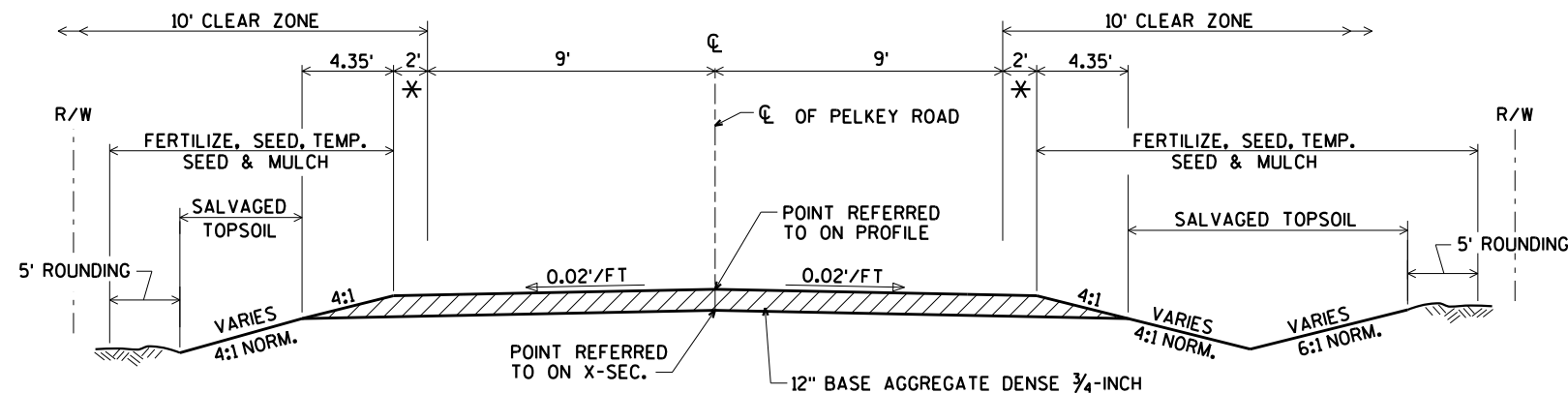


TYPICAL EXISTING SECTION



TYPICAL FINISHED SECTION

(STA. 18+50 TO STA. 21+50)

* THE BASE AGGREGATE SHOULDER SHALL BE 4.25 FEET WIDE AT THE ENDS OF THE BRIDGE AND TAPER TO 2 FEET AT 50 FEET FROM END OF THE BRIDGE.

GENERAL NOTES

EROSION CONTROL ITEMS TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

NO TREES AND/OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING AND FIELD LOCATING ALL UTILITIES.

THE DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH A MONUMENT TO BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCLUSIVE OF THE ROADBED, SHALL BE FERTILIZED, SEEDED, AND MULCHED AS DIRECTED BY THE ENGINEER.

SEED MIXTURE NO. 20 AND SEEDING TEMPORARY SHALL BE USED IN THE PROJECT AND SHALL BE PLACED AS SHOWN IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) 1988.

UTILITIES

CENTURYLINK
P.O. BOX 518
OSCEOLA, WI 54020
ATTN: MIKE VANDENBOS
715-294-2463
mike.vandenbos@centurylink.com

* * DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

DIGGERS HOTLINE

Dial **811** or (800)242-8511

www.DiggersHotline.com

**WISCONSIN DEPARTMENT OF
NATURAL RESOURCES CONTACT:**

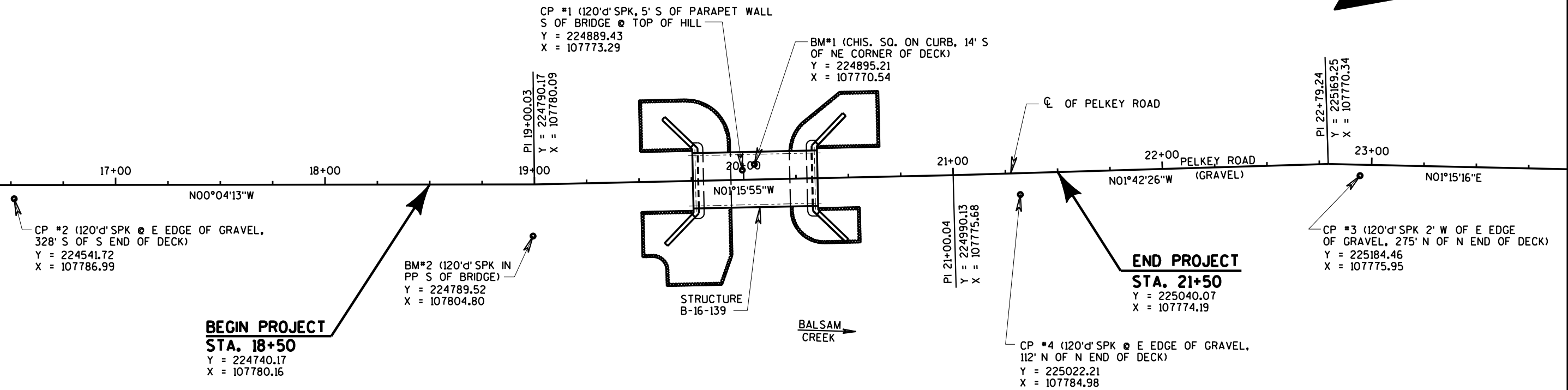
AMY CRONK
810 WEST MAPLE ST.
SPOONER, WI. 54801
715-635-4229
amy.cronk@wisconsin.gov

TOWN OF SUMMIT

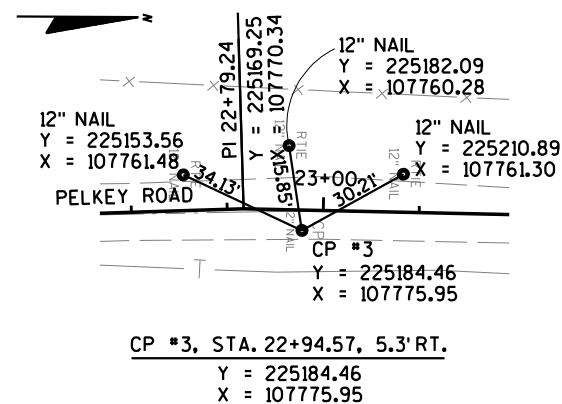
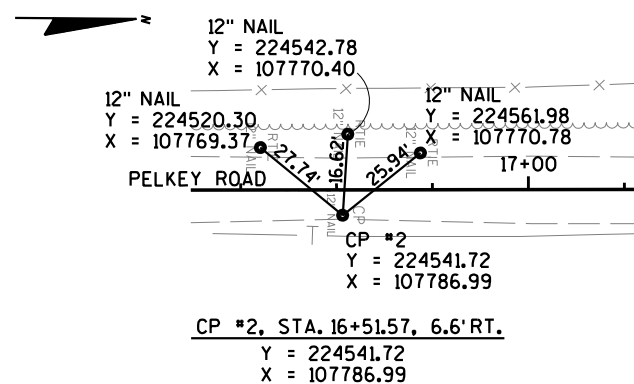
JOE MOEN, CHAIRMAN
7622S BREITZMANN LAKE ROAD
FOXBORO, WI 54836
715-919-4951

DESIGNER

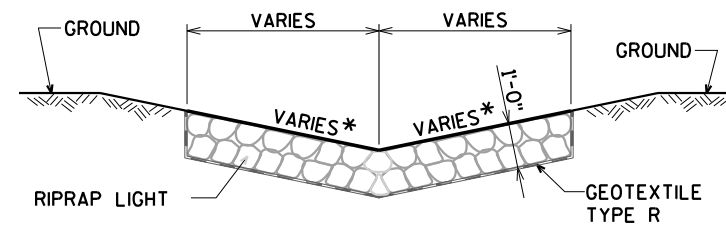
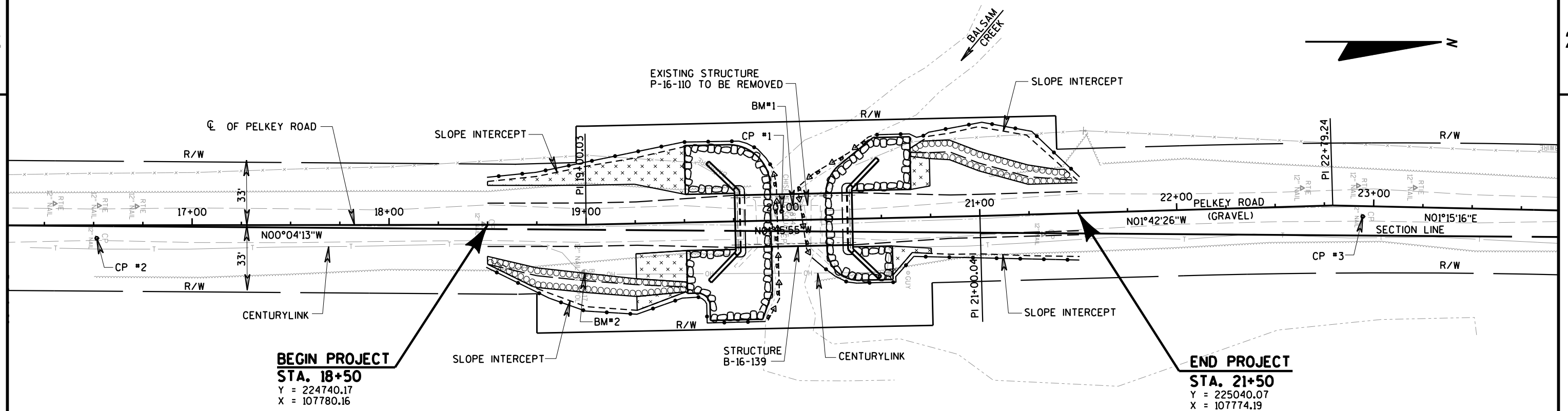
AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
ATTN: DANIEL N. SYDOW
715-834-3161
sydowd@AyresAssociates.com



ALIGNMENT CONTROLS



ALIGNMENT TIES

**RIPRAP DITCH SECTION**STA. 18+50 TO 21+50
*VARIES 3:1 TO 6:1

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA = 0.64 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.41 ACRES

PROJECT NO: 8394-00-71

HWY: PELKEY ROAD

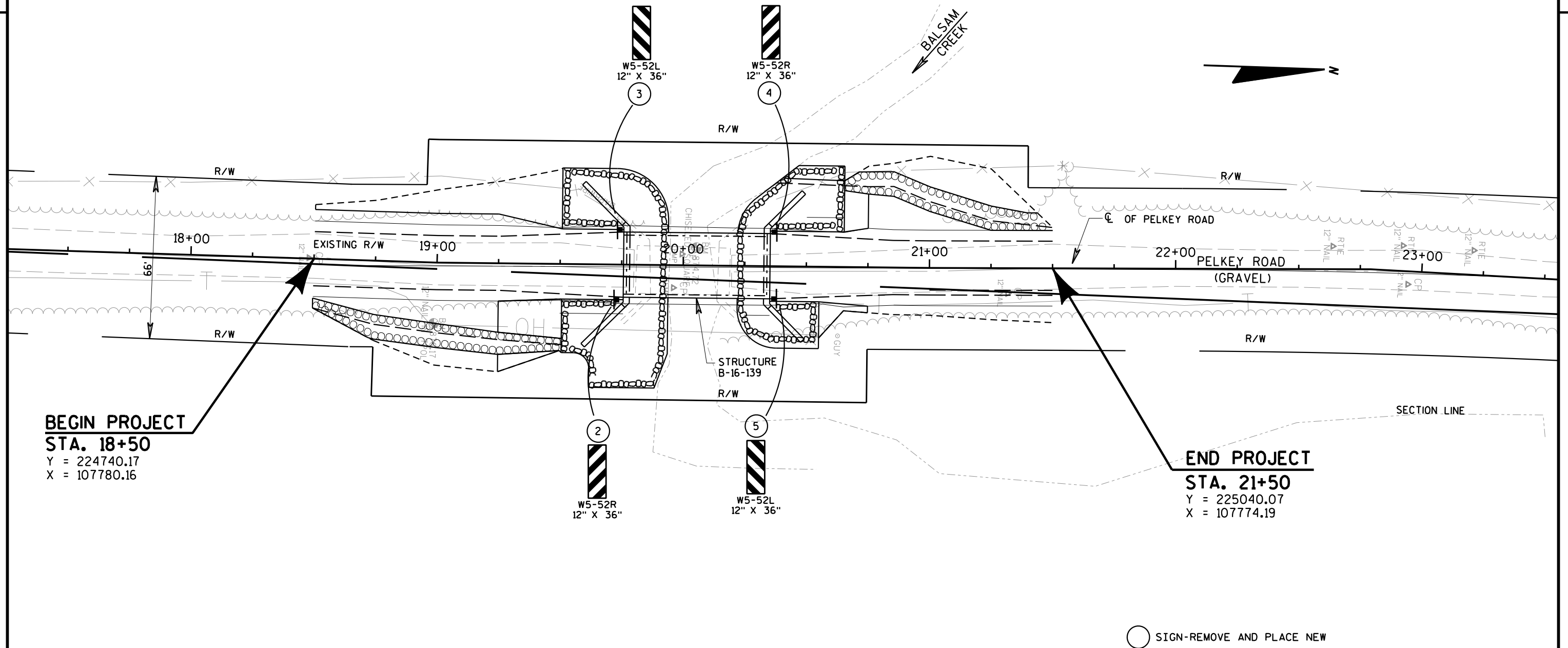
COUNTY: DOUGLAS

EROSION CONTROL

SCALE, FEET 0 25 50

SHEET

E



Estimate Of Quantities By Plan Sets

8394-00-71					
Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	3.000	3.000
0004	201.0205	Grubbing	STA	3.000	3.000
0008	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 03. 20+00	LS	1.000	1.000
0010	205.0100	Excavation Common	CY	276.000	276.000
0014	206.1000	Excavation for Structures Bridges (structure) 02. B-16-139	LS	1.000	1.000
0016	208.0100	Borrow	CY	232.000	232.000
0018	210.1500	Backfill Structure Type A	TON	1,140.000	1,140.000
0020	213.0100	Finishing Roadway (project) 01. 8394-00-71	EACH	1.000	1.000
0024	305.0110	Base Aggregate Dense 3/4-Inch	TON	475.000	475.000
0026	502.0100	Concrete Masonry Bridges	CY	191.000	191.000
0028	502.3200	Protective Surface Treatment	SY	200.000	200.000
0030	503.0136	Prestressed Girder Type I 36-Inch	LF	232.000	232.000
0032	505.0400	Bar Steel Reinforcement HS Structures	LB	4,740.000	4,740.000
0034	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	18,420.000	18,420.000
0036	506.0105	Structural Steel Carbon	LB	520.000	520.000
0038	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	8.000	8.000
0042	506.4000	Steel Diaphragms (structure) 02. B-16-139	EACH	3.000	3.000
0044	513.4061	Railing Tubular Type M (structure) 02. B-16-139	LF	123.000	123.000
0048	516.0500	Rubberized Membrane Waterproofing	SY	26.000	26.000
0050	550.0500	Pile Points	EACH	14.000	14.000
0052	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	980.000	980.000
0054	606.0100	Riprap Light	CY	60.000	60.000
0056	606.0300	Riprap Heavy	CY	370.000	370.000
0058	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	230.000	230.000
0060	618.0100	Maintenance And Repair of Haul Roads (project) 01. 8394-00-71	EACH	1.000	1.000
0064	619.1000	Mobilization	EACH	0.500	0.500
0066	624.0100	Water	MGAL	6.000	6.000
0068	625.0500	Salvaged Topsoil	SY	660.000	660.000
0070	627.0200	Mulching	SY	975.000	975.000
0072	628.1504	Silt Fence	LF	725.000	725.000
0074	628.1520	Silt Fence Maintenance	LF	1,450.000	1,450.000
0076	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0078	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0080	628.2023	Erosion Mat Class II Type B	SY	270.000	270.000
0082	628.6005	Turbidity Barriers	SY	160.000	160.000
0084	628.7504	Temporary Ditch Checks	LF	50.000	50.000
0086	629.0210	Fertilizer Type B	CWT	1.000	1.000

Estimate Of Quantities By Plan Sets

8394-00-71

Line	Item	Item Description	Unit	Total	Qty
0088	630.0120	Seeding Mixture No. 20	LB	30.000	30.000
0090	630.0200	Seeding Temporary	LB	30.000	30.000
0092	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0094	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0098	638.2602	Removing Signs Type II	EACH	4.000	4.000
0100	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0102	642.5001	Field Office Type B	EACH	0.500	0.500
0104	643.0420	Traffic Control Barricades Type III	DAY	1,080.000	1,080.000
0106	643.0705	Traffic Control Warning Lights Type A	DAY	1,440.000	1,440.000
0108	643.0900	Traffic Control Signs	DAY	840.000	840.000
0110	643.5000	Traffic Control	EACH	0.500	0.500
0112	645.0111	Geotextile Type DF Schedule A	SY	120.000	120.000
0114	645.0120	Geotextile Type HR	SY	660.000	660.000
0116	645.0130	Geotextile Type R	SY	270.000	270.000
0118	650.4500	Construction Staking Subgrade	LF	300.000	300.000
0120	650.5000	Construction Staking Base	LF	300.000	300.000
0124	650.6500	Construction Staking Structure Layout (structure) 02. B-16-139	LS	1.000	1.000
0126	650.9910	Construction Staking Supplemental Control (project) 01. 8394-00-71	LS	1.000	1.000
0130	650.9920	Construction Staking Slope Stakes	LF	300.000	300.000
0132	715.0502	Incentive Strength Concrete Structures	DOL	1,146.000	1,146.000
0134	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0136	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	300.000	300.000

EARTHWORK SUMMARY (CATEGORY 0010)

DIVISION	STATION TO STATION	LOCATION	**p** 205.0100 EXCAVATION COMMON	SALVAGED/ UNUSABLE PAVEMENT MATERIAL (2) CY	AVAILABLE MATERIAL (4) CY	UNEXPANDED FILL (3) CY	EXPANDED FILL (5) CY	MASS ORDINATE ±(6) CY	WASTE CY	**p** 208.0100 BORROW CY	COMMENTS:
			CUT (1) CY								
1	18+50 TO 19+55.75	PELKEY ROAD	68	0	68	231	300	-232	0	232	
	20+35.75 TO 21+50	PELKEY ROAD	208	0	208	42	55	153	153	0	
GRANDTOTAL			276	0	276	273	355	-79	153	232	
TOTAL EXCAVATION COMMON			276 CY							TOTAL BORROW 232 CY	

NOTES:
1) EXCAVATION COMMON IS THE SUM OF THE CUT COLUMN. ITEM NUMBER 205.0100
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
3) DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME.
4) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
5) EXPANDED FILL FACTOR = 1.30
EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR
6) THE MASS ORDINATE ± QTY CALCUTATED FOR THE DIVISION.
PLUS (+) QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.
MINUS (-) QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

p PAY PLAN QUANTITY

CLEARING AND GRUBBING (CATEGORY 0010)

STATION TO STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
Sta. 18+50 to Sta. 21+50	PELKEY ROAD	3	3

BASE AGGREGATE DENSE (CATEGORY 0010)

STATION TO STATION	LOCATION	305.0110 3/4-INCH TON
Sta. 18+50 to Sta. 19+26	PELKEY ROAD	147
Sta. 19+26 to Sta. 19+76	PELKEY ROAD	100
Sta. 20+35 to Sta. 20+85	PELKEY ROAD	102
Sta. 20+85 to Sta. 21+50	PELKEY ROAD	126
TOTALS		475

SALVAGED TOPSOIL, MULCHING, FERTILIZER, SEED & TEMPORARY SEED (CATEGORY 0010)

213.0100 FINISHING ROADWAY (CATEGORY 0010)

LOCATION	EACH
PROJECT 8394-00-71	1

STATION TO STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING NO. 20 LB	630.0200 SEEDING TEMPORARY LB
Sta. 18+50 to Sta. 21+50	PELKEY ROAD	660	780	0.7	28	26
Undistributed		---	195	0.3	2	4
TOTALS		660	975	1.0	30	30

606.0100 RIPRAP LIGHT (CATEGORY 0010)

STATION	LOCATION	CY
Sta. 18+50 to Sta. 19+51	RT	32
Sta. 20+65 to Sta. 21+50	LT	28
TOTAL		60

619.1000 MOBILIZATION

LOCATION	EACH
PROJECT 8394-00-71(CATEGORY 0010)	0.15
PROJECT 8394-00-71(CATEGORY 0020)	0.35
TOTAL	0.5

624.0100 WATER (CATEGORY 0010)

PROJECT ID		MGAL
8394-00-71	COMPACTION	5
	DUST CONTROL	1
SUBTOTAL		6
TOTAL		6

SILT FENCE & SILT FENCE MAINTENANCE (CATEGORY 0010)

STATION TO STATION	ROAD	LOCATION	628.1504 LF	628.1520 MAINTENANCE LF
Sta. 18+50 to Sta. 19+95	PELKEY ROAD	LT	155	310
Sta. 18+50 to Sta. 19+90	PELKEY ROAD	RT	160	320
Sta. 20+48 to Sta. 21+50	PELKEY ROAD	LT	115	230
Sta. 20+48 to Sta. 21+50	PELKEY ROAD	RT	150	300
Undistributed			145	290
TOTALS			725	1,450

MOBILIZATIONS EROSION CONTROL & EMERGENCY EROSION CONTROL (CATEGORY 0010)

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT 8394-00-71	4	2

628.2023 EROSION MAT CLASS II TYPE B (CATEGORY 0010)

STATION TO STATION	ROAD	LOCATION	SY
Sta. 18+50 to Sta. 19+50	PELKEY ROAD	LT	125
Sta. 19+25 to Sta. 19+50	PELKEY ROAD	RT	55
Sta. 20+55 to Sta. 20+75	PELKEY ROAD	RT	15
Sta. 20+65 to Sta. 20+75	PELKEY ROAD	LT	20
Undistributed			55
TOTAL			270

628.6005 TURBIDITY BARRIER (CATEGORY 0010)

LOCATION	SY
SOUTH ABUTMENT	62
NORTH ABUTMENT	66
UNDISTRIBUTED	32
TOTALS	160

628.7504 TEMPORARY DITCH CHECKS (CATEGORY 0010)

LOCATION	LF
UNDISTRIBUTED	50

634.0612 WOOD POSTS 4X6 INCH X 12 FT (CATEGORY 0010)

STATION	LOCATION	EACH
Sta. 19+76	PELKEY ROAD, LT (W5-52L)	1
Sta. 19+76	PELKEY ROAD, RT (W5-52R)	1
Sta. 20+35	PELKEY ROAD, LT (W5-52R)	1
Sta. 20+35	PELKEY ROAD, RT (W5-52L)	1
TOTAL		4

637.2230 SIGNS TYPE II REFLECTIVE F (CATEGORY 0010)

STATION	LOCATION	DESCRIPTION	SF
Sta. 19+76	PELKEY ROAD, LT	W5-52L (OBJECT MARKER)	3
Sta. 19+76	PELKEY ROAD, RT	W5-52R (OBJECT MARKER)	3
Sta. 20+35	PELKEY ROAD, LT	W5-52R (OBJECT MARKER)	3
Sta. 20+35	PELKEY ROAD, RT	W5-52L (OBJECT MARKER)	3
TOTAL			12

REMOVING (CATEGORY 0010)

STATION	LOCATION	DESCRIPTION	638.2602	638.3000
			REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH
Sta. 19+80	PELKEY ROAD, RT	W5-52R (OBJECT MARKER)	1	1
Sta. 19+81	PELKEY ROAD, LT	W5-52L (OBJECT MARKER)	1	1
Sta. 20+19	PELKEY ROAD, RT	W5-52L (OBJECT MARKER)	1	1
Sta. 20+19	PELKEY ROAD, LT	W5-52R (OBJECT MARKER)	1	1
TOTAL			4	4

TRAFFIC CONTROL (CATEGORY 0010)

LOCATION	EACH
PROJECT 8394-00-71	0.5

TRAFFIC CONTROL ITEMS (CATEGORY 0010)

PROJECT ID	DURATION DAYS	643.0420	643.0705	643.0900
		BARRICADES TYPE III NO. DAYS	WARNING LIGHTS TYPE A NO. DAYS	SIGNS NO. DAYS
8394-00-71	60	18 1080	24 1440	14 840

CONSTRUCTION STAKING

CATEGORY	LOCATION	650.4500	650.5000	650.6500	650.9910	650.9920
		SUBGRADE LF	BASE LF	STRUCTURE LAYOUT LS	SUPPLEMENTARY CONTROL LS	SLOPE STAKES LF
0010	Sta. 18+50 to Sta. 21+50	300	300	---	1	300
0020	B-16-0139	---	---	1	---	---
TOTALS		300	300	1	1	300

642.5001 FIELD OFFICE TYPE B (CATEGORY 0010)

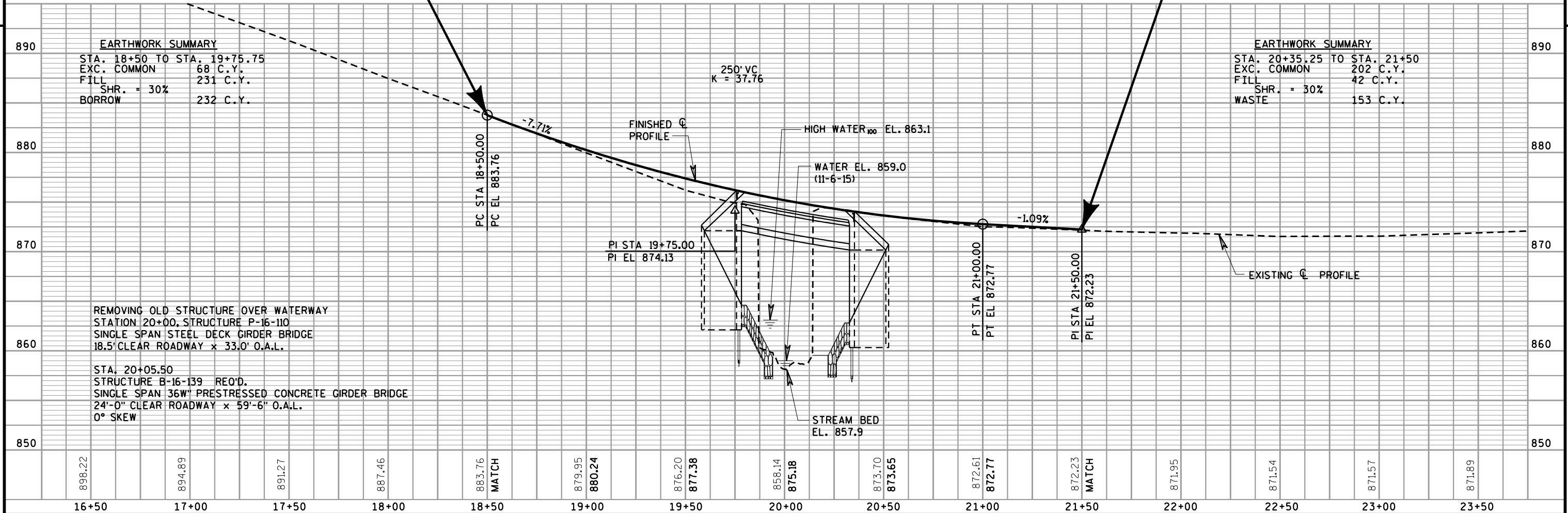
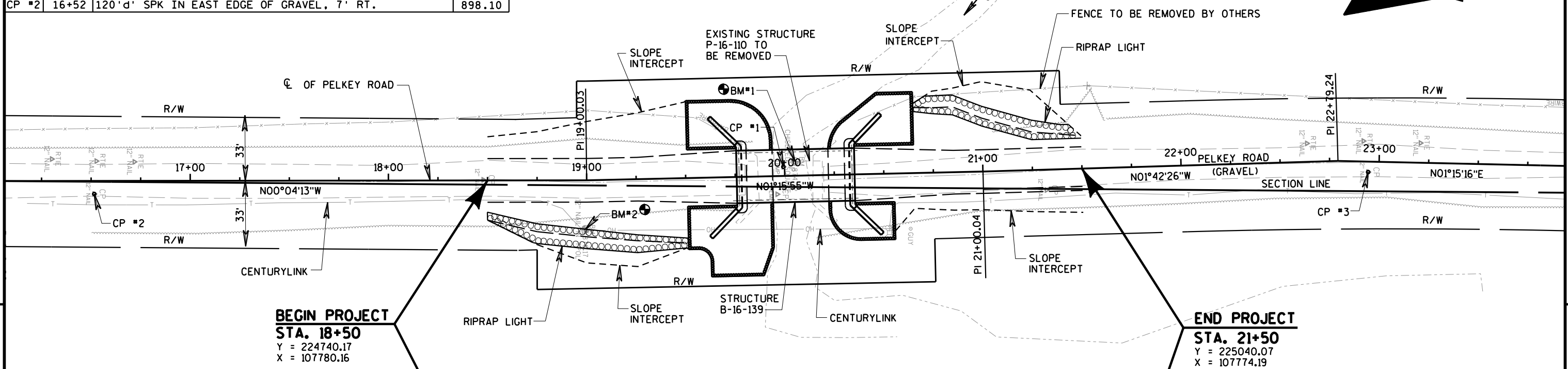
LOCATION	EACH
PROJECT 8394-00-71	0.5

645.0130 GEOTEXTILE TYPE R (CATEGORY 0010)

STATION	LOCATION	SY
Sta. 18+50 to Sta. 19+51	RT	145
Sta. 20+65 to Sta. 21+50	LT	125
TOTAL		270

NO.	STA.	BENCH MARKS DESCRIPTION	ELEV.
1	20+05	CHIS. SO. ON CURB, 14' S OF NE COR OF DECK, 12' LT.	874.72
2	18+99	120'd' SPK IN PP SOUTH OF BRIDGE, 25' RT.	876.17
CP #2	16+52	120'd' SPK IN EAST EDGE OF GRAVEL, 7' RT.	898.10

NOTE:
FOR ALIGNMENT CONTROLS AND TIES,
SEE ALIGNMENT CONTROLS & TIES SHEET.

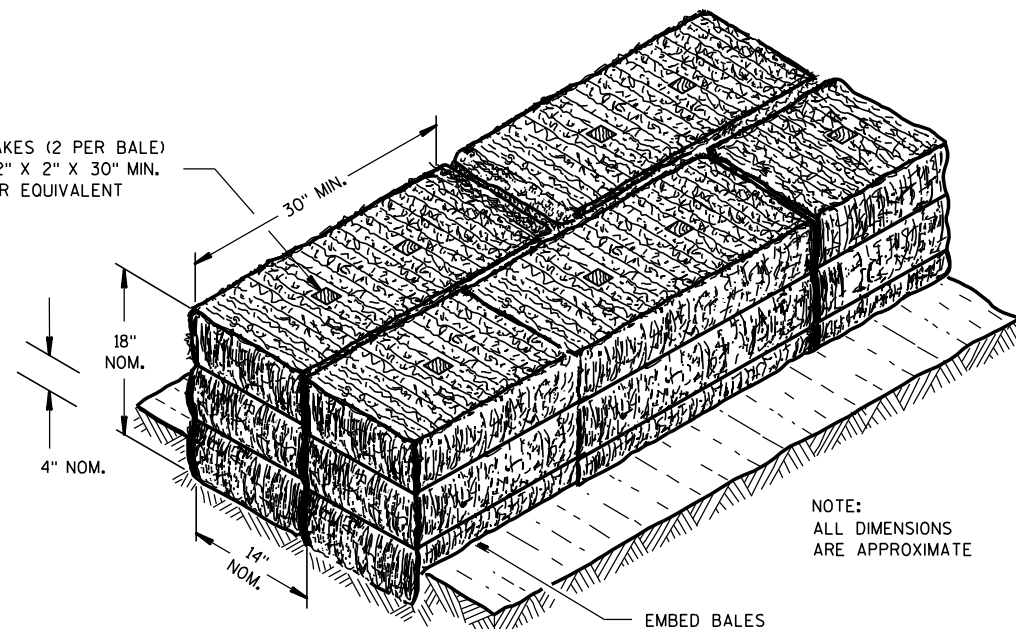


PROJECT NO: 8394-00-71	HWY: PELKEY ROAD	COUNTY: DOUGLAS	PLAN AND PROFILE	SCALE, FEET $\frac{1}{4} = 25 = 50$	SHEET	E
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Standard Detail Drawing List

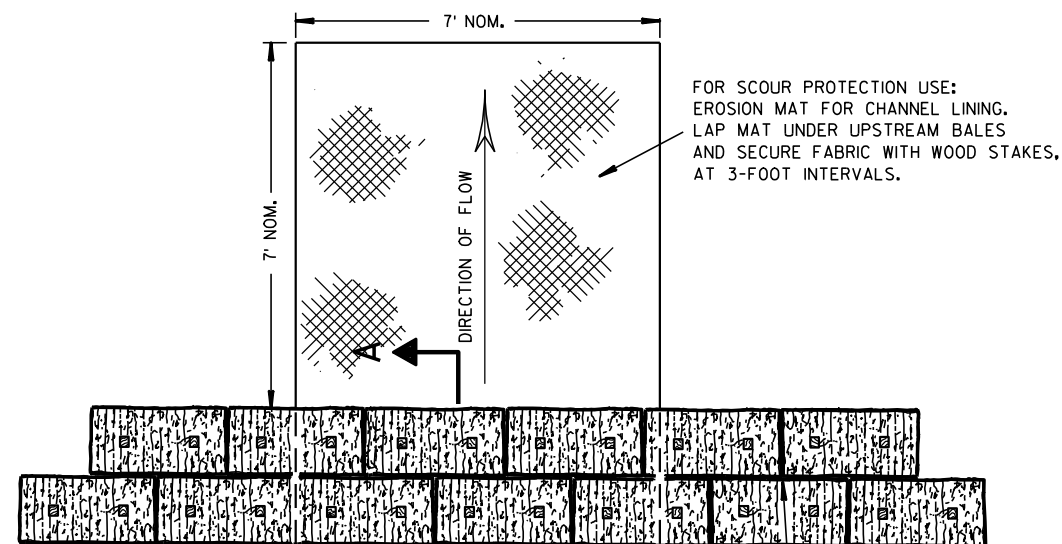
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES

WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



SECTION A-A

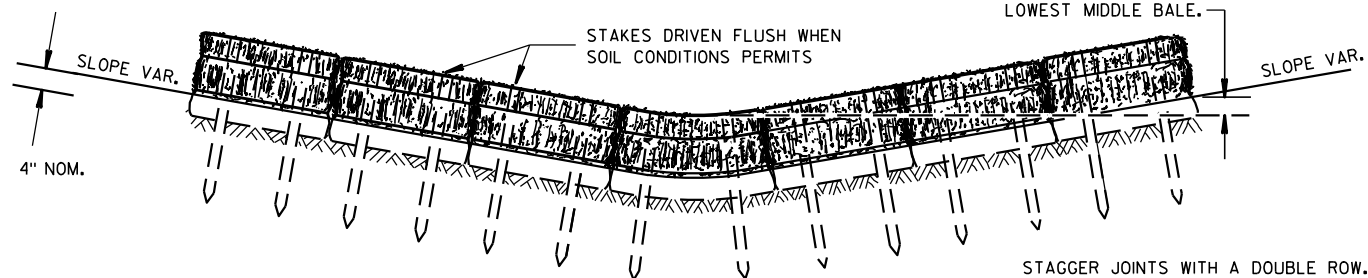
NOTE:
ALL DIMENSIONS
ARE APPROXIMATE



PLAN VIEW

STAGGER JOINTS BETWEEN ADJACENT
ROWS OF BALES.

BOTTOM ELEVATION OF END BALE SHALL
BE EQUAL TO OR GREATER THAN TOP OF
LOWEST MIDDLE BALE.



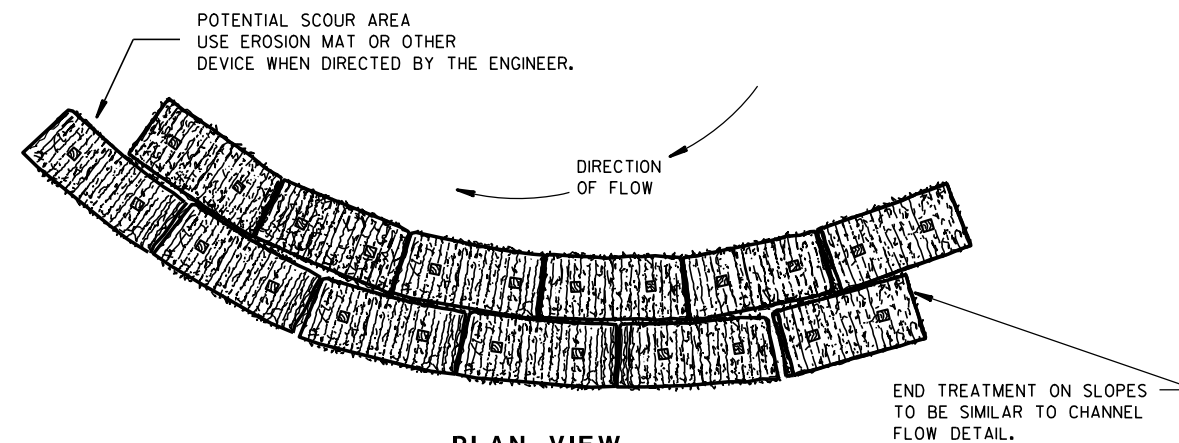
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

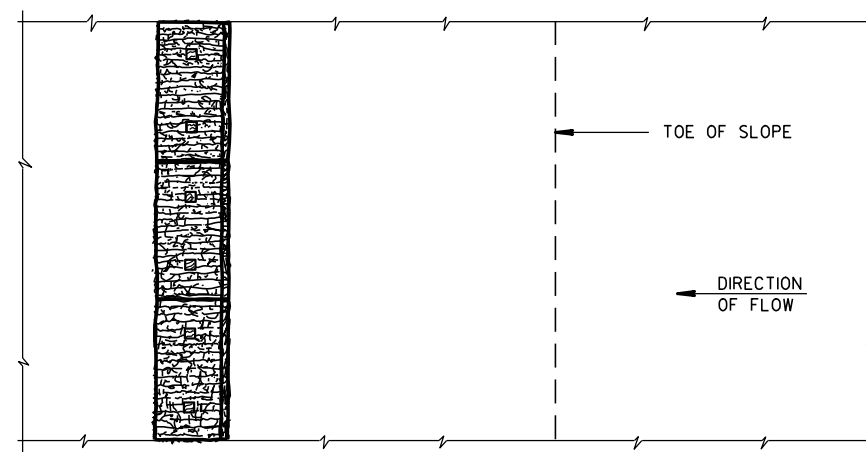
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- 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.

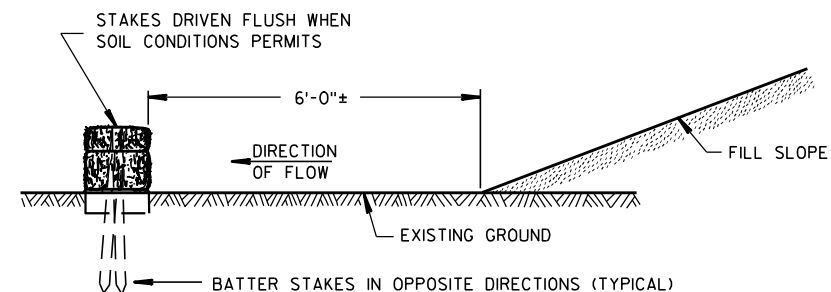


PLAN VIEW

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

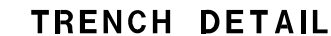
6/04/02
DATE

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

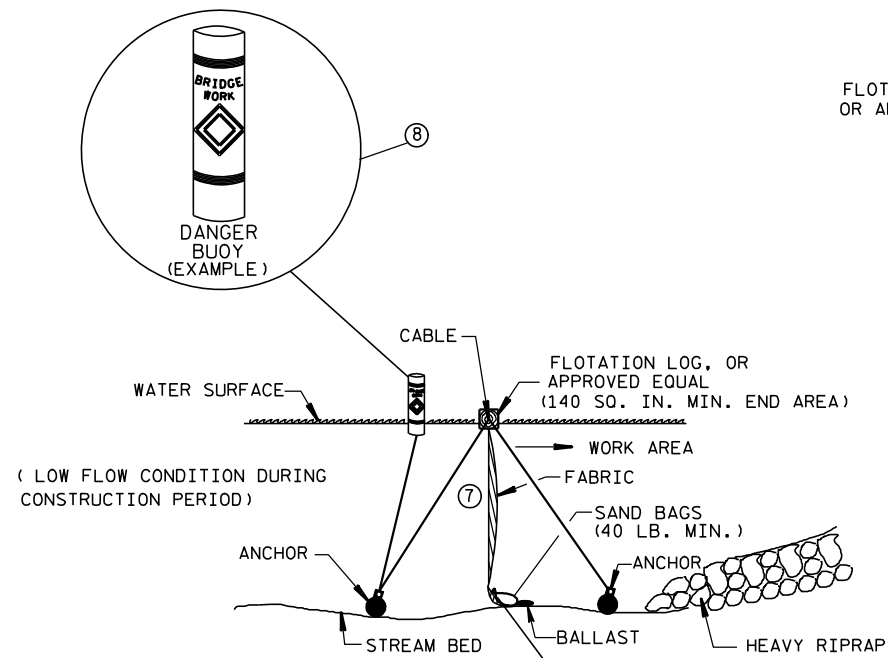
FHWA



- 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 1½" X 1½" 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.



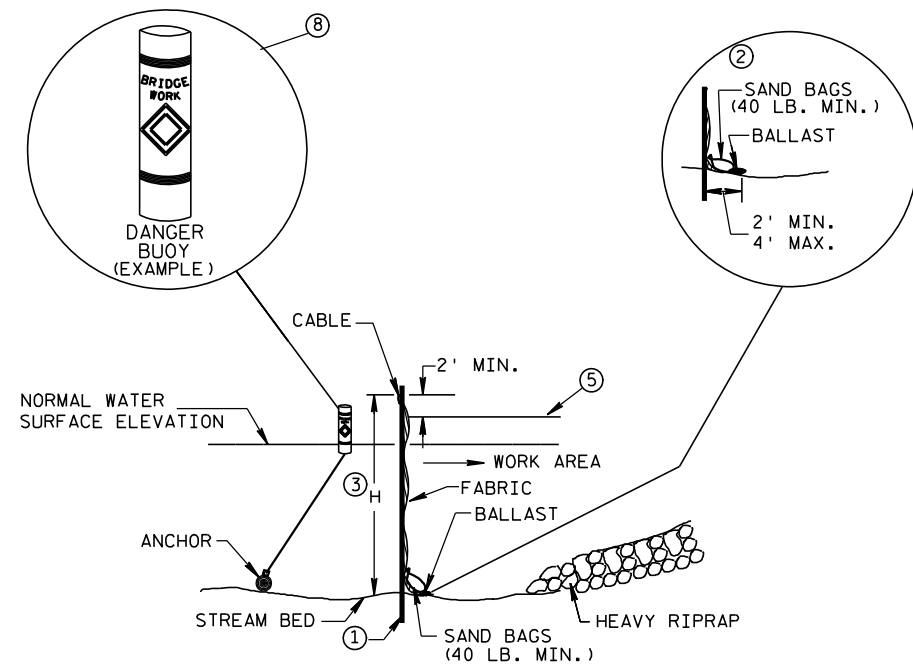
SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED <u>4-29-05</u> DATE	<u>/S/ Beth Cannestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER



SECTION B-B

TURBIDITY BARRIER FLOAT ALTERNATIVE

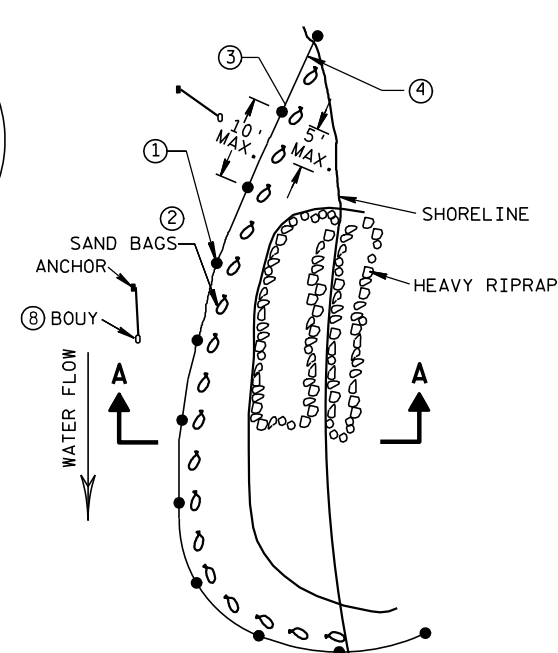
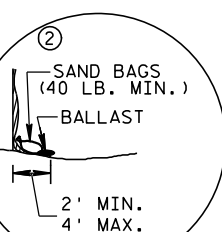
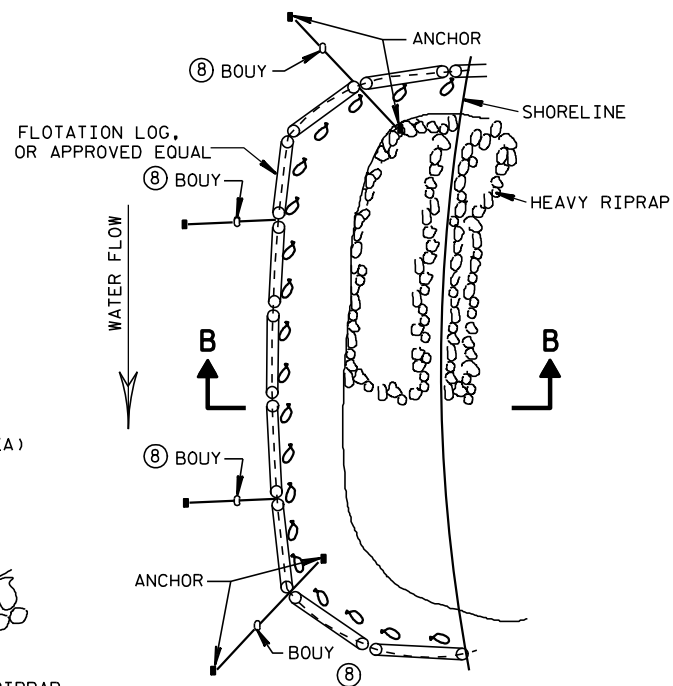
CAUTION - SEE NOTE 6



SECTION A-A

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS



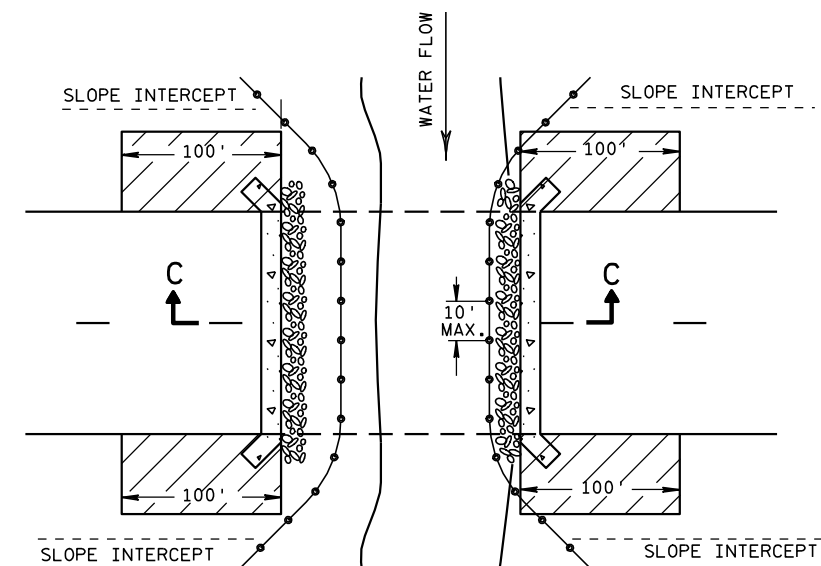
PLAN VIEW

GENERAL NOTES

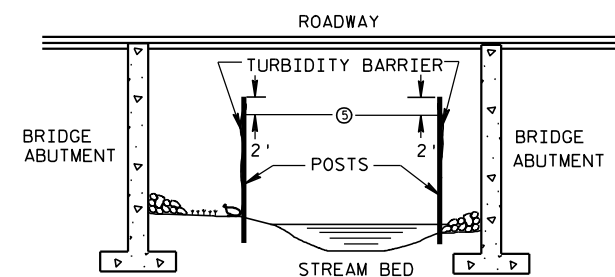
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

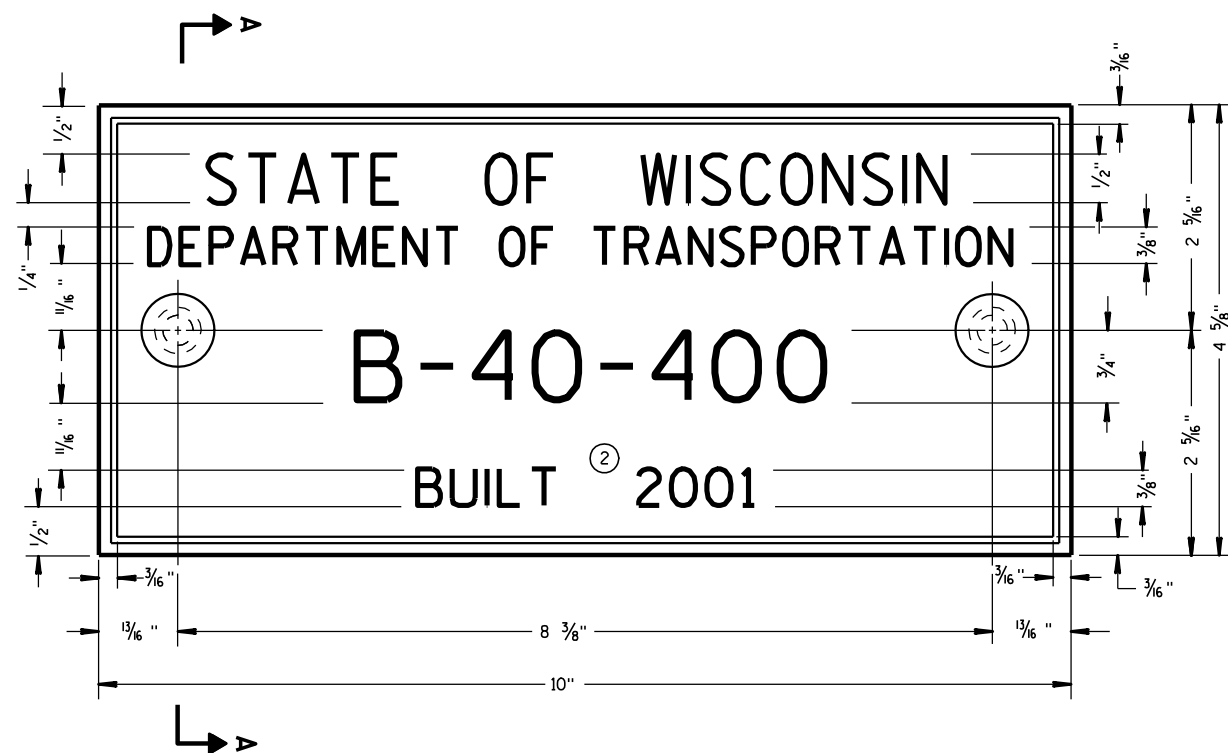
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

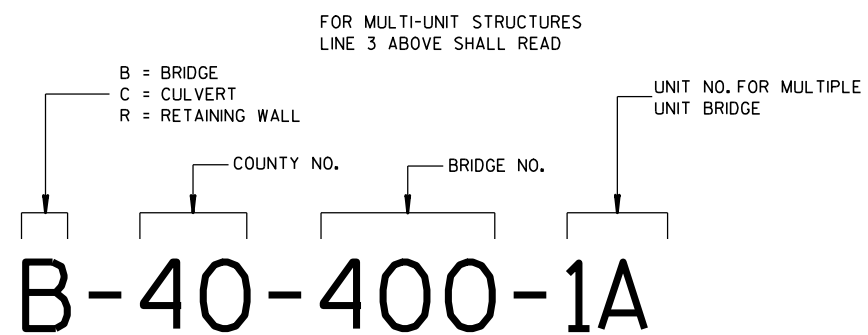
6/04/02
DATE

FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



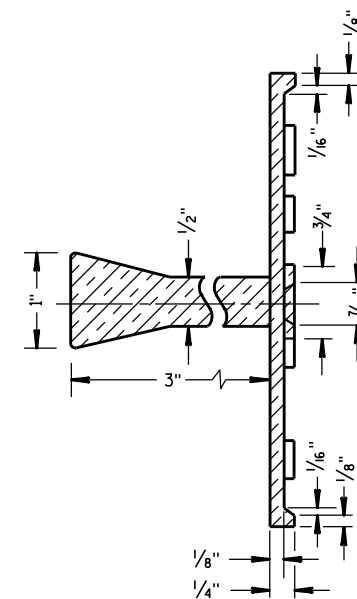
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

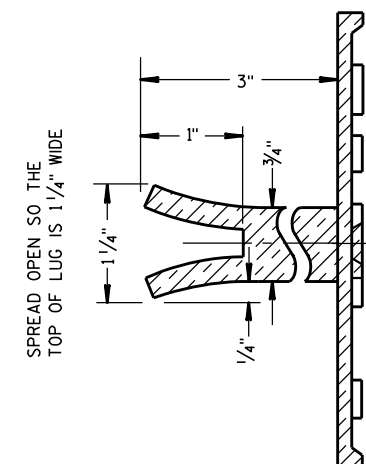
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.

