O. M314-90 GRADE 55
ALL BOLTED CONNECTIONS: ¾" ϕ A325 BOLTS,
GALVANIZED A.S.T.M. A153, CLASS C

DESIGN DATA

DEAD LOAD - WT. OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.
LIVE LOAD - NONE.
ICE LOAD - 3 P.S.F. TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND†)	133

† MIN. VALUE OF 25 PSF FOR GR. 3

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
1152	16'-0"

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	510
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	54
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	800
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	8550
641.6600.963	SIGN BRIDGE S-05-175	LS	1
652.0135	CONDUIT RIGID METALLIC 3-INCH	LF	8
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	550
SPV.0165.501	STAINING CONCRETE	SF	1010
SPV.0165.502	STAINING CONCRETE BRICK	SF	550

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ON THE PILES SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 - ¼" DIAMETER BY 1¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE S-05-175 "

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN CENTER TO CENTER OF CHORDS & SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-175 "

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS. WELD TEST AS PER AWS D1.1.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

⟨##⟩ - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

* SIGN PANEL DIMENSIONS ARE TO THE CENTER OF THE SIGN PANEL. CONTRACTOR TO FIELD VERIFY SIGN PANEL DISPLAYS CORRELATE WITH ROADWAY LANE LAYOUT.

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-175

DE PERE - SUAMICO

COUNTY: BROWN
TOWN/CITY/VILLAGE: GREEN BAY
DESIGN SPEC.: AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	CES	DESIGN CK'D.	SJM	DRAWN BY	MJH	PLANS CK'D.	CES

PLAN & ELEVATION

SHEET 1 OF 10
2678

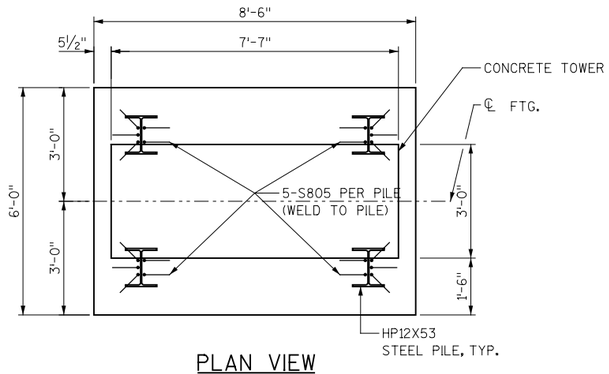
8

8

FILE NAME :S-05-0175.dgn
PLOT DATE :2/15/2013 8:29:58 AM PLOT BY : MatthewHolandvBl DRV :Pdf_bw_HS.by JavaLpit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

1133-03-77

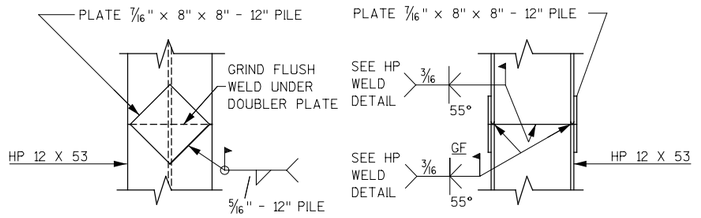


PLAN VIEW

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY



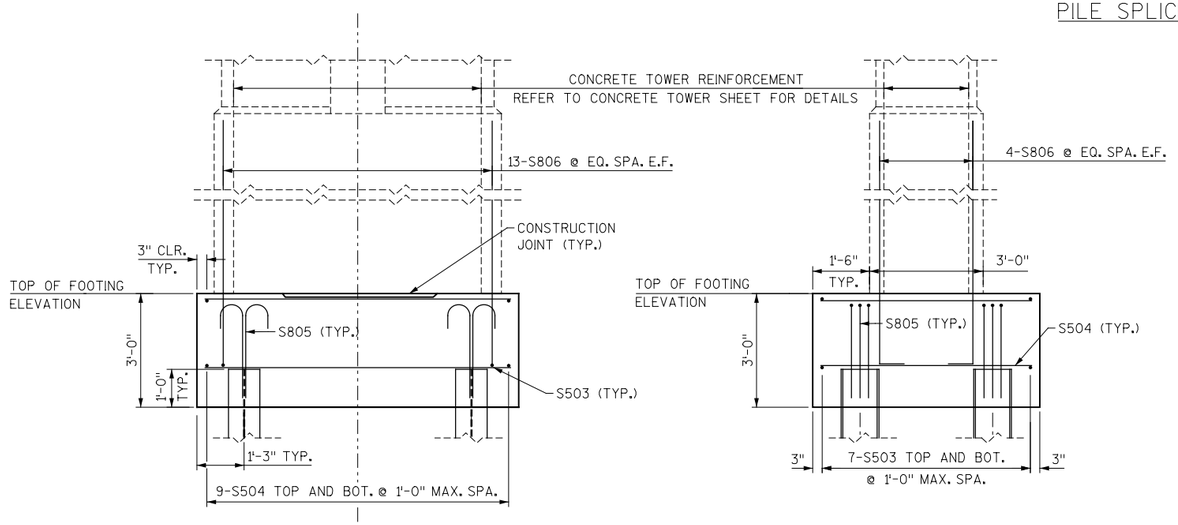
PILE SPLICE DETAIL

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

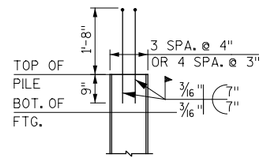
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S503		14	8'-0"			CAP LONGITUDINAL
S504		18	5'-6"			CAP TRANSVERSE
S805		20	3'-4"	▲		WELDED TO PILES
S806	X	30	13'-3"	▲		CAP BEAM VERTICAL
S507	X	24	12'-5"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S808	X	30	27'-5"			VERT. REINF., MIDDLE OF TOWER
S409	X	4	14'-4"			VERT. REINF., MIDDLE OF TOWER
S510	X	40	11'-6"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	32	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	36	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	60	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

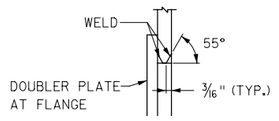


ELEVATION VIEW

END VIEW



PILE HEAD DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

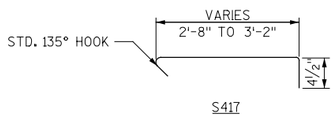
SIGN BRIDGE TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. BEDROCK IS EXPECTED TO BE ENCOUNTERED AT EL. 579.26. ESTIMATED LENGTH 63 FEET LONG.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

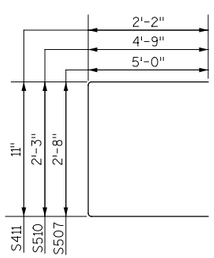
IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

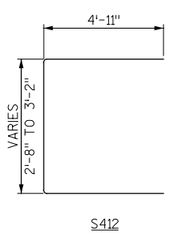
WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".



S417



S507,S510,S411



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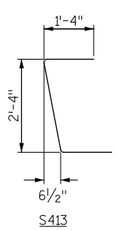

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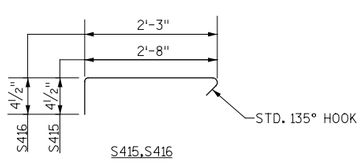
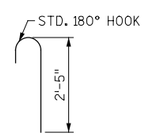


S415,S416

S806



S805

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-175

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 FOUNDATION DETAILS

SHEET 2 OF 10

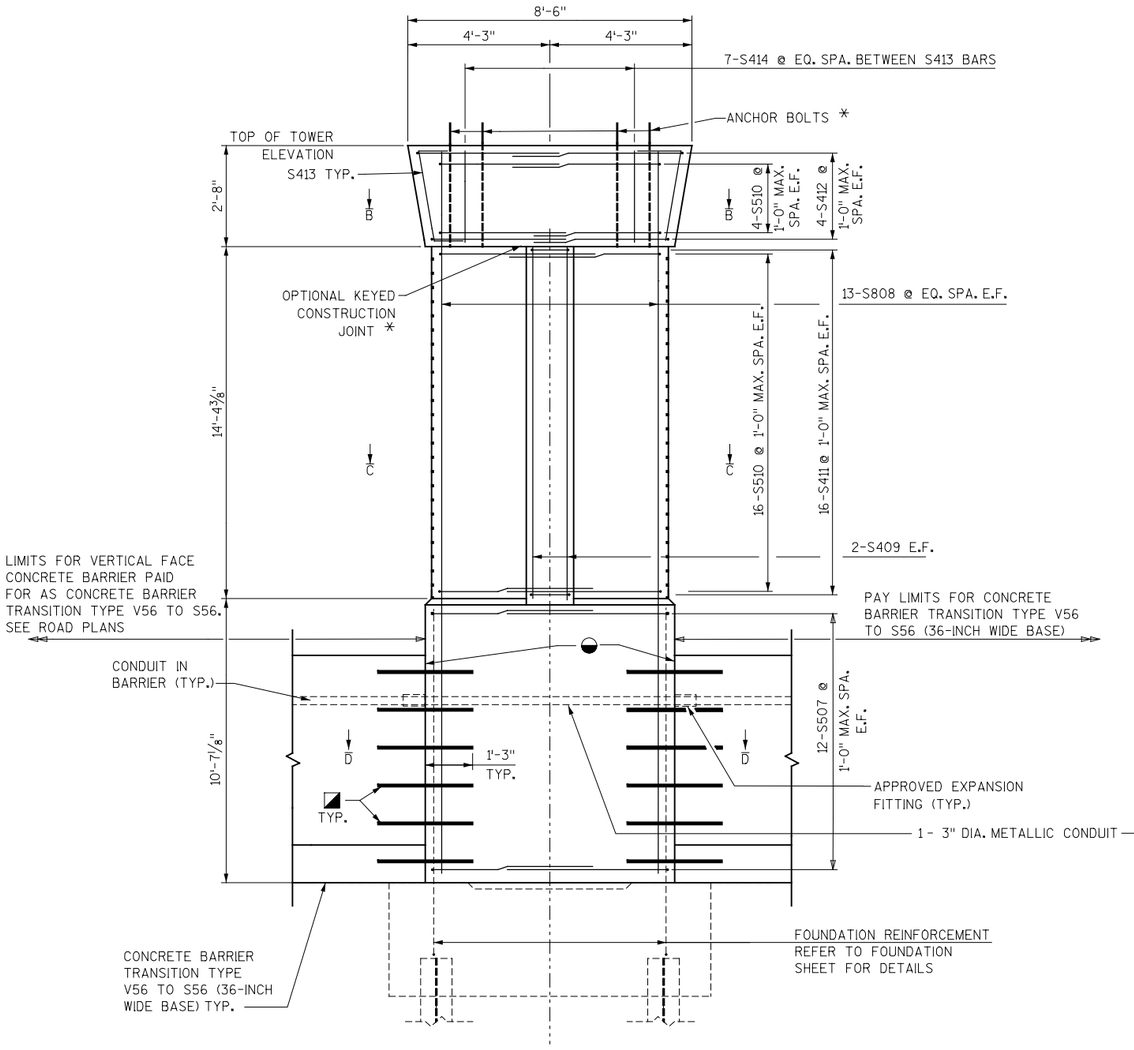
2679

8

8

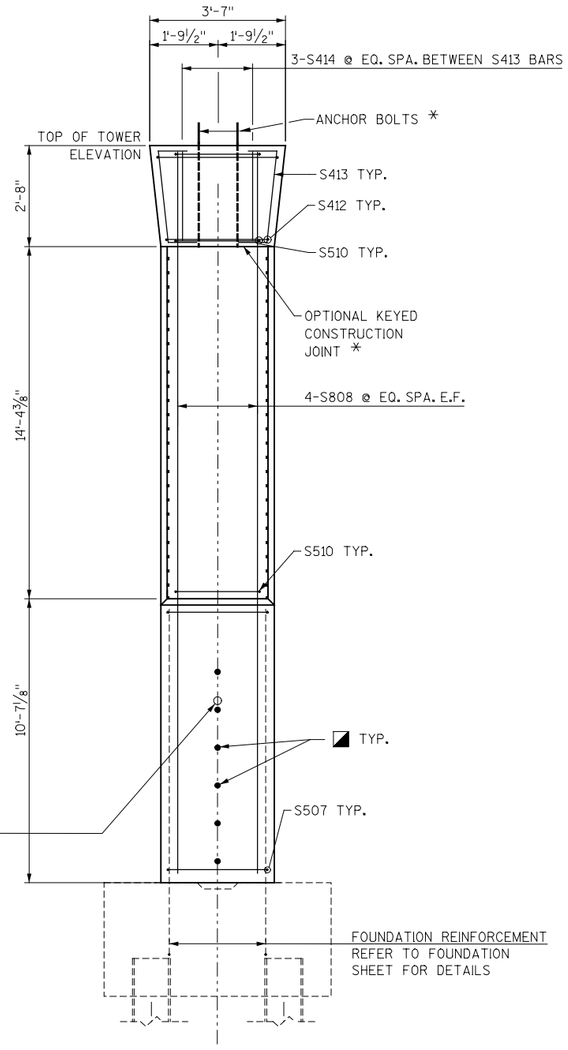
FILE NAME :S-05-0175.dgn
PLOT DATE :2/15/2013 8:30:00 AM PLOT BY : MatthewHe@landvR DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-03-77



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2 1/2" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

APPROVED EXPANSION FITTING SHALL BE CAST INTO THE BARRIER OR TOWER CONCRETE, WHICH EVER ELEMENT IS CAST FIRST.

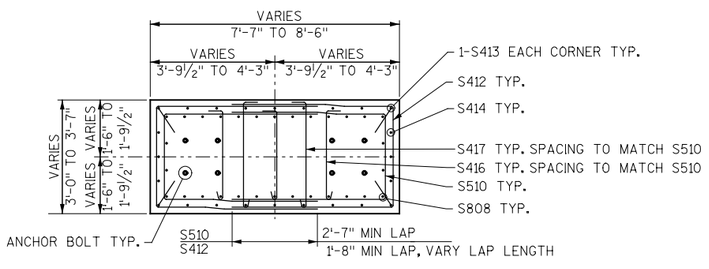
COORDINATE THE LOCATION OF THE ELECTRICAL CONDUIT IN THE TOWER TO MATCH THE LOCATION OF THE CONDUIT IN THE CONCRETE BARRIER.

SPACE S507 BARS TO MISS CONDUIT.

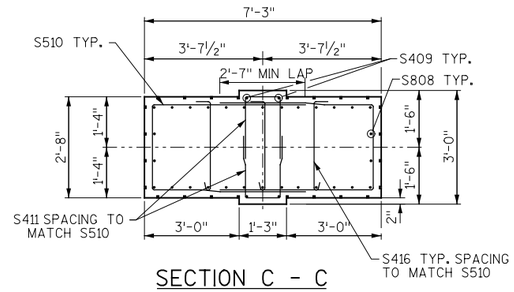
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.

◪ PLACE 1" ϕ PLAIN (SMOOTH) ROUND DOWEL BARS, 2'-6" LONG BETWEEN BARRIER AND CONCRETE TOWER. USE DEBONDER ON EXTENSION INTO BARRIER. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. SPACE DOWELS AT 1'-0". COST OF ITEMS ARE TO BE INCLUDED IN THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

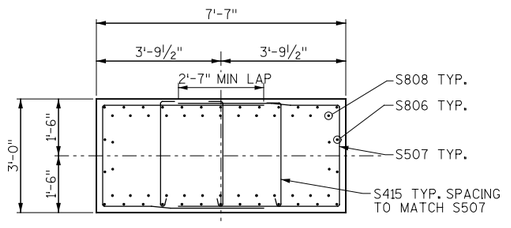
◒ PLACE 1/2" EXPANSION JOINT FILLLER BETWEEN TOWER AND BARRIER WALL, TYP. THE JOINT FILLER SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".



SECTION B - B



SECTION C - C



SECTION D - D

(DOWEL BARS OMITTED FOR CLARITY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-175

DRAWN BY VC | PLANS CK'D. CES

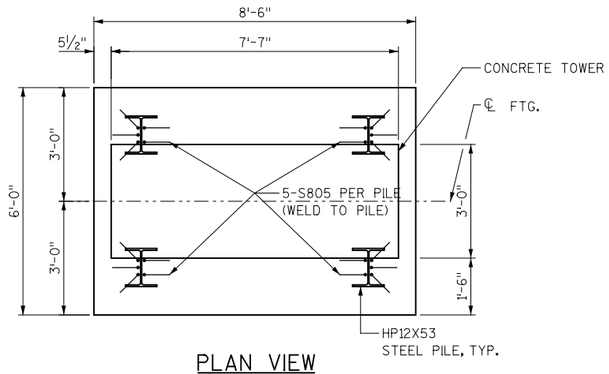
CONCRETE TOWER 1 DETAILS

SHEET 3 OF 10
2680

FILE NAME :S-05-0175.dgn
PLOT DATE :2/25/2013 8:30:01 AM PLOT BY : MatthewH@sandv81 DRV :Pdf_bw_HS.by levelzit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

1133-03-77

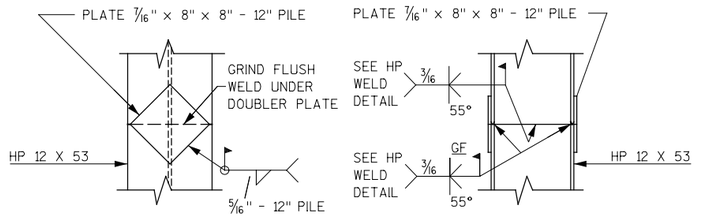


PLAN VIEW

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY



PILE SPLICE DETAIL

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S503		14	8'-0"			CAP LONGITUDINAL
S504		18	5'-6"			CAP TRANSVERSE
S805		20	3'-4"	▲		WELDED TO PILES
S806	X	30	8'-5"	▲		CAP BEAM VERTICAL
S507	X	10	12'-5"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S808	X	30	26'-10"	▲		VERT. REINF., MIDDLE OF TOWER
S409	X	4	18'-8"			VERT. REINF., MIDDLE OF TOWER
S510	X	48	11'-6"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	40	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	15	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	72	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

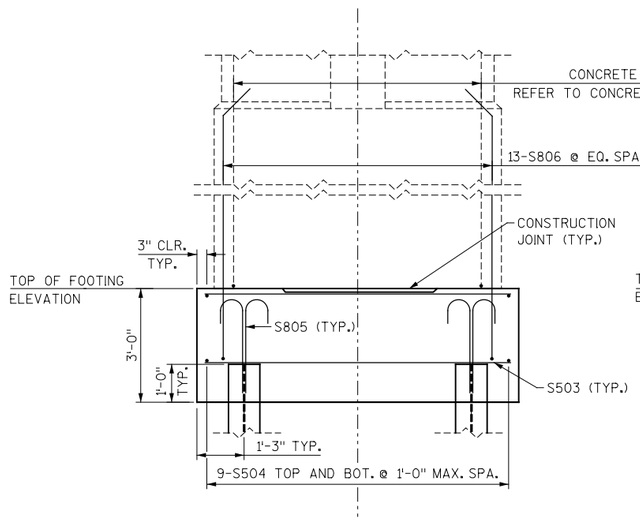
SIGN BRIDGE TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. BEDROCK IS EXPECTED TO BE ENCOUNTERED AT EL. 581.01. ESTIMATED LENGTH 63 FEET LONG.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

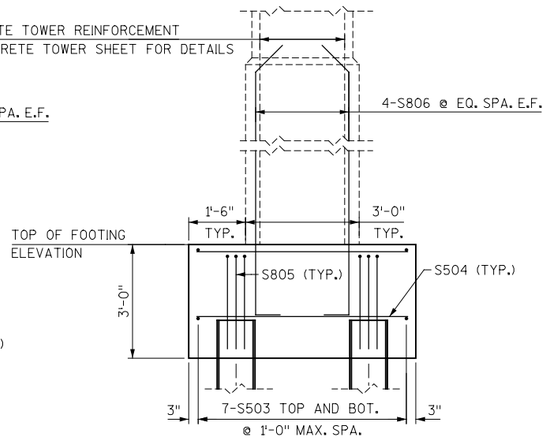
IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

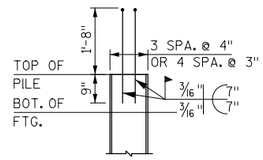
WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".



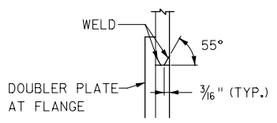
ELEVATION VIEW



END VIEW

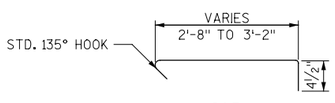


PILE HEAD DETAIL

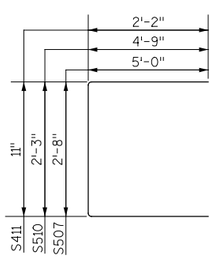


HP WELD DETAIL

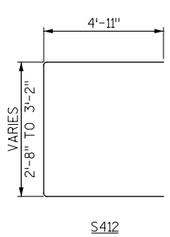
FLANGE SHOWN, WEB SIMILAR



S417



S507,S510,S411



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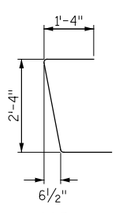
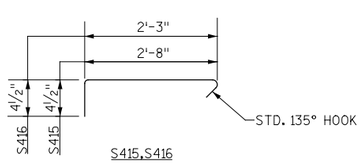
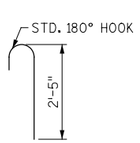


S413



S415,S416



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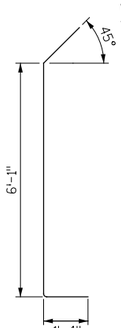


S806

S808

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-175

CONCRETE TOWER 2 FOUNDATION DETAILS

SHEET 4 OF 10

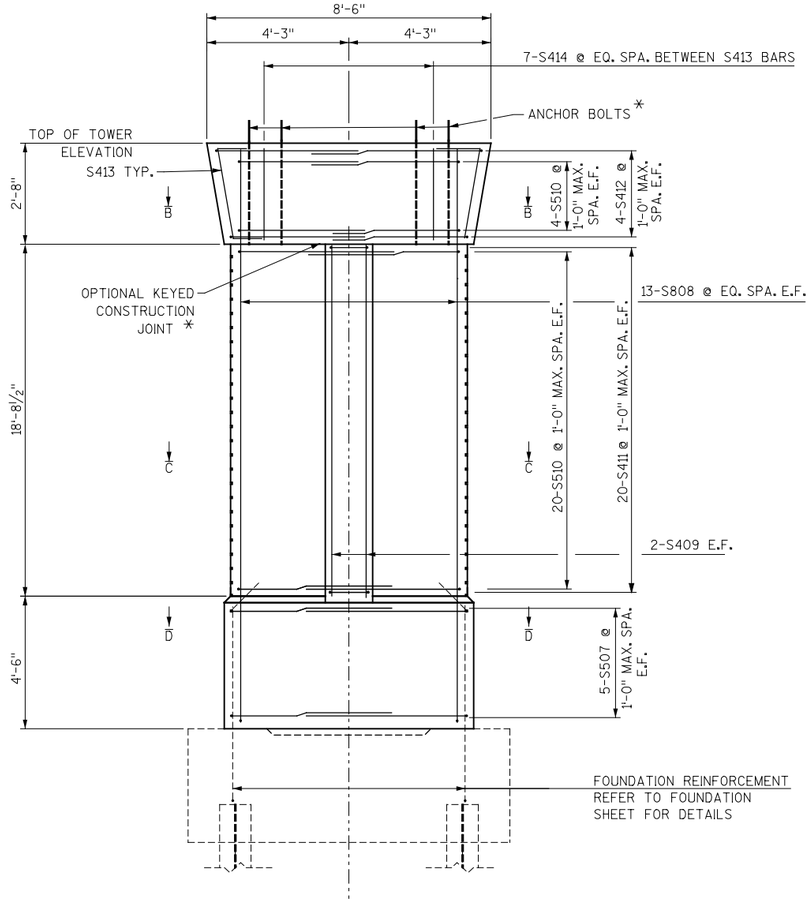
2681

8

8

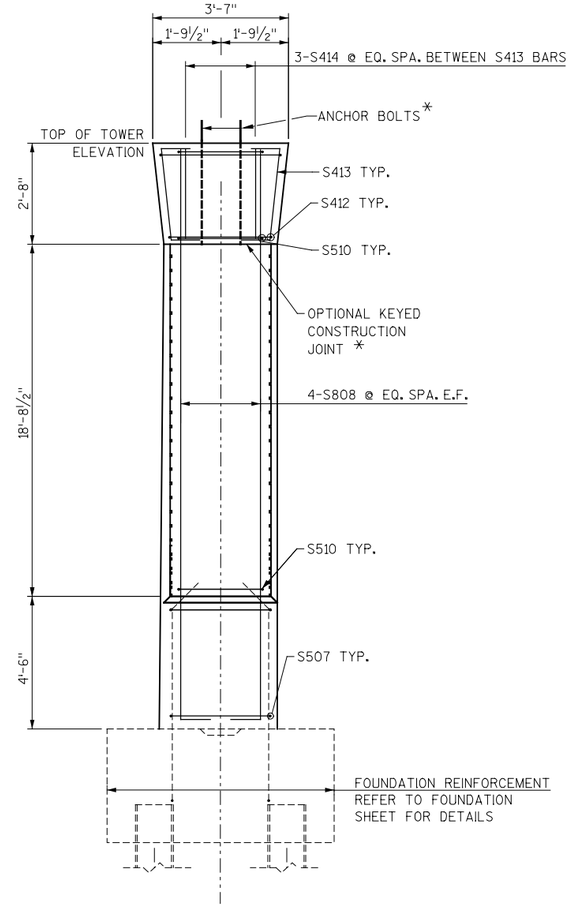
FILE NAME :S-05-0175.dgn
PLOT DATE :12/15/2023 8:30:03 AM PLOT BY : MatthewHe@landvR DRV :Pdf_bw_HS.by levelplt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-03-77



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

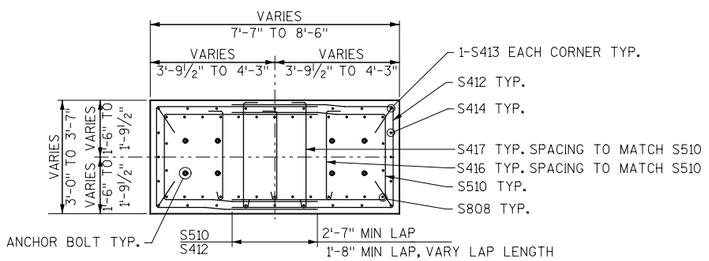
"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

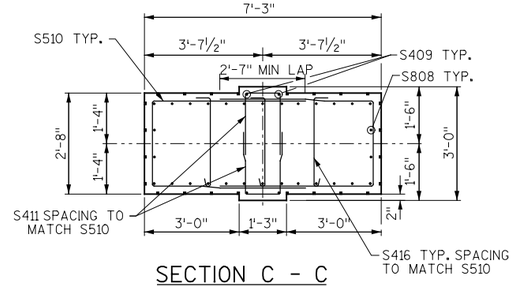
REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

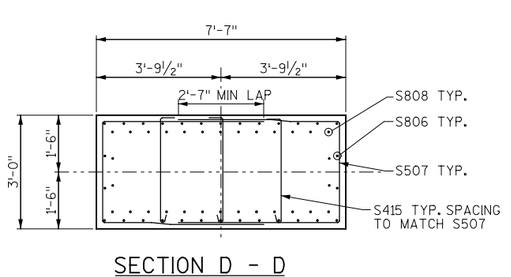
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.



SECTION B - B



SECTION C - C



SECTION D - D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-175

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 DETAILS

SHEET 5 OF 10

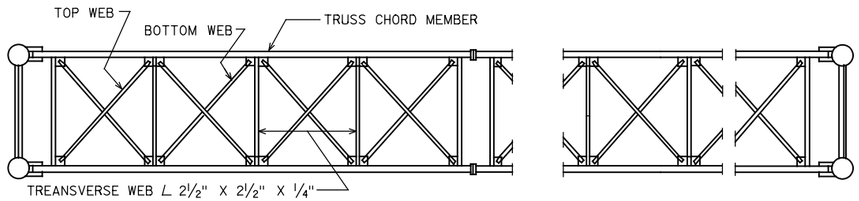
2682

8

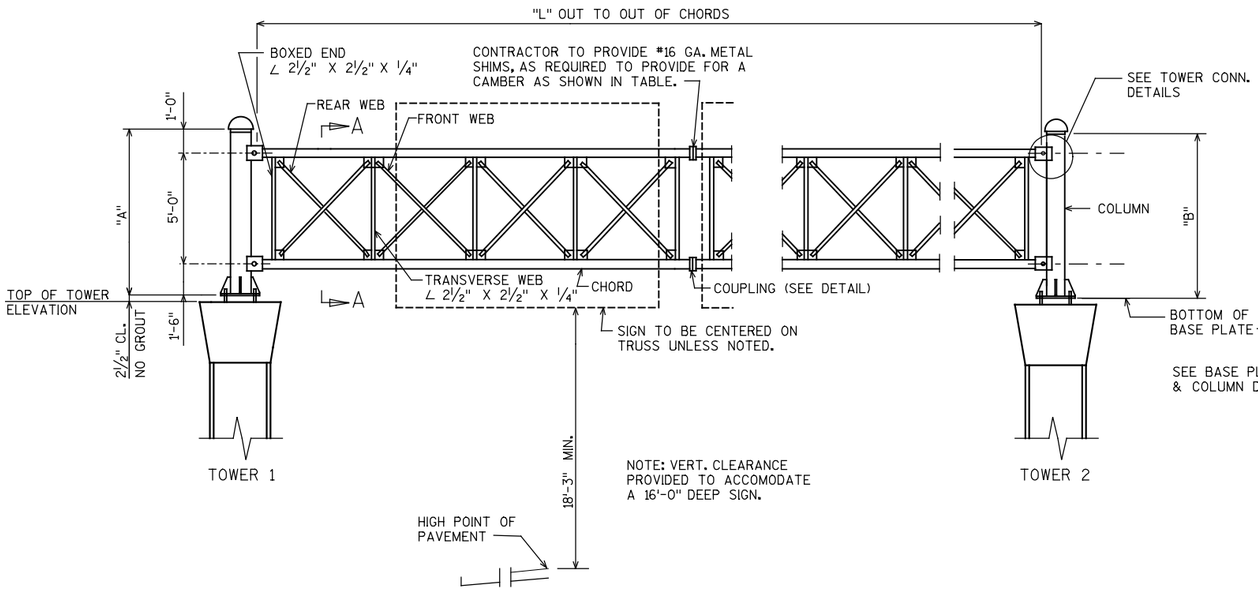
8

FILE NAME :S-05-0175.dgn
PLOT DATE :2/15/2013 8:30:04 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by levelplt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

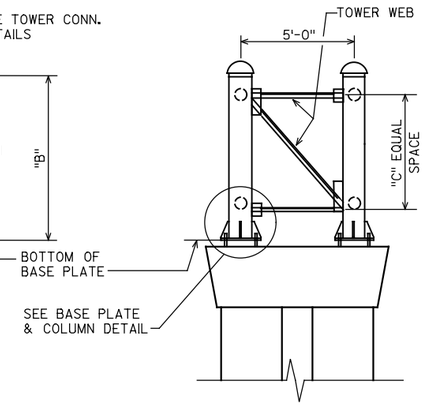
STATE PROJECT NUMBER
1133-03-77



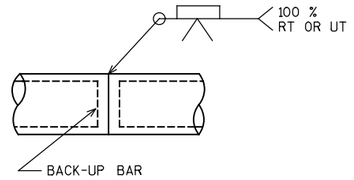
PLAN



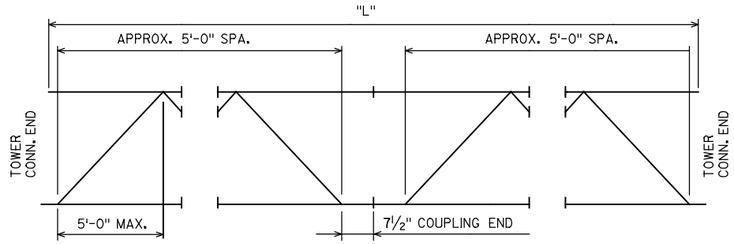
ELEVATION



TOWER 2 END VIEW
(TOWER 1 OPPOSITE HAND)

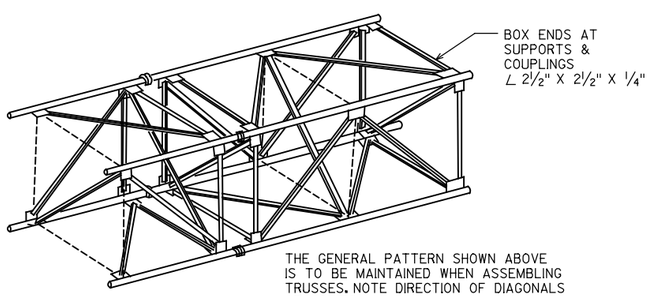


OPTIONAL COLUMN OR CHORD SPLICE DETAIL

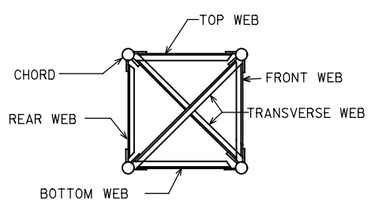


TRUSS ARRANGEMENT

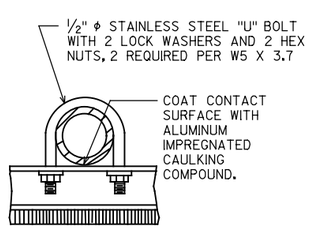
FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 20'-0" & A MULTPLE OF 5'-0". CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS. CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.



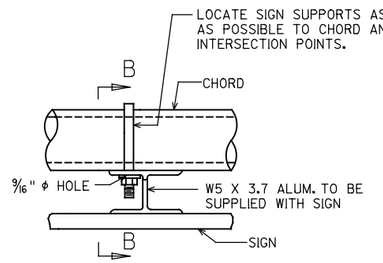
TYPICAL TRUSS SECTION



SECTION A



SECTION B



TYPICAL SIGN CONNECTION

GENERAL NOTES

DRAWING SHALL NOT BE SCALED

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

STRUCTURE MEMBER TABLE

A	B	C	CHORDS O.D. X THK.	TOP & BOTTOM WEB	FRONT & REAR WEB	COUPLING PLATE D1 & "T"	BOLT CIRCLE DIA. "D2"	NO. OF BOLTS IN COUPLING	CAMBER	COLUMN O.D. X THK.	TOWER WEBS	"L"
7'-6"	7'-6"	1	4.5"x0.237"	3"x3"x1/4"	3"x3"x1/4"	10.5" x 1.125"	7.5"	6	2"	10.75"x0.5"	3"x3"x3/16"	95'-2¼

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-175

DRAWN BY	PLANS CK'D.
VC	CES

GALVANIZED STEEL SIGN BRIDGE

SHEET 6 OF 10
2683

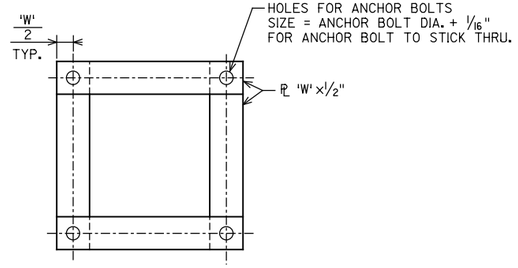
8

8

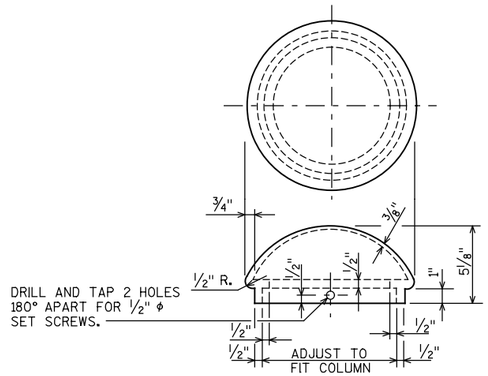
FILE NAME :S-05-0175.dgn
PLOT DATE :2/15/2013 8:30:05 AM
100%
PLOT BY : MatthewHe@and81
DRV :Pdf_bw_HS.by level.zit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

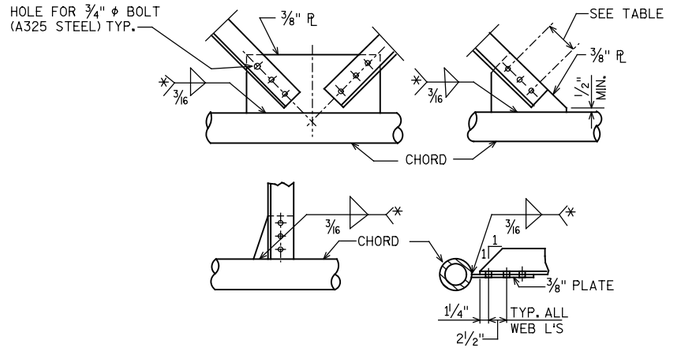
1133-03-77



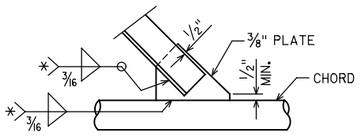
ANCHOR PLATE/TEMPLATE PLAN



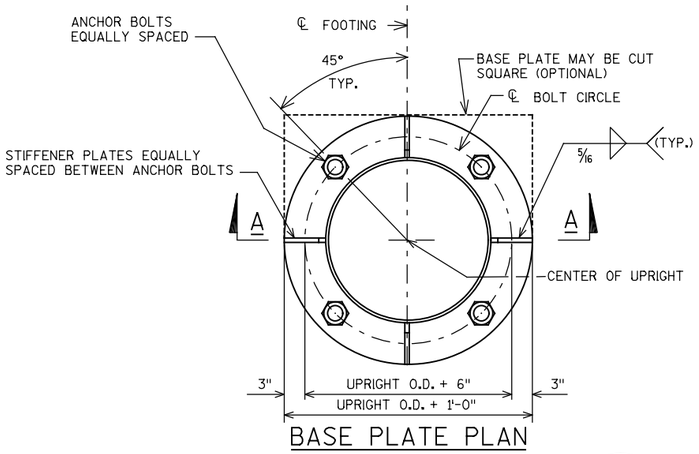
TOWER CAP DETAIL



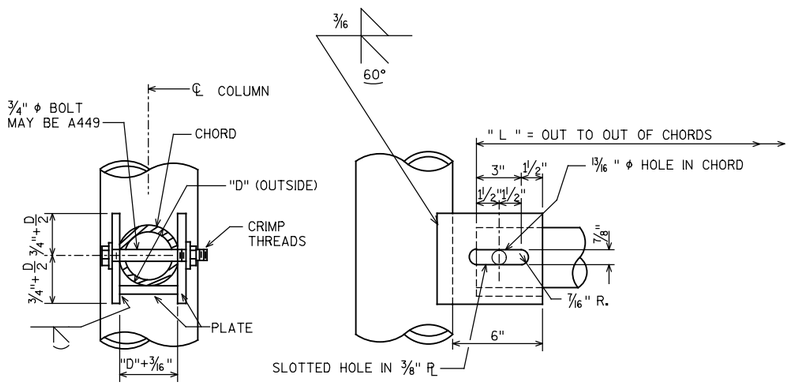
TYPICAL TRUSS CONNECTION DETAILS



TYPICAL WELDED ALTERNATE



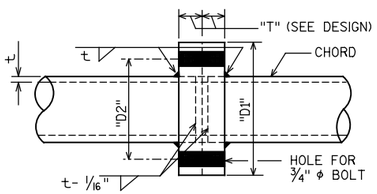
BASE PLATE PLAN



TOWER CONNECTION DETAIL

*ANGLE	WELD LENGTH	NO. OF BOLTS
● 2 1/2"x2 1/2"x1/4"	11"	3
3"x3"x3/16"	10"	3
3"x3"x1/4"	13"	4
3"x3"x5/16"	16 1/2"	5
3"x3"x3/8"	19 1/2"	6
4"x4"x1/4"	18"	5
4"x4"x5/16"	22"	6
4"x4"x3/8"	26"	8
4"x4"x7/16"	30"	9
4"x4"x1/2"	34"	10

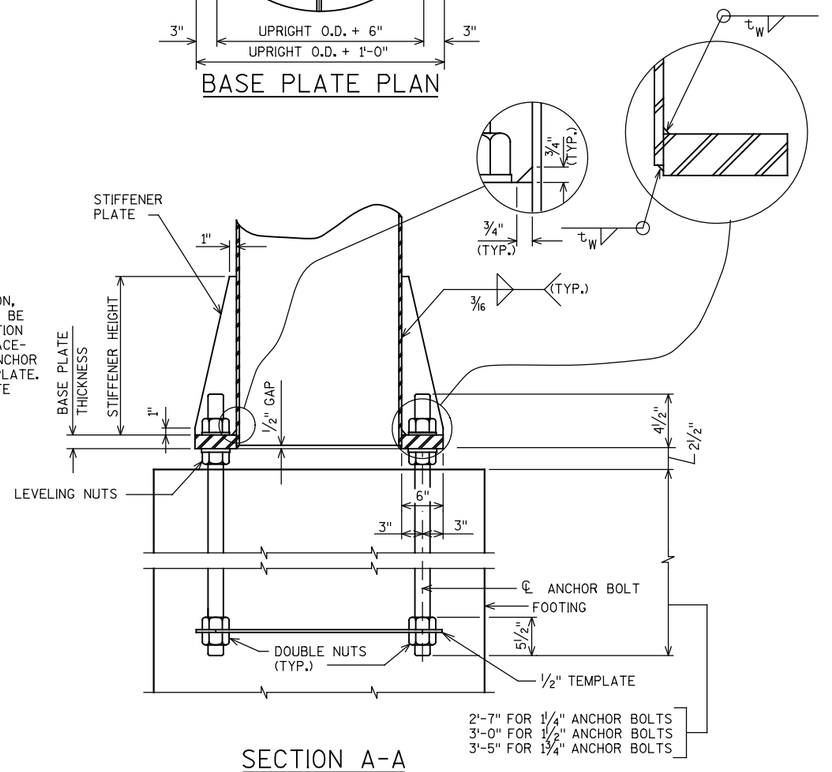
● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.



COUPLING DETAIL

(CONNECTION BOLTS OMITTED FOR CLARITY)

NOTE:
PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE. REMOVE TOP TEMPLATE (NOT SHOWN) AFTER CONCRETE SETS.



