# **JACKSON**

Section No. TOTAL SHEETS = CORPORATE LIMITS

#### DECEMBER 2019 STATE OF WISCONSIN ORDER OF SHEETS **DEPARTMENT OF TRANSPORTATION** Section No. Typical Sections and Details Estimate of Quantities Section No. Section No. Miscellaneous Quantities PLAN OF PROPOSED IMPROVEMENT Section No. Right of Way Plat Section No.

# **FEDERAL PROJECT** STATE PROJECT PROJECT CONTRACT WISC 2019759 7540-01-72

# **FAIRCHILD - BLACK RIVER FALLS**

**ALLEN CREEK B-27-0170** 

# **USH 12 JACKSON COUNTY**

STATE PROJECT NUMBER

7540-01-72 R-5-W R-4-W R-3-W T-22-N **END PROJECT** STA: 90+00.00 94 T-21-N STRUCTURE R-27-02 STRUCTURE B-27-0170 STRUCTURE R-27-01 94 **BEGIN PROJECT** STA: 69+00 X: 90193.4950 Y: 105898.5936 LAYOUT T-20-N SCALE HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY



# PROJECT LOCATION

### **DESIGN DESIGNATION**

A.A.D.T.	2020	=	4900
A.A.D.T.	2040	=	5800
D.H.V.		=	638
D.D.		=	60/40
T.		=	19.6%
DESIGN SPEED	)	=	60 MPH

# ESALS = 2,000,000

# CONVENTIONAL SYMBOLS

PLAN

	and the state of t		
PROPERTY LINE		ORIGINAL GROUND	
THOI ENTY CINE		MARSH OR ROCK PROFILE	ROCK
LOT LINE		(To be noted as such)	
LIMITED HIGHWAY EASEMENT	L	SPECIAL DITCH	_ LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	
PROPOSED OR NEW R/W LINE	-	GRADE ELEVATION	
SLOPE INTERCEPT		CULVERT (Profile View)	0
REFERENCE LINE	300,68,	UTILITIES	
NEI ENCINCE ENVE		ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	—— FC
PROPOSED CULVERT (Box or Pipe)		GAS	— G
	M1.	SANITARY SEWER	SA
COMBUSTIBLE FLUIDS	-caution	STORM SEWER	—— ss
	W.	TELEPHONE	<u> </u>
MARSH AREA	(1-1)	WATER	— w
MANSHANEA	(AA)	UTILITY PEDESTAL	)=
	~~~~~~~~~	POWER POLE	Ę
WOODED OR SHRUB AREA	£3	TELEPHONE POLE	Q

1/1/1/1

PROFILE

GRADE LINE

TOTAL NET LENGTH OF CENTERLINE = 0.398 MILES

SHOWN ON THE PLAN ARE REFERENCED TO NAVD 88 (2012).

COORDINATES, JACKSON COUNTY, NAD83 (2011), IN U.S. SURVEY FEET.

VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES.
GRID DISTANCES MAY BE USED AS GROUND DISTANCES. ELEVATIONS

# **ORDER OF SECTION 2 SHEETS**

GENERAL NOTES PROJECT OVERVIEW TYPICAL SECTIONS CONSTRUCTION DETAILS **EROSION CONTROL** DETOUR PLAN

# **UTILITY CONTACTS**

- CENTURYLINK COMMUNICATION BRET CLARK 311 S COURT ST SPARTA, WI 54656 (608) 269-0819 bret.clark@centurylink.com
- WE ENERGIES GAS/PETROLEUM JEREMY SLOWINSKI 1921 8TH ST SOUTH WISCONSIN RAPIDS, WI 54494 (715) 421-7251 jeremy.slowinski@we-energies.com
- **BLACK RIVER FALLS UTILITIES ELECTRICITY** 119 N. WATER ST BLACK RIVER FALLS, WI 54615 (715) 284-9463 klavalley@wppienergy.org

WE ENERGIES 24-HOUR EMERGENCY (GAS) (800) 261-5325



# **DNR CONTACT**

DNR NORTHERN REGION HEADQUARTERS LEAH NICOL 1300 WEST CLAIREMONT AVE EAU CLAIRE, WI 54701 (715) 934-9014 Leah.Nicol@wisconsin.gov

# CONSULTANT CONTACT

CORRE, INC 1802 WARDEN STREET EAU CLAIRE, WI 54703 KEVIN MEYER, PE (715) 299-1894 kmever@correinc.com

# WISDOT DESIGN CONTACT

WISDOT NW REGION 718 W CLAIREMONT AVE EAU CLAIRE, WI 54701 DAVID KOEPP, PE (715) 836-2078 david.koepp@dot.wi.gov

# **GENERAL NOTES**

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

RIGHT OF WAY LINES SHOWN ON THE CROSS SECTIONS ARE APPROXIMATE.

ALL RADII ARE MEASURED TO EDGE OF PAVEMENT UNLESS OTHERWISE SHOWN OR NOTED ON THE PLAN.

CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES EXCEPT WHEN PIPE LAYING OPERATIONS REQUIRE THE DRIVEWAY TO BE CLOSED. ACCESS TO DRIVEWAY SHALL BE RE-ESTABLISHED IMMEDIATELY AFTER PIPE IN DRIVEWAY AREA IS INSTALLED. ACCESS SHALL BE PROVIDED DURING ALL

PRIOR TO PLACEMENT OF MGS GUARDRAIL, THE SHOULDERS SHALL BE IN PLACE, SHAPED, AND COMPACTED UNLESS SHOWN OTHERWISE.

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT ASPHALTIC SURFACE LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, BIKE, OR PARKING LANE.

ASPHALTIC SURFACE CALCULATIONS ARE BASED ON 112 LB/SY/IN.

THE 7-INCH ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 2-INCH UPPER LAYER OF 4 MT 58-34 S OVER A 5-INCH LOWER LAYER OF 4 MT 58-34 S. THE LOWER 5-INCH LAYER SHALL BE CONSTRUCTED IN A MINIMUM OF 2 LIFTS.

THE CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY THEIR OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

## RUNOFF COEFFICIENT TABLE

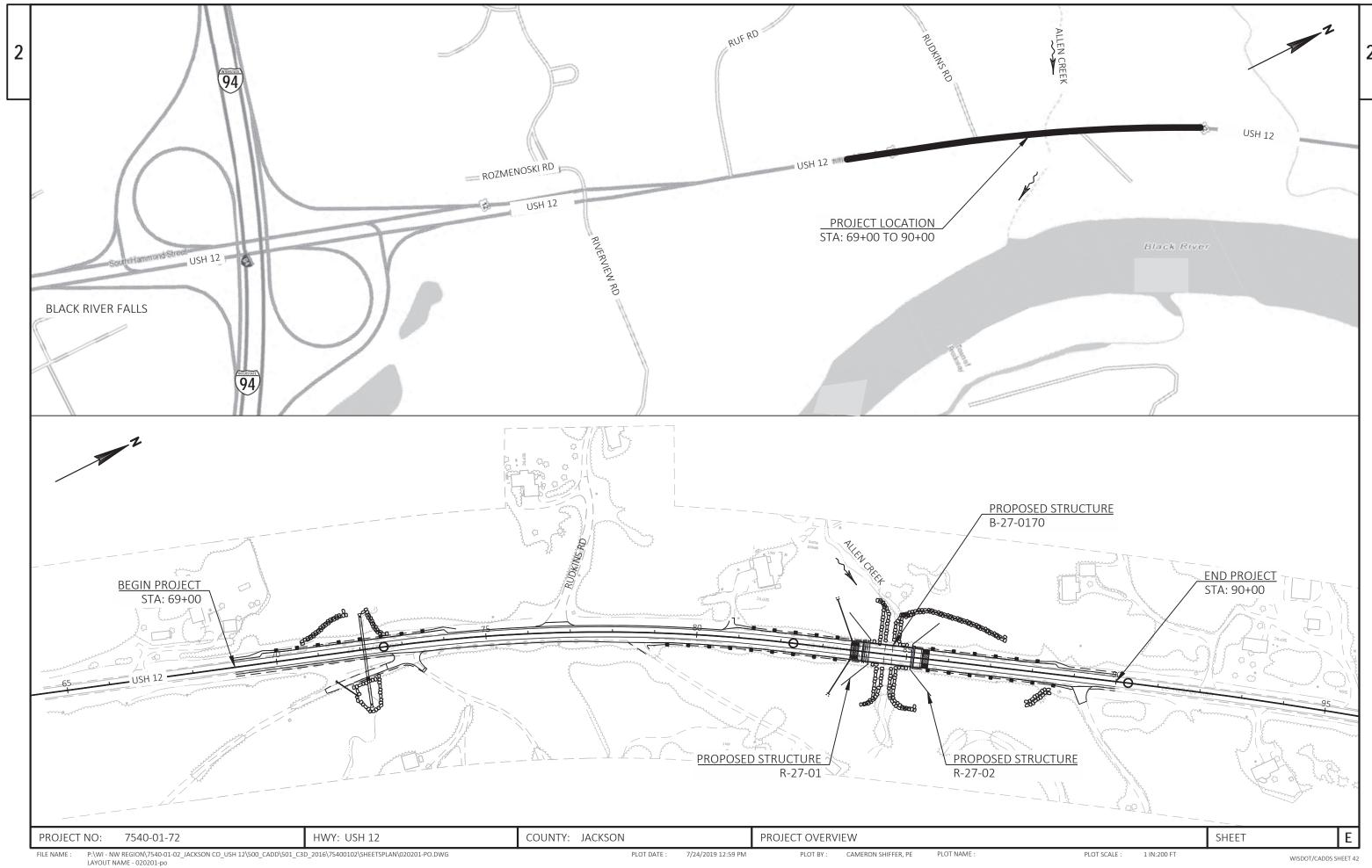
	HYDROLOGIC SOIL GROUP											
	Α			В			С			D		
	SLOPE	RANGE	(PERCENT)	SLOPE RANGE (PERCEI		(PERCENT)	SLOPE RANGE (PERCENT)		SLOPE RANGE		(PERCENT)	
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP-	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
TURF	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPE-			.25			.27			.28			.30
TURF			.32			.34			.36			.38
PAVEMENT:				•		•			•			
ASPHALT						.7095						
CONCRETE						.8095						
BRICK	BRICK .7080											
DRIVES, WALKS						.7585						
R00FS						.7595						
GRAVEL ROADS,	SHOULDE	RS				.4060						

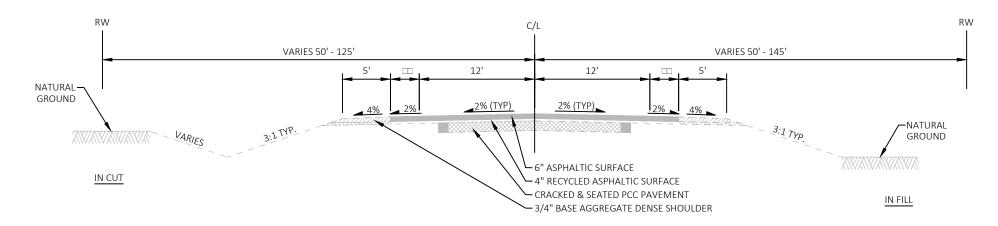
TOTAL PROJECT AREA = \_\_\_\_\_ ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = \_\_\_\_\_ACRES

# STANDARD ABBREVIATIONS

	ABUT	ABUTMENT	FT	FOOT
	AGG	AGGREGATE	FTG	FOOTING
	ASPH	ASPHALTIC	FTMS	FREEWAY TRAFFIC MANAGEMENT SYSTEM
	AVG	AVERAGE	HT	HEIGHT
	AADT	ANNUAL AVERAGE DAILY TRAFFIC	HES	HIGH EARLY STRENGTH
	BK	BACK	CWT	HUNDREDWEIGHT
	BAD	BASE AGGREGATE DENSE	IP	IRON PIPE OR PIN
	BF	BACK FACE	LT	LEFT
	BL or B/L	BASE LINE	LIN FT or LF	LINEAR FOOT
	BM	BENCH MARK	LS	LUMP SUM
	BLK	BLOCK	MH	MANHOLE
	BR	BRIDGE	ML or M/L	MATCH LINE
	CL or C/L	CENTER LINE	MB	MESSAGE BOARD
(	CC	CENTER TO CENTER	NOM	NOMINAL
	CH	CHORD	NOR	NORMAL
(	CH BRG	CHORD BEARING	N	NORTH
	CE	COMMERCIAL ENTRANCE	NB	NORTHBOUND
(	CONC	CONCRETE	PC	POINT OF CURVATURE
	CO	COUNTY	PI	POINT OF INTERSECTION
(	CTH	COUNTY TRUNK HIGHWAY	PT	POINT OF TANGENCY
-	CPCS	CULVERT PIPE CORRUGATED STEEL	PCC	PORTLAND CEMENT CONCRETE
-	CSAEW	CORRUGATED STEEL APRON END WALL	PE	PRIVATE ENTRANCE
-	CR	CREEK	R	RADIUS
-	CR	CRUSHED	RL or R/L	REFERENCE LINE
	CABC	CRUSHED AGGREGATE BASE COURSE	RCAEW	REINFORCED CONCRETE APRON ENDWALL
(	CY or CUYD	CUBIC YARD	RT	RIGHT
-	CP	CULVERT PIPE	R/W	RIGHT-OF-WAY
-	CPRC	CULVERT PIPE REINFORCED CONCRETE	RD	ROAD
	C&G	CURB AND GUTTER	SHLDR	SHOULDER
[	D	DEGREE OF CURVE	SW	SIDEWALK
[	DHV	DESIGN HOUR VOLUME	S	SOUTH
[	DIA	DIAMETER	SB	SOUTHBOUND
[	DWY	DRIVEWAY	SPECS	SPECIFICATIONS
F	E	EAST	SF or SQ FT	SQUARE FEET
-	EB	EASTBOUND	SY of SQ YD	SQUARE YARD
F	ELEC	ELECTRIC	SDD	STANDARD DETAIL DRAWINGS
F	EL or ELEV	ELEVATION	STH	STATE TRUNK HIGHWAYS
F	ESALS	EQUIVALENT SINGLE AXLE LOADS	STA	STATION
F	EXC	EXCAVATION	SE	SUPERELEVATION
F	EBS	EXCAVATION BELOW SUBGRADE	TEL	TELEPHONE
F	EXP	EXPANSION	UG	UNDERGROUND
F	FF	FACE TO FACE OR FRONT FACE	VC	VERTICAL CURVE
F	FE	FIELD ENTRANCE	VPI	VERTICAL POINT OF INTERSECTION
	FG	FINISH GRADE	W	WEST
	FAB	FLASHING ARROW BOARD	WB	WESTBOUND
	FL or F/L Flow	I B ISI III TO TITILIO TO BOTTING		WESTBOOND

Ε PROJECT NO: 7540-01-72 HWY: USH 12 COUNTY: JACKSON **GENERAL NOTES** SHEET





# TYPICAL EXISTING SECTION - USH 12

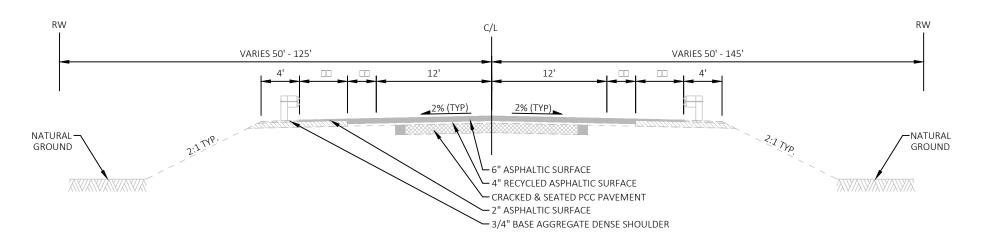
 LEFT STATIONING
 RIGHT STATIONING

 STA 69+00 TO 70+80
 STA 69+00 TO 70+25

 STA 73+05 TO 80+95
 STA 72+60 TO 73+35

 STA 89+00 TO 90+00
 STA 78+35 TO 79+15

 STA 88+75 TO 90+00

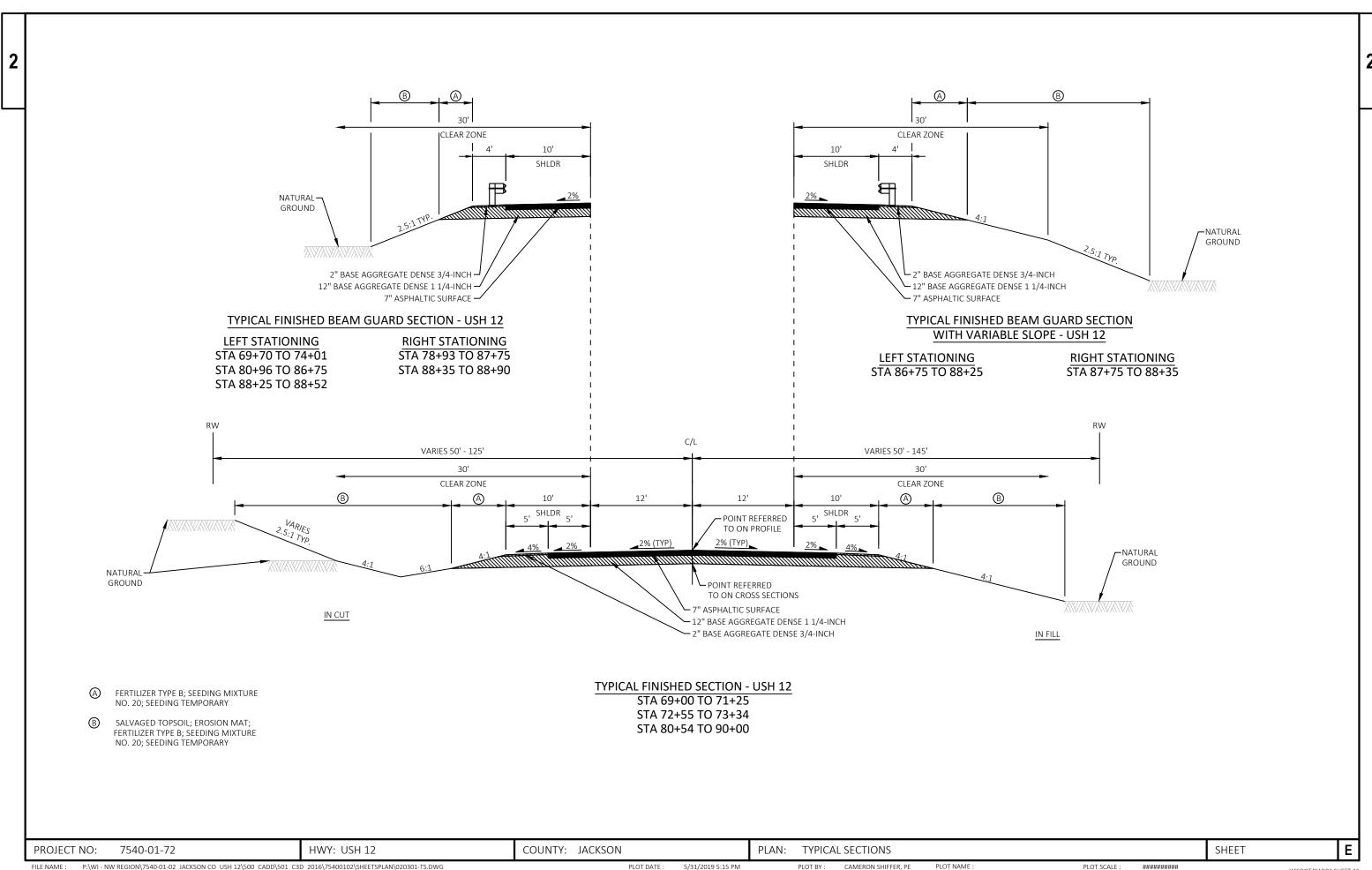


# TYPICAL EXISTING BEAM GUARD SECTION - USH 12

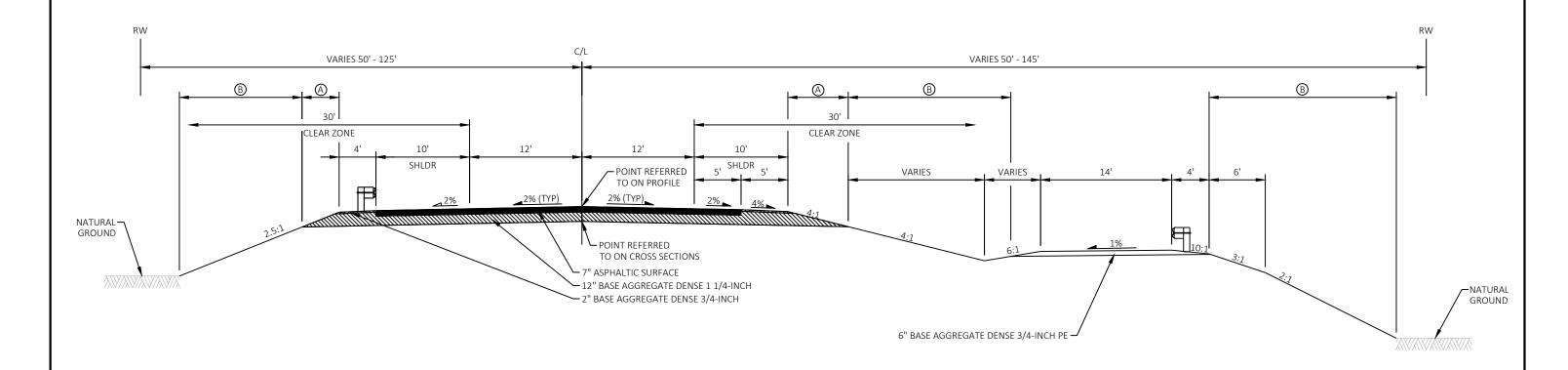
LEFT STATIONING STA 70+80 TO 73+05 STA 80+95 TO 89+00 RIGHT STATIONING STA 70+25 TO 72+60 STA 73+35 TO 78+35 STA 79+15 TO 88+75

PROJECT NO: 7540-01-72 HWY: USH 12 COUNTY: JACKSON PLAN: TYPICAL SECTIONS SHEET **E** 

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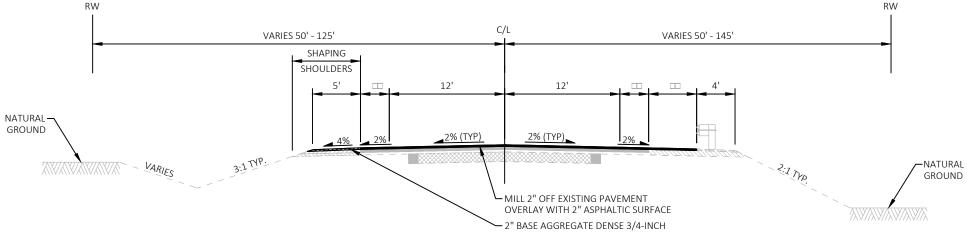


TYPICAL FINISHED SECTION - USH 12 STA 71+25 TO 72+55

- FERTILIZER TYPE B; SEEDING MIXTURE NO. 20; SEEDING TEMPORARY
- SALVAGED TOPSOIL; EROSION MAT; FERTILIZER TYPE B; SEEDING MIXTURE NO. 20; SEEDING TEMPORARY

PLAN: TYPICAL SECTIONS Ε PROJECT NO: 7540-01-72 HWY: USH 12 COUNTY: JACKSON SHEET

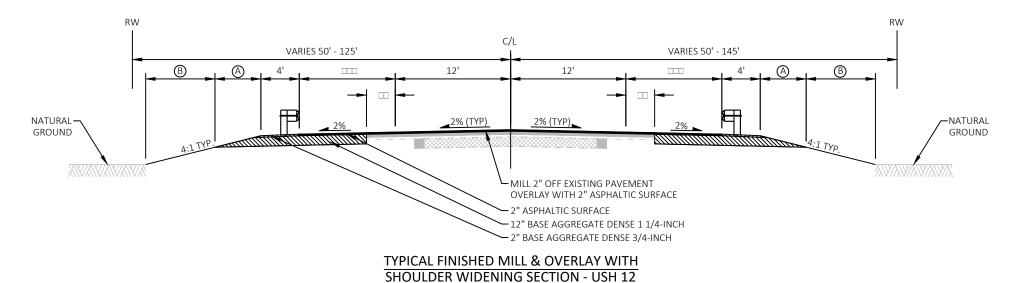
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# TYPICAL FINISHED MILL & OVERLAY SECTION - USH 12

LEFT STATIONING STA 74+31 TO 80+54

RIGHT STATIONING STA 73+34 TO 78+76

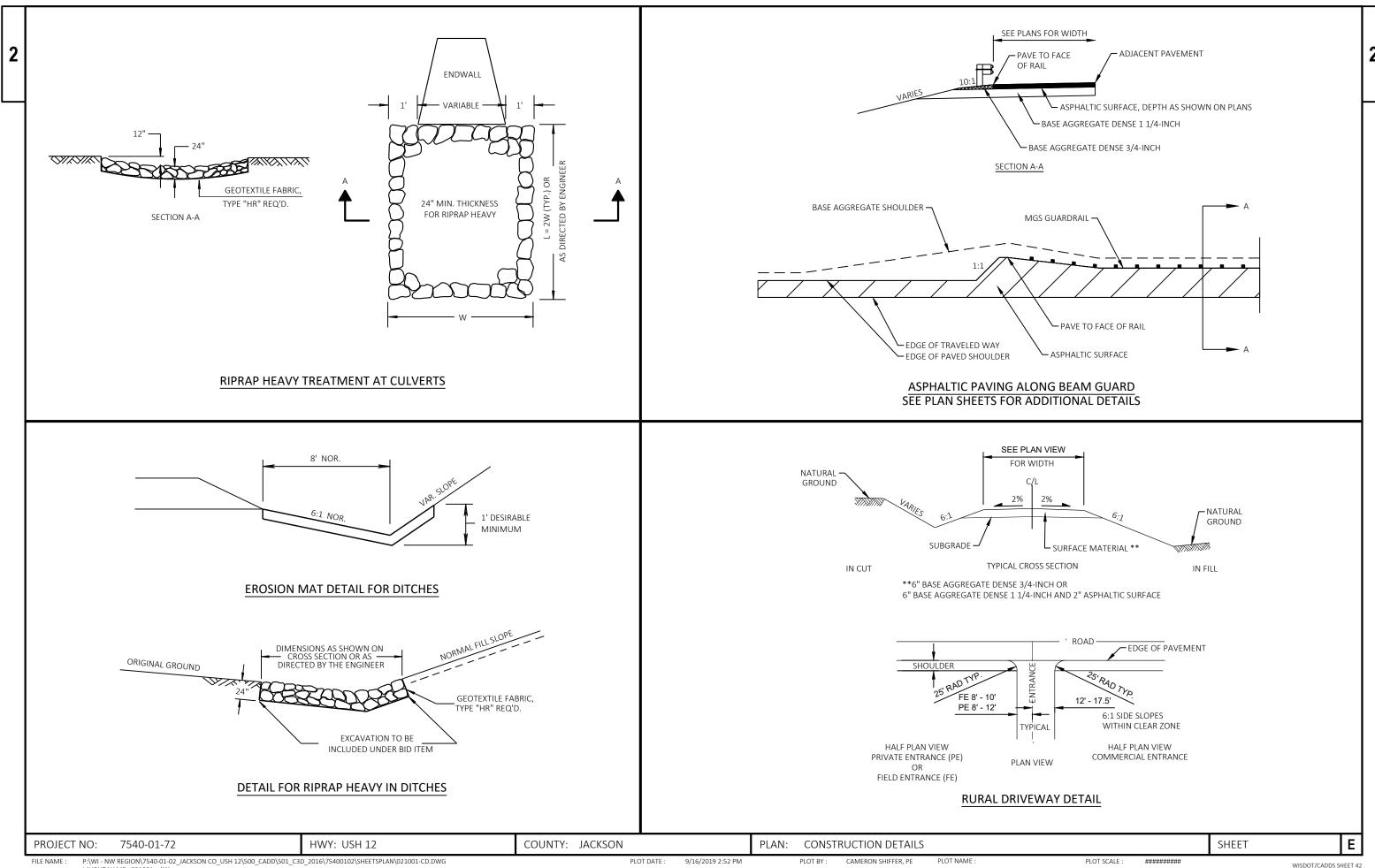


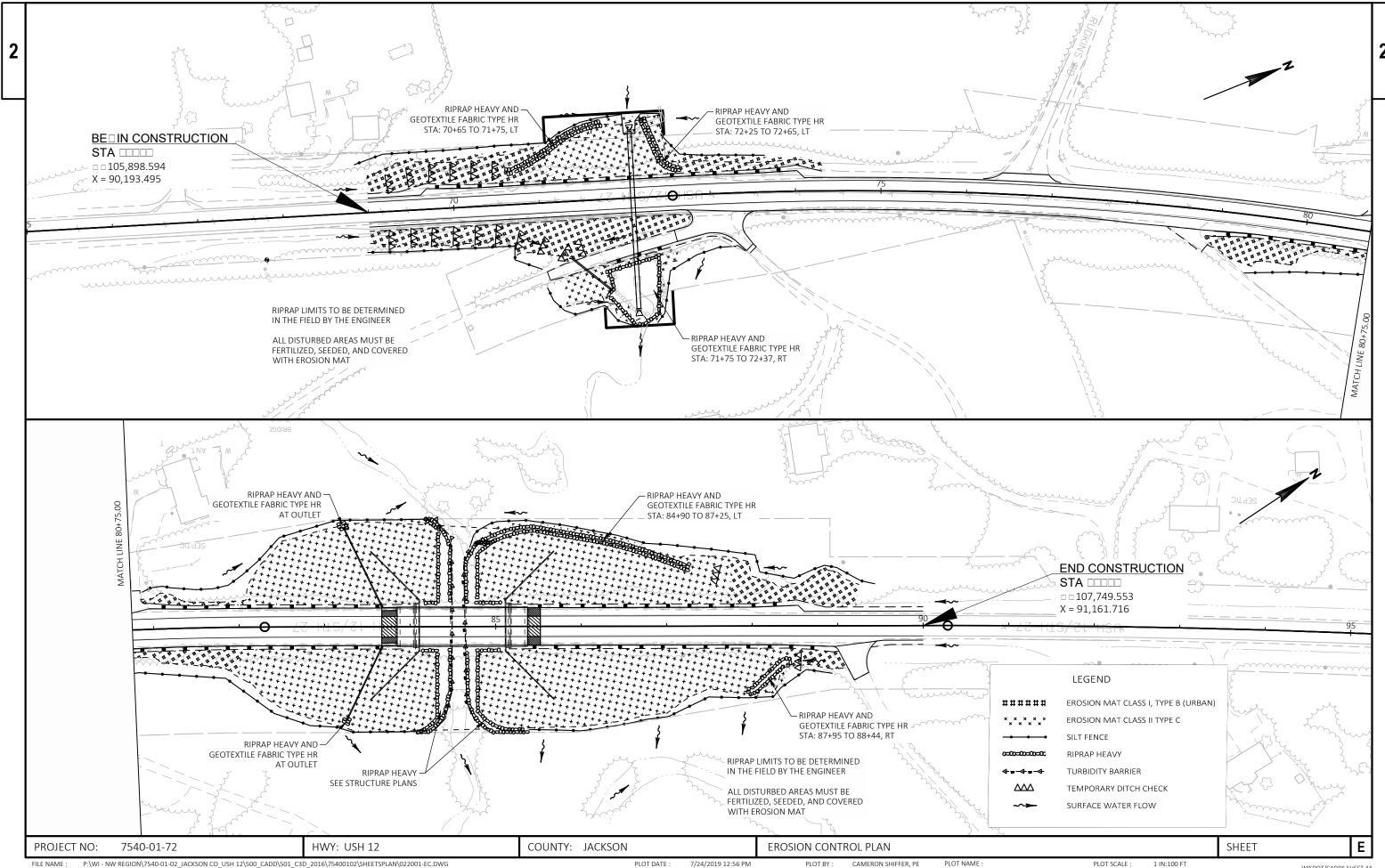
FERTILIZER TYPE B; SEEDING MIXTURE NO. 20; SEEDING TEMPORARY

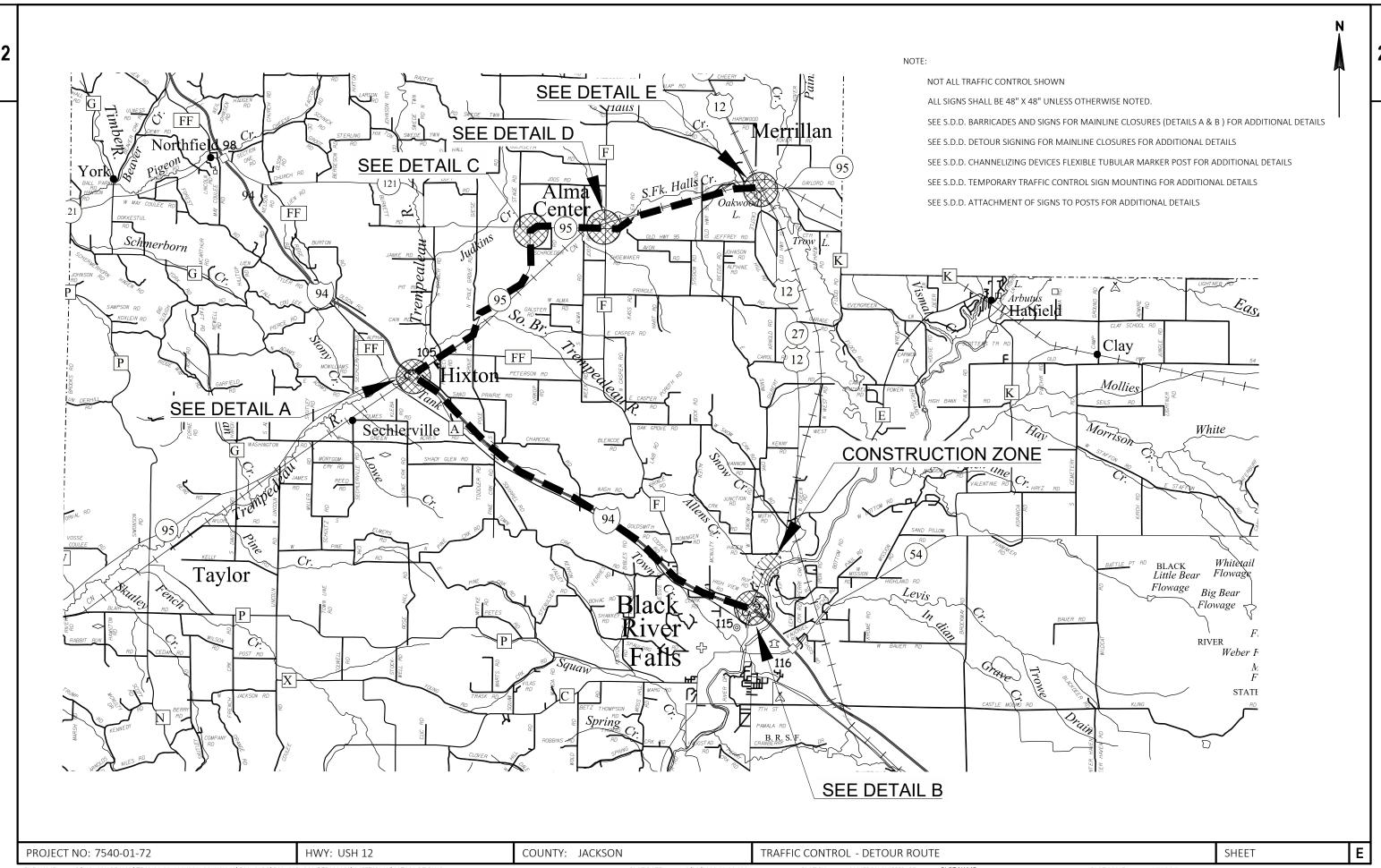
SALVAGED TOPSOIL; EROSION MAT; FERTILIZER TYPE B; SEEDING MIXTURE NO. 20; SEEDING TEMPORARY

LEFT STATIONING RIGHT STATIONING STA 73+34 TO 74+31 STA 78+76 TO 80+54

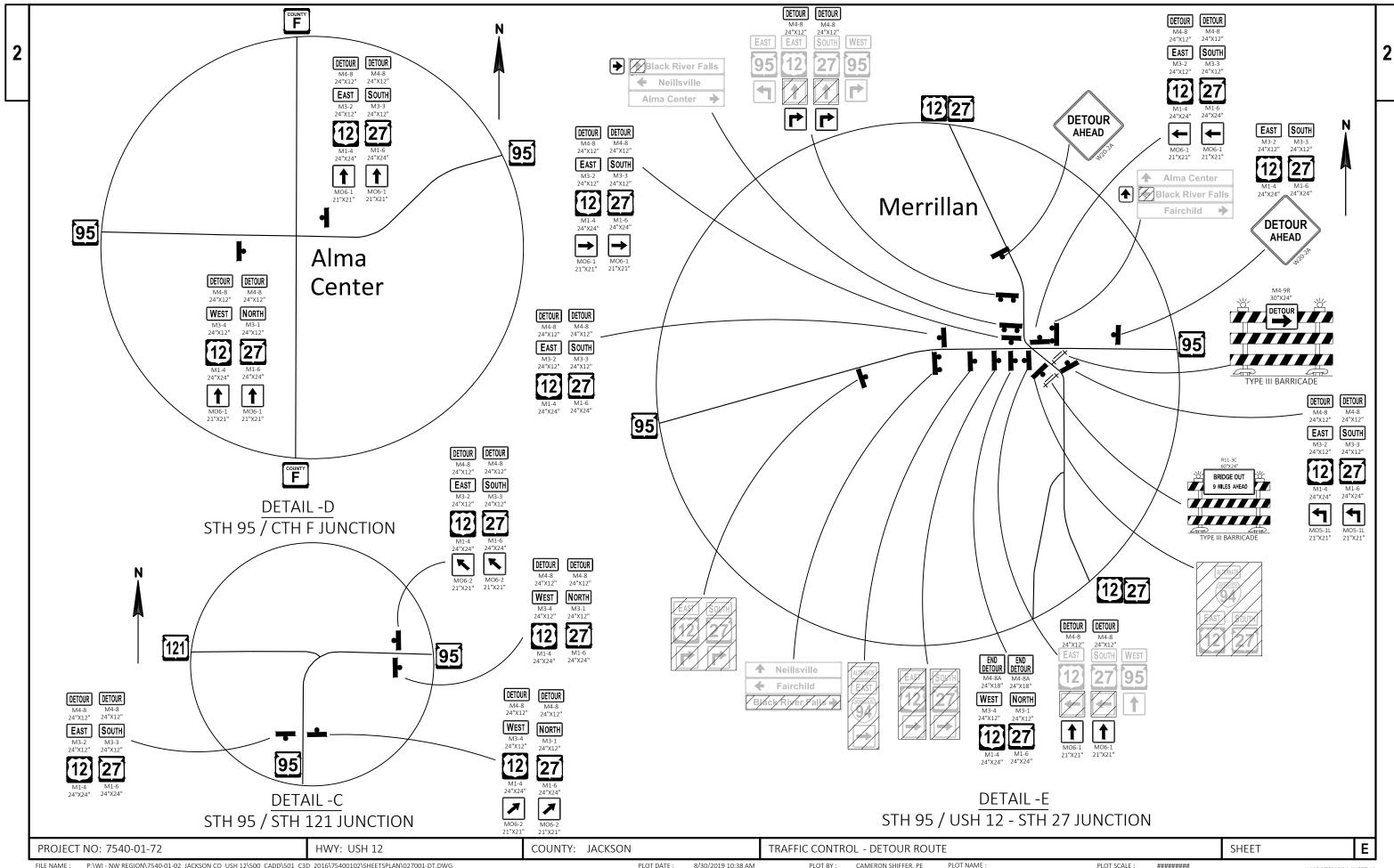
Ε PROJECT NO: 7540-01-72 HWY: USH 12 COUNTY: JACKSON PLAN: TYPICAL SECTIONS SHEET PLOT NAME :

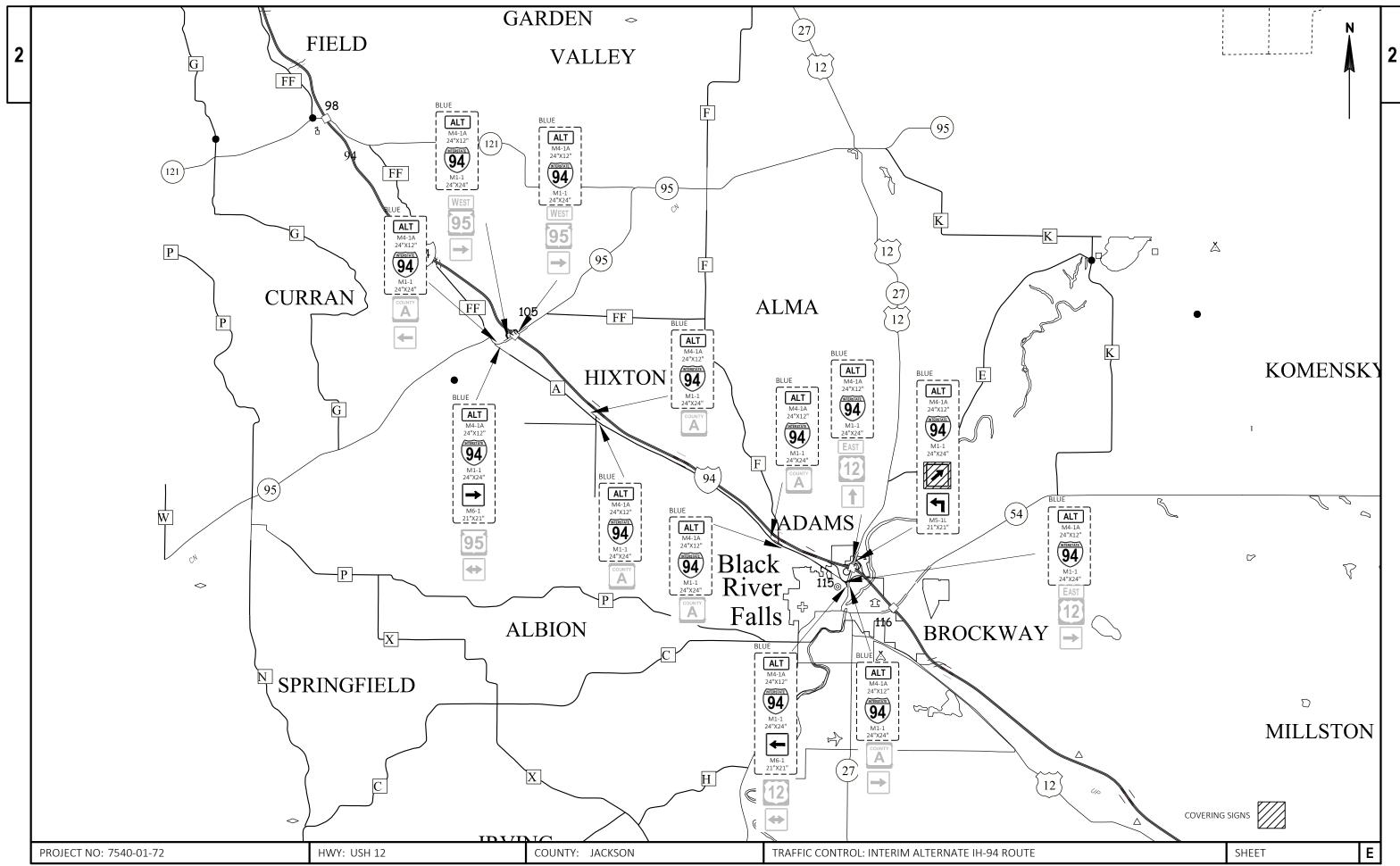






PLOT BY:





Stilliate Of Quantities	rage

-					7540-01-72
Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	15.000	15.000
0004	201.0205	Grubbing	STA	15.000	15.000
0006	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0008	203.0200	Removing Old Structure (station) 01. 72+10	LS	1.000	1.000
0010	203.0600.S	, ,	LS	1.000	1.000
0012	204.0100	Removing Pavement	SY	3,070.000	3,070.000
0014	204.0120	Removing Asphaltic Surface Milling	SY	2,930.000	2,930.000
0016	205.0100	Excavation Common	CY	3,126.000	3,126.000
0018	206.1000	Excavation for Structures Bridges (structure) 01. B-27-170	LS	1.000	1.000
0020	208.0100	Borrow	CY	21,739.000	21,739.000
0022	210.1500	Backfill Structure Type A	TON	382.000	382.000
0024	213.0100	Finishing Roadway (project) 01. 7540-01-72	EACH	1.000	1.000
0026	305.0110	Base Aggregate Dense 3/4-Inch	TON	790.000	790.000
0028	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	5,920.000	5,920.000
0030	415.0120	Concrete Pavement 12-Inch	SY	62.000	62.000
0032	415.0410	Concrete Pavement Approach Slab	SY	88.000	88.000
0034	416.1010	Concrete Surface Drains	CY	4.000	4.000
0036	450.4000	HMA Cold Weather Paving	TON	315.000	315.000
0038	455.0605	Tack Coat	GAL	995.000	995.000
0040	465.0105	Asphaltic Surface	TON	2,530.000	2,530.000
0042	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	43.000	43.000
0044	502.0100	Concrete Masonry Bridges	CY	437.000	437.000
0046	502.3200	Protective Surface Treatment	SY	775.000	775.000
0048	502.3210	Pigmented Surface Sealer	SY	151.000	151.000
0050	503.0146	Prestressed Girder Type I 45W-Inch	LF	888.000	888.000
0052	505.0400	Bar Steel Reinforcement HS Structures	LB	5,930.000	5,930.000
0052	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	57,320.000	57,320.000
0054		Bar Steel Reinforcement HS Stainless Structures	LB	1,600.000	1,600.000
0058	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	16.000	16.000
0060	506.4000	Steel Diaphragms (structure) 01. B-27-170	EACH	14.000	14.000
0062	513.2001	Railing Pipe 01. R-27-01	LF	49.000	49.000
	513.2001	Railing Pipe 01. R-27-01 Railing Pipe 02. R-27-02	LF	49.000	
0064		Rubberized Membrane Waterproofing			49.000
0066	516.0500	·	SY	32.000	32.000
0068	521.1012	Apron Endwalls for Culvert Pipe Steel 12-Inch	EACH	2.000	2.000
0070	521.1018	Apron Endwalls for Culvert Pipe Steel 18-Inch	EACH	2.000	2.000
0072	521.3118	Culvert Pipe Corrugated Steel 18-Inch	LF	58.000	58.000
0074	522.0548	Culvert Pipe Reinforced Concrete Class V 48-Inch	LF	208.000	208.000
0076	522.1048	Apron Endwalls for Culvert Pipe Reinforced Concrete	EACH	2.000	2.000

					7540-01-72	
Line	Item	Item Description	Unit	Total	Qty	
		48-Inch				
0078	550.0020	Pre-Boring Rock or Consolidated Materials	LF	220.000	220.000	
0800	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	1,210.000	1,210.000	
0082	604.0400	Slope Paving Concrete	SY	32.000	32.000	
0084	606.0300	Riprap Heavy	CY	1,143.000	1,143.000	
0086	612.0212	Pipe Underdrain Unperforated 12-Inch	LF	188.000	188.000	
8800	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	460.000	460.000	
0090	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000	
0092	614.0920	Salvaged Rail	LF	2,550.000	2,550.000	
0094	614.2300	MGS Guardrail 3	LF	1,413.000	1,413.000	
0096	614.2500	MGS Thrie Beam Transition	LF	160.000	160.000	
0098	614.2610	MGS Guardrail Terminal EAT	EACH	6.000	6.000	
0100	616.0204	Fence Chain Link 4-FT	LF	346.000	346.000	
0102	618.0100	Maintenance And Repair of Haul Roads (project) 01. 7540-01-72	EACH	1.000	1.000	
0104	619.1000	Mobilization	EACH	1.000	1.000	
0106	624.0100	Water	MGAL	1,220.000	1,220.000	
0108	625.0500	Salvaged Topsoil	SY	18,000.000	18,000.000	
0110	628.1504	Silt Fence	LF	3,500.000	3,500.000	
0112	628.1520	Silt Fence Maintenance	LF	3,500.000	3,500.000	