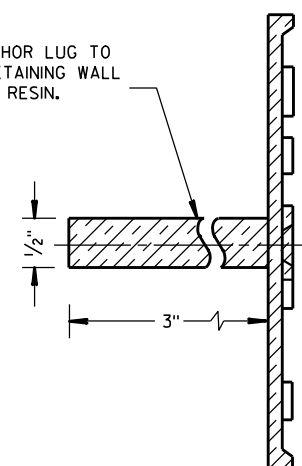


SECTION A-A



ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

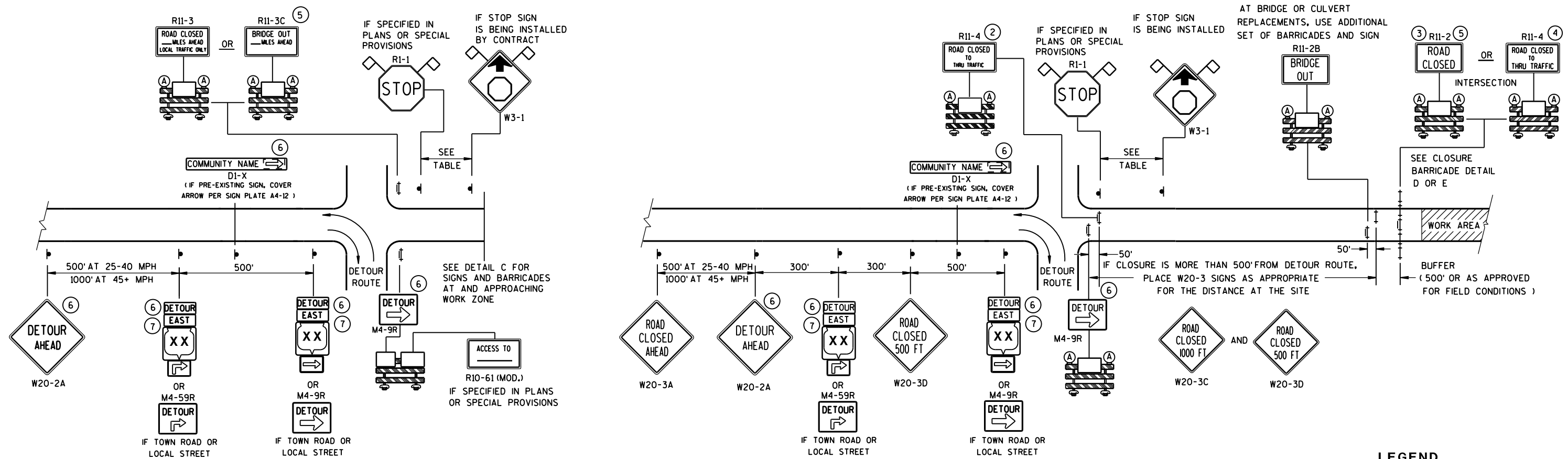
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10
DATE

FHWA

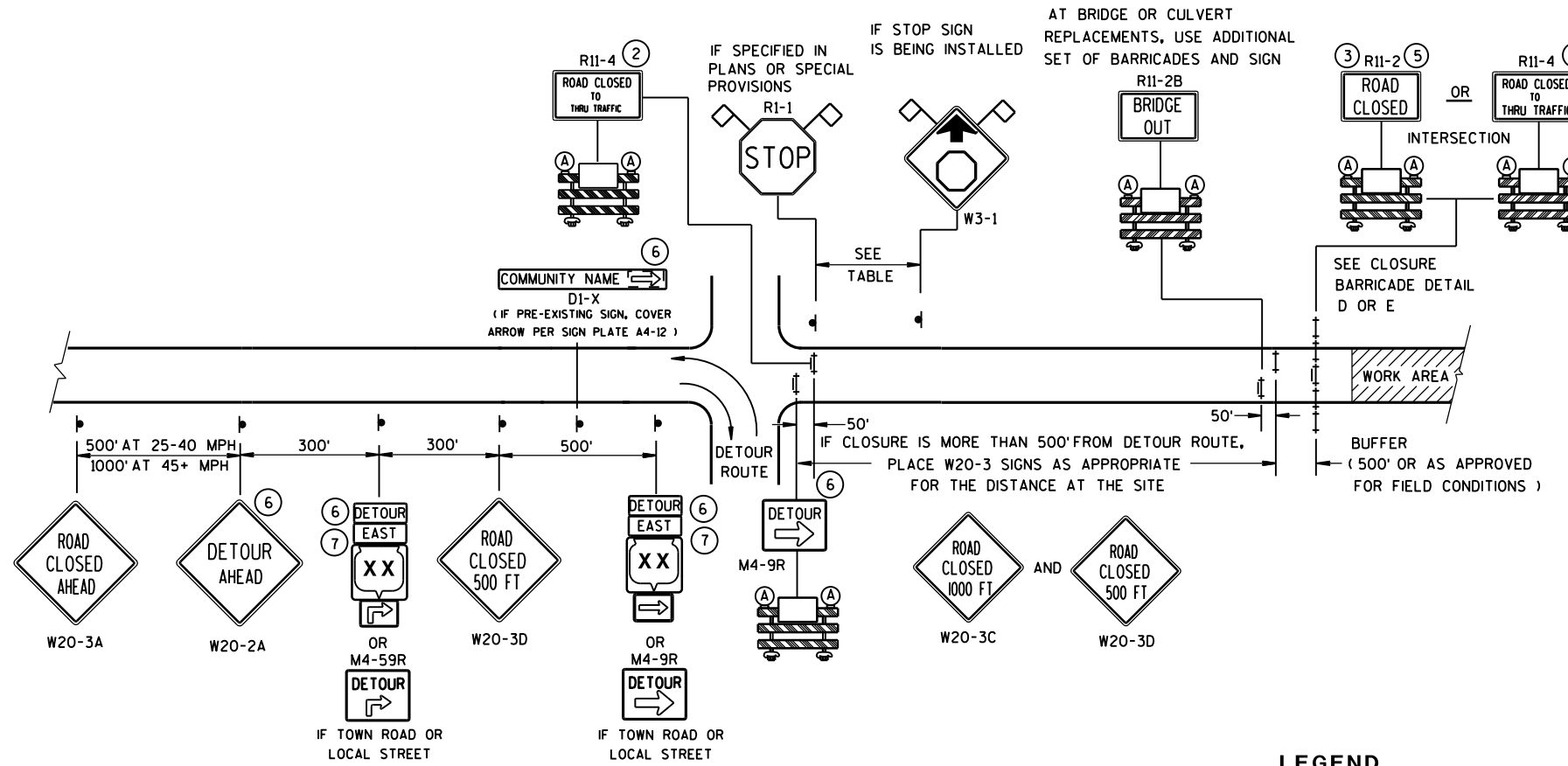
/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

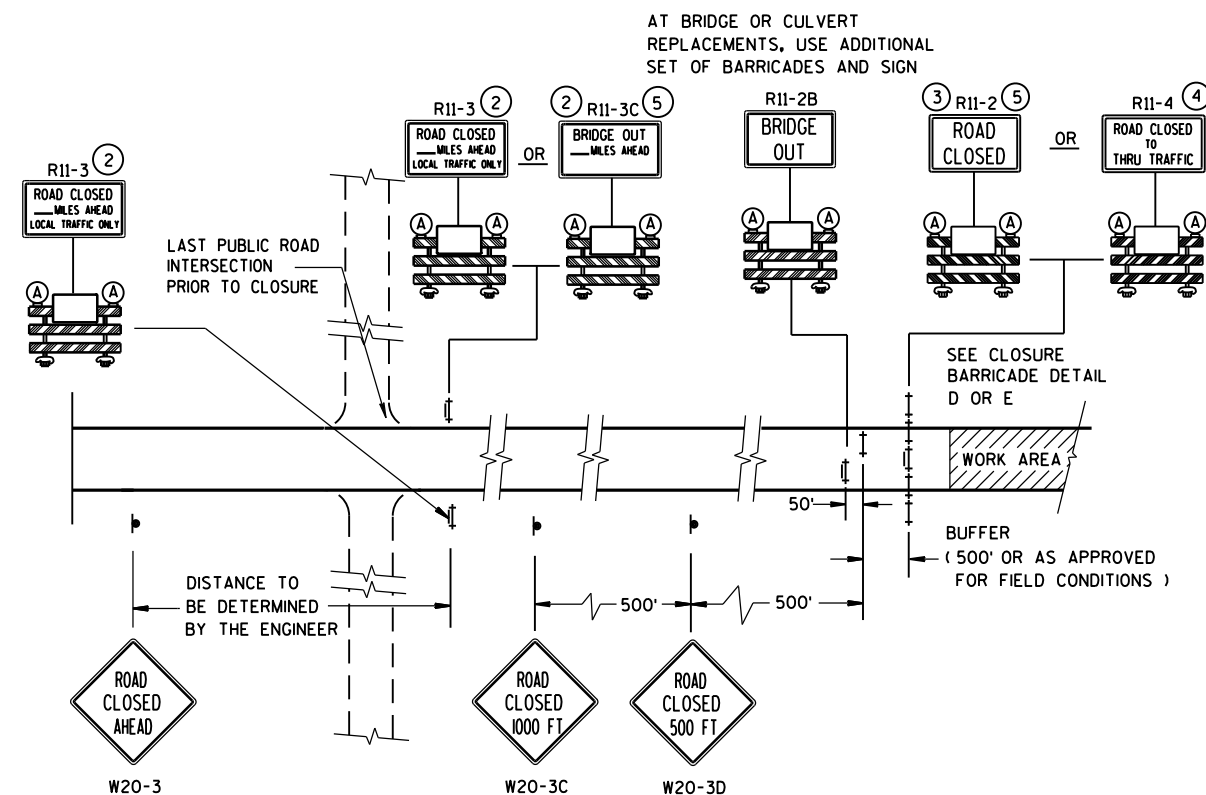
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B

MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN 1/2 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

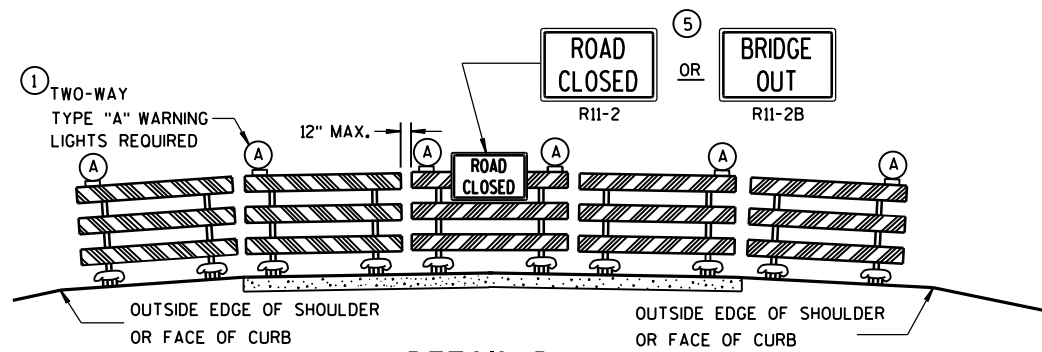
- # LEGEND
-  SIGN ON PERMANENT SUPPORT
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  WORK AREA
-  DETOUR M4-8
 EAST M3-X
-  COUNTY M1-4
OR
 COUNTY M1-5A
OR
 COUNTY M1-6
-  MO5-1
OR
 MO6-1
-  FLAGS, 16" X 16" MIN., (ORANGE)

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

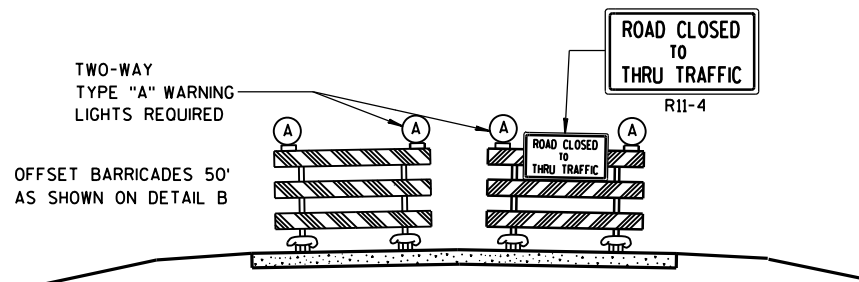
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015	/S/ Peter Amakobe Atepe
DATE	STATEWIDE WORK ZONE TRAFFIC
FHWA	SAFETY ENGINEER



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-SHEET "a" 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.

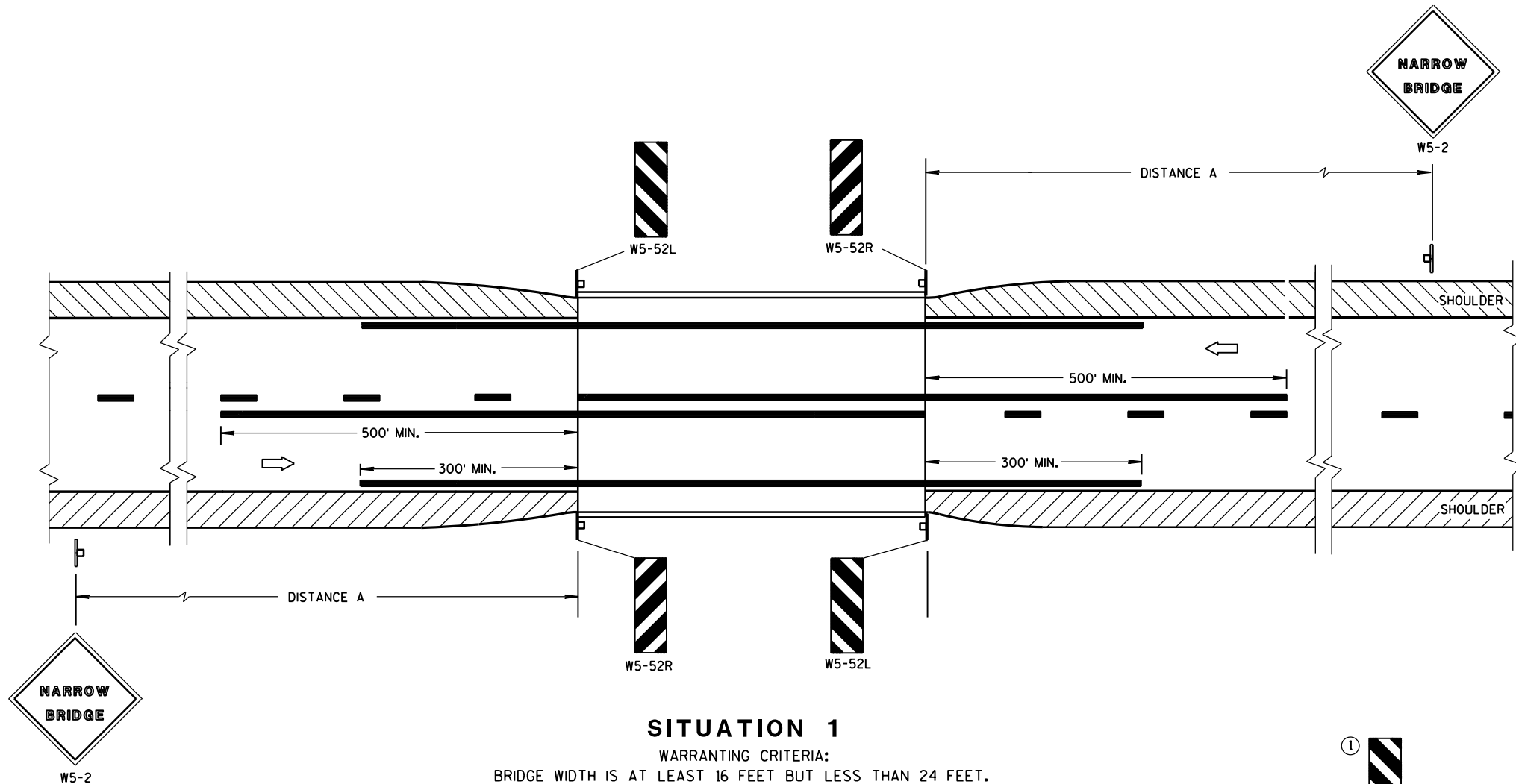
"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- 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.

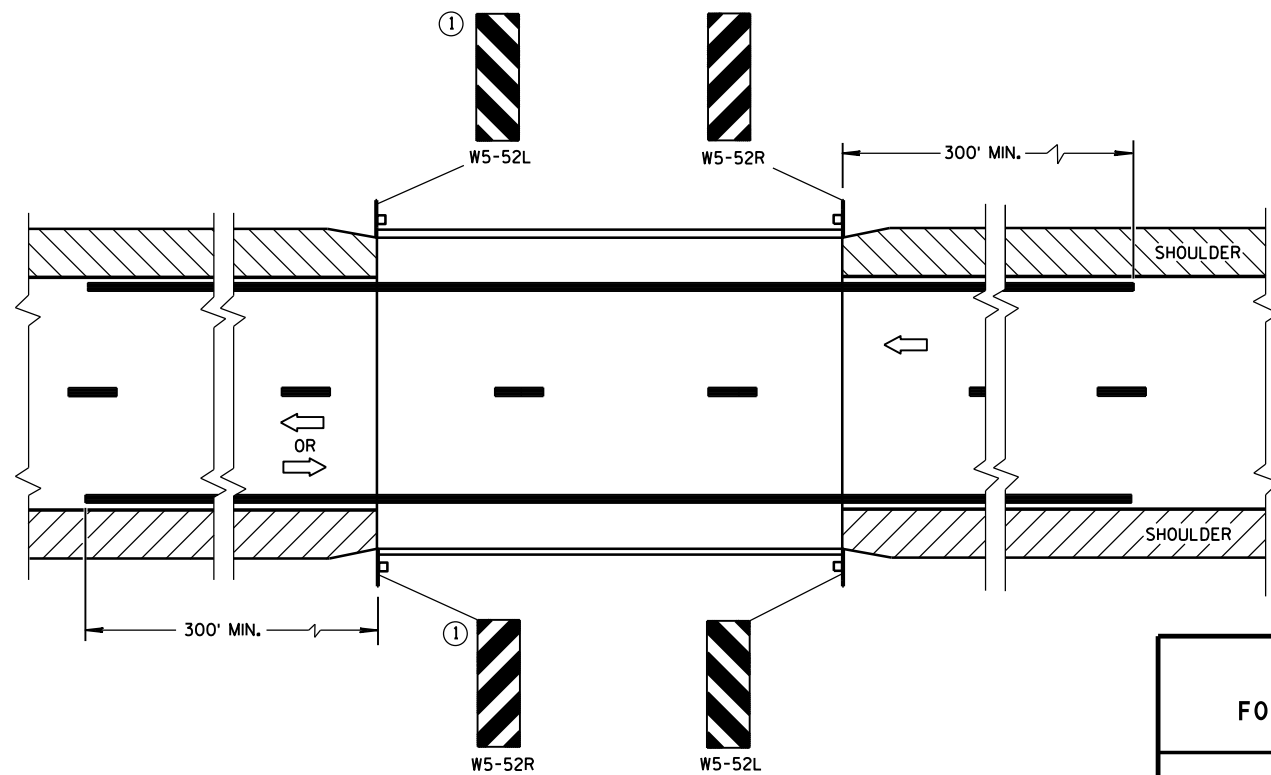
BARRICADES AND SIGNS FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
Sept. 2015 DATE	/S/ Peter Amokobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	



SITUATION 1
WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A "
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'



SITUATION 2
WARRANTING CRITERIA:
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET.

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.

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

① OMIT ON ONE-WAY TRAVELLED WAYS.

➡ DIRECTION OF TRAFFIC

**SIGNING & MARKING
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

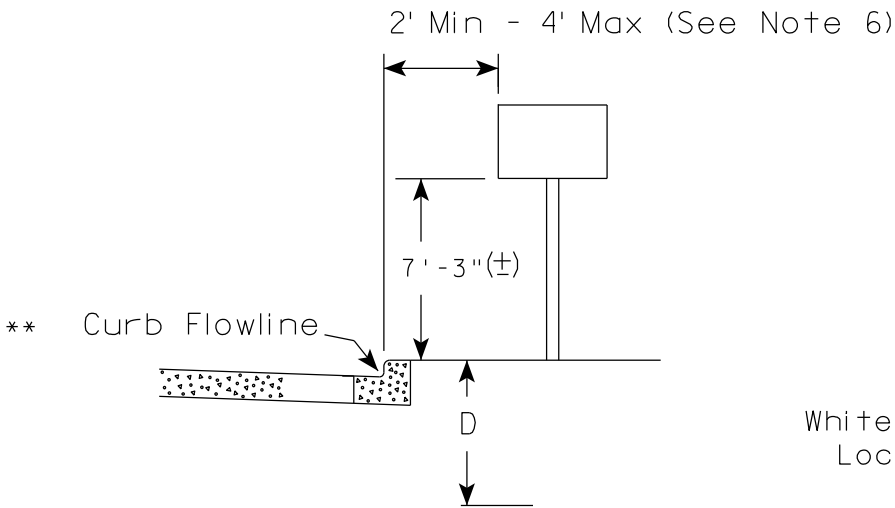
APPROVED

June 2017
DATE

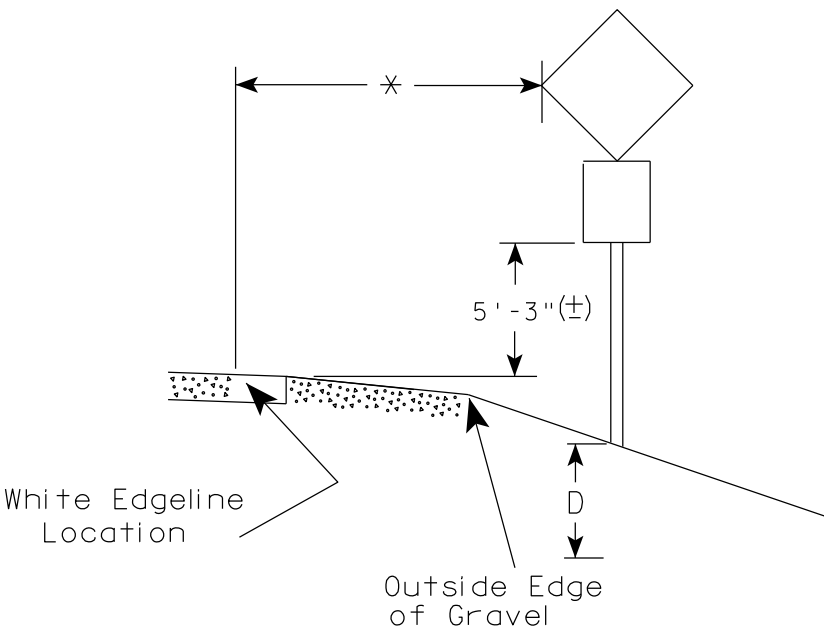
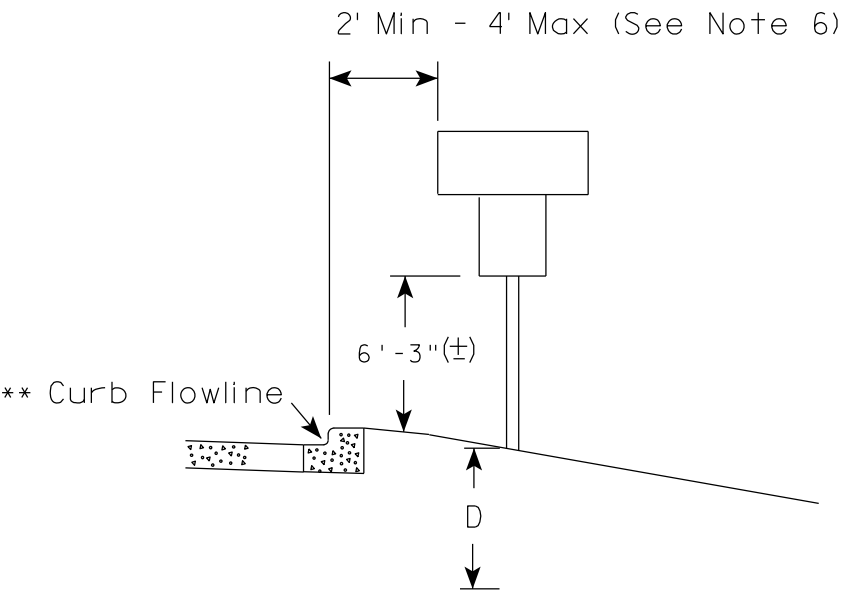
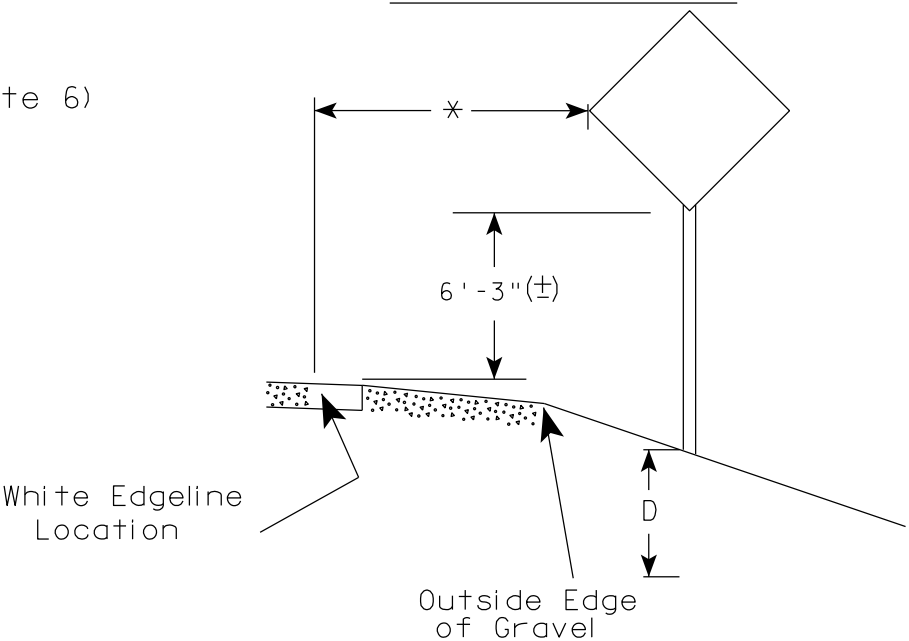
/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, 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 (A2-1S) 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 signs 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), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) 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'

* * 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.

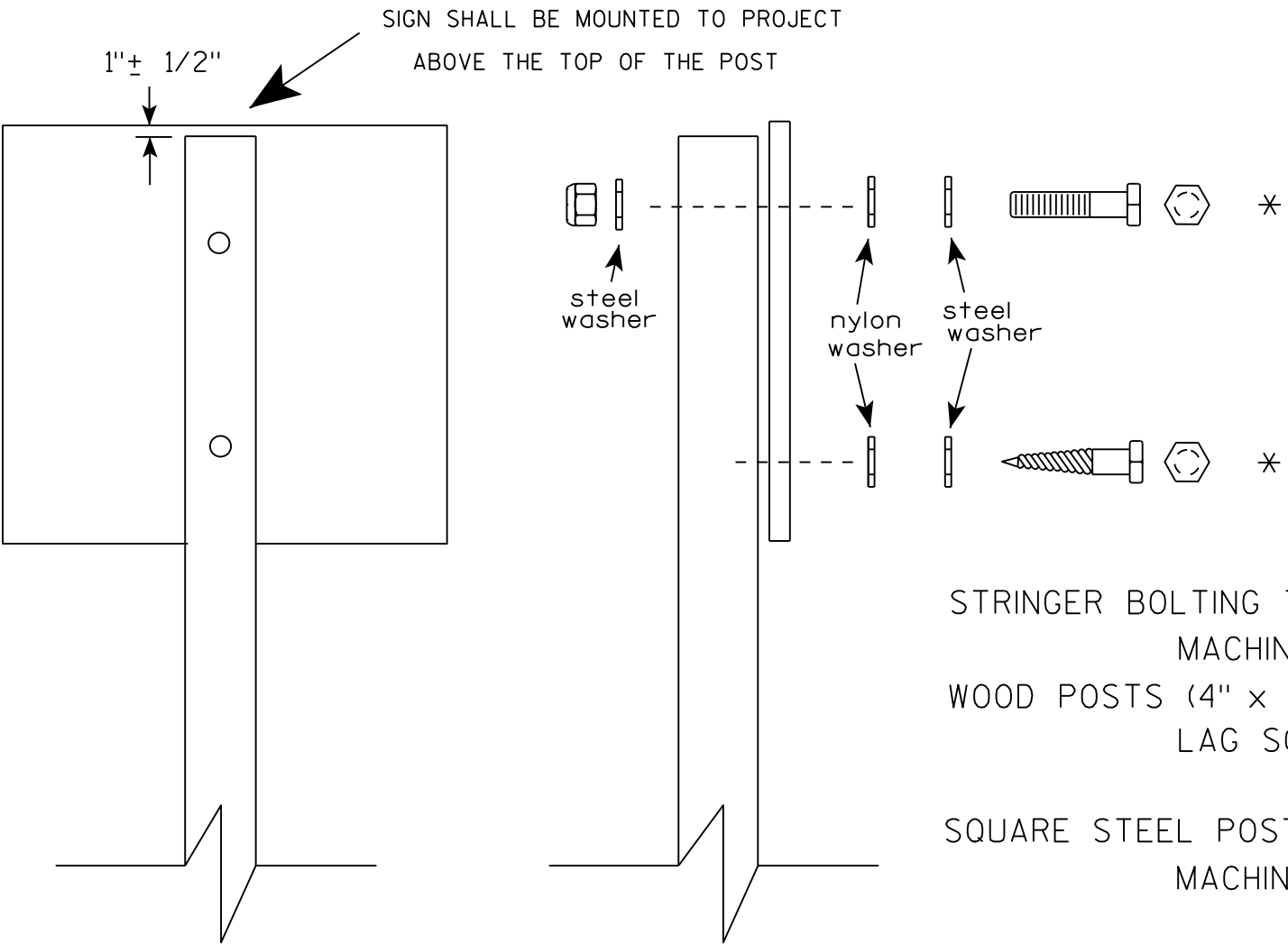
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20



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.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
 - 3/8" X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 - 3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- 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

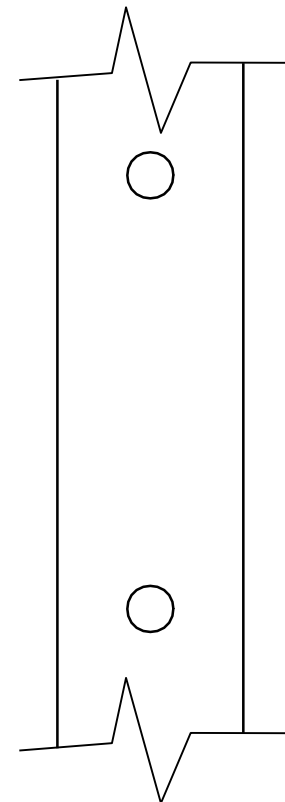
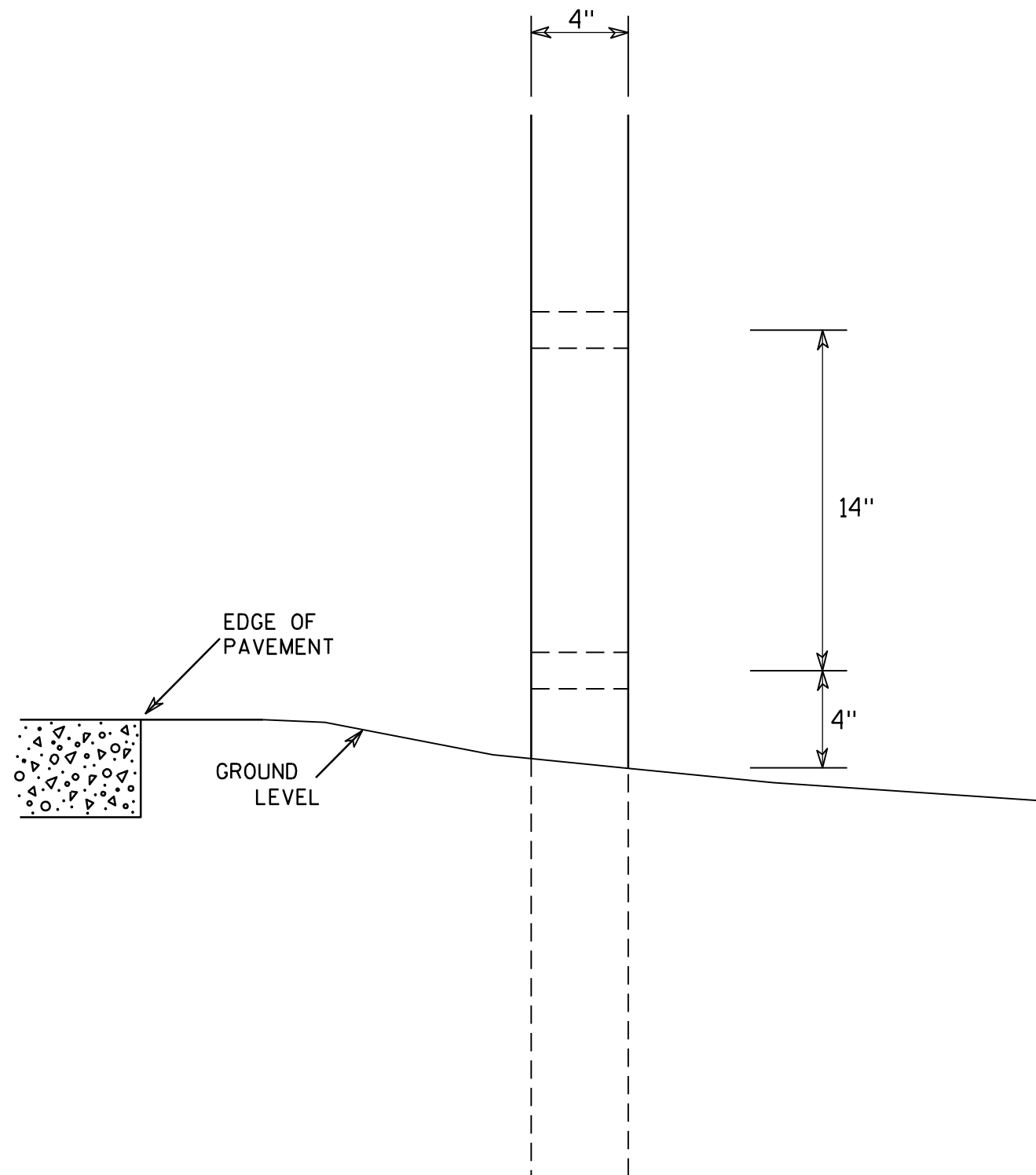
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS
TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1 1/2" diameter holes drilled perpendicular to the roadway centerline.

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: 8394-00-71

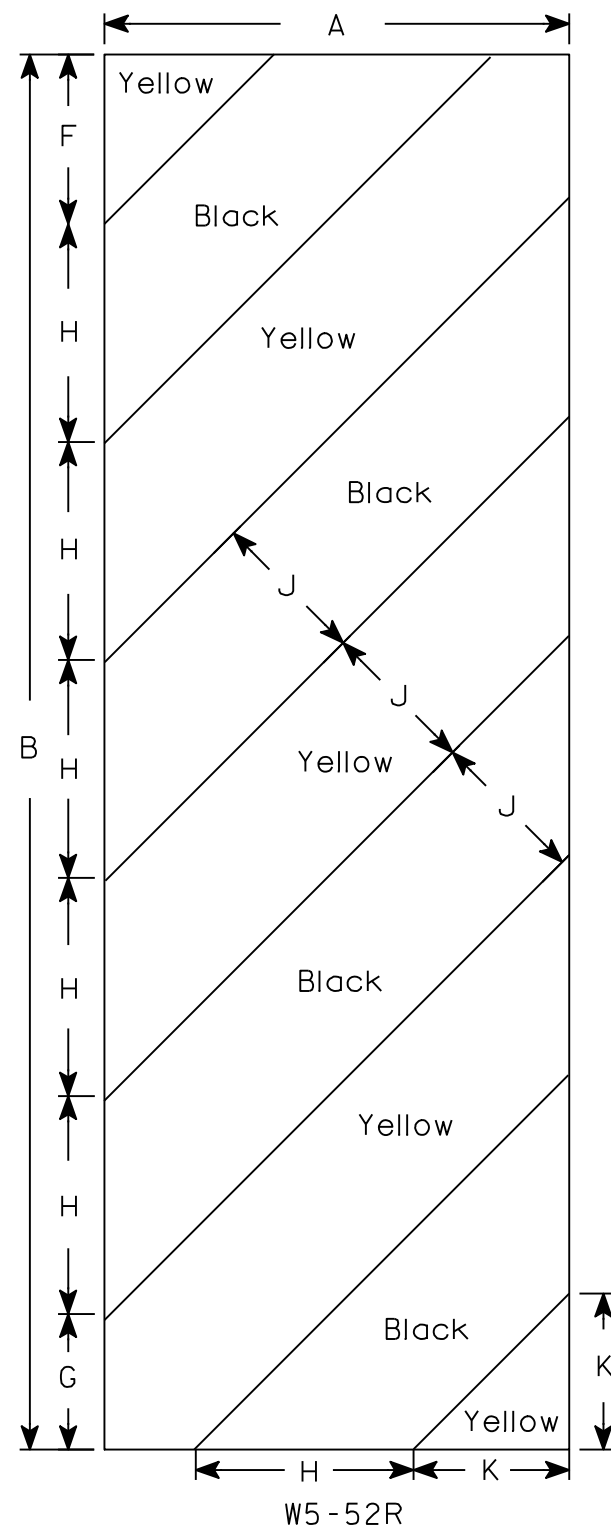
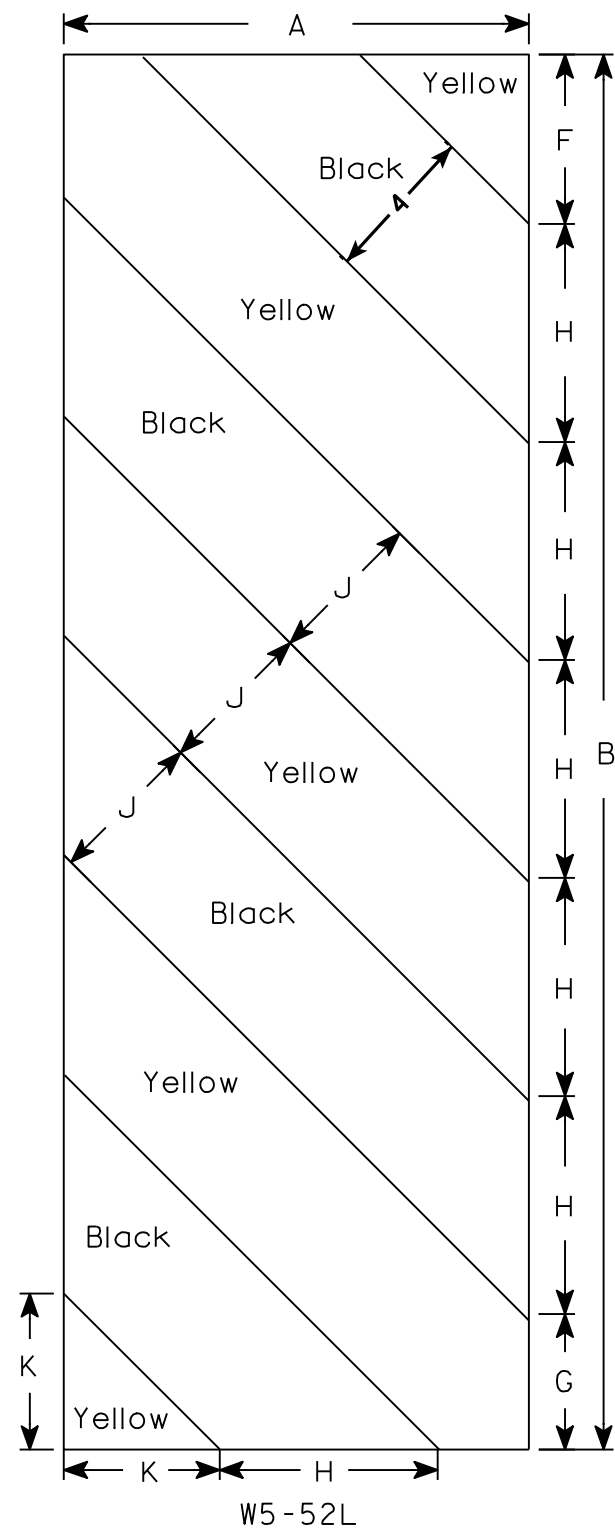
HWY: PELKEY ROAD

COUNTY: DOUGLAS

SHEET NO:

E

7



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. Alternate colors of stripes as shown.

7

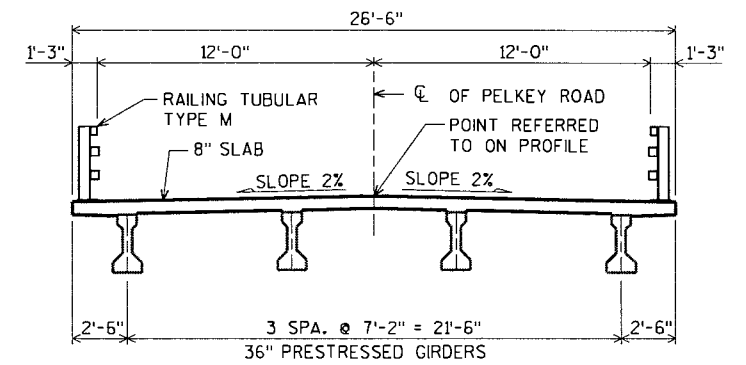
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
2M	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
3	18	54				6	5 1⁄2	8 1⁄2	45°	6	6 5⁄16																6.75
4																											
5																											

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9



CROSS SECTION THRU BRIDGE

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.15
OPERATING RATING FACTOR: 1.49
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING
SURFACE OF 20 #/S.F.

MATERIAL PROPERTIES:

CONCRETE MASONRY { SUPERSTRUCTURE _____ f'c = 4,000 p.s.i.
ALL OTHER _____ f'c = 3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) _____ fy = 60,000 p.s.i.

36" PRESTRESSED GIRDER
CONCRETE MASONRY _____ $f'_c = 8,000$ p.s.i.
STRANDS - 0.5" DIA. WITH ULTIMATE TENSILE STRENGTH OF _____ = 270,000 p.s.i.

HYDRAULIC DATA:

100 YEAR FREQUENCY

Q₁₀₀ = 650 c.f.s.
VEL. = 8.8 f.p.s.
HW₁₀₀ = EL. 863.1

2 YEAR FREQUENCY

Q₂ = 150 c.f.s.
VEL. = 6.2 f.p.s.
HW₂ = EL. 860.8

WATERWAY AREA = 74 sq. ft.
DRAINAGE AREA = 9.9 sq. mi.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 8
DATUM = NAVD88 (2012)

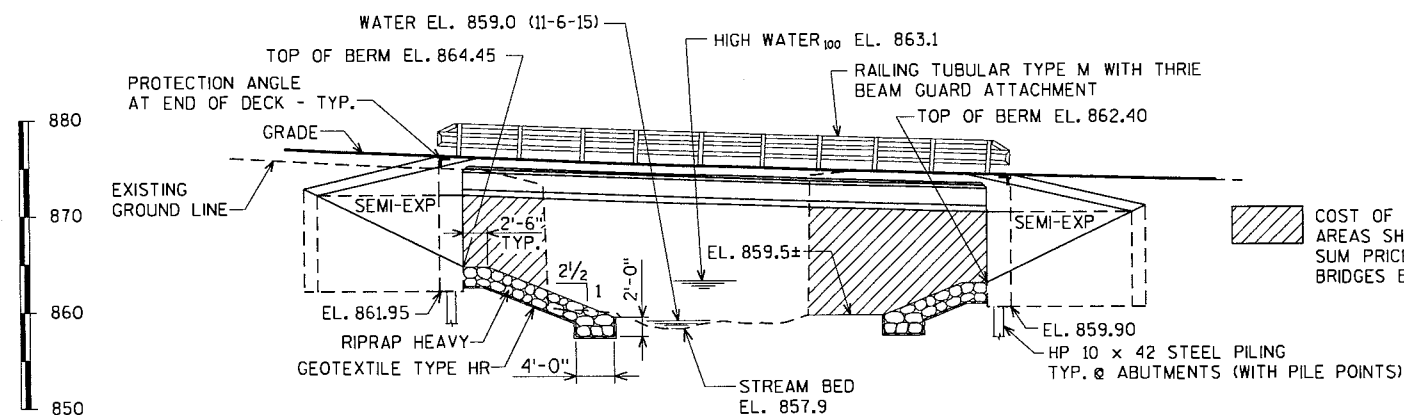
FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS)
DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 150 TONS ± PER PILE AS
DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED LENGTH 70'-0".

*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:

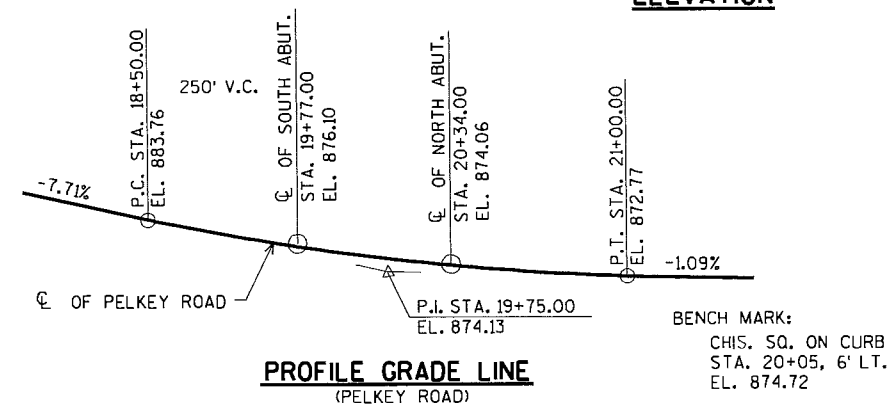
A.D.T. = <100 (2018)
A.D.T. = <100 (2038)
R.D.S. = 30 M.P.H.



