

MAD

PROJECT ID:
WITH: N/A

5090-00-70

COUNTY:

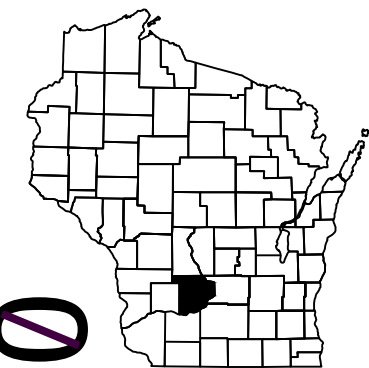
SAUK

AUGUST 2026

ORDER OF SHEETS

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

TOTAL SHEETS = 84



DESIGN DESIGNATION 5090-00-00

A.A.D.T.	2027	=	890
A.A.D.T.	2047	=	1,330
D.H.V.		=	120
D.D.		=	60/40
T.		=	10%
DESIGN SPEED		=	55 M.P.H.
ESALS		=	947,000

CONVENTIONAL SYMBOLS

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

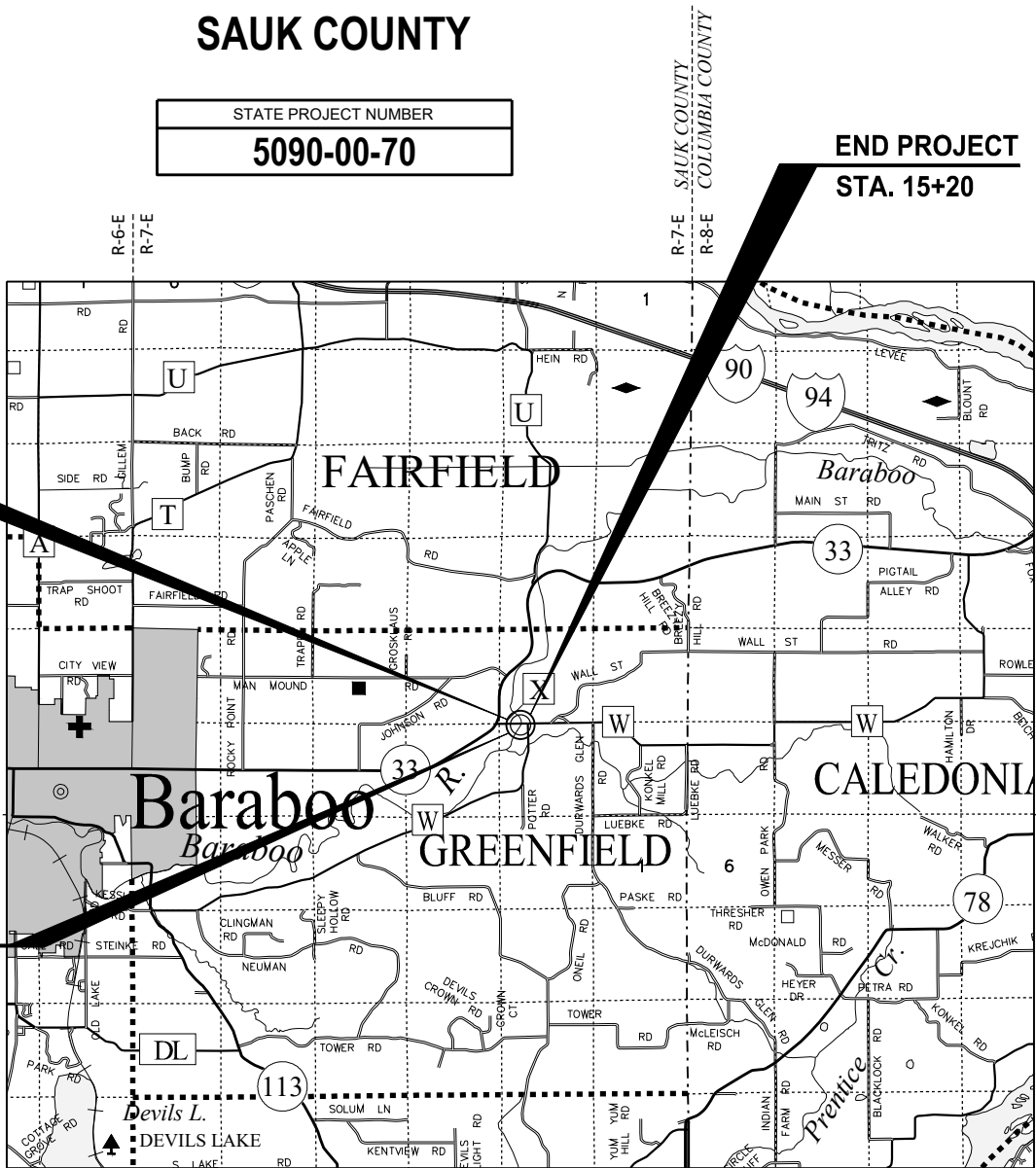
PROFILE	
GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

STRUCTURE B-56-0245

BEGIN PROJECT

STA. 10+00

Y=241,438.63
X=678,761.36



LAYOUT
SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 0.098 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), SAUK COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID (18).

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STH 33 - CTH W (CTH X)

BARABOO RIVER BRIDGE B-56-0245

CTH X SAUK COUNTY

STATE PROJECT NUMBER
5090-00-70

END PROJECT
STA. 15+20

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5090-00-70	WISC 2026398	1

ACCEPTED FOR

COUNTY of SAUK

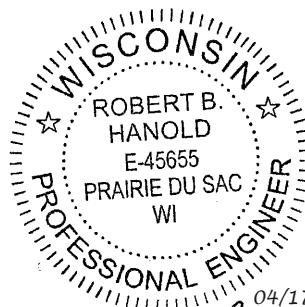
4/21/26

(Date)

(Highway Commissioner)

ORIGINAL PLANS PREPARED BY

JEWELL



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	JEWELL ASSOCIATES ENGINEERS, INC.
Surveyor	JEWELL ASSOCIATES ENGINEERS, INC.
Designer	PEGGY WISCHHOFF, P.E.
Project Manager	SW REGION
Regional Examiner	DELLA KOENIG, P.E.
Regional Supervisor	

APPROVED FOR THE DEPARTMENT
DATE: 04/28/2026 Peggy Wischhoff, P.E.
(Signature)

E

GENERAL NOTES

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

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

ASPHALTIC SURFACE QUANTITIES WERE CALCULATED USING 115 LB/SY/IN.

4½ -INCHES OF ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 2 ¼-INCH LOWER LAYER AND A 2 ¼-INCH UPPER LAYER.

WHEN THE QUANTITY OF THE ITEM OF BASE AGGREGATE DENSE OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

THE LOCATION OF ALL PERMANENT SIGNING SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD PRIOR TO PLACEMENT.

ADJUST DITCH GRADING AS NECESSARY TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER IN THE FIELD.

ORDER OF SECTION 2 SHEETS:

- GENERAL NOTES
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- EROSION CONTROL
- ALIGNMENT (INCLUDES PERMANENT SIGNING)

CONTACTS

WISDOT:

WISCONSIN DEPARTMENT OF TRANSPORTATION
2101 WRIGHT STREET
MADISON, WI 53704
ATTN: PEGGY WISCHHOFF, P.E.
PHONE: (608) 246-5328
EMAIL: peggyf.wischhoff@dot.wi.gov

SAUK COUNTY
HIGHWAY DEPARTMENT:

PATRICK GAVINSKI, P.E., HIGHWAY COMMISSIONER
620 LINN STREET, P.O. BOX 26
BARABOO, WI 53913
PHONE: (608) 355-4855
EMAIL: patrick.gavinski@saukcountywi.gov

DESIGN CONSULTANT:

JEWELL ASSOCIATES ENGINEERS, INC.
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
ATTN: ROBERT HANOLD, P.E.
PHONE: (608) 588-7484
CELL: (608) 606-3568
EMAIL: robert.hanold@jewellassoc.com

DNR LIAISON:

STATE OF WISCONSIN
DNR SOUTH CENTRAL REGION HQ
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
ATTN: ANDY BARTA
PHONE: (608) 275-3308
EMAIL: Andrew.Barta@wisconsin.gov

UTILITIES

ELECTRIC

ALLIANT ENERGY
ATTN: JOSH LOBENSTEIN
520 COMMERCE AVENUE
BARABOO, WI 53913
PHONE: (608) 356-0671
CELL: (608) 963-5519
EMAIL: joshualobenstein@alliantenergy.com

COMMUNICATION

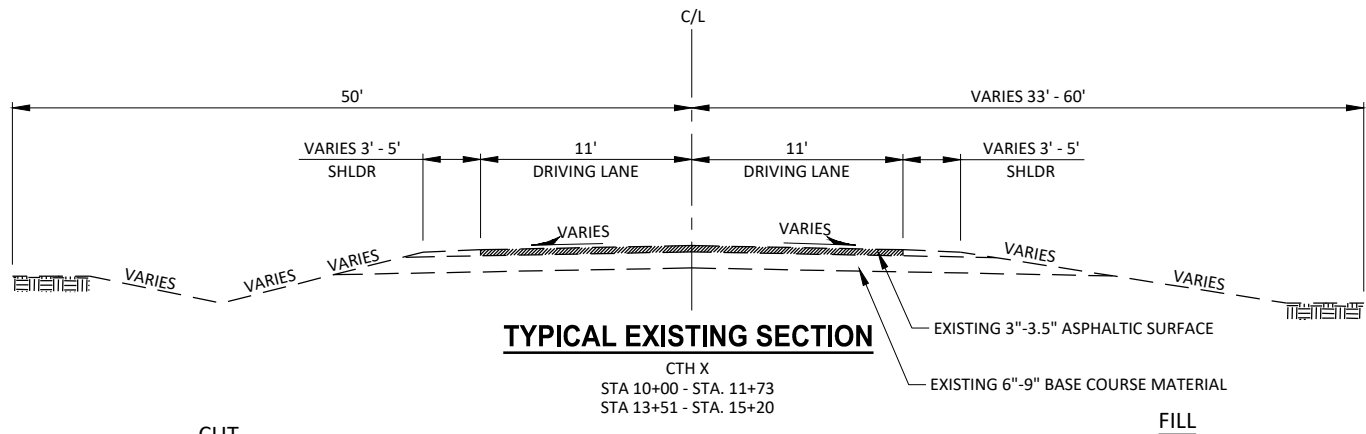
BRIGHTSPEED
ATTN: JUSTIN ZUICHES
233 E. WISCONSIN STREET
SEYMOUR, WI 54165
CELL: (980) 710-4136
EMAIL: justin.zuiches@brightspeed.com



*UTILITY NOT PART OF DIGGERS HOTLINE

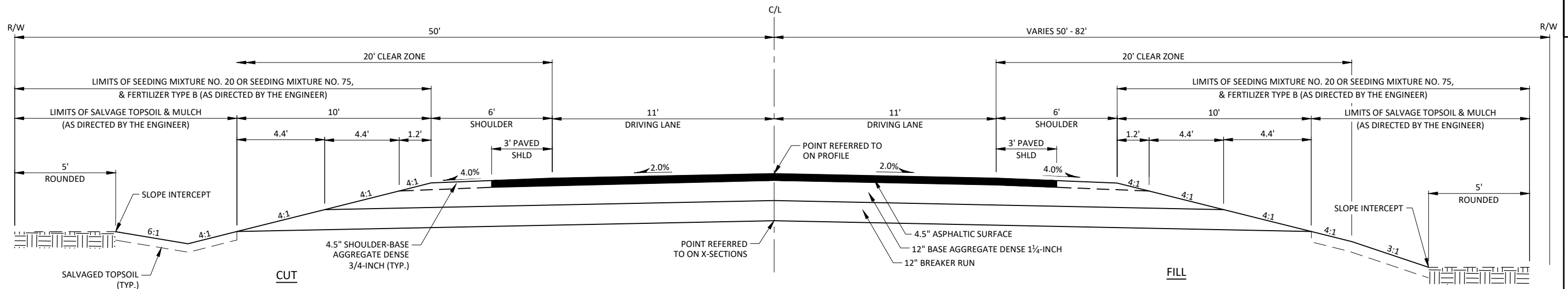
LIST OF STANDARD ABBREVIATIONS

ABUT	Abutment	INV	Invert	SALV	Salvaged
AC	Acre	IP	Iron Pipe or Pin	SAN S	Sanitary Sewer
AGG	Aggregate	IRS	Iron Rod Set	SEC	Section
AH	Ahead	JT	Joint	SHLDR	Shoulder
<	Angle	JCT	Junction	SHR	Shrinkage
ASPH	Asphaltic	LHF	Left-Hand Forward	SW	Sidewalk
AVG	Average	L	Length of Curve	S	South
ADT	Average Daily Traffic	LIN FT or LF	Linear Foot	SQ	Square
BAD	Base Aggregate Dense	LC	Long Chord of Curve	SF or SQ FT	Square Feet
BK	Back	MH	Manhole	SY or SQ YD	Square Yard
BF	Back Face	MB	Mailbox	STD	Standard
BM	Bench Mark	ML or M/L	Match Line	SDD	Standard Detail Drawings
BR	Bridge	N	North	STH	State Trunk Highways
C or C/L	Center Line	Y	North Grid Coordinate	STA	Station
CC	Center to Center	O.A.L.	Overall Length	SS	Storm Sewer
CTH	County Trunk Highway	OD	Outside Diameter	SG	Subgrade
CR	Creek	PLE	Permanent Limited Easement	SE	Superelevation
CR	Crushed	PT	Point	SL or S/L	Survey Line
CY or CU YD	Cubic Yard	PC	Point of Curvature	SV	Septic Vent
CP	Culvert Pipe	PI	Point of Intersection	T	Tangent
C & G	Curb and Gutter	PRC	Point of Reverse Curvature	TEL	Telephone
D	Degree of Curve	PT	Point of Tangency	TEMP	Temporary
DHV	Design Hour Volume	POC	Point On Curve	TI	Temporary Interest
DIA	Diameter	POT	Point on Tangent	TLE	Temporary Limited Easement
E	East	PVC	Polyvinyl Chloride	t	Ton
X	East Grid Coordinate	PCC	Portland Cement Concrete	T or TN	Town
ELEC	Electric (al)	LB	Pound	TRANS	Transition
EL or ELEV	Elevation	PSI	Pounds Per Square Inch	TL or T/L	Transit Line
ESALS	Equivalent Single Axle Loads	PE	Private Entrance	T	Trucks (percent of)
EBS	Excavation Below Subgrade	R	Radius	TYP	Typical
ESTR	Existing Sign to Remain	RR	Railroad	UNCL	Unclassified
FF	Face to Face	R	Range	UG	Underground Cable
FE	Field Entrance	RL or R/L	Reference Line	USH	United States Highway
F	Fill	RP	Reference Point	VAR	Variable
FG	Finished Grade	RCCP	Reinforced Concrete Culvert Pipe	V	Velocity or Design Speed
FL or F/L	Flow Line	REQ'D	Required	VERT	Vertical
FT	Foot	RES	Residence or Residential	VC	Vertical Curve
FTG	Footing	RW	Retaining Wall	VOL	Volume
GN	Grid North	RT	Right	WM	Water Main
HT	Height	RHF	Right-Hand Forward	WV	Water Valve
CWT	Hundredweight	R/W	Right-of-Way	W	West
HYD	Hydrant	R	River	WB	Westbound
INL	Inlet	RD	Road	YD	Yard
ID	Inside Diameter	RDWY	Roadway		

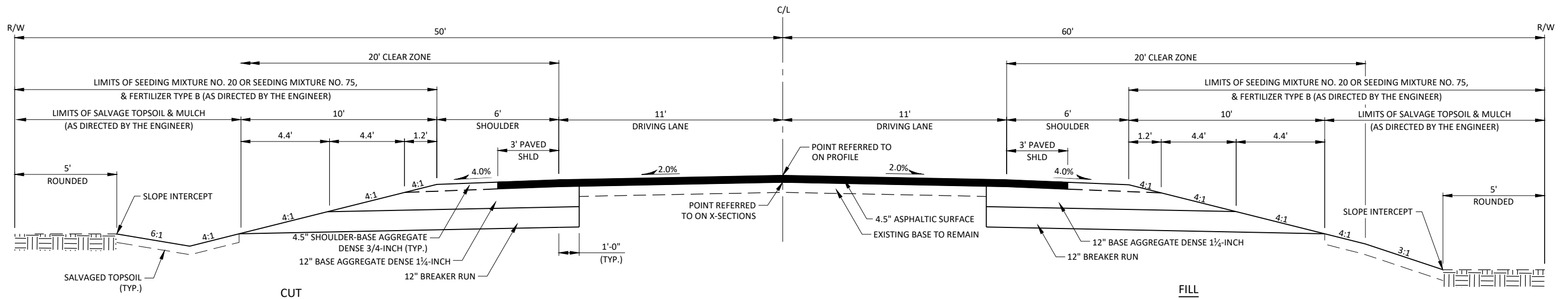


	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33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

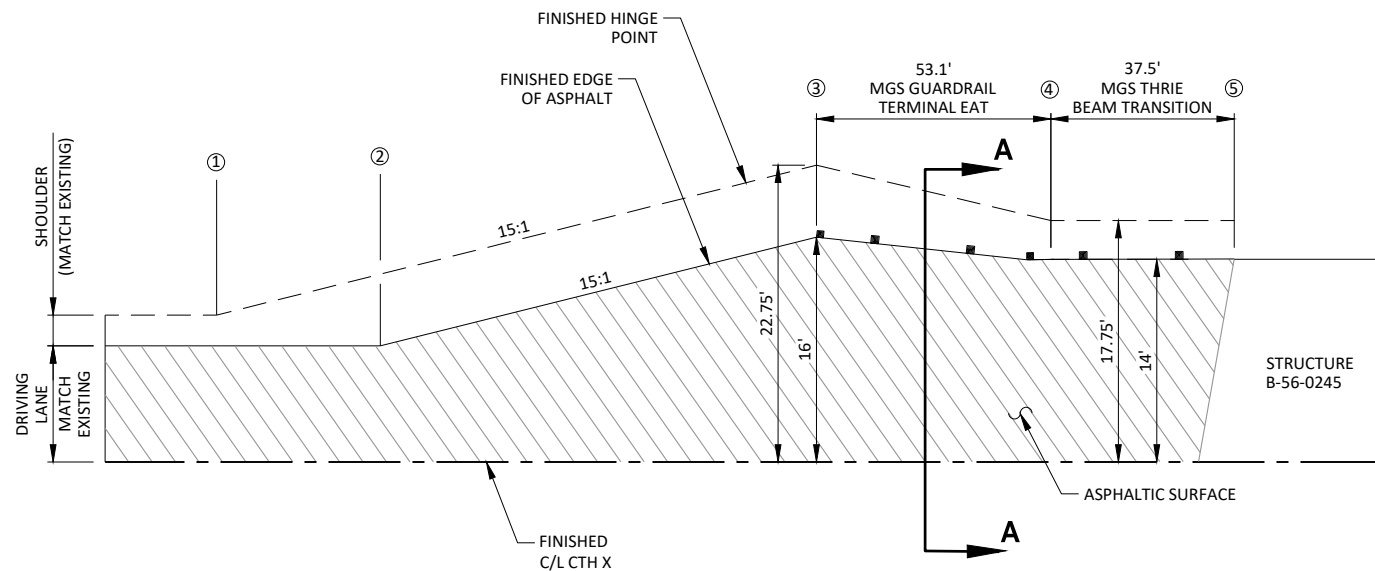
TOTAL PROJECT AREA= 1.46 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.95 ACRES

**TYPICAL FINISHED RECONSTRUCTION SECTION**

CTH X
STA. 10+00 - STA. 11+73
STA. 13+51 - STA. 14+00

**TYPICAL FINISHED RECONDITION SECTION**

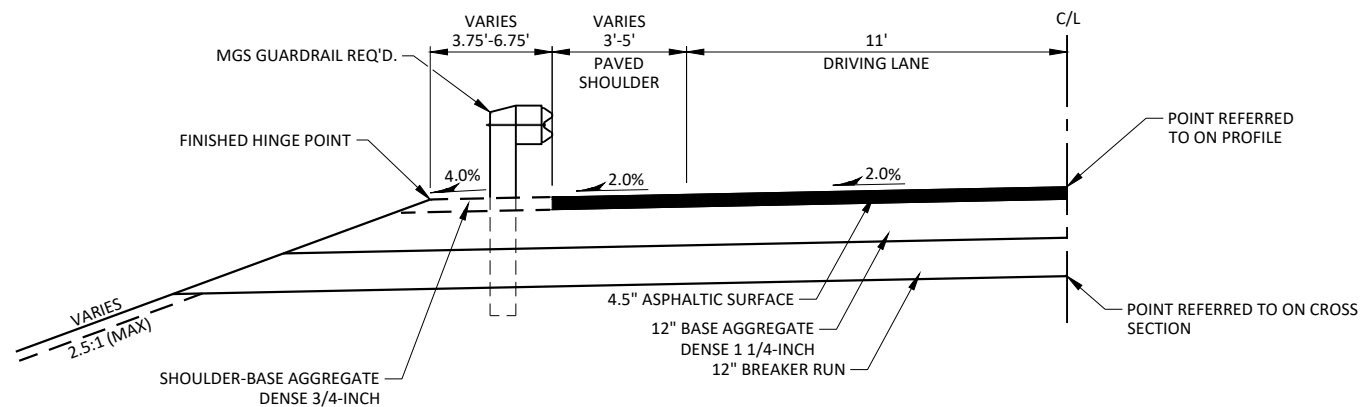
CTH X
STA. 14+00 - STA. 15+20



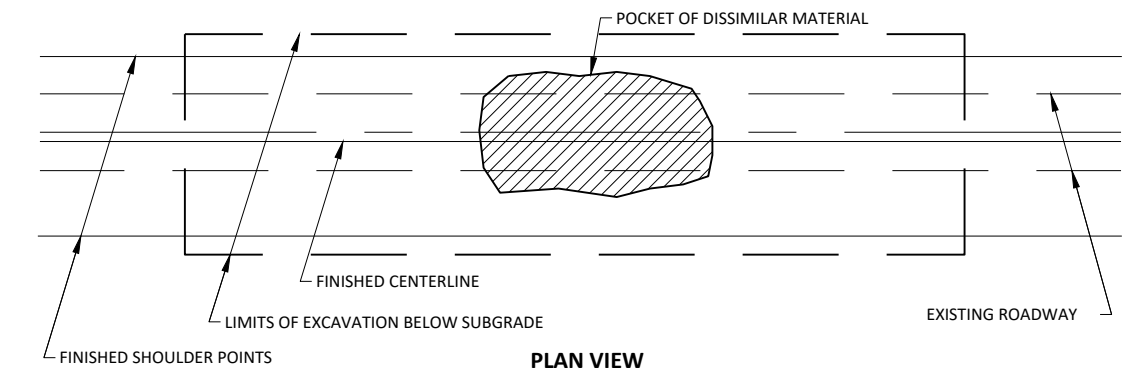
GUARDRAIL LAYOUT TABLE

QUADRANT	LOCATION	STATION				
		①	②	③	④	⑤
SOUTHWEST	MAINLINE, RT.	9+68	10+00	10+68	11+21	11+58
NORTHWEST	MAINLINE, LT.	9+78	10+01	10+73	11+26	11+63
SOUTHEAST	MAINLINE, RT.	15+48	15+20	14+51	13+98	13+61
NORTHEAST	MAINLINE, LT.	15+26	15+20	14+56	14+03	13+66

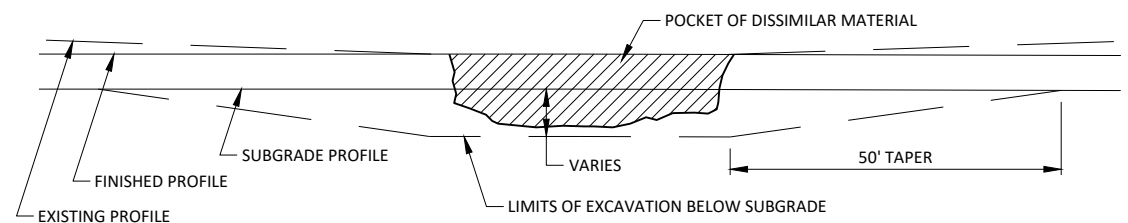
GUARDRAIL LAYOUT DETAIL



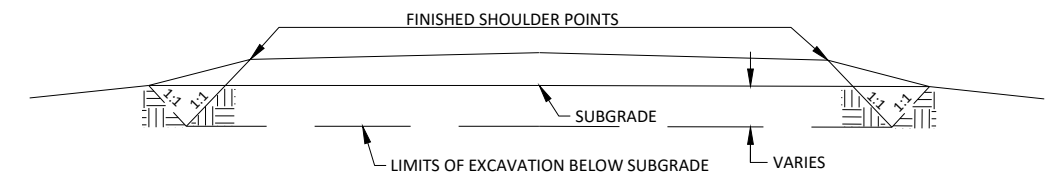
SECTION A-A



PLAN VIEW



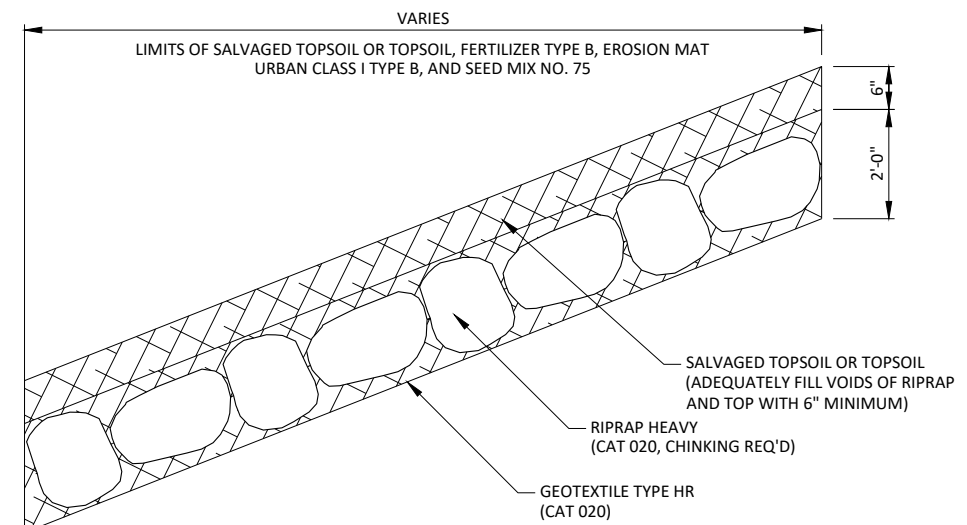
PROFILE VIEW



CROSS SECTION VIEW

1. EXACT LOCATION OF E.B.S. (EXCAVATION BELOW SUBGRADE) SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. E.B.S. AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER. BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.
3. THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED. LATERAL LIMITS OF EXCAVATION SHALL BE THE SUBGRADE SHOULDER POINTS.
4. EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE, AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS COMMON EXCAVATION. EXACT LOCATIONS OF EBS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

EXCAVATION BELOW SUBGRADE (E.B.S.) DETAIL

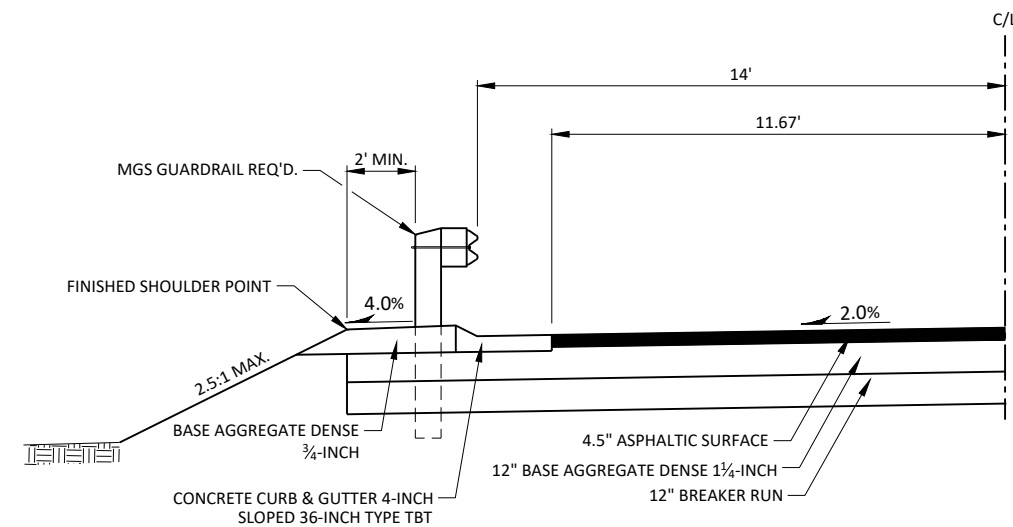
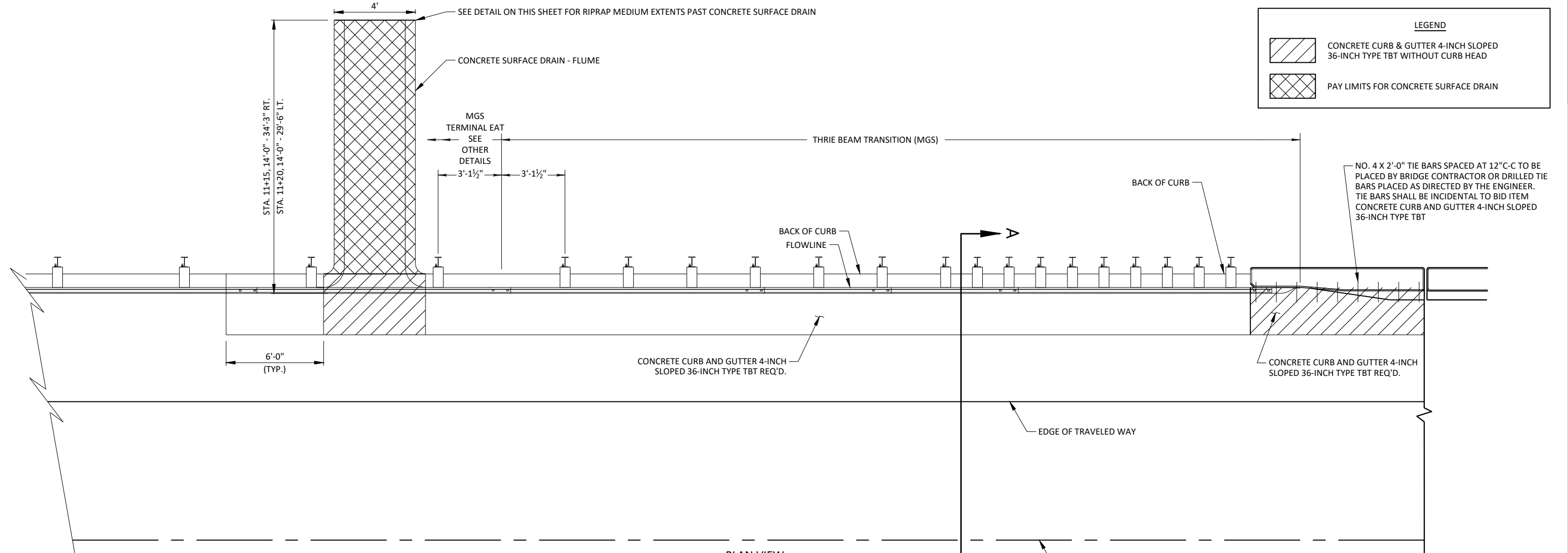


VEGETATED RIPRAP DETAIL

(SEE EROSION CONTROL PLAN FOR LOCATION)

2

2



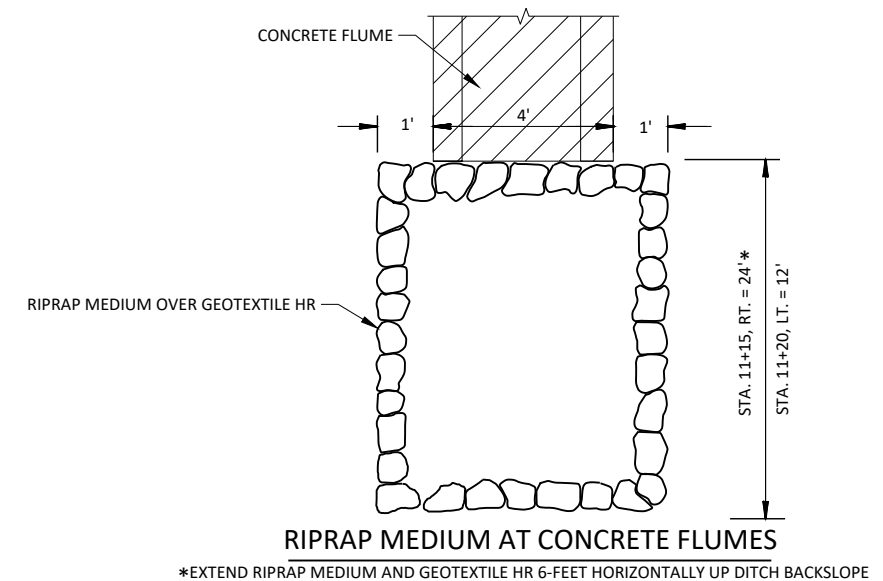
SECTION A-A

NOTES
THIS DETAIL IS FOR SHOWING PAY LIMITS ONLY.

FINAL PLACEMENT OF FLUMES MUST MAINTAIN THE MINIMUM POST SEPARATION DISTANCES IN THE STANDARD DETAIL DRAWING.

SEE THE FOLLOWING SDD FOR SPECIFIC DETAILS:

- SDD MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
- SDD MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
- SDD CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
- SDD CONCRETE CURB & GUTTER

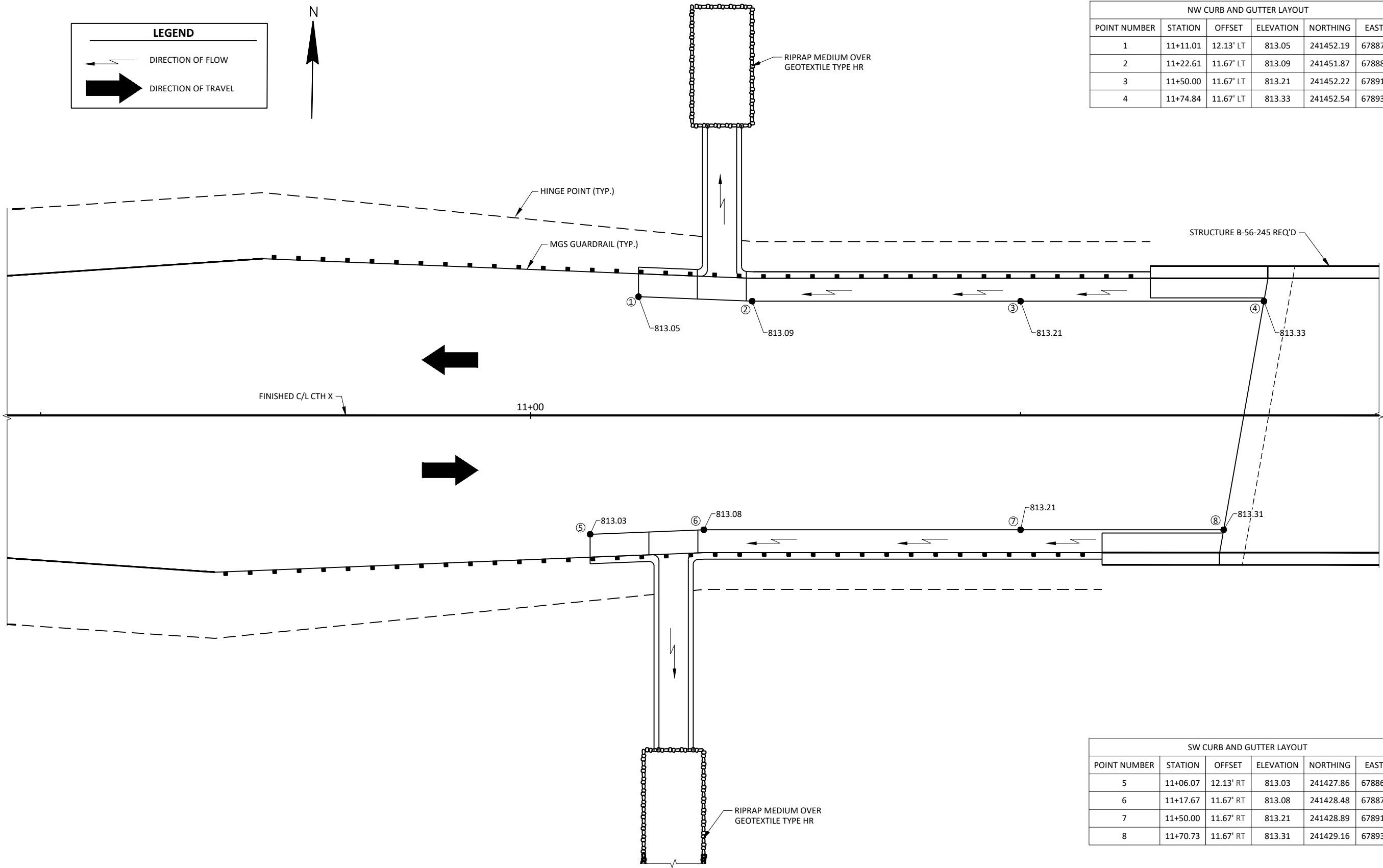


LEGEND

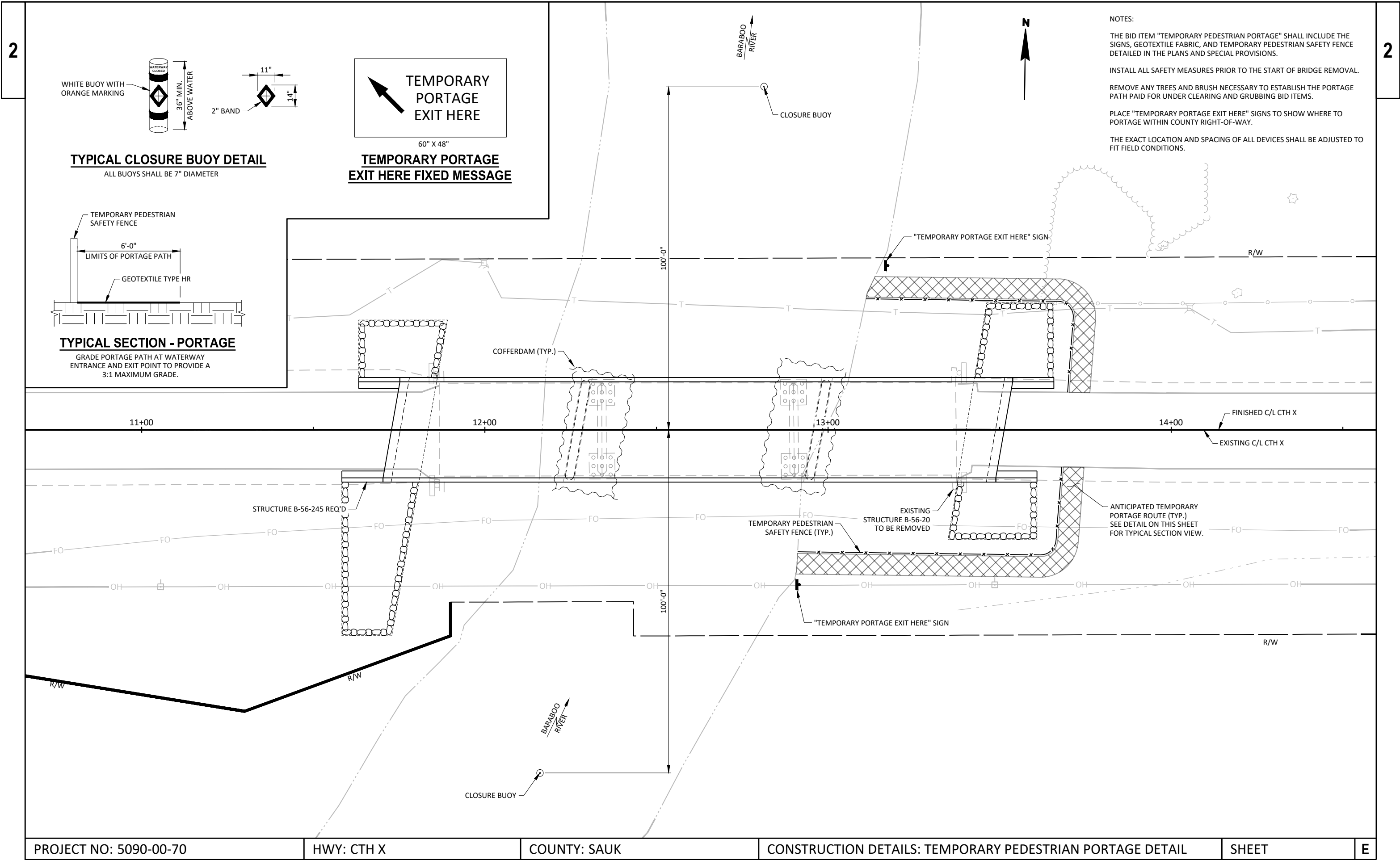
DIRECTION OF FLOW

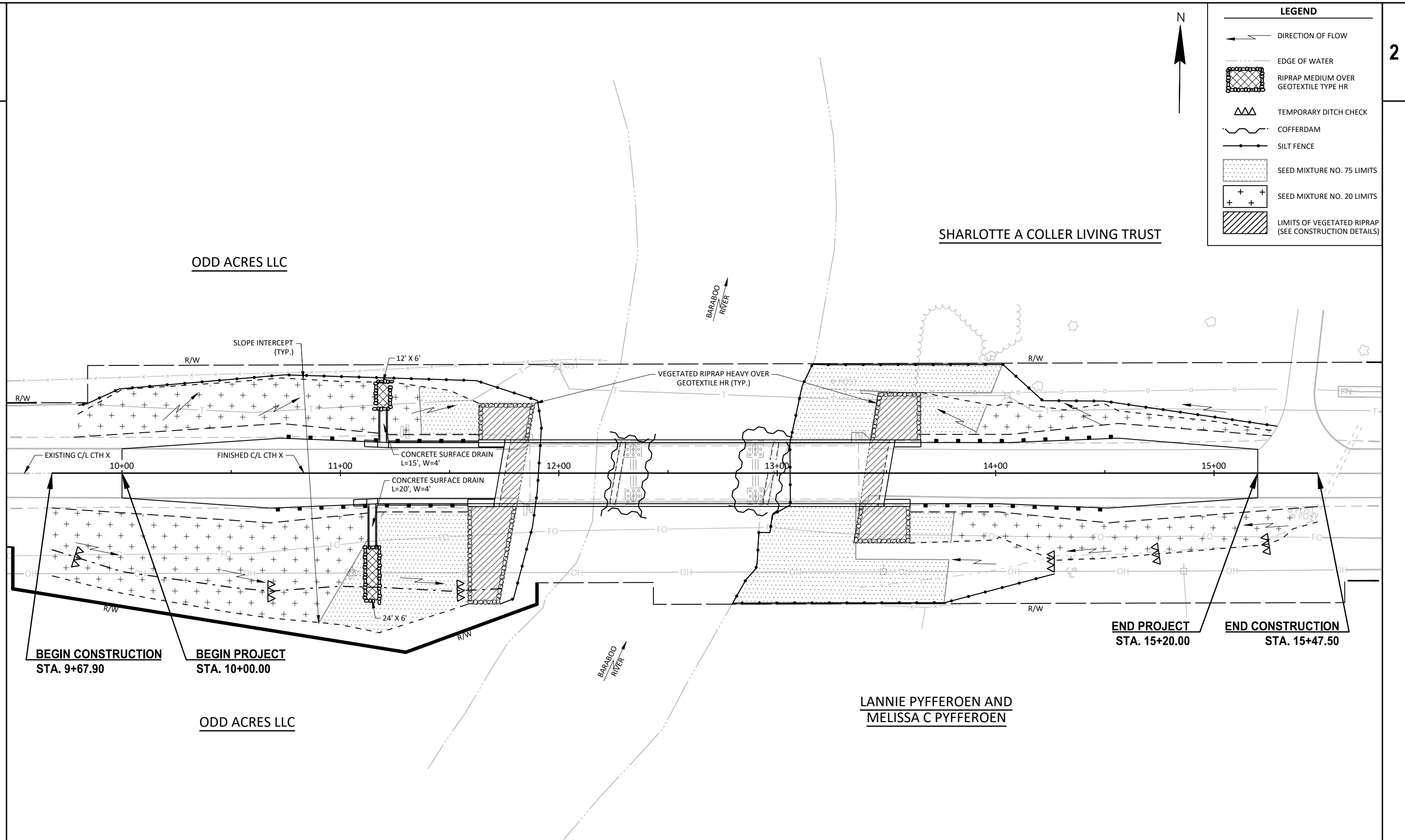
DIRECTION OF TRAVEL

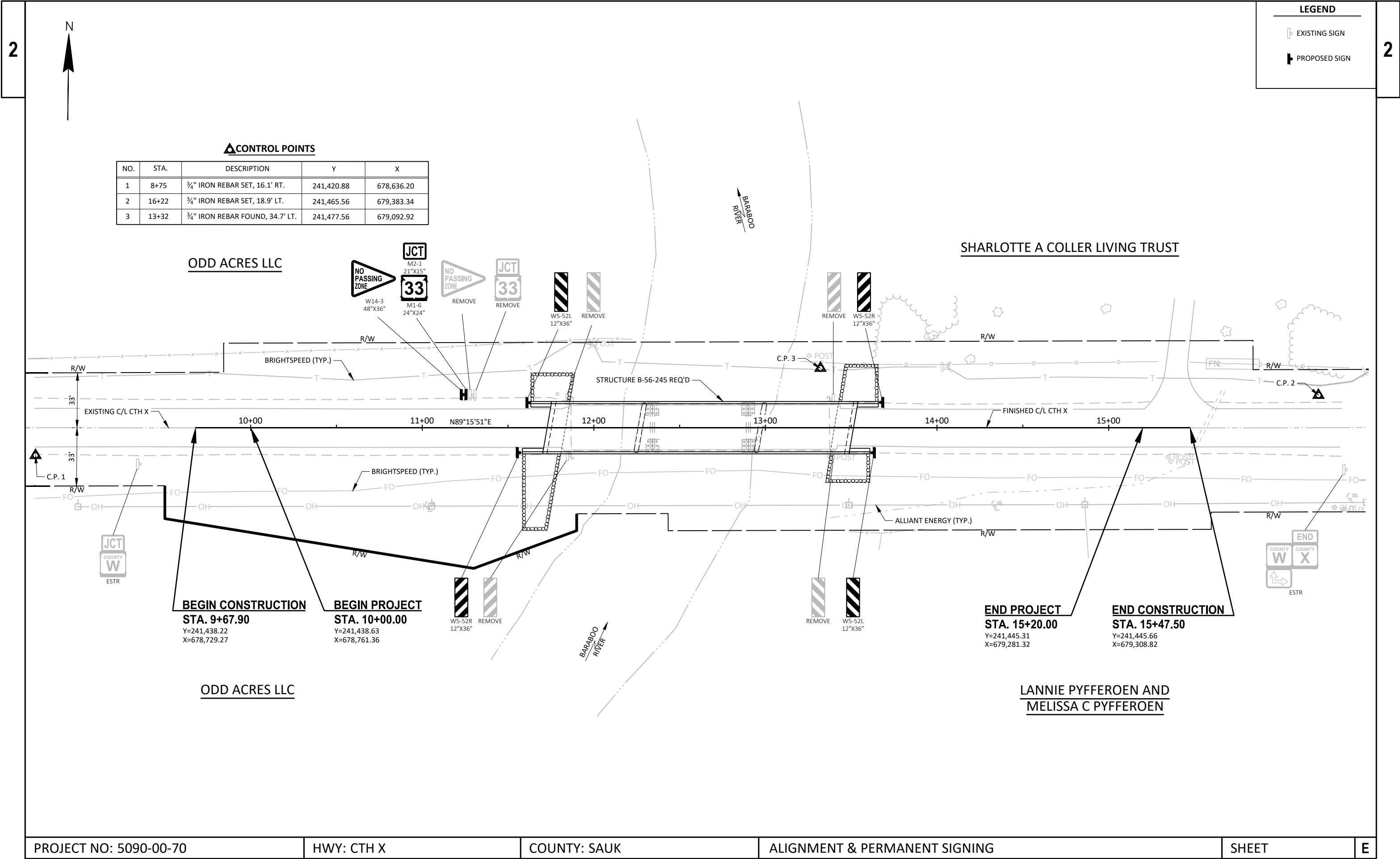
NW CURB AND GUTTER LAYOUT					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
1	11+11.01	12.13' LT	813.05	241452.19	678872.21
2	11+22.61	11.67' LT	813.09	241451.87	678883.81
3	11+50.00	11.67' LT	813.21	241452.22	678911.20
4	11+74.84	11.67' LT	813.33	241452.54	678936.04



SW CURB AND GUTTER LAYOUT					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
5	11+06.07	12.13' RT	813.03	241427.86	678867.58
6	11+17.67	11.67' RT	813.08	241428.48	678879.17
7	11+50.00	11.67' RT	813.21	241428.89	678911.50
8	11+70.73	11.67' RT	813.31	241429.16	678932.23







CONTROL POINTS				
NO.	STA.	DESCRIPTION	Y	X
1	8+75	¾" IRON REBAR SET, 16.1' RT.	241,420.88	678,636.20
2	16+22	¾" IRON REBAR SET, 18.9' LT.	241,465.56	679,383.34
3	13+32	¾" IRON REBAR FOUND, 34.7' LT.	241,477.56	679,092.92

LEGEND

 EXISTING SIGN

 PROPOSED SIGN

Estimate Of Quantities

5090-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	4.000	4.000
0004	201.0205	Grubbing	STA	4.000	4.000
0006	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-56-0020	EACH	1.000	1.000
0008	204.0110	Removing Asphaltic Surface	SY	300.000	300.000
0010	205.0100	Excavation Common	CY	1,260.000	1,260.000
0012	206.1001	Excavation for Structures Bridges (structure) 01. B-56-0245	EACH	1.000	1.000
0014	206.5001	Cofferdams (structure) 01. B-56-0245	EACH	1.000	1.000
0016	210.1500	Backfill Structure Type A	TON	170.000	170.000
0018	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 5090-00-70	EACH	1.000	1.000
0020	213.0100	Finishing Roadway (project) 01. 5090-00-70	EACH	1.000	1.000
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	160.000	160.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,040.000	1,040.000
0026	311.0110	Breaker Run	TON	1,010.000	1,010.000
0028	455.0605	Tack Coat	GAL	52.000	52.000
0030	465.0105	Asphaltic Surface	TON	296.000	296.000
0032	502.0100	Concrete Masonry Bridges	CY	714.000	714.000
0034	502.3200	Protective Surface Treatment	SY	560.000	560.000
0036	502.3210	Pigmented Surface Sealer	SY	202.000	202.000
0038	502.9000.S	Underwater Substructure Inspection (structure) 01. B-56-0245	EACH	2.000	2.000
0040	505.0400	Bar Steel Reinforcement HS Structures	LB	9,750.000	9,750.000
0042	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	91,150.000	91,150.000
0044	516.0500	Rubberized Membrane Waterproofing	SY	16.000	16.000
0046	550.0500	Pile Points	EACH	20.000	20.000
0048	550.2126	Piling CIP Concrete 12 3/4 X 0.375-Inch	LF	1,050.000	1,050.000
0050	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	125.000	125.000
0052	602.3010	Concrete Surface Drains	CY	4.000	4.000
0054	606.0200	Riprap Medium	CY	12.000	12.000
0056	606.0300	Riprap Heavy	CY	250.000	250.000
0058	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	190.000	190.000
0060	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0062	614.2500	MGS Thrie Beam Transition	LF	160.000	160.000
0064	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0066	618.0100	Maintenance and Repair of Haul Roads (project) 01. 5090-00-70	EACH	1.000	1.000
0068	619.1000	Mobilization	EACH	1.000	1.000
0070	624.0100	Water	MGAL	34.000	34.000
0072	625.0105	Topsoil	CY	56.000	56.000
0074	625.0500	Salvaged Topsoil	SY	1,990.000	1,990.000
0076	627.0200	Mulching	SY	1,990.000	1,990.000
0078	628.1504	Silt Fence	LF	1,020.000	1,020.000
0080	628.1520	Silt Fence Maintenance	LF	2,040.000	2,040.000
0082	628.1905	Mobilizations Erosion Control	EACH	7.000	7.000
0084	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0086	628.2008	Erosion Mat Urban Class I Type B	SY	340.000	340.000
0088	628.5505	Polyethylene Sheeting	SY	1,510.000	1,510.000
0090	628.7504	Temporary Ditch Checks	LF	64.000	64.000
0092	629.0210	Fertilizer Type B	CWT	2.000	2.000
0094	630.0120	Seeding Mixture No. 20	LB	94.000	94.000
0096	630.0175	Seeding Mixture No. 75	LB	12.000	12.000
0098	630.0200	Seeding Temporary	LB	56.000	56.000

Estimate Of Quantities

5090-00-70

Line	Item	Item Description	Unit	Total	Qty
0100	630.0500	Seed Water	MGAL	89.000	89.000
0102	633.5100	Markers ROW	EACH	10.000	10.000
0104	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	5.000	5.000
0106	637.2210	Signs Type II Reflective H	SF	6.190	6.190
0108	637.2230	Signs Type II Reflective F	SF	17.560	17.560
0110	638.2602	Removing Signs Type II	EACH	7.000	7.000
0112	638.3000	Removing Small Sign Supports	EACH	5.000	5.000
0114	642.5001	Field Office Type B	EACH	1.000	1.000
0116	643.0420	Traffic Control Barricades Type III	DAY	2,844.000	2,844.000
0118	643.0705	Traffic Control Warning Lights Type A	DAY	4,424.000	4,424.000
0120	643.0900	Traffic Control Signs	DAY	2,212.000	2,212.000
0122	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0124	643.5000	Traffic Control	EACH	1.000	1.000
0126	645.0111	Geotextile Type DF Schedule A	SY	60.000	60.000
0128	645.0120	Geotextile Type HR	SY	440.000	440.000
0130	646.1020	Marking Line Epoxy 4-Inch	LF	1,560.000	1,560.000
0132	650.4500	Construction Staking Subgrade	LF	341.000	341.000
0134	650.5000	Construction Staking Base	LF	341.000	341.000
0136	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	125.000	125.000
0138	650.6501	Construction Staking Structure Layout (structure) 01. B-56-0245	EACH	1.000	1.000
0140	650.9911	Construction Staking Supplemental Control (project) 01. 5090-00-70	EACH	1.000	1.000
0142	650.9920	Construction Staking Slope Stakes	LF	341.000	341.000
0144	690.0150	Sawing Asphalt	LF	45.000	45.000
0146	715.0502	Incentive Strength Concrete Structures	DOL	4,284.000	4,284.000
0148	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. STA. 12+62	EACH	1.000	1.000
0150	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0152	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000
0154	SPV.0060	Special 01. Site Mowing	EACH	10.000	10.000
0156	SPV.0060	Special 01. Temporary Pedestrian Portage	EACH	1.000	1.000

PAVEMENT MARKING

			646.1020
			MARKING LINE
			EPOXY 4-INCH
<u>STATION - STATION</u>	<u>LOCATION</u>	<u>DESCRIPTION</u>	<u>(LF)</u>
10+00.00 - 15+20.00	MAINLINE	WHITE EDGE LINE	1,040
10+00.00 - 15+20.00	MAINLINE	DASHED YELLOW C/L	130
11+30.00 - 15+20.00	MAINLINE	SOLID YELLOW C/L	390
TOTALS =			1,560

SAWING ASPHALT

		690.0150
<u>STATION</u>	<u>LOCATION</u>	<u>(LF)</u>
10+00	MAINLINE	23
15+20	MAINLINE	22
	TOTALS =	<u>45</u>

PERMANENT SIGNING

APPROX. STATION	LOCATION	SIGN CODE	SIGN DESCRIPTION	ORDER LINES	SIGN SIZE (IN X IN)	634.0612	637.2210	637.2230	638.2602	638.3000	COMMENT
						POSTS WOOD 4X6-INCH	SIGNS TYPE II REFLECTIVE	SIGNS TYPE II REFLECTIVE	REMOVING SIGNS	REMOVING SMALL SIGN SUPPORTS	
						12-FT (EACH)	H (SF)	F (SF)	TYPE II (EACH)	(EACH)	
11+24	MAINLINE, LT	W14-3	NO PASSING ZONE	-	48" X 36"	1	-	5.56	-	-	-
11+24	MAINLINE, LT	M2-1	JCT	-	21" X 15"	-	2.19	-	-	-	SIGN SHARES SAME SUPPORT AS W14-3 SIGN
11+24	MAINLINE, LT	M1-6	STH ROUTE MARKER	33	24" X 24"	-	4.00	-	-	-	SIGN SHARES SAME SUPPORT AS W14-3 SIGN
11+29	MAINLINE, LT	W14-3	NO PASSING ZONE	-	48" X 36"	-	-	-	1	1	-
11+29	MAINLINE, LT	M2-1	JCT	-	21" X 15"	-	-	-	1	-	SIGN SHARES SAME SUPPORT AS W14-3 SIGN
11+29	MAINLINE, LT	M1-6	STH ROUTE MARKER	33	24" X 24"	-	-	-	1	-	SIGN SHARES SAME SUPPORT AS W14-3 SIGN
11+57	MAINLINE, RT	W5-52R	BRIDGE HASH MARKS	-	12" X 36"	1	-	3.00	-	-	
11+62	MAINLINE, LT	W5-52L	BRIDGE HASH MARKS	-	12" X 36"	1	-	3.00	-	-	
11+86	MAINLINE, RT	W5-52R	BRIDGE HASH MARKS	-	12" X 36"	-	-	-	1	1	
11+86	MAINLINE, LT	W5-52L	BRIDGE HASH MARKS	-	12" X 36"	-	-	-	1	1	
13+38	MAINLINE, RT	W5-52R	BRIDGE HASH MARKS	-	12" X 36"	-	-	-	1	1	
13+38	MAINLINE, LT	W5-52L	BRIDGE HASH MARKS	-	12" X 36"	-	-	-	1	1	
13+62	MAINLINE, RT	W5-52R	BRIDGE HASH MARKS	-	12" X 36"	1	-	3.00	-	-	
13+67	MAINLINE, LT	W5-52L	BRIDGE HASH MARKS	-	12" X 36"	1	-	3.00	-	-	
TOTALS =						5	6.19	17.56	7	5	

TRAFFIC CONTROL

		643.0420		643.0705		643.0900		643.1050		643.5000
	CALENDAR	BARRICADES		WARNING LIGHTS		TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC
	DAY	TYPE III		TYPE A		SIGNS		SIGNS PCMS		CONTROL
LOCATION	DURATION	(COUNT)	(DAY)	(COUNT)	(DAY)	(COUNT)	(DAY)	(COUNT)	(DAY)	(EACH)
5090-00-70	158	18	2,844	28	4,424	14	2,212	2	14	1
TOTALS =		2,844		4,424		2,212		14		1

CONSTRUCTION STAKING

STATION - STATION	LOCATION	650.4500	650.5000	650.5500	*650.6501	650.9911	650.9920
		SUBGRADE (LF)	BASE (LF)	CURB GUTTER AND CURB & GUTTER (LF)	STRUCTURE LAYOUT (B-56-0245) (EACH)	SUPPLEMENTAL CONTROL (5090-00-70) (EACH)	STAKES (LF)
10+00 - 11+72.78	MAINLINE	172	172	125	-	-	172
13+51.32 - 15+20	MAINLINE	169	169	-	-	-	169
5090-00-70	PROJECT	-	-	-	1	1	-
	TOTALS =	341	341	125	1	1	341

* CATEGORY 0020

CONVENTIONAL SYMBOLS			
SECTION LINE	---	SECTION CORNER SYMBOL	
QUARTER LINE	---	R/W MONUMENT (TO BE SET)	●
SIXTEENTH LINE	---	NON-MONUMENTED R/W POINT	○
NEW REFERENCE LINE	---	FOUND IRON PIN (1-INCH UNLESS NOTED)	IP
NEW R/W LINE	---	GEODETIC SURVEY MONUMENT	
EXISTING R/W OR HE LINE	---	SIXTEENTH CORNER MONUMENT	
PROPERTY LINE	---	SIGN	
LOT, TIE & OTHER MINOR LINES	---	OFF-PREMISE SIGN	
SLOPE INTERCEPT	---	COMPENSABLE	
CORPORATE LIMITS	---	NON-COMPENSABLE	
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)	---	ELECTRIC POLE	
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)	---	TELEPHONE POLE	
TEMPORARY LIMITED EASEMENT AREA	---	PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.)	
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)	---	ACCESS RESTRICTED BY ACQUISITION	
TRANSMISSION STRUCTURES	---	NO ACCESS (BY STATUTORY AUTHORITY)	
BUILDING	---	ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)	
BRIDGE	---	NO ACCESS (NEW HIGHWAY)	
CULVERT	---	PARCEL NUMBER 25	
TO BE REMOVED	---	UTILITY NUMBER 40	
PARALLEL OFFSETS	---		

CONVENTIONAL ABBREVIATIONS			
ACCESS RIGHTS	AR	POINT OF COMPOUND CURVE	PCC
ACRES	AC	POINT OF INTERSECTION	PI
AHEAD	AH	PROPERTY LINE	PL
ALUMINUM	ALUM	RECORDED AS (100")	R/I
AND OTHERS	ET AL	REEL / IMAGE	R/L
BACK	BK	REFERENCE LINE	REM
BLOCK	BLK	REMAINING	RDE
CENTERLINE	C/L	RESTRICTIVE DEVELOPMENT	
CERTIFIED SURVEY MAP	CSM	EASEMENT	
CONCRETE	CONC	RIGHT	RT
COUNTY	CO	RIGHT OF WAY	R/W
COUNTY TRUNK HIGHWAY	CTH	SECTION	SEC
DISTANCE	DIST	SEPTIC VENT	SEP
CORNER	COR	SQUARE FEET	SF
DOCUMENT NUMBER	DOC	STATE TRUNK HIGHWAY	STH
EASEMENT	EASE	STATION	STA
EXISTING	EX	TELEPHONE PEDESTAL	TP
GAS VALVE	GV	TEMPORARY LIMITED EASEMENT	TLE
GRID NORTH	GN	TRANSPORTATION PROJECT PLAT	TPP
HIGHWAY EASEMENT	HE	UNITED STATES HIGHWAY	USH
IDENTIFICATION	ID	VOLUME	V
LAND CONTRACT	LC	PAGE	P
LEFT	LT	POINT OF TANGENCY	PT
MONUMENT	MON	PERMANENT LIMITED EASEMENT	PLE
NATIONAL GEODETIC SURVEY	NGS	EASEMENT	
NUMBER	NO	POINT OF BEGINNING	POB
OUTLOT	OL	POINT OF CURVATURE	PC
NOTES			
POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), SAUK COUNTY, NAD 83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.			
ALL NEW RIGHT-OF-WAY AND PERMANENT EASEMENT MONUMENTS WILL BE TYPE 2 MONUMENTS (TYPICALLY 3/4 X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.			
RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD."			
FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE SAUK COUNTY HIGHWAY DEPARTMENT.			
ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, OR FROM CENTERLINE OF EXISTING PAVEMENTS.			
DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.			
A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE. ALL (TLEs) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.			
AN EASEMENT FOR HIGHWAY PURPOSES (HE), AS LONG AS SO USED. INCLUDING THE RIGHT-OF-WAY TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE.			
THIS PLAT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSE ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES AND ACCESS RIGHTS.			
PROPERTY LINES SHOWN ON THIS PLAT FOR PROPERTIES BEING IMPACTED ARE DRAWN FROM DATA DERIVED FROM FILED / RECORDED MAPS AND DOCUMENTS OF PUBLIC RECORD. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.			