SECTION A-A

BASE PLATE & UPRIGHT COLUMN DETAILS

COLUMN O.D. X THK.	ANCHOR BOLTS	BASE PLATE THICKNESS (IN.)	STIFFENER PLATE THICKNESS (IN.)	STIFFENER PLATE HEIGHT (IN.)	t_W (IN.)
10.75"X0.5"	1 3/4"	1 3/4"	3/4"	10"	3/8"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-175

DRAWN BY VC | PLANS CK'D. CES

SIGN BRIDGE DETAILS

SHEET 7 OF 10

2684

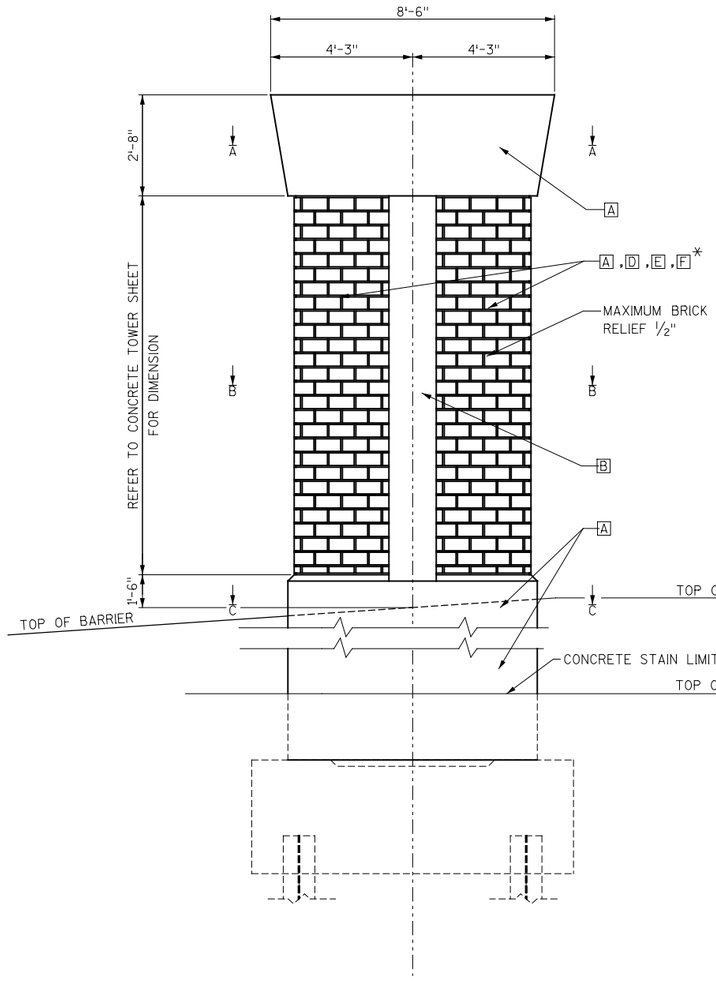
8

8

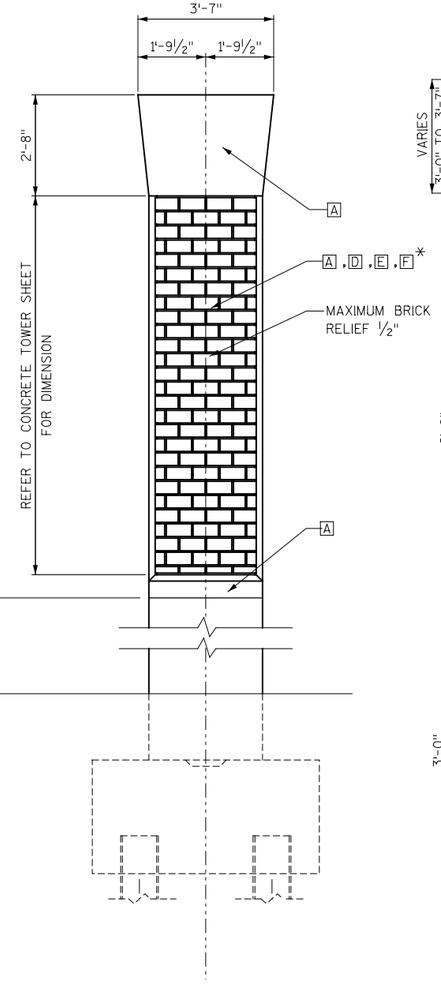
FILE NAME :S-05-0175.dgn
PLOT DATE :2/15/2013 8:30:05 AM
PLOT BY : MatthewHeiland
DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

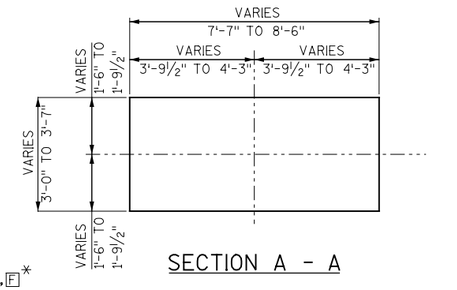
1133-03-77



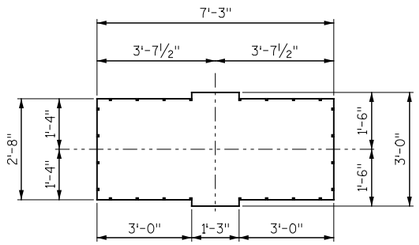
ELEVATION VIEW



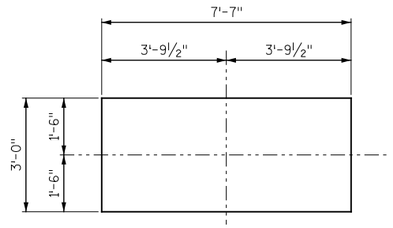
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-175

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 AESTHETIC DETAILS

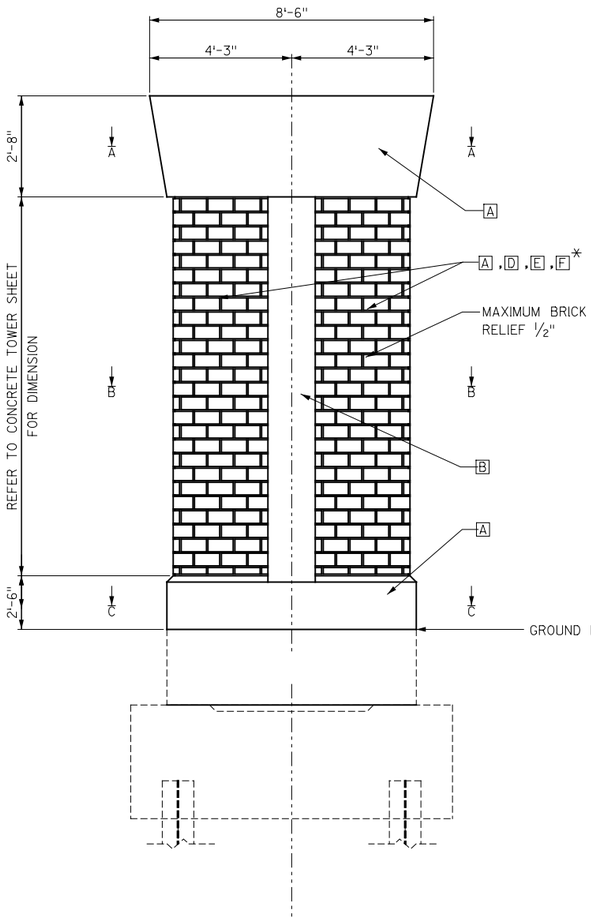
SHEET 8 OF 10

2685

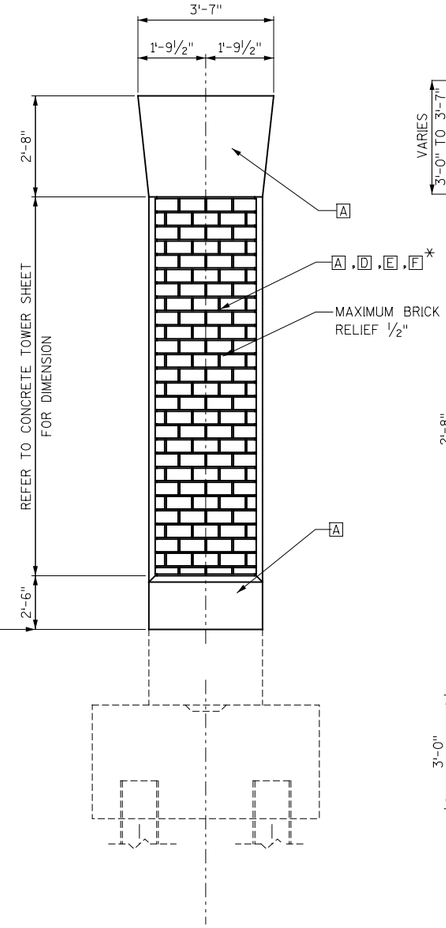
FILE NAME :S-05-0175.dgn
PLOT DATE :2/15/2013 8:50:06 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

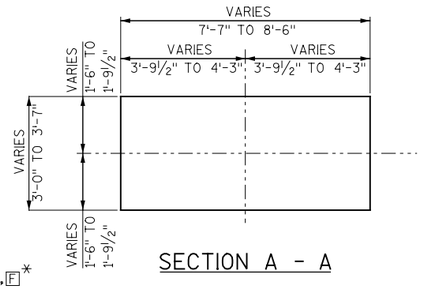
1133-03-77



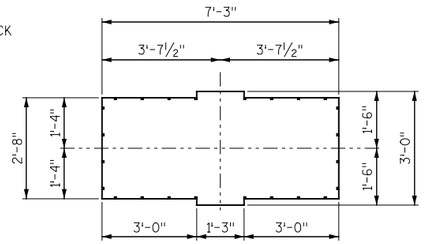
ELEVATION VIEW



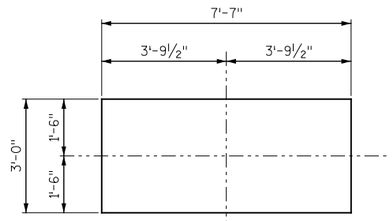
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-175

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 AESTHETIC DETAILS

SHEET 9 OF 10

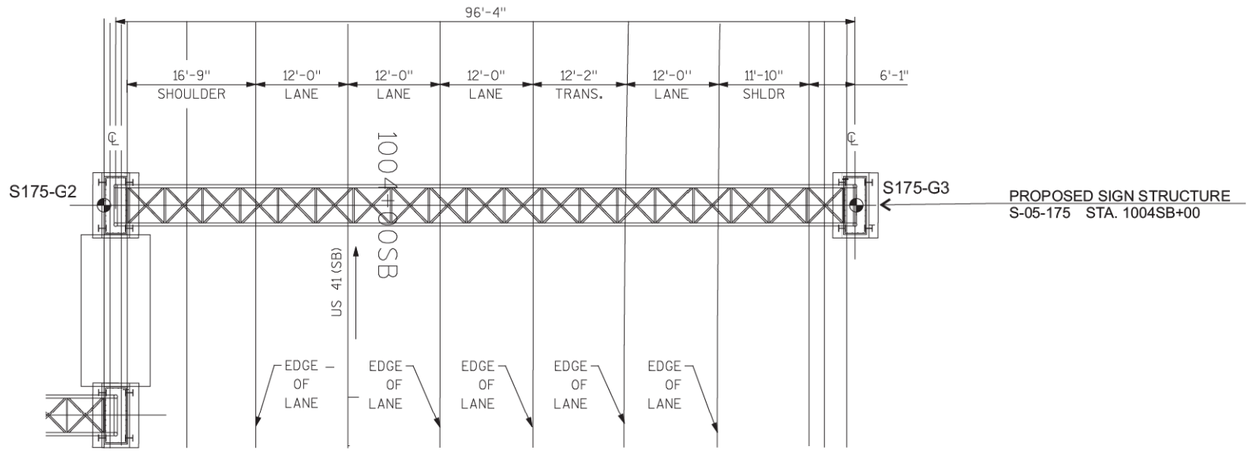
2686

8

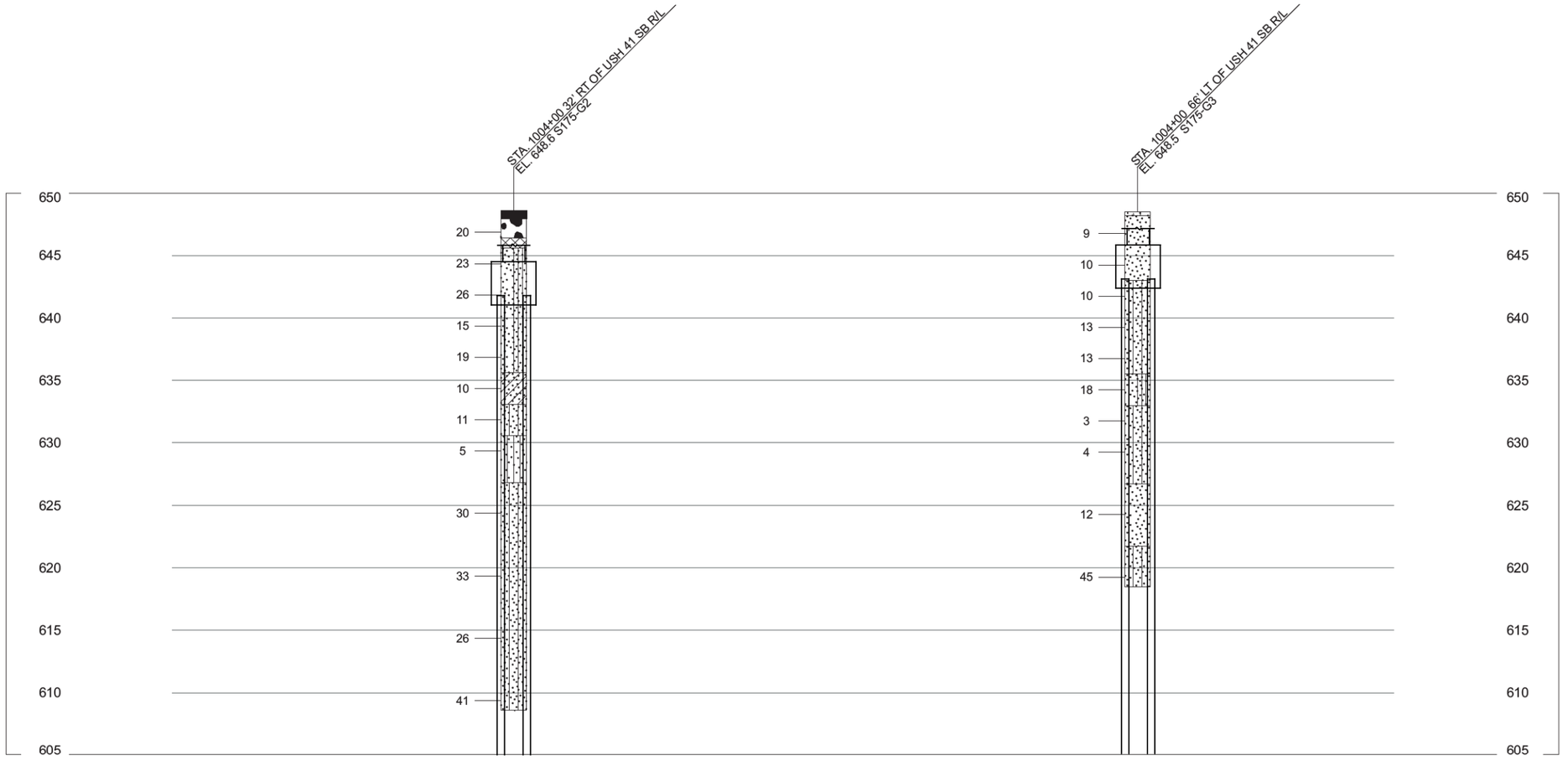
8

FILE NAME :S-05-0175.dgn
PLOT DATE :2/15/2013 8:30:08 AM PLOT BY : MatthewHeiland:8l DRV :Pdf_bw_HS.by level.plt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

USH-41 (S-05-175)
05-BROWN, WI



PROPOSED SIGN STRUCTURE
S-05-175 STA. 1004SB+00



STATE PROJECT NUMBER

1133-03-77

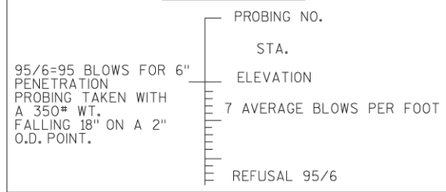
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

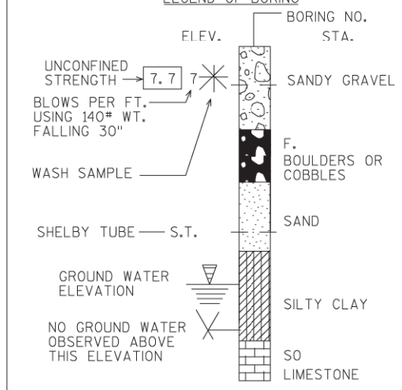
MATERIAL SYMBOLS

TOPSOIL SILT FAT CLAY
SAND PEAT DOLOMITE
GRAVEL CLAY FILL

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-175

DRAWN BY NS PLANS CK'D. DB

SUBSURFACE EXPLORATION

SHEET 10 OF 10

2687

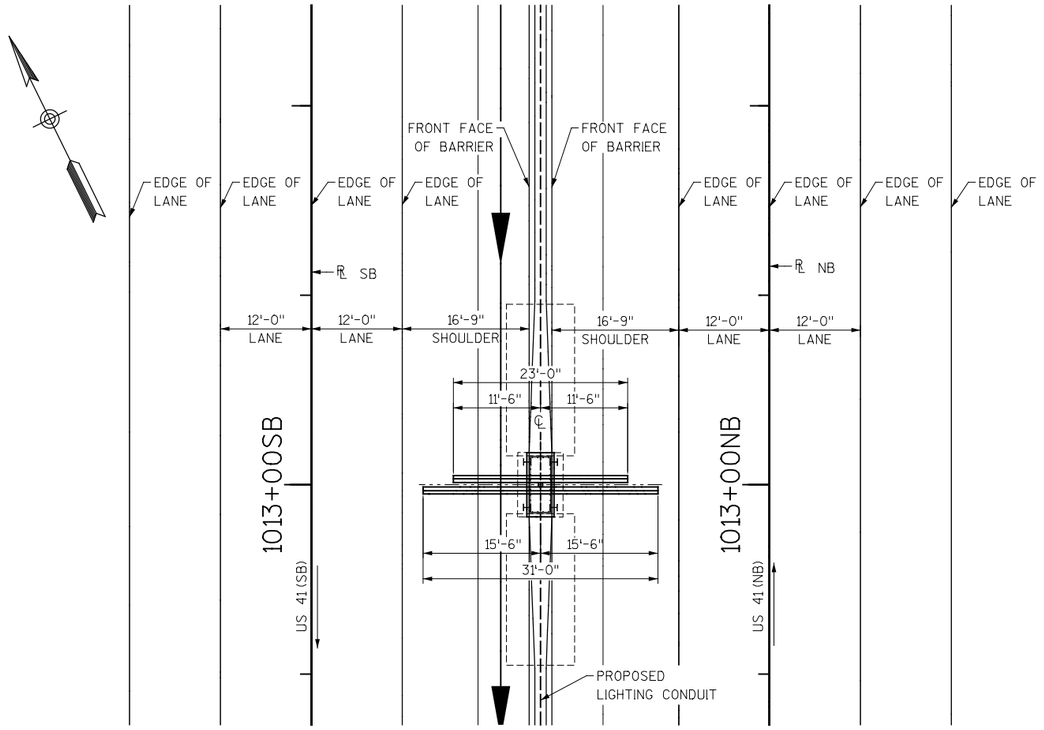
SCALE 1"=20'

8

8

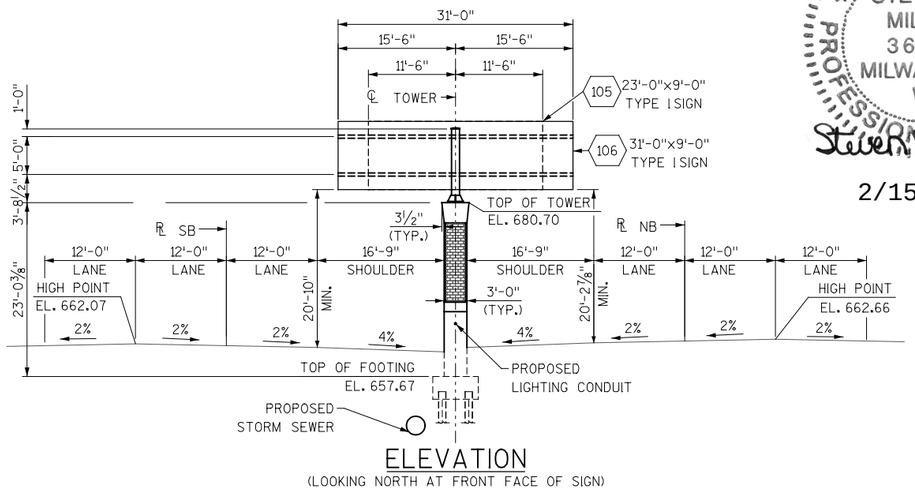
STATE PROJECT NUMBER

1133-03-77



PLAN

STA. 1013NB+00



ELEVATION

(LOOKING NORTH AT FRONT FACE OF SIGN)

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER

Steven J. Miller

2/15/2013

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CONCRETE TOWER FOUNDATION DETAILS
3. CONCRETE TOWER DETAILS
4. BUTTERFLY DETAILS
5. CONCRETE TOWER AESTHETIC DETAILS
6. SUBSURFACE EXPLORATION

ULTIMATE DESIGN STRESSES:

TOWER

CONCRETE: .....f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

SIGN BRIDGE

STEEL CHORDS & COLUMN: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
PLATES & BARS: .....fy = 36,000 psi
A.S.T.M. A709 GRADE 36
STEEL ANCHOR BOLTS: .....fy = 55,000 psi
A.A.S.H.T.O. M314 GRADE 55
HIGH STRENGTH BOLTS A325 .....fy=92,000 psi
STRUCTURAL MEMBERS GALVANIZED A123
HARDWARE GALVANIZED .....A153 CLASS C

DESIGN DATA

DEAD LOAD - WT. OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.
LIVE LOAD - NONE.
ICE LOAD - 3 P.S.F. TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND‡)	133

‡ MIN. VALUE OF 25 PSF FOR GR. 3

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
SOUTHBOUND PANEL 276	12'-0"
NORTHBOUND PANEL 279	12'-0"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER TYPE I SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ABOVE THE PILE SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 - ¼" DIAMETER BY 1¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE SINGLE POLE SIGN SUPPORT TWO SIGNS S-05-176 "

SIGNS OR BLANKS SHALL BE INSTALLED ON THE OVERHEAD SIGN SUPPORT AT THE TIME OF ERECTION. BLANKS, IF USED, SHALL BE OF THE SAME SIZE AND LOCATION AS PERMANENT SIGNS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-176 "

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS. WELD TEST AS PER AWS D1.1.

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

(##) - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	230
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	25
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	300
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	2970
641.0600.964	SIGN BRIDGE SINGLE POLE SIGN SUPPORT TWO SIGNS S-05-176	LS	1
652.0135	CONDUIT RIGID METALLIC 3-INCH	LF	8
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	160
SPV.0165.501	STAINING CONCRETE	SF	310
SPV.0165.502	STAINING CONCRETE BRICK	SF	160

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE S-05-176

DE PERE - SUAMICO

COUNTY: BROWN
~~TOWN~~/CITY/~~VILLAGE~~: GREEN BAY

DESIGN SPEC.: AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CES	SJM	MJH	CES

PLAN & ELEVATION

SHEET 1 OF 6
2688

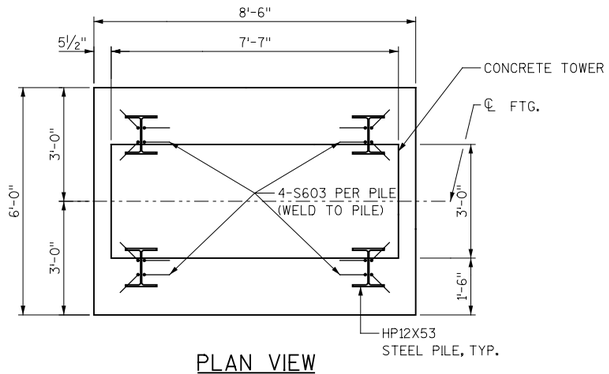
8

8

FILE NAME :S-05-0176.dgn
PLOT DATE :2/15/2013 8:32:00 AM PLOT BY : MatthewHolandvBl DRV :Pdf_bw_HS.by level.plt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

1133-03-77

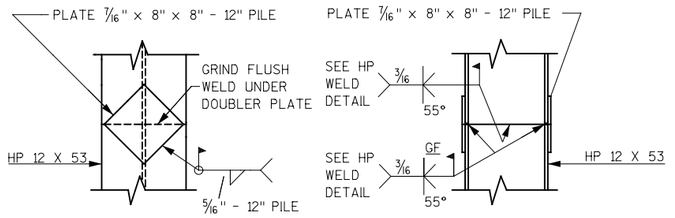


PLAN VIEW

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY



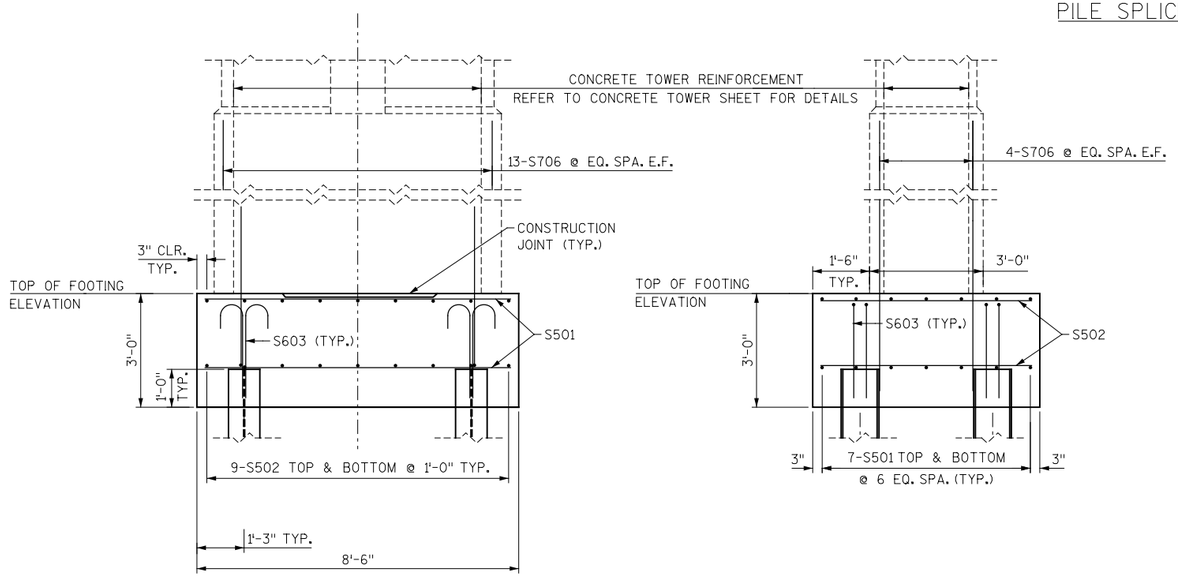
PILE SPLICE DETAIL

BILL OF BARS

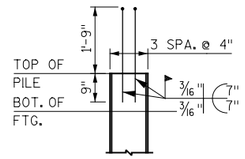
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S501		14	8'-0"			CAP LONGITUDINAL
S502		18	5'-6"			CAP TRANSVERSE
S603		16	3'-2"	▲		WELDED TO PILES
S706	X	30	12'-6"	▲		CAP BEAM VERTICAL
S407	X	22	11'-6"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S708	X	30	22'-10"			VERT. REINF., MIDDLE OF TOWER
S409	X	4	10'-4"			VERT. REINF., MIDDLE OF TOWER
S410	X	32	10'-7"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	24	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	33	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	48	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

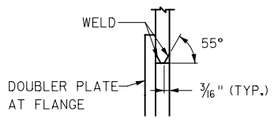
△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



ELEVATION VIEW



PILE HEAD DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

SIGN BRIDGE TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 56 FEET LONG.

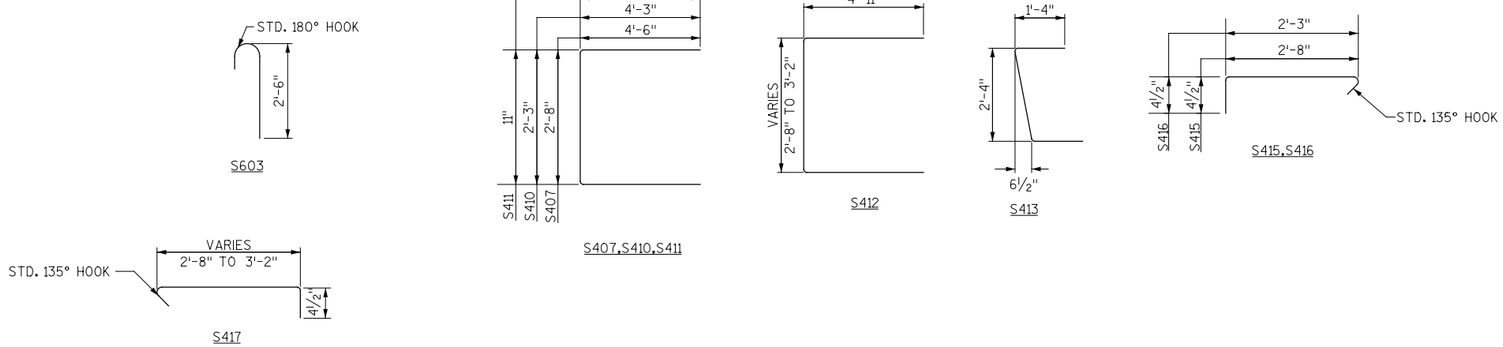
**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".

END VIEW



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-176

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER FOUNDATION DETAILS

SHEET 2 OF 6

2689

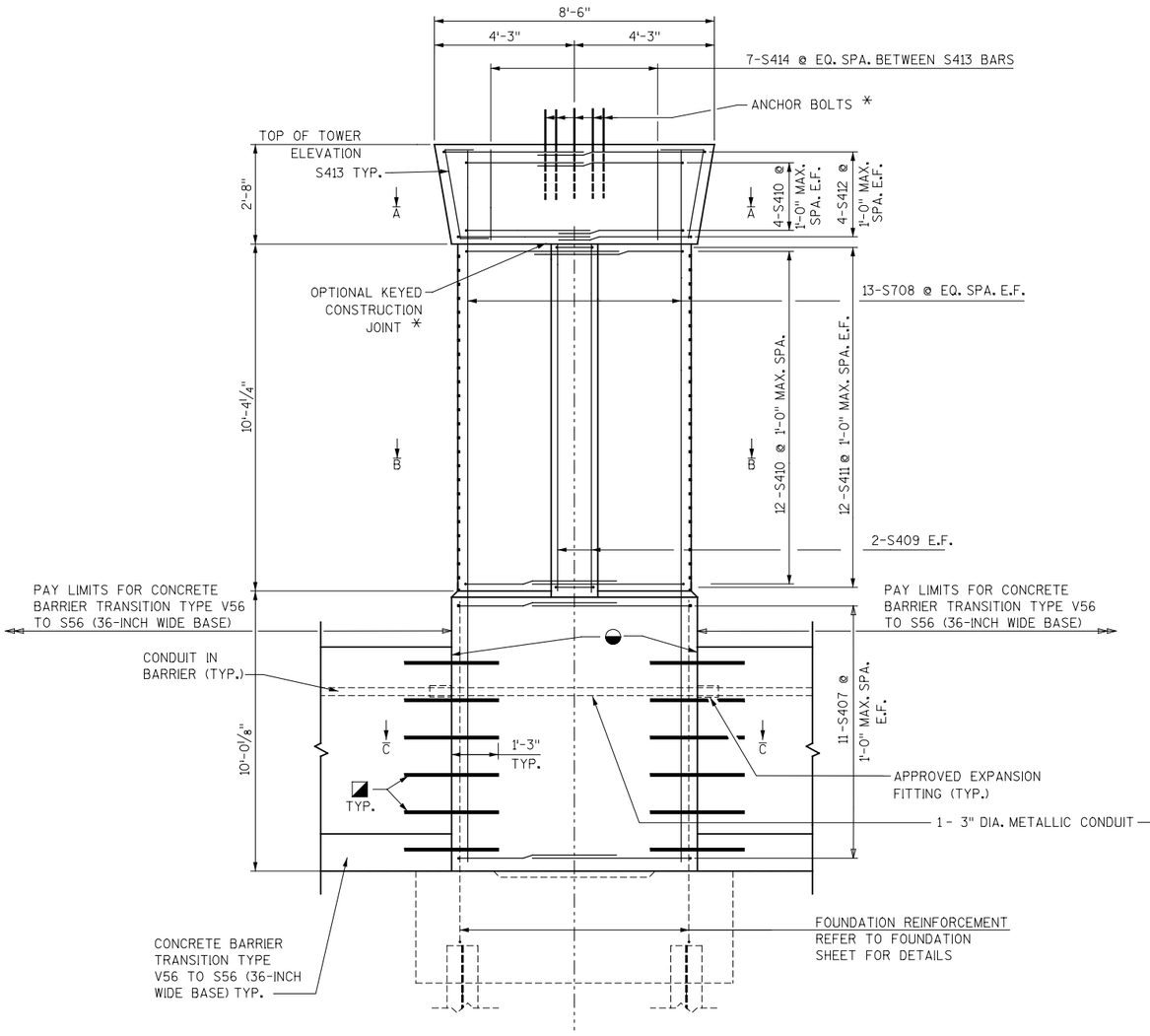
8

8

FILE NAME :S-05-0176.dgn
PLOT DATE 12/15/2013 8:32:01 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by level.pit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

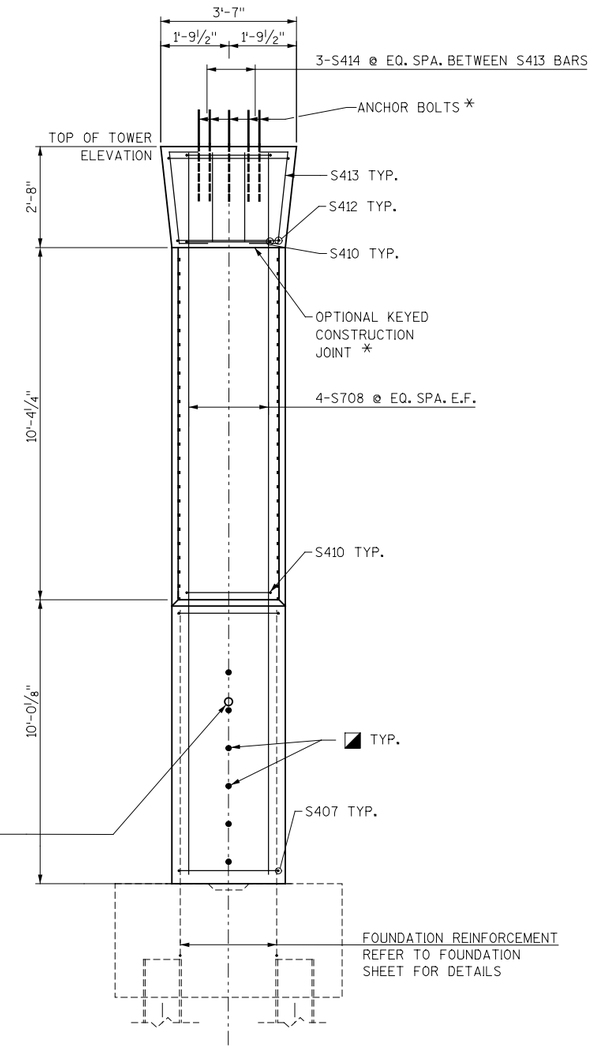
STATE PROJECT NUMBER

1133-03-77



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

APPROVED EXPANSION FITTING SHALL BE CAST INTO THE BARRIER OR TOWER CONCRETE, WHICH EVER ELEMENT IS CAST FIRST.

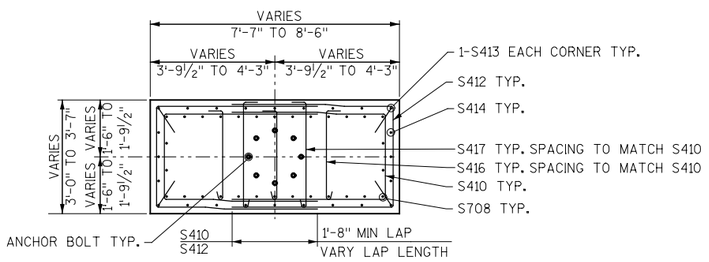
COORDINATE THE LOCATION OF THE ELECTRICAL CONDUIT IN THE TOWER TO MATCH THE LOCATION OF THE CONDUIT IN THE CONCRETE BARRIER.

SPACE S407 BARS TO MISS CONDUIT.

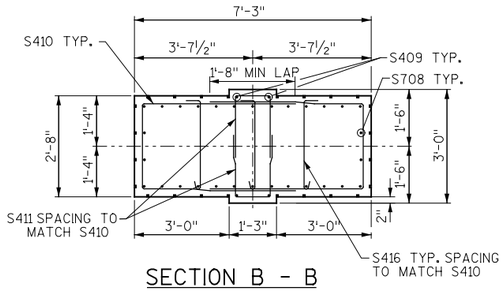
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.

◪ PLACE 1" ϕ PLAIN (SMOOTH) ROUND DOWEL BARS, 2'-6" LONG BETWEEN BARRIER AND CONCRETE TOWER. USE DEBONDER ON EXTENSION INTO BARRIER. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. SPACE DOWELS AT 1'-0". COST OF ITEMS ARE TO BE INCLUDED IN THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

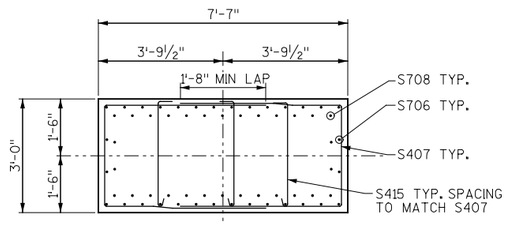
◒ PLACE 1/2" EXPANSION JOINT FILLLER BETWEEN TOWER AND BARRIER WALL, TYP. THE JOINT FILLER SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".



SECTION A - A



SECTION B - B



SECTION C - C

(DOWEL BARS OMITTED FOR CLARITY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-176

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER DETAILS

SHEET 3 OF 6
2690

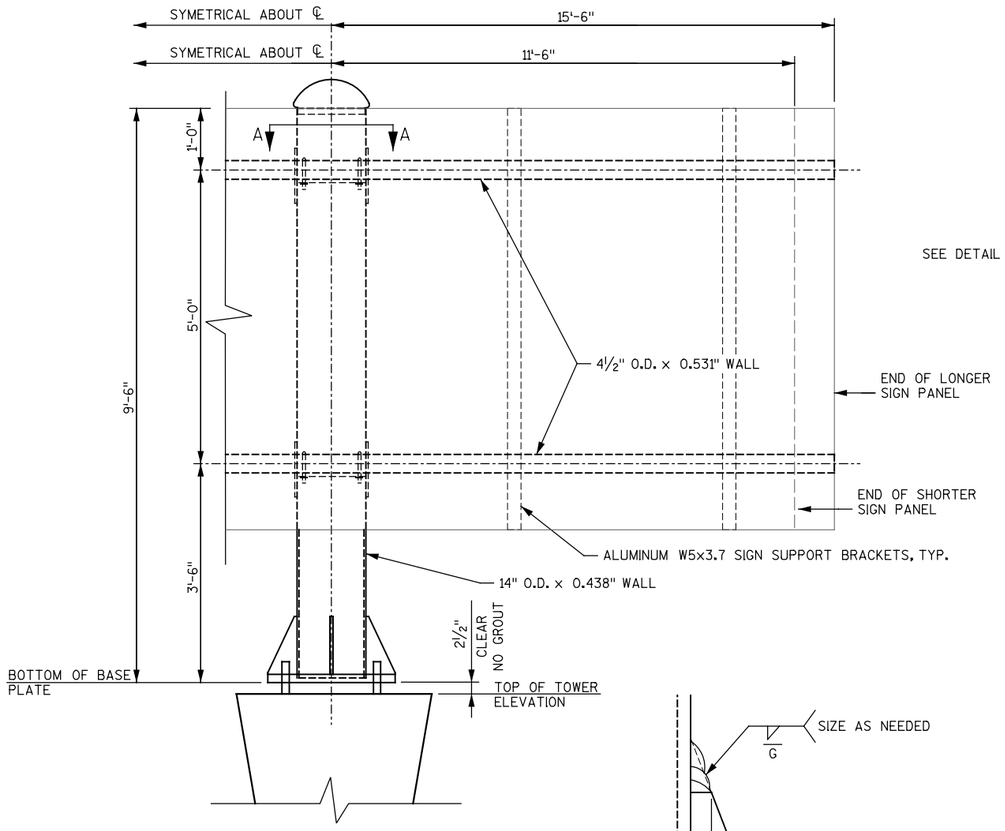
8

8

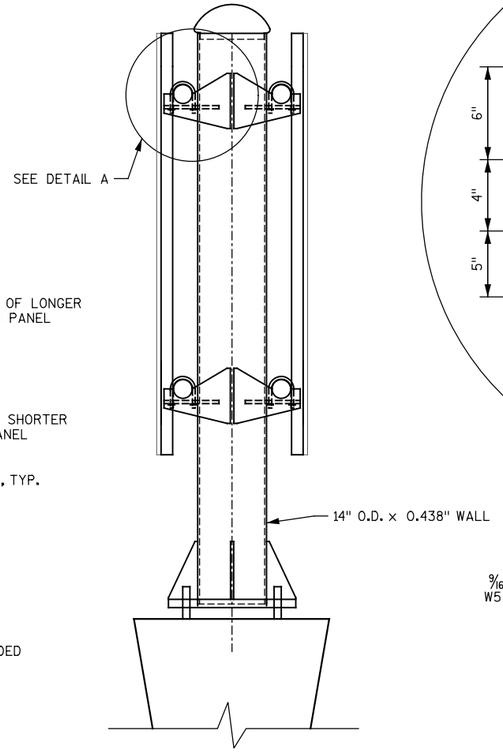
FILE NAME :S-05-0176.dgn
PLOT DATE :2/25/2013 8:32:01 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by levels.pit PEN :CEL.TEXTSUB.SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

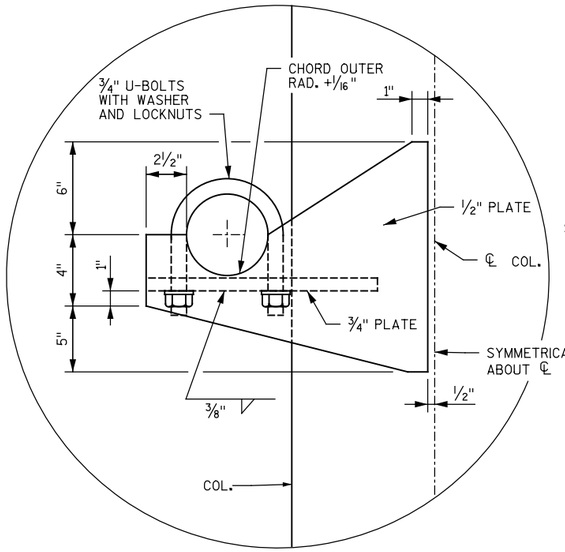
1133-03-77



ELEVATION



END VIEW



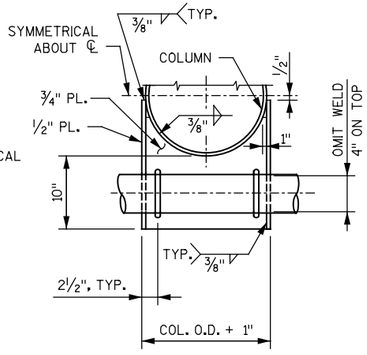
DETAIL A

(BRACKETS NOT SHOWN)

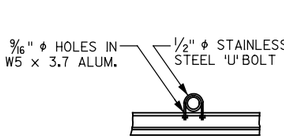
GENERAL NOTES:

DRAWING SHALL NOT BE SCALED

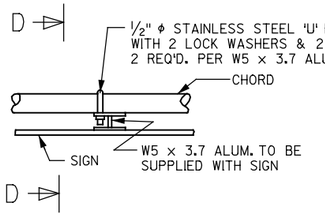
REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.



