

GRE

DECEMBER 2025

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

FOND DU LAC CO, CTH K

TAYCHEedah CREEK BRIDGE

CTH K

FOND DU LAC COUNTY

STATE PROJECT

FEDERAL PROJECT

PROJECT

CONTRACT

4812-00-01

WISC2026081

1

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details (Includes Erosion Control Plans)
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way 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 = 96



DESIGN DESIGNATION

A.A.D.T.	2026	=	3,900
A.A.D.T.	2046	=	5,800
D.H.V.		=	522
D.D.		=	60/40
T.		=	10% (ASSUMED)
DESIGN SPEED		=	45 MPH
ESALS		=	1,200,000

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

BEGIN PROJECT

STA. 11+20

Y = 384,689.90
X = 832,345.73

STRUCTURE B-20-265

END PROJECT

STA. 17+00

STATE PROJECT NUMBER

4812-00-01

TOWN OF FRIENDSHIP

TOWN OF TAYCHEEDAH

TOWN OF EL DORADO

TOWN OF TAYCHEEDAH

TOWN OF LAMARTINE

TOWN OF EMPIRE

TOWN OF BYRON

TOWN OF EDEN

LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 0.110 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, FOND DU LAC COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCE MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD88 (2012).

ACCEPTED FOR

COUNTY of FOND DU LAC

7-7-2025
(Date)

ORIGINAL PLANS PREPARED BY

JEWELL
associates engineers, inc
Engineers - Architects - Surveyors



7/2/25

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor JEWELL ASSOCIATES ENGINEERS, INC.

Designer JEWELL ASSOCIATES ENGINEERS, INC.

Project Manager KATIE SCHWARTZ, P.E.

Regional Examiner NE REGION

Regional Supervisor KIMBERLY SLEZAK, P.E.

APPROVED FOR THE DEPARTMENT

Katie Schwartz

DATE:

Digitally signed by Katie Schwartz
Date: 2025.07.07 14:35:13 -05'00'
(Signature)

E

PROJECT ID:
WITH: N/A

4812-00-01

19

COUNTY:

FOND DU LAC

GENERAL NOTES

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

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

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.

SILT FENCE, TURBIDITY BARRIER, AND TEMPORARY DITCH CHECKS SHALL BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD. SILT FENCE AND TURBIDITY BARRIER SHALL BE PLACED PRIOR TO CONSTRUCTION AND IN PLACE PRIOR TO STRUCTURE REMOVAL.

EROSION MAT ALL MAINLINE SLOPES AS DIRECTED BY THE ENGINEER IN THE FIELD.

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

WHEN THE QUANTITY OF THE ITEM OF BASE AGGREGATE DENSE, BREAKER RUN, 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 THE MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

HMA PAVEMENT QUANTITIES WERE CALCULATED USING 112 LB/SY/IN.

TACK COAT QUANTITIES WERE CALCULATED USING 0.05 GAL/SY.

REMOVAL OF ASPHALTIC SURFACES WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE SHALL REQUIRE A SAWCUT MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

CURB & GUTTER ELEVATIONS ARE GIVEN TO THE FLANGE LINE UNLESS OTHERWISE NOTED.

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

DO NOT DRIVE OR STORE EQUIPMENT, OR STORE CONSTRUCTION MATERIALS IN ENVIRONMENTALLY SENSITIVE AREAS, WETLANDS, FLOODPLAINS, OR WATERWAYS.

CURVE DATA IS BASED ON THE ARC DEFINITION.

EXISTING DRIVEWAYS SHALL BE RESTORED IN KIND AND THEIR LOCATION VERIFIED BY THE ENGINEER IN THE FIELD.

PRIOR TO PLACEMENT OF BEAM GUARD THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED.