0114	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000	
0116	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000	
0118	628.2008	Erosion Mat Urban Class I Type B	SY	4,600.000	4,600.000	
0120	628.2027	Erosion Mat Class II Type C	SY	13,400.000	13,400.000	
0122	628.6005	Turbidity Barriers	SY	300.000	300.000	
0124	628.7504	Temporary Ditch Checks	LF	230.000	230.000	
0126	628.7560	Tracking Pads	EACH	2.000	2.000	
0128	629.0210	Fertilizer Type B	CWT	12.000	12.000	
0130	630.0120	Seeding Mixture No. 20	LB	500.000	500.000	
0132	630.0200	Seeding Temporary	LB	250.000	250.000	
0134	633.5200	Markers Culvert End	EACH	4.000	4.000	
0136	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	1.000	1.000	
0138	638.2102	Moving Signs Type II	EACH	1.000	1.000	
0140	642.5001	Field Office Type B	EACH	1.000	1.000	
0142	643.0300	Traffic Control Drums	DAY	7,100.000	7,100.000	
0144	643.0420	Traffic Control Barricades Type III	DAY	5,640.000	5,640.000	
0146	643.0705	Traffic Control Warning Lights Type A	DAY	8,450.000	8,450.000	
0148	643.0900	Traffic Control Signs	DAY	44,180.000	44,180.000	
0150	643.0920	Traffic Control Covering Signs Type II	EACH	17.000	17.000	
0152	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000	

# Page 3

# **Estimate Of Quantities**

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					7540-01-72	
Line	Item	Item Description	Unit	Total	Qty	
0154	643.5000	Traffic Control	EACH	1.000	1.000	
0156	645.0120	Geotextile Type HR	SY	2,163.000	2,163.000	
0158	646.1020	Marking Line Epoxy 4-Inch	LF	7,500.000	7,500.000	
0160	650.4500	Construction Staking Subgrade	LF	1,476.000	1,476.000	
0162	650.5000	Construction Staking Base	LF	1,476.000	1,476.000	
0164	650.6000	Construction Staking Pipe Culverts	EACH	2.000	2.000	
0166	650.6500	Construction Staking Structure Layout (structure) 01. B-27-170	LS	1.000	1.000	
0168	650.6500	Construction Staking Structure Layout (structure) 02. R-27-01	LS	1.000	1.000	
0170	650.6500	Construction Staking Structure Layout (structure) 03. R-27-02	LS	1.000	1.000	
0172	650.9910	Construction Staking Supplemental Control (project) 01. 7540-01-72	LS	1.000	1.000	
0174	650.9920	Construction Staking Slope Stakes	LF	1,552.000	1,552.000	
0176	690.0150	Sawing Asphalt	LF	326.000	326.000	
0178	690.0250	Sawing Concrete	LF	80.000	80.000	
0180	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000	
0182	715.0502	Incentive Strength Concrete Structures	DOL	2,622.000	2,622.000	
0184	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	630.000	630.000	
0186	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	2,000.000	2,000.000	
0188	SPV.0060	Special 01. Fixed Ladder, B-27-170	EACH	2.000	2.000	
0190	SPV.0090	Special 01. Salvage and Reinstall Guardrail	LF	88.000	88.000	
0192	SPV.0165	Special 01. Wall Concrete Panel Mechanically Stabilized Earth (R-27-01)	SF	5,118.000	5,118.000	
0194	SPV.0165	Special 02. Wall Concrete Panel Mechanically Stabilized Earth (R-27-02)	SF	4,700.000	4,700.000	
0196	SPV.0195	Special 01. Select Crushed Material for Travel Corridor (R-27-01)	TON	44.000	44.000	
0198	SPV.0195	Special 02. Select Crushed Material for Travel Corridor (R-27-02)	TON	44.000	44.000	

# **CLEARING & GRUBBING**

CATEGORY	STATION	TO	STATION	LOCATION	CLEARING 201.0105 STA	GRUBBING 201.0205 STA
0010	69+00 79+00	-	73+00 90+00	ML ML	4 11	4 11
				TOTAL 0010	15	15

# REMOVING SMALL PIPE CULVERTS

CATEGORY	STATION	LOCATION	203.0100 EACH	SIZE	REMARKS
0010	71+72	RT	1	24-IN CPCS	PE
		TOTAL 0010	1		

# REMOVING OLD STRUCTURE (STA 72+10)

			203.0200.01	
CATEGORY	STATION	LOCATION	LS	REMARKS
0010	72+10	ML	1	4' x 5' x 140 LF CONCRETE BOX CULVERT WITH 10 LF 48-INCH CPCS EXTENSION
		TOTAL 0010	1	

# **REMOVING PAVEMENT**

CATEGORY	STATION	то	STATION	LOCATION	204.0100 SY
0010	69+00 80+54			ML ML	965 2105
				TOTAL 0010	3070

# REMOVING ASPHALTIC SURFACE MILLING

CATEGORY	STATION	TO	STATION	LOCATION	204.0120 SY
<u> </u>	017111011		<u> </u>	200,111011	
0010	73+34	-	80+54	ML	2930
				TOTAL 0010	2930
				IOIAL 0010	2000

Division	From/To Station	Location	205.0100 Common Excavation (1)	Salvaged/Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (6)	Mass Ordinate +/- (7)	Waste	208.0100 Borrow
Division 1			Cut (2)				Factor 1.25			(8)
USH 12	69+00 - 74+31	Culvert Area	1,639	648	991	2,591	3,239	-2,248	0	2,248
	78+93 - 84+10	South of B-27-0170	819	519	300	6,719	8,399	-8,099	0	8,099
	85+11 - 90+00	North of B-27-0170	668	691	-23	9,095	11,369	-11,392	0	11,392
Division 1 Subtotal			3,126	1,858	1,268	18,405	23,007	-21,739	0	21,739
Grand Total			3,126	1,858	1,268	18,405	23,007	-21,739	0	21,739
	Total Cor	mmon Exc	3,126				-	•		

#### Notes

- (1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
- (2) Salvaged/Unsuable Pavement Material is included in Cut.
- (4) Salvaged/Unusable Pavement Material (includes cracked and seated PCC pavement)
- (5) Available Material = Cut Salvaged/Unusuable Pavement Material
- (6) Expanded Fill Factor = 1.25
- (7) The Mass Ordinate + or Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.
- (8) Excavation for Structures not included in roadway excavation/borrow calculations. The anticipated amount of material to be considered a part of excavation for structures (B-27-0170) is approximately 22,000 CY between R-27-01 and R-27-02 and including the reinforcement zone excavation.

PROJECT NO: 7540-01-72	HWY: USH 12	COUNTY: JACKSON	MISCELLANEOUS QUANTITIES	SHEET NO:	Е

FILE NAME : \_\_\_\_\_ PLOT DATE : \_\_\_\_ PLOT BY : \_\_\_\_ PLOT NAME : \_\_\_\_ ORG DATE : \_\_\_\_ ORIGINATOR : DIST PLOT SCALE : 1:1

# CONCRETE PAVEMENT APPROACH SLAB

CATEGORY	STATION TO STATION	LOCATION	BASE AGGREGATE DENSE 3/4-INCH 305.0110 TON	BASE AGGREGATE DENSE 1 1/4-INCH 305.0120 TON	CATEGORY	STATION	то	STATION	LOCATION	CONCRETE PAVEMENT 12-INCH 415.0120 SY	CONCRETE PAVEMENT APPROACH SLAB 415.0410 SY	REMARKS
0010	69+00 - 74+31	ML	250	1920	0010	83+67	_	83+85	ML	-	48	SOUTH ABUTMENT
	71+07 - 73+48	PE RT	120	90		83+67	_	83+85	RT	14	-	
	78+76 - 83+75	ML	150	1610		83+67	-	83+85	LT	14	-	
	78+59 -	PE RT	10	-	0010	85+37	-	85+52	ML	-	40	NORTH ABUTMENT
	80+80 -	PE LT	20	-		85+37	-	85+52	RT	17	-	
	85+37 - 90+00	ML	240	1960		85+37	-	85+52	LT	17	-	
	89+25 -	PE RT	-	50								
		TOTAL 0010	790	5630					TOTAL 0010	62	88	

# CONCRETE SURFACE DRAINS

					416.1010	
CATEGORY	STATION	TO	STATION	LOCATION	CY	REMARKS
0010	83+67	-	83+85	RT	2	Type A
	83+67	-	83+85	LT	2	Type A
				TOTAL 0010	4	

# ASPHALTIC ITEMS

					HMA COLD WEATHER PAVING	TACK COAT	ASPHALTIC SURFACE	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	
					450.4000	455.0605	465.0105	465.0120	
CATEGORY	STATION	TO	STATION	LOCATION	TON	GAL	TON	TON	REMARKS
0010	69+00 73+00 73+34 80+54 85+52	-	73+34 - 80+54 83+67 90+00	ML PE - RT ML ML ML	- - - -	265 - 225 210 295	735 - 360 610 825	- 29 - - -	2" MILL AND OVERLAY
	89+25		-	PE - RT	-	-	-	14	
				Undistributed	315	-	-	-	
				TOTAL 0010	315	995	2530	43	

PROJECT NO: 7540-01-72 HWY: USH 12 COUNTY: JACKSON MISCELLANEOUS QUANTITIES SHEET NO: E

FILE NAME : \_\_\_\_\_\_ PLOT DATE : \_\_\_\_\_ PLOT BY : \_\_\_\_\_ PLOT NAME : \_\_\_\_\_ ORG DATE : \_\_\_\_\_ ORIGINATOR : DIST\_ PLOT SCALE : 1:1

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#### APRON **APRON** APRON **CULVERT PIPE ENDWALLS FOR CULVERT PIPE ENDWALLS FOR ENDWALLS FOR CULVERT PIPE REINFORCED** CULVERT PIPE **CULVERT PIPE** CORRUGATED CONCRETE REINFORCED **STEEL** STEEL STEEL CLASS V CONCRETE 12-INCH 18-INCH 18-INCH 48-INCH 48-INCH 521.1012 521.1018 521.3118 522.0548 522.1048 **CATEGORY** STATION TO STATION LOCATION EACH EACH LF LF LF REMARKS 0010 PE RT 2 58 71+35 71+77 72+10 ML208 2 TIE ALL JOINTS 83+23 LT RT 83+27 **TOTAL 0010** 58 208 2

**CULVERT PIPE SUMMARY** 

# RIPRAP HEAVY

LOCATION

LT

RT

STATION TO STATION

70+65

71+77

**CATEGORY** 

0010

606.0300

CY

41

199

REMARKS

**CHANNEL** 

SLOPE

**CHANNEL** 

OUTLET

OUTLET

**CHANNEL** 

**CHANNEL** 

#### 612.0212 STATION TO STATION **LOCATION** LF REMARKS 83+23 83+67 LT 98 TYPE A SURFACE DRAIN

90

188

TYPE A SURFACE DRAIN

PIPE UNDERDRAIN UNPERFORATED 12-INCH

RT

**TOTAL 0010** 

72+22 72+65 LT 26 83+23 LT 2 2 83+27 RT 84+77 87+26 87 LT 87+96 88+44 RT 21 **TOTAL 0010** 378

71+75

72+37

ADDITIONAL QUANTITY SHOWN ELSEWHERE IN PLAN

# **BEAM GUARD ITEMS**

83+67

		SAI	LVAGED RAI	<u>L</u>						MGS GUARDRAIL 3	MGS THRIE BEAM TRANSITION	MGS GUARDRAIL TERMINAL EAT	SALVAGE AND REINSTALL GUARDRAIL	
					614.0920					614.2300	614.2500	614.2610	SPV.0090.01	
CATEGORY	STATION	ТО	STATION	LOCATION	LF	CATEGORY	STATION TO	STATION	LOCATION	LF	LF	EACH	LF	REMARKS
0010	68+81	-	72+56	RT	375	0010	69+70 -	74+01	LT	325	-	2	-	
	69+88	-	74+03	LT	415		71+78 -	72+60	RT	-	-	-	88	PE RT
	79+15	-	88+72	RT	955		78+93 -	83+87	RT	400	40	1	-	SE QUAD
	80+95	-	89+00	LT	805		80+96 -	83+87	LT	200	40	1	-	SW QUAD
							85+35 -	88+90	RT	263	40	1	-	NE QUAD
				TOTAL 0010	2550		85+35 -	88+52	LT	225	40	1	-	NW QUAD
									TOTAL 0010	1413	160	6	88	

**CATEGORY** 

0010

83+27

Ε PROJECT NO: 7540-01-72 **HWY: USH 12 COUNTY: JACKSON MISCELLANEOUS QUANTITIES SHEET NO:** PLOT DATE : PLOT BY : \_ PLOT NAME : ORIGINATOR : DIST \_ PLOT SCALE: 1:1

FILE NAME : ORG DATE : \_

# MOBILIZATIONS EROSION CONTROL

	WATER	
CATEGORY	LOCATION	624.0100 MGAL
0010	UNDISTRIBUTED	1220
	TOTAL 0010	1220
	FINISHING ITEMS	

#### **MOBILIZATIONS EMERGENCY MOBILIZATIONS EROSION EROSION CONTROL** CONTROL 628.1905 628.1910 **CATEGORY** LOCATION EACH EACH 0010 **PROJECT** 6 TOTAL 0010

# FINISHING ITEMS

							SEEDING	
					SALVAGED	<b>FERTILIZER</b>	MIXTURE	SEEDING
					TOPSOIL	TYPE B	NO. 20	<b>TEMPORARY</b>
					625.0500	629.0210	630.0120	630.0200
CATEGORY	STATION	ТО	STATION	LOCATION	SY	CWT	LB	LB
2212					4000			
0010	69+00	-	72+75	RT	1200	0.8	33	17
	69+00	-	74+30	LT	2000	1.3	54	27
	71+25	-	72+60	RT	390	0.3	11	6
	78+80	-	84+30	RT	2670	1.7	73	37
	80+85	-	84+30	LT	2160	1.5	59	30
	84+80	-	89+15	RT	3080	2.1	84	42
	84+80	-	89+25	LT	2870	2.0	78	39
	UNDISTR	RIBU	TED (25% E	STIMATED)	3630	2.3	108	52
				TOTAL 0010	18000	12.0	500	250

SILT FENCE

LT

LT

**CATEGORY** 

0010

69+00 -

69+00 -

79+35 -

80+85 -

84+70 -

85+35 -

84+25

89+60

88+95

UNDISTRIBUTED (25% ESTIMATED)

# EROSION MAT URBAN CLASS I TYPE B

CATEGORY	STATION	то	STATION	LOCATION	628.2008 SY
•					<u> </u>
0010	69+00	-	71+75	LT	800
	69+00	-	72+80	RT	1200
	72+65	-	74+31	LT	280
	78+80	-	82+00	RT	610
	80+85	-	82+05	LT	90
	87+75	-	90+00	LT	550
	88+44	-	89+14	RT	150
	UNDISTE	RIBU	TED (25%	ESTIMATED)	920

# EROSION MAT CLASS II TYPE C

CATEGORY	STATION	то	STATION	LOCATION	628.2027 SY
0010	71+10 71+25	-	72+65 72+60	LT RT	920 390
	82+00	-	84+30	RT	2070
	82+05	-	84+30	LT	2070
	84+80	-	87+75	LT	2330
	84+80	-	88+44	RT	2940
	UNDISTR	IBU	TED (25% I	ESTIMATED)	2680

# TOTAL 0010

TOTAL 0010

#### 628.1504 628.1520 STATION TO STATION LF LF LOCATION 565 565 73+65 LT 73+30 RT 500 500 84+15 RT 500 500

355

505

375

700

SILT FENCE

SILT FENCE

MAINTENANCE

355

505

375

700

**TOTAL 0010** 3500 3500

# TURBIDITY BARRIERS

			628.6005
CATEGORY	STATION	LOCATION	SY
0010	84+75	RT & LT	300
		TOTAL 0010	300

SHEET NO: Ε PROJECT NO: 7540-01-72 **HWY: USH 12 COUNTY: JACKSON MISCELLANEOUS QUANTITIES** 

PLOT DATE : PLOT BY : \_ PLOT NAME : ORIGINATOR : DIST \_ PLOT SCALE: 1:1 FILE NAME : \_ ORG DATE : \_\_

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	TEMPORARY D	DITCH CHEC	KS_				TRAFFIC		TRAFFIC CONTROL	<u>L</u>	TRAFFIC CONTROL	TRAFFIC	
CATEGORY	STATION TO STA		OCATION	628.7504 LF			CONTROL DRUMS 643.0300	TRAFFIC CONTROL BARRICADES TYPE I 643.0420	III TYPE A 643.0705	TRAFFIC CONTROL SIGNS 643.0900	COVERING SIGNS TYPE II 643.0920	CONTROL SIGNS PCMS 643.1050	TRAFFIC CONTROL 643.5000
0010	69+00 - 70	0+65	LT	60	CATEGORY	LOCATION	DAY	DAY	DAY	DAY	EACH	DAY	EACH
	69+00 - 7	1+50	RT	100	•								_
		8+10	LT	10	0010	ML	7100	5640	8450	44180	17	14	1
		9+00	RT	10									
	UNDISTRIBUTED	) (25% ESTIN	MATED)	50		TOTAL 0010	7100	5640	8450	44180	17	14	1
		TC	TAL 0010	230							One Cycle		
	TRACKIN	IG PADS							GEOTEXTILE TYPE	HR			
		6	28.7560						OLOTEXNEE TITE	1111			
C	ATEGORY LOCA		EACH							645	0120		
<u>-</u>	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							CATEGORY	STATION TO STATION		Y		
	0010 PROJ	JECT	2								<u>·                                      </u>		
								0010	70+65 - 71+75	LT 8	32		
	TOTAL	_ 0010	2						71+77 - 72+37	RT 39			
									72+22 - 72+65		52		
									83+23 -		3		
	MARKERS CL	ULVERT ENI	<u> </u>						83+27 -	RT :	3		
									84+77 - 87+26	LT 17	74		