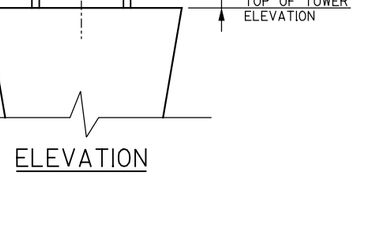
SECTION A-A



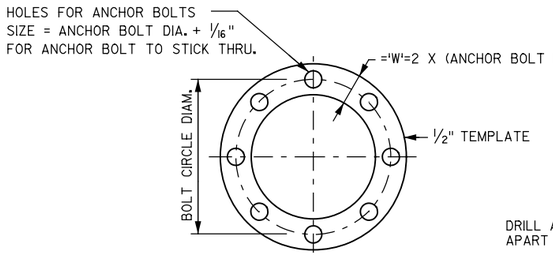
SECTION D-D



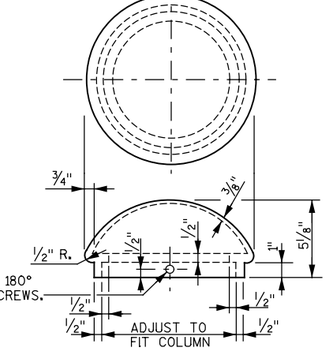
TYPICAL SIGN CONNECTION



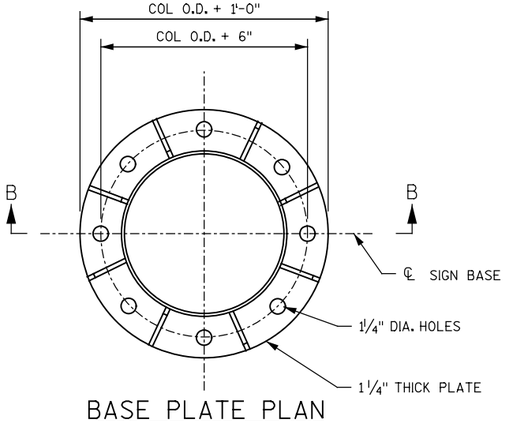
DETAIL B



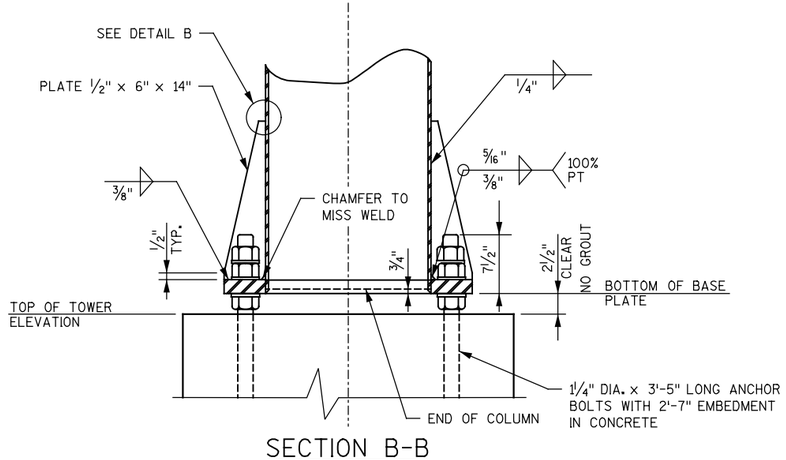
TOP VIEW OF TOP & BOTTOM TEMPLATES



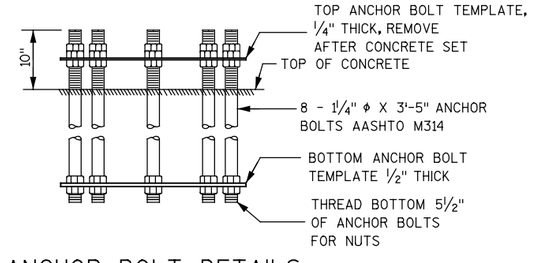
TOWER CAP DETAIL



BASE PLATE PLAN



SECTION B-B



ANCHOR BOLT DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-176

DRAWN BY	VC	PLANS CK'D.	CES

BUTTERFLY DETAILS

SHEET 4 OF 6

2691

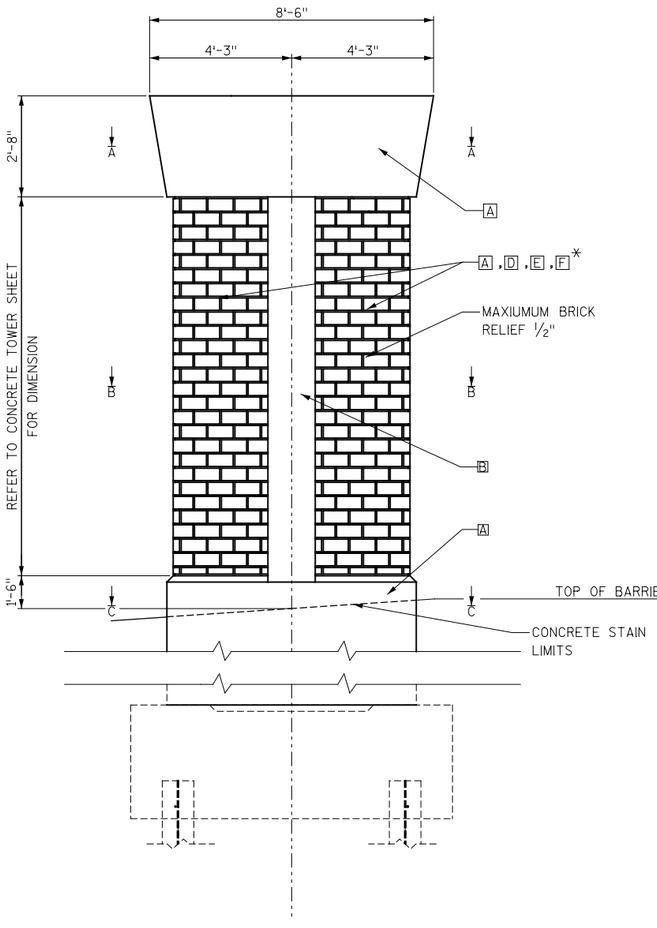
8

8

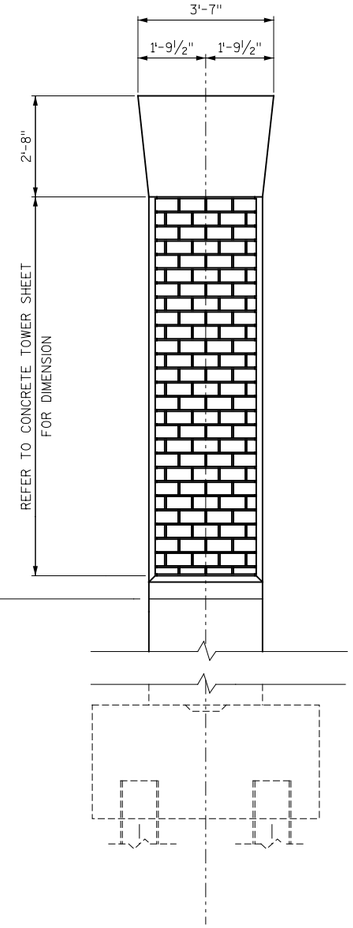
FILE NAME :S-05-0176.dgn
PLOT DATE :12/13/2013 8:32:02 AM PLOT BY : MatthewHeiland\ml DRV :Pdf_bw_HS.by levelz.dt PEN :CEL.TEXTSUB.SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

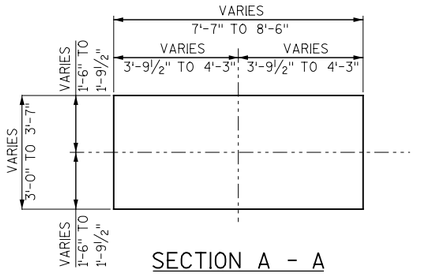
1133-03-77



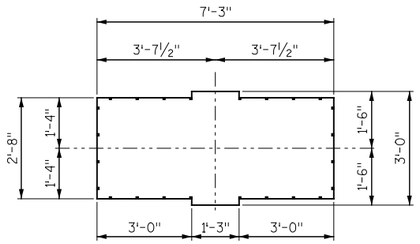
ELEVATION VIEW



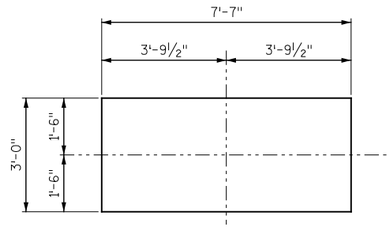
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

*STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-176

DRAWN BY VC | PLANS CK'D. CES

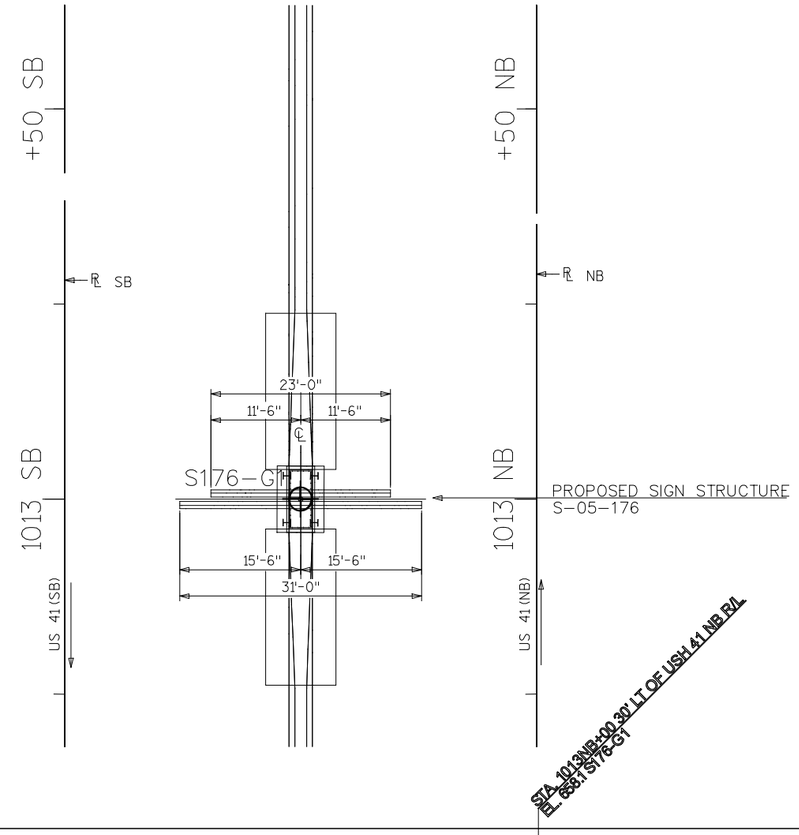
CONCRETE TOWER AESTHETIC DETAILS

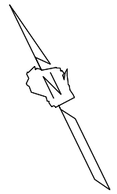
SHEET 5 OF 6

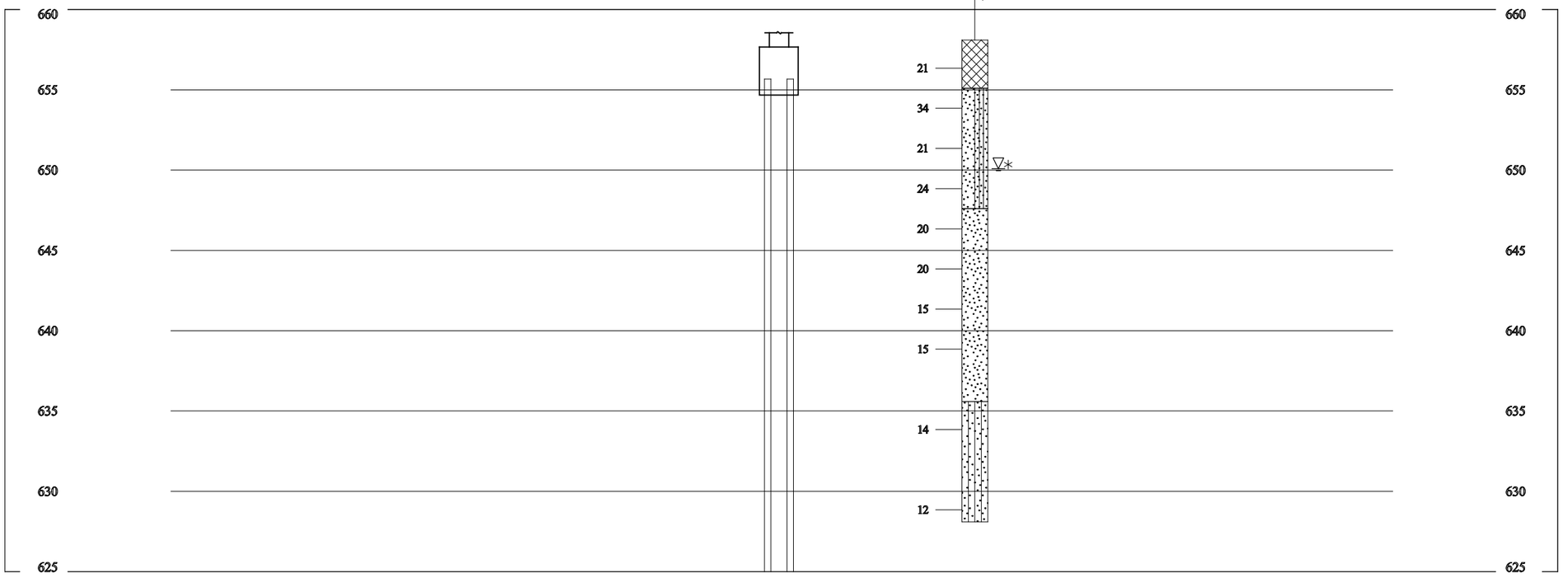
2692

FILE NAME :S-05-0176.dgn
PLOT DATE :2/25/2013 8:32:03 AM PLOT BY : MatthewHe@and.v8i DRV :Pdf_bw_HS.by level.pit PEN :CEL.TEXTSUB.SCREENCONTROLBYLEVEL.TBL

USH-41 (S-05-176)
05-BROWN, WI







NOTE: ▽* —WATER LEVEL ASSUMED FROM SAMPLE CONDITION

STATE PROJECT NUMBER

1133-03-77

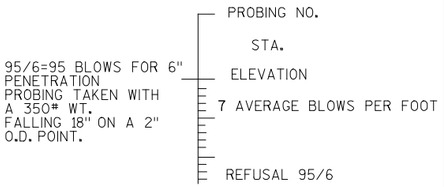
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

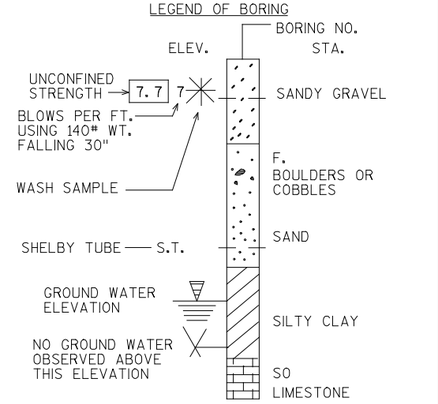
MATERIAL SYMBOLS

TOPSOIL SILT FAT CLAY
SAND PEAT DOLOMITE
GRAVEL CLAY FILL

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

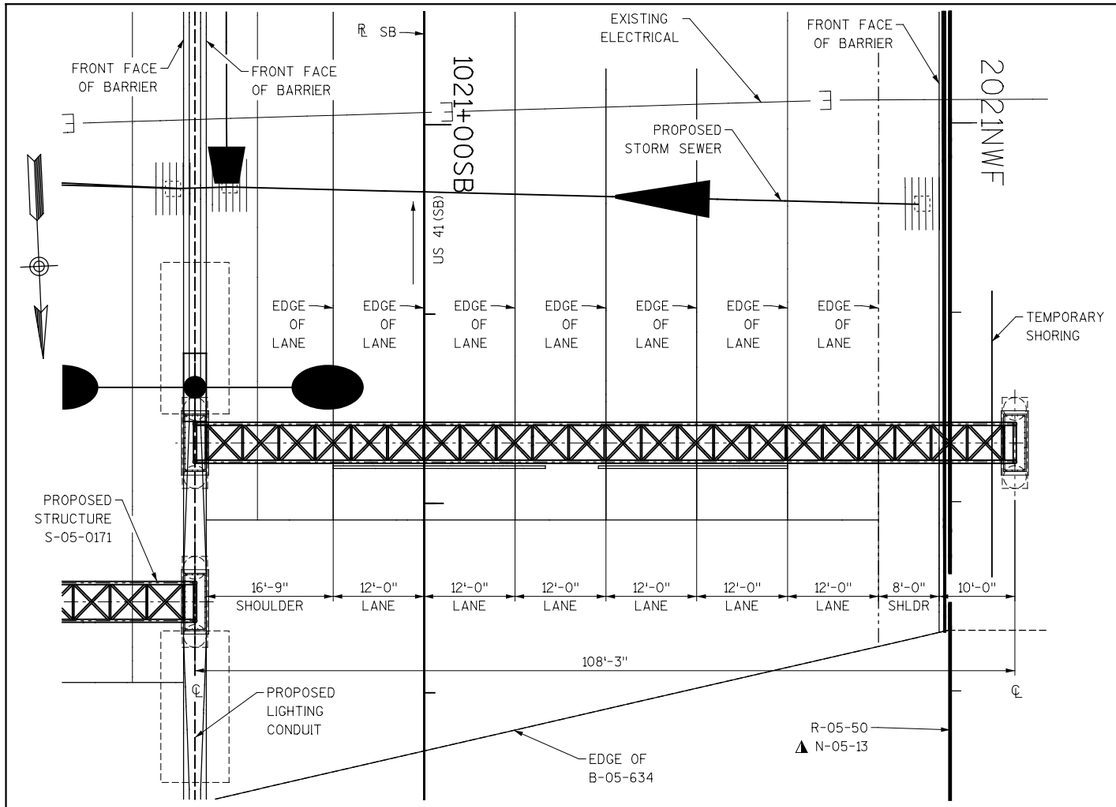
STRUCTURE S-05-176

DRAWN BY RE PLANS CK'D. DB

SUBSURFACE EXPLORATION

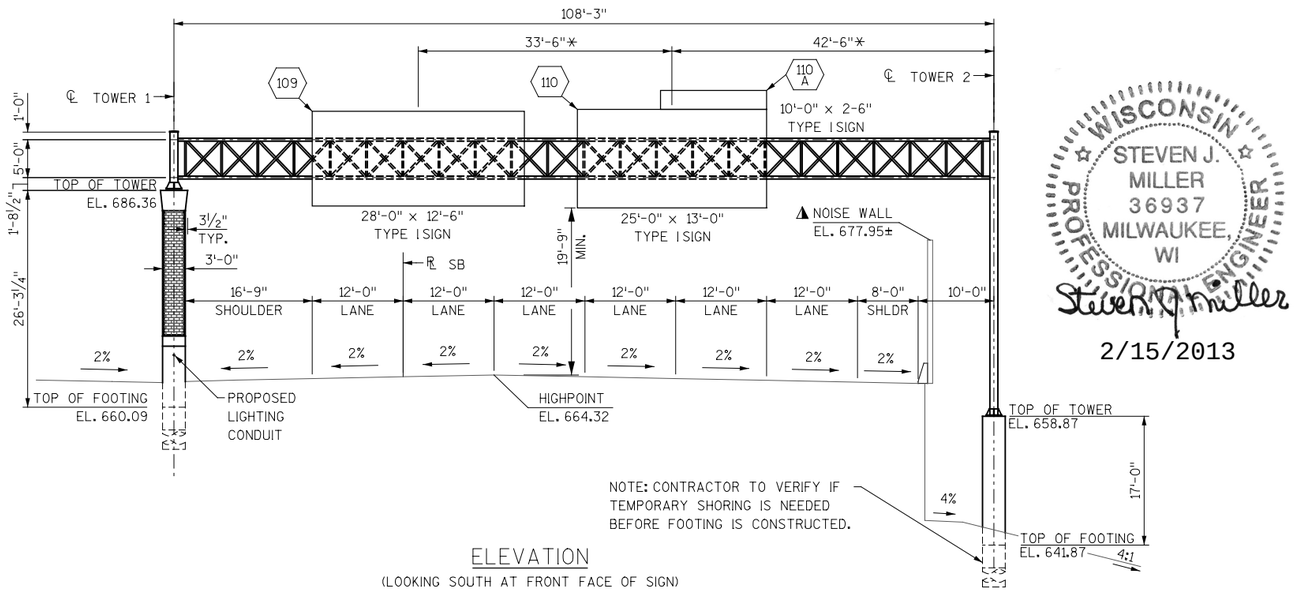
SHEET 2693 OF

SCALE 1"=20'



PLAN

STA. 1021SB+42



ELEVATION

(LOOKING SOUTH AT FRONT FACE OF SIGN)

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER

2/15/2013

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CONCRETE TOWER 1 FOUNDATION DETAILS
3. CONCRETE TOWER 1 DETAILS
4. CONCRETE TOWER 2 DETAILS
5. GALVANIZED STEEL SIGN BRIDGE
6. SIGN BRIDGE DETAILS
7. CONCRETE TOWER 1 AESTHETIC DETAILS
8. CONCRETE TOWER 2 AESTHETIC DETAILS

ULTIMATE DESIGN STRESSES:

TOWER

CONCRETE: .....f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

SIGN BRIDGE

STEEL COLUMN PIPE: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
STEEL PIPE MEMBERS OF TRUSS: .....fy = 42,000 psi
A.P.I. SPEC 5L GRADE X42
PLATES, BARS, STRUCTURAL ANGLES: .....fy = 36,000 psi
A.S.T.M. A709 GRADE 36
STEEL ANCHOR BOLTS: .....fy = 55,000 psi
A.A.S.H.T.O. M314-90 GRADE 55
ALL BOLTED CONNECTIONS: ¾" ϕ A325 BOLTS,
GALVANIZED A.S.T.M. A153, CLASS C

DESIGN DATA

DEAD LOAD - WT. OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.
LIVE LOAD - NONE.
ICE LOAD - 3 P.S.F. TO 1FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND‡)	133

‡ MIN. VALUE OF 25 PSF FOR GR. 3

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
1152	16'-0"

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
206.6000.S	TEMPORARY SHORING	SF	280
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	68
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	4620
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	6550
641.6600.965	SIGN BRIDGE S-05-178	LS	1
652.0135	CONDUIT RIGID METALLIC 3 - INCH	LF	8
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	250
SPV.0165.501	STAINING CONCRETE	SF	800
SPV.0165.502	STAINING CONCRETE BRICK	SF	250

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ABOVE THE DRILLED SHAFTS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 - ¼" DIAMETER BY 1¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE S-05-178 "

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN CENTER TO CENTER OF CHORDS & SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-178 "

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

⬡ ** - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

* SIGN PANEL DIMENSIONS ARE TO THE CENTER OF THE SIGN PANEL. CONTRACTOR TO FIELD VERIFY SIGN PANEL DISPLAYS CORRELATE WITH ROADWAY LANE LAYOUT.

⚠ REFER TO NOISE WALL PLANS FOR LATERAL CLEARANCE.

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DRECHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Drecher KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STATE PROJECT NUMBER
1133-03-77

STRUCTURE S-05-178

DE PERE - SUAMICO

COUNTY: BROWN
TOWN/CITY/VILLAGE: GREEN BAY
DESIGN SPEC.: AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CES	SJM	MJH	CES

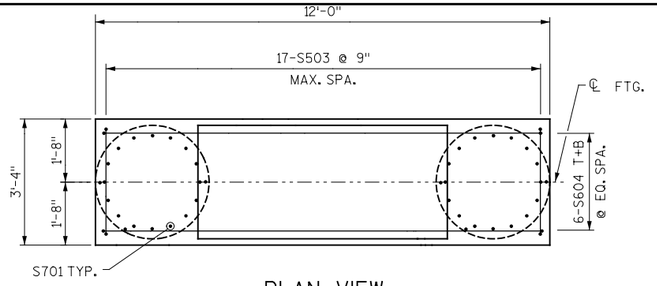
PLAN & ELEVATION

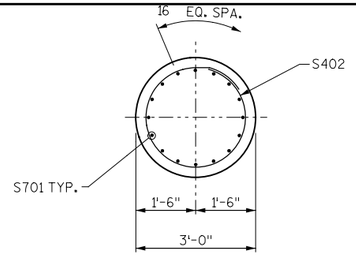
SHEET 1 OF 8
2694

8

8

FILE NAME :S-05-0178.dgn
PLOT DATE :2/15/2013 9:40:47 AM PLOT BY : MatthewHolandvBl DRV :Pdf_bw_HS.by levelplt PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL





BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S412	2 SERIES OF 4	12'-3" TO 12'-10"
S417	2 SERIES OF 4	3'-4" TO 3'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S701		32	20'-6"			DRILLED SHAFT VERTICAL
S402		36	9'-4"	▲		DRILLED SHAFT HOOP
S503		17	13'-3"	▲		CAP BEAM STIRRUP
S604		12	13'-2"	▲		CAP BEAM LONGITUDINAL
S605		8	11'-6"			CAP BEAM LONGITUDINAL
S806	X	30	14'-2"	▲		CAP BEAM VERTICAL
S507	X	26	12'-5"	▲		HORZ. STIRRUP, BOTTOM OF TOWER
S808	X	30	26'-1"			VERT. REINF., MIDDLE OF TOWER
S409	X	4	14'-0"			VERT. REINF., MIDDLE OF TOWER
S510	X	48	11'-6"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S411	X	40	5'-1"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S412	X	8	12'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S413	X	4	5'-0"	▲		VERT. REINF., TOP OF TOWER
S414	X	20	2'-4"			VERT. REINF., TOP OF TOWER
S415	X	39	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S416	X	72	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	8	3'-7"	▲	△	HORZ. CROSSTIE, TOP OF TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

THE BOTTOM OF THE DRILLED HOLE SHALL BE FIRM AND THOROUGHLY CLEANED SO NO LOOSE OR COMPRESSIBLE MATERIALS ARE PRESENT AT THE TIME OF THE CONCRETE PLACEMENT.

IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

IF THE ENGINEER DETERMINES THE POSSIBILITY OF CAVE-INS, OR SOIL DISPLACEMENT FROM THE WALLS EXISTS, OR IF NECESSARY TO SHUT OFF SEEPAGE WATER, THEN LINE THE REMAINING DEPTH OF THE FOOTING SHAFT WITH A SUITABLE TEMPORARY CASING. PROVIDE, INSTALL AND REMOVE THE TEMPORARY CASING ACCORDING TO SECTION 636 OF THE STANDARD SPECIFICATIONS.

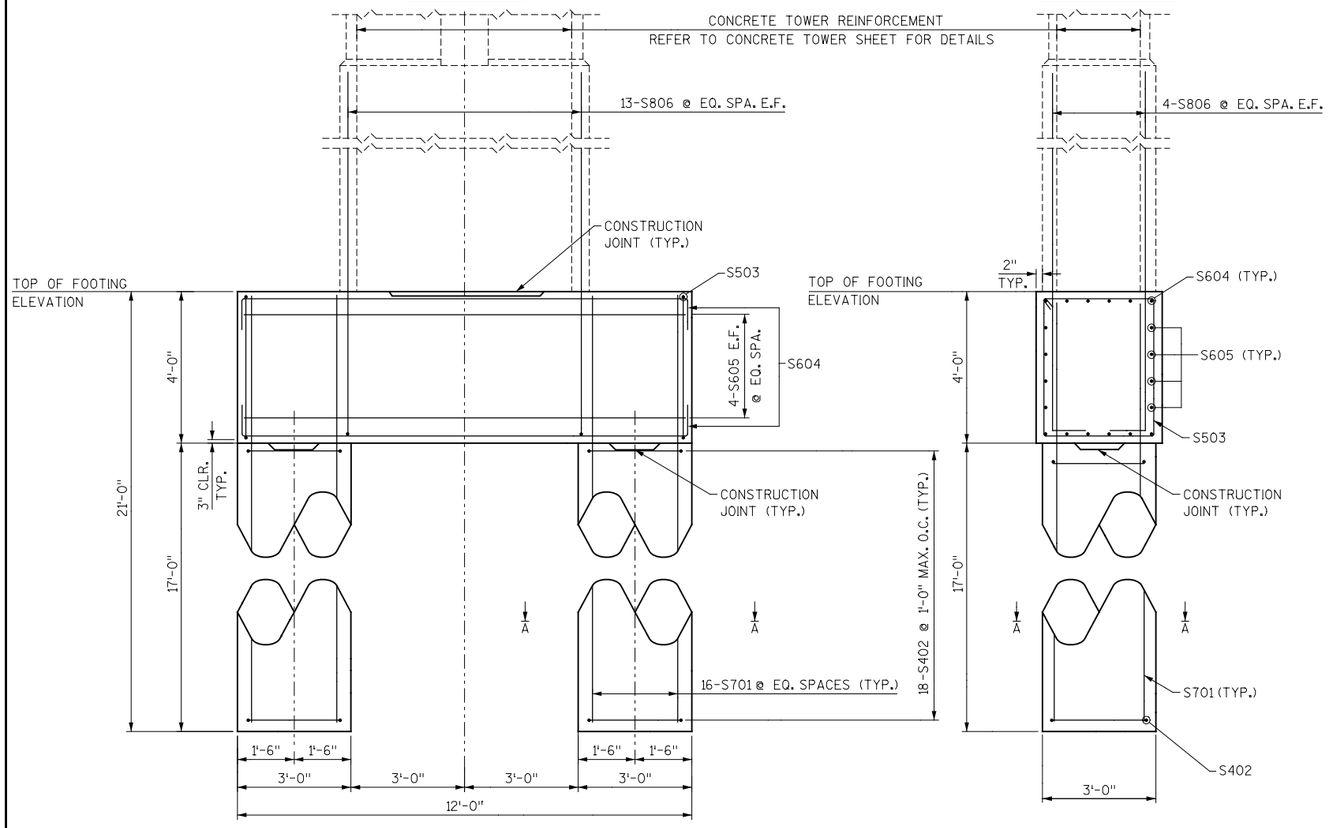
FOUNDATION DATA

THE FOLLOWING SOIL PARAMETERS WERE USED FOR THE DESIGN OF THE FOUNDATION SYSTEM. IF VARIATIONS IN THE SOIL PARAMETERS ARE FOUND DURING CONSTRUCTION NOTIFY PROJECT ENGINEER FOR REQUIRED MODIFICATION TO THE FOUNDATION SYSTEM.

APPROXIMATE BOTTOM ELEVATION	ALLOWABLE SKIN FRICTION	ALLOWABLE END BEARING	UNDRAINED COHESION	UNDRAINED FRICTION ANGLE	DRAINED COHESION	DRAINED FRICTION ANGLE
(FT)	(PSF)	(PSF)	(PSF)	(DEGREE)	(PSF)	(DEGREE)
643	490	6,000	-	30	-	30
640	160	3,600	1,000	-	100	24
631	1,000	16,800	-	30	-	30
626	1,000	8,000	-	28	-	28
622	320	7,000	2,000	-	100	28
-	960	21,600	6,000	-	200	35

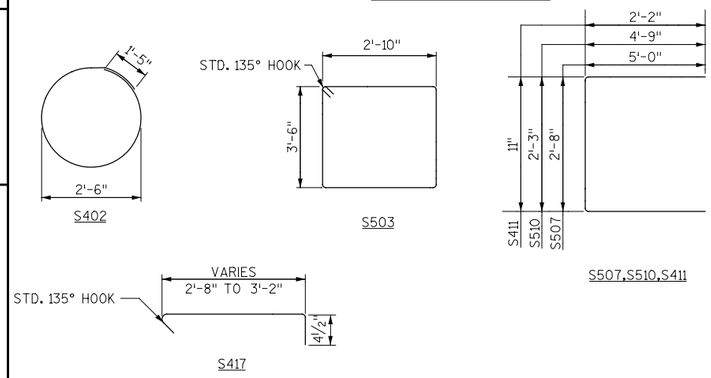
THE GROUNDWATER LEVEL WAS ESTIMATED AT ELEVATION 643.00 FEET DURING THE SUBSURFACE EXPLORATION.

PLAN VIEW

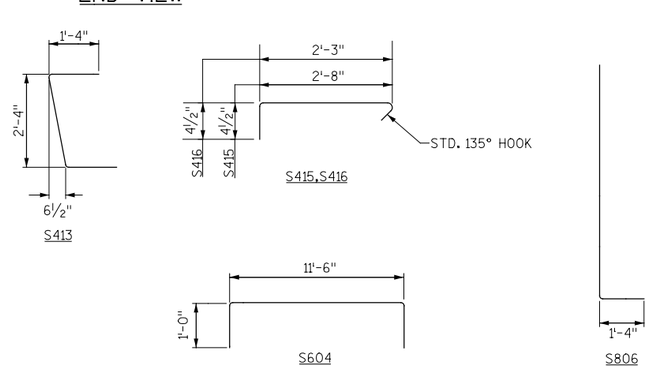


SECTION A-A

ELEVATION VIEW



END VIEW



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-178

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 1 FOUNDATION DETAILS

SHEET 2 OF 8

2695

STATE PROJECT NUMBER

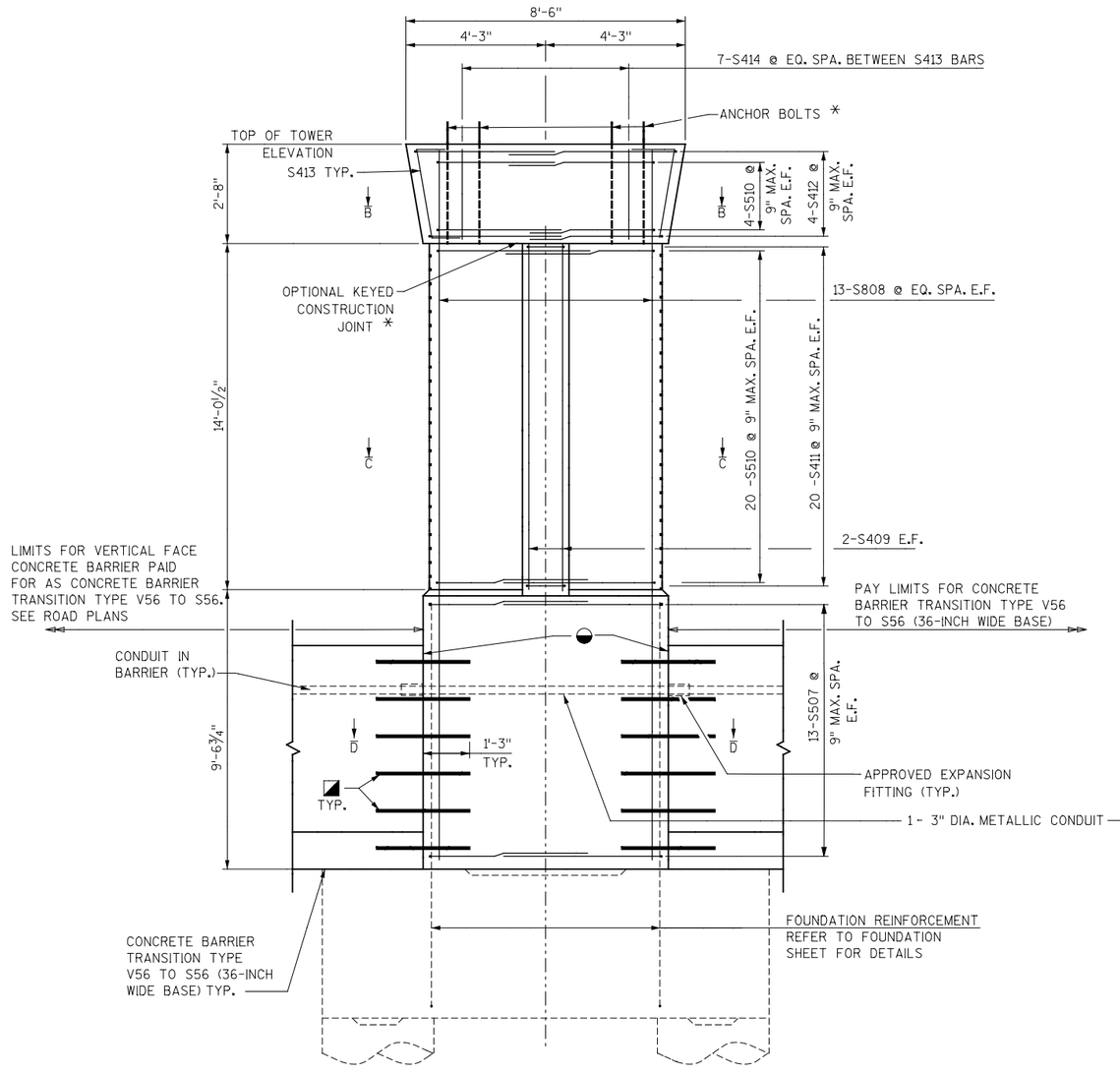
1133-03-77

8

8

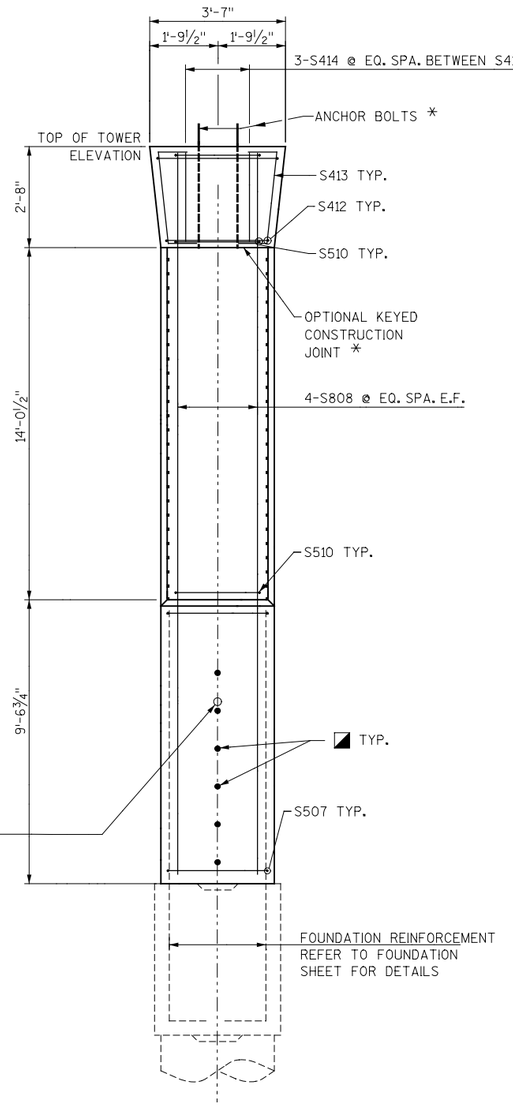
FILE NAME :S-05-0178.dgn
PLOT DATE :12/15/2023 9:40:50 AM PLOT BY : MatthewHe@and.v81 DRV :Pdf_bw_HS.by levelplt PEN :CEL.TEXTSUB.SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-03-77



ELEVATION VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S411, S415, S416, AND S417 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

APPROVED EXPANSION FITTING SHALL BE CAST INTO THE BARRIER OR TOWER CONCRETE, WHICH EVER ELEMENT IS CAST FIRST.

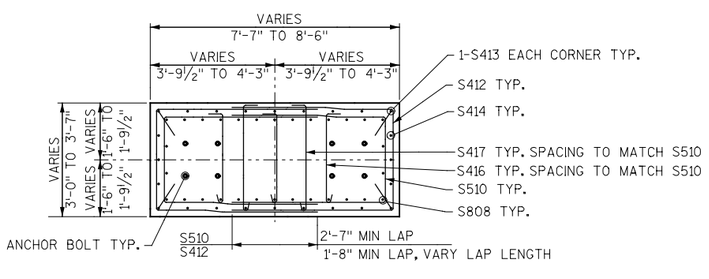
COORDINATE THE LOCATION OF THE ELECTRICAL CONDUIT IN THE TOWER TO MATCH THE LOCATION OF THE CONDUIT IN THE CONCRETE BARRIER.

SPACE S407 BARS TO MISS CONDUIT.

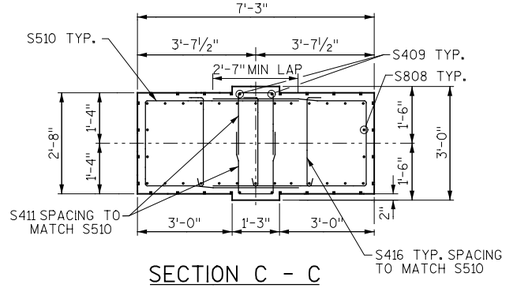
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.

◪ PLACE 1" ϕ PLAIN (SMOOTH) ROUND DOWEL BARS, 2'-6" LONG BETWEEN BARRIER AND CONCRETE TOWER. USE DEBONDER ON EXTENSION INTO BARRIER. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. SPACE DOWELS AT 1'-0". COST OF ITEMS ARE TO BE INCLUDED IN THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

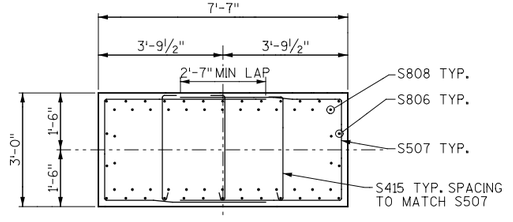
◒ PLACE 1/2" EXPANSION JOINT FILLLER BETWEEN TOWER AND BARRIER WALL, TYP. THE JOINT FILLER SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".