CONTACTS

FOND DU LAC COUNTY HIGHWAY DEPARTMENT:

TOM JANKE, COMMISSIONER
1820 S. HICKORY ST.
FOND DU LAC, WI 54937
PHONE: (920) 929-3488
EMAIL: tom.janke@fdlco.wi.gov

DESIGN CONSULTANT:

JEWELL ASSOCIATES ENGINEERS, INC.
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SPRING GREEN, WI 53588
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EMAIL: ellery.schaffer@jewellassoc.com

WISCONSIN DEPARTMENT OF TRANSPORTATION:

WISDOT PROJECT MANAGER
944 VANDERPERREN WAY
GREEN BAY, WI 54304
ATTN: KATIE SCHWARTZ, P.E.
PHONE: (920) 492-5652
CELL: (920) 362-0389
EMAIL: katiea.schwartz@dot.wi.gov

WDNR LIASON:

DNR NORTHEAST REGIONAL HEADQUARTERS
625 EAST COUNTY ROAD Y
SUITE 700
OSHKOSH, WI 54901
ATTN: MARTY DILLENBURG
PHONE: (920) 410-7428
EMAIL: marty.dillenburg@wisconsin.gov

UTILITIES

ELECTRICITY

ALLIANT ENERGY
ATTN: JOSH COLLIE
833 W SCOTT ST
FOND DU LAC, WI 54937
PHONE: (920) 322-6646
CELL: (608) 393-5695
EMAIL: joshuacollie@alliantenergy.com

COMMUNICATION LINE

AT&T WISCONSIN
ATTN: CHUCK BARTLET
70 E DIVISION STREET
FOND DU LAC, WI 54935
PHONE: (920) 410-5104
EMAIL: cb1461@att.com

GAS

ALLIANT ENERGY
ATTN: JOSH COLLIE
833 W SCOTT ST
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EMAIL: joshuacollie@alliantenergy.com

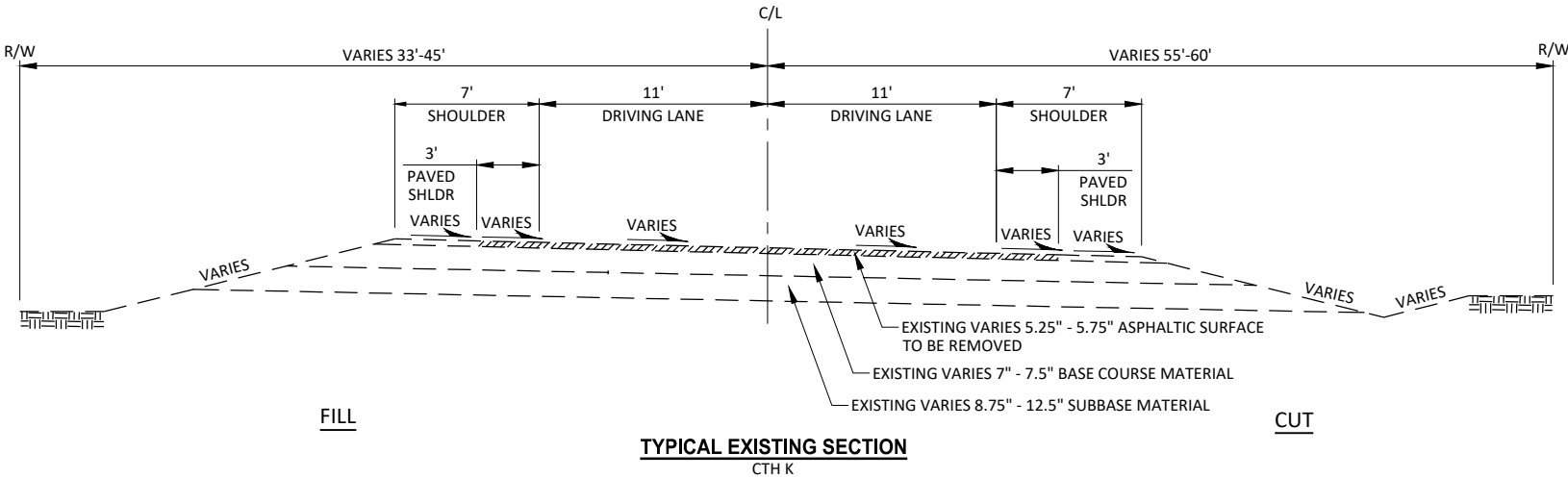
WATER

CITY OF FOND DU LAC
ATTN: TRAVIS KLOETZKE
109 NORTH MACY STREET
FOND DU LAC, WI 54935
PHONE: (920) 322-3683
CELL: (920) 539-5743
EMAIL: tkloetzke@fdl.wi.gov