ELEVATION

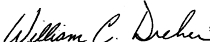
LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES AND NOTES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. SOUTH ABUTMENT WING DETAILS
7. NORTH ABUTMENT
8. NORTH ABUTMENT DETAILS
9. NORTH ABUTMENT WING DETAILS
10. ABUTMENT BILL OF BARS
11. INTERM. STEEL DIAPHS. DETAILS
12. 36" PRESTRESSED GIRDER DETAILS
13. SUPERSTRUCTURE
14. SUPERSTRUCTURE PLAN
15. RAILING TUBULAR TYPE M



BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
DAN SYDOW
(715)-834-3161

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY  3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	 SDR CHIEF STRUCTURES DESIGN ENGINEER		06/05/17 DATE
STRUCTURE B-16-139			
PELKEY ROAD OVER BALSAM CREEK COUNTY DOUGLAS TOWN/CITY/VILLAGE SUMMIT			
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	CJM	DESIGN CK'D.	CKJ
DRAWN BY	CLS	PLANS CK'D.	BNS
GENERAL PLAN			SHEET 1 OF 15

\$PRNAME\$
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STATE PROJECT NUMBER

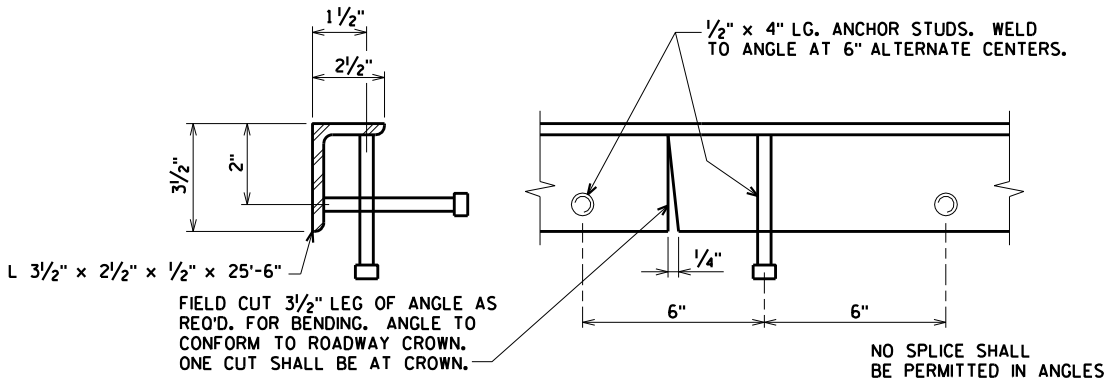
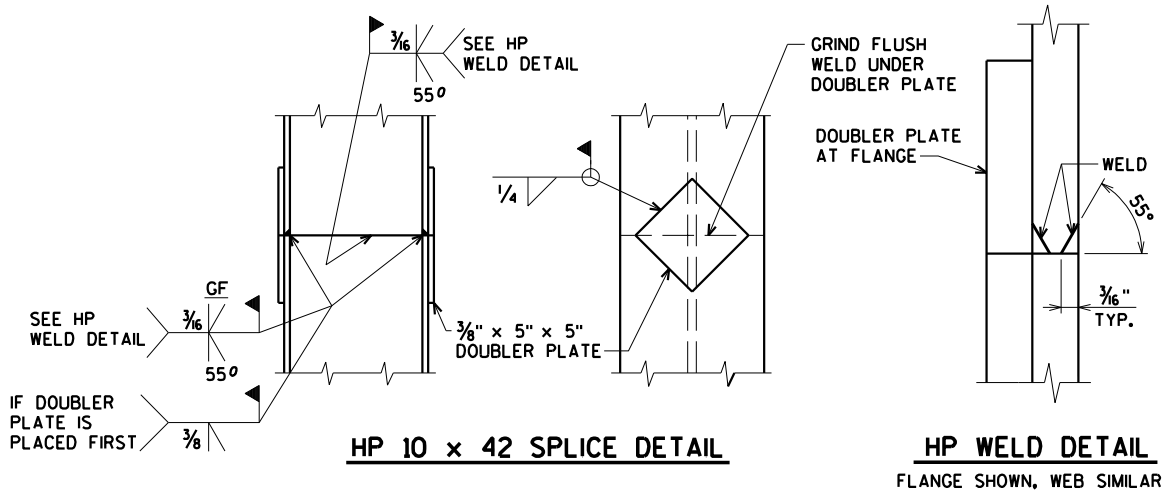
8394-00-71

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT.	N. ABUT.	SUPER.	TOTAL
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 20+00	LS	-----	-----	-----	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-16-139	LS	-----	-----	-----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	570	570	-----	1,140
502.0100	CONCRETE MASONRY BRIDGES	CY	65	65	61	191
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	200	200
503.0136	PRESTRESSED GIRDER TYPE I 36-INCH	LF	-----	-----	232	232
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,370	2,370	-----	4,740
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	3,350	3,350	11,720	18,420
506.0105	STRUCTURAL STEEL CARBON	LB	-----	-----	520	520
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	-----	-----	8	8
506.4000	STEEL DIAPHRAGMS B-16-139	EACH	-----	-----	3	3
513.4061	RAILING TUBULAR TYPE M B-16-139	LF	-----	-----	123	123
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	13	13	-----	26
550.0500	PILE POINTS	EACH	7	7	-----	14
550.1100	PILING STEEL HP 10-INCH x 42 LB	LF	490	490	-----	980
606.0300	RIPRAP HEAVY	CY	215	155	-----	370
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	115	115	-----	230
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	60	60	-----	120
645.0120	GEOTEXTILE TYPE HR	SY	370	290	-----	660
	NON-BID ITEMS					
	FILLER	SIZE	-----	-----	-----	1/2" & 3/4"

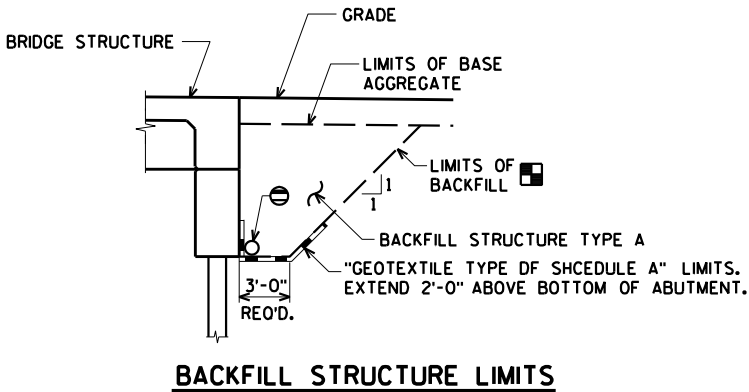
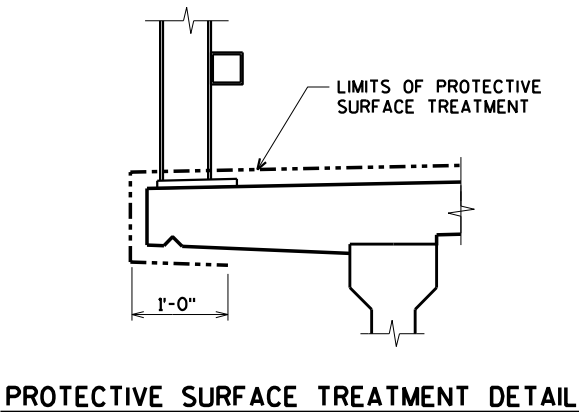
GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.
THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.
JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.
PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.
ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.
THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-16-139" SHALL BE THE EXISTING GROUNDLINE.
AT THE BACK FACE OF ABUTMENT, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.
EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.
THE EXISTING STRUCTURE, P-16-110, TO BE REMOVED, IS A SINGLE SPAN STEEL DECK GIRDER BRIDGE, 33 FT. LONG WITH A 18.0 FT. CLEAR ROADWAY WIDTH.
THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE HAUNCH DEPTH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEETS.
BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.



PROTECTION ANGLE DETAIL

(ANGLE AND STUDS TO BE PAID FOR AT THE UNIT PRICE BID FOR "STRUCTURAL STEEL CARBON". (NO PAINT REQ'D.)
SANDBLAST PROTECTION ANGLE AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PROTECTION ANGLE SHALL BE HOT DIPPED GALVANIZED.



BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

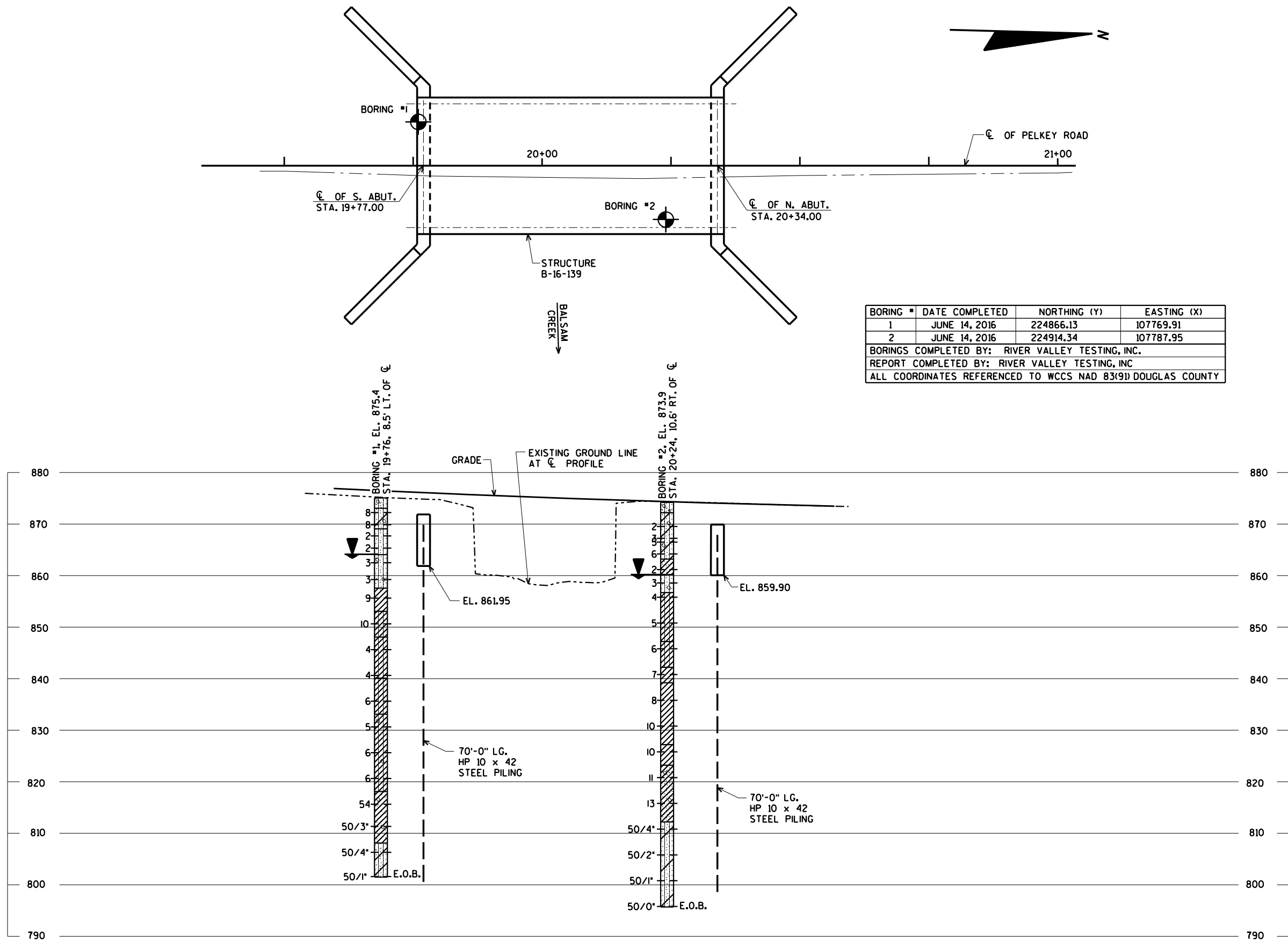
PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 5.

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-139			
		DRAWN BY	CLS
		PLANS CK'D.	CJM
QUANTITIES AND NOTES		SHEET 2 OF 15	

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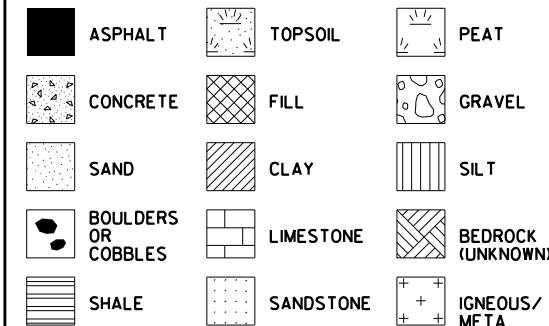
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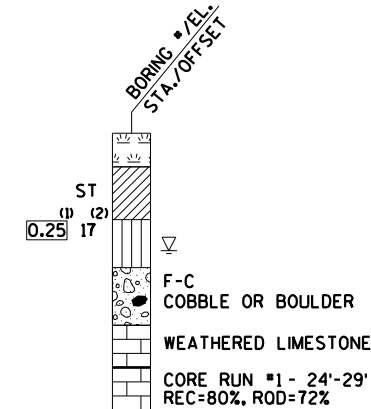
STATE PROJECT NUMBER

8394-00-71

MATERIAL SYMBOLS



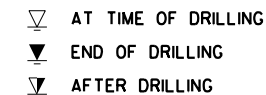
LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION



ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

8

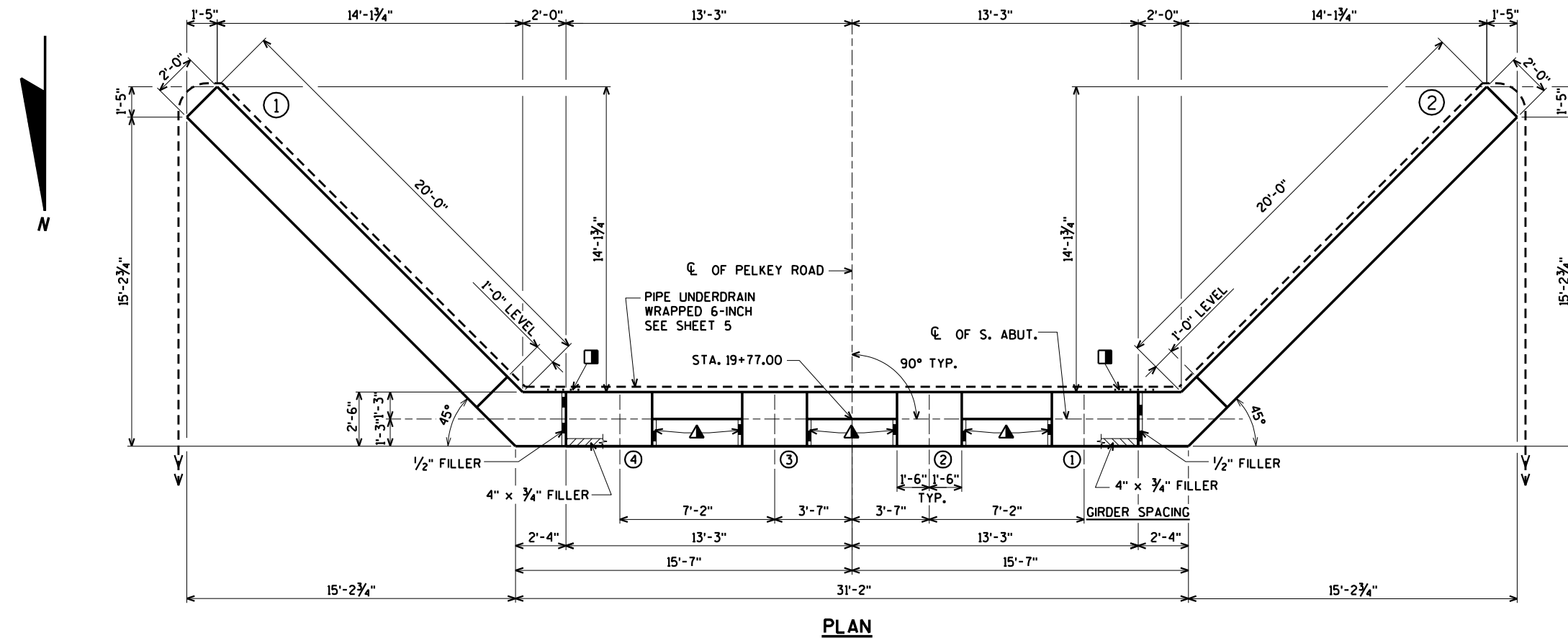
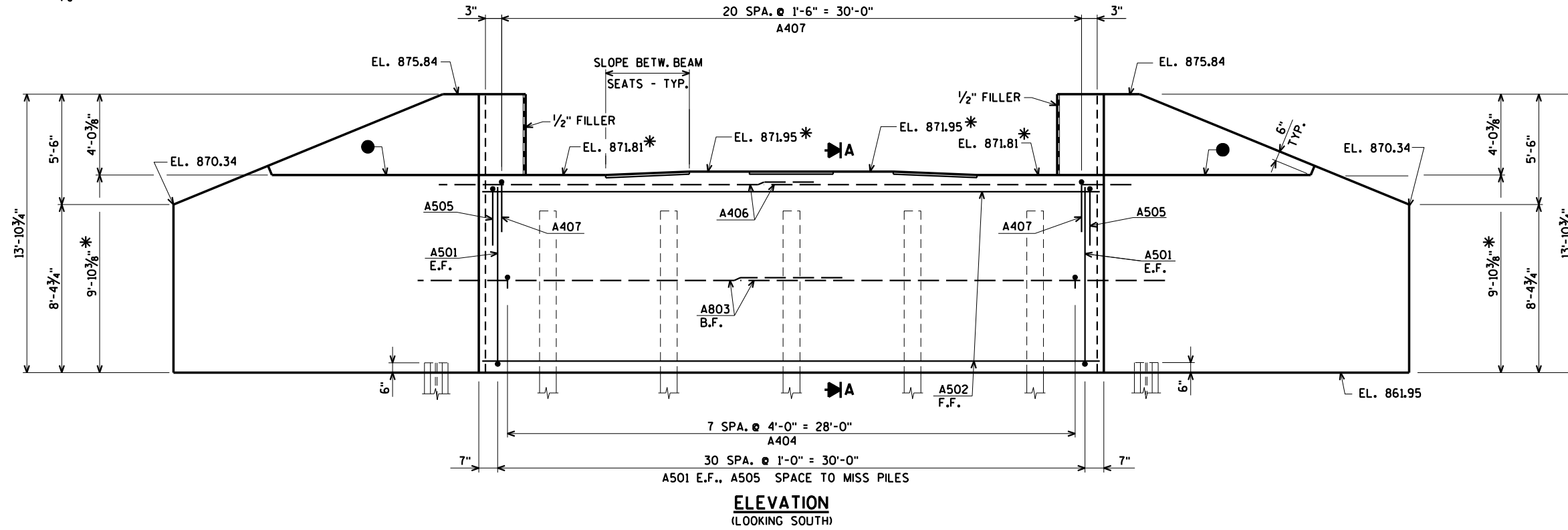
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-139			
DRAWN BY		CLS	PLANS CK'D. CJM
SUBSURFACE EXPLORATION		SHEET 3 OF 15	

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NOTE:
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).

STATE PROJECT NUMBER

8394-00-71



* ELEVATIONS AND DIMENSIONS
TAKEN AT C. OF ABUT.

● OPT. KEYED CONST. JOINT - FORMED
BY A BEVELED 2' x 6'.

FOR SECTION A SEE SHEET 5.

■ 18" RUBBERIZED MEMBRANE
WATERPROOFING TO EXTEND
FROM BRIDGE SEAT TO TOP
OF WING.

▲ 3/4" CORK FILLER ON VERTICAL
FACE ONLY.

FOR PILE SPLICE DETAIL
SEE SHEET 2.

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

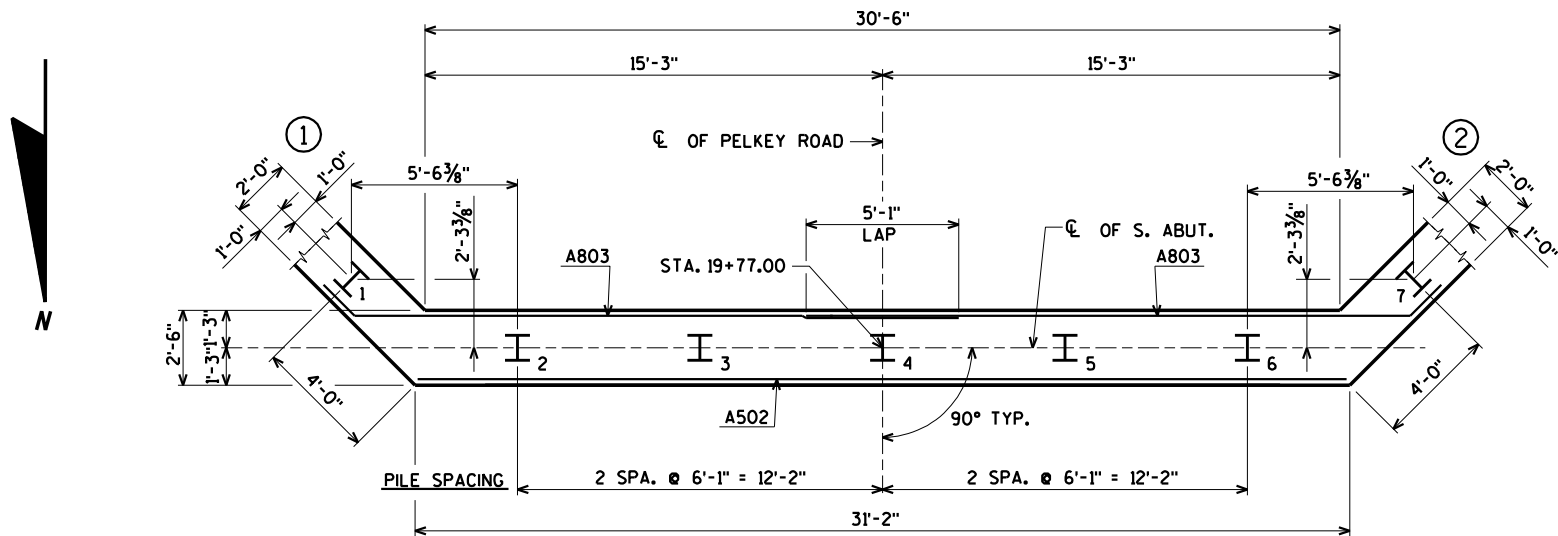
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-139			
DRAWN BY		CLS	PLANS CK'D. CJM
SOUTH ABUTMENT			SHEET 4 OF 15

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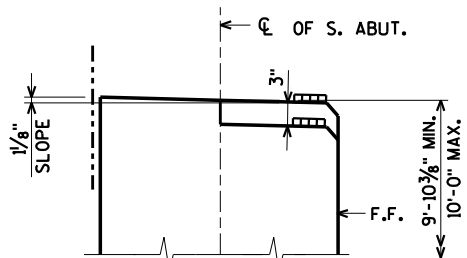
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STATE PROJECT NUMBER

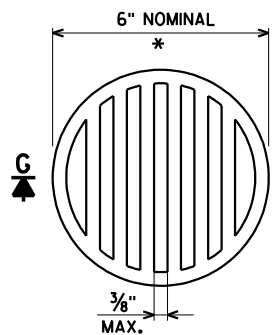
8394-00-71



PILE LAYOUT



SLOPED BEAM SEAT DETAIL

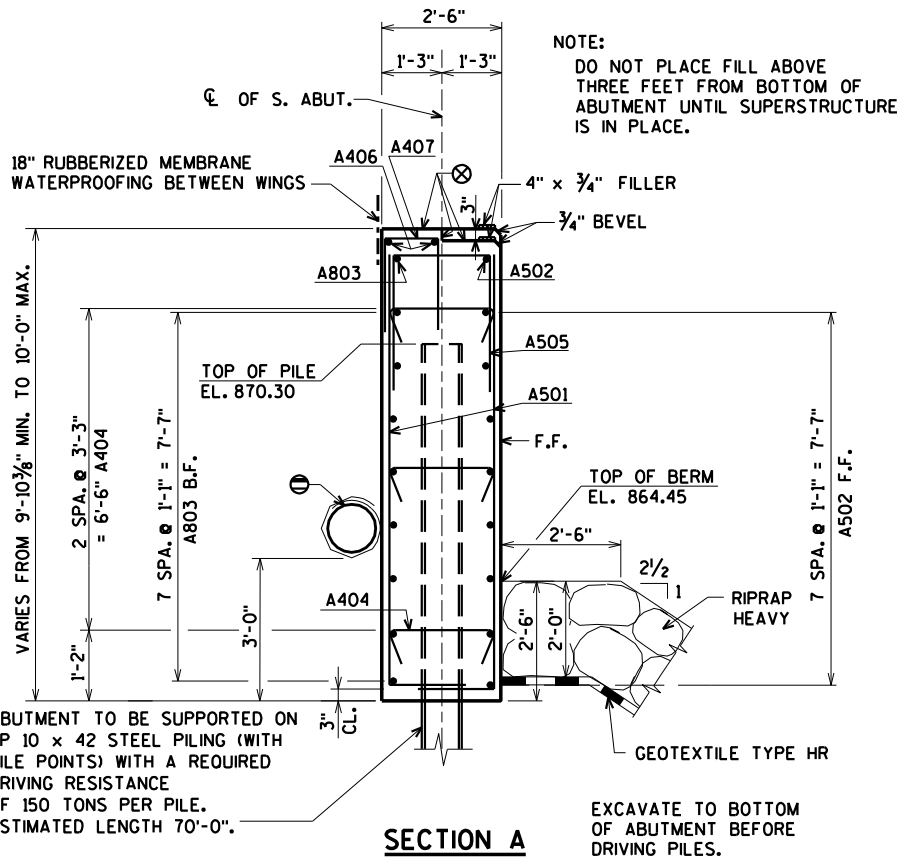


* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY 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 SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH SHEET METAL SCREWS.

RODENT SHIELD DETAIL



SECTION A

NOTE:
DO NOT PLACE FILL ABOVE THREE FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

⊗ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON THIS SHEET.

⊗ 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".

FOR PILE SPLICE DETAIL SEE SHEET 2.

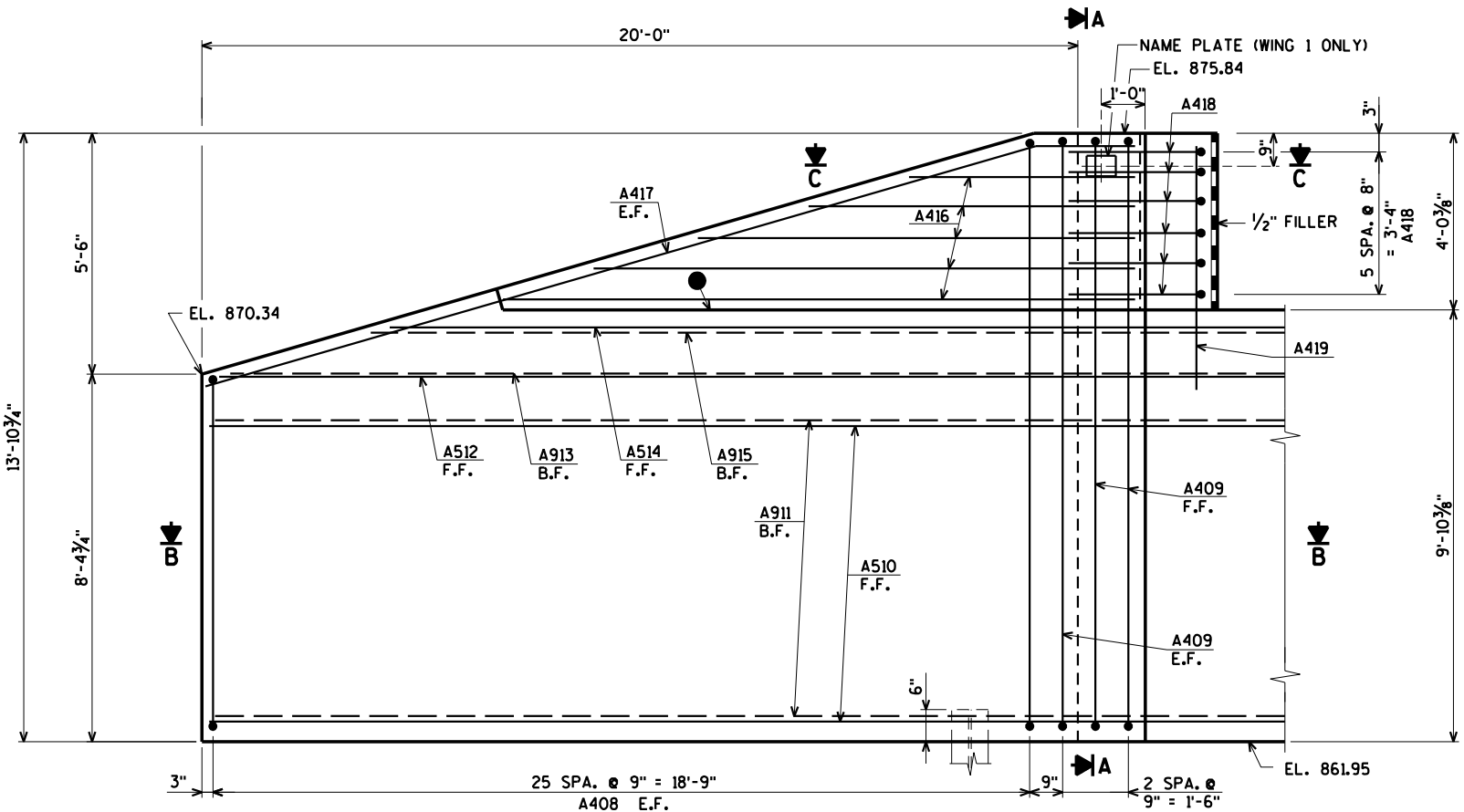
FOR LOCATION OF SECTION A SEE SHEET 4.

F.F. DENOTES FRONT FACE.

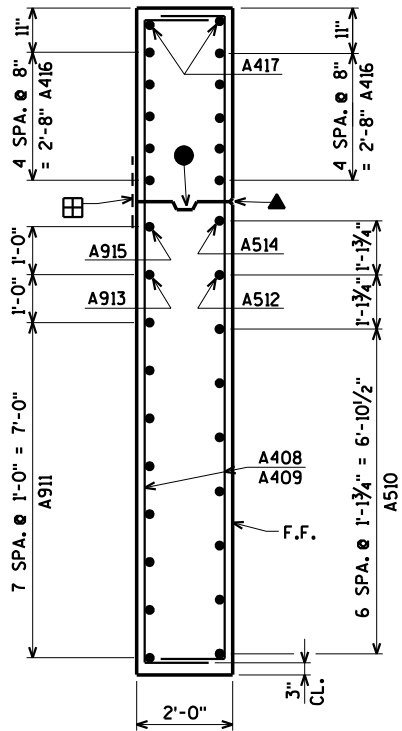
B.F. DENOTES BACK FACE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-139			
DRAWN BY		CLS	PLANS CK'D. CJM
SOUTH ABUTMENT DETAILS		SHEET 5 OF 15	

ORIGINAL PLANS PREPARED BY
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Eau Claire, WI 54701
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ELEVATION - WING 1
(WING 1 SHOWN - WING 2 SIMILAR)



SECTION A

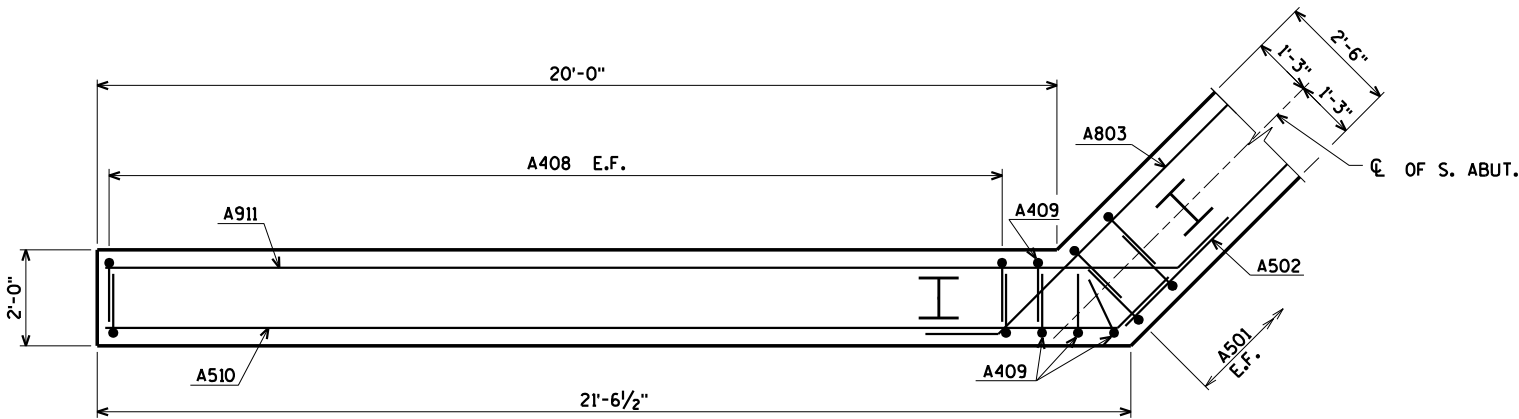
- ▲ 3/4" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.
- OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".
- ▲ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BEAM SEAT TO TOP OF WINGWALL.
- 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

FOR PILE SPLICE DETAIL SEE SHEET 2.

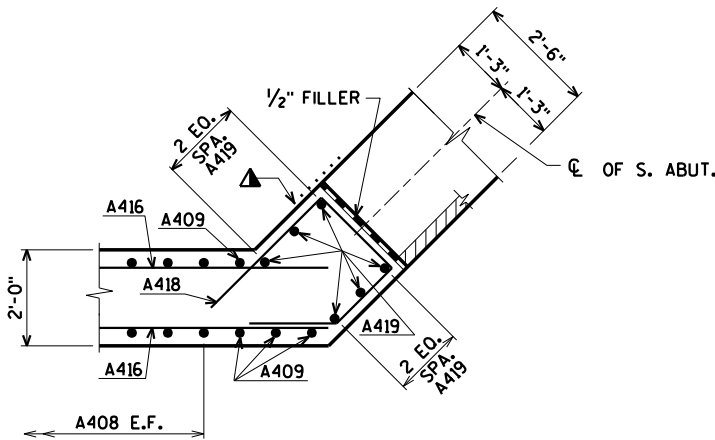
F.F. DENOTES FRONT FACE.

B.F. DENOTES BACK FACE.

E.F. DENOTES EACH FACE



SECTION B

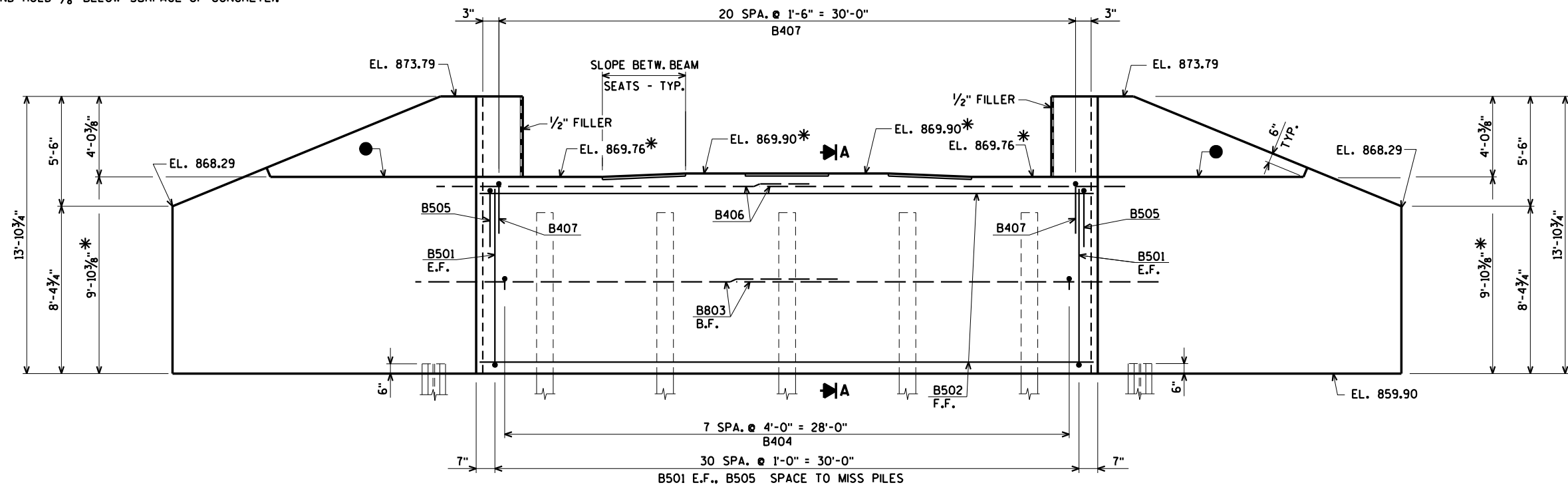


SECTION C

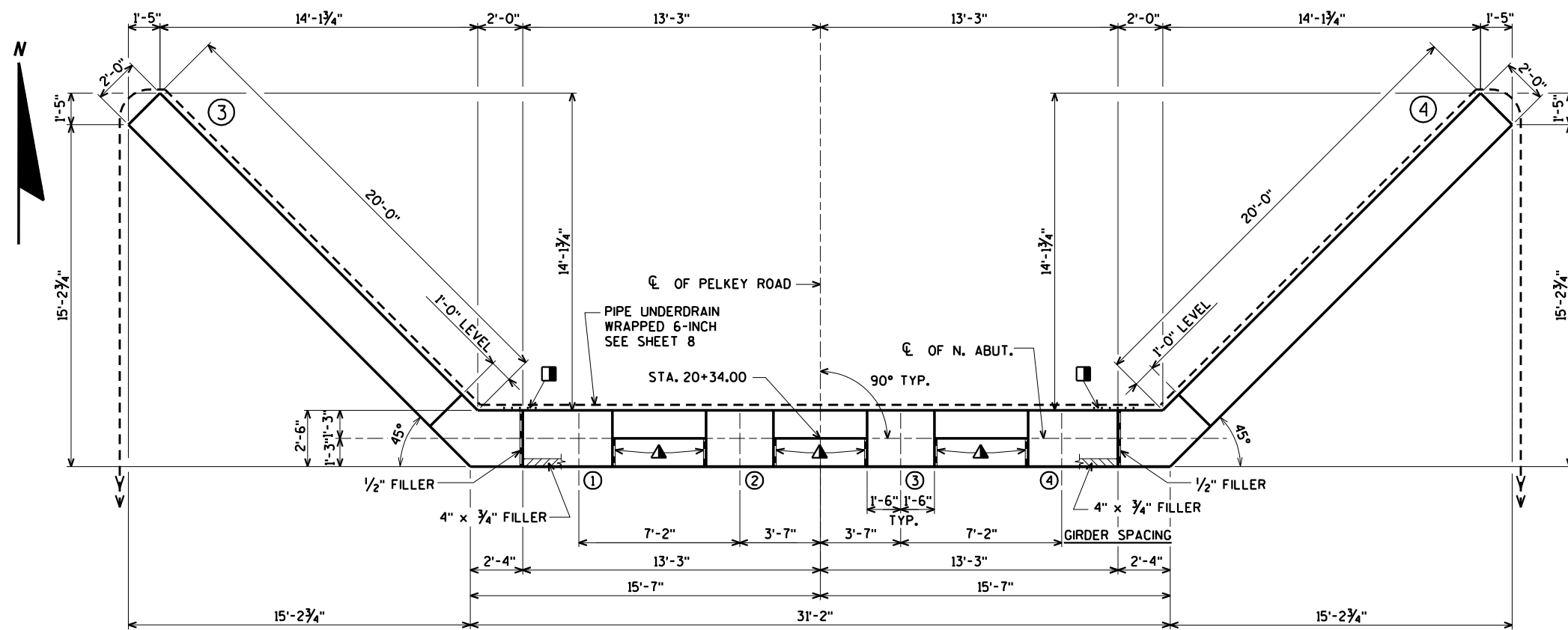
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-139			
DRAWN BY		CLS	PLANS CK'D. CJM
SOUTH ABUTMENT WING DETAILS			SHEET 6 OF 15

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Eau Claire, WI 54701
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NOTE:
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
(LOOKING NORTH)



PLAN

* ELEVATIONS AND DIMENSIONS
TAKEN AT CL OF ABUT.

● OPT. KEYED CONST. JOINT - FORMED
BY A BEVELED 2' x 6'.

FOR SECTION A SEE SHEET 8.

■ 18" RUBBERIZED MEMBRANE
WATERPROOFING TO EXTEND
FROM BRIDGE SEAT TO TOP
OF WING.

▲ 3/4" CORK FILLER ON VERTICAL
FACE ONLY.

FOR PILE SPLICE DETAIL
SEE SHEET 2.

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

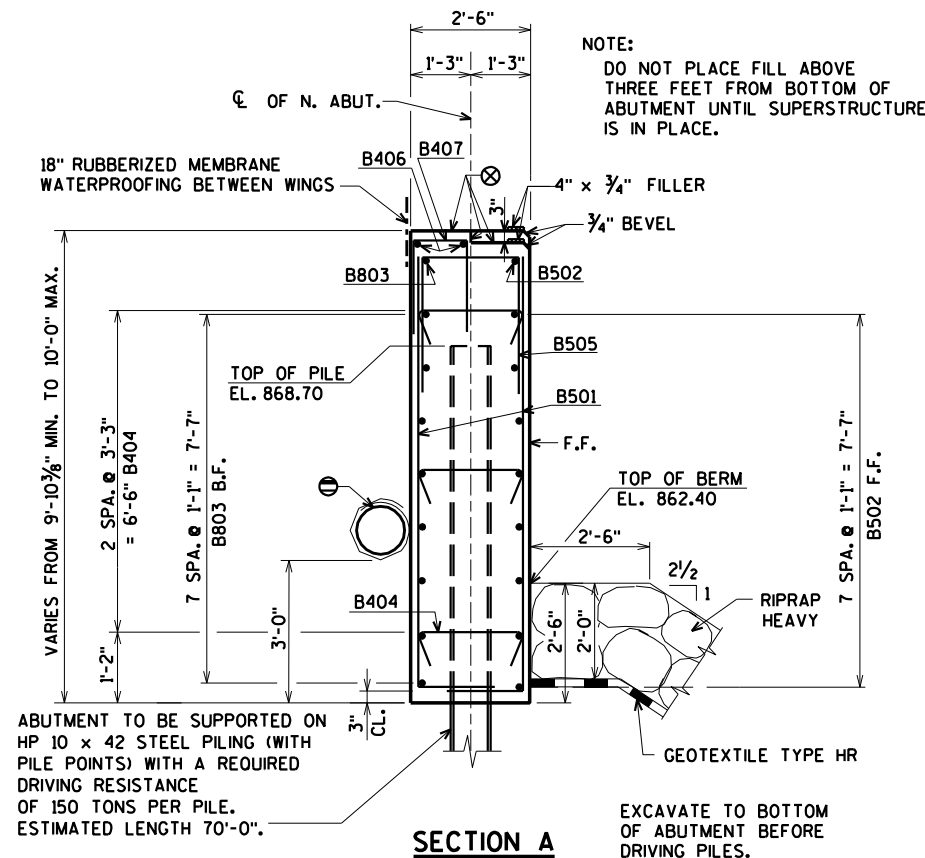
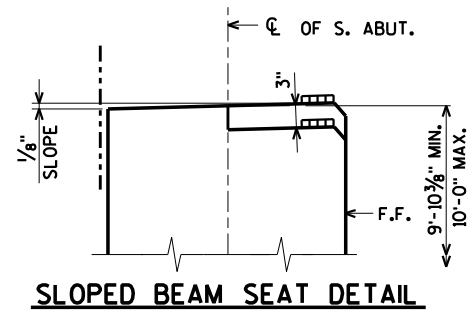
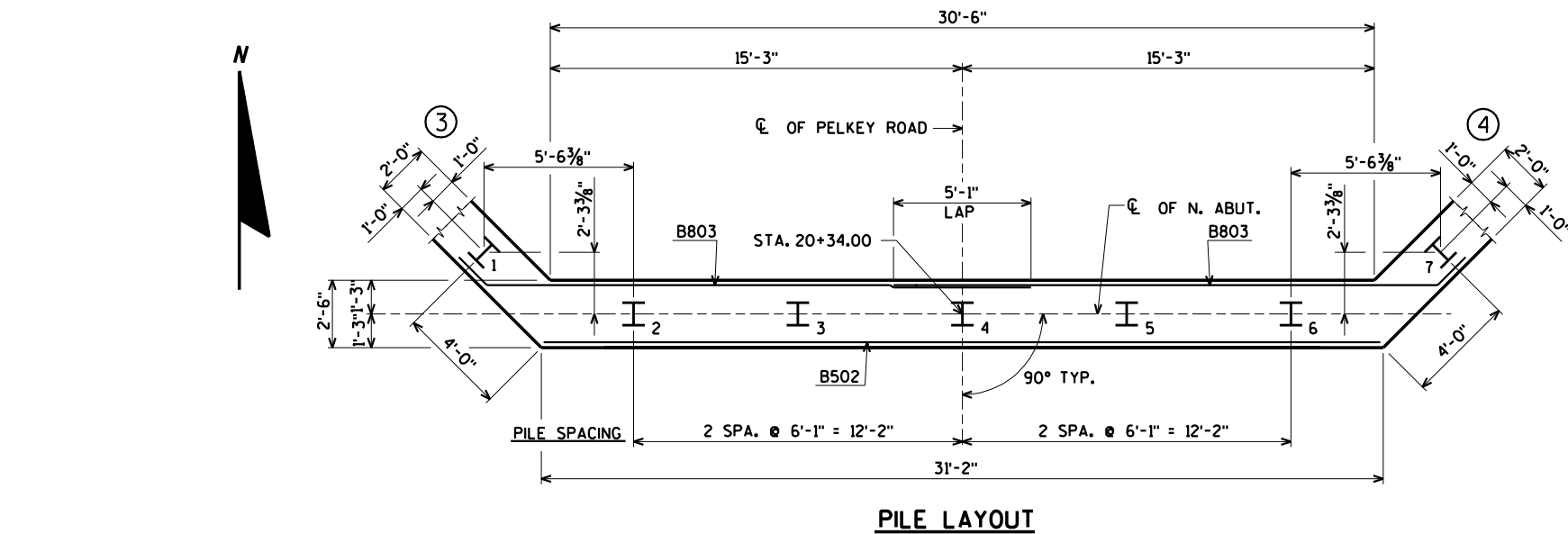
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-139			
DRAWN BY		CLS	PLANS CK'D. CJM
NORTH ABUTMENT		SHEET 7 OF 15	

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⊙ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON THIS SHEET 5.

⊗ 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".

FOR PILE SPLICE DETAIL SEE SHEET 2.

FOR LOCATION OF SECTION A SEE SHEET 7.

F.F. DENOTES FRONT FACE.

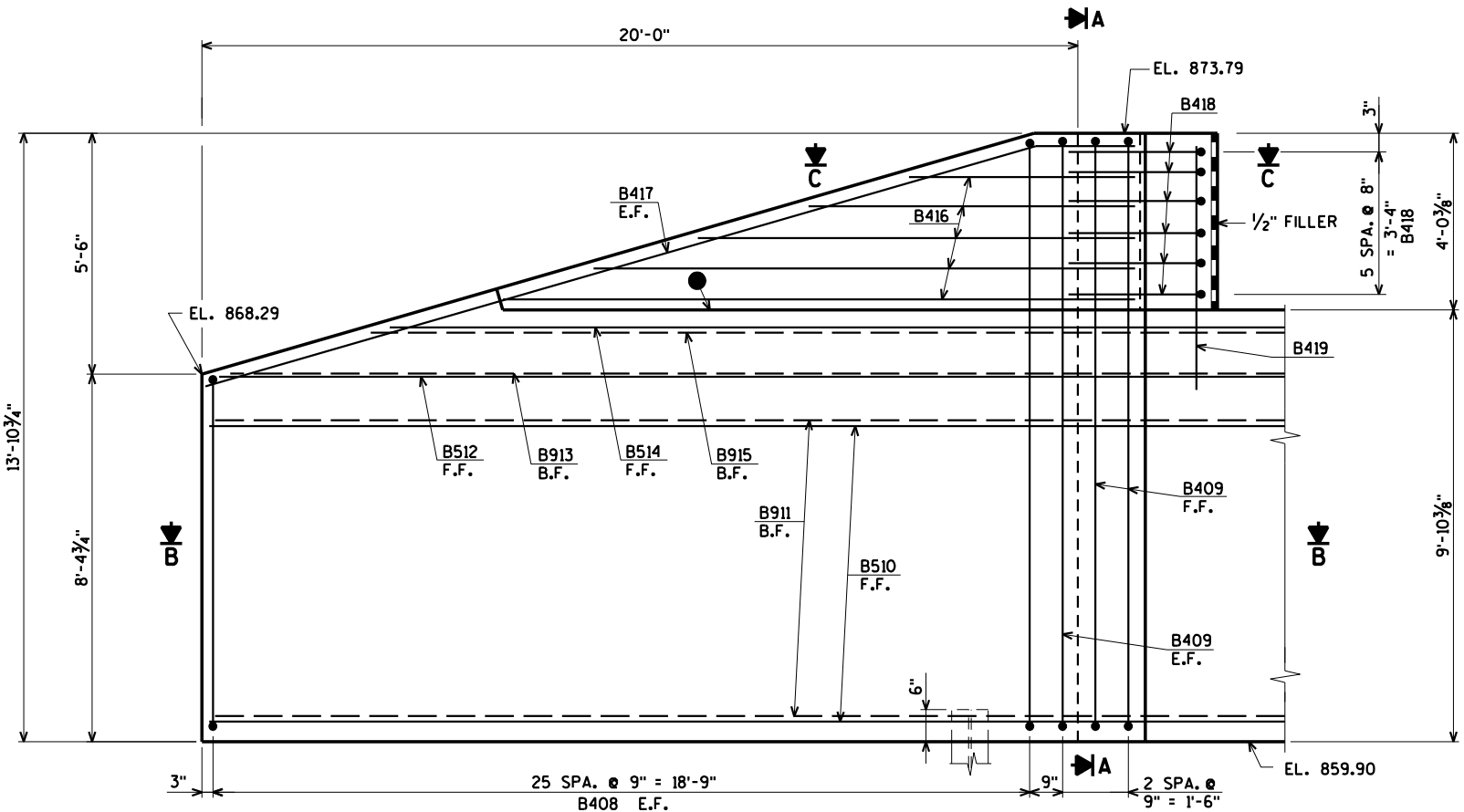
B.F. DENOTES BACK FACE.