SECTION B - B



SECTION C - C



SECTION D - D

(DOWEL BARS OMITTED FOR CLARITY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-178

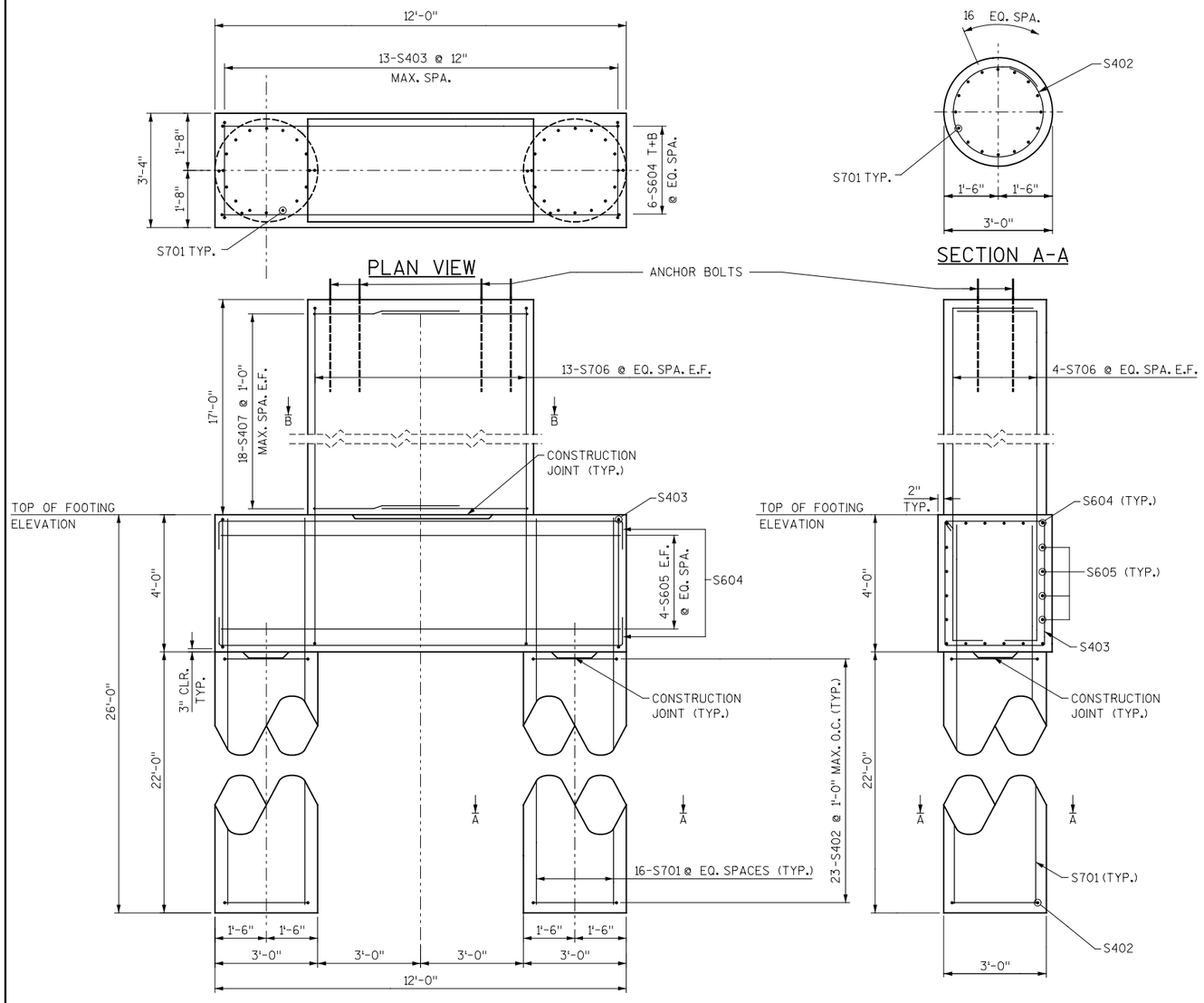
DRAWN BY VC | PLANS CK'D. CES

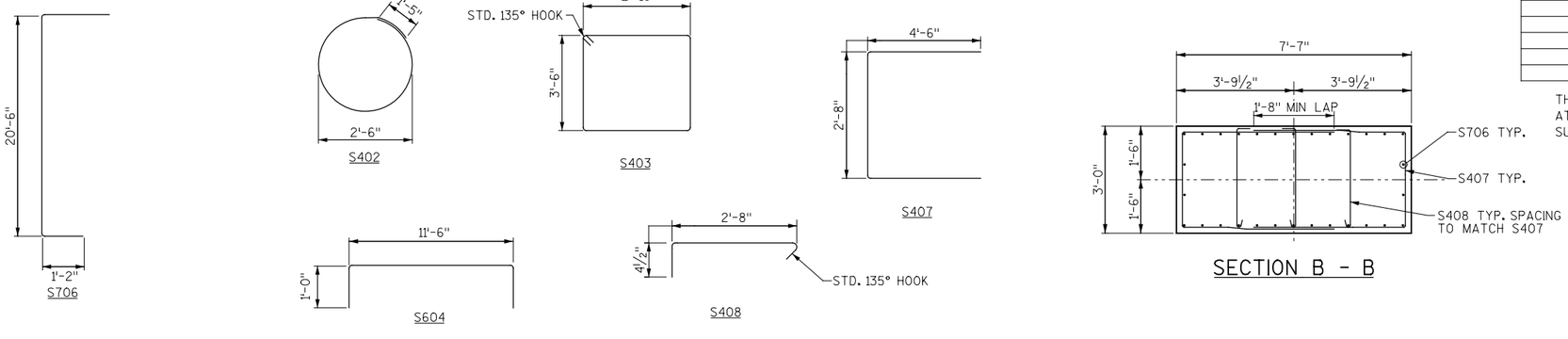
CONCRETE TOWER 1 DETAILS

SHEET 3 OF 8

2696

FILE NAME :S-05-0178.dgn
PLOT DATE :2/15/2013 9:40:52 AM PLOT BY : MatthewHeiland
DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL





BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S701		32	25'-6"			DRILLED SHAFT VERTICAL
S402		46	9'-4"	△		DRILLED SHAFT HOOP
S403		13	13'-2"	△		CAP BEAM STIRRUP
S604		12	13'-2"	△		CAP BEAM LONGITUDINAL
S605		8	11'-6"			CAP BEAM LONGITUDINAL
S706	X	30	24'-2"	△		CAP BEAM VERTICAL
S407	X	36	11'-6"	△		HORZ. STIRRUP, TOWER
S408	X	54	3'-4"	△		HORZ. CROSSTIE, TOWER

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

THE BOTTOM OF THE DRILLED HOLE SHALL BE FIRM AND THOROUGHLY CLEANED SO NO LOOSE OR COMPRESSIBLE MATERIALS ARE PRESENT AT THE TIME OF THE CONCRETE PLACEMENT.

IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

IF THE ENGINEER DETERMINES THE POSSIBILITY OF CAVE-INS, OR SOIL DISPLACEMENT FROM THE WALLS EXISTS, OR IF NECESSARY TO SHUT OFF SEEPAGE WATER, THEN LINE THE REMAINING DEPTH OF THE FOOTING SHAFT WITH A SUITABLE TEMPORARY CASING. PROVIDE, INSTALL AND REMOVE THE TEMPORARY CASING ACCORDING TO SECTION 636 OF THE STANDARD SPECIFICATIONS.

FOUNDATION DATA

THE FOLLOWING SOIL PARAMETERS WERE USED FOR THE DESIGN OF THE FOUNDATION SYSTEM. IF VARIATIONS IN THE SOIL PARAMETERS ARE FOUND DURING CONSTRUCTION NOTIFY PROJECT ENGINEER FOR REQUIRED MODIFICATION TO THE FOUNDATION SYSTEM.

			UNDRAINED		DRAINED	
APPROXIMATE BOTTOM ELEVATION	ALLOWABLE SKIN FRICTION	ALLOWABLE END BEARING	COHESION	FRICTION ANGLE	COHESION	FRICTION ANGLE
(FT)	(PSF)	(PSF)	(PSF)	(DEGREE)	(PSF)	(DEGREE)
640	160	3,600	1,000	-	100	24
632	400	7,800	-	30	-	30
626	480	4,400	-	28	-	28
622	320	7,000	2,000	-	100	28
-	960	21,600	6,000	-	200	35

THE GROUNDWATER LEVEL WAS ESTIMATED AT ELEVATION 638.00 FEET DURING THE SUBSURFACE EXPLORATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-178

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER 2 DETAILS

SHEET 4 OF 8
2697

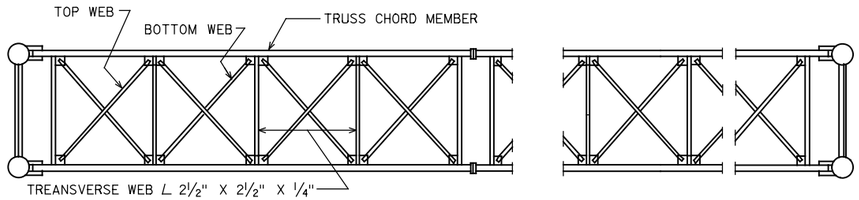
8

8

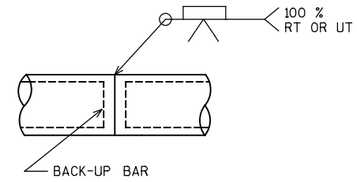
FILE NAME :S-05-0178.dgn
PLOT DATE :2/15/2013 9:40:53 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by levelzit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER

1133-03-77



PLAN

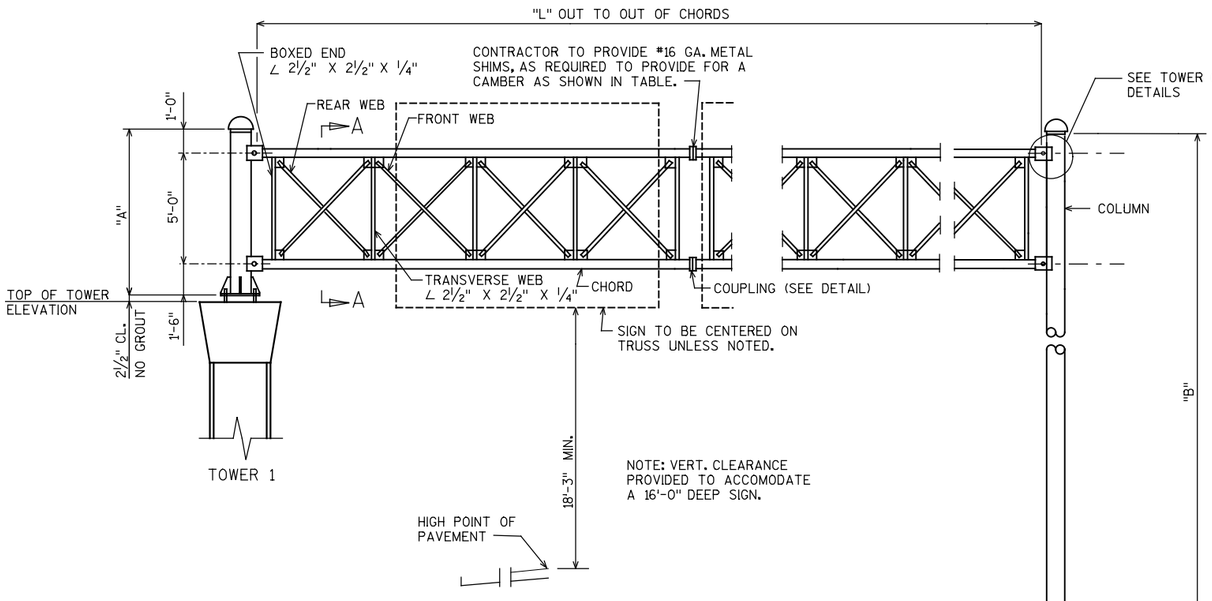


OPTIONAL COLUMN OR CHORD SPLICE DETAIL

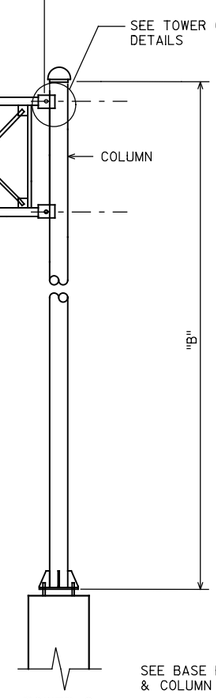
GENERAL NOTES

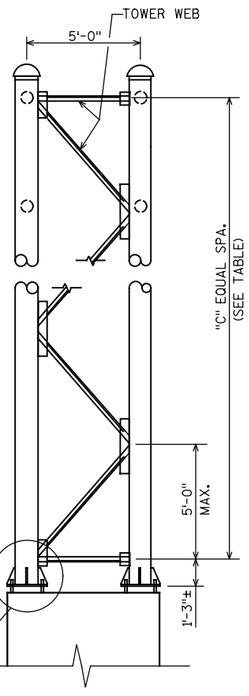
DRAWING SHALL NOT BE SCALED

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

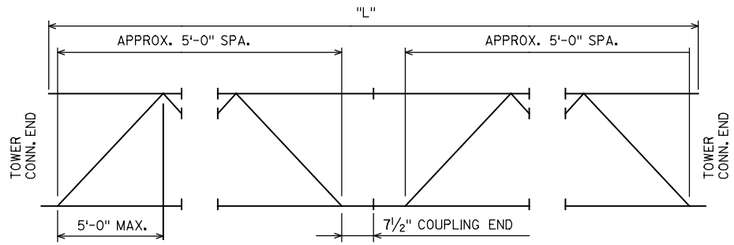


ELEVATION



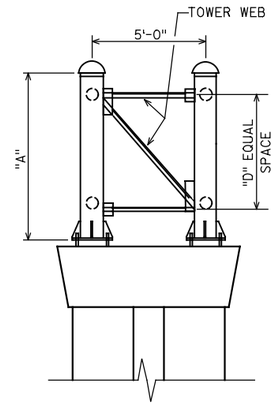


TOWER 2 END VIEW

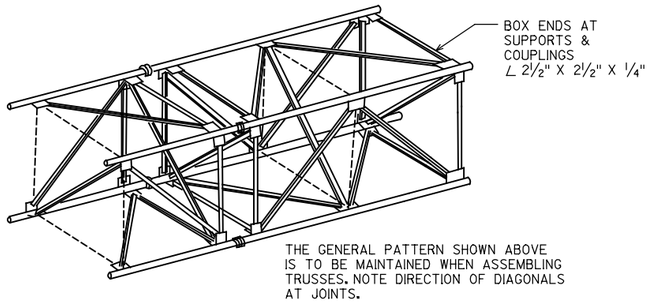


TRUSS ARRANGEMENT

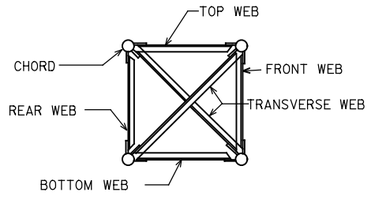
FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 20'-0" & A MULTPLE OF 5'-0". CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS. CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.



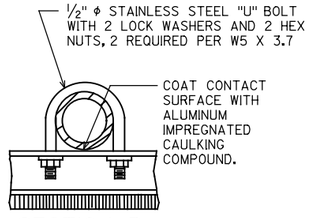
TOWER 1 END VIEW



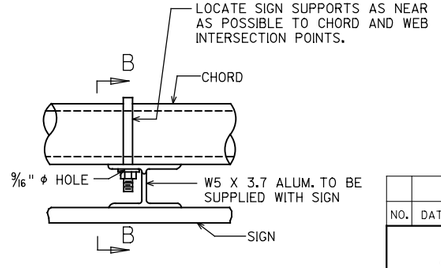
TYPICAL TRUSS SECTION



SECTION A



SECTION B



TYPICAL SIGN CONNECTION

STRUCTURE MEMBER TABLE

A	B	C	D	CHORDS O.D. X THK.	TOP & BOTTOM WEB	FRONT & REAR WEB	COUPLING PLATE D1 & "T"	BOLT CIRCLE DIA. "D2"	NO. OF BOLTS IN COUPLING	CAMBER	COLUMN O.D. X THK.	TOWER WEBS	"L"
7'-6"	35'-0"	7	1	4.5" X 0.438"	3"X3"X1/4"	3"X3"X1/4"	10.5" x 1.375"	7.5"	6	2-1/4"	12.75"x0.688"	3"x3"x3/8"	106'-11¼"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-178

DRAWN BY VC | PLANS CK'D. CES

SHEET 5 OF 8

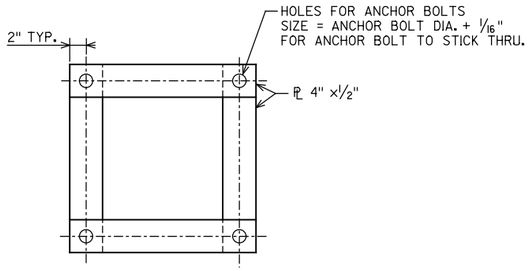
GALVANIZED STEEL SIGN BRIDGE 2698

8

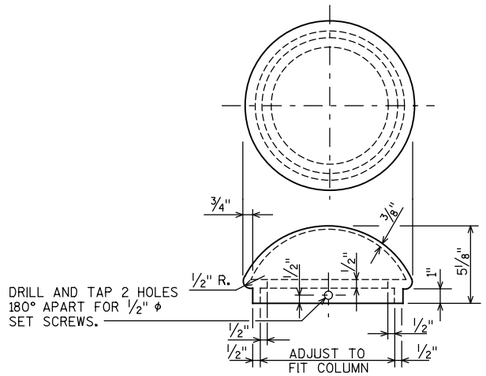
8

FILE NAME :S-05-0178.dgn
PLOT DATE :2/15/2013 9:40:53 AM
PLOT BY : MatthewHe@andv81
DRV :Pdf_bw_HS.by levelzit PEN :CEL.TEXTSUB_SCREENCONTROLBYLEVEL.TBL

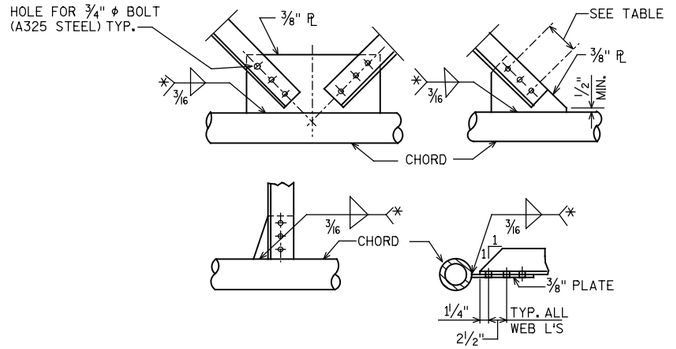
STATE PROJECT NUMBER
1133-03-77



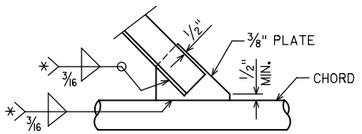
ANCHOR PLATE/TEMPLATE PLAN



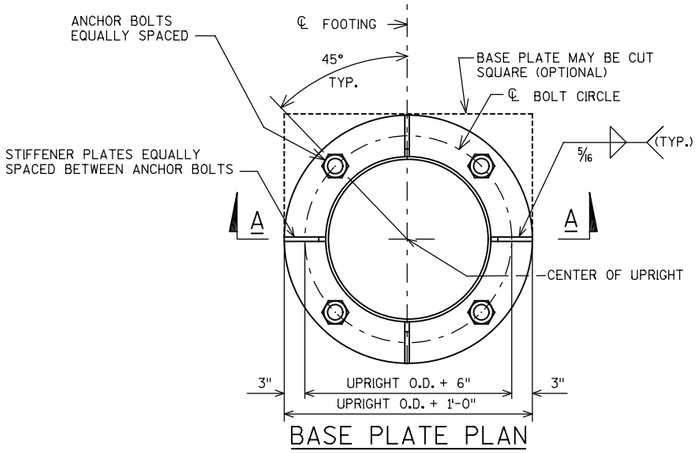
TOWER CAP DETAIL



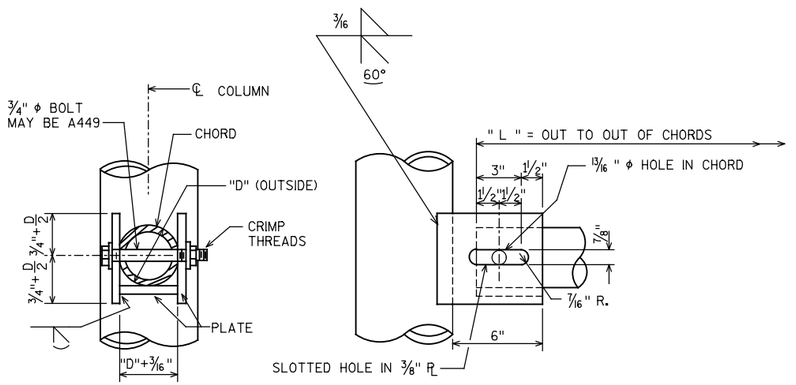
TYPICAL TRUSS CONNECTION DETAILS



TYPICAL WELDED ALTERNATE



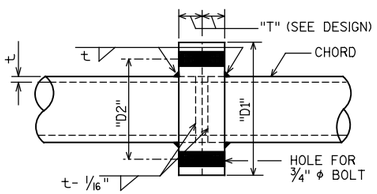
BASE PLATE PLAN



TOWER CONNECTION DETAIL

*ANGLE	WELD LENGTH	NO. OF BOLTS
● 2 1/2"×2 1/2"×1/4"	11"	3
3"×3"×3/16"	10"	3
3"×3"×1/4"	13"	4
3"×3"×5/16"	16 1/2"	5
3"×3"×3/8"	19 1/2"	6
4"×4"×1/4"	18"	5
4"×4"×5/16"	22"	6
4"×4"×3/8"	26"	8
4"×4"×7/16"	30"	9
4"×4"×1/2"	34"	10

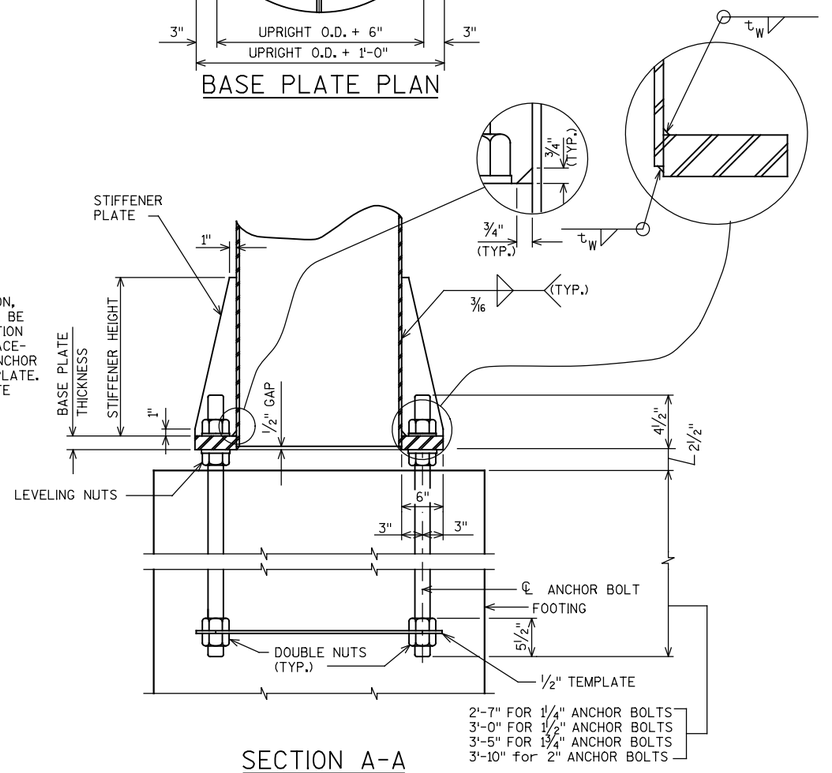
● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.



COUPLING DETAIL

(CONNECTION BOLTS OMITTED FOR CLARITY)

NOTE:
PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE. REMOVE TOP TEMPLATE (NOT SHOWN) AFTER CONCRETE SETS.



SECTION A-A

BASE PLATE & UPRIGHT COLUMN DETAILS

COLUMN O.D. X THK.	ANCHOR BOLTS	BASE PLATE THICKNESS (IN.)	STIFFENER PLATE THICKNESS (IN.)	STIFFENER PLATE HEIGHT (IN.)	t_W (IN.)
12.75"X0.688"	2"	2"	1"	13"	3/8"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-178

DRAWN BY VC | PLANS CK'D. CES

GALVANIZED STEEL SIGN BRIDGE DETAILS

SHEET 6 OF 8

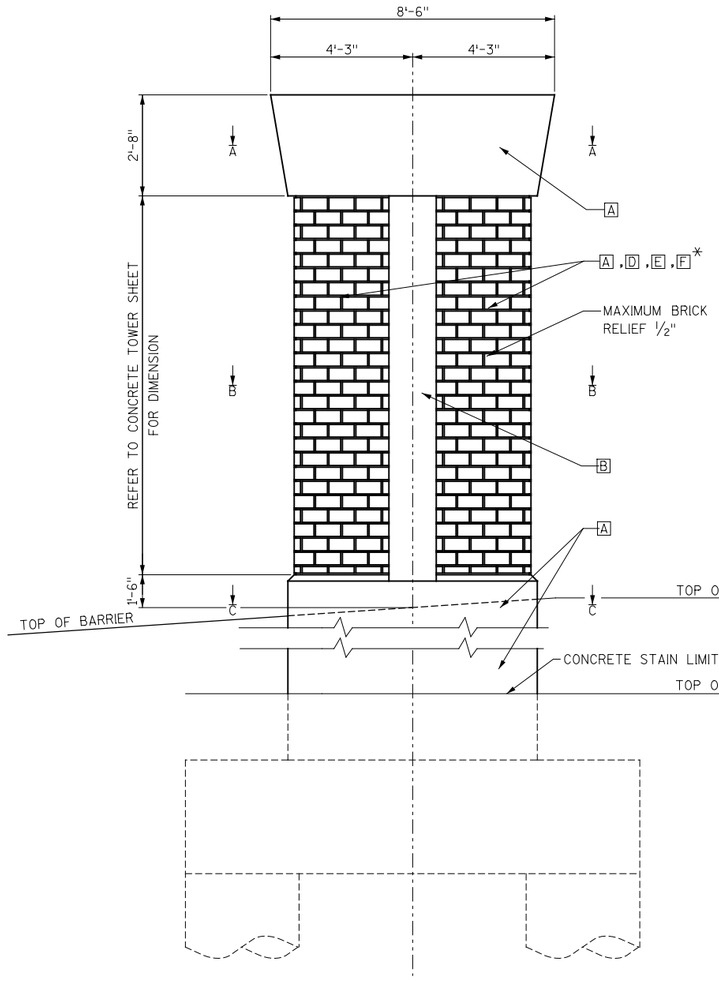
2699

8

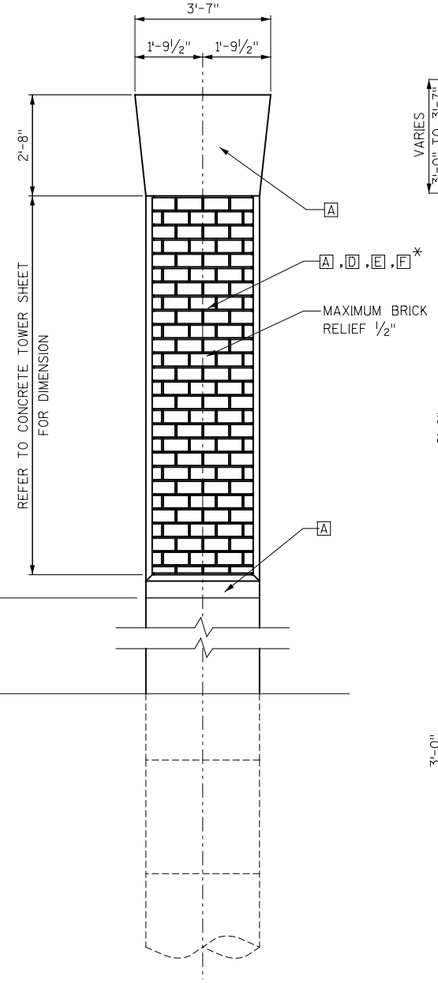
8

FILE NAME :S-05-0178.dgn
PLOT DATE :2/15/2013 9:40:54 AM
PLOT BY : MatthewHaGandvik
DRV :Pdf_bw_HS.by levelplt PEN :CEL.TEXTSUB.SCREENCONTROLBYLEVEL.TBL

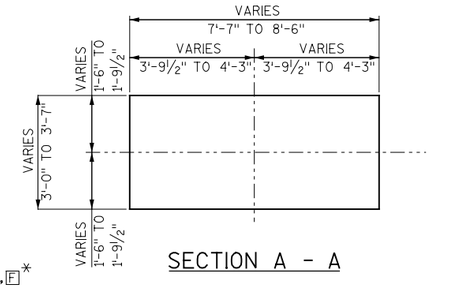
STATE PROJECT NUMBER
1133-03-77



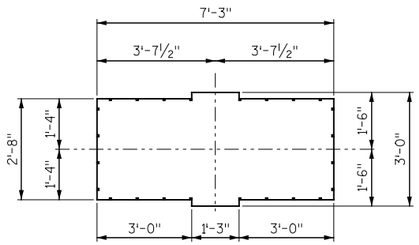
ELEVATION VIEW



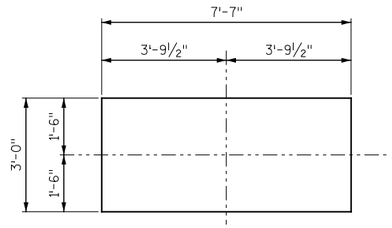
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-178

DRAWN BY	PLANS CK'D.
VC	CES

CONCRETE TOWER 1 AESTHETIC DETAILS

SHEET 7 OF 8

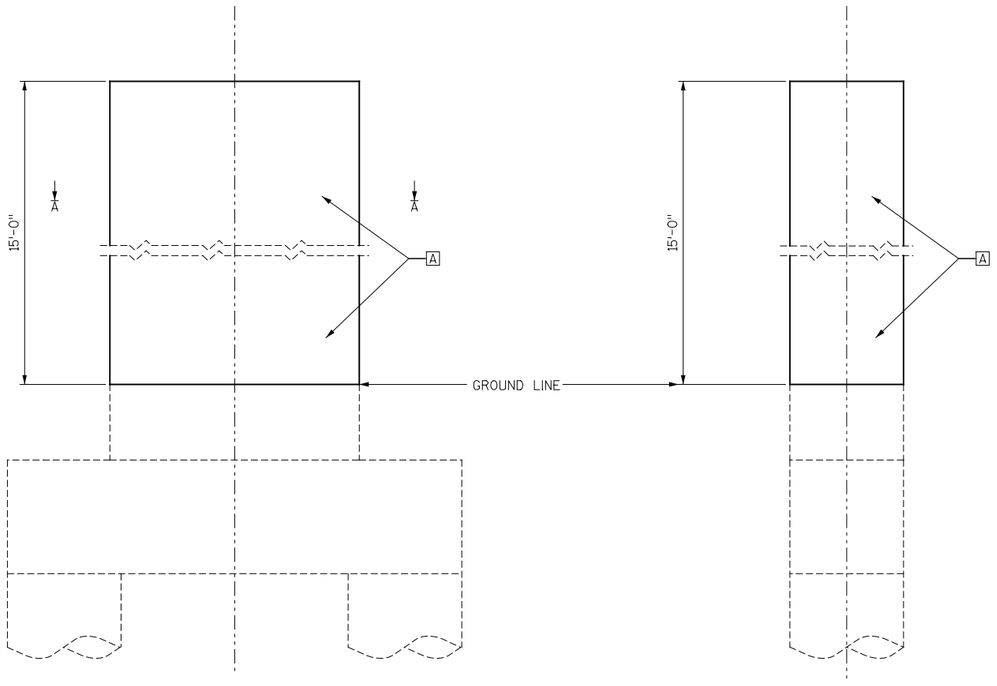
2700

8

8

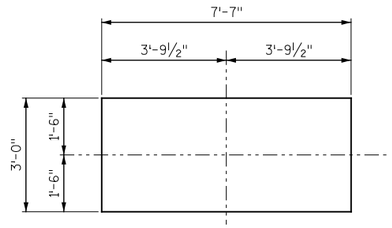
FILE NAME :S-05-0178.dgn
PLOT DATE :2/15/2013 9:40:54 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-03-77



ELEVATION VIEW

END VIEW



SECTION A - A

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

* STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-178

DRAWN BY	PLANS CK'D.
VC	CES

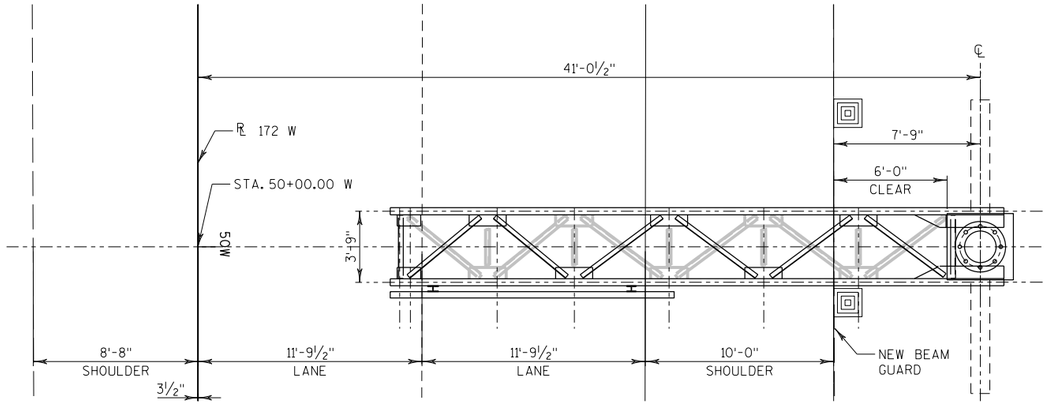
CONCRETE TOWER 2 AESTHETIC DETAILS

SHEET 8 OF 8

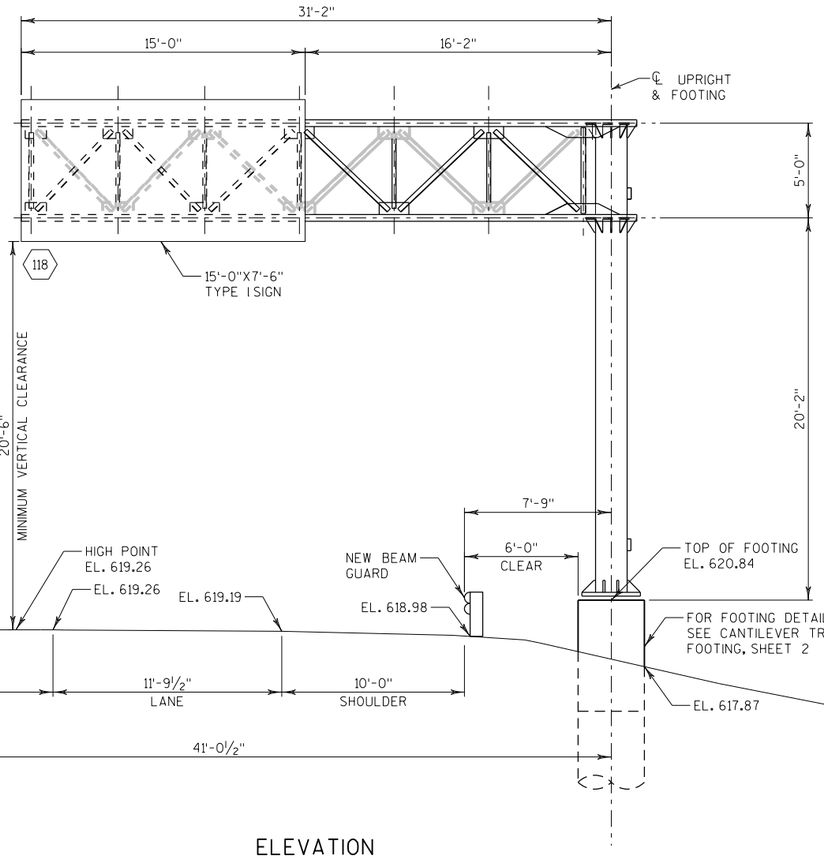
2701

FILE NAME :S-05-0178.dgn
PLOT DATE :2/15/2013 9:40:55 AM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.by levelplt PEN :CEL_TEXTSUB_SCREENCONTROLBYLEVEL.TBL

STATE PROJECT NUMBER
1133-09-71



PLAN
STA. 50+00.00 W



ELEVATION
4-CHORD CANTILEVERED SIGN BRIDGE
STRUCTURE S-05-188
(LOOKING WEST AT FRONT FACE OF SIGN)

ESTIMATE OF QUANTITIES

BID NUMBER	BID ITEM	UNIT	TOTAL
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	8
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	980
641.1200	SIGN BRIDGE CANTILEVERED S-05-188	LS	1

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CENTER TYPE 1 SIGNS OVER THEIR RESPECTIVE LANES.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND SIGN BRIDGE.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ABOVE THE DRILLED SHAFTS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE FOUNDATION USING 3 - ¼" DIAMETER BY 1¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE S-05-188".

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN CENTER TO CENTER OF CHORDS AND SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS.

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

WELD TESTS AS PER AWD D1.1.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

⬡ "##" - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.

TYPE 1 SIGN DESIGN DATA

MAX. DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE 1 SIGN DEPTH
264	12'-0"

WISCONSIN
JEFFREY S. ROSNER
34316-006
DE PERE, WI
PROFESSIONAL ENGINEER

4-08-13

LIST OF DRAWINGS

1. PLAN AND ELEVATION
2. CANTILEVER TRUSS FOOTING
3. GALVANIZED STEEL CANTILEVER SIGN TRUSS
4. GALVANIZED STEEL CANTILEVER SIGN TRUSS DETAILS

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
WILLIAM DREHER (608) 266-8949
CONSULTANT:
JEFFREY S. ROSNER (920) 592-9440

NO.	DATE	REVISION	BY

PRELIMINARY PLANS PREPARED BY: GRAEF
1150 Springhurst Drive, Suite 201
Green Bay, WI 54304
920-592-9440
920-592-9445 fax
www.graef-usa.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/09/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-188

STH 172 WB TO US 41 SB

COUNTY	CITY
BROWN	ASHWAUBENON

DESIGN SPEC.	LOAD
LATEST AASHTO STD. SPEC. AND INTERIM	90 MPH 3 SEC. SP

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
SAC	JSR	AMZ	JSR

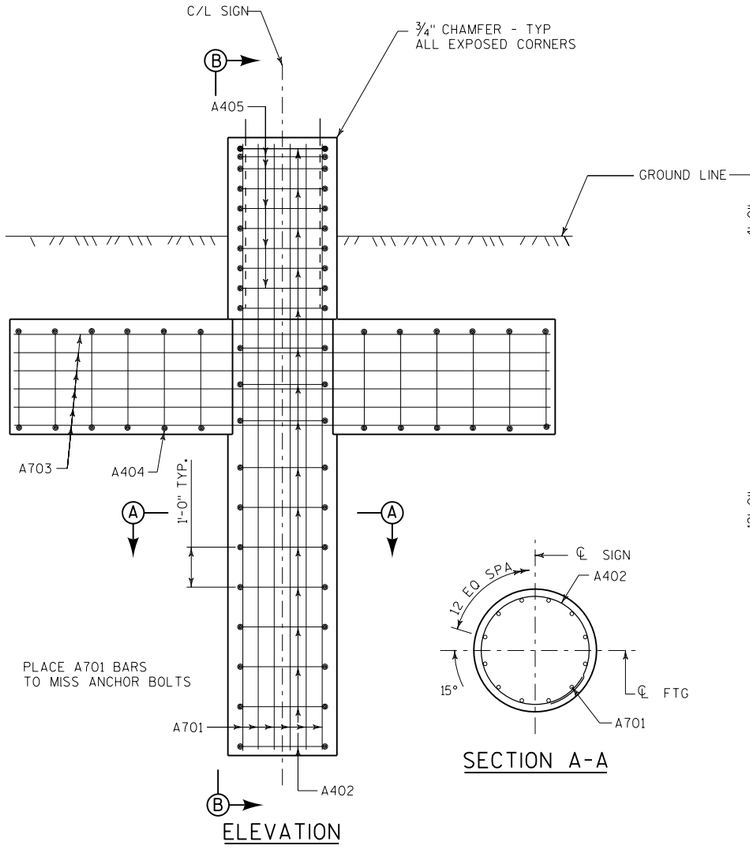
PLAN AND ELEVATION

SHEET 1 OF 4
2702

8

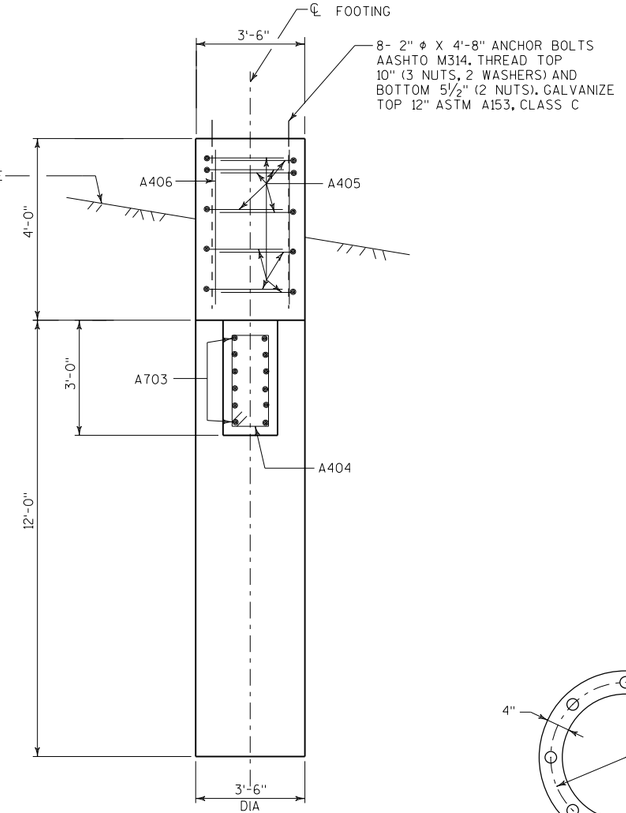
8

STATE PROJECT NUMBER
1133-09-71

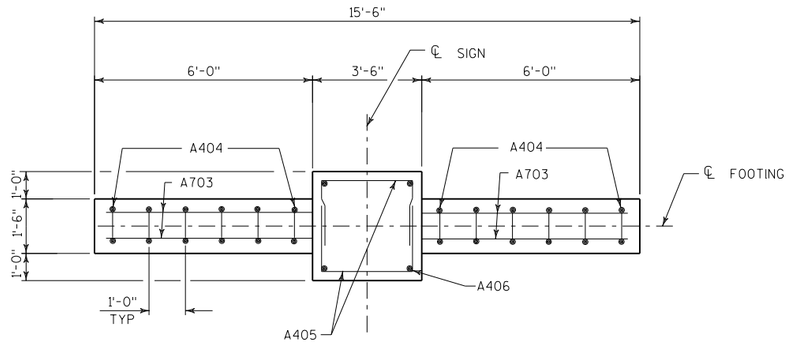


ELEVATION

SECTION A-A



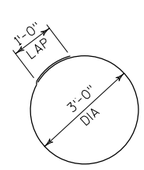
SECTION B-B



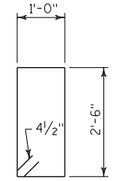
PLAN

BILL OF BARS

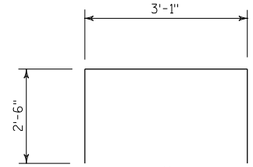
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	CUT DIAG	BUN-DLE	LOCATION
A701		12	15'-6"				FOOTING - COLUMN/TOP
A402		16	10'-6"	X			FOOTING - COLUMN/TOP
A703		12	15'-0"				FOOTING - WINGS
A404		12	7'-6"	X			FOOTING - WINGS
A405		10	7'-11"	X			FOOTING - TOP
A406		4	3'-6"				FOOTING - TOP - COLUMNS



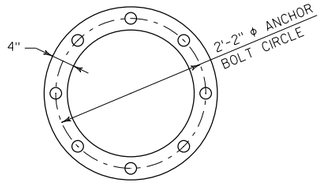
A402



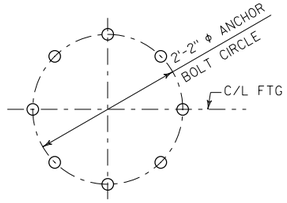
A404
(STIRRUP)

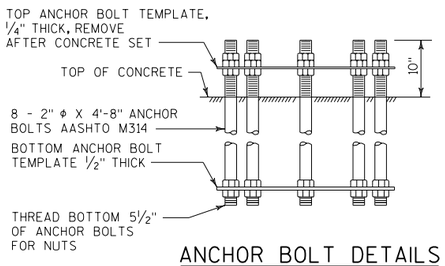


A405



TOP VIEW OF TOP & BOTTOM TEMPLATES





ANCHOR BOLT DETAILS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR UNLESS DETAILED OTHERWISE.