LIST OF STANDARD ABBREVIATIONS

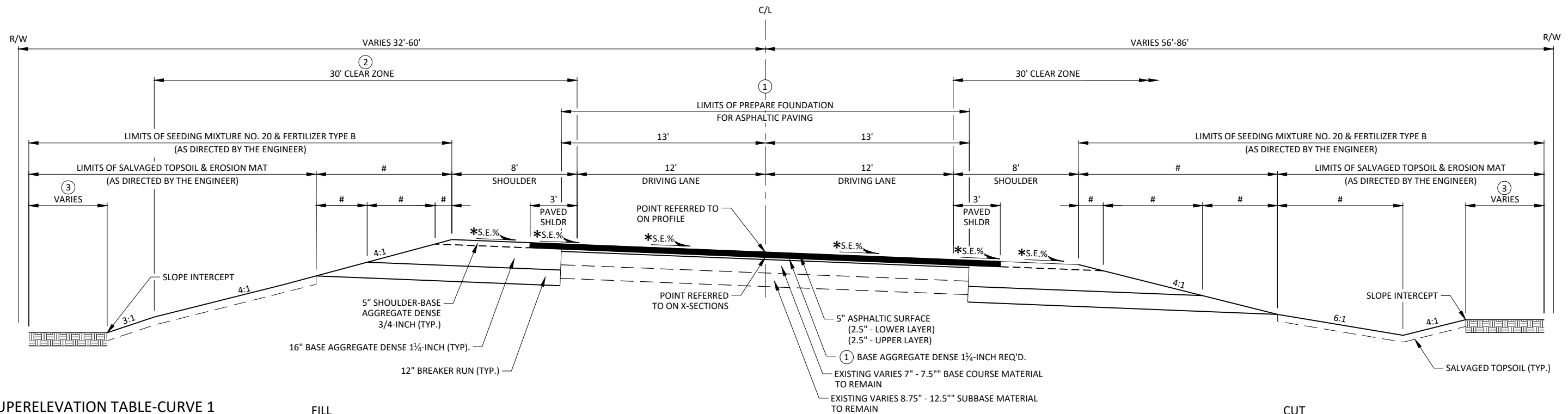
ABUT	Abutment	INV	Invert	RDWY	Roadway
AC	Acre	IP	Iron Pipe or Pin	SALV	Salvaged
AGG	Aggregate	IRS	Iron Rod Set	SAN S	Sanitary Sewer
AH	Ahead	JT	Joint	SEC	Section
<	Angle	JCT	Junction	SHLDR	Shoulder
ASPH	Asphaltic	LHF	Left-Hand Forward	SHR	Shrinkage
AVG	Average	L	Length of Curve	SW	Sidewalk
ADT	Average Daily Traffic	LIN FT	Linear Foot	S	South
BAD	Base Aggregate Dense	or LF		SQ	Square
BK	Back	LC	Long Chord of Curve	SF or SQ FT	Square Feet
BF	Back Face	MH	Manhole	SV or SQ YD	Square Yard
BM	Bench Mark	MB	Mailbox	STD	Standard
BR	Bridge	ML or M/L	Match Line	SDD	Standard Detail Drawings
C or C/L	Center Line	N	North	STH	State Trunk Highways
CC	Center to Center	Y	North Grid Coordinate	STA	Station
C.E.	Commercial Entrance	OD	Outside Diameter	SS	Storm Sewer
CTH	County Trunk Highway	PLE	Permanent Limited Easement	SG	Subgrade
CR	Creek	PT	Point	SE	Superelevation
CR	Crushed	PC	Point of Curvature	SL or S/L	Survey Line
CY or CU YD	Cubic Yard	PI	Point of Intersection	SV	Septic Vent
CP	Culvert Pipe	PRC	Point of Reverse Curvature	T	Tangent
C & G	Curb and Gutter			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		
X	East Grid Coordinate	PCC	Portland Cement Concrete	t	Ton
ELEC	Electric (al)			T or TN	Town
EL or ELEV	Elevation	LB	Pound	TRANS	Transition
ESALS	Equivalent Single Axle Loads	PSI	Pounds Per Square Inch	TL or T/L	Transit Line
		P.E.	Private Entrance	T	Trucks (percent of)
EBS	Excavation Below Subgrade	R	Radius	TYP	Typical
		RR	Railroad	UNCL	Unclassified
FF	Face to Face	R	Range	UG	Underground Cable
F.E.	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			VERT	Vertical
FT	Foot	REQD	Required	VC	Vertical Curve
FTG	Footing	RES	Residence or Residential	VOL	Volume
GN	Grid North	RW	Retaining Wall	WM	Water Main
HT	Height	RT	Right	WV	Water Valve
CWT	Hundredweight	RHF	Right-Hand Forward	W	West
HYD	Hydrant	R/W	Right-of-Way	WB	Westbound
INL	Inlet	RD	Road	YD	Yard
ID	Inside Diameter	R	River		