CURVE DATA ABBREVIATIONS

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE	Δ/DELTA
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

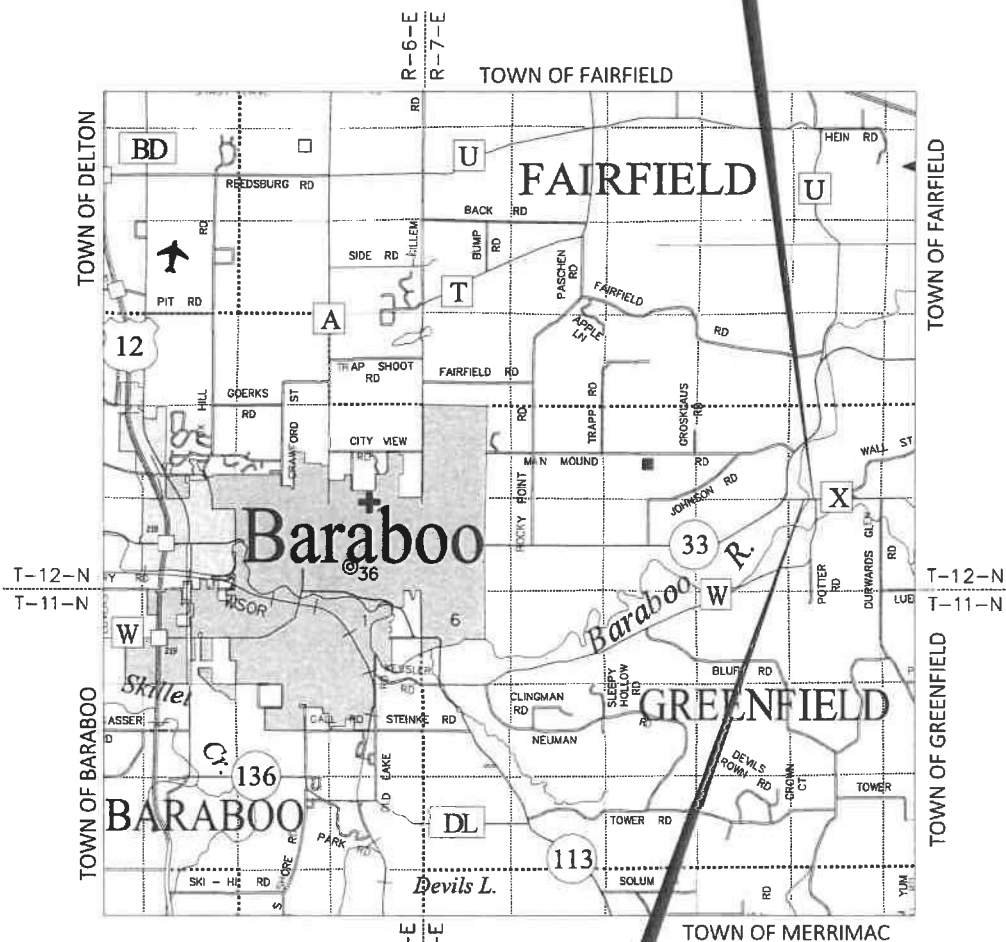
CONVENTIONAL UTILITY SYMBOLS

WATER	---
GAS	---
TELEPHONE	---
OVERHEAD TRANSMISSION LINES	---
ELECTRIC	---
CABLE TELEVISION	---
FIBER OPTIC	---
SANITARY SEWER	---
STORM SEWER	---
ELECTRIC TOWER	---

END RELOCATION ORDER

STA. 15+20.00

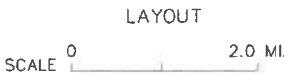
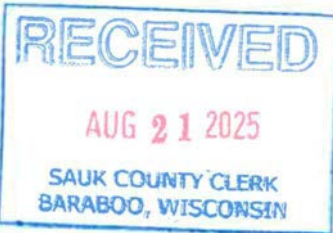
10.04' SOUTH AND 1209.56' WEST OF THE S 1/4 CORNER OF SECTION 26, T.12N., R.7E., TOWN OF GREENFIELD, SAUK COUNTY, WI
Y = 241,445.309
X = 679,281.321



BEGIN RELOCATION ORDER

STA. 9+50.00

18.98' NORTH AND 869.02' EAST OF THE SOUTHWEST CORNER OF SECTION 26, T.12N., R.7E., TOWN OF GREENFIELD, SAUK COUNTY, WI
Y = 241,437.989
X = 678,711.368



TOTAL NET LENGTH OF CENTERLINE = 0.108 MI.

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
5090-00-00		
FEDERAL PROJECT NUMBER	4.01	2

PLAT OF RIGHT-OF-WAY REQUIRED FOR
STH 33-CTH W (CTH X)
B-56-0245 STRUCTURE OVER BARABOO RIVER

TH X

SAUK COUNTY

CONSTRUCTION PROJECT NUMBER
5090-00-70



JEWELL
associates engineers, inc.
Engineers - Architects - Surveyors

560 SUNRISE DRIVE
SPRING GREEN, WI 53588
PHONE : 608.588.7484
FAX : 608.588.9322

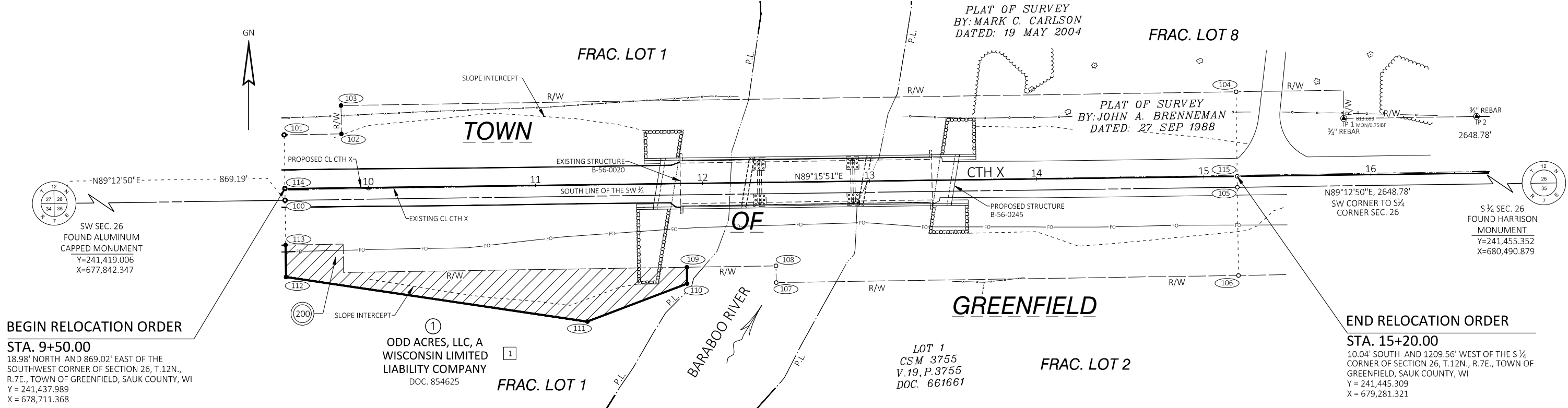
I HEREBY CERTIFY THAT THIS PLAT WAS MADE FOR SAUK COUNTY, WISCONSIN AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



DATE: 8/19/2025

APPROVED FOR SAUK COUNTY
DATE: 8/21/2025
SAUK COUNTY CLERK
BARABOO, WISCONSIN

E



BEGIN RELOCATION ORDER
STA. 9+50.00
18.98' NORTH AND 869.02' EAST OF THE
SOUTHWEST CORNER OF SECTION 26, T.12N.,
R.7E., TOWN OF GREENFIELD, SAUK COUNTY, WI
Y = 241,437.989
X = 678,711.368

END RELOCATION ORDER
STA. 15+20.00
10.04' SOUTH AND 1209.56' WEST OF THE S 1/4
CORNER OF SECTION 26, T.12N., R.7E., TOWN OF
GREENFIELD, SAUK COUNTY, WI
Y = 241,445.309
X = 679,281.321

R/W COURSE TABLE		
POINT TO POINT	COURSE BEARING	DISTANCE
100 TO 114	N00° 44' 09"W	7.06'
114 TO 101	N00° 44' 09"W	32.17'
101 TO 102	N89° 04' 59"E	34.26'
102 TO 103	N00° 52' 51"W	17.00'
103 TO 104	N89° 07' 09"E	535.78'
104 TO 115	S00° 44' 09"E	50.63'
115 TO 105	S00° 44' 09"E	6.56'
105 TO 106	S00° 44' 09"E	52.81'
106 TO 107	S89° 07' 09"W	276.69'
107 TO 108	N00° 52' 51"W	10.00'
108 TO 109	S89° 07' 09"W	53.31'
109 TO 110	S00° 52' 51"E	9.80'
110 TO 111	S69° 07' 40"W	63.91'
111 TO 112	N81° 35' 01"W	182.32'
112 TO 113	N00° 44' 09"W	19.17'
113 TO 100	N00° 44' 09"W	26.78'

R/W POINTS TABLE				
POINT	STATION	OFFSET	Y	X
100	9+50.00	7.06'RT	241430.933	678711.458
101	9+50.00	32.17'LT	241470.155	678710.955
102	9+84.26	32.28'LT	241470.703	678745.211
103	9+84.22	49.28'LT	241487.701	678744.950
104	15+20.00	50.63'LT	241495.939	679280.670
105	15+20.00	6.56'RT	241438.754	679281.405
106	15+20.00	59.37'RT	241385.947	679282.083
107	12+43.32	60.07'RT	241381.693	679005.430
108	12+43.29	50.07'RT	241391.692	679005.276
109	11+89.98	50.20'RT	241390.872	678951.968
110	11+90.00	60.00'RT	241381.076	678952.118
111	11+30.00	82.00'RT	241358.307	678892.406
112	9+50.00	53.00'RT	241384.993	678712.048
113	9+50.00	33.83'RT	241404.160	678711.802
114	9+50.00	0.00'RT	241437.989	678711.368
115	15+20.00	0.00'RT	241445.309	679281.321

FOUND MONUMENTS TABLE				
POINT	STATION	OFFSET	Y	X
1	15+84.20	33.80'LT	241479.927	679345.080
2	16+63.66	34.00'LT	241481.149	679424.533

SCHEDULE OF LANDS AND INTERESTS					
PARCEL NUMBER	OWNER(S)	INTERESTS REQUIRED	R/W ACRES REQUIRED		
			NEW	EXISTING	TOTAL
1	ODD ACRES, LLC, A WISCONSIN LIMITED LIABILITY COMPANY	FEE	0.11	-	0.11
200	BRIGHTSPEED	RELEASE OF RIGHTS			

NOTE: OWNERS' NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO SAUK COUNTY.

EASEMENT TABLE				
EASEMENT NUMBER	OWNER	RECORDING INFORMATION	LOCATED IN PARCEL #	REMARKS
1	NORTHERN NATURAL GAS COMPANY	DOC. 340023 VOL.315, P.31	1	BLANKET EASEMENT

NOTE: NO EASEMENTS OF RECORD FOUND FOR BRIGHTSPEED

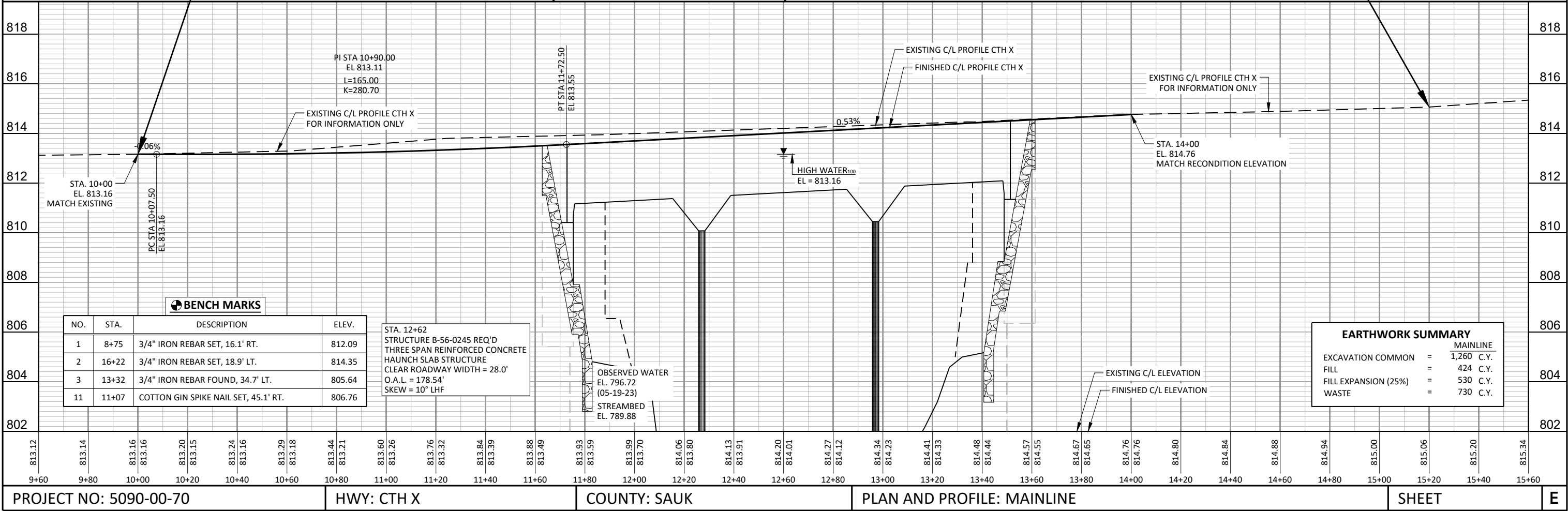
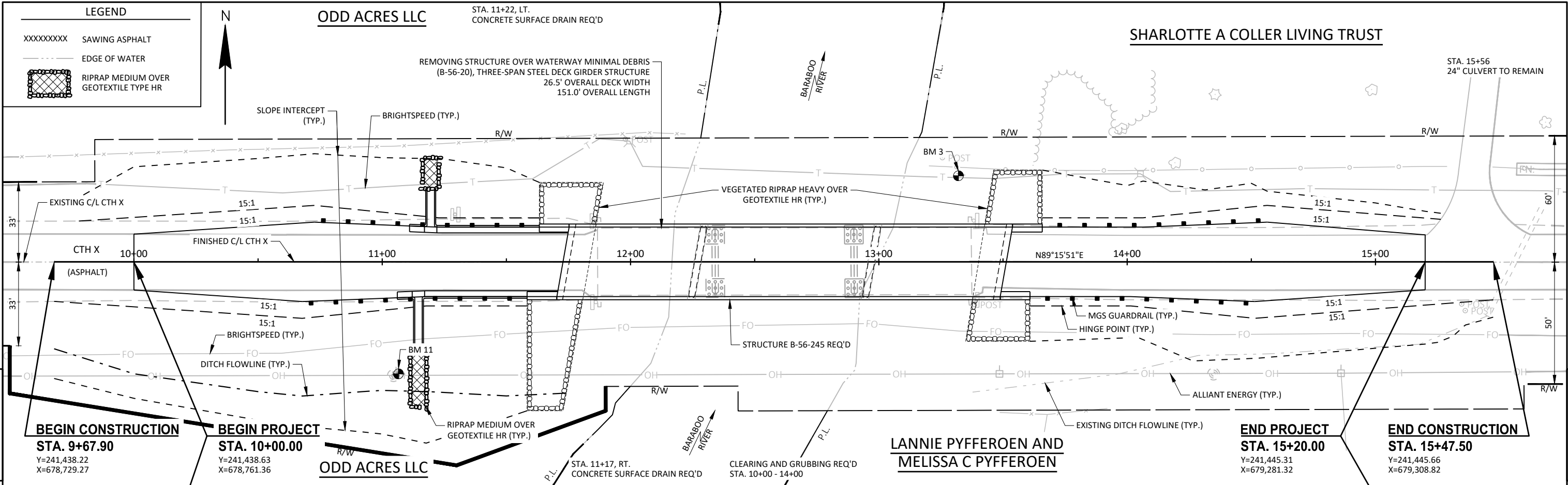
NOTES:

EXISTING C/L OF CTH X BASED ON PLAT OF SURVEY 5095 AND TRANSPORTATION PROJECT 5090-03-21

EXISTING RIGHT-OF-WAY FOR CTH X BASED ON EXISTING CENTERLINE OF CTH X, PREVIOUS CSM, PLATS OF SURVEY AND FOUND MONUMENTATION SHOWN ON SHEETS AND WIS. STATUTE 82.31(2)

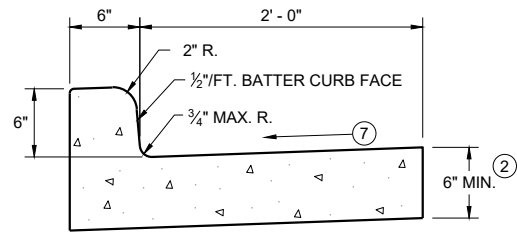
FOUND MONUMENT INFORMATION SHOWN REPRESENTS TYPE AND LOCATION OF EXISTING MONUMENTS WITHOUT OPINION AS TO THEIR VALIDITY AND USE AS A PROPERTY CORNER.

REVISION DATE	DATE 2/24/2026	SCALE, FEET 0 30 60	HWY: CTH X	R/W PROJECT NUMBER 5090-00-00	PLAT SHEET 4.02	E
			COUNTY: SAUK	CONSTRUCTION PROJECT NUMBER 5090-00-70	PS&E SHEET	

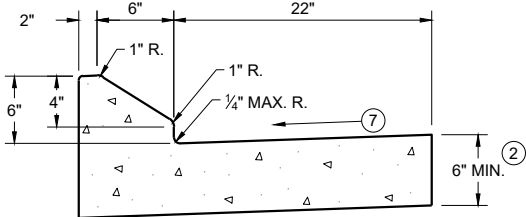


Standard Detail Drawing List

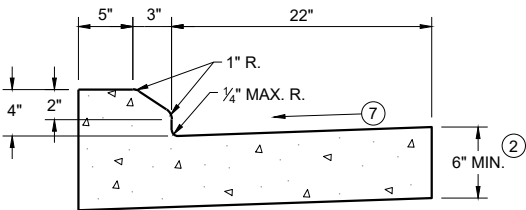
08D01-24A	CONCRETE CURB & GUTTER
08D01-24B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-08A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
14B29-01	SAFETY EDGE
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	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)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A01-13A	MARKER POST FOR RIGHT-OF-WAY
15C02-10A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-10B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-24A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-11B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



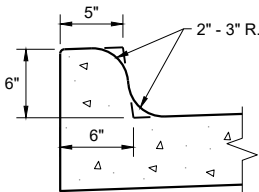
TYPES A^① & D



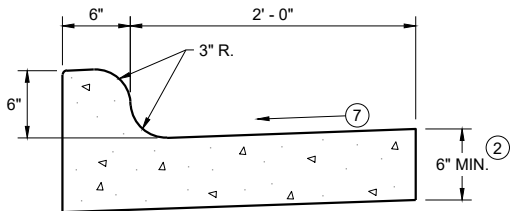
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

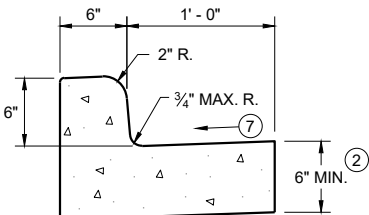


TYPES K^① & L
(OPTIONAL CURB SHAPE)



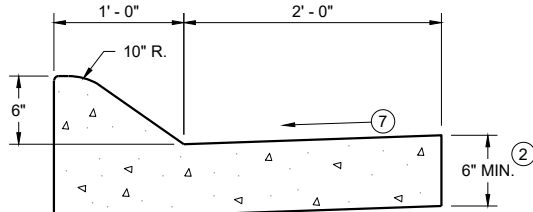
TYPES K^① & L

CONCRETE CURB AND GUTTER 30"

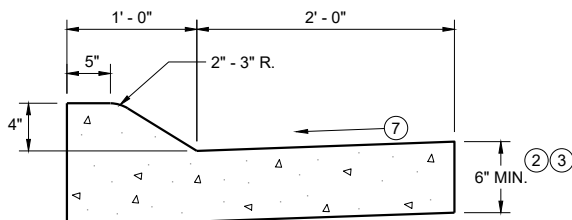


TYPES A^① & D

CONCRETE CURB AND GUTTER 18"

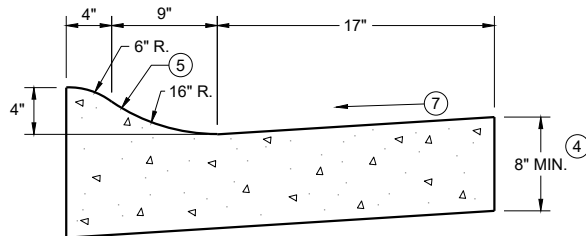


6" SLOPED CURB TYPES A^① & D



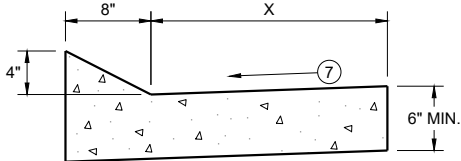
4" SLOPED CURB TYPES A^① & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R^① & T
CONCRETE CURB AND GUTTER 30"

TBT & TBTT	X
30"	22"
36"	28"

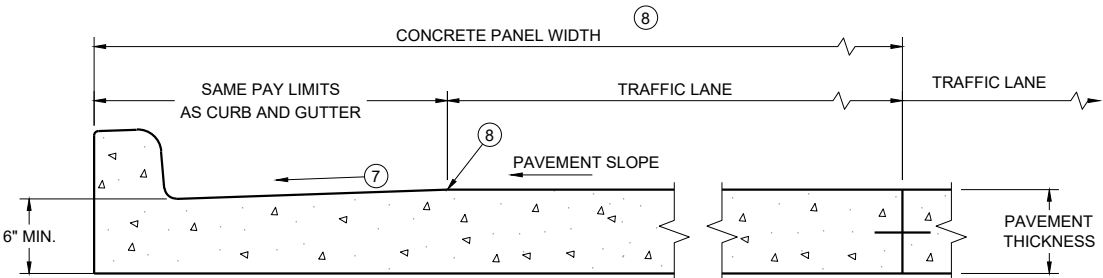


TYPES TBT & TBTT^①

CONCRETE CURB AND GUTTER

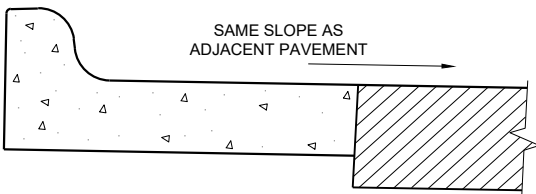
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'

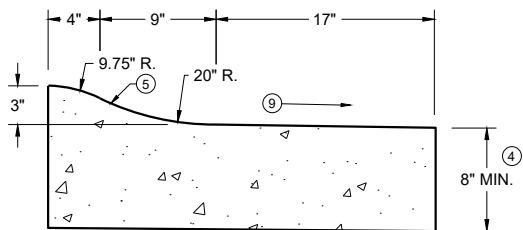


PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER^⑥
(TYPICAL FOR ALL CURB & GUTTER TYPES)



3" SLOPED CURB TYPES R^① & T

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

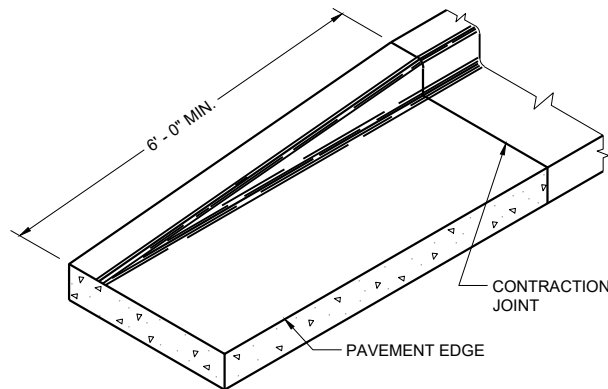
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

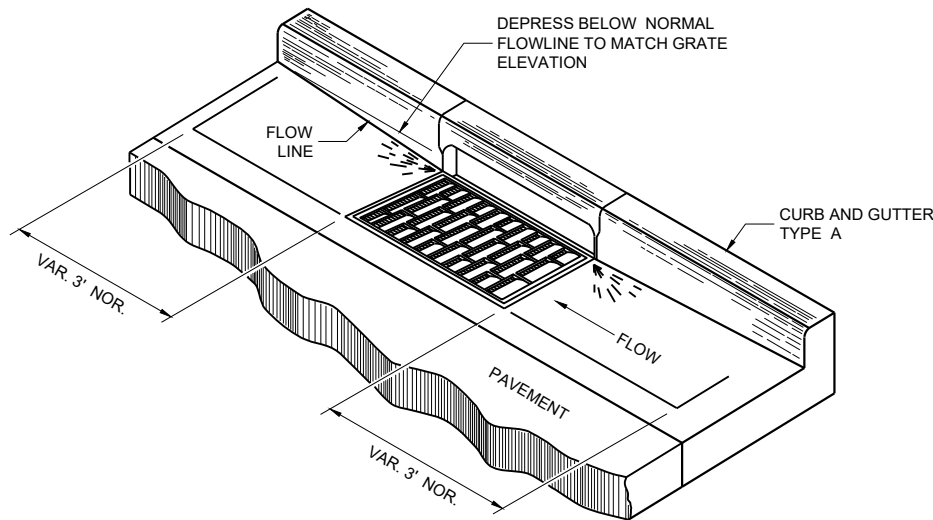
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
- ⑨ SLOPE TO BE REVERSE SLOPE MATCHING THE SLOPE OF THE PAVEMENT AND THE CIRCULATORY ROADWAY

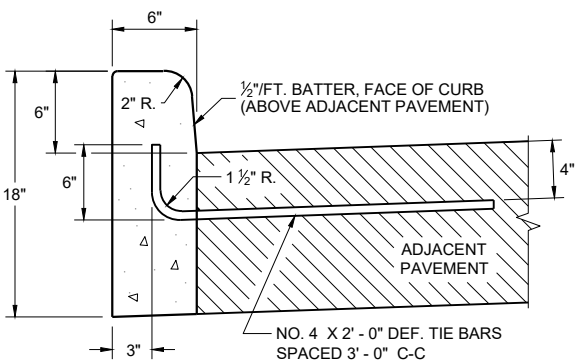


END SECTION CURB AND GUTTER

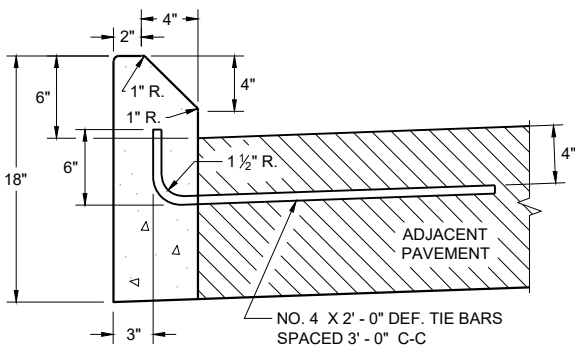


DETAIL OF CURB AND GUTTER AT INLETS

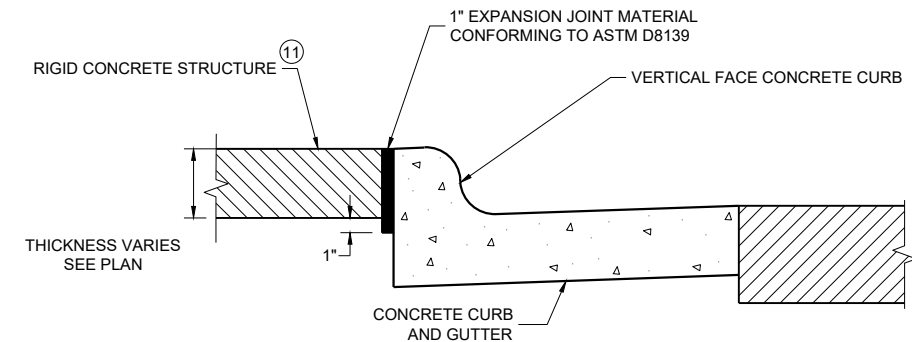
(TYPICAL H INLET COVER SHOWN)



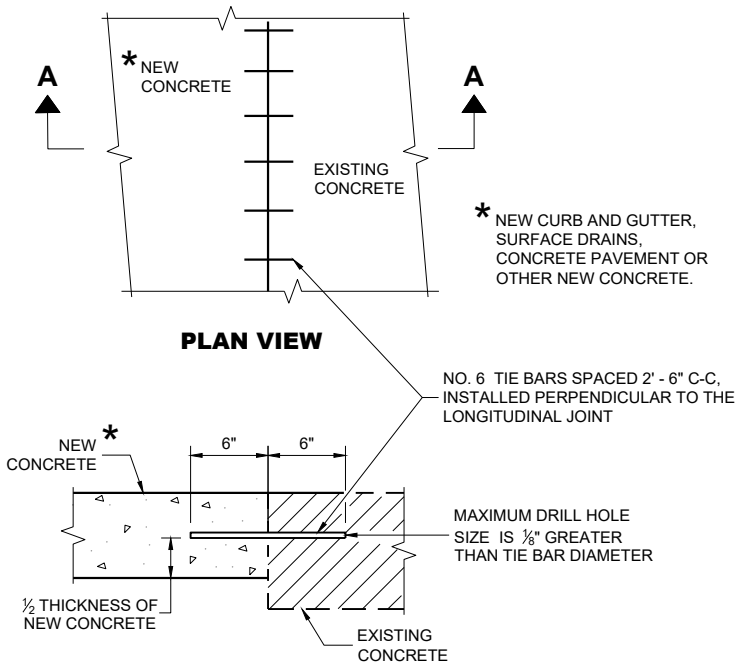
TYPES A^① & D



TYPES G^① & J
CONCRETE CURB



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE^⑪



SECTION A - A
TIE BARS DRILLED INTO EXISTING PAVEMENT

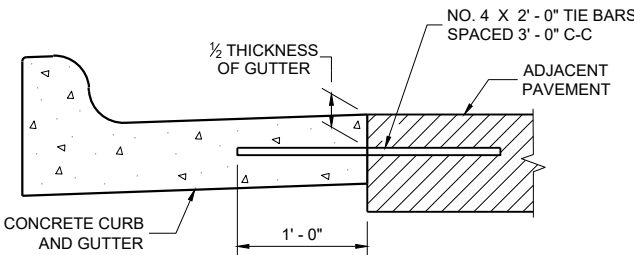
GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

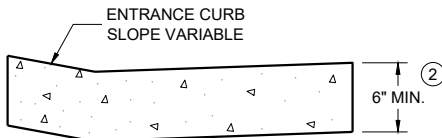
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.
- ⑪ PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.



TYPICAL TIE BAR LOCATION^①



DRIVEWAY ENTRANCE CURB^⑩
(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES
AND CURB AND GUTTER
APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2025
DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

FHWA

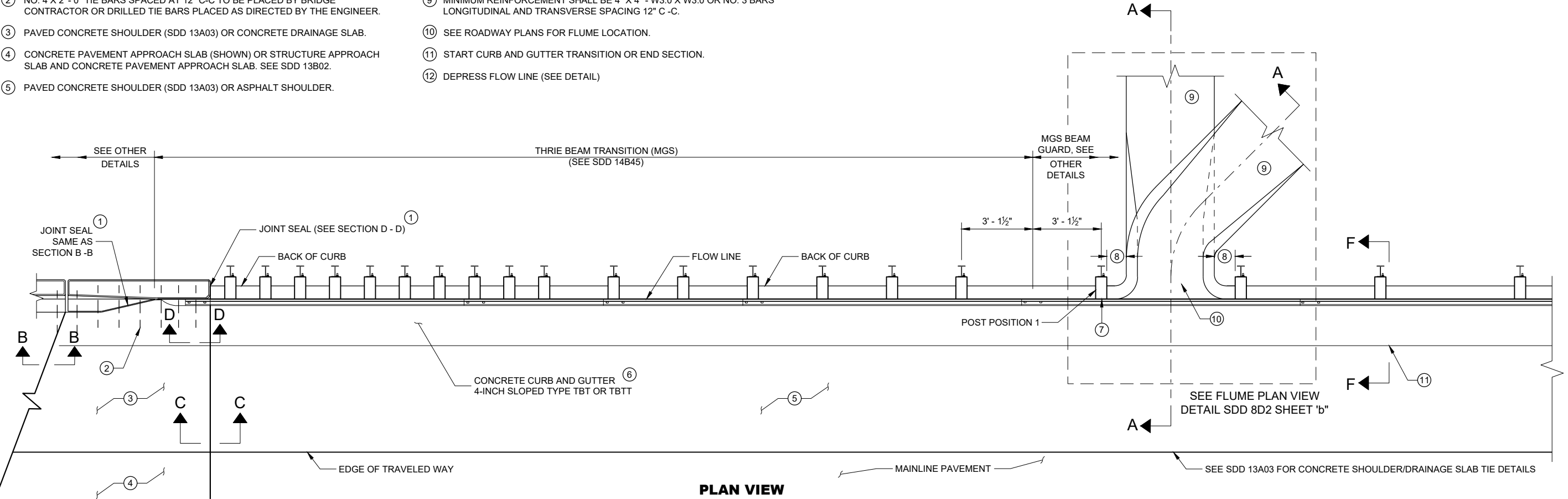
GENERAL NOTES

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

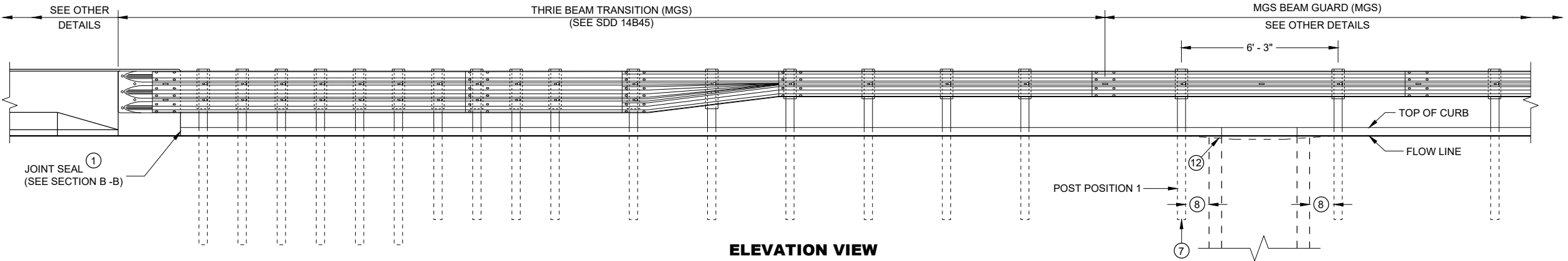
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

- ① USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ② NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
- ④ CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.
- ⑤ PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

- ⑥ CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
- ⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.
- ⑪ START CURB AND GUTTER TRANSITION OR END SECTION.
- ⑫ DEPRESS FLOW LINE (SEE DETAIL)



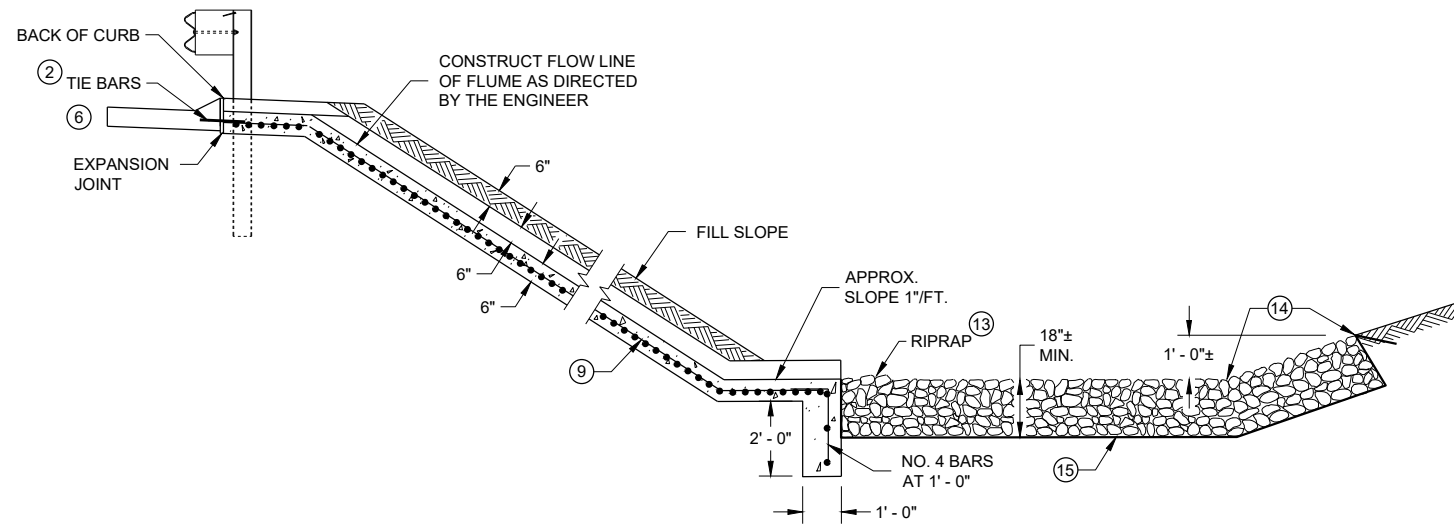
PLAN VIEW



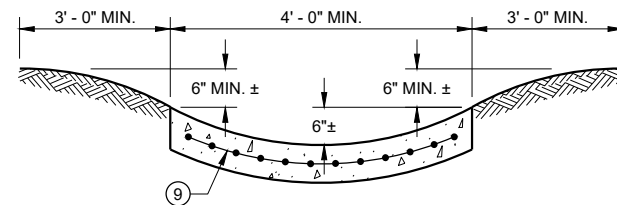
ELEVATION VIEW

CONCRETE SURFACE
DRAINS FLUME TYPE
AT STRUCTURES

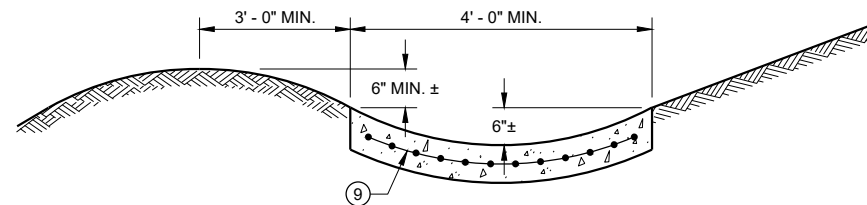
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



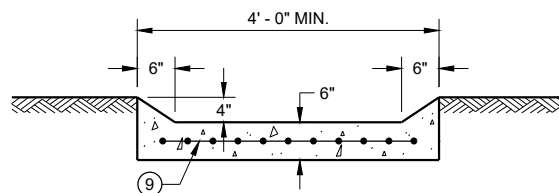
SECTION A - A



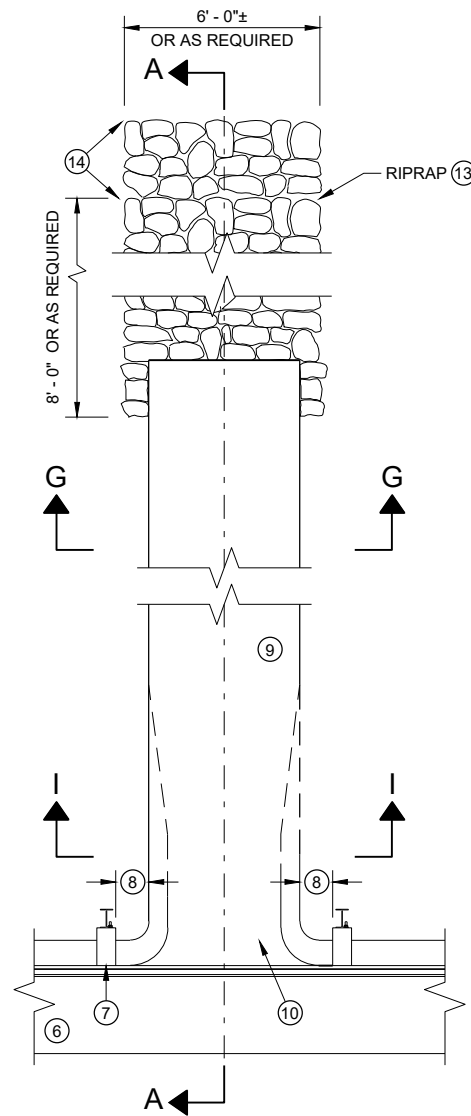
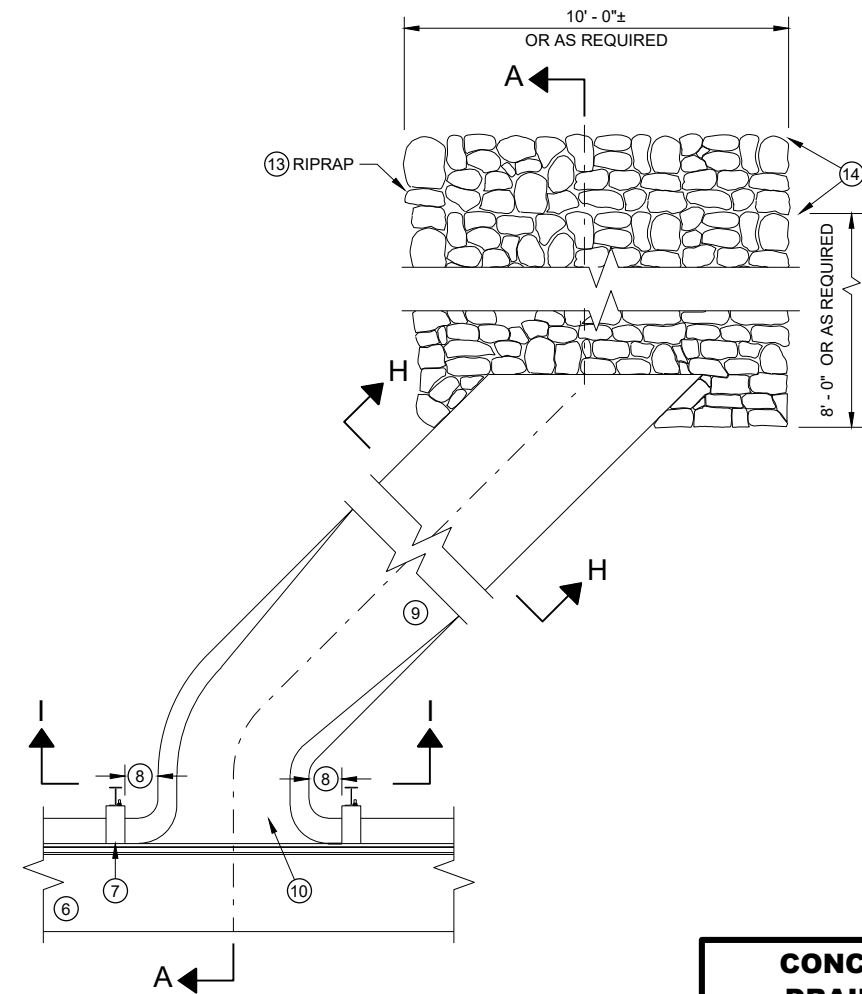
SECTION G - G



SECTION H - H



SECTION I - I

PLAN VIEW
PERPENDICULAR FLUMEPLAN VIEW
SKEWED FLUME

GENERAL NOTES

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

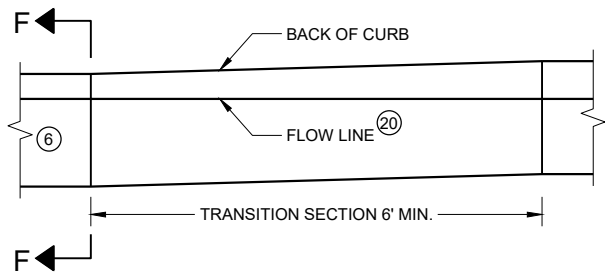
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

- ① USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ② NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
- ④ CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
- ⑤ PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
- ⑥ CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBT. USE TYPE TBT CURB WITH NO. 4 X 2' - 0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

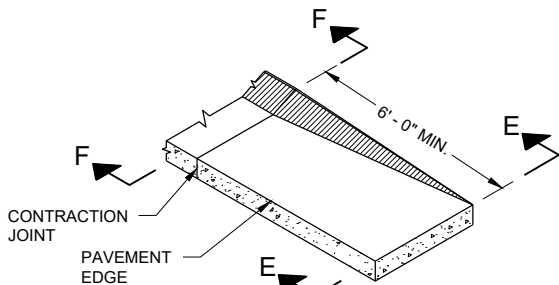
- ⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.
- ⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.
- ⑪ START CURB AND GUTTER TRANSITION OR END SECTION.
- ⑫ DEPRESS FLOW LINE (SEE DETAIL)
- ⑬ MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
- ⑭ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.
- ⑮ GEOTEXTILE TYPE HR.