ALL REINFORCING BARS ARE ENGLISH. THE FIRST DIGIT OF A THREE DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

ALLOWABLE DESIGN STRESSES

CONCRETE MASONRY ——— f'c=3,500 PSI
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 ——— fy=60,000 PSI
ANCHOR BOLTS AASHTO M314 GRADE 55 ——— fy=55,000 PSI

FOUNDATION DATA

ALLOWABLE SOIL BEARING PRESSURE = 4,000 PSF

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-05-188

DRAWN BY AMZ | PLANS CK'D. JSR

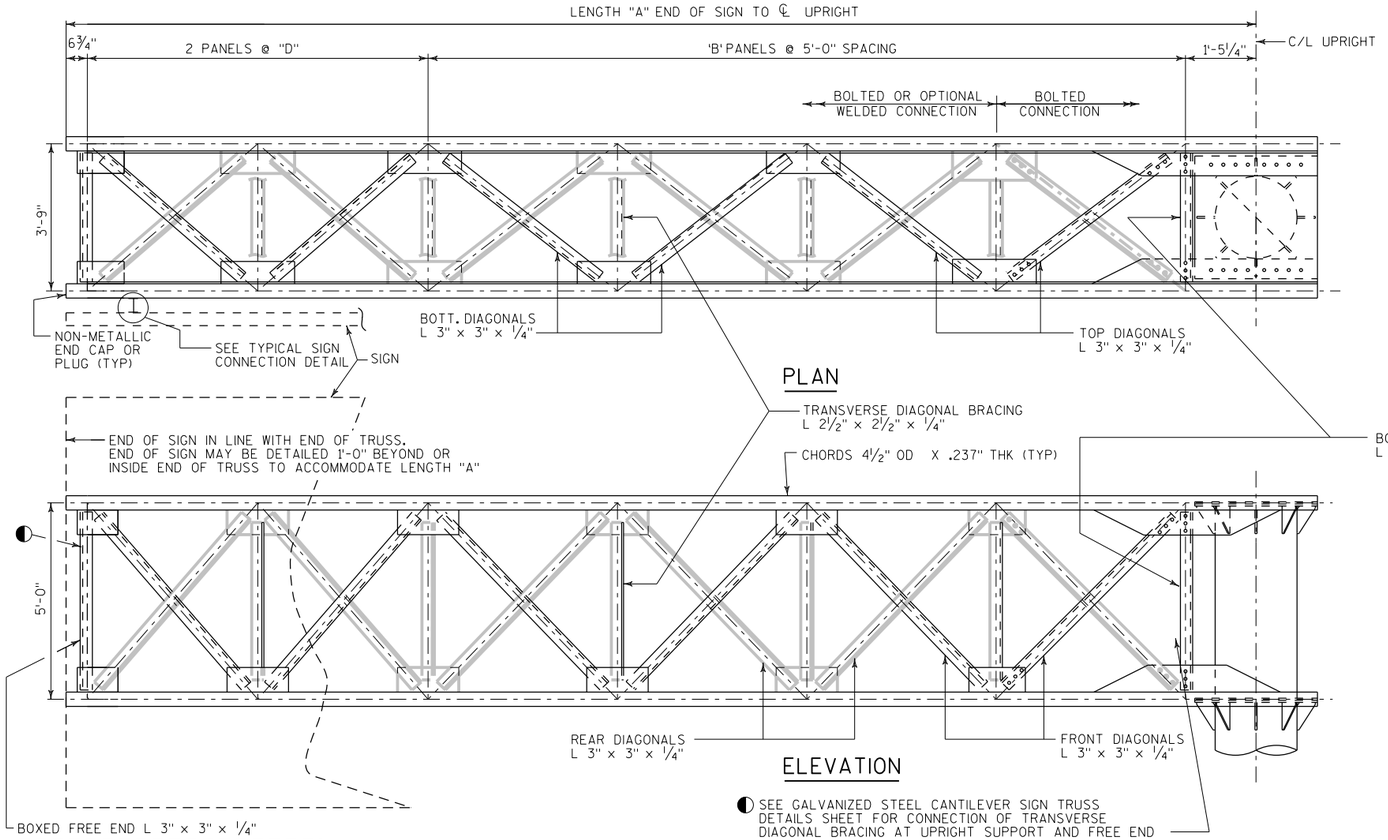
CANTILEVER TRUSS FOOTING

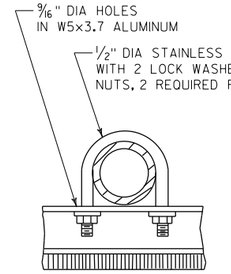
SHEET 2 OF 4
2703

8

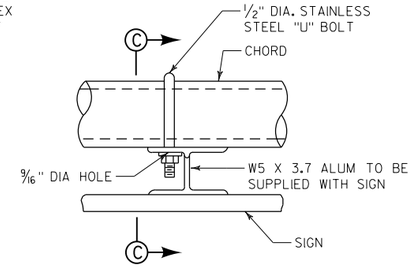
8

STATE PROJECT NUMBER
1133-09-71





SECTION C-C



TYPICAL SIGN CONNECTION

STRUCTURE	"A"	"L"	"B"	"D"	"Y"
S-05-188	31'-2"	24'-11½"	4	4'-7"	3¼"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

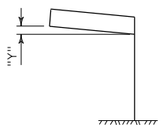
DESIGNED ACCORDING TO AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC "SIGNALS", 2001, 4TH EDITION INCLUDING 2002, 2003, AND 2006 INTERIMS.

WIND VELOCITY = 90 MPH (3-SECOND GUST SPEED)

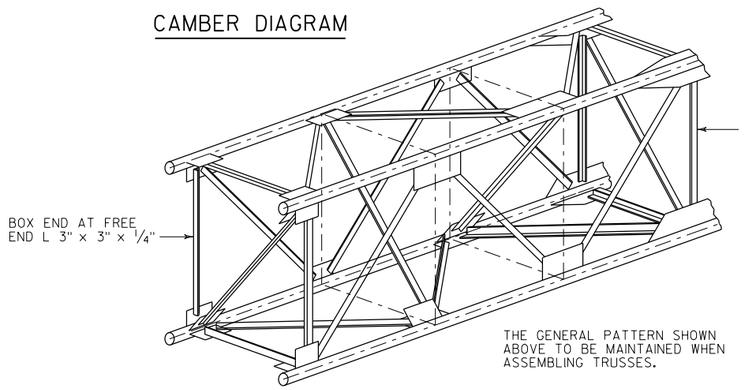
PREFABRICATE CAMBER INTO THE HORIZONTAL SUPPORT PROVIDING AN AMOUNT "Y" AT THE END OF TRUSS SHOWN IN THE "CAMBER DIAGRAM". DO NOT RAKE VERTICAL UPRIGHT BY ADJUSTMENT OF THE LEVELING NUTS.

ALLOWABLE DESIGN STRESSES

CHORDS & COLUMN (INCLD. HANDHOLE) — API-5L-X42 — fy=42,000 PSI
STRUCTURAL ANGLES — ASTM A709 GRADE 36 — fy=36,000 PSI
PLATES & BARS — ASTM A709 GRADE 36 — fy=36,000 PSI
ANCHOR BOLTS — AASHTO M314 — fy=55,000 PSI
HIGH STRENGTH BOLTS — ASTM A325 — fy=92,000 PSI
STRUCTURAL MEMBERS GALVANIZED — ASTM A123
HARDWARE GALVANIZED — ASTM A153 CLASS C



CAMBER DIAGRAM



TYPICAL TRUSS SECTION

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-05-188

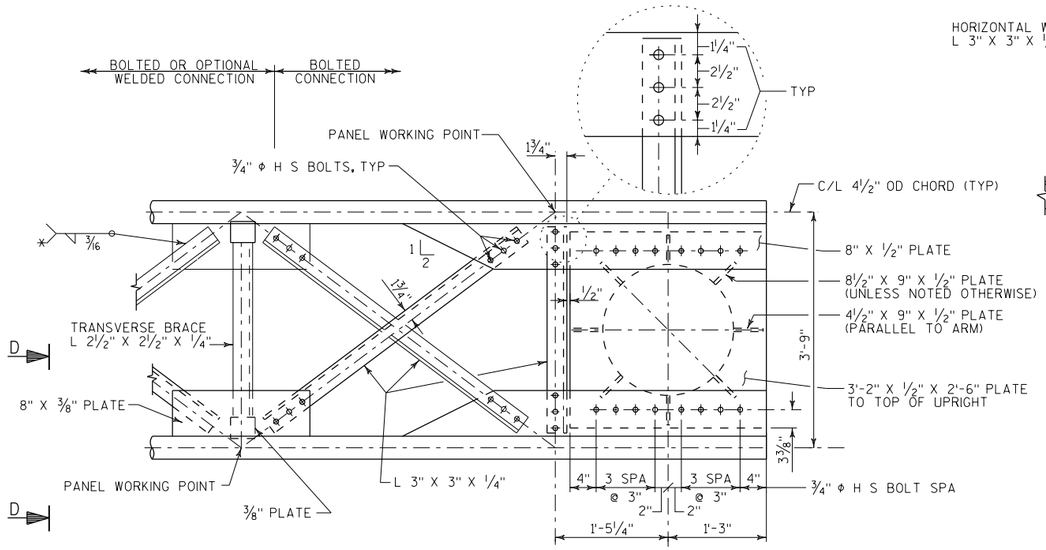
DRAWN BY AMZ | PLANS CK'D. JSR

GALVANIZED STEEL CANTILEVER SIGN TRUSS 2704

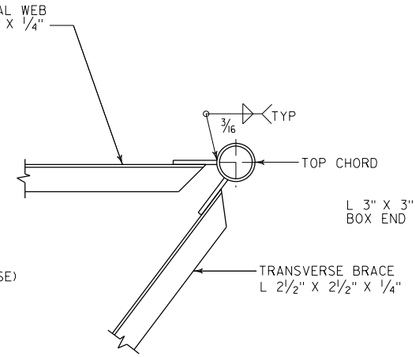
SHEET 3 OF 4

STATE PROJECT NUMBER

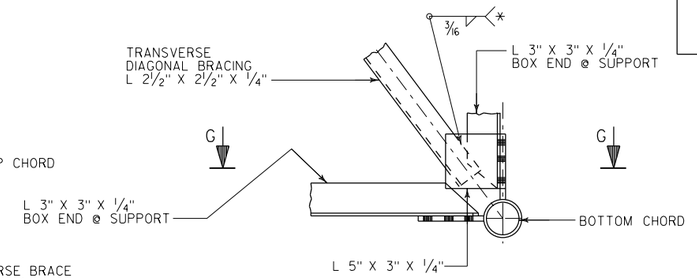
1133-09-71



PLAN TRUSS TO UPRIGHT



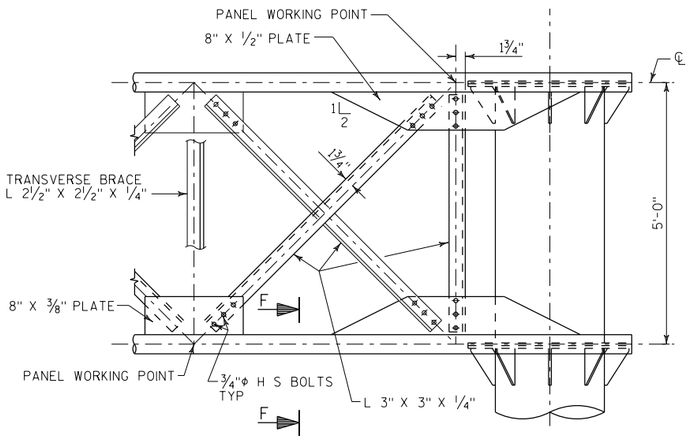
SECTION D-D



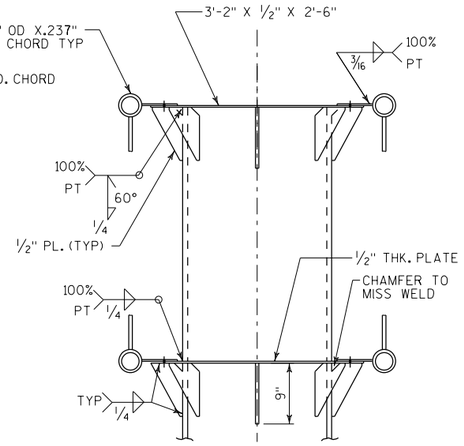
SECTION F-F

LEGEND

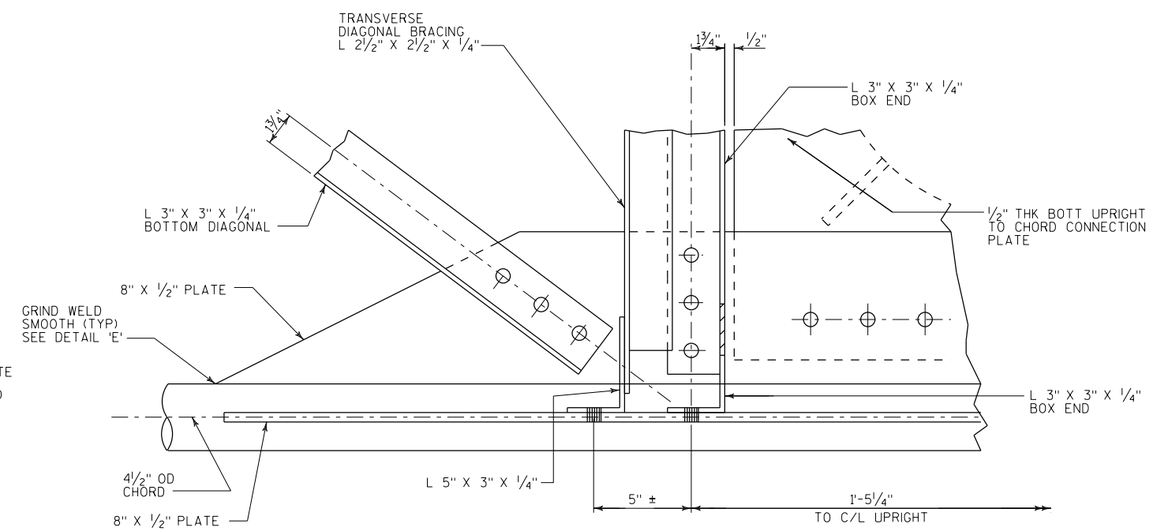
* ANGLE	WELD LENGTH (MIN.)
L 2½" X 2½" X ¼"	7"
L 3" X 3" X ¼"	8"



ELEVATION TRUSS TO UPRIGHT

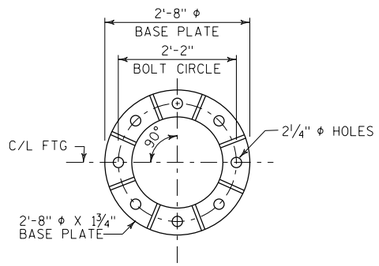


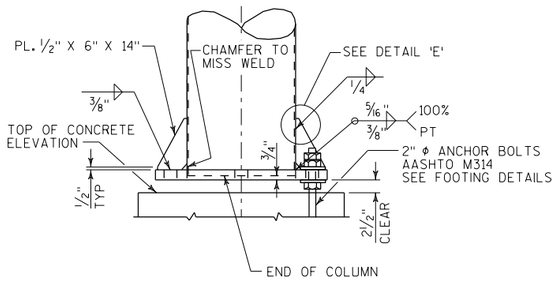
END VIEW
TRUSS TO UPRIGHT



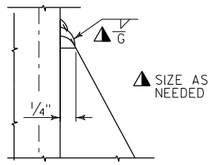
SECTION G-G

(LOOKING DOWN @ BOTT. HORIZ. PLANE @ FRONT CHORD)

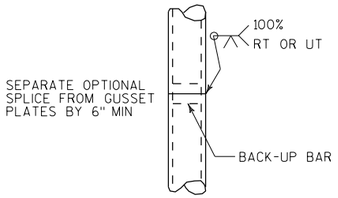




BASE PLATE DETAILS



DETAIL 'E'



OPTIONAL COLUMN
OR CHORD SPLICE DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-05-188

DRAWN BY AMZ | PLANS CK'D. JSR

GALVANIZED STEEL CANTILEVER SIGN TRUSS DETAILS

SHEET 4 OF 4

2705

8

8

STATE PROJECT NUMBER

1133-09-76

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. GENERAL NOTES
3. CONCRETE TOWER FOUNDATION DETAILS
4. CONCRETE TOWER DETAILS
5. CONCRETE TOWER AESTHETIC DETAILS
6. SUBSURFACE EXPLORATION

ULTIMATE DESIGN STRESSES:

CONCRETE: .....f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

GENERAL NOTES

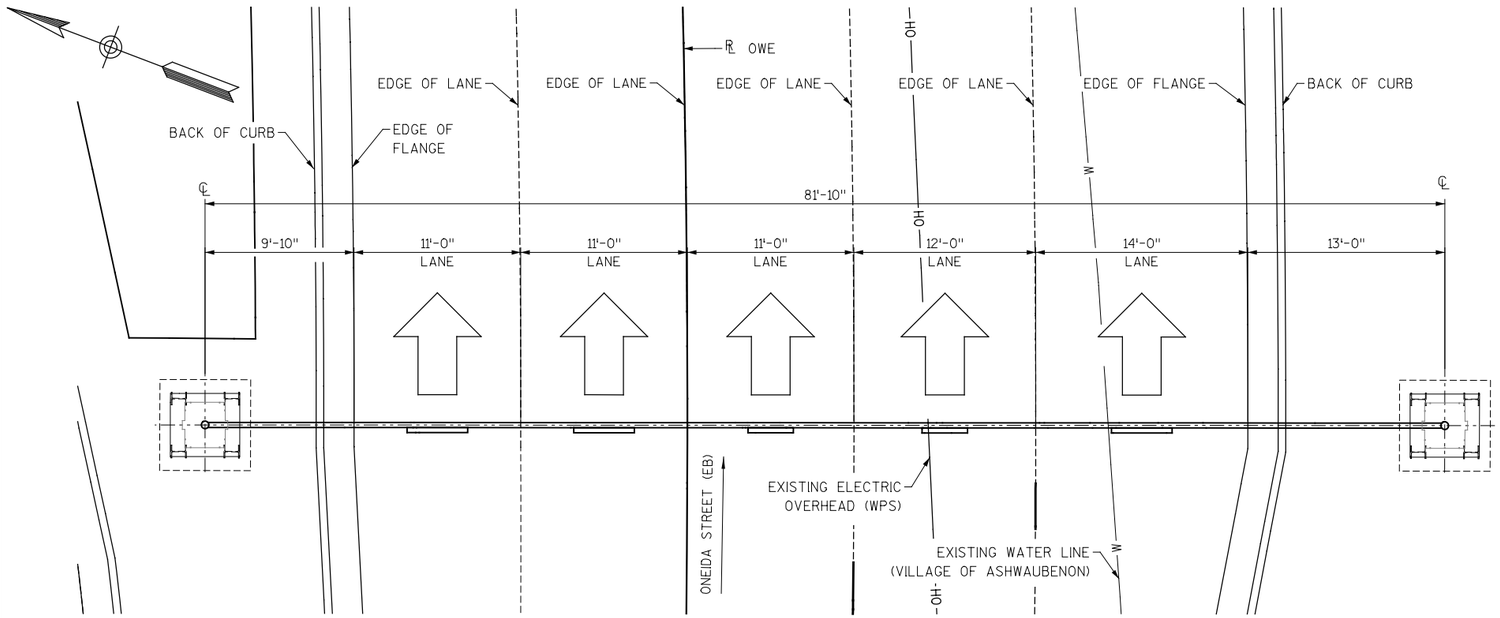
SEE SHEET 2.

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
129	7'-6"

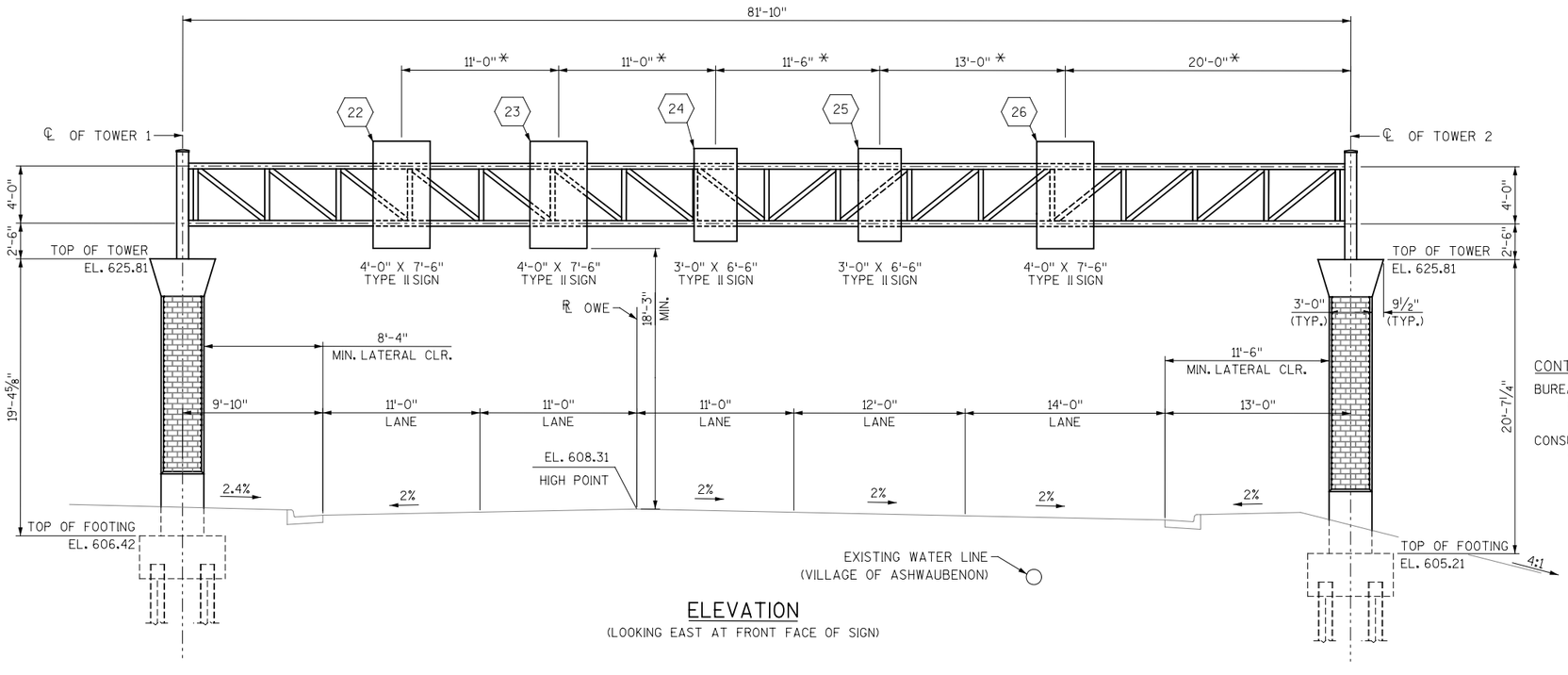
ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	610
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	22
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	470
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	2240
641.8100.950	OVERHEAD SIGN SUPPORT S-05-226	LS	1
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	260
SPV.0165.501	STAINING CONCRETE	SF	460
SPV.0165.502	STAINING CONCRETE BRICK	SF	260



PLAN

STA: 692 OWE+70



ELEVATION

(LOOKING EAST AT FRONT FACE OF SIGN)

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER

Steven J. Miller

2/8/2013

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-226

DE PERE - SUAMICO

COUNTY	TOWN/CITY/VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CES	SJM	MJH	CES

PLAN & ELEVATION

SHEET 1 OF 6

2706

8

8

FILE NAME :S-05-226.dgn
PLOT DATE 12/6/2013 3:04:19 PM PLOT BY : MatthewHolandvSi DRV :Pdf_bw_HS.plt PEN :OEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1133-09-76

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

OVERHEAD SIGN SUPPORTS SHALL BE DESIGNED AND FABRICATED USING STEEL.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND OVERHEAD SIGN SUPPORT.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ABOVE THE PILES SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE OVERHEAD SIGN SUPPORT IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 -1/4" DIAMETER BY 1-3/4" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "OVERHEAD SIGN SUPPORT S-05-226"

DESIGN NEW OVERHEAD SIGN SUPPORT ACCORDING TO THE LATEST EDITION OF, AND SUPPLEMENTAL TO THE STATE OF WISCONSIN "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION" AND AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS."

DESIGN THE STRUCTURE BASE PLATE CONNECTION TO ACCOMMODATE A MINIMUM OF SIX (6) ANCHOR BOLTS.

SIZE THE ANCHOR BOLT / TEMPLATE ASSEMBLY TO FIT WITHIN THE BAR CAGE OF THE TOWER SHOWN IN THE CONTRACT PLANS IN ADDITION TO MEETING ALL APPLICABLE DESIGN REQUIREMENTS FOR THE DESIGN OF THE UPRIGHT BASE CONNECTION. PROVIDE A TOP AND BOTTOM ANCHOR BOLT TEMPLATE. THE BOTTOM ANCHOR BOLT TEMPLATE SHALL BE PERMANENT WITH A MAXIMUM O.D. OF 22".

SIGNS OR BLANKS SHALL BE INSTALLED ON THE OVERHEAD SIGN SUPPORT AT THE TIME OF ERECTION. BLANKS, IF USED, SHALL BE OF THE SAME SIZE AND LOCATION AS PERMANENT SIGNS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-226"

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A 3/4" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

⟨##⟩ - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

PROVIDE ROUND CHORDS WITH WEB MEMBERS ATTACHED BY GUSSET PLATES.

* SIGN PANEL DIMENSIONS ARE TO THE CENTER OF THE SIGN PANEL. CONTRACTOR TO FIELD VERIFY SIGN PANEL DISPLAYS CORRELATE WITH ROADWAY LANE LAYOUT.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-226

CONST. SPEC. 2010	DRAWN BY MJH	PLANS CK'D. CES

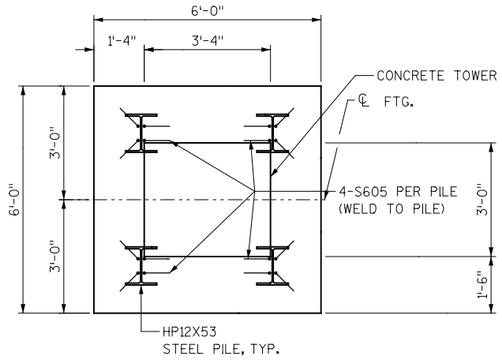
GENERAL NOTES

SHEET 2 OF 6
2707

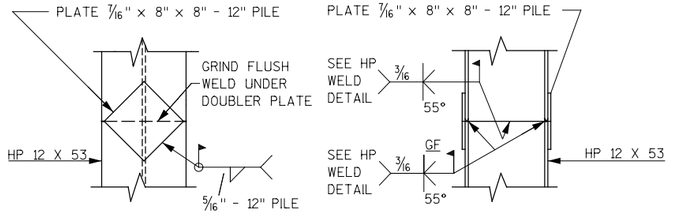
FILE NAME :S-05-226.dgn
PLOT DATE :2/6/2013 3:04:29 PM PLOT BY : MatthewHeiland DRV :Pdf_bw.HS.plt PEN :CEL_TEXTSUB.TBL

STATE PROJECT NUMBER

1133-09-76



PLAN VIEW



PILE SPLICE DETAIL

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S409	4 SERIES OF 4	7'-10" TO 9'-4"
S410	2 SERIES OF 4	3'-4" TO 4'-11"
S411	2 SERIES OF 4	3'-9" TO 4'-5"

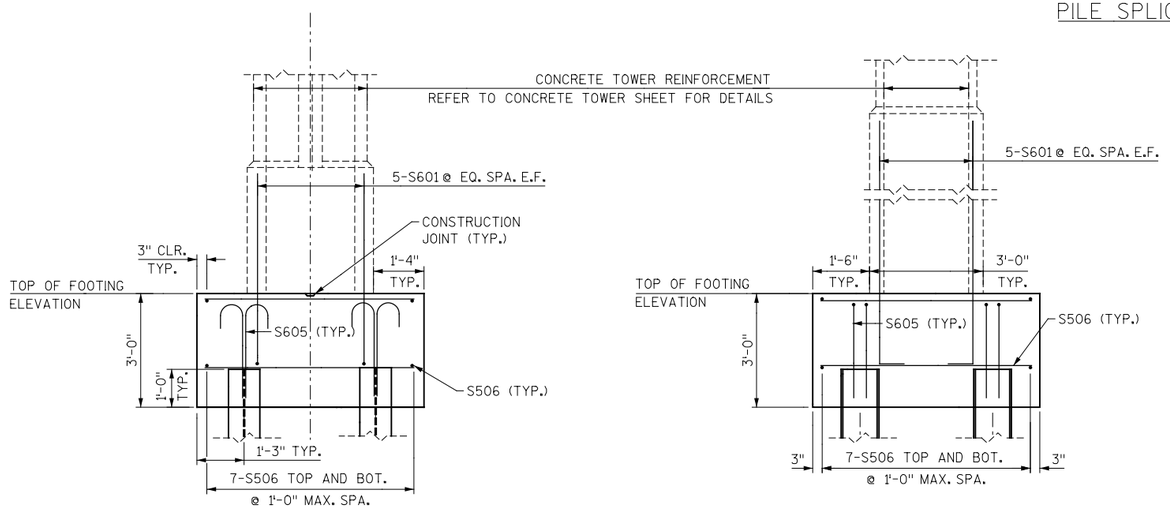
BUNDLE AND TAG EACH SERIES SEPARATELY

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

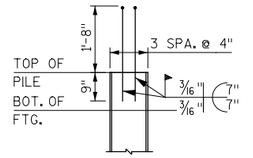
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S601	X	32	6'-11"	▲		VERT. REINF., BASE OF TOWER
S402	X	10	3'-8"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S403	X	10	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S404	X	10	11'-10"	▲		HORZ. STIRRUP, BASE OF TOWER
S605		32	3'-1"	▲		WELDED TO PILES
S506		56	5'-6"			HORZ. REINF., PILE CAP
S407	X	24	2'-4"			VERT. REINF., TOP OF TOWER
S408	X	8	5'-0"	▲		VERT. REINF., TOP OF TOWER
S409	X	16	8'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S410	X	8	4'-2"	▲	△	HORZ. CROSSTIE, TOP OF TOWER
S411	X	8	4'-1"	▲	△	HORZ. CROSSTIE, TOP OF TOWER
S612	X	16	19'-2"			VERT. REINF., MIDDLE OF TOWER 1
S413	X	56	4'-6"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S414	X	4	12'-2"			VERT. REINF., MIDDLE OF TOWER 1
S415	X	36	3'-3"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S416	X	36	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	36	10'-2"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S618	X	16	20'-5"			VERT. REINF., MIDDLE OF TOWER 2
S419	X	4	13'-5"			VERT. REINF., MIDDLE OF TOWER 2

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

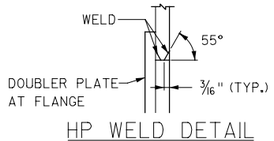


ELEVATION VIEW

END VIEW

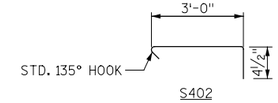


PILE HEAD DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR



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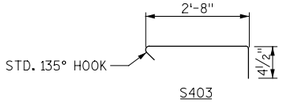

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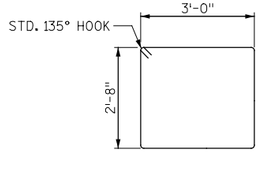

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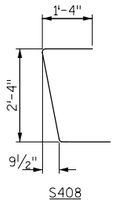

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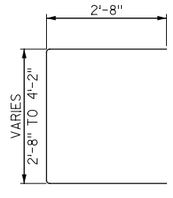

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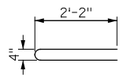

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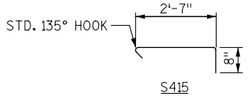

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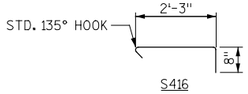

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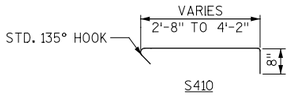

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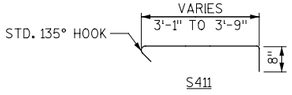

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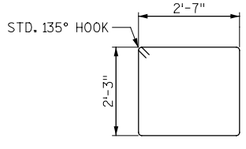

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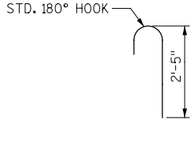


S605

S601

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

SIGN BRIDGE TOWER 1 TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 76 FEET LONG.

SIGN BRIDGE TOWER 2 TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 76 FEET LONG.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-226

CONST. SPEC. 2010	DRAWN BY MJH	PLANS CK'D. CES

CONCRETE TOWER FOUNDATION DETAILS

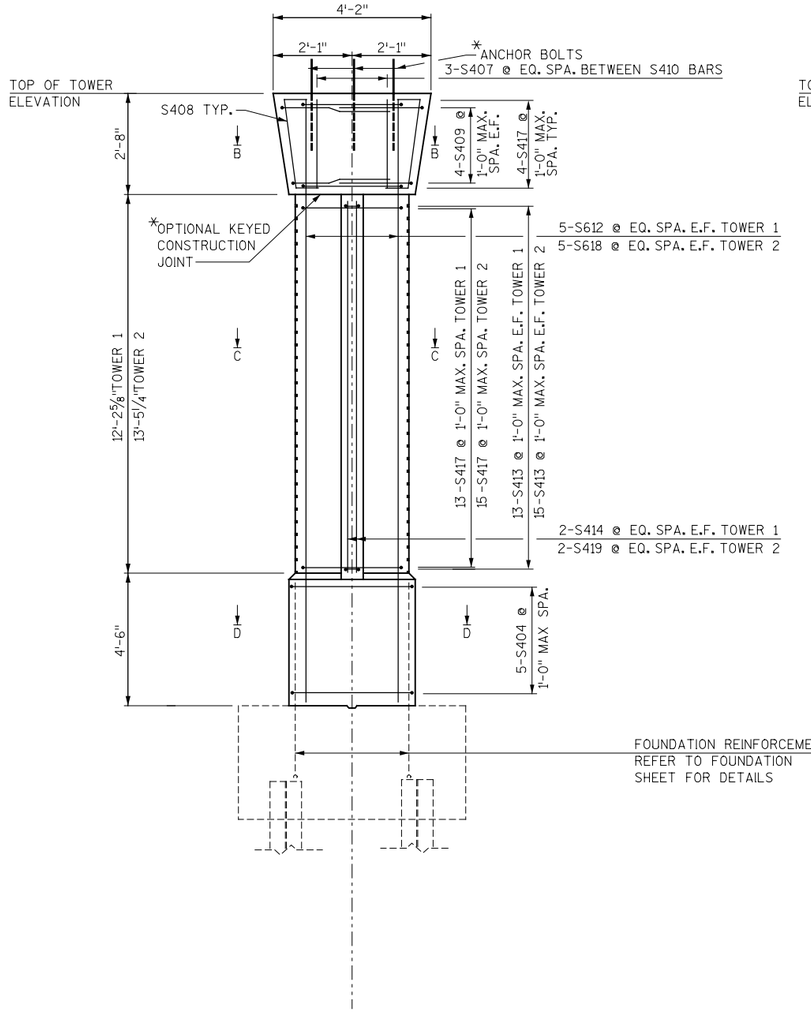
SHEET 3 OF 6

2708

8

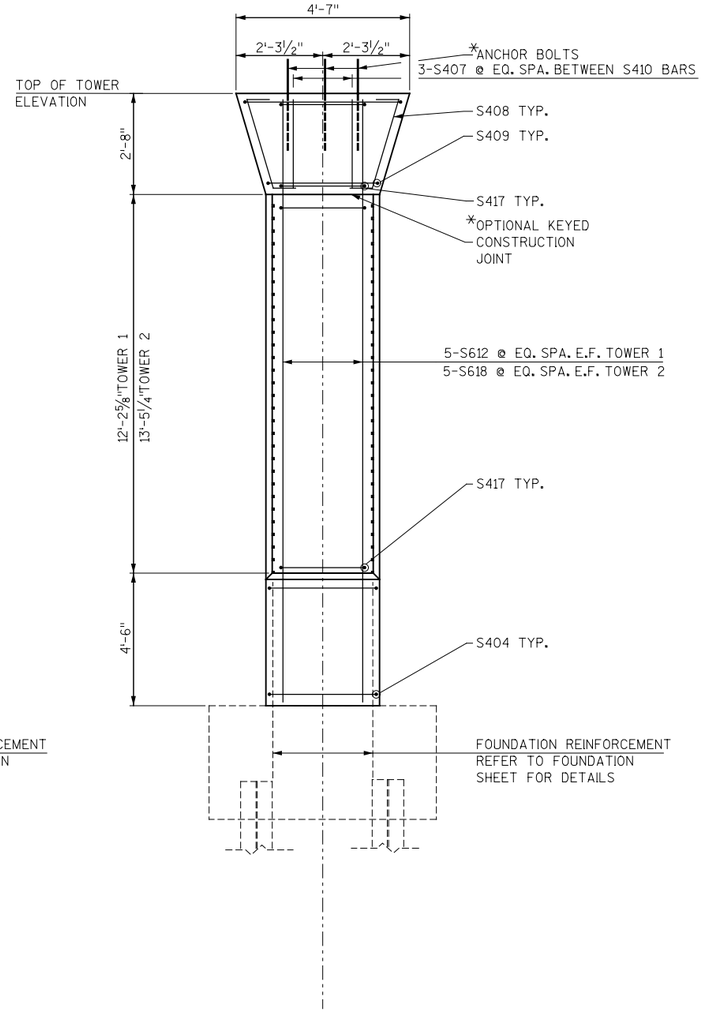
8

FILE NAME :S-05-226.dgn
PLOT DATE :12/6/2013 3:04:20 PM PLOT BY : MatthewHeiland4 DRV :Pdf_bw_HS.pit PEN :CEL_TEXTSUB.TBL



ELEVATION VIEW

S402, S403, S410, S411, S415 AND S416 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S402, S403, S410, S411, S415 AND S416 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

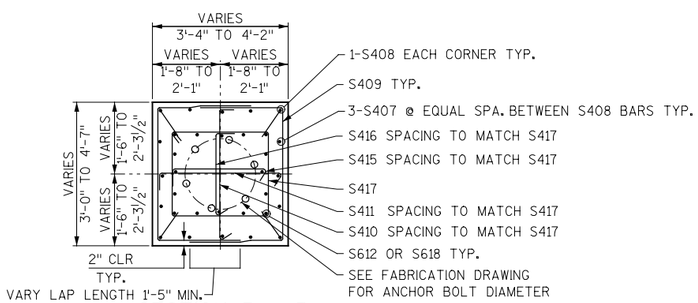
"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

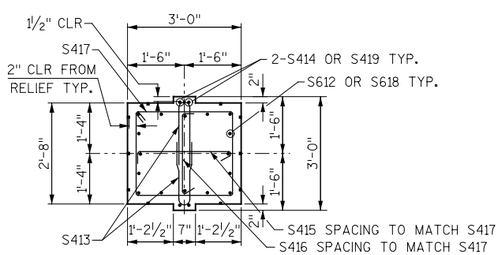
REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

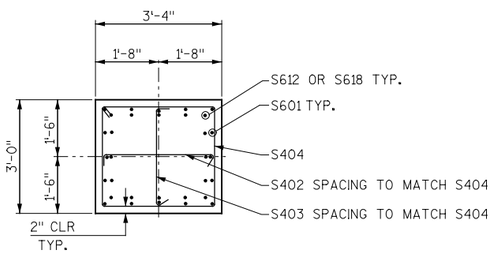
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.