8

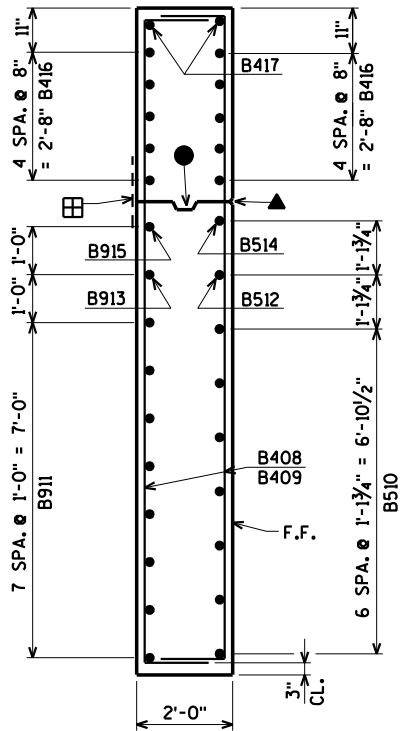
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-139			
DRAWN BY		CLS	PLANS CK'D. CJM
NORTH ABUTMENT DETAILS		SHEET 8 OF 15	

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ELEVATION - WING 3
(WING 3 SHOWN - WING 4 SIMILAR)



SECTION A

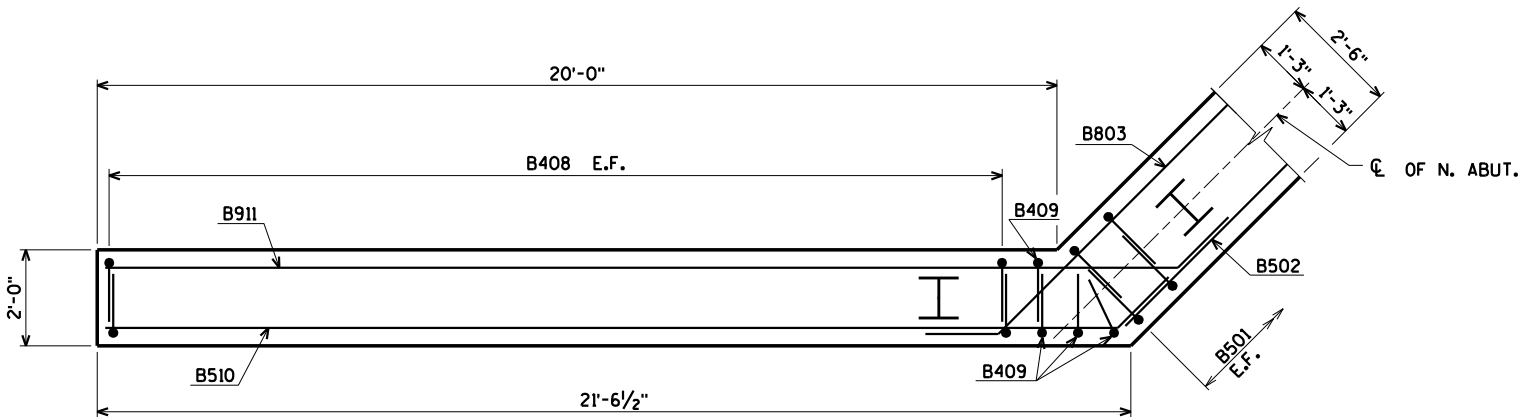
- ▲ 3/4" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.
- OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".
- ▲ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BEAM SEAT TO TOP OF WINGWALL.
- 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

FOR PILE SPLICE DETAIL SEE SHEET 2.

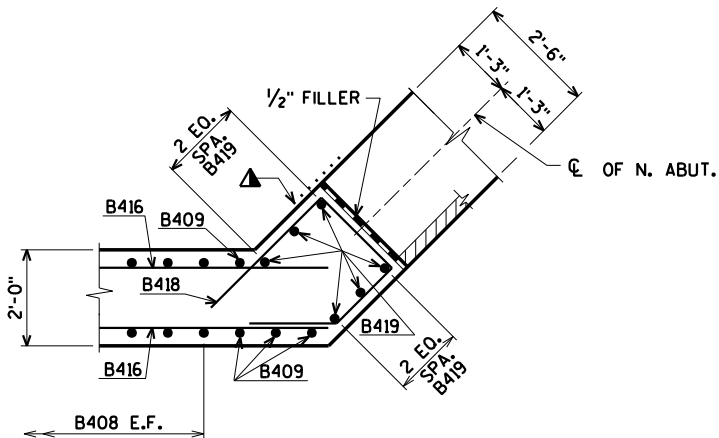
F.F. DENOTES FRONT FACE.

B.F. DENOTES BACK FACE.

E.F. DENOTES EACH FACE



SECTION B



SECTION C

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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-139			
DRAWN BY		CLS	PLANS CK'D. CJM
NORTH ABUTMENT WING DETAILS			SHEET 9 OF 15

BILL OF BARS - NORTH ABUTMENT

[illegible]

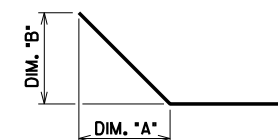
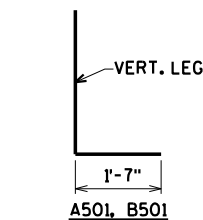
⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

F.F. DENOTES FRONT FACE.

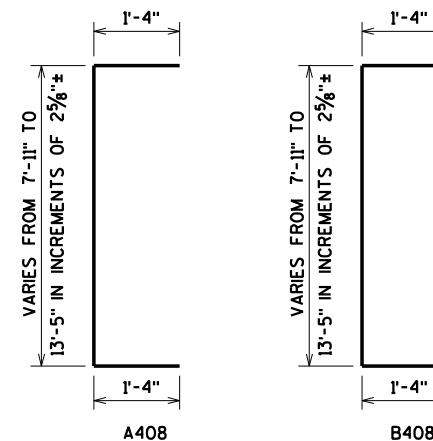
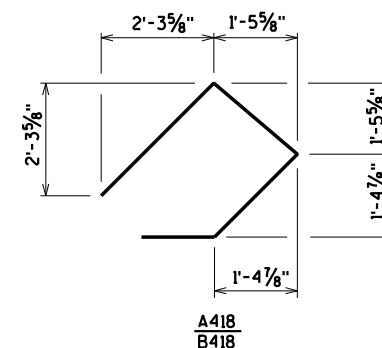
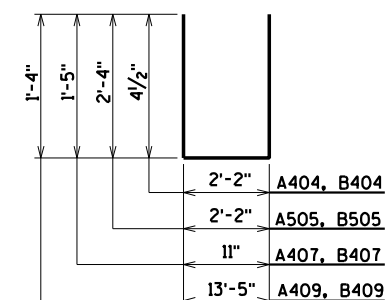
E.F. DENOTES EACH FACE.

BAR MARK	NO REQ'D.	LENGTH
A408	4 SERIES OF 26	10'-5" TO 15'-11"
A416	4 SERIES OF 5	4'-11" TO 14'-1"
B408	4 SERIES OF 26	10'-5" TO 15'-11"
B416	4 SERIES OF 5	4'-11" TO 14'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.

[illegible]

BAR NO.	DIM. "A"	DIM. "B"
A803	1'-0 3/4"	1'-0 3/4"
A510	1'-0 3/4"	1'-0 3/4"
A911	1'-0 3/4"	1'-0 3/4"
A512	1'-0 3/4"	1'-0 3/4"
A913	1'-0 3/4"	1'-0 3/4"
A514	1'-0 3/4"	1'-0 3/4"
A915	1'-0 3/4"	1'-0 3/4"
A417	18"-10"	5'-5"
B803	1'-0 3/4"	1'-0 3/4"
B510	1'-0 3/4"	1'-0 3/4"
B911	1'-0 3/4"	1'-0 3/4"
B512	1'-0 3/4"	1'-0 3/4"
B913	1'-0 3/4"	1'-0 3/4"
B514	1'-0 3/4"	1'-0 3/4"
B915	1'-0 3/4"	1'-0 3/4"
B417	18"-10"	5'-5"



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-139			
DRAWN BY		CLS	PLANS CK'D. CJM
ABUTMENT BILL OF BARS		SHEET 10 OF 15	

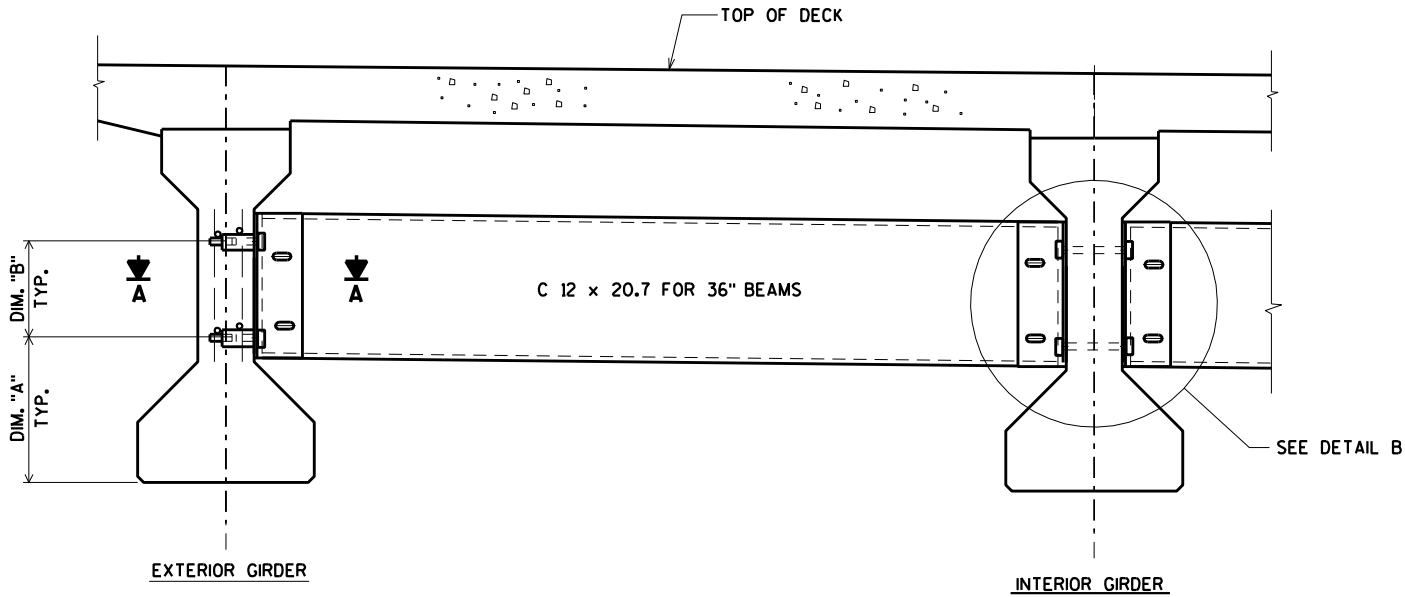
\$PRNAME\$
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STATE PROJECT NUMBER

8394-00-71

TABLE

GIRDER HEIGHT	DIM. "A"	DIM. "B"	DIM. "L"	*DIM. "X"
36"	1'-2 7/8"	9 7/8"	1'-1 1/2"	3/4"



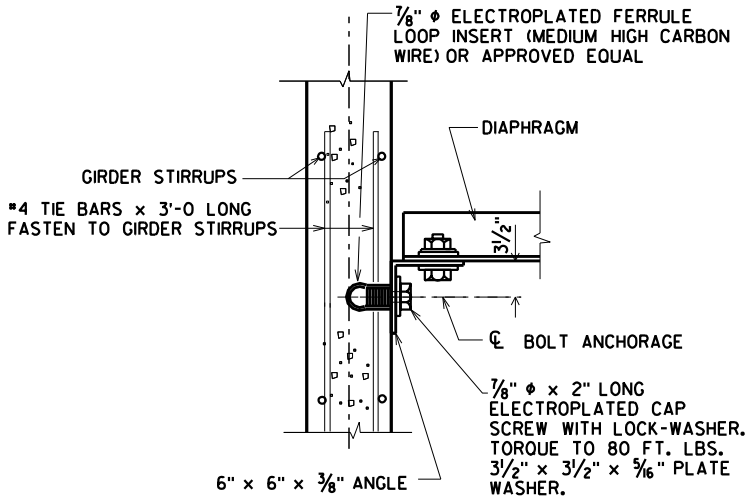
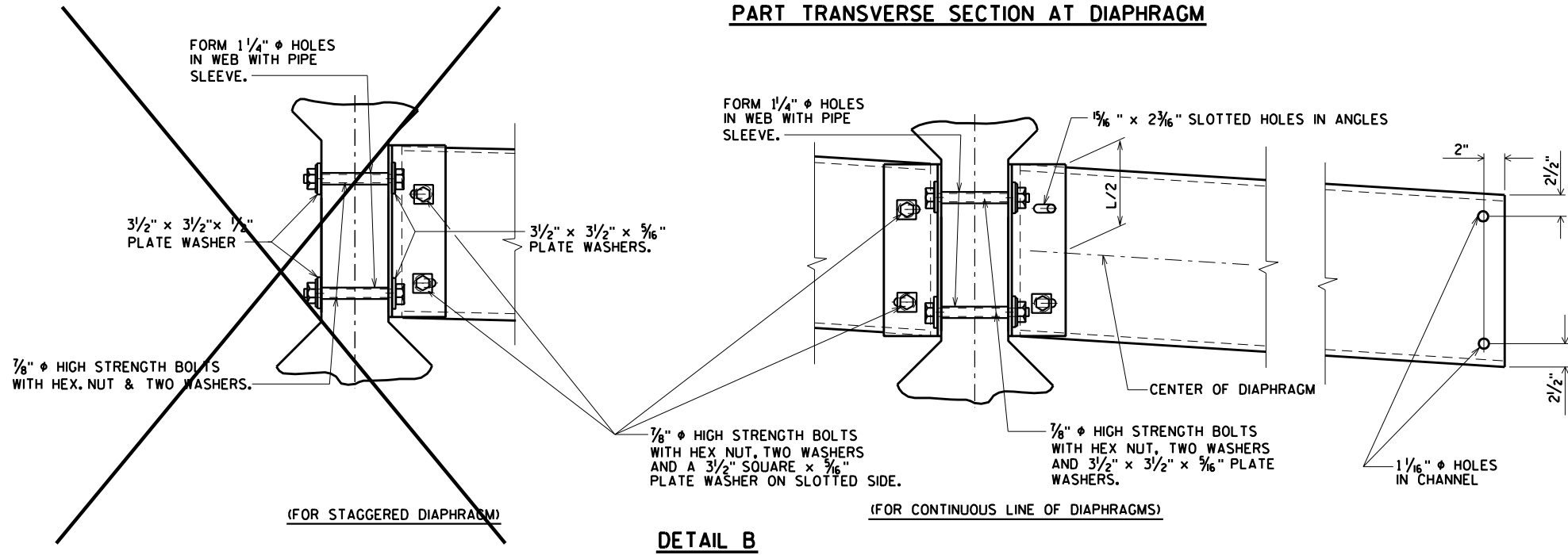
NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-16-139", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

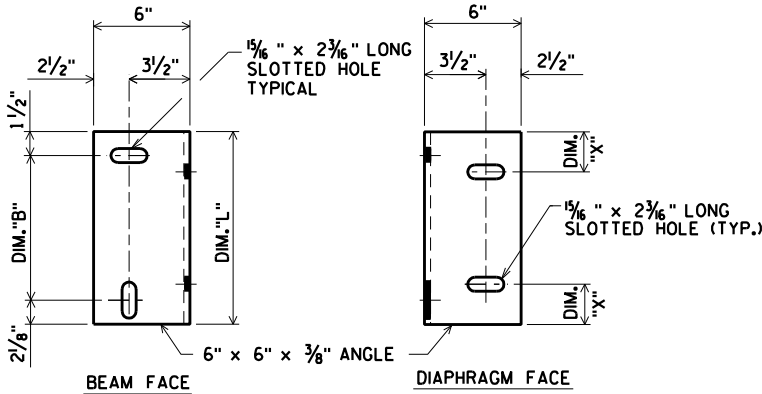
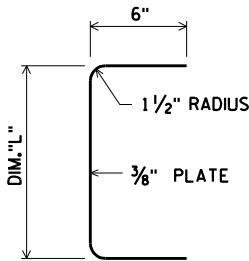
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

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.



SECTION THRU ALTERNATE DIAPHRAGM

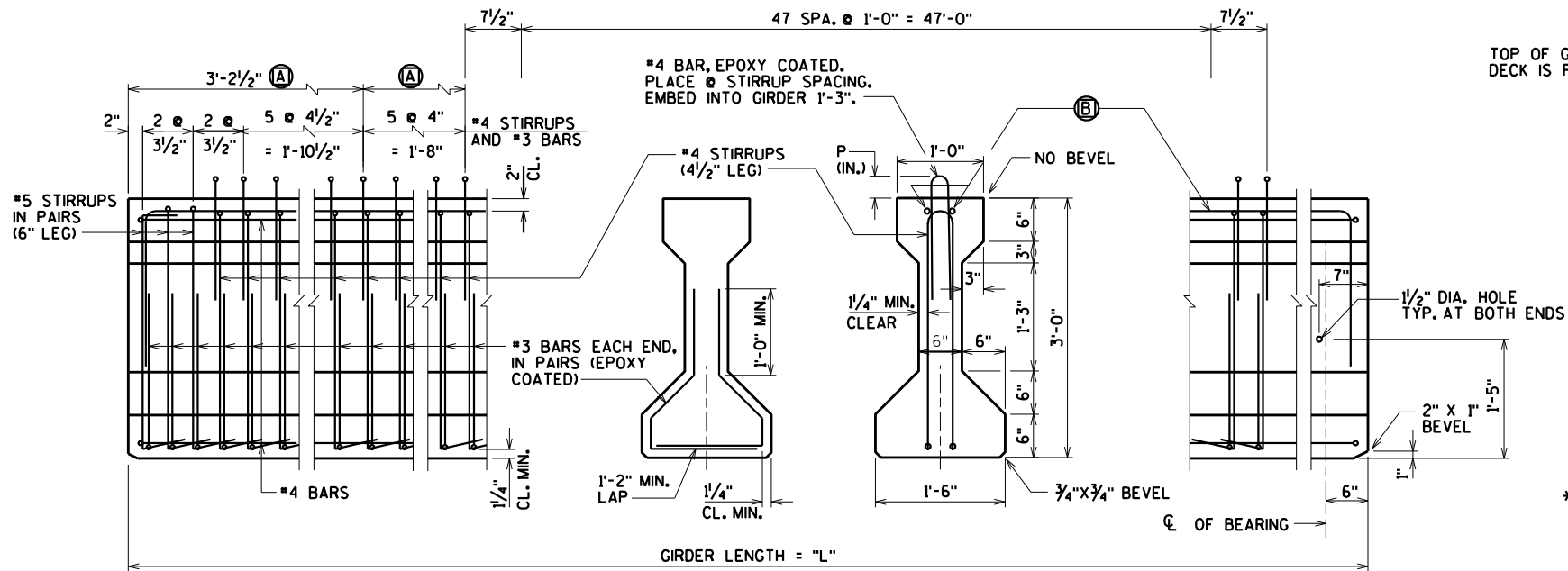
*DIM. "X" = 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM



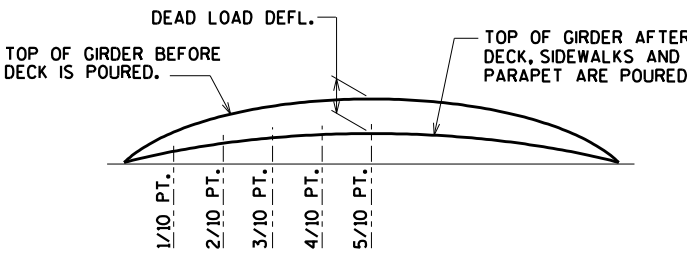
DIAPHRAGM SUPPORT

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-139			
DRAWN BY		CLS	PLANS CK'D. CJM
INTERM. STEEL DIAPHS. DETAILS			SHEET 11 OF 15



SIDE VIEW & TYPICAL SECTION IN SPAN (A) DETAIL TYP. AT EACH END (B) 2-BARS BEND DOWN 16 BAR DIA. AT ENDS 2 - #4, 1'-11" MIN. LAP

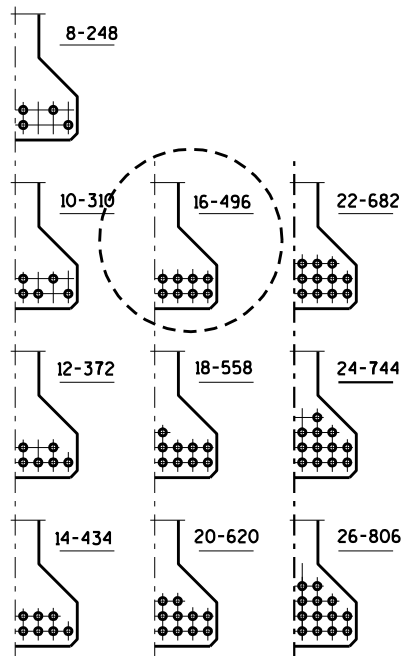


DEAD LOAD DEFLECTION DIAGRAM

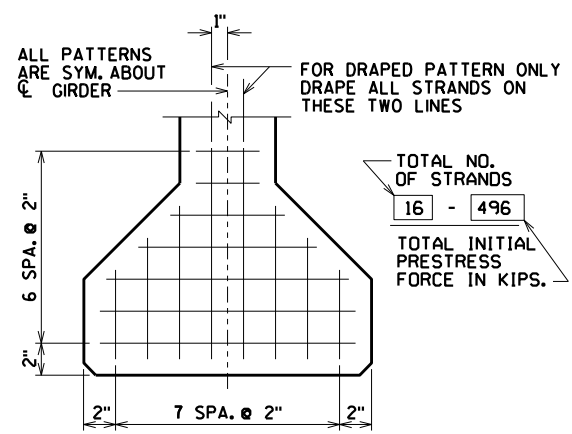
*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	1.3

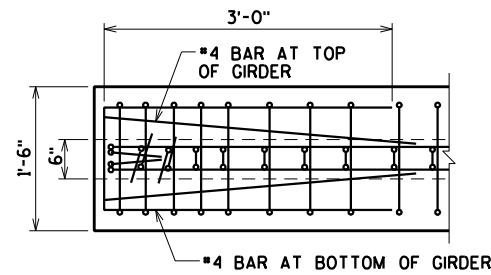
THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T'. USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



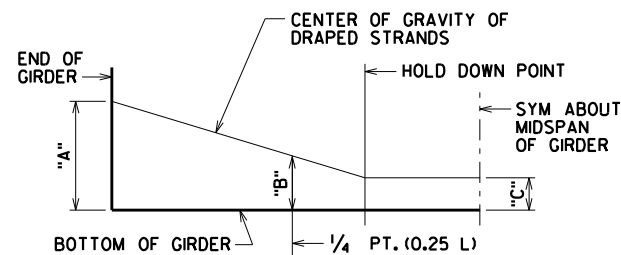
DRAPED PATTERN 0.5" STRANDS



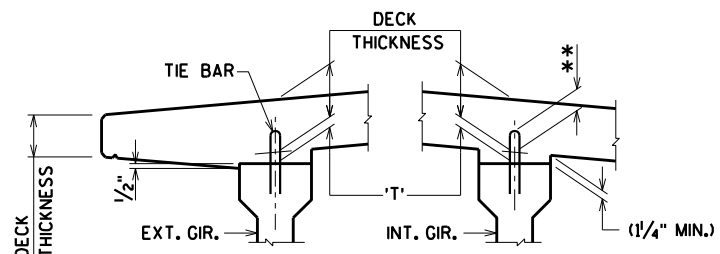
TYP. STRAND PATTERN



TOP VIEW OF GIRDER ENDS



DRAPED STRAND PROFILE



DECK HAUNCH DETAIL

IF 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 DECK 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 C. 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
- DECK THICKNESS
- = HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3 3/8" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

* 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" 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 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						(IN.)							
																	"A"	"B" MIN.	"B" MAX.	"C"				
1	1-4	58'-0"	0.2	0.3	0.5	0.6	0.6	0.6	0.5	0.3	0.2	8000	8"	7"	8"	0.5	16	6400	33"	10.5"	13.5"	3"		

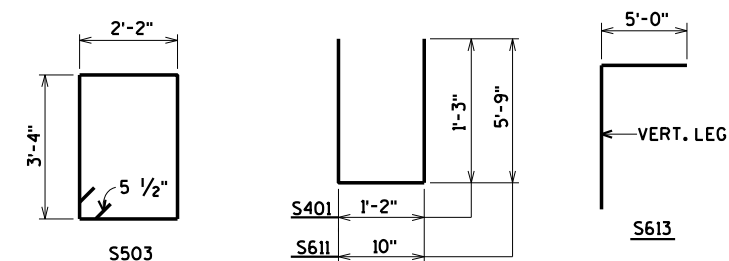
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-139			
DRAWN BY		CLS	PLANS CK'D. CJM
36" PRESTRESSED GIRDER DETAILS			SHEET 12 OF 15

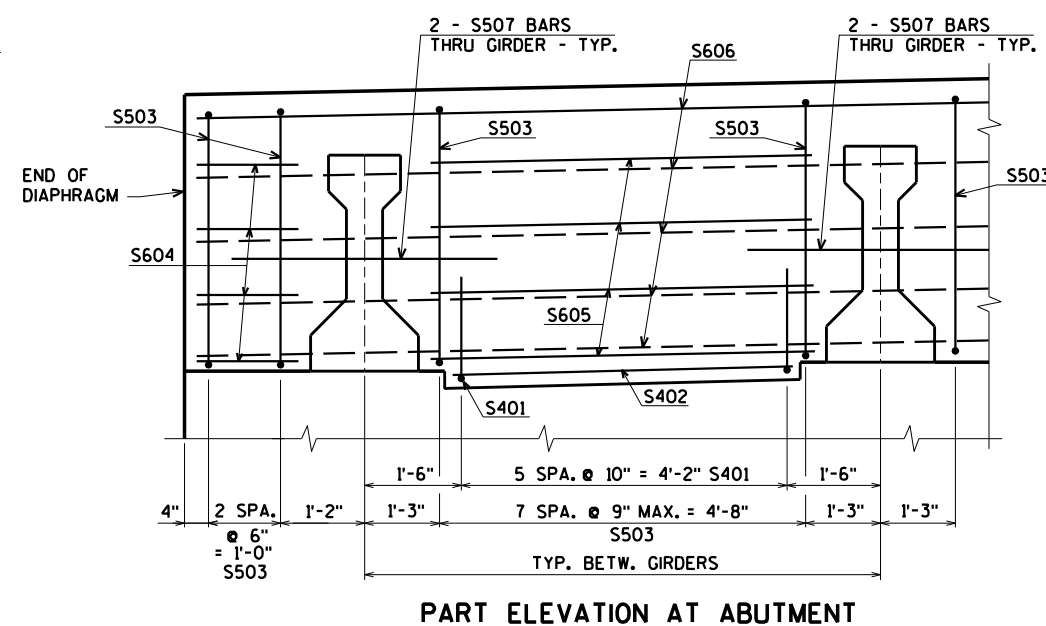
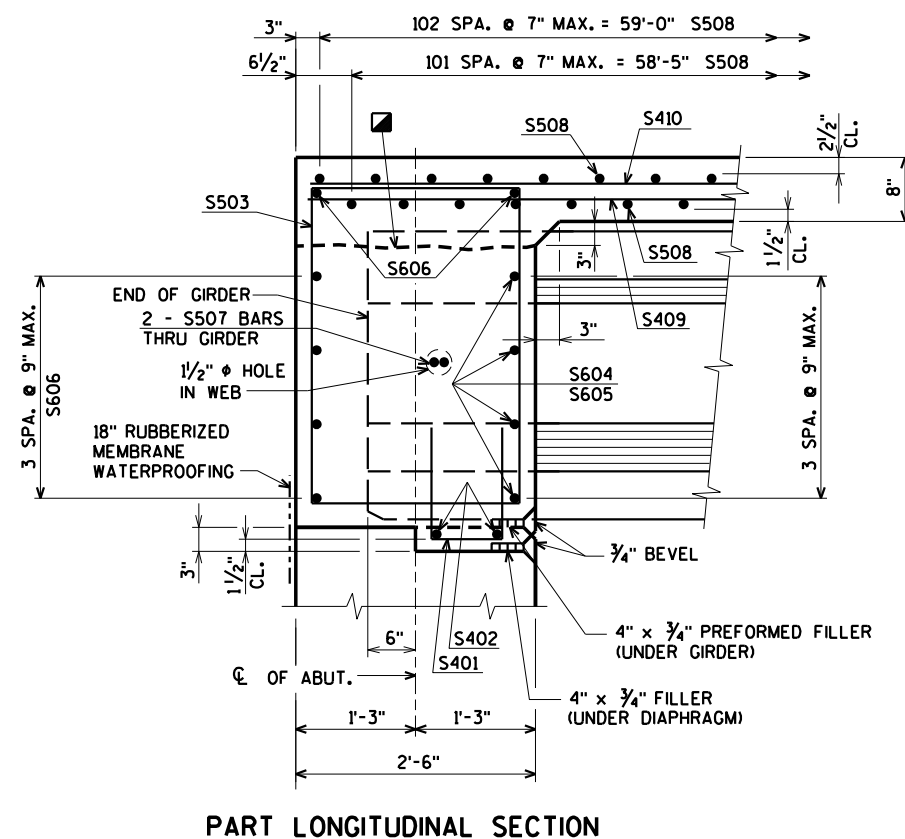
LV = 1234 8 U:\42-1000.00 - Douglas, Summit, Pelkey Road\Structures\421000 36 gdr.dgn

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	11.720" COATED
							LOCATION
S401	X	36	3-6	X			DIAPH. @ ABUT. VERT. @ NOTCH
S402	X	12	4-4				DIAPH. @ ABUT. HORIZ. @ NOTCH
S503	X	60	11-6	X			DIAPH. @ ABUT. VERT.
S604	X	16	1-5				DIAPH. @ ABUT. HORIZ. @ EXT. GDRS.
S605	X	24	5-4				DIAPH. @ ABUT. HORIZ. BETW. GDRS.
S606	X	12	26-2				DIAPH. @ ABUT. HORIZ.
S507	X	16	6-0				DIAPH. @ ABUT. HORIZ. THRU GDRS.
S508	X	205	26-2				SLAB TRANS. TOP & BOT.
S409	X	72	30-5				SLAB LONG. BOT.
S410	X	70	30-9				SLAB LONG. TOP
S611	X	44	12-0	X			SLAB @ RAIL POSTS
S612	X	72	6-0				SLAB @ INT. RAIL POSTS
S613	X	16	6-0	X			SLAB @ END RAIL POSTS

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



☒ OPTIONAL CONSTRUCTION JOINT.
IF USED, DECK POUR MUST BE WITHIN
2 WEEKS FROM THE TIME OF THE
DIAPHRAGM POUR.

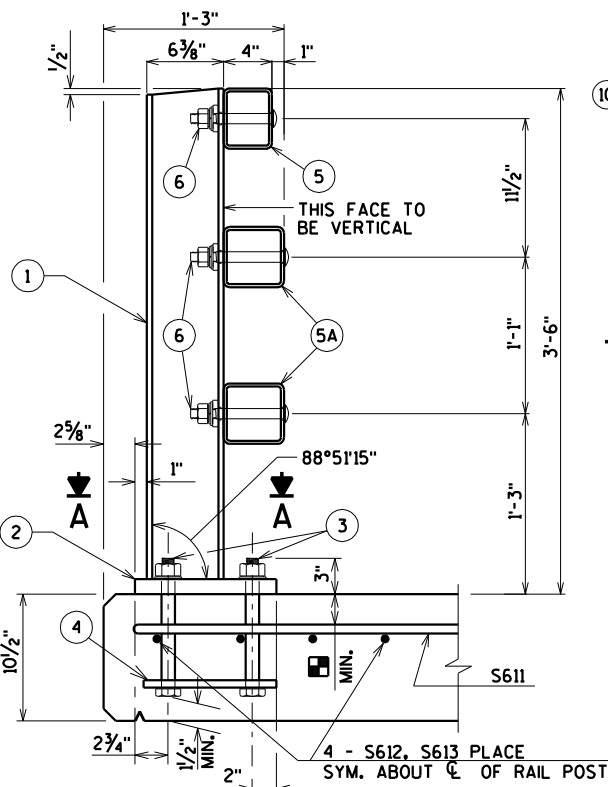




	€ OF BRG. S. ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	€ OF BRG. N. ABUT.
W. EDGE OF DECK	875.84	875.60	875.36	875.13	874.92	874.71	874.51	874.32	874.13	873.96	873.79
GIRDER 1	875.89	875.65	875.41	875.18	874.97	874.76	874.56	874.37	874.18	874.01	873.84
GIRDER 2	876.03	875.79	875.55	875.33	875.11	874.90	874.70	874.51	874.33	874.15	873.98
€ OF PELKEY ROAD	876.10	875.86	875.63	875.40	875.18	874.97	874.77	874.58	874.40	874.22	874.06
GIRDER 3	876.03	875.79	875.55	875.33	875.11	874.90	874.70	874.51	874.33	874.15	873.98
GIRDER 4	875.89	875.65	875.41	875.18	874.97	874.76	874.56	874.37	874.18	874.01	873.84
E. EDGE OF DECK	875.84	875.60	875.36	875.13	874.92	874.71	874.51	874.32	874.13	873.96	873.79

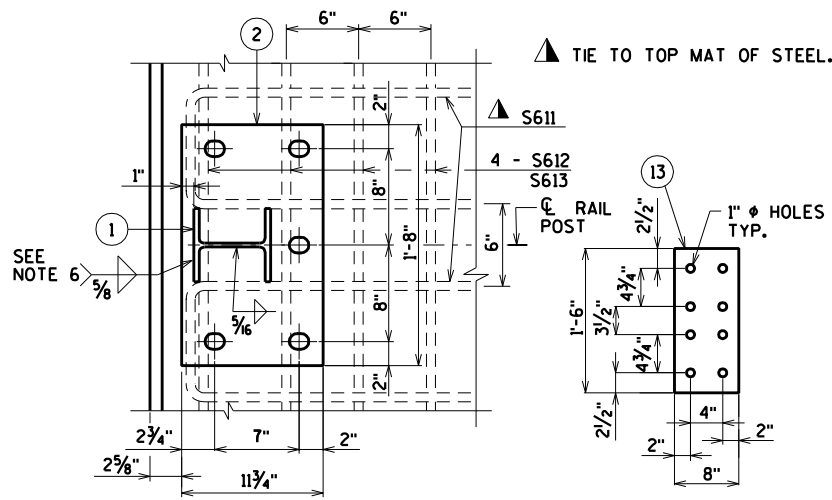
LEGEND

- ① W6 x 25 WITH 1/8" x 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1/4" x 1 3/4" x 1'-8" WITH 1 5/8" x 1 5/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ③ ASTM A449 - 1/6" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. ~~USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10 3/4" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)~~
- ④ 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/8" DIA. HOLES FOR ANCHOR BOLTS NO. 3
- ⑤ TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑤A TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑥ 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/8" x 1 5/8" x 1 5/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- ⑦ 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" x 1/2" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
- ⑧ 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- ⑨ SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- ⑩ 3/8" x 3 5/8" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A 3/8" x 2 5/8" x 2'-4" PLATE USED IN NO. 5. 3/8" x 3 5/8" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- ⑪ 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 5/8" x 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS ~~AND 5/8" x 2 1/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.~~
- ⑫ 7/8" DIA. x 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
- ⑬ 3/8" x 8" x 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
- ⑭ 7/8" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- ⑮ 1" DIA. HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

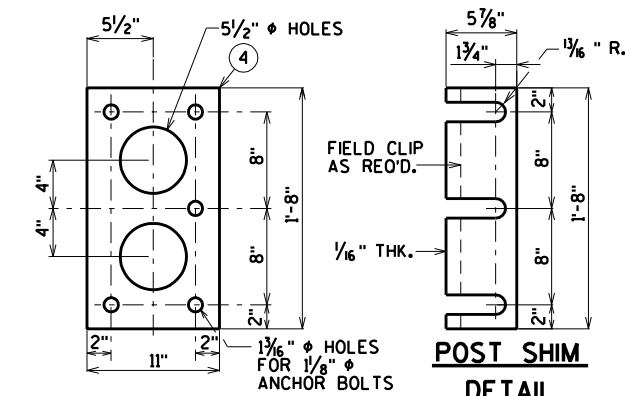


SECTION THRU RAILING ON DECK

PLACE BELOW TOP MAT SLAB REINFORCEMENT.

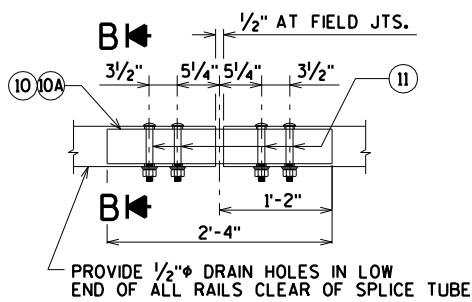


SECTION A

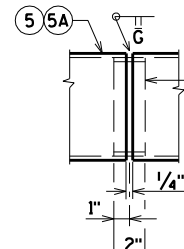


ANCHOR PLATE

(AT RAIL TO DECK CONNECTION)

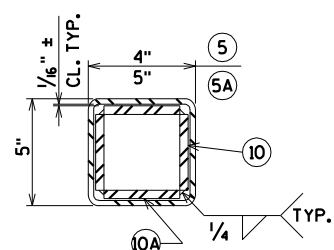


FIELD ERECTION JOINT DETAIL

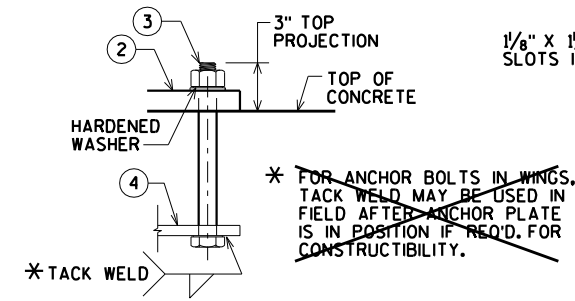


SHOP RAIL SPLICE DETAIL

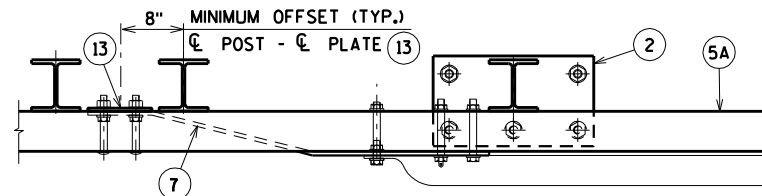
(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)



SECTION B

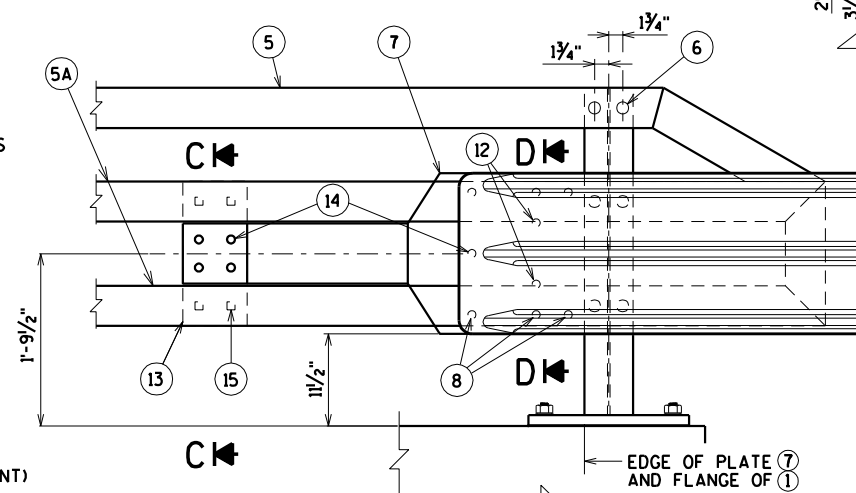


ANCHOR BOLTS



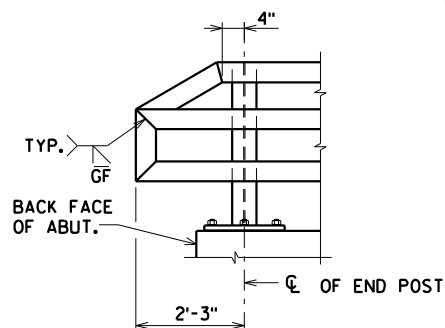
TOP VIEW AT END POST

(THRIE BEAM RAIL ATTACHMENT)

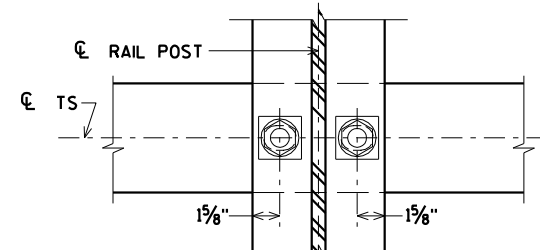


DETAIL AT END POST

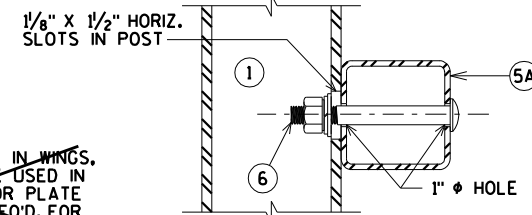
(THRIE BEAM RAIL ATTACHMENT)



PART ELEVATION OF RAILING



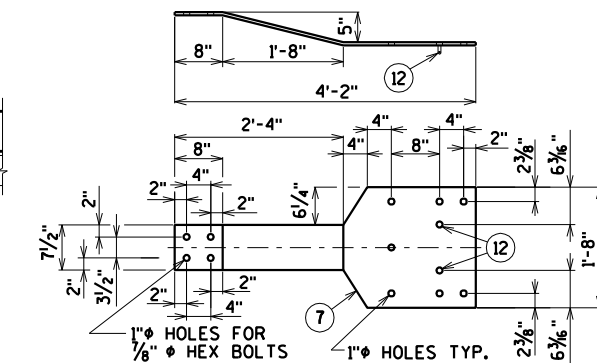
SECTION THRU POST WEB



SECTION THRU RAIL

NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

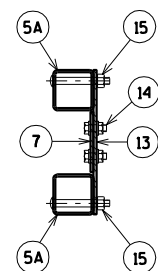


BACK-UP PLATE DETAIL

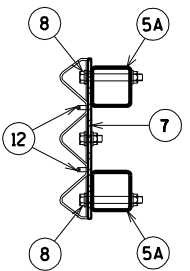
(AT BEAM GUARD ATTACHMENT)

GENERAL NOTES

- BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-16-139" WHICH INCLUDES ALL ITEMS SHOWN.
- RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
- THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
- RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
- ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
- WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
- FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
- 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 SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
- WHEN PAINTING IS REQUIRED, ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 3 & 4) SHALL BE PAINTED OVER GALVANIZING WITH APPROVED TIE COAT AND TOP COAT.
- THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).
- PLACE FIRST BOTTOM LONGITUDINAL BAR CLEAR OF DRIP GROOVE.



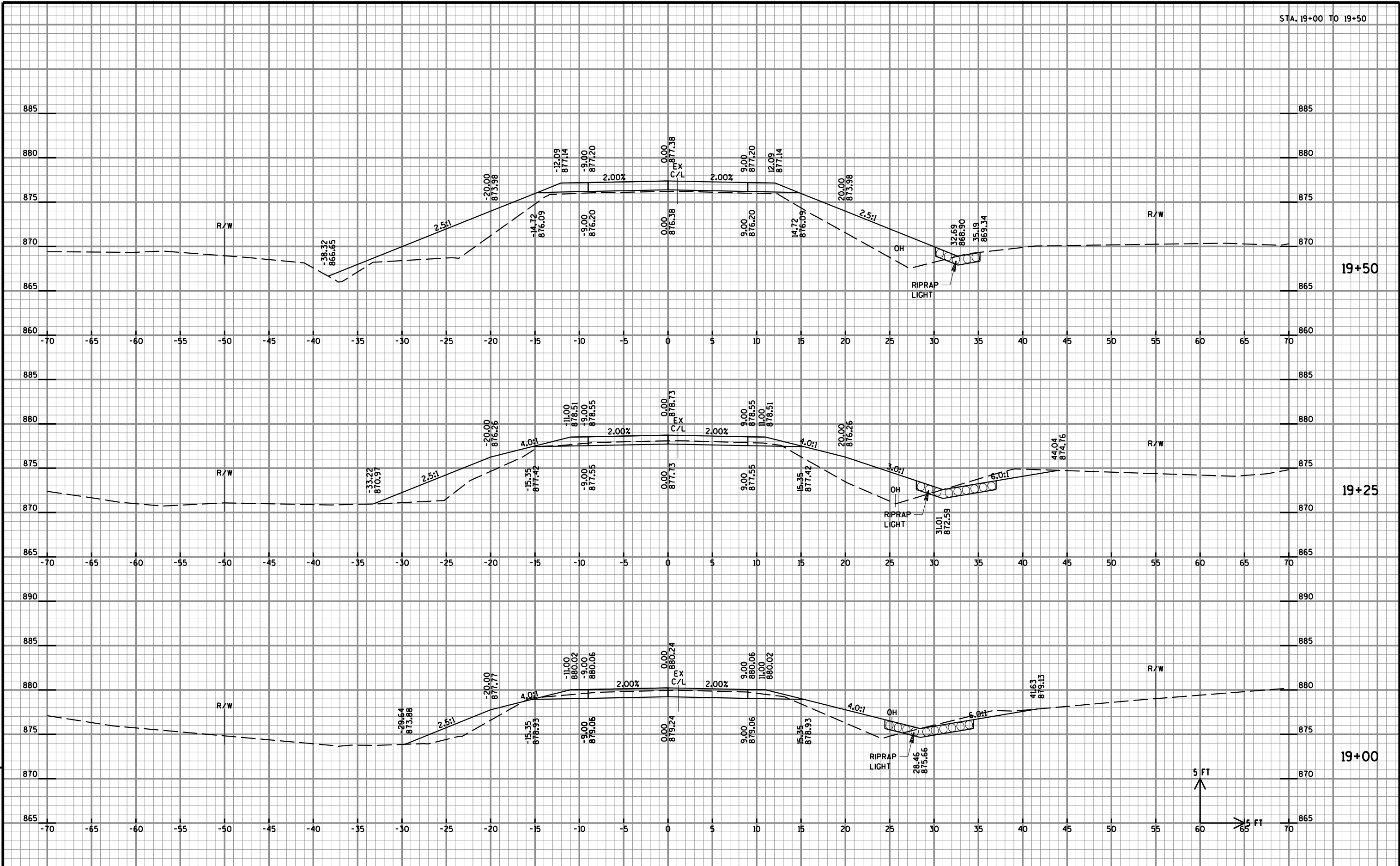
SECTION C



SECTION D

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-139			
DRAWN BY CLS		PLANS CK'D. CJM	
RAILING TUBULAR TYPE M			SHEET 15 OF 15

EARTHWORK SUMMARY (CATEGORY 0010)											
DIVISION	STATION	CUT SF	AREA	FILL SF	CUT (1) CY	INCREMENTAL VOLUME		CUT (1) 1.00 CY	CUMULATIVE VOLUME		MASS ORDINATE ±(5) CY
			SALVAGED/ UNUSEABLE PAVEMENT MATERIAL SF			SALVAGED/ UNUSEABLE PAVEMENT MATERIAL (2) CY	FILL (3) CY		EXPANDED FILL (4) 1.30 CY		
1 PELKEY ROAD	18+50	25	0	9	23	0	8	23	10		13
	18+75	25	0	9	21	0	17	44	33		12
	19+00	21	0	28	17	0	42	61	87		-26
	19+25	15	0	63	7	0	73	68	182		-114
	19+50	0	0	95	0	0	91	68	300		-232
	19+76	0	0	95	0	0	0	68	300		-232
	STRUCTURE B-16-139										
	20+35	29	0	6	16	0	3	16	4		12
	20+50	29	0	6	38	0	18	54	27		27
	20+75	52	0	32	56	0	18	110	51		59
	21+00	70	0	7	59	0	3	169	55		114
	21+25	57	0	0	39	0	0	208	55		153
	21+50	29	0	0	0	0	0	208	55		153
TOTALS					276						
205.0100 EXCAVATION COMMON =					276	208.0100 BORROW =					232
NOTES:											
1) EXCAVATION COMMON IS THE SUM OF THE CUT COLUMN. ITEM NUMBER 205.0100											
2) SALVAGED/UNUSEABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.											
3) DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME.											
4) EXPANDED FILL FACTOR = 1.30 EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR											
5) THE MASS ORDINATE ± QTY CALCULATED FOR THE DIVISION.											
PLUS (+) QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.											
MINUS (-) QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.											