CATEG	GORY STATION	LOCATIO	633.52 N EAC						87+96 - 88+44	RT 4	1		
CATEG	JONE STATION	LOCATIO	IN EAC	<u> </u>						TOTAL 0010 75	52		
001	10 71+35	RT	1							TOTAL 0010 73	02		
	71+77	RT	1					ΔΠ	DITIONAL QUANTITY SHOW	WN ELSEWHERE IN E	ΡΙ ΔΝ		
	72+10	LT	1					ADI	DITIONAL QUANTITI OTTO	THE CLOCKVIILING IINI	₩ 114		
	72+10	RT	1										
		TOTAL 00	40						MARKING LINE SUM	MARY			
		TOTAL 00	10 4							<del></del>			
										MARKING LINE			

# PERMANENT SIGNING SUMMARY

POSTS WOOD 4 X 6-INCH MOVING X 14-FT SIGNS TYPE II 634.0614 638.2102 CATEGORY STATION LOCATION EACH EACH RT 0010 88+85 1 TOTAL 0010

MARKING LINE **EPOXY 4-INCH** 646.1020

WHITE YELLOW

					VVI II I L	ILLLOW	
CATEGORY	STATION	TO	STATION	LOCATION	LF	LF	REMARKS
0040	00.00		00.00	01		0000	110114001
0010	69+00	-	90+00	CL . –	-	3300	USH 12 CL
	69+00	-	90+00	LT	2100	-	USH 12 EDGE
	69+00	-	90+00	RT	2100	-	USH 12 EDGE
				TOTAL 0010	75	500	

PROJECT NO: 7540-01-72	HWY: USH 12	COUNTY: JACKSON	MISCELLANEOUS QUANTITIES	SHEET NO:	1 E

FILE NAME : \_\_\_\_\_ PLOT BY : \_\_\_ PLOT NAME : \_\_\_ ORIGINATOR : DIST \_ PLOT SCALE: 1:1 ORG DATE : \_\_

# CONSTRUCTION STAKING SUBGRADE

CATEGORY	STATION	то	STATION	LOCATION	650.4500 LF
0010	69+00 78+93 85+37	-	74+31 83+75 90+00	ML ML ML	531 482 463
				TOTAL 0010	1476

# CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (7540-01-72)

CATEGORY	LOCATION	650.9910 LS
0010	ML	1
	TOTAL 0010	1

# CONSTRUCTION STAKING BASE

					650.5000
GORY	STATION	TO	STATION	LOCATION	l LF
10	69+00	-	74+31	ML	531
	78+93	-	83+75	ML	482
	85+37	-	90+00	ML	463
				TOTAL 0010	1476
	GORY 10	10 69+00 78+93	10 69+00 - 78+93 -	10 69+00 - 74+31 78+93 - 83+75	10 69+00 - 74+31 ML 78+93 - 83+75 ML 85+37 - 90+00 ML

# CONSTRUCTION STAKING SLOPE STAKES

CATEGORY	STATION T	τΩ	STATION	LOCATION	650.9920 I F
CATEGORI	SIATION	10	STATION	LOCATION	LI
0010	69+00 78+93	- -	74+31 89+14	ML ML	531 1021
				TOTAL 0010	1552

# CONSTRUCTION STAKING PIPE CULVERTS

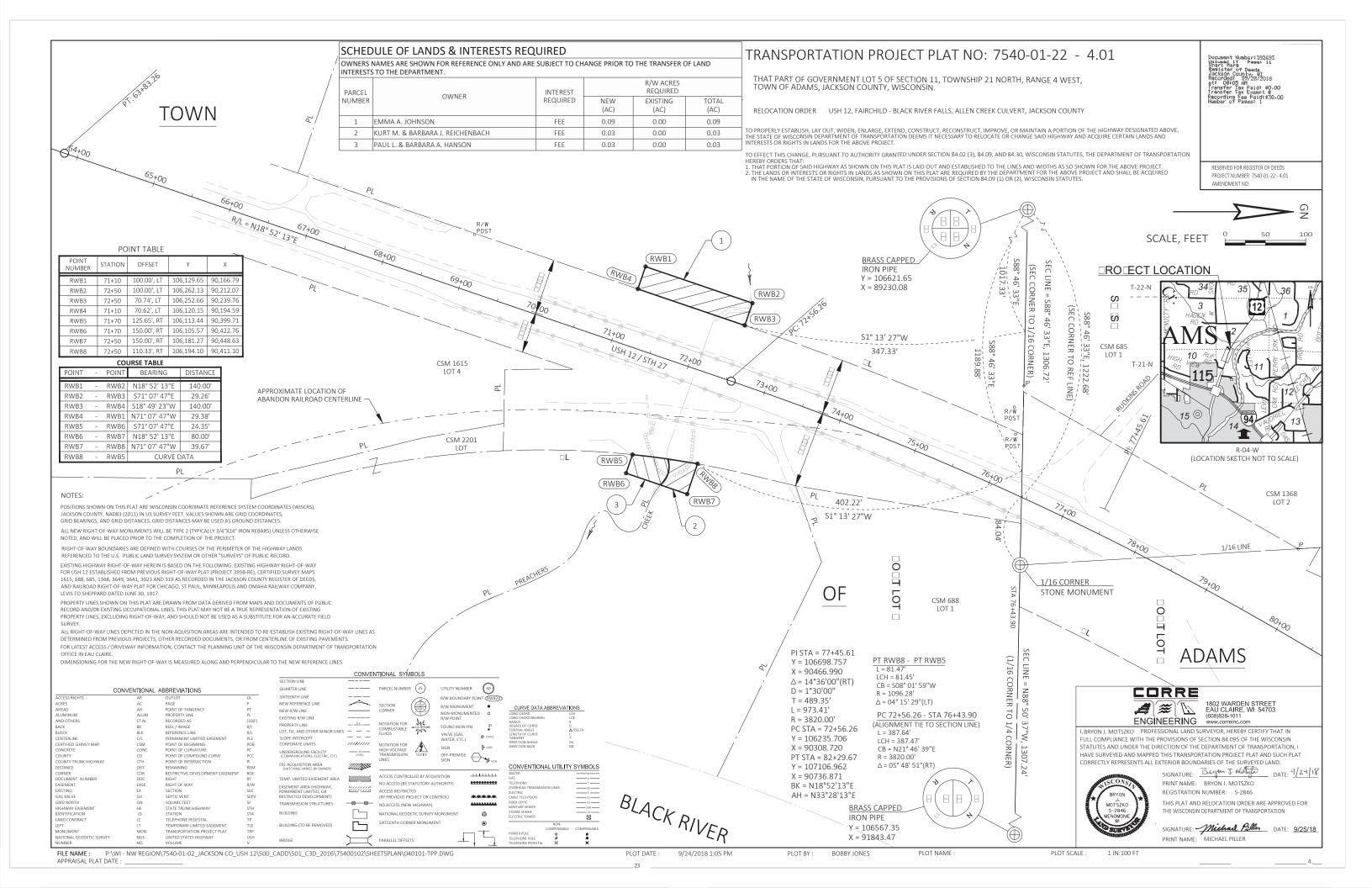
			650.6000	
CATEGORY	STATION	LOCATION	EACH	REMARKS
0010	72+10	ML	1	
	71+35	RT	1	PE
		TOTAL 0010	2	

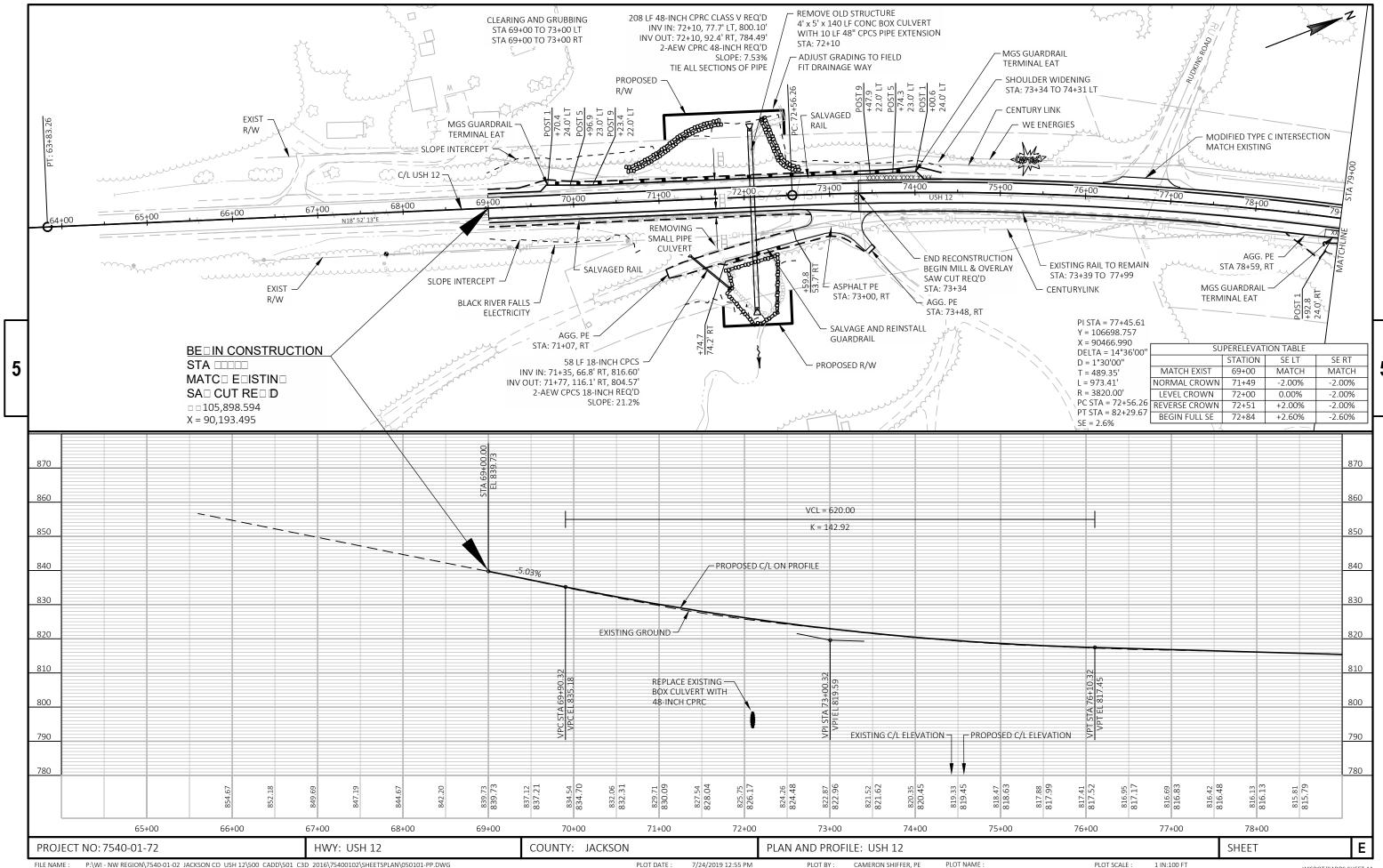
# SAWING

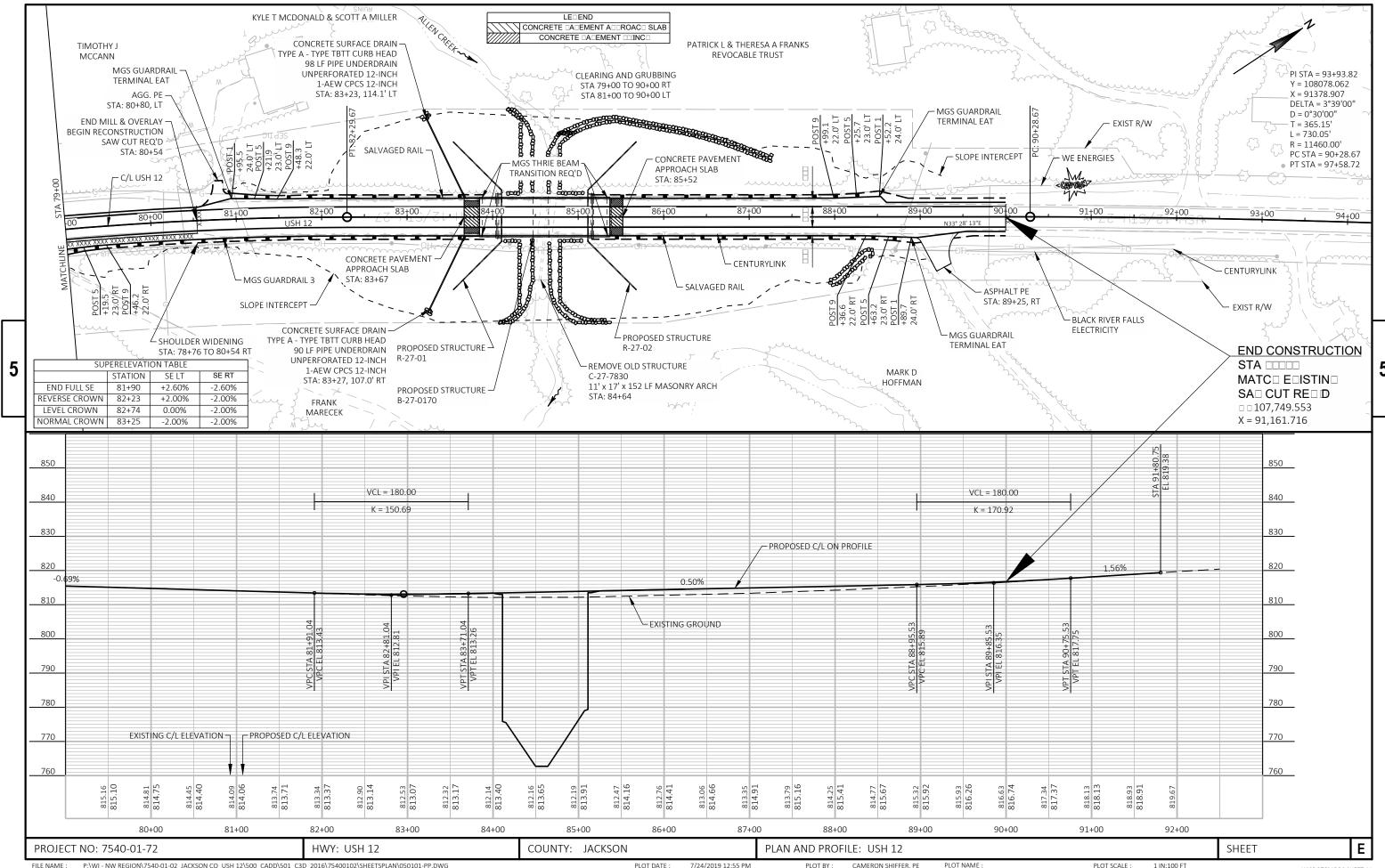
			ASPHALT 690.0150	CONCRETE 690.0250
CATEGORY	STATION	LOCATION	LF	LF
0010	69+00	ML	10	20
	73+34	ML	18	20
	73+34 - 74+31	ML	97	-
	78+84 - 80+54	ML	179	-
	80+54	ML	12	20
	90+00	ML	10	20
		TOTAL 0010	326	80

	PROJECT NO: 7540-01-72	HWY: USH 12	COUNTY: JACKSON	MISCELLANEOUS QUANTITIES	SHEET NO:	Е
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FILE NAME : \_\_\_\_\_\_ PLOT DATE : \_\_\_\_\_ PLOT BY : \_\_\_\_\_ PLOT NAME : \_\_\_\_\_ ORG DATE : \_\_\_\_\_ ORIGINATOR : DIST\_ PLOT SCALE : 1:1



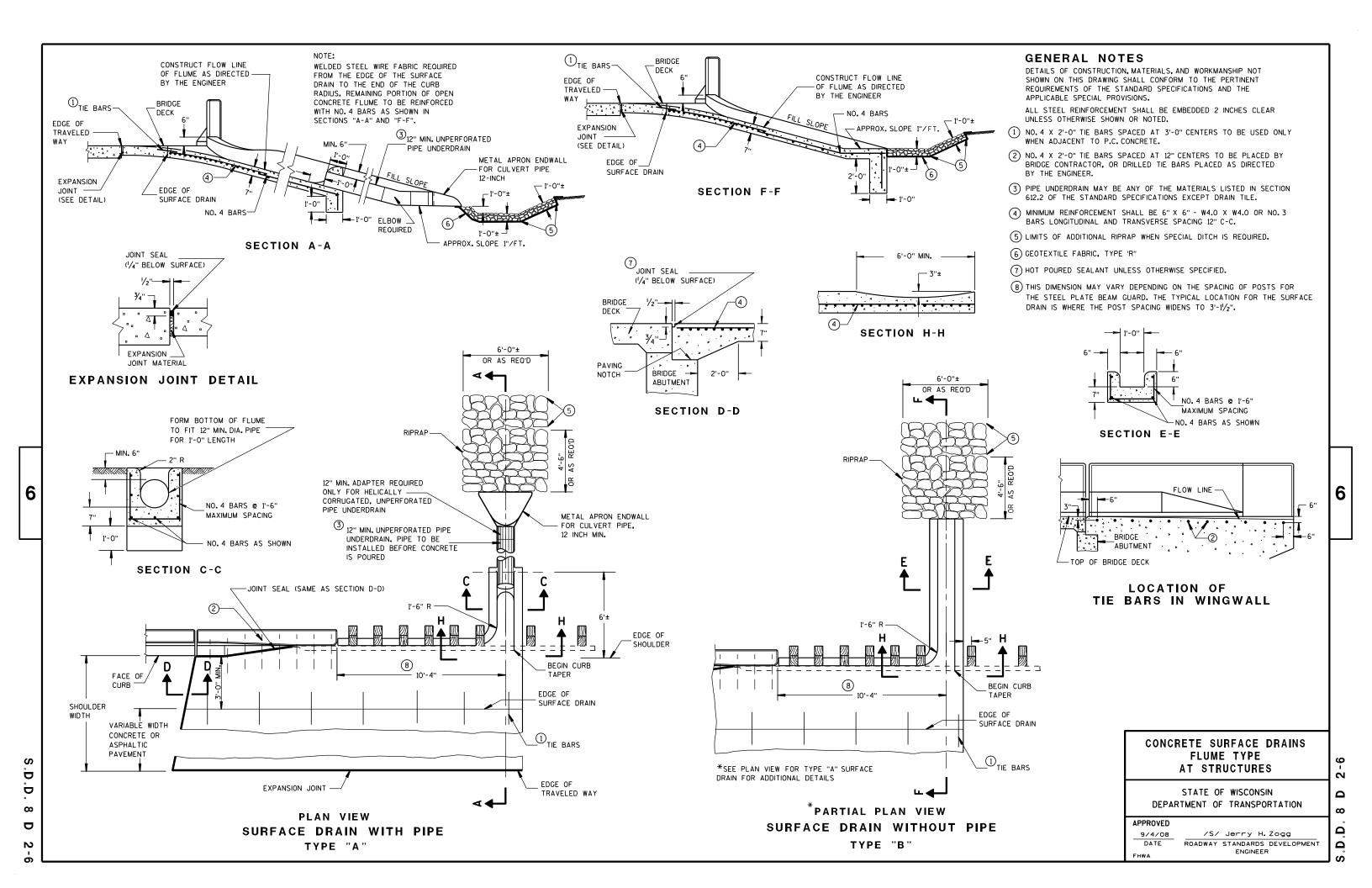




# Standard Detail Drawing List

08D02-06	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F07-05	STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS
12A03-10	NAME PLATE (STRUCTURES)
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13в02-09в	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-07B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-07C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C11-07A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

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# **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.

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.



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 /S/ Beth Connestro
CHIEF ROADWAY DEVELOPMENT ENGINEER

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# TYPICAL APPLICATION OF SILT FENCE

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# PLAN VIEW SILT FENCE AT MEDIAN SURFACE DRAINS



# **GENERAL NOTES**

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

- $\bigcirc$  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 11/8" X 11/8" OF OAK OR HICKORY.
- 4) SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- (5) CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 /S/ Beth Cannestra

29-05 /S/ Beth Cannestra
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER

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# **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. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER 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.





SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

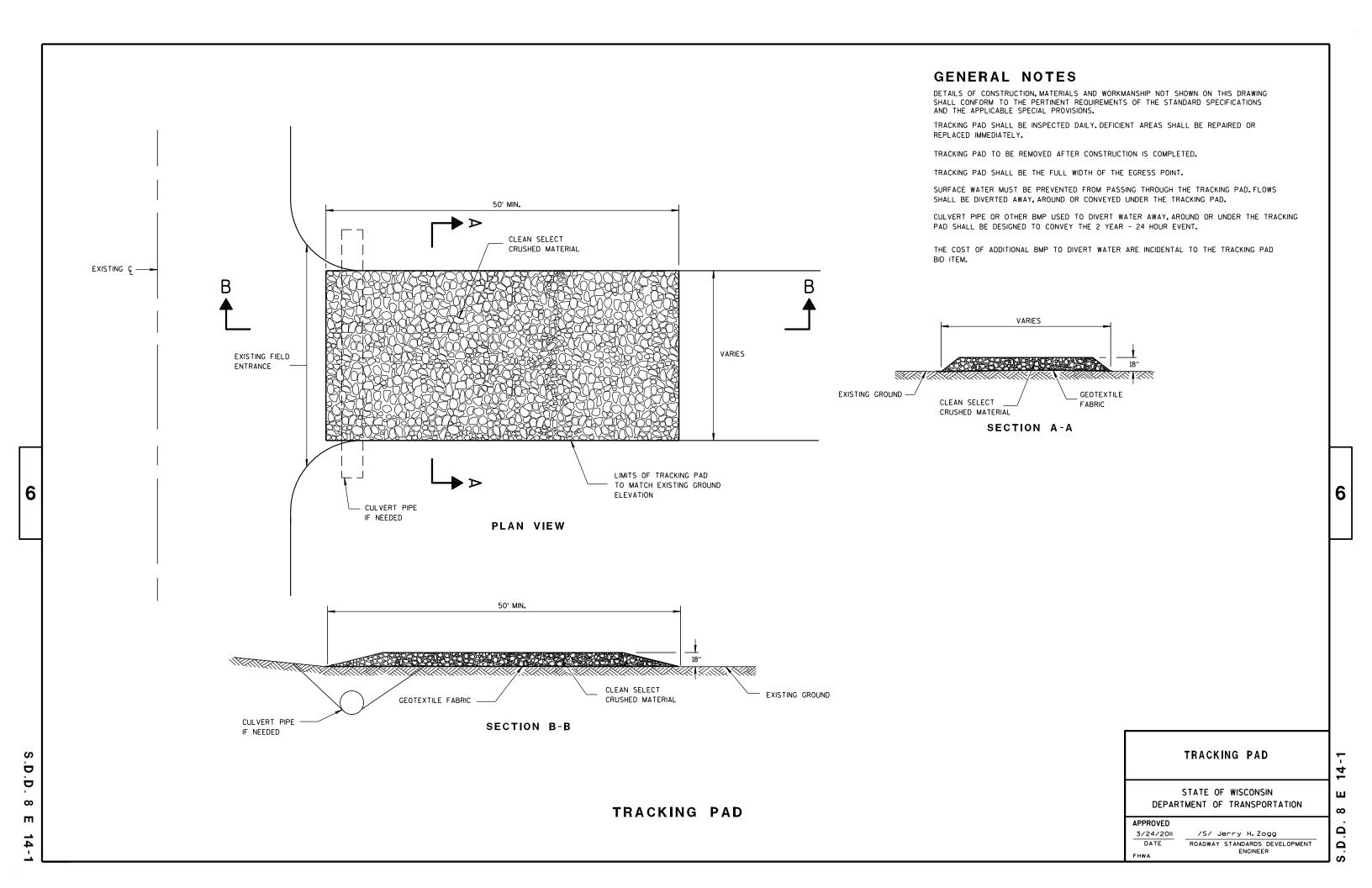
# TURBIDITY BARRIER

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 /S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER  $\infty$ 

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			1	METAL	APR	ON EN	NDWAL	.LS			
PIPE	MIN. 1	THICK.			DIMEN:	SIONS (I	nches)			APPROX.	
DIA.	(Incl		A	В	Н	L	Γį	L <sub>2</sub>	W	SLOPE	BODY
(IN.)	STEEL	ALUM.	(±1")	(MAX.)	(±1")	(±1 ½")	①	0	(±2")	320.2	
12	.064	.060	6	6	6	21	12	171/2	24	2½+o 1	1Pc.
15	.064	.060	7	8	6	26	14	213/4	30	21/2+o 1	1Pc.
18	.064	.060	8	10	6	31	15	281/4	36	21/2+o 1	1Pc.
21	.064	.060	9	12	6	36	18	295/8	42	21/2+o 1	1Pc.
24	.064	.075	10	13	6	41	18	371/4	48	21/2+o 1	1Pc.
30	.079	.075	12	16	8	51	18	521/4	60	21/2+0 1	1Pc.
36	.079	<b>.</b> 105	14	19	9	60	24	59¾	72	21/2+o 1	2 Pc.
42	.109	.105	16	22	11	69	24	75%	84	21/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 <sup>1</sup> / <sub>4</sub> +o 1	3 Pc.
54	.109	.105	18	30	12	84	30	851/2	102	2 <sup>1</sup> / <sub>4</sub> †o 1	3 Pc.
60	.109×	.105×	18	33	12	87	_	_	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	_	_	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	_	_	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	_	_	132	11/2+0 1	3 Pc.
84	.109×	.105×	18	45	12	87	_	_	138	11/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	_	_	144	11/2+0 1	3 Pc.
96	.109×	.105×	18	35	12	87	_	_	150	1/2+0 1	3 Pc.

	RE	NFORC	ED C	ONCRET	E APRO	N E	NDWAL	.LS
PIPE			DIM	ENSIONS	(Inches)			APPROX.
DIA.	T	A	В	С	D	Ε	G	SLOPE
12	2	4	24	48 1/8	721/8	24	2	3 to 1
15	21/4	6	27	46	73	30	21/4	3 to 1
18	21/2	9	27	46	73	36	21/2	3 to 1
21	23/4	9	36	371/2	731/2	42	23/4	3 to 1
24	3	91/2	431/2	30	731/2	48	3	3 to 1
27	31/4	101/2	491/2	24	731/2	54	31/4	3 to 1
30	$3\frac{1}{2}$	12	54	193/4	731/2	60	31/2	3 to 1
36	4	15	63	34¾	97¾	72	4	3 to 1
42	$4\frac{1}{2}$	21	63	35	98	78	41/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	51/2		65	**************************************	8 <sup>1</sup> / <sub>4</sub> - 100	90	51/2	2% to 1
60	6	* ** 30-35	60	39	99	96	5	2 to 1
66	61/2	<del>* **</del>  24-30	<del>*</del> <del>* *</del>   72-78	* * * 21-27	99	102	51/2	2 to 1
72	7	* ** 24-36	78	21	99	108	6	2 to 1
78	71/2	* ** 24-36	78	21	99	114	61/2	2 to 1
84	8	36	901/2	21	1111/2	120	61/2	1½+o 1
90	81/2	41	871/2	24	1111/2	132	61/2	11/2+0 1

THREADED %6" DIA. ROD CONNECTOR AROUND CULVERT & THROUGH TANK TYPE CONNECTOR LUG LUG OR ALTERNATE CONNECTOR STRAP (SEE DETAIL) MEASURED LENGTH OF CULVERT TYPE 1 FOR 12" THRU 24" CORR. PIPE







NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL.

CORRUGATED PIPE. FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5

DIMPLED BAND MAY BE USED WITH HELICALLY

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT ALTERNATE FOR TYPE 1 CONNECTION END SECTION CONNECTOR STRAP

# \* EXCEPT CENTER PANEL SEE GENERAL NOTES





SHOULDER

SLOPE



SIDE ELEVATION METAL ENDWALLS



\*\*MAXIMUM





CONCRETE ENDWALLS

CONNECTION DETAILS



# SECTION A-A

# GENERAL NOTES

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

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA, GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES. THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

(1) FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.



11/30/94 /S/ Rory L. Rhinesmith CHIEF ROADWAY DEVELOPMENT ENGINEER

DETAIL FOR END SECTION

ATTACHMENT.

STEEL ADAPTER SLEEVE FOR

**CONCRETE PIPE** 

#### STEEL APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS DIMENSIONS (Inches) L DIMENSIONS MIN. THICK DIA. LENGTH INCHES LENGTH INCHES OVERALL LENGTH SLOPE SLOPE SLOPE (IN.) (Inches) INCHES WIDTH 15 10:1 70 .064 21 37 4:1 20 6:1 30 18 .064 24 40 4:1 32 6:1 48 10:1 100 8 21 .064 6 27 43 4:1 44 6:1 66 10:1 130 24 .064 8 6 30 46 4:1 6:1 84 10:1 160 30 .109 12 36 4:1 80 120 60 220 10:1 36 .109 12 9 42 66 4:1 104 6:1 156 10:1 280 42 .109 16 48 80 4:1 128 6:1 192 48 54

4:1

4:1

**GENERAL NOTES** 

APPROVED EQUAL.

12

12

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16

16

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.

SLOPED END SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, SECTION 521 FOR STEEL APRON ENDWALLS.

SAFETY BARS SHALL BE FABRICATED FROM GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR

152

176

200

6:1

6:1

228

264

300

#### STEEL APRON ENDWALLS FOR PIPE ARCH SLOPED SIDE DRAINS DIMENSIONS (Inches) L DIMENSIONS MIN. THICK (Inches) LENGTI OVERALL LENGTH LENGTH (Inches) SLOPE SLOPE SLOPE INCHES INCHES (Inches) SPAN RISE WIDTH 44 4:1 30 10:1 ② 70 13 .064 \* 8 6 27 43 4:1 20 21 15 6:1 30 10:1 70 .064 \* 24 8 6 30 46 4:1 32 6:1 48 10:1 100 21 18 .064 \* 8 6 50 4:1 40 60 10:1 120 28 6:1 24 20 .079 × 12 9 30 35 24 41 65 4:1 56 6:1 84 10:1 160 .109 \* 12 9 48 4:1 76 6:1 114 72 10:1 210 36 42 29 .109 12 55 4:1 92 42 49 33 16 87 6:1 138 57 .109 16 12 63 95 4:1 112 168 48 38 6:1 132 6:1

86

92

(1) \* MINIMUM THICKNESS OF ALL 10:1 SLOPED SIDE DRAINS IS 0.109".

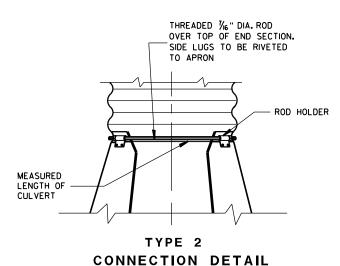
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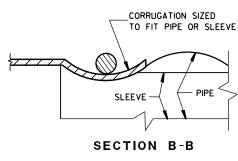
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.109

54

2 ACTUAL SLOPE GREATER THAN 10:1.



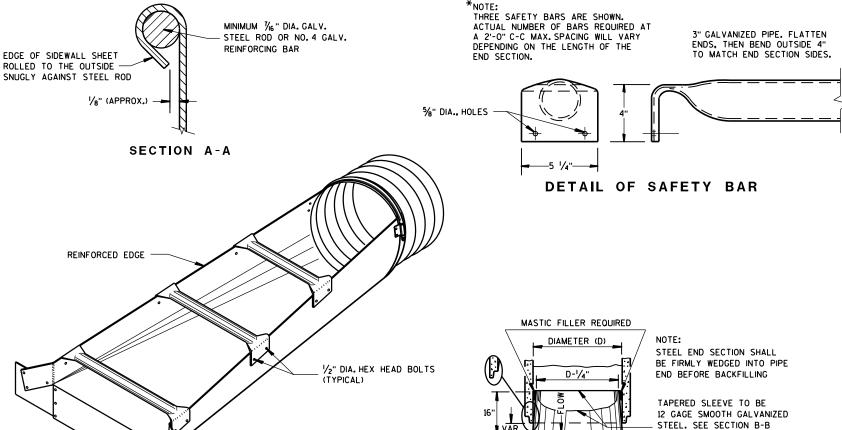


STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

**APPROVED** 

9/14/2012 /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT DATE ENGINEER FHWA



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TOP OF SLOPED

OVERALL WIDTH

FRONT VIEW

ISOMETRIC VIEW

END SECTION

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2





# 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.



SPREAD OPEN SO THE TOP OF LUG IS 11/4" WIDE

SECTION A-A

ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

# NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

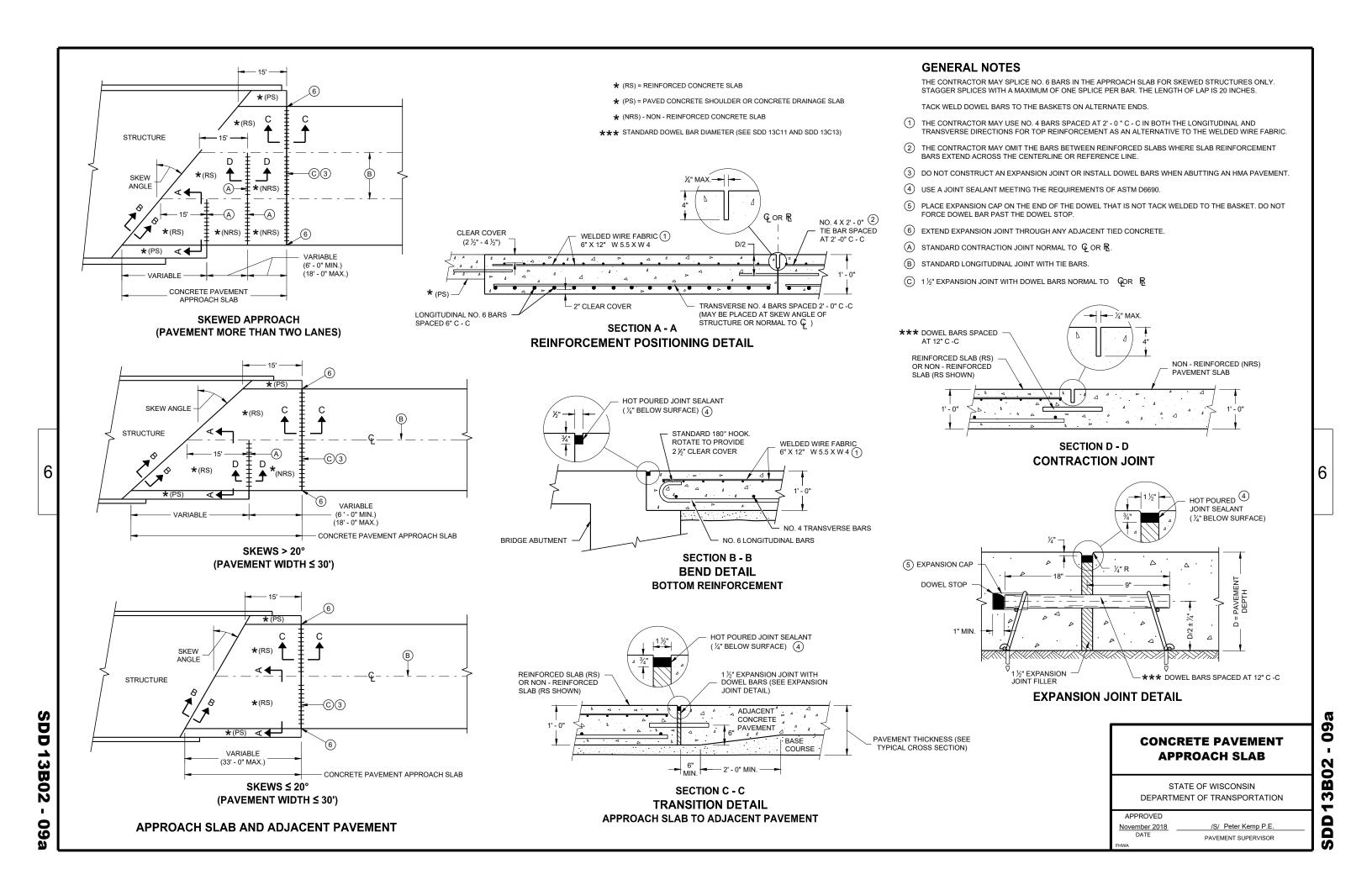
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3/26/IO /S/ SCOT BECKET

CHIEF STRUCTURAL DEVELOPMENT ENGINEER

D.D. 12 A

3-10

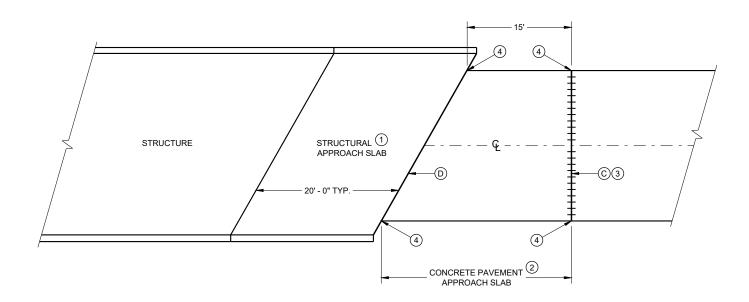


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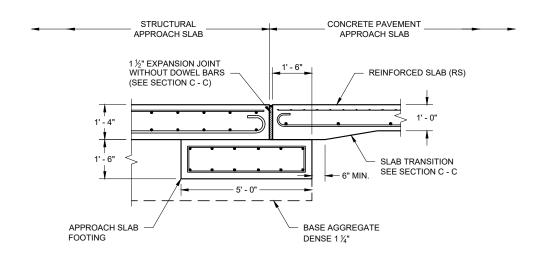
# **GENERAL NOTES**

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

- 1 SEE BRIDGE PLAN.
- (2) CONFORM TO SDD 13B02 SHEET A FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS
- $\bigcirc$  DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- 4 EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
- $\bigcirc$  1 ½" EXPANSIONT JOINT WITH DOWEL BARS NORMAL TO  $\bigcirc$  OR  $\bigcirc$  OR  $\bigcirc$
- D 1 ½" EXPANSION JOINT (NO DOWELS)



# **BRIDGE APPROACHES**



SECTION E - E **FOOTING DETAIL** STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

# STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT **APPROACH SLAB**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

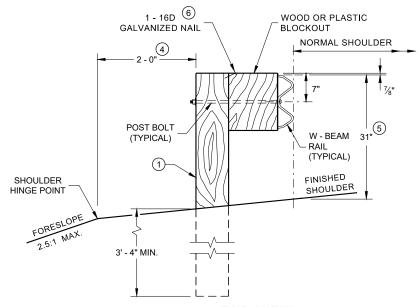
APPROVED

November 2018 DATE

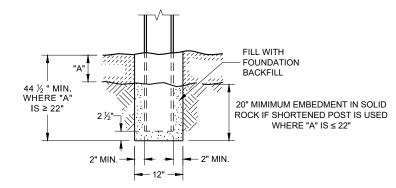
/S/ Peter Kemp P.E. PAVEMENT SUPERVISOR

**60 3B**02 SDD

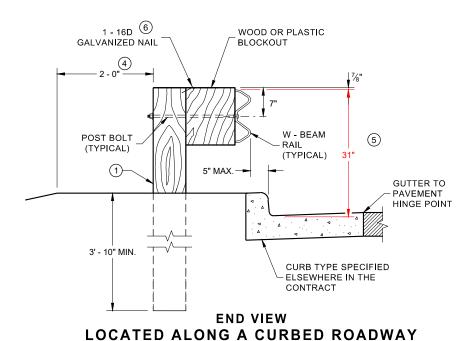
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- $\ \, \ \,$  IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE
- 4 WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- $\fill \begin{tabular}{ll} \end{tabular}$  FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS \$\pm1"\$. FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 % " TO 32".
- (6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- TOTAL POST LENGTH FOR TYPE K IS 7' 0". TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



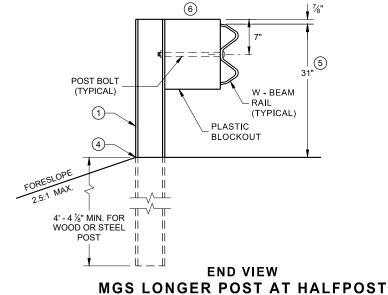
**END VIEW** LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION

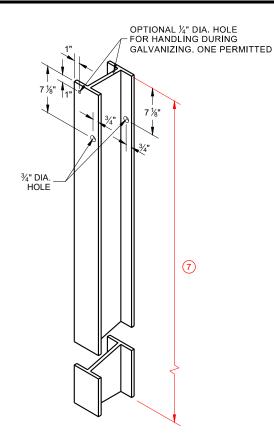


**END VIEW** SETTING STEEL OR WOOD POST IN ROCK

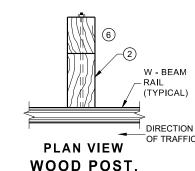


**SPACING W BEAM (K)** 

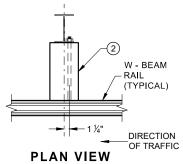




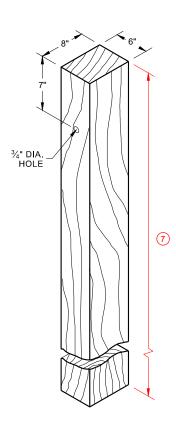
STEEL POST & HOLE **PUNCHING DETAIL** (W 6 X 9) <sup>(1)</sup>