SECTION B - B



SECTION C - C



SECTION D - D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-226

CONST. SPEC. 2010	DRAWN BY MJH	PLANS CK'D. CES

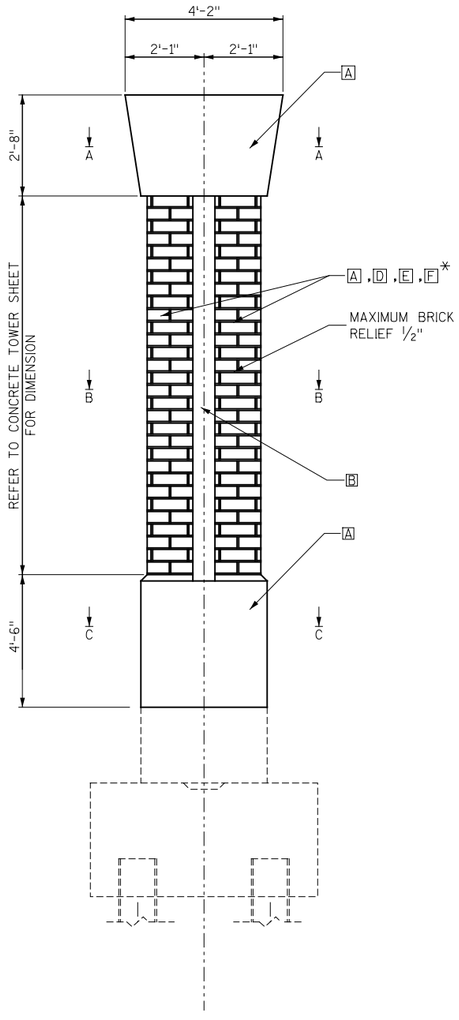
CONCRETE TOWER DETAILS

SHEET 4 OF 6
2709

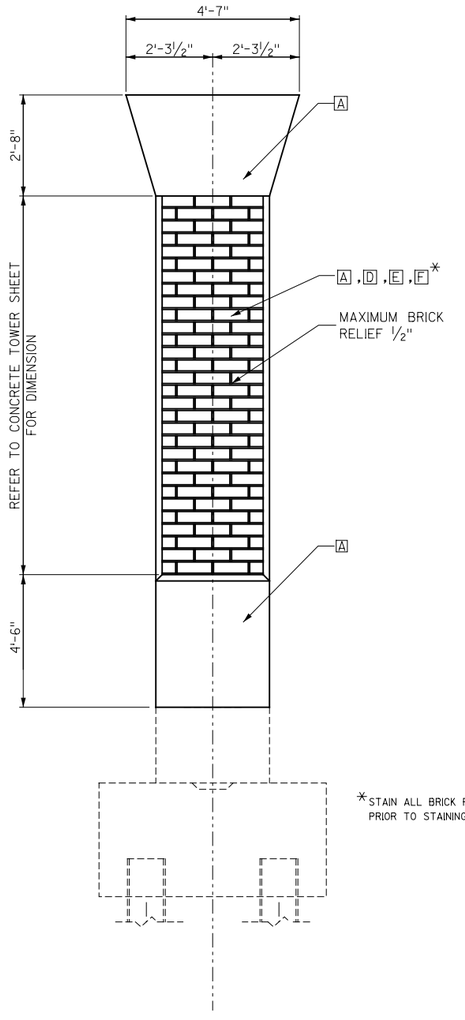
FILE NAME :S-05-226.dgn
PLOT DATE :2/6/2013 12:04:22 PM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.plt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER

1133-09-76

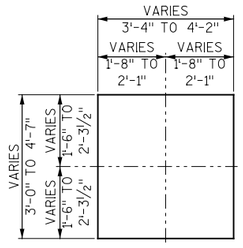


ELEVATION VIEW

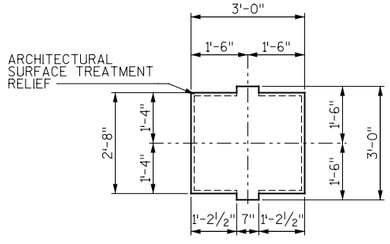


END VIEW

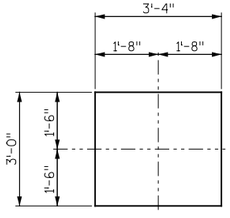
*STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR
PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

*STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR
PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-226

CONST. SPEC. 2010	DRAWN BY MJH	PLANS CK'D. CES

CONCRETE TOWER AESTHETIC DETAILS

SHEET 5 OF 6

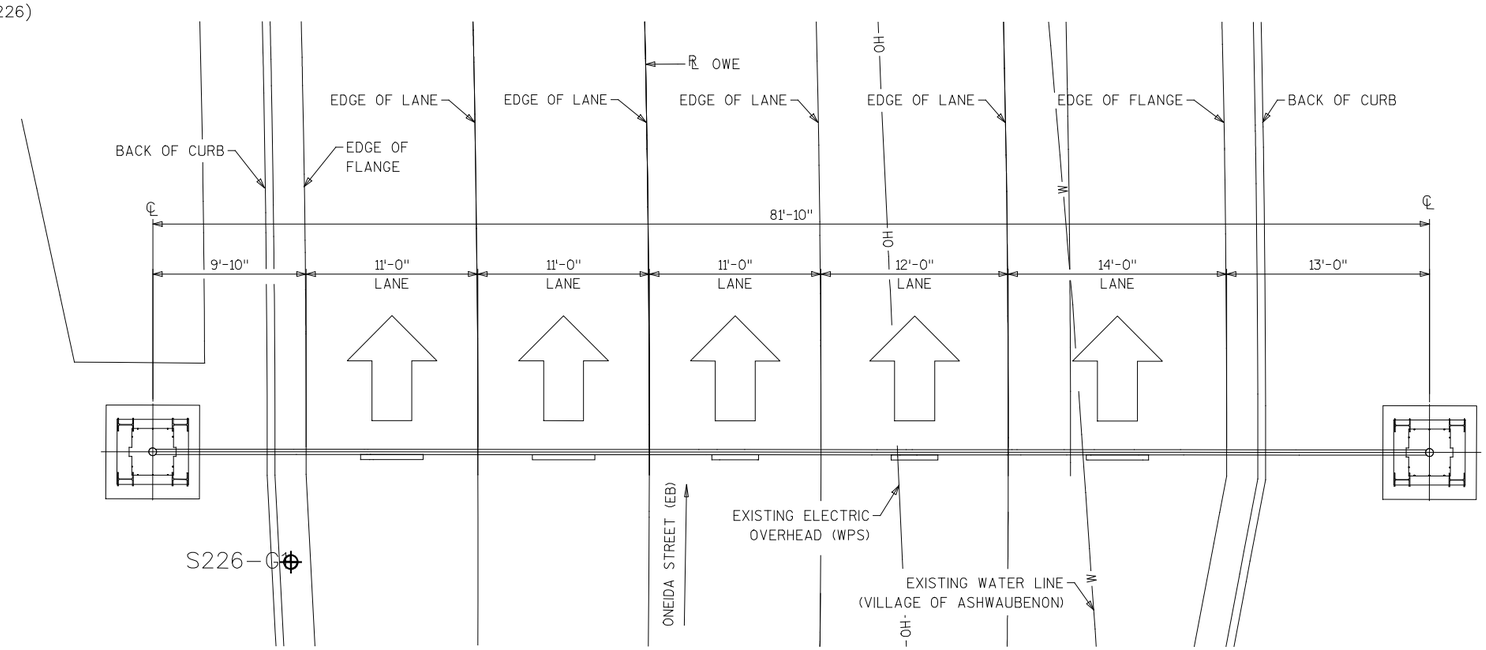
2710

8

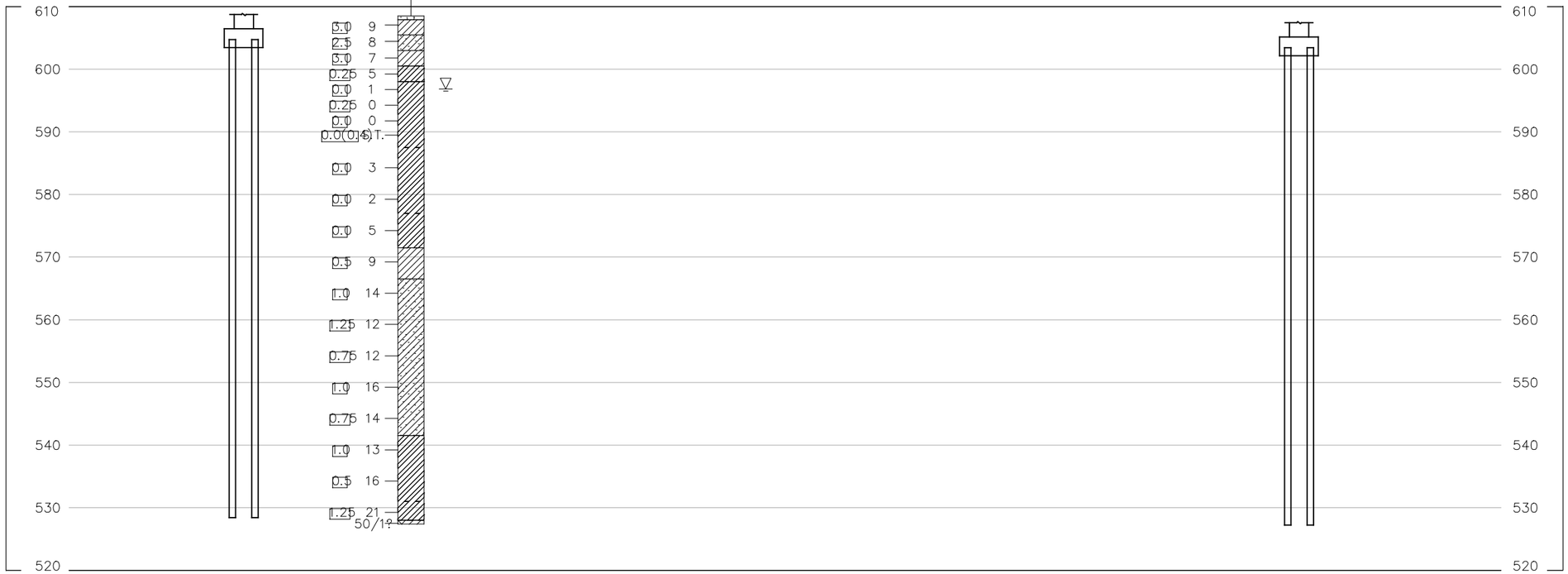
8

FILE NAME :S-05-226.dgn
PLOT DATE :2/6/2013 3:04:22 PM PLOT BY : MatthewHe@andv81 DRV :Pdf_bw_HS.plt PEN :CEL_TEXTSUB.TBL

USH-41 (S-05-226)
05-BROWN, WI



STA: 692 OWE+70



STATE PROJECT NUMBER

1133-09-76

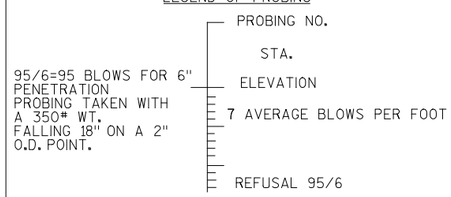
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

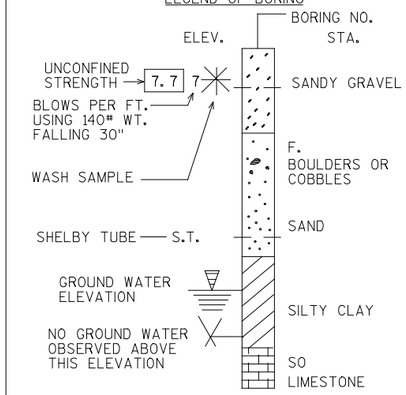
MATERIAL SYMBOLS

TOPSOIL, SILT, FAT CLAY
SAND, PEAT, DOLOMITE
GRAVEL, CLAY, FILL

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-226

DRAWN BY RE | PLANS CK'D. DB

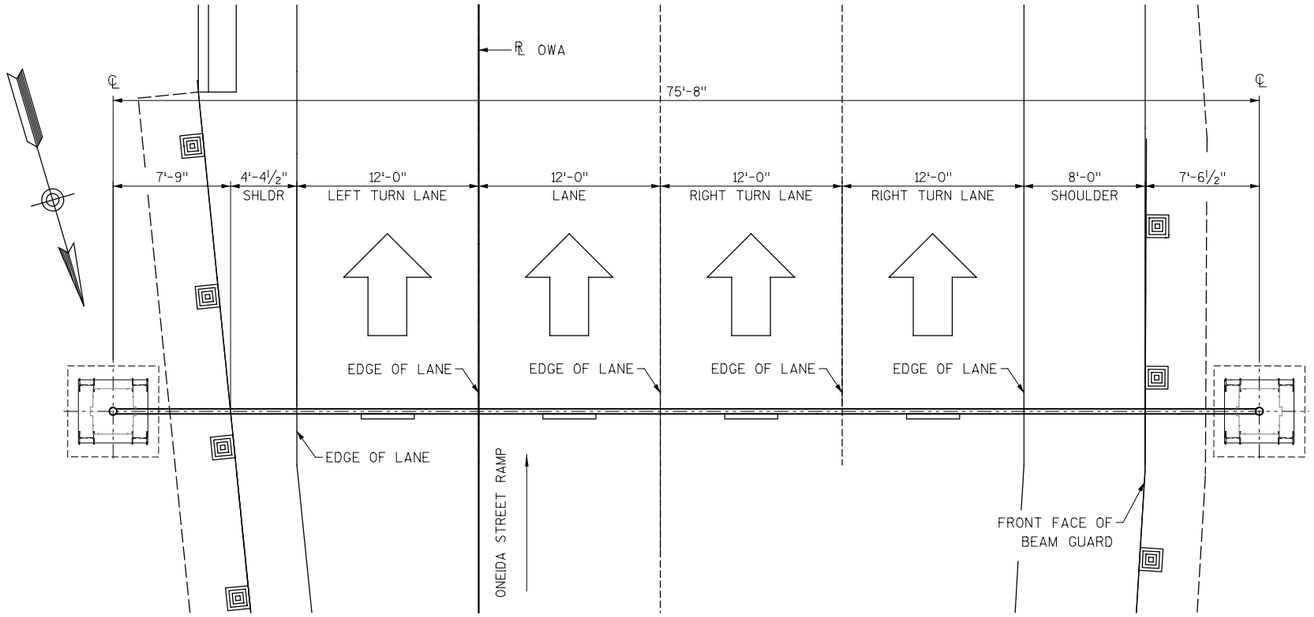
SUBSURFACE EXPLORATION

SHEET 6 OF 6

2711

SCALE 1?=10?

STATE PROJECT NUMBER
1133-09-76



PLAN

STA: 8420WA+40

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. GENERAL NOTES
3. CONCRETE TOWER FOUNDATION DETAILS
4. CONCRETE TOWER DETAILS
5. CONCRETE TOWER AESTHETIC DETAILS
6. SUBSURFACE EXPLORATION

ULTIMATE DESIGN STRESSES:

CONCRETE: .....f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

GENERAL NOTES

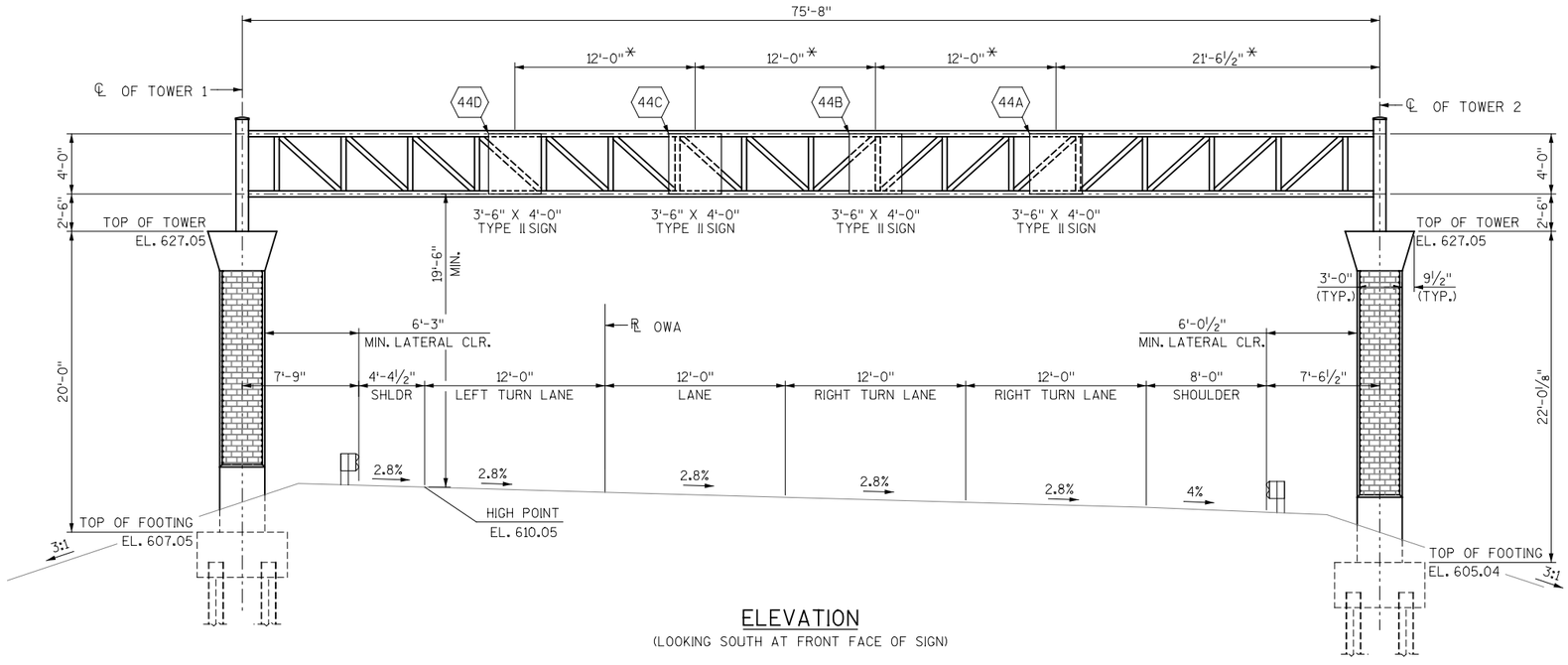
SEE SHEET 2

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
56	4'-0"

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	570
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	23
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	470
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	2280
641.8100.951	OVERHEAD SIGN SUPPORT S-05-227	LS	1
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	280
SPV.0165.501	STAINING CONCRETE	SF	480
SPV.0165.502	STAINING CONCRETE BRICK	SF	280



ELEVATION

(LOOKING SOUTH AT FRONT FACE OF SIGN)

2/8/2013

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-227

DE PERE - SUAMICO

COUNTY	TOWN/CITY/VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CES	SJM	MJH	CES

PLAN & ELEVATION

SHEET 1 OF 6

2712

8

8

FILE NAME :S-05-227.dgn
PLOT DATE :2/6/2013 3:06:44 PM PLOT BY : MatthewHolandvBl DRV :Pdf_bw_HS.plt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1133-09-76

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

OVERHEAD SIGN SUPPORTS SHALL BE DESIGNED AND FABRICATED USING STEEL.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND OVERHEAD SIGN SUPPORT.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ABOVE THE PILES SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE OVERHEAD SIGN SUPPORT IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 -¼" DIAMETER BY 1 -¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "OVERHEAD SIGN SUPPORT S-05-227"

DESIGN NEW OVERHEAD SIGN SUPPORT ACCORDING TO THE LATEST EDITION OF, AND SUPPLEMENTAL TO THE STATE OF WISCONSIN "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION" AND AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS."

DESIGN THE STRUCTURE BASE PLATE CONNECTION TO ACCOMMODATE A MINIMUM OF SIX (6) ANCHOR BOLTS.

SIZE THE ANCHOR BOLT / TEMPLATE ASSEMBLY TO FIT WITHIN THE BAR CAGE OF THE TOWER SHOWN IN THE CONTRACT PLANS IN ADDITION TO MEETING ALL APPLICABLE DESIGN REQUIREMENTS FOR THE DESIGN OF THE UPRIGHT BASE CONNECTION. PROVIDE A TOP AND BOTTOM ANCHOR BOLT TEMPLATE. THE BOTTOM ANCHOR BOLT TEMPLATE SHALL BE PERMANENT WITH A MAXIMUM O.D. OF 22".

SIGNS OR BLANKS SHALL BE INSTALLED ON THE OVERHEAD SIGN SUPPORT AT THE TIME OF ERECTION. BLANKS, IF USED, SHALL BE OF THE SAME SIZE AND LOCATION AS PERMANENT SIGNS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-227"

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

⬡ ## ⬡ - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

PROVIDE ROUND CHORDS WITH WEB MEMBERS ATTACHED BY GUSSET PLATES.

* SIGN PANEL DIMENSIONS ARE TO THE CENTER OF THE SIGN PANEL. CONTRACTOR TO FIELD VERIFY SIGN PANEL DISPLAYS CORRELATE WITH ROADWAY LANE LAYOUT.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-227

CONST. SPEC. 2010	DRAWN BY MJH	PLANS CK'D. CES

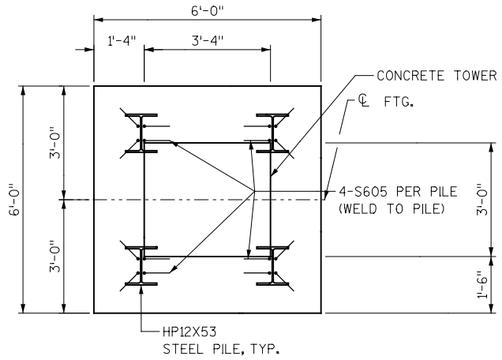
GENERAL NOTES

SHEET 2 OF 6
2713

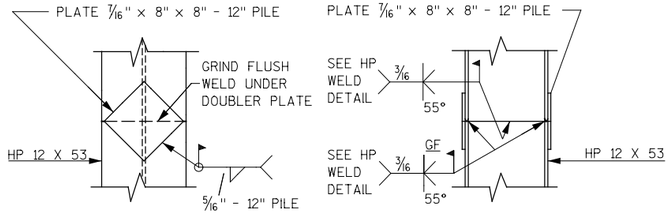
FILE NAME :S-05-227.dgn
PLOT DATE :12/6/2013 3:06:45 PM PLOT BY : MatthewHeiland.v8i DRV :Pdf_bw_HS.pit PEN :CEL_TEXTSUB.TBL

STATE PROJECT NUMBER

1133-09-76



PLAN VIEW



PILE SPLICE DETAIL

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S409	4 SERIES OF 4	7'-10" TO 9'-4"
S410	2 SERIES OF 4	3'-4" TO 4'-11"
S411	2 SERIES OF 4	3'-9" TO 4'-5"

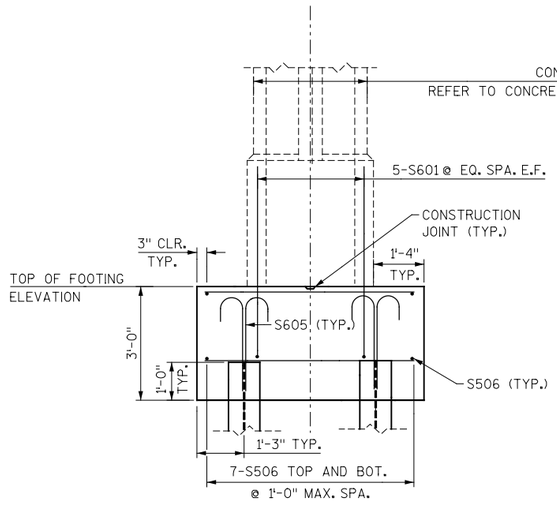
BUNDLE AND TAG EACH SERIES SEPARATELY

BILL OF BARS

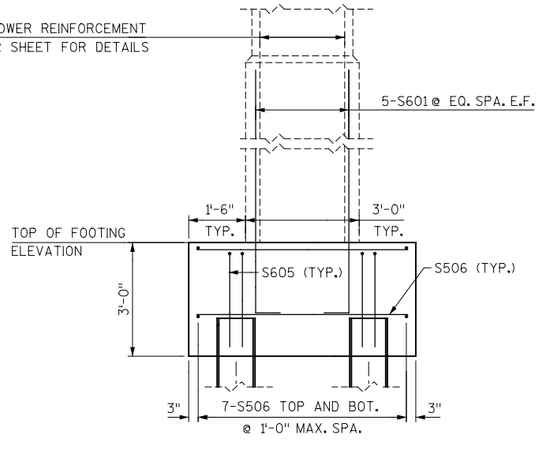
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S601	X	32	6'-11"	▲		VERT. REINF., BASE OF TOWER
S402	X	10	3'-8"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S403	X	10	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S404	X	10	11'-10"	▲		HORZ. STIRRUP, BASE OF TOWER
S605		32	3'-1"	▲		WELDED TO PILES
S506		56	5'-6"			HORZ. REINF., PILE CAP
S407	X	24	2'-4"			VERT. REINF., TOP OF TOWER
S408	X	8	5'-0"	▲		VERT. REINF., TOP OF TOWER
S409	X	16	8'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S410	X	8	4'-2"	▲	△	HORZ. CROSSTIE, TOP OF TOWER
S411	X	8	4'-1"	▲	△	HORZ. CROSSTIE, TOP OF TOWER
S612	X	16	19'-9"			VERT. REINF., MIDDLE OF TOWER 1
S413	X	60	4'-6"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S414	X	4	12'-9"			VERT. REINF., MIDDLE OF TOWER 1
S415	X	38	3'-3"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S416	X	38	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	38	10'-2"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S618	X	16	21'-10"			VERT. REINF., MIDDLE OF TOWER 2
S419	X	4	14'-10"			VERT. REINF., MIDDLE OF TOWER 2

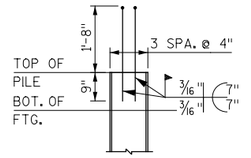
△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



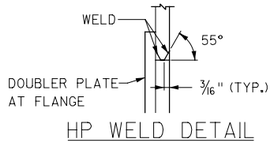
ELEVATION VIEW



END VIEW



PILE HEAD DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

SIGN BRIDGE TOWER 1 TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 71 FEET LONG.

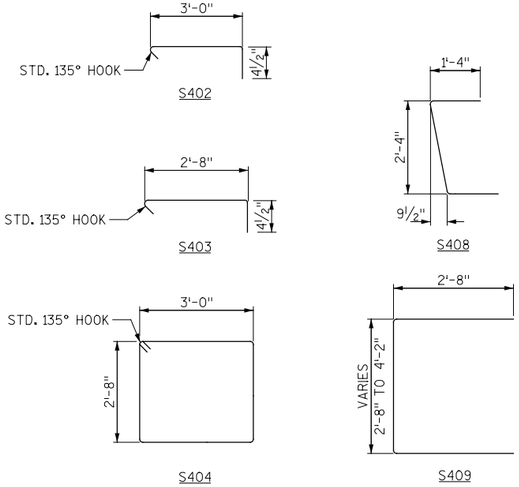
SIGN BRIDGE TOWER 2 TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 71 FEET LONG.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-227

CONST. SPEC. 2010	DRAWN BY MJH	PLANS CK'D. CES

CONCRETE TOWER FOUNDATION DETAILS

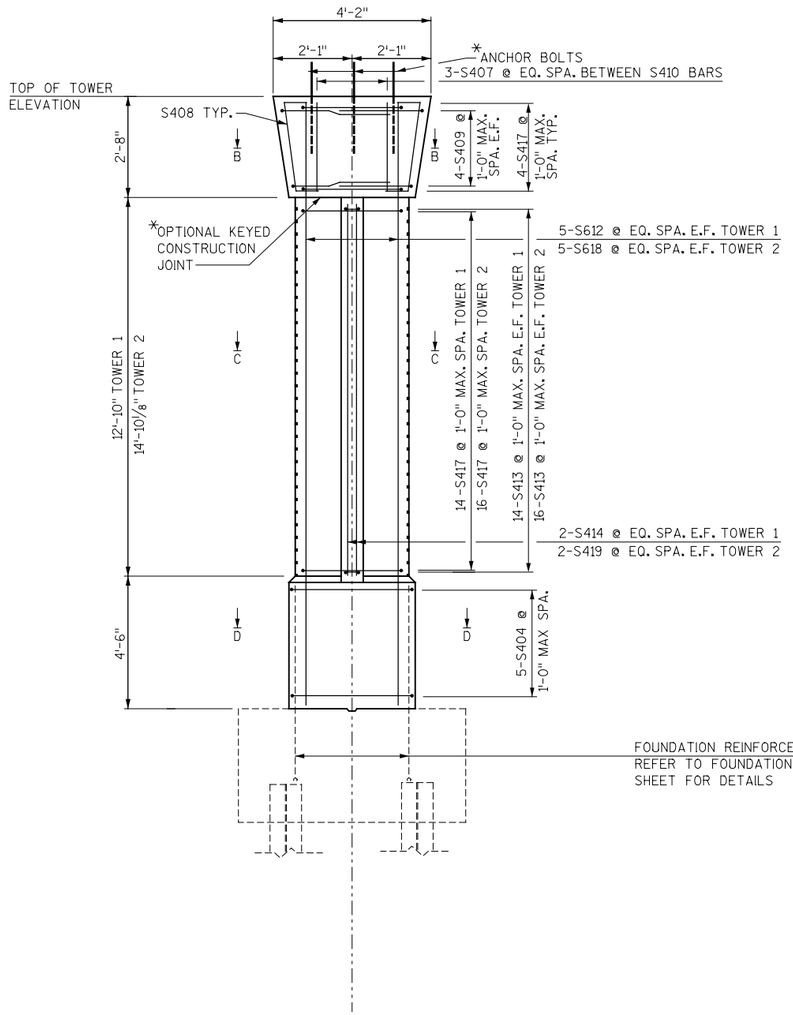
SHEET 3 OF 6

2714

8

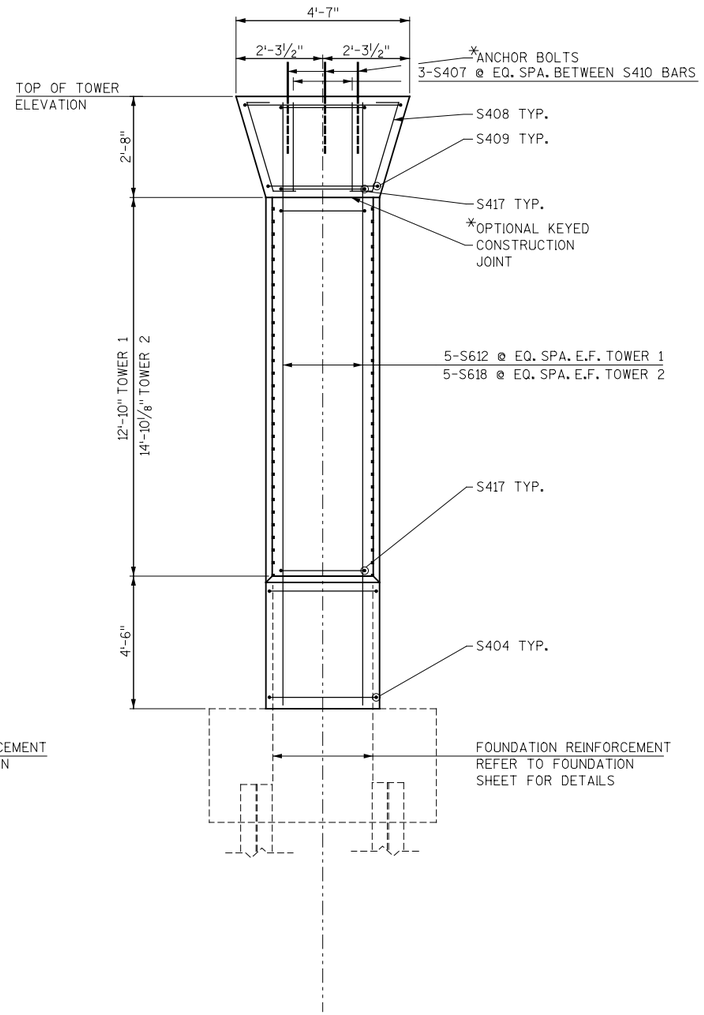
8

FILE NAME :S-05-227T.dgn
PLOT DATE :12/6/2013 3:06:46 PM PLOT BY : MatthewWeigandt91 DRV :Pdf_bw_HS.pit PEN :CEL_TEXTSUB.TBL



ELEVATION VIEW

S402, S403, S410, S411, S415 AND S416 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S402, S403, S410, S411, S415 AND S416 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

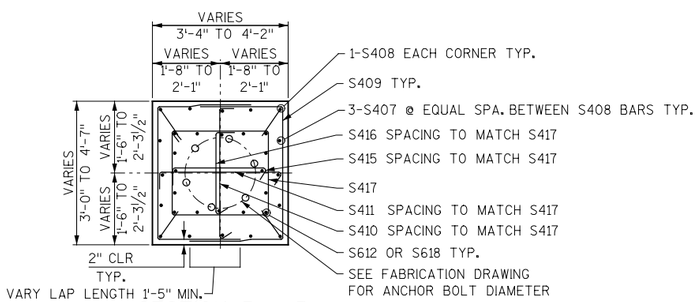
"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

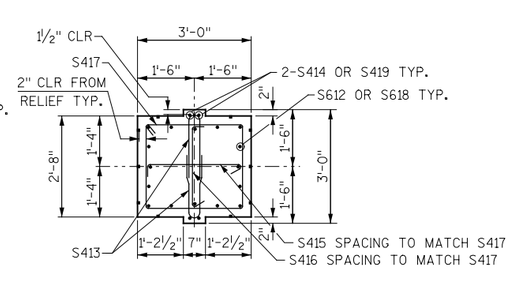
REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

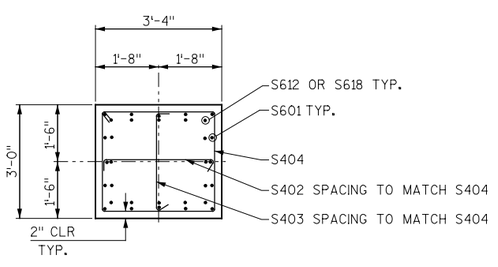
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.



SECTION B - B



SECTION C - C



SECTION D - D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-227

CONST. SPEC. 2010	DRAWN BY MJH	PLANS CK'D. CES

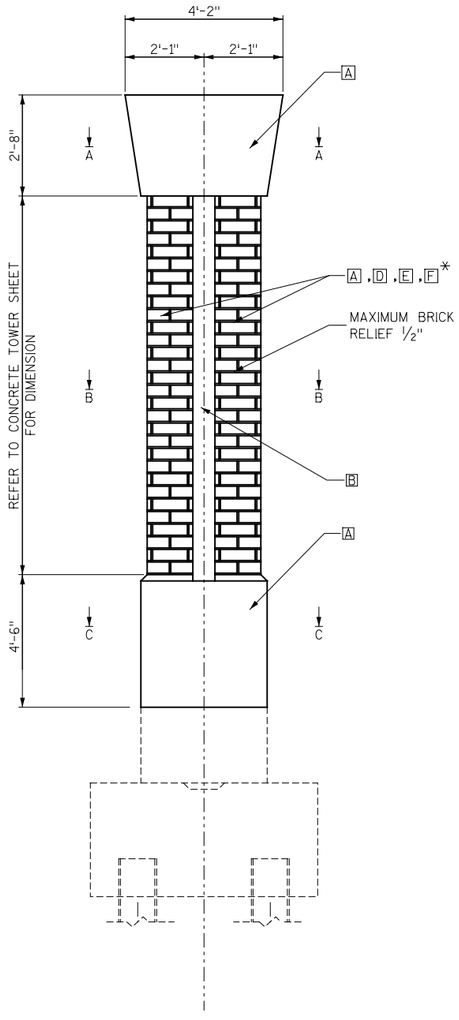
CONCRETE TOWER DETAILS

SHEET 4 OF 6
2715

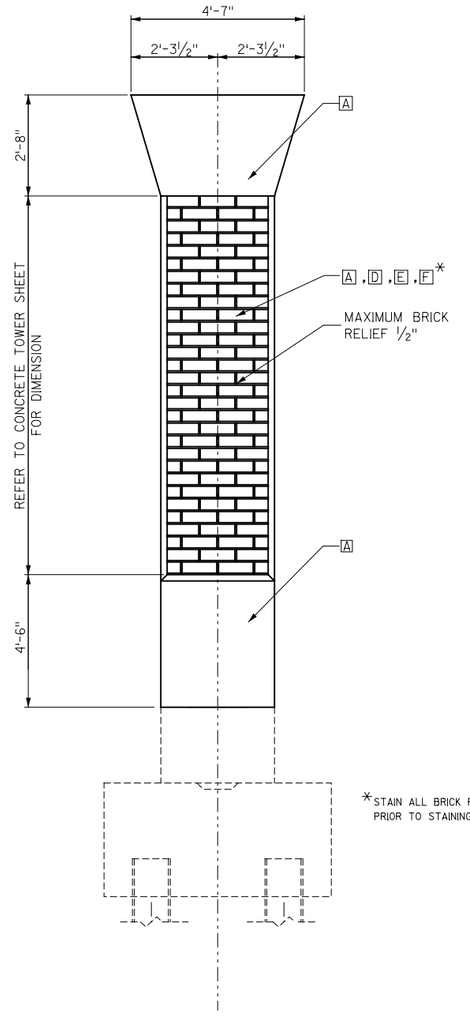
FILE NAME :S-05-227.dgn
PLOT DATE :2/6/2013 3:06:47 PM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.plt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER

1133-09-76

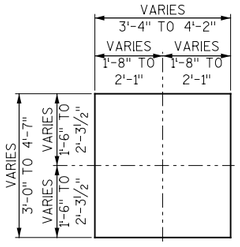


ELEVATION VIEW

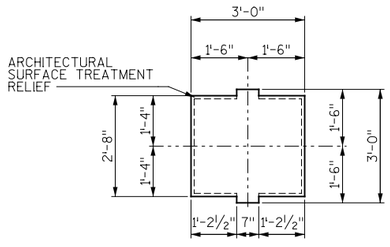


END VIEW

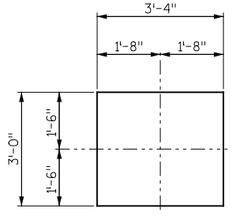
*STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

*STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-227

CONST. SPEC. 2010	DRAWN BY MJH	PLANS CK'D. CES

CONCRETE TOWER AESTHETIC DETAILS

SHEET 5 OF 6

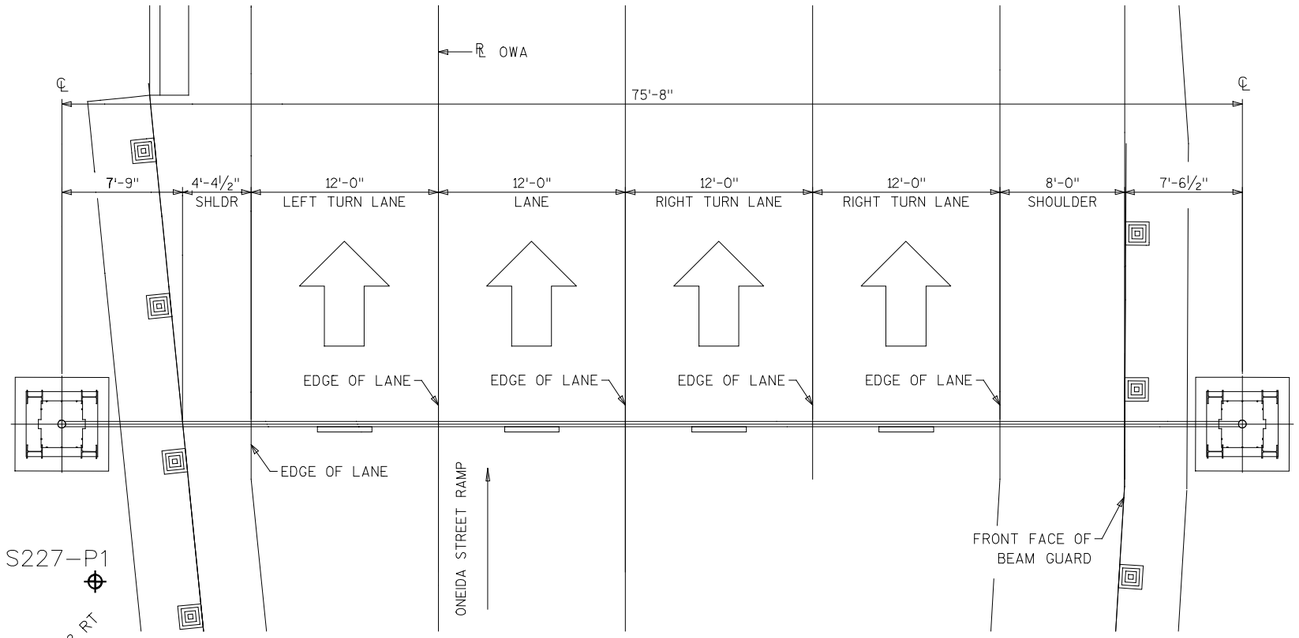
2716

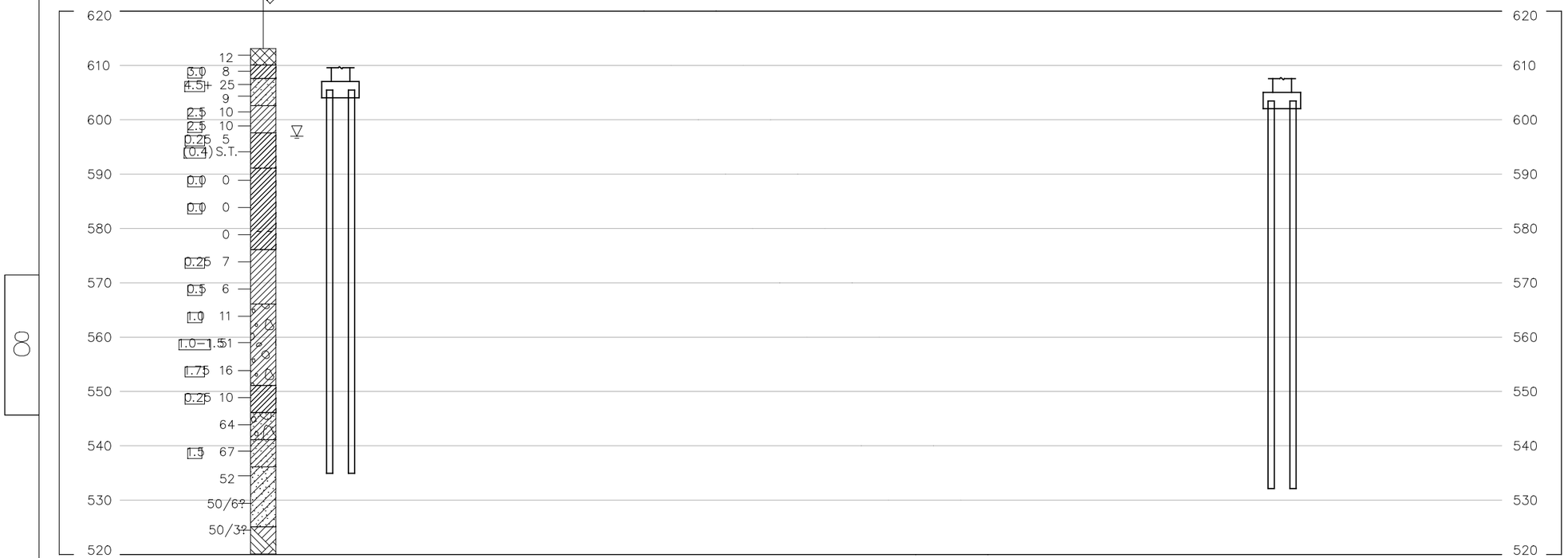
8

8

FILE NAME :S-05-227.dgn
PLOT DATE :2/6/2013 3:06:47 PM PLOT BY : MatthewHe@sndv81 DRV :Pdf_bw_HS.plt PEN :CEL_TEXTSUB.TBL

USH-41 (S-05-227)
05-BROWN, WI





STATE PROJECT NUMBER

1133-09-76

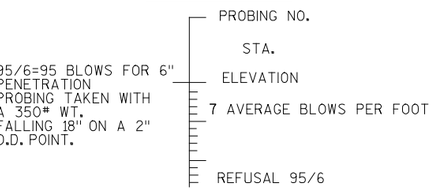
ABBREVIATIONS

F— FINE M— MEDIUM C— COARSE
WS— WEATHERED SO — SOUND

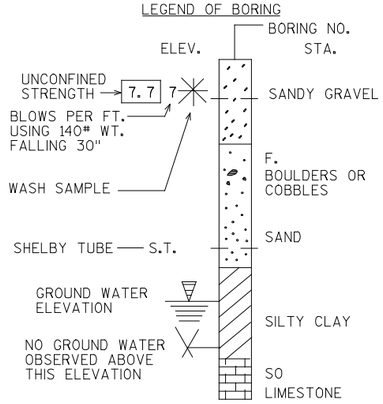
MATERIAL SYMBOLS

TOPSOIL, SILT, FAT CLAY
SAND, PEAT, DOLOMITE
GRAVEL, CLAY, FILL

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

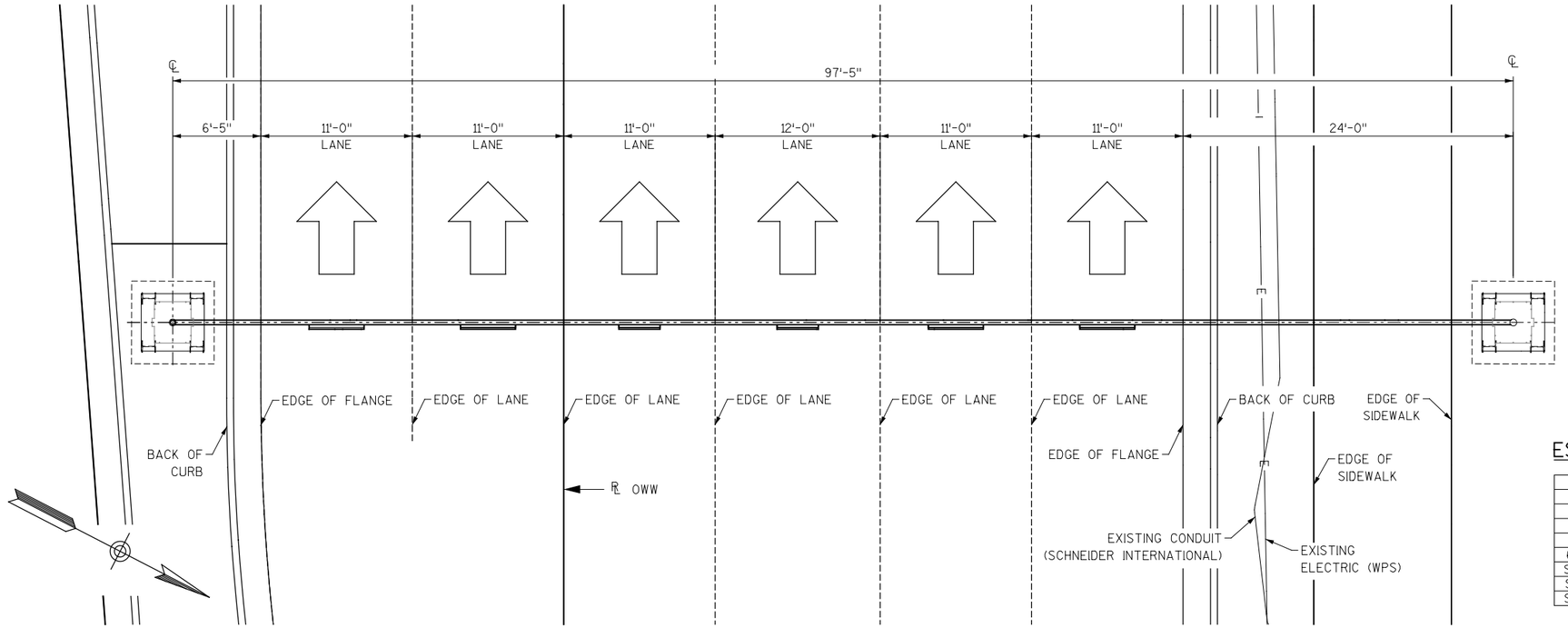
STRUCTURE S-05-227

DRAWN BY RE | PLANS CK'D. DB

SUBSURFACE EXPLORATION

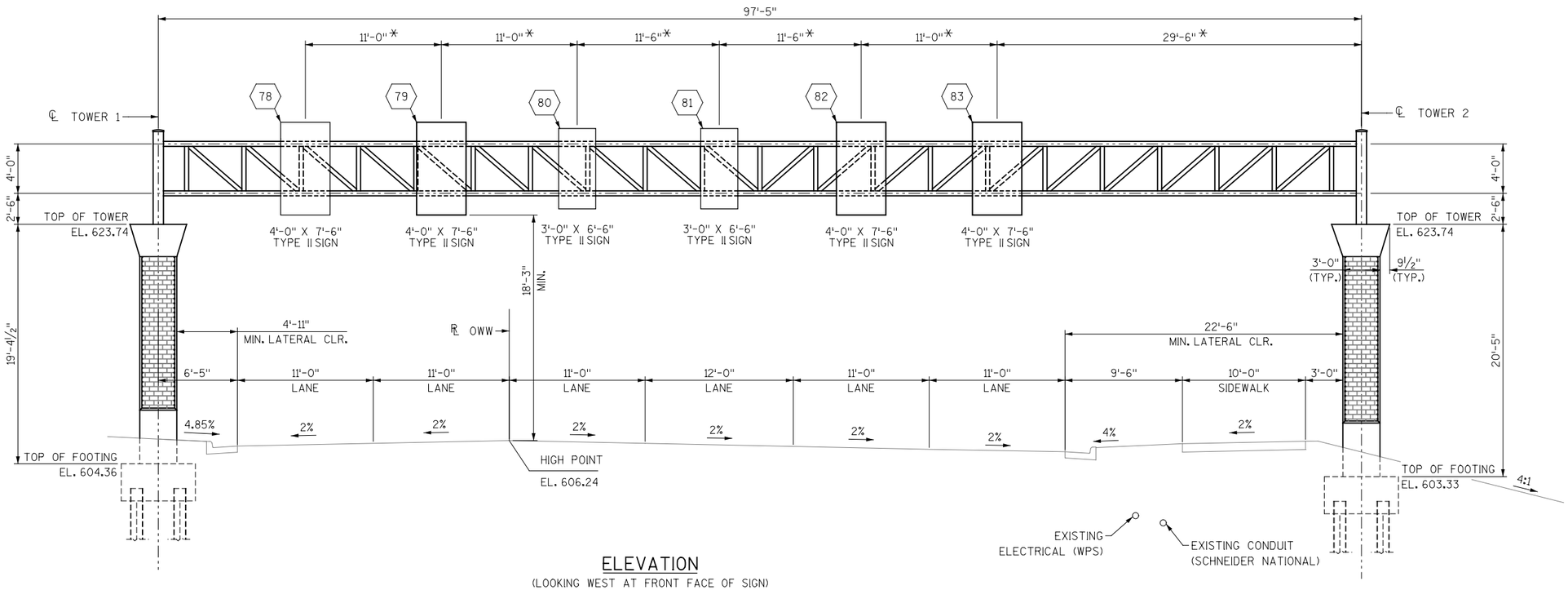
SHEET 6 OF 6
2717

SCALE 1?=10?