**CONCRETE SURFACE
DRAINS FLUME TYPE
AT STRUCTURES**

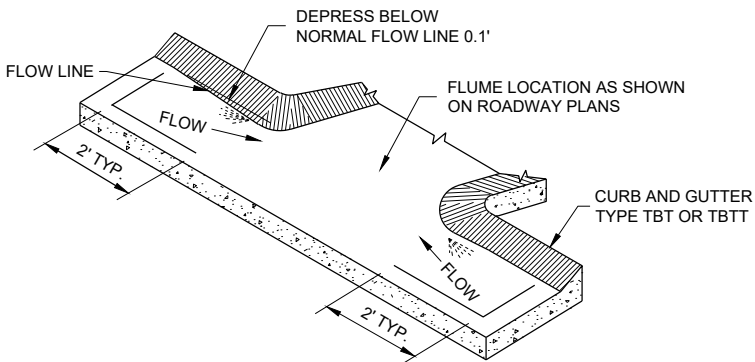
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



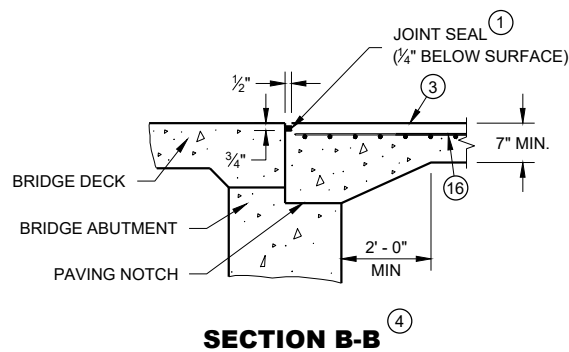
**CURB AND GUTTER TRANSITION SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



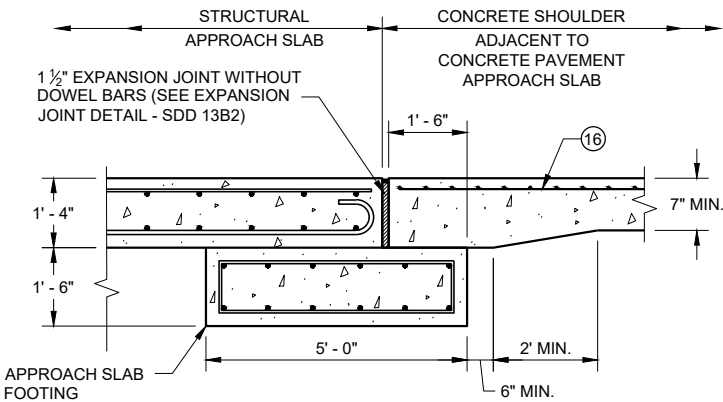
**CURB AND GUTTER END SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



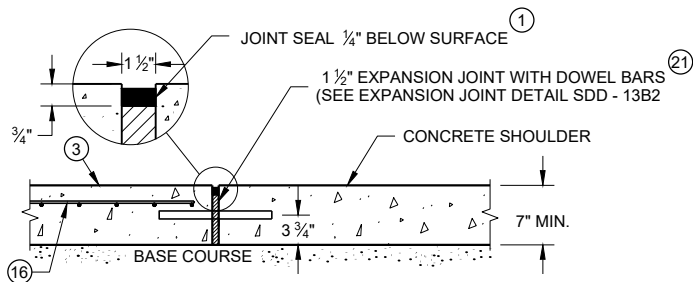
**CURB AND GUTTER FLOW LINE DEPRESSION
AT FLUMES CONCRETE CURB AND GUTTER
4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**



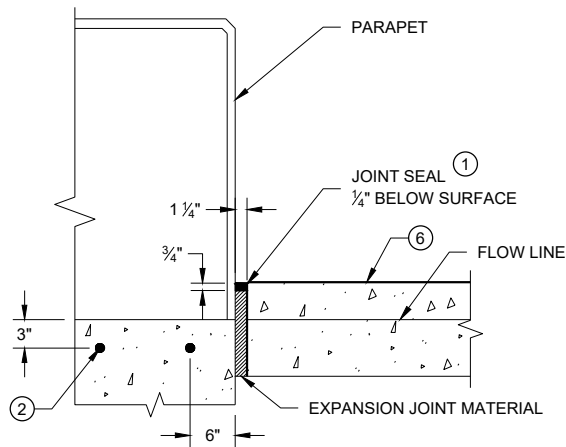
SECTION B-B



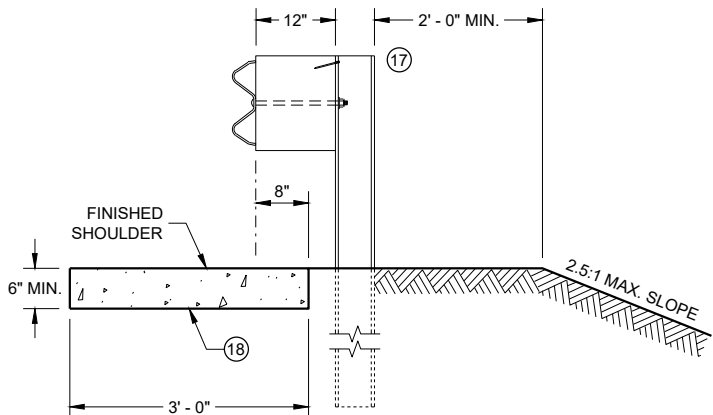
**SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL
APPROACH SLAB AND CONCRETE APPROACH SLAB**



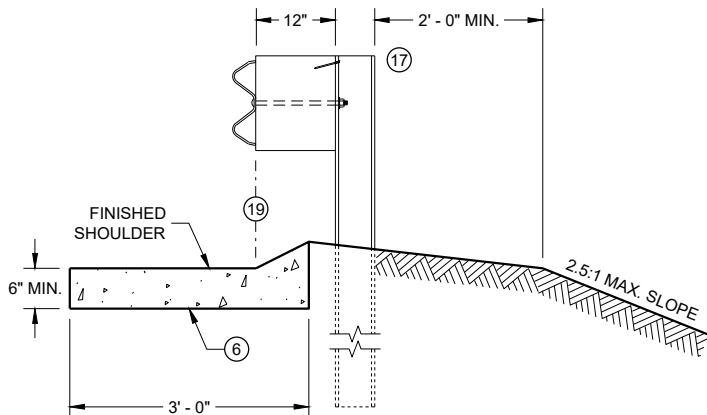
**SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH
WITH CONCRETE SHOULDERS**



SECTION D - D



SECTION E - E



SECTION F - F

GENERAL NOTES

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

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

- ① USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ② NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
- ④ CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
- ⑤ PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
- ⑥ CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' - 0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
- ⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.
- ⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.
- ⑪ START CURB AND GUTTER TRANSITION OR END SECTION.
- ⑫ DEPRESS FLOW LINE (SEE DETAIL)
- ⑬ MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
- ⑭ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.
- ⑮ GEOTEXTILE TYPE HR.
- ⑯ MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.
- ⑰ MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.
- ⑱ MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.
- ⑲ ALIGN FACE OF POST BLOCK WITH FLOW LINE.
- ⑳ MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.
- ㉑ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023

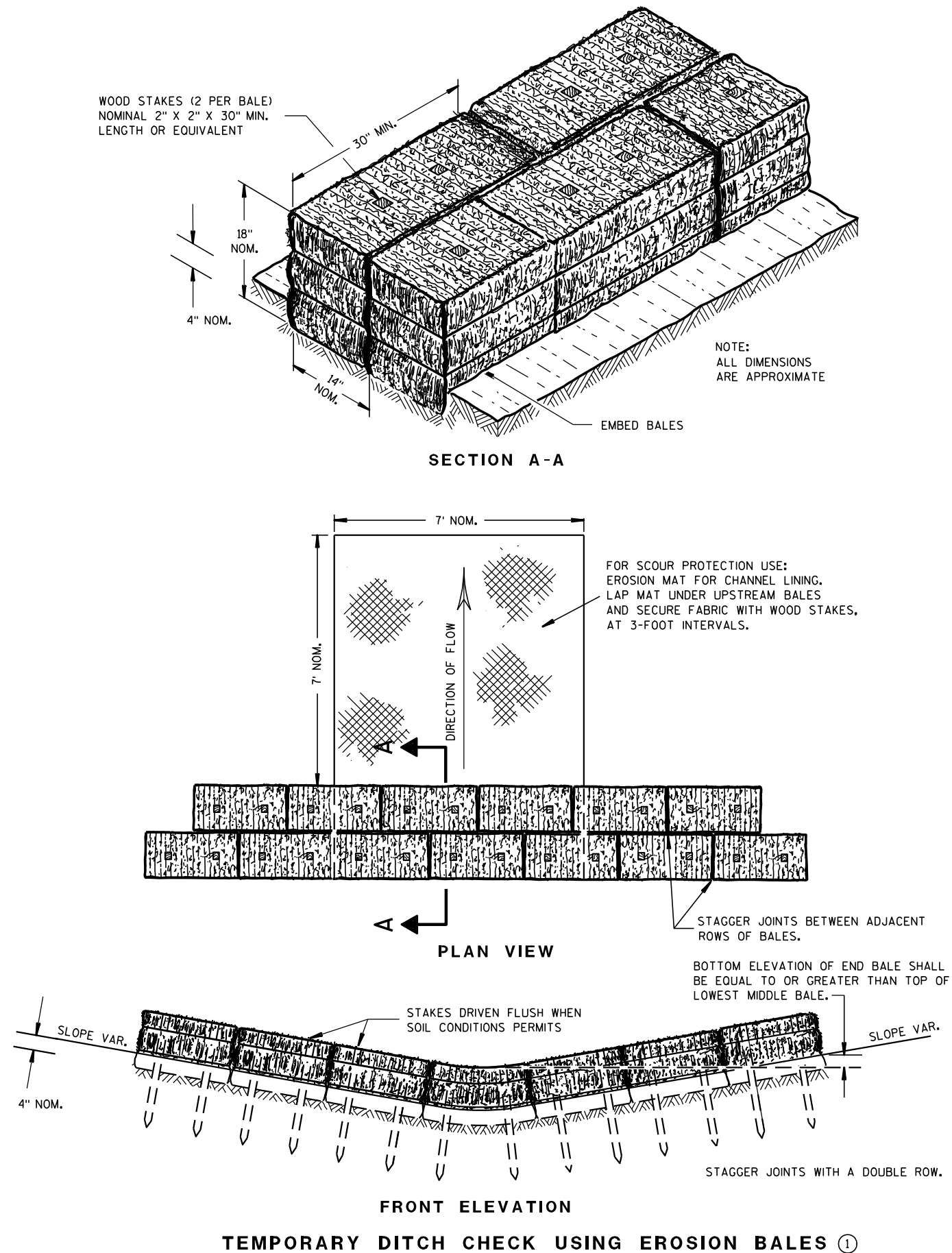
DATE

FHWA

/S/ Rodney Taylor

ROADWAY STANDARDS DEVELOPMENT

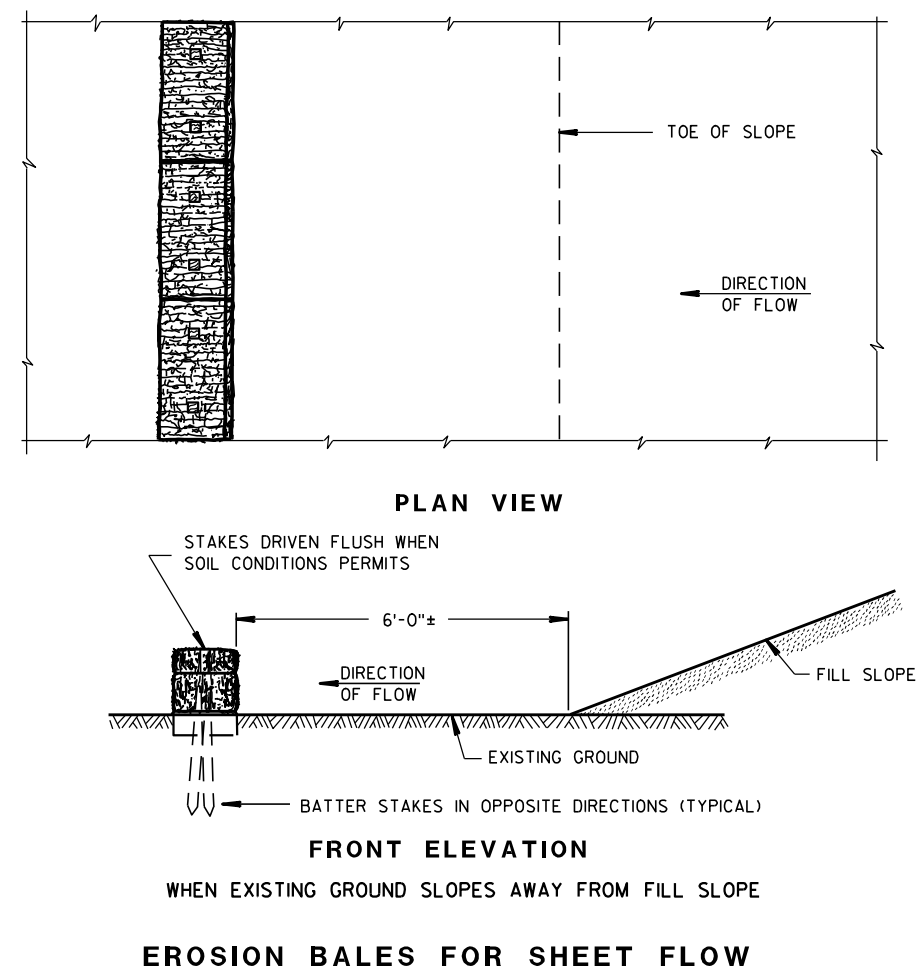
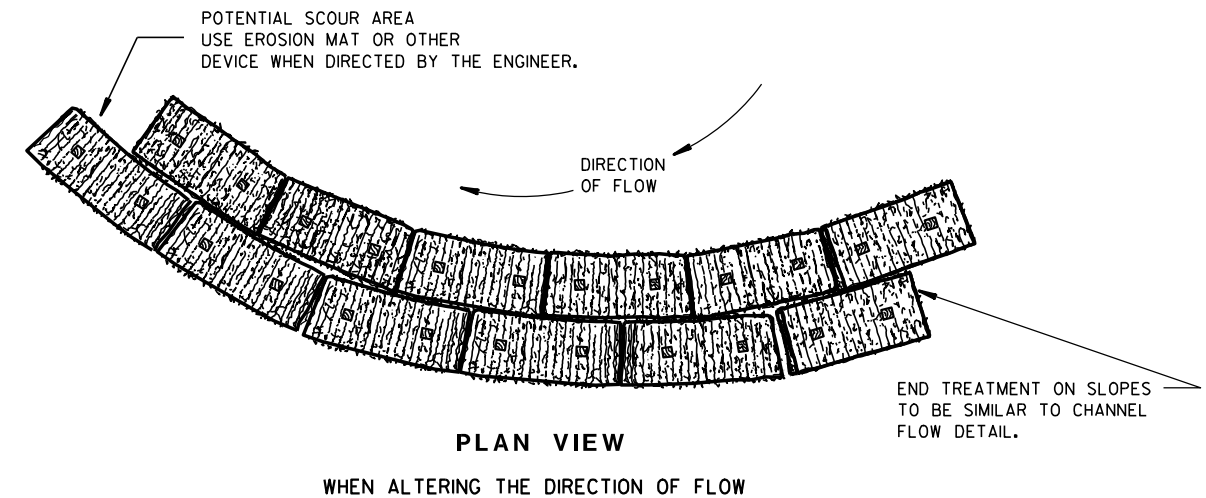
ENGINEER



GENERAL NOTES

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

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

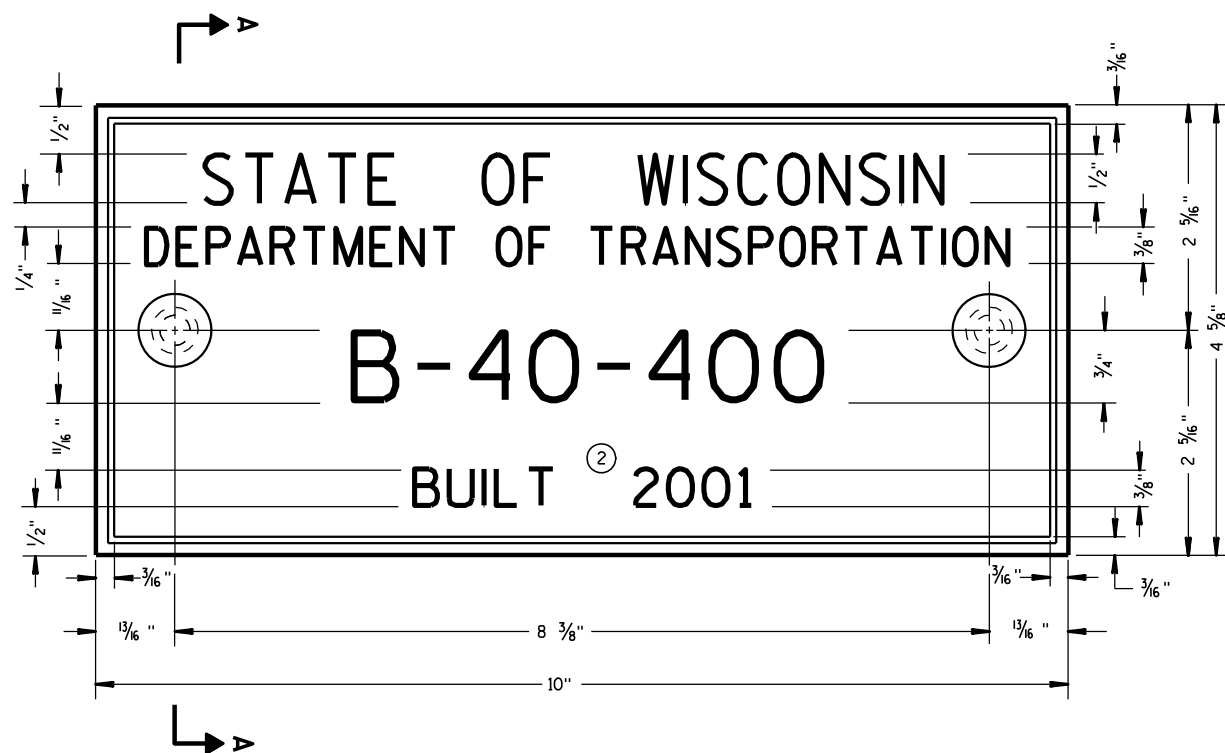
FHWA



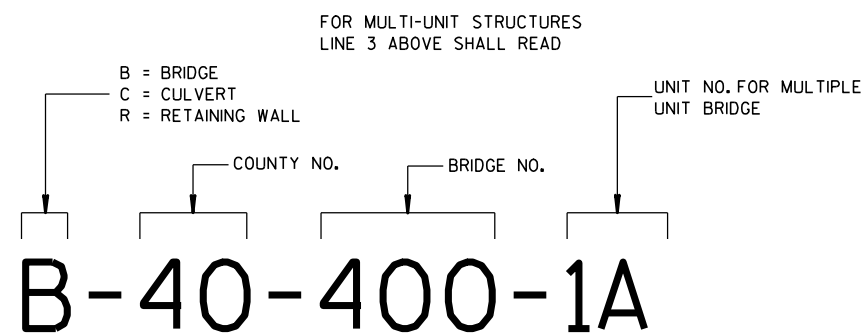
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



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



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



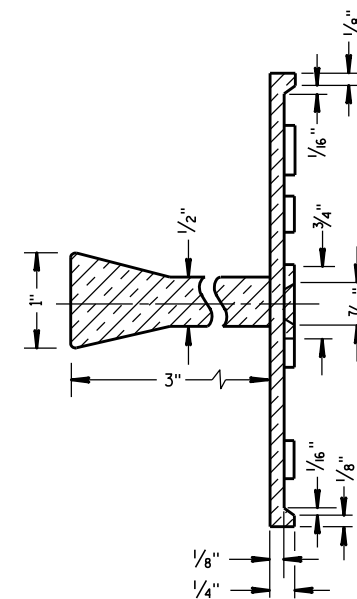
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

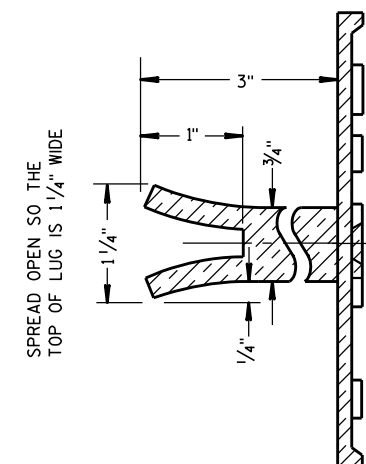
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.

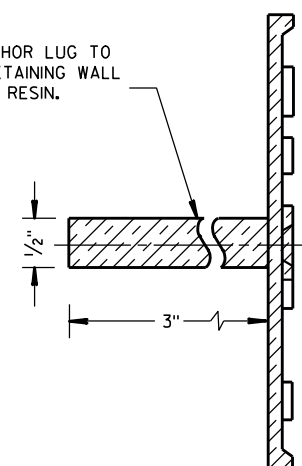


SECTION A-A



ALTERNATE LUG

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



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

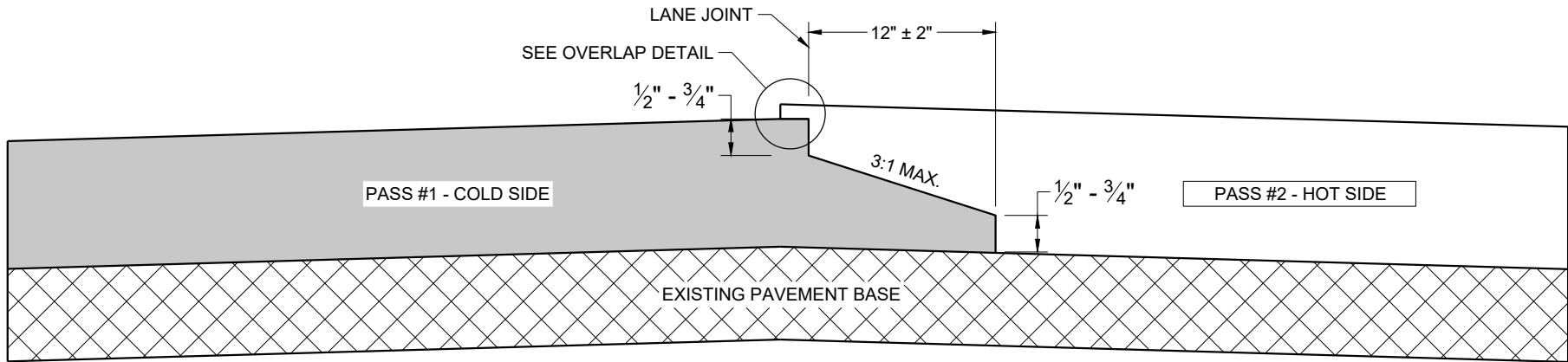
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

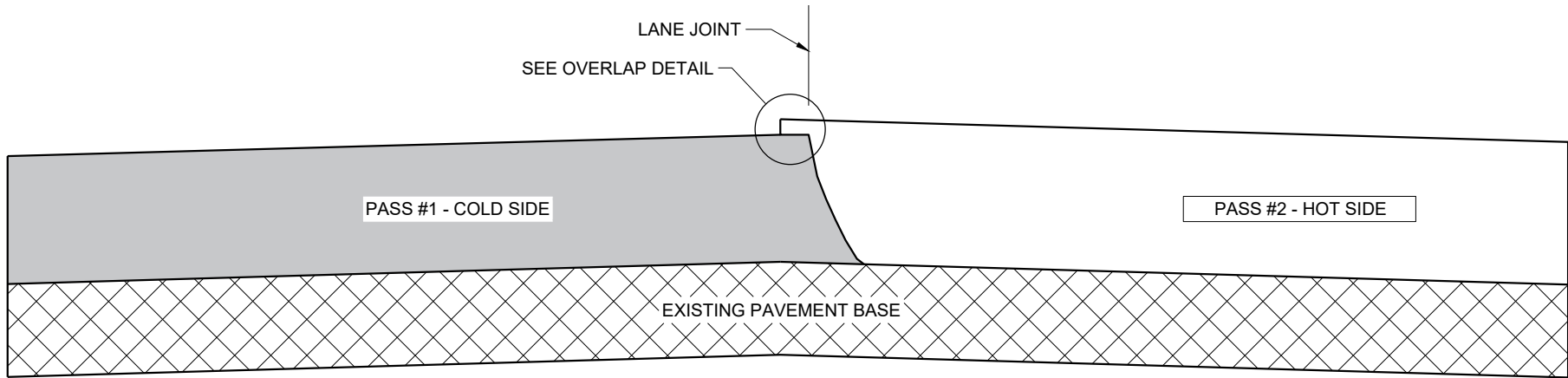
3/26/10
DATE

FHWA

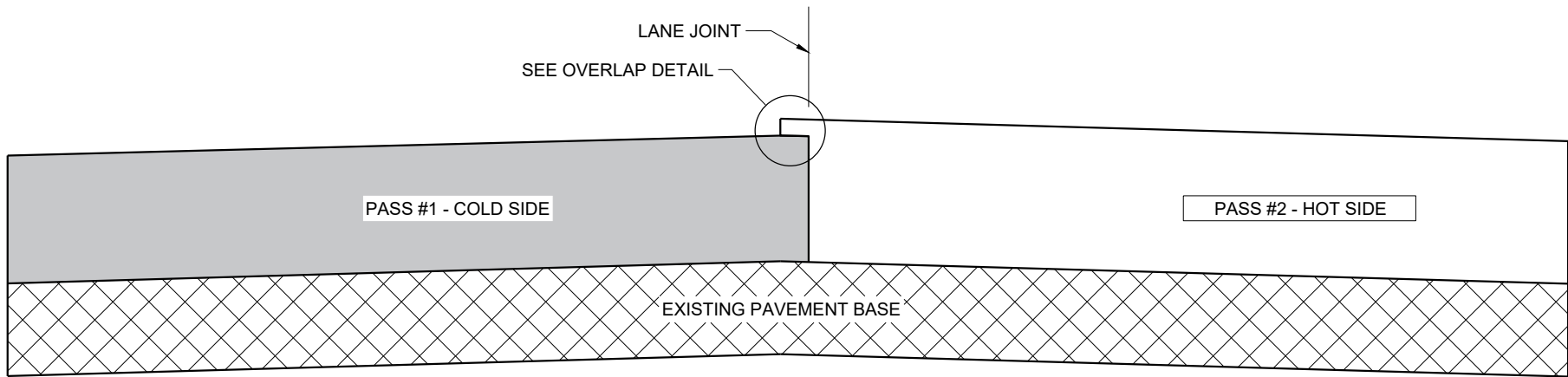
/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

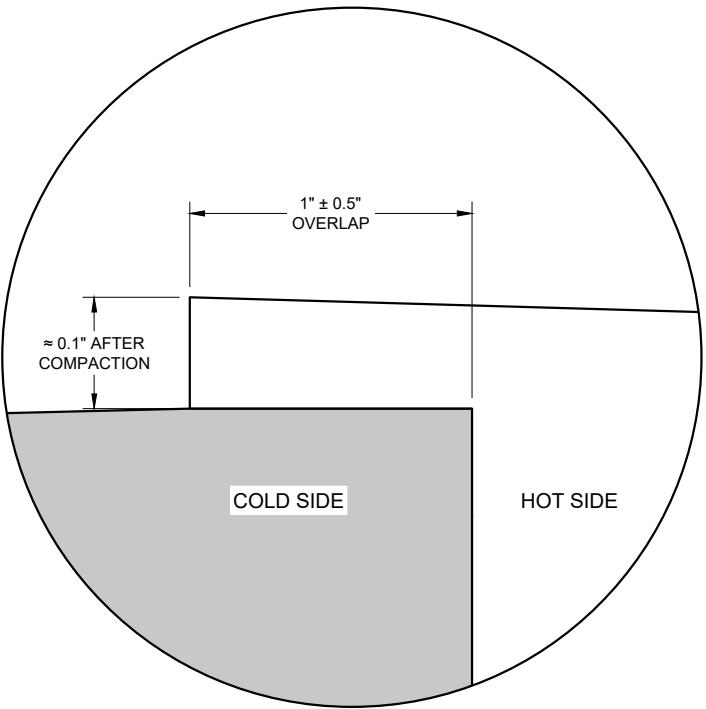
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY 1" ± 0.5" AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.

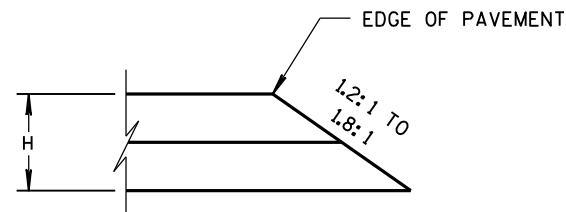


OVERLAP DETAIL (TYPICAL)

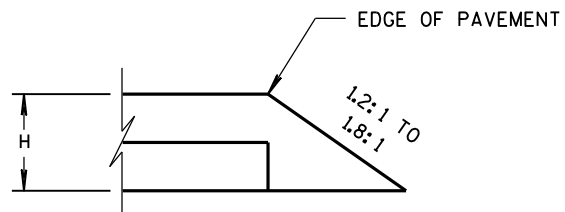
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

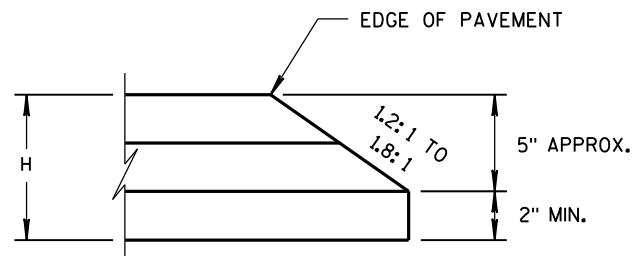
APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGINEER
FHWA



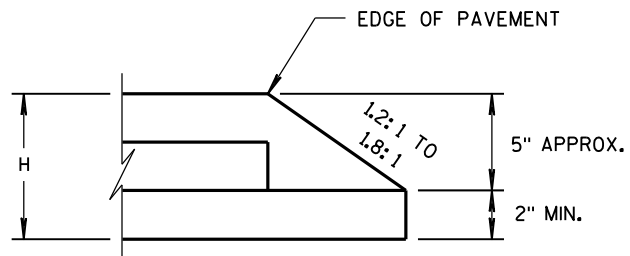
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

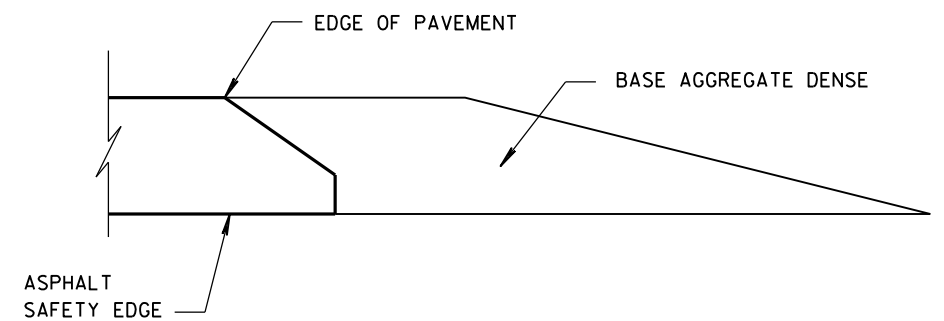


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

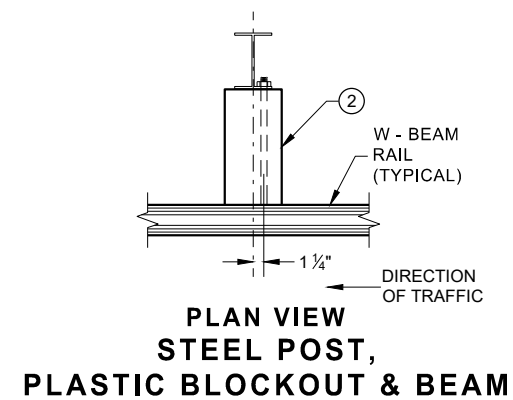
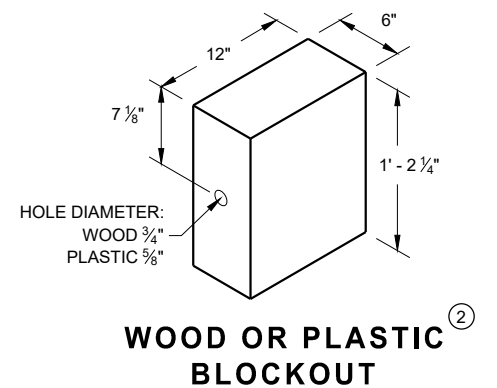
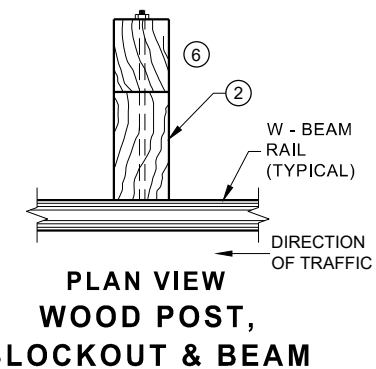
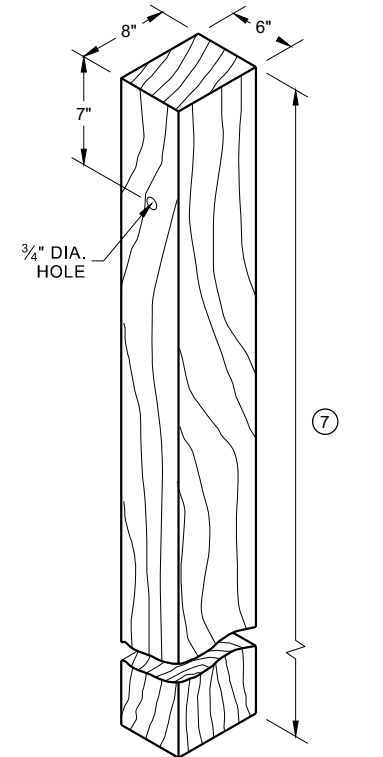
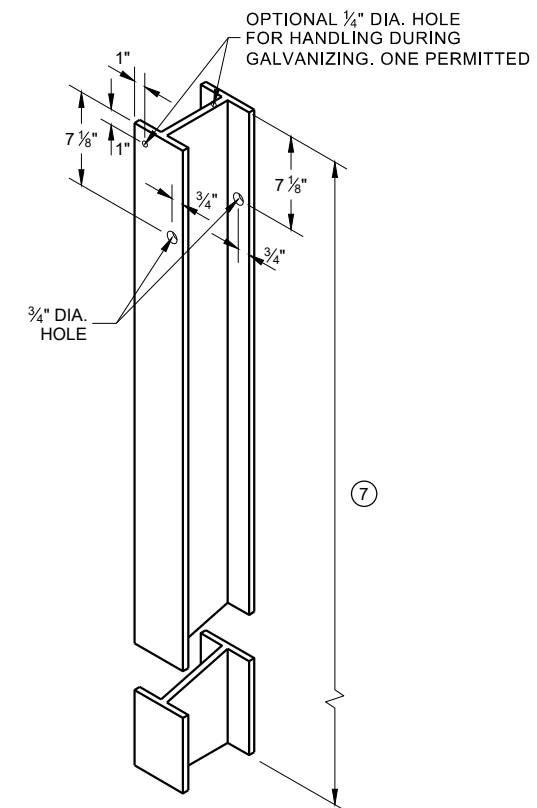
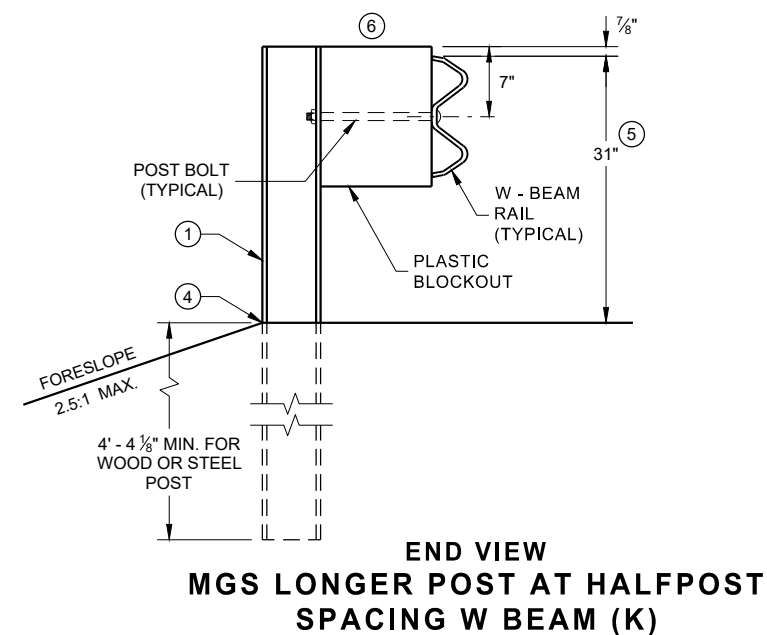
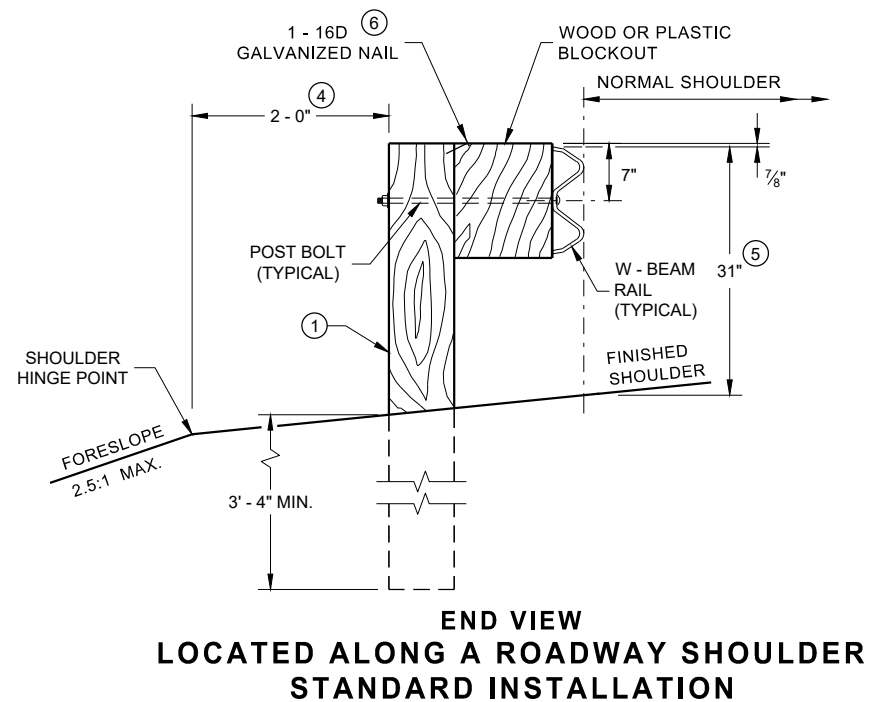
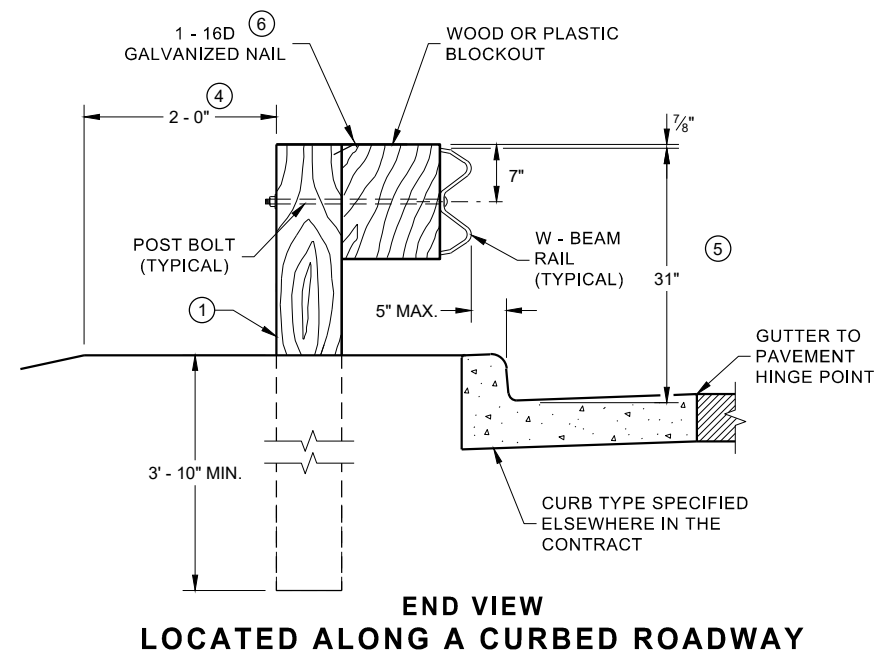
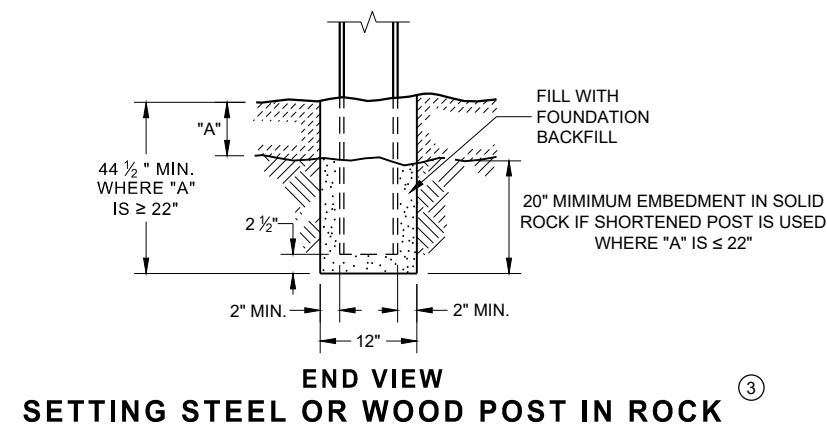
SAFETY EDGE_{SM}

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/2012
DATE
FHWA

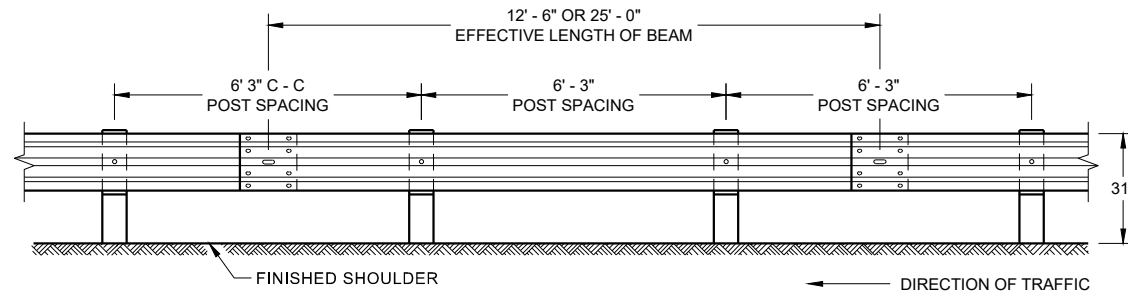
/s/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS $\pm 1"$. FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" 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.
- ⑦ TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".

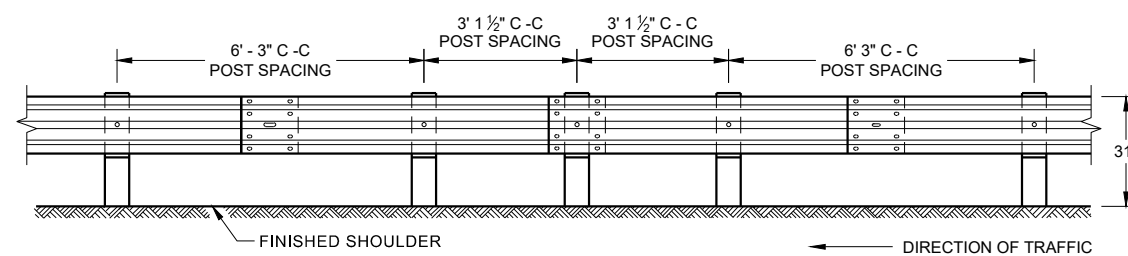


**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

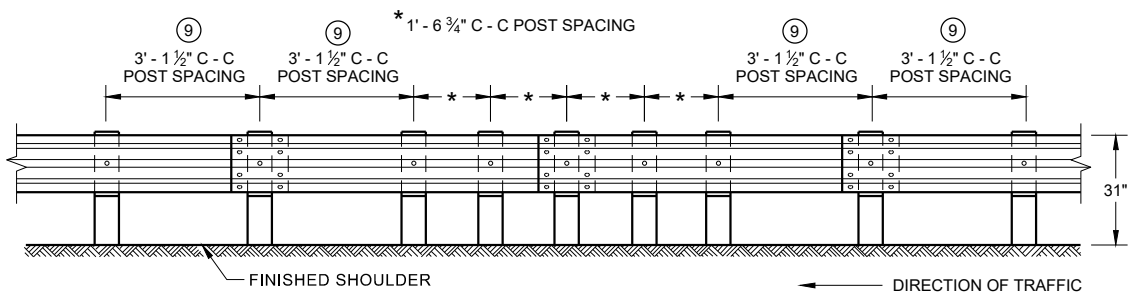
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



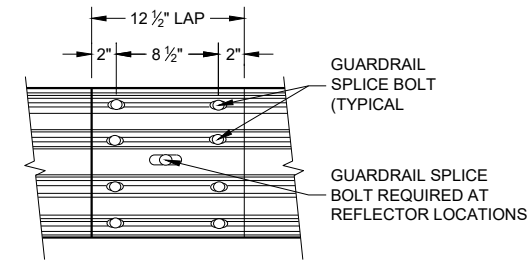
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



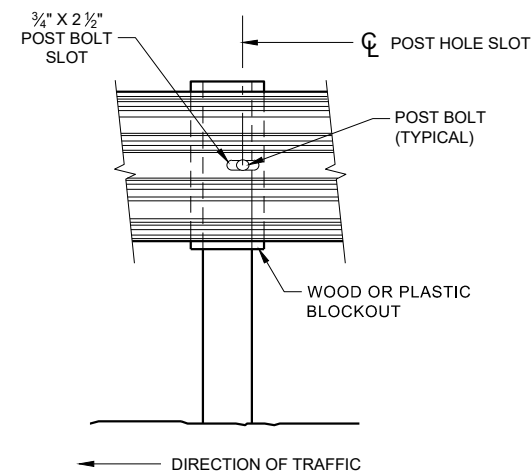
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



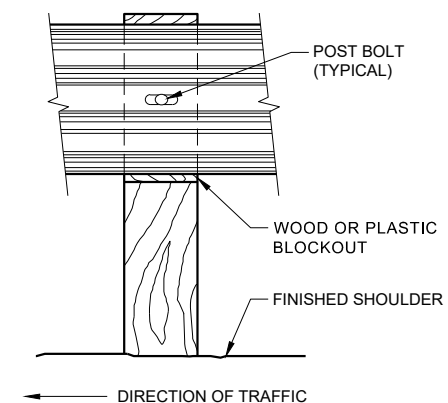
**FRONT VIEW
QUARTER POST SPACING (QS)**



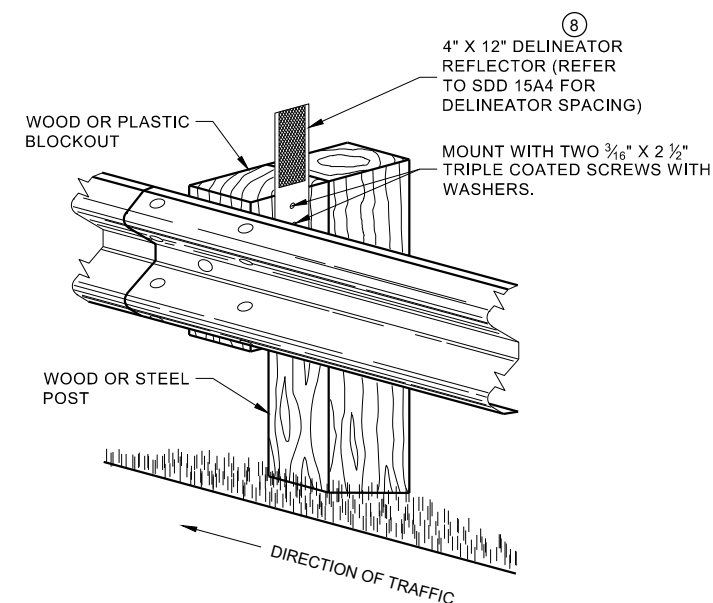
**FRONT VIEW
MID-SPAN BEAM SPLICE**



FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



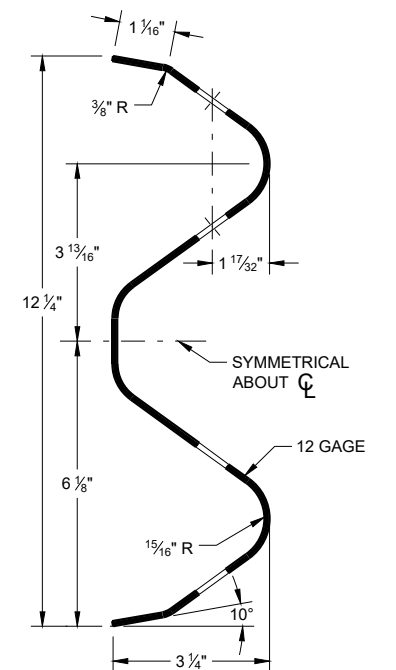
**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

GENERAL NOTES

- 8 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
- 9 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

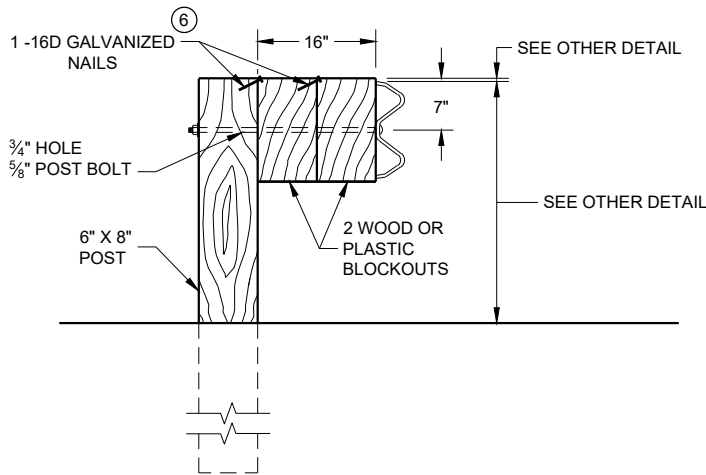
GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



SECTION THRU W-BEAM RAIL

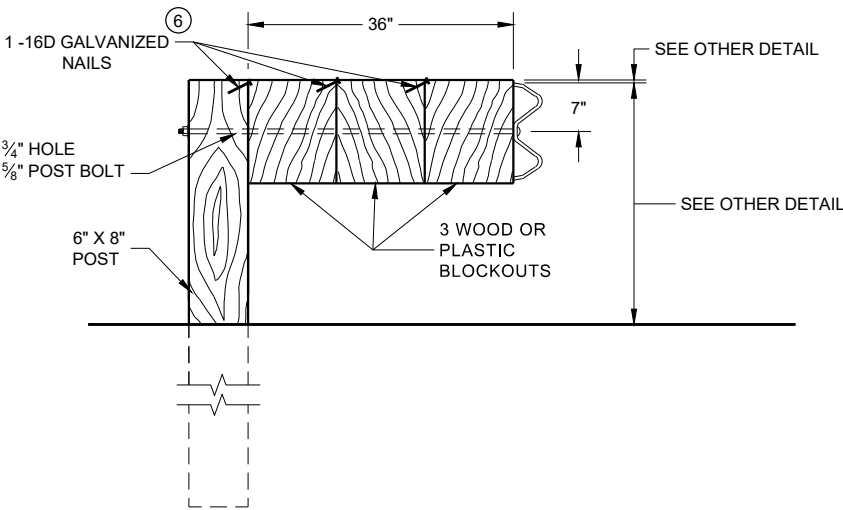
**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

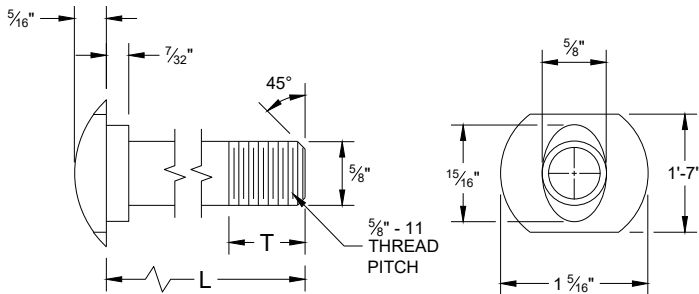
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



DETAIL FOR 36" BLOCKOUT DEPTH

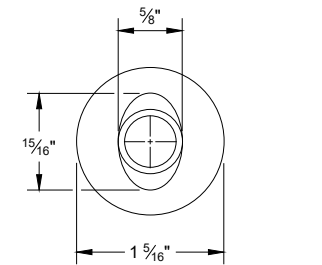
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

- NOTE:
- 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
 - 2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

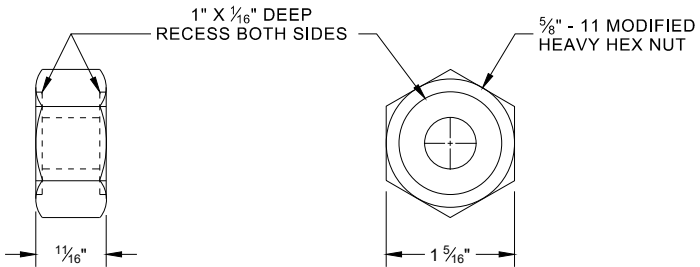


POST BOLT TABLE

L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"

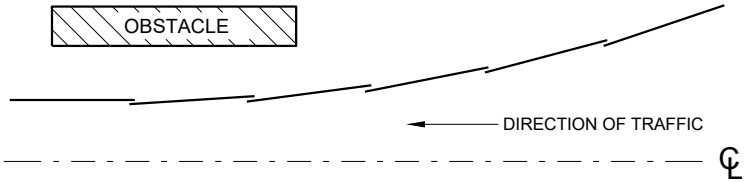


ALTERNATE BOLT HEAD

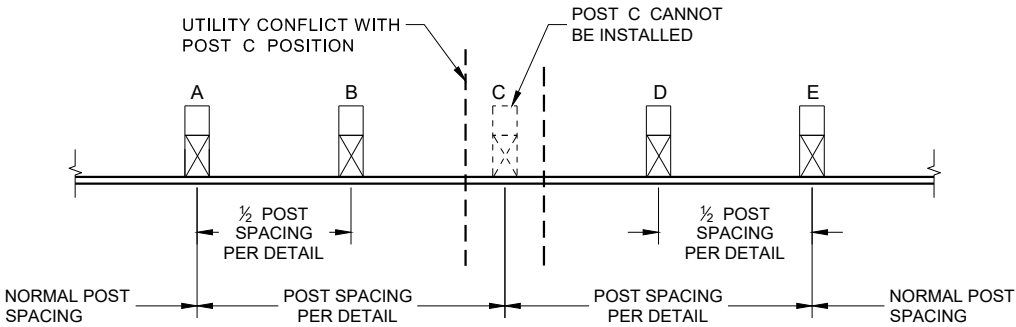


POST BOLT, SPLICE BOLT AND RECESS NUT

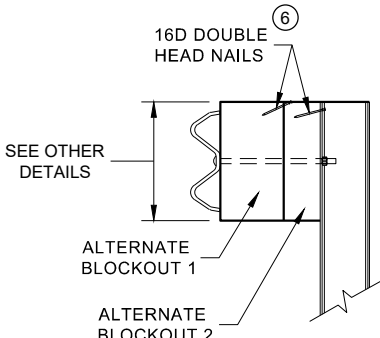
- 6 WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



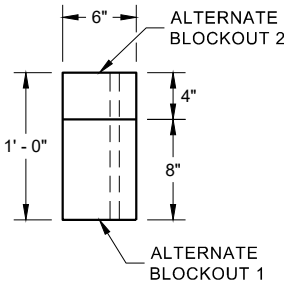
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW

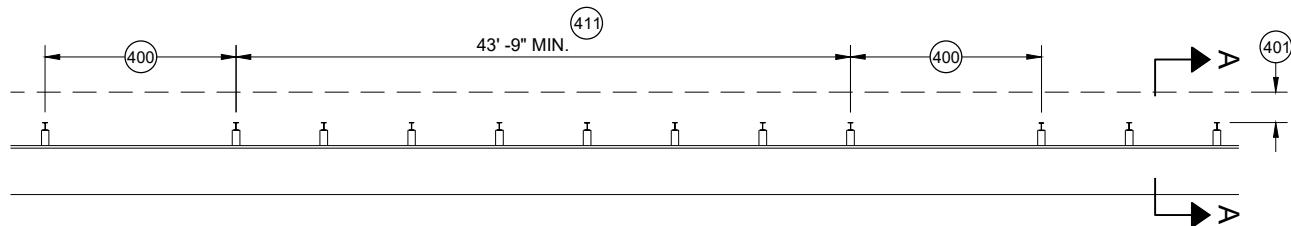


PLAN VIEW

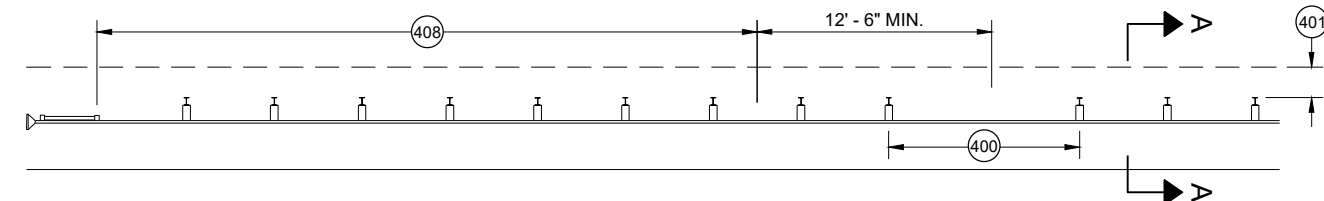
ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

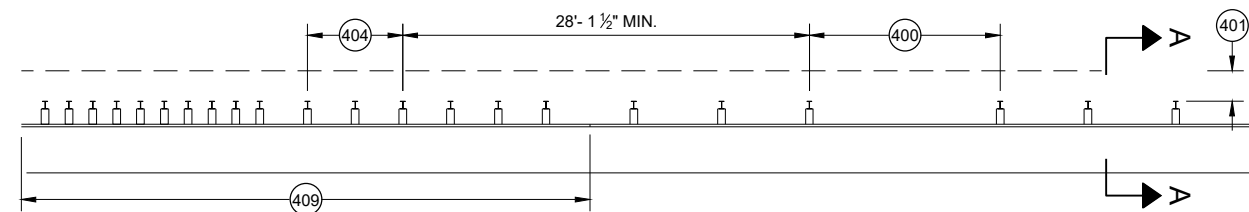
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



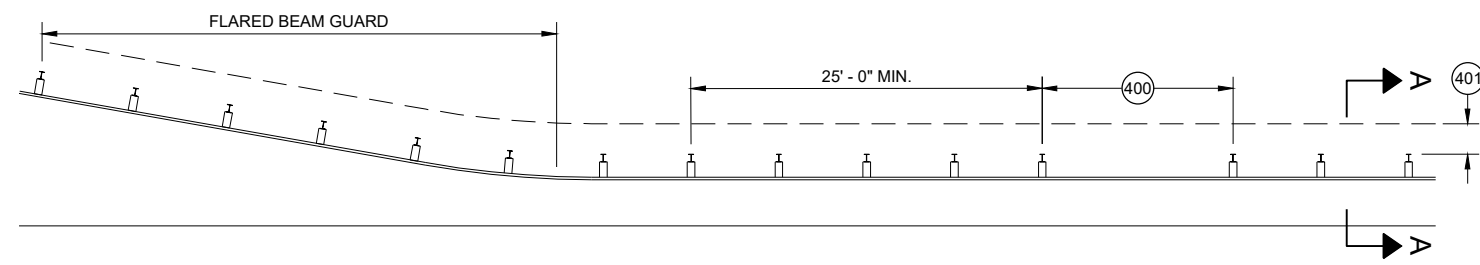
MISSING POST IN MGS GUARDRAIL



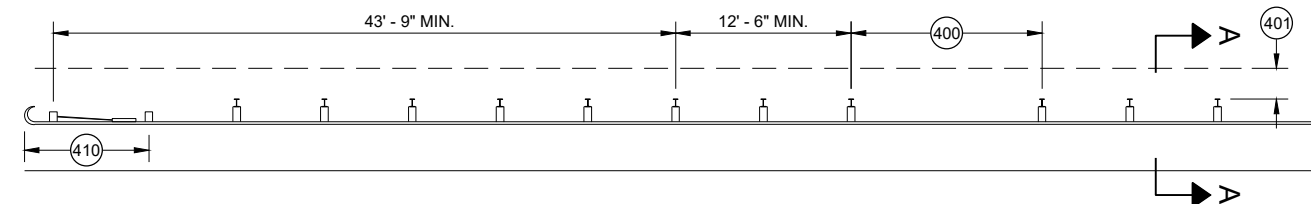
MISSING POST IN MGS GUARDRAIL NEAR EAT



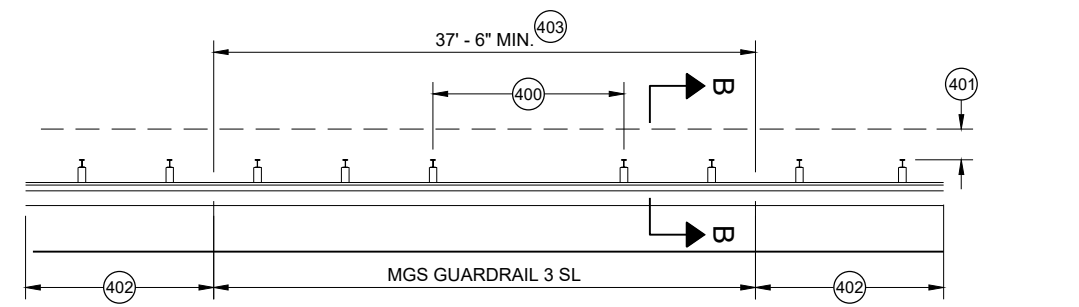
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

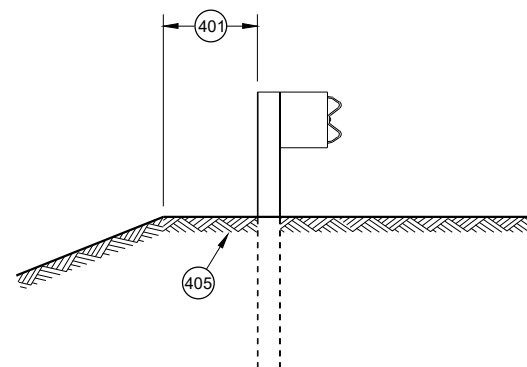


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

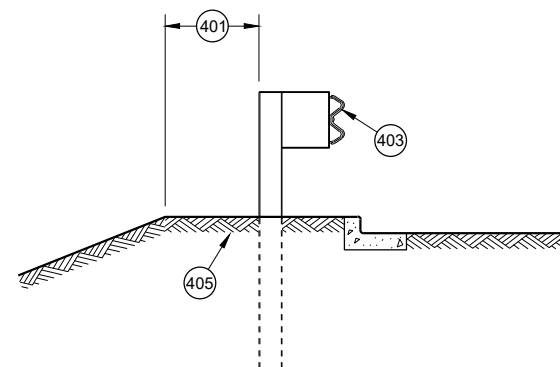


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)

- (400) MAX SPAN 12' - 6"
- (401) 2' MIN.
- (402) MGS GUARDRAIL 3
- (403) NESTING BEAM GUARD
- (404) ASYMMETRIC TRANSITION
- (405) SOIL WELL DRAINED AND COMPACTED
- (406) SEE OTHER DRAWINGS IN THIS SDD
- (407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
- (408) SEE SDD 14B44
- (409) SEE SDD 14B45
- (410) SEE SDD 14B47
- (411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



SECTION A - A



SECTION B - B

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

FHWA

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
 - (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
 - (C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.
 - (D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.
 - (E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.
- DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

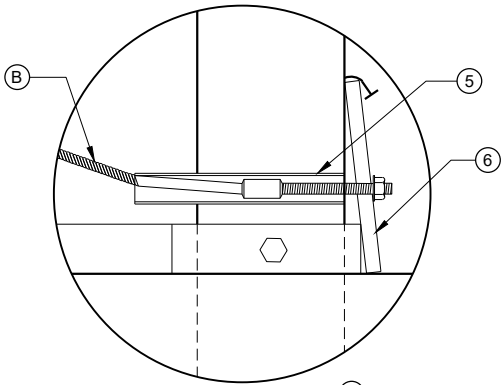
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

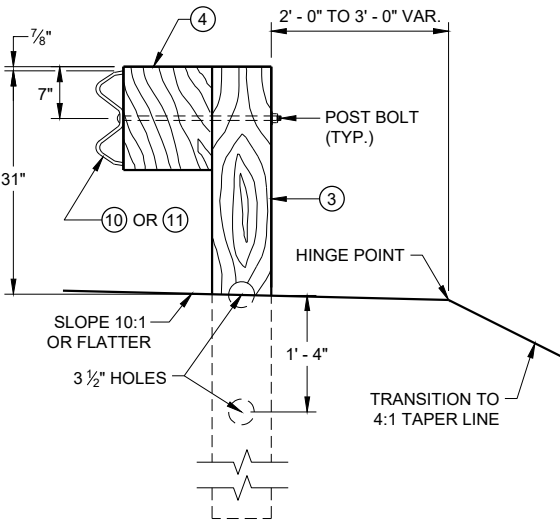
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