PROJECT NO: 8394-00-71

HWY: PELKEY ROAD

COUNTY: DOUGLAS

CROSS SECTIONS

SHEET

E

FILE NAME : U:\42-1000.00 - Douglas, Summit, Pelkey Road\RDWY\421000_xs.dgn

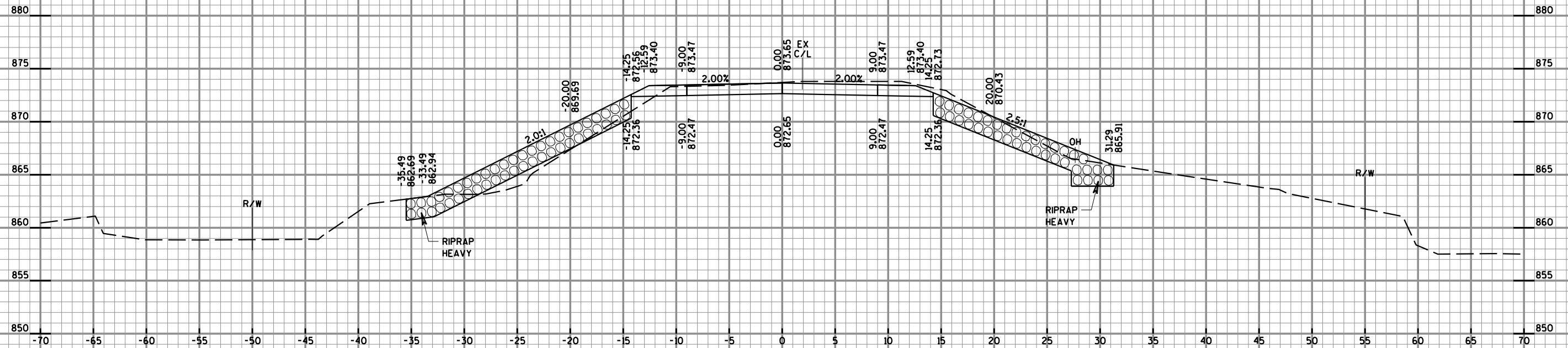
PLOT DATE : 1/13/2017

PLOT BY : AYRES-EC

PLOT NAME :

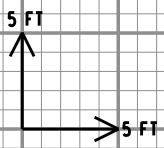
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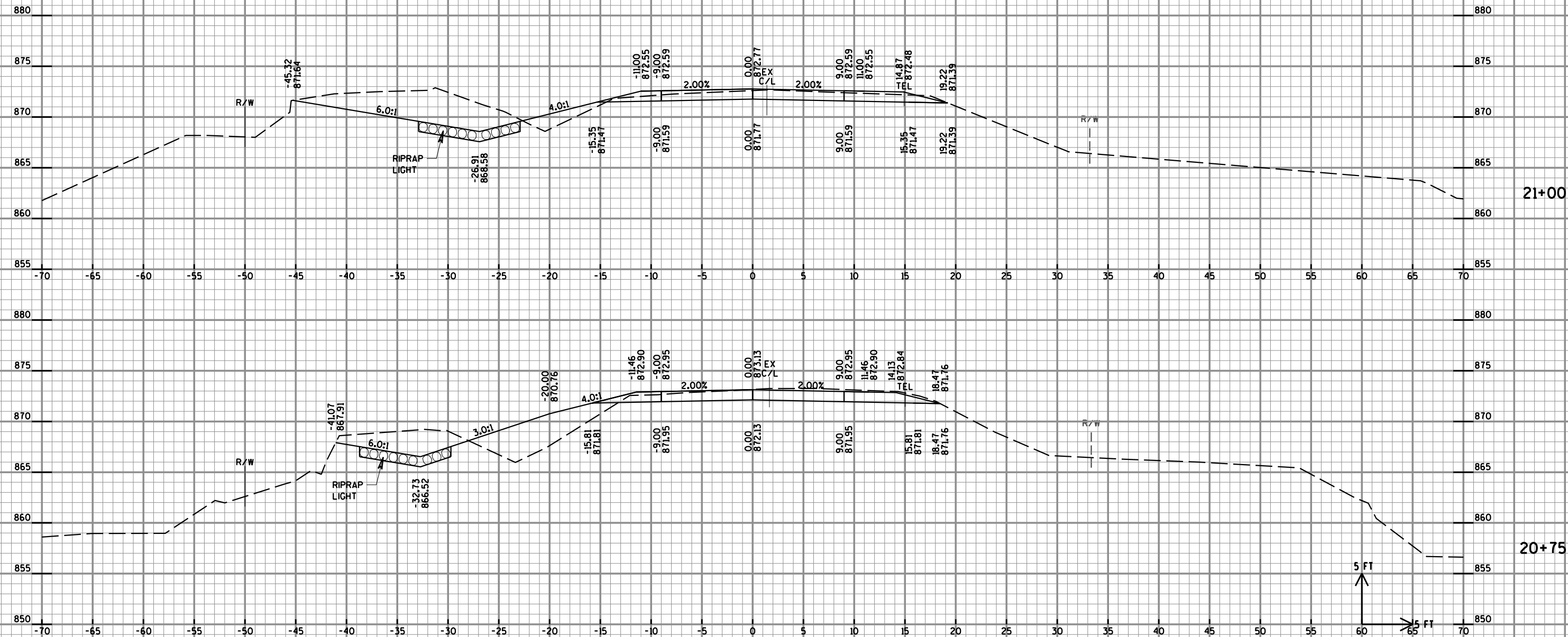
WISDOT/CADDs SHEET 21

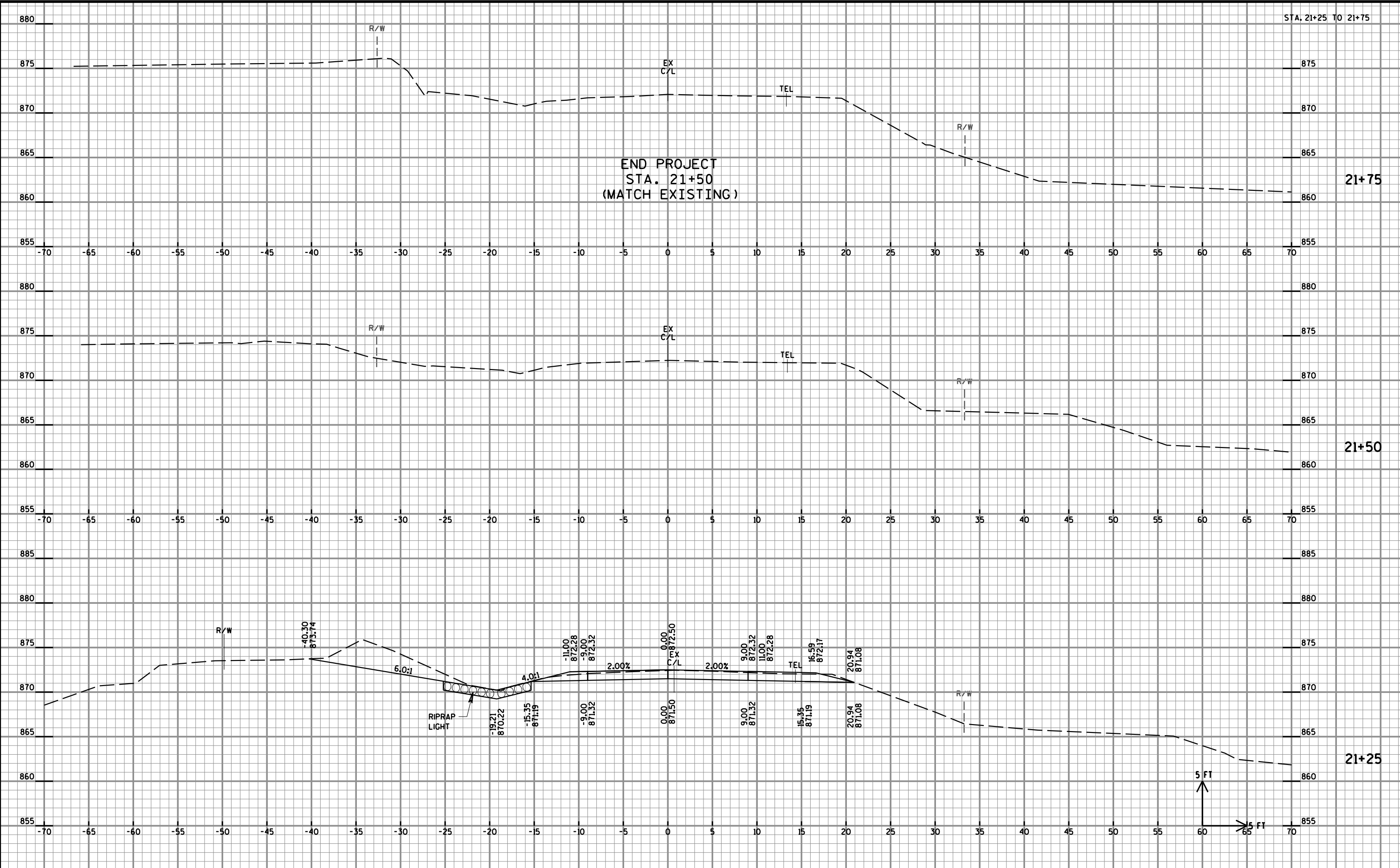


20+50

STRUCTURE B-16-139







PROJECT NO: 8394-00-71

HWY: PELKEY ROAD

COUNTY: DOUGLAS

CROSS SECTIONS

SHEET

E

FILE NAME : U:\42-1000.00 - Douglas, Summit, Pelkey Road\RDWY\421000_xs.dgn

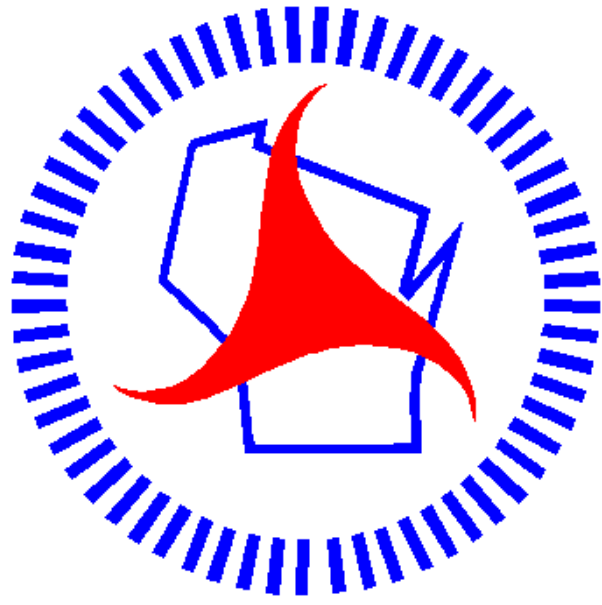
PLOT DATE : 1/13/2017

PLOT BY : AYRES-EC

PLOT NAME :

PLOT SCALE : 1:10

WISDOT/CADDs SHEET 21



Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

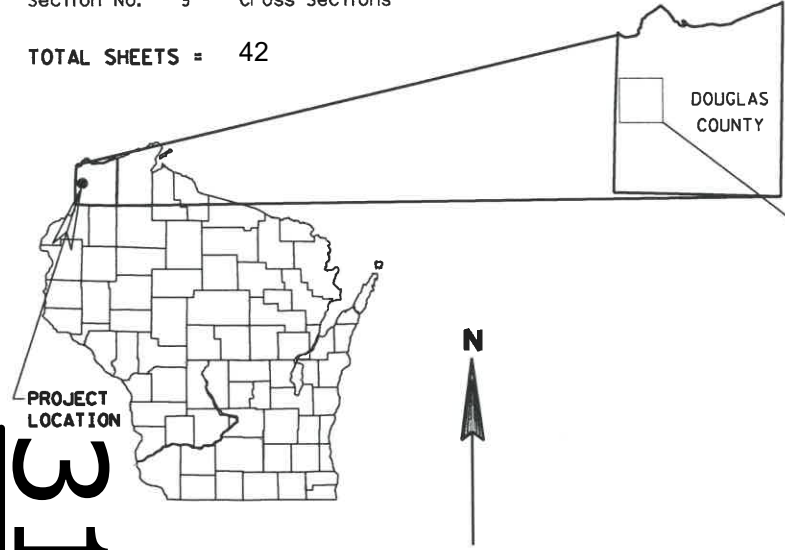
<http://www.dot.wisconsin.gov>

SUP
PROJECT ID: 8394-00-72
WITH: 8394-00-71
COUNTY: DOUGLAS

JANUARY 2018
ORDER OF SHEETS

- Section No. 1 Title
- Section No. 2 Typical Sections and Details
(Includes Erosion Control Plans)
- Section No. 3 Estimate of Quantities
- Section No. 3 Miscellaneous Quantities
- ~~Section No. 4 Right of Way Plan~~
- Section No. 5 Plan and Profile
- Section No. 6 Standard Detail Drawings
- Section No. 7 Sign Plates
- Section No. 8 Structure Plans
- Section No. 9 Computer Earthwork Data
- Section No. 9 Cross Sections

TOTAL SHEETS = 42



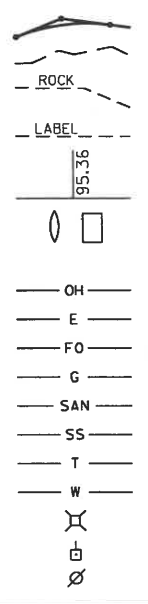
DESIGN DESIGNATION

- A.A.D.T. (2018) = <100
- A.A.D.T. (2038) = <100
- D.H.V. = 10
- D. = 50/50
- T. = 5%
- DESIGN SPEED = 30 MPH
- ESALS = N/A

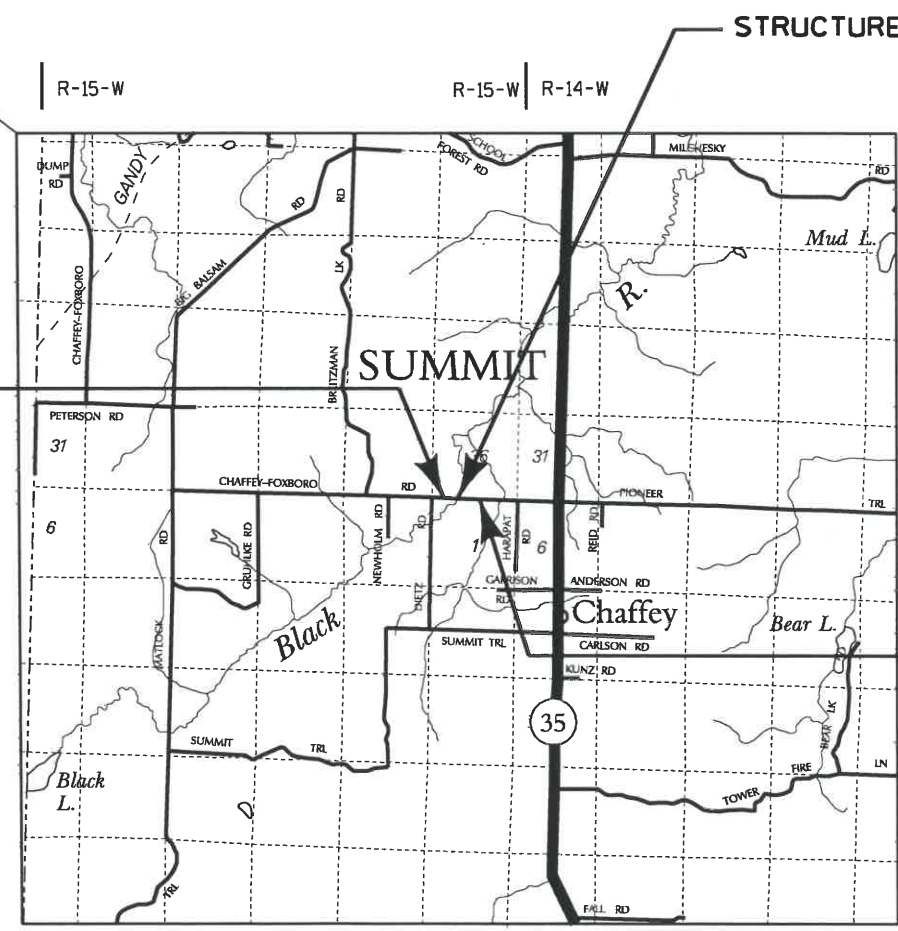
CONVENTIONAL SYMBOLS
PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT
(Box or Pipe)
- COMBUSTIBLE FLUIDS
- HIGH VOLTAGE
- MARSH AREA
- WOODED OR SHRUB AREA

- PROFILE
- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE
(To be noted as such)
- SPECIAL DITCH
- GRADE ELEVATION
- CULVERT (Profile View)
- UTILITIES
- OVERHEAD
- ELECTRIC
- FIBER OPTIC
- GAS
- SANITARY SEWER
- STORM SEWER
- TELEPHONE
- WATER
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE



BEGIN PROJECT
STA. 8+25
Y = 195185.62
X = 124913.95



T-46-N
T-45-N

END PROJECT
STA. 11+75
Y = 195179.67
X = 125213.89

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.066 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO
THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS),
DOUGLAS COUNTY

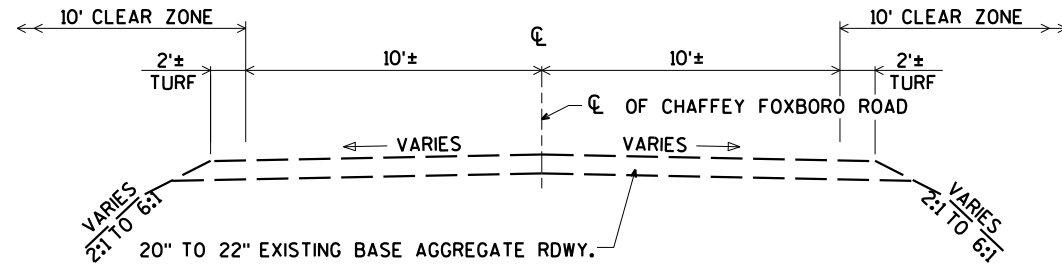
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT

T SUMMIT, CHAFFEY FOXBORO ROAD
BLACK RIVER BRIDGE B-16-0140
LOC STR
DOUGLAS COUNTY

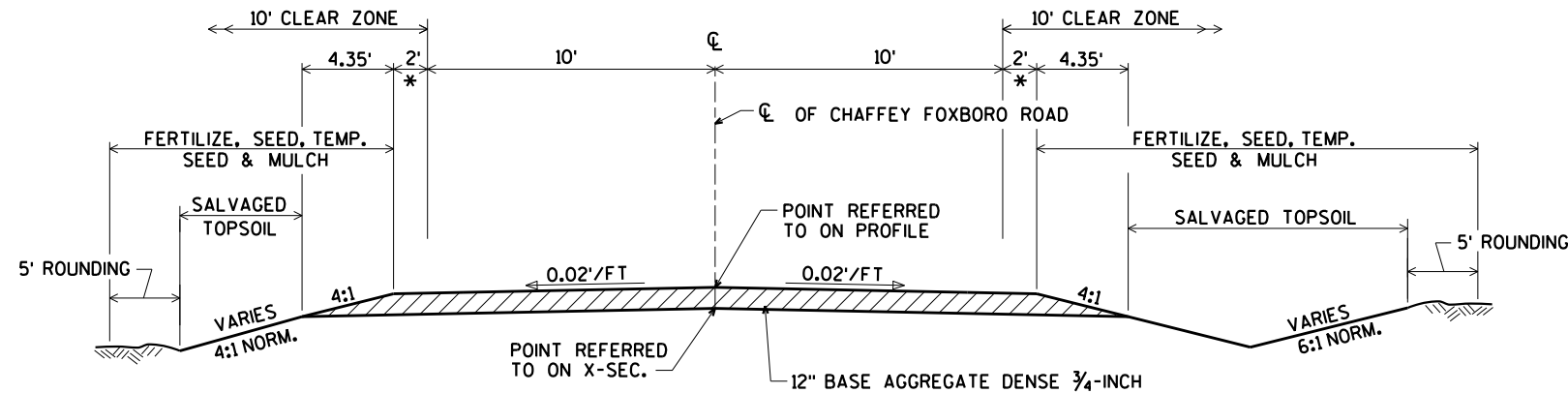
STATE PROJECT NUMBER
8394-00-72

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8394-00-72	WISC 2018063	1

ACCEPTED FOR
Town of Summit
8-10-17
Date
Town Chairman
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com
WISCONSIN
DANIEL N. SYDOW
E-38363
WI
PROFESSIONAL ENGINEER
DATE 8/1/2017
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PREPARED BY
Surveyor AYRES ASSOCIATES INC
Designer AYRES ASSOCIATES INC
Management Consultant KNIGHT E/A INC.
C.O. Examiner
APPROVED FOR THE DEPARTMENT
DATE 8/23/17
Management Consultant Signature
E



TYPICAL EXISTING SECTION



TYPICAL FINISHED SECTION

(STA. 8+25 TO STA. 11+75)

* THE BASE AGGREGATE SHOULDER SHALL BE 3.25 FEET WIDE AT THE ENDS OF THE BRIDGE AND TAPER TO 2 FEET AT 50 FEET FROM END OF THE BRIDGE.

GENERAL NOTES

EROSION CONTROL ITEMS TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

NO TREES AND/OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING AND FIELD LOCATING ALL UTILITIES.

THE DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH A MONUMENT TO BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCLUSIVE OF THE ROADBED, SHALL BE FERTILIZED, SEEDED, AND MULCHED AS DIRECTED BY THE ENGINEER.

SEED MIXTURE NO. 20 AND SEEDING TEMPORARY SHALL BE USED IN THE PROJECT AND SHALL BE PLACED AS SHOWN IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) 1988.

WETLANDS EXIST IN THE PROJECT AREA. NO DISTURBANCE IS ALLOWED OUTSIDE THE SLOPE INTERCEPTS.

UTILITIES

CENTURYLINK
P.O. BOX 518
OSCEOLA, WI 54020
ATTN: MIKE VANDENBOS
715-294-2463
mike.vandenbos@centurylink.com

EAST CENTRAL ENERGY
P.O. BOX 39
BRAHAM, MN 55006
ATTN: DAVID WALETSKI
763-691-2037
612-390-0792 (cell)
dave.waletski@ecemn.com

* * DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

DIGGERS HOTLINE

Dial **811** or (800)242-8511

www.DiggersHotline.com

**WISCONSIN DEPARTMENT OF
NATURAL RESOURCES CONTACT:**

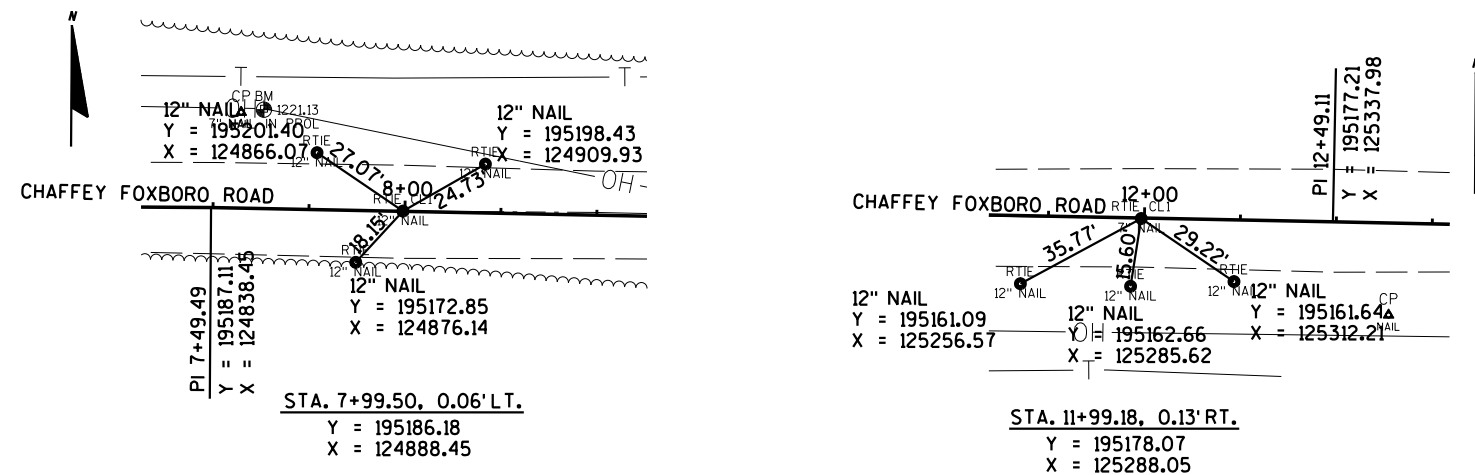
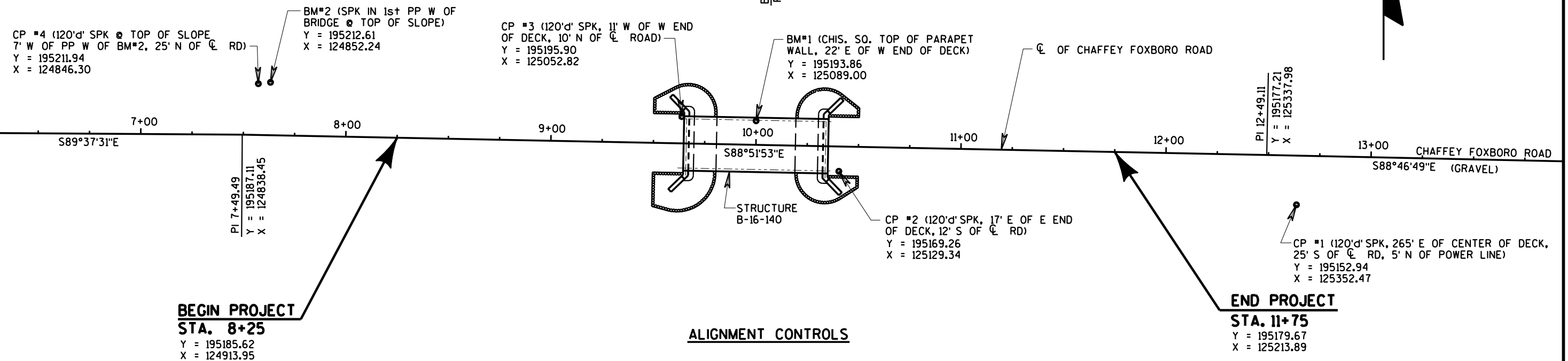
AMY CRONK
810 WEST MAPLE ST.
SPOONER, WI. 54801
715-635-4229
amy.cronk@wisconsin.gov

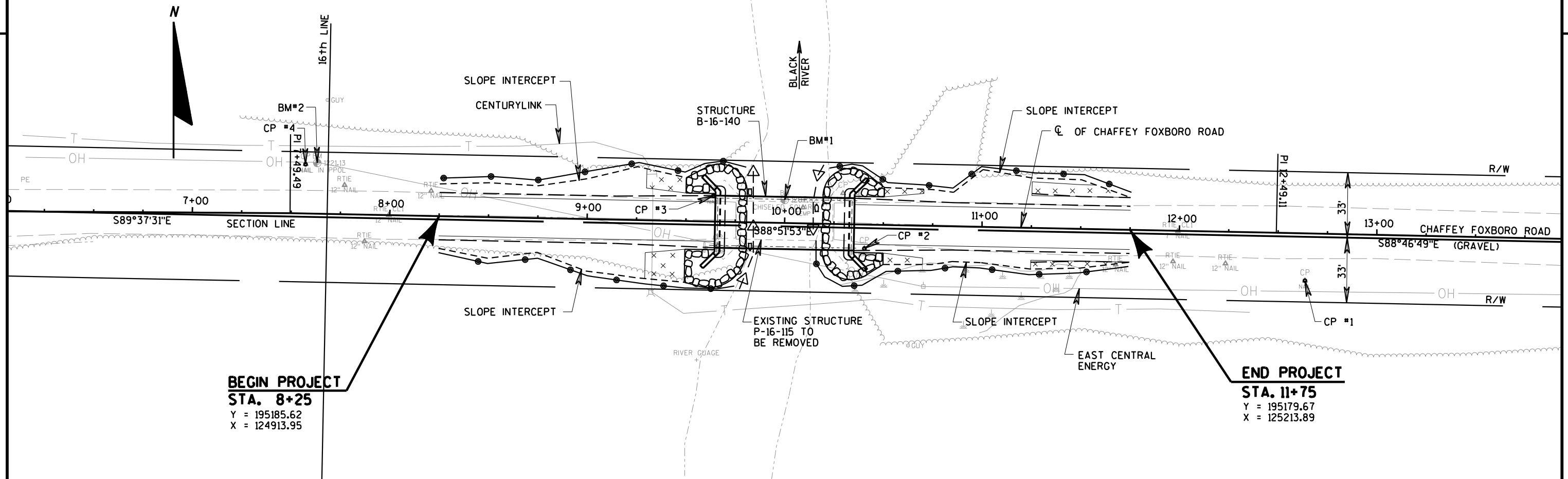
TOWN OF SUMMIT:

DAN CORBIN, CHAIRMAN
7677S COUNTY ROAD A
SUPERIOR, WI 54880
218-390-0748
dan.corbin@douglascountywi.org

DESIGNER

AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
ATTN: DANIEL N. SYDOW
715-834-3161
sydowd@AyresAssociates.com





	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA = 0.53 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.32 ACRES

LEGEND

- × × × EROSION MAT CLASS II TYPE B
- TEMPORARY DITCH CHECKS (UNDISTRIBUTED)
- ← — — — — — ← TURBIDITY BARRIERS *
- — — — — SILT FENCE
- BOULDERS

* BOULDERS/ROCKS ARE PRESENT IN THE STREAM. IF PROPER INSTALLTION OF THE TURBIDITY BARRIER POSTS CANNOT BE ACHIEVED, THE USE OF SAND BAGS OR OTHER APPROVED METHODS THAT PROVIDE PROTECTION AT LEAST ONE FOOT ABOVE THE EXISTING WATER ELEVATION, CAN BE USED AS A SUBSTITUTE.

Estimate Of Quantities By Plan Sets

8394-00-72					
Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	3.000	3.000
0004	201.0205	Grubbing	STA	3.000	3.000
0006	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+00	LS	1.000	1.000
0010	205.0100	Excavation Common	CY	97.000	97.000
0012	206.1000	Excavation for Structures Bridges (structure) 01. B-16-140	LS	1.000	1.000
0016	208.0100	Borrow	CY	99.000	99.000
0018	210.1500	Backfill Structure Type A	TON	470.000	470.000
0022	213.0100	Finishing Roadway (project) 01. 8394-00-72	EACH	1.000	1.000
0024	305.0110	Base Aggregate Dense 3/4-Inch	TON	585.000	585.000
0026	502.0100	Concrete Masonry Bridges	CY	127.000	127.000
0028	502.3200	Protective Surface Treatment	SY	235.000	235.000
0030	503.0136	Prestressed Girder Type I 36-Inch	LF	276.000	276.000
0032	505.0400	Bar Steel Reinforcement HS Structures	LB	4,040.000	4,040.000
0034	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	15,510.000	15,510.000
0036	506.0105	Structural Steel Carbon	LB	520.000	520.000
0038	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	8.000	8.000
0040	506.4000	Steel Diaphragms (structure) 01. B-16-140	EACH	3.000	3.000
0046	513.4061	Railing Tubular Type M (structure) 02. B-16-140	LF	145.000	145.000
0048	516.0500	Rubberized Membrane Waterproofing	SY	20.000	20.000
0050	550.0500	Pile Points	EACH	10.000	10.000
0052	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	350.000	350.000
0056	606.0300	Riprap Heavy	CY	285.000	285.000
0058	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	150.000	150.000
0062	618.0100	Maintenance And Repair of Haul Roads (project) 01. 8394-00-72	EACH	1.000	1.000
0064	619.1000	Mobilization	EACH	0.500	0.500
0066	624.0100	Water	MGAL	11.000	11.000
0068	625.0500	Salvaged Topsoil	SY	445.000	445.000
0070	627.0200	Mulching	SY	930.000	930.000
0072	628.1504	Silt Fence	LF	825.000	825.000
0074	628.1520	Silt Fence Maintenance	LF	2,475.000	2,475.000
0076	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0078	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0080	628.2023	Erosion Mat Class II Type B	SY	155.000	155.000
0082	628.6005	Turbidity Barriers	SY	115.000	115.000
0084	628.7504	Temporary Ditch Checks	LF	50.000	50.000
0086	629.0210	Fertilizer Type B	CWT	0.800	0.800
0088	630.0120	Seeding Mixture No. 20	LB	30.000	30.000

Estimate Of Quantities By Plan Sets

8394-00-72					
Line	Item	Item Description	Unit	Total	Qty
0090	630.0200	Seeding Temporary	LB	30.000	30.000
0092	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0094	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0096	638.2102	Moving Signs Type II	EACH	1.000	1.000
0098	638.2602	Removing Signs Type II	EACH	4.000	4.000
0100	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0102	642.5001	Field Office Type B	EACH	0.500	0.500
0104	643.0420	Traffic Control Barricades Type III	DAY	1,080.000	1,080.000
0106	643.0705	Traffic Control Warning Lights Type A	DAY	1,440.000	1,440.000
0108	643.0900	Traffic Control Signs	DAY	840.000	840.000
0110	643.5000	Traffic Control	EACH	0.500	0.500
0112	645.0111	Geotextile Type DF Schedule A	SY	80.000	80.000
0114	645.0120	Geotextile Type HR	SY	520.000	520.000
0118	650.4500	Construction Staking Subgrade	LF	350.000	350.000
0120	650.5000	Construction Staking Base	LF	350.000	350.000
0122	650.6500	Construction Staking Structure Layout (structure) 01. B-16-140	LS	1.000	1.000
0128	650.9910	Construction Staking Supplemental Control (project) 01. 8394-00-72	LS	1.000	1.000
0130	650.9920	Construction Staking Slope Stakes	LF	350.000	350.000
0132	715.0502	Incentive Strength Concrete Structures	DOL	762.000	762.000
0134	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0136	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	300.000	300.000

EARTHWORK SUMMARY (CATEGORY 0010)											
DIVISION	STATION TO STATION	LOCATION	**p** 205.0100 EXCAVATION COMMON	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	AVAILABLE MATERIAL	UNEXPANDED FILL	EXPANDED FILL	MASS ORDINATE	WASTE	**p** 208.0100 BORROW	COMMENTS:
			CUT (1)	(2)	(4)	(3)	(5)	±(6)	CY	CY	
			CY	CY	CY	CY	CY	CY	CY	CY	
1	8+25 TO 9+64.75	CHAFFEY FOXBORO ROAD	39	0	39	106	138	-99	0	99	
	10+35.25 TO 11+75	CHAFFEY FOXBORO ROAD	58	0	58	38	49	9	9	0	
GRANDTOTAL			97	0	97	144	187	-90	9	99	
TOTAL EXCAVATION COMMON			97 CY							TOTAL BORROW 99 CY	

NOTES:
1) EXCAVATION COMMON IS THE SUM OF THE CUT COLUMN. ITEM NUMBER 205.0100
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
3) DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME.
4) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
5) EXPANDED FILL FACTOR = 1.30
EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR
6) THE MASS ORDINATE ± QTY CALCUTATED FOR THE DIVISION.
PLUS (+) QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.
MINUS (-) QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

p PAY PLAN QUANTITY

CLEARING AND GRUBBING (CATEGORY 0010)			
STATION TO STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
Sta. 8+25 to Sta. 11+75	CHAFFEY FOXBORO ROAD	3	3

BASE AGGREGATE DENSE (CATEGORY 0010)			305.0110 3/4-INCH TON
STATION TO STATION	LOCATION		
Sta. 8+25 to Sta. 9+15	CHAFFEY FOXBORO ROAD		189
Sta. 9+15 to Sta 9+65	CHAFFEY FOXBORO ROAD		105
Sta. 10+35 to Sta. 10+85	CHAFFEY FOXBORO ROAD		105
Sta. 10+85 to Sta 11+75	CHAFFEY FOXBORO ROAD		186
TOTALS			585

213.0100 FINISHING ROADWAY (CATEGORY 0010)	
LOCATION	EACH
PROJECT 8394-00-72	1

619.1000 MOBILIZATION	
LOCATION	EACH
PROJECT 8394-00-72(CATEGORY 0010)	0.15
PROJECT 8394-00-72 (CATEGORY 0020)	0.35
TOTAL	0.5

SALVAGED TOPSOIL, MULCHING, FERTILIZER, SEED & TEMPORARY SEED (CATEGORY 0010)						
STATION TO STATION	LOCATION	625.0500	627.0200	629.0210	630.0120	630.0200
		SALVAGED TOPSOIL	MULCHING	FERTILIZER TYPE B	SEEDING NO. 20	SEEDING TEMPORARY
		SY	SY	CWT	LB	LB
Sta. 8+25 to Sta. 11+75	CHAFFEY FOXBORO ROAD	445	745	0.6	24	25
Undistributed		---	185	0.2	6	5
TOTALS		445	930	0.8	30	30

624.0100 WATER (CATEGORY 0010)

PROJECT ID		MGAL
8394-00-72	COMPACTION	10
	DUST CONTROL	1
SUBTOTAL		11
TOTAL		11

SILT FENCE & SILT FENCE MAINTENANCE (CATEGORY 0010)

STATION TO STATION	ROAD	LOCATION	628.1504	628.1520
			LF	MAINTENANCE LF
Sta. 8+50 to Sta. 9+80	CHAFFEY FOXBORO ROAD	LT	160	480
Sta. 8+50 to Sta. 9+75	CHAFFEY FOXBORO ROAD	RT	155	465
Sta. 10+22 to Sta. 11+75	CHAFFEY FOXBORO ROAD	LT	165	495
Sta. 10+16 to Sta. 11+75	CHAFFEY FOXBORO ROAD	RT	180	540
Undistributed			165	495
TOTALS			825	2,475

MOBILIZATIONS EROSION CONTROL & EMERGENCY EROSION CONTROL (CATEGORY 0010)

LOCATION	628.1905	628.1910
	MOBILIZATIONS EROSION CONTROL EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT 8394-00-72	4	2

628.2023 EROSION MAT CLASS II TYPE B (CATEGORY 0010)			
STATION TO STATION	ROAD	LOCATION	SY
Sta. 9+30 to Sta. 9+50	CHAFFEY FOXBORO ROAD	LT	20
Sta. 9+30 to Sta. 9+50	CHAFFEY FOXBORO ROAD	RT	35
Sta. 10+50 to Sta. 10+70	CHAFFEY FOXBORO ROAD	RT	10
Sta. 10+50 to Sta. 10+70	CHAFFEY FOXBORO ROAD	LT	10
Sta. 11+25 to Sta. 11+75	CHAFFEY FOXBORO ROAD	RT	20
Sta. 11+25 to Sta. 11+75	CHAFFEY FOXBORO ROAD	LT	30
Undistributed			30
TOTAL			155

628.6005 TURBIDITY BARRIER (CATEGORY 0010)

LOCATION	SY
WEST ABUTMENT	55
EAST ABUTMENT	35
UNDISTRIBUTED	25
TOTALS	115

628.7504 TEMPORARY DITCH CHECKS (CATEGORY 0010)

LOCATION	LF
UNDISTRIBUTED	50

634.0612 WOOD POSTS 4X6 INCH X 12 FT (CATEGORY 0010)

STATION	LOCATION	EACH
Sta. 9+65	CHAFFEY FOXBORO ROAD, LT (W5-52L)	1
Sta. 9+65	CHAFFEY FOXBORO ROAD, RT (W5-52R)	1
Sta. 10+35	CHAFFEY FOXBORO ROAD, LT (W5-52R)	1
Sta. 10+35	CHAFFEY FOXBORO ROAD, RT (W5-52L)	1
TOTAL		4

637.2230 SIGNS TYPE II REFLECTIVE F (CATEGORY 0010)

STATION	LOCATION	DESCRIPTION	SF
Sta. 9+65	CHAFFEY FOXBORO ROAD, LT	W5-52L (OBJECT MARKER)	3
Sta. 9+65	CHAFFEY FOXBORO ROAD, RT	W5-52R (OBJECT MARKER)	3
Sta. 10+35	CHAFFEY FOXBORO ROAD, LT	W5-52R (OBJECT MARKER)	3
Sta. 10+35	CHAFFEY FOXBORO ROAD, RT	W5-52L (OBJECT MARKER)	3
TOTAL			12

638.2102 MOVING SIGNS TYPE II (CATEGORY 0010)

STATION	LOCATION	DESCRIPTION	EACH
Sta. 10+24	CHAFFEY FOXBORO ROAD, LT	UNKNOWN	1

REMOVING (CATEGORY 0010)

STATION	LOCATION	DESCRIPTION	638.2602 REMOVING SIGNS TYPE II	638.3000 REMOVING SMALL SIGN SUPPORTS
			EACH	EACH
Sta. 9+76	CHAFFEY FOXBORO ROAD, RT	W5-52R (OBJECT MARKER)	1	1
Sta. 9+75	CHAFFEY FOXBORO ROAD, LT	W5-52L (OBJECT MARKER)	1	1
Sta. 10+25	CHAFFEY FOXBORO ROAD, RT	W5-52L (OBJECT MARKER)	1	1
Sta. 10+24	CHAFFEY FOXBORO ROAD, LT	W5-52R (OBJECT MARKER)	1	1
TOTAL			4	4

642.5001 FIELD OFFICE TYPE B (CATEGORY 0010)

LOCATION	EACH
PROJECT 8394-00-72	0.5

TRAFFIC CONTROL (CATEGORY 0010)

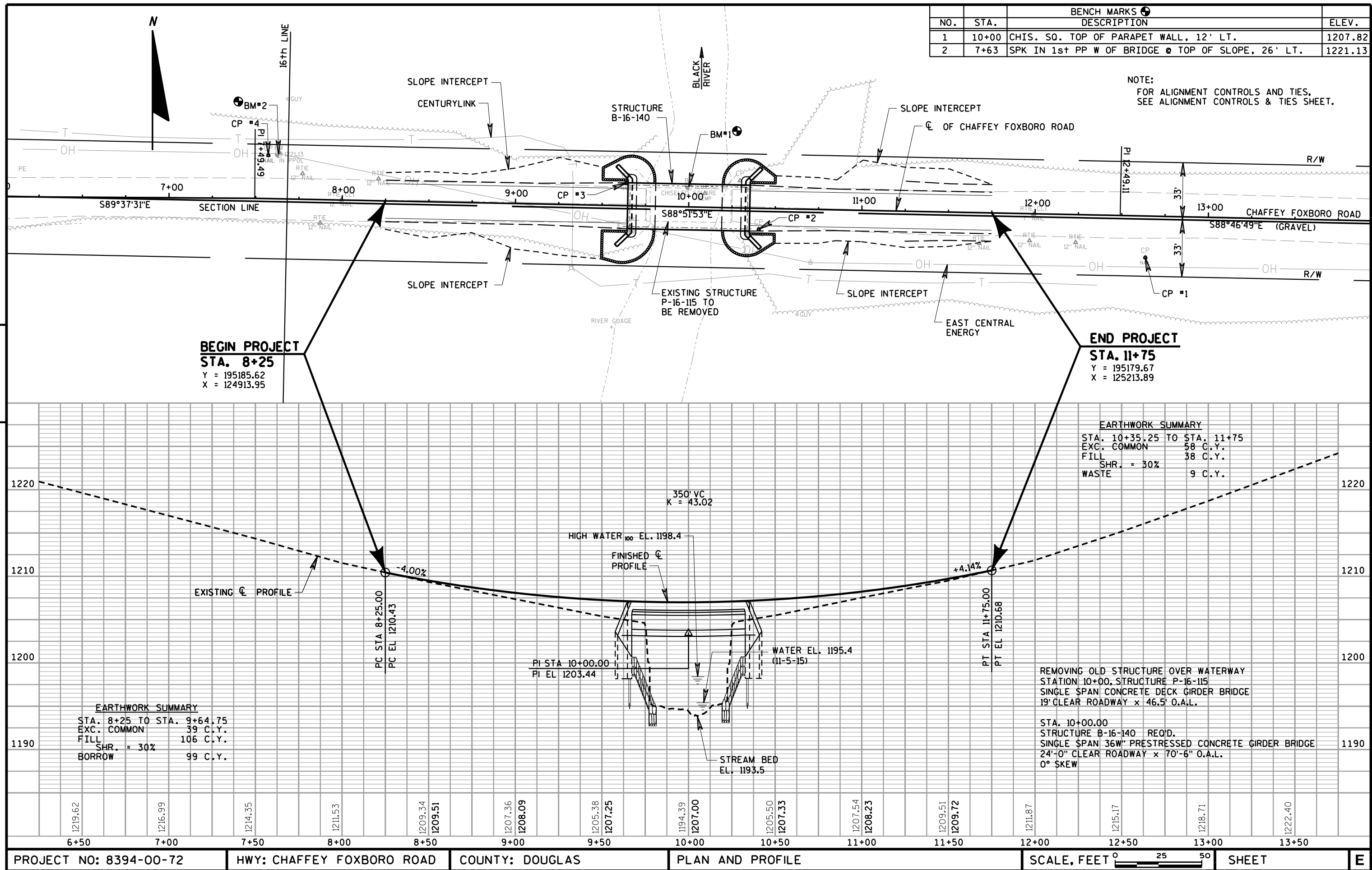
LOCATION	EACH
PROJECT 8394-00-72	0.5

TRAFFIC CONTROL ITEMS (CATEGORY 0010)

PROJECT ID	DURATION DAYS	643.0420 BARRICADES TYPE III		643.0705 WARNING LIGHTS TYPE A		643.0900 SIGNS	
		NO.	DAYS	NO.	DAYS	NO.	DAYS
8394-00-72	60	18	1080	24	1440	14	840

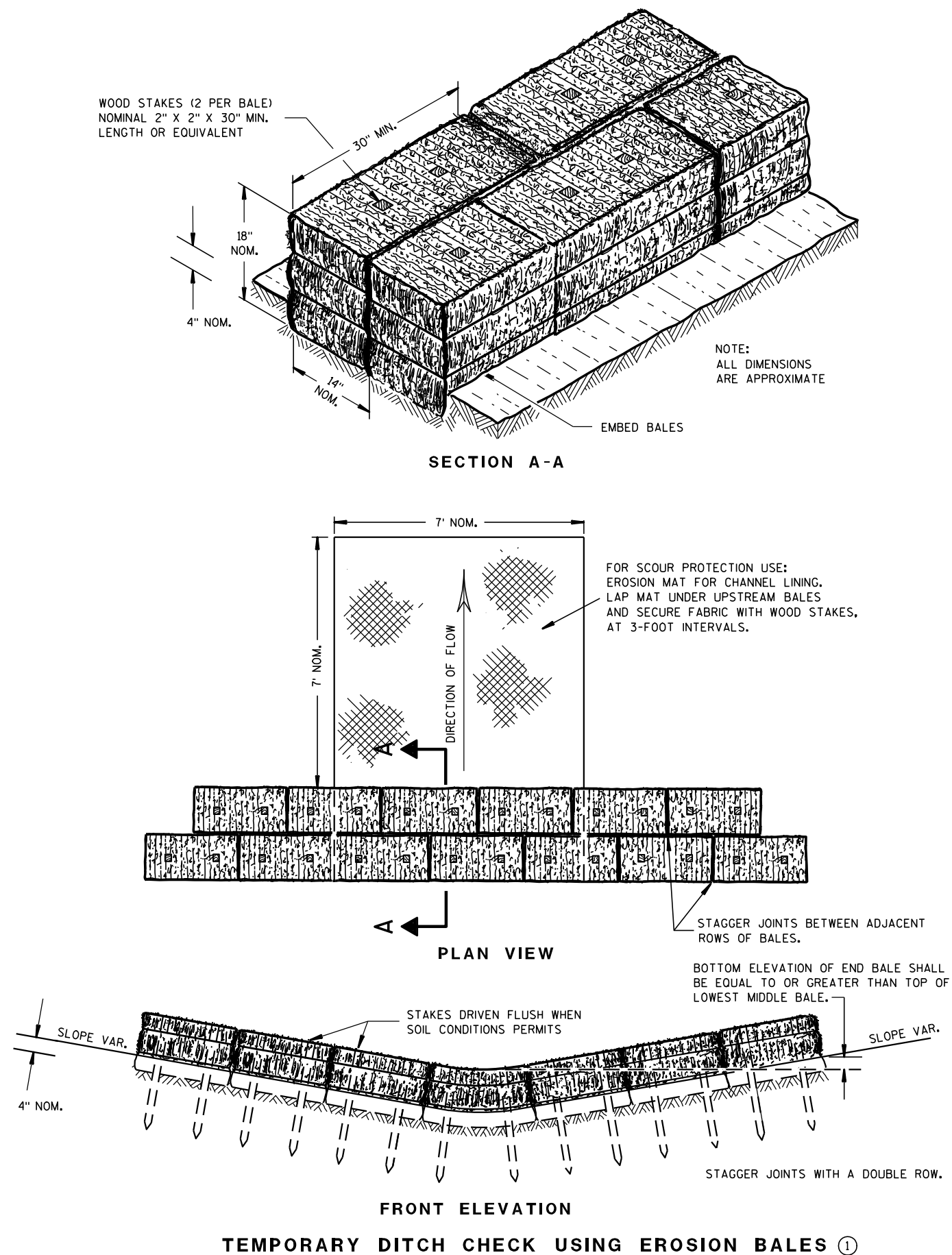
CONSTRUCTION STAKING

CATEGORY	LOCATION	650.4500 SUBGRADE	650.5000 BASE	650.6500 STRUCTURE LAYOUT	650.9910 SUPPLEMENTARY CONTROL	650.9920 SLOPE STAKES
		LF	LF	LS	LS	LF
0010	Sta. 8+25 to Sta. 11+75	350	350	---	1	350
0020	B-16-0140	---	---	1	---	---
TOTALS		350	350	1	1	350



Standard Detail Drawing List

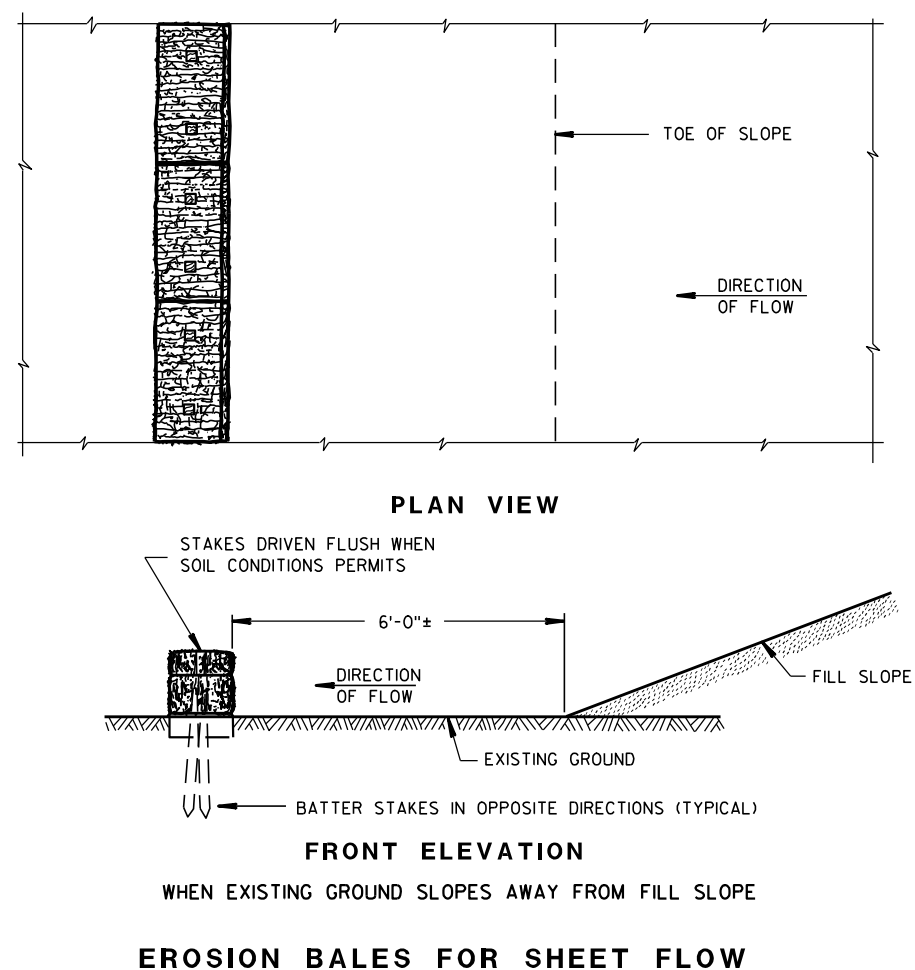
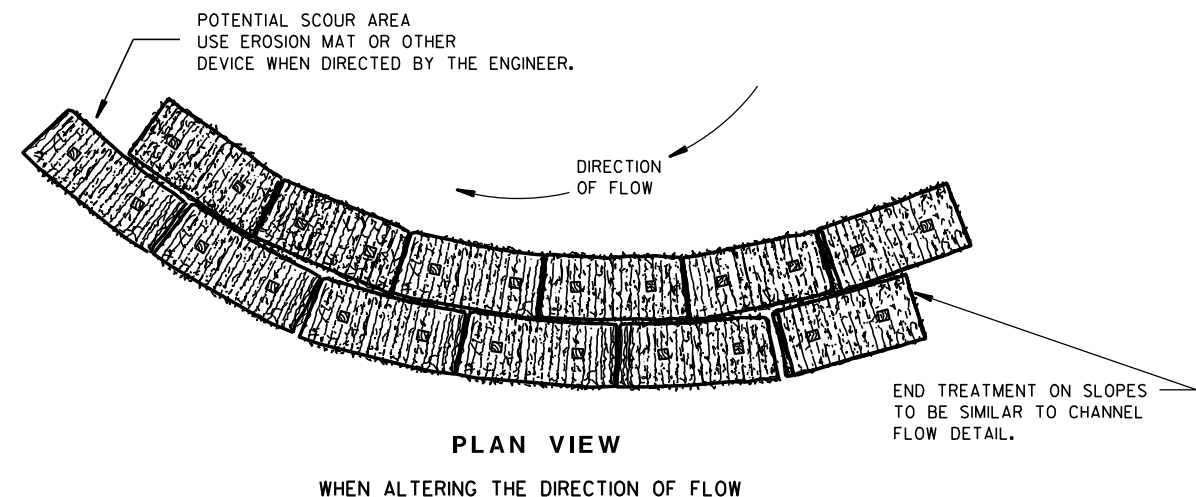
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES



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.