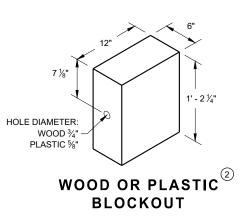
**WOOD POST BLOCKOUT & BEAM** 



STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD POST (6" X 8") NOMINAL



## **MIDWEST GUARDRAIL SYSTEM** (MGS) GUARDRAIL

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

# **FRONT VIEW** HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

6' 3" C - C

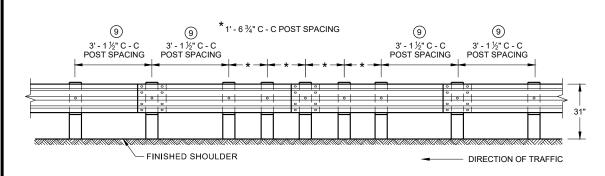
POST SPACING

DIRECTION OF TRAFFIC

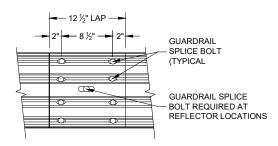
6' - 3" C -C

POST SPACING

FINISHED SHOULDER



FRONT VIEW **QUARTER POST SPACING (QS)** 



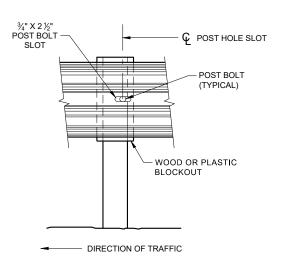
**FRONT VIEW MID-SPAN BEAM SPLICE** 

#### **GENERAL NOTES**

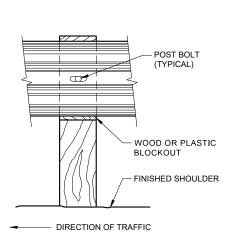
- DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
- 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A %" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES %" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND %" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BÈ LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

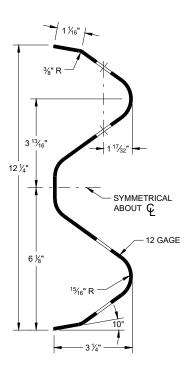
GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES %" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



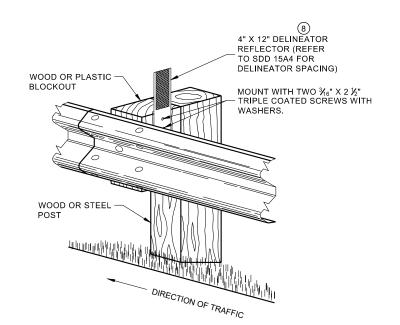
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST







ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

**MIDWEST GUARDRAIL SYSTEM** (MGS) GUARDRAIL

> STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

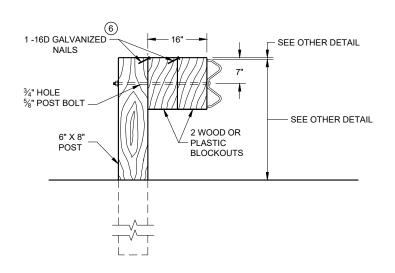
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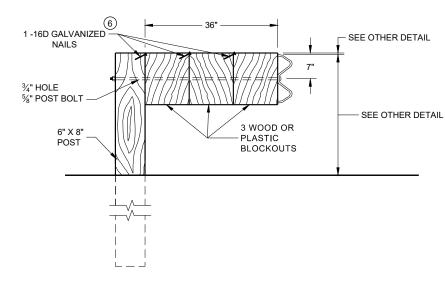
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6



#### **DETAIL FOR 16" BLOCKOUT DEPTH**

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



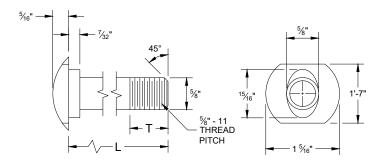
#### **DETAIL FOR 36" BLOCKOUT DEPTH**

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

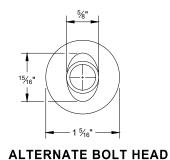
#### NOTE:

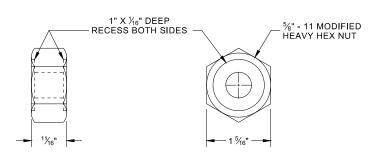
- 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF  $\frac{3}{16}$ ".
- 2. IF THE BOLT EXTENDS MORE THAN  $\mbox{\ensuremath{\mbox{\sc M}}}\mbox{\sc "}\mbox{\sc FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.}$



#### **POST BOLT TABLE**

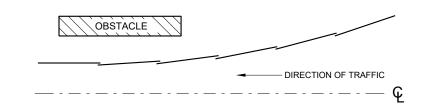
L	T (MIN.)
1 1⁄4"	1 1/4"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



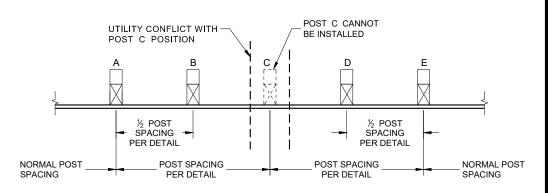


## POST BOLT, SPLICE BOLT **AND RECESS NUT**

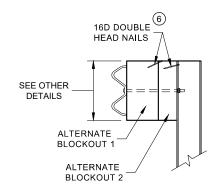
WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D (6) GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

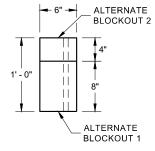


#### **PLAN VIEW BEAM LAPPING DETAIL**



# POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION





SIDE VIEW

**ALTERNATE WOOD BLOCKOUT DETAIL** 

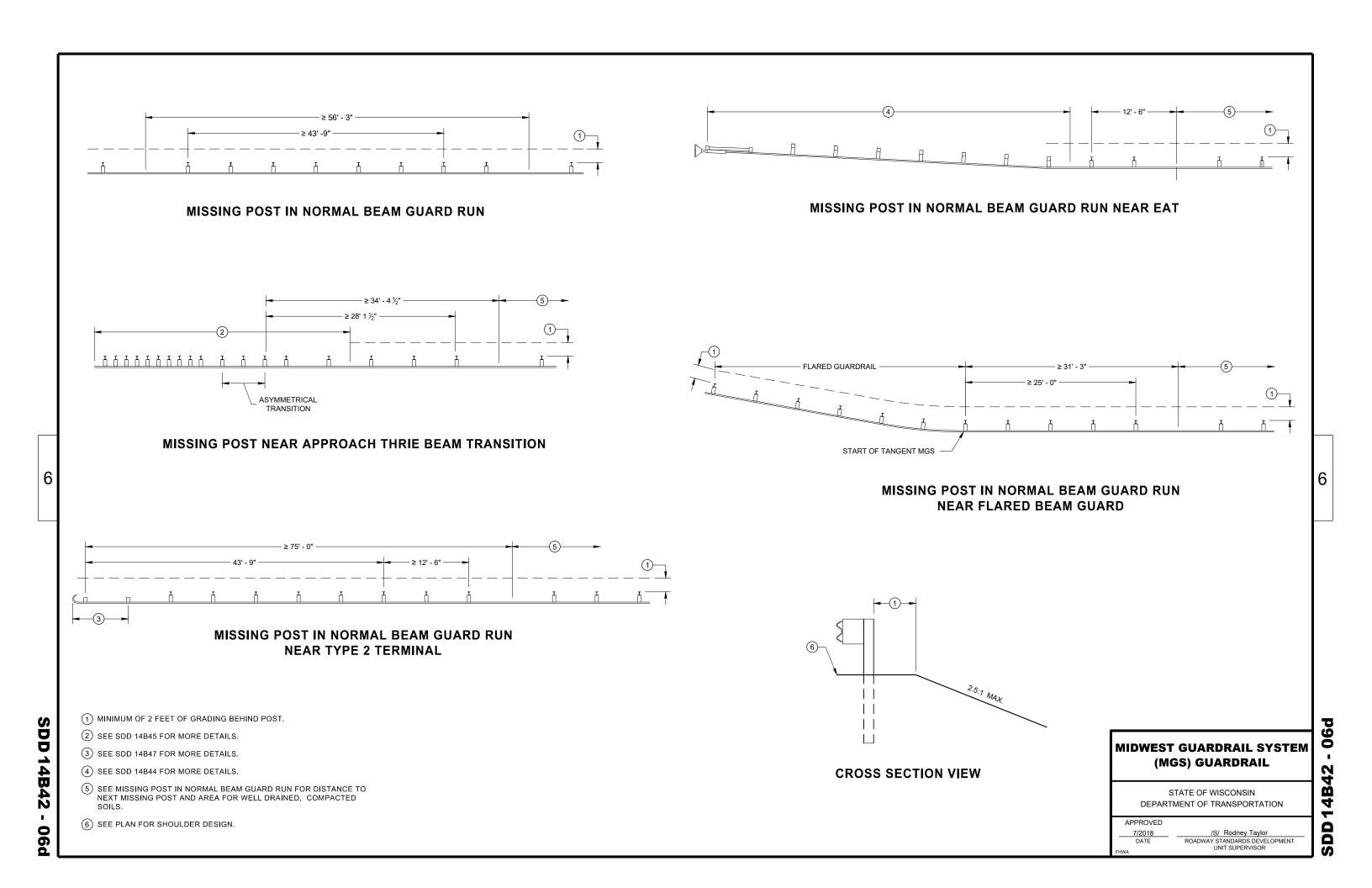
# **MIDWEST GUARDRAIL SYSTEM** (MGS) GUARDRAIL

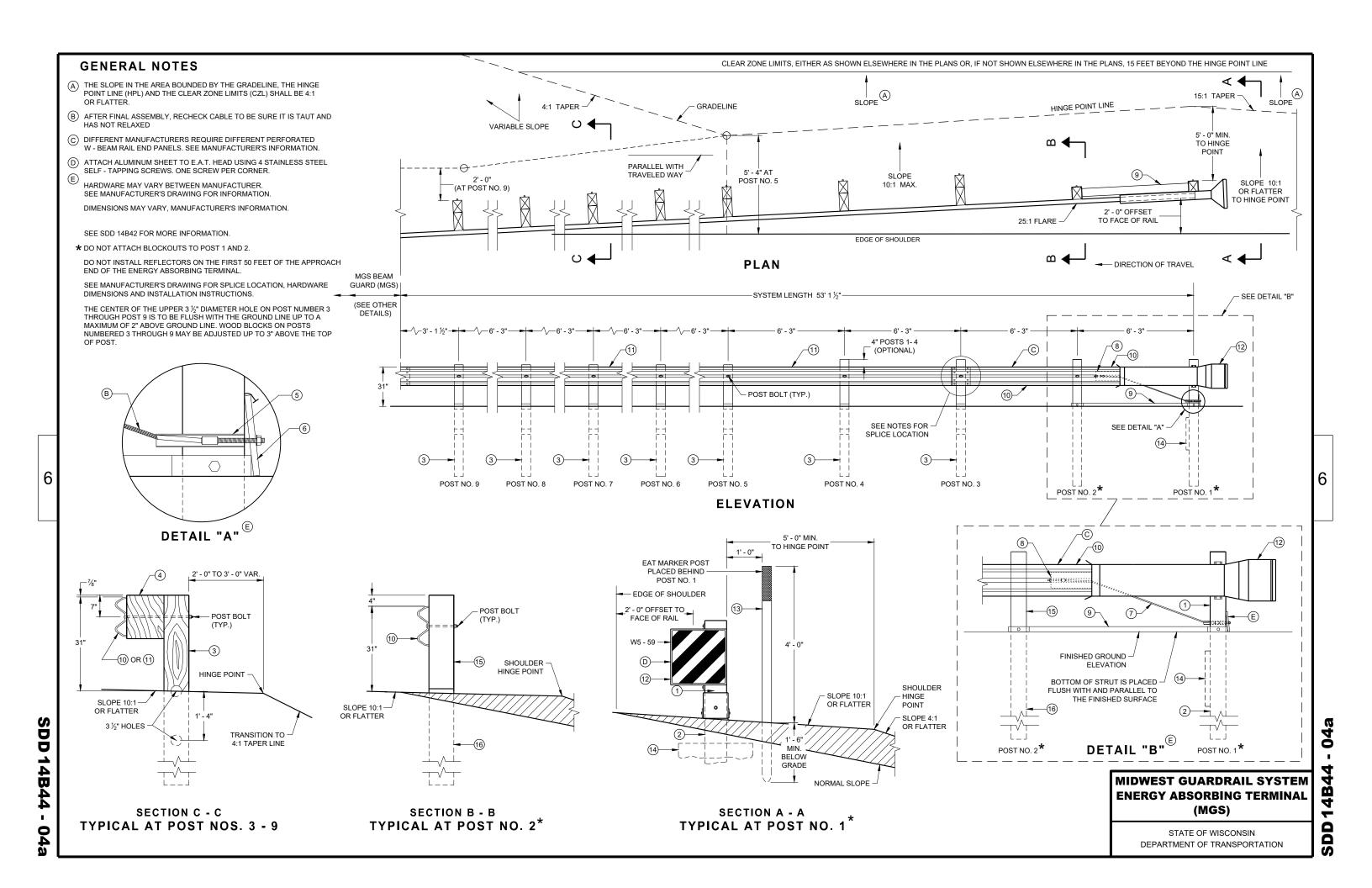
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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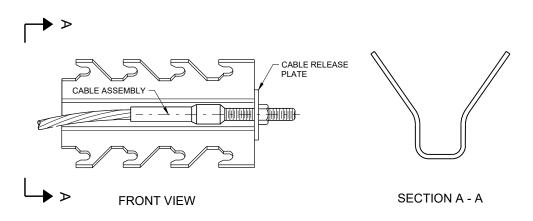
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**PLAN VIEW** 

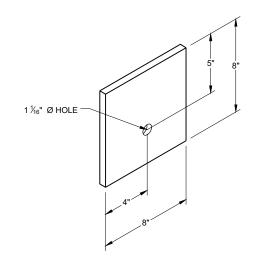




GENERIC GROUND STRUT



GENERIC ANCHOR CABLE BOX <sup>(9) (E)</sup>

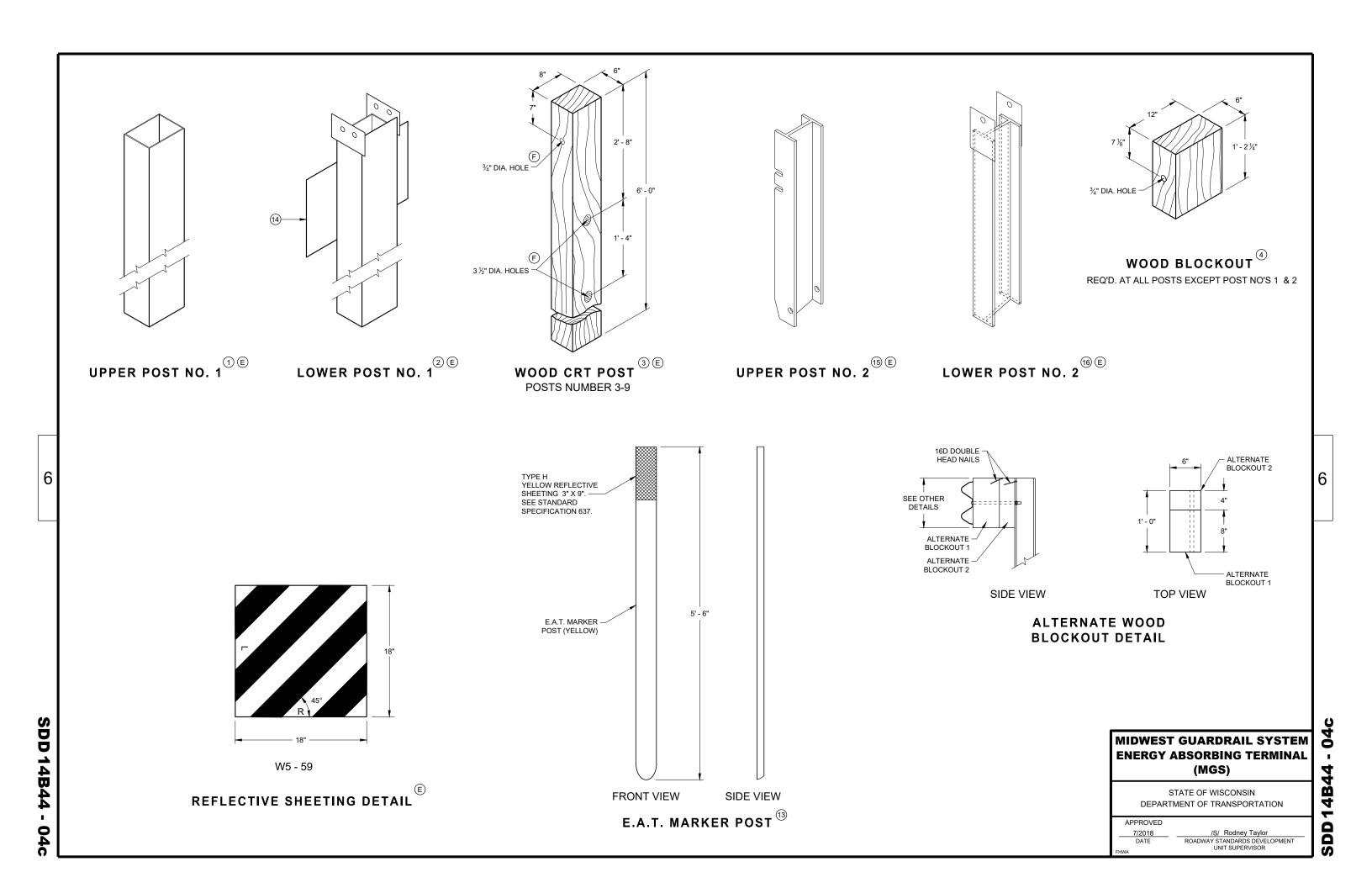


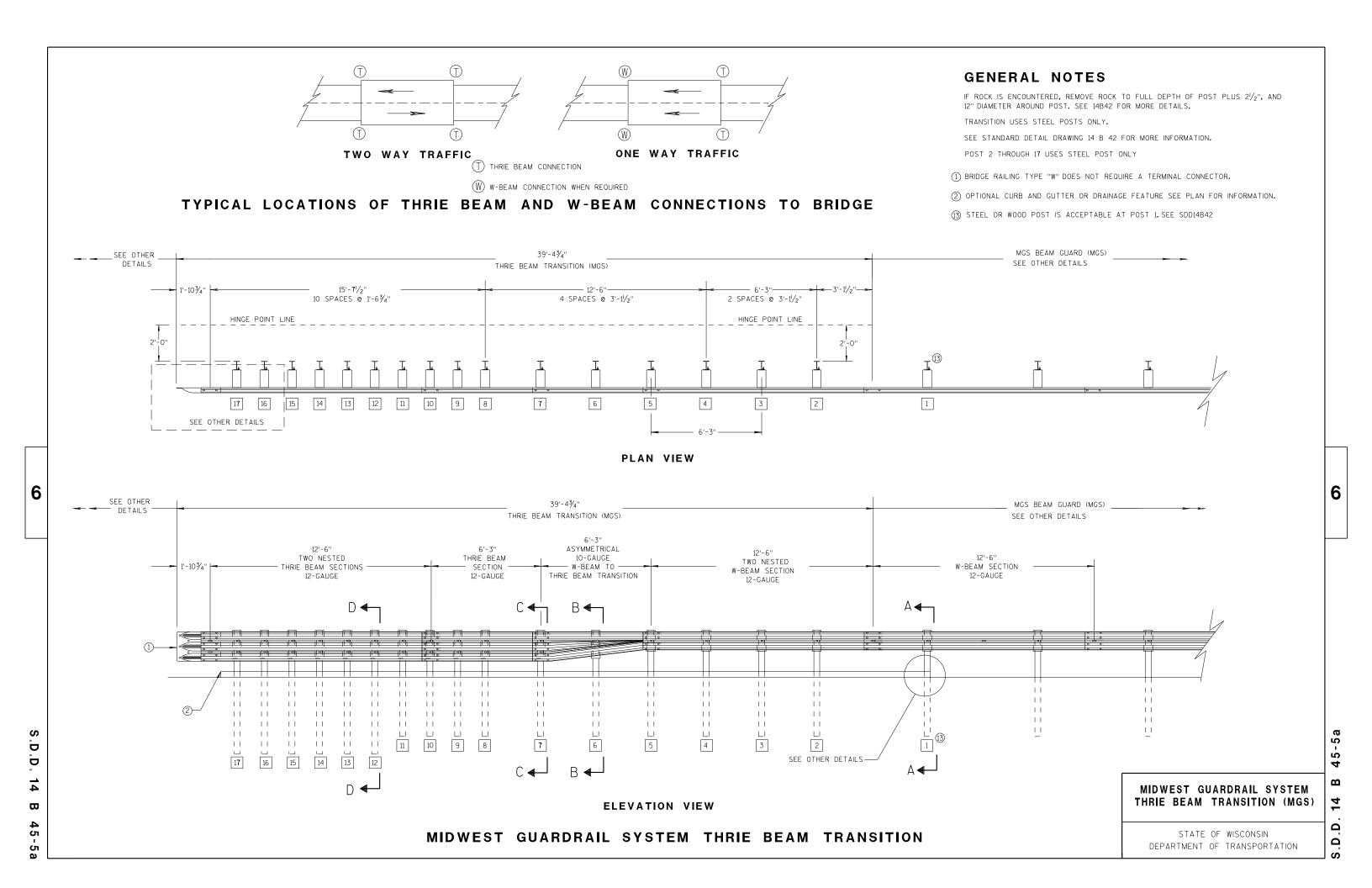
BEARING PLATE

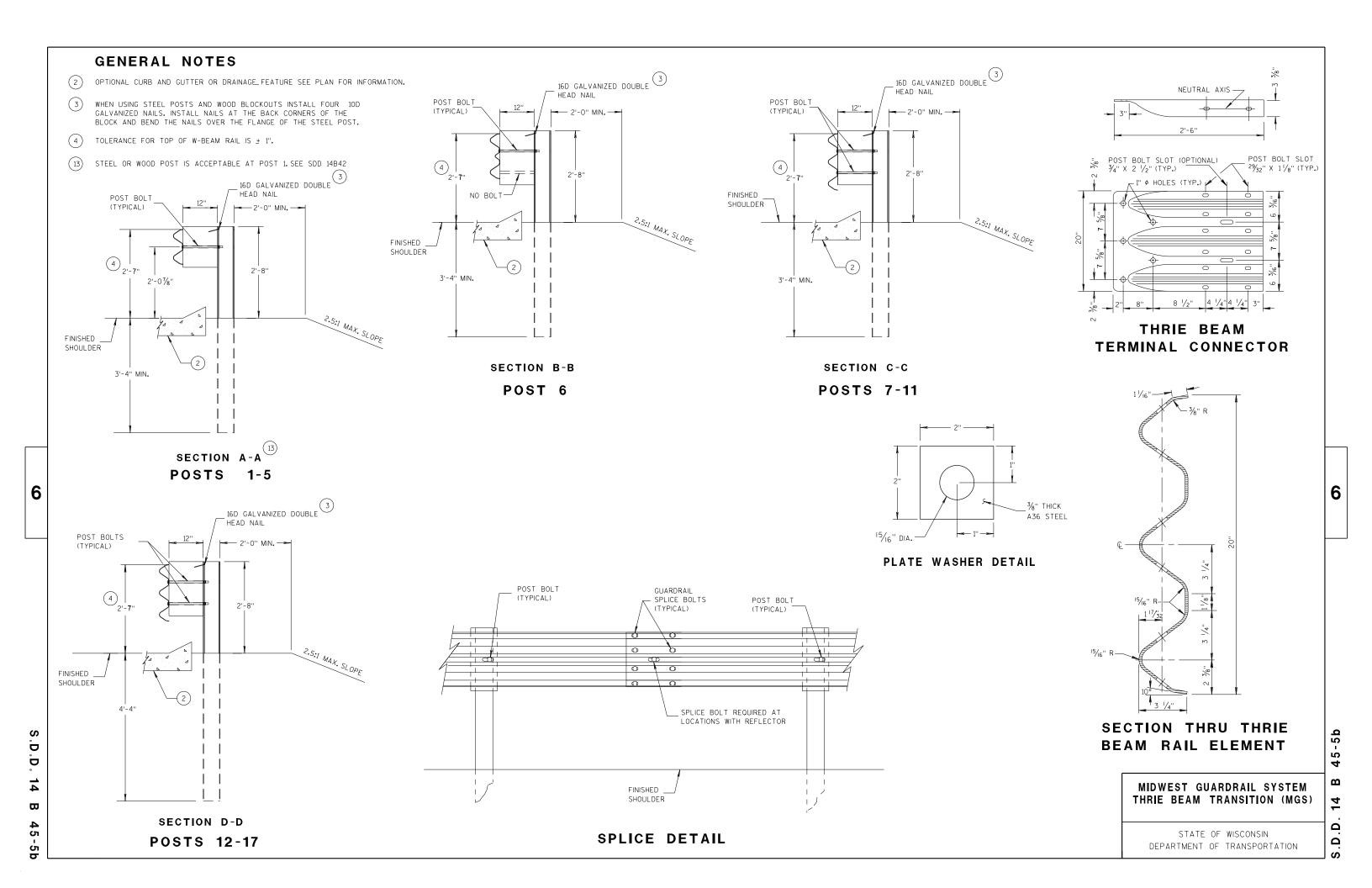
## MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

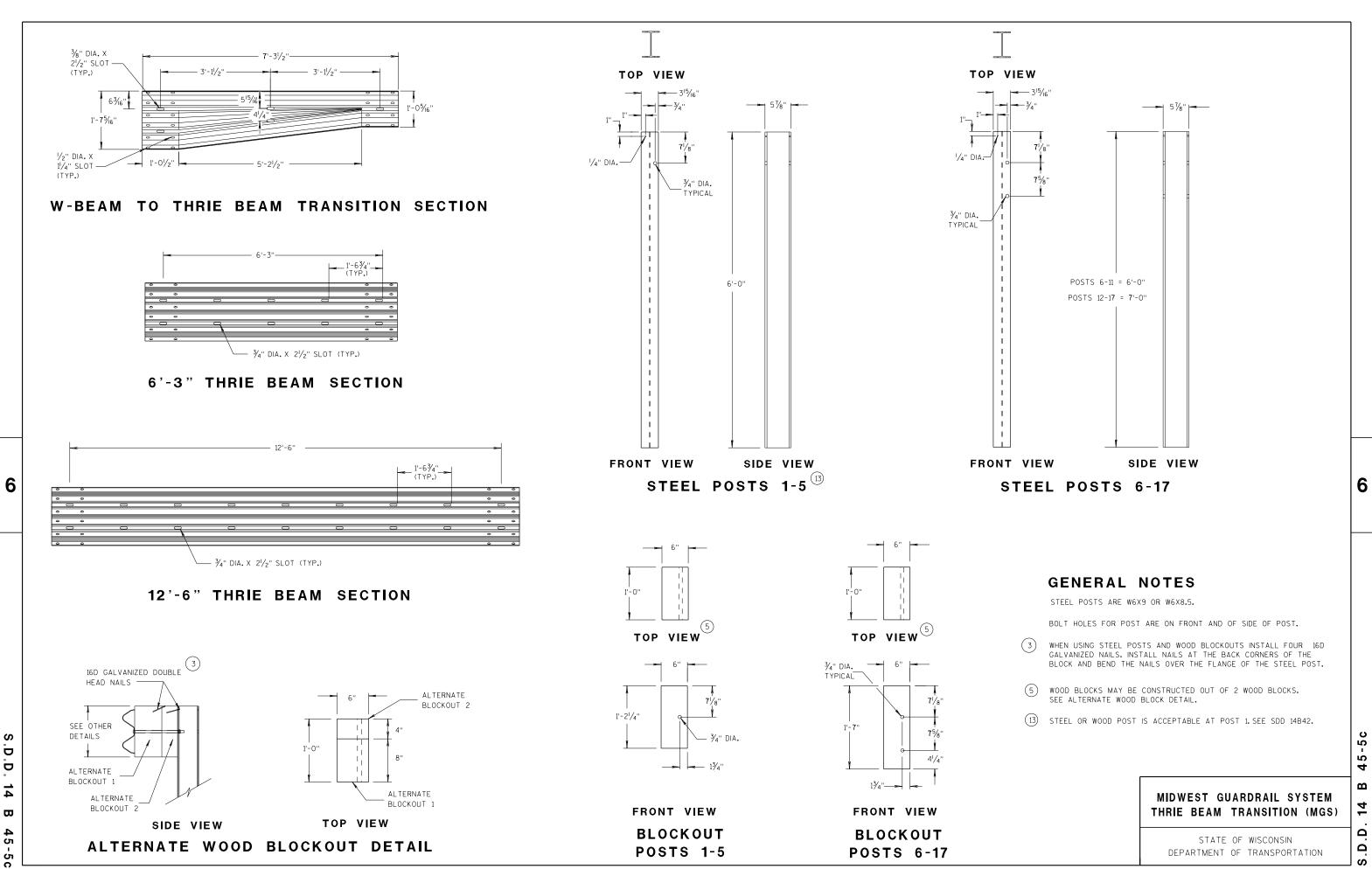
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

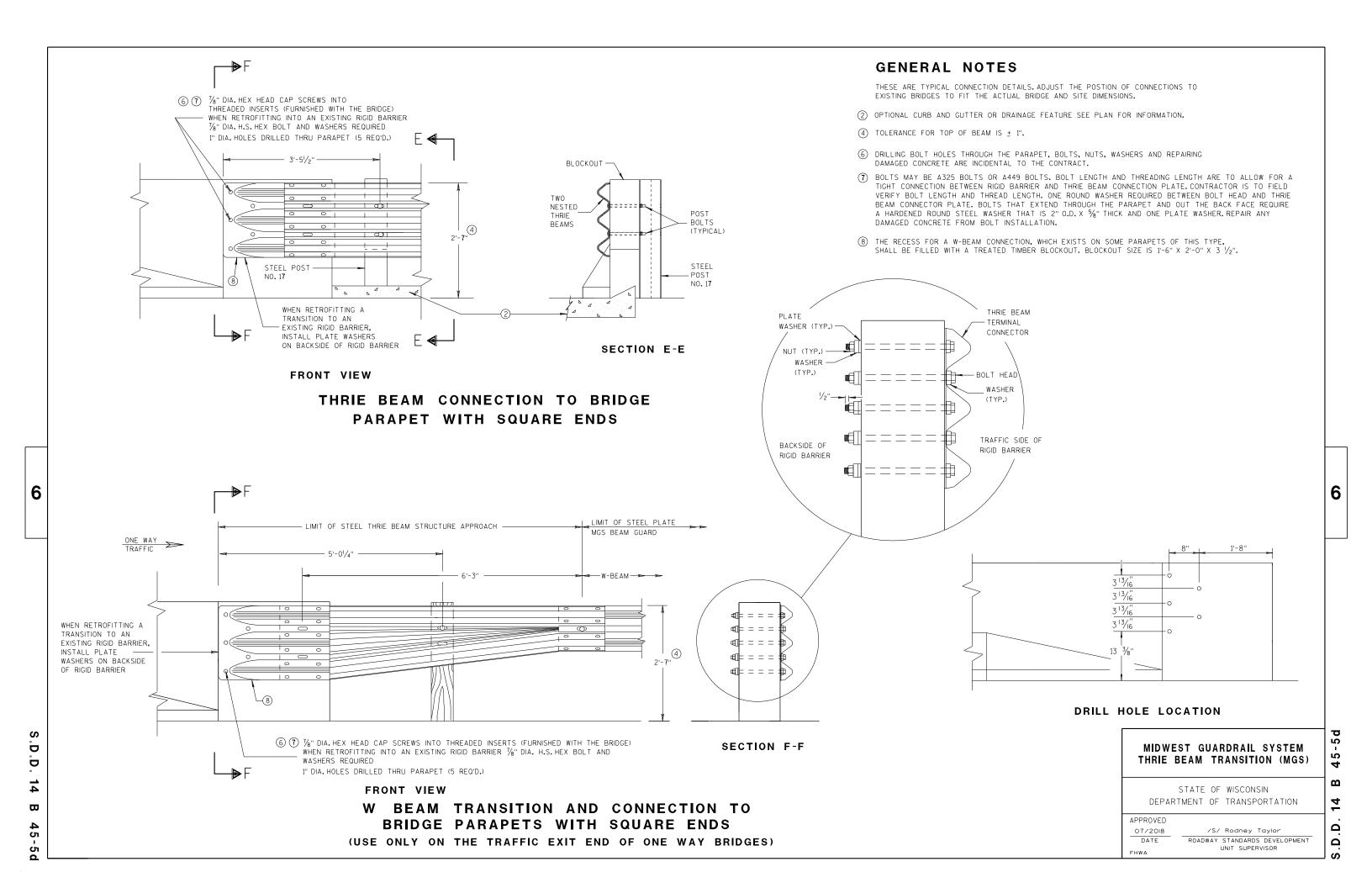
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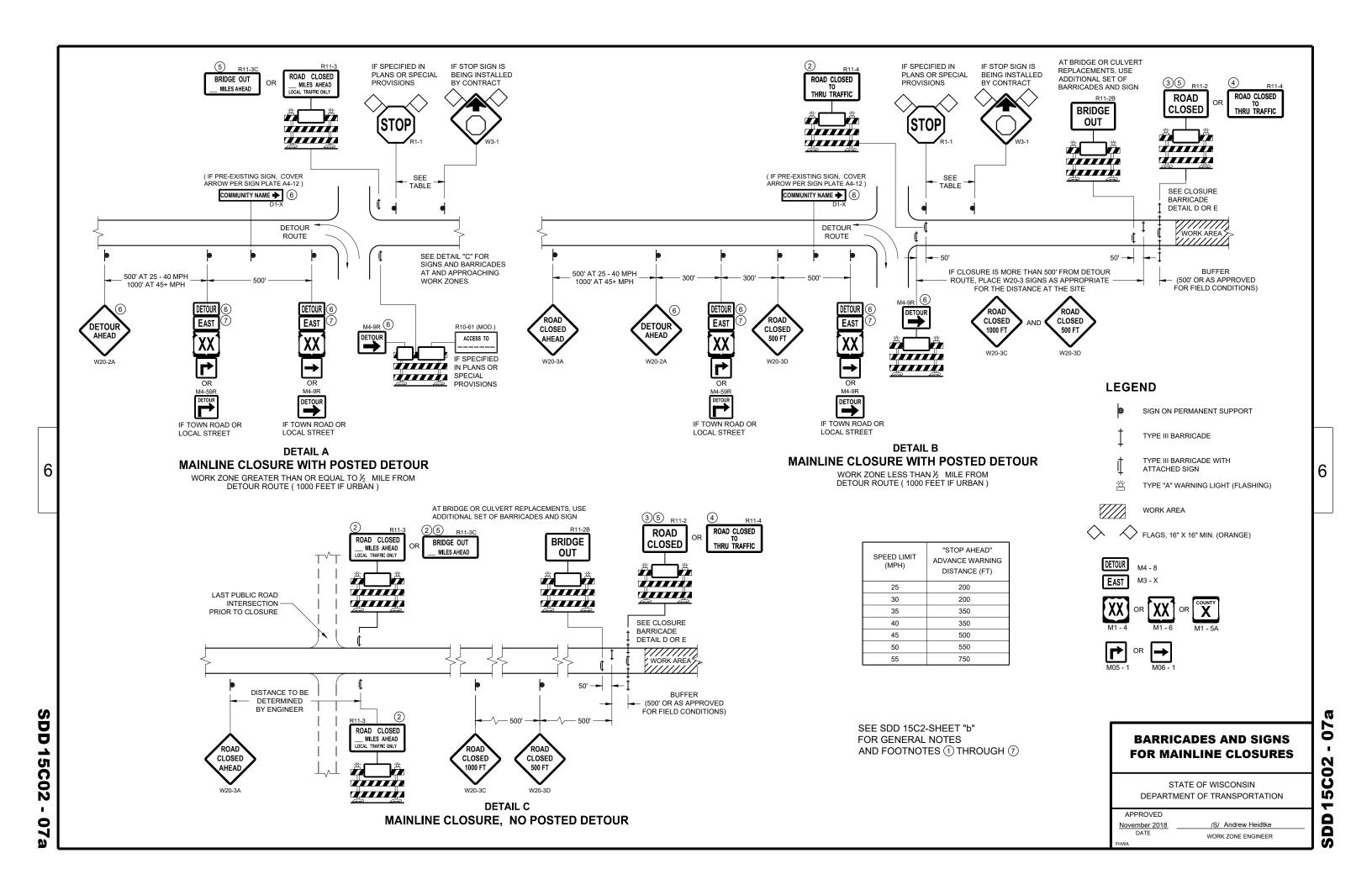


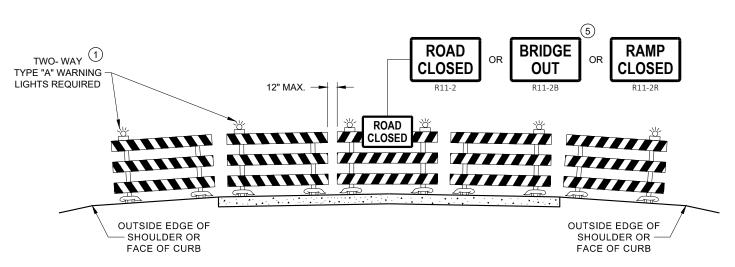




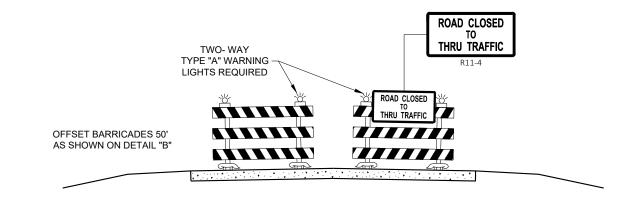








#### **DETAIL D** ROAD CLOSURE BARRICADE DETAIL **APPROACH VIEW**



**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

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 THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL 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 SHALL, 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" (36" X 18" 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)

MO5 - 1 AND MO6 - 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"

- 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**
- THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN 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 ROAD 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
- "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

#### **BARRICADES AND SIGNS** FOR **VARIOUS CLOSURES**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

**APPROVED** 

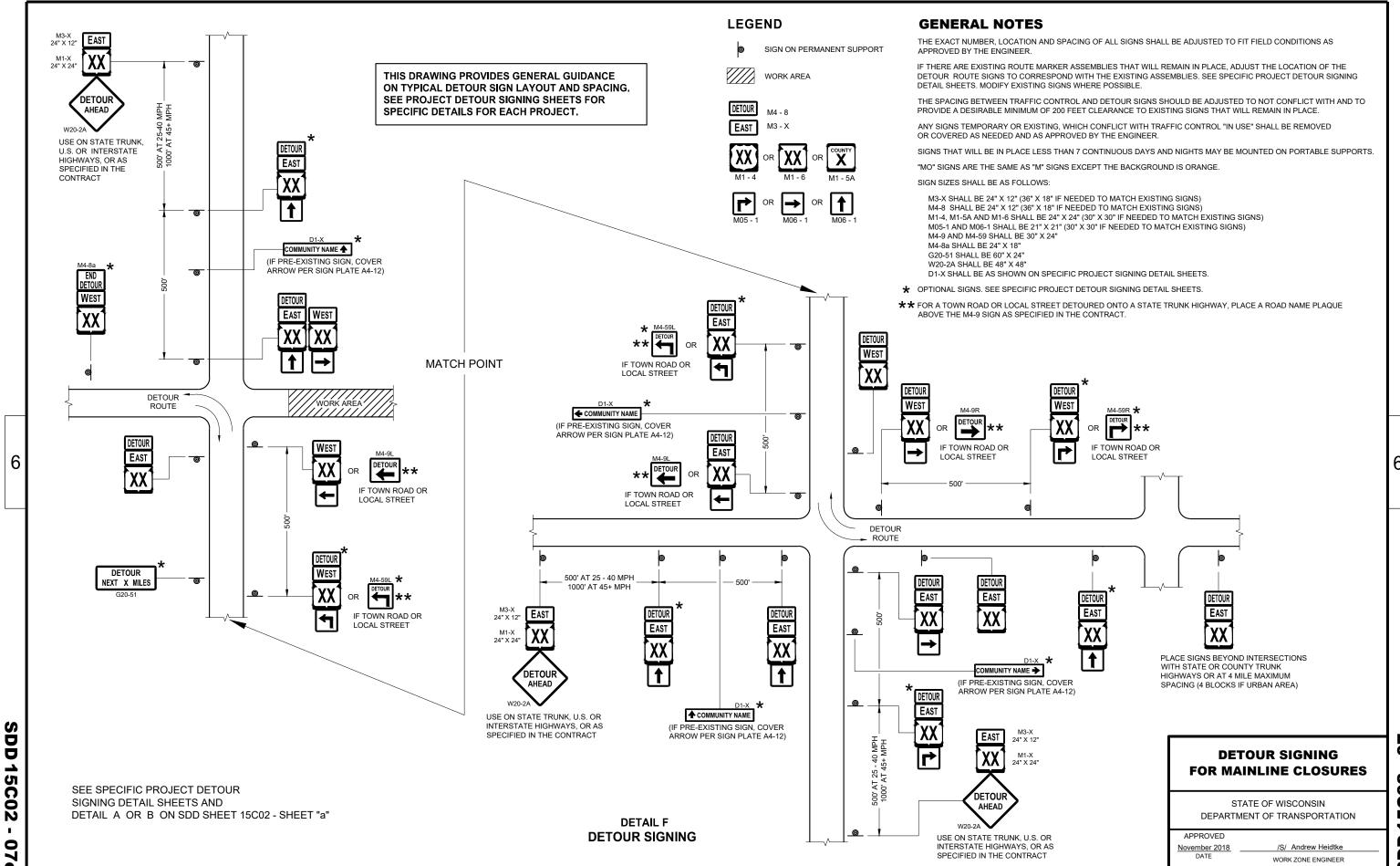
November 2018 DATE

WORK ZONE ENGINEER

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#### **GENERAL NOTES**

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

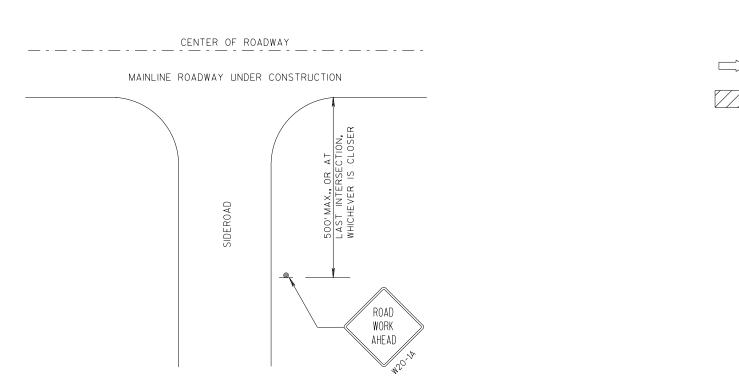
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

- imes OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.
- \*\* PLACE ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



LEGEND

SIGN ON PERMANENT SUPPORT

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DIRECTION OF TRAFFIC

WORK AREA

TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 45 M.P.H.
OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

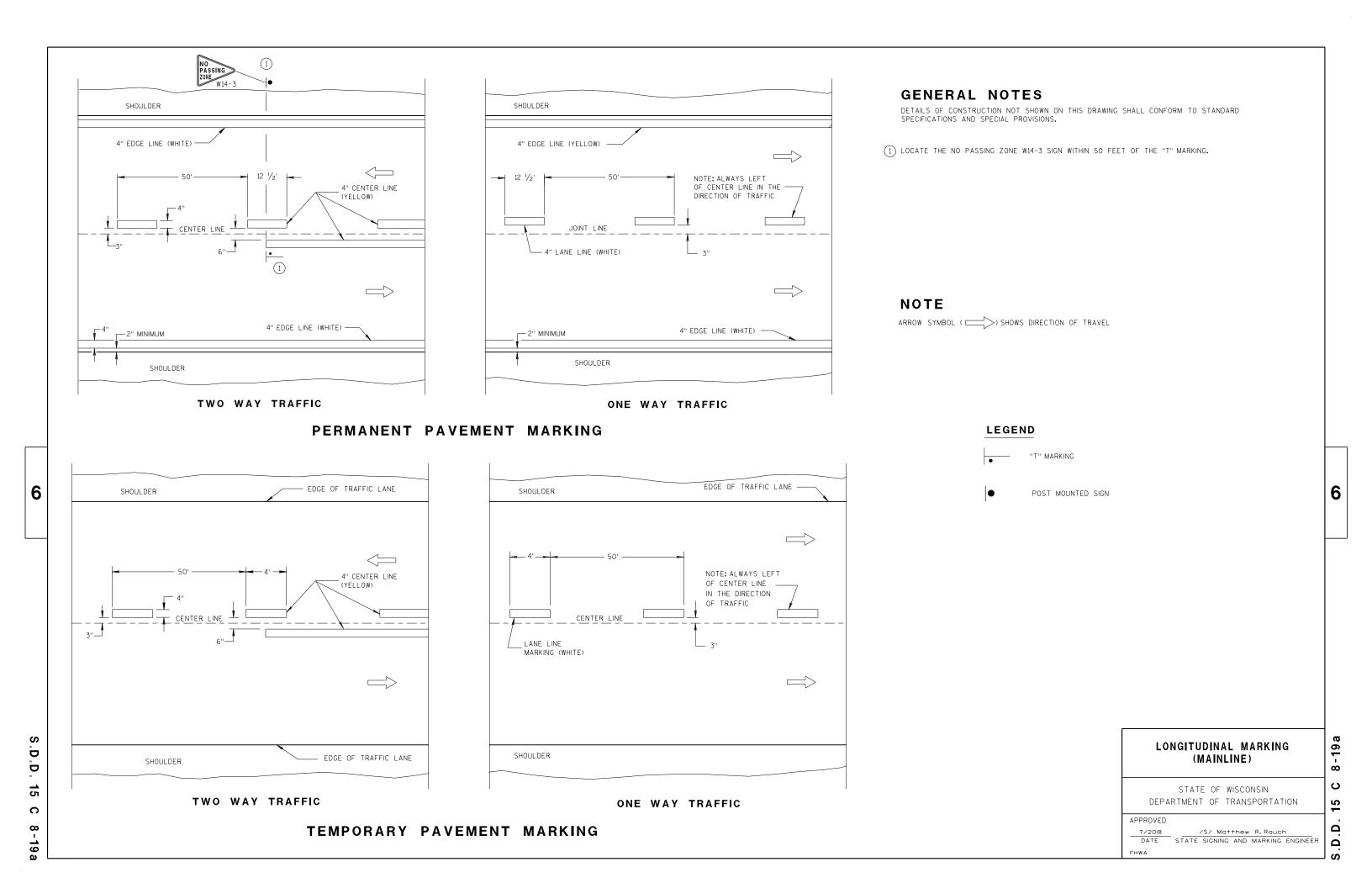
APPROVED

7/2018 /S/ Andrew Heidtke

DATE WORK ZONE ENGINEER

D.D. 15 C 4

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SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST

(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

## **CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

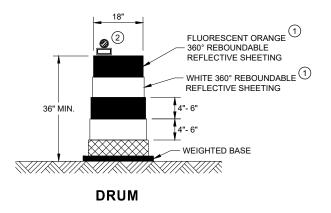
June 2017
DATE /S/ Andrew Heidtke WORK ZONE ENGINEER

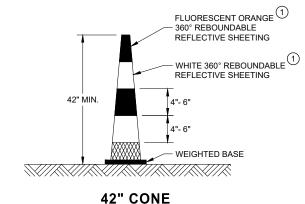
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# **SDD 15C11**

#### **GENERAL NOTES**

- (1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- (2) LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



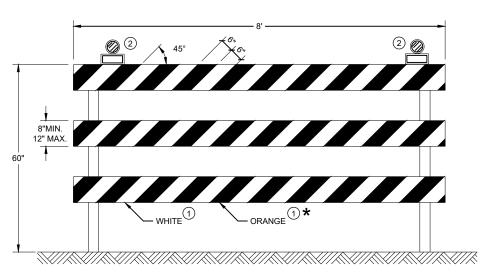


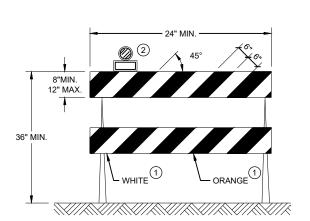


THE STRIPES SHALL SLOPE DOWNWARD TO

THE TRAFFIC SIDE FOR CHANNELIZATION.

DO NOT USE IN TAPERS ½ SPACING OF DRUMS





#### **TYPE II BARRICADE**

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.

#### **TYPE III BARRICADE**

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

\* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

## **CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED	
June 2017	/S/ Andrew Heidtke
DATE	WORK ZONE ENGINEER
FHWA	

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SDD



TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SO. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SO.FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE). SIGNS LARGER THAN 27 SO.FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

#### URBAN AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST **EMBEDMENT DEPTH** 

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

POST SPACING REQUIREM	NUMBER OF		
L	E	WOOD POSTS REQUIRED	
48" OR LESS AND LESS THAN 20 SO.FT.	-	1	
LESS THAN 60"	12"	2	٤
60" TO 120"	L/5	2	
GREATER THAN 120" LESS THAN 168"	12"	3	
168" AND GREATER	12"	4	

SEE NOTE (3)

RURAL AREA

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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- 11/2" DIAMETER HOLES

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NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 1/6" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

RIVETS - 1/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

\* 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

> ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

June 2017 /S/ Andrew Heidtke DATE WORK ZONE ENGINEER FHWA

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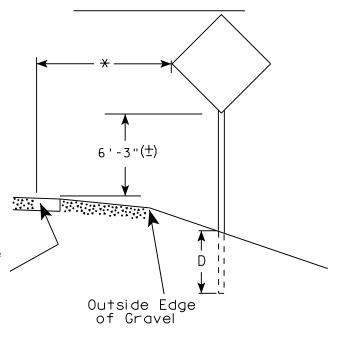
# urban area

2' Min - 4' Max (See Note 6)

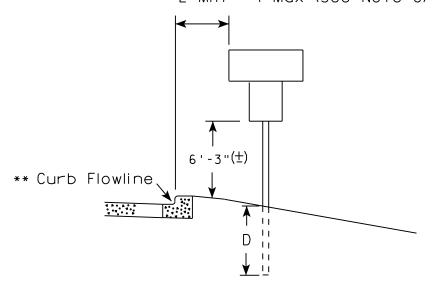
\*\* Curb Flowline

D | White Edgeline Location

RURAL AREA (See Note 2)



2' Min - 4' Max (See Note 6)



White Edgeline
Location

Outside Edge
of Gravel

PLOT DATE: 21-AUG-2017 16:04

\*\* 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.

POST EMBEDMENT DEPTH

Area of Sign	
Installation	D
( Sq.Ft.)	( Min )
20 or Less	4'
Greater than 20	5'

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

# GENERAL NOTES

- 1. Signs wider than 4 feet or 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"  $(\pm)$  or 6'-3"  $(\pm)$  depending upon existence of a sub-sign.
- 4. J-Assemblies are considered to be one sign for mounting height.
- 5. Minimum mounting height for signs mounted on traffic signal poles is  $5'-3''(\pm)$ .
- 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
- 7. The  $(\pm)$  tolerance for mounting height is 3 inches.
- 8. Folding signs shall be mounted at a height of 5'-3'' ( $\pm$ ) or as directd 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" (±).

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matther R Rauch

For State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21

SHEET NO:

PROJECT NO:

HWY:

COUNTY:

NTY:

PLOT BY: \$\$...plotuser...\$\$ PLOT NAME:

PLOT SCALE : 100.601251:1.000000



NOTES: 1. ALL MATERIAL TO BE APPROVED

BY ENGINEER PRIOR TO INSTALLATION

- 2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
- 3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



# ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

HWY:



#### PLAN VIEW

COUNTY:

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

For State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

SHEET NO:

FILE NAME : C:\CAEFiles\Projects\tr\_stdplate\A43B.DGN

PROJECT NO:

PLOT DATE: 27-JAN-2014 09:48

PLOT NAME :

PLOT BY: mscsja

PLOT SCALE: 13.659812:1.000000

APPROVED

WISDOT/CADDS SHEET 42

# GENERAL NOTES

- 1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
- 2. See tables below for required number of posts.
- 3. For expressways and freeways, mounting height is 7'-3'' (±) or 6'-3'' (±) depending upon existence of sub-sign.
- 4. The (±) tolerance for mounting height is 3 inches.
- 5. J-Assemblies are considered to be one sign for mounting height.
- 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
- 7. Folding signs shall be mounted at a height of 5'-3'' ( $\pm$ ) or as directed by the engineer.
- 8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8). Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4''-3'' (±).
- \* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.
- \*\* The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.
- \*\* See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

# POST EMBEDMENT DEPTH

D
(Min)
4'
5'

WISCONSIN DEPT OF TRANSPORTATION APPROVED For State Traffic Engineer DATE 8/21/17 PLATE NO. <u>A4-4.15</u>





	SIGN SHAPE OTHER THAN (TWO POSTS REQUIRE)		
	L	E	
***	Greater than 48" Less than 60"	12"	
	60" to 108"	L/5	

HWY:

SIGN SHAPE OTHER THAN (THREE POSTS REQUIR	
L	E
Greater than 108" to 144"	12''

COUNTY:

FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\A44.DGN

PROJECT NO:

PLOT DATE: 21-AUG-2017 15:54

PLOT SCALE: 108.188297:1.000000

WISDOT/CADDS SHEET 42

OF TYPE II SIGNS ON MULTIPLE POSTS

TYPICAL INSTALLATION

SHEET NO:

PLOT BY: \$\$...plotuser...\$\$ PLOT NAME:



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

Nather R Raw
For State Traffic Engineer

DATE <u>8/11/16</u>

PLATE NO. <u>44-8.8</u>

PROJECT NO:

FILE NAME : C:\CAFfiles\Projects\tr stdplote\A48 DCN

PLOT DATE . 11-416-2016 11:35

PINT RY \* \$\$ nintuser \$\$

SHEET NO:

| | |



PROJECT NO: HWY: COUNTY: SHEET NO: FILE NAME : C:\CAEFiles\Projects\tr\_stdplate\A49.DGN PLOT DATE: 05-FEB-2015 17:09 PLOT BY: mscsja PLOT NAME : PLOT SCALE: 13.659812:1.000000

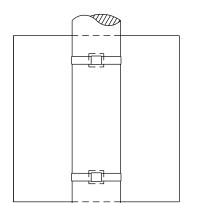
DATE 2/05/15

PLATE NO. <u>A4-9.9</u>

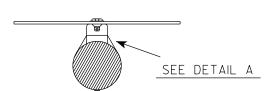
For State Traffic Engineer

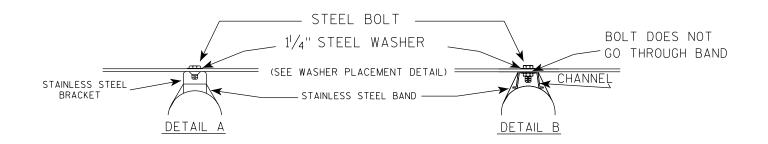


# BANDING

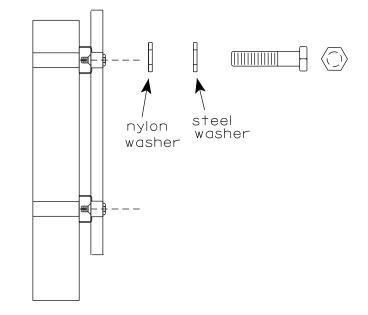


SINGLE SIGN





# WASHER PLACEMENT



HWY:

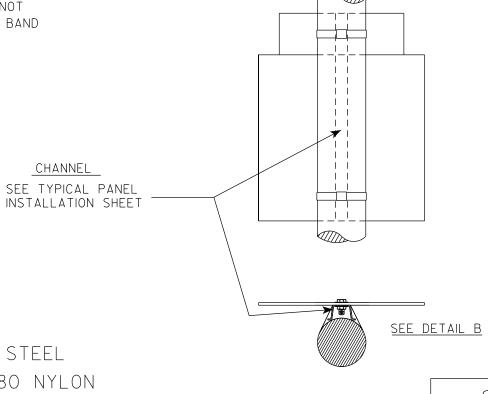
WASHERS (ALL POSTS) -

1-1/4" O.D. X<sup>3</sup>/<sub>8</sub>" I.D. X<sup>1</sup>/<sub>16</sub>" STEEL 1-1/4" O.D.  $\times \frac{3}{8}$ " I.D.  $\times$  .080 NYLON FOR ALL TYPE H SIGNS