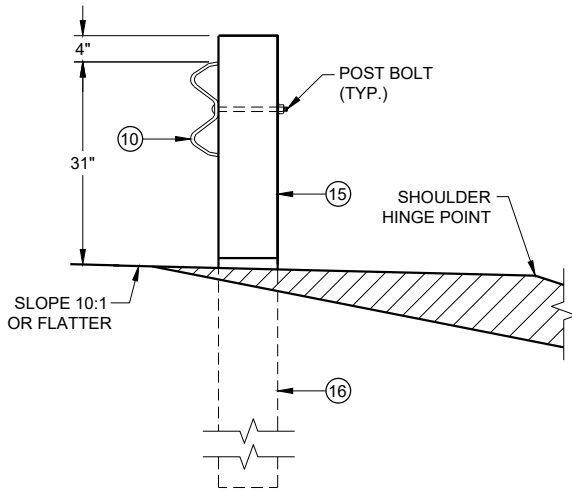
THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



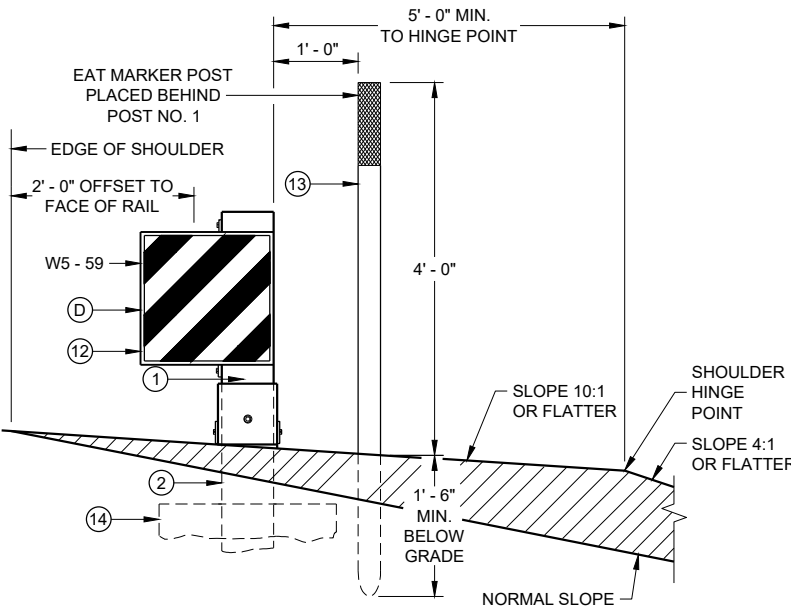
DETAIL "A"



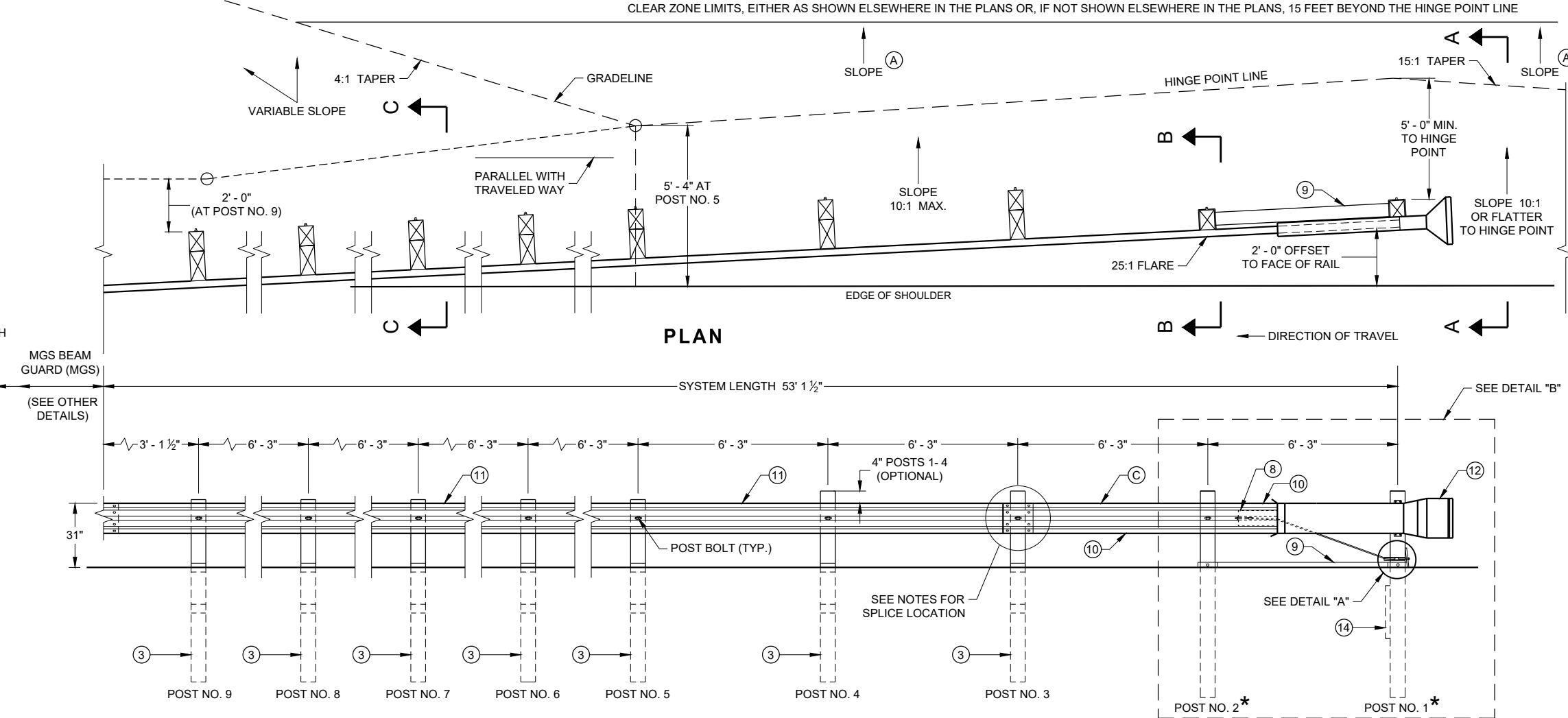
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*

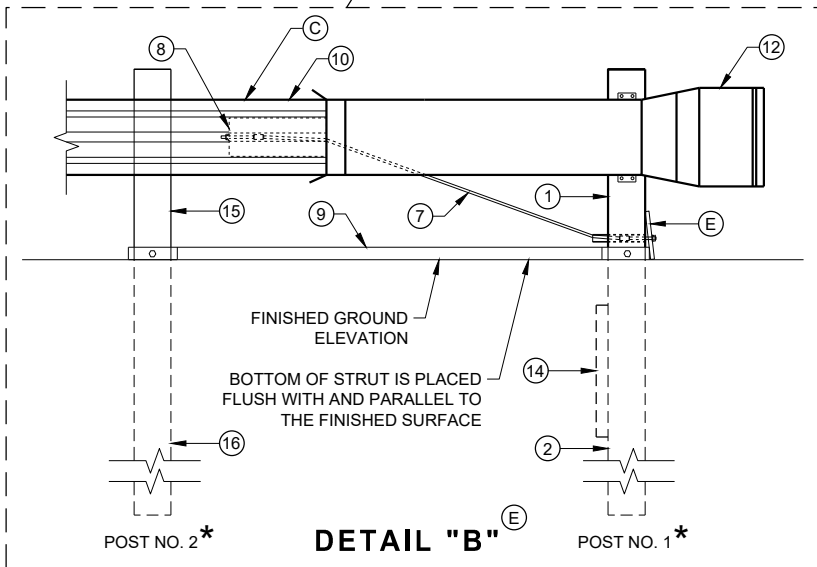


SECTION A - A
TYPICAL AT POST NO. 1*



PLAN

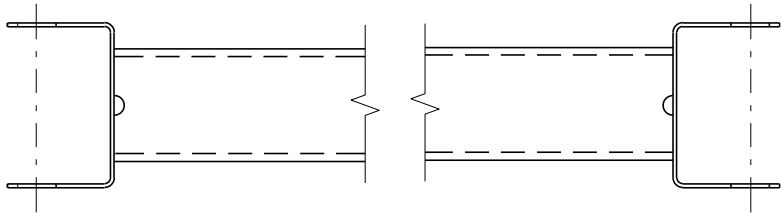
ELEVATION



DETAIL "B"

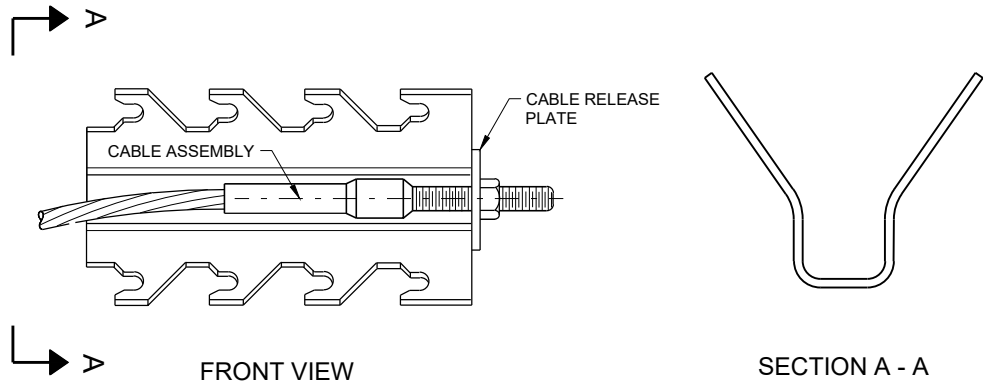
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

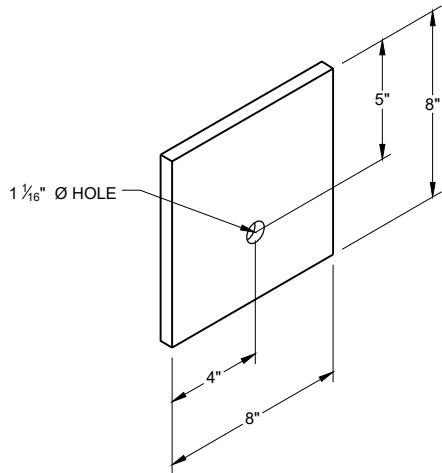


GENERIC GROUND STRUT⁹ ^E

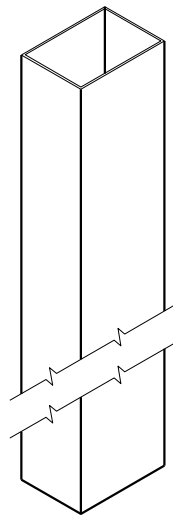
BILL OF MATERIALS	
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



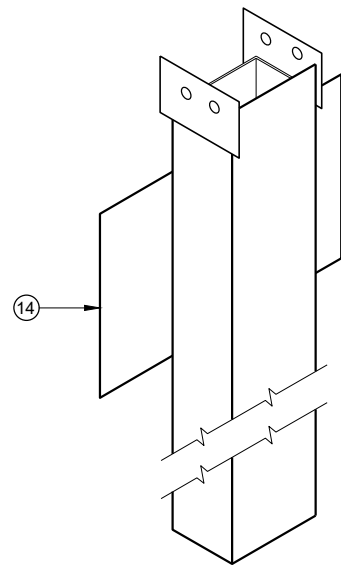
GENERIC ANCHOR CABLE BOX⁹ ^E



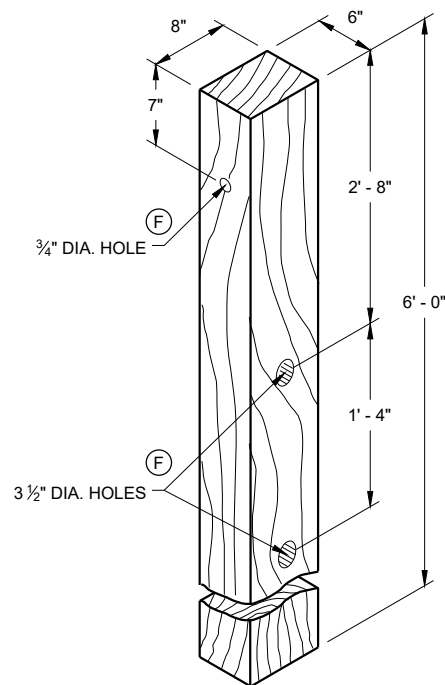
BEARING PLATE⁶ ^E



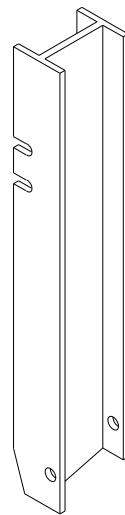
UPPER POST NO. 1 ⁽¹⁾ (E)



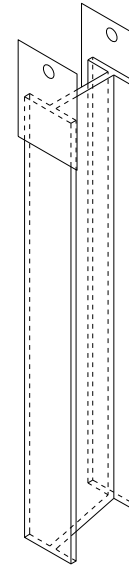
LOWER POST NO. 1 ⁽²⁾ (E)



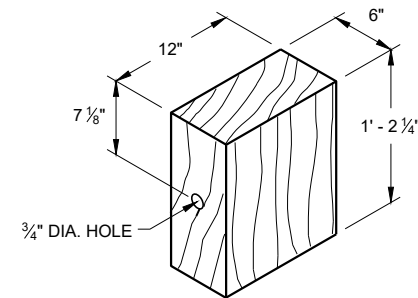
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



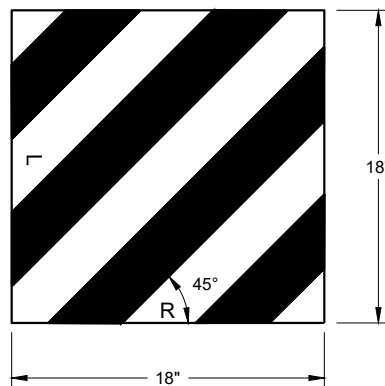
UPPER POST NO. 2 ⁽¹⁵⁾ (E)



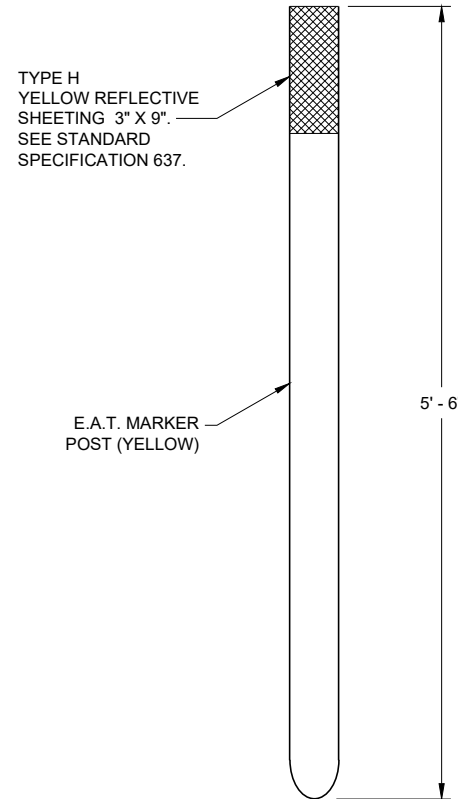
LOWER POST NO. 2 ⁽¹⁶⁾ (E)



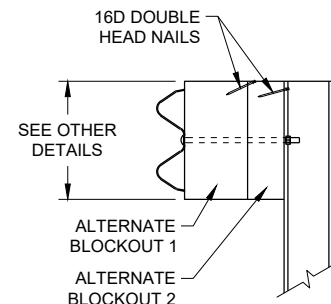
WOOD BLOCKOUT ⁽⁴⁾
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



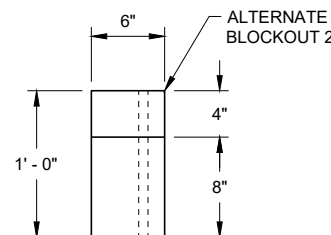
W5 - 59
REFLECTIVE SHEETING DETAIL ^(E)



FRONT VIEW
SIDE VIEW
E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW



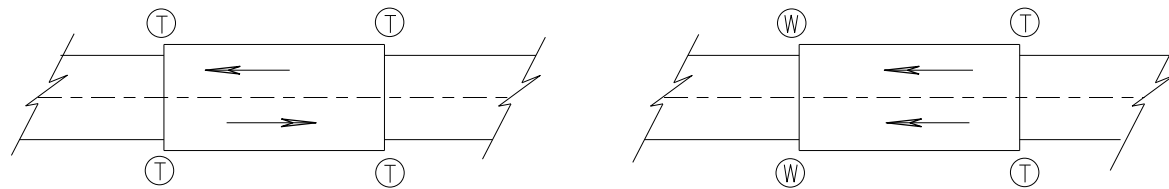
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



TWO WAY TRAFFIC

ONE WAY TRAFFIC

T THRIE BEAM CONNECTION

W W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

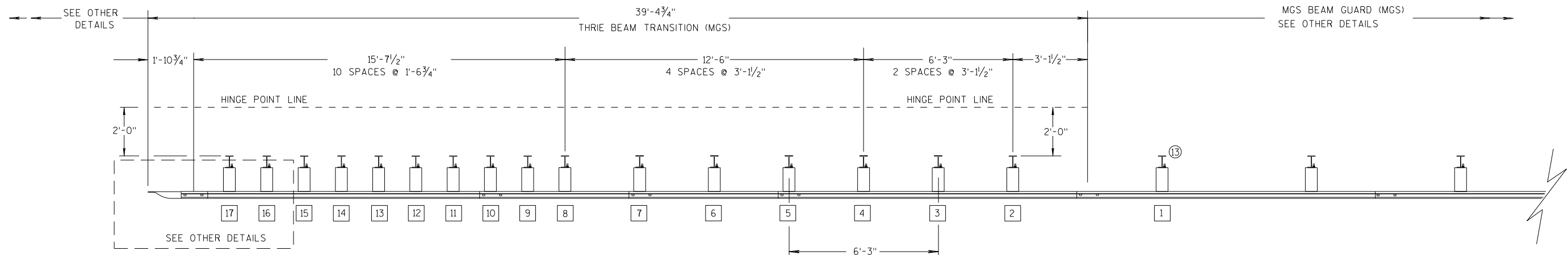
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

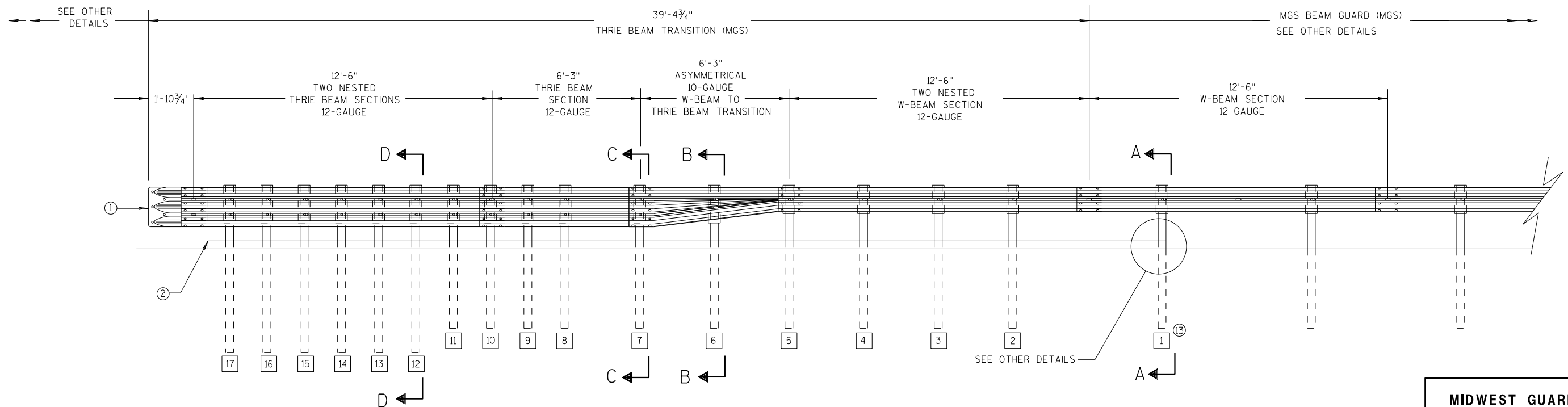
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

- 1 BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- 2 OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 13 STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

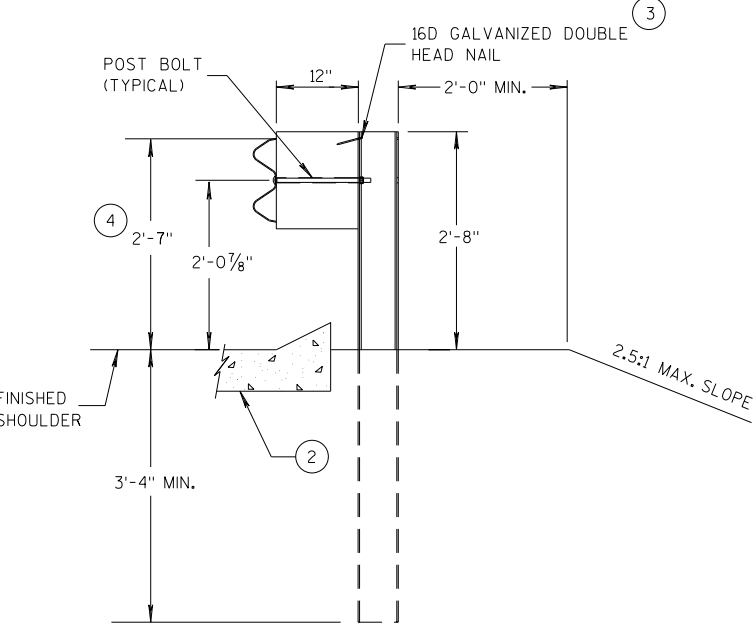
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

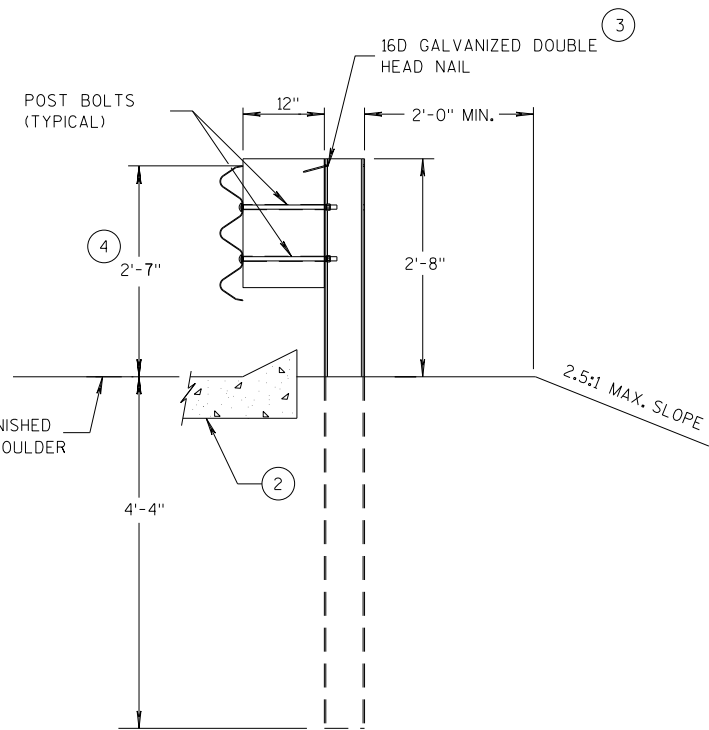
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

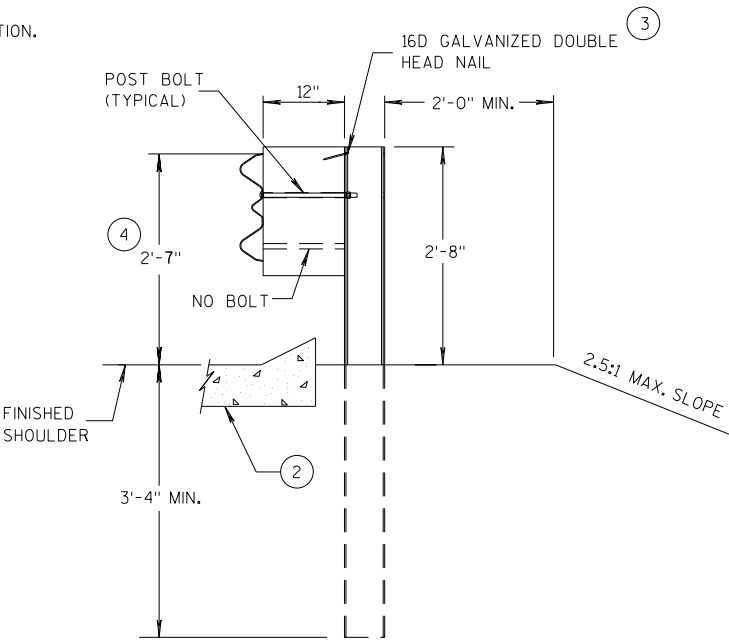
- 2 OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- 4 TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.
- 13 STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



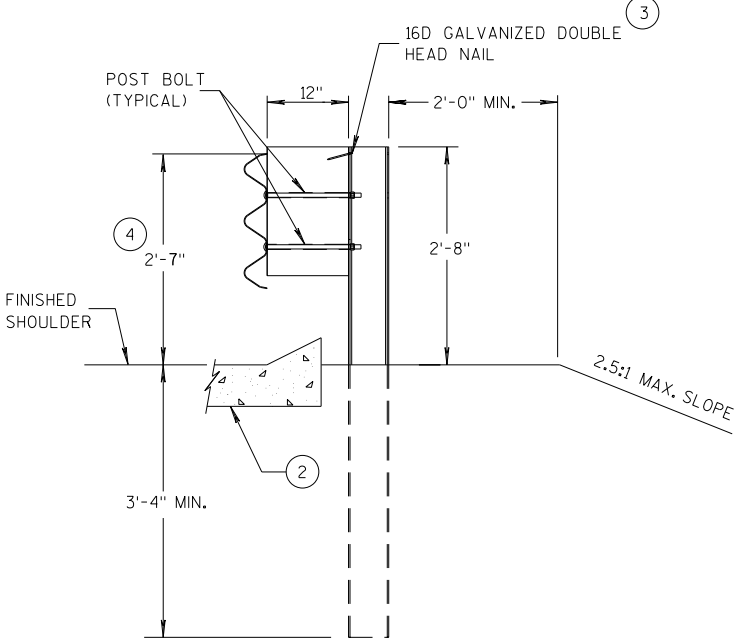
SECTION A-A
POSTS 1-5



SECTION D-D
POSTS 12-17



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11

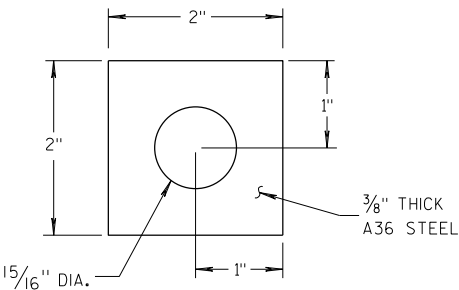
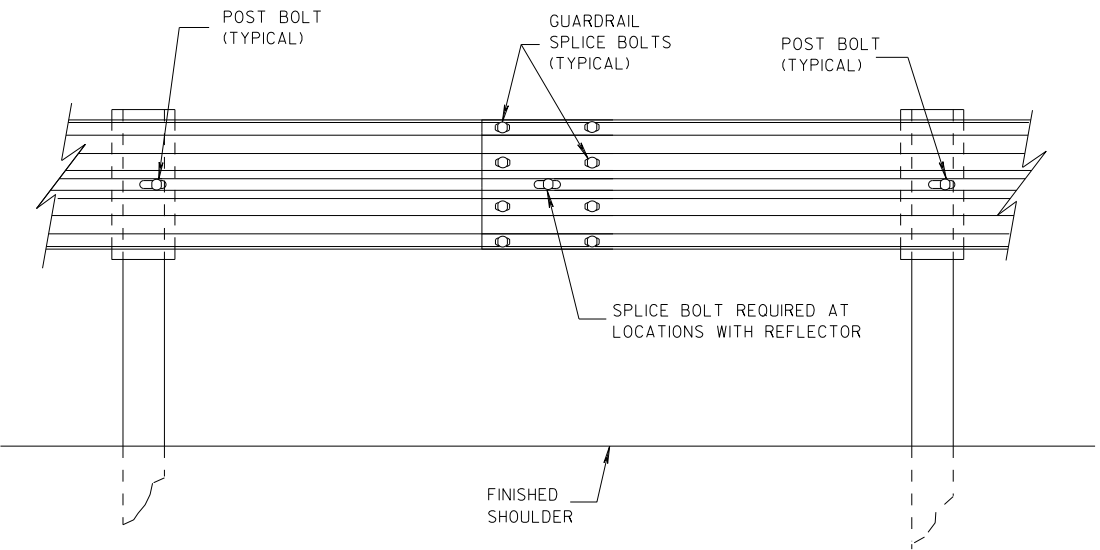
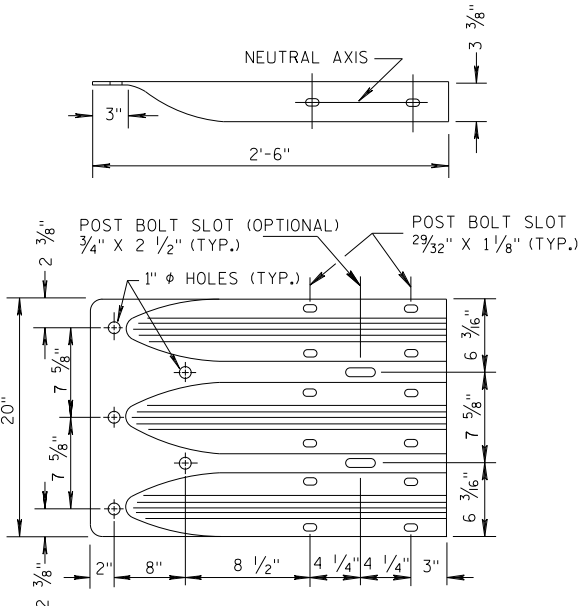


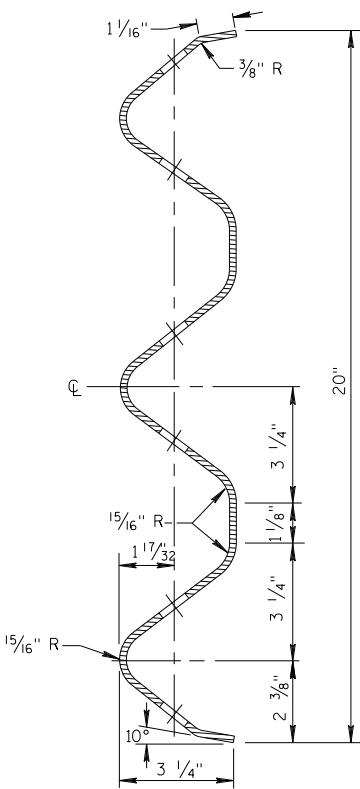
PLATE WASHER DETAIL



SPLICE DETAIL



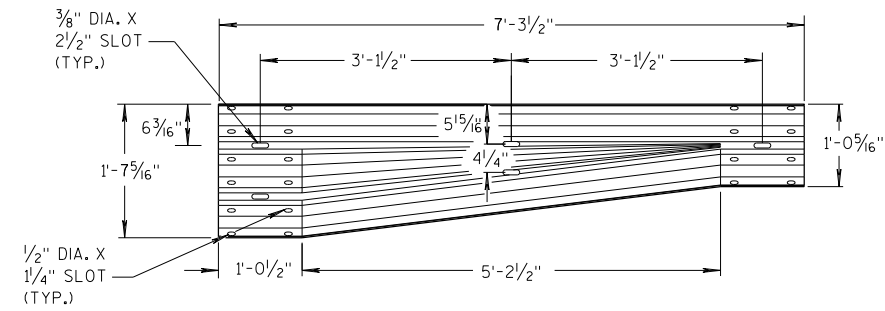
THRIE BEAM
TERMINAL CONNECTOR



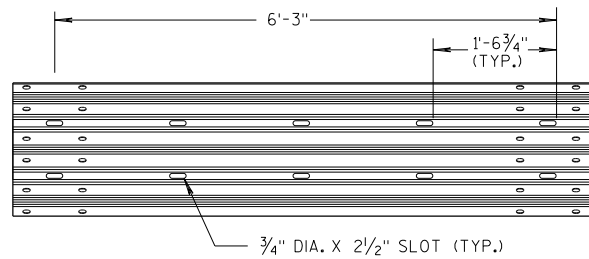
SECTION THRU THRIE
BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

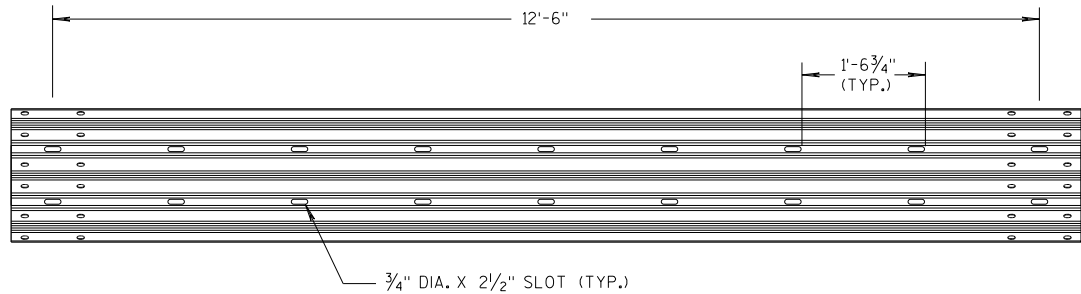
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



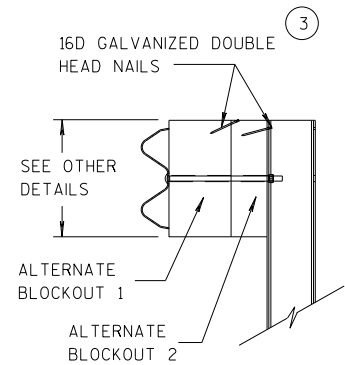
W-BEAM TO THRIE BEAM TRANSITION SECTION



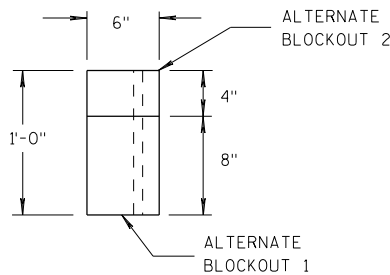
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

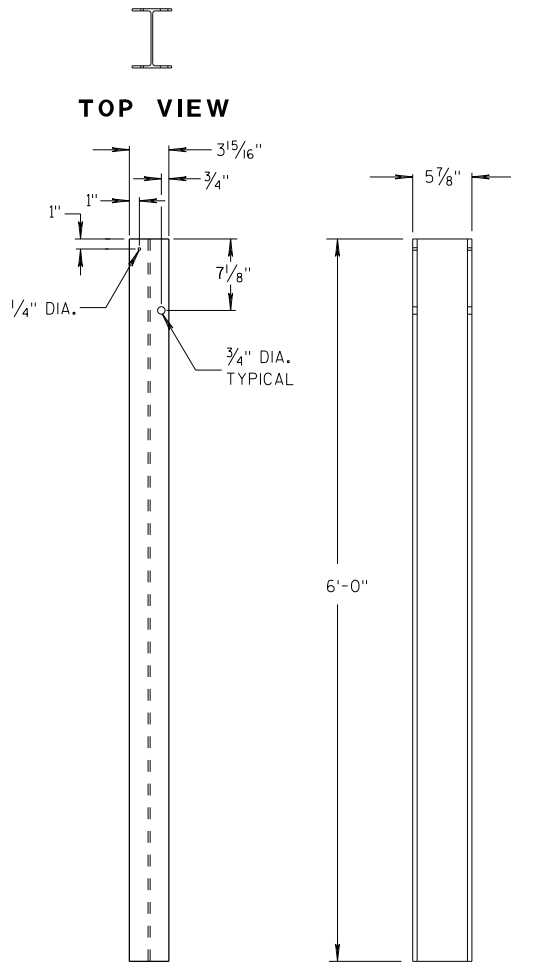


SIDE VIEW



TOP VIEW

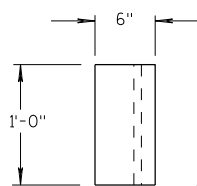
ALTERNATE WOOD BLOCKOUT DETAIL



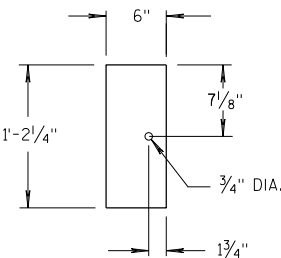
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

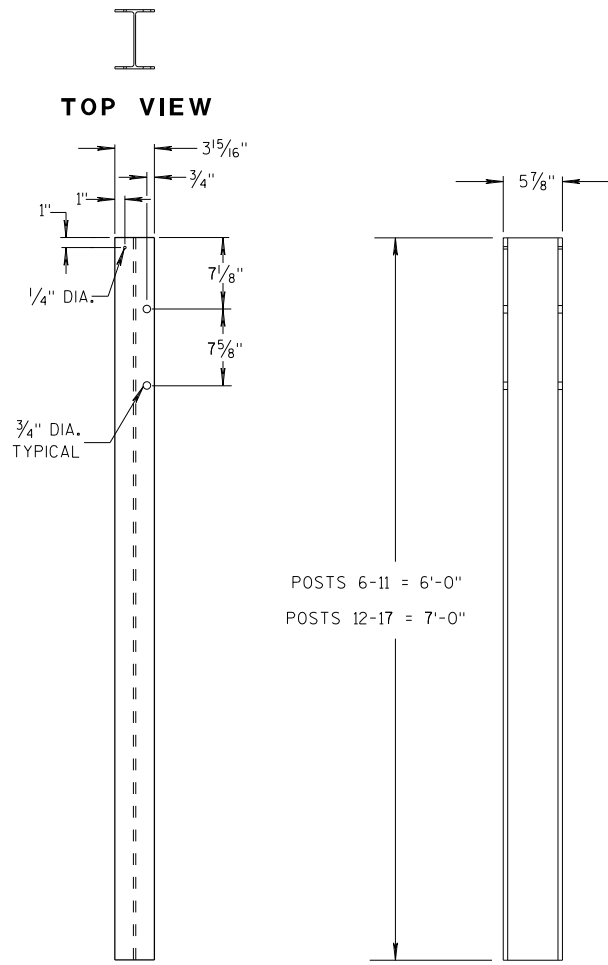


TOP VIEW



FRONT VIEW

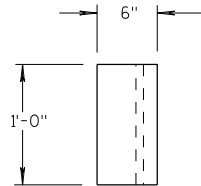
BLOCKOUT POSTS 1-5



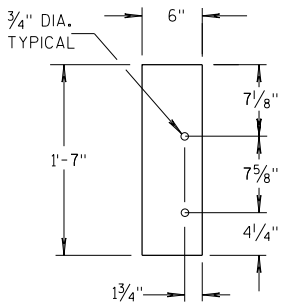
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-17



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

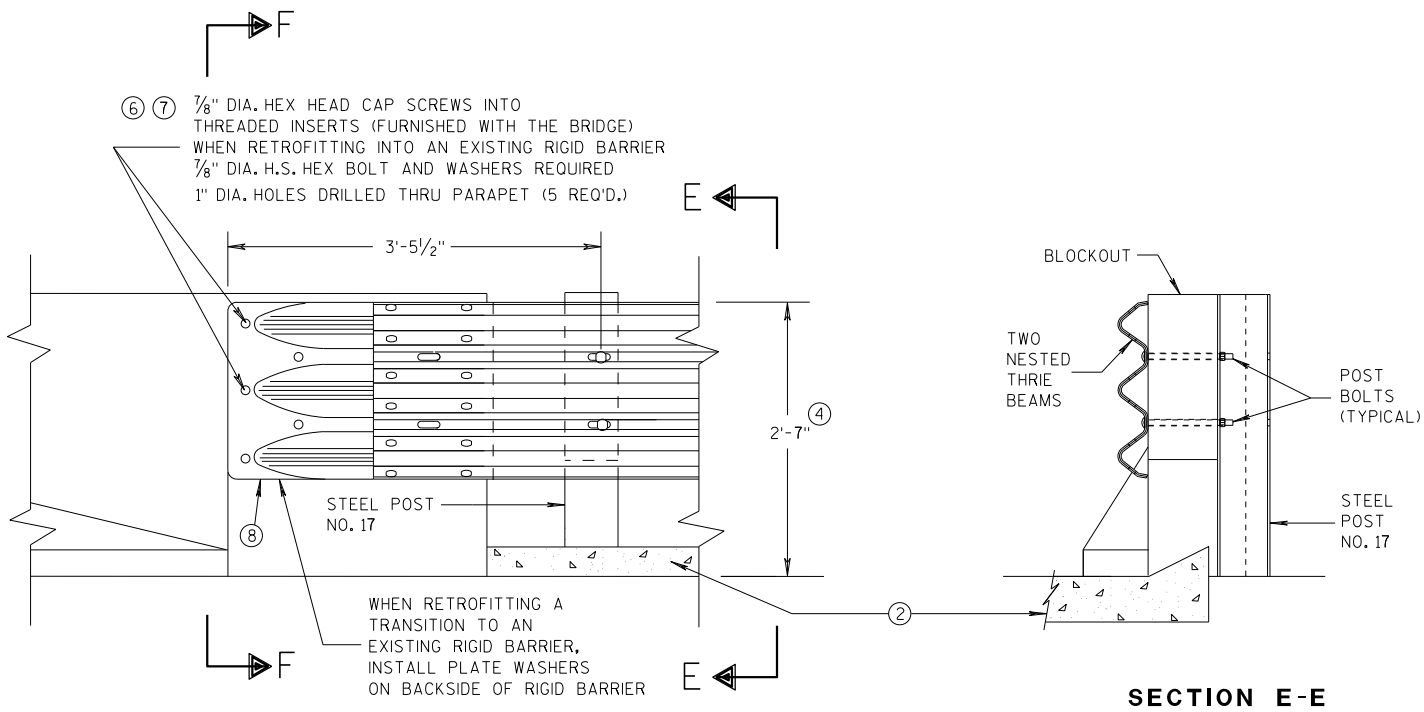
③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

⑤ WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

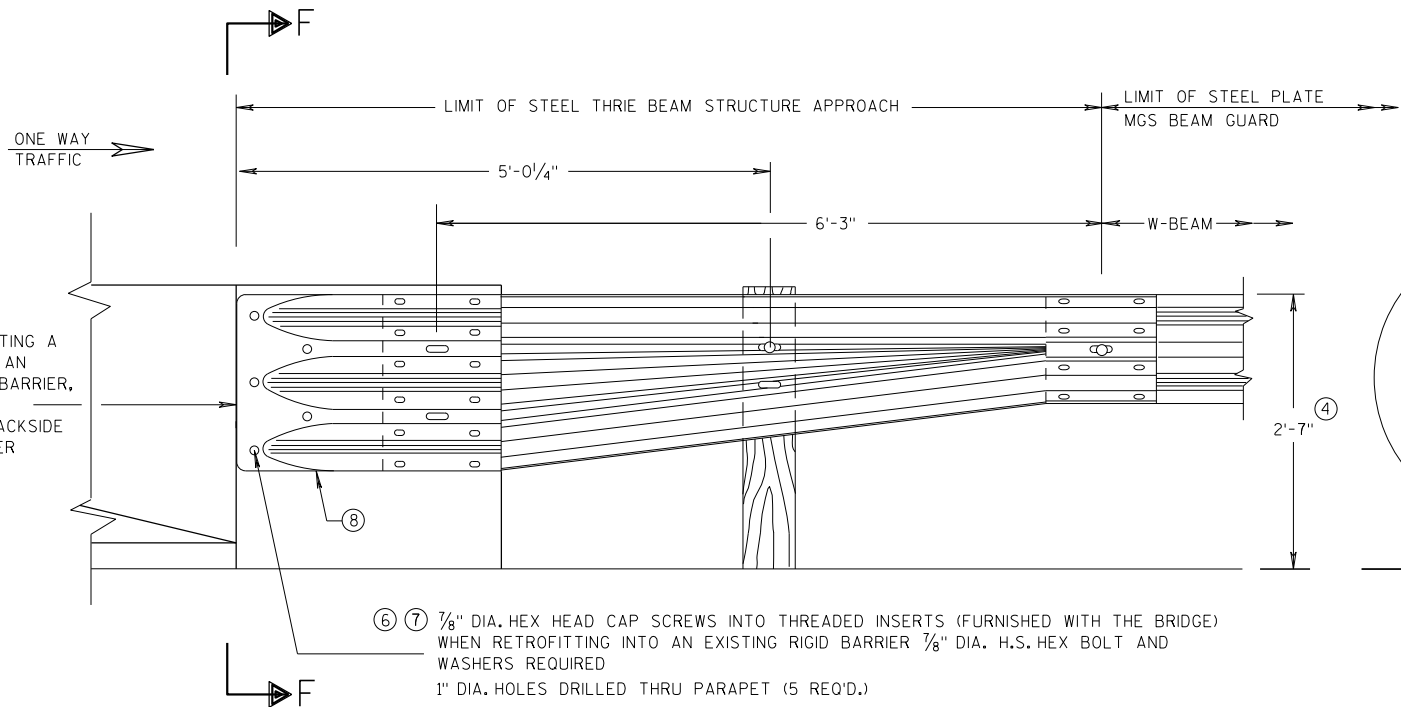
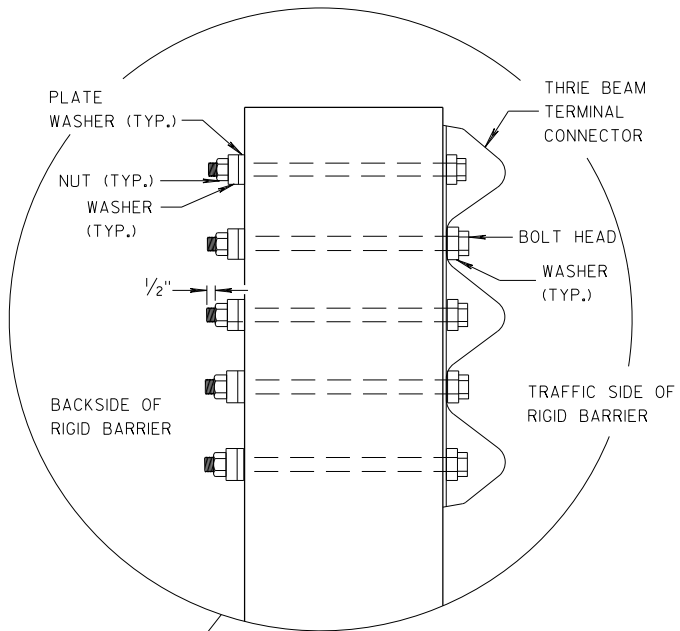
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

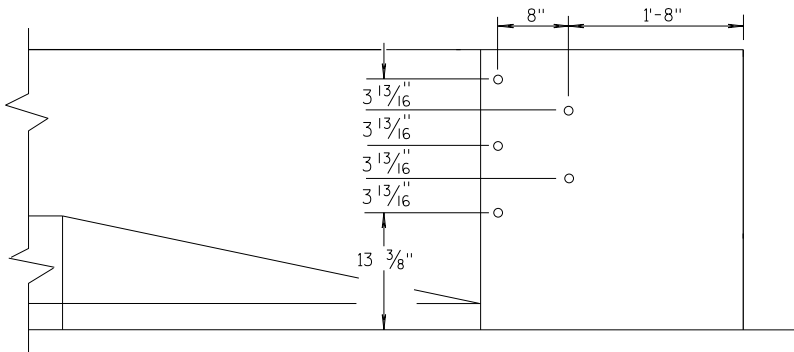


GENERAL NOTES

- THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".



SECTION F-F



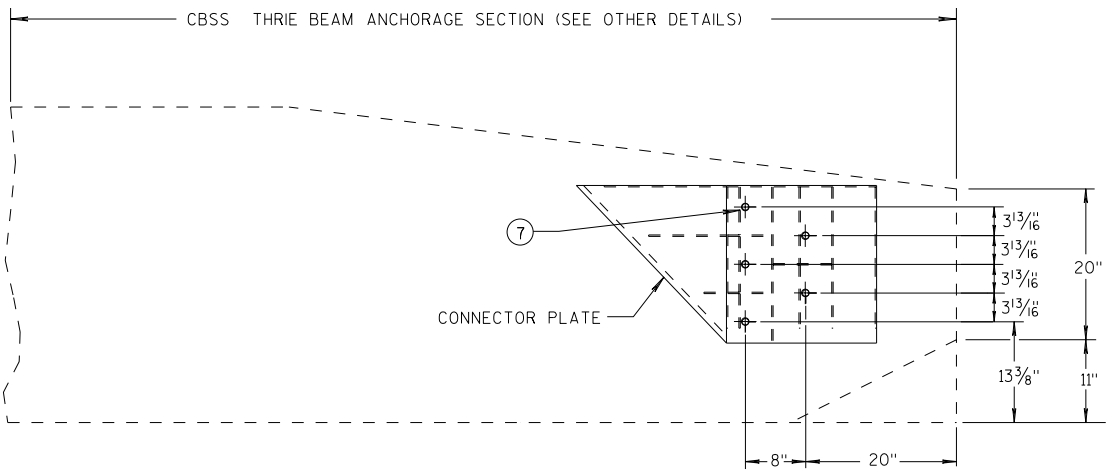
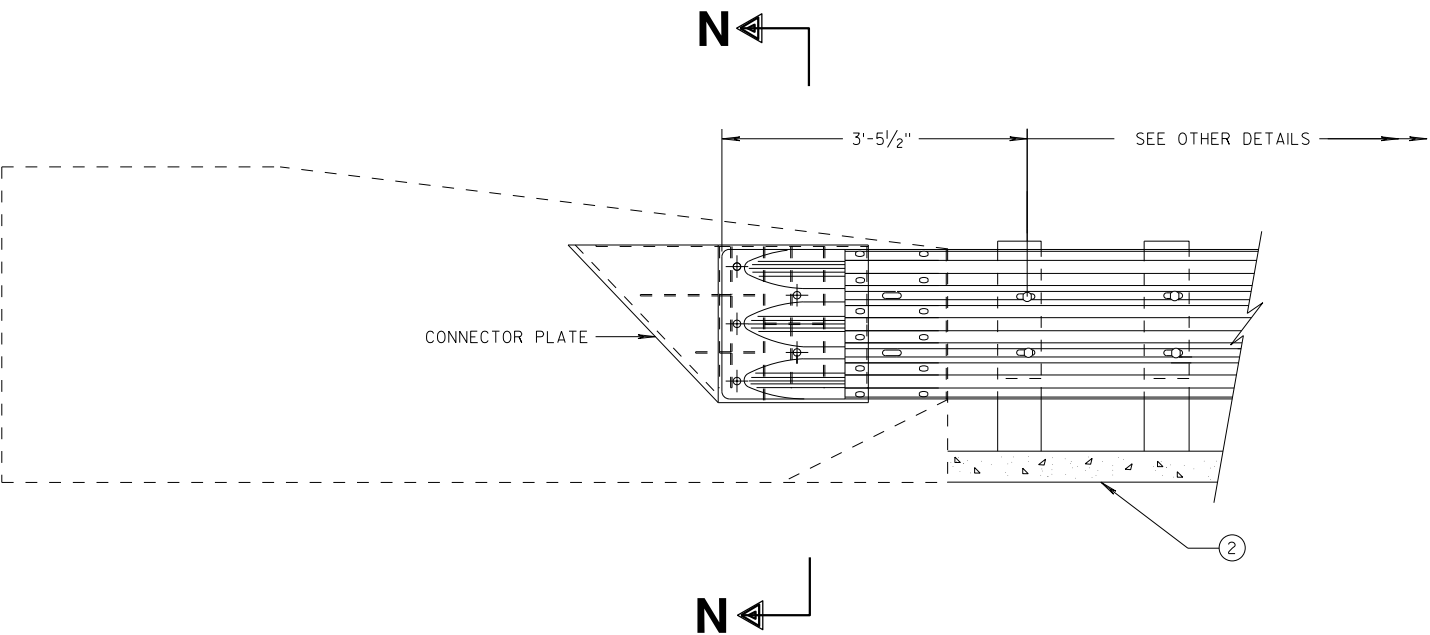
**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



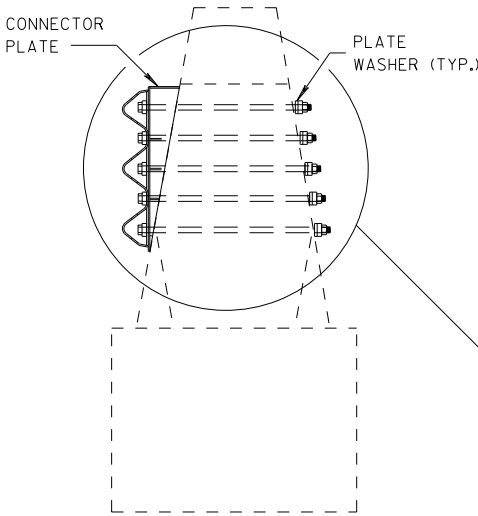
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

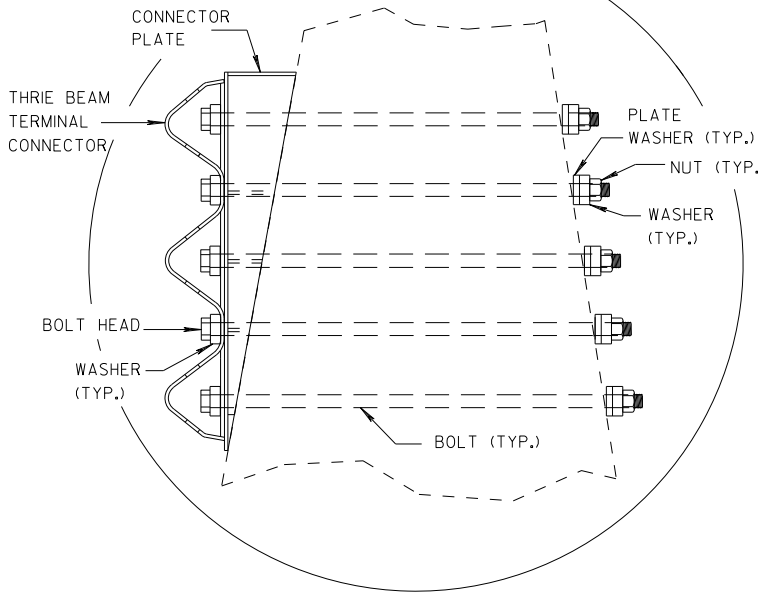
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTION PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



THE RIGHT-OF-WAY PLAQUE AND INFORMATIVE PLAQUE
WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT
OF TRANSPORTATION.

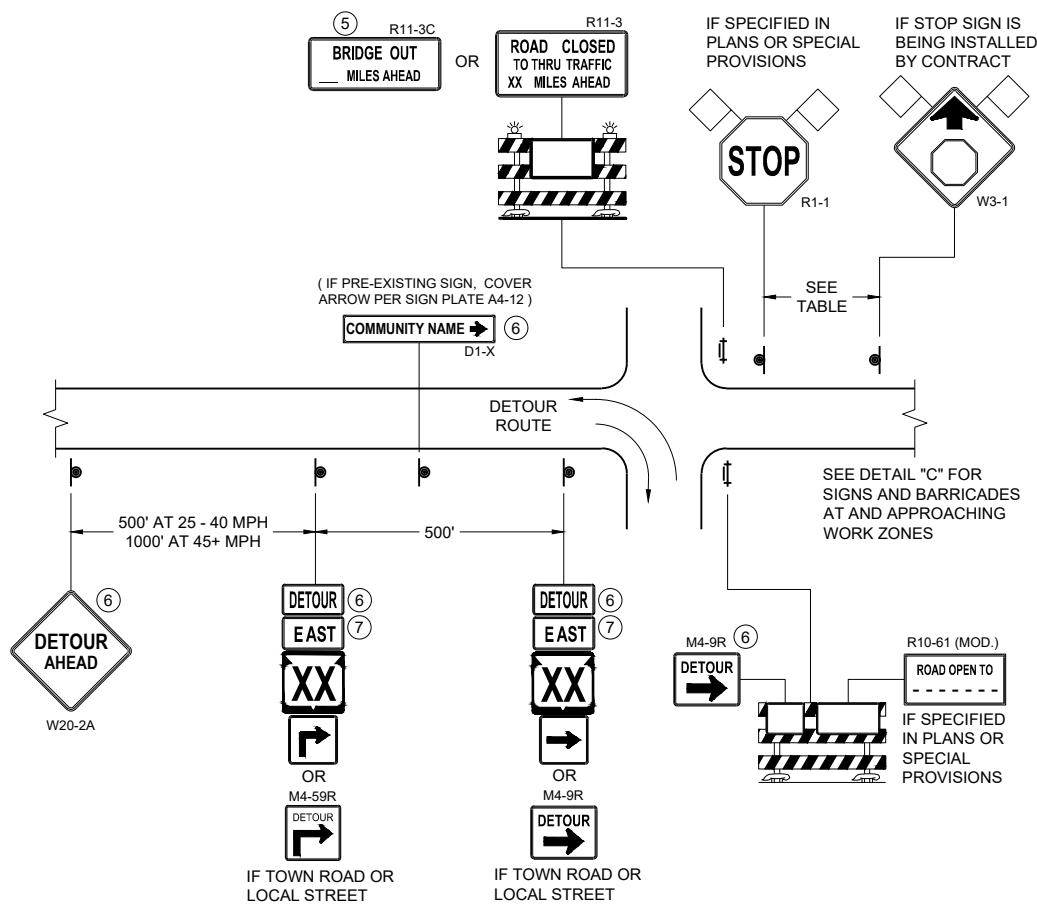


① IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3' - 10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR. FILL THE BORE HOLE WITH CEMENT GROUT OR EQUIVALENT, DEPENDING ON THE STABILITY OF THE ROCK.