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

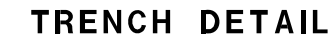
6/04/02
DATE

FHWA

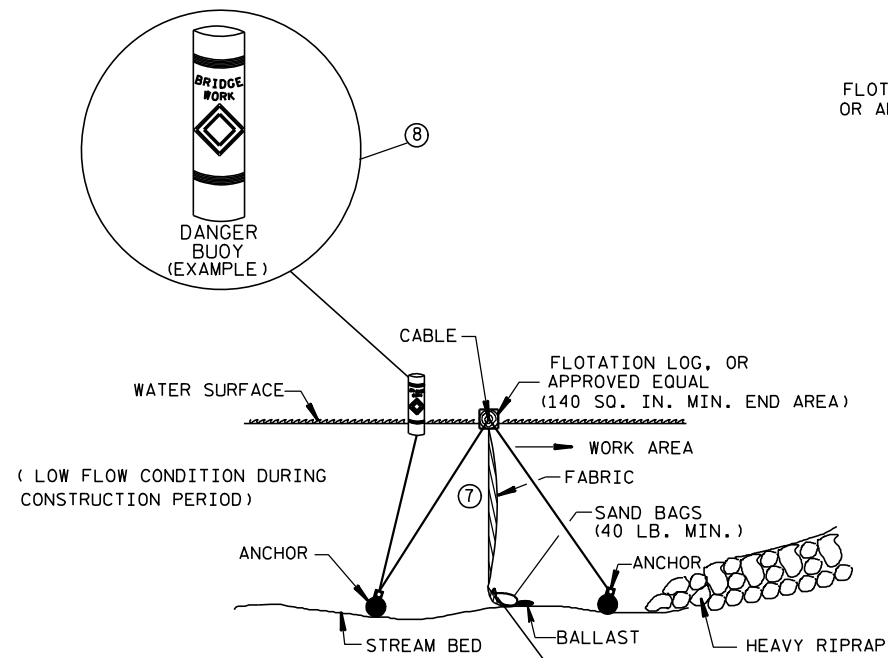
/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



- 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 1½" X 1½" 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.



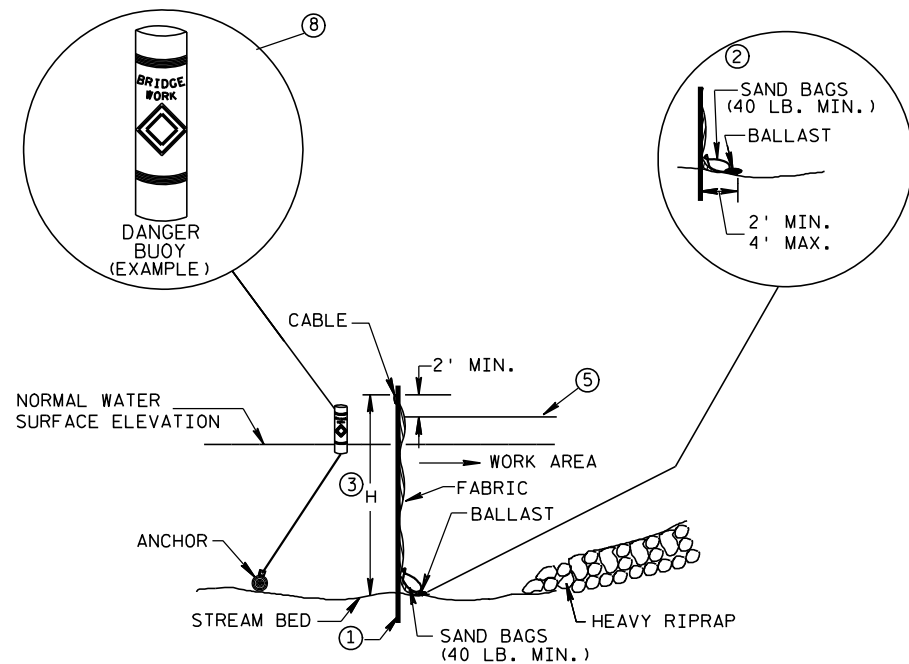
SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ <u>Beth Cannestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER



SECTION B-B

TURBIDITY BARRIER FLOAT ALTERNATIVE

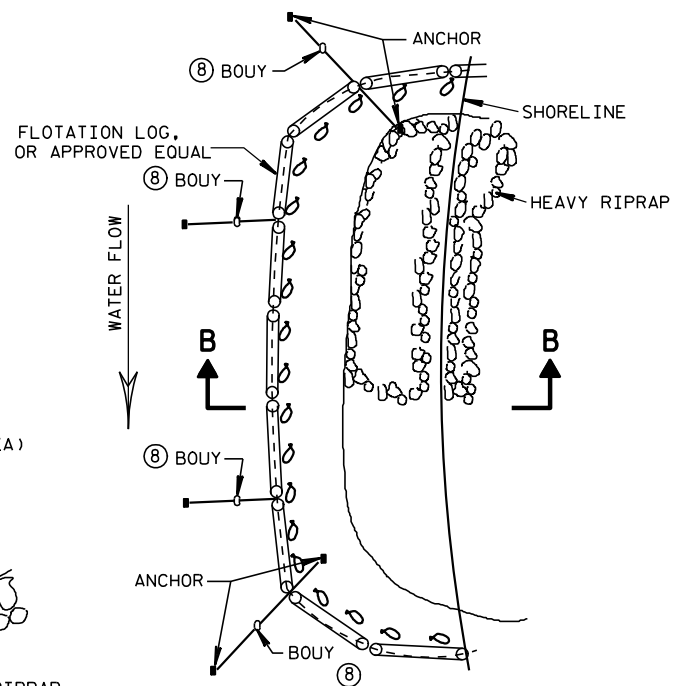
CAUTION - SEE NOTE 6



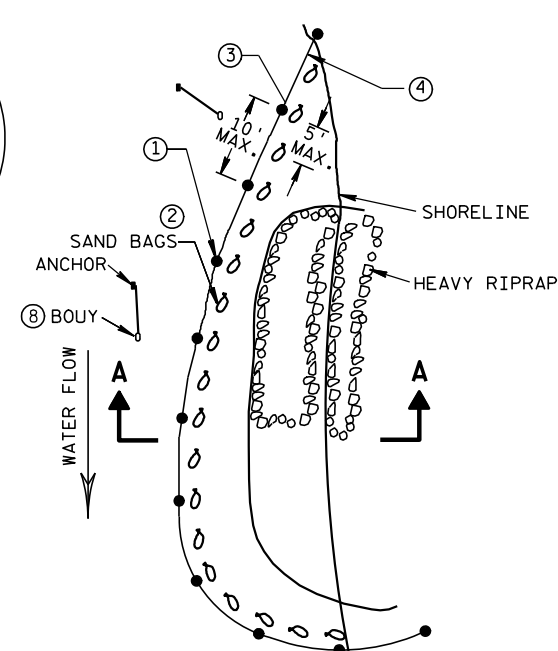
SECTION A-A

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS



PLAN VIEW

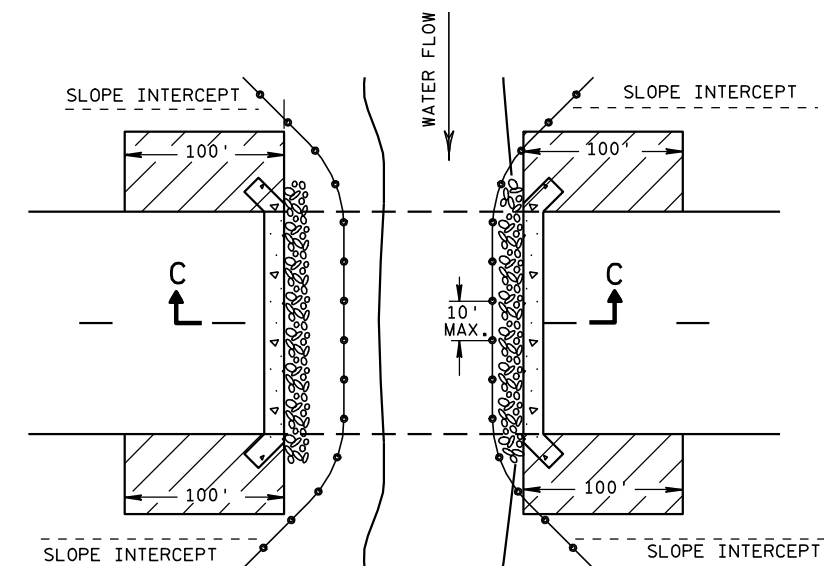


GENERAL NOTES

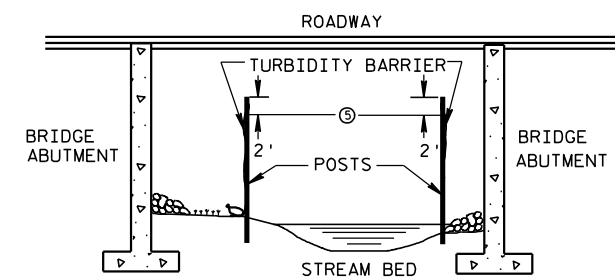
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

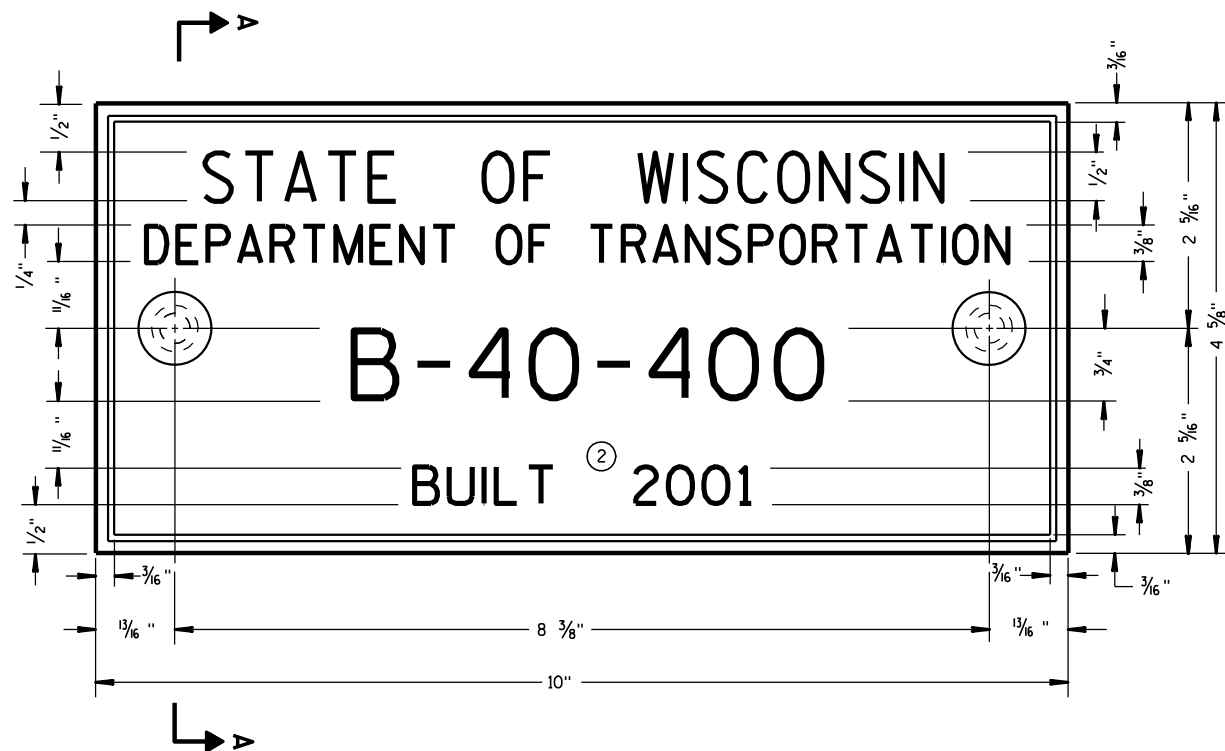
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

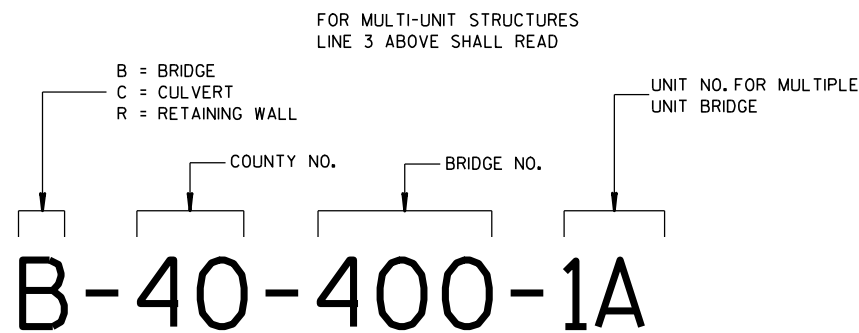
6/04/02
DATE

FHWA

/S/ Beth Connestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



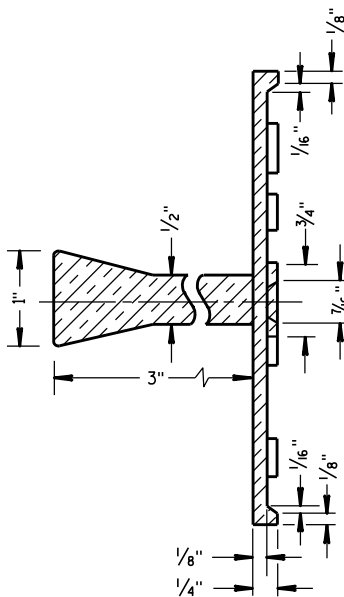
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

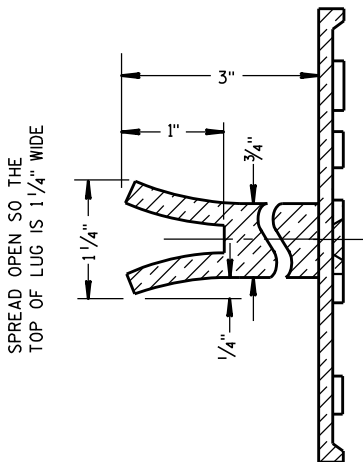
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.

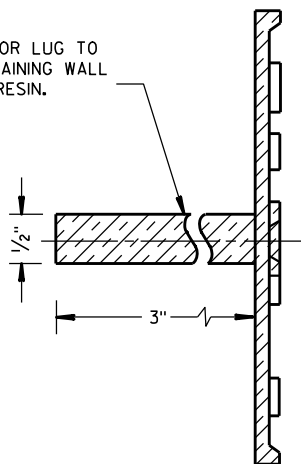


SECTION A-A



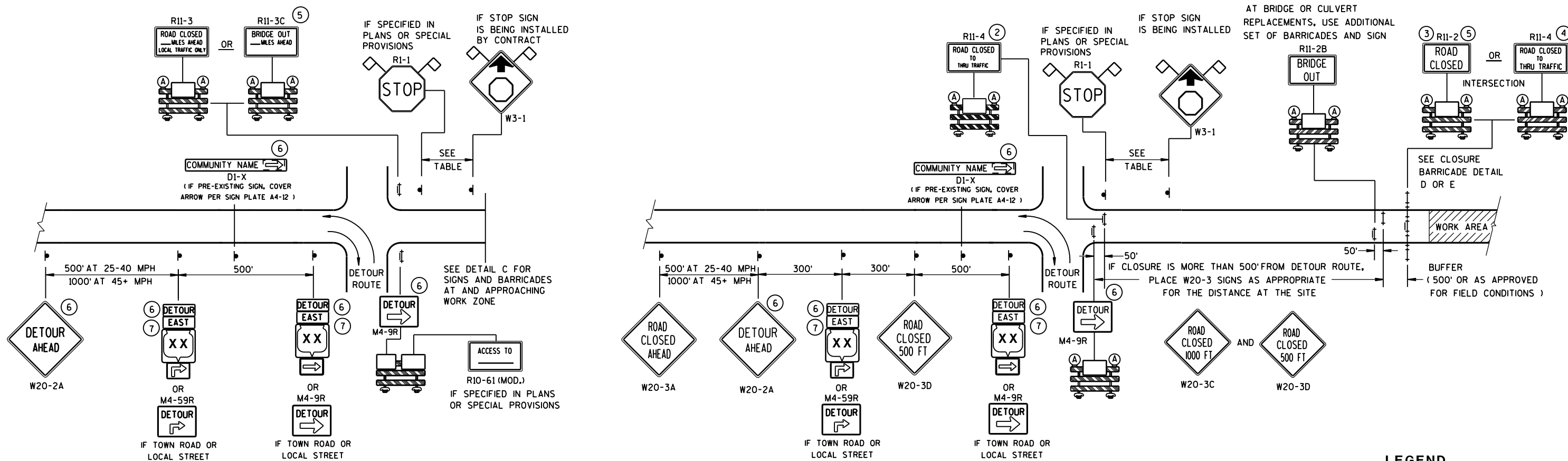
ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 3/26/10 DATE	/S/ Scot Becker CHIEF STRUCTURAL DEVELOPMENT ENGINEER
FHWA	



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

- SIGN ON PERMANENT SUPPORT
- ⊥ TYPE III BARRICADE
- ⊥ TYPE III BARRICADE WITH ATTACHED SIGN
- Ⓐ TYPE "A" WARNING LIGHT (FLASHING)

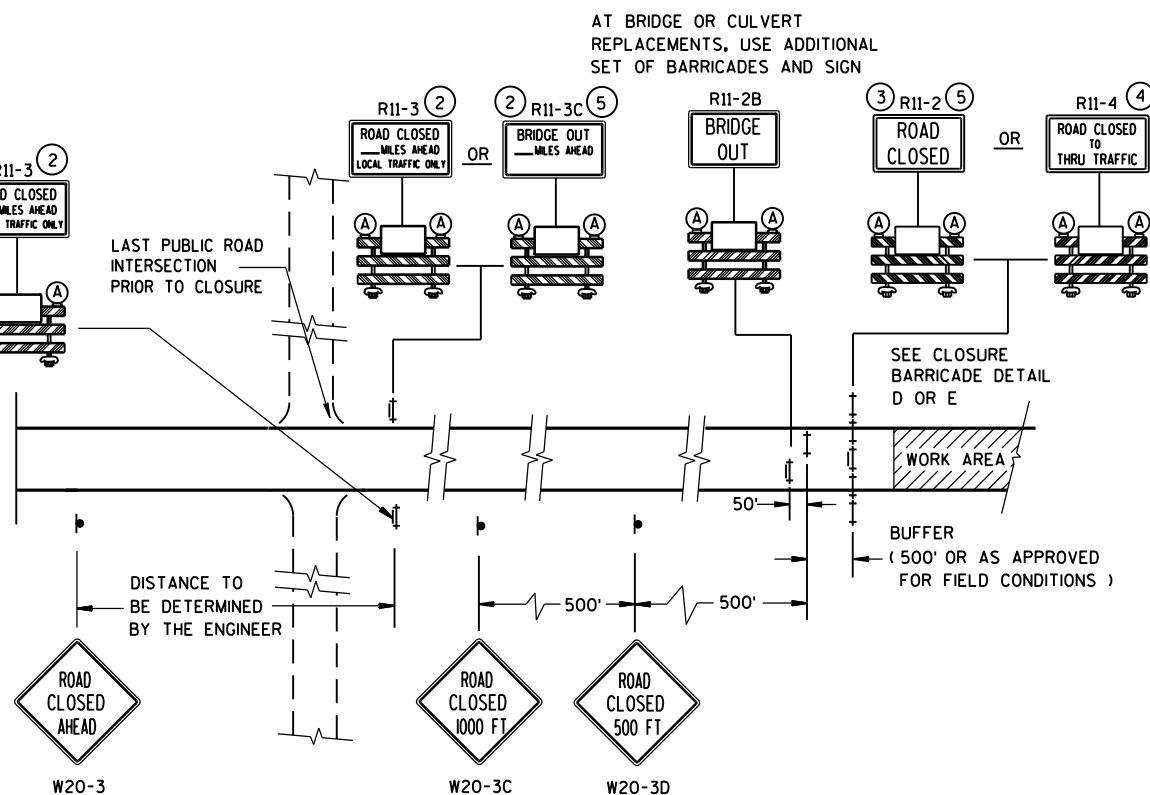
WORK AREA

DETOUR EAST M4-8
M3-X
XX OR COUNTY XX OR XX
M1-4 M1-5A M1-6

M05-1 OR M06-1

FLAGS, 16" X 16" MIN., (ORANGE)

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750



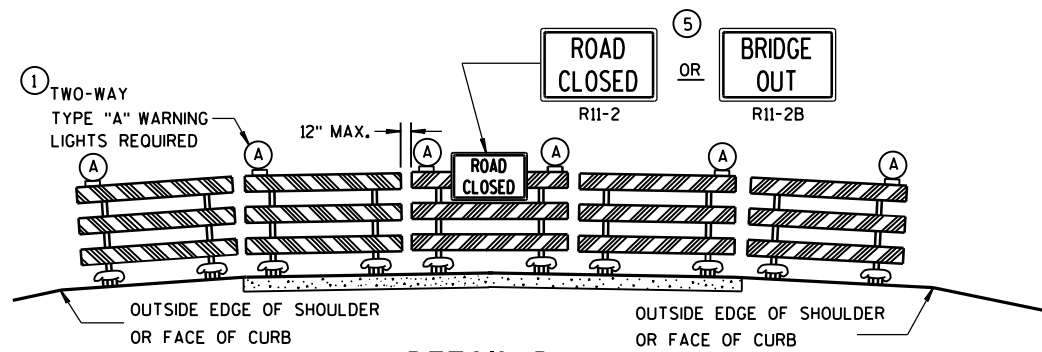
DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

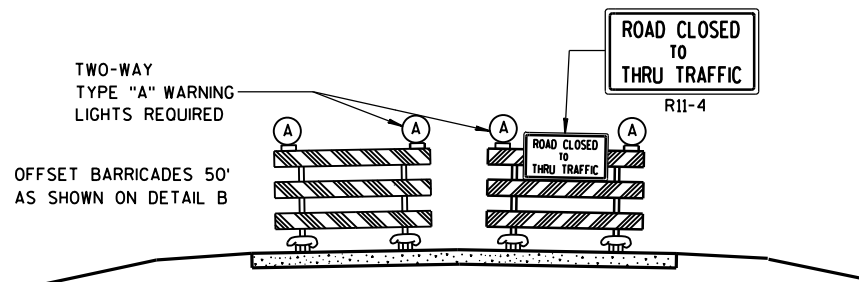
**BARRICADES AND SIGNS
FOR
MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 /S/ Peter Amokobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-SHEET "a" 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.

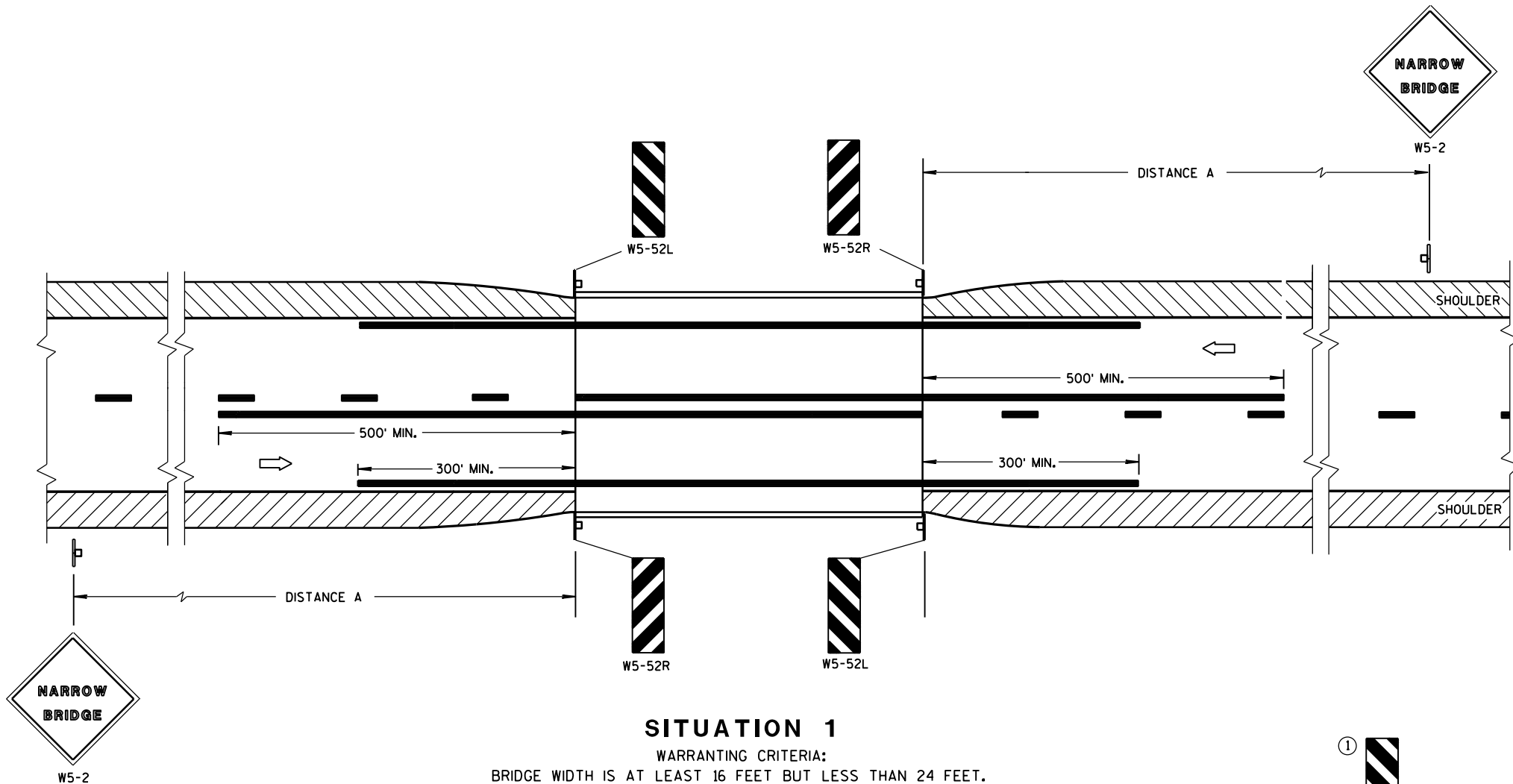
"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- 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	
Sept. 2015 DATE	/S/ Peter Amokobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	

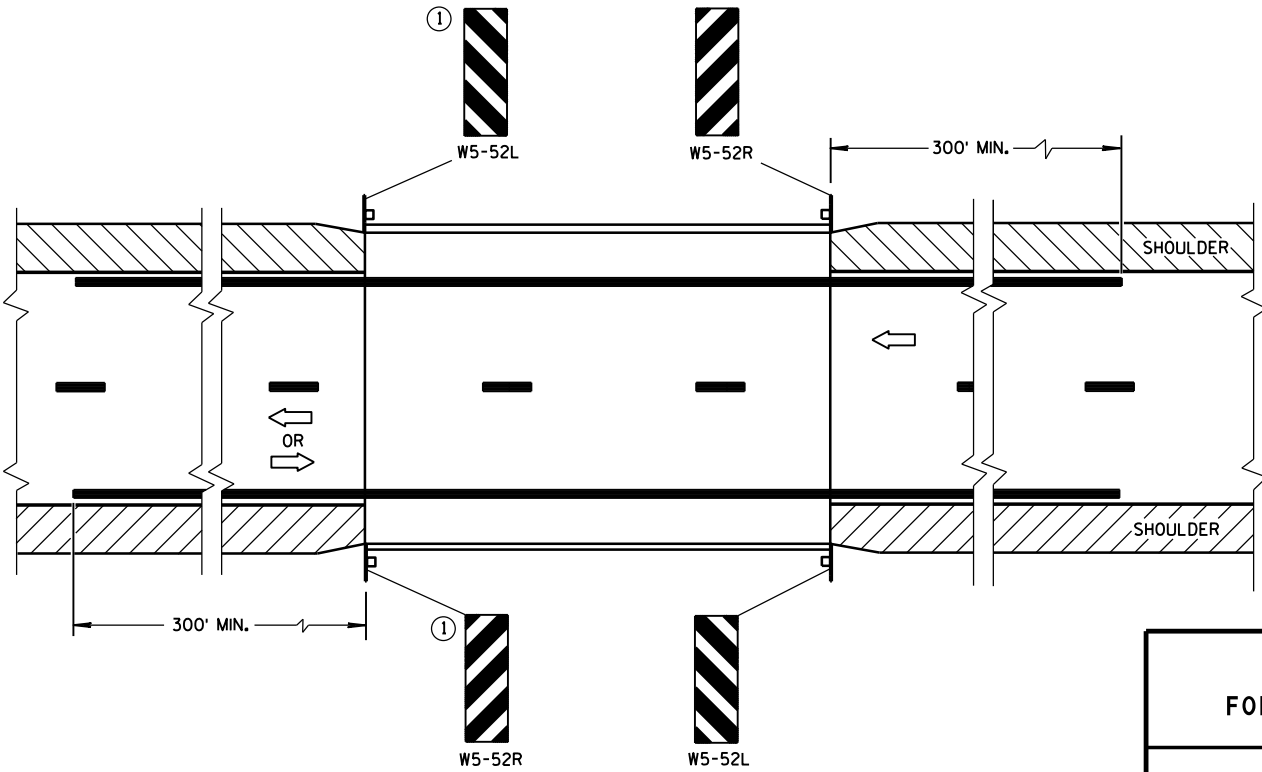


SITUATION 1

WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A "
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'



SITUATION 2

WARRANTING CRITERIA:
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET.

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.

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

① OMIT ON ONE-WAY TRAVELLED WAYS.

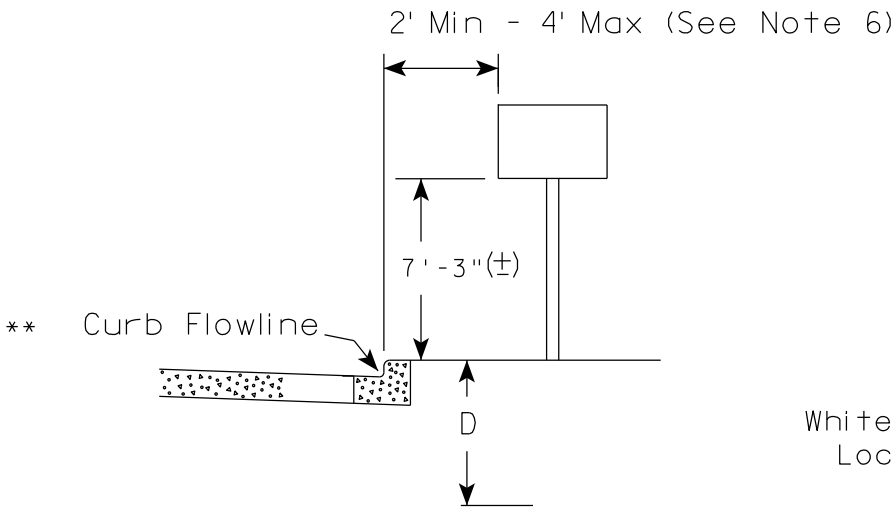
➡ DIRECTION OF TRAFFIC

**SIGNING & MARKING
FOR TWO LANE BRIDGES**

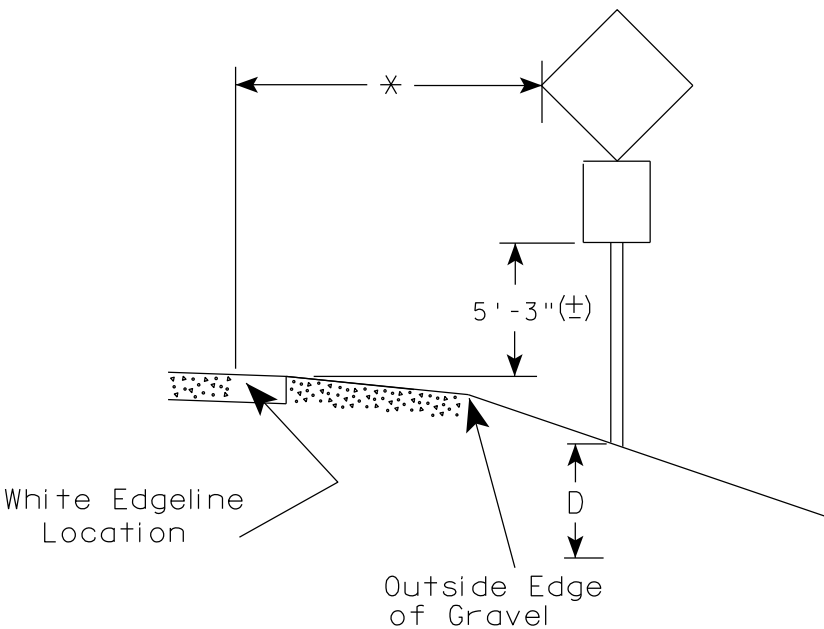
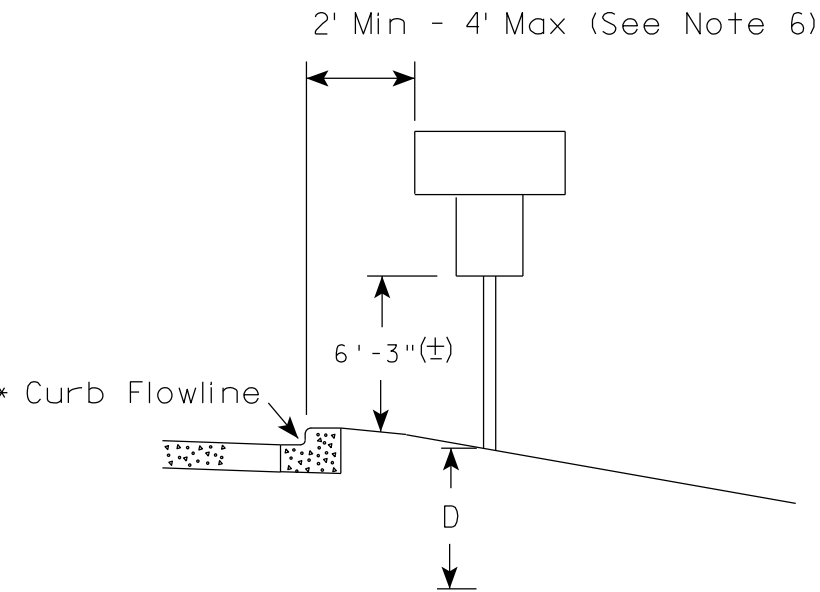
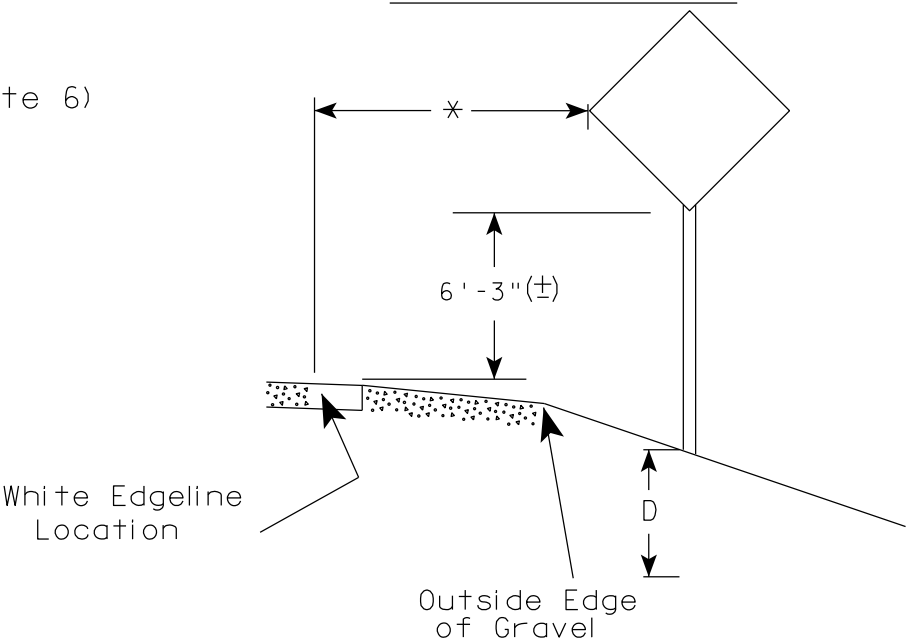
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, 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 (A2-1S) 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 signs 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), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) 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'

×× 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.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

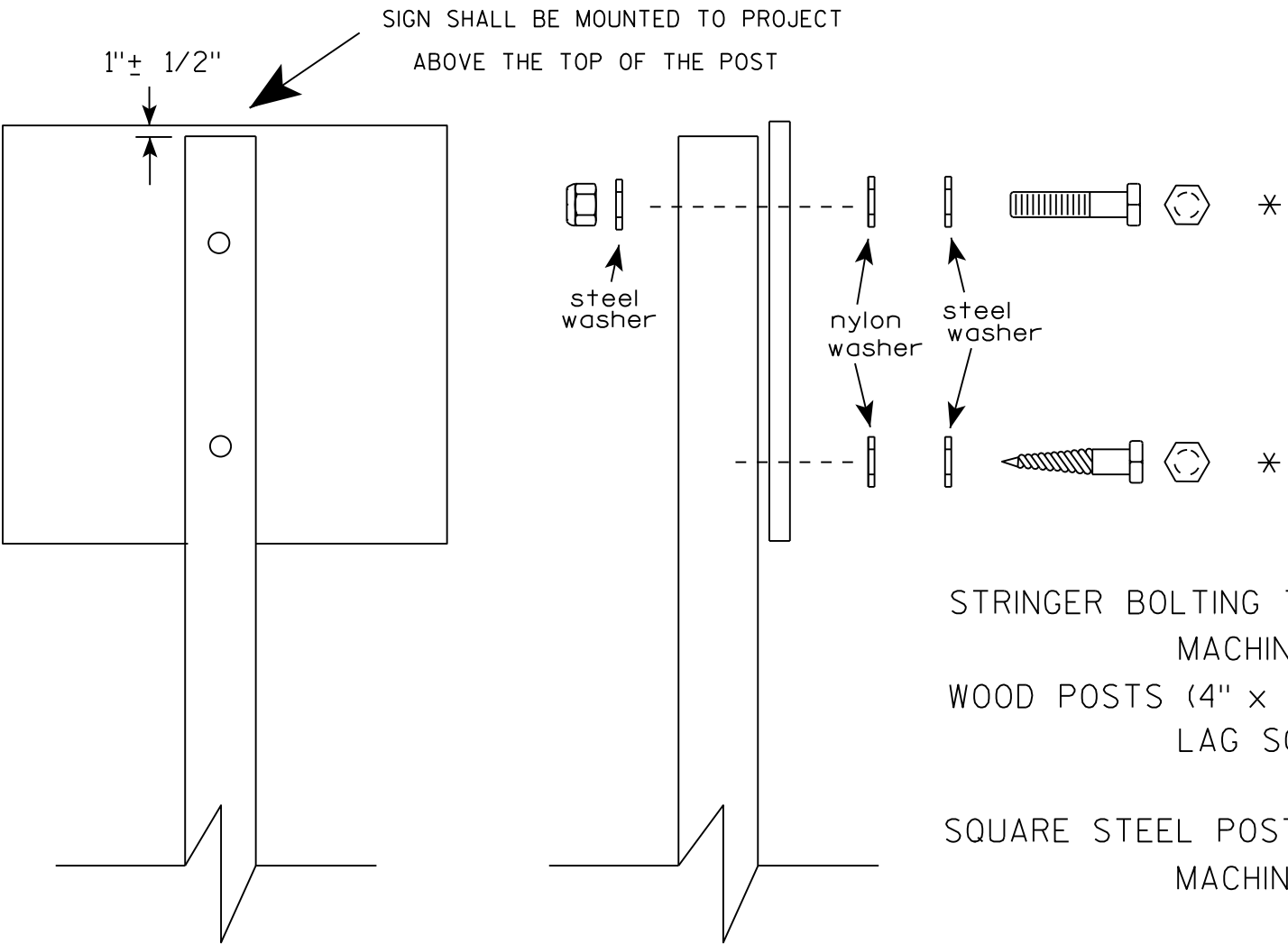
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 7/23/15

PLATE NO. A4-3.20



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

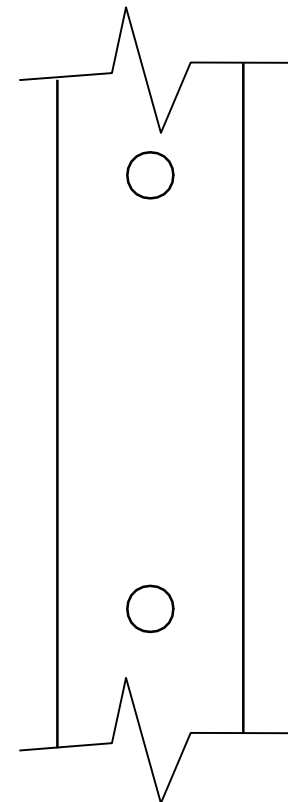
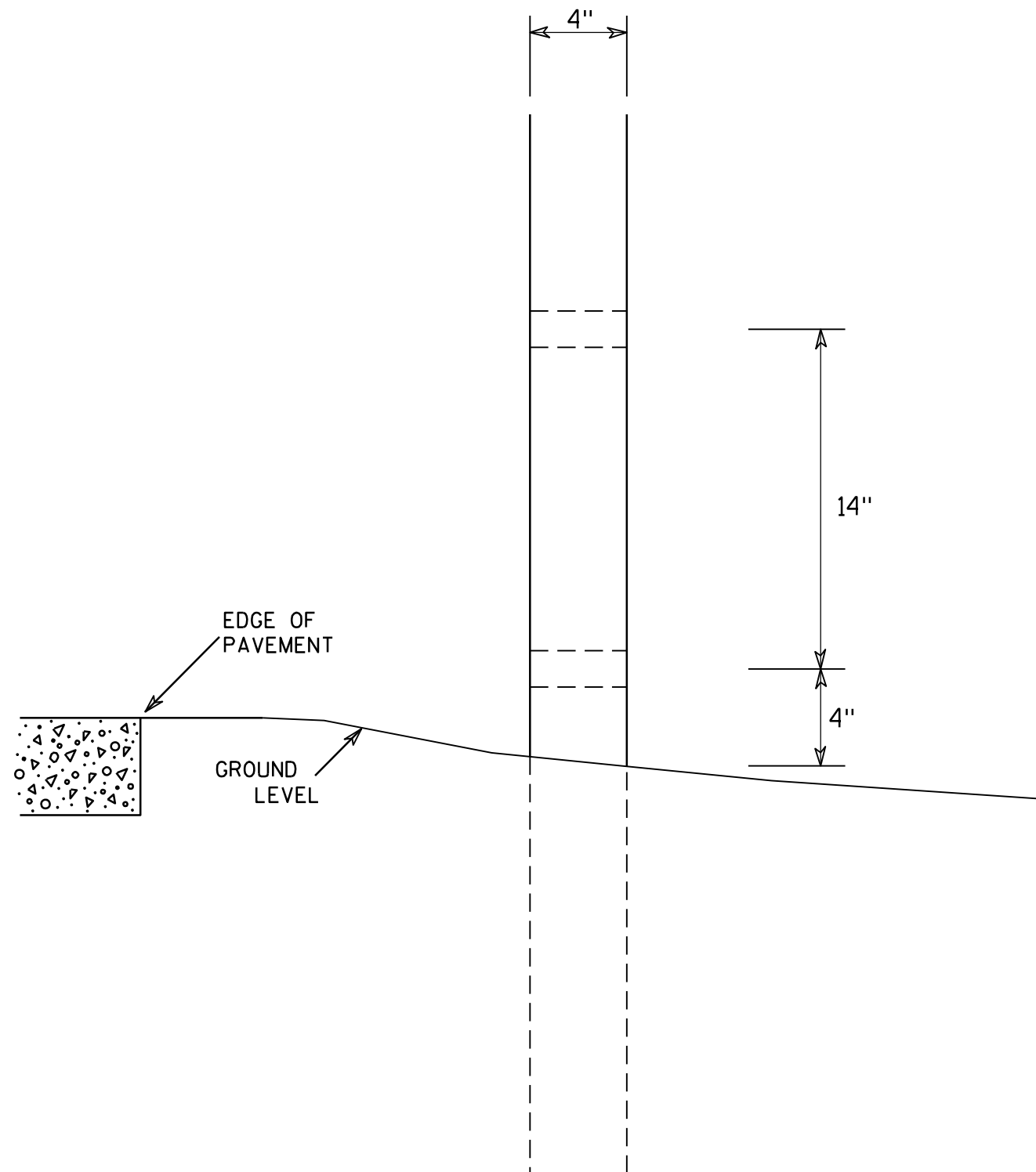
- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
 - 3/8" X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 - 3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- 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

* 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	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 8/11/16	PLATE NO. A4-8.8



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.

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: 8394-00-72

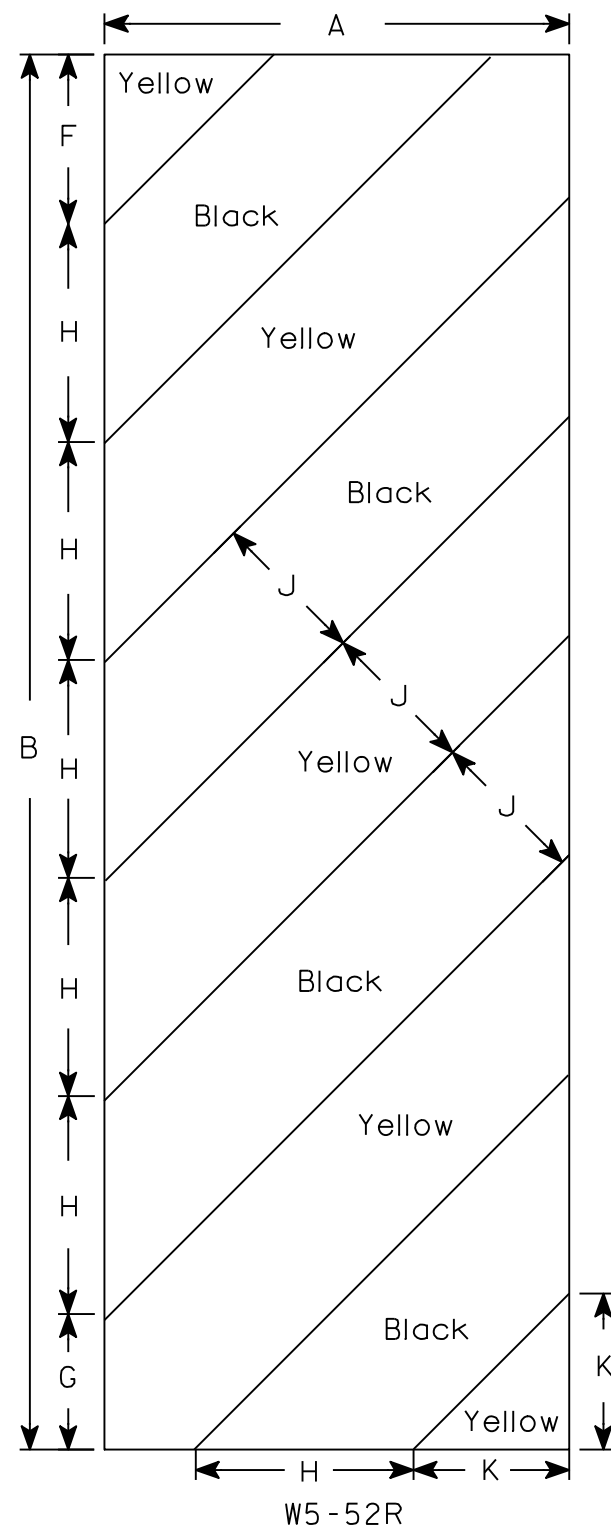
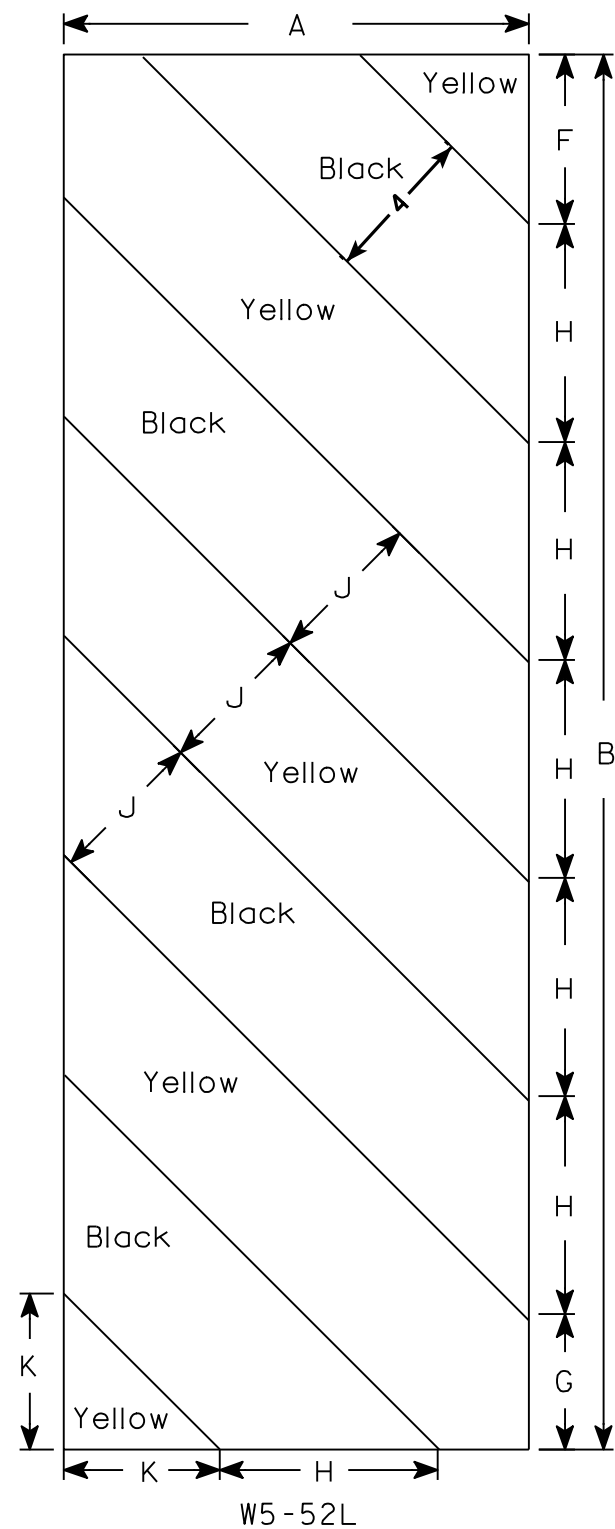
HWY: CHAFFEY FOXOBORO RD

COUNTY: DOUGLAS

SHEET NO:

E

7



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. Alternate colors of stripes as shown.