#### GENERAL NOTES

- 1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
- 2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
- 3. Banding and assembly bracket shall be stainless steel. All bands shall be  $\frac{3}{4}$ " in width and 0.025" thickness.
- 4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

# "J" ASSEMBLY



STANDARD SIGN SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

SHEET NO:

State Traffic Engineer

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APPROVED

DATE 6/10/19 PLATE NO. A5-9.4

COUNTY:

PLOT DATE: 10-JUN 2019 4:10

PLOT NAME :

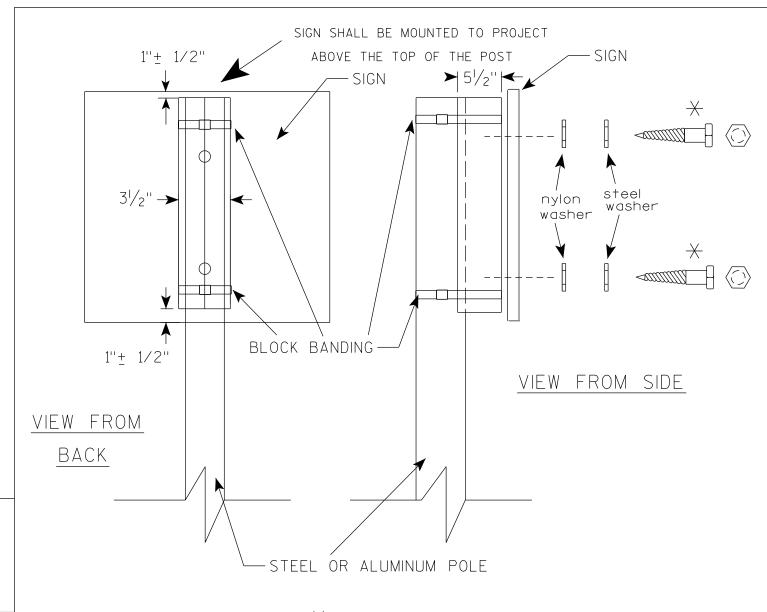
PLOT SCALE: \$\$.....plotscale.....\$\$ WISDOT/CADDS SHEET 42

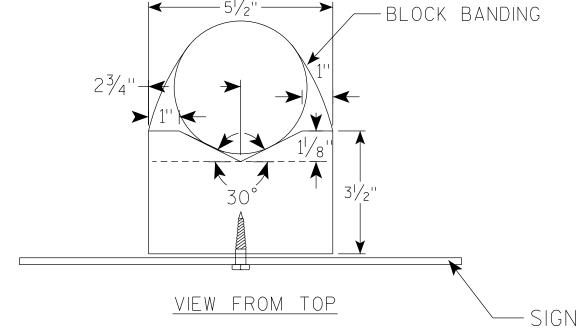
FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\A59.dgn

PROJECT NO:

PLOT BY: mscj9h

CHANNEL





# GENERAL NOTES

- 1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
- 2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL,  $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
- 3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS.

  SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
- 4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
- 5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM Designation: B 633, TYPE III, SC 3
- 6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
- 7. STEEL WASHERS SHALL BE  $1\frac{1}{4}$ " O.D. X  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ "
- 8. NYLON WASHERS SHALL BE  $1^{1}/_{4}$ " O.D. X  $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

 $\rightarrow$  LAG BOLTS SHALL BE  $\frac{3}{8}$ " X  $2\frac{1}{2}$ "

BLOCK BANDING DETAIL ( V-BLOCK OPTION )

WISCONSIN DEPT OF TRANSPORTATION

| APPROVED

For State Traffic Engineer

SHEET NO:

Matthew R

DATE 6/10/19

PLATE NO. \_A5-10.2

PROJECT NO:

FILE NAME: C:\CAEfiles\Projects\tr\_stdplate\A510.dgn

PLOT DATE: 10-JUN 2019 4:15

PLOT BY: mscj9h

WISDOT/CADDS SHEET 42

# NOTES

- 1. Sign is Type II See Note 6 reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:

Background - Top Red - Bottom Blue (See Note 6) Message - White - See Note 6

- 3. Message Series See note 5
- 4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
- 5. M1-1 Numerals D Interstate - C

M1-1A - All copy - C

6. Permanent Signs

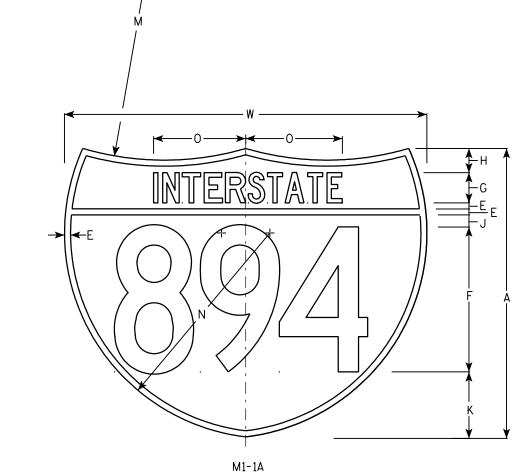
Message - Type H Reflective

Detour or other temporary signs Background - Reflective

Message - Reflective

M1-1

HWY:



PLOT DATE: 13-OCT-2005 14:49

Metric equivalent for these signs are:

SIZE	M1-1	SIZE	M1-1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 mm

<u></u>	100	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	X 300	וווווו		J00 I	IIIII	123 11111	<u>'                                    </u>																	M1 - 1	W1-1A	M1-1	W1-1A
SIZE	Α	В	С	D	E	F	G	Ι	I	J	K	L	М	N	0	Ρ	a	R	S	T	U	٧	W	Х	Y	Area sq. ft.	Area sq. ft.	Area m2	Area m2
1																													
2	24				1/2	12	2 ½	2		1	5 ½	15	24	17	7 1/8								30			3.13	3.91	<b>.</b> 36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 ½	36	25 ½	11 ¾								45			7.03	8.79	<b>.</b> 81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 ½	36	25 ½	11 ¾								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 ¾								45			7.03	8.79	<b>.</b> 81	1.05

COUNTY:

INTERSTATE ROUTE MARKER M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

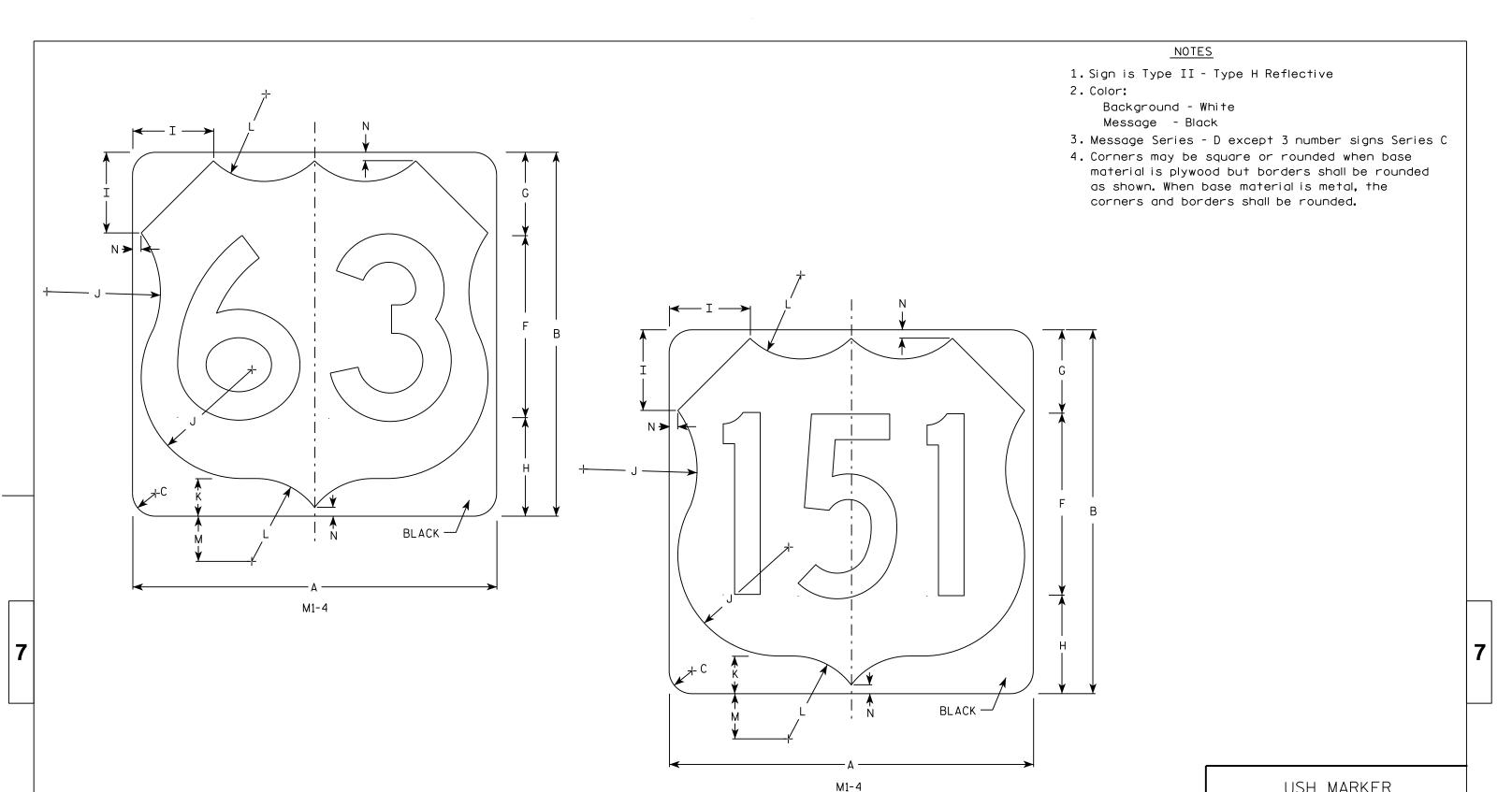
DATE 08/23/05

For State Traffic Engineer

SHEET NO:

PLOT BY : DITJPH PLOT NAME :

PROJECT NO:



D Ε G Ν Z 2 24 24 | 1 1/2 7 1/2 2 1/2 5 1/2 5 1/2 6 1/2 1/2 4.0 36 2 1/4 7 1/4 11 1/4 3 3/4 8 1/4 4 1/2 36 8 1/4 9 1/4 3/4 9.0 18 36 2 1/4 7 1/4 11 1/4 3 3/4 8 1/4 4 1/2 3/4 36 9 1/4 9.0 18 8 1/4 8 1/4 9 1/4 7 1/4 11 1/4 3 3/4 8 1/4 4 1/2 3/4 36 36 | 2 1/4 18 9.0

COUNTY:

USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matther R Rauch
For State Traffic Engineer

DATE <u>3/16/18</u>

PLATE NO. M1-4.10

SHEET NO:

HWY:

PROJECT NO:

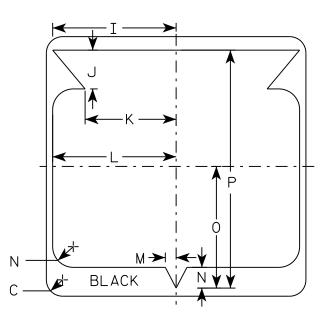
# NOTES

- 1. Sign is Type II Type H Reflective
- 2. Color:

Background - White Message - Black

- 3. Message Series D except 3 number signs Series C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

	G F A H H
A A	<b></b>
M1-6	1



SIZE	Α	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	Q	R	S	Т	U	٧	W	Х	Y	Z	Area sq. ft.
1																										1	
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 1/8	11 1/2	1	1 1/8	11 1/4	21 1/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15	5	12 5/8	17 1/8	1 1/2	2 1/8	16 1/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15	5	12 5/8	17 1/8	1 1/2	2 1/8	16 1/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 ¾	5	12 5/8	17 1/8	1 1/2	2 1/8	16 1/8	33											9.0

COUNTY:

STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*for* State Traffic Engineer

DATE 3/16/18

PLATE NO. <u>M1-6.10</u>

SHEET NO:

FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\M16.DGN

HWY:

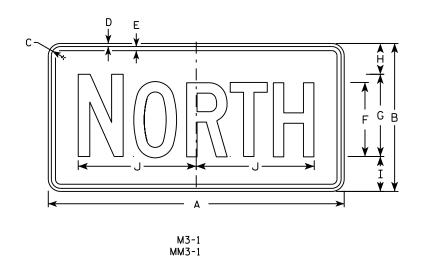
PROJECT NO:

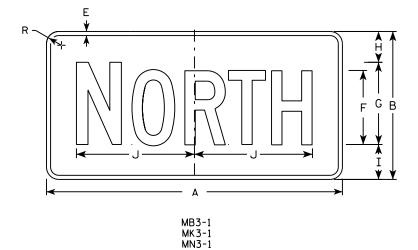
PLOT DATE: 16-MAR-2018 14:11

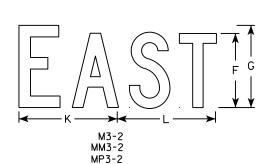
PLOT BY: \$\$...plotuser...\$\$ PLOT NAME:

PLOT SCALE : 6.655277:1.000000

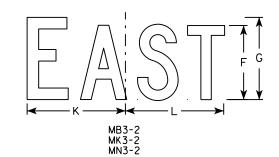
WISDOT/CADDS SHEET 42

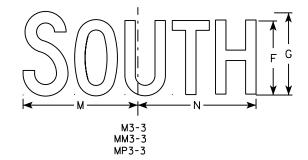


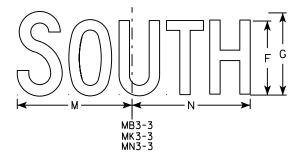


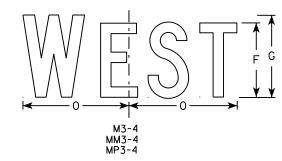


MP3-1

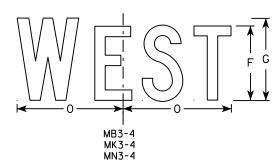








HWY:



# NOTES

- 1. All Signs Type II Type H
- 2. Color:

Background - See note 5 Message - See note 5

- 3. Message Series C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

5. M3-1 thru M3-4 Background - White Message - Black

MB3-1 thru MB3-4 Background - Blue

Message - White

MK3-1 thru MK3-4 Background - Green

Message - White

MM3-1 thru MM3-4 Background - White

Message - Green

MN3-1 thru MN3-4 Background - Brown

Message - White

MP3-1 thru MP3-4 Background - White

Message - Blue

6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	Α	В	С	D	E	F	G	Н	I	J	К	L	М	N	0	Р	Q	R	S	Т	U	V	W	Х	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 1/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

COUNTY:

STANDARD SIGNS M3-1 thur M3-4 **SERIES** 

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

DATE 10/15/15

PLATE NO. M3-1.14 SHEET NO:

Ε

PLOT SCALE . 11 675051.1 000000

PROJECT NO:



- 1. Sign is Type II Type H except as Shown
- 2. Color:

Background - See Note 5 Message - See note 5

- 3. Message Series D
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. M4-1A Background White

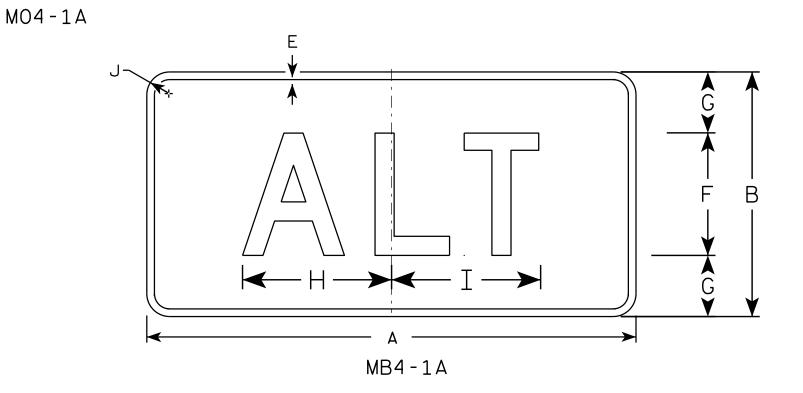
Message - Black

MB4-1A Background - Blue

Message - White

M04-1A Background - Orange - Type F

Message - Black



SIZE	Α	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	0	R	S	T	U	٧	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3∕8	3/8	6	3	7 1/4	7 3/8	1 1/8																	2.00
3	36	18	1 1/8	3/8	1/2	9	4 1/2	11	11 1/8	1 1/8																	4.5
4	36	18	1 1/8	3/8	1/2	9	4 1/2	11	11 1/8	1 1/8																	4.5
5	36	18	1 1/8	3/8	1/2	9	4 1/2	11	11 1/8	1 1/8																	4.5

COUNTY:

STANDARD SIGN

M4-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matther R K

For State Traffic Engineer

DATE 6/30/14

PLATE NO. M4-1A.3
SHEET NO:

FILE NAME : C:\CAEFiles\Projects\tr\_stdplate\M41A.DGN

PROJECT NO:

M4-1A

HWY:

PLOT DATE: 30-JUN-2014 15:28

PLOT NAME :

PLOT BY: mscsja

PLOT SCALE: 4.708937:1.000000

# NOTES

- 1. Sign is Type II Type F Reflective reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:

Background - Orange Message - Black

- 3. Message Series B
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

) A G	
<del>                                    </del>	;     B 
<b>→</b> G <b>→</b>	

Α С E F G H I J S Х Z D 0 10 10 1/4 1 1/8 3/8 3/8 24 2.0 3 36 1 1/8 3/8 1/2 4 1/2 14 5/8 14 1/2 4.5 4 5

COUNTY:

STANDARD SIGN M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

DATE 11/10/10 PLATE NO. M4-8.2

SHEET NO:

FILE NAME : C:\Users\PROJECTS\tr\_stdplate\M48.DGN

PROJECT NO:

HWY:

PLOT DATE: 10-NOV-2010 13:18

PLOT BY : ditjph

PLOT SCALE : 4.767

PLOT NAME :

PLOT SCALE: 4.767233:1.000000

WISDOT/CADDS SHEET 42

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.

2. Color:

Background - Orange Message - Black

- 3. Message Series B
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

 $D \longrightarrow$ Н M4-8A

SIZE	Α	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	0	R	S	Т	U	٧	w	Х	Y	Z	Area sq. ft.
$\parallel 1 \parallel$																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5				·	·						·				·												

COUNTY:

STANDARD SIGN M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matther

For State Traffic Engineer DATE 3/9/11

PLATE NO. M4-8A.2

SHEET NO:

FILE NAME : C:\Users\PROJECTS\tr\_stdplate\M48A.DGN

HWY:

PROJECT NO:

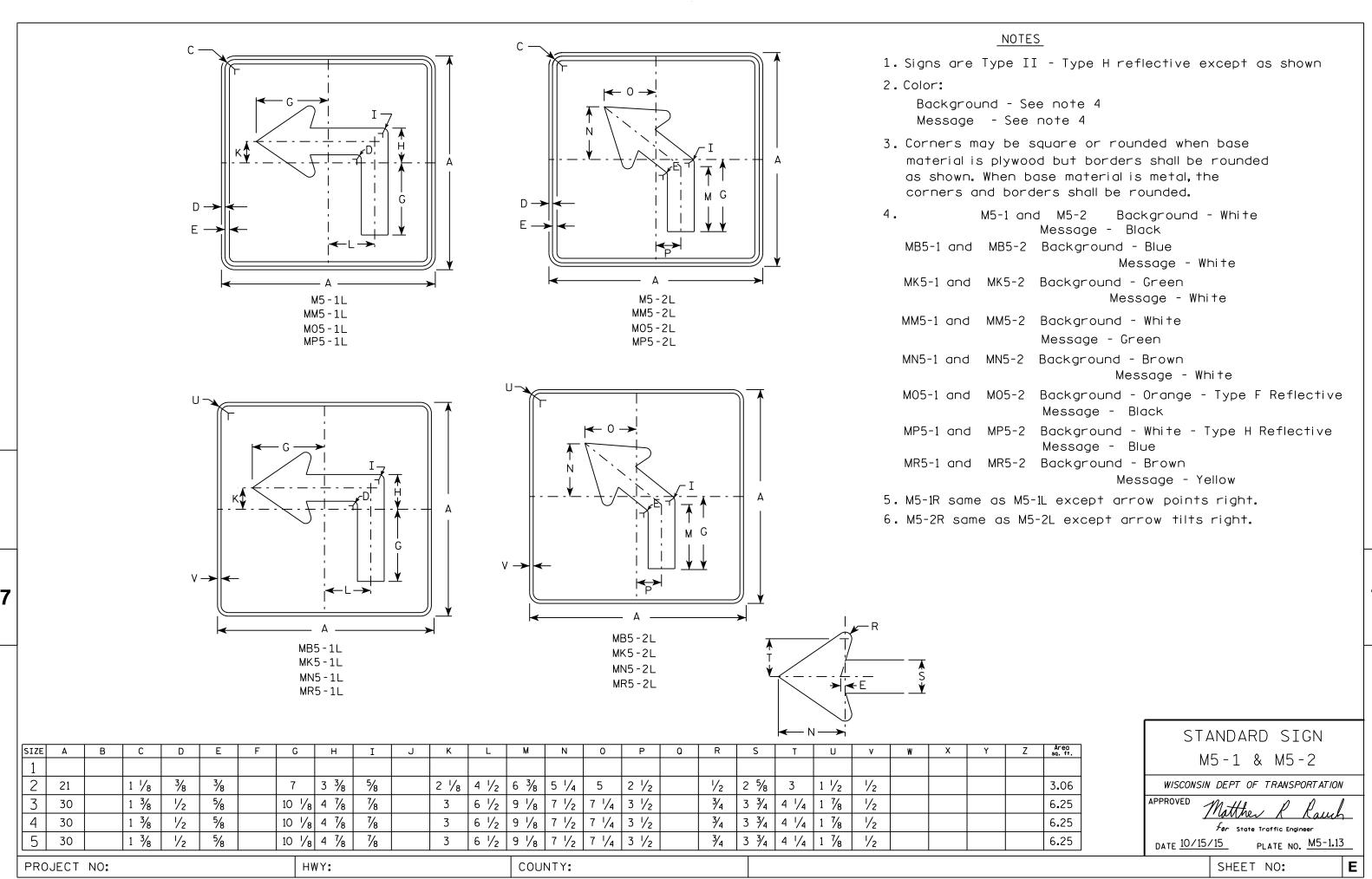
PLOT DATE: 09-MAR-2011 10:29

PLOT BY: mscj9h

PLOT NAME :

PLOT SCALE: 3.972696:1.000000

WISDOT/CADDS SHEET 42

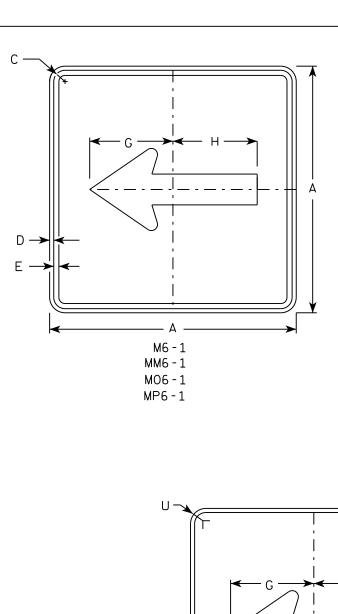


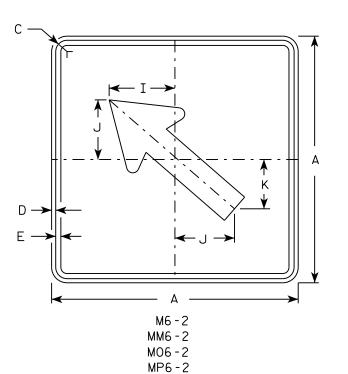
FILE NAME . C.\CAFfiles\Projects\tr stdolote\M51 DCN

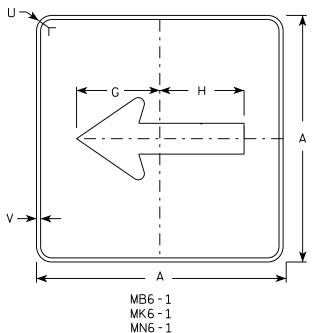
PLOT DATE . 01-DEC-2015 18:07

PINT RY . \$\$ DIOTUSET \$\$ PINT NAMF :

PLOT SCALE . 11 675051.1 000000

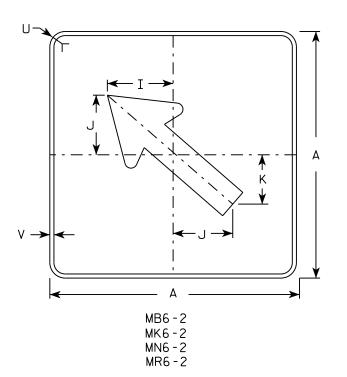






MR6-1

HWY:



#### NOTES

- 1. Signs are Type II Type H except as Shown
- 2. Color:

Background - See note 4 Message - See note 4

- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 4. M6-1 and M6-2 Background White

Message - Black

MB6-1 and MB6-2 Background - Blue

Message - White

MK6-1 and MK6-2 Background - Green

Message - White

MM6-1 and MM6-2 Background - White

Message - Green

MN6-1 and MN6-2 Background - Brown

Message - White

M06-1 and M06-2 Background - Orange - Type F Reflective

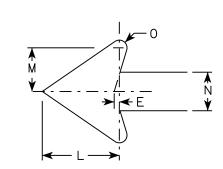
Message - Black

MP6-1 and MP6-2 Background - White

Message - Blue

MR6-1 and MR6-2 Background - Brown

Message - Yellow



SIZE	Α	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	٥	R	S	T	U	٧	W	Х	Y	Z	Area sq. ft.
1 1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 %	5	4 1/4	5 1/4	3	2 %	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 1/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 1/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 1/8	1/2					6.25

COUNTY:

STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew & Rawl For State Traffic Engineer

Ε

DATE 10/15/15 PLATE NO. M6-1.15

SHEET NO:

FILE NAME · C·\CAFfiles\Projects\tr stdplote\M61 DCN

PROJECT NO:

PLOT DATE . 01-DEC-2015 17:57

PIOT RY . \$\$ plotuser \$\$ PIOT NAMF :

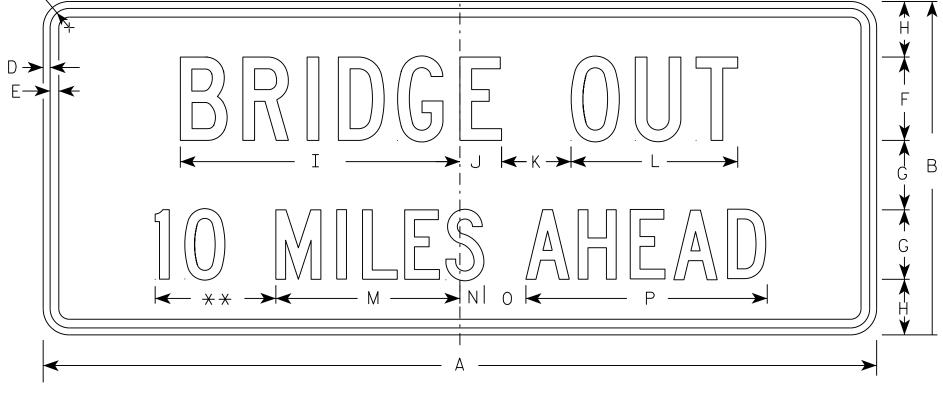
PLOT SCALE . 11 675051.1 000000



- 1. Sign is Type II Type H Reflective
- 2. Color:

Background - White Message - Black

- 3. Message Series C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3C

\*\* See Note 5

1/4 MILF AH

SIZE	Α	В	С	D	E	F	G	Н	I	٦	K	L	М	N	0	Р	Q	R	S	Т	C	٧	W	Х	Υ	Z	Area sq. ft.
1	36	15	1 3/8	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 ¾		7 1/8									3.75
2S	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 1/8									10.0
2M	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 1/8									10.0
3																											
4																											
5																											

STANDARD SIGN R11-3C

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

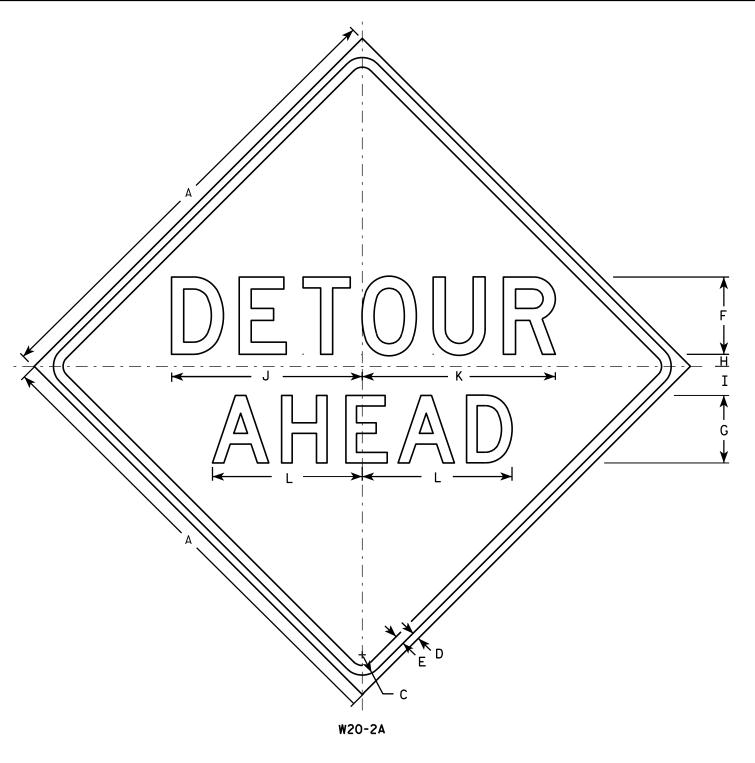
Matther R Rauch
For State Traffic Engineer

DATE <u>7/28/16</u>

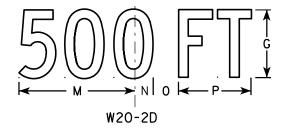
PLATE NO. R11-3C.3

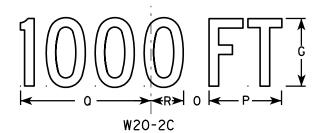
SHEET NO:

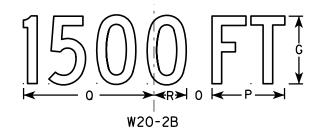
PROJECT NO:

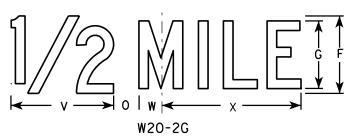


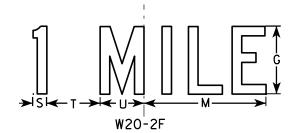
HWY:











PLOT BY: mscj9h

## <u>NOTES</u>

- Sign is Type II Type F Reflective reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:

Background - Orange Message - Black

- 3. Message Series See note 5
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Line 1 is Series D.
  Line 2 is Series D for AHEAD and
  Series C for all other distances.

SIZE	Α	В	С	D	Ε	F	G	Н	I	J	K	L	М	N	0	Р	0	R	S	Т	U	v	W	X	Y	Z	Areo sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 ¾	15	11 5/8	9	1 3/8	1 1/8	5 %	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 ¾	20	15 1/2	12	1 1/8	2 %	7 1/2	13 1/2	3 %	1 1/2	6	4 %	10 %	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 ¾	20	15 1/2	12	1 1/8	2 %	7 1/2	13 1/2	3 %	1 1/2	6	4 %	10 %	2 3/8	14 3/8			16.0