PLAN

STA: 704 OWW+90



ELEVATION

(LOOKING WEST AT FRONT FACE OF SIGN)

STATE PROJECT NUMBER

1133-09-76

GENERAL NOTES

SEE SHEET 2

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. GENERAL NOTES
3. CONCRETE TOWER FOUNDATION DETAILS
4. CONCRETE TOWER DETAILS
5. CONCRETE TOWER AESTHETIC DETAILS
6. SUBSURFACE EXPLORATION

ULTIMATE DESIGN STRESSES:

CONCRETE: .....f'c = 3,500 psi

HIGH STRENGTH BAR STEEL REINFORCEMENT: .....fy = 60,000 psi

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
159	7'-6"

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	570
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	22
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	470
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	2220
641.8100.952	OVERHEAD SIGN SUPPORT S-05-230	LS	1
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	260
SPV.0165.501	STAINING CONCRETE	SF	450
SPV.0165.502	STAINING CONCRETE BRICK	SF	260

WISCONSIN PROFESSIONAL ENGINEER
STEVEN J. MILLER
36937
MILWAUKEE, WI

Steven J. Miller

2/8/2013

CONTACTS

WisDOT BRIDGE OFFICE CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS INC.
STEVE J. MILLER: (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-230

DE PERE - SUAMICO

COUNTY	TOWN/CITY/VILLAGE
BROWN	ASHWAUBENON

DESIGN SPEC. AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CES	SJM	MJH	CES

PLAN & ELEVATION

SHEET 1 OF 6
2718

8

8

FILE NAME : S-05-230.dgn
PLOT DATE : 2/8/2013 3:08:06 PM PLOT BY : MatthewHolandvBl DRV : Pdf_bw_HS.plt PEN : CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1133-09-76

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

OVERHEAD SIGN SUPPORTS SHALL BE DESIGNED AND FABRICATED USING STEEL.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND OVERHEAD SIGN SUPPORT.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ABOVE THE PILES SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE OVERHEAD SIGN SUPPORT IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 -1/4" DIAMETER BY 1-3/4" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "OVERHEAD SIGN SUPPORT S-05-230"

DESIGN NEW OVERHEAD SIGN SUPPORT ACCORDING TO THE LATEST EDITION OF, AND SUPPLEMENTAL TO THE STATE OF WISCONSIN "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION" AND AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS."

DESIGN THE STRUCTURE BASE PLATE CONNECTION TO ACCOMMODATE A MINIMUM OF SIX (6) ANCHOR BOLTS.

SIZE THE ANCHOR BOLT / TEMPLATE ASSEMBLY TO FIT WITHIN THE BAR CAGE OF THE TOWER SHOWN IN THE CONTRACT PLANS IN ADDITION TO MEETING ALL APPLICABLE DESIGN REQUIREMENTS FOR THE DESIGN OF THE UPRIGHT BASE CONNECTION. PROVIDE A TOP AND BOTTOM ANCHOR BOLT TEMPLATE. THE BOTTOM ANCHOR BOLT TEMPLATE SHALL BE PERMANENT WITH A MAXIMUM O.D. OF 22".

SIGNS OR BLANKS SHALL BE INSTALLED ON THE OVERHEAD SIGN SUPPORT AT THE TIME OF ERECTION. BLANKS, IF USED, SHALL BE OF THE SAME SIZE AND LOCATION AS PERMANENT SIGNS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-05-230"

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A 3/4" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

⟨##⟩ - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

PROVIDE ROUND CHORDS WITH WEB MEMBERS ATTACHED BY GUSSET PLATES.

* SIGN PANEL DIMENSIONS ARE TO THE CENTER OF THE SIGN PANEL. CONTRACTOR TO FIELD VERIFY SIGN PANEL DISPLAYS CORRELATE WITH ROADWAY LANE LAYOUT.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-230

CONST. SPEC. 2010	DRAWN BY MJH	PLANS CK'D. CES

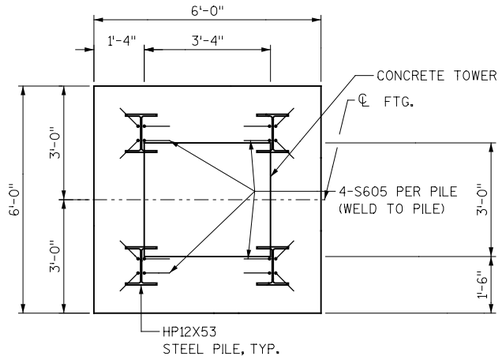
GENERAL NOTES

SHEET 2 OF 6
2719

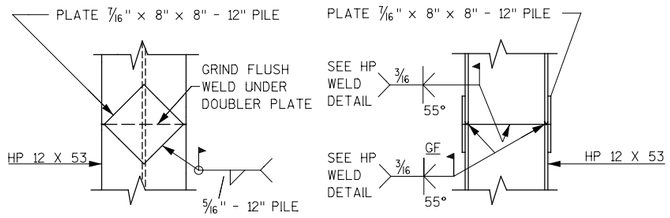
FILE NAME :S-05-230.dgn
PLOT DATE :2/9/2013 3:08:06 PM PLOT BY : MatthewHeSandvik DRV :Pdf_bw_HS.plt PEN :CEL_TEXTSUB.TBL

STATE PROJECT NUMBER

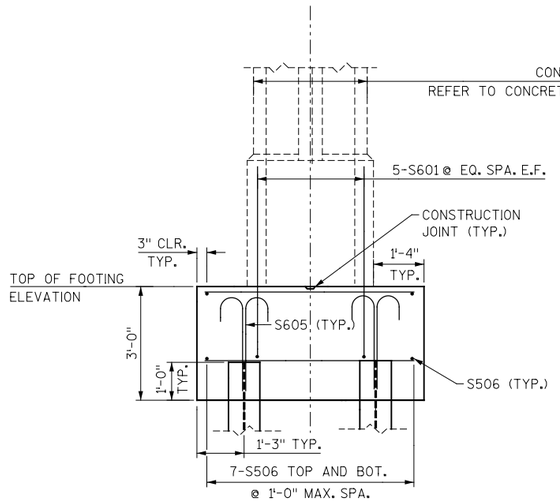
1133-09-76



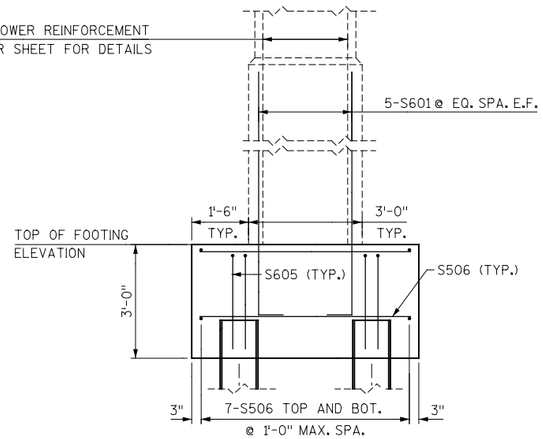
PLAN VIEW



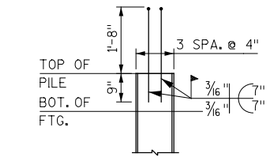
PILE SPLICE DETAIL



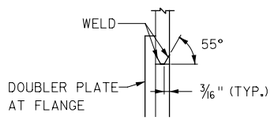
ELEVATION VIEW



END VIEW



PILE HEAD DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S409	4 SERIES OF 4	7'-10" TO 9'-4"
S410	2 SERIES OF 4	3'-4" TO 4'-11"
S411	2 SERIES OF 4	3'-9" TO 4'-5"

BUNDLE AND TAG EACH SERIES SEPARATELY

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S601	X	32	6'-11"	▲		VERT. REINF., BASE OF TOWER
S402	X	10	3'-8"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S403	X	10	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S404	X	10	11'-10"	▲		HORZ. STIRRUP, BASE OF TOWER
S605		32	3'-1"	▲		WELDED TO PILES
S506		56	5'-6"			HORZ. REINF., PILE CAP
S407	X	24	2'-4"			VERT. REINF., TOP OF TOWER
S408	X	8	5'-0"	▲		VERT. REINF., TOP OF TOWER
S409	X	16	8'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S410	X	8	4'-2"	▲	△	HORZ. CROSSTIE, TOP OF TOWER
S411	X	8	4'-1"	▲	△	HORZ. CROSSTIE, TOP OF TOWER
S612	X	16	19'-2"			VERT. REINF., MIDDLE OF TOWER 1
S413	X	54	4'-6"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S414	X	4	12'-2"			VERT. REINF., MIDDLE OF TOWER 1
S415	X	35	3'-3"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S416	X	35	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	35	10'-2"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S618	X	16	20'-2"			VERT. REINF., MIDDLE OF TOWER 2
S419	X	4	13'-2"			VERT. REINF., MIDDLE OF TOWER 2

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

FOUNDATION DATA

SIGN BRIDGE TOWER 1 TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 71 FEET LONG.

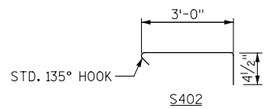
SIGN BRIDGE TOWER 2 TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 71 FEET LONG.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

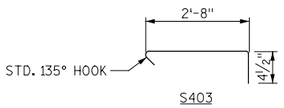
IF THE PILE OBTAINS A CAPACITY AT A LENGTH THAT IS MORE THAN 10 FEET SHORTER THAN THE ESTIMATED LENGTH, THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR APPROVAL.

STEEL HP PILE MATERIAL SHALL BE A.S.T.M. A572. Fy=50,000 psi. PILE SPLICES (IF REQUIRED) SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES.

WELDING OF THE REINFORCEMENT BARS TO THE PILES SHALL BE MADE BY A CERTIFIED WELDER USING LOW HYDROGEN ELECTRODES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PILING STEEL HP 12-INCH X 53 LB".



S402



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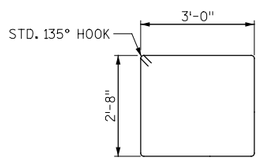

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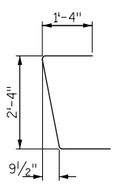

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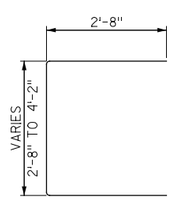

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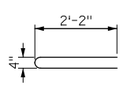

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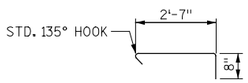

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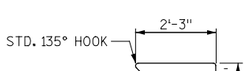

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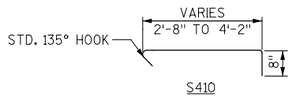

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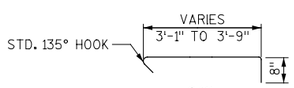

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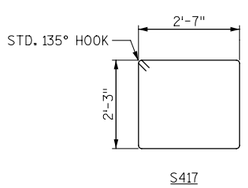

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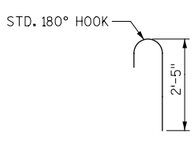


S605

S601

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-230

CONST. SPEC. 2010	DRAWN BY MJH	PLANS CK'D. CES

CONCRETE TOWER FOUNDATION DETAILS

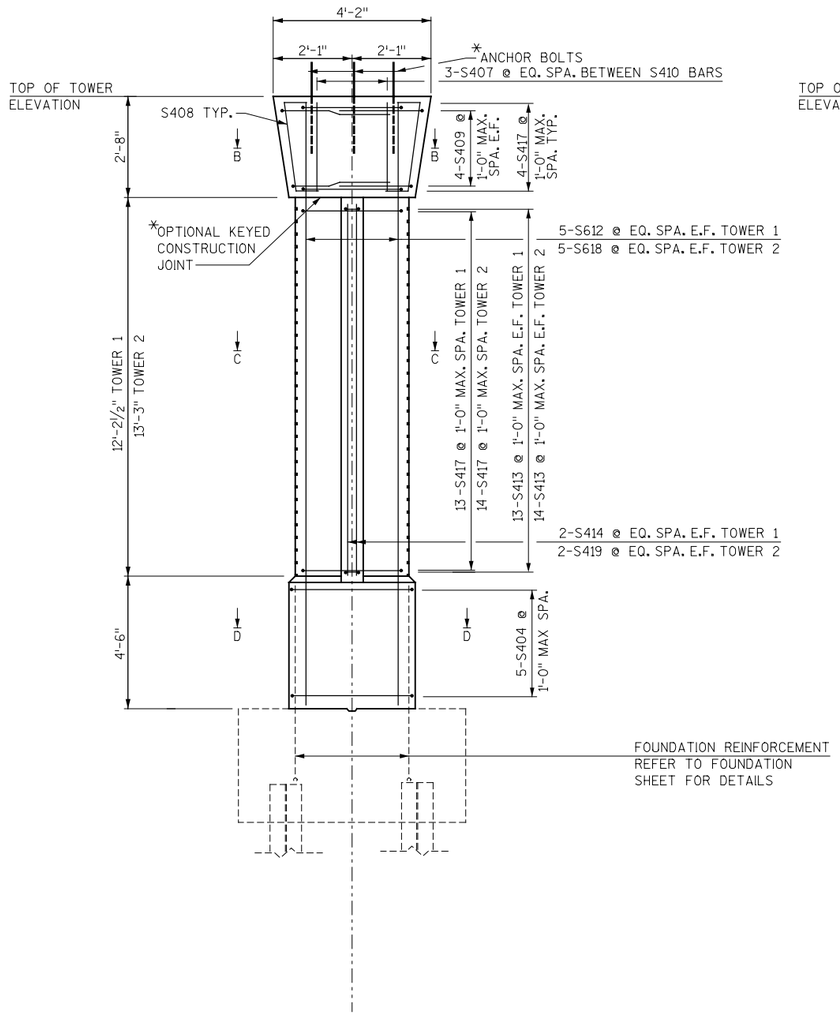
SHEET 3 OF 6

2720

8

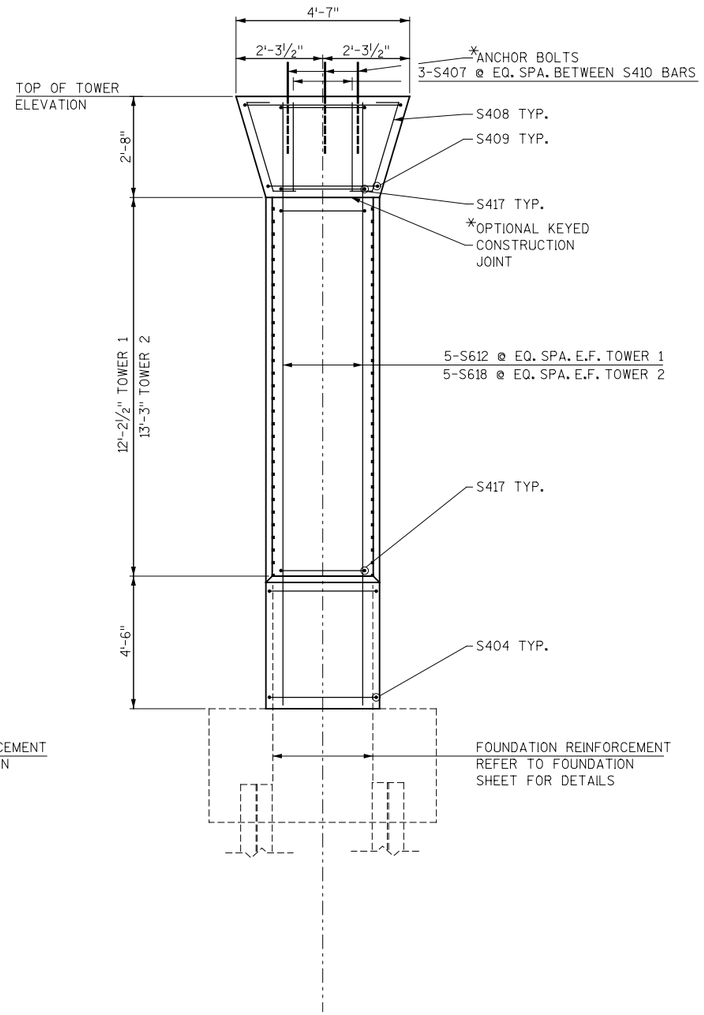
8

FILE NAME :S-05-230.dgn
PLOT DATE :2/8/2013 3:08:07 PM PLOT BY : MatthewHeiland48 DRV :Pdf_bw.HS.plt PEN :CEL.TEXTSUB.TBL



ELEVATION VIEW

S402, S403, S410, S411, S415 AND S416 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S402, S403, S410, S411, S415 AND S416 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

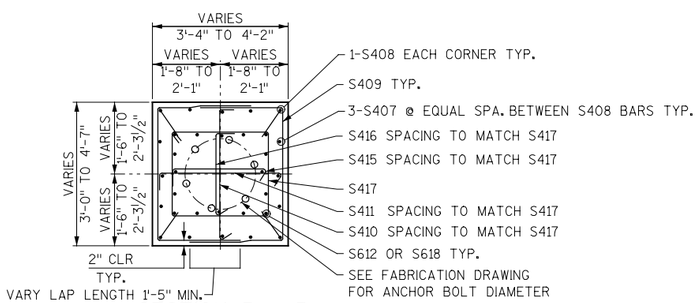
"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

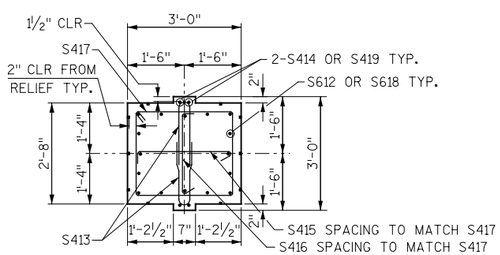
REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

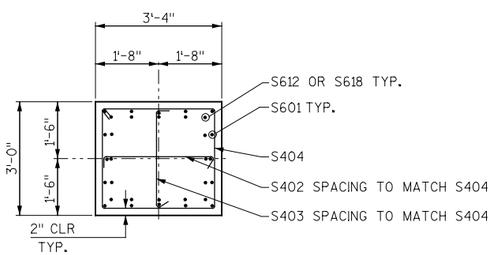
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.



SECTION B - B



SECTION C - C



SECTION D - D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-230

CONST. SPEC. 2010	DRAWN BY MJH	PLANS CK'D. CES

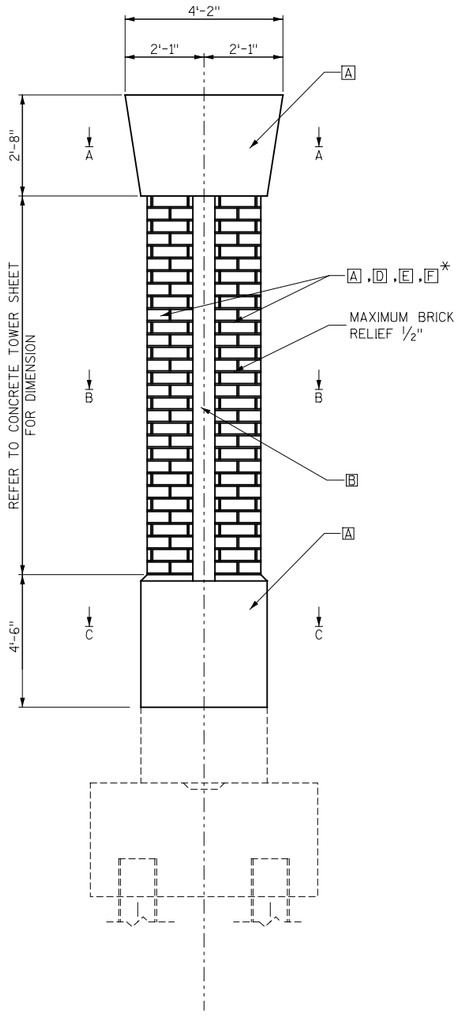
CONCRETE TOWER DETAILS

SHEET 4 OF 6
2721

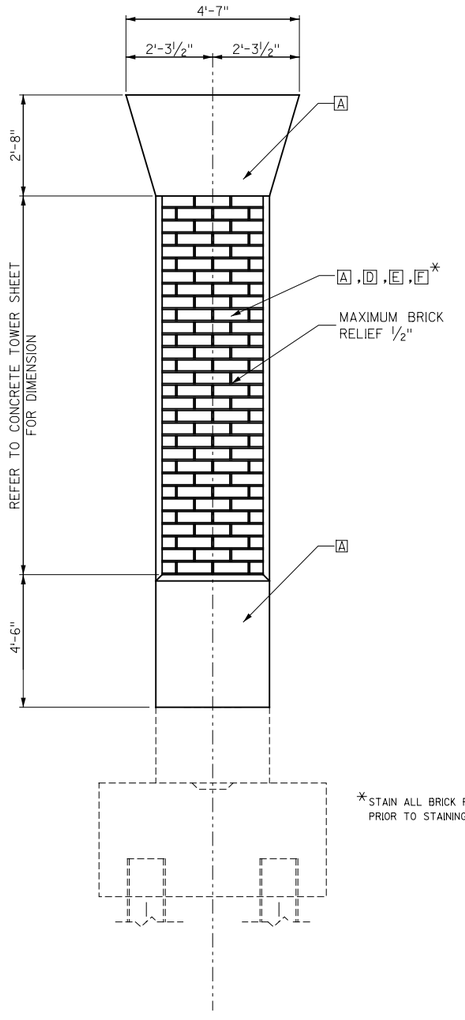
FILE NAME :S-05-230.dgn
PLOT DATE :2/8/2013 10:08:08 PM PLOT BY : MatthewHeiland v8i DRV :Pdf_bw_HS.plt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER

1133-09-76

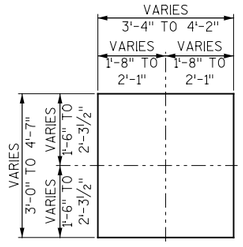


ELEVATION VIEW

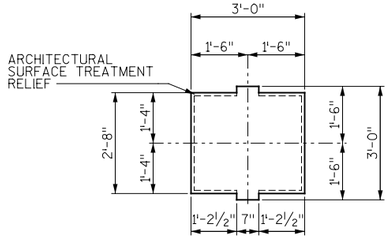


END VIEW

*STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.



SECTION A - A



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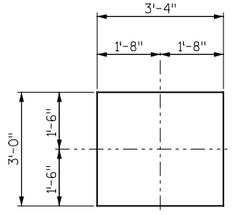


SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

*STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-230

CONST. SPEC. 2010	DRAWN BY MJH	PLANS CK'D. CES

CONCRETE TOWER AESTHETIC DETAILS

SHEET 5 OF 6

2722

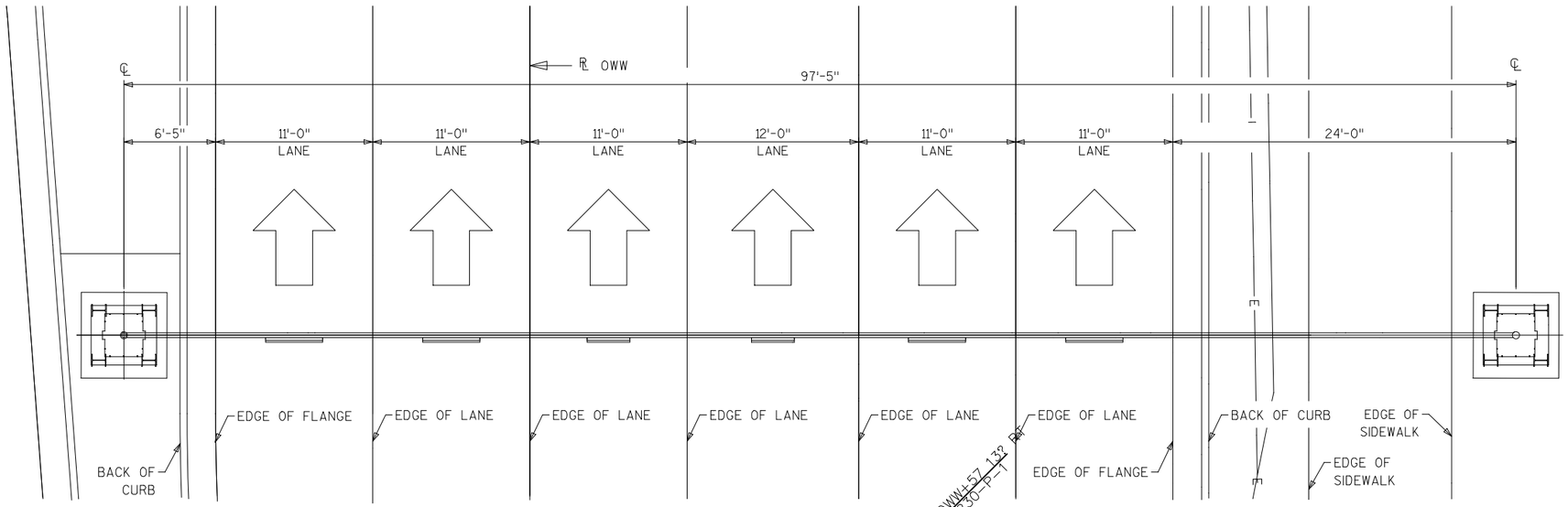
8

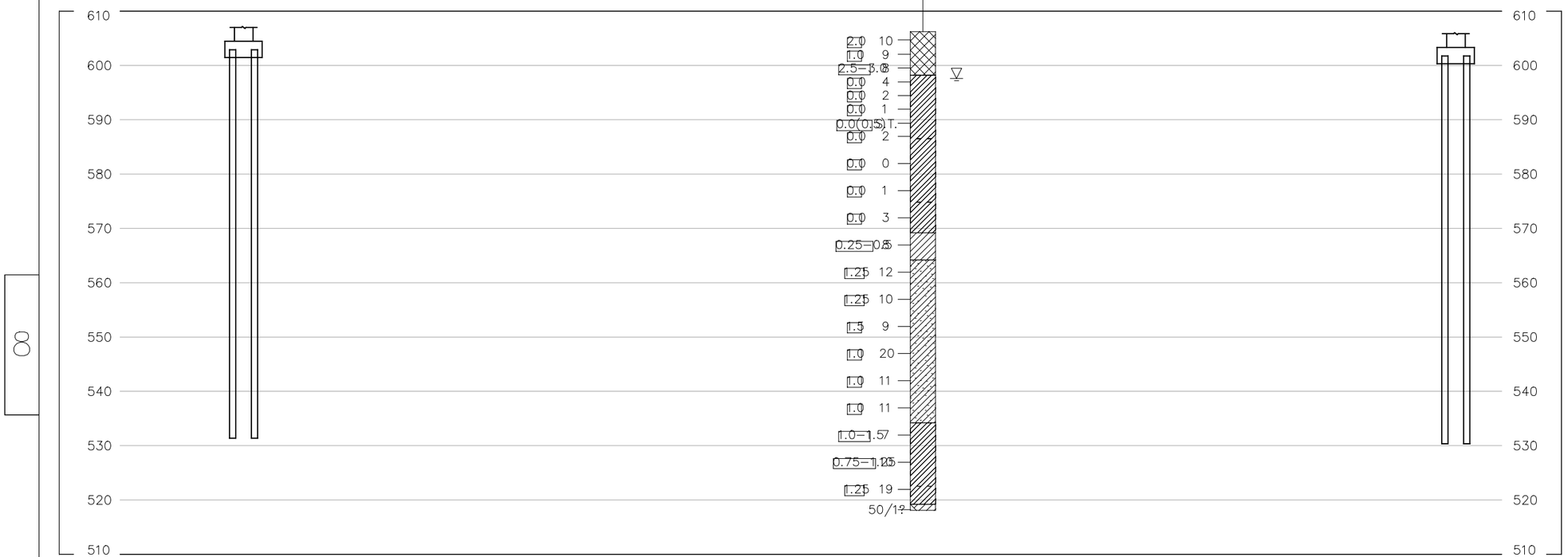
8

FILE NAME :S-05-230.dgn
PLOT DATE :2/8/2013 3:08:08 PM PLOT BY : MatthewHe@andv81 DRV :Pdf_bw_HS.plt PEN :CEL_TEXTSUB.TBL

USH-41 (S-05-230)
05-BROWN, WI

S230-P1





STATE PROJECT NUMBER

1133-09-76

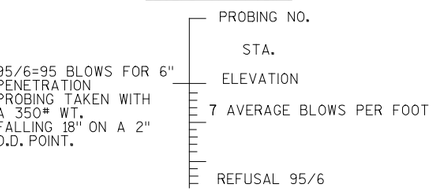
ABBREVIATIONS

F— FINE M— MEDIUM C— COARSE
WS— WEATHERED SO — SOUND

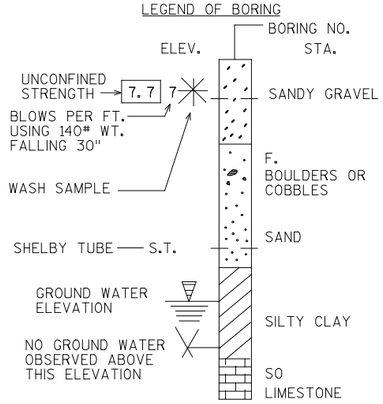
MATERIAL SYMBOLS

TOPSOIL SILT FAT CLAY
SAND PEAT DOLOMITE
GRAVEL CLAY FILL

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-230

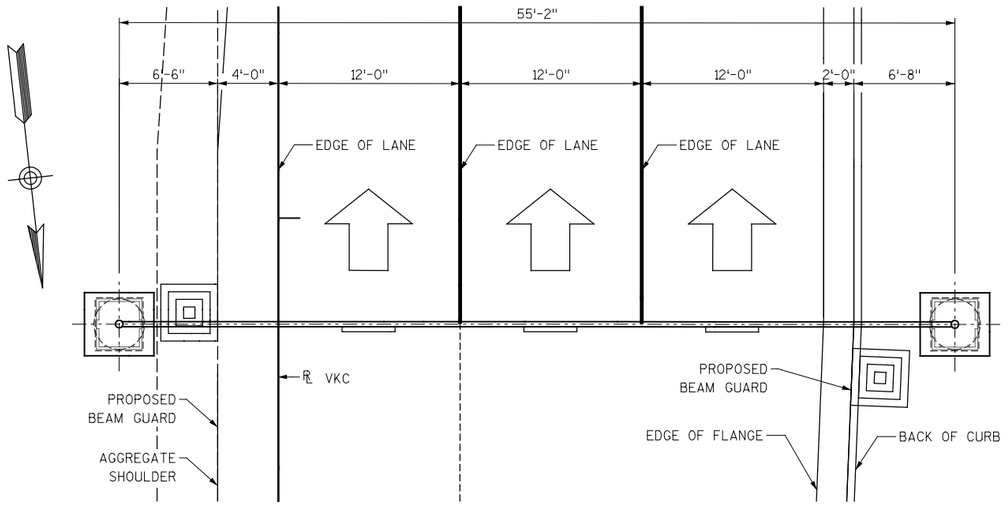
DRAWN BY RE | PLANS CK'D. DB

SUBSURFACE EXPLORATION

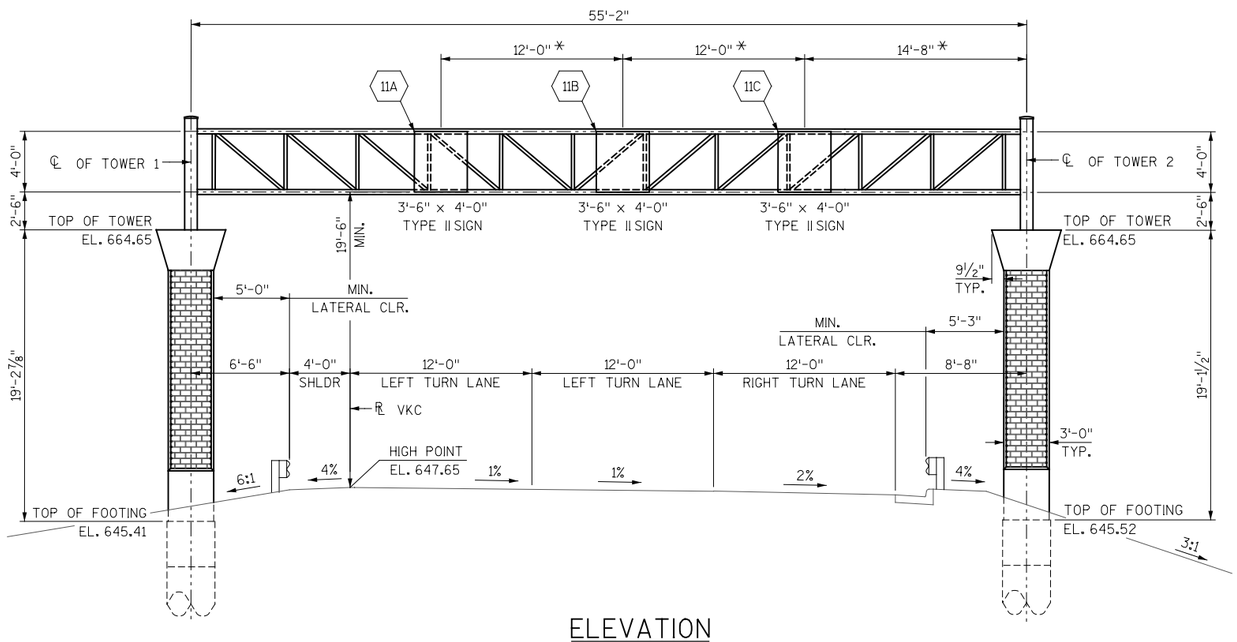
SHEET 6 OF 6

2723

SCALE 1?=10?



PLAN
STA. 986VKC+82



ELEVATION
(LOOKING SOUTH AT FRONT FACE OF SIGNS)

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CONCRETE TOWER FOUNDATION DETAILS
3. CONCRETE TOWER DETAILS
4. CONCRETE TOWER AESTHETIC DETAILS

ULTIMATE DESIGN STRESSES:

CONCRETE: .....f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

FOUNDATION DATA

THE FOLLOWING SOIL PARAMETERS WERE USED FOR THE DESIGN OF THE FOUNDATION SYSTEM. IF VARIATIONS IN THE SOIL PARAMETERS ARE FOUND DURING CONSTRUCTION NOTIFY PROJECT ENGINEER FOR REQUIRED MODIFICATION TO THE FOUNDATION SYSTEM.

ELEVATION 605.00 TO GROUND SURFACE
SOIL UNIT WEIGHT = 120 pcf
COHESION VALUE = 700 psf
FRICTION ANGLE = 28°
ALLOWABLE SOIL BEARING PRESSURE = 2500 psf
ALLOWABLE SKIN FRICTION = 400 psf

GROUNDWATER ELEVATION IS ESTIMATED TO BE LOCATED AT ELEVATION 640.00 FEET.

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
42	4'-0"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

OVERHEAD SIGN SUPPORTS SHALL BE DESIGNED AND FABRICATED USING STEEL.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND OVERHEAD SIGN SUPPORT.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ABOVE THE DRILLED SHAFTS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE OVERHEAD SIGN SUPPORT IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 -¼" DIAMETER BY 1-¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "OVERHEAD SIGN SUPPORT S-05-233".

DESIGN NEW OVERHEAD SIGN SUPPORT ACCORDING TO THE LATEST EDITION OF, AND SUPPLEMENTAL TO THE STATE OF WISCONSIN "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION" AND AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS."

DESIGN THE STRUCTURE BASE PLATE CONNECTION TO ACCOMMODATE A MINIMUM OF SIX (6) ANCHOR BOLTS.

SIZE THE ANCHOR BOLT / TEMPLATE ASSEMBLY TO FIT WITHIN THE BAR CAGE OF THE TOWER SHOWN IN THE CONTRACT PLANS IN ADDITION TO MEETING ALL APPLICABLE DESIGN REQUIREMENTS FOR THE DESIGN OF THE UPRIGHT BASE CONNECTION. PROVIDE A TOP AND BOTTOM ANCHOR BOLT TEMPLATE. THE BOTTOM ANCHOR BOLT TEMPLATE SHALL BE PERMANENT WITH A MAXIMUM O.D. OF 22".

SIGNS OR BLANKS SHALL BE INSTALLED ON THE OVERHEAD SIGN SUPPORT AT THE TIME OF ERECTION. BLANKS, IF USED, SHALL BE OF THE SAME SIZE AND LOCATION AS PERMANENT SIGNS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "OVERHEAD SIGN SUPPORT S-05-233 "

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

(##) - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

PROVIDE ROUND CHORDS WITH WEB MEMBERS ATTACHED BY GUSSET PLATES.

* SIGN PANEL DIMENSIONS ARE TO THE CENTER OF THE SIGN PANEL. CONTRACTOR TO FIELD VERIFY SIGN PANEL DISPLAYS CORRELATE WITH ROADWAY LANE LAYOUT.

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	23
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	910
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	2200
641.8100.953	OVERHEAD SIGN SUPPORT S-05-233	LS	1
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	250
SPV.0165.501	STAINING CONCRETE	SF	440
SPV.0165.502	STAINING CONCRETE BRICK	SF	250

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-233

DE PERE - SUAMICO

COUNTY: BROWN
~~TOWN/CITY~~/VILLAGE: ASHWAUBENON

DESIGN SPEC.
AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CES	SJM	MJH	CES

PLAN & ELEVATION

SHEET 1 OF 4
2724

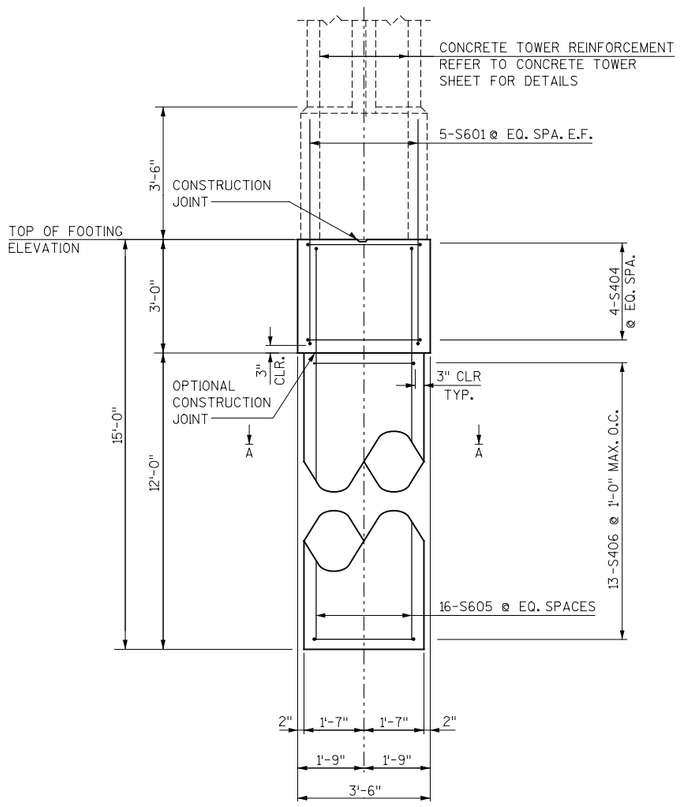
8

8

FILE NAME :S-05-0233.dgn
PLOT DATE :2/6/2013 125306 PM PLOT BY : Veronica Chavez-Rl DRV :Pdf_bw_HS.by levelplt PEN :CEL_TextSub_ScreenControlByLevel.tbl

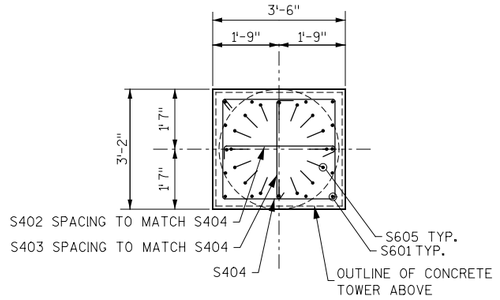
STATE PROJECT NUMBER

1133-03-77



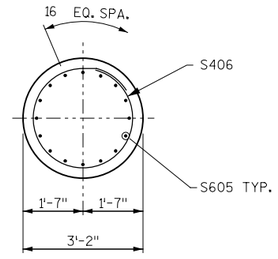
ELEVATION VIEW

S402 AND S403 NOT SHOWN FOR CLARITY. REFER TO PLAN VIEW



PLAN VIEW

CONCRETE TOWER REINFORCEMENT OMITTED FOR CLARITY



SECTION A - A

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S601	X	32	6'-9"	▲		CAP BEAM VERTICAL
S402	X	16	3'-8"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S403	X	16	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S404	X	16	11'-10"	▲		CAP BEAM STIRRUP
S605		32	15'-4"	▲		DRILLED SHAFT VERTICAL
S406		26	9'-10"	▲		DRILLED SHAFT HOOP
S407	X	24	2'-4"			VERT. REINF., TOP OF TOWER
S408	X	8	5'-0"	▲		VERT. REINF., TOP OF TOWER
S409	X	16	8'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S410	X	8	4'-2"	▲	△	HORZ. CROSSTIE, TOP OF TOWER
S411	X	8	4'-1"	▲	△	HORZ. CROSSTIE, TOP OF TOWER
S612	X	16	18'-3"			VERT. REINF., MIDDLE OF TOWER 1
S413	X	52	4'-6"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S414	X	4	12'-3"			VERT. REINF., MIDDLE OF TOWER 1
S415	X	34	3'-3"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S416	X	34	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	34	10'-2"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S618	X	16	18'-2"			VERT. REINF., MIDDLE OF TOWER 2
S419	X	4	12'-2"			VERT. REINF., MIDDLE OF TOWER 2

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S409	4 SERIES OF 4	7'-10" TO 9'-4"
S410	2 SERIES OF 4	3'-4" TO 4'-11"
S411	2 SERIES OF 4	3'-9" TO 4'-5"

BUNDLE AND TAG EACH SERIES SEPARATELY

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

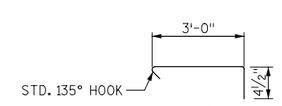
REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

THE BOTTOM OF THE DRILLED HOLE SHALL BE FIRM AND THOROUGHLY CLEANED SO NO LOOSE OR COMPRESSIBLE MATERIALS ARE PRESENT AT THE TIME OF THE CONCRETE PLACEMENT.

IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

IF THE ENGINEER DETERMINES THE POSSIBILITY OF CAVE-INS, OR SOIL DISPLACEMENT FROM THE WALLS EXISTS, OR IF NECESSARY TO SHUT OFF SEEPAGE WATER, THEN LINE THE REMAINING DEPTH OF THE FOOTING SHAFT WITH A SUITABLE TEMPORARY CASING. PROVIDE, INSTALL AND REMOVE THE TEMPORARY CASING ACCORDING TO SECTION 636 OF THE STANDARD SPECIFICATIONS.



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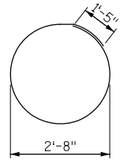

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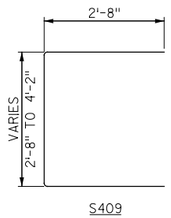

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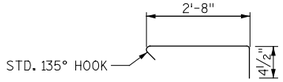

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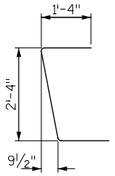

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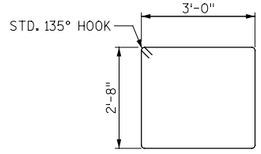

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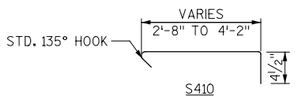

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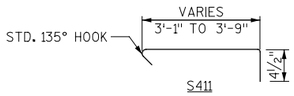

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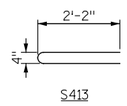

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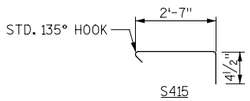

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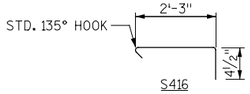

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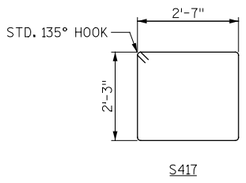


S417

S605

S601

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-233

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER FOUNDATION DETAILS

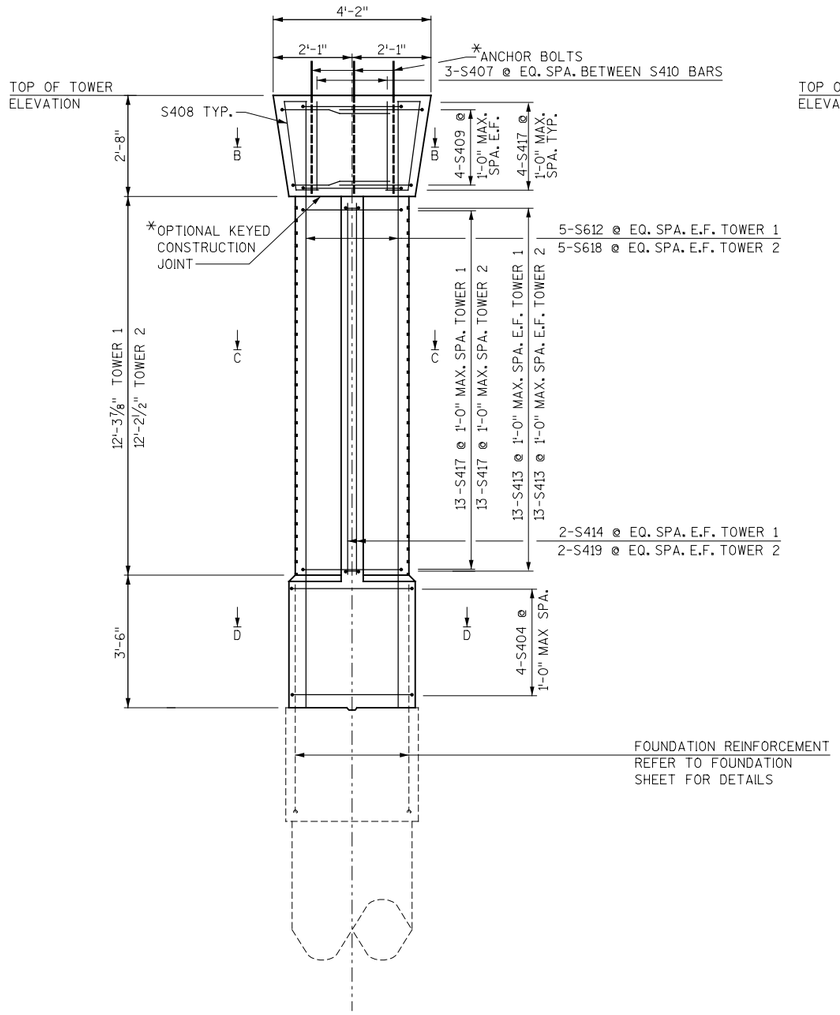
SHEET 2 OF 4

2725

8

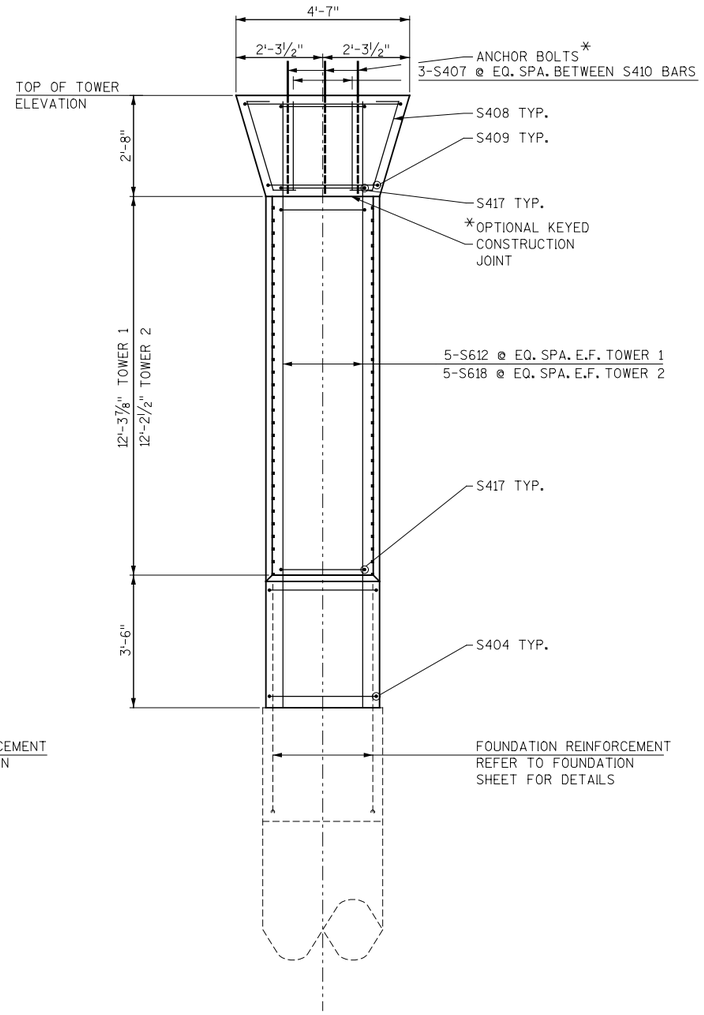
8

FILE NAME :S-05-0233.dgn
PLOT DATE :2/6/2015 10:30:8 PM PLOT BY : Veronica Chavezvill DRV :Pdf_bw_HS.by levelplt PEN :CEL_TextSub_ScreenControlByLevel.tbl



ELEVATION VIEW

S402, S403, S410, S411, S415 AND S416 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S402, S403, S410, S411, S415 AND S416 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

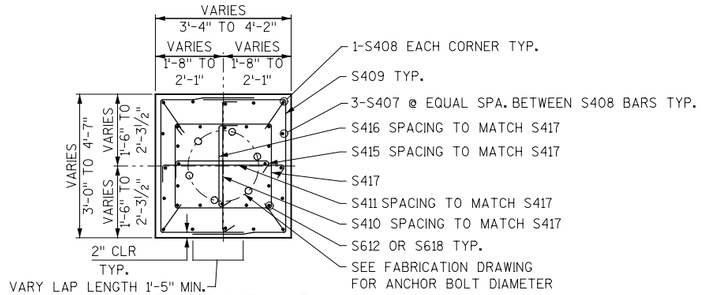
"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

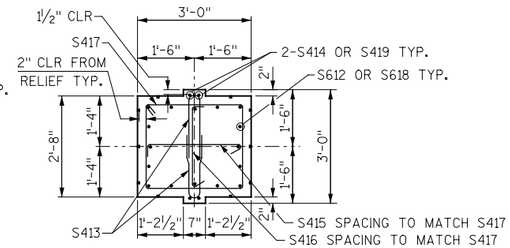
REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" x 6" x 1'-6" LONG BEVELED KEYWAY.

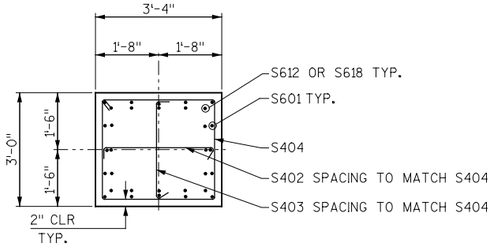
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.



SECTION B - B



SECTION C - C



SECTION D - D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-233

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER DETAILS

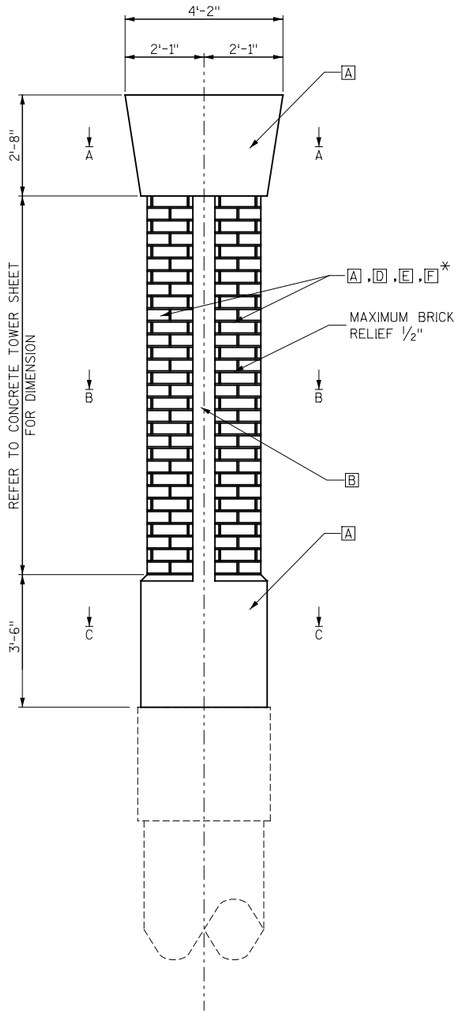
SHEET 3 OF 4
2726

8

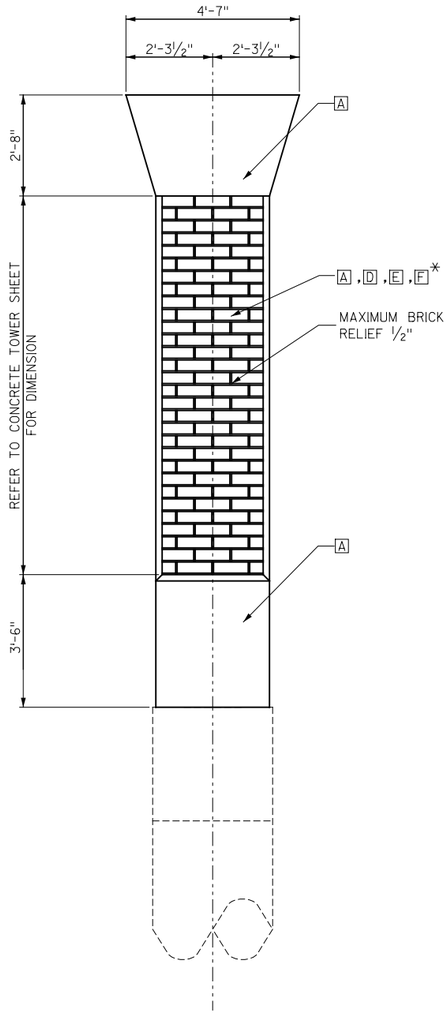
FILE NAME :S-05-0233.dgn
PLOT DATE :2/6/2015 15:30:9 PM PLOT BY : Veronica Chavezvill DRV :Pdf_bw_HS.by levelplt PEN :CEL_TextSub_ScreenControlByLevel.tbl

STATE PROJECT NUMBER

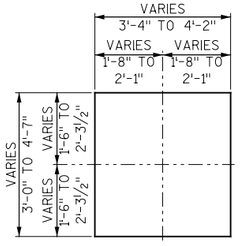
1133-03-77



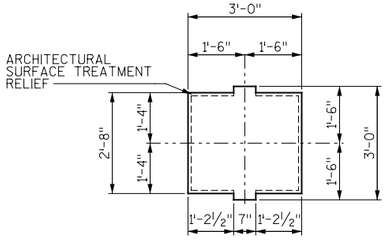
ELEVATION VIEW



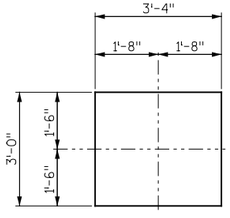
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

*STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-233

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER AESTHETIC DETAILS

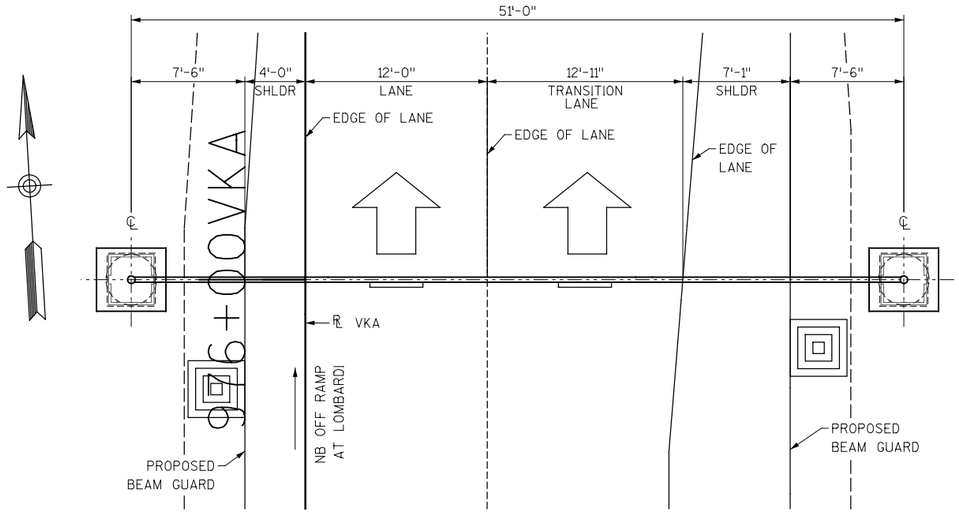
SHEET 4 OF 4

2727

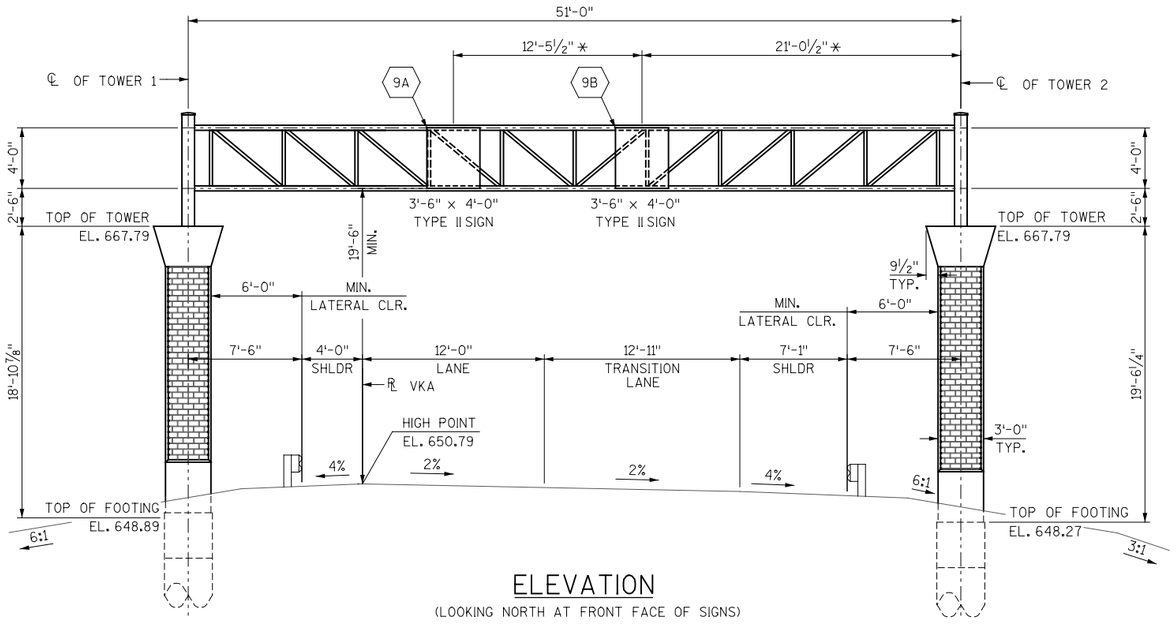
8

8

FILE NAME :S-05-0233.dgn
PLOT DATE :2/6/2013 12:33:10 PM PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS.by level.plt PEN :CEL_TextSub_ScreenControlByLevel.tbl



PLAN
STA. 976VKA+00



ELEVATION
(LOOKING NORTH AT FRONT FACE OF SIGNS)

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CONCRETE TOWER FOUNDATION DETAILS
3. CONCRETE TOWER DETAILS
4. CONCRETE TOWER AESTHETIC DETAILS

ULTIMATE DESIGN STRESSES:

CONCRETE: .....f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT: .....fy = 60,000 psi

FOUNDATION DATA

THE FOLLOWING SOIL PARAMETERS WERE USED FOR THE DESIGN OF THE FOUNDATION SYSTEM. IF VARIATIONS IN THE SOIL PARAMETERS ARE FOUND DURING CONSTRUCTION NOTIFY PROJECT ENGINEER FOR REQUIRED MODIFICATION TO THE FOUNDATION SYSTEM.

ELEVATION 605.00 TO GROUND SURFACE
SOIL UNIT WEIGHT = 120 pcf
COHESION VALUE = 700 psf
FRICTION ANGLE = 28°
ALLOWABLE SOIL BEARING PRESSURE = 2500 psf
ALLOWABLE SKIN FRICTION = 400 psf

GROUNDWATER ELEVATION IS ESTIMATED TO BE LOCATED AT ELEVATION 640.00 FEET.

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
28	4'-0"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

OVERHEAD SIGN SUPPORTS SHALL BE DESIGNED AND FABRICATED USING STEEL.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF CONCRETE TOWERS AND OVERHEAD SIGN SUPPORT.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE TOWER FOUNDATION ABOVE THE DRILLED SHAFTS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE OVERHEAD SIGN SUPPORT IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. FASTEN THE IDENTIFICATION PLAQUE TO THE TOWER USING 3 -¼" DIAMETER BY 1-¾" LONG STAINLESS STEEL CONCRETE SCREWS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "OVERHEAD SIGN SUPPORT S-05-237".

DESIGN NEW OVERHEAD SIGN SUPPORT ACCORDING TO THE LATEST EDITION OF, AND SUPPLEMENTAL TO THE STATE OF WISCONSIN "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION" AND AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS."

DESIGN THE STRUCTURE BASE PLATE CONNECTION TO ACCOMMODATE A MINIMUM OF SIX (6) ANCHOR BOLTS.

SIZE THE ANCHOR BOLT / TEMPLATE ASSEMBLY TO FIT WITHIN THE BAR CAGE OF THE TOWER SHOWN IN THE CONTRACT PLANS IN ADDITION TO MEETING ALL APPLICABLE DESIGN REQUIREMENTS FOR THE DESIGN OF THE UPRIGHT BASE CONNECTION. PROVIDE A TOP AND BOTTOM ANCHOR BOLT TEMPLATE. THE BOTTOM ANCHOR BOLT TEMPLATE SHALL BE PERMANENT WITH A MAXIMUM O.D. OF 22".

SIGNS OR BLANKS SHALL BE INSTALLED ON THE OVERHEAD SIGN SUPPORT AT THE TIME OF ERECTION. BLANKS, IF USED, SHALL BE OF THE SAME SIZE AND LOCATION AS PERMANENT SIGNS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "OVERHEAD SIGN SUPPORT S-05-237 "

THE SIGN SUPPORTS CONCRETE MASONRY QUANTITY IS BASED ON THE OUT-TO-OUT CONCRETE DIMENSIONS. NO DEDUCTIONS IN QUANTITY FOR THE ARCHITECTURAL SURFACE TREATMENT RELIEF HAVE BEEN MADE.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

⬡ ## - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

PROVIDE ROUND CHORDS WITH WEB MEMBERS ATTACHED BY GUSSET PLATES.

* SIGN PANEL DIMENSIONS ARE TO THE CENTER OF THE SIGN PANEL. CONTRACTOR TO FIELD VERIFY SIGN PANEL DISPLAYS CORRELATE WITH ROADWAY LANE LAYOUT.

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER
Steven J. Miller
2/8/2013

CONTACTS

BUREAU OF STRUCTURES CONTACT
BILL DREHER: (608) 266-8489

CONSULTANT CONTACT, COLLINS ENGINEERS, INC.
STEVE J. MILLER: (414) 282-6905

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	23
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	910
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	2290
641.8100.954	OVERHEAD SIGN SUPPORT S-05-237	LS	1
SPV.0165.500	ARCHITECTURAL SURFACE TREATMENT	SF	270
SPV.0165.501	STAINING CONCRETE	SF	460
SPV.0165.502	STAINING CONCRETE BRICK	SF	270

STATE PROJECT NUMBER
1133-03-77

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/08/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-05-237

DE PERE - SUAMICO

COUNTY: BROWN
~~TOWN/CITY~~/VILLAGE: ASHWAUBENON

DESIGN SPEC.: AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CES	SJM	MJH	CES

PLAN & ELEVATION

SHEET 1 OF 4
2728

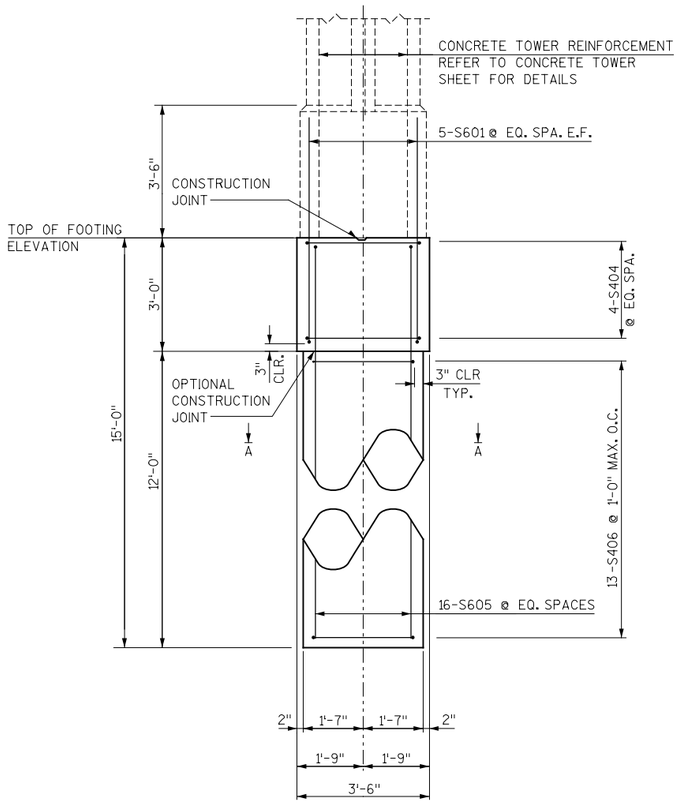
8

8

FILE NAME :S-05-0237.dgn
PLOT DATE :2/6/2013 PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS.by level.plt PEN :CEL.TextSub_ScreenControlByLevel.tbl

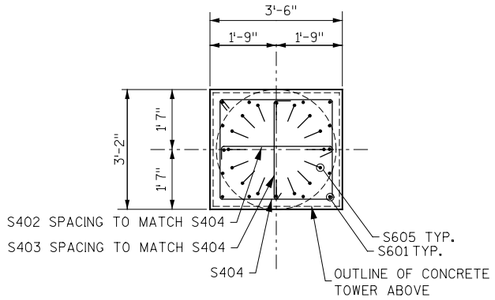
STATE PROJECT NUMBER

1133-03-77



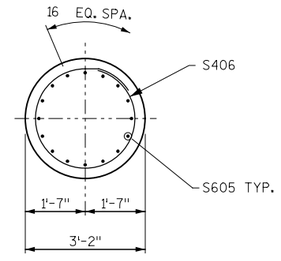
ELEVATION VIEW

S402 AND S403 NOT SHOWN FOR CLARITY. REFER TO PLAN VIEW



PLAN VIEW

CONCRETE TOWER REINFORCEMENT OMITTED FOR CLARITY



SECTION A - A

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S601	X	32	6'-9"	▲		CAP BEAM VERTICAL
S402	X	16	3'-8"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S403	X	16	3'-4"	▲		HORZ. CROSSTIE, BOTTOM OF TOWER
S404	X	16	11'-10"	▲		CAP BEAM STIRRUP
S605		32	15'-4"	▲		DRILLED SHAFT VERTICAL
S406		26	9'-10"	▲		DRILLED SHAFT HOOP
S407	X	24	2'-4"			VERT. REINF., TOP OF TOWER
S408	X	8	5'-0"	▲		VERT. REINF., TOP OF TOWER
S409	X	16	8'-7"	▲	△	HORZ. STIRRUP, TOP OF TOWER
S410	X	8	4'-2"	▲	△	HORZ. CROSSTIE, TOP OF TOWER
S411	X	8	4'-1"	▲	△	HORZ. CROSSTIE, TOP OF TOWER
S612	X	16	18'-8"			VERT. REINF., MIDDLE OF TOWER 1
S413	X	58	4'-6"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S414	X	4	12'-8"			VERT. REINF., MIDDLE OF TOWER 1
S415	X	37	3'-3"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S416	X	37	2'-11"	▲		HORZ. CROSSTIE, MIDDLE OF TOWER
S417	X	37	10'-2"	▲		HORZ. STIRRUP, MIDDLE OF TOWER
S618	X	16	19'-4"			VERT. REINF., MIDDLE OF TOWER 2
S419	X	4	13'-4"			VERT. REINF., MIDDLE OF TOWER 2

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S409	4 SERIES OF 4	7'-10" TO 9'-4"
S410	2 SERIES OF 4	3'-4" TO 4'-11"
S411	2 SERIES OF 4	3'-9" TO 4'-5"

BUNDLE AND TAG EACH SERIES SEPARATELY

FOUNDATION NOTES

DRAWING SHALL NOT BE SCALED.

"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR, UNLESS OTHERWISE NOTED.

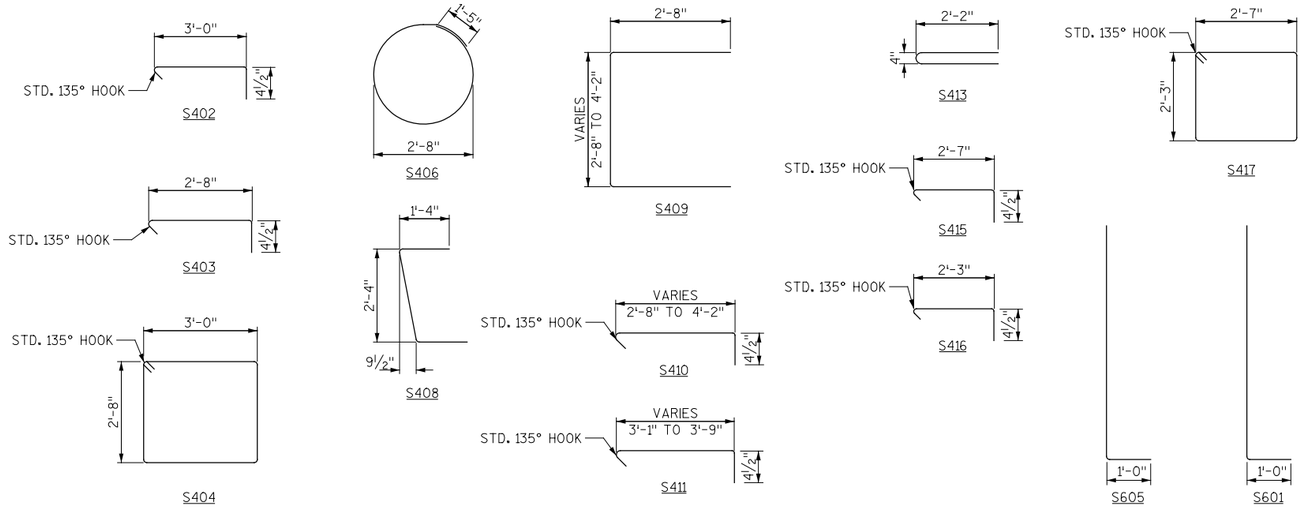
REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

THE BOTTOM OF THE DRILLED HOLE SHALL BE FIRM AND THOROUGHLY CLEANED SO NO LOOSE OR COMPRESSIBLE MATERIALS ARE PRESENT AT THE TIME OF THE CONCRETE PLACEMENT.

IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

IF THE ENGINEER DETERMINES THE POSSIBILITY OF CAVE-INS, OR SOIL DISPLACEMENT FROM THE WALLS EXISTS, OR IF NECESSARY TO SHUT OFF SEEPAGE WATER, THEN LINE THE REMAINING DEPTH OF THE FOOTING SHAFT WITH A SUITABLE TEMPORARY CASING. PROVIDE, INSTALL AND REMOVE THE TEMPORARY CASING ACCORDING TO SECTION 636 OF THE STANDARD SPECIFICATIONS.



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-237

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER FOUNDATION DETAILS

SHEET 2 OF 4

2729

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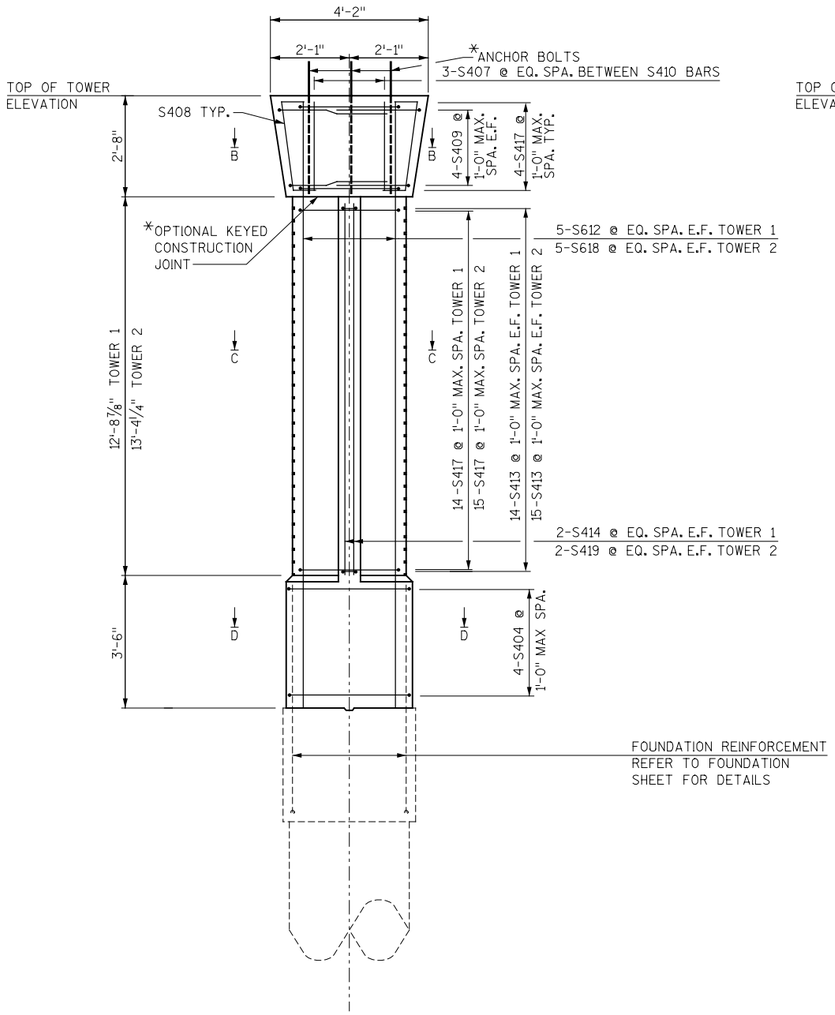
FILE NAME :S-05-023T.dgn
PLOT DATE :2/6/2013 3:50:09 PM PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS.by levelplt PEN :CEL_TextSub_ScreenControlByLevel.tbl

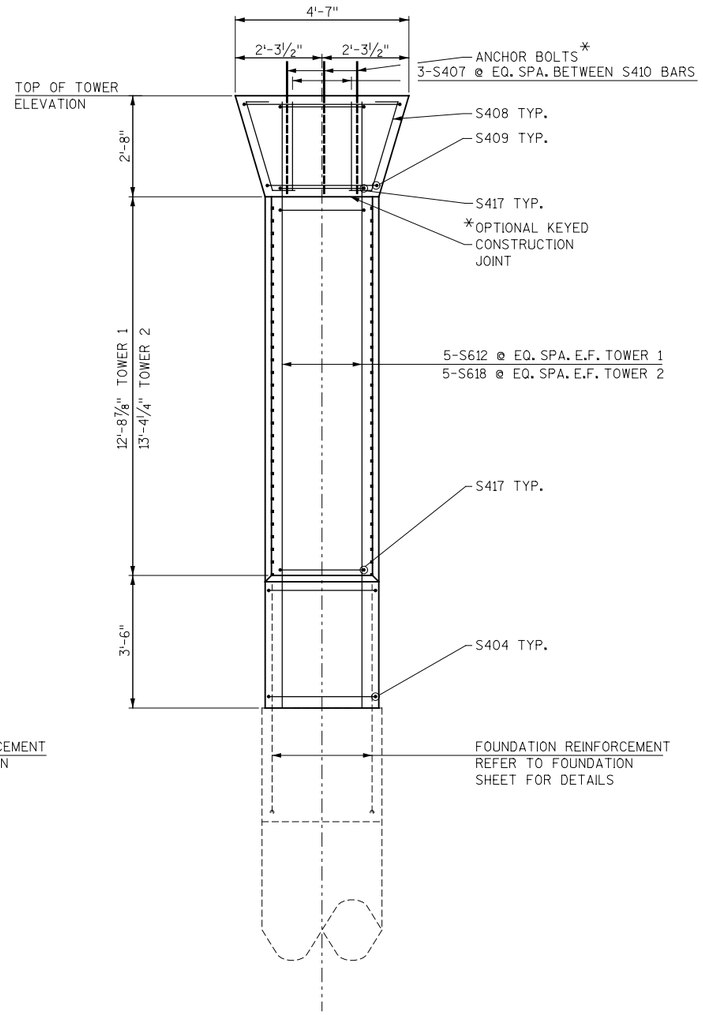
STATE PROJECT NUMBER

1133-03-77



ELEVATION VIEW

S402, S403, S410, S411, S415 AND S416 NOT SHOWN FOR CLARITY. REFER TO SECTIONS



END VIEW

S402, S403, S410, S411, S415 AND S416 NOT SHOWN FOR CLARITY. REFER TO SECTIONS

TOWER NOTES

DRAWING SHALL NOT BE SCALED.

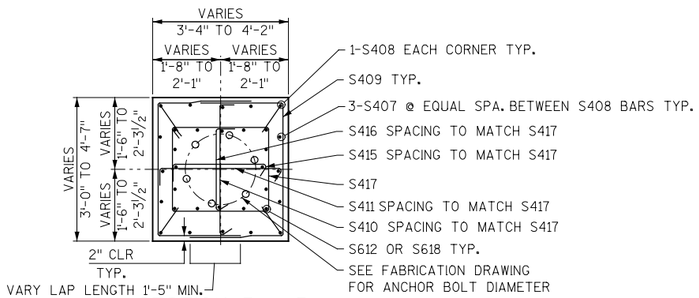
"E.F." SIGNIFIES EACH FACE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR FROM THE FACE OF THE SMOOTH CONCRETE AND 2½" FROM THE FACE OF THE ARCHITECTURAL SURFACE TREATMENT, UNLESS OTHERWISE NOTED.

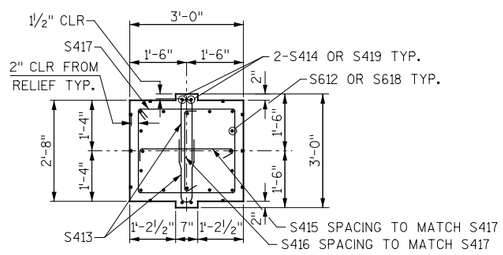
REFER TO THE RESPECTIVE PLAN AND ELEVATION SHEET FOR TOP OF TOWER ELEVATION.

ALL CONSTRUCTION JOINTS SHALL BE FORMED BY A 2" × 6" × 1'-6" LONG BEVELED KEYWAY.

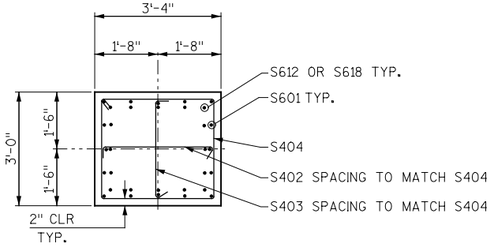
* PLACE ANCHOR BOLTS PRIOR TO POURING MIDDLE SECTION OF CONCRETE TOWER. OPTIONAL KEYED CONSTRUCTION JOINT MAY BE LOCATED AT A GROUT LINE BELOW THE ANCHOR ASSEMBLIES. THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT. OMIT JOINT BEVELED EDGES.



SECTION B - B



SECTION C - C



SECTION D - D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-237

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER DETAILS

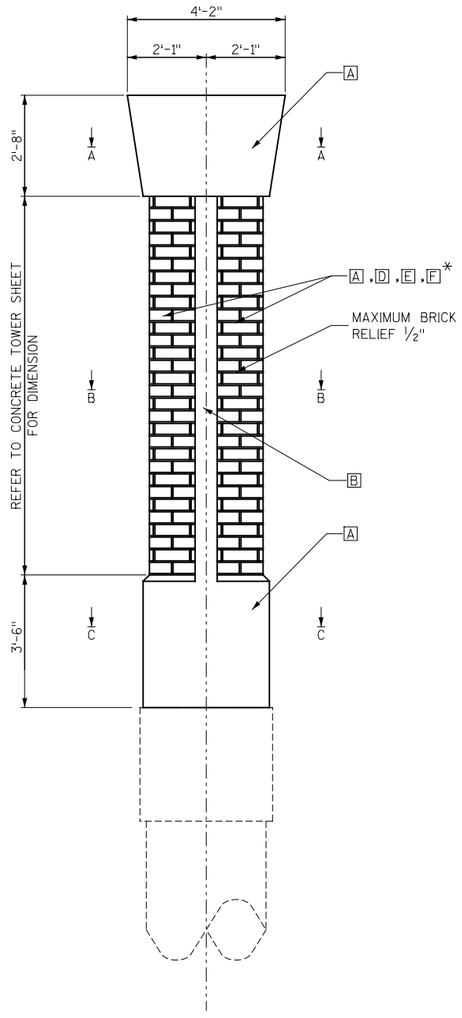
SHEET 3 OF 4
2730

8

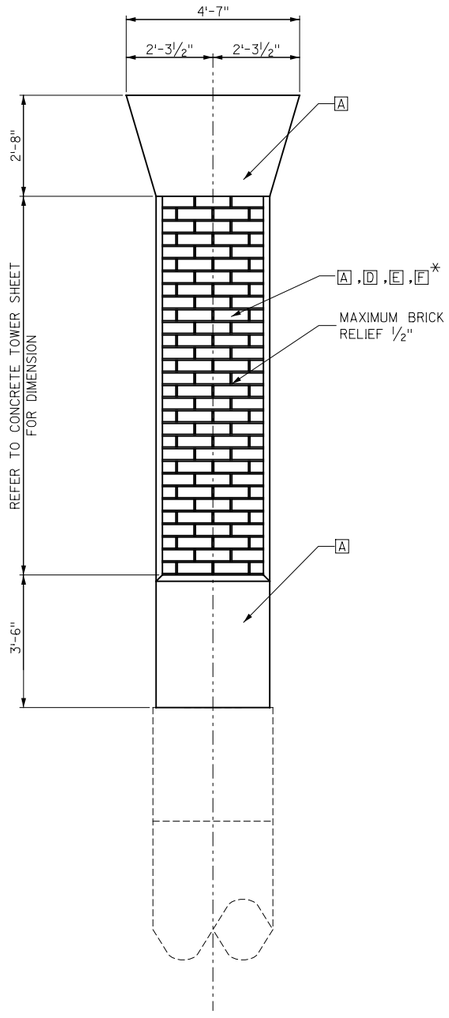
FILE NAME :S-05-0237.dgn
PLOT DATE :2/6/2013 10:00:10 PM PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS.by levelzit PEN :CEL.TextSub_ScreenControlByLevel.tbl

STATE PROJECT NUMBER

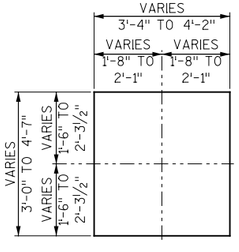
1133-03-77



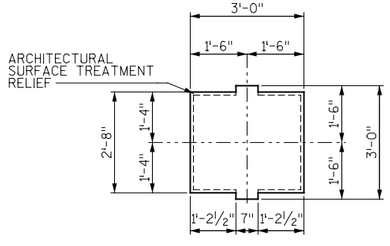
ELEVATION VIEW



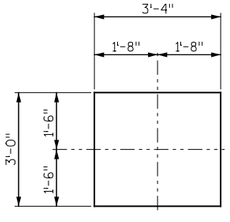
END VIEW



SECTION A - A



SECTION B - B



SECTION C - C

CONCRETE STAINING SCHEDULE

MARK	COLOR
A	BASE COLOR
B	ACCENT COLOR #1
D	ACCENT COLOR #3
E	ACCENT COLOR #4
F	ACCENT COLOR #5

*STAIN ALL BRICK PATTERN AREAS WITH BASE COLOR PRIOR TO STAINING WITH THE THREE BRICK ACCENT COLORS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-05-237

DRAWN BY VC | PLANS CK'D. CES

CONCRETE TOWER AESTHETIC DETAILS

SHEET 4 OF 4

2731

8

8

FILE NAME :S-05-0237.dgn
PLOT DATE :2/6/2013 12:50:11 PM PLOT BY : Veronica Chavez-Vil DRV :Pdf_bw_HS.by level.pit PEN :CEL.TextSub_ScreenControlByLevel.tbl