7

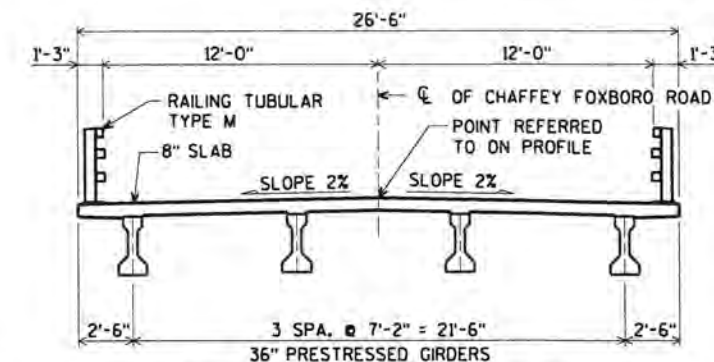
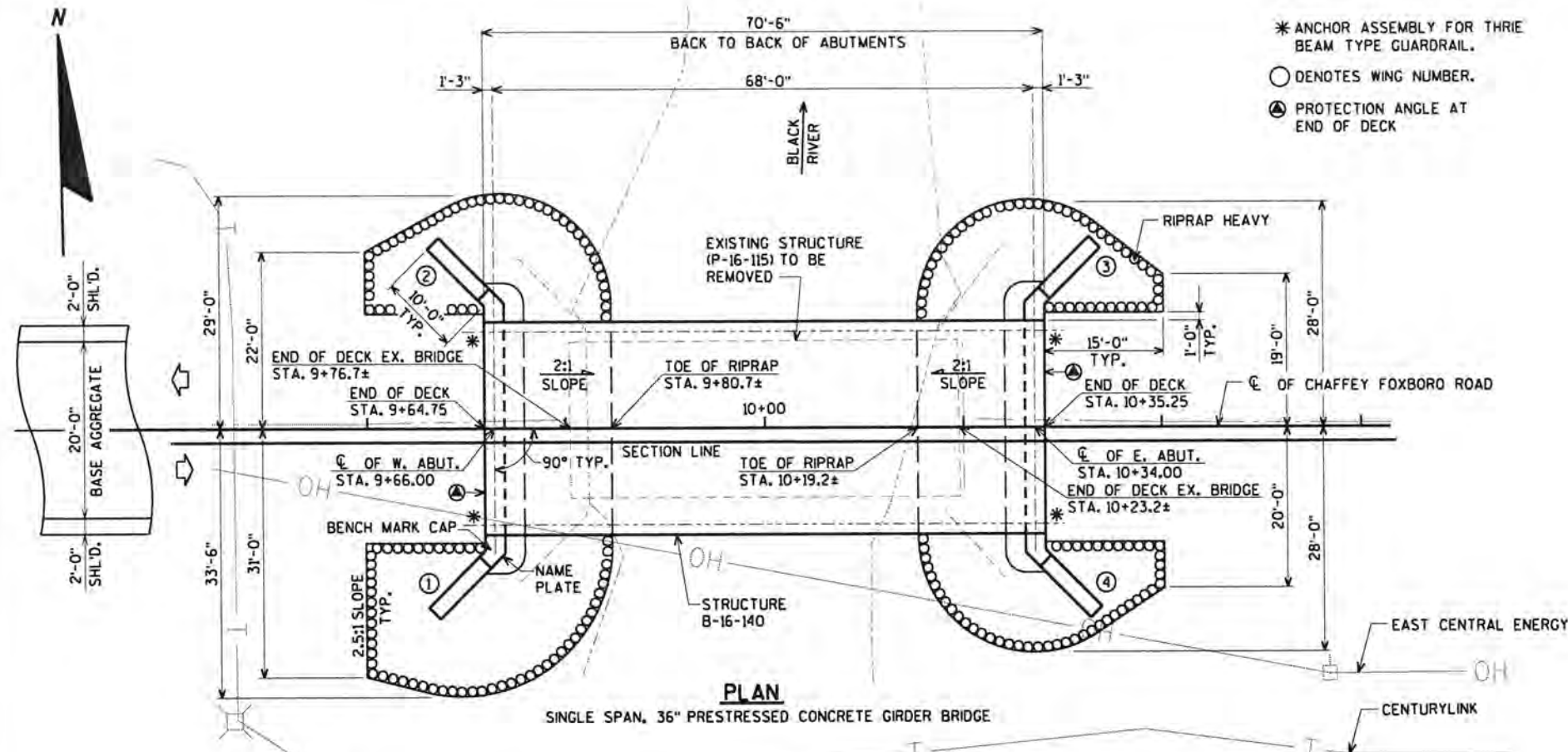
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 5/6																6.75
4																											
5																											

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9



DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.21
OPERATING RATING FACTOR: 1.89
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20" S.F.

MATERIAL PROPERTIES:

CONCRETE MASONRY (SUPERSTRUCTURE) f'_c = 4,000 p.s.i.
ALL OTHER f'_c = 3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) f_y = 60,000 p.s.i.

36" PRESTRESSED GIRDER
CONCRETE MASONRY f'_c = 8,000 p.s.i.
STRANDS - 0.5" DIA. WITH ULTIMATE TENSILE STRENGTH OF = 270,000 p.s.i.

HYDRAULIC DATA:

100 YEAR FREQUENCY

Q_{100} = 600 c.f.s.
VEL. = 3.8 f.p.s.
HW₁₀₀ = EL. 1198.4
WATERWAY AREA = 157 sq. ft.
DRAINAGE AREA = 37 sq. mi.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 8
DATUM = NAVD88 (2012)

2 YEAR FREQUENCY

Q_2 = 160 c.f.s.
VEL. = 3.4 f.p.s.
HW₂ = EL. 1196.4

FOUNDATION DATA:

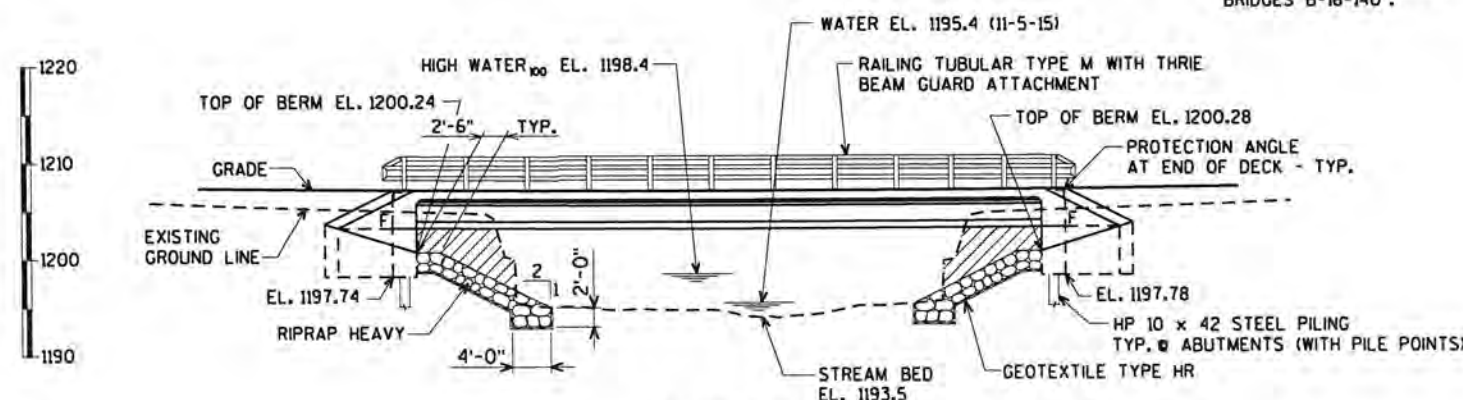
ABUTMENTS TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS + PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 35'-0".

*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:

A.D.T. = <100 (2018)
A.D.T. = <100 (2038)
R.D.S. = 30 M.P.H.

COST OF EXCAVATION AND FILL IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-16-140".



ELEVATION

LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES AND NOTES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT WING DETAILS
6. EAST ABUTMENT
7. EAST ABUTMENT WING DETAILS
8. ABUTMENT DETAILS AND BILL OF BARS
9. INTERM. STEEL DIAPHS. DETAILS
10. 36" PRESTRESSED GIRDER DETAILS
11. SUPERSTRUCTURE
12. SUPERSTRUCTURE PLAN
13. RAILING TUBULAR TYPE M



BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
DAN SYDOW
(715)-834-3161

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY			
AYRES ASSOCIATES 3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	<i>William C. Dreher</i> CHIEF STRUCTURES DESIGN ENGINEER		DATE 08/09/17
STRUCTURE B-16-140			
CHAFFEY FOXBORO ROAD OVER THE BLACK RIVER			
COUNTY	DOUGLAS	TOWN/CITY/VILLAGE	SUMMIT
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	CJM	DESIGN CK'D.	CKJ
DRAWN BY	CLS	PLANS CK'D.	BNS
GENERAL PLAN			SHEET 1 OF 13

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STATE PROJECT NUMBER

8394-00-72

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	W. ABUT.	E. ABUT.	SUPER.	TOTAL
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00	LS	-----	-----	-----	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-16-140	LS	-----	-----	-----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	235	235	-----	470
502.0100	CONCRETE MASONRY BRIDGES	CY	29	29	69	127
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	235	235
503.0136	PRESTRESSED GIRDER TYPE I 36-INCH	LF	-----	-----	276	276
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,020	2,020	-----	4,040
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,110	1,110	13,290	15,510
506.0105	STRUCTURAL STEEL CARBON	LB	260	260	-----	520
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	-----	-----	8	8
506.4000	STEEL DIAPHRAGMS B-16-140	EACH	-----	-----	3	3
513.4061	RAILING TUBULAR TYPE M B-16-140	LF	-----	-----	145	145
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10	10	-----	20
550.0500	PILE POINTS	EACH	5	5	-----	10
550.1100	PILING STEEL HP 10-INCH x 42 LB	LF	175	175	-----	350
606.0300	RIPRAP HEAVY	CY	155	130	-----	285
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	75	75	-----	150
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	40	40	-----	80
645.0120	GEOTEXTILE TYPE HR	SY	280	240	-----	520
	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 FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-16-140" SHALL BE THE EXISTING GROUNDLINE.

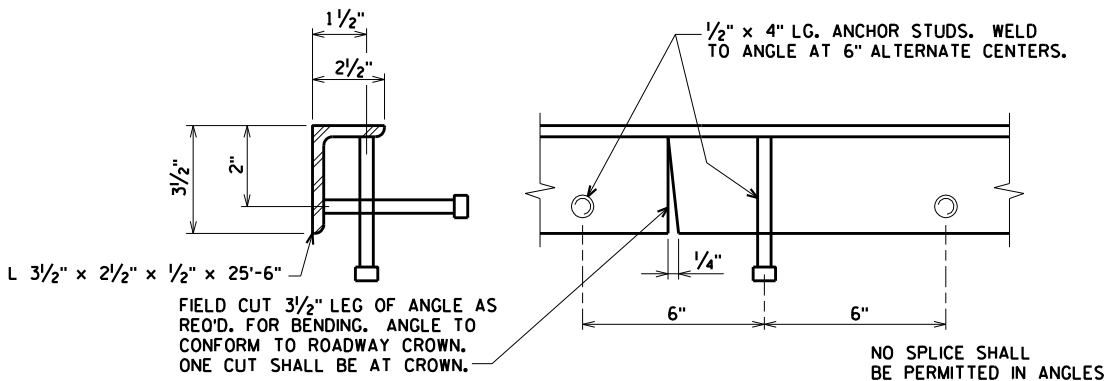
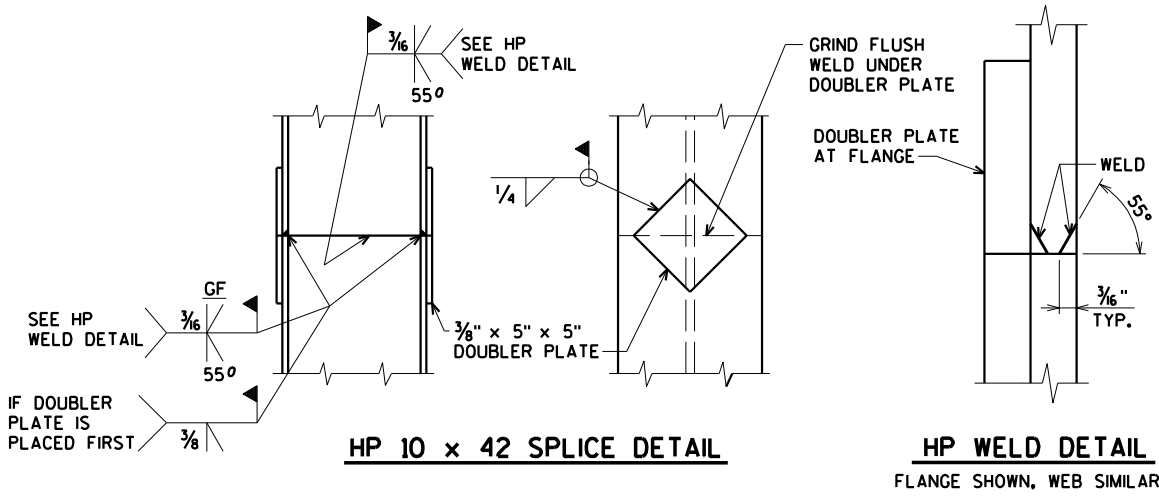
AT THE BACK FACE OF ABUTMENT, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.

THE EXISTING STRUCTURE, P-16-115, TO BE REMOVED, IS A SINGLE SPAN CONCRETE DECK GIRDER BRIDGE, 46.5 FT. LONG WITH A 19 FT. CLEAR ROADWAY WIDTH.

THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE HAUNCH DEPTH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEETS.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.

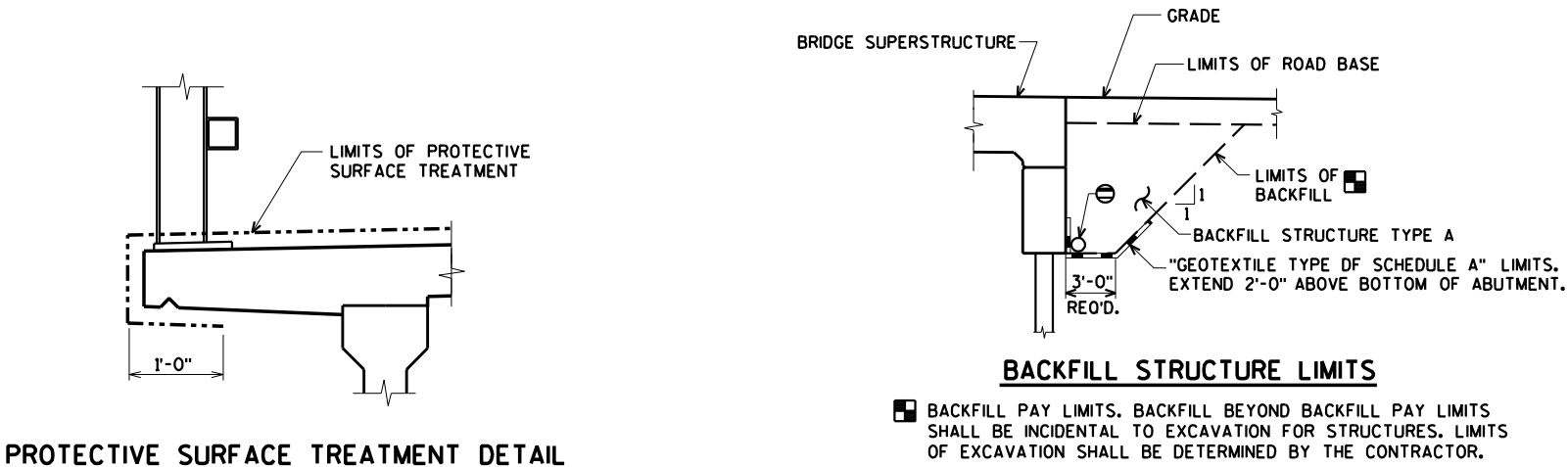
THE QUANTITY OF BACKFILL STRUCTURE TYPE A, BID ITEM 210.1100 IS CALCULATED BASED ON APPLICABLE FIGURES 12.6-1 AND 12.6-2 IN THE WISCONSIN DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL.



PROTECTION ANGLE DETAIL

(ANGLE AND STUDS TO BE PAID FOR AT THE UNIT PRICE BID FOR "STRUCTURAL STEEL CARBON". (NO PAINT REQ'D.)

SANDBLAST PROTECTION ANGLE AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PROTECTION ANGLE SHALL BE HOT DIPPED GALVANIZED.



BACKFILL STRUCTURE LIMITS

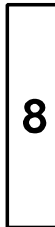
BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 8.

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-140			
	DRAWN BY	CLS	PLANS CK'D. CJM
QUANTITIES AND NOTES			SHEET 2 OF 13

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LEGEND OF BORING

BORING - TEL.
STA./OFF-SET

ST
(1) 0.25 (2) 17

▽

F-C
COBBLE OR BOULDER

WEATHERED LIMESTONE

CORE RUN #1 - 24'-29'
REC=80%, ROD=72%

(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

▽ AT TIME OF DRILLING

▼ END OF DRILLING

▽ AFTER DRILLING

ABBREVIATIONS

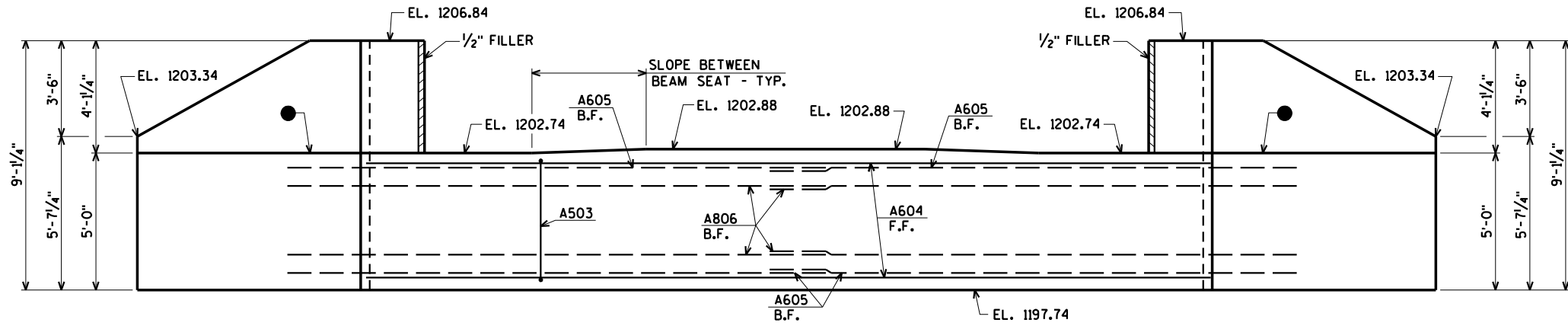
F-FINE	M-MEDIUM	C-COARSE	ST-SHELBY TUBE
--------	----------	----------	----------------

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-140			
		DRAWN BY	CL5 PLANS CK'D. CJM
SUBSURFACE EXPLORATION		SHEET 3 OF 13	

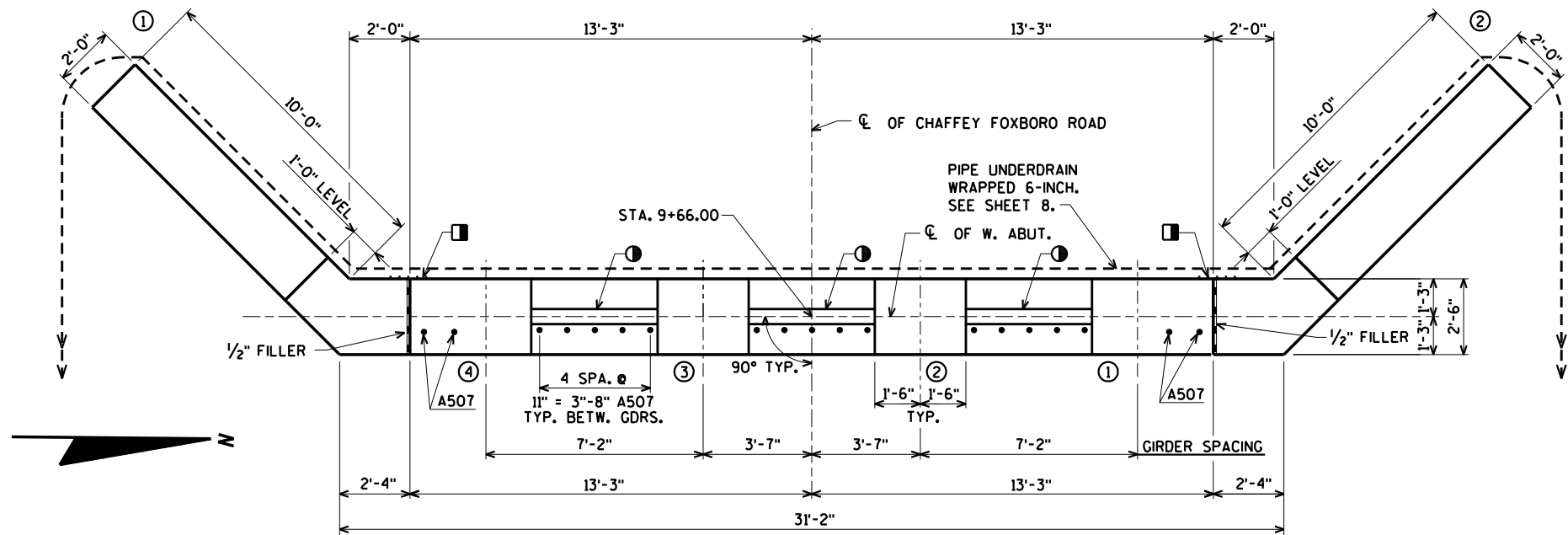
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STATE PROJECT NUMBER

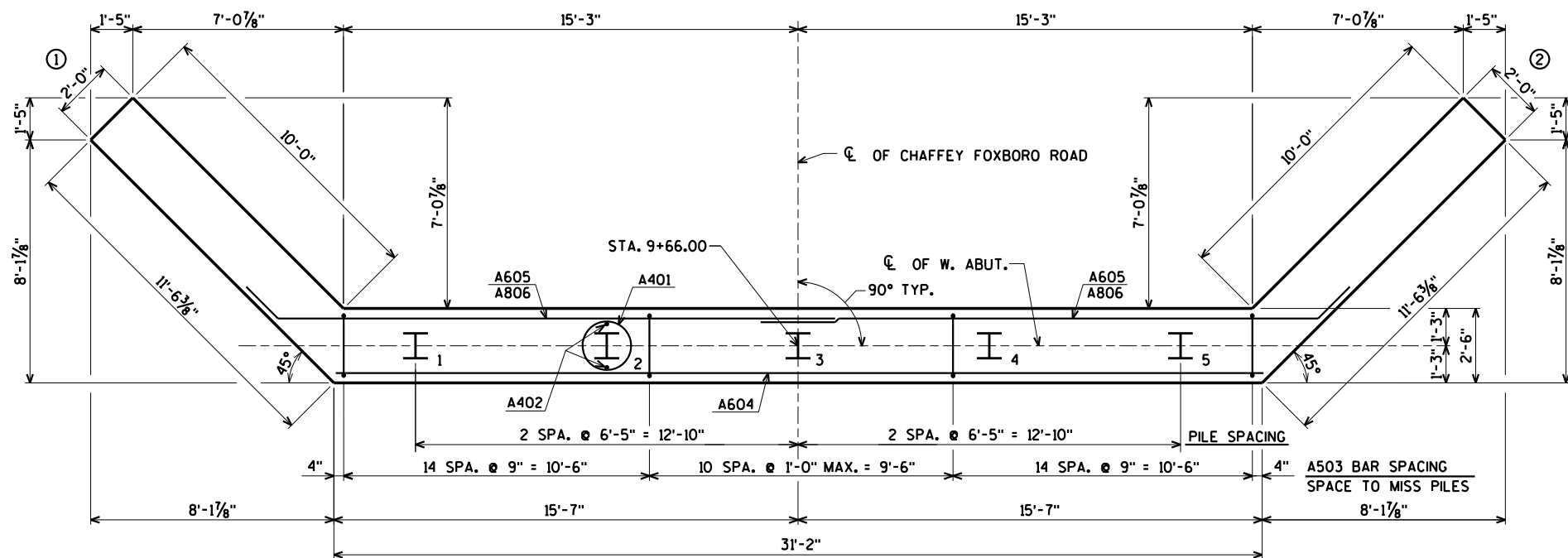
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ELEVATION
(LOOKING WEST)



PLAN



PILE LAYOUT

NOTE: 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.)

- OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F.
 - ① KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".
 - VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.
- FOR PILE SPICE DETAIL SEE SHEET 2.
- B.F. DENOTES BACK FACE
F.F. DENOTES FRONT FACE

8

8

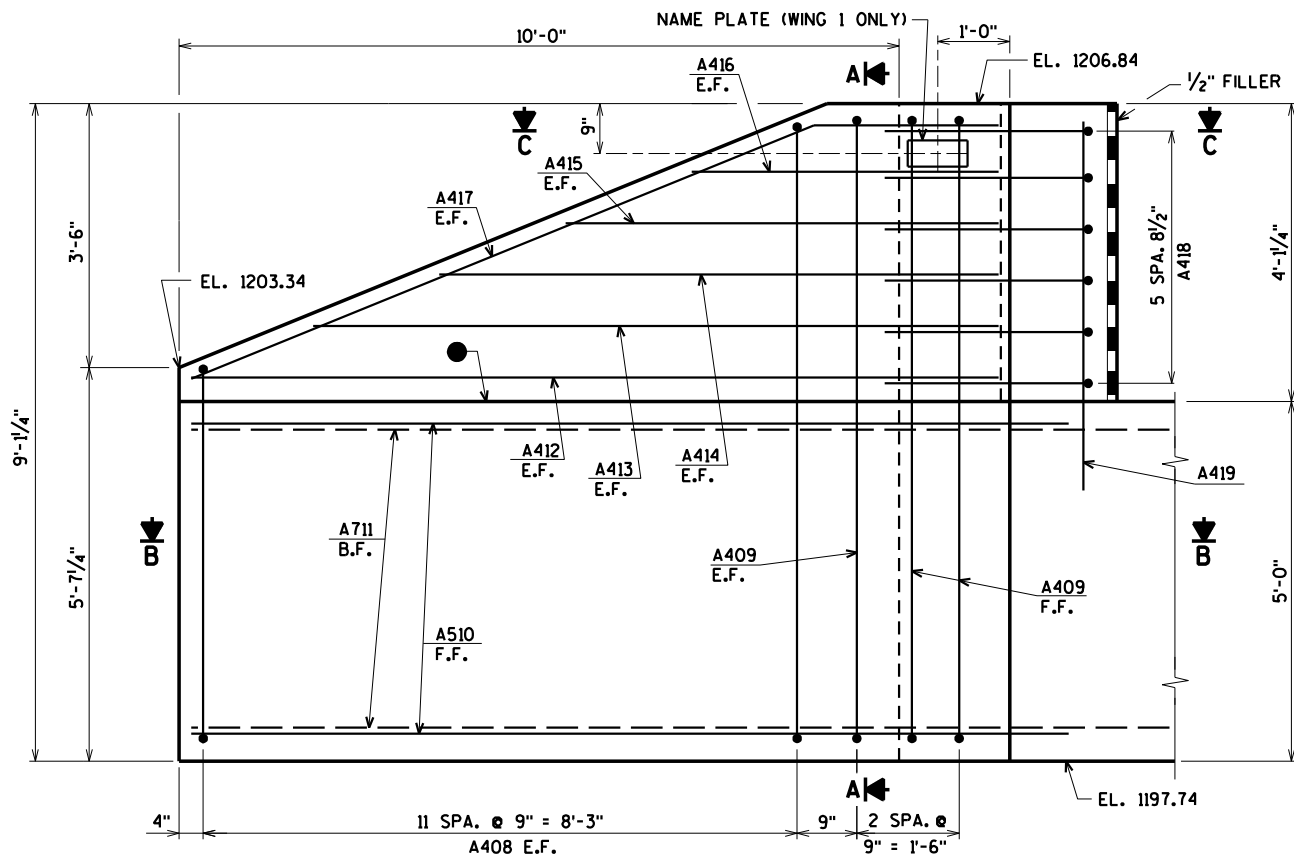
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-140			
DRAWN BY		CLS	PLANS CK'D. CJM
WEST ABUTMENT		SHEET 4 OF 13	

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AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

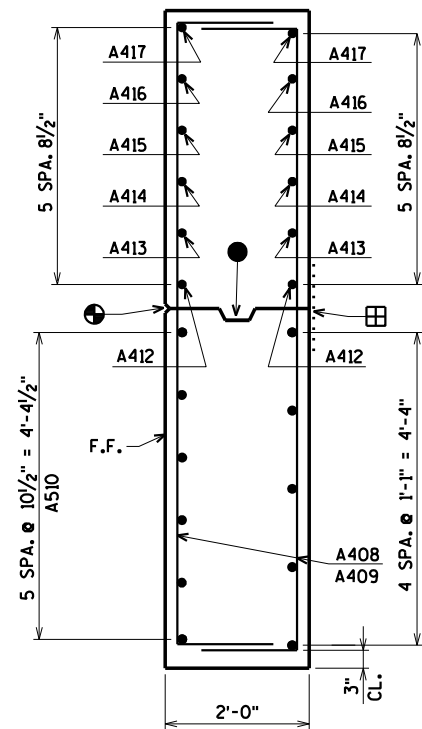
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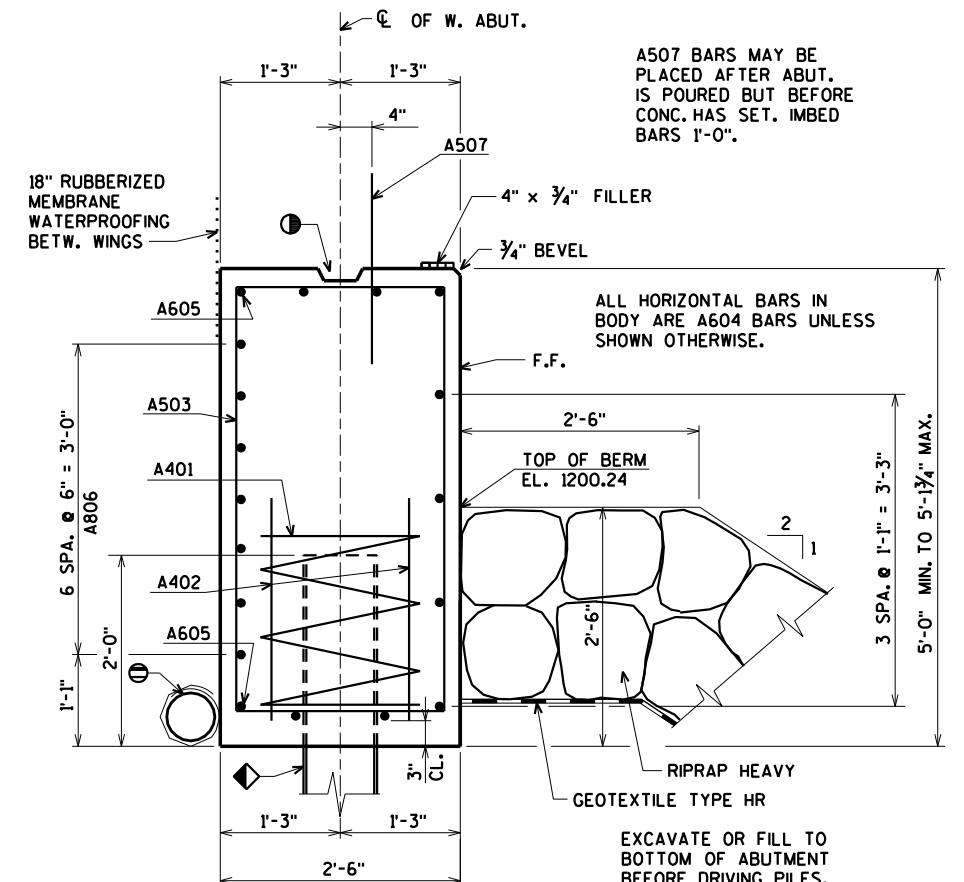
8394-00-72



ELEVATION - WING 1
(WING 1 SHOWN, WING 2 SIMILAR)

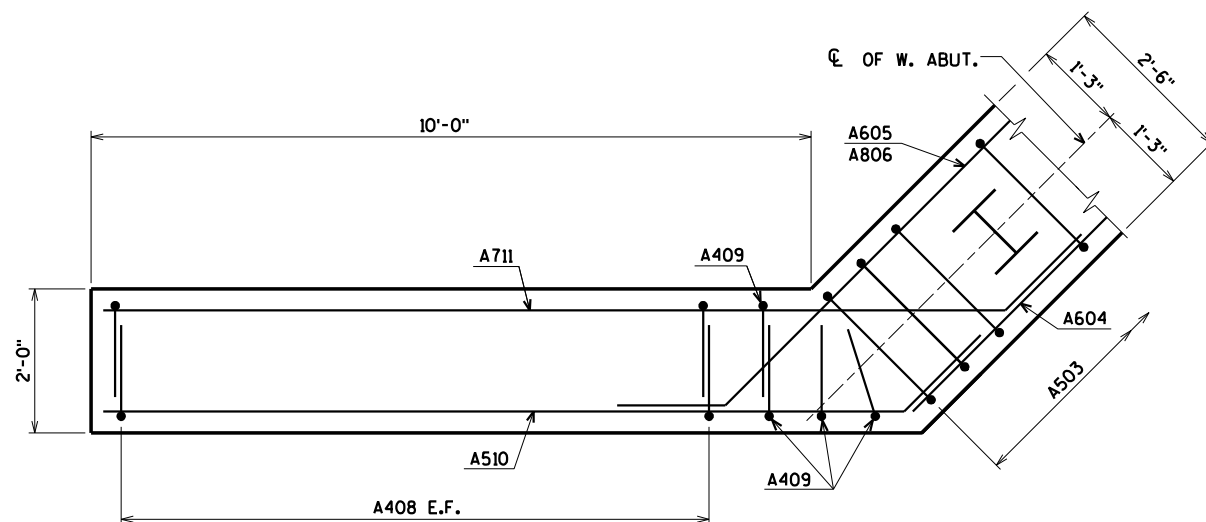


SECTION A

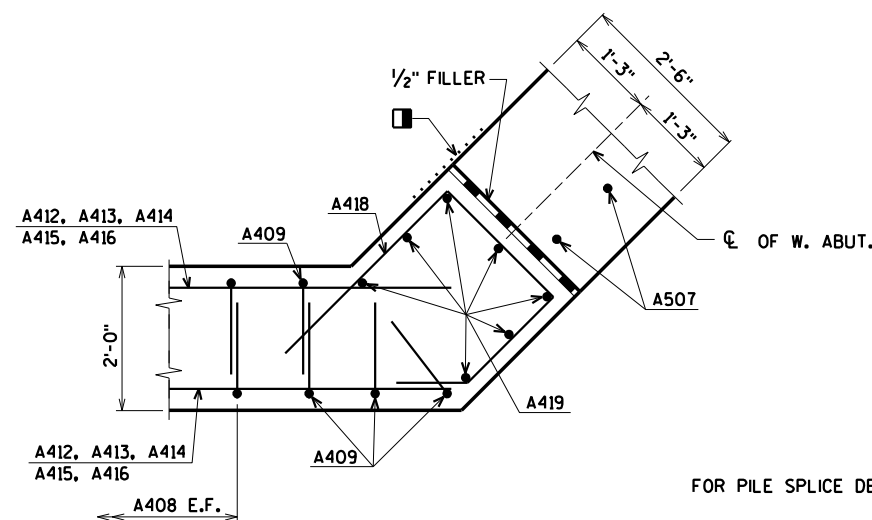


TYPICAL SECTION THRU BODY

ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) WITH A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE. ESTIMATED LENGTH 35'-0".



SECTION B



SECTION C

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

- 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.
- OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F.
- 3/4" 'V' GROOVE ON F.F. OF WING WALL NOT REQUIRED IF CONST. JT. IS NOT USED.
- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.
- PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET. RODENT SHIELD TO BE INCLUDED IN BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".
- KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-140			
DRAWN BY		CLS	PLANS CK'D. CJM
WEST ABUTMENT WING DETAILS			SHEET 5 OF 13

[illegible][illegible]

- OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F.
- KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".
- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

ORIGINAL PLANS PREPARED BY

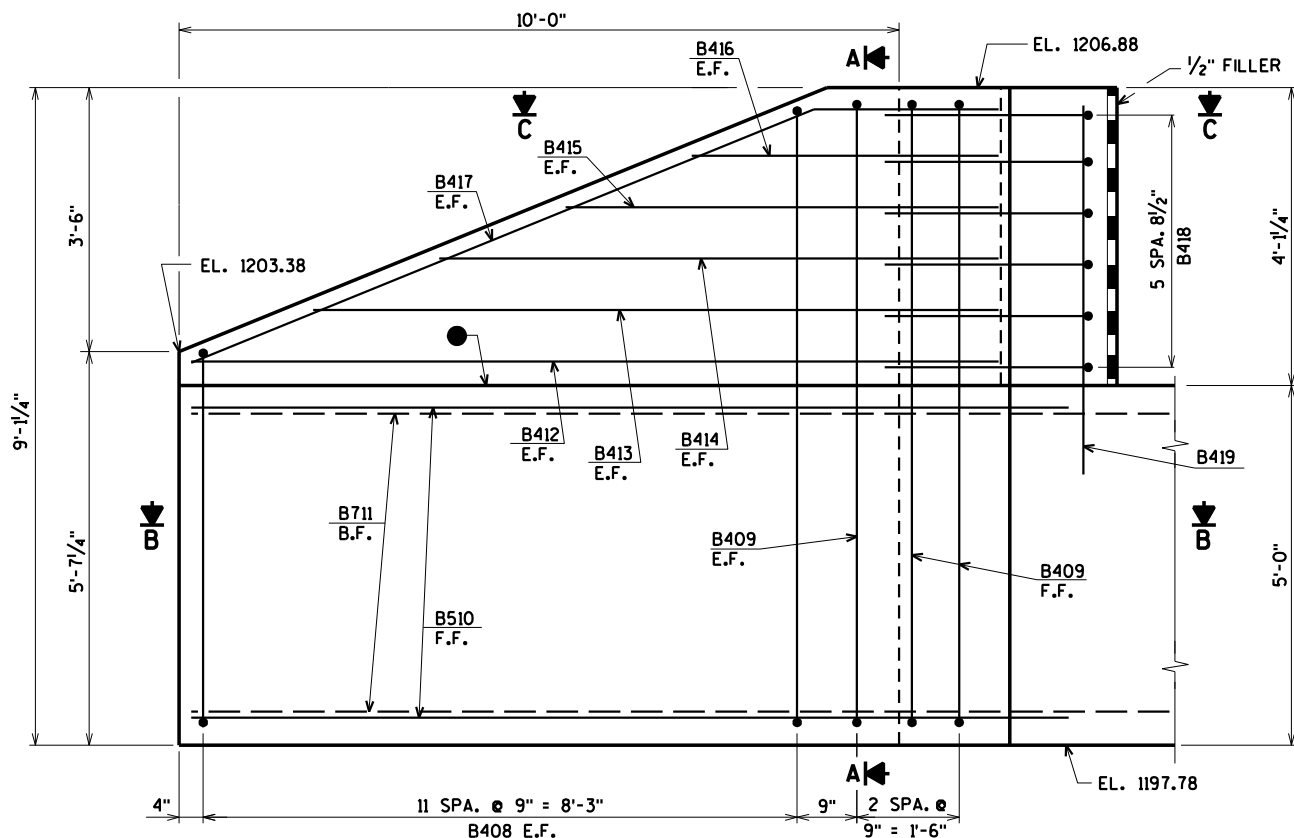
AYRES
ASSOCIATES

3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

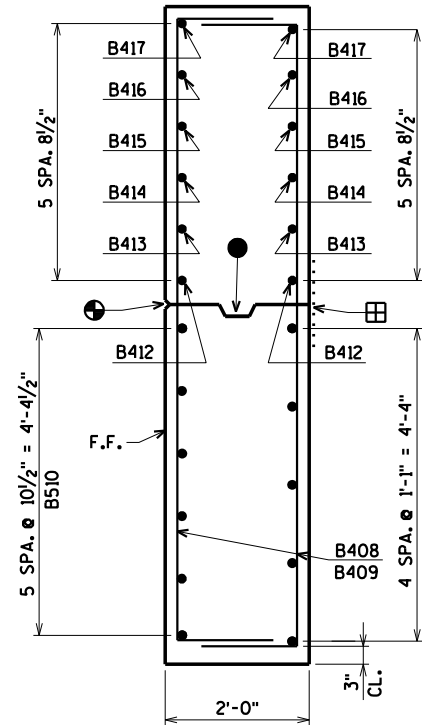
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STATE PROJECT NUMBER

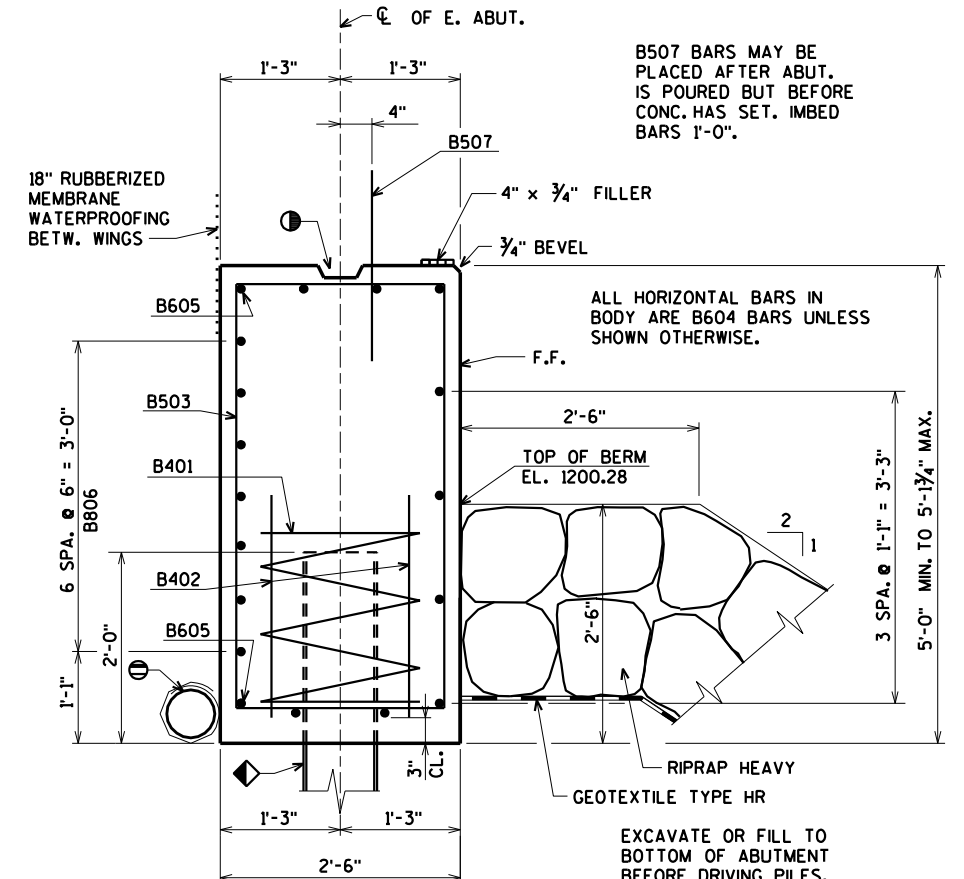
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ELEVATION - WING 3
(WING 3 SHOWN, WING 4 SIMILAR)

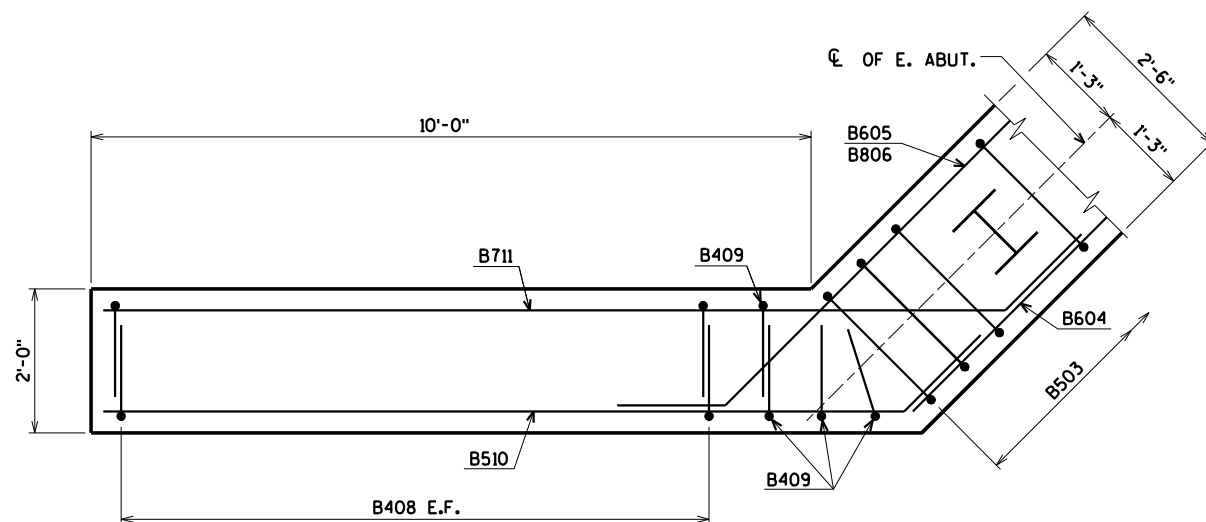


SECTION A

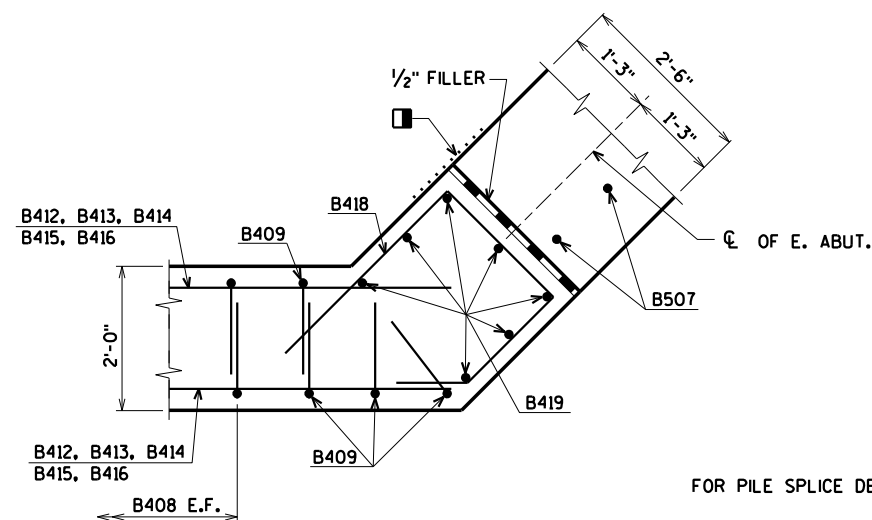


TYPICAL SECTION THRU BODY

ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) WITH A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE. ESTIMATED LENGTH 35'-0".