3	48		2 1/4	¾	1	8	7	1 1/4	3	19 ¾	20	15 1/2	12	1 %	2 %	7 1/2	13 ½	3 %	1 1/2	6	4 %	10 %	2 3/8	14 3/8			16.0
4	48		2 1/4	¾	1	8	7	1 1/4	3	19 ¾	20	15 1/2	12	1 %	2 %	7 1/2	13 1/2	3 %	1 1/2	6	4 %	10 %	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 ¾	20	15 1/2	12	1 1/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 %	2 3/8	14 3/8			16.0

COUNTY:

STANDARD SIGN W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

DATE 3/18/11 PLATE NO. W20-2.6

SHEET NO:

PROJECT NO:

FILE NAME : C:\Users\PROJECTS\tr\_stdplate\W202.DGN

PLOT DATE: 18-MAR-2011 10:00

PLOT NAME :

PLOT SCALE: 9.931739:1.000000

WISDOT/CADDS SHEET 42

## NOTES

- 1. Sign is Type II Type F Reflective reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:

Background - Orange 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.

c —	
D → ←	
K L L L L L L L L L L L L L L L L	
M —	→ I ← I
N	Н — Н
l⊸ MO	1-6

SIZE	Α	В	С	D	E	F	G	Н	I	J	K	L	M	N	0	Р	0	R	S	T	U	٧	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 ¾													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 ¾													12.5

COUNTY:

STANDARD SIGN WO1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matther R Rauch
For State Traffic Engineer

DATE <u>11/18/13</u>

SHEET NO:

FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\W016.DGN

HWY:

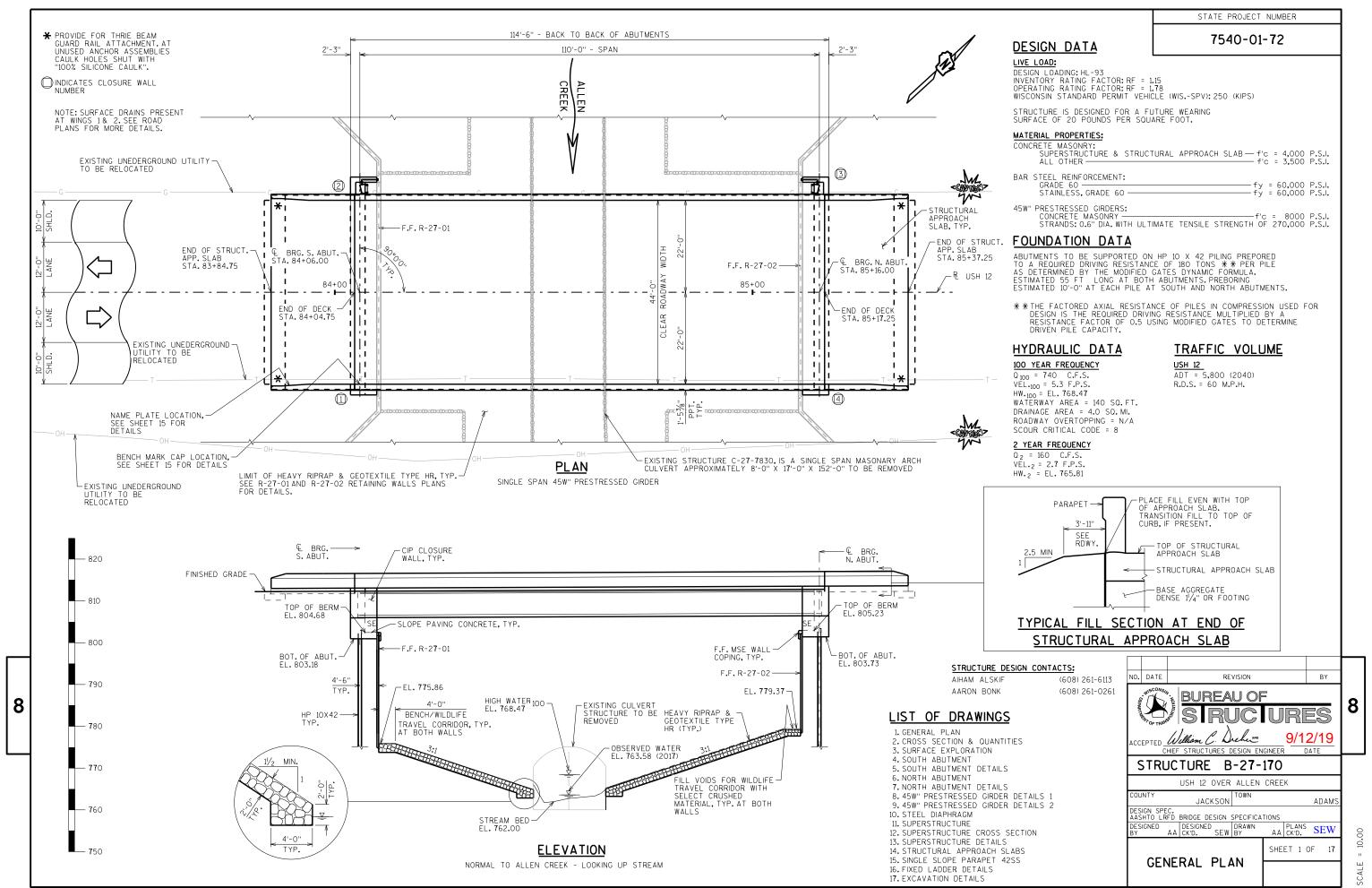
PROJECT NO:

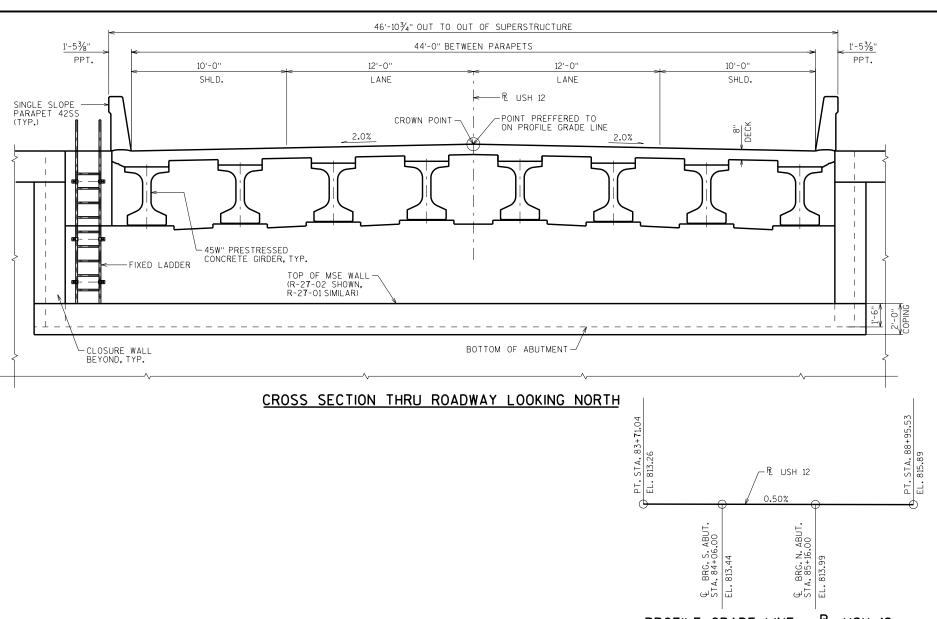
PLOT DATE: 28-FEB-2014 11:37

PLOT NAME :

PLOT BY: mscj9h

PLOT SCALE: 5.837526:1.000000





## PROFILE GRADE LINE - R USH 12

L SOUTH L SOUTH L MORTH L

#### TOTAL ESTIMATED QUANTITIES

DID ITEM

8

NUMBER	BID ITEMS	UNIT	SUPER.	APPROACH	ABUT.	ABUT.	APPROACH	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 84+56.00	LS						1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-27-170	LS						1
210.1500	BACKFILL STRUCTURE TYPE A	TON			191	191		382
305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON		145			145	290
502.0100	CONCRETE MASONRY BRIDGES	CY	231	64	39	39	64	43 <b>7</b>
502.3200	PROTECTIVE SURFACE TREATMENT	SY	5 <b>7</b> 5	100			100	775
502.3210	PIGMENTED SURFACE SEALER	SY	111	20			20	151
503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH	LF	888					888
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB			2,965	2,965		5,930
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	34,300	10,775	<b>7</b> 35	<b>7</b> 35	10,775	5 <b>7,</b> 320
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	1,600					1,600
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	16					16
506.4000	STEEL DIAPHRAGMS B-27-170	EACH	14					14
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY			13	13		26
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF			110	110		220
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF			605	605		1,210
604.0400	SLOPE PAVING CONCRETE	SY			16	16		32
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	4					4
SPV.0060	FIXED LADDER, B-27-170	EACH			1	1		2
	NON-BID ITEMS							
	FILLER	SIZE						1/2", 3/4", 1/2

#### GENERAL NOTES

STATE PROJECT NUMBER 7540-01-72

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

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

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES B-27-170" 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 STRUCTURE BACKFILL TYPE A. ALSO EXCLUDED IS THE "BASE AGGREGATE DENSE 11/4-INCH" AS DETAILED ON THE STRUCTURAL APPROACH SLAB SHEETS.

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL.

THE BACKFILL QUANTITIS ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND THE ABUTMENTS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK AND APPROACH SLAB SURFACES AND TO THE VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES AT ABUTMENT DIAPHRAGMS.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS, INCLUDING PARAPETS ON APPROACH SLABS.

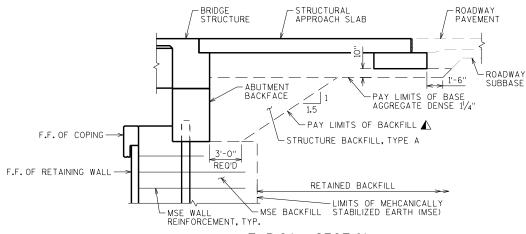
THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE "45W" PRESTRESSED GIRDER DETAILS 2" SHEET.

THE EXISTING STRUCTURE, C-27-7830, IS A SINGLE SPAN MASONARY ARCH CULVERT TO BE REMOVED.

THE CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF B-27-170 WITH RETAINING WALLS R-27-01 AND R-27-02.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING MATERIAL TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

THE COST OF FURNISHING AND PLACING THE SIZE 2 COARSE AGGREGATE SHALL BE PAID FOR UNDER THE BID ITEM "SLOPE PAVING CONCRETE".



## TYPICAL SECTION THRU ABUTMENT AT MSE WALL

ABUTMENT BACKFILL DIAGRAM

= OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)
= AVERAGE ABUTMENT FILL HEIGHT (FT)
= EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
= (L)(3,0')(H) + (L)(0.5)(1.5H)(H)

ËF

V<sub>CF</sub> = (L)(3.0')(H) + V<sub>CY</sub> = V<sub>CF</sub> (EF)/27 V<sub>TON</sub> = V<sub>CY</sub> (2.0)

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

NO. DATE REVISION STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-27-170

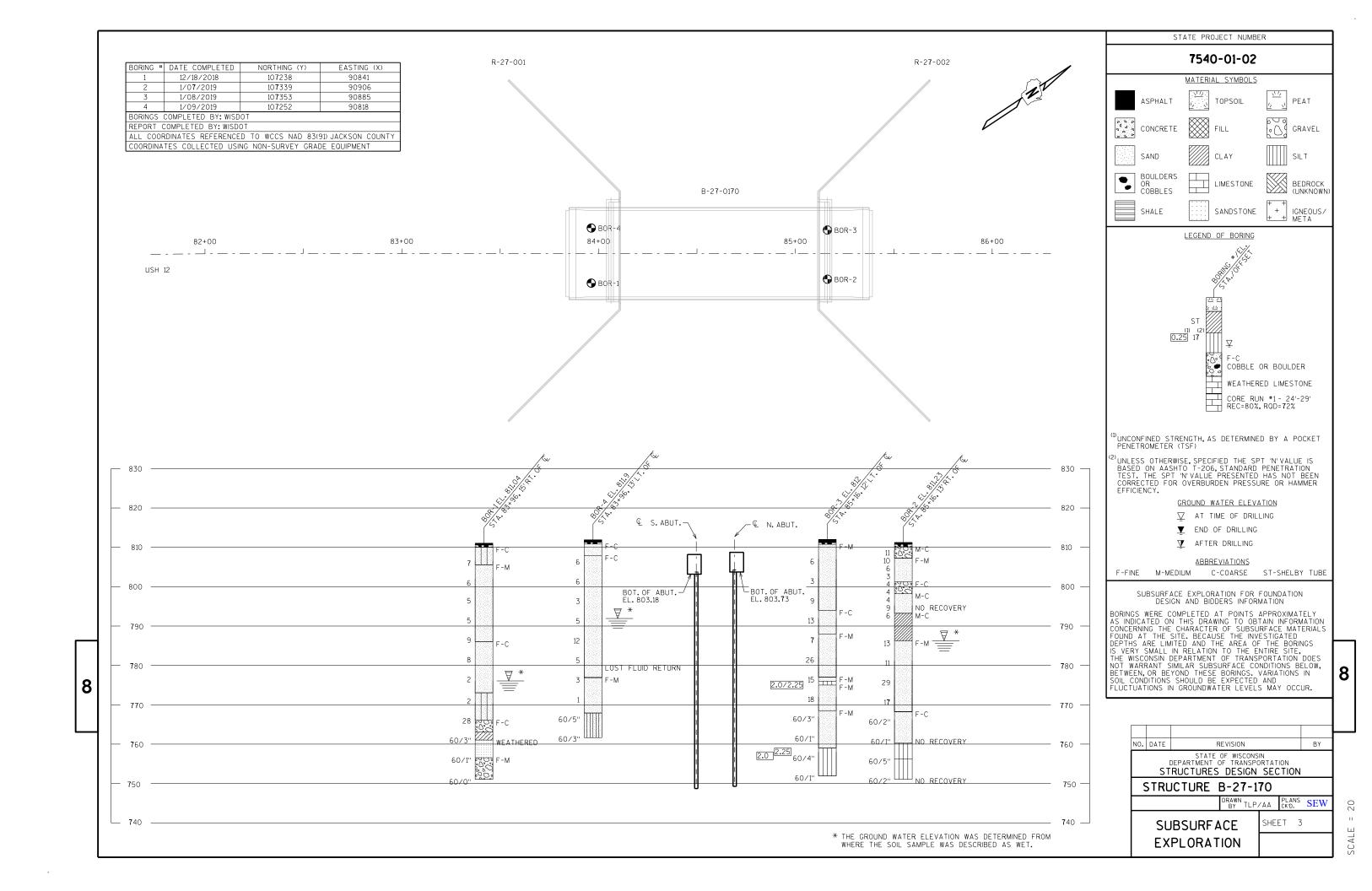
AA CK'D. SEW

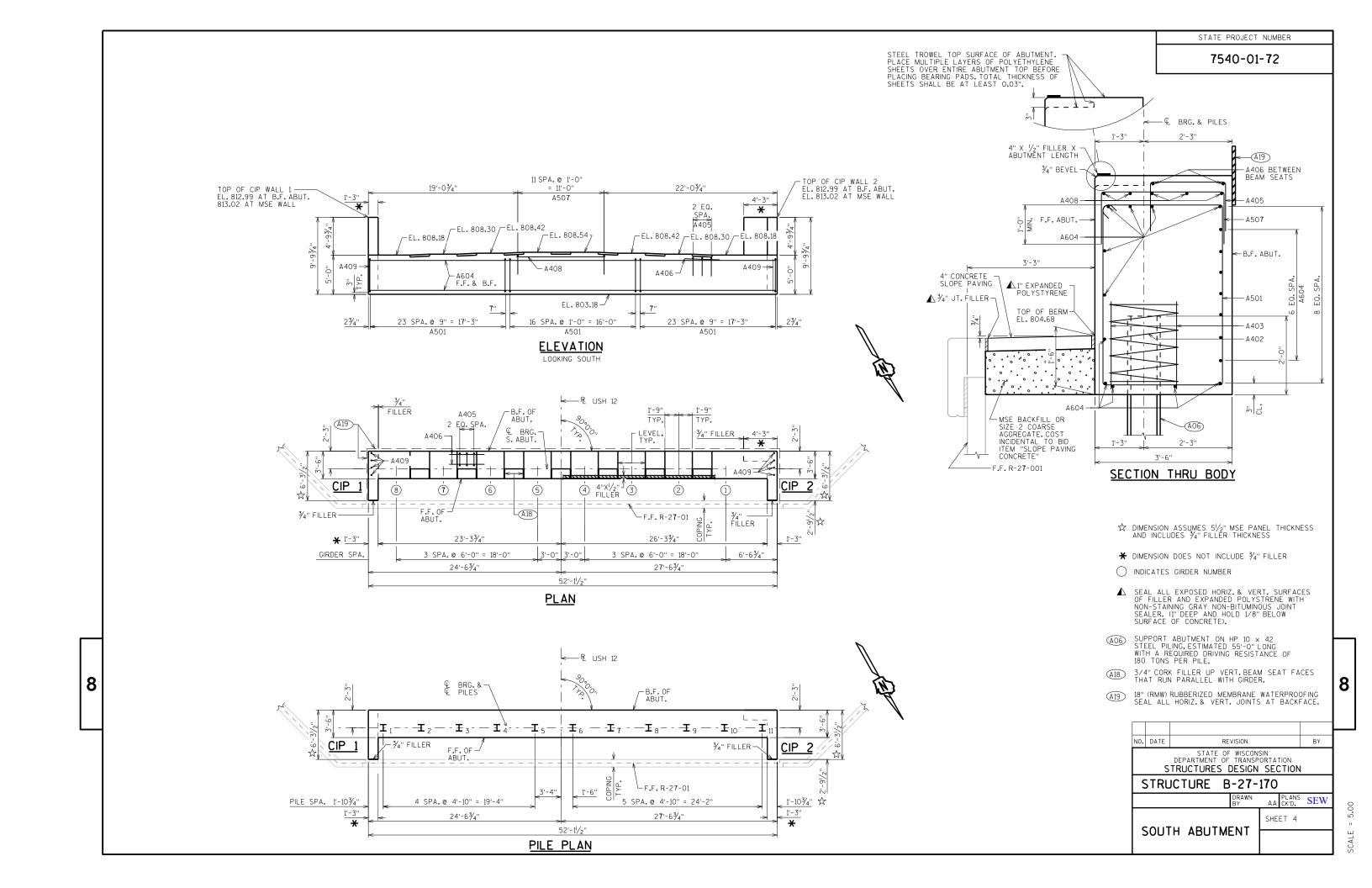
**CROSS SECTION &** 

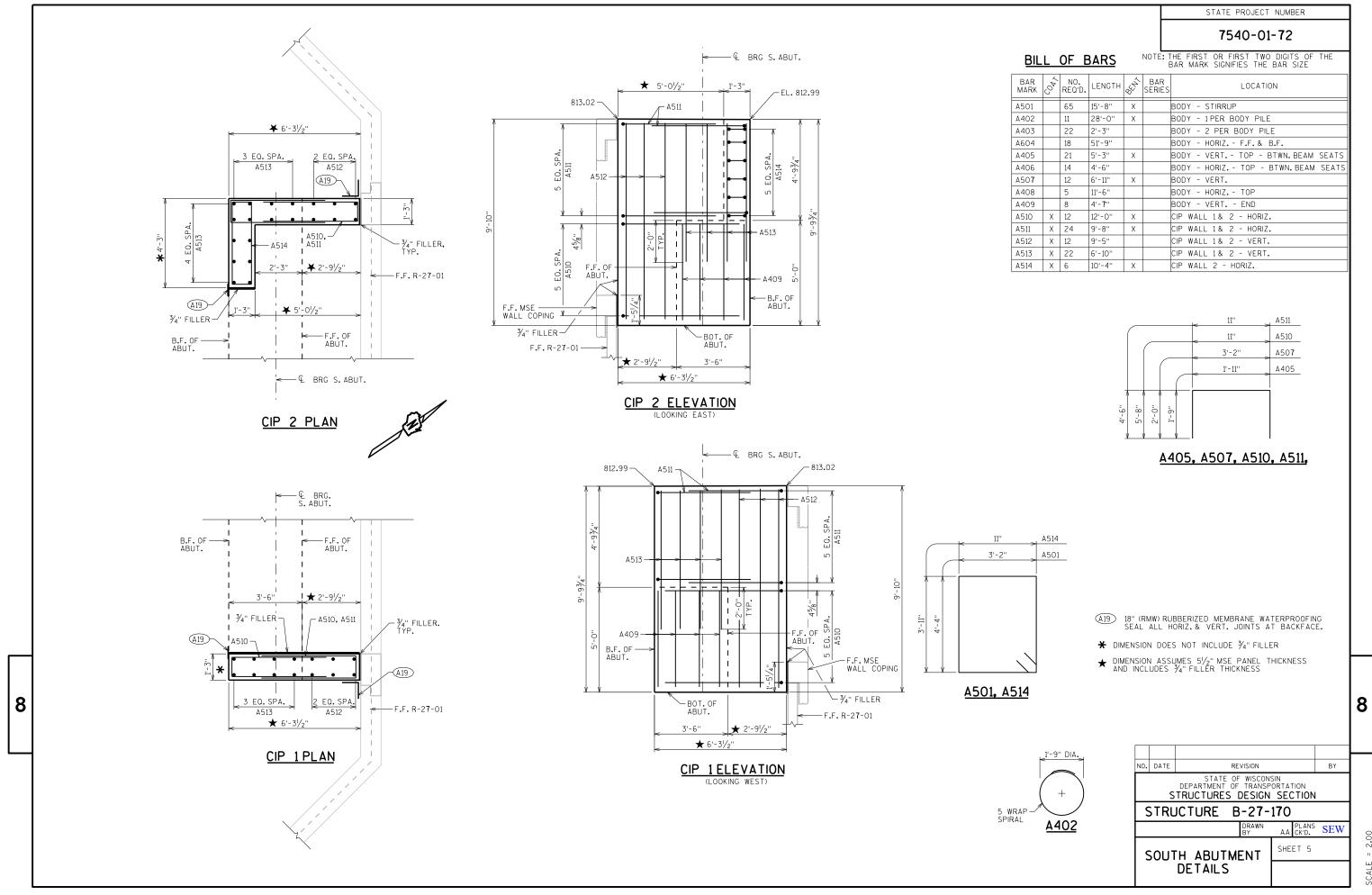
QUANTITIES

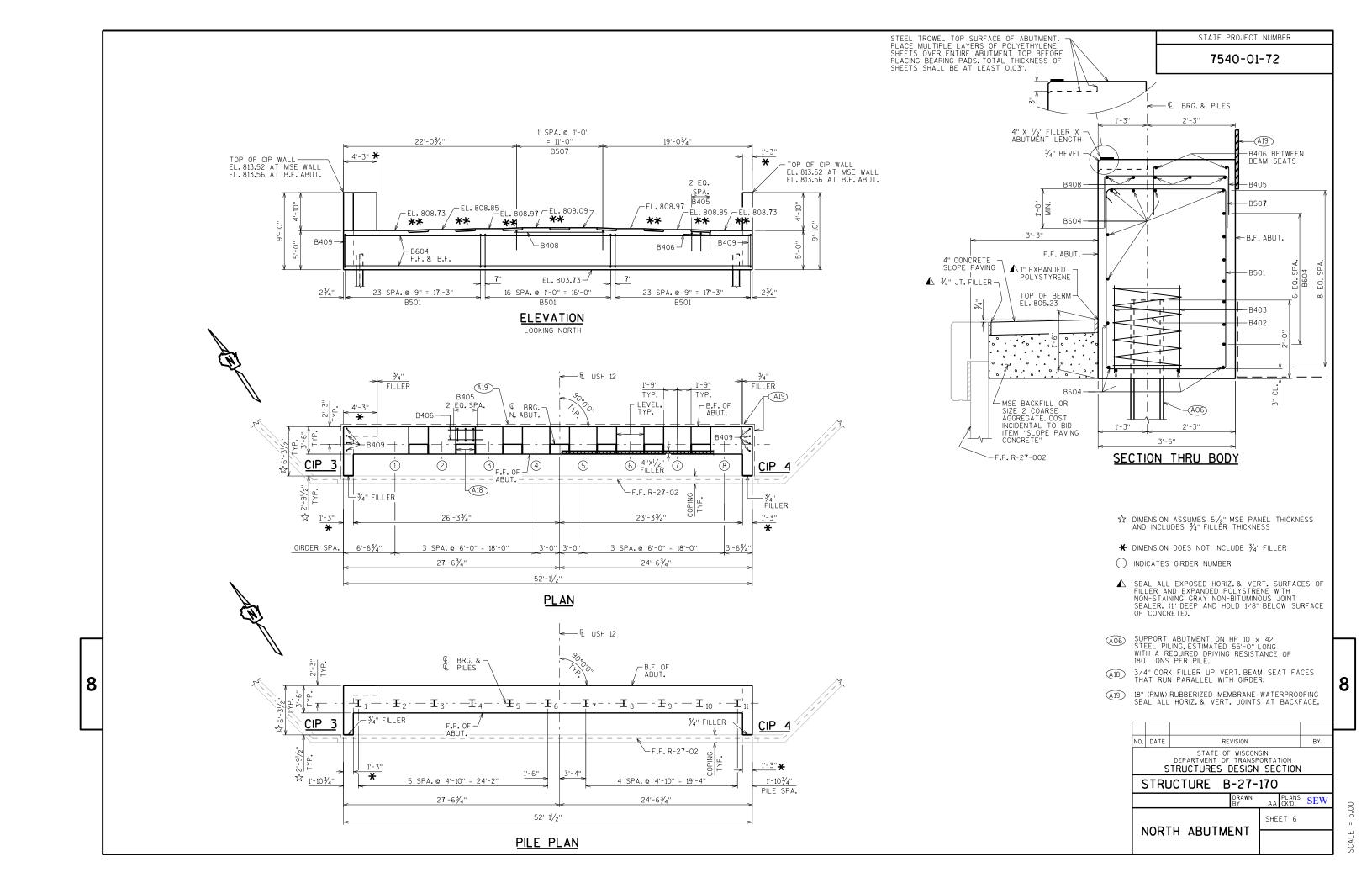
BY

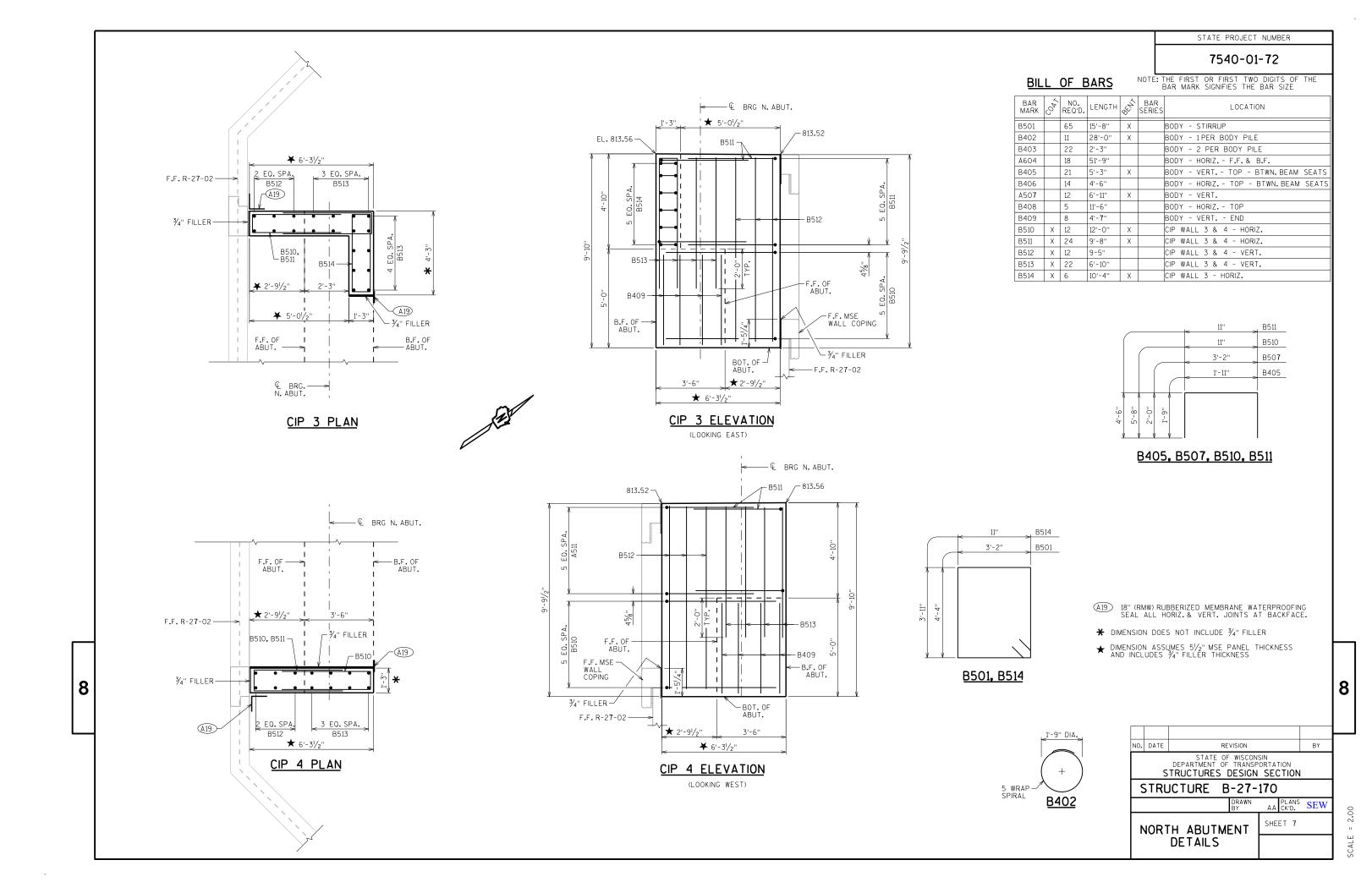
SHEET 2













## <u>NOTES</u>

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER OR EPOXY TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECT. 503.3.3 OF STANDARD SPECIFICATIONS FOR GUIDANCE.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PICMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

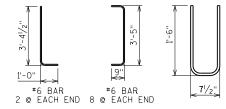
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60

AN EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON ACCEPTANCE OF THE STRUCTURES MAINTENANCE SECTION, IF USED, WWF SUBSTITUTION DETAILS SHALL BE SUBMITTED ELECTRONICALLY TO THE WISDOT FABRICATION LIBRARY AND ACCEPTED PRIOR TO SHOP DRAWING SUBMITTAL.

PRESTRESSING STRANDS SHALL BE (0.6" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.



## 1@ EACH END

#### SIDE VIEW & TYPICAL SECTION IN SPAN

GIRDER LENGTH = 111'-0"

37'-0"

(A) DETAIL TYP. AT EACH END

12 SPA.@ 1'-0" = 12'-0"

4 STIRRUPS

(4<sup>1</sup>/<sub>2</sub>" LEG)

#4 STIRRUPS & #3 BARS 18 SPA.@ 5" = 7'-6" (A)

TIRRUP PAIRS

5 @ 4<sup>1</sup>/<sub>4</sub>"

1'-91/4"

37'-0"

#4 BAR, EPOXY COATED.

NO BEVEL-

- #4, 2'-3" LONG. PLACE AT #4 STIRRUP SPACING BETWEEN LIMITS OF #3

STIRRUP PAIRS.

#4 STIRRUPS

CLEAR

1'-13/4''

113/4"

45/8"

 $(4^{1}/2^{11})$ 

PLACE @ STIRRUP SPACING. EMBED INTO GIRDER 1'-3". -

(B) 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-8"

43 SPA.@ 1'-6" = 64'-6"

#4 @ 5" FOR 15'-0" EACH END, #4 @ 1'-0" BETWEEN. 2'-7" LONG

1'-13/4''

113/4"

, — <del>, ,</del>

12 SPA. @ 1'-0" = 12'-0" \_\_61/2" STIRRUP SPACING

37'-0"

BEVEL

STEEL DIAPHRAGM

SPACING

## 1'-10" #3 BAR 3 @ EACH END (EPOXY COATED) #3 BAR 29 PAIRS EACH END (EPOXY COATED)

NO. DATE

#### BOTTOM FLANGE

 $A \bowtie$ 

L<sub>31/4"</sub>

3'-2<sup>|</sup>/<sub>2</sub>'' 📵

= 1'-0"

TOP FLANGE

- #5 U-SHAPED BAR

4 PAIRS #6 STIRRUPS

AT ENDS -

#6 BAR 1PAIR

11/2" DIA. HOLE

#3 BARS-

PLACE AS SHOWN-

#6 BARS 1 PAIR EACH END

#6 STIRRLIPS

4 PAIRS FACH END -#3 BARS 29 PAIRS EACH END

8

SECTION A-A

ABUT, END ONLY

GIRDER DATA

		GIRDER			DE	EAD LO	DAD DE	EFL. (	IN.)			CONC. STRGTH.	1C T 1/	"P" (IN.		DIA. OF	TOTAL	DRAPE	D PA				UNDRAPED F		
PAN	GIRDER	LENGTH "L" (FEET)	1/10	2/10	3/10	4/ <sub>10</sub>	5/10	6/ <sub>10</sub>	7/10	8/ <sub>10</sub>	<sub>10</sub>	f'c	1ST 1/3 OF GIRDER	l OF	OF GIRDER	2 LKAND	TOTAL NO.OF STRANDS	f'ci (P.S.I.) <del>X</del>	"A"	( IN "B" MIN.	"B" MAX.	"C"	TOTAL NO.OF STRANDS	f'ci (P.S.I.) <del>X</del>	H
1	ALL	111	0.7	1.4	1.9	2.2	2.3	2.2	1.9	1.4	0.7	8,000	9	8	9	0.6	36	6.8	40	13.75	16.75	5			⊢
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\* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

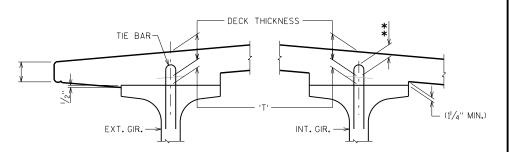
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION STRUCTURE B-27-170 AA PLANS SEW

REVISION.

45W" PRESTRESSED SHEET 8 GIRDER DETAILS 1

SCALE

BY



#### DECK HAUNCH DETAIL

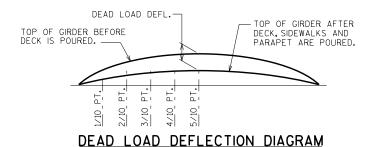
IF 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR,

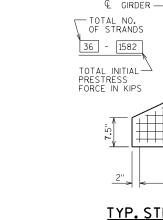
\*\* IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT  $\widehat{\mathbb{Q}}$  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 3.6" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".





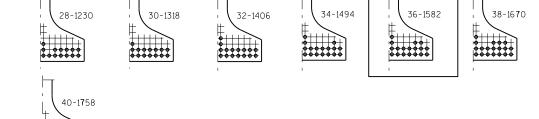
#### TYP. STRAND PATTERN

13 SPA.@ 2"

-FOR DRAPED PATTERN ONLY.

DRAPE ALL STRANDS ON THESE TWO LINES

ALL PATTERNS ARE SYM. ABOUT



20-879

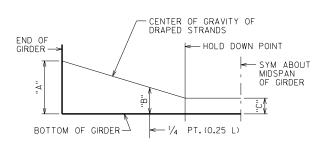
22-96**7** 

24-1055

26-1143

## ARRANGEMENT AT & SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6"¢ STRANDS



DRAPED STRAND PROFILE

16-**7**03

000000

18-791

.

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

	SPAN	CAMBER (IN.) *	
	1	4.03	
_	455 11		١.

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

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

NO. DATE REVISION BY

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION

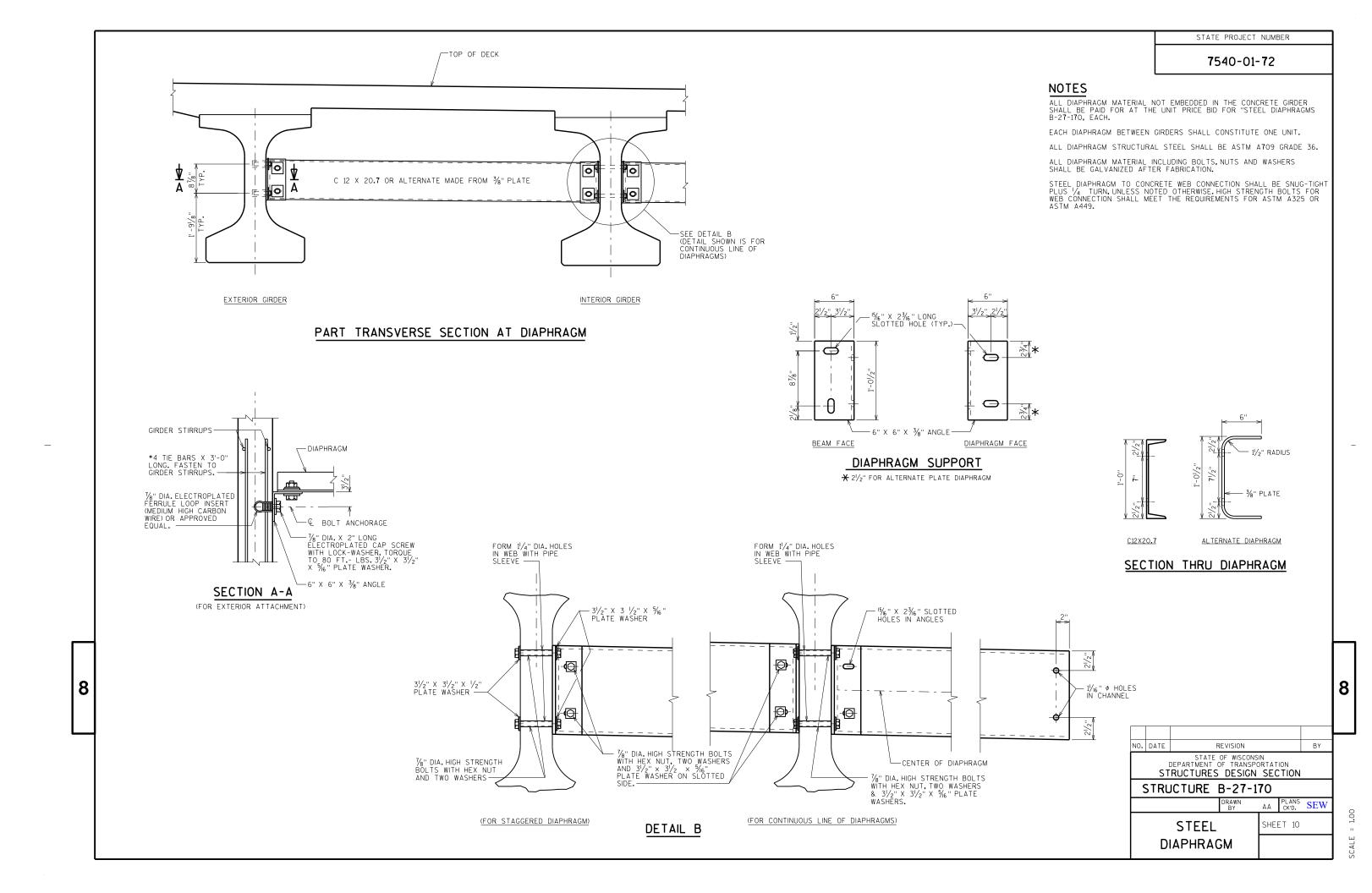
STRUCTURE B-27-170

DRAWN BY AA PLANS SEW

45W" PRESTRESSED GIRDER DETAILS 2

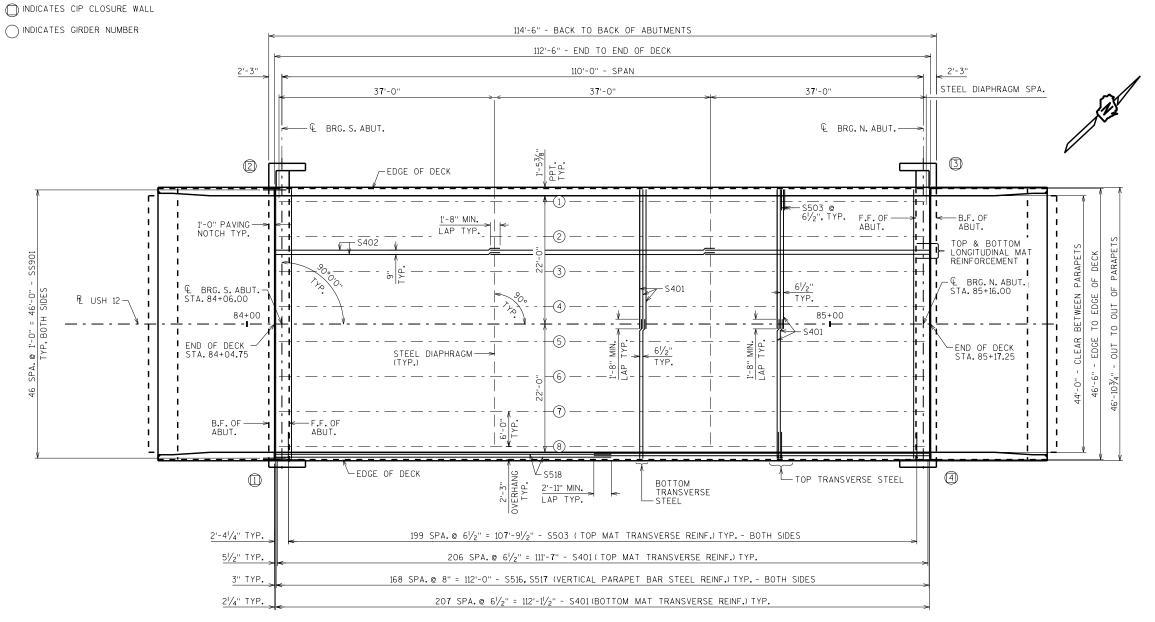
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SCALE = 1.00



STATE PROJECT NUMBER

7540-01-72



## <u>PLAN</u>

#### TOP OF DECK ELEVATIONS

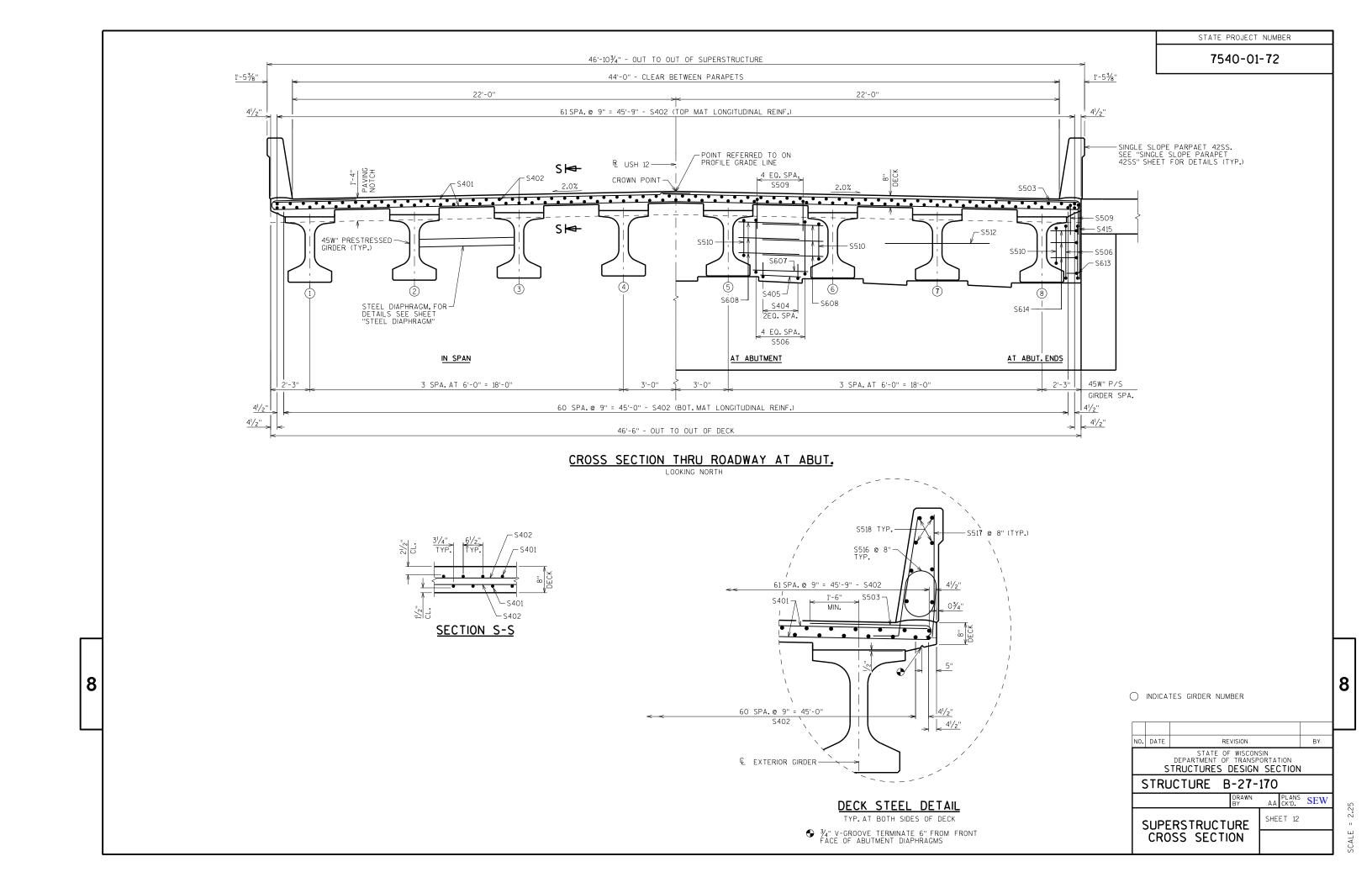
EOD = EDGE OF DECK

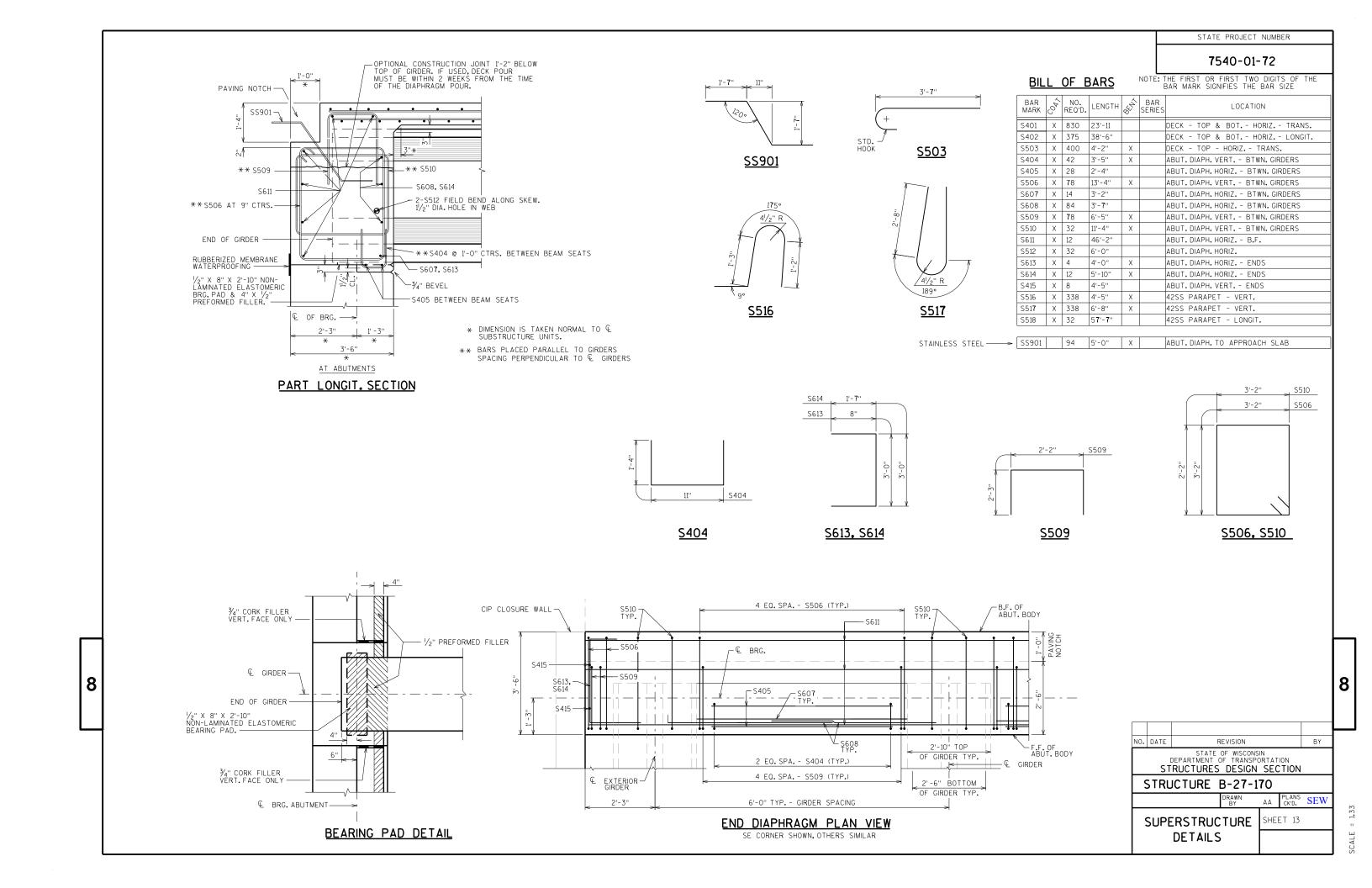
LOC.	€ BRG. S.ABUT	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	€ BRG. N. ABUT.
L EOD	813.00	813.05	813.11	813.16	813.22	813 <b>.</b> 2 <b>7</b>	813.33	813.38	813.44	813.49	813.55
GIR 1	813.02	813.07	813.13	813.18	813.24	813.29	813.35	813.40	813.46	813.51	813.57
GIR 2	813.14	813.19	813.25	813.30	813.36	813.41	813.47	813.52	813.58	813.63	813.69
GIR 3	813.26	813.31	813.37	813.42	813.48	813.53	813.59	813.64	813.70	813 <b>.7</b> 5	813.81
GIR 4	813.38	813.43	813.49	813.54	813.60	813.65	813.71	813.76	813.82	813.87	813.93
R/crown	813.44	813.49	813.55	813.60	813.66	813 <b>.7</b> 1	813.77	813.82	813.88	813.93	813.99
GIR 5	813.38	813.43	813.49	813.54	813.60	813.65	813.71	813 <b>.7</b> 6	813.82	813.87	813.93
GIR 6	813.26	813.31	813 <b>.</b> 3 <b>7</b>	813.42	813.48	813.53	813.59	813.64	813.70	813 <b>.7</b> 5	813.81
GIR 7	813.14	813.19	813.25	813.30	813.36	813.41	813.47	813.52	813.58	813.63	813.69
GIR 8	813.02	813.07	813.13	813.18	813.24	813.29	813.35	813.40	813.46	813.51	813.57
R EOD	813.00	813.05	813.11	813.16	813.22	813.27	813.33	813.38	813.44	813.49	813.55

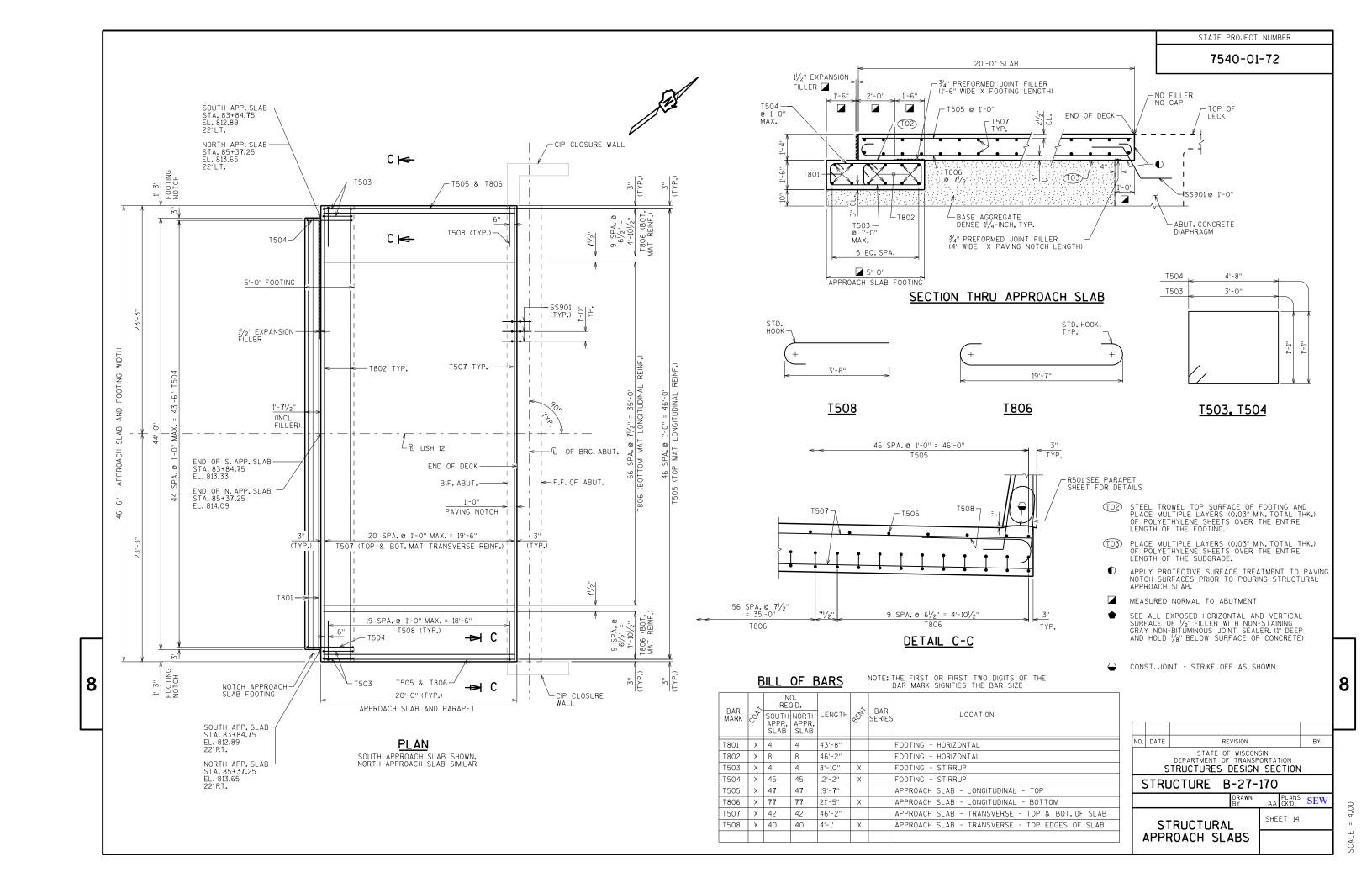
NO.	DATE	RE	VISION		BY								
	S	STATE OF DEPARTMENT OF TRUCTURES I	TRANSP	ORTATION									
STRUCTURES DESIGN SECTION  STRUCTURE B-27-170													
			DRAWN BY	PLANS AA CK'D.	SEW								
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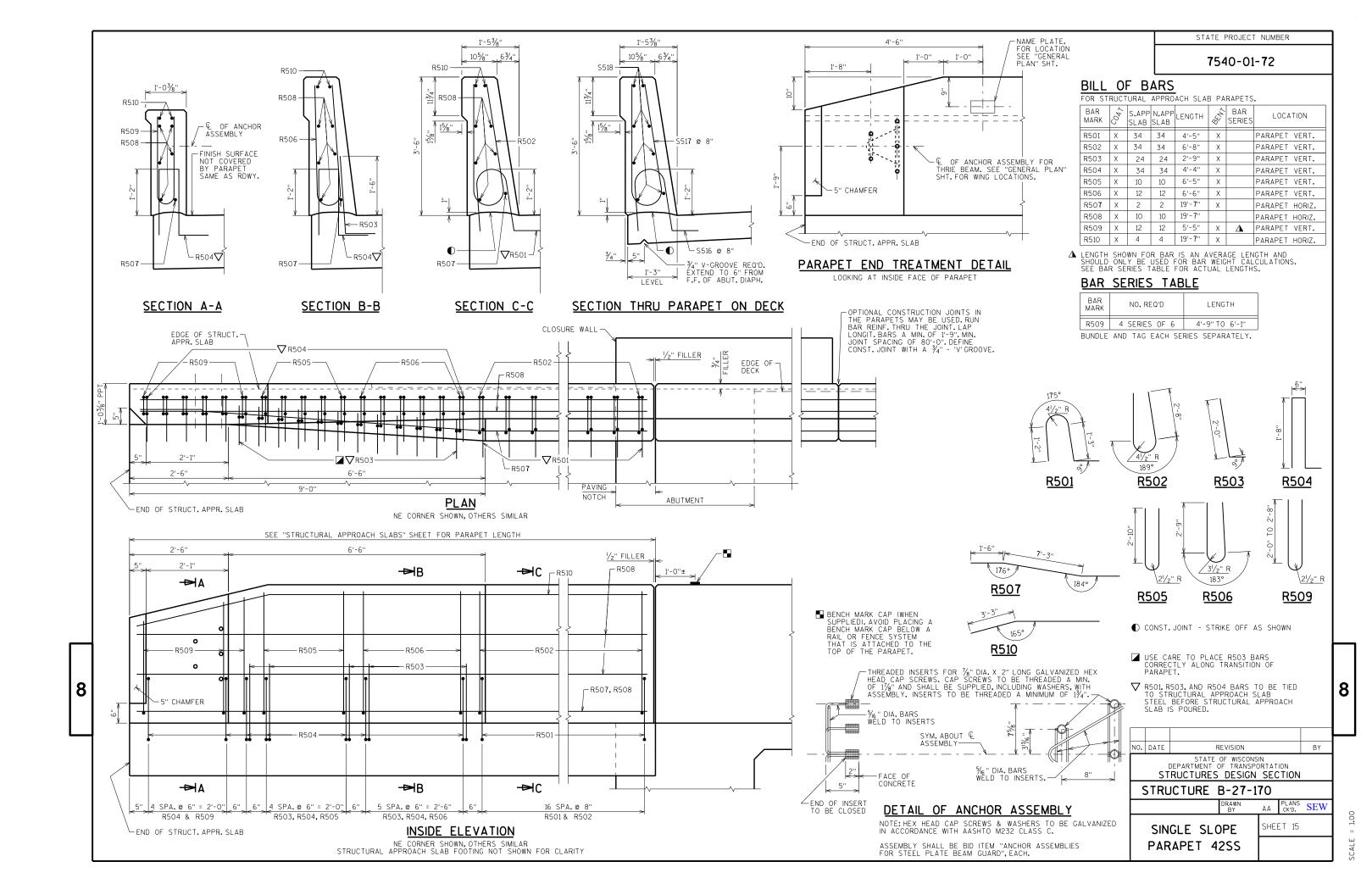
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SCALE = 8.00

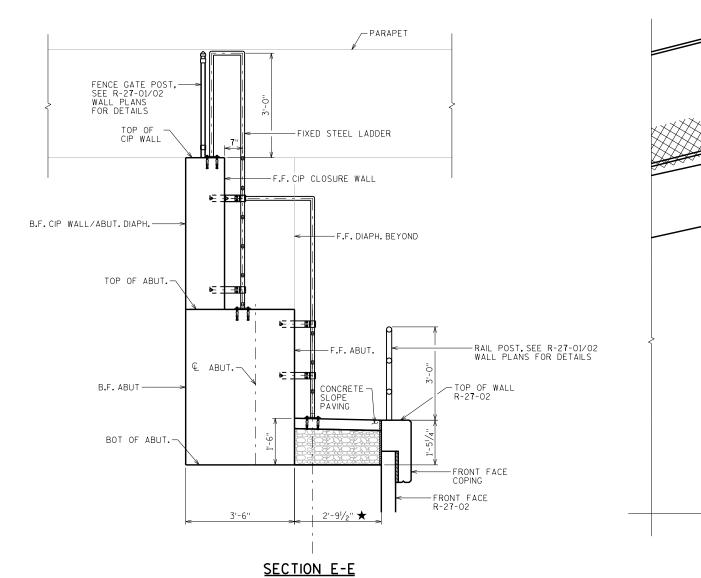






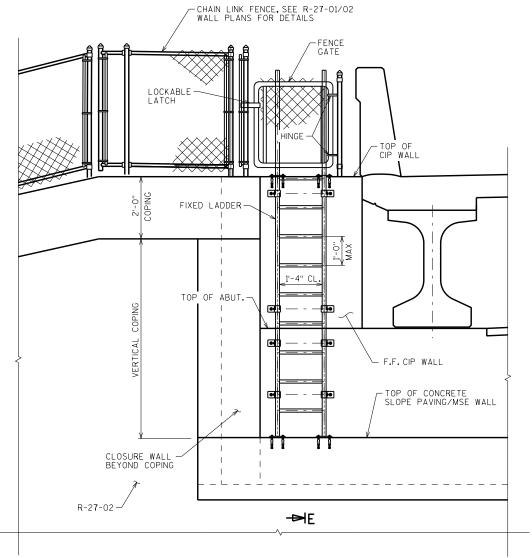


ÆE



(LOOKING EAST)

FIXED LADDER AT CLOSURE WALL 3 SHOWN, FIXED LADDER AT CLOSURE WALL 2 SIMILAR



### STEEL LADDER AT CLOSURE WALL 3

LOOKING NORTH CLOSURE 2 SIMILAR PIPE RAILING NOT SHOWN FOR CLARITY

★ DIMENSION ASSUMES 5½" MSE PANEL THICKNESS AND INCLUDES ¾" FILLER THICKNESS

NO. DATE REVISION BY

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION

STRUCTURE B-27-170

DRAWN AA PLANS SEW

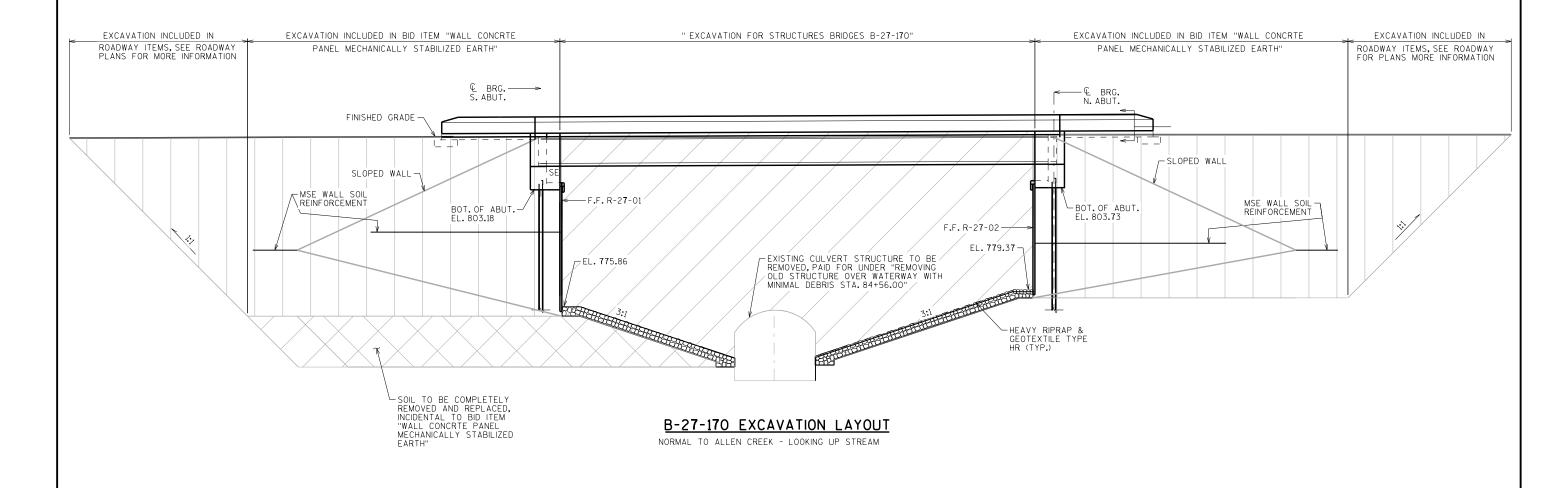
FIXED LADDER DETAILS

8

SCALE = 1.50

STATE PROJECT NUMBER

7540-01-72



#### NOTE:

DETAIL FOR INFORMATION PURPOSES ONLY

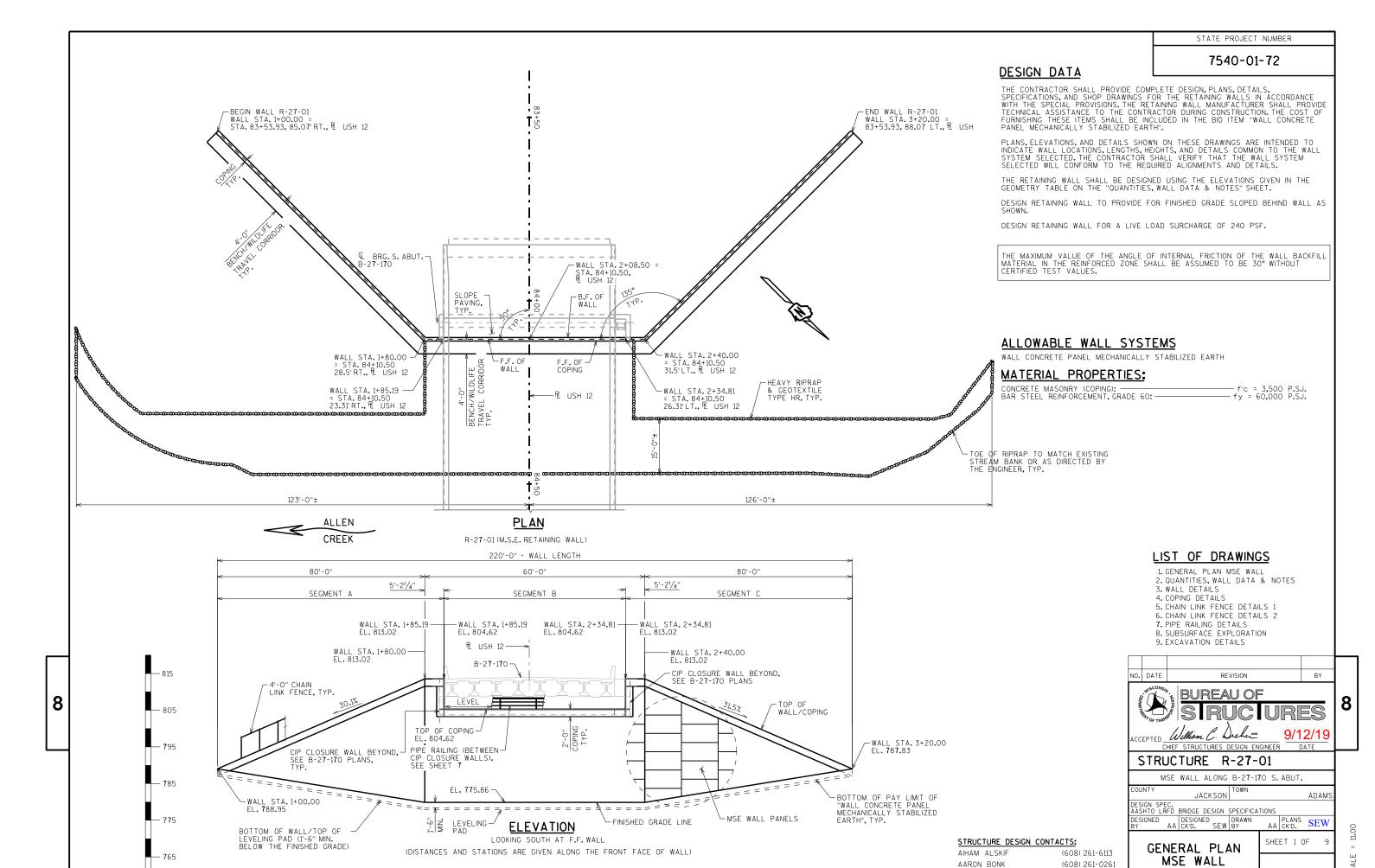
BY NO. DATE REVISION STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-27-170

EXCAVATION DETAILS

AA CK'D. SEW SHEET 17

8



#### SOIL PARAMETERS

SOIL DESCRIPTION	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)
GRANULAR BACKFILL BEHIND THE WALL IN THE REINFORCING ZONE	30	0	120
FILL BEHIND THE REINFORCING ZONE	31	0	120
BOR-1 - STA. 83+96.00 - 15'RT OF R USH	12- (B-2 <b>7</b> -1 <b>7</b> 0 SOU	TH ABUT EAST)	
SAND, TAN, FINE TO MEDIUM EL. 786.90 FT TO EL 776.00 FT	30	0	115
SAND, TAN, FINE TO COURSE EL. 776.00 FT TO EL 773.00 FT	28	0	105
SAND, LIGHT BROWN, SOME SILT, SOME ORGANICS EL. 773.00 FT TO EL 766.00 FT	28	0	105