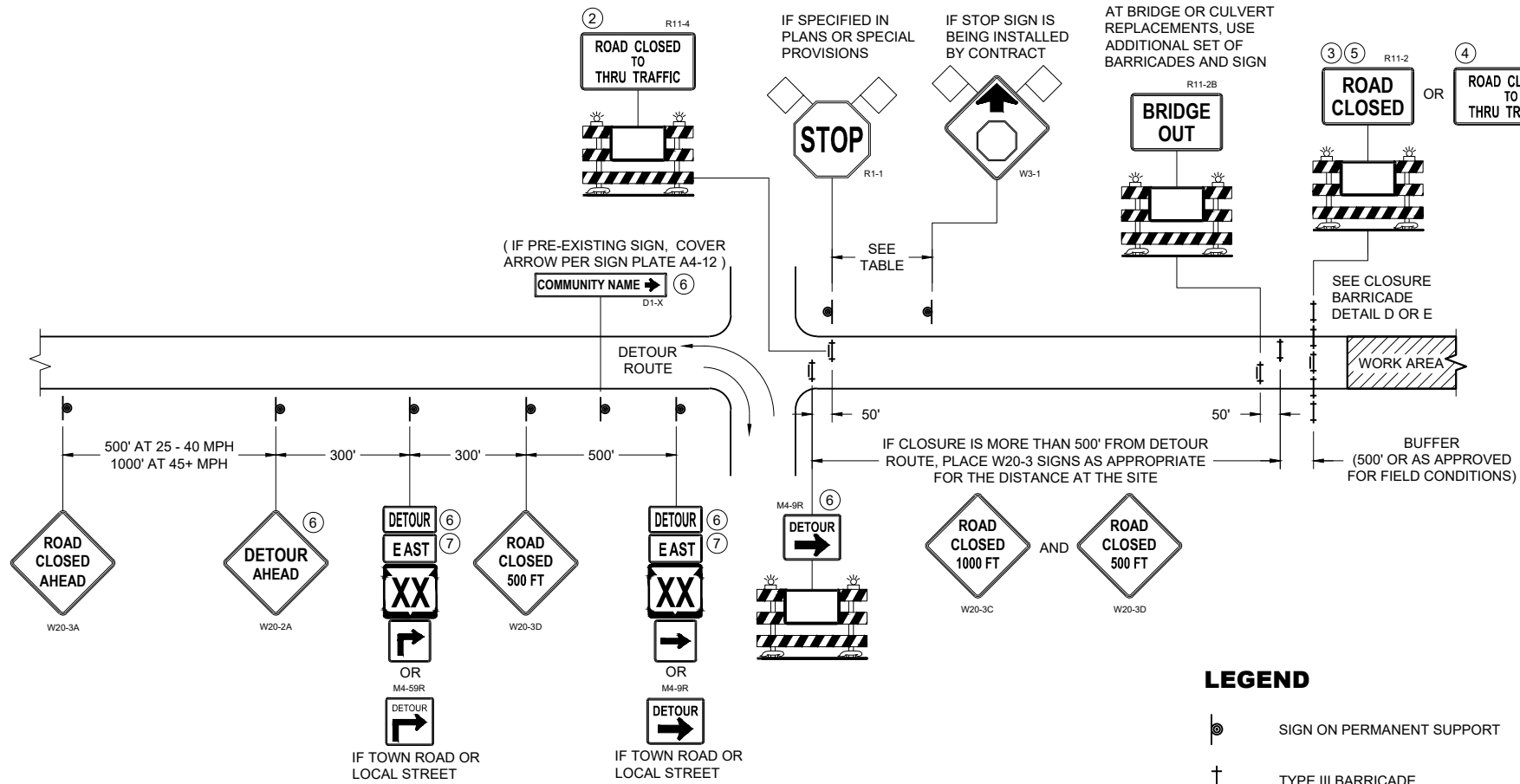


APPROVED
2/18/2016
DATE

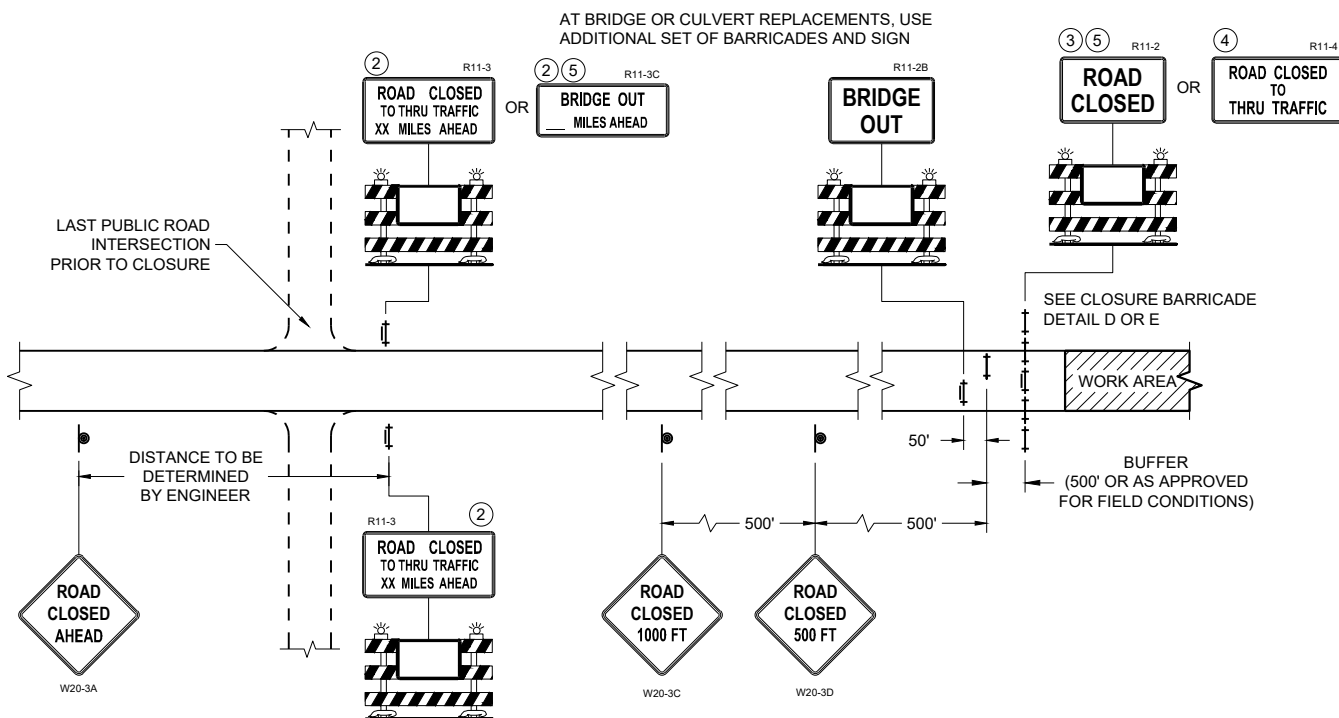
/s/ Ray Kumapayi
CHIEF SURVEYING AND MAPPING
ENGINEER



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

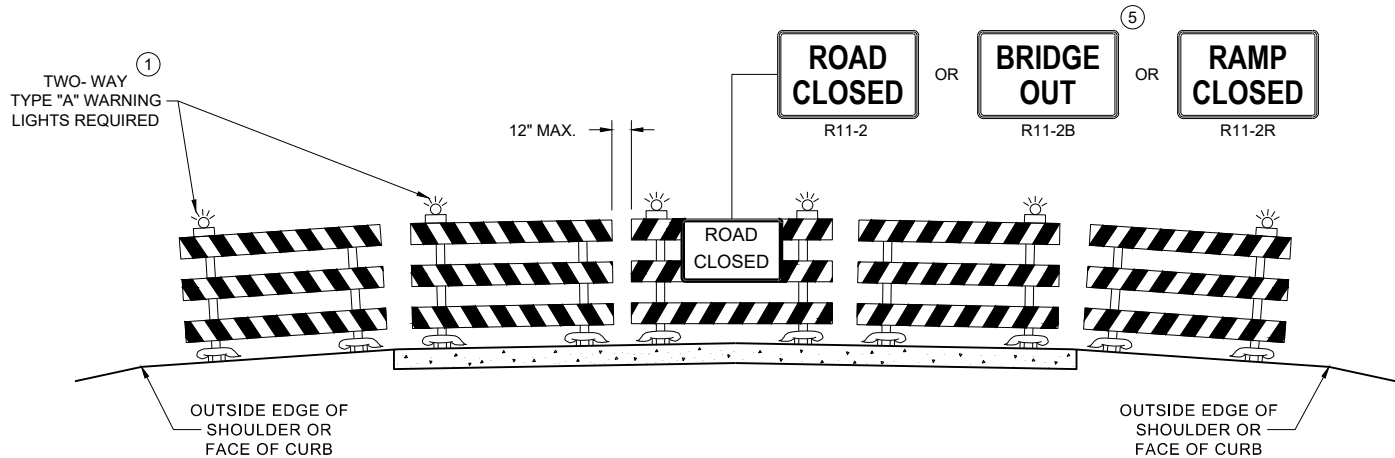
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

- DETOUR M4 - 8
- EAST M3 - X
- XX M1 - 4 OR XX M1 - 6 OR COUNTY M1 - 5A
- OR M05 - 1 OR M06 - 1

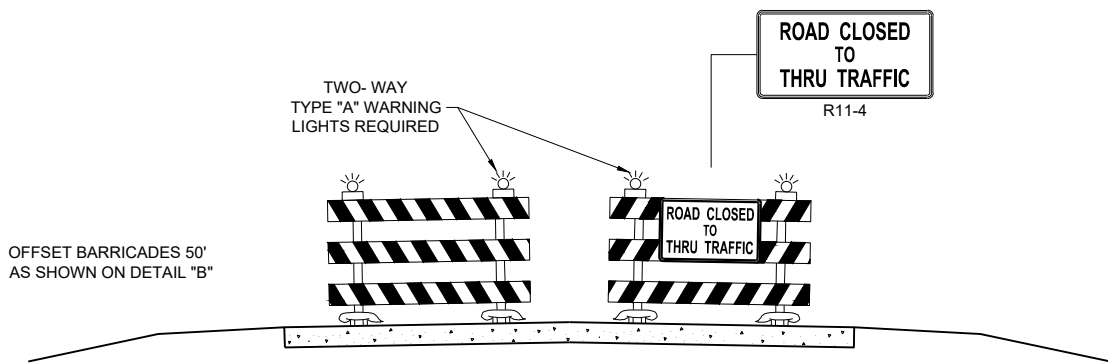
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

PARTIAL NUMBERS ON SIGNS SHALL BE DISPLAYED AS A WHOLE NUMBER(AS NEEDED) FOLLOWED BY A FRACTION. SIGNS SHALL NOT DISPLAY NUMBERS IN DECIMAL FORM.

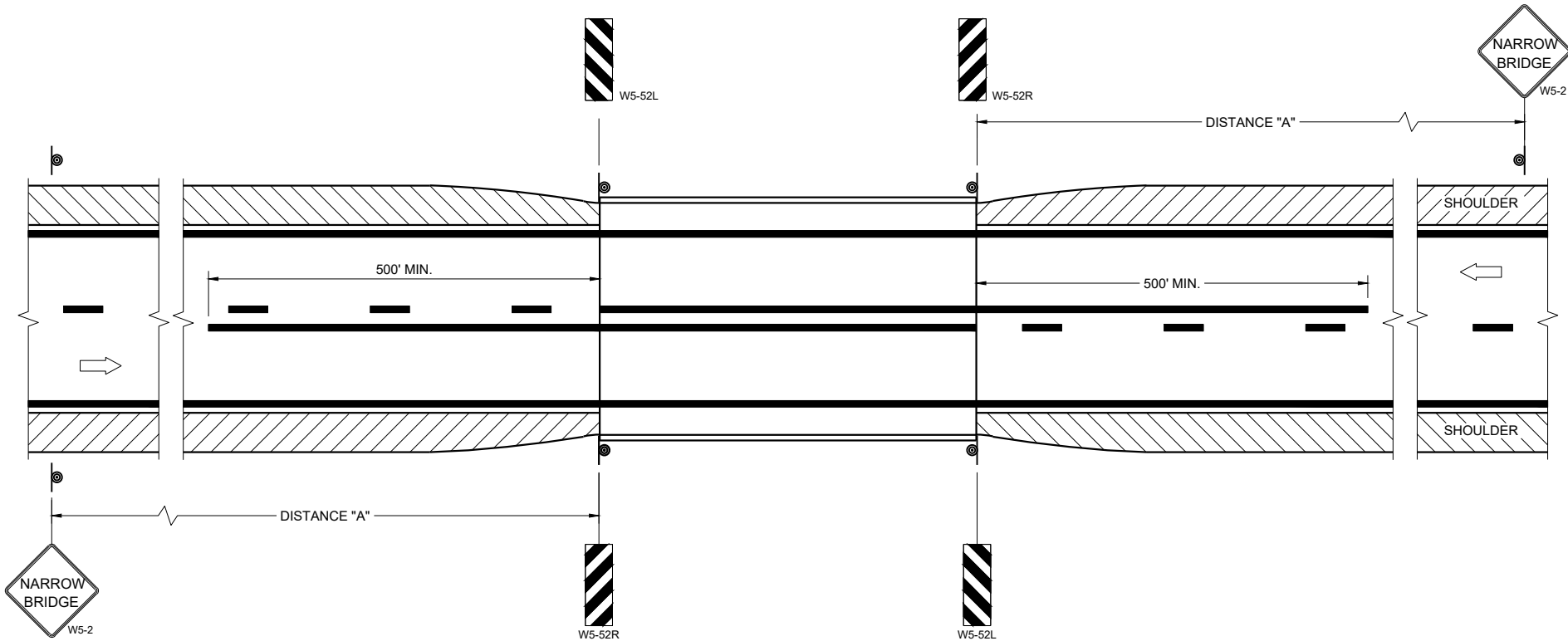
"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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"

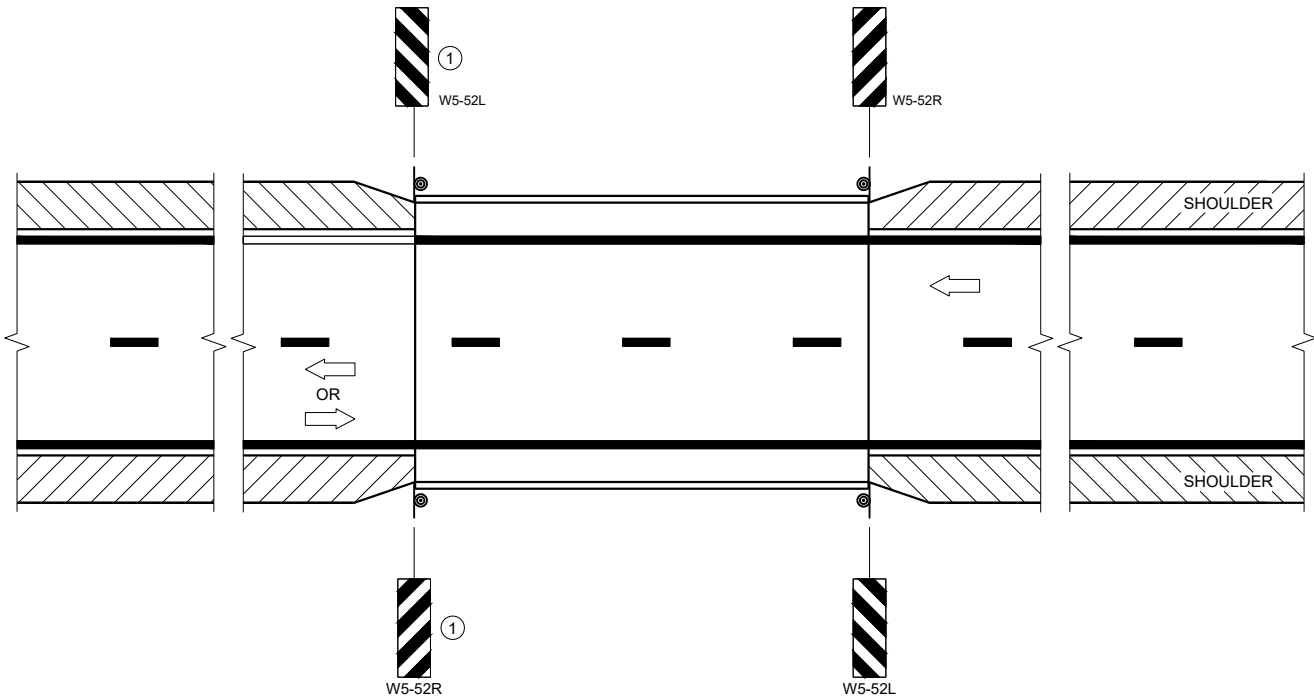
SIGNS PLACED ON TYPE III BARRICADES THAT ARE SIZES OTHER THAN 48"X30" SHALL HAVE A CORRUGATED POLYPROPYLENE OR POLYETHYLENE PLASTIC SIGN BASE.

- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT 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 SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2025 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



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



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

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THE DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

① OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

⊙ SIGN ON PERMANENT SUPPORT

➡ DIRECTION OF TRAFFIC

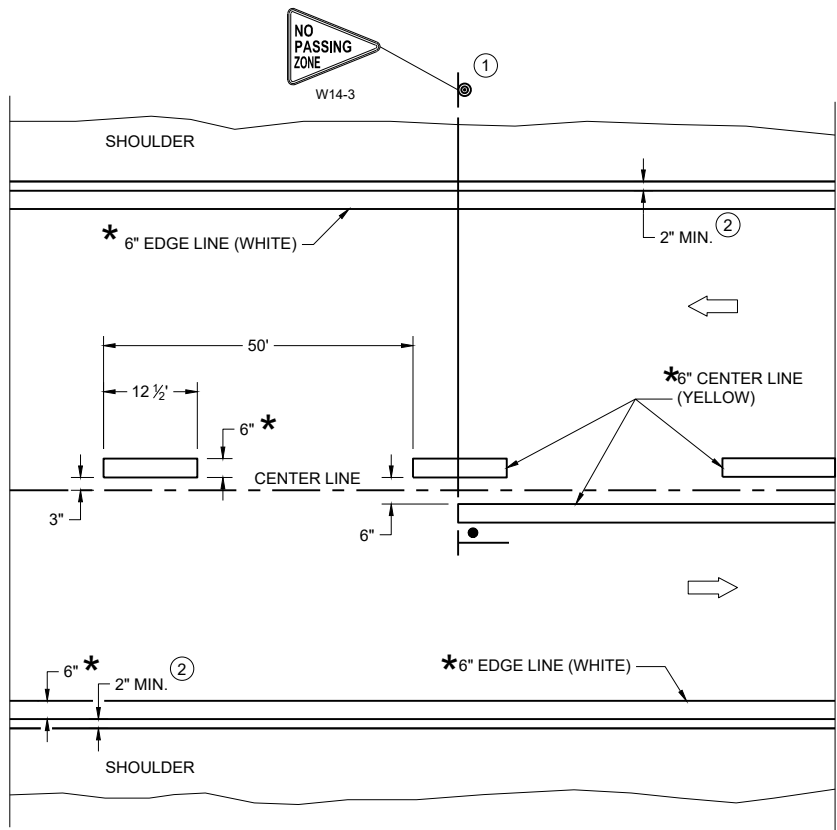
DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

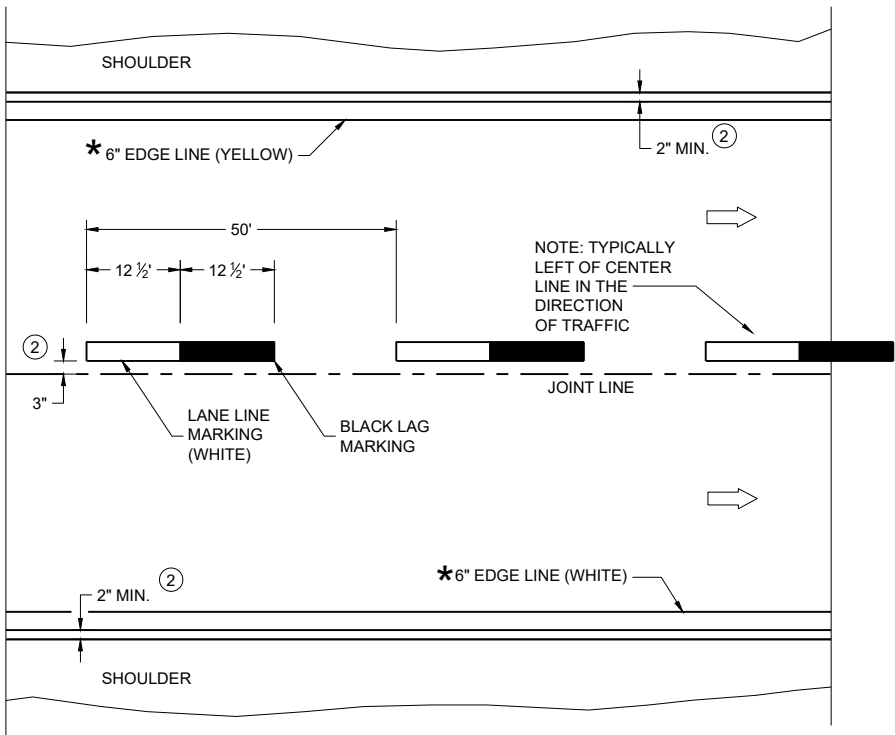
**SIGNING AND MARKING
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Jeannie Silver
DATE Statewide Pavement Marking Engineer
FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

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

- 1 LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- 2 MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

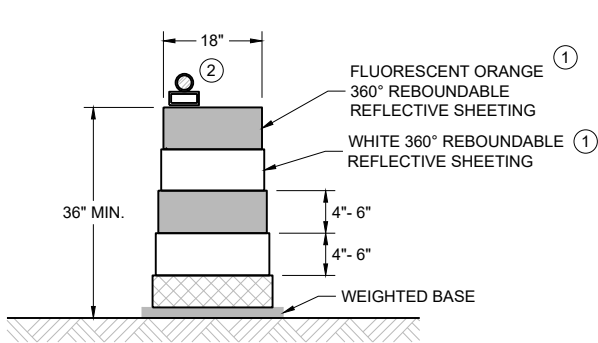
LEGEND

- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

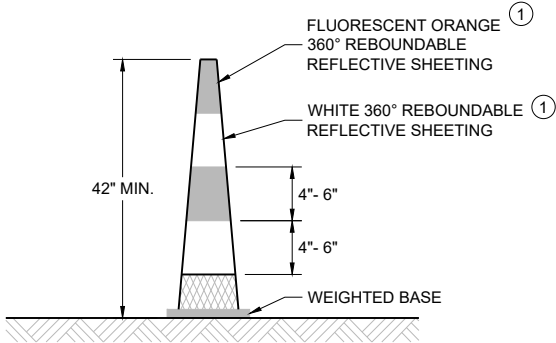
PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

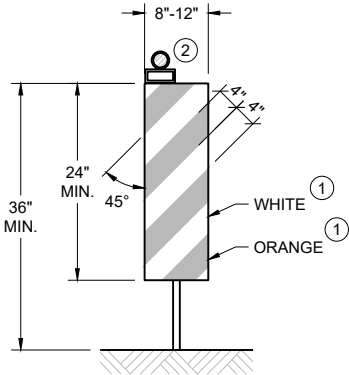
APPROVED
December 2024 /S/ Jeannie Silver
DATE Statewide Pavement Marking Engineer
FHWA



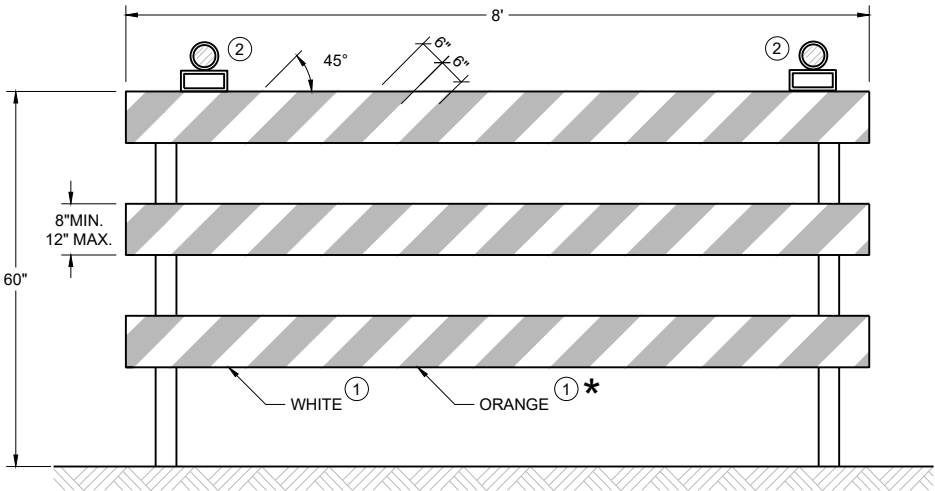
DRUM
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE
DO NOT USE IN TAPERS
½ SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"



VERTICAL PANEL
THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



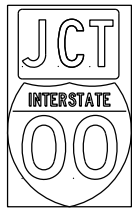
TYPE III BARRICADE
IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.
★ IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

GENERAL NOTES

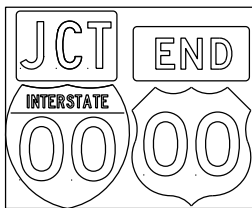
- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2026 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

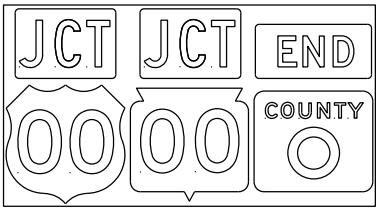
TYPICAL ASSEMBLIES



J1-1



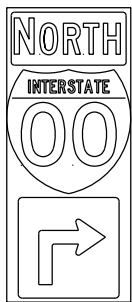
J1-2



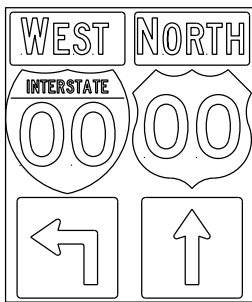
J1-3



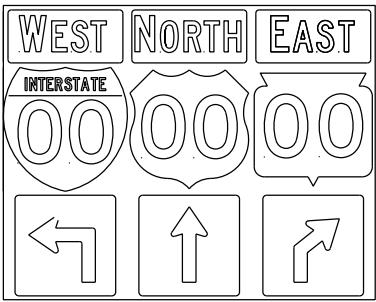
JR1-1



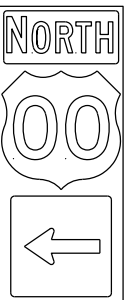
J2-1



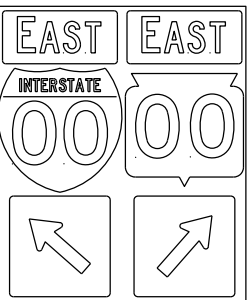
J2-2



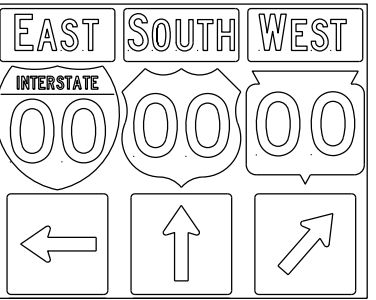
J2-3



J3-1



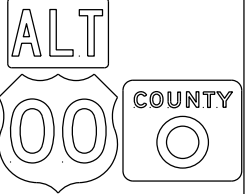
J3-2



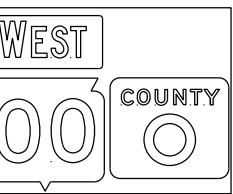
J3-3



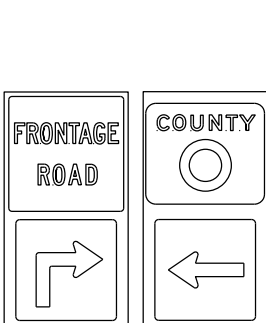
J4-1



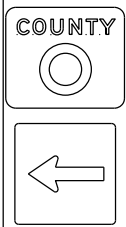
J4-2



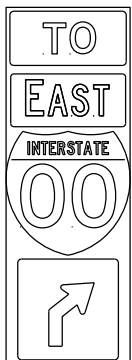
J4-2



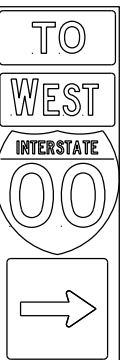
J12-1



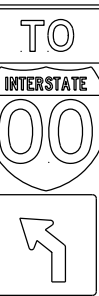
J13-1



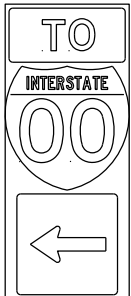
J32-1



J33-1



J22-1



J23-1



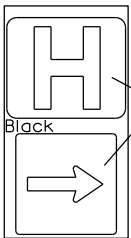
JR13-1



JR23-1



JR99-1

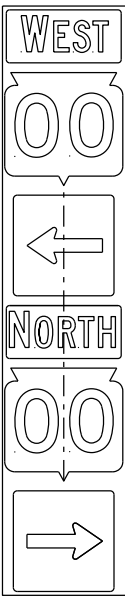
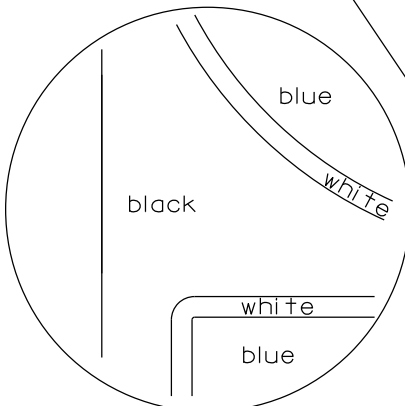


JH-1

Blue Background

Black

blue background with interstate

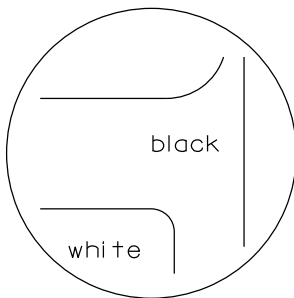
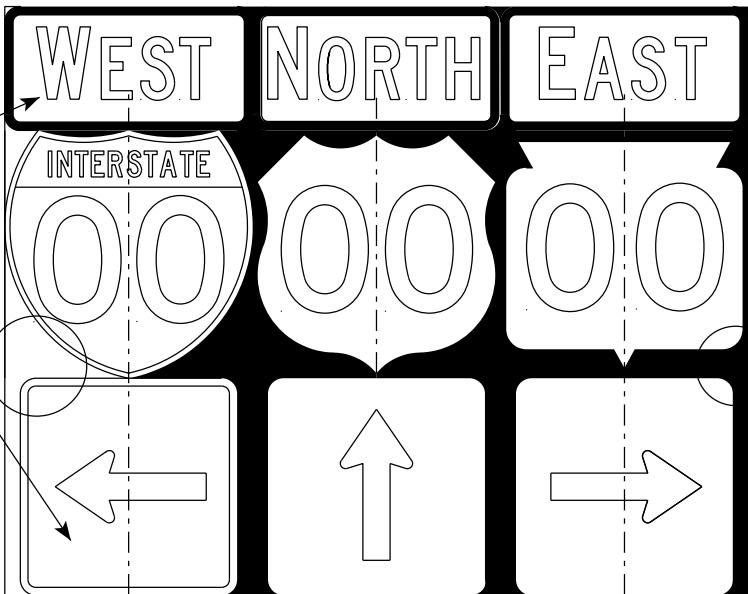


JV

(Typical Vertical J-Assembly
See Note 10 and 11)

NOTES

1. Signs are Type II - Type H Reflective
2. Color:
Background - Black Non-reflective
Message - see Note 4
3. Message Series - See Note 4
4. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
5. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
6. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
7. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
8. Route assemblies that have 36 inch shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. All Vertical J Assemblies are given a Sign Code of JV
10. For JV Assemblies that have a mixture of Interstate and Non-Interstate shields, arrows and cardinals shall be white on blue.
11. For JV Assemblies that have a mixture of Non-Interstate and Auto-Tour shields, arrows and cardinals shall be black on white.



black background

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

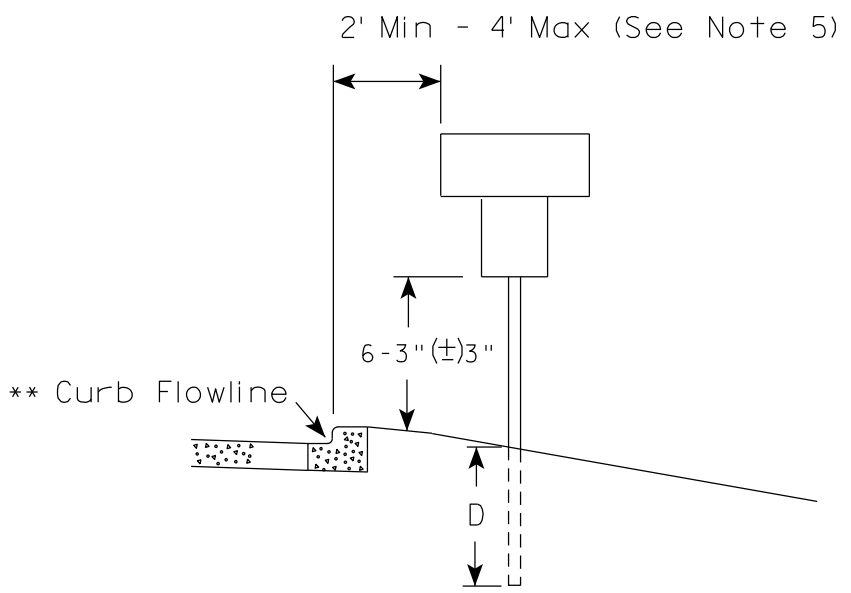
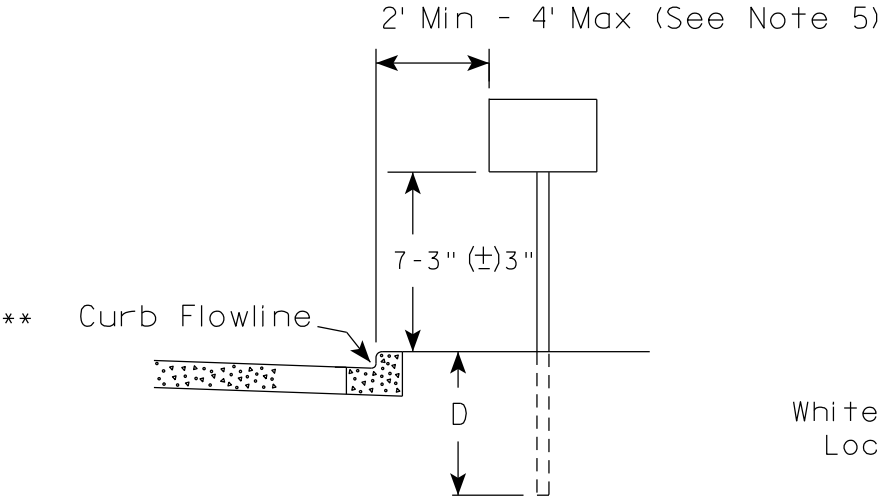
DATE 6/7/23 PLATE NO. A2-1S.10

PROJECT NO:

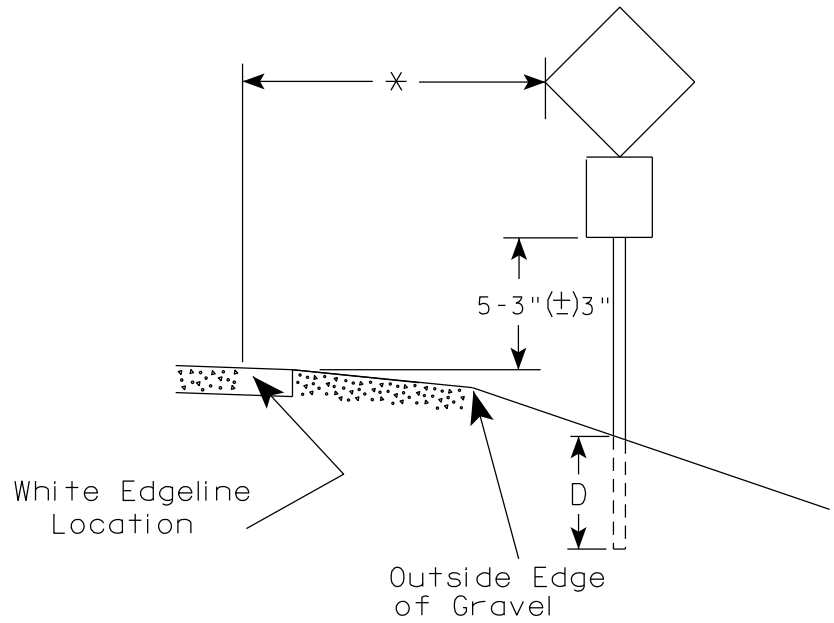
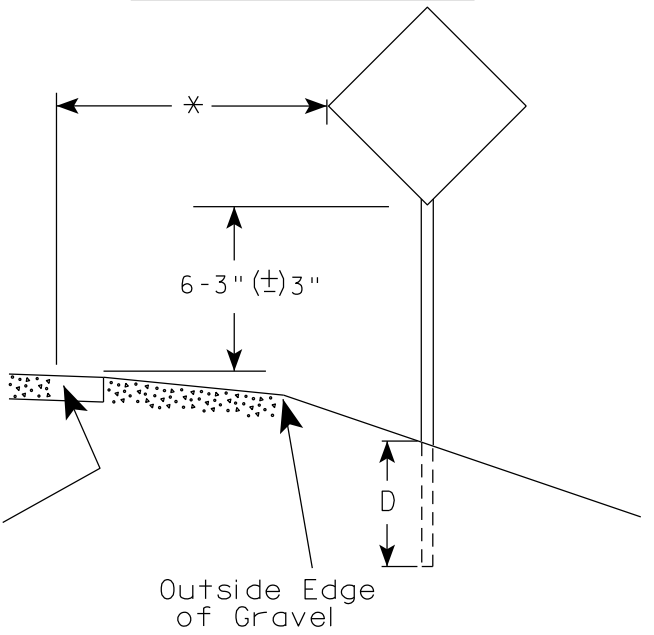
SHEET NO:

E

URBAN AREA



RURAL AREA (See Note 2)



POST EMBEDMENT DEPTH

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

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 or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 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" (±) 3".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the 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.

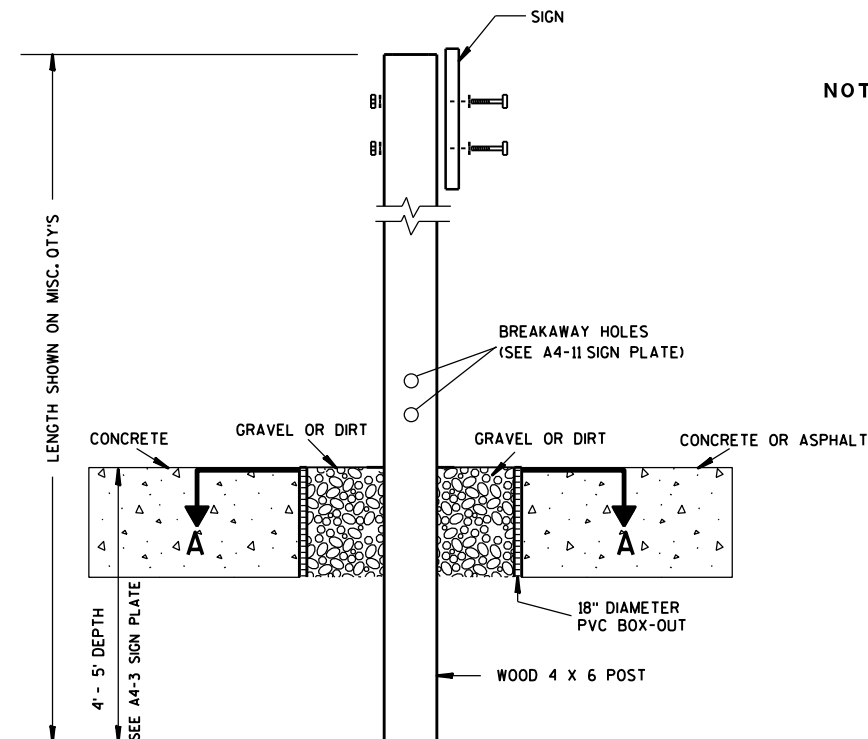
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

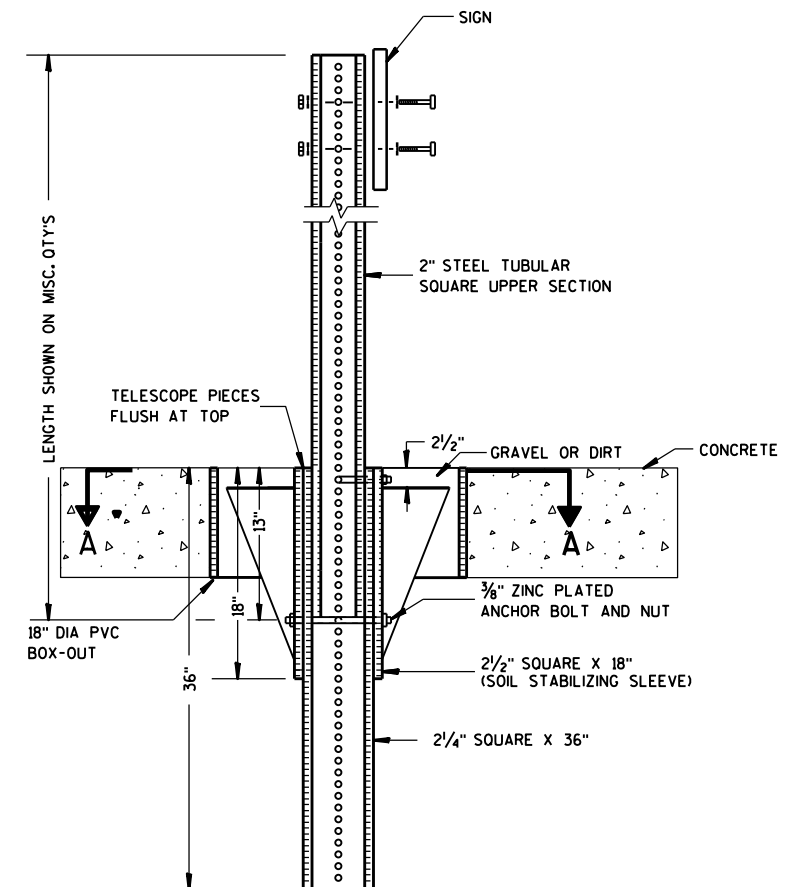
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

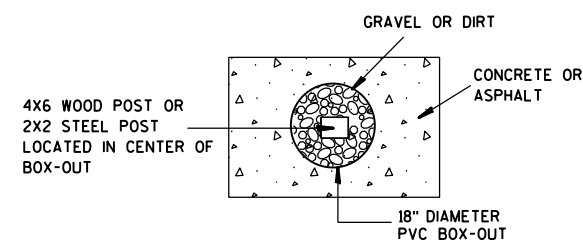
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO:

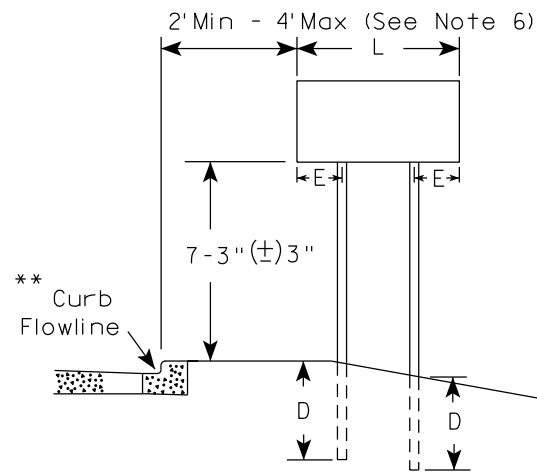
HWY:

COUNTY:

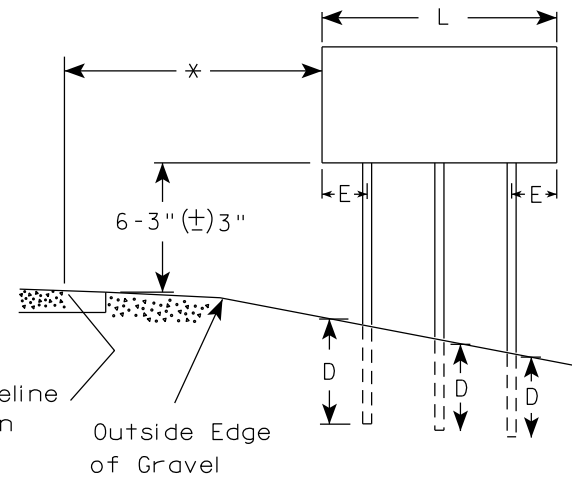
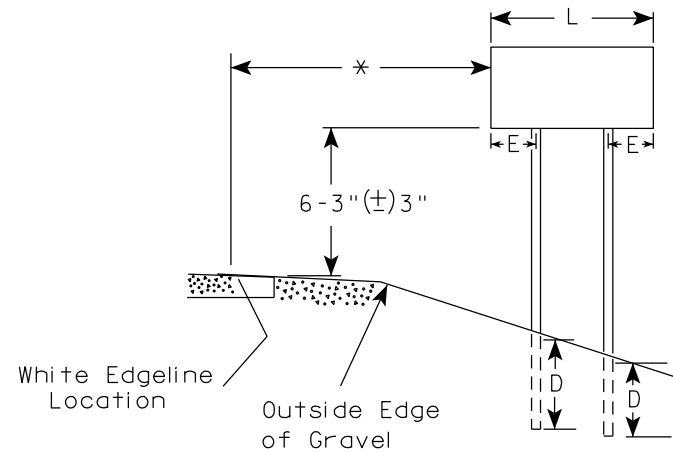
SHEET NO:

E

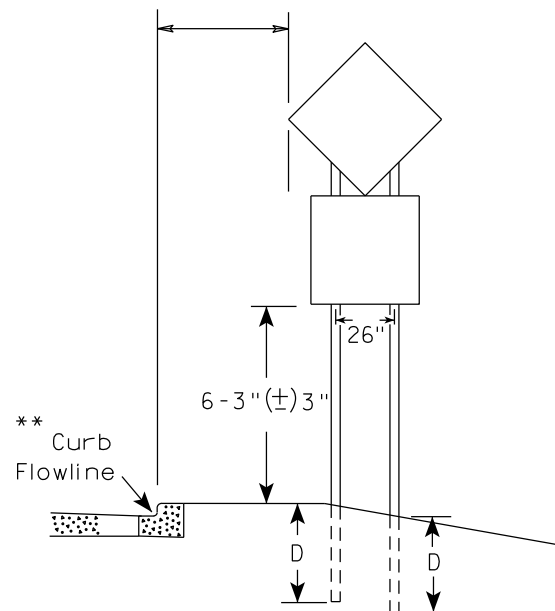
URBAN AREA



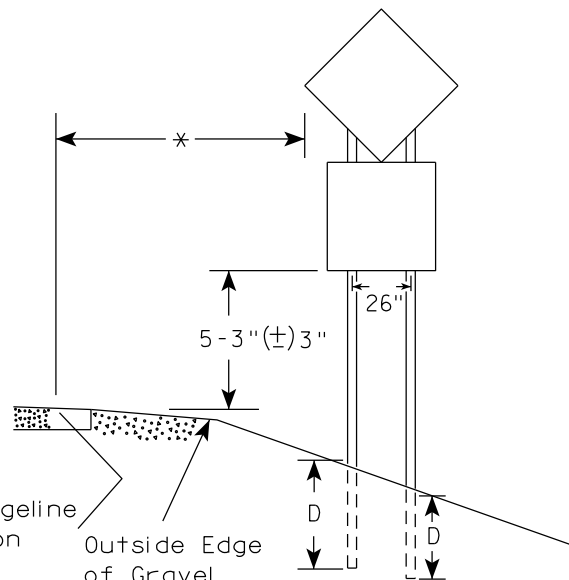
RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

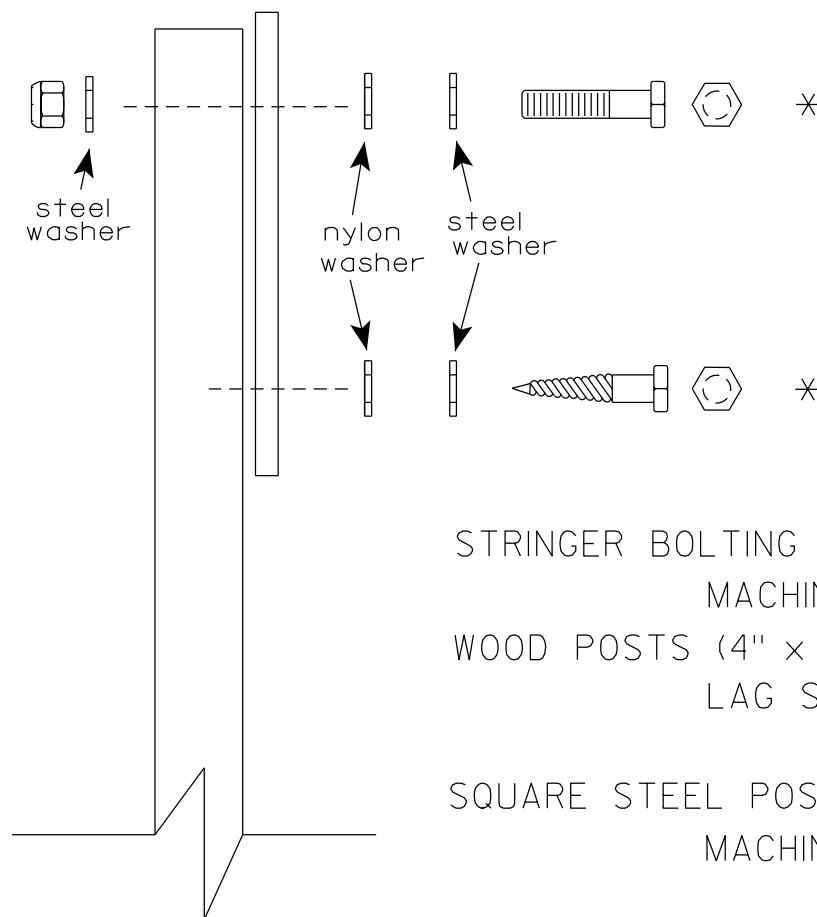
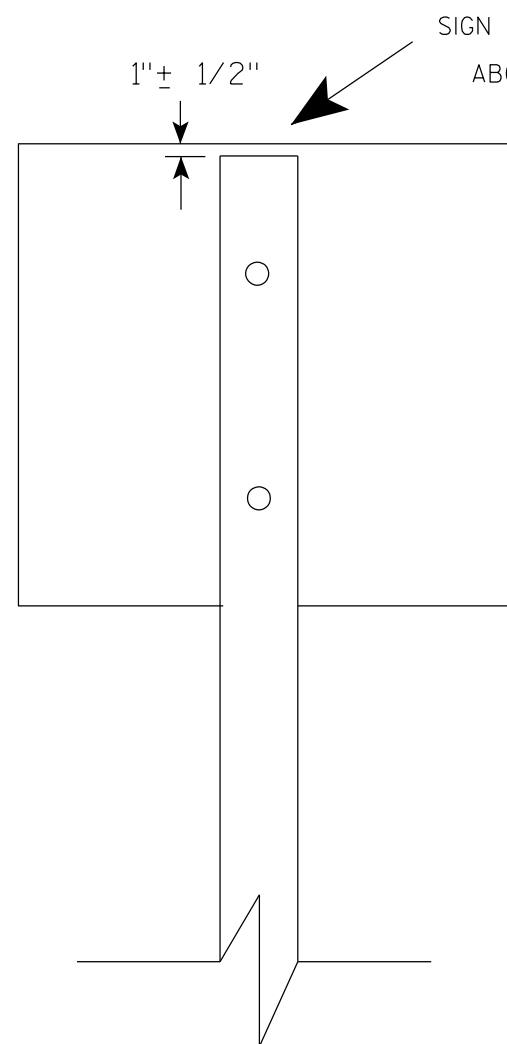
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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

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

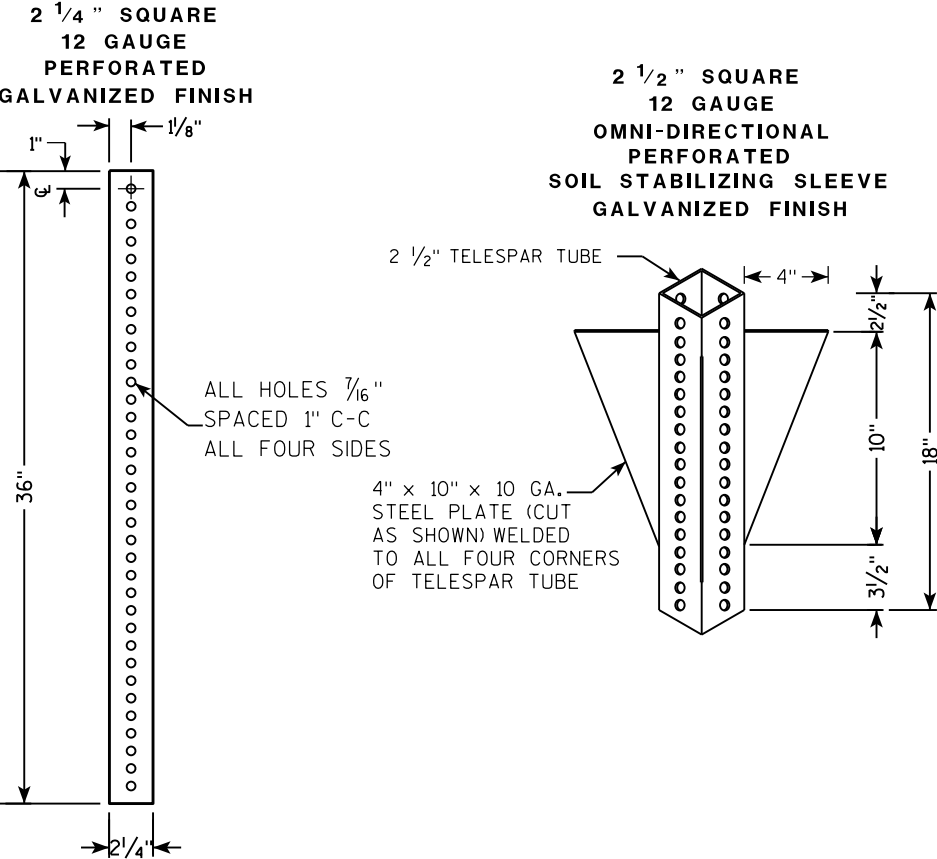
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
 - 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

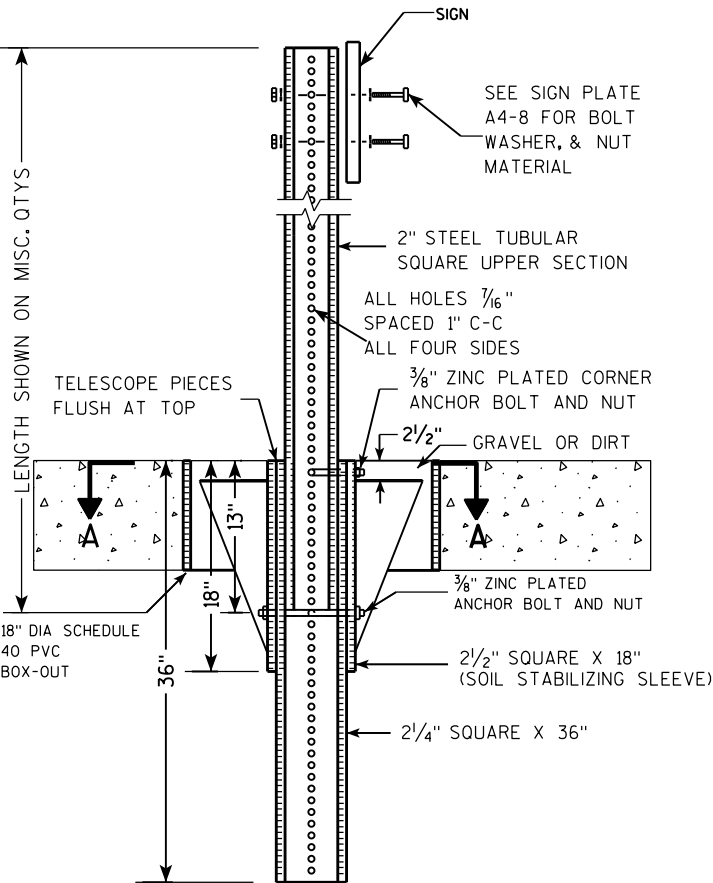
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

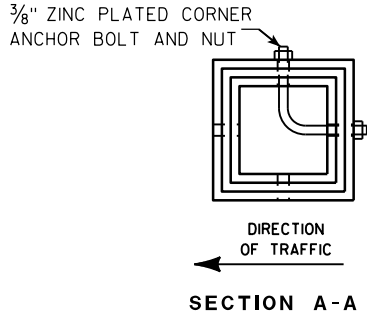
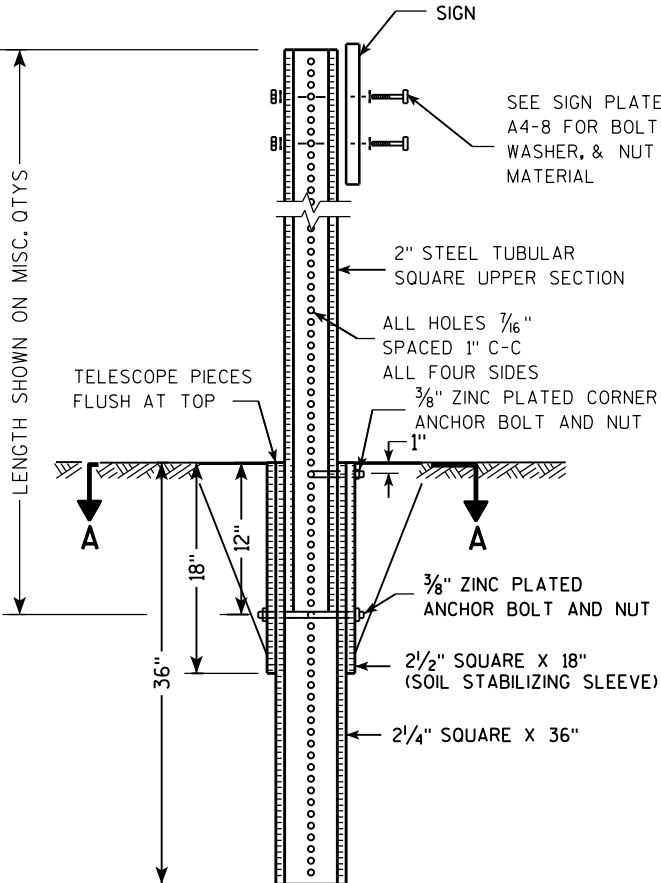
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)



Area of Sign Installation (Sq. Ft.)	Number of Required 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 sq. ft shall be mounted on multiple posts (see above table).