SECTION B



SECTION C

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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- OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F.
- 3/4" 'V' GROOVE ON F.F. OF WING WALL NOT REQUIRED IF CONST. JT. IS NOT USED.
- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.
- PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET. RODENT SHIELD TO BE INCLUDED IN BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".
- KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-140			
DRAWN BY		CLS	PLANS CK'D. CJM
EAST ABUTMENT WING DETAILS			SHEET 7 OF 13

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STATE PROJECT NUMBER

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BILL OF BARS - WEST ABUTMENT

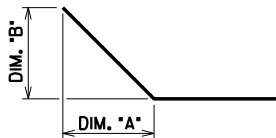
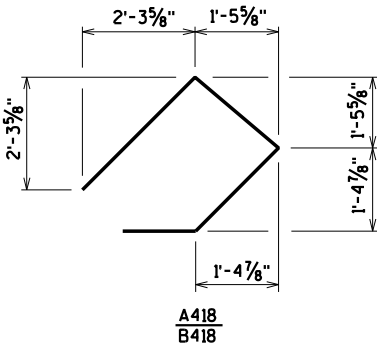
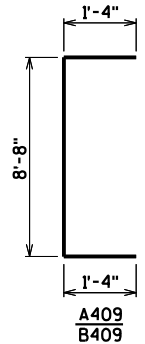
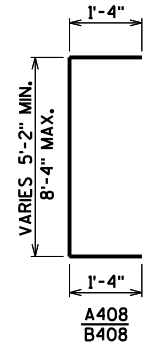
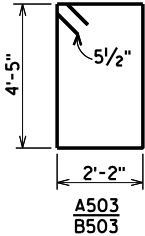
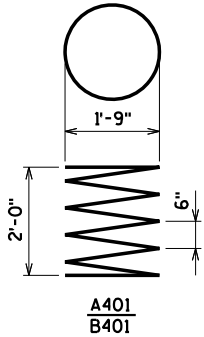
BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	2,020* UNCOATED 1,110* COATED
							LOCATION
A401		5	28-0	X			BODY @ PILES
A402		10	2-3				BODY @ PILES
A503		39	13-9	X			BODY VERT.
A604		9	30-11				BODY HORIZ. F.F.
A605		4	20-6	X			BODY HORIZ. B.F.
A806		14	21-7	X			BODY HORIZ. B.F.
A507	X	19	2-0				BODY DOWELS
A408	X	48	9-3	X			WINGS 1 & 2 VERT. E.F.
A409	X	8	11-2	X			WINGS 1 & 2 VERT. E.F.
A510	X	12	12-9	X			WINGS 1 & 2 HORIZ. F.F.
A711	X	10	14-4	X			WINGS 1 & 2 HORIZ. B.F.
A412	X	4	11-3				WINGS 1 & 2 HORIZ. E.F.
A413	X	4	9-11				WINGS 1 & 2 HORIZ. E.F.
A414	X	4	8-1				WINGS 1 & 2 HORIZ. E.F.
A415	X	4	6-3				WINGS 1 & 2 HORIZ. E.F.
A416	X	4	4-5				WINGS 1 & 2 HORIZ. E.F.
A417	X	4	10-9	X			WINGS 1 & 2 DIAG. E.F.
A418	X	12	8-4	X			WINGS 1 & 2 HORIZ.
A419	X	14	5-11				WINGS 1 & 2 VERT.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

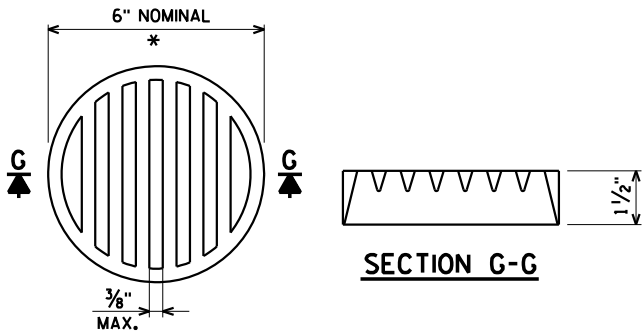
⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BILL OF BARS - EAST ABUTMENT

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	2,020* UNCOATED 1,110* COATED
							LOCATION
B401		5	28-0	X			BODY @ PILES
B402		10	2-3				BODY @ PILES
B503		39	13-9	X			BODY VERT.
B604		9	30-11				BODY HORIZ. F.F.
B605		4	20-6	X			BODY HORIZ. B.F.
B806		14	21-7	X			BODY HORIZ. B.F.
B507	X	19	2-0				BODY DOWELS
B408	X	48	9-3	X			WINGS 3 & 4 VERT. E.F.
B409	X	8	11-2	X			WINGS 3 & 4 VERT. E.F.
B510	X	12	12-9	X			WINGS 3 & 4 HORIZ. F.F.
B711	X	10	14-4	X			WINGS 3 & 4 HORIZ. B.F.
B412	X	4	11-3				WINGS 3 & 4 HORIZ. E.F.
B413	X	4	9-11				WINGS 3 & 4 HORIZ. E.F.
B414	X	4	8-1				WINGS 3 & 4 HORIZ. E.F.
B415	X	4	6-3				WINGS 3 & 4 HORIZ. E.F.
B416	X	4	4-5				WINGS 3 & 4 HORIZ. E.F.
B417	X	4	10-9	X			WINGS 3 & 4 DIAG. E.F.
B418	X	12	8-4	X			WINGS 3 & 4 HORIZ.
B419	X	14	5-11				WINGS 3 & 4 VERT.



BAR NO.	DIM. "A"	DIM. "B"
A605	1'-0 3/4"	1'-0 3/4"
A806	1'-0 3/4"	1'-0 3/4"
A510	1'-0 3/4"	1'-0 3/4"
A711	1'-0 3/4"	1'-0 3/4"
A417	8'-9"	3'-5"
B605	1'-0 3/4"	1'-0 3/4"
B806	1'-0 3/4"	1'-0 3/4"
B510	1'-0 3/4"	1'-0 3/4"
B711	1'-0 3/4"	1'-0 3/4"
B417	8'-9"	3'-5"



* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY 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 SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH SHEET METAL SCREWS.

RODENT SHIELD DETAIL

BAR SERIES TABLE

BAR MARK	NO REQ'D.	LENGTH
A408	4 SERIES OF 12	7'-8" TO 10'-10"
B408	4 SERIES OF 12	7'-8" TO 10'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY.

8

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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-140			
DRAWN BY	CLS	PLANS CK'D.	CJM
ABUTMENT DETAILS AND BILL OF BARS			SHEET 8 OF 13

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

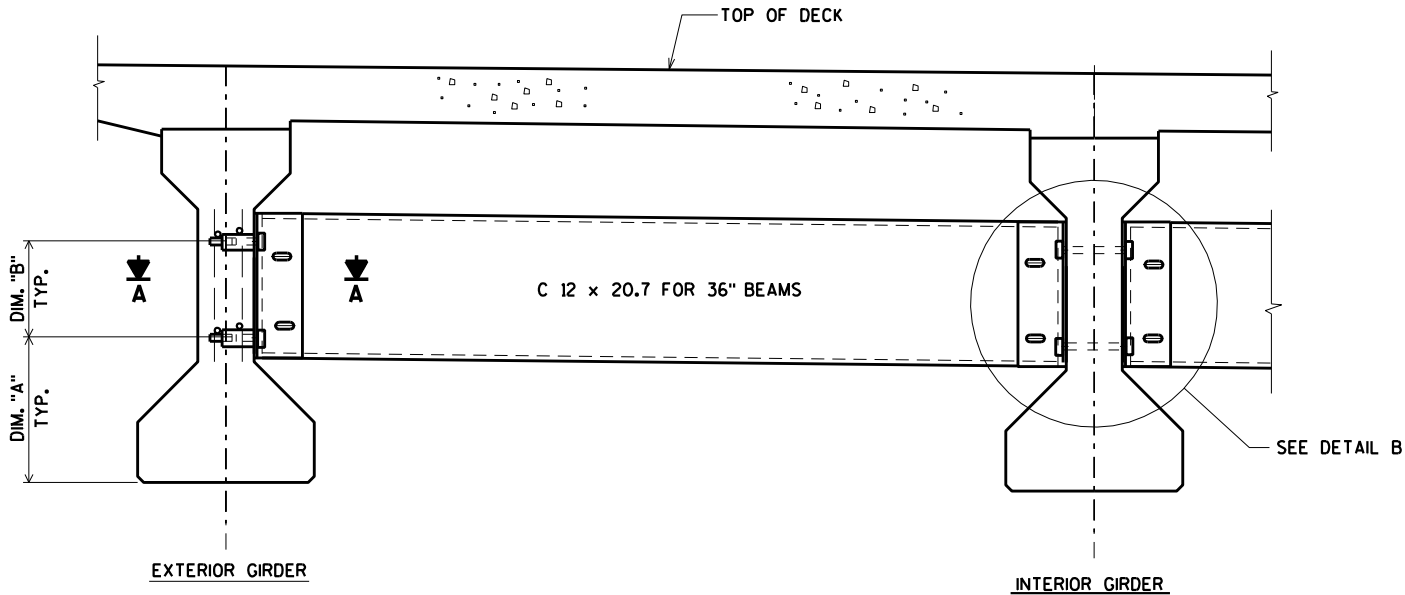
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STATE PROJECT NUMBER

8384-00-72

TABLE

GIRDER HEIGHT	DIM. "A"	DIM. "B"	DIM. "L"	*DIM. "X"
36"	1'-2 7/8"	9 7/8"	1'-1 1/2"	3/4"



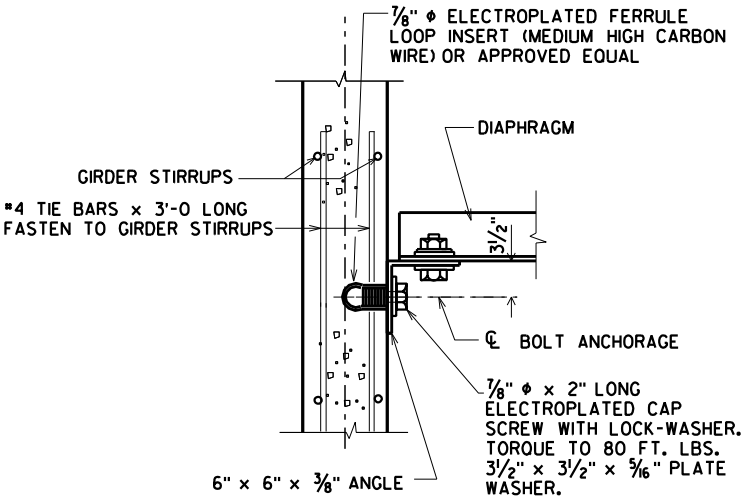
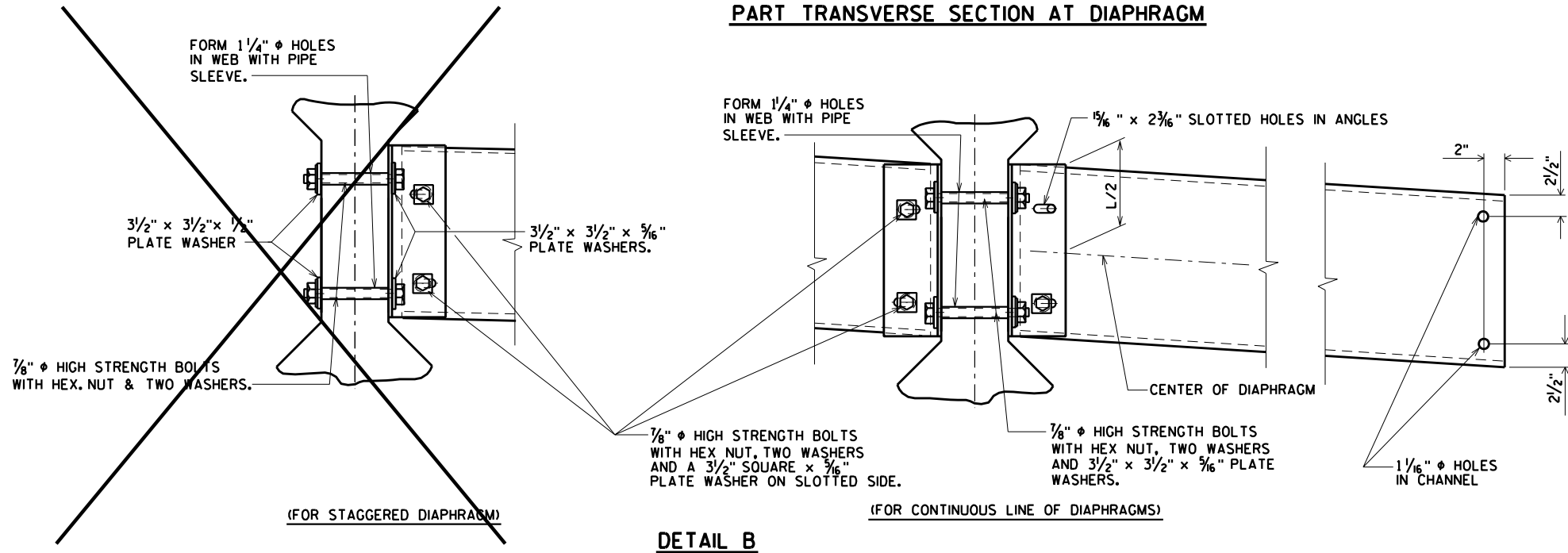
NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-16-140", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

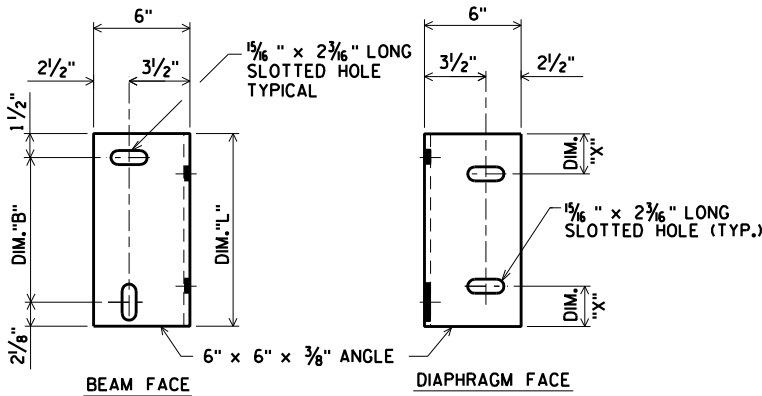
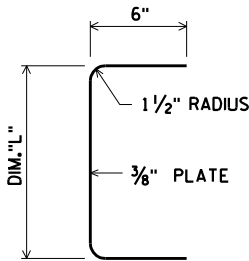
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

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.



SECTION THRU ALTERNATE DIAPHRAGM

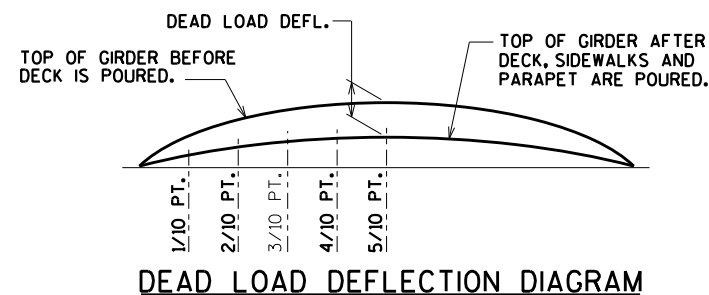
*DIM. "X" = 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM



DIAPHRAGM SUPPORT

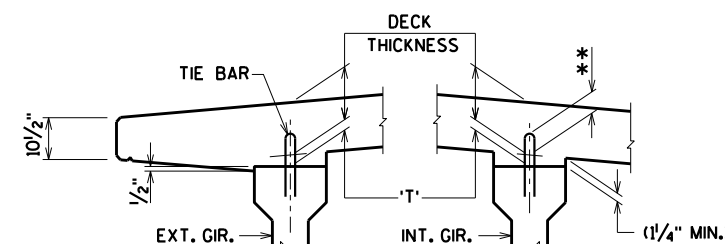
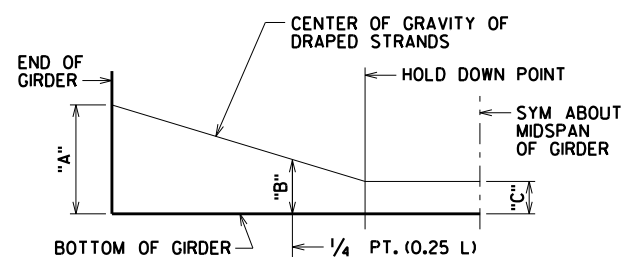
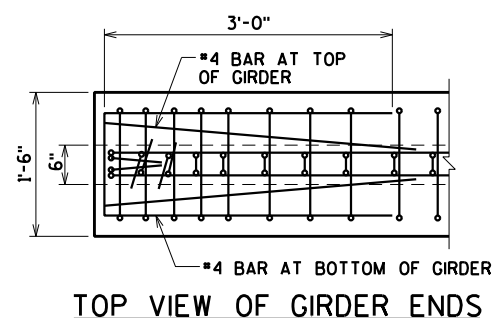
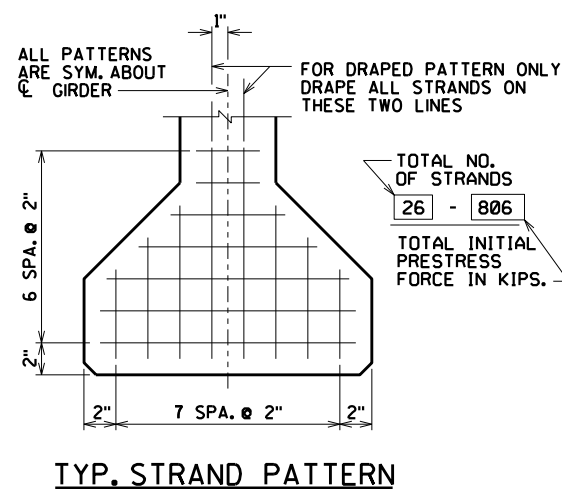
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-140			
DRAWN BY		CLS	PLANS CK'D. CJM
INTERM. STEEL DIAPHS. DETAILS			SHEET 9 OF 13



SPAN	CAMBER (IN.)
1	2.3

2-BARS BEND DOWN 16 BAR DIA. AT ENDS
2 - #4, 1'-11" MIN. LAP



DECK HAUNCH DETAIL

IF 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 DECK 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 $\frac{1}{4}$ 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
- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 4" WAS USED IN THE QUANTITY
"CONCRETE MASONRY BRIDGES".

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$PRFNAME$
+:\#Structures-EC+42-1001:00 - Douglas, Summit, Chaffey Foxboro Road#Structures#421001:36 qdr.dgn

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\$PRENAME\$

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* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

[illegible]

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-140			
		DRAWN BY	CLC
		PLANS CK'D.	CJM
36" PRESTRESSED GIRDER DETAILS		SHEET 10 OF 13	

ORIGINAL PLANS PREPARED BY

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3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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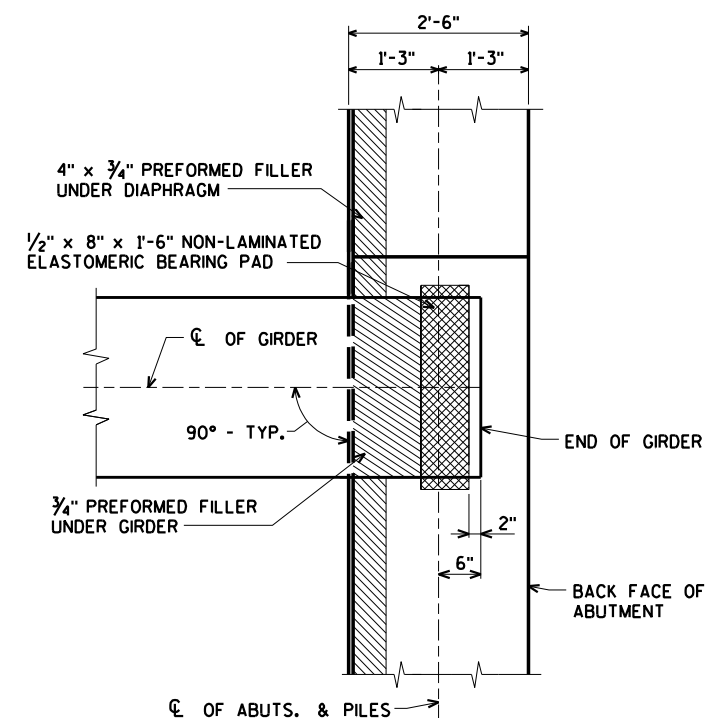
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-140			
DRAWN BY		CLS	PLANS CK'D. CJK
SUPERSTRUCTURE		SHEET 11 OF 13	



⊙ PROTECTION ANGLE AT
END OF DECK - TYP.



BEARING PAD DETAILS

TOP OF DECK ELEVATIONS

	€ OF BRG. W. 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. E. ABUT.
N. EDGE OF DECK	1206.84	1206.79	1206.76	1206.74	1206.73	1206.73	1206.74	1206.76	1206.79	1206.83	1206.88
GIRDER 1	1206.89	1206.84	1206.81	1206.79	1206.78	1206.78	1206.79	1206.81	1206.84	1206.88	1206.93
GIRDER 2	1207.03	1206.99	1206.95	1206.93	1206.92	1206.92	1206.93	1206.95	1206.98	1207.02	1207.08
€ OF CHAFFEY FOXBORO ROAD	1207.10	1207.06	1207.03	1207.00	1206.99	1206.99	1207.00	1207.02	1207.05	1207.10	1207.15
GIRDER 3	1207.03	1206.99	1206.95	1206.93	1206.92	1206.92	1206.93	1206.95	1206.98	1207.02	1207.08
GIRDER 4	1206.89	1206.84	1206.81	1206.79	1206.78	1206.78	1206.79	1206.81	1206.84	1206.88	1206.93
S. EDGE OF DECK	1206.84	1206.79	1206.76	1206.74	1206.73	1206.73	1206.74	1206.76	1206.79	1206.83	1206.88

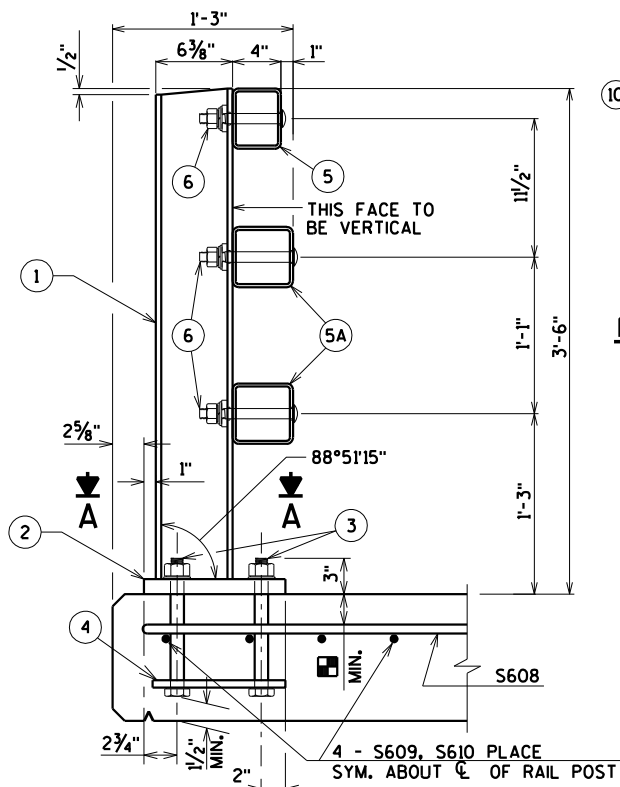
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STATE PROJECT NUMBER

8394-00-72

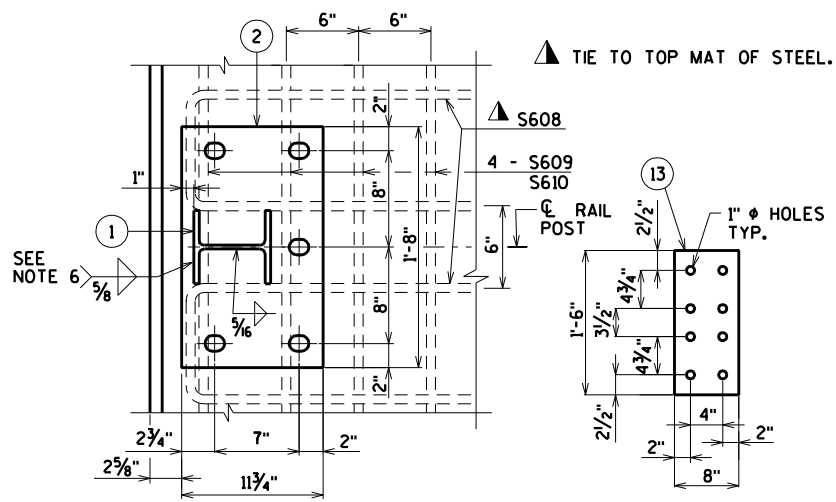
LEGEND

- W6 x 25 WITH 1/8" x 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- PLATE 1/4" x 1 3/4" x 1'-8" WITH 1 5/8" x 1 5/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ASTM A449 - 1/6" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. ~~USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10 3/4" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)~~
- 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 5/8" DIA. HOLES FOR ANCHOR BOLTS NO. 3
- TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/8" x 1 5/8" x 1 5/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" x 1/2" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
- 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- 3/8" x 3 5/8" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- 3/8" x 2 5/8" x 2'-4" PLATE USED IN NO. 5. 3/8" x 3 5/8" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- 7/8" A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 5/8" x 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS ~~AND 5/8" x 2 1/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.~~
- 7/8" DIA. x 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D.).
- 3/8" x 8" x 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
- 7/8" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- 1" HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

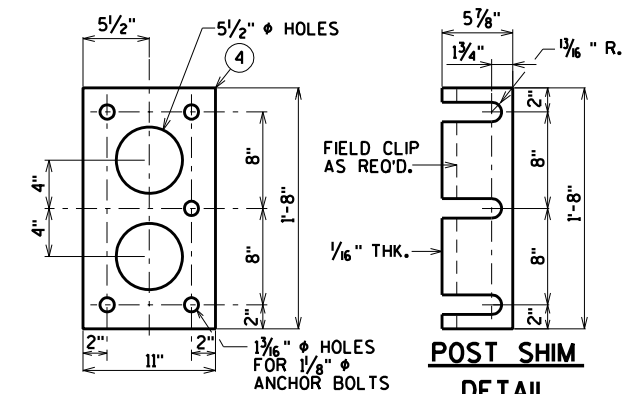


SECTION THRU RAILING ON DECK

PLACE BELOW TOP MAT SLAB REINFORCEMENT.

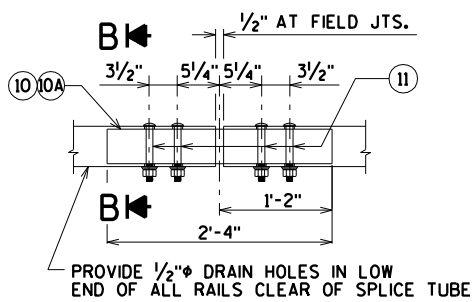


SECTION A

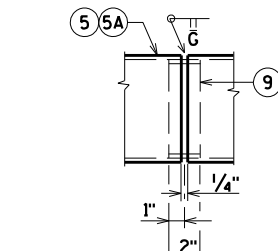


ANCHOR PLATE

(AT RAIL TO DECK CONNECTION)

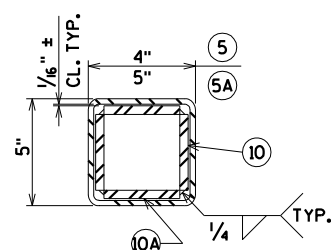


FIELD ERECTION JOINT DETAIL

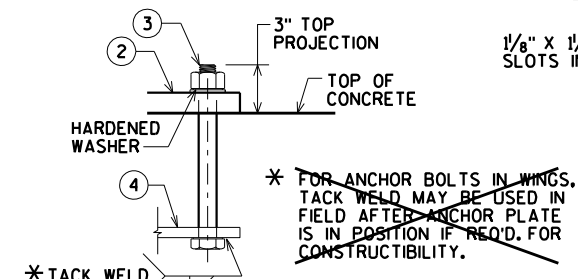


SHOP RAIL SPLICE DETAIL

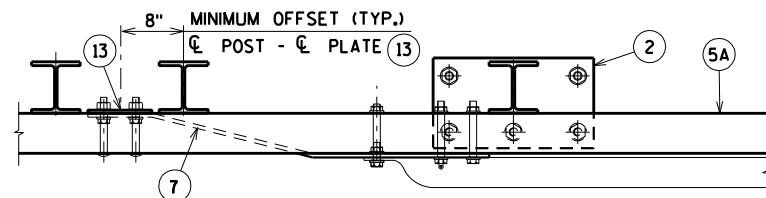
(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)



SECTION B

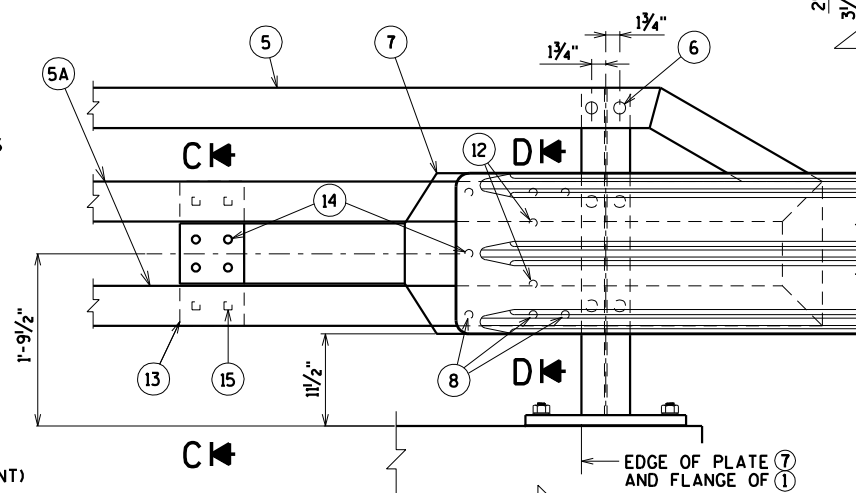


ANCHOR BOLTS



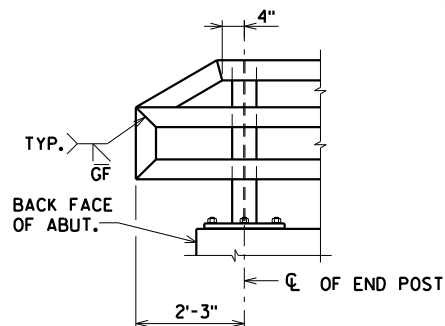
TOP VIEW AT END POST

(THRIE BEAM RAIL ATTACHMENT)

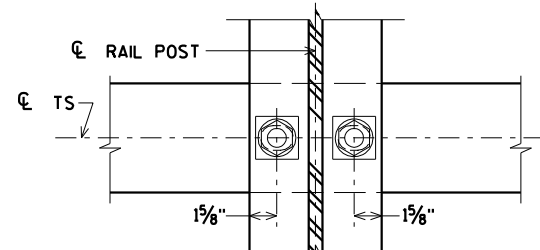


DETAIL AT END POST

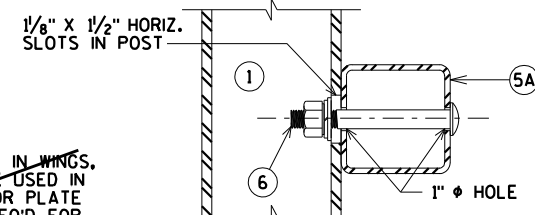
(THRIE BEAM RAIL ATTACHMENT)



PART ELEVATION OF RAILING



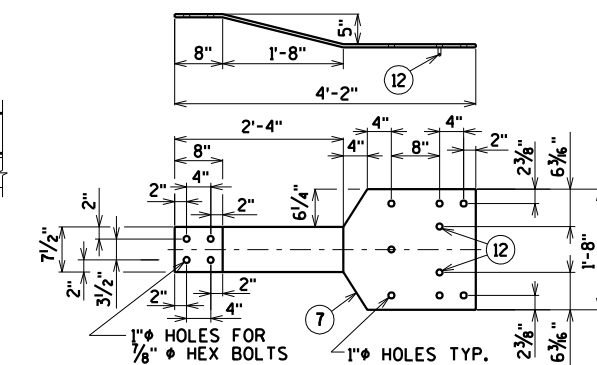
SECTION THRU POST WEB



SECTION THRU RAIL

NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

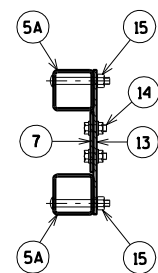


BACK-UP PLATE DETAIL

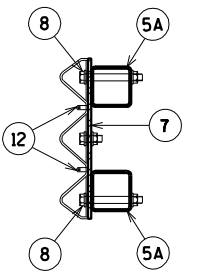
(AT BEAM GUARD ATTACHMENT)

GENERAL NOTES

- BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-16-140" WHICH INCLUDES ALL ITEMS SHOWN.
- RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
- THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
- RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
- ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
- WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
- FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
- 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 SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
- WHEN PAINTING IS REQUIRED, ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 3 & 4) SHALL BE PAINTED OVER GALVANIZING WITH APPROVED TIE COAT AND TOP COAT.
- THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).
- PLACE FIRST BOTTOM LONGITUDINAL BAR CLEAR OF DRIP GROOVE.



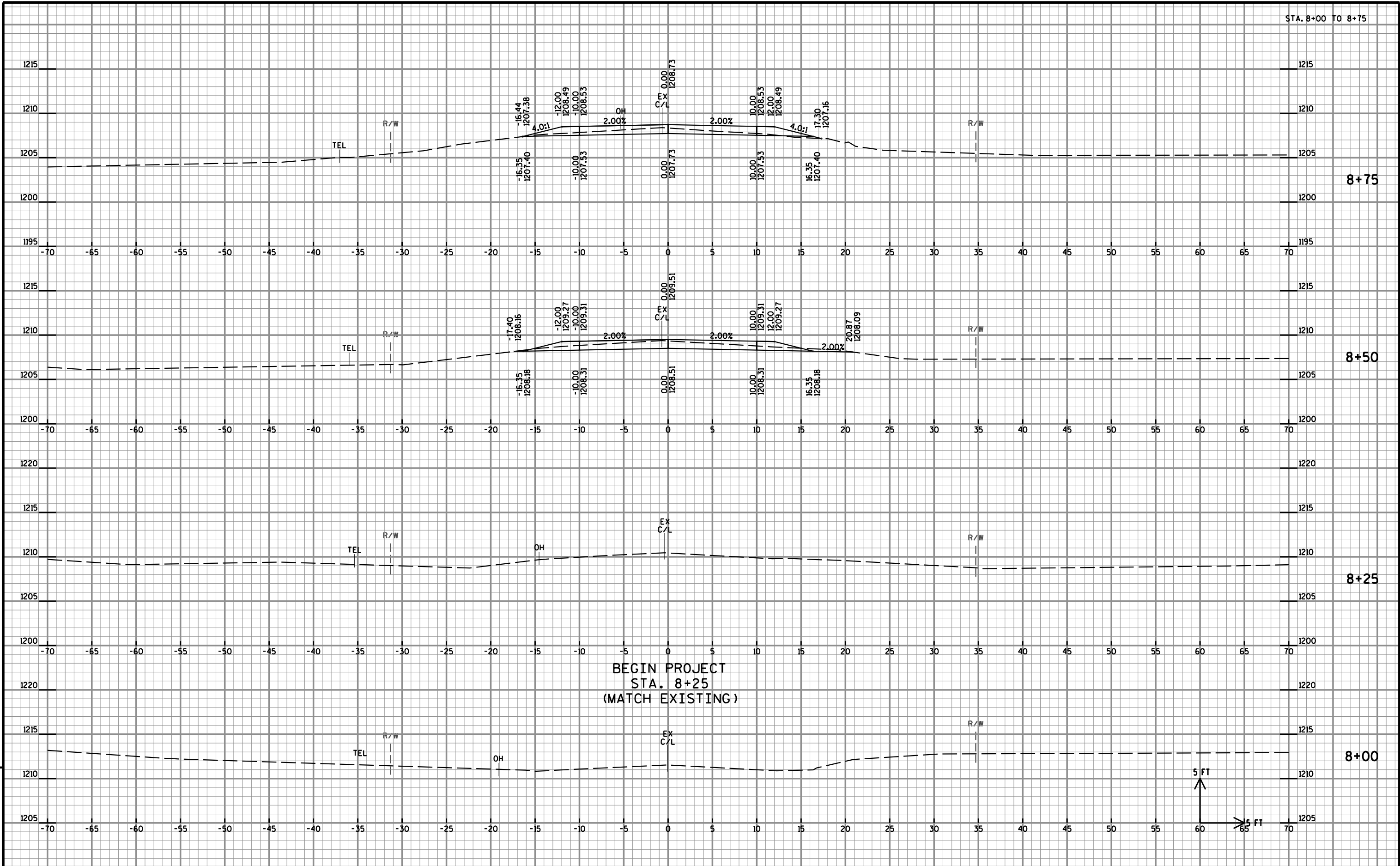
SECTION C



SECTION D

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-140			
DRAWN BY CLS		PLANS CK'D. CJM	
RAILING TUBULAR TYPE M			SHEET 13 OF 13

EARTHWORK SUMMARY (CATEGORY 0010)										
DIVISION	STATION	CUT SF	AREA	FILL SF	CUT (1) CY	INCREMENTAL VOLUME		CUT (1) 1.00 CY	CUMULATIVE VOLUME	
			SALVAGED/ UNUSEABLE PAVEMENT MATERIAL SF			SALVAGED/ UNUSEABLE PAVEMENT MATERIAL (2) CY	FILL (3) CY		EXPANDED FILL (4) 1.30 CY	MASS ORDNATE ±(5) CY
1	8+25	19	0	0	18	0	0	18	0	18
CHAFFEY FOXBORO ROAD	8+50	19	0	0	14	0	3	32	4	28
	8+75	11	0	5	6	0	7	38	13	25
	9+00	2	0	10	1	0	20	39	39	0
	9+25	0	0	33	0	0	43	39	95	-56
	9+50	0	0	60	0	0	33	39	138	-99
	9+65	0	0	60	0	0	0	39	138	-99
STRUCTURE B-16-140										
	10+35	0	0	26	0	0	14	0	18	-18
	10+50	0	0	26	0	0	18	0	42	-42
	10+75	0	0	13	5	0	6	5	49	-44
	11+00	10	0	0	13	0	0	18	49	-31
	11+25	18	0	0	19	0	0	37	49	-12
	11+50	22	0	0	21	0	0	58	49	9
	11+75	22	0	0	0	0	0	58	49	9
TOTALS					97	144				
205.0100 EXCAVATION COMMON =					97			208.0100 BORROW =		99
NOTES:										
1) EXCAVATION COMMON IS THE SUM OF THE CUT COLUMN. ITEM NUMBER 205.0100										
2) SALVAGED/UNUSEABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.										
3) DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME.										
4) EXPANDED FILL FACTOR = 1.30 EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR										
5) THE MASS ORDNATE ± QTY CALCULATED FOR THE DIVISION.										
PLUS (+) QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.										
MINUS (-) QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.										



PROJECT NO: 8394-00-72

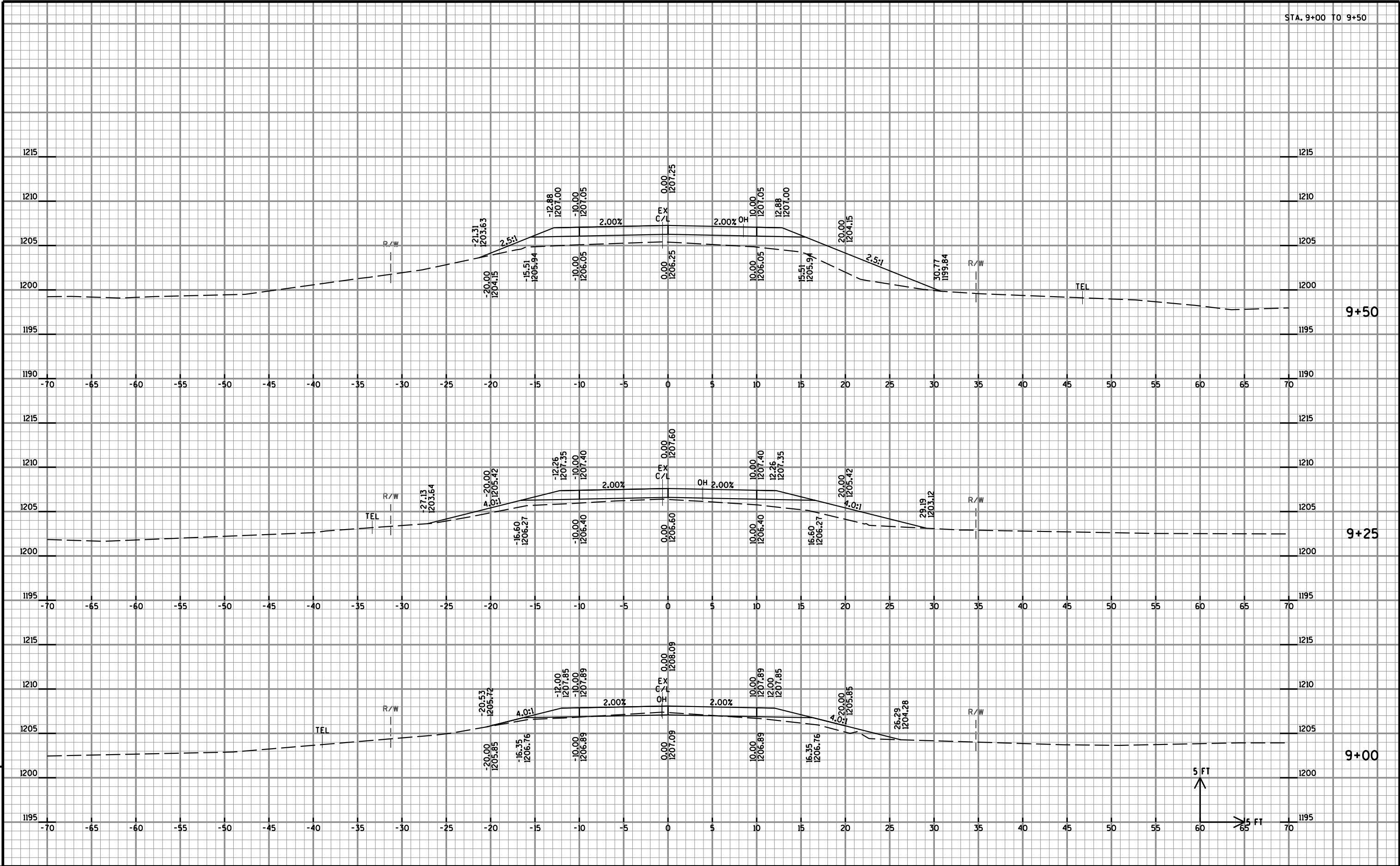
HWY: CHAFFEY FOXBORO ROAD

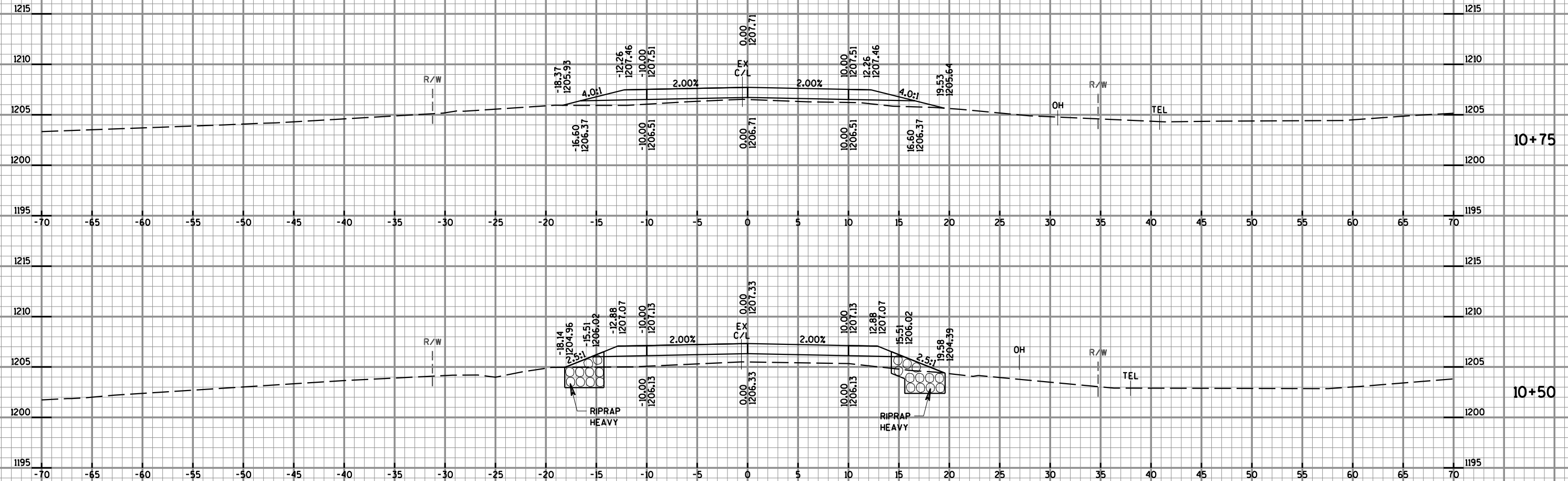
COUNTY: DOUGLAS

CROSS SECTIONS

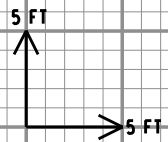
SHEET

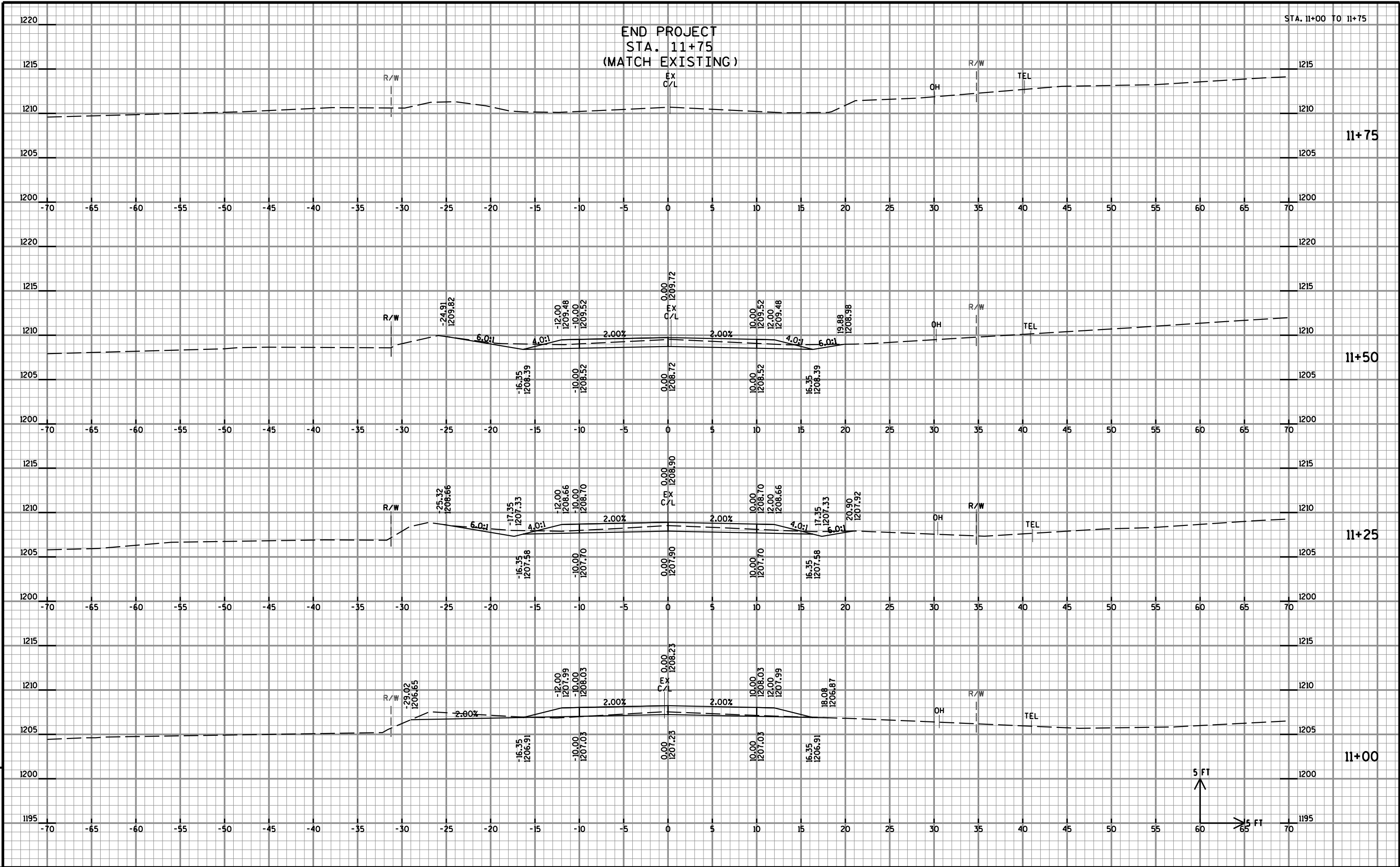
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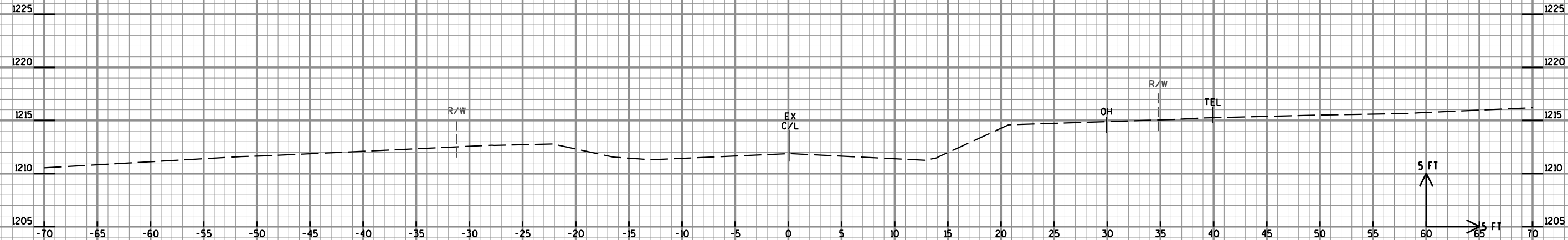


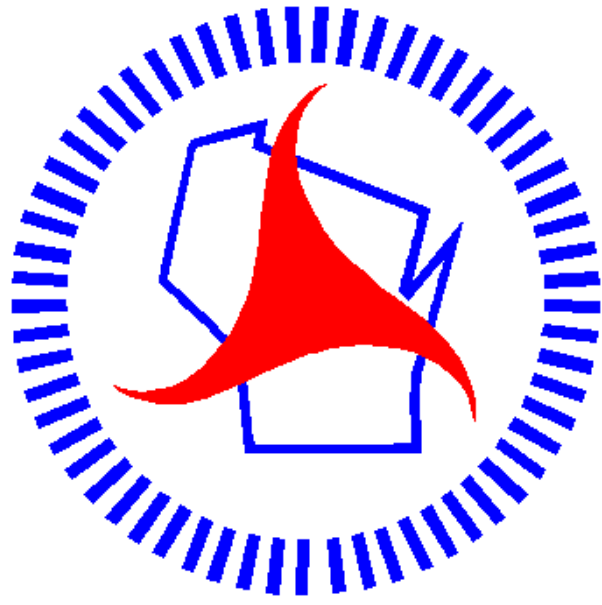


STRUCTURE B-16-140









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