SAND AND GRAVEL, GRAY, FINE TO COURSE, TRACE SILT EL. 766.00 FT TO EL 763.00 FT	33	0	125
SANDSTONE EL.763.00 FT AND BELOW	0	25,000	140
BOR-4 - STA. 83+96.00 - 13'LT OF R USH	12 (B-2 <b>7</b> -1 <b>7</b> 0 SOU	TH ABUT WEST)	
SAND, DARK TAN, FINE TO MEDIUM, TRACE GRAVEL EL. 786.90 FT TO EL 781.90 FT	31	0	115
SAND, LIGHT BROWN, FINE TO COURSE EL. 781.90 FT TO EL 771.90 FT	30	0	115
ORGANICS EL.771.90 FT TO EL 767.90 FT	28	0	105
SANDSTONE EL.767.90 FT AND BELOW	0	25,000	140

#### WALL EXTERNAL & OVERALL STABILITY EVALUATION

DIMENSIONS						
WALL HEIGHT (FEET)	13.1	38.7	30.2	30.2	38.7	22.4
EXPOSED WALL HEIGHT (FEET)	11.6	3 <b>7.</b> 2	28 <b>.7</b> <sup>2</sup>	28 <b>.7</b> <sup>2</sup>	3 <b>7.</b> 2	20.9
MINIMUM LENGTH OF REINFORCEMENT (FEET) 3	9.2	2 <b>7.</b> 1	25.1	25.1	2 <b>7.</b> 1	15.7
LENGTH OF REINFORCEMENT TO HEIGHT RATIO	0.7	0.7	0.834,7	0.834,7	0.7	0.7
BACK SLOPE ABOVE/BELOW WALL	4:1/6:1	HORIZ./3:1	HORIZ./3:1	HORIZ./3:1	HORIZ./3:1	4:1/6:1
APPROXIMATE WALL STATION	1+25	1+80	2+00	2+25	2+40	2+75
BORING LOCATION USED	BOR - 1	BOR - 1	BOR - 1	BOR - 4	BOR - 4	BOR - 4
CAPACITY TO	DEMAND R	ATIO (CDR)				
SLIDING (CDR > 1.0)	1.0	1.5	1.3	1.3	1.5	1.1
ECCENTRICITY (CDR > 1.0)	1.5	1.9	1.6	1.6	1.9	1.5
GLOBAL STABILITY (CDR > 1.0)	NA <sup>6</sup>	NA <sup>6</sup>	1.0	NA <sup>6</sup>	NA <sup>6</sup>	NA <sup>6</sup>
BEARING RESISTANCE (CDR > 1.0)	1.5	1.0	1.1	1.1	1.0	1.0
FACTORED BEARING RESISTANCE (PSF)	6,000 <sup>7</sup>	9,0007	9,0007	9,0007	9,0007	7,000

NOTES:

1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 1.5 FEET.

2. THE WALL STABILITY EVALUATION INCLUDED A SURCHARGE LOAD THAT WAS EQUAL TO THE WEIGHT OF THE SOIL BEHIND THE ABUTMENT.

3. THE LENGTH OF REINFORCEMENT IS THE MINIMUM REQUIRED LENGTH AT THAT LOCATION.

4. THE RATIO IS BASED ON MEETING THE GLOBAL SLOPE STABILITY REQUIREMENTS.

5. CDR REQUIREMENTS AND LOAD AND RESISTANCE FACTORS ARE PRESENTED IN CHAPTER 14 OF THE BRIDGE MANUAL.

6. NA NOT APPLICABLE, GLOBAL SLOPE STABILITY WAS EVALUATED AT THE CRITICAL WALL LOCATION.

7. REQUIRES THE REPLACEMENT TO THE BACK OF THE REINFORCEMENT ZONE OF THE VERY LOOSE SANDS AND ORGANICS TO ELEVATION 766 FEET TO 768 FEET WITH COMPACTED SAND WITH A FRICTION ANGLE OF 34 DEGREES AND A TOTAL UNIT WEIGHT OF 125 PCF.

#### TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
513.2001	RAILING PIPE R-27-01	LF	49
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	3
606.0300	RIPRAP HEAVY	CY	380
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	230
616.0204	FENCE CHAIN LINK 4-FT.	LF	173
645.0120	GEOTEXTILE TYPE HR	SY	685
SPV.0165	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH	SF	5,118
SPV.0195	SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR	TON	44
	NON-BID ITEMS		
	PREFORMED JOINT FILLER	SIZE	3/4"
	NON-BITUMINOUS JOINT SEALER	SIZE	3/4"
	EXPANDED POLYSTYRENE	SIZE	1''

#### GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED

BEVEL ALL EXPOSED EDGES OF CONCRETE  $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.

BAR STEEL REINFORCEMENT SHALL HAVE 2" CLEAR COVER UNLESS OTHERWISE

ALL BAR STEEL REINFORCEMENT IN CAST-IN-PLACE CONCRETE IS TO BE EPOXY COATED.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF JOINT FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW THE SURFACE OF CONCRETE).

ALL WALL STATIONING AND OFFSETS ARE GIVEN AT THE FRONT FACE OF

THE EXISTING GROUND LINE IS THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE PLAN QUANTITY FOR THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF THE WALL TO A CONSTANT DEPTH OF 1'-6" BELOW FINISHED GRADE.

THE CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF RETAINING WALL R-27-01 WITH THE SOUTH ABUTMENT OF BRIDGE B-27-170.

THE REMOVAL OF THE EXISTING STRUCTURE IS INCLUDED IN A LUMP SUM PAY ITEM FOR BRIDGE B-27-170.

THE DESIGN OF THE WALL IN FRONT OF THE ABUTMENT SHALL INCLUDE THE HORIZONTAL EARTH LOADS AND 240 PSF LIVE LOAD SURCHARGE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

THE CONCRETE MASONRY & REINFORCING STEEL FOR THE CAST-IN-PLACE COPING IS PAID FOR UNDER THE ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH".

CONTRACTOR, WALL SUPPLIER, AND RAILING FABRICATOR SHALL COORDINATE RAILING POST SPACING, MSE PANELS AND COPING JOINTS.

#### GEOMETRY TABLE

	WALL STATION	R USH 12 STATION	OFFSET TO F.F. WALL	TOP OF WALL EL.	FINISHED GRADE EL.
	1+00.00	83+53.93	85.0 <b>7</b> ' RT.	<b>7</b> 88 <b>.</b> 95	<b>7</b> 88 <b>.</b> 95
⋖	1+25.00	83+71.61	6 <b>7.</b> 39'RT.	796.47	784.86
SEGMENT	1+50.00	83+89.29	49 <b>.7</b> 1' RT.	803.99	780.77
SEGN	1+75.00	84+06.96	32.04' RT.	811.51	776.68
	1+80.00	84+10.50	28.50' RT.	813.02	775.86
	1+85.19	84+10.50	23.31' RT.	813.02	775.86
В	1+85.19	84+10.50	23.31' RT.	804.62	775.86
F	2+00.00	84+10.50	8.50'RT.	804.62	775.86
SEGMENT	2+08.50	84+10.50		804.62	775.86
S	2+25.00	84+10.50	16.5'LT.	804.62	775.86
	2+34.81	84+10.50	26.31'LT.	804.62	775.86
	2+34.81	84+10.50	26.31'LT.	813.02	775.86
	2+40.00	84+10.50	31 <b>.</b> 50'LT.	813.02	775.86
)  -	2+50.00	84+03.43	38.5 <b>7</b> 'LT.	809 <b>.</b> 8 <b>7</b>	777.36
SEGMENT	2+ <b>7</b> 5.00	83+85 <b>.7</b> 5	56.25'LT.	802.00	<b>7</b> 81 <b>.</b> 10
SEG	3+00.00	83+68.07	<b>7</b> 3.93'LT.	<b>7</b> 94 <b>.</b> 13	<b>7</b> 84 <b>.</b> 84
	3+20.00	83+53.93	88.0 <b>7</b> 'LT.	<b>787.8</b> 3	<b>787.</b> 83

NO. DATE

REVISION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

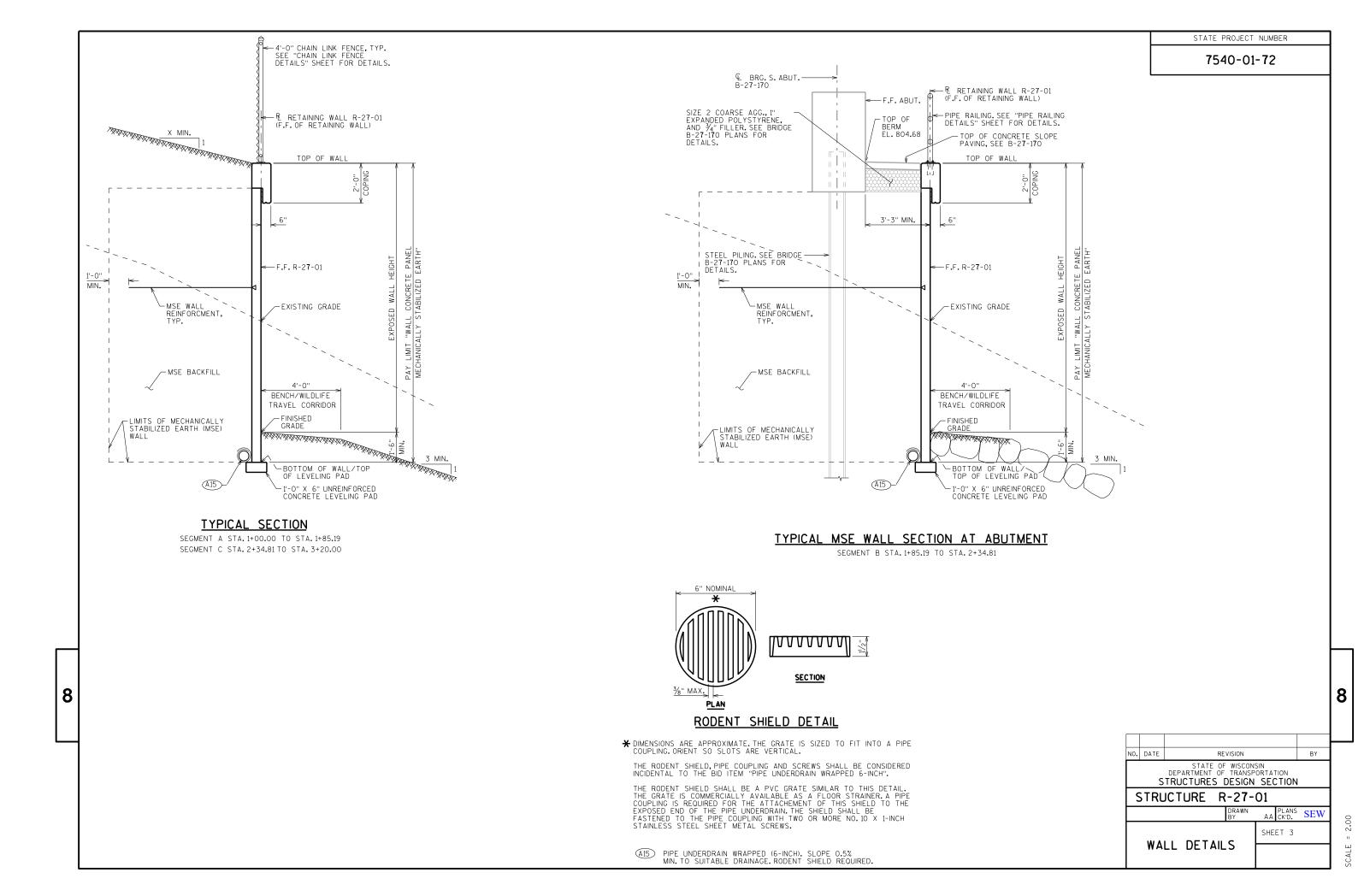
STRUCTURE R-27-01

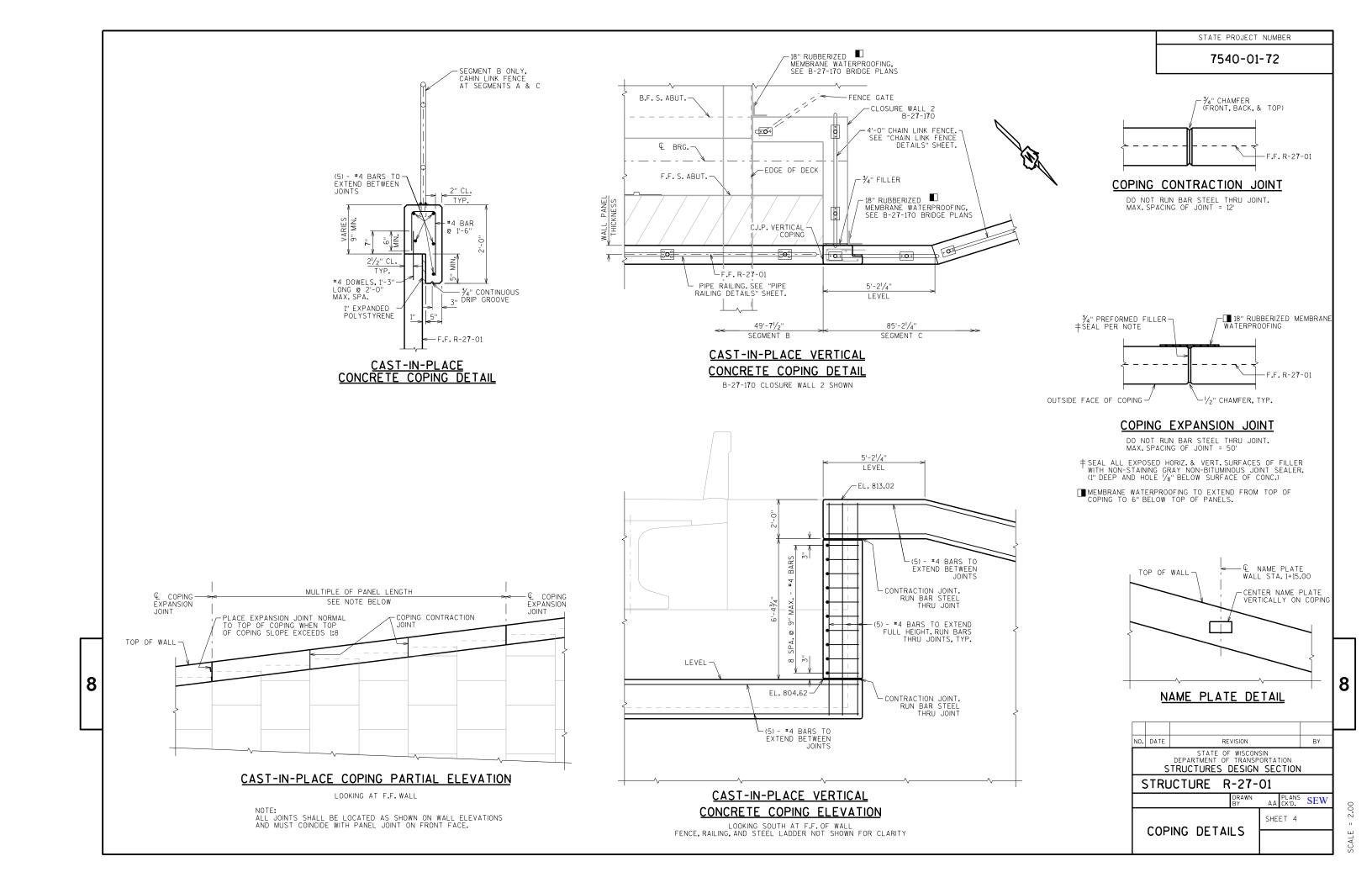
DRAWN BY AA CK'D. SEW

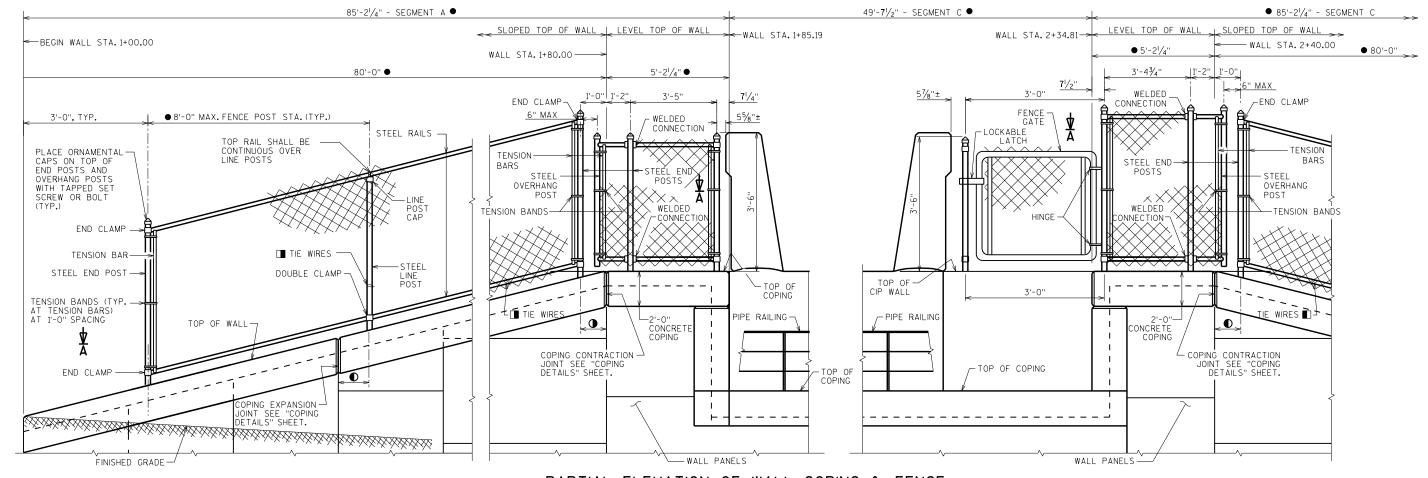
QUANTITIES. WALL DATA & NOTES

SHEET 2

BY

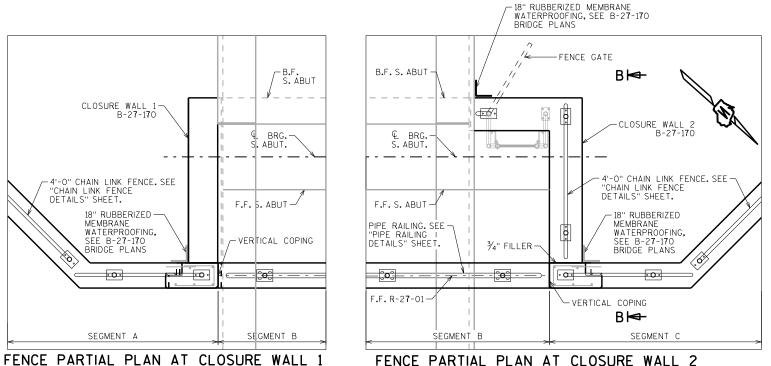




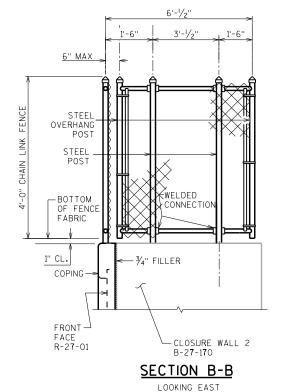


## PARTIAL ELEVATION OF WALL COPING & FENCE

(LOOKING SOUTH AT F.F. WALL) FIXED LADDER NOT SHOWN FOR CLARITY



FENCE PARTIAL PLAN AT CLOSURE WALL 2 LOOKING SOUTH



- 1'-0" MIN. DISTANCE REQUIRED BETWEEN THE

  Q OF COPING JOINTS (BOTH EXPANSION AND
  CONTRACTION JOINTS) AND THE Q OF FENCE

  ON TRACTION TO THE OF THE OF
- DISTANCE\_MEASURED HORIZONTALLY ALONG WALL F.F.
- ATTACH FABRIC TO RAILS, AND TO POSTS WITHOUT TENSION BANDS, WITH TIE WIRES (ROUND, 9-GAGE) SPACED



CHAIN LINK FENCE DETAILS 1

8

CLOSURE WALL 1-B-27-170

- 4'-0" CHAIN LINK FENCE. SEE "CHAIN LINK FENCE DETAILS" SHEET.

18" RUBBERIZED -

MEMBRANE WATERPROOFING,

٠٥٠ للحج

LOOKING SOUTH

SEE B-27-170 BRIDGE PLANS

.0.

SEGMENT A

### **NOTES**

POSTS ARE TO BE SET VERTICAL.

ALL FENCE COMPONENTS SHALL BE GALVANIZED STEEL, EXCEPT THE FENCE FABRIC WHICH MAY BE ALUMINUM-COATED STEEL OR GALVANIZED STEEL.

FABRIC SHALL CONFORM TO ASTM A491 OR A392, CLASS 2 STEEL RAILS, POSTS AND POST SLEEVES SHALL CONFORM TO ASTM F1083, STANDARD WEIGHT PIPE (SCHEDULE 40). FITTINGS SHALL CONFORM TO ASTM F626.

THE BID ITEM SHALL BE "FENCE CHAIN LINK 4- FT."

COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.

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.

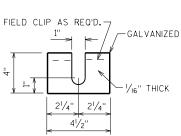
BASE PLATES, ANCHOR PLATES AND SHIMS SHALL BE ASTM A709, GRADE 36.

ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG THE C/L OF THE POST.

- CAULK AROUND PERIMETER OF BASE PLATE AND FILL PORTION OF SLOTTED HOLE AROUND ANCHOR BOLT IN SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.
- \* ALTERNATE TO DOUBLE CLAMP: USE LINE RAIL CLAMP (BOULEVARD) OR 180° BRACE BAND, WHICH MAY BE USED WHEN THE POSTS ARE EITHER BOLTED TO THE POST SLEEVES OR DIRECTLY WELDED TO THE BASE PLATE.
- ↑ ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS 1/2-INCH. EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD
- BOLT RAIL TO RAIL END TO SECURE OVERHANG SECTION. ALTERNATE IS TO WELD RAIL DIRECTLY TO END POST.

MINIMUM LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0". LOCATE SPLICES NEAR 1/4 POINT OF POST





FENCE MEMBER

SIZE & WEIGHT

OUTSIDE

(INCHES)

1,660

2.875

2.875

2**.37**5

4.000

DIAMETER

(LB/FT

2.27

5.80

5.80

3.65

9.12

**FENCE** 

RAILS

END

MEMBER

OVERHAN

POST

POST

SLEEVE

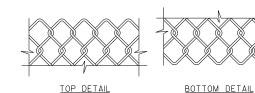
#### POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.

PLACE ORNAMENTAL CAPS ON
TOP OF END POSTS AND OVERHANG
POSTS WITH TAPPED SET SCREW

OR BOLT (TYP.)

STEEL TOP



## FENCE FABRIC

\* DOUBLE CLAMP

-BRACE BAND

STEEL LINE POST

OR POST SLEEVE

SECTION A-A

FENCE ADJACENT TO PEDESTRIANS

NOTE: PLACE ALL BOLT HEADS ON SIDE OF

-RAIL END

-STEEL RAIL

STEEL END POST— OR POST SLEEVE

FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.

# ● NEAR THE B-27-170 PARAPET

-RAIL END

-STEEL RAIL-

3/8" DIA. X 11/4" GALV. CARRIAGE BOLT. (TYP.)

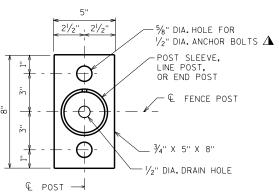
END CLAMP

GALVANIZED-5/8" DIA. HOLE  $\bigcirc$  $\ominus$ 

-STEEL END POST OR POST SLEEVE

- BRACE BAND

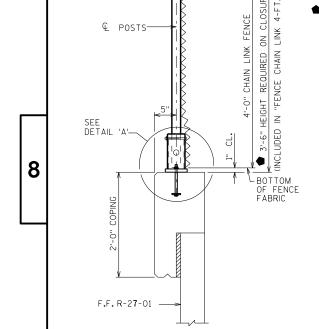
**ANCHOR PLATE** ☆NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.



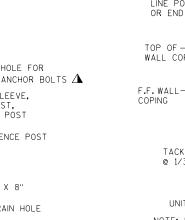
BASE PLATE

DETAIL 'A

NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.



SECTION THRU FENCE



-WELD 11/2" X 1/4" X 2" LONG LUG TO POSTS

-STEEL RAIL-

WELDED CONNECTION

(AT OVERHANG SECTION)

OVERHANG-POST

−& POST

-GRIND RAIL TO

REQ'D RADIUS

PL ATE

UNIT SHALL BE GALVANIZED AFTER FABRICATION

3/8" DIA. GALV. CARRIAGE BOLT WITH LOCKING

-BOTTOM

-ANCHOR PLATE

A ANCHOR BOLT

RAIL

NUT. (TO BE SUPPLIED WITH ASSEMBLY) -

FILL SLEEVE AND BEVEL AWAY FROM POST WITH NON-SHRINK GROUT AFTER —

SETTING POST. (LEAVE NO VOIDS)

DRILL 3/6" DIA. DRAIN HOLE PARALLEL

TO WALL IMMEDIATELY ABOVE GROUT IN POST. SLEEVE LOCATIONS ONLY. -

€ POST-

SLOPE GROUT-FOR DRAINAGE

POST SLEEVE

> LINE POST OR END POS

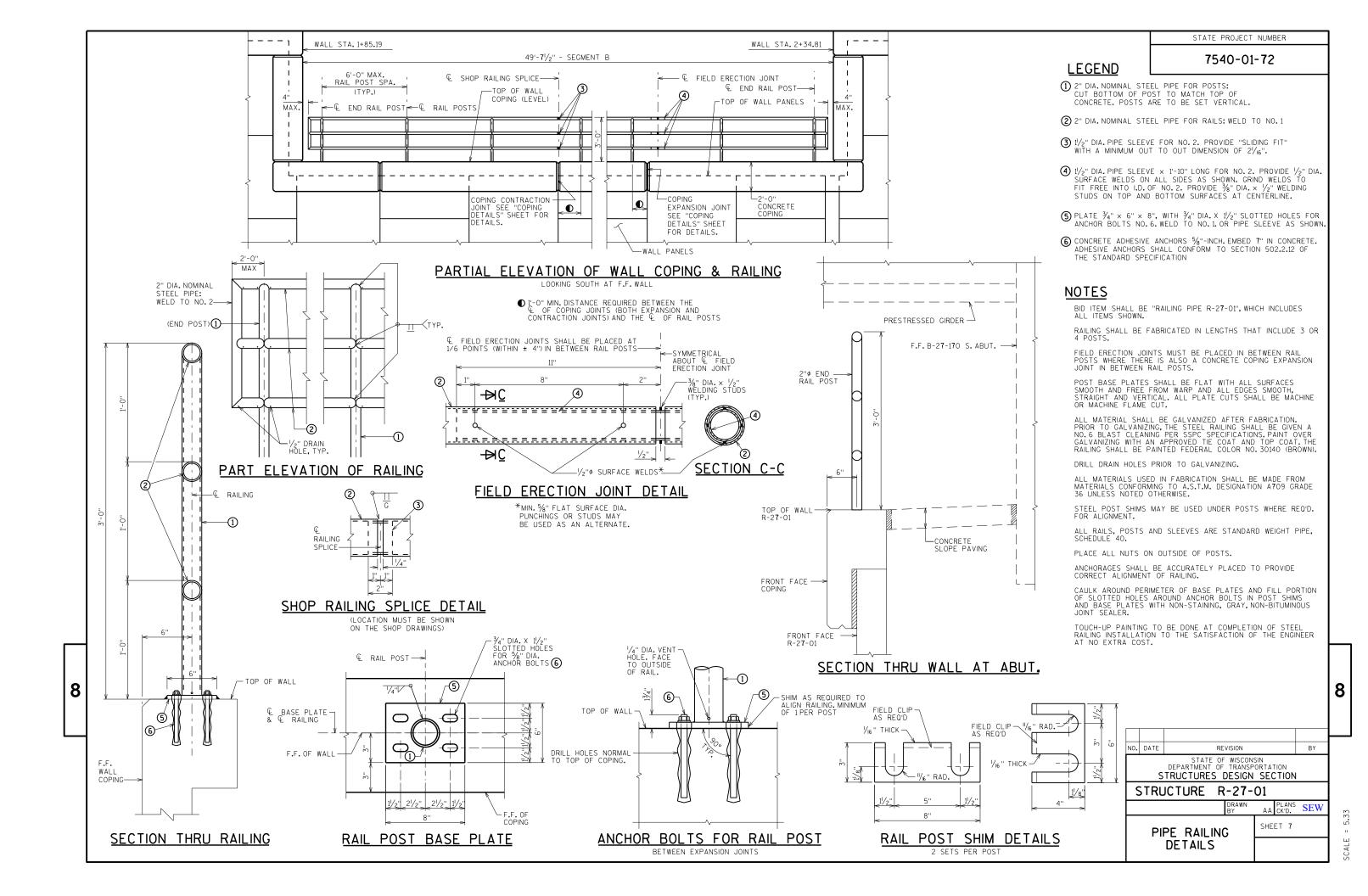
WALL COPING

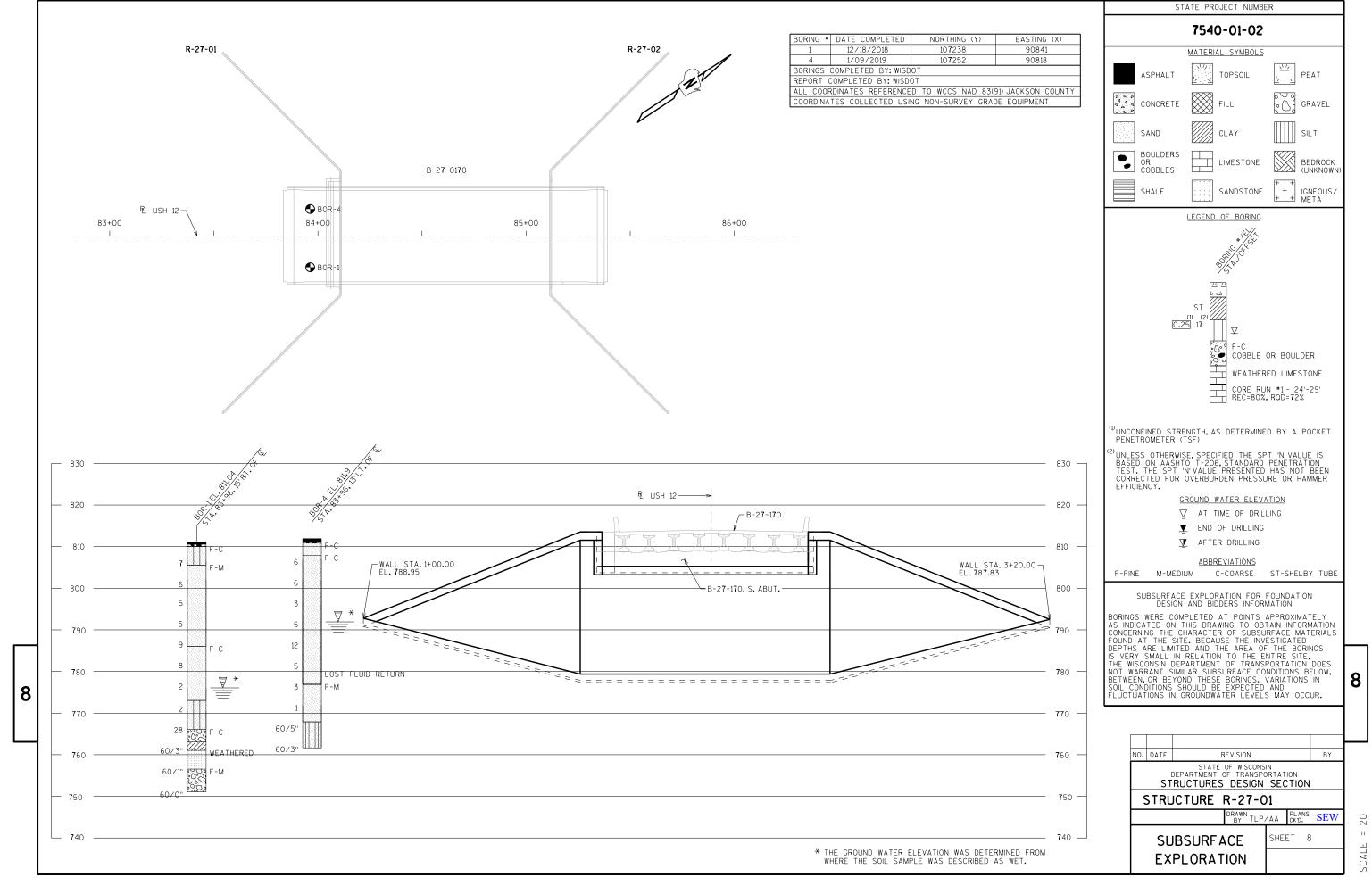
TACK WELD-@ 1/3 POINTS

TOP OF

NO. DATE BY REVISION STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION STRUCTURE R-27-01 DRAWN AA CK'D. SEW SHEET 6 CHAIN LINK

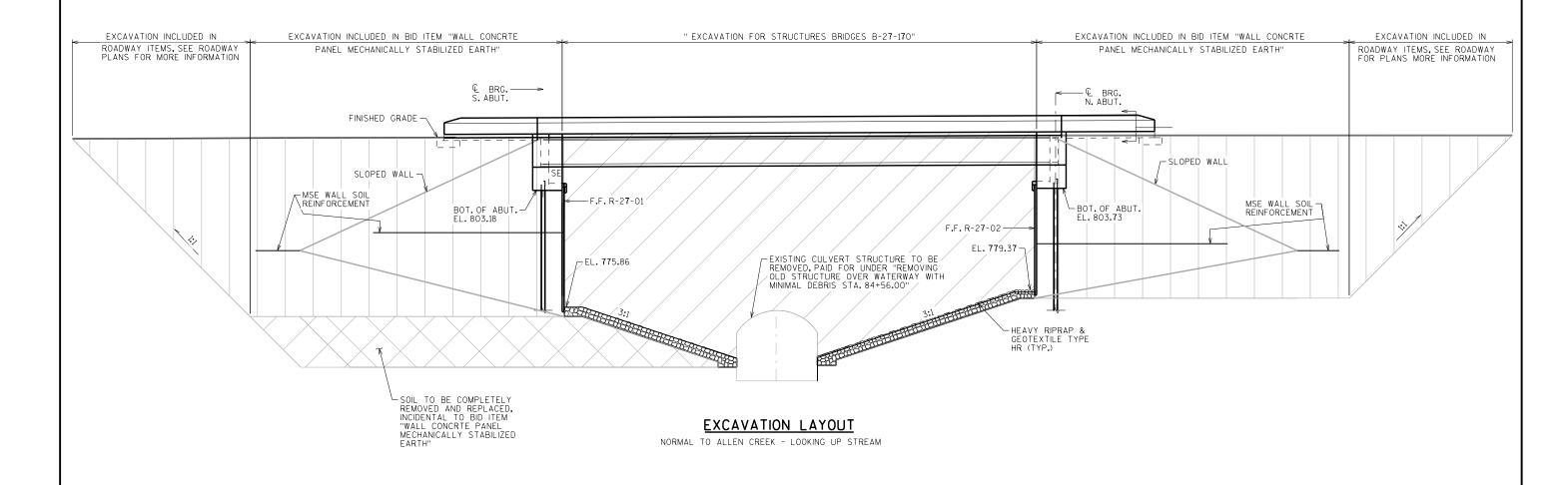
FENCE DETAILS 2





STATE PROJECT NUMBER

7540-01-72



#### NOTE:

DETAIL FOR INFORMATION PURPOSES ONLY

NO. DATE REVISION BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

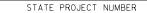
STRUCTURE R-27-01

DRAWN AA PLANS SEW

EXCAVATION DETAILS

VATION

8



THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH".

PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL SHALL BE DESIGNED USING THE ELEVATIONS GIVEN IN THE GEOMETRY TABLE ON THE "QUANTITIES, WALL DATA & NOTES" SHEET.

DESIGN RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND WALL AS SHOWN.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

#### ALLOWABLE WALL SYSTEMS

WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH

#### MATERIAL PROPERTIES:

DESIGN DATA

-END WALL R-27-02 WALL STA.7+20.00 = STA.85+68.07,85.07'RT., R USH 12

— f'c = 3,500 P.S.I. — fy = 60,000 P.S.I. CONCRETE MASONRY (COPING): — BAR STEEL REINFORCEMENT, GRADE 60: —

# -TOE OF RIPRAP TO MATCH EXISTING STREAM BANK OR AS DIRECTED BY THE ENGINEER, TYP.

#### CREEK R-27-02 (M.S.E. RETAINING WALL)

-R USH 12

SLOPE

TYP.

∟F.F. OF

'F.F. OF -

SCOPING

PLAN

– € BRG. N. ABUT. B-2**7**-1**7**0

WALL STA. 6+40.00

= STA. 85+11.50 28.50'RT., R USH 12

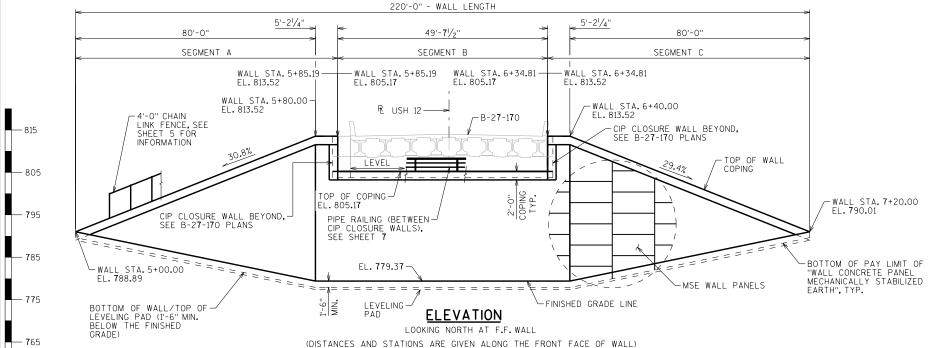
HEAVY RIPRAP & GEOTEXTILE TYPE HR, TYP.

124'-0"±

WALL ST. 6+34.81

ALLEN

= STA. 85+11.50 23.31'RT., R USH 12



B.F. OF

BENCH/V TRAVEL TYP.

WALL

135°

TYP.

WALL STA. 5+80.00 — = STA. 85+11.50 31.5'LT., R USH 12

WALL STA. 5+85.19

= STA. 85+11.50 26.31'LT., R USH 12

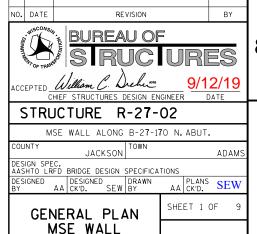
98'-0"±

8

-BEGIN WALL R-27-02 WALL STA.5+00.00 = STA.85+68.07,88.07'LT., R USH 12

#### LIST OF DRAWINGS

- 1. GENERAL PLAN MSE WALL
- 2. QUANTITIES, WALL DATA & NOTES
- 3. WALL DETAILS
- 4. COPING DETAILS
- 5. CHAIN LINK FENCE DETAILS 1 6. CHAIN LINK FENCE DETAILS 2
- 7. PIPE RAILING DETAILS 8. SUBSURFACE EXPLORATION
- 9. EXCAVATION DETAILS



STRUCTURE DESIGN CONTACTS:

AIHAM ALSKIF (608) 261-6113 AARON BONK (608) 261-0261

#### SOIL PARAMETERS

SOIL DESCRIPTION	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)
GRANULAR BACKFILL BEHIND THE WALL IN THE REINFORCING ZONE	30	0	120
FILL, GRANULAR BEHIND THE THE REINFORCING ZONE	31	0	120
BOR- 2 - STA. 85.+16 - 13.0'RT OF R	USH 12 (B-2 <b>7</b> -1 <b>7</b> 0	NORTH ABUTMENT	-EAST)
SAND AND GRAVEL, DARK BROWN EL. 788.00 FT TO EL. 786.20 FT	31	0	115
SAND, TAN, FINE TO MEDIUM, TRACE GRAVEL EL. 786.2 FT TO EL. 776.20 FT	31	0	115