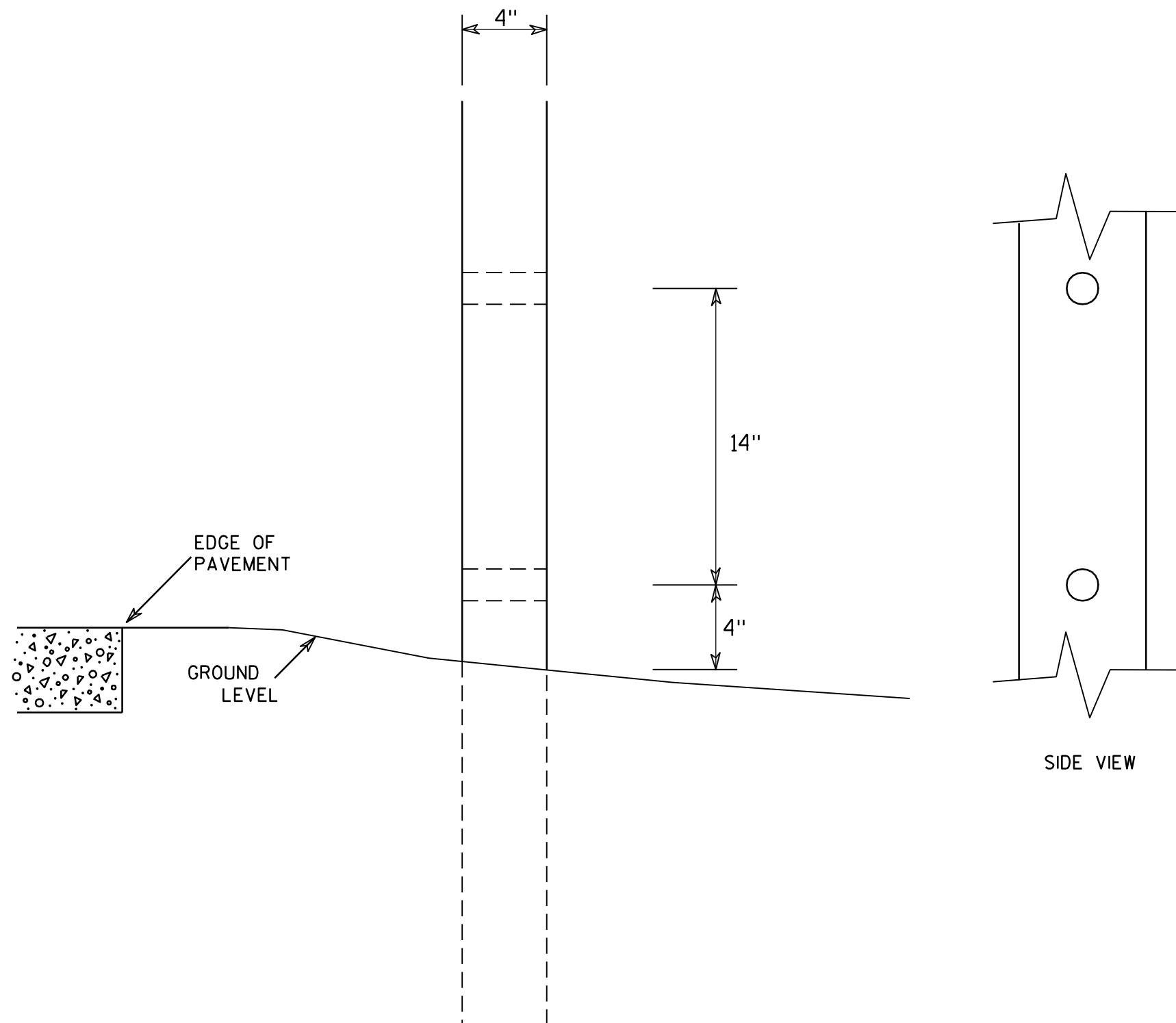
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

7



GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

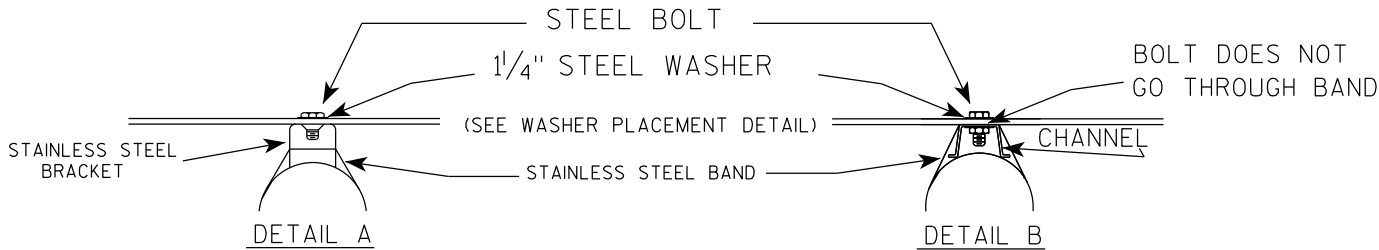
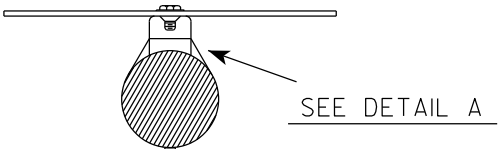
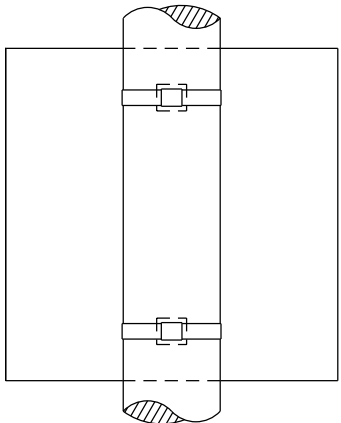
COUNTY:

SHEET NO:

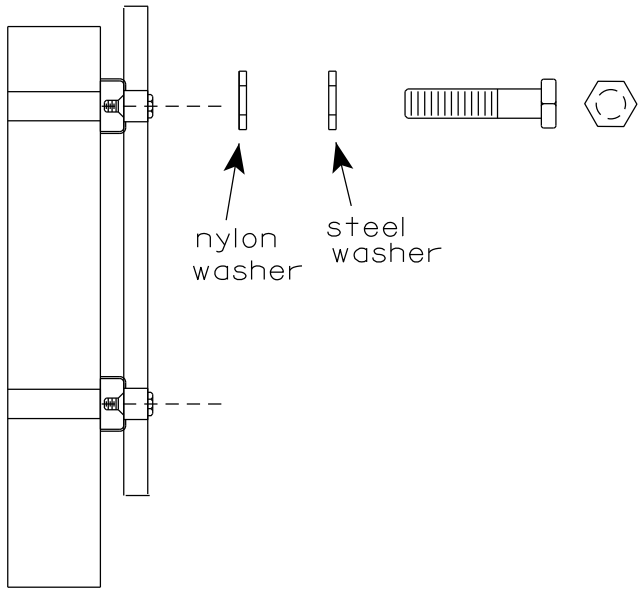
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

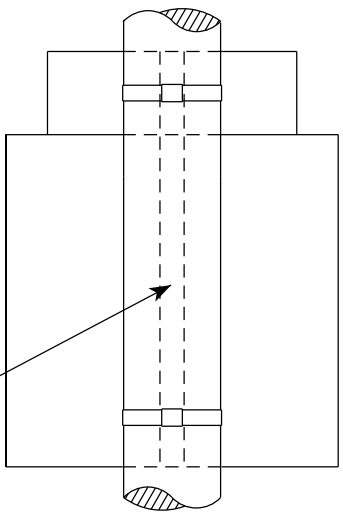


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

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 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



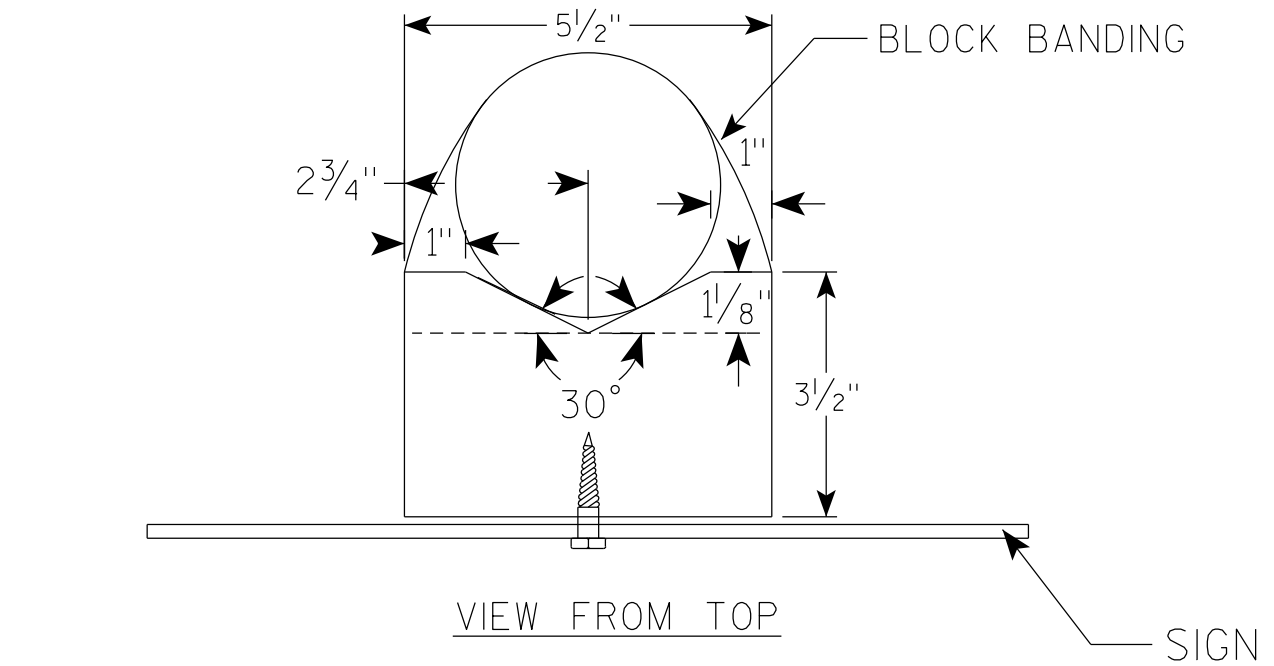
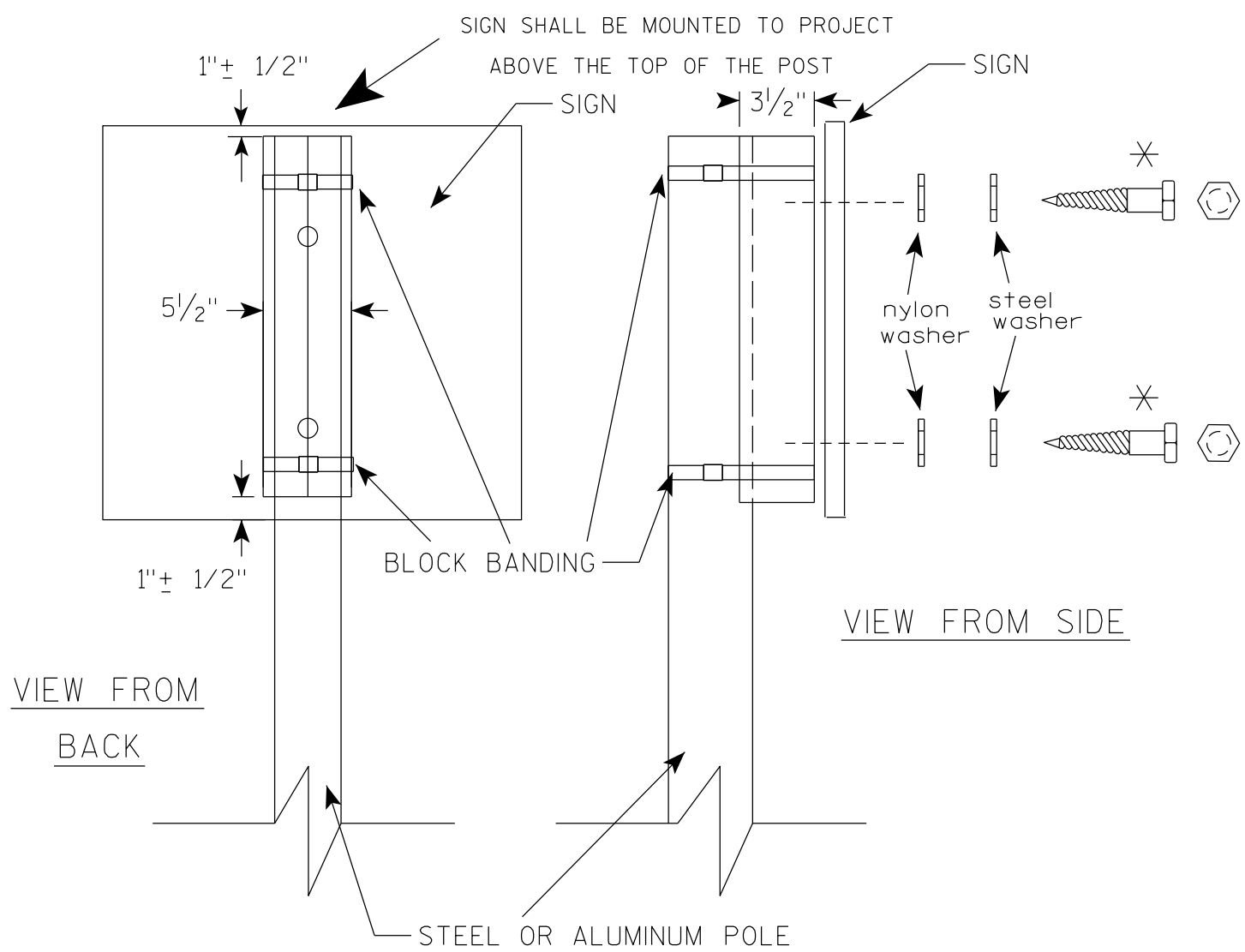
SEE DETAIL B

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



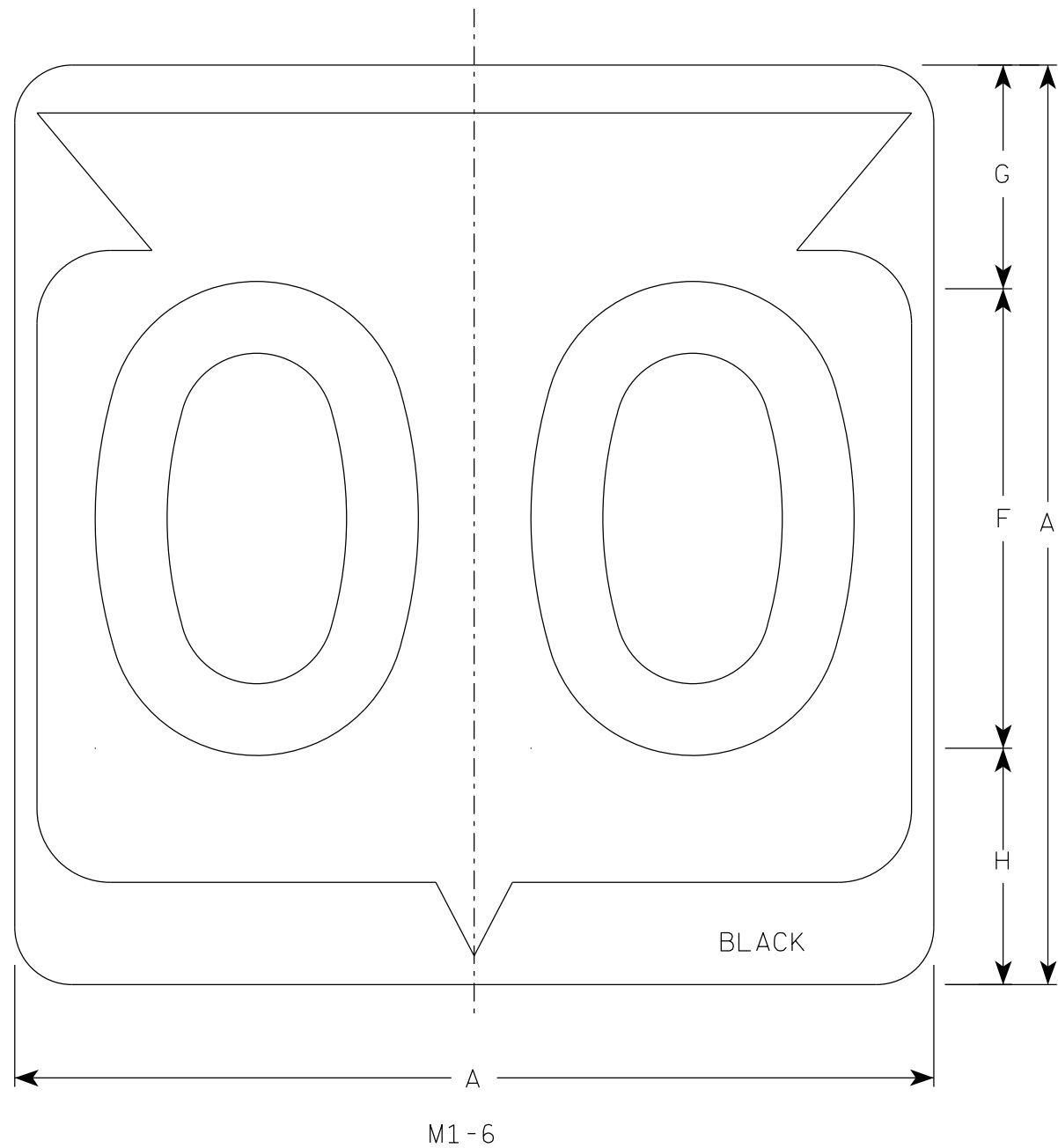
GENERAL NOTES

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 NORMALLY 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 $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

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

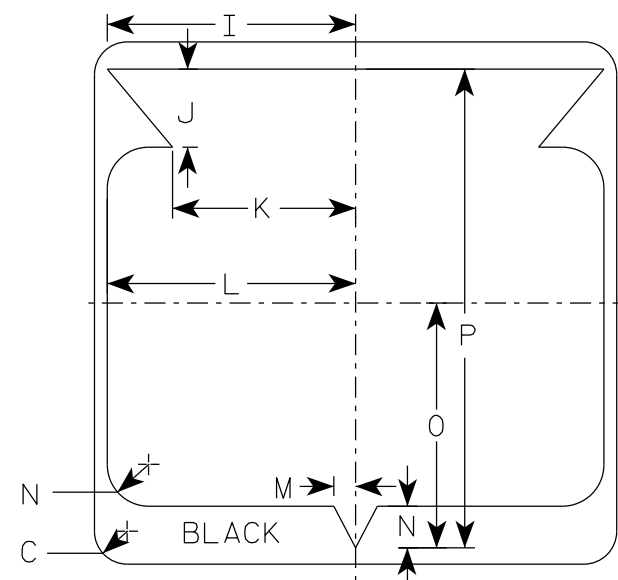
BLOCK BANDING DETAIL (V-BLOCK OPTION)	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 4/19/2022	PLATE NO. A5-10.3

7



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



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
2M	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

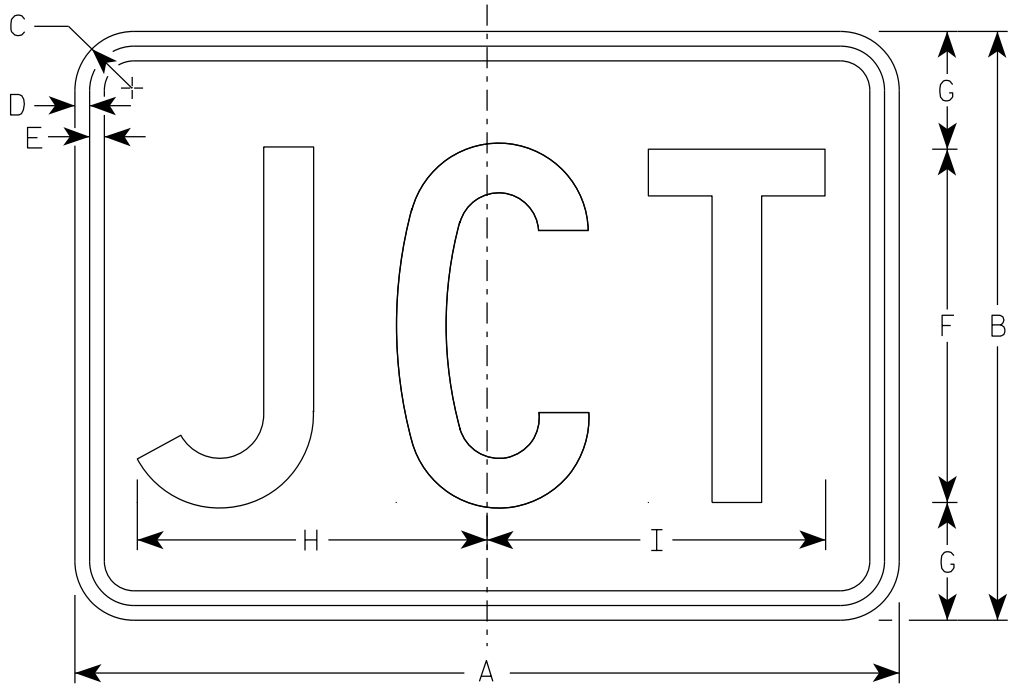
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/8/2022 PLATE NO. M1-6.11

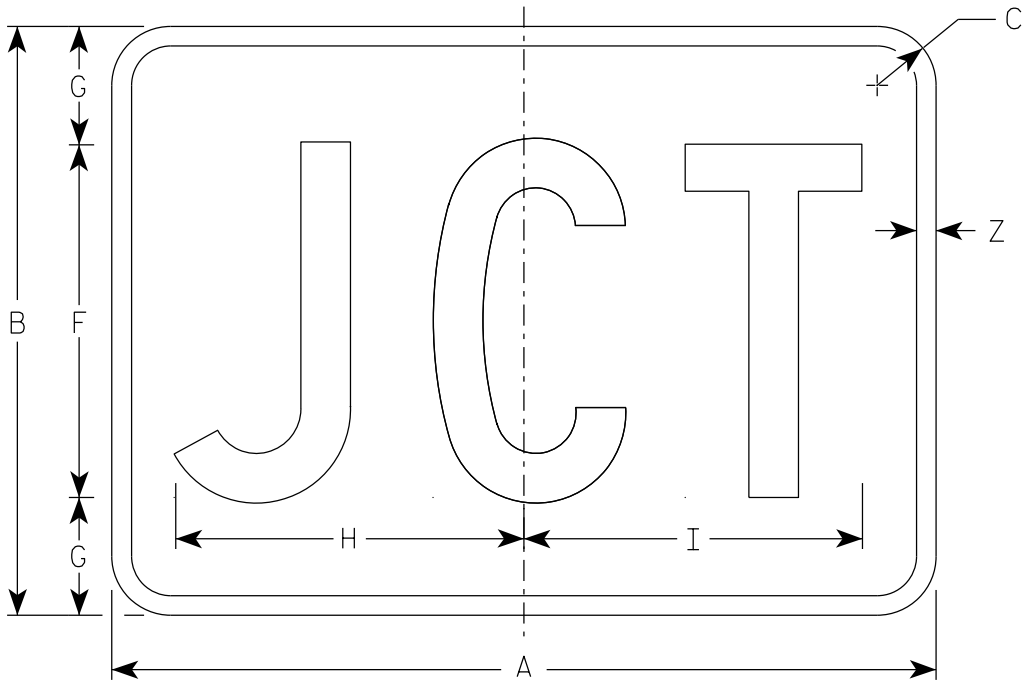
PROJECT NO: HWY: COUNTY: SHEET NO: **E**

7

7



M2-1
MM2-1
MP2-1



MB2-1
MK2-1
MN2-1
MR2-1

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
 - Background - See note 5
 - Message - See note 5
- 3. Message Series - C
- 4. M2-1 Background - White
Message - Black
- MB2-1 Background - Blue
Message - White
- MK2-1 Background - Green
Message - White
- MM2-1 Background - White
Message - Green
- MN2-1 Background - Brown
Message - White
- MP2-1 Background - White
Message - Blue
- MR2-1 Background - Brown
Message - Yellow

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21	15	1 1/2	3/8	3/8	9	3	8 7/8	8 5/8																	1/2	2.20
2M	21	15	1 1/2	3/8	3/8	9	3	8 7/8	8 5/8																	1/2	2.20
3	30	21	1 1/2	3/8	3/8	13	4	12 7/8	12 3/8																	1/2	4.40
4	30	21	1 1/2	3/8	3/8	13	4	12 7/8	12 3/8																	1/2	4.40
5	30	21	1 1/2	3/8	3/8	13	4	12 7/8	12 3/8																	1/2	4.40

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

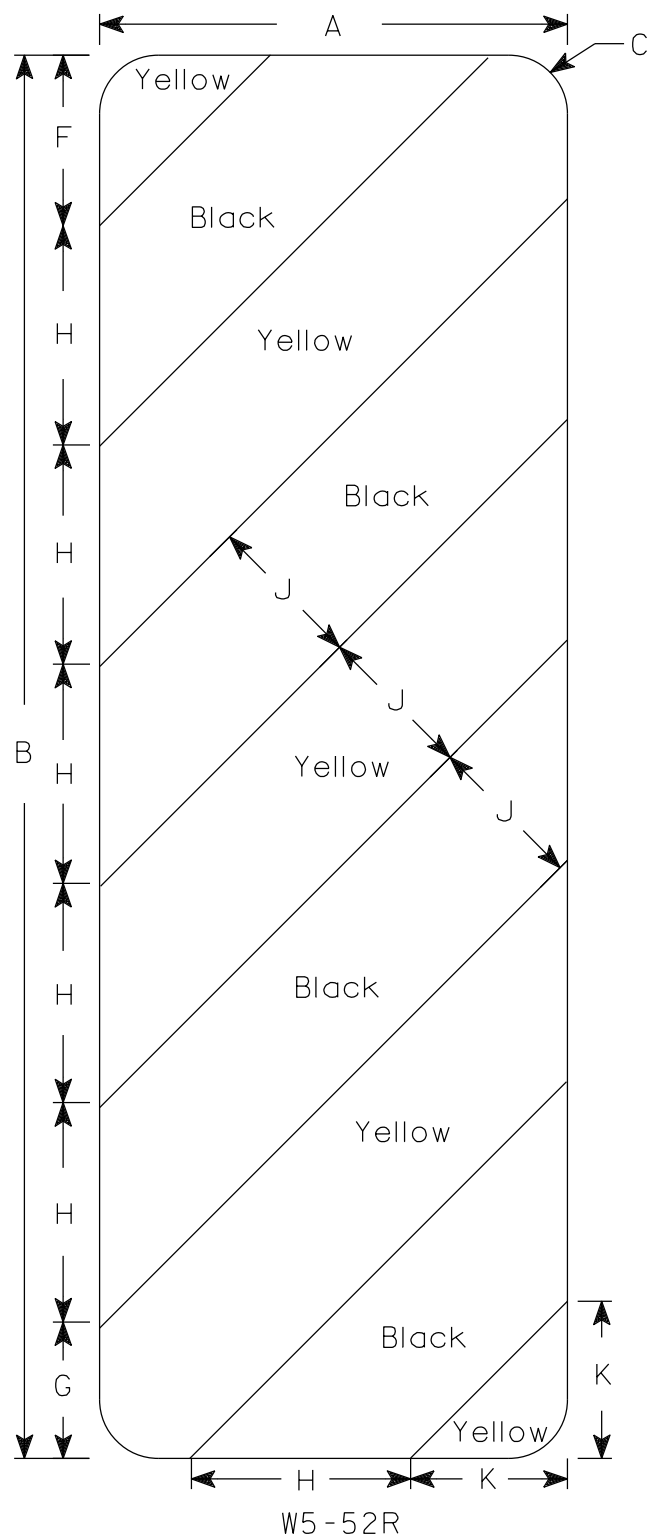
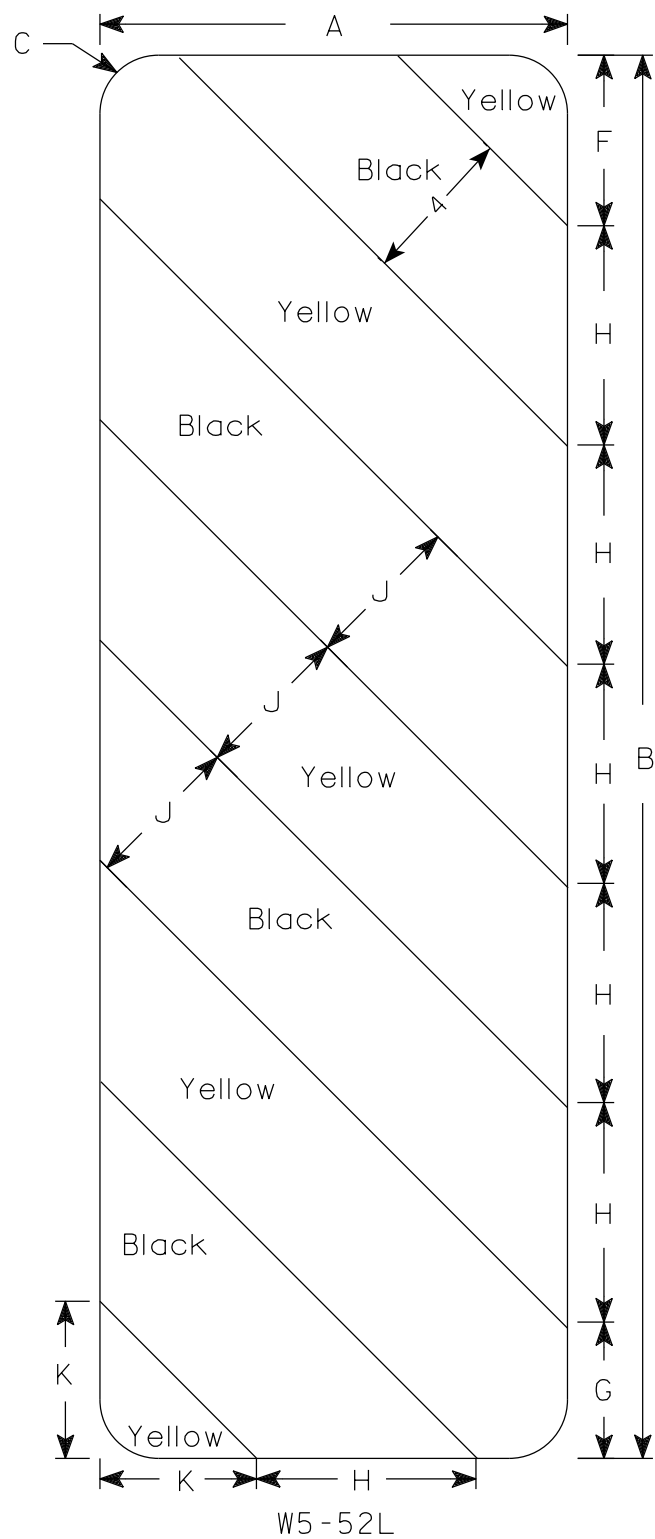
E

STANDARD SIGN
M2 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
State Traffic Engineer

DATE 2/8/2023 PLATE NO. M2-1.14



NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Yellow
 - Message - Black
- 3. Alternate colors of stripes as shown.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54	1 1/2			6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN
W5-52L & W5-52R

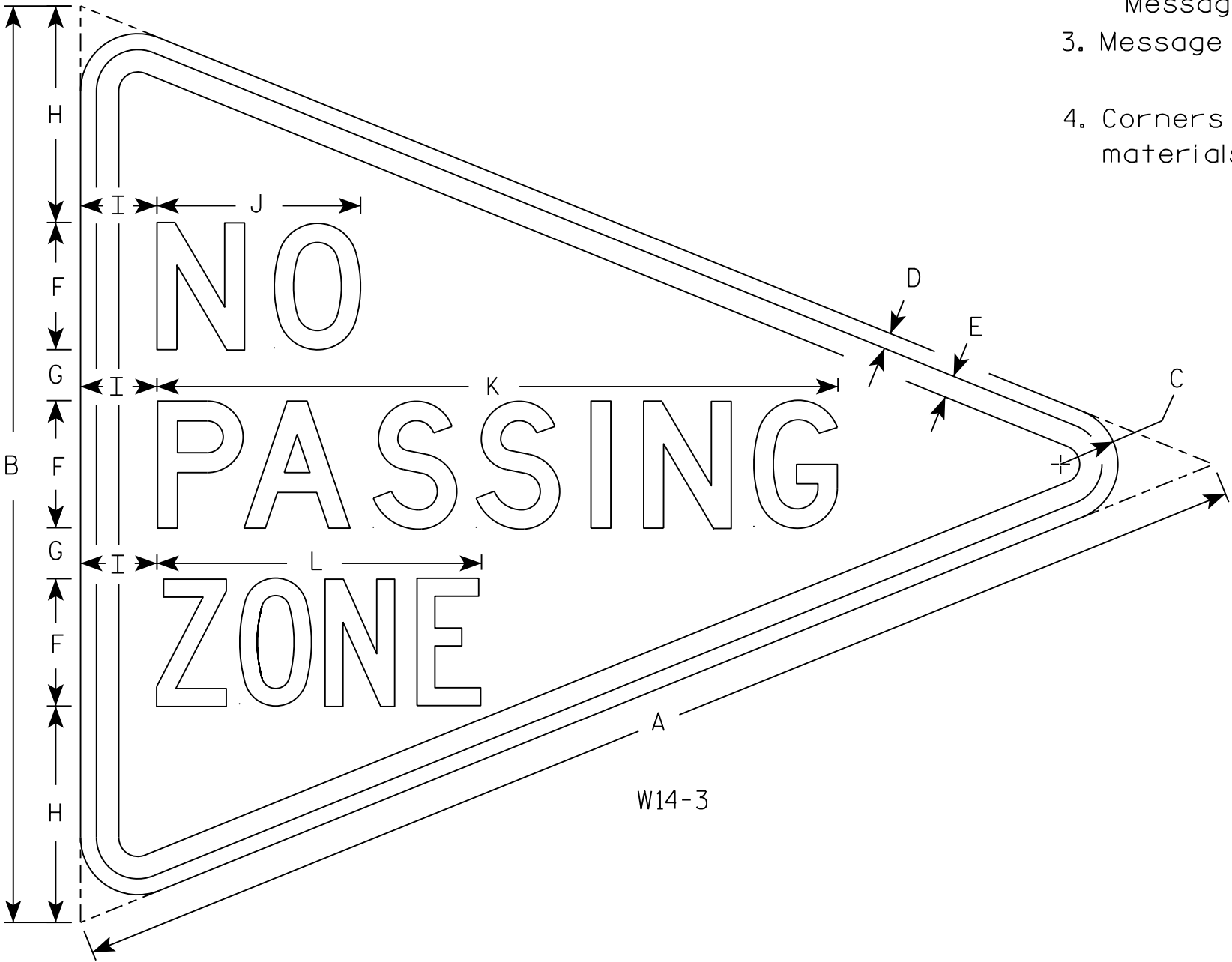
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/4/2024 PLATE NO. W5-52.10

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Yellow
Message - Black
- 3. Message Series - Lines 1 and 2 are Series D.
Line 3 is series C.
- 4. Corners and borders shall be rounded on all base materials for this sign.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															5.56
2M																											
3																											
4																											
5																											

STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/21/17 PLATE NO. W14-3.10

DESIGN DATA

LIVE LOAD:

DESIGN LOADING _____ HL-93
INVENTORY RATING FACTOR _____ RF=1.23
OPERATING RATING FACTOR _____ RF=1.60
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) _____ 250 KIPS

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

MATERIAL PROPERTIES:

CONCRETE MASONRY, SUPERSTRUCTURE _____ $f'_c = 4,000$ P.S.I.
ALL OTHER _____ $f'_c = 3,500$ P.S.I.
HIGH-STRENGTH BAR STEEL _____
REINFORCEMENT, GRADE 60 _____ $f_y = 60,000$ P.S.I.

FOUNDATION DATA

ABUTMENTS AND PIERS TO BE SUPPORTED ON PILING CIP CONCRETE 12 $\frac{3}{4}$ X 0.375-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS** PER PILE AT THE ABUTMENTS AND 200 TONS** PER PILE AT THE PIERS AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE OF 35 FT PILE LENGTHS AT BOTH ABUTMENTS AND BOTH PIERS. PILE POINTS REQ'D AT BOTH PIERS.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC DATA

A.D.T. (2027) _____ 890
A.D.T. (2047) _____ 1,330
DESIGN SPEED _____ 50 M.P.H.

HYDRAULIC DATA

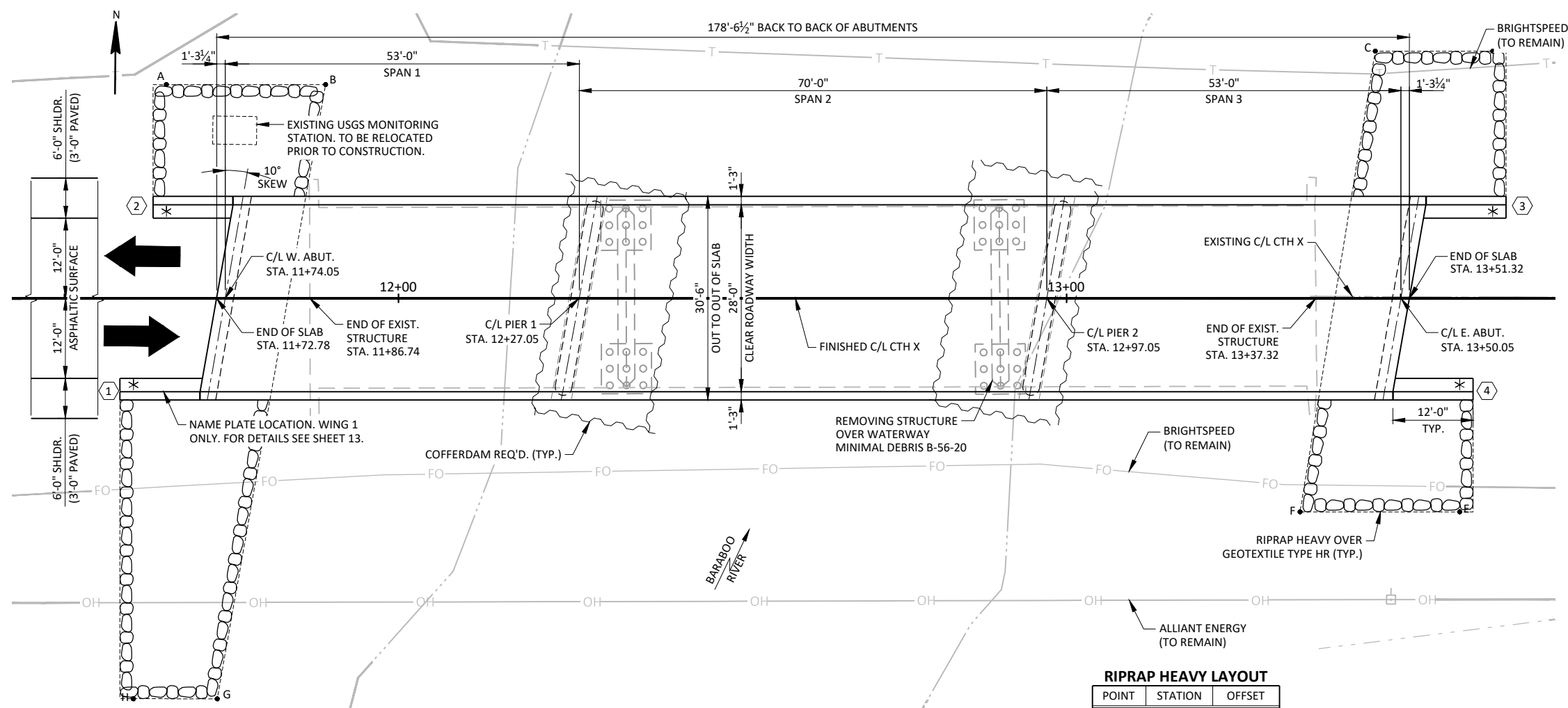
100 YEAR FREQUENCY _____
DRAINAGE AREA _____ 609 SQ. MI.
 Q_{100} TOTAL _____ 11,020 C.F.S.
THROUGH STRUCTURE _____ 11,020 C.F.S.
OVERTOPPING ROADWAY _____ N/A
VELOCITY - THROUGH STRUCTURE _____ 5.1 F.P.S.
WATERWAY AREA - THROUGH STRUCTURE _____ 2,151.7 SQ. FT.
HIGH WATER₁₀₀ ELEVATION _____ 813.16
SCOUR CRITICAL CODE _____ 5

EROSION CONTROL

Q_2 _____ 2,290 C.F.S.
VELOCITY₂ _____ 2.6 F.P.S.
HIGH WATER₂ ELEVATION _____ 803.11

LIST OF DRAWINGS

GENERAL PLAN _____ 1.
CROSS SECTION AND QUANTITIES _____ 2.
SUBSURFACE EXPLORATION _____ 3.
WEST ABUTMENT _____ 4.
WEST ABUTMENT DETAILS _____ 5.
EAST ABUTMENT _____ 6.
EAST ABUTMENT DETAILS _____ 7.
PIER 1 _____ 8.
PIER 2 _____ 9.
SUPERSTRUCTURE _____ 10.
SUPERSTRUCTURE DETAILS (1 OF 2) _____ 11.
SUPERSTRUCTURE DETAILS (2 OF 2) _____ 12.
SINGLE SLOPE PARAPET 42SS _____ 13.



BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	8+75	3/4" IRON REBAR SET, 16.1' RT.	812.09
2	16+22	3/4" IRON REBAR SET, 18.9' LT.	814.35
3	13+32	3/4" IRON REBAR FOUND, 34.7' LT.	805.64
11	11+07	COTTON GIN SPIKE NAIL SET, 45.1' RT.	806.76

PLAN B-56-245

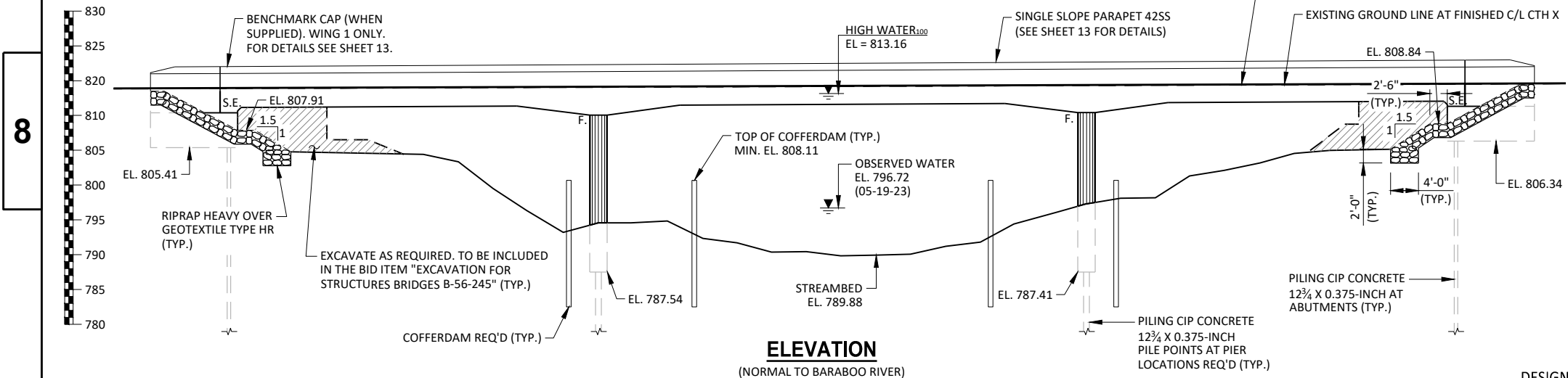
(THREE-SPAN REINFORCED CONCRETE HAUNCHED SLAB)

⬡ INDICATES WING NUMBER

* ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD

RIPRAP HEAVY LAYOUT

POINT	STATION	OFFSET
A	11+65	32' LT.
B	11+89	32' LT.
C	13+46	37' LT.
D	13+64	37' LT.
E	13+59	32' RT.
F	13+35	32' RT.
G	11+73	60' RT.
H	11+60	60' RT.



ELEVATION

(NORMAL TO BARABOO RIVER)



5/21/26

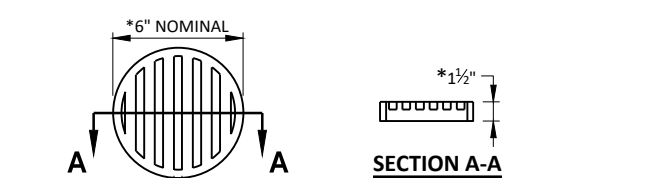
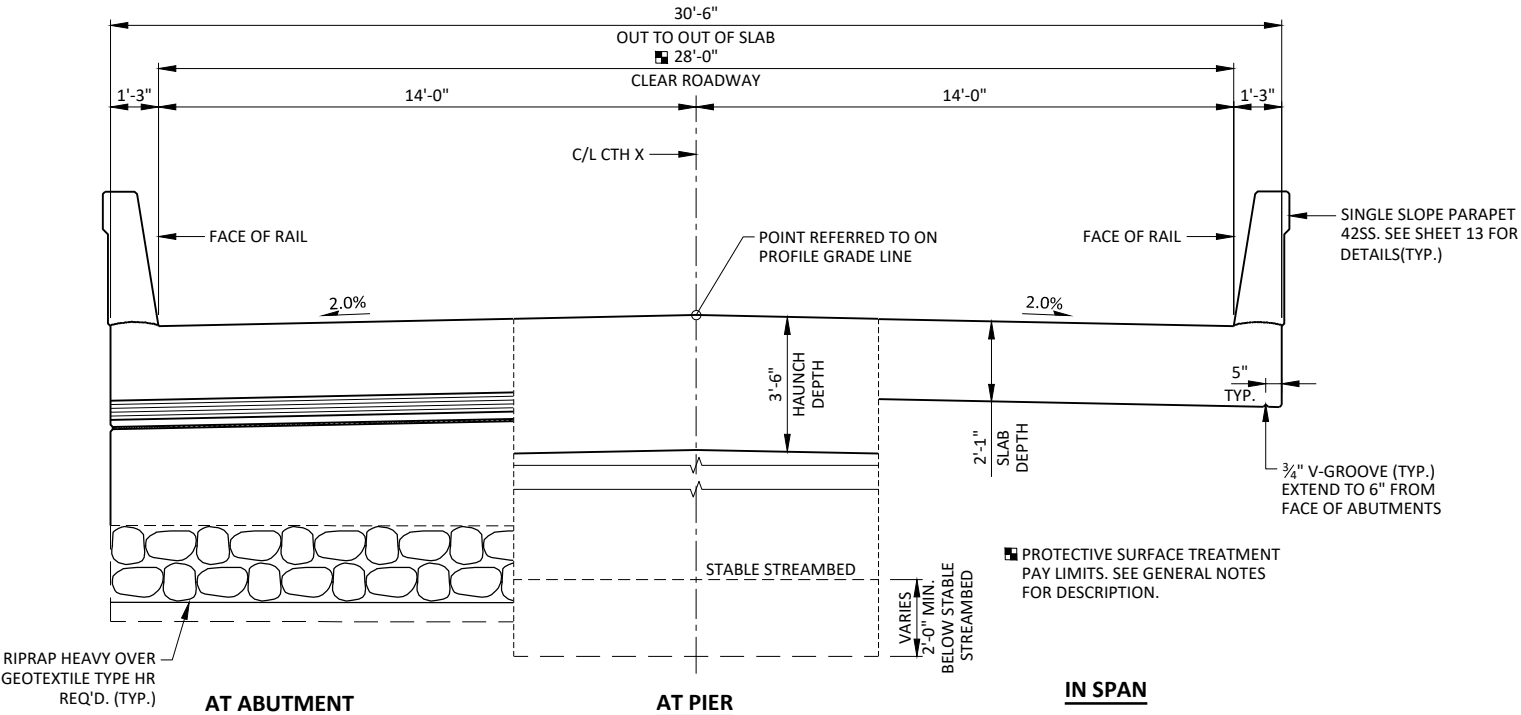
DESIGN CONSULTANT

COLIN OLSON, PE
(608) 390-2851

BRIDGE OFFICE CONTACT

AARON BONK, PE
(608) 261-0261

NO.	DATE	REVISION	BY
JEWELL			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED		CHIEF STRUCTURES DESIGN ENGINEER	05/27/26 DATE
STRUCTURE B-56-245			
CTH X OVER BARABOO RIVER			
COUNTY	SAUK	TOWN/CITY/VILLAGE	GREENFIELD
DESIGN SPEC.	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS		
DESIGNED BY	CJO	DESIGN CK'D.	PTB
DRAWN BY	CJO	PLANS CK'D.	PTB
GENERAL PLAN			SHEET 1 OF 13



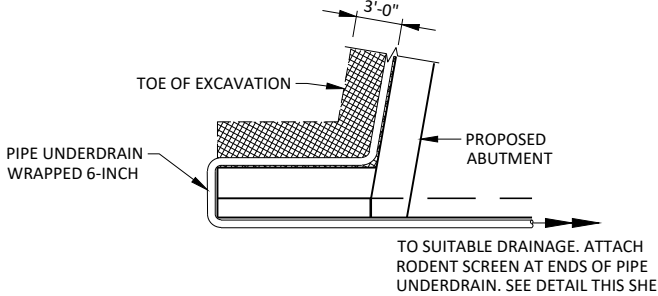
RODENT SCREEN

NOTES:
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

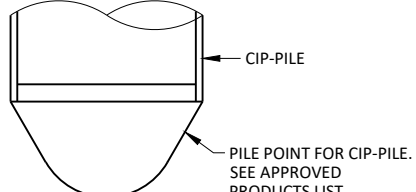
ORIENT SHIELD SO SLOTS ARE VERTICAL.

COST OF THE RODENT SCREEN, PIPE COUPLING, AND SCREWS ARE INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THE SCREEN TO THE EXPOSED ENDS OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

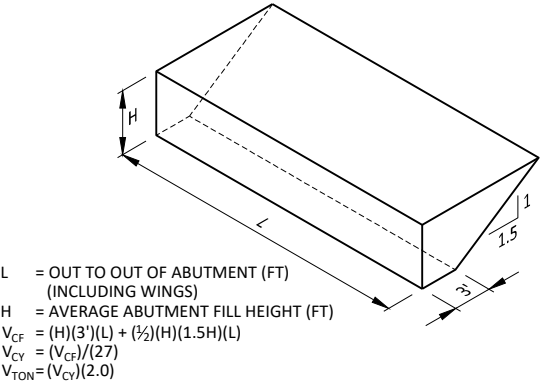


PIPE UNDERDRAIN DETAIL

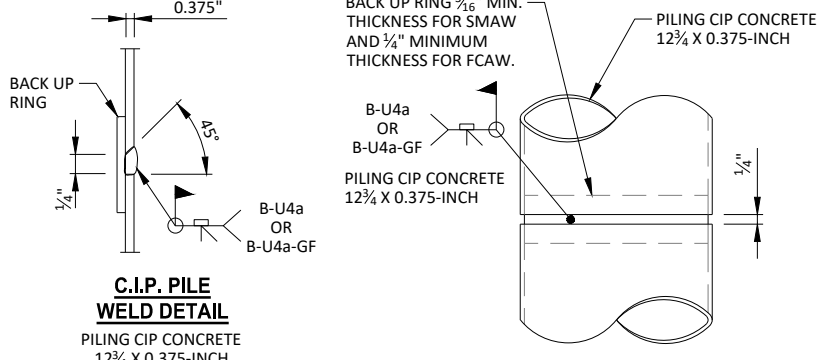


PILE POINT DETAIL

PILE POINT SHALL BE INSTALLED ACCORDING TO THE PILE POINT MANUFACTURE'S INSTRUCTIONS. ENSURE PILE POINT WELDS ARE WATERTIGHT.