	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	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
TURF	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPE 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 = 2.51 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 2.27 ACRES



SUPERELEVATION TABLE-CURVE 1

FILL

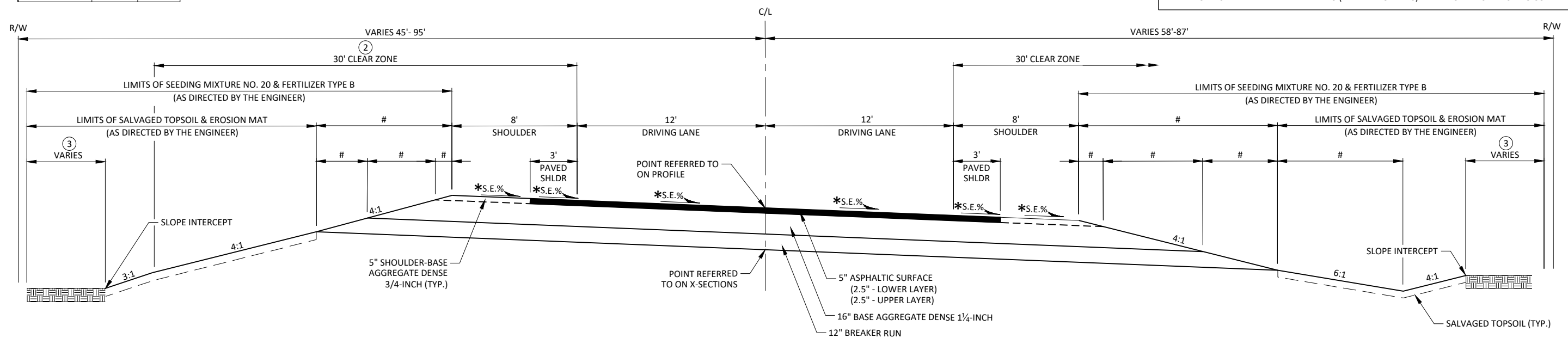
CUT

STATION	LEFT(%)	RIGHT(%)
9+00	MATCH EXISTING	MATCH EXISTING
9+50	4.6	4.6
10+00	5.8	5.8
FULL SUPERELEVATION		
13+83	5.8	5.8
14+00	5.1	5.1
14+50	3.2	3.2
15+00	1.2	2.0
15+50	0.7	2.0
15+82	2.0	2.0