SAND, TAN, FINE TO MEDIUM, LITTLE GRAVEL EL. 776.20 FT TO EL. 768.20 FT	33	0	125
SAND AND SILT, GREEN/WHITE/BROWN,SOME SILT EL. 768.20 FT AND BELOW	0	25,000	140
BOR- 3 - STA. 85.+16 - 12.0'LT OF R	USH 12 (B-2 <b>7</b> -1 <b>7</b> 0	NORTH ABUTMENT	-WEST)
SAND, DARK TAN, FINE TO MEDIUM, TRACE GRAVEL EL. 788.0 FT TO EL. 782.0 FT	31	0	115
SAND, DARK TAN, FINE TO MEDIUM, TRACE GRAVEL EL. 782.0 FT TO EL. 777.0 FT	33	0	125
SAND, DARK WHITE, FINE TO MEDIUM, TRACE SILT EL. 777.0 FT TO EL. 768.5 FT	31	0	115
SAND AND SILT, LIGHT TAN, LITTLE CLAY, SOME GRAVEL, EL. 768.50 FT AND BELOW	0	25,000	140

#### WALL EXTERNAL & OVERALL STABILITY EVALUATION

DIMENSIONS						
WALL HEIGHT (FEET)	12.2	35.7	2 <b>7.</b> 3	27.3	35.7	20.7
EXPOSED WALL HEIGHT (FEET)	10.7	34.2	25 <b>.</b> 8 <sup>2</sup>	25.8 <sup>2</sup>	34.2	19.2
LENGTH OF REINFORCEMENT (FEET)3	8.6	25.0	28.5	28.5	25.0	14.5
LENGTH OF REINFORCEMENT TO HEIGHT RATIO	0.72	0.70	1.05 4	1.05 4	0.70	0.70
BACK SLOPE ABOVE WALL	4:1/6:1	HOR. / 3:1	HOR. / 3:1	HOR. / 3:1	HOR. / 3:1	4:1/6:1
APPROXIMATE WALL STATION	5+25	5+80	6+00	6+25	6+40	6+ <b>7</b> 5
BORING LOCATION USED	BOR - 3	BOR - 3	BOR - 3	BOR - 2	BOR - 2	BOR - 2
CAPACITY TO	DEMAND R	ATIO (CDR) <sup>5</sup>				
SLIDING (CDR > 1.0)	1.0	1.5	1.4	1.4	1.5	1.1
ECCENTRICITY (CDR > 1.0)	1.5	1.9	2.2	2.2	1.9	1.5
OVERALL STABILITY (CDR > 1.0)	NA <sup>6</sup>	NA <sup>6</sup>	1.0	1.0	NA <sup>6</sup>	NA <sup>6</sup>
BEARING RESISTANCE (CDR > 1.0)	1.3	1.1	1.2	1.2	1.1	1.1
FACTORED BEARING RESISTANCE (PSF)	5,000	9,000	9,000	9,000	9,000	7,000
NOTEC						

NOTES:
1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 1.5 FEET.
2. THE WALL STABILITY EVALUATION INCLUDED A SURCHARGE LOAD THAT WAS EQUAL TO THE WEIGHT OF THE SOIL BEHIND THE ABUTMENT.
3. THE LENGTH OF REINFORCEMENT IS THE MINIMUM REQUIRED LENGTH AT THAT LOCATION
4. THE RATIO IS BASED ON MEETING THE GLOBAL SLOPE STABILITY REQUIREMENTS.
5. CDR REQUIREMENTS AND LOAD AND RESISTANCE FACTORS ARE PRESENTED IN CHAPTER 14 OF THE BRIDGE MANUAL.
6. NA NOT APPLICABLE, GLOBAL SLOPE STABILITY WAS EVALUATED AT THE CRITICAL WALL LOCATION

#### GEOMETRY TABLE

	WALL STATION	R USH 12 STATION	OFFSET TO F.F. WALL	TOP OF WALL EL.	FINISHED GRADE EL.
	5+00.00	85+68.07	88.0 <b>7</b> 'LT.	<b>7</b> 88.89	788.89
	5+25.00	85+50.39	<b>7</b> 0.39'LT.	<b>7</b> 96 <b>.</b> 59	<b>7</b> 85 <b>.</b> 92
⋖	5+50.00	85+32.71	52 <b>.7</b> 1'LT.	804.28	<b>7</b> 82 <b>.</b> 94
SEGMENT	5+ <b>7</b> 5.00	85+15.04	35.04'LT.	811.98	779.97
SEGN	5+80.00	85+11.50	31.50'LT.	813.52	779.37
	5+85.19	85+11.50	26.31'LT.	813.52	779.37
	5+85.19	85+11.50	26.31'LT.	805.17	779.37
-	6+00.00	85+11.50	11.50'LT.	805.17	779.37
SEGMENT	6+11.50	85+11.50		805.17	779.37
S	6+25.00	85+11.50	13.5' RT.	805.17	779.37
	6+34.81	85+11.50	23.31'RT.	805.17	779.37
	6+34.81	85+11.50	23.31' RT.	813.52	779.37
U	6+40.00	85+11.50	28.50'RT.	813.52	779.37
ĒN	6+50.00	85+18 <b>.</b> 5 <b>7</b>	35.5 <b>7</b> ' RT.	810.58	780.70
SEGMENT	6+ <b>7</b> 5.00	85+36.25	53.25' RT.	803.24	<b>7</b> 84 <b>.</b> 03
"	7+00.00	85+53.93	<b>7</b> 0.93' RT.	<b>7</b> 95 <b>.</b> 90	<b>787.</b> 36
	<b>7</b> +20 <b>.</b> 00	85+68.07	85.0 <b>7</b> 'RT.	<b>7</b> 90 <b>.</b> 02	<b>7</b> 90 <b>.</b> 02

#### TOTAL ESTIMATED QUANTITIES

8

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
513.2001	RAILING PIPE R-27-02	LF	49
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	3
606.0300	RIPRAP HEAVY	CY	385
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	230
616.0204	FENCE CHAIN LINK 4-FT.	LF	173
645.0120	GEOTEXTILE TYPE HR	SY	<b>7</b> 26
SPV.0165	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH	SF	4 <b>,7</b> 00
SPV.0195	SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR	TON	44
	NON-BID ITEMS		
	PREFORMED JOINT FILLER	SIZE	3/4"
	NON-BITUMINOUS JOINT SEALER	SIZE	3/4"
	EXPANDED POLYSTYRENE	SIZE	1''

#### GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED

BEVEL ALL EXPOSED EDGES OF CONCRETE  $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.

BAR STEEL REINFORCEMENT SHALL HAVE 2" CLEAR COVER UNLESS OTHERWISE

ALL BAR STEEL REINFORCEMENT IN CAST-IN-PLACE CONCRETE IS TO BE EPOXY COATED.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF JOINT FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW THE SURFACE OF CONCRETE).

ALL WALL STATIONING AND OFFSETS ARE GIVEN AT THE FRONT FACE OF WALL R-27-02.

THE EXISTING GROUND LINE IS THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE PLAN QUANTITY FOR THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF THE WALL TO A CONSTANT DEPTH OF 1'-6" BELOW FINISHED GRADE.

THE CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF RETAINING WALL R-27-02 WITH THE NORTH ABUTMENT OF BRIDGE B-27-170.

THE REMOVAL OF THE EXISTING STRUCTURE IS INCLUDED IN A LUMP SUM PAY ITEM FOR BRIDGE B-27-170.

THE DESIGN OF THE WALL IN FRONT OF THE ABUTMENT SHALL INCLUDE THE HORIZONTAL EARTH LOADS AND 240 PSF LIVE LOAD SURCHARGE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

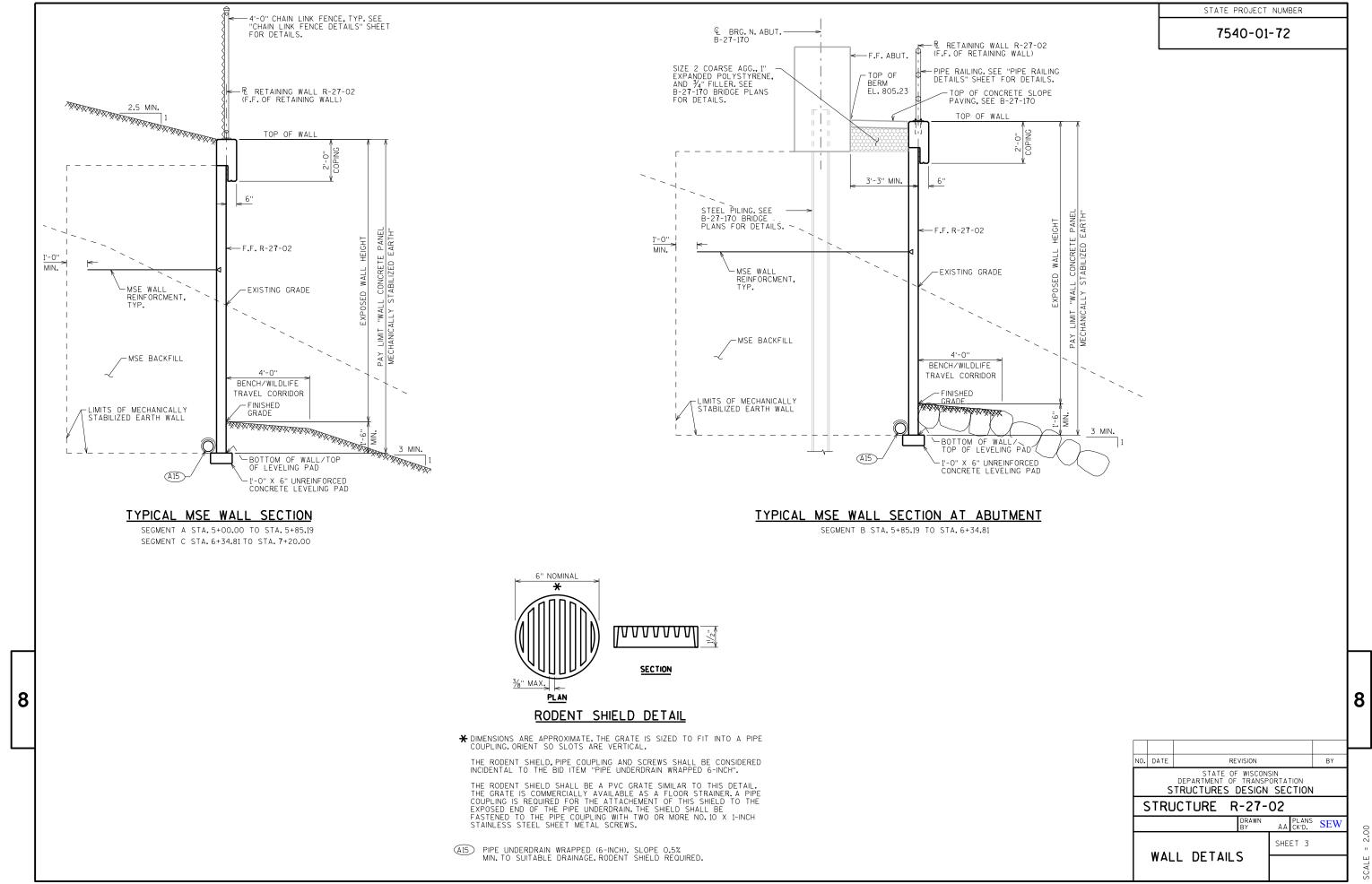
THE CONCRETE MASONRY & REINFORCING STEEL FOR THE CAST-IN-PLACE COPING IS PAID FOR UNDER THE ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH".

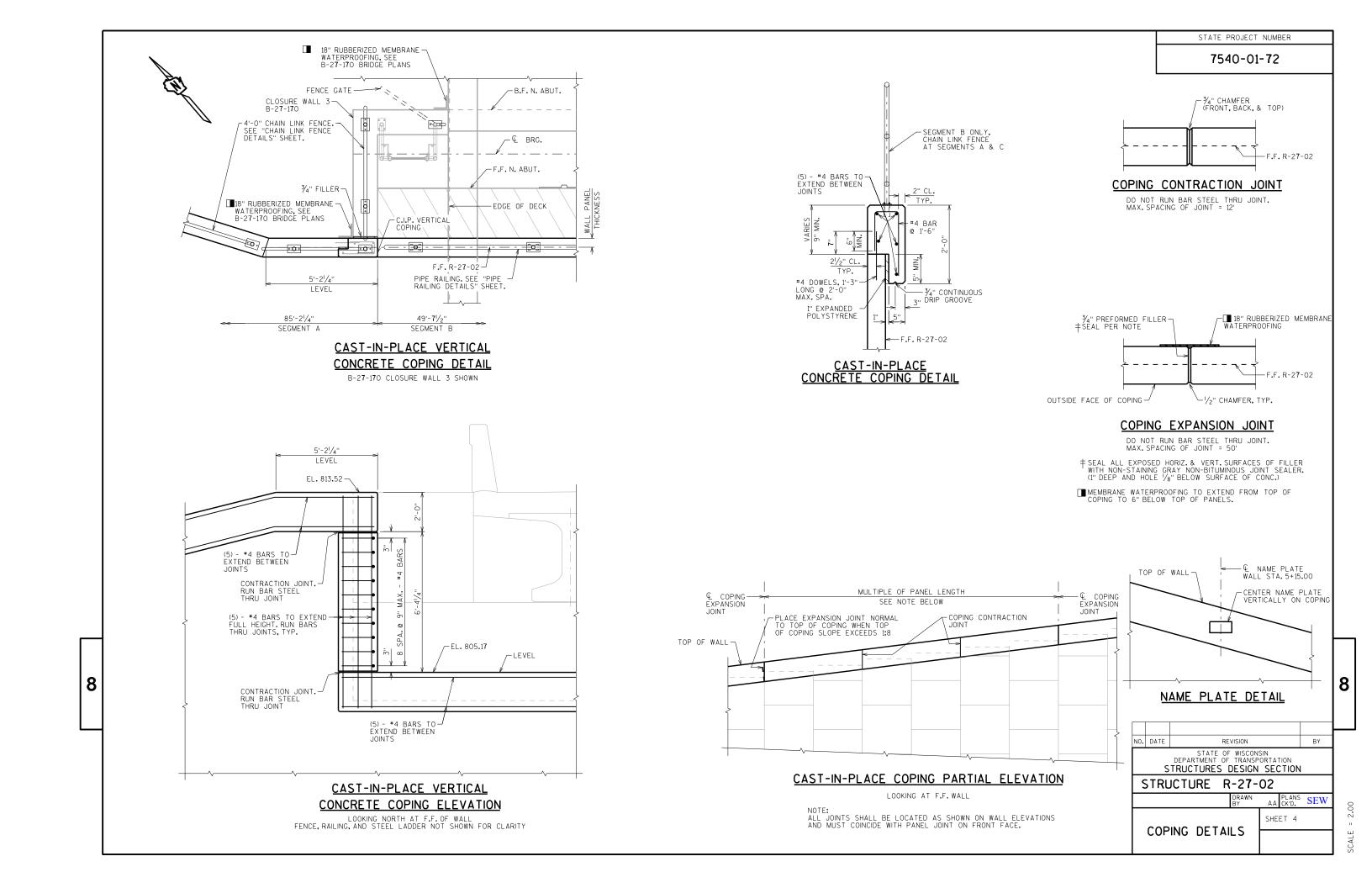
CONTRACTOR, WALL SUPPLIER, AND RAILING FABRICATOR SHALL COORDINATE RAILING POST SPACING, MSE PANELS AND COPING JOINTS.

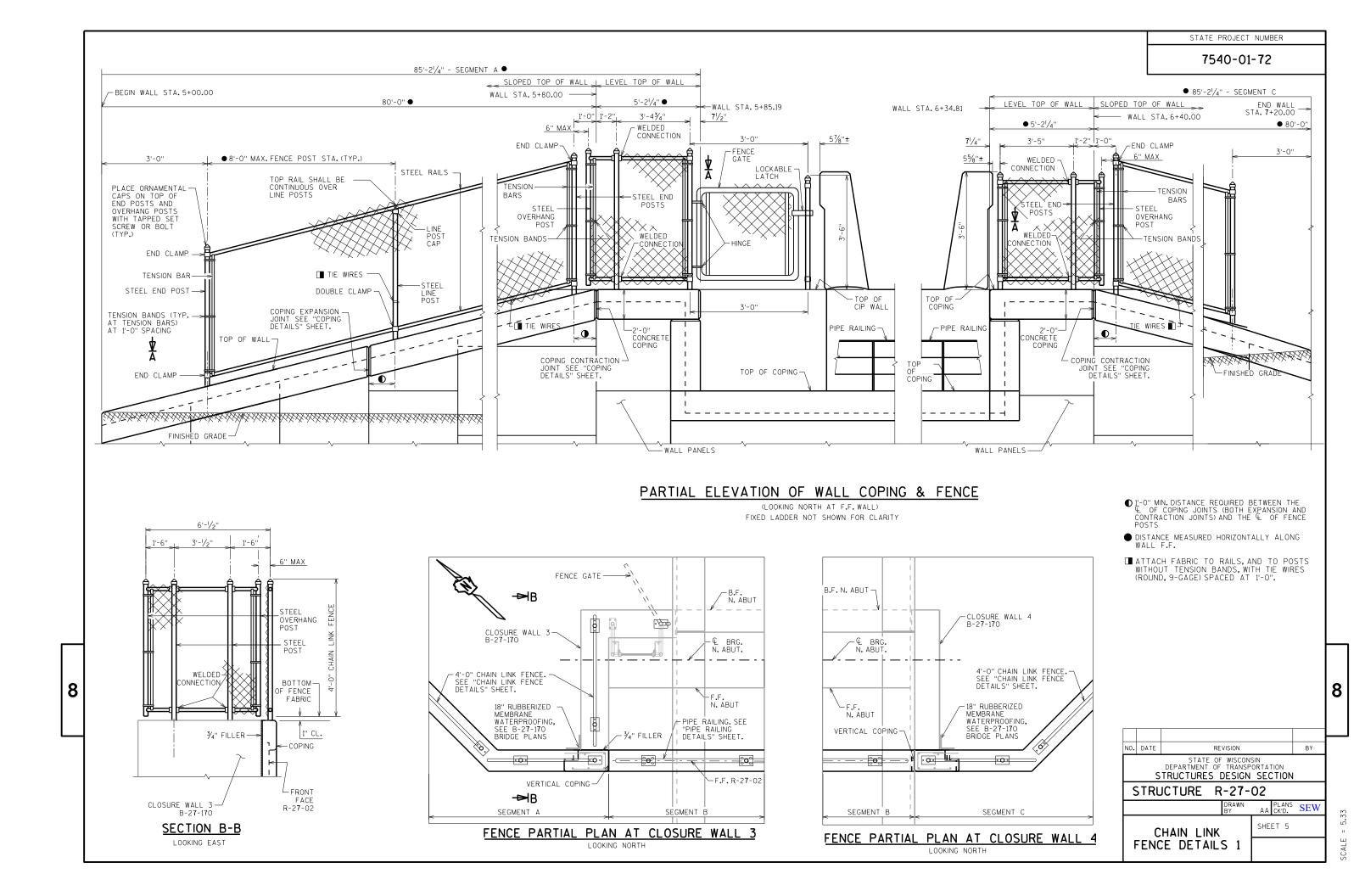
NO.	DATE	RE	VISION			BY	
	STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION						
5	STRUCTURE R-27-02						
			DRAWN BY	ΑА	PLANS CK'D.	SEW	
-							

QUANTITIES. WALL DATA & NOTES

SHEET 2







#### 7540-01-72

## **NOTES**

POSTS ARE TO BE SET VERTICAL.

ALL FENCE COMPONENTS SHALL BE GALVANIZED STEEL, EXCEPT THE FENCE FABRIC WHICH MAY BE ALUMINUM-COATED STEEL OR GALVANIZED STEEL.

FABRIC SHALL CONFORM TO ASTM A491 OR A392, CLASS 2 STEEL RAILS, POSTS AND POST SLEEVES SHALL CONFORM TO ASTM F1083, STANDARD WEIGHT PIPE (SCHEDULE 40). FITTINGS SHALL CONFORM TO ASTM F626.

THE BID ITEM SHALL BE "FENCE CHAIN LINK 4- FT."

COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.

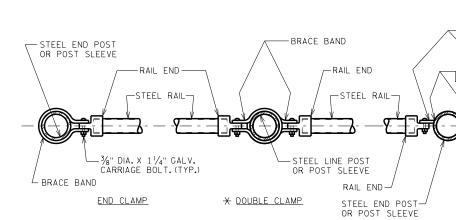
POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL, ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

BASE PLATES, ANCHOR PLATES AND SHIMS SHALL BE ASTM A709, GRADE 36.

ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG THE C/L OF THE POST.

- CAULK AROUND PERIMETER OF BASE PLATE AND FILL PORTION OF SLOTTED HOLE AROUND ANCHOR BOLT IN SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.
- \* ALTERNATE TO DOUBLE CLAMP: USE LINE RAIL CLAMP WHEN THE POSTS ARE EITHER BOLTED TO THE POST SLEEVES OR DIRECTLY WELDED TO THE BASE PLATE.
- ↑ ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS 1/2-INCH. EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD
- BOLT RAIL TO RAIL END TO SECURE OVERHANG SECTION. ALTERNATE IS TO WELD RAIL DIRECTLY TO END POST.

MINIMUM LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0". LOCATE SPLICES NEAR 1/4 POINT OF POST



#### SECTION A-A

-WELD 11/2" X 1/4" X 2" LONG LUG TO POSTS

-STEEL RAIL-

WELDED CONNECTION

(AT OVERHANG SECTION)

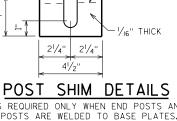
OVERHANG-POST

−& POST

-GRIND RAIL TO

REQ'D RADIUS

NOTE: PLACE ALL BOLT HEADS ON SIDE OF FENCE ADJACENT TO PEDESTRIANS



SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.

FENCE MEMBER

SIZE & WEIGHT

OUTSIDE

(INCHES)

1,660

2.875

2.875

2**.37**5

4.000

DIAMETER

(LB/FT

2.27

5.80

5.80

3.65

9.12

-GALVANIZED

**FENCE** 

RAILS

END

MEMBER

OVERHAN

POST

POST

SLEEVE

FIELD CLIP AS REQ'D.

21/4"

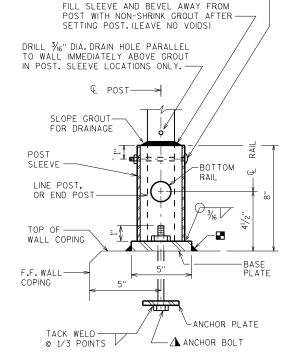


## FENCE FABRIC

FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.

♠ NEAR THE BRIDGE PARAPET

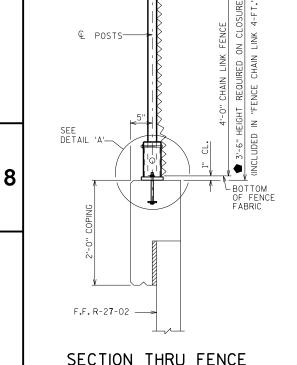
GALVANIZED-

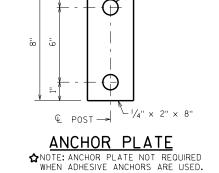


3/8" DIA. GALV. CARRIAGE BOLT WITH LOCKING

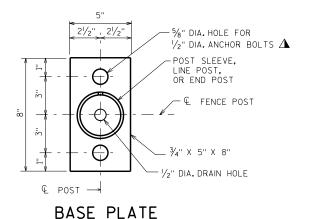
NUT. (TO BE SUPPLIED WITH ASSEMBLY) -

NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE





5/8" DIA. HOLE

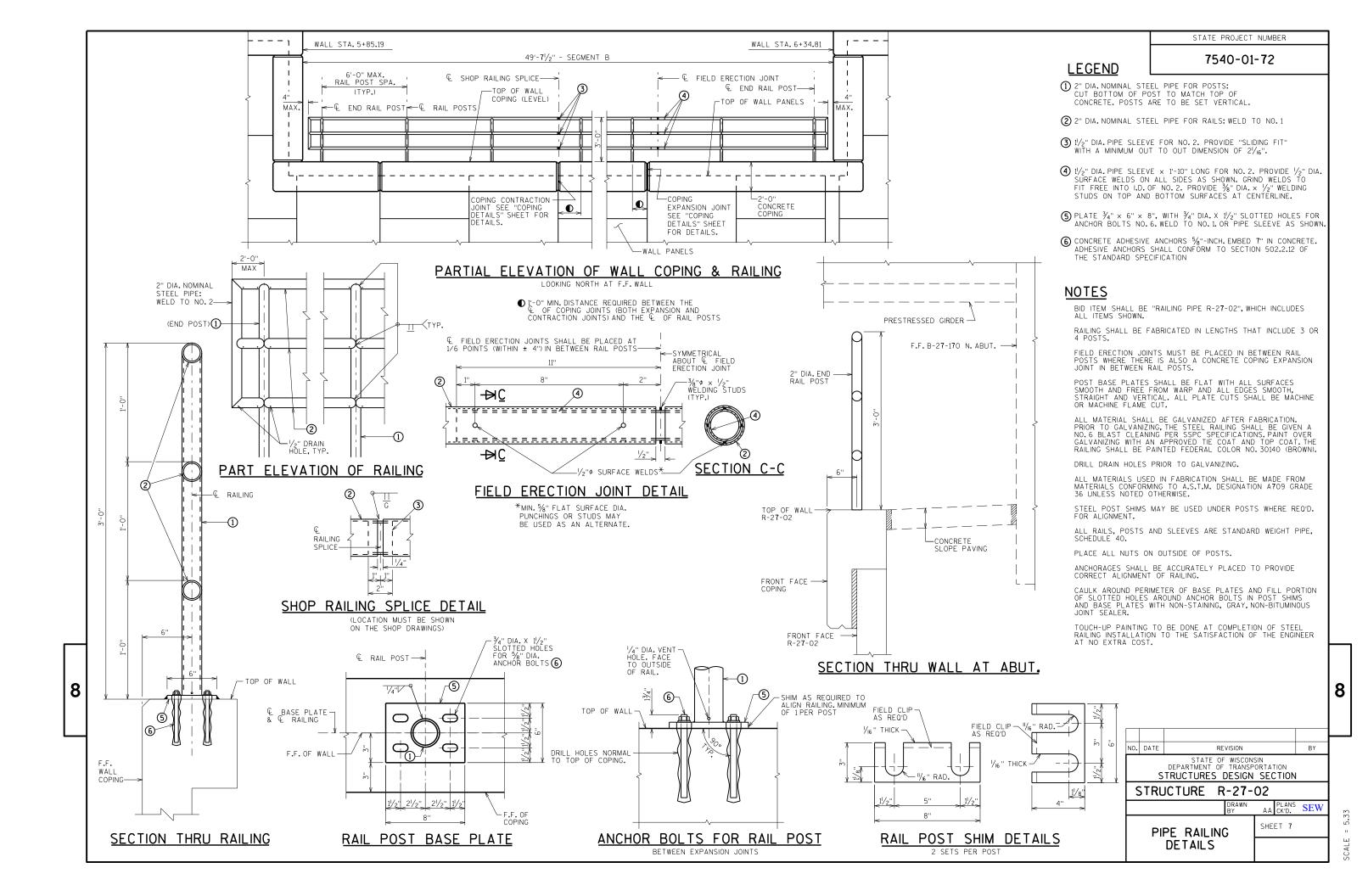


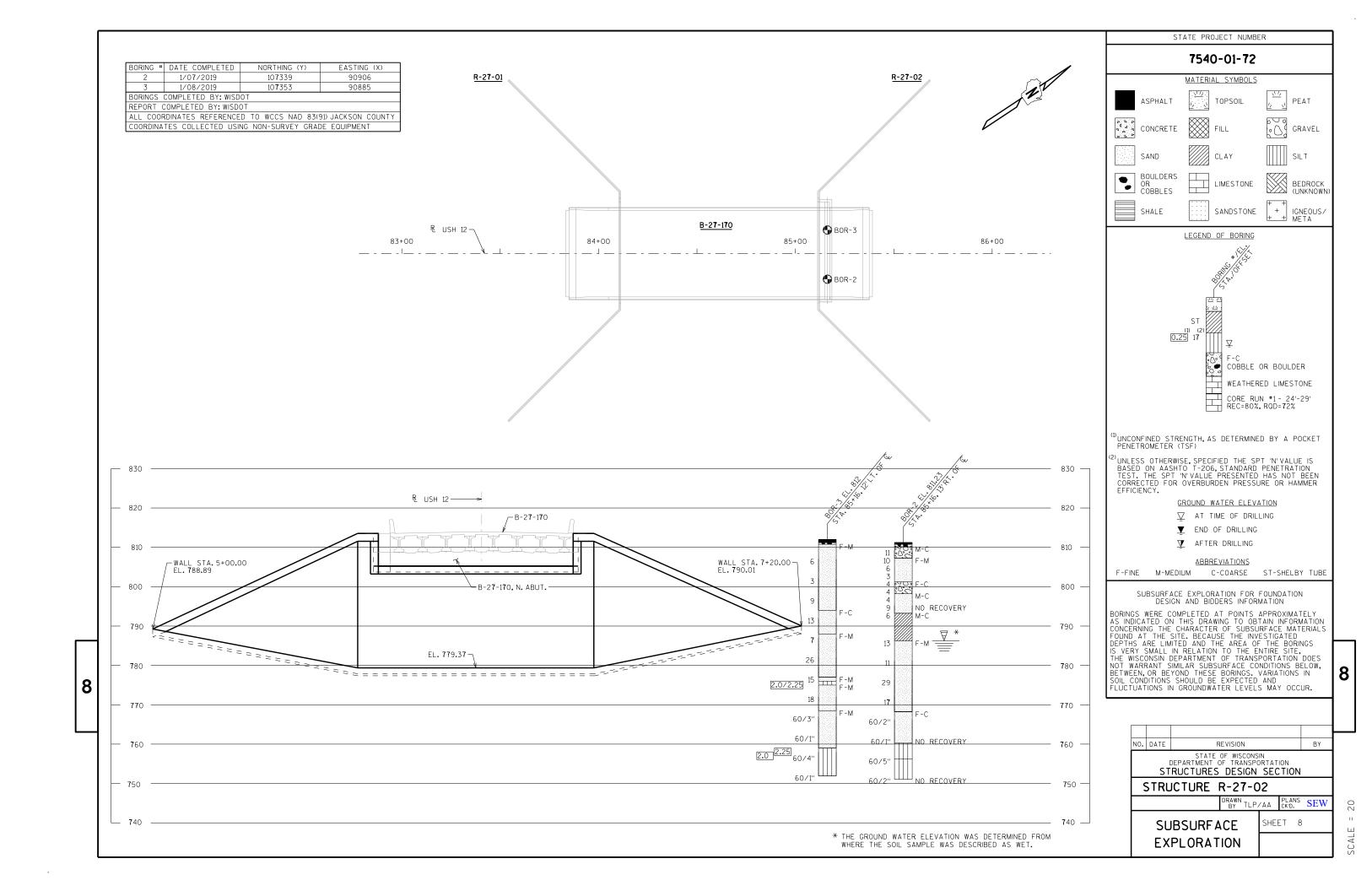
DETAIL 'A UNIT SHALL BE GALVANIZED AFTER FABRICATION POST MAY BE WELDED TO THE BASE PLATE.

NO. DATE BY REVISION STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION STRUCTURE R-27-02 DRAWN AA CK'D. SEW

SHEET 6

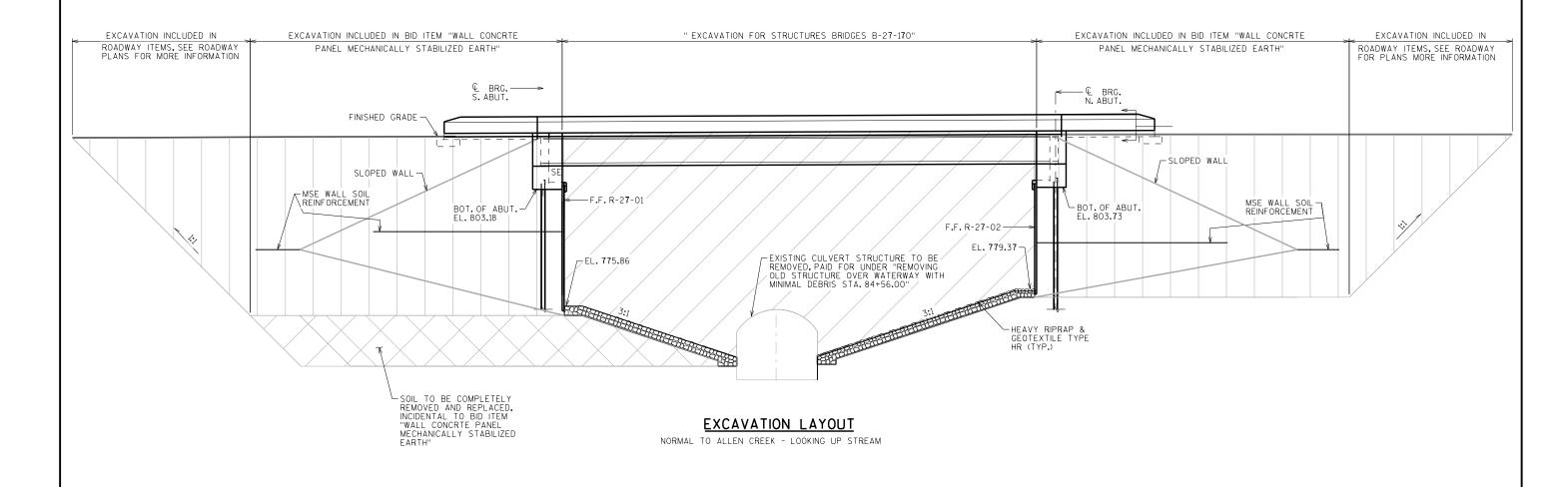
CHAIN LINK FENCE DETAILS 2





STATE PROJECT NUMBER

7540-01-72



### NOTE:

DETAIL FOR INFORMATION PURPOSES ONLY

NO. DATE REVISION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION STRUCTURE R-27-02 DRAWN BY AA CK'D. SEW SHEET 9

EXCAVATION DETAILS

8

8

BY

CULVER	ΓAREA						·	
	AREA (SF) INCR. V			OL. (CY)		CUM. \		
Station	CUT	FILL	CUT	FILL		CUT	EXPANDED	MASS
					П		FILL	HAUL
						1.00	1.25	(CY)
69+00.0	83	0	0	0	Ш	0	0	0
69+36.0	123	0	137	0		137	0	137
69+70.0	185	0	194	0		331	0	331
69+97.0	178	0	182	0		513	0	513
70+00.0	178	0	20	0		533	0	533
70+23.0	169	2	148	1	П	681	1	680
70+80.0	135	42	321	46	П	1002	59	943
71+00.0	80	125	80	62		1082	137	945
71+25.0	45	304	58	199	П	1140	386	754
71+50.0	48	522	43	382	П	1183	864	319
71+75.0	50	575	45	508	П	1228	1499	-271
72+00.0	53	608	48	548		1276	2184	-908
72+10.0	65	604	22	224	П	1298	2464	-1166
72+25.0	63	527	36	314	П	1334	2857	-1523
72+50.0	75	8	64	248	П	1398	3167	-1769
73+00.0	76	14	140	20	П	1538	3192	-1654
73+48.0	10	7	76	19	П	1614	3216	-1602
73+74.0	8	8	9	7	П	1623	3225	-1602
74+00.0	8	7	8	7	П	1631	3234	-1603
74+01.0	8	7	0	0	$\Box$	1631	3234	-1603
74+31.0	6	0	8	4		1639	3239	-1600
					Ш			0.10
		LE	SS SALVAG	ED/UNUSAE	3LE	PAVEME	NT MATERIAL	648
					+		TOTAL	-2248

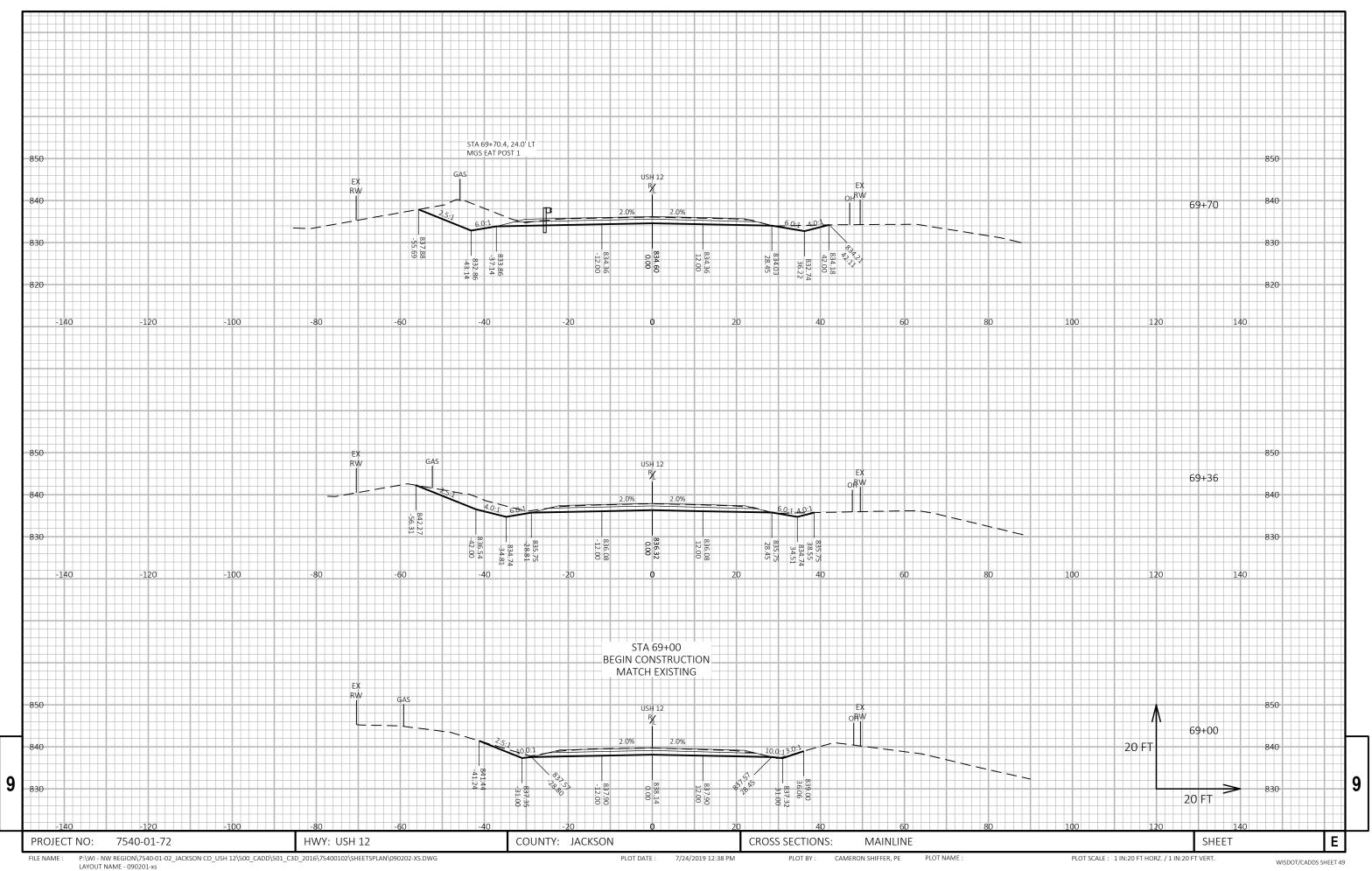
SOUTH C	F B-27-0170	)								
	AREA	(SF)		INCR. V	OL. (CY)		CUM. V	OL. (CY)		
Station	CUT	FILL		CUT	FILL		CUT	EXPANDED		MASS
								FILL		HAUL
							1.00	1.25		(CY)
78+93.0	9	16		0	0		0	0		0
79+00.0	10	19		2	5		2	6		-4
79+20.0	11	28		8	17		10	27		-17
79+46.0	11	23		11	25		21	58		-37
80+00.0	13	2		24	25		45	89		-44
80+54.0	76	4		89	6		134	97		37
80+80.0	90	0		80	2		214	100		114
80+96.0	90	0		53	0		267	100		167
81+00.0	88	0		13	0		280	100		180
81+22.0	80	15		68	6		348	108		240
81+48.0	79	21		77	17		425	129		296
82+00.0	65	57		139	75		564	223		341
83+00.0	30	1238		176	2398		740	3221		-2481
83+50.0	25	1458		51	2496		791	6341		-5550
84+10.0	0	23		28	1646		819	8399		-7580
									L	
		L	E	SS SALVAG	ED/UNUSAB	LE	PAVEMEN	T MATERIAL	+	519
								TOTAL	-	0000
								TOTAL		-8099

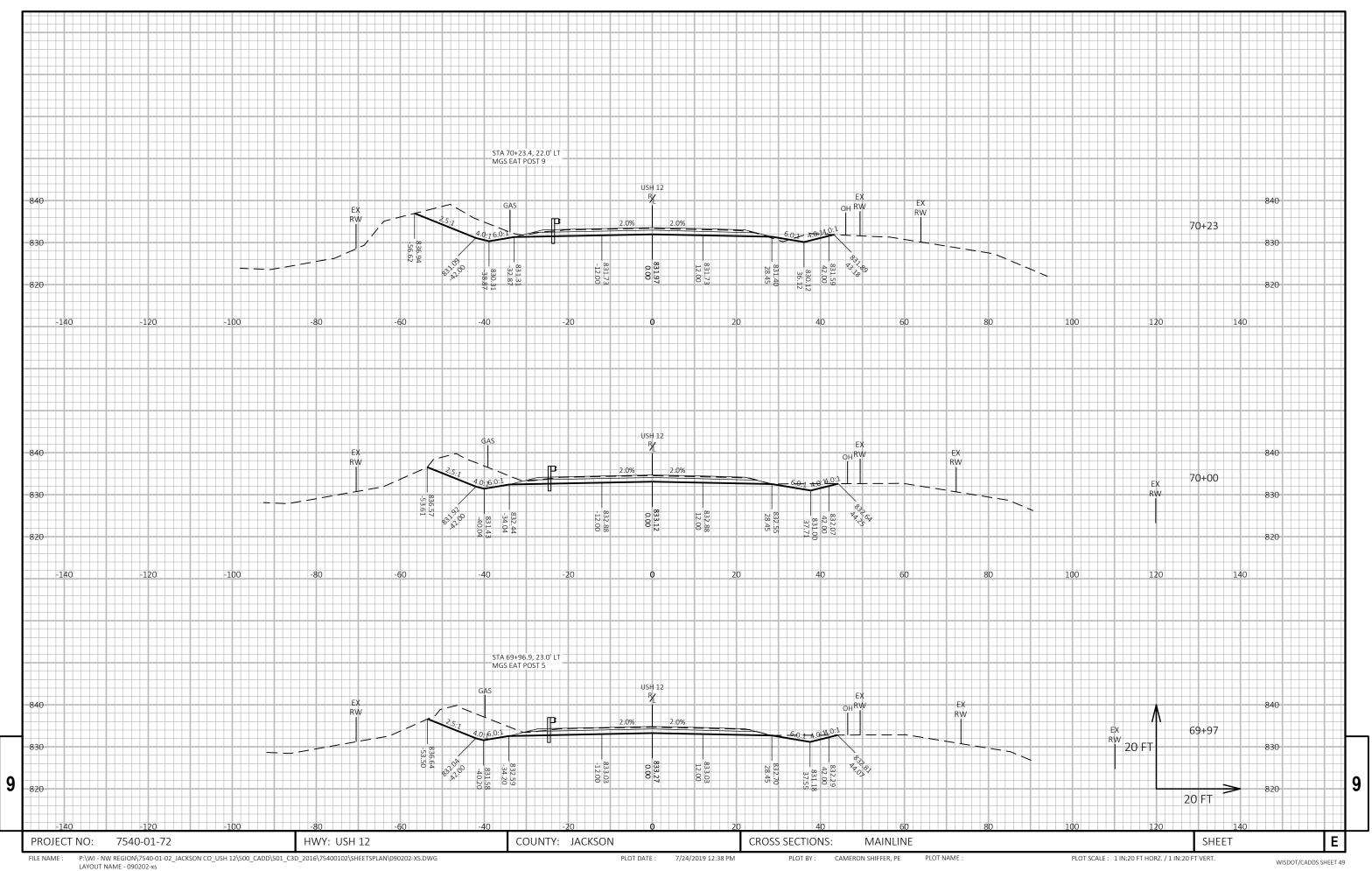
NORTH (	OF B-27-0170									
	AREA (SF)			ICR. VOL. (CY)			CUM. VOL. (CY)			
Station	CUT	FILL	CUT	FILL		CUT	EXPANDED	MASS		
							FILL	HAUL		
						1.00	1.25	(CY)		
85+11.0	1	124	0	0		0	0	0		
86+00.0	1	1441	3	2580		3	3225	-3222		
87+00.0	3	880	7	4298		10	8598	-8588		
87+99.0	19	216	40	2009		50	11109	-11059		
88+00.0	19	216	1	8		51	11119	-11068		
88+26.0	26	132	22	168		73	11329	-11256		
88+37.0	35	12	12	29		85	11365	-11280		
88+52.0	68	0	29	3		114	11369	-11255		
88+63.0	101	0	34	0		148	11369	-11221		
88+90.0	179	0	140	0		288	11369	-11081		
89+00.0	125	0	56	0		344	11369	-11025		
89+25.0	81	0	95	0		439	11369	-10930		
90+00.0	84	0	229	0		668	11369	-10701		
		L	ESS SALVAC	SED/UNUSA	BLE	PAVEME	NT MATERIAL	691		
							TOTAL	-11392		

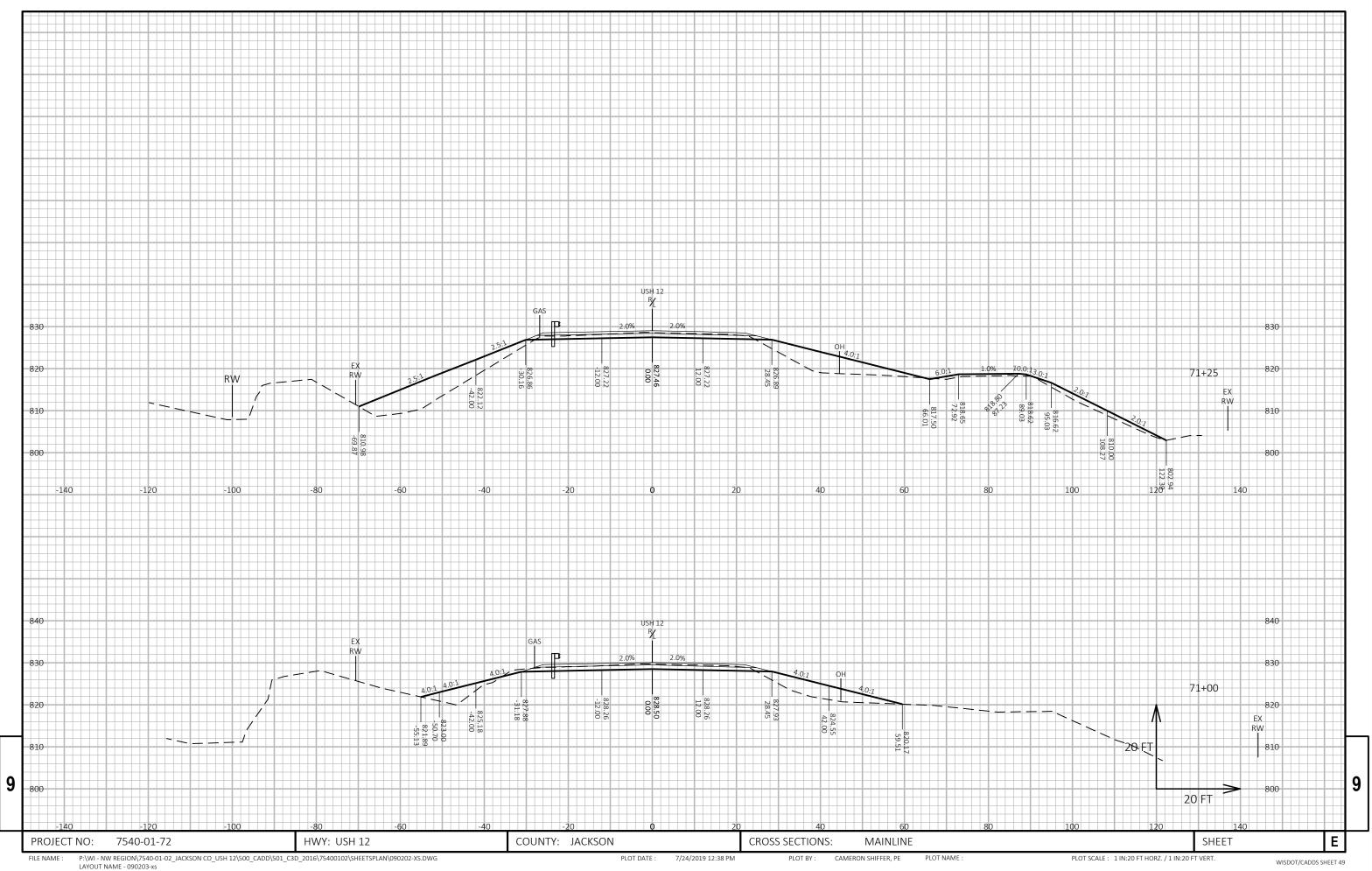
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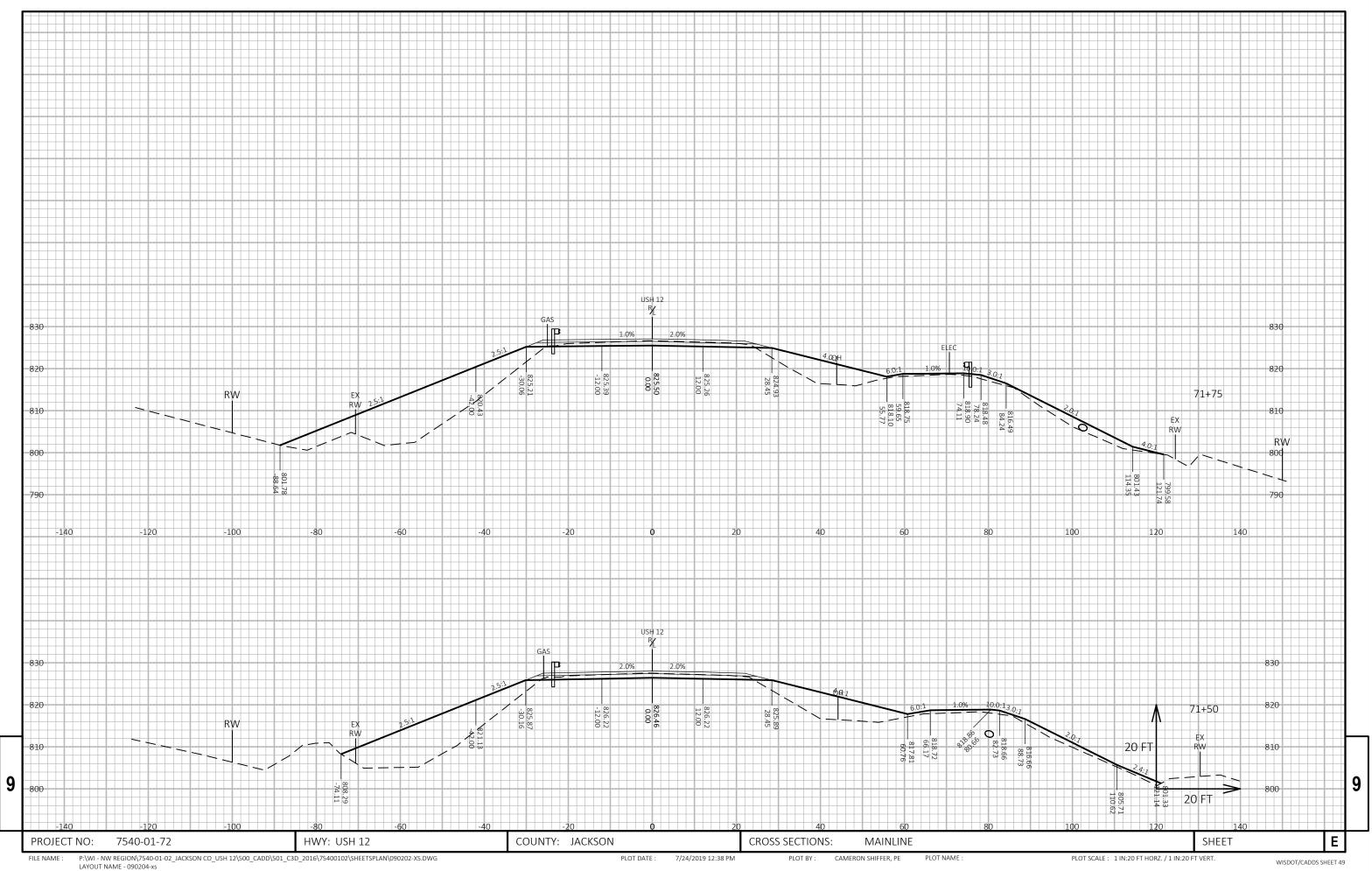
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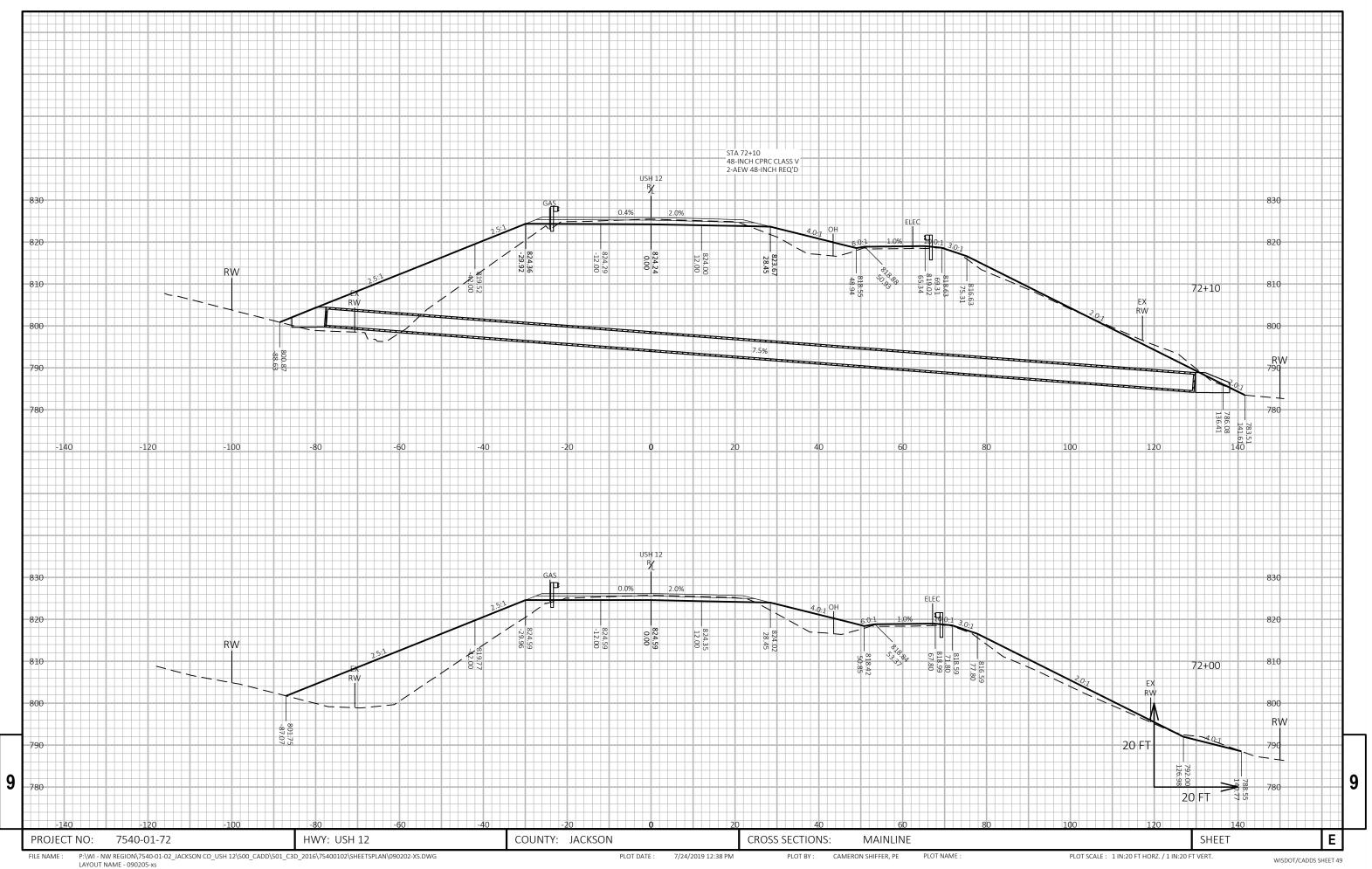
PROJECT NO: 7540-01-72 HWY: USH 12 COUNTY: JACKSON COMPUTER EARTHWORK DATA SHEET NO: E

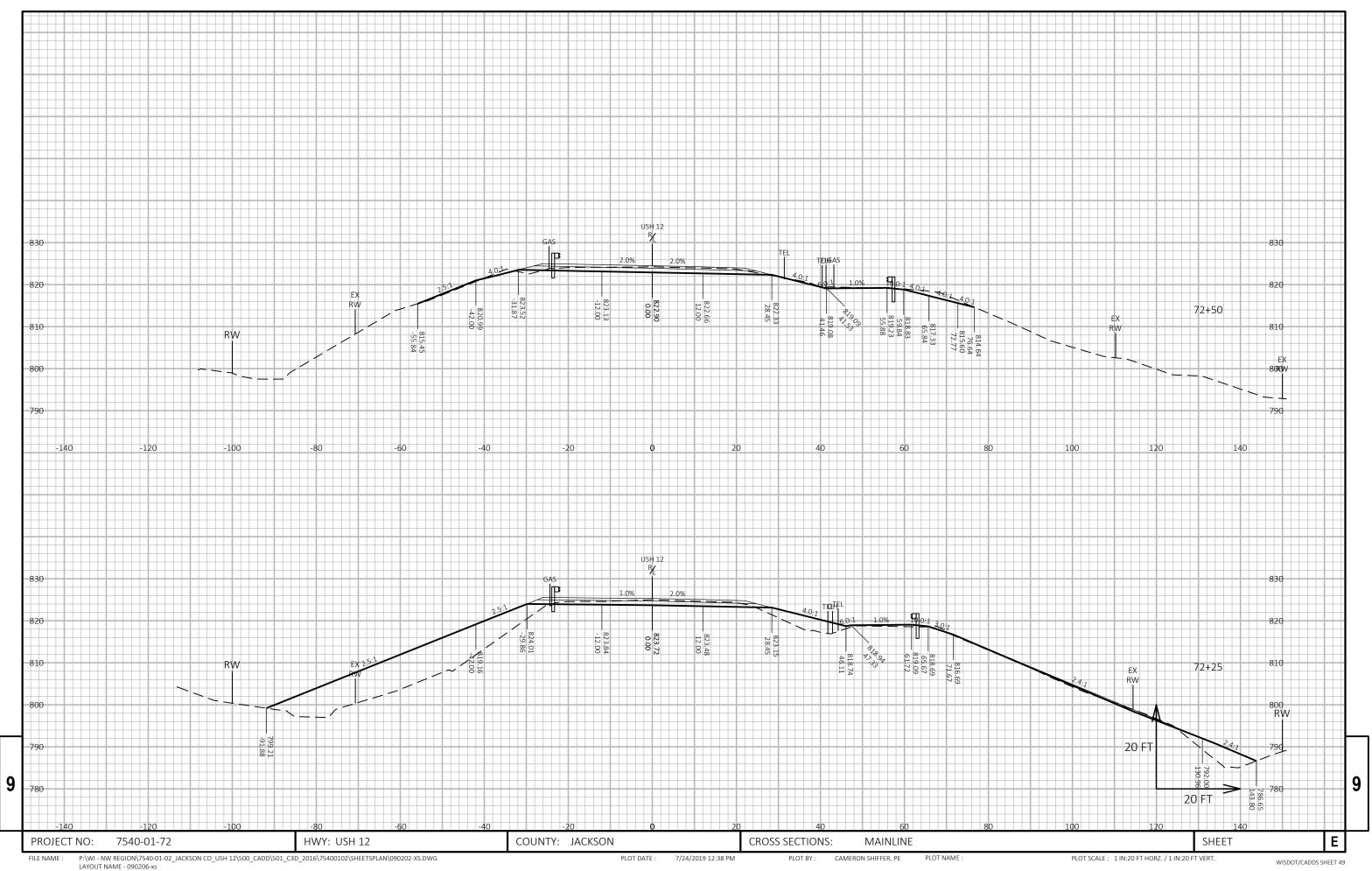


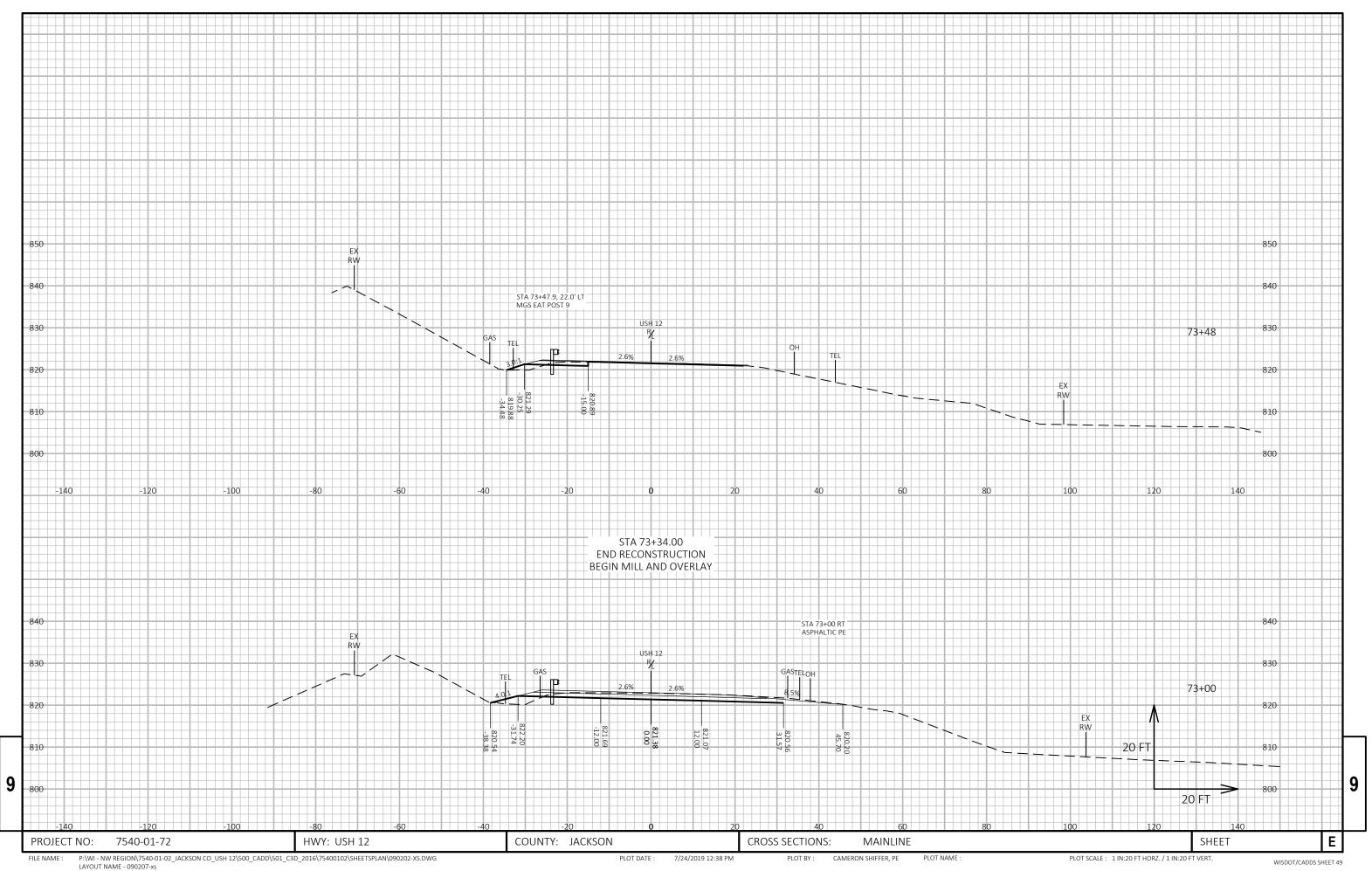


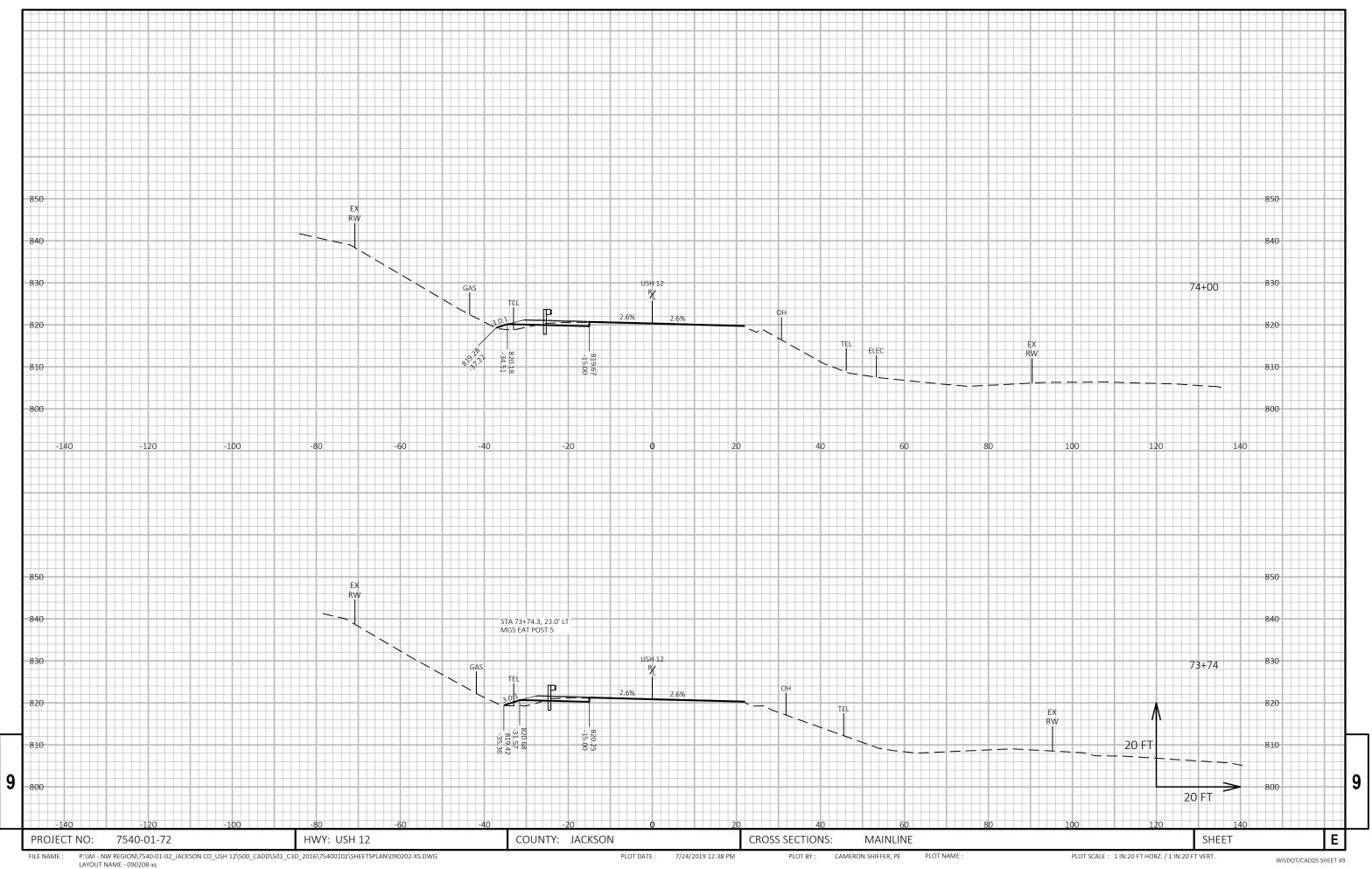


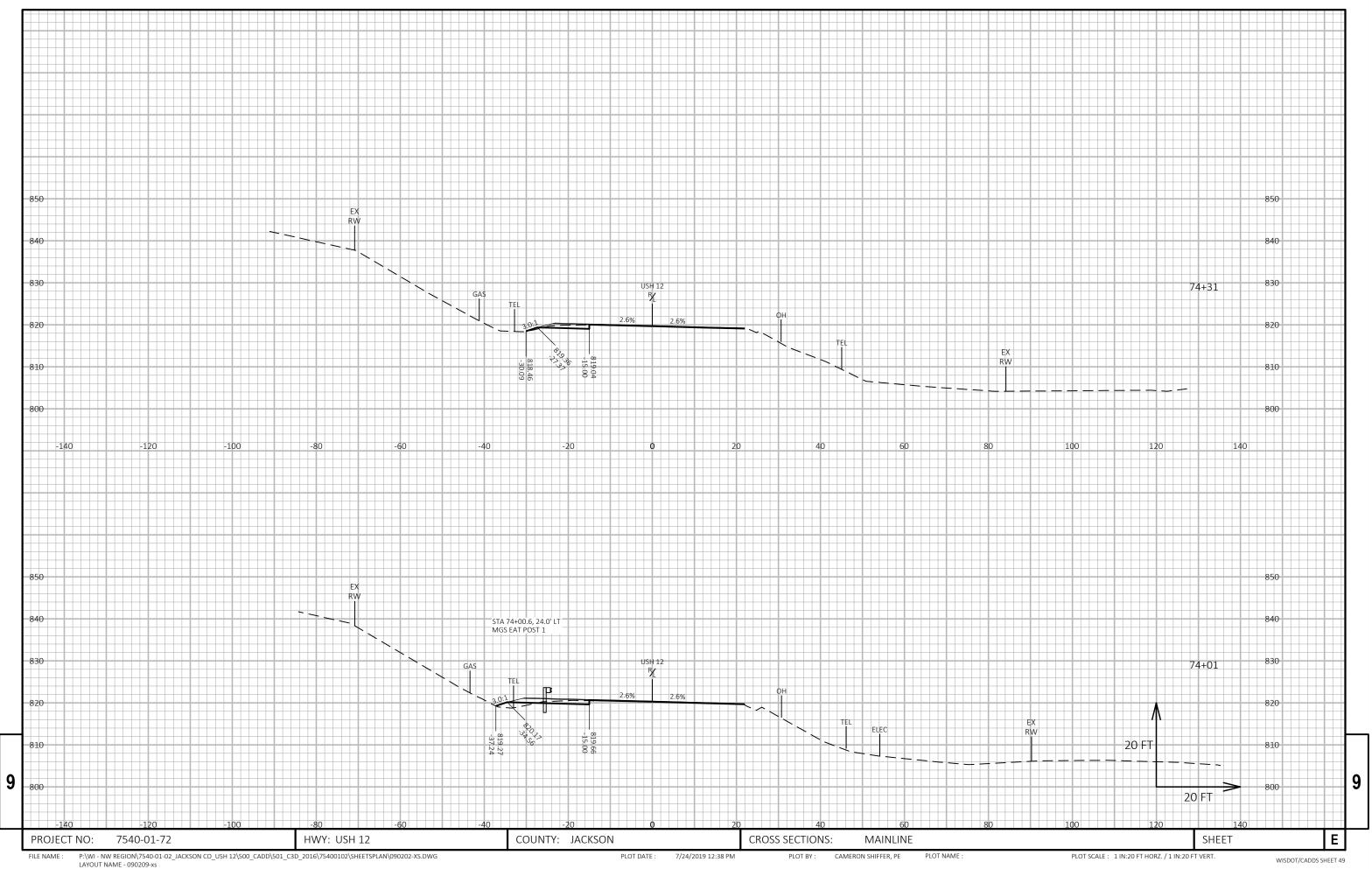


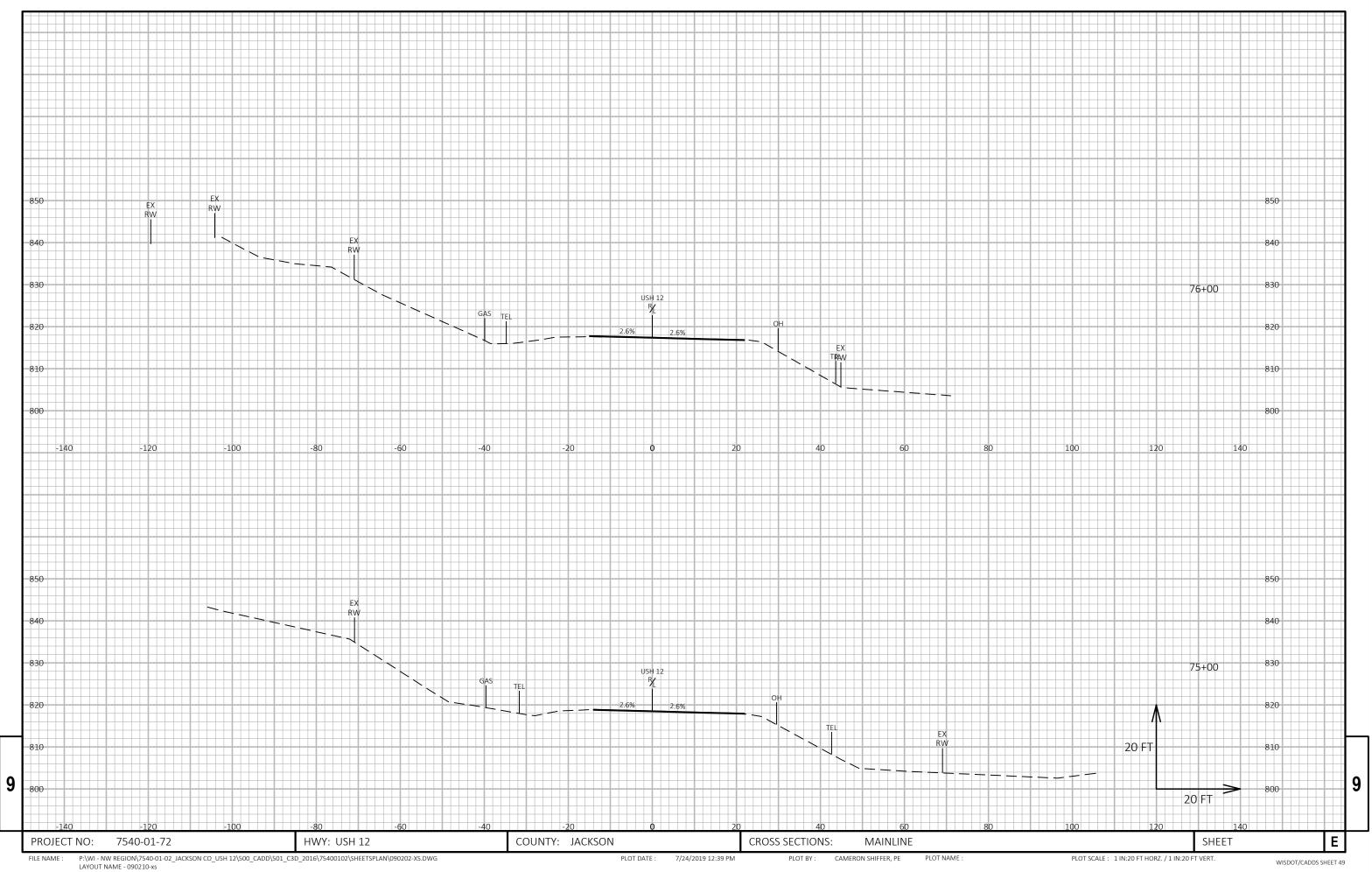


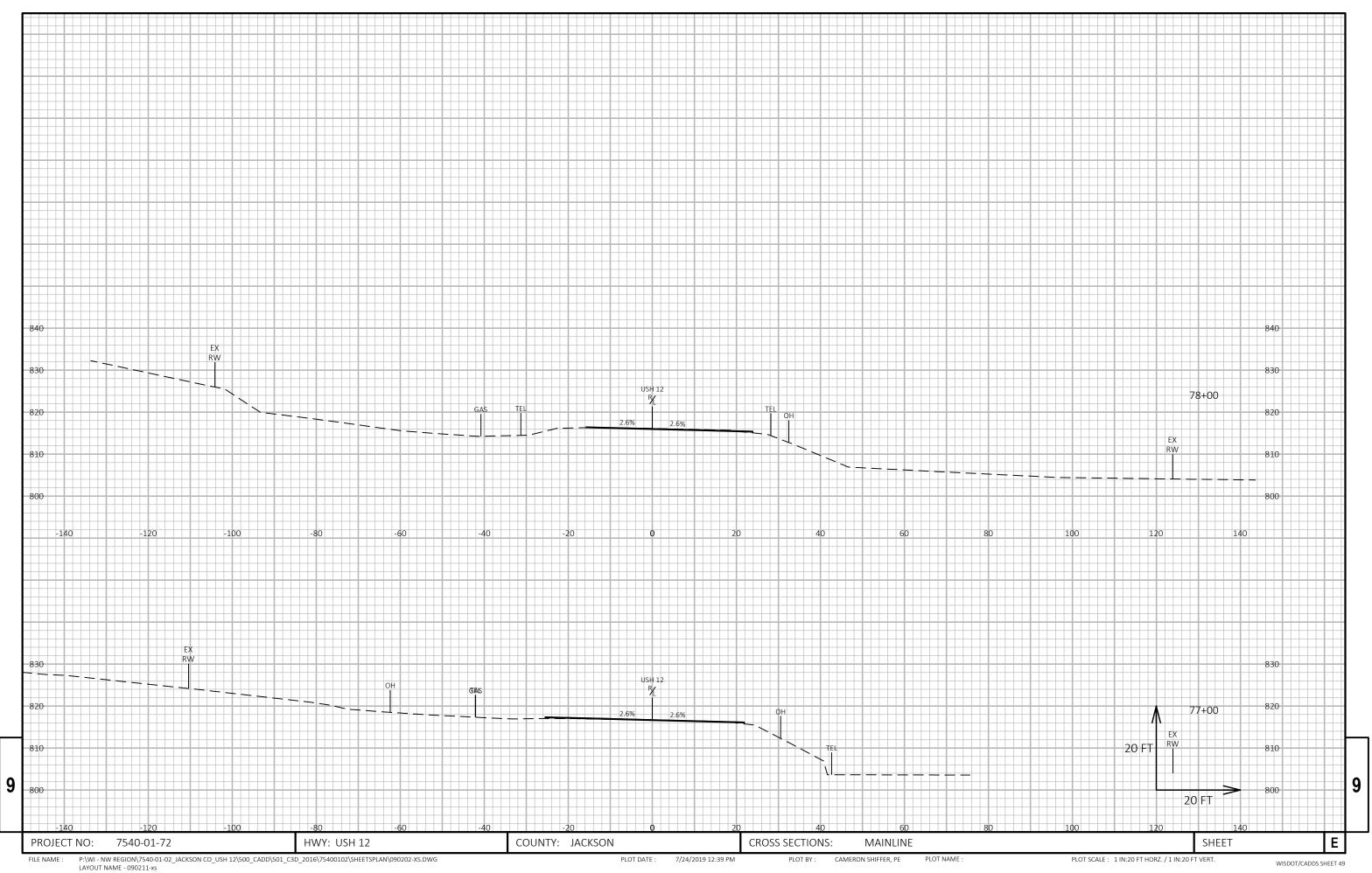


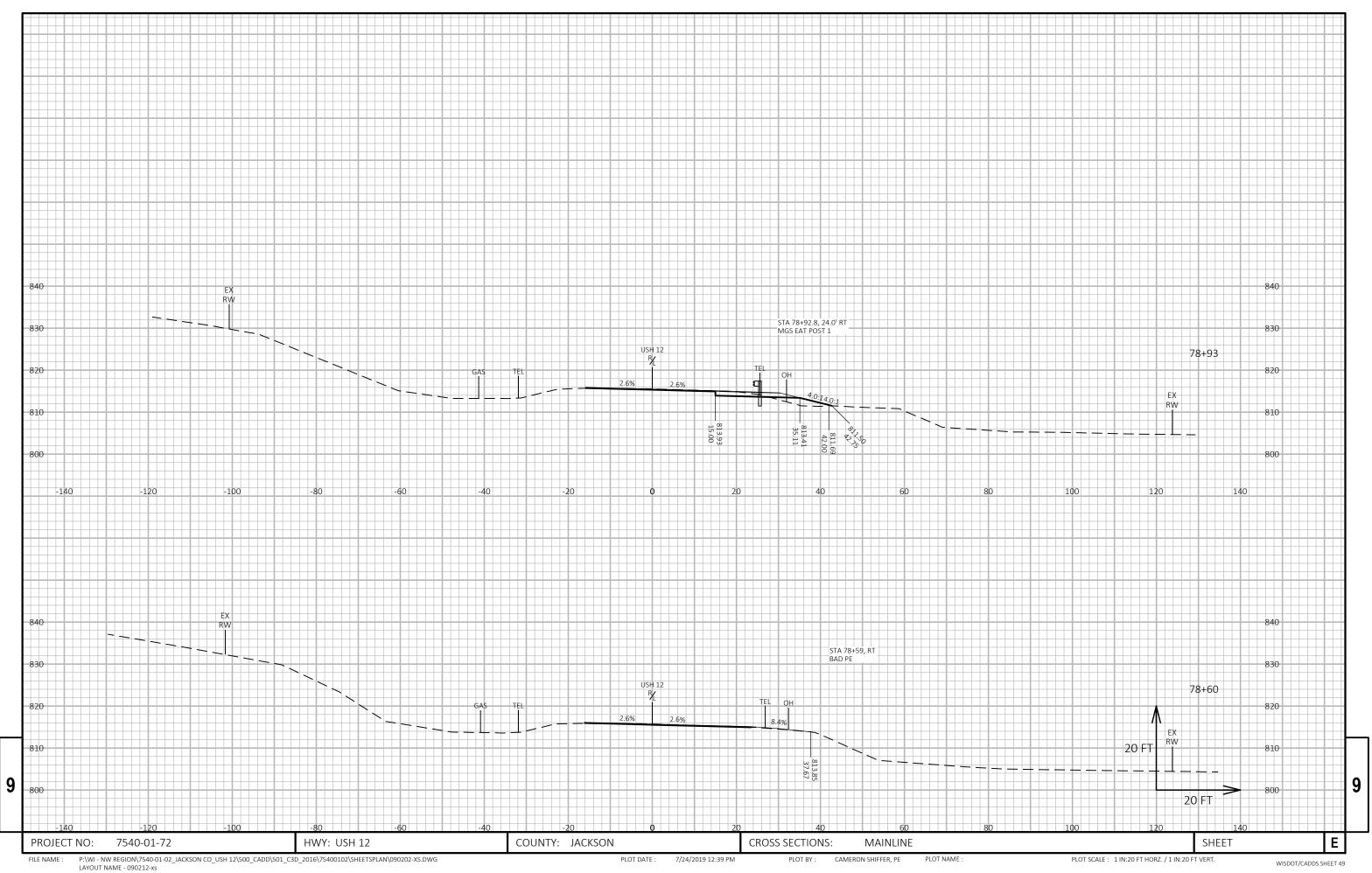


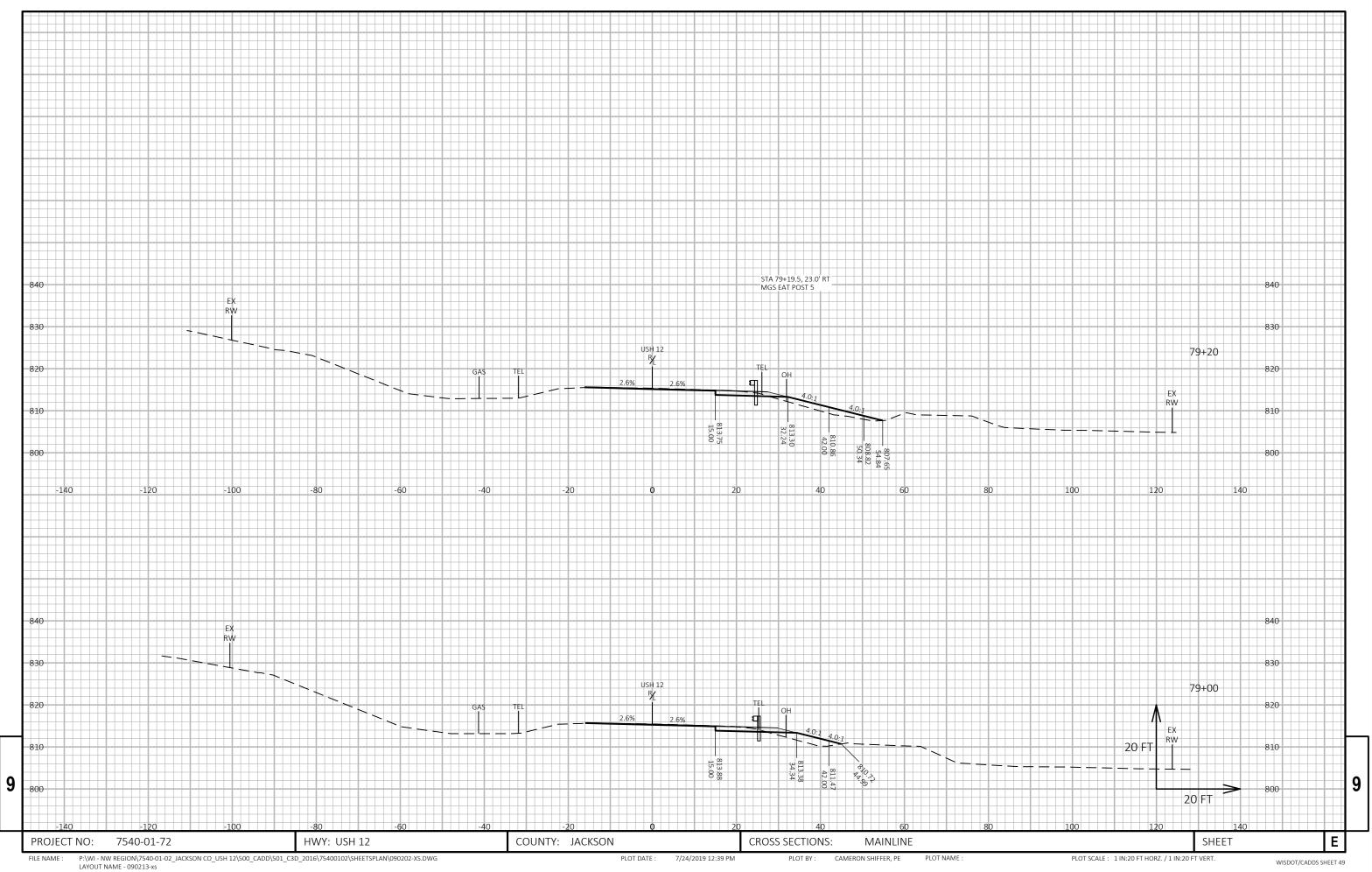


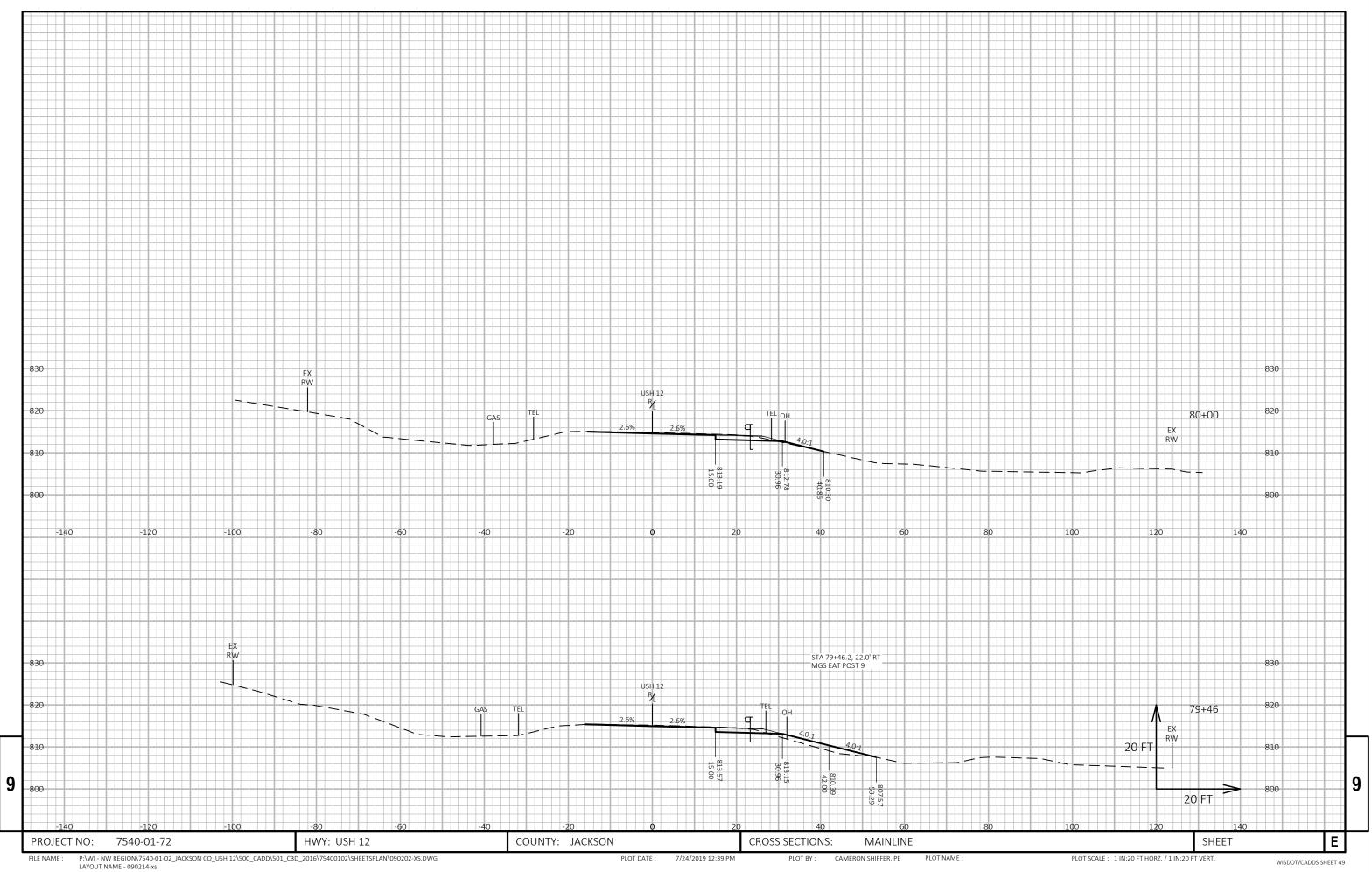


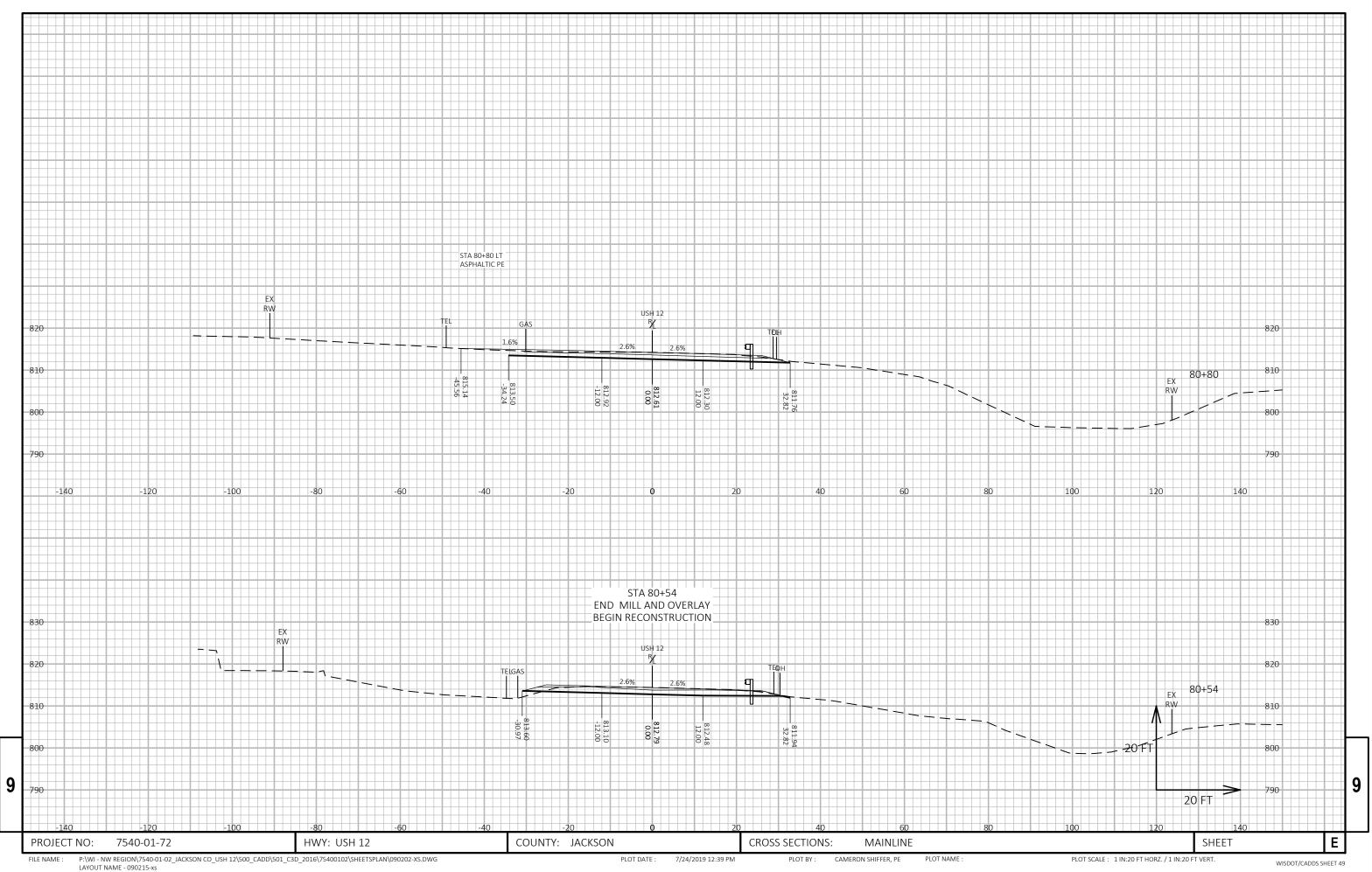


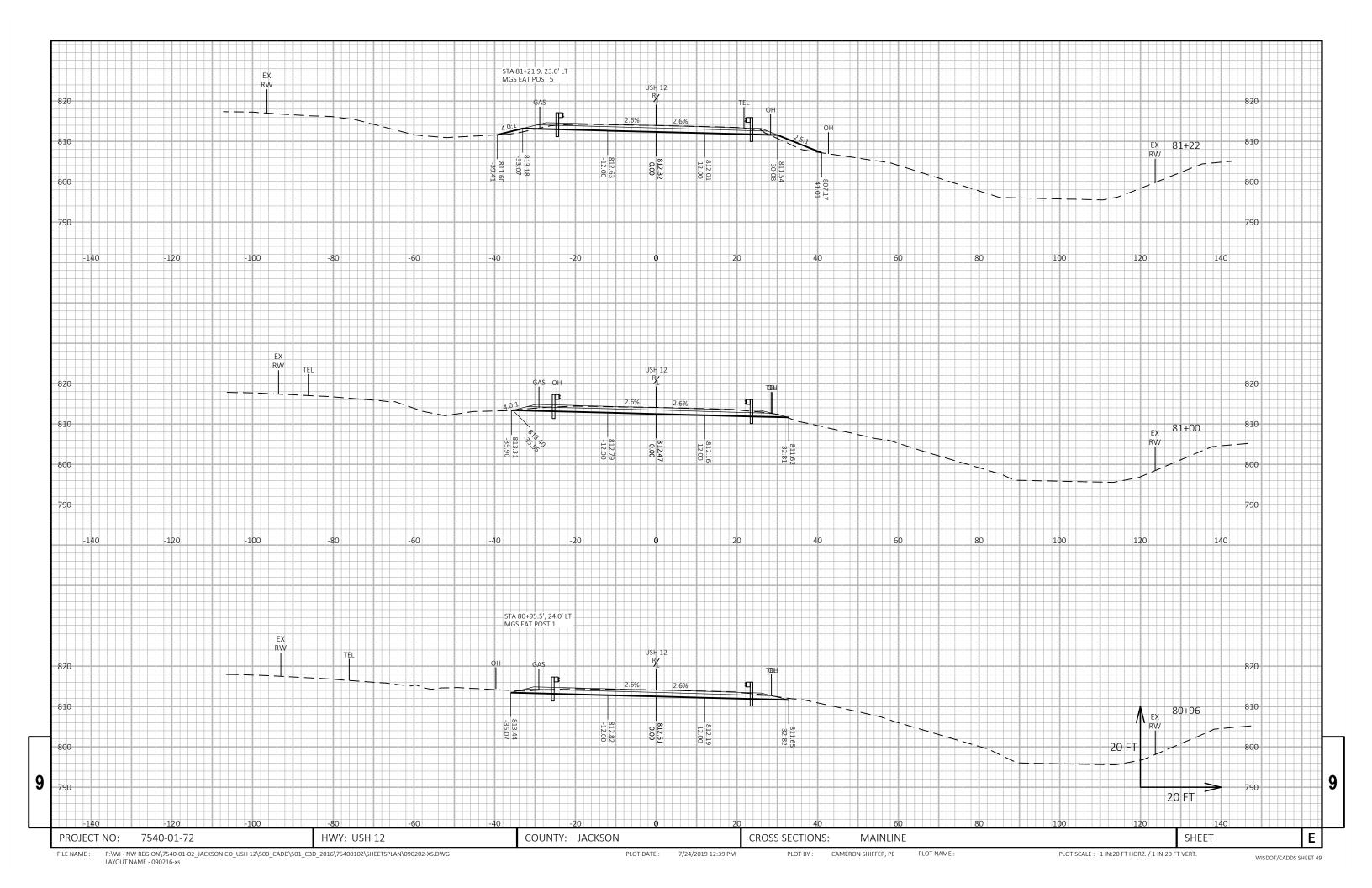


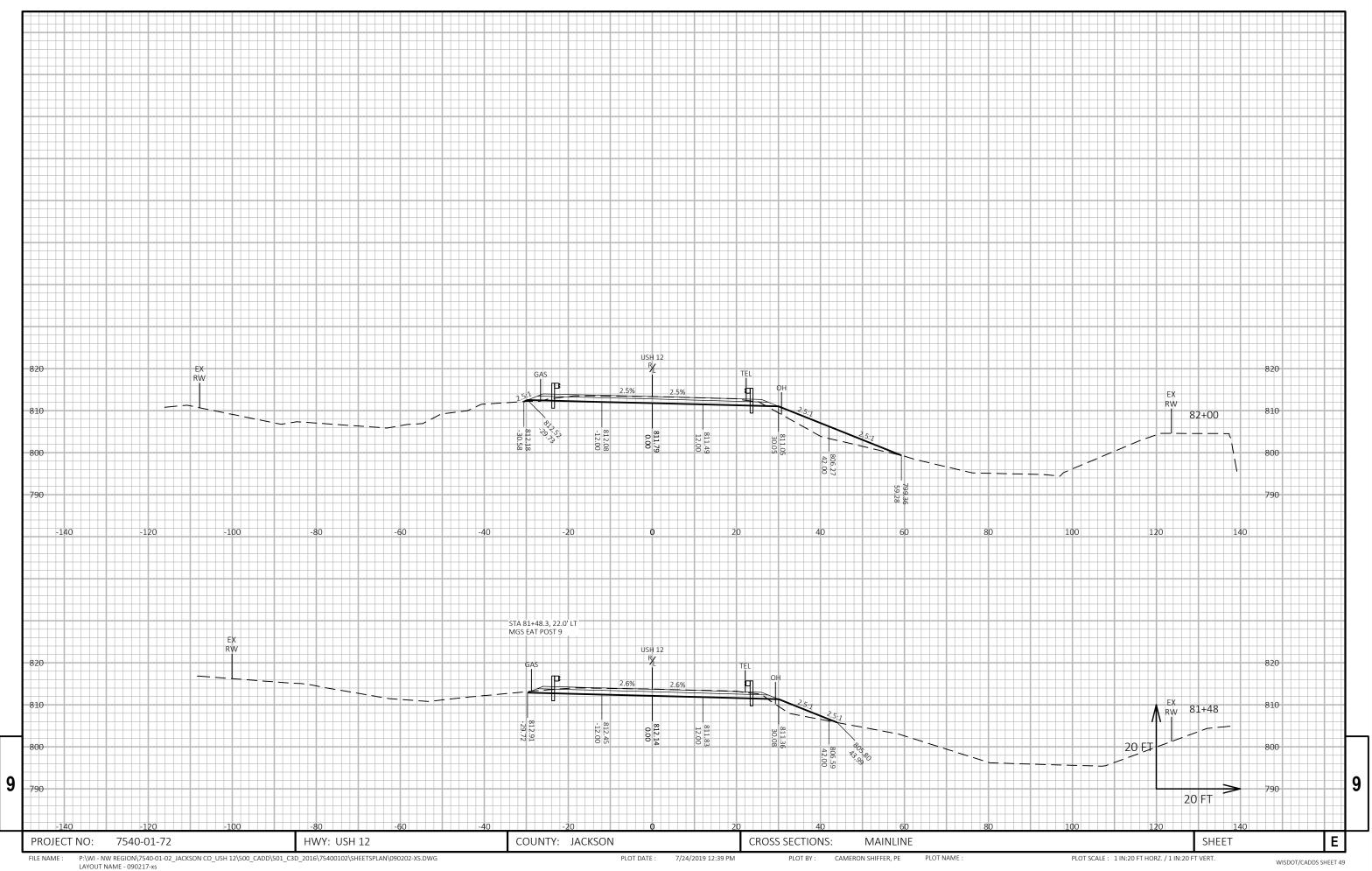


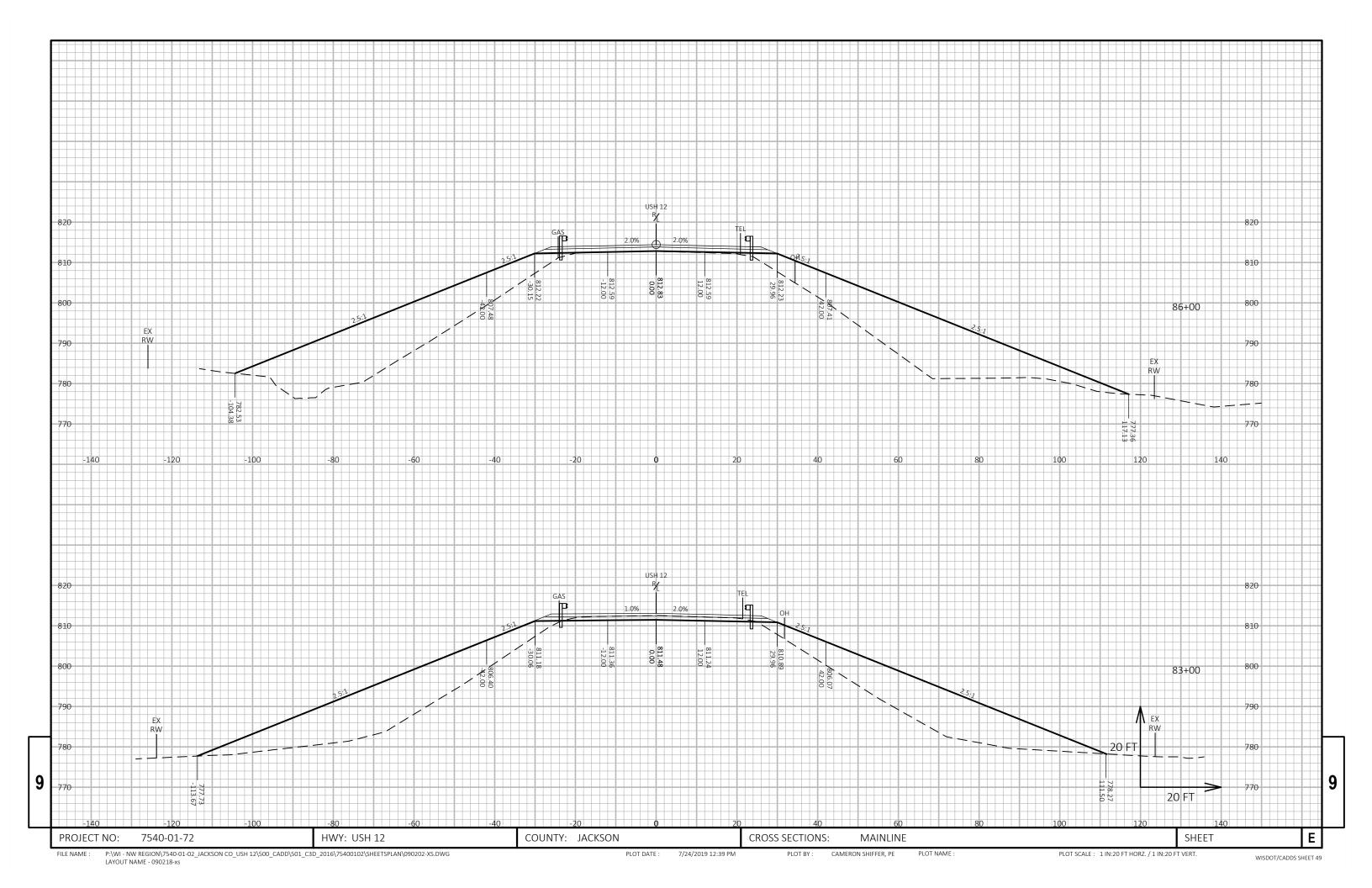


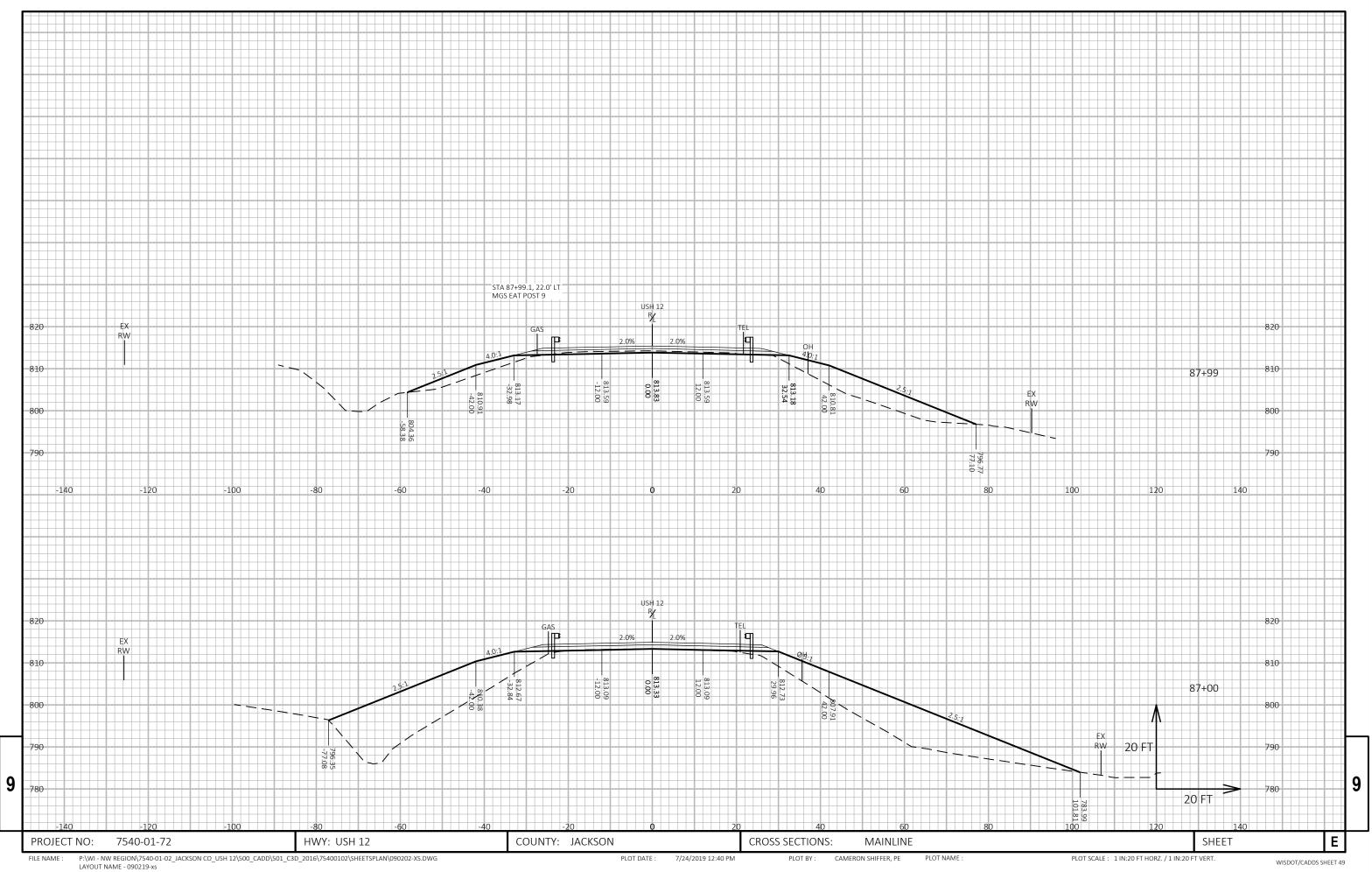


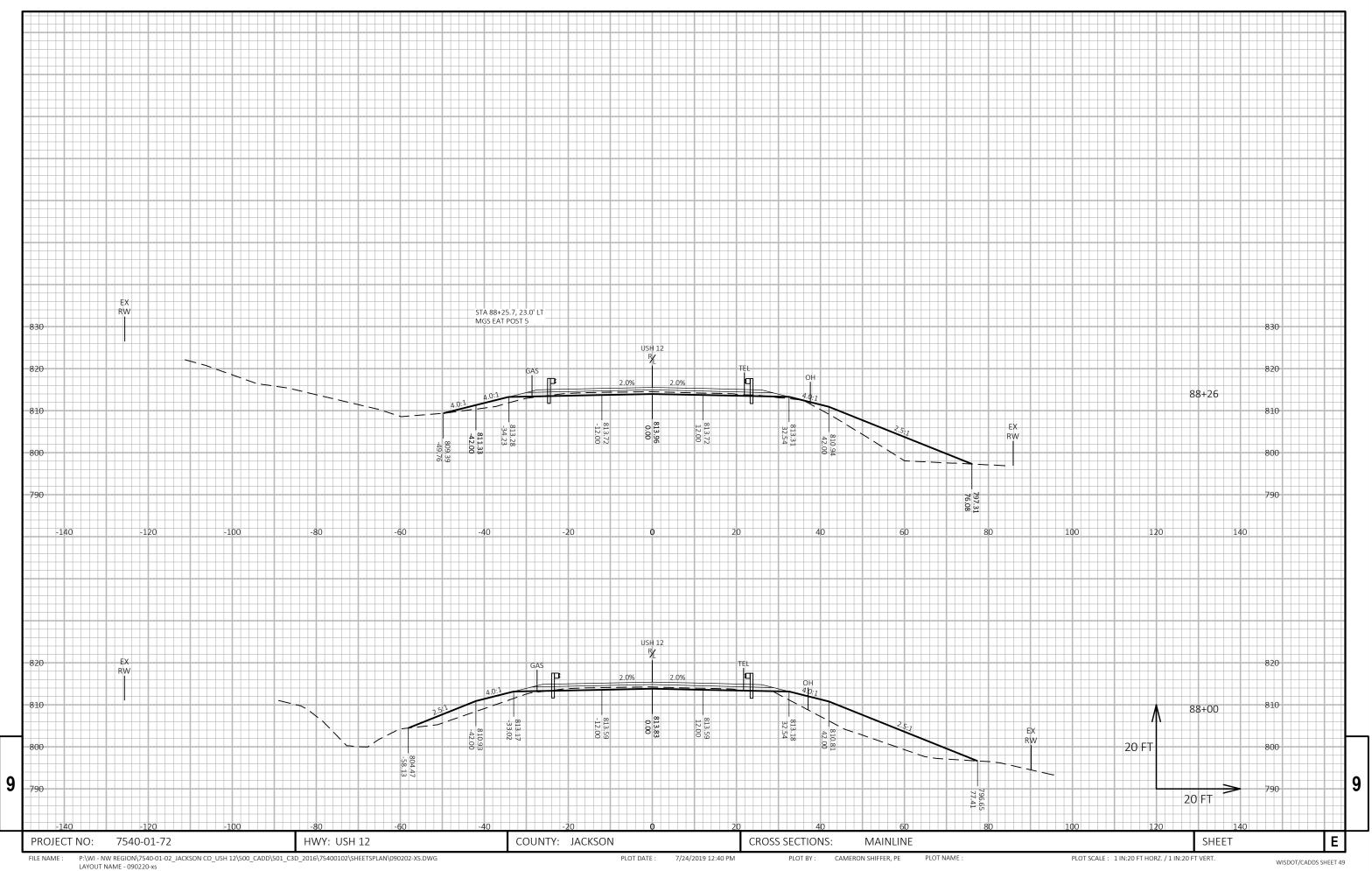


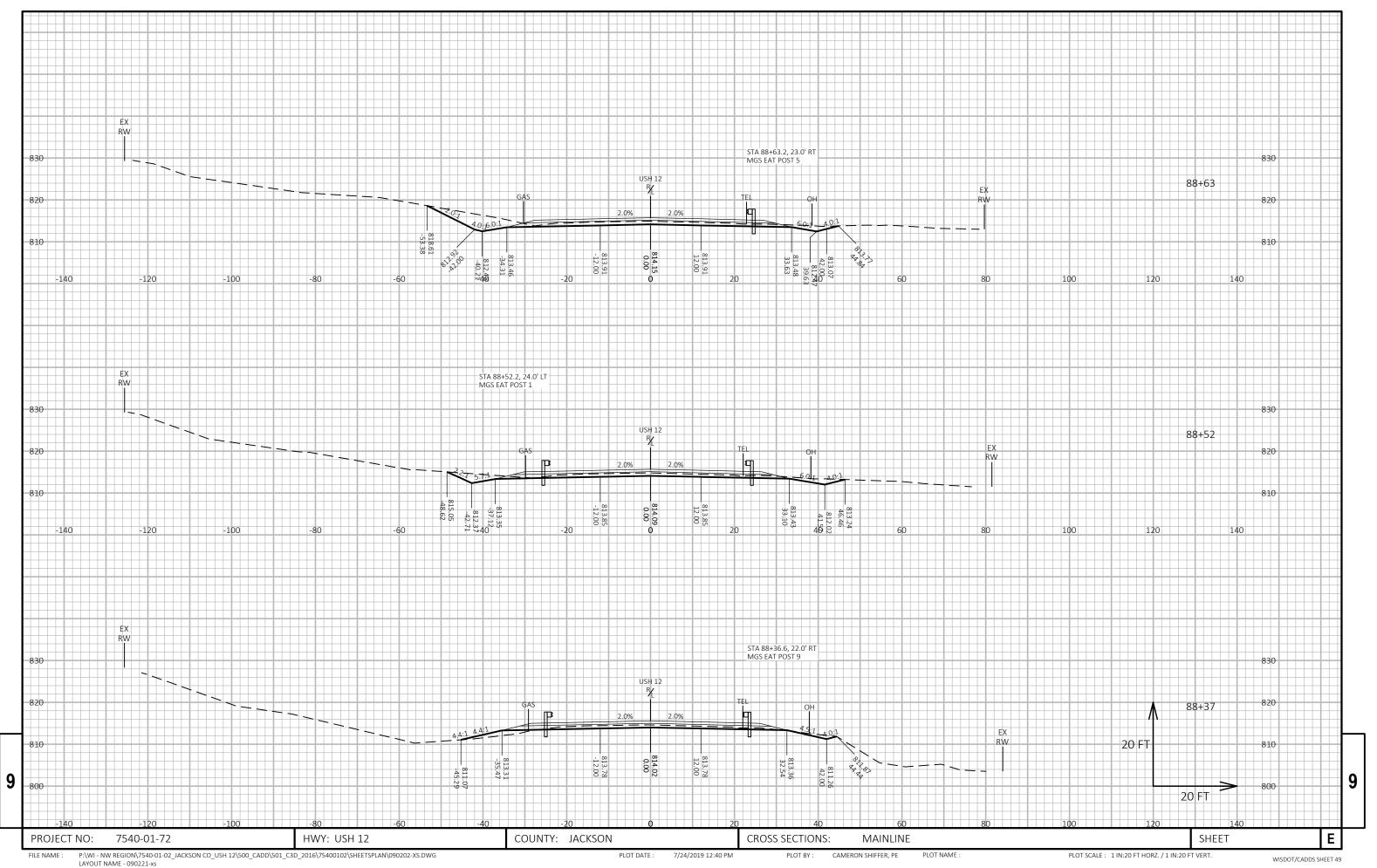


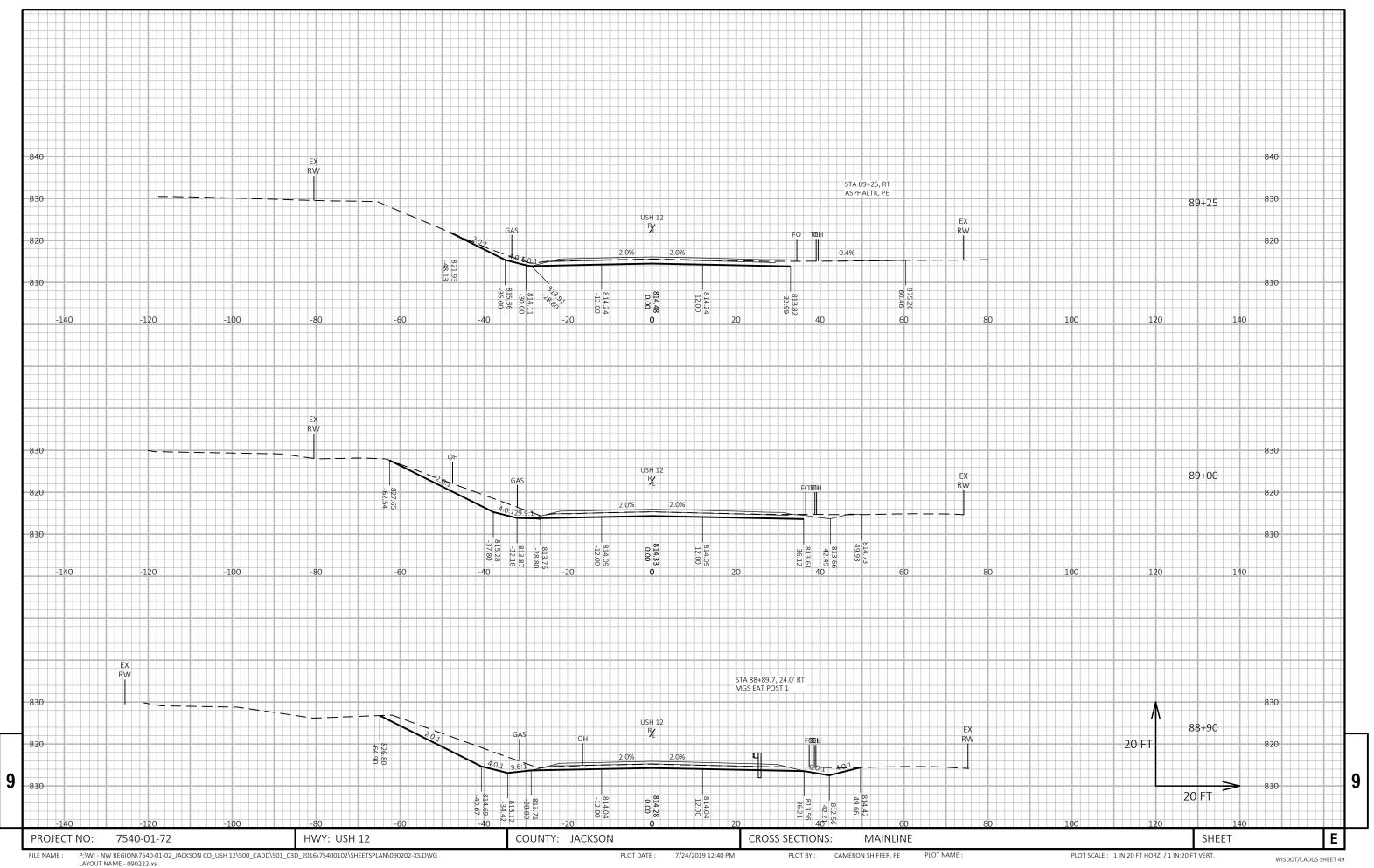


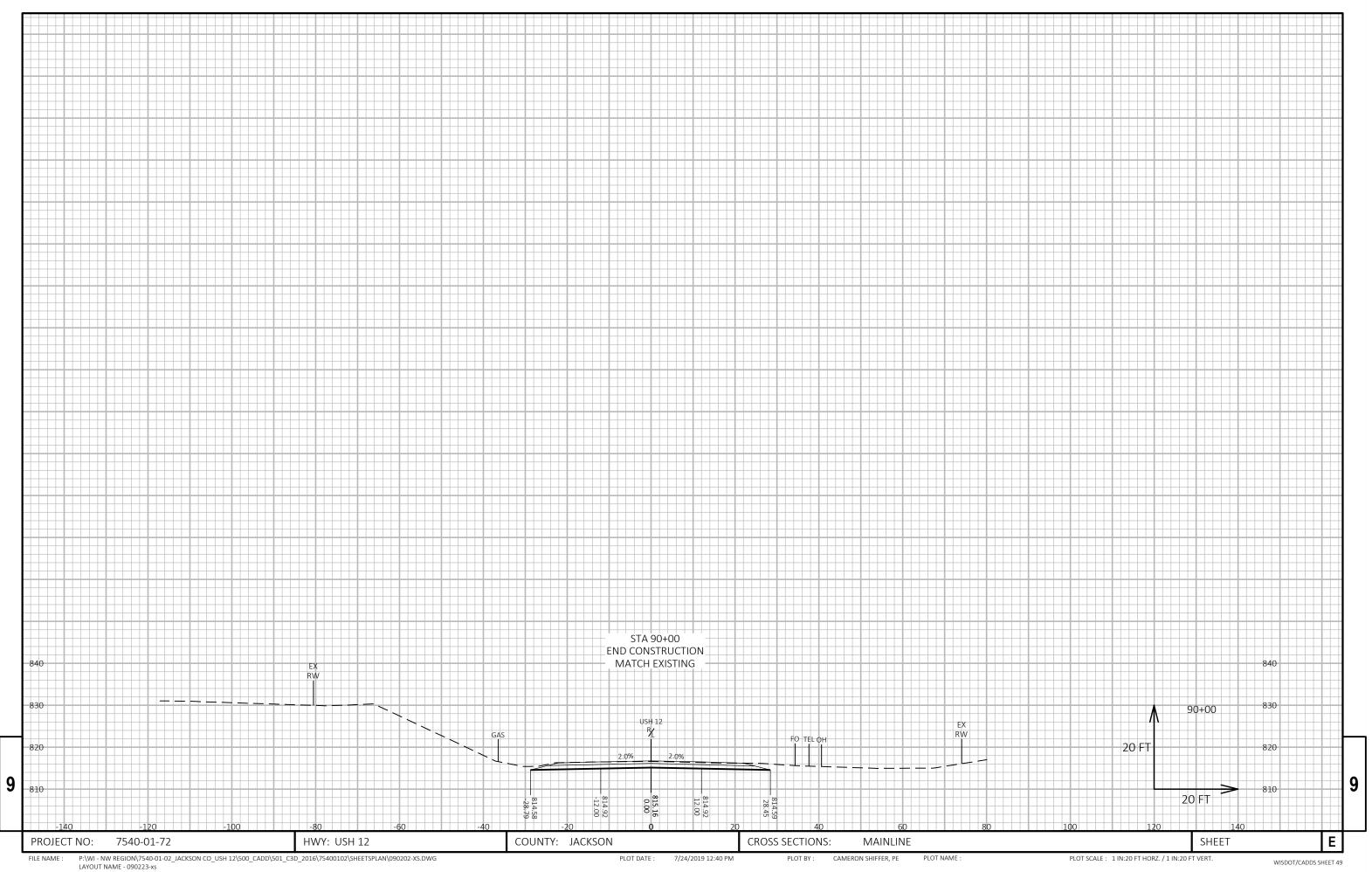














# Wisconsin Department of Transportation

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