ABUTMENT BACKFILL DIAGRAM



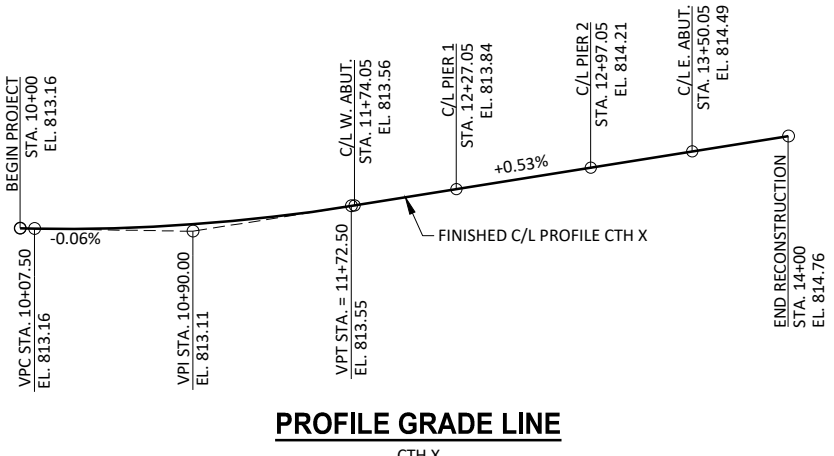
C.I.P. PILE WELD DETAIL

PILING CIP CONCRETE 12 3/4 X 0.375-INCH

CAST-IN-PLACE 'PIPE PILE'

NOTES:
CAST-IN-PLACE PILE SHELL MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

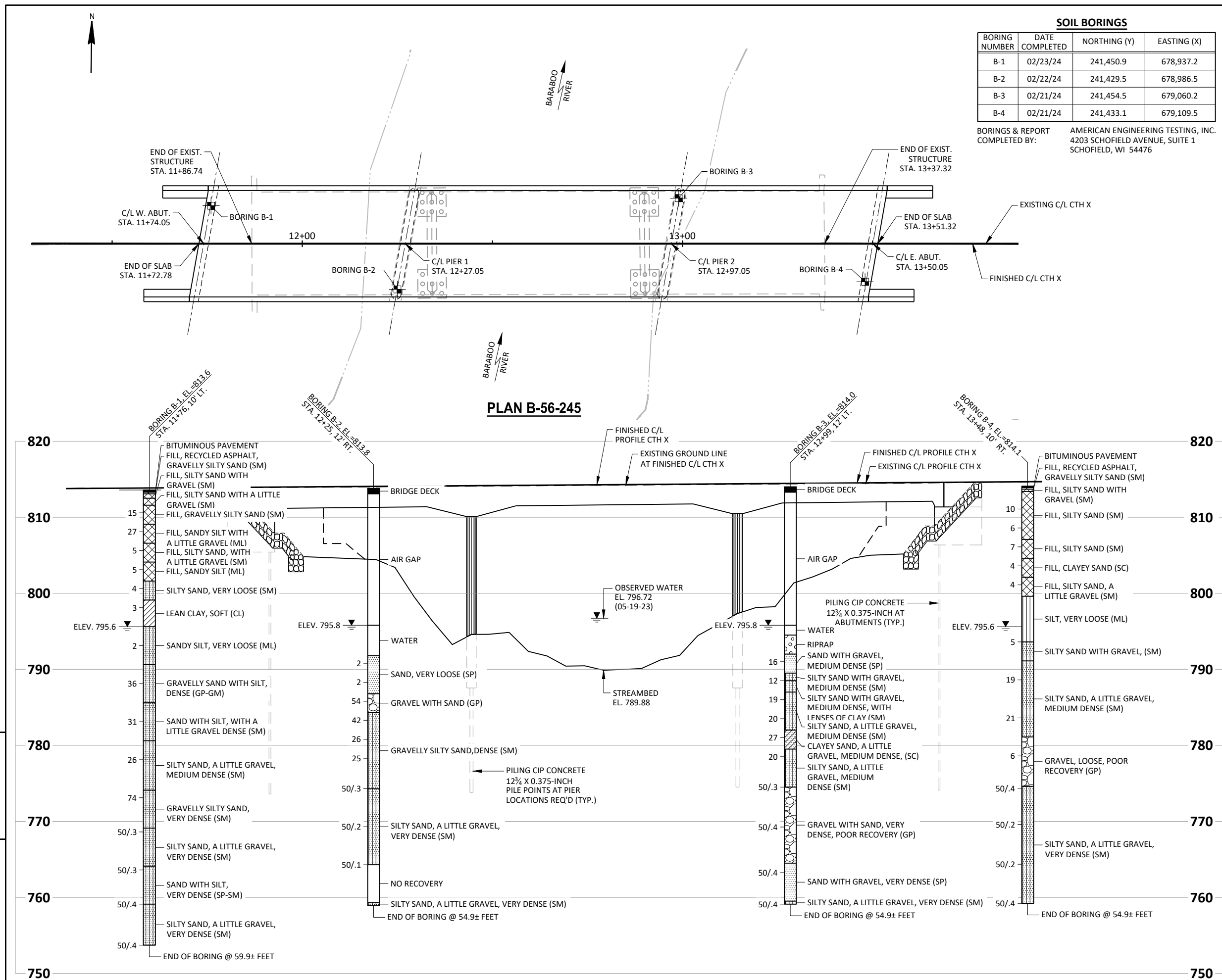
TOTAL ESTIMATED QUANTITIES								
ITEM NUMBER	ITEM DESCRIPTION	UNIT	W. ABUT.	PIER 1	PIER 2	E. ABUT.	SUPER.	TOTALS
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS B-56-20	EACH	--	--	--	--	--	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-56-245	EACH	--	--	--	--	--	1
206.5001	COFFERDAMS B-56-245	EACH	--	--	--	--	--	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	85	--	--	85	--	170
502.0100	CONCRETE MASONRY BRIDGES	CY	35.8	60.8	62.1	35.9	519.2	714
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	--	--	--	560	560
502.3210	PIGMENTED SURFACE SEALER	SY	13	--	--	13	176	202
502.9000.S	UNDERWATER SUBSTRUCTURE INSPECTION B-56-245	EACH	--	1	1	--	--	2
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1,970	2,890	2,920	1,970	--	9,750
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,220	60	60	2,230	86,580	91,150
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	8	--	--	8	--	16
550.0500	PILE POINTS	EACH	--	10	10	--	--	20
550.2126	PILING CIP CONCRETE 12 3/4 X 0.375-INCH	LF	175	350	350	175	--	1050
606.0300	RIPRAP HEAVY	CY	140	--	--	110	--	250
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	95	--	--	95	--	190
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	--	--	2	--	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	30	--	--	30	--	60
645.0120	GEOTEXTILE TYPE HR	SY	225	--	--	175	--	400
NON-BID ITEMS								
	FILLER	SIZE						1/2" & 3/4"
	NAME PLATE							



PROFILE GRADE LINE

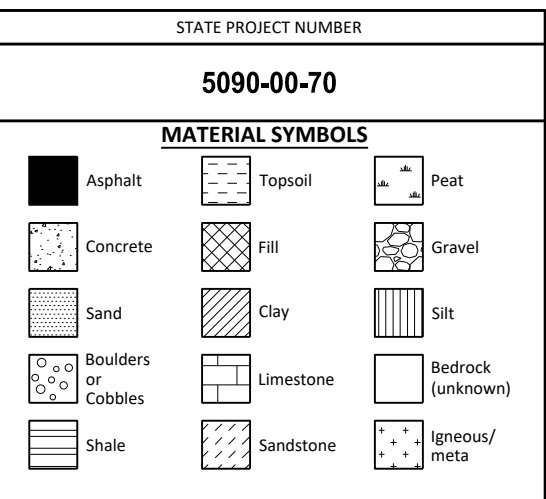
CTH X

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-245			
DRAWN BY		CJO	PLANS CK'D. PTB
CROSS SECTION AND QUANTITIES			SHEET 2 OF 13

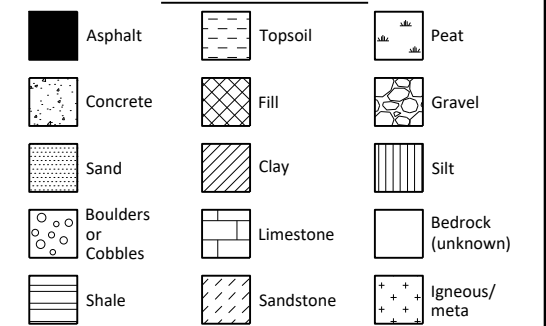


BORING NUMBER	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-1	02/23/24	241,450.9	678,937.2
B-2	02/22/24	241,429.5	678,986.5
B-3	02/21/24	241,454.5	679,060.2
B-4	02/21/24	241,433.1	679,109.5

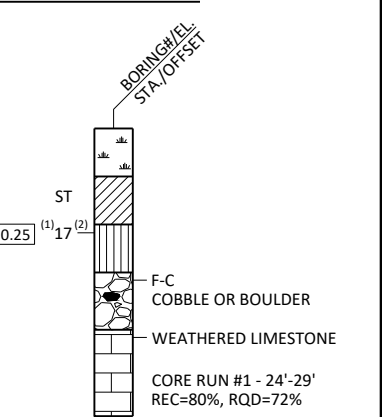
COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.
4203 SCHOFIELD AVENUE, SUITE 1
SCHOFIELD, WI 54476



MATERIAL SYMBOLS

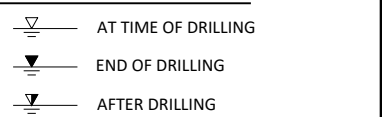


LEGEND OF BORING



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

GROUND WATER ELEVATIONS



ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-245			
DRAWN BY		CJO	PLANS CK'D. PTB
SUBSURFACE EXPLORATION		SHEET 3 OF 13	

NOTES

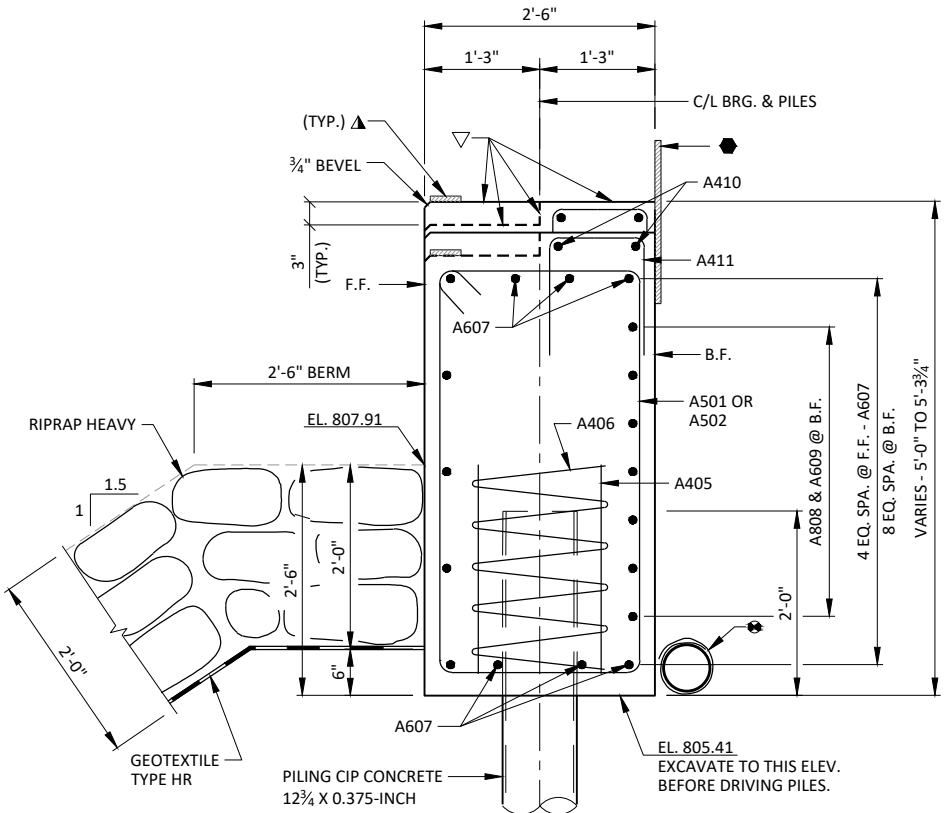
SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 5 FOR BILL OF BARS.

SEAT ELEVATIONS SHOWN IN THE ELEVATION VIEW ARE TAKEN AT THE C/L OF BEARING.

SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE

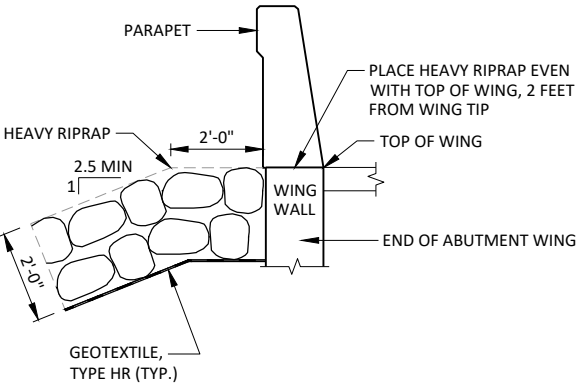


WEST ABUTMENT TO BE SUPPORTED ON PILING CIP CONCRETE 12 3/4 X 0.375-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 35 FT PILE LENGTHS AT WEST ABUTMENT.

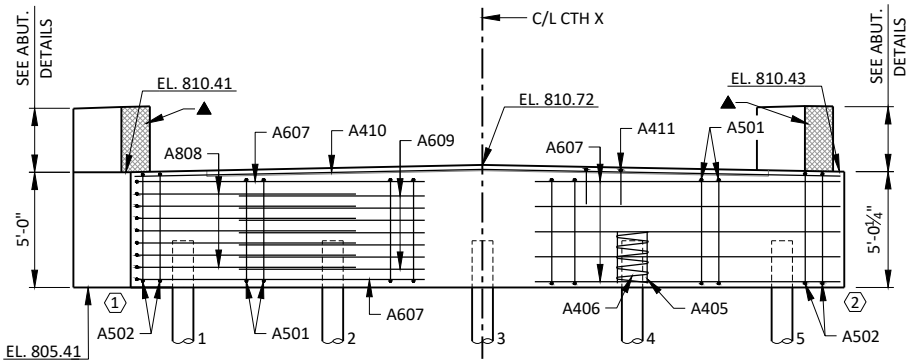
TYPICAL SECTION THROUGH ABUTMENT BODY

LEGEND

- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)
- 3/4" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- STEEL TROWEL ENTIRE TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."
- INDICATES WING NUMBER.



TYPICAL FILL SECTION AT WING TIPS

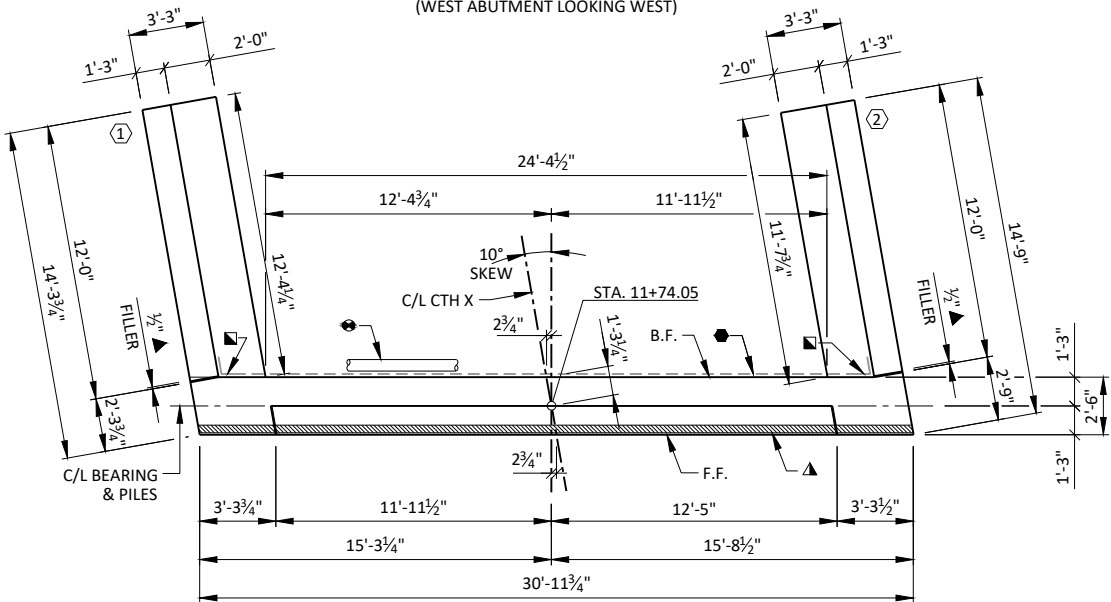


BACK FACE BAR STEEL REINF.

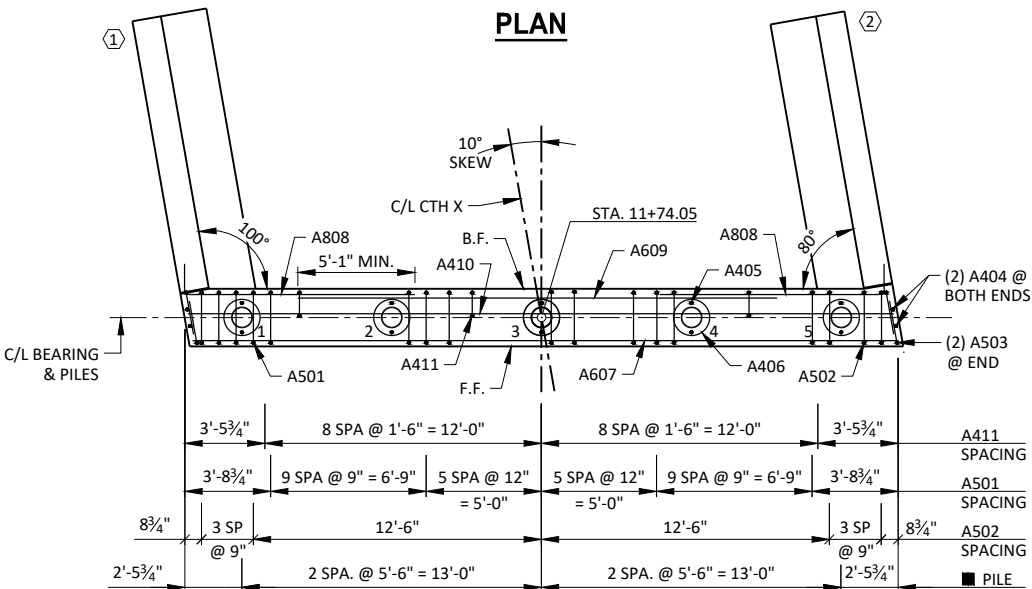
FRONT FACE BAR STEEL REINF.

ELEVATION

(WEST ABUTMENT LOOKING WEST)



PLAN

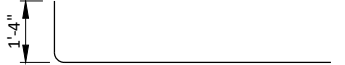
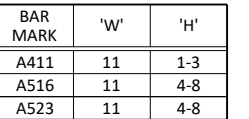


LAYOUT

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-245			
DRAWN BY		CJO	PLANS CK'D. PTB
WEST ABUTMENT			SHEET 4 OF 13

1,410 (COATED)
1,970 LB (UNCOATED)

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



A808

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-245			
DRAWN BY		CJO	PLANS CK'D. PTB
WEST ABUTMENT DETAILS		SHEET 5 OF 13	



☐ S520 AND S521 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED. SEE SHEET 13 FOR PLACEMENT AND SPACING.



NOTES

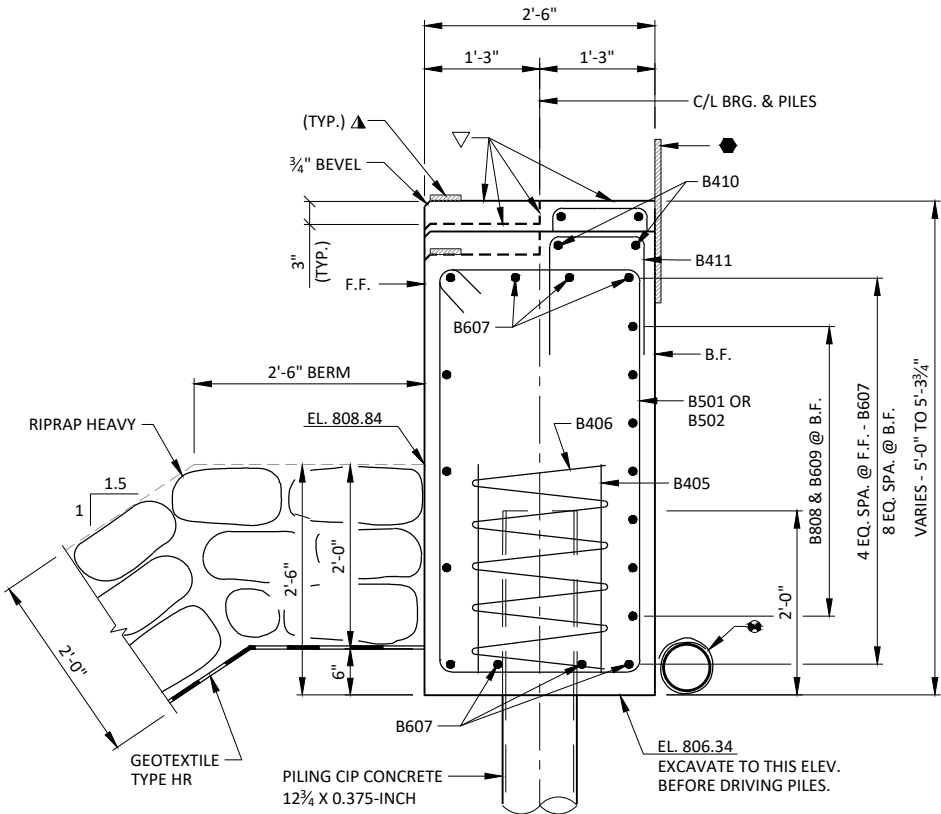
SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 7 FOR BILL OF BARS.

SEAT ELEVATIONS SHOWN IN THE ELEVATION VIEW ARE TAKEN AT THE C/L OF BEARING.

SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE



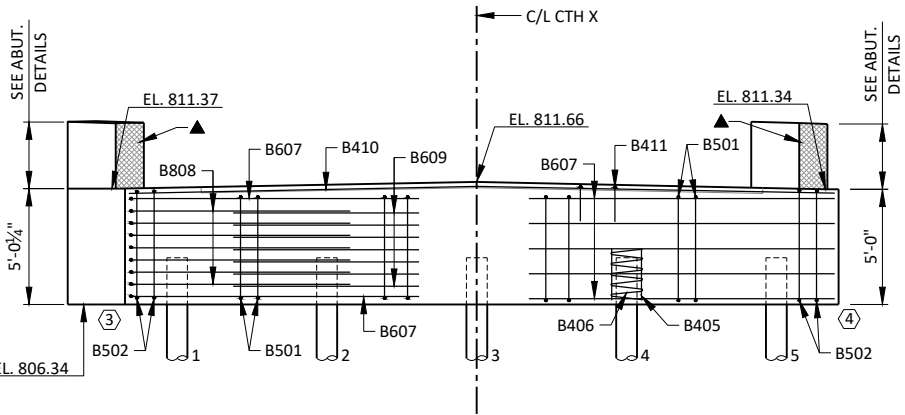
EAST ABUTMENT TO BE SUPPORTED ON PILING CIP CONCRETE 12 3/4 X 0.375-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 35 FT PILE LENGTHS AT EAST ABUTMENT.

TYPICAL SECTION THROUGH ABUTMENT BODY

LEGEND

- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)
- 3/4" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- STEEL TROWEL ENTIRE TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."
- INDICATES WING NUMBER.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-245			
DRAWN BY		CJO	PLANS CK'D. PTB
EAST ABUTMENT			SHEET 6 OF 13

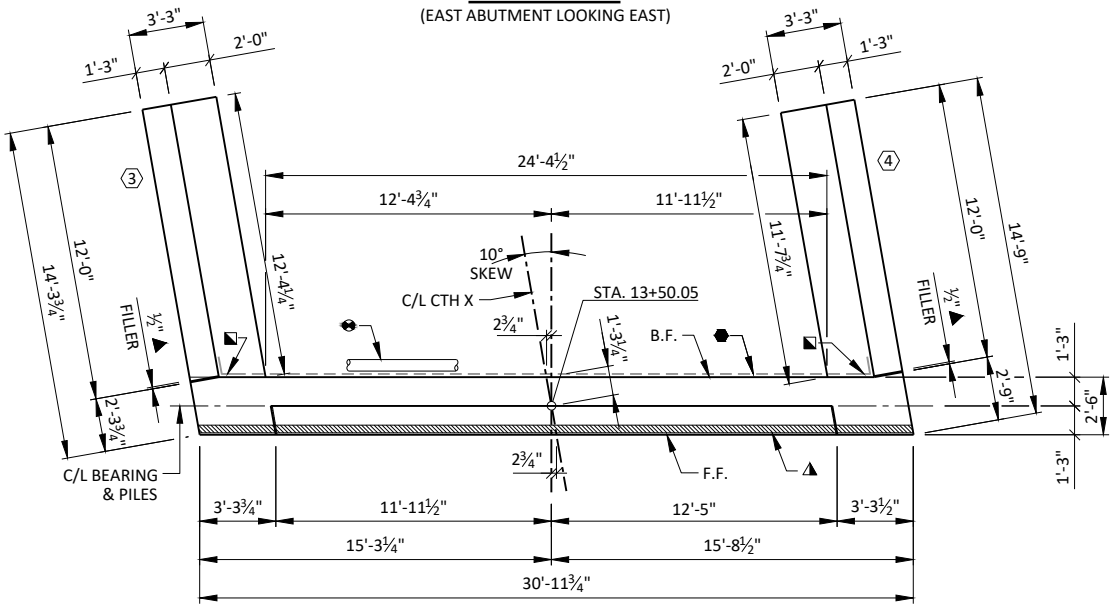


BACK FACE BAR STEEL REINF.

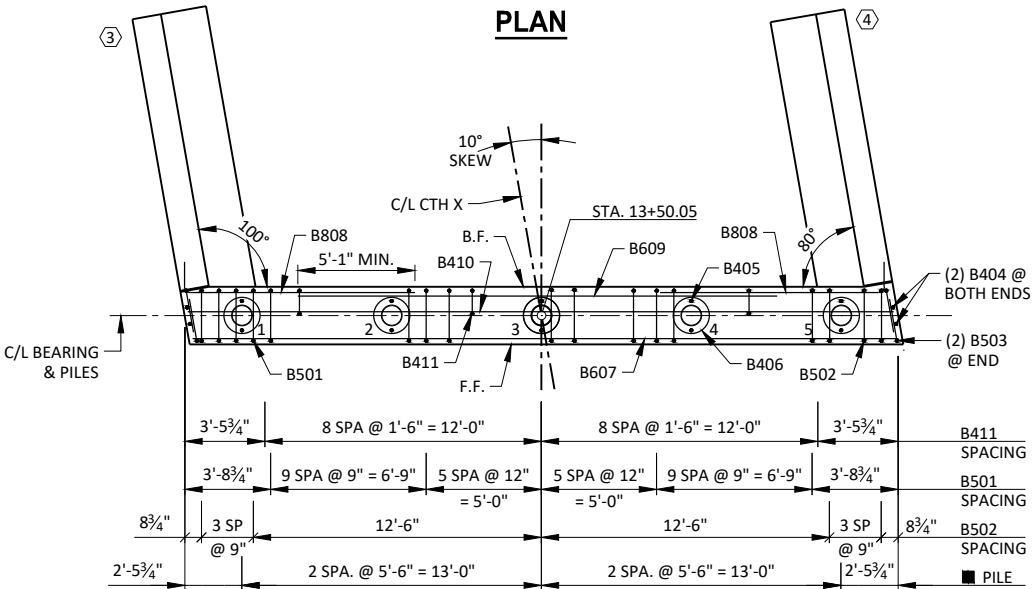
FRONT FACE BAR STEEL REINF.

ELEVATION

(EAST ABUTMENT LOOKING EAST)



PLAN



LAYOUT

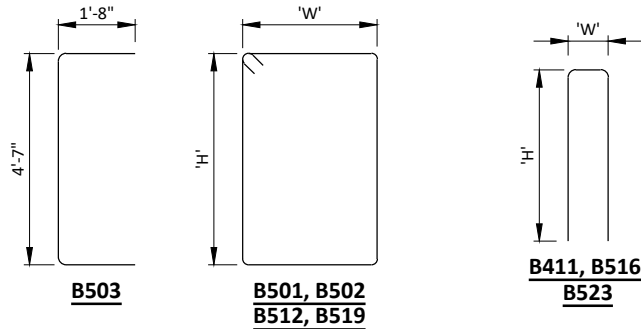
BILL OF BARS
EAST ABUTMENT

1,420 (COATED)
1,970 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
B501	29	13-6	X		BODY -VERT. - STIRRUP - CENTER
B502	8	14-2	X		BODY -VERT. - STIRRUP - ENDS
B503	4	7-8	X		BODY -VERT. - AT ENDS
B404	4	4-7			BODY -VERT. - AT ENDS
B405	10	2-3			BODY -VERT. - 2 PER PILE
B406	5	28-0	X		BODY - SPIRAL - 1 PER PILE
B607	11	30-7			BODY - HORIZ. - F.F. & TOP
B808	14	13-2	X		BODY - HORIZ. - B.F. - ENDS
B609	7	20-10			BODY - HORIZ. - B.F.
B410	2	30-7			BODY - HORIZ. - TOP
B411	17	3-3	X		BODY -VERT. - TOP
B512	12	15-8	X	X	WING 3 - VERT. - STIRRUP
B513	6	14-0		X	WING 3 - HORIZ. - F.F.
B614	6	14-6		X	WING 3 - HORIZ. - B.F.
B615	2	12-2		X	WING 3 - HORIZ. - TOP
B516	16	10-2	X	X	WING 3 - VERT. - TOP
B417	7	11-7		X	WING 3 - HORIZ. - F.F. & B.F. - TOP
B618	2	11-7		X	WING 3 - HORIZ. - TOP
B519	12	15-8	X	X	WING 4 - VERT. - STIRRUP
B520	6	14-4		X	WING 4 - HORIZ. - F.F.
B621	6	13-10		X	WING 4 - HORIZ. - B.F.
B622	2	12-2		X	WING 4 - HORIZ. - TOP
B523	16	10-2	X	X	WING 4 - VERT. - TOP
B424	7	11-7		X	WING 4 - HORIZ. - F.F. & B.F. - TOP
B625	2	11-7		X	WING 4 - HORIZ. - TOP

NOTES: THE FIRST DIGIT OF A BARK MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



BAR MARK	'W'	'H'
B501	2-2	4-3
B502	2-2	4-7
B512	2-11	4-7
B519	2-11	4-7

BAR MARK	'W'	'H'
B411	11	1-3
B516	11	4-9
B523	11	4-9

B406
1'-9" DIA.
5-WRAP SPIRAL

B808
1'-4"

NOTES

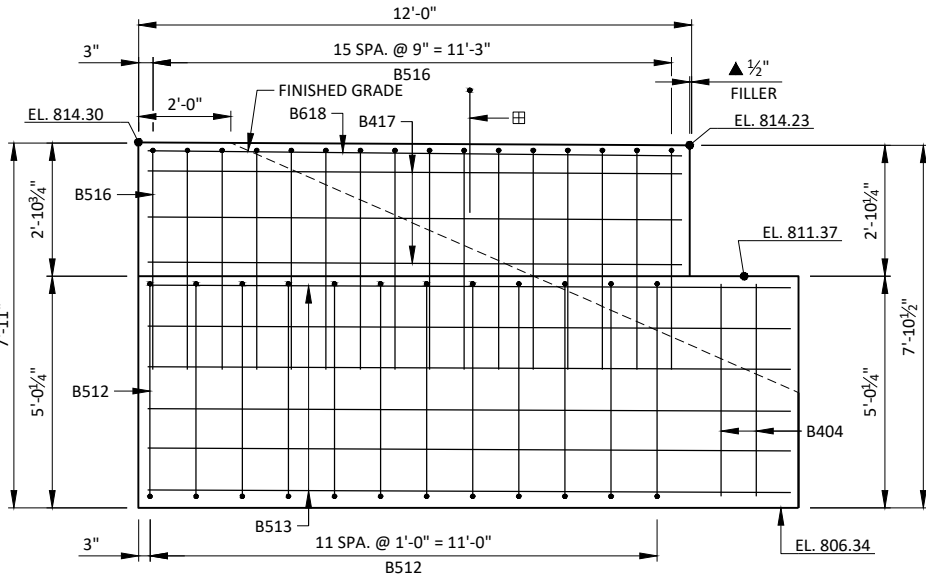
SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

SPACE REINFORCEMENT TO MISS PILING

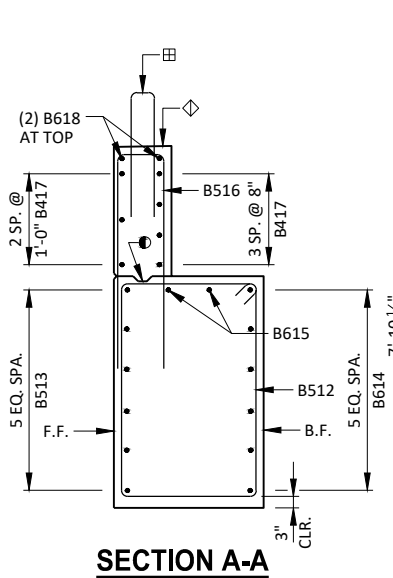
F.F. - FRONT FACE

B.F. - BACK FACE

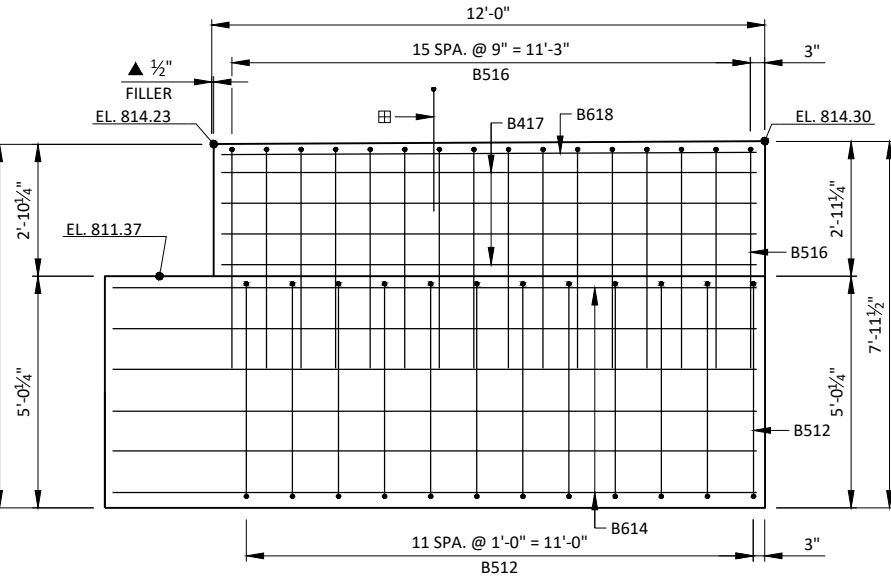
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-245			
DRAWN BY		PLANS CK'D.	PTB
CJO			
EAST ABUTMENT DETAILS		SHEET 7 OF 13	



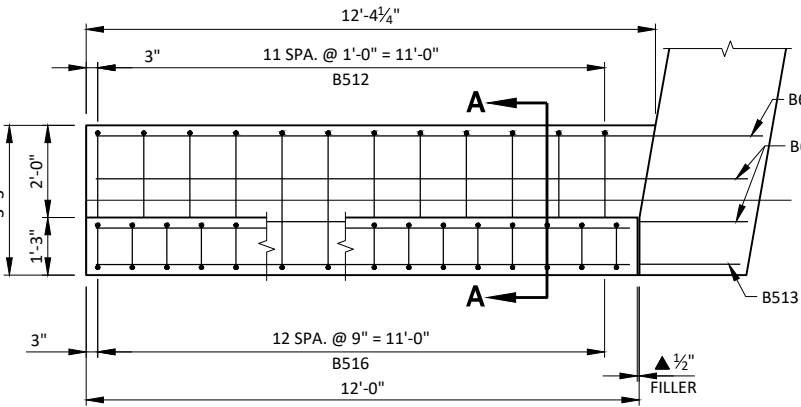
F.F. ELEVATION - WING 3



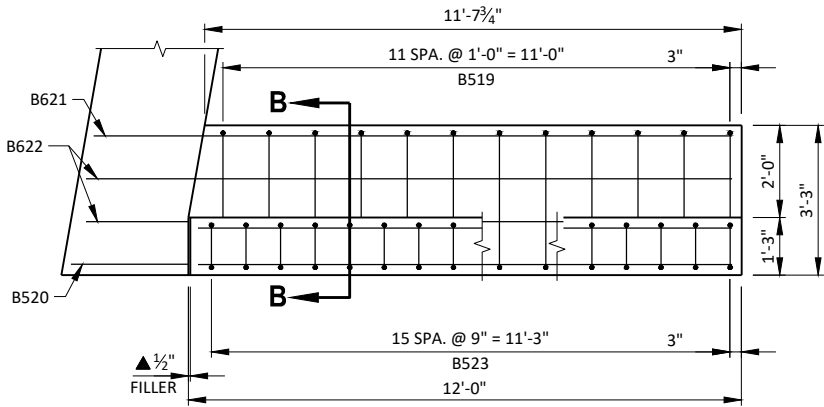
SECTION A-A



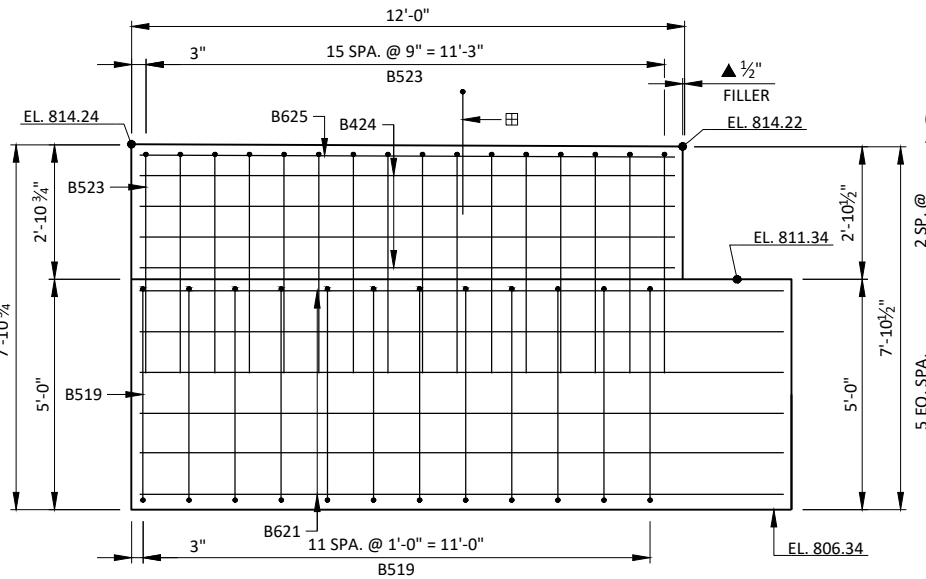
B.F. ELEVATION - WING 3



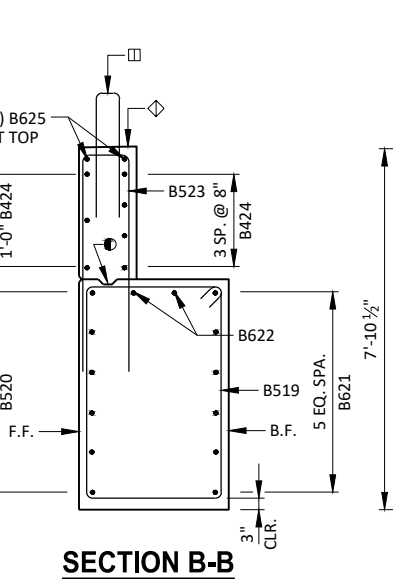
PLAN VIEW - WING 3



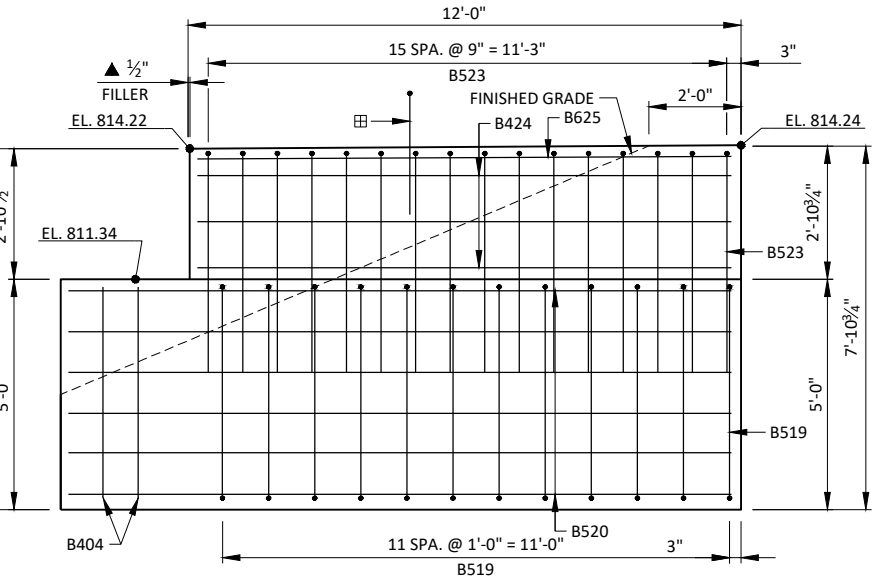
PLAN VIEW - WING 4



B.F. ELEVATION - WING 4



SECTION B-B

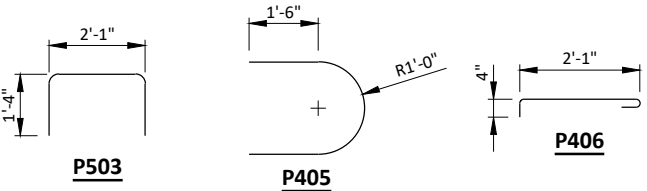
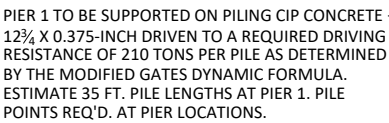


F.F. ELEVATION - WING 4

60 LB (COATED)
2,890 LB (UNCOATED)

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

◆ PLACE P406 BARS ADJACENT TO EACH PILE ONLY. TIE TO NEAREST VERTICAL NO. 5 BAR. VERTICAL SPACING @ 1'-0" TO MATCH NO. 4 OUTSIDE BARS FROM BASE OF SHAFT TO TOP OF PILING. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.



**BILL OF BARS
PIER 2****60 LB (COATED)
2,920 LB (UNCOATED)**

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
Q501	62	22-4			BODY - VERT. - E.F. & BOTH ENDS
Q502	28	2-0		X	BODY - VERT. - DOWELS
Q503	15	4-6	X		BODY - VERT. - TOP
Q404	46	27-0			BODY - HORIZ. - E.F.
Q405	46	6-2	X		BODY - HORIZ. - ENDS
Q406	210	2-9	X		TIE BARS

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

SEAT ELEVATIONS SHOWN IN THE ELEVATION VIEW ARE TAKEN AT THE C/L OF BEARING, NEGLECTING THE KEYED CONSTRUCTION JOINT.

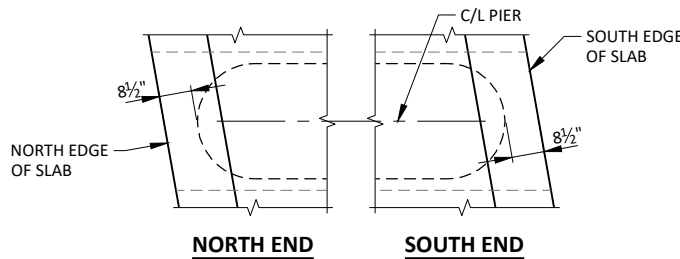
TOP OF PIER ELEVATIONS ARE $\frac{3}{4}$ " BELOW BOTTOM OF SLAB TO ALLOW FOR FILLER.

E.F. - EACH FACE

AT PIER 2, CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH STANDARD SPEC. 502.3.5.3. CONCRETE POURED UNDERWATER SHALL NOT EXCEED 10.0 FEET IN DEPTH, UNLESS APPROVED OTHERWISE.

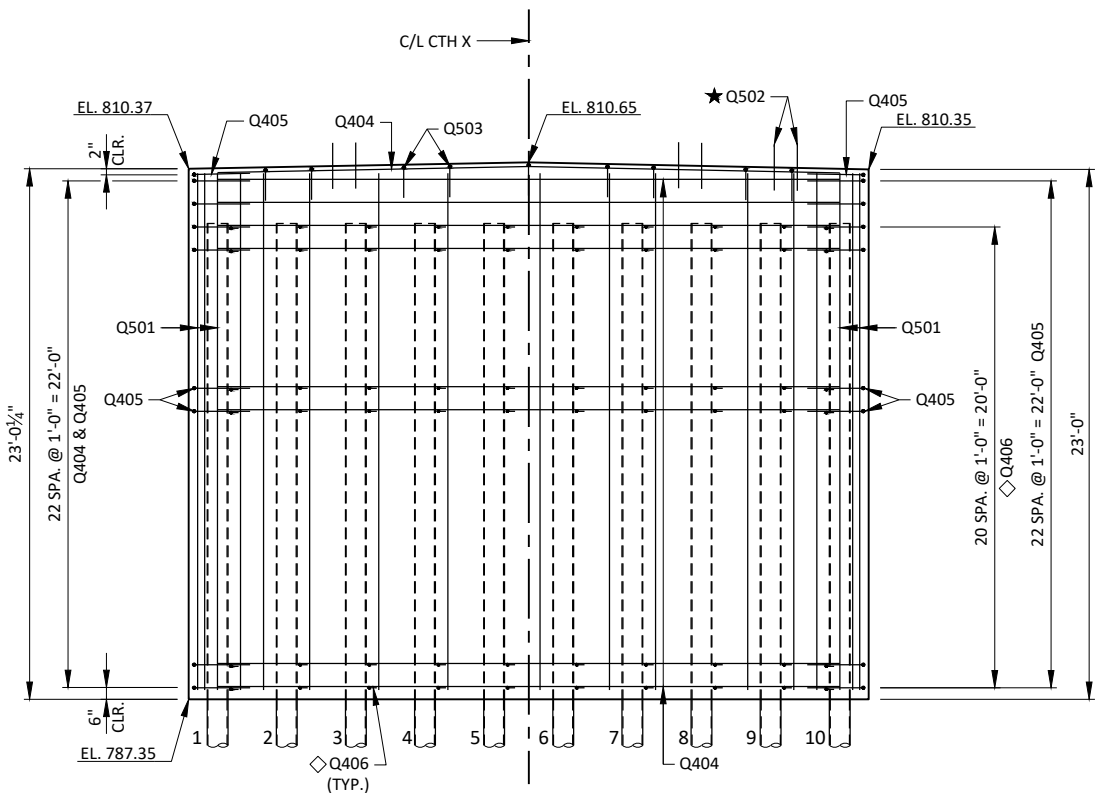
LEGEND

- KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.
- $\frac{3}{4}$ "x4" PREFORMED FILLER, EXTEND FULL PERIMETER OF PIER AS SHOWN.
- Q502 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".
- PILE SPACING MEASURED AT BASE OF SHAFT.
- PLACE Q406 BARS ADJACENT TO EACH PILE ONLY. TIE TO NEAREST VERTICAL NO. 5 BAR. VERTICAL SPACING @ 1'-0" TO MATCH NO. 4 OUTSIDE BARS FROM BASE OF SHAFT TO TOP OF PILING. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

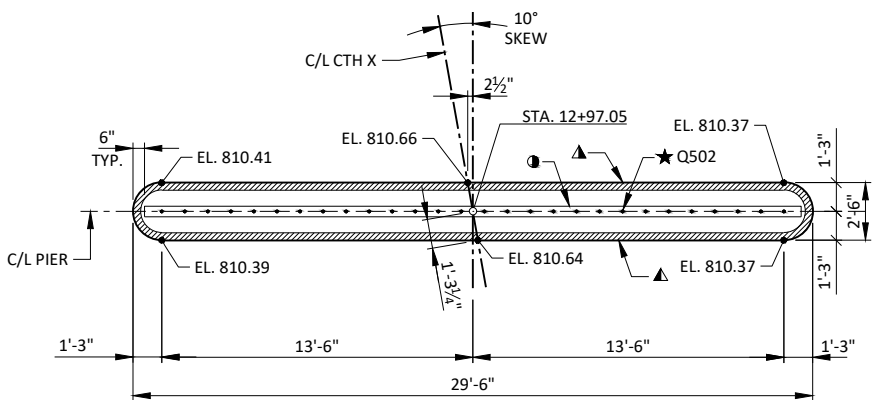
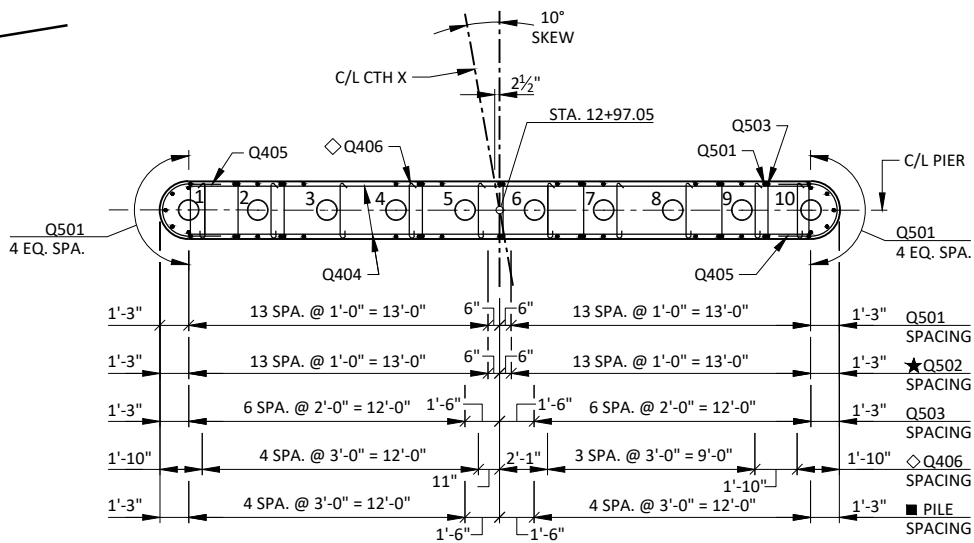
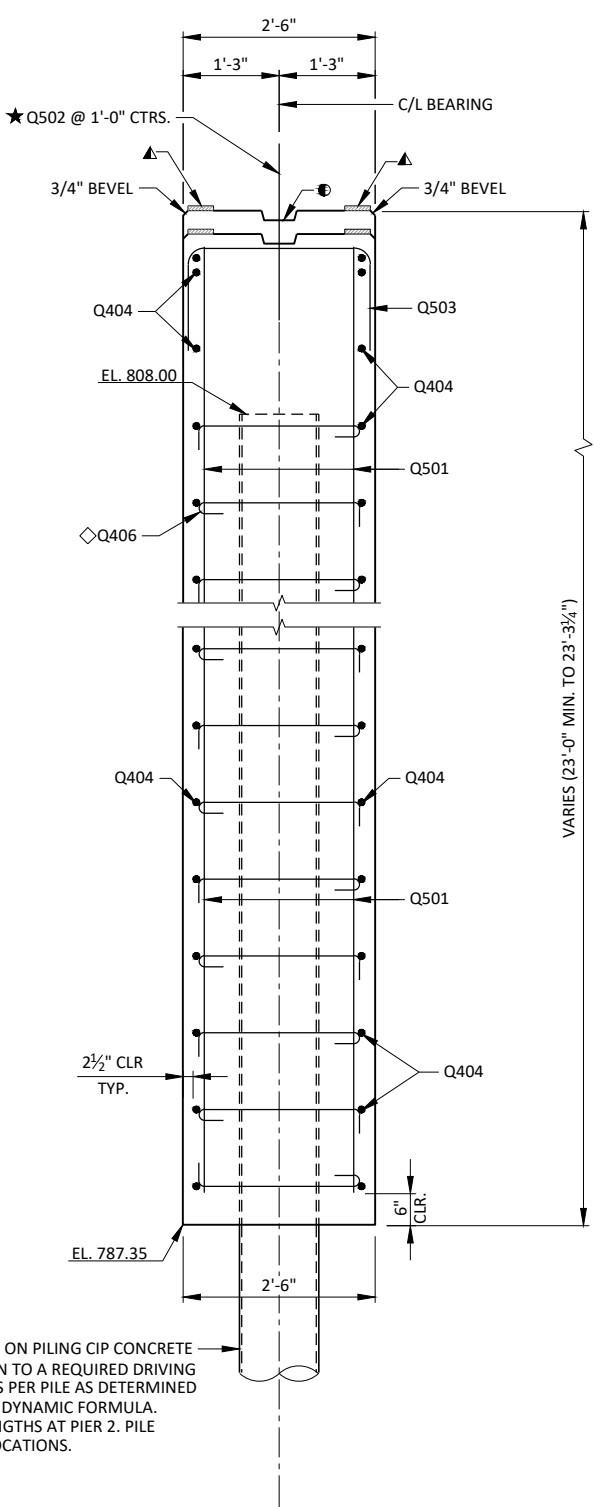


NORTH END

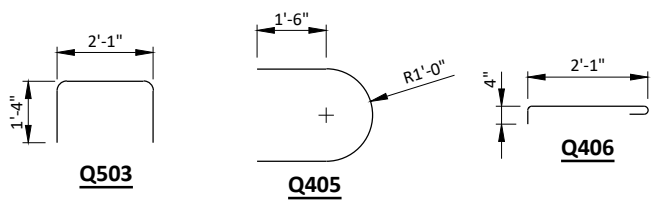
SOUTH END

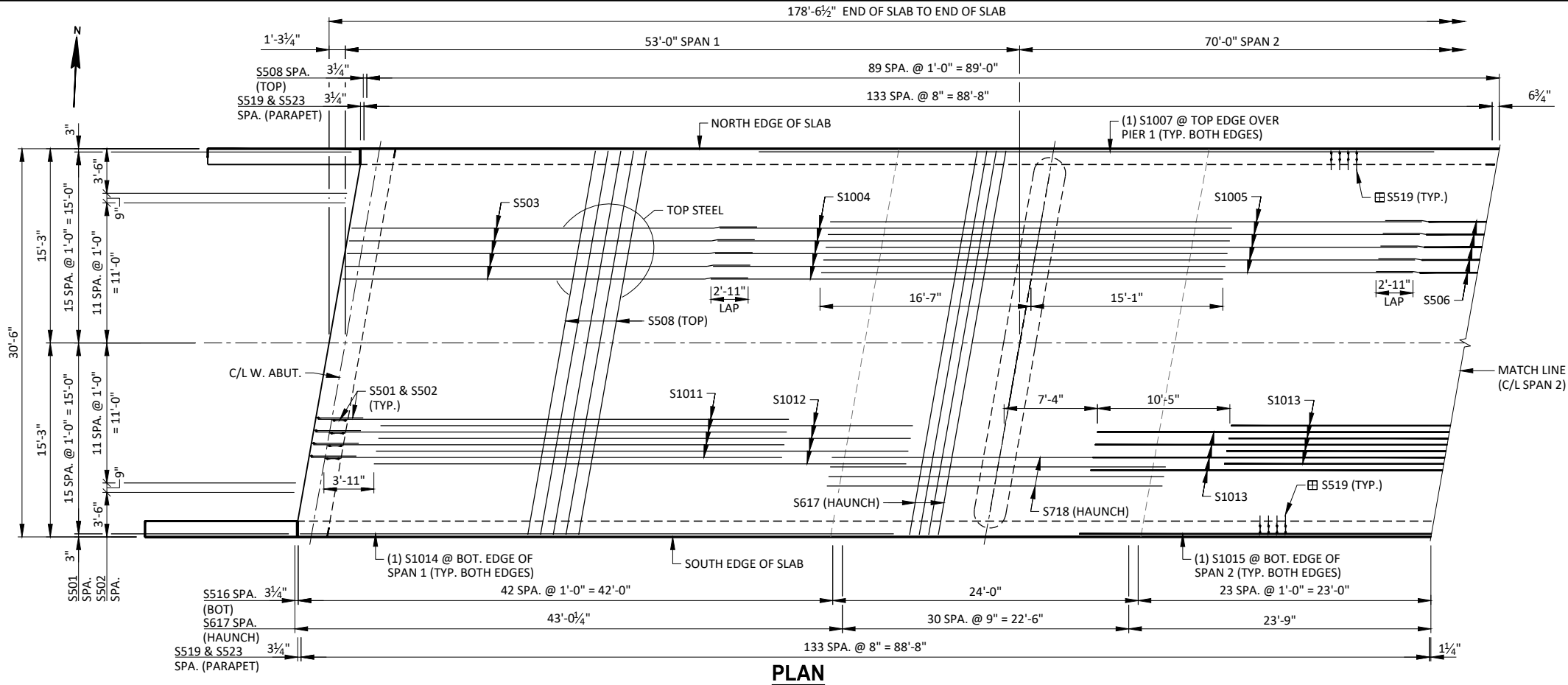
PLAN AT END OF PIER**ELEVATION**

(LOOKING EAST)

**PLAN****LAYOUT**

PIER 2 TO BE SUPPORTED ON PILING CIP CONCRETE 12 $\frac{3}{4}$ X 0.375-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 210 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 35 FT. PILE LENGTHS AT PIER 2. PILE POINTS REQ'D AT PIER LOCATIONS.





NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 12 FOR BILL OF BARS.

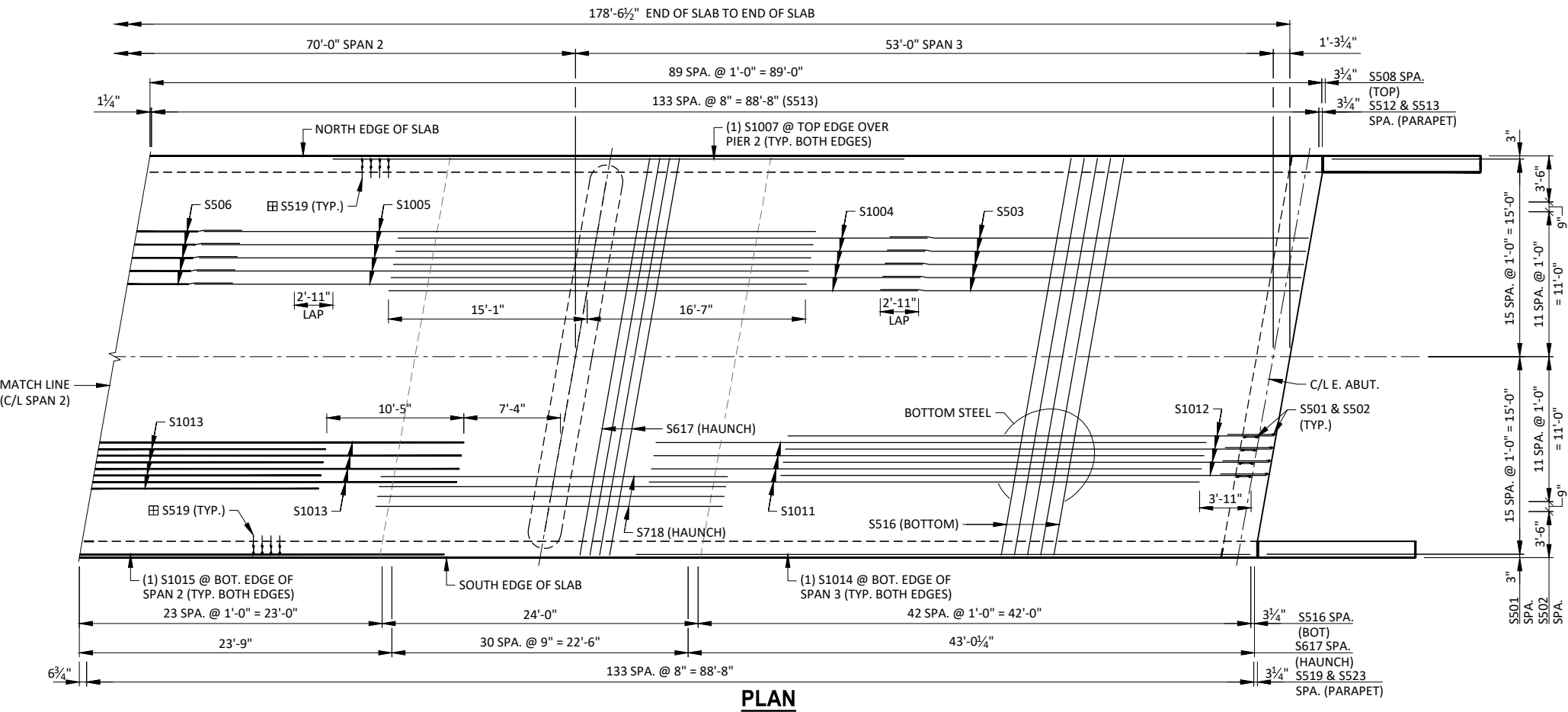
SEE SUPERSTRUCTURE DETAILS SHEETS (SHEETS 11 & 12) FOR BAR SPACINGS NOT SHOWN ON THIS SHEET.

SUPPORT ALTERNATE TOP TRANSVERSE BARS IN SLAB BY INDIVIDUAL BAR CHAIRS AT APPROX. 3'-0" CENTERS. SUPPORT BOTTOM LONGITUDINAL BARS BY CONTINUOUS BAR CHAIRS AT APPROX. 4'-0" CENTERS.

PLACE TRANSVERSE BARS PARALLEL TO THE CENTERLINE OF SUBSTRUCTURE UNITS.

THE SLAB THICKNESS DIMENSION IS MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

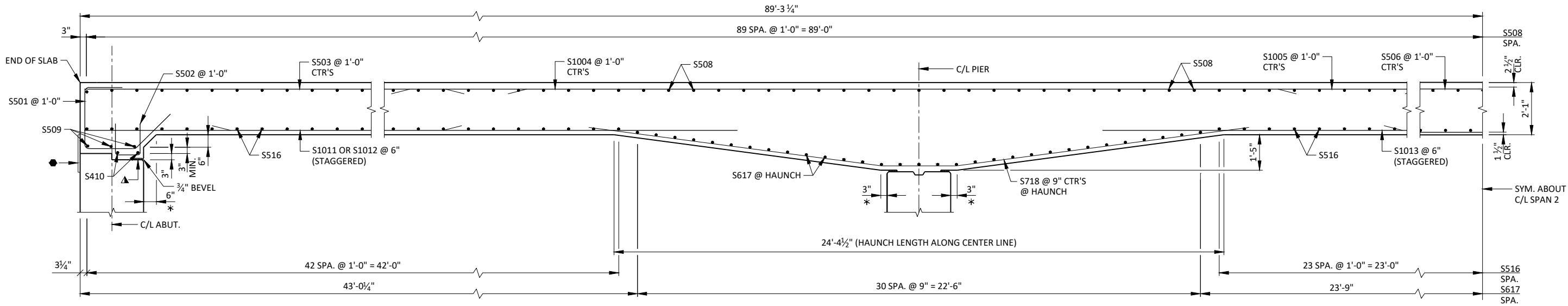
CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.



LEGEND

▣ S519 BARS TO BE TIED TO SLAB STEEL BEFORE SLAB IS POURED. SEE SHEET 13 FOR PLACEMENT AND THIS SHEET FOR SPACING.

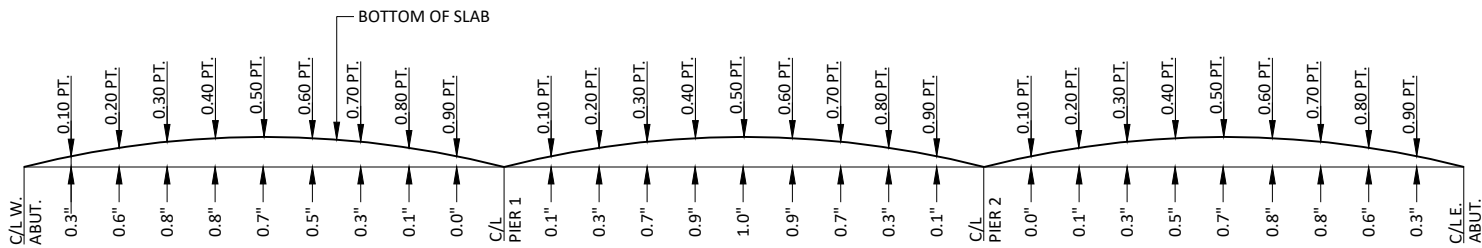
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-245			
DRAWN BY		PLANS CKD.	PTB
SUPERSTRUCTURE			SHEET 10 OF 13



PARTIAL LONGITUDINAL SECTION THROUGH ROADWAY

TOP OF SLAB ELEVATIONS

	C/L W. ABUT.	0.10 PNT.	0.20 PNT.	0.30 PNT.	0.40 PNT.	0.50 PNT.	0.60 PNT.	0.70 PNT.	0.80 PNT.	0.90 PNT.	C/L PIER 1	0.10 PNT.	0.20 PNT.	0.30 PNT.	0.40 PNT.	0.50 PNT.	0.60 PNT.	0.70 PNT.	0.80 PNT.	0.90 PNT.	C/L PIER 2	0.10 PNT.	0.20 PNT.	0.30 PNT.	0.40 PNT.	0.50 PNT.	0.60 PNT.	0.70 PNT.	0.80 PNT.	0.90 PNT.	C/L E. ABUT.
N. FLOW LINE & EDGE SLAB	813.29	813.32	813.35	813.38	813.40	813.43	813.46	813.49	813.52	813.54	813.57	813.61	813.65	813.68	813.72	813.76	813.80	813.83	813.87	813.91	813.95	813.97	814.00	814.03	814.06	814.09	814.11	814.14	814.17	814.20	814.23
C/L	813.56	813.59	813.61	813.64	813.67	813.70	813.73	813.76	813.78	813.81	813.84	813.88	813.91	813.95	813.99	814.03	814.06	814.10	814.14	814.18	814.21	814.24	814.27	814.30	814.33	814.35	814.38	814.41	814.44	814.47	814.49
S. FLOW LINE & EDGE SLAB	813.26	813.29	813.32	813.35	813.38	813.41	813.43	813.46	813.49	813.52	813.55	813.58	813.62	813.66	813.70	813.73	813.77	813.81	813.84	813.88	813.92	813.95	813.98	814.00	814.03	814.06	814.09	814.12	814.15	814.17	814.20



CAMBER DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPAN AS SHOWN TO PROVIDE FOR THEORETICAL DEADLOAD DEFLECTION AND FUTURE PLASTIC FLOW. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB OR CENTER LINE FOLLOW THIS PROCEDURE:
TOP OF SLAB ELEVATION AT FINAL GRADE
-SLAB THICKNESS
+CAMBER
+FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (COMPUTED BY CONTRACTOR)
=TOP OF SLAB FALSEWORK ELEVATION.

SURVEY TOP OF SLAB ELEVATIONS

	W. ABUT.	0.50 PT.	PIER 1	0.50 PT.	PIER 2	0.50 PT.	E. ABUT.
NORTH FLOW LINE							
CENTER LINE							
SOUTH FLOW LINE							

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF SUBSTRUCTURE UNITS AND AT 0.50 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG THE FLOW LINES OF SLAB AND CENTER LINE. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 12 FOR BILL OF BARS.

SUPPORT ALTERNATE TOP TRANSVERSE BARS IN SLAB BY INDIVIDUAL BAR CHAIRS AT APPROX. 3'-0" CENTERS. SUPPORT BOTTOM LONGITUDINAL BARS BY CONTINUOUS BAR CHAIRS AT APPROX. 4'-0" CENTERS.

PLACE TRANSVERSE BARS PARALLEL TO THE CENTERLINE OF SUBSTRUCTURE UNITS.

THE SLAB THICKNESS DIMENSION IS MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-245			
DRAWN BY		CJO	PLANS CKD. PTB
SUPERSTRUCTURE DETAILS (1 OF 2)		SHEET 11 OF 13	

BILL OF BARS
SUPERSTRUCTURE
WINGWALLS

BAR MARK	NO. REQ'D.		LENGTH	BENT	COAT	BAR SERIES	LOCATION
	SUPER	WINGS					
S501	62	0	8-0	X	X		END OF SLAB
S502	50	0	3-2	X	X		END OF SLAB - BOTTOM
S503	62	0	31-10		X		SLAB - TOP - LONG. - SPANS 1 & 3
S1004	62	0	40-3		X		SLAB - TOP - LONG. - SPANS 1 & 3
S1005	60	0	46-6		X		SLAB - TOP - LONG. - SPAN 2
S506	32	0	16-0		X		SLAB - TOP - LONG. - SPAN 2
S1007	4	0	53-1		X		SLAB - TOP - LONG. - SPANS 1 & 3 - EDGE
S508	179	0	30-7		X		SLAB - TOP - TRANS.
S509	6	0	30-7		X		SLAB - TRANS. AT ABUT
S410	4	0	30-7		X		SLAB - TRANS. AT ABUT - BOT
S1011	58	0	37-1		X		SLAB - BOT - LONG. - SPANS 1 & 3
S1012	60	0	41-10		X		SLAB - BOT - LONG. - SPANS 1 & 3
S1013	59	0	44-11		X		SLAB - BOT - LONG. - SPAN 2
S1014	4	0	46-8		X		SLAB - BOT - LONG. - SPANS 1 & 3 - EDGE
S1015	2	0	55-4		X		SLAB - BOT - LONG. - SPAN 2 - EDGES
S516	133	0	30-7		X		SLAB - BOT - TRANS.
S617	62	0	30-7		X		SLAB - BOT - HAUNCH - TRANS.
S718	82	0	26-8	X	X		SLAB - BOT - HAUNCH - LONG.
S519	536	0	4-5	X	X		PARAPET - VERT.
S520	0	20	5-10	X	X		PARAPET - VERT.
S521	0	68	5-7	X	X		PARAPET - VERT.
S522	0	48	3-0	X	X		PARAPET - VERT.
S523	536	20	6-8	X	X		PARAPET - VERT.
S524	0	24	6-6	X	X		PARAPET - VERT.
S525	0	20	6-5	X	X		PARAPET - VERT.
S526	0	24	5-5	X	X	*	PARAPET - VERT.
S527	0	4	11-4	X	X		PARAPET - HORIZ.
S528	0	8	11-6	X	X		PARAPET - HORIZ.
S529	0	20	11-5		X		PARAPET - HORIZ.
S530	80	0	38-0		X		PARAPET - HORIZ.

NOTES: THE FIRST DIGIT OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

NOTES

SUPPORT ALTERNATE TOP TRANSVERSE BARS IN SLAB BY INDIVIDUAL BAR CHAIRS AT APPROX. 3'-0" CENTERS. SUPPORT BOTTOM LONGITUDINAL BARS BY CONTINUOUS BAR CHAIRS AT APPROX. 4'-0" CENTERS.

PLACE TRANSVERSE BARS PARALLEL TO THE CENTERLINE OF SUBSTRUCTURE UNITS.

THE SLAB THICKNESS DIMENSION IS MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

LEGEND

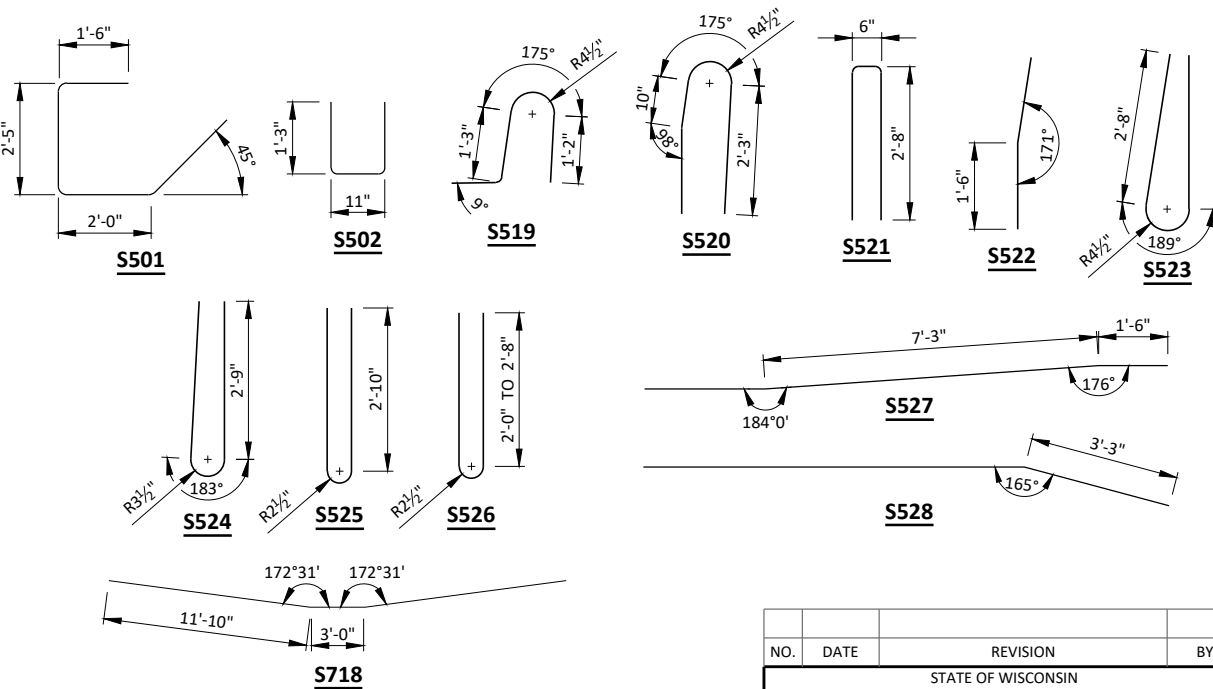
◇ HORIZONTAL CONSTRUCTION JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.

⊞ S519 BARS TO BE TIED TO SLAB STEEL BEFORE SLAB IS POURED AND S520 & S521 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED. SEE SHEET 13 FOR PLACEMENT AND SHEETS 10 & 13 FOR SPACING.

BAR SERIES TABLE

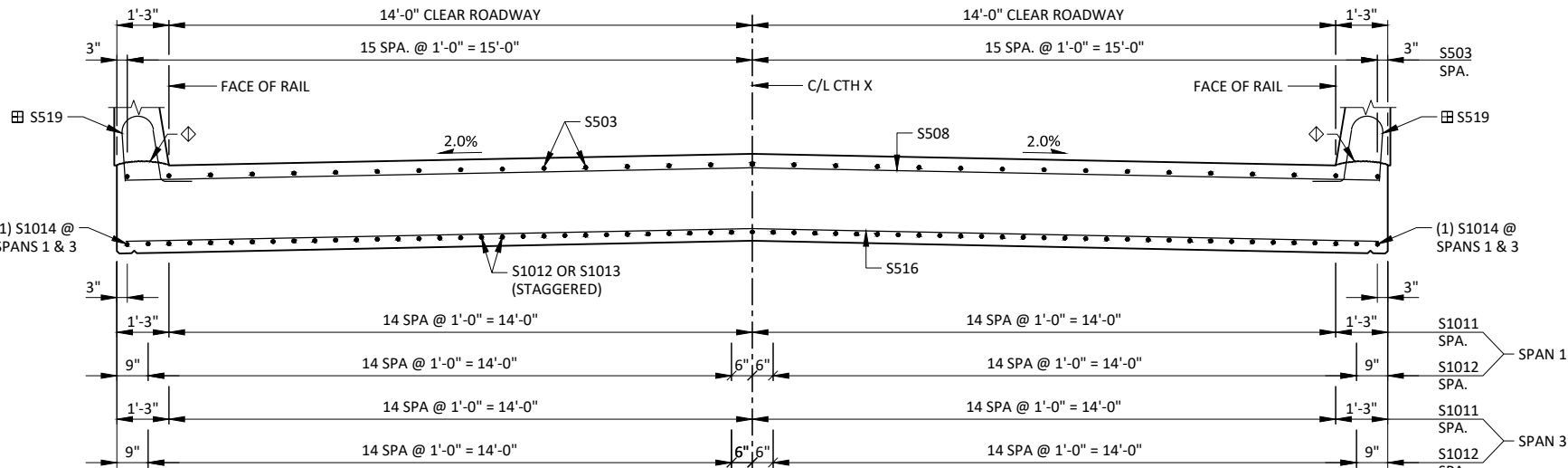
BAR MARK	NO. REQ'D.	LENGTH
S526	4 SERIES OF 6	4-9 TO 6-1

BUNDLE AND TAG EACH SERIES SEPARATELY



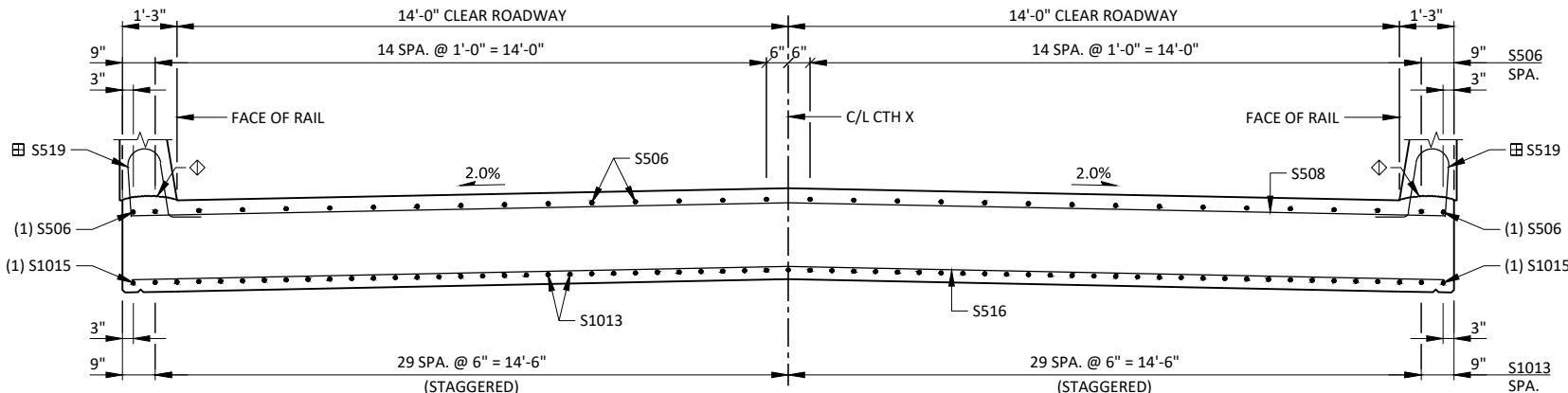
CROSS SECTION THROUGH ROADWAY

SPANS 1 & 3 (IN SPAN LOOKING EAST)



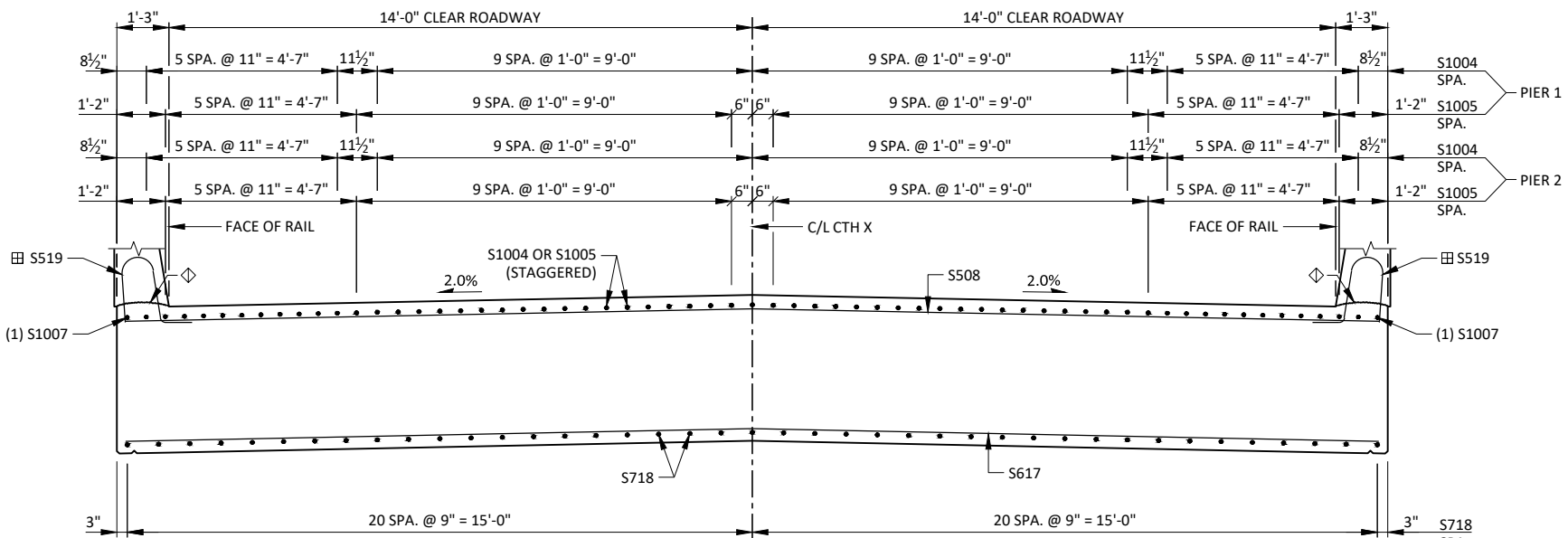
CROSS SECTION THROUGH ROADWAY

SPAN 2 (IN SPAN LOOKING EAST)



CROSS SECTION THROUGH ROADWAY

PIERS (AT PIERS LOOKING EAST)



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-245			
DRAWN BY		PLANS CK'D.	PTB
CJO		PTB	
SUPERSTRUCTURE DETAILS (2 OF 2)		SHEET 12 OF 13	



NOTE: HEX HEAD CAP SCREWS AND WASHERS TO BE GALVANIZED IN ACCORDANCE WITH ASTM F2329.

ASSEMBLY BID ITEM SHALL BE "ANCHOR ASSEMBLIES FOR STEEL
PLATE BEAM GUARD", EACH.

◆ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.

- ★ S522 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE S520 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ⌘ S519 BARS TO BE TIED TO SLAB STEEL BEFORE SLAB IS POURED. S520 AND S521 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.
- ▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 3/4" BELOW SURFACE OF CONCRETE)



NOTES

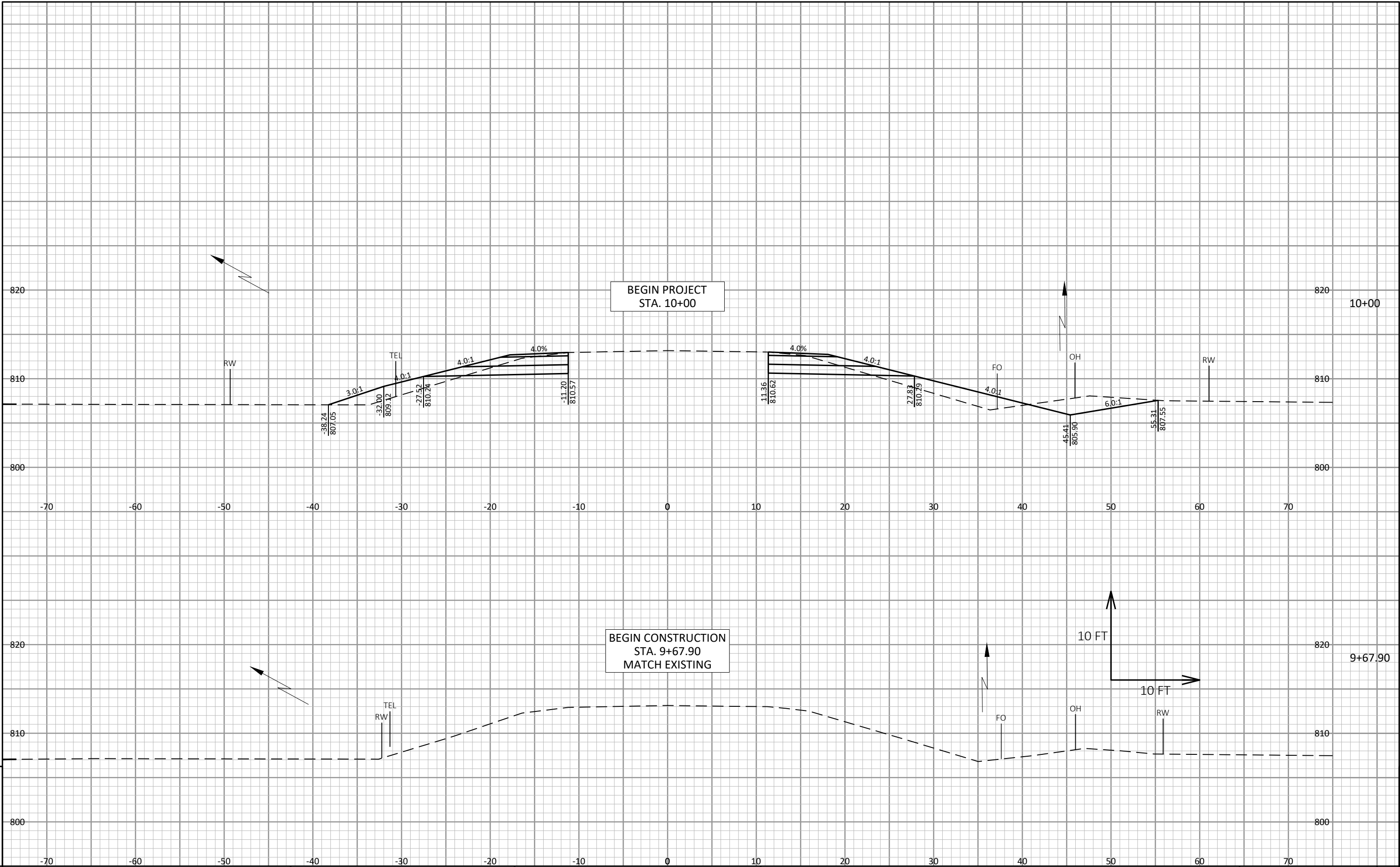
SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 12 FOR BILL OF BARS.

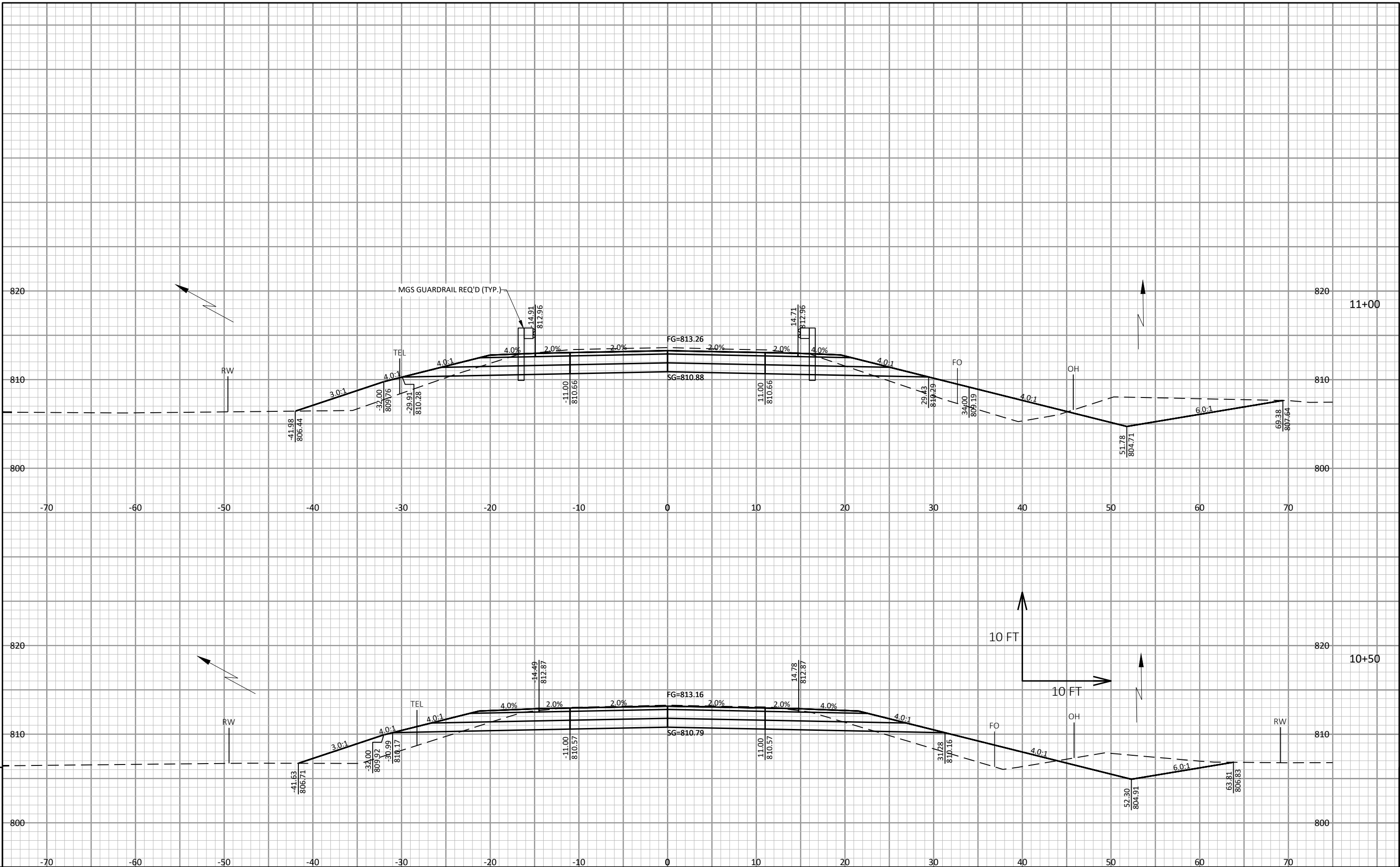
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-245			
DRAWN BY		CJO	PLANS CK'D. PTB
SINGLE SLOPE PARAPET 42SS		SHEET 13 OF 13	

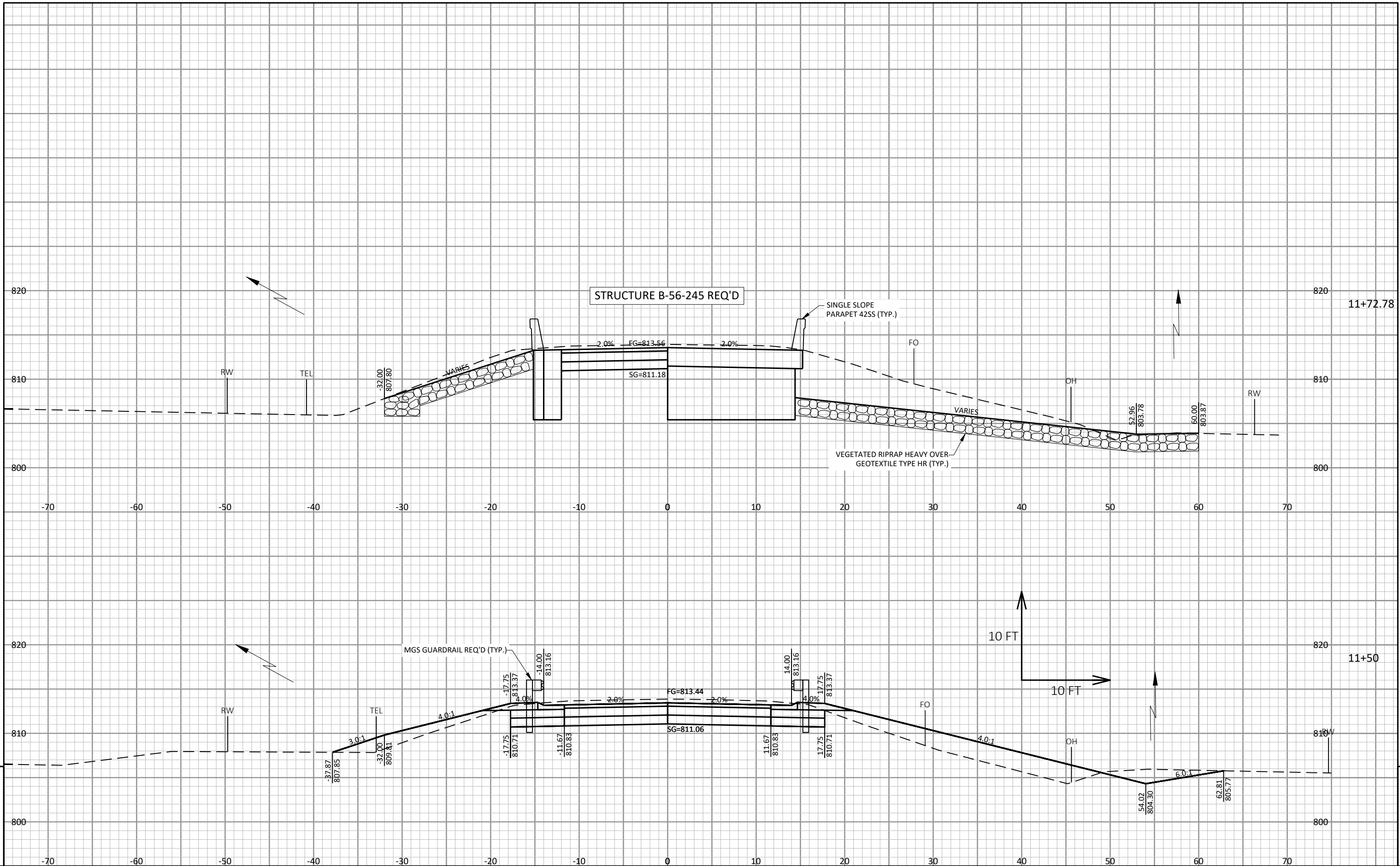
EARTHWORK-CTH X

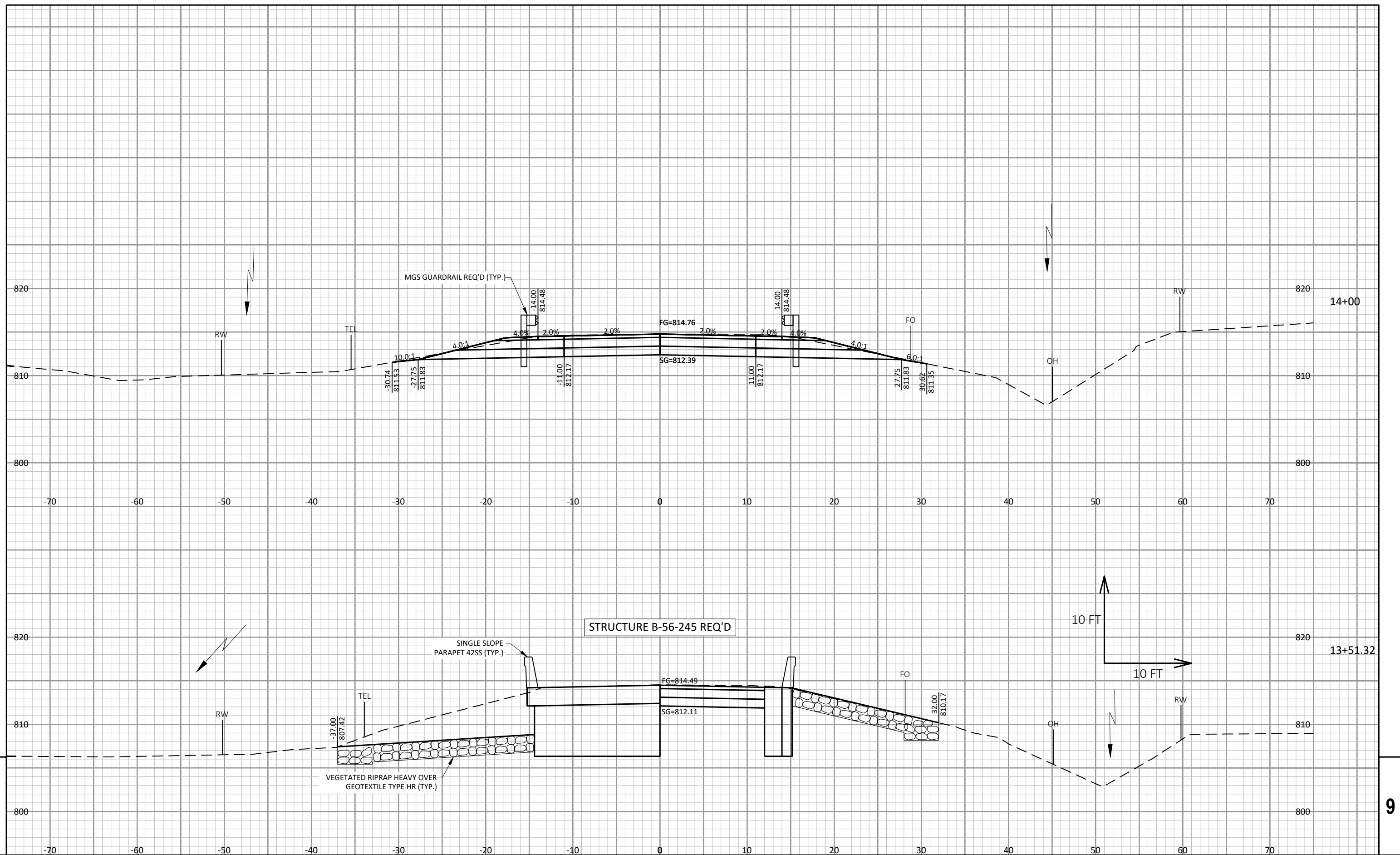
STATION	AREA (SF)		INCREMENTAL VOL (CY)			CUMMULATIVE VOLUME (CY)			
	CUT	FILL	CUT NOTE 1	FILL	FILL (25%) NOTE 2	CUT NOTE 1	FILL	FILL (25%) NOTE 2	MASS ORDINATE NOTE 3
9+67.90	0	0	0	0	0	0	0	0	0
10+00	49	35	28	21	26	28	21	26	2
10+50	120	57	156	85	106	184	106	133	52
11+00	146	60	246	109	136	430	215	269	161
11+50	109	70	235	121	151	665	336	420	245
11+73	109	70	92	61	76	757	397	496	261
13+51	106	0	191	0	0	948	397	496	452
14+00	106	0	152	11	14	1,100	408	510	590
14+50	59	12	100	14	18	1,200	422	528	673
15+00	49	3	32	2	3	1,232	424	530	702
15+20	37	1	19	0	0	1,251	424	530	721
15+47.50	0	0	9	0	0	1,260	424	530	730
COLUMN TOTALS =			1,260	424	530				730

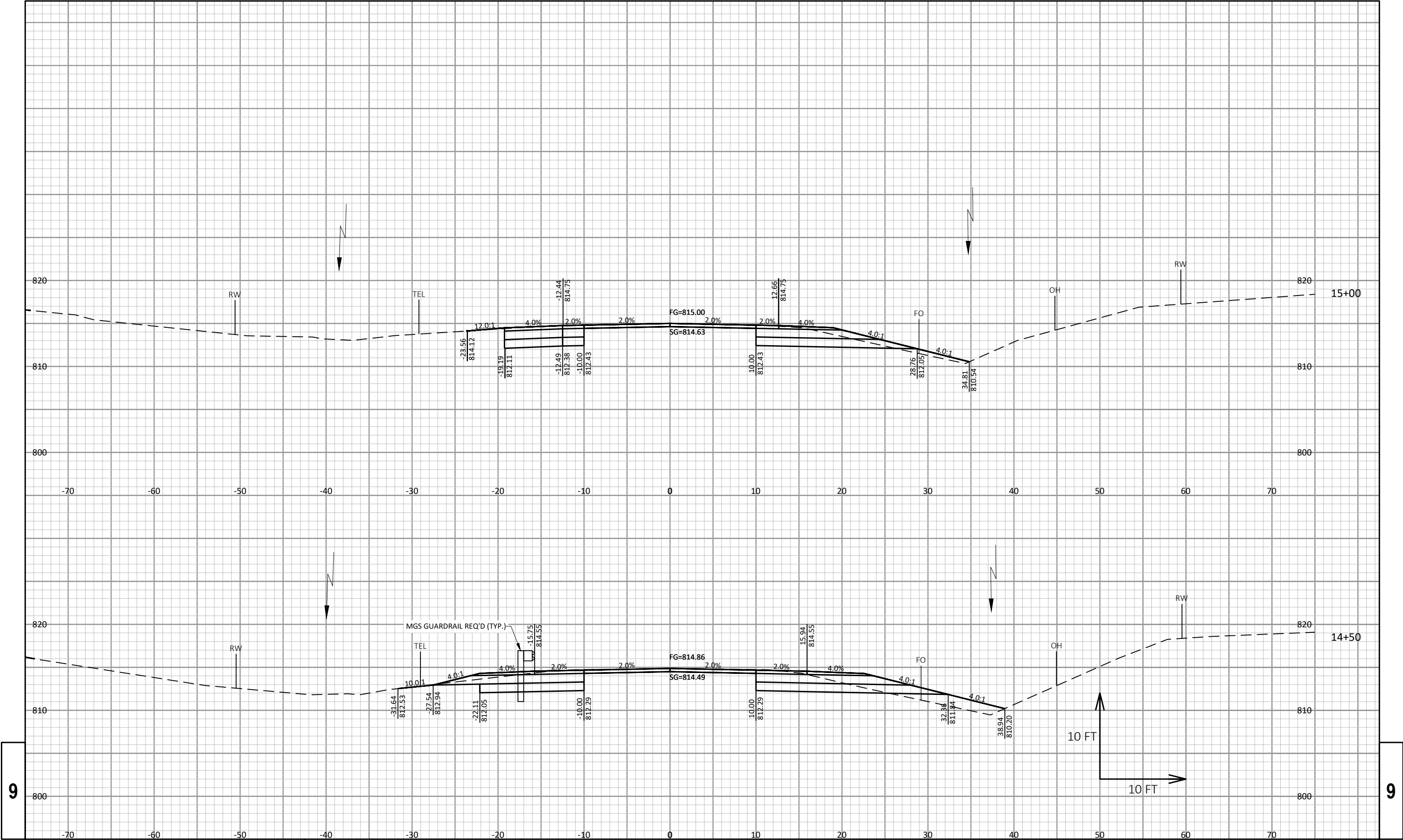
NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - FILL 25%	(UNEXPANDED FILL)*1.25
3 - MASS ORDINATE	CUT + ROCK (10%) +REDUCED MARSH (60%) - FILL (25%)





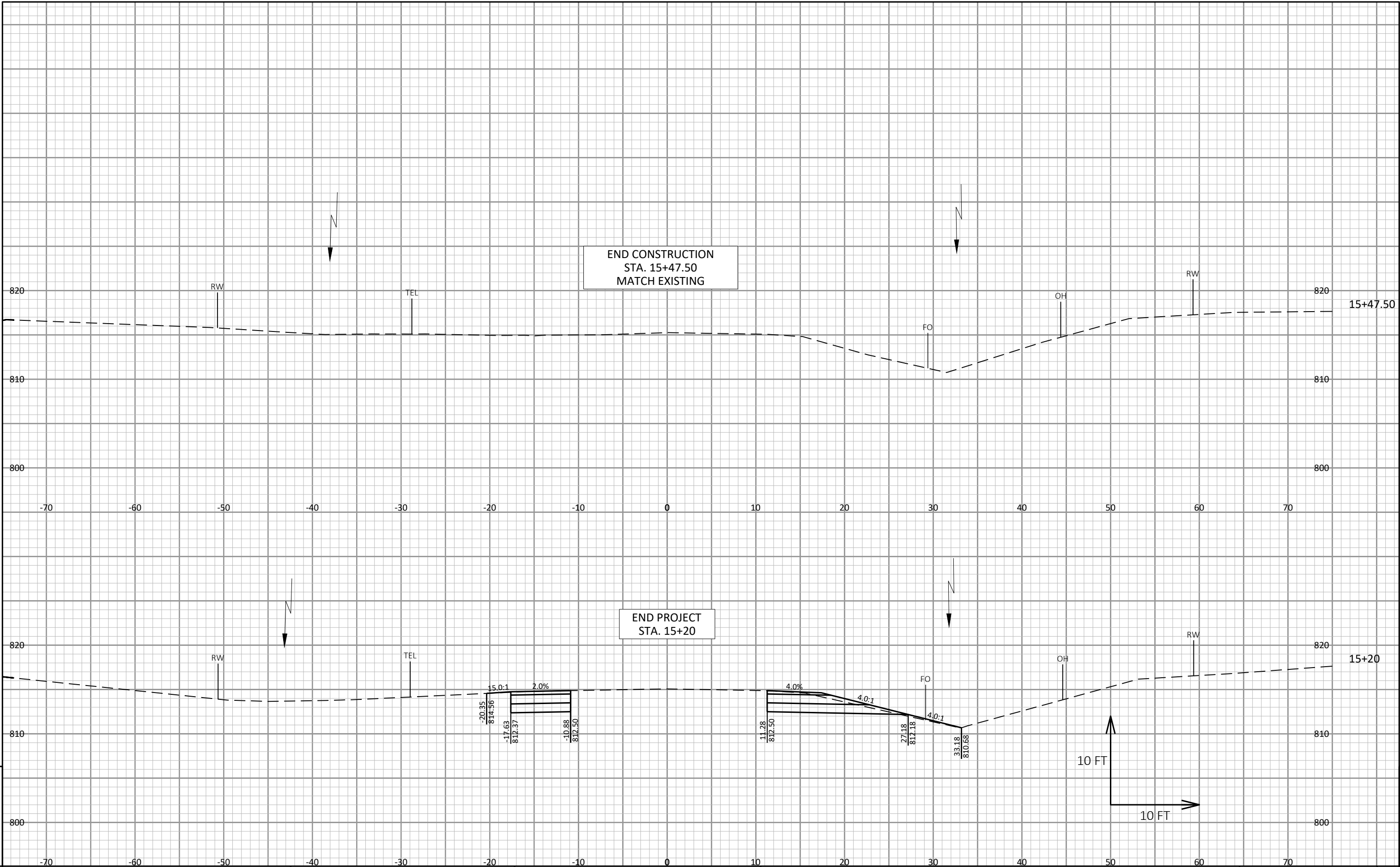


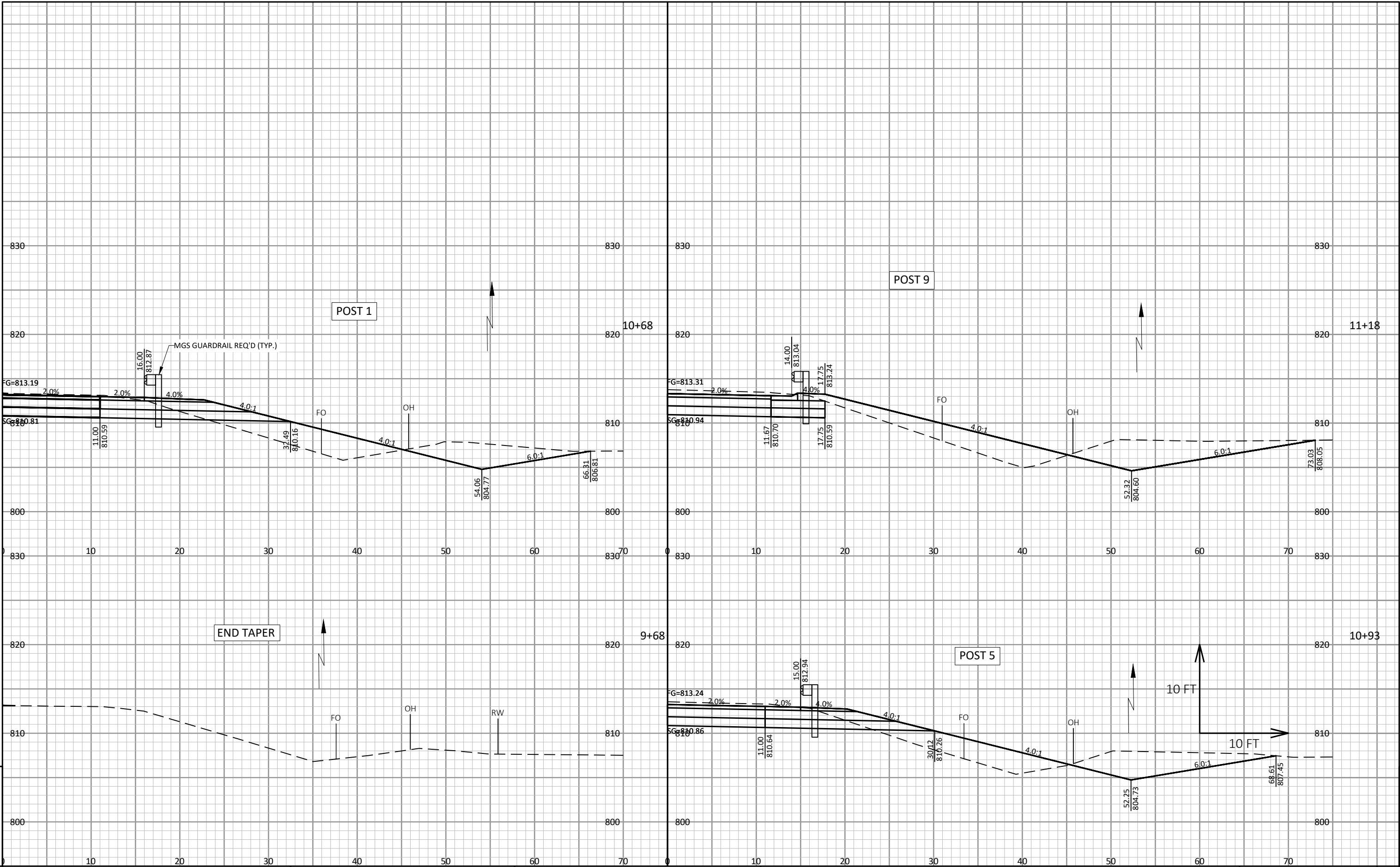


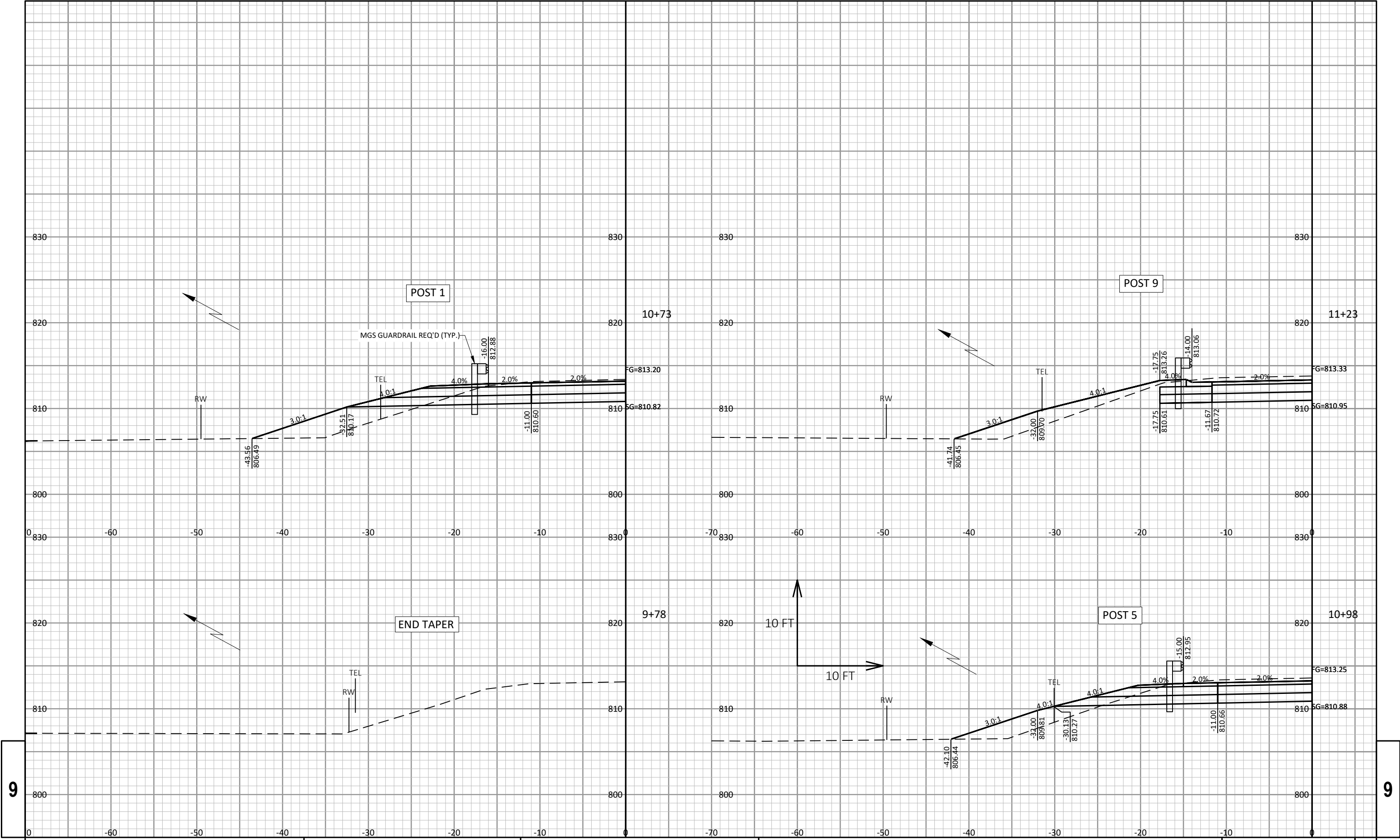


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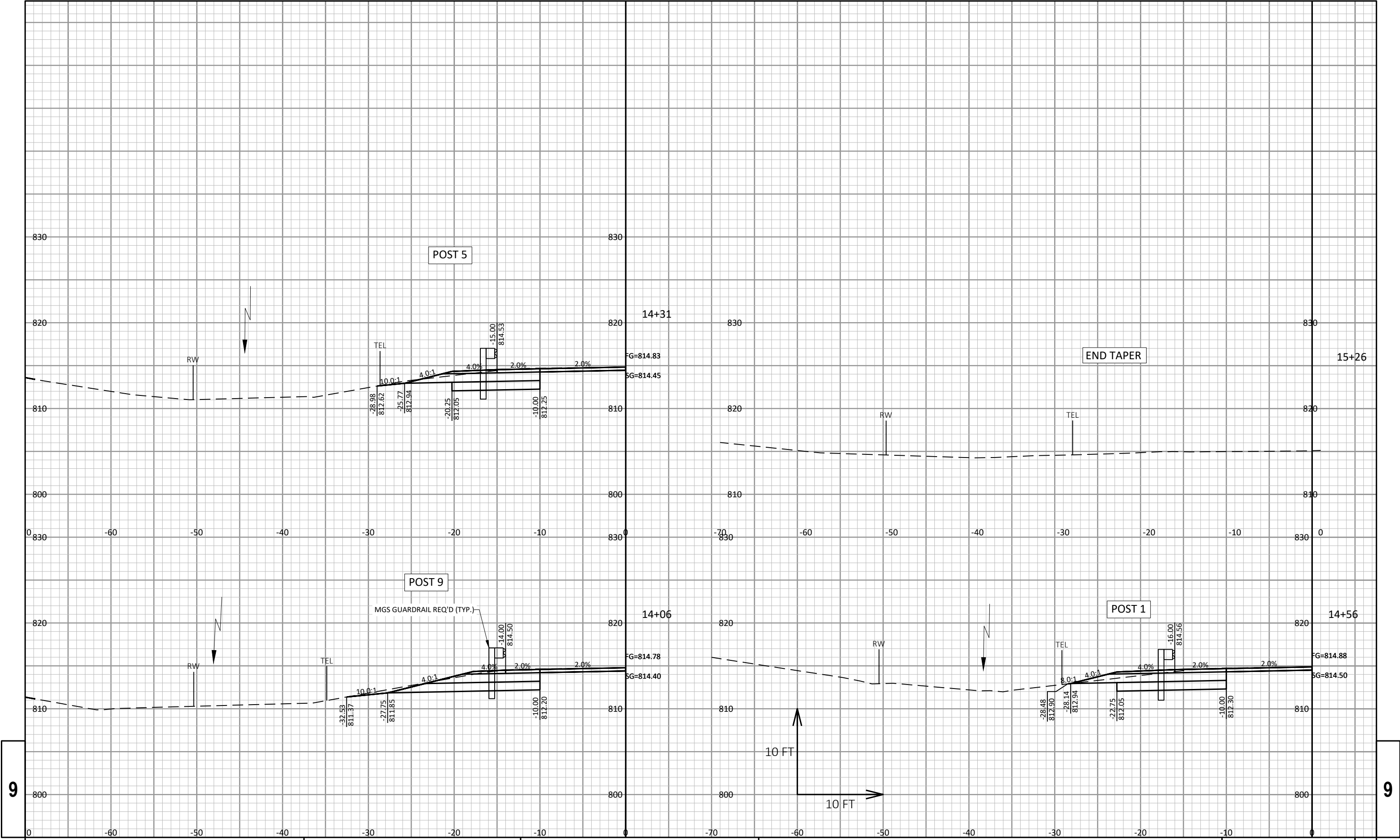






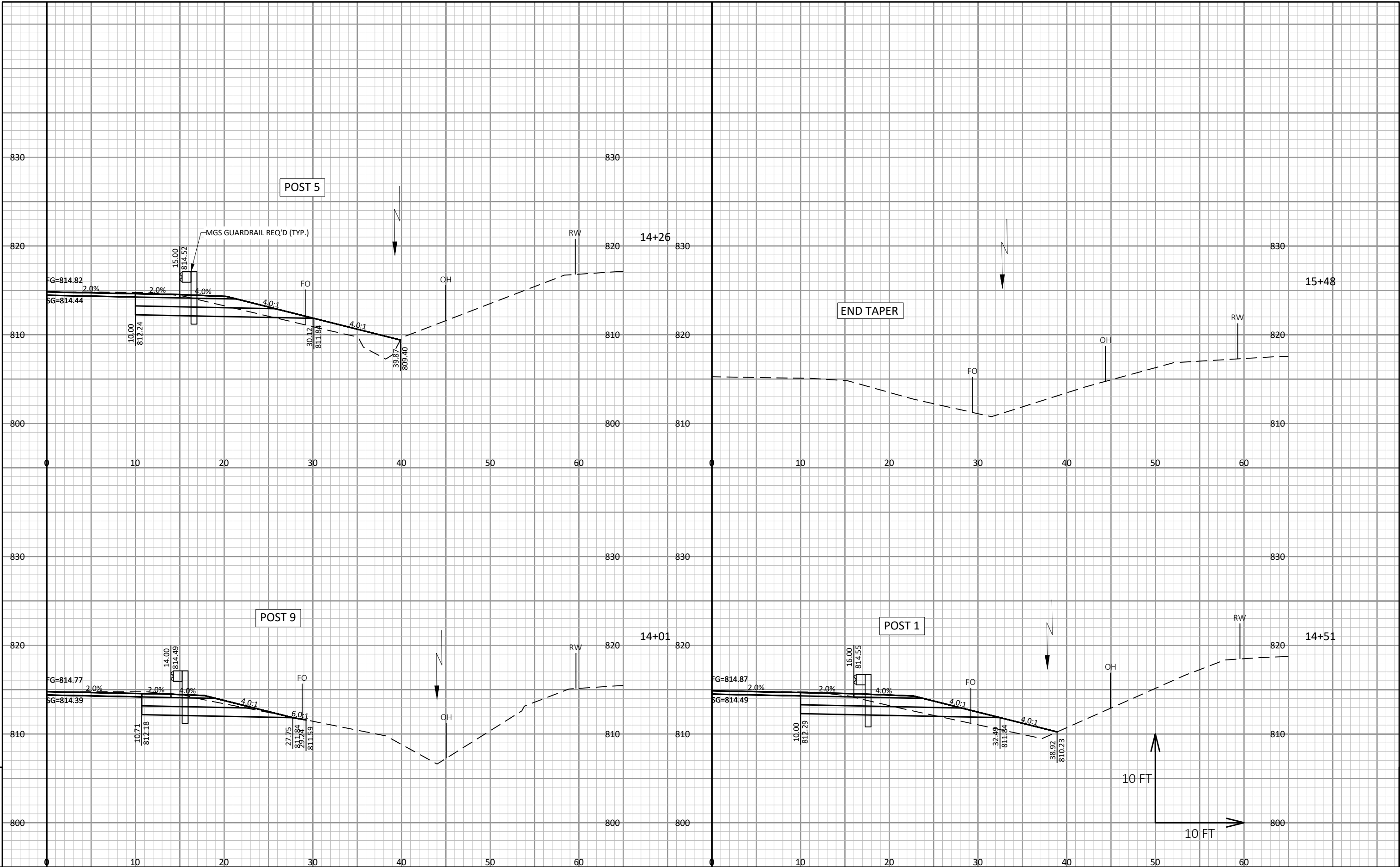
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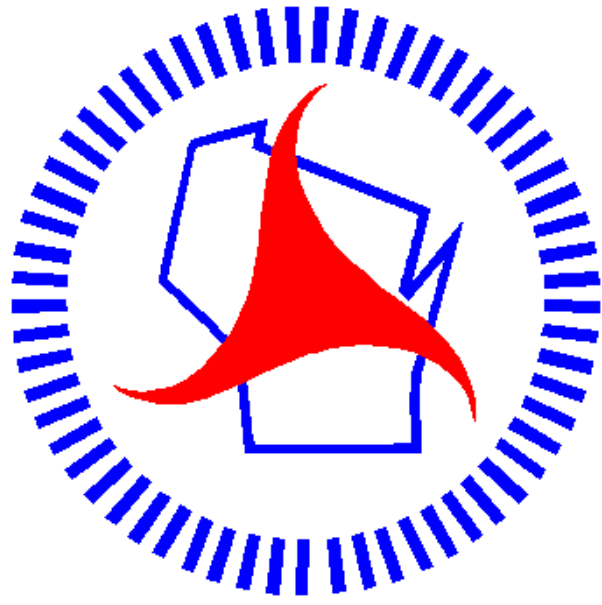


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Notes



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