TYPICAL FINISHED SUPERELEVATED SECTION

CTH K
STA. 9+00 - STA. 11+20

- 1 PLACE ADDITIONAL BASE AGGREGATE DENSE 1 1/4 - INCH IN AREAS WHERE REQUIRED TO ACHIEVE DESIRED TOP OF BASE ELEVATION PRIOR TO HMA PAVING.
 - 2 42' CLEAR ZONE - STA. 9+00 - STA. 13+00, LT.
 - 3 USE SEEDING MIXTURE NO. 60 IN LIEU OF SEEDING MIXTURE NO. 20 IN AREAS ADJACENT TO DETERMINED WETLANDS AS SHOWN ON THE PLAN AND PROFILE SHEETS.
- * SEE SUPERELEVATION TABLE
- # VARIES - SEE CROSS SECTIONS FOR FURTHER INFORMATION
- NOTE: STA. 15+82 - STA. 17+00 - NORMAL CROWN
- THE LOW SIDE SHOULDER SLOPE ON SUPERELEVATED SECTIONS EQUALS THE SUPERELEVATION WHEN THE SUPERELEVATION IS GREATER THAN 0.04 FT./FT. IF THE SUPERELEVATION IS LESS THAN OR EQUALS 0.04 FT./FT., THEN THE LOW SIDE SHOULDER SLOPE IS 0.04 FT./FT. THE HIGH SIDE SHOULDER SLOPE ON THE SUPERELEVATED SECTIONS EQUALS THE SUPERELEVATION.
- NOTE: STRIPE PAVEMENT MARKING (WHITE EDGLINES) AT 11' TO MATCH EXISTING CONDITIONS.

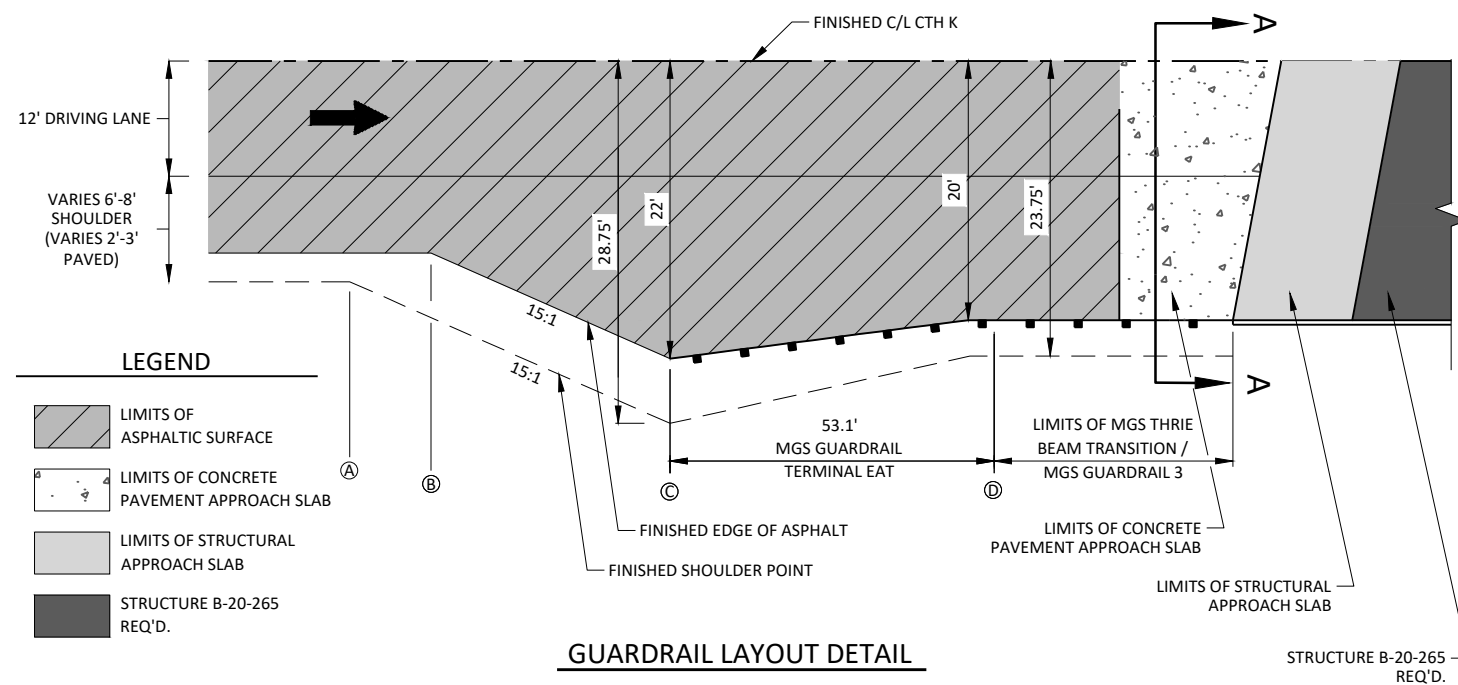


FILL

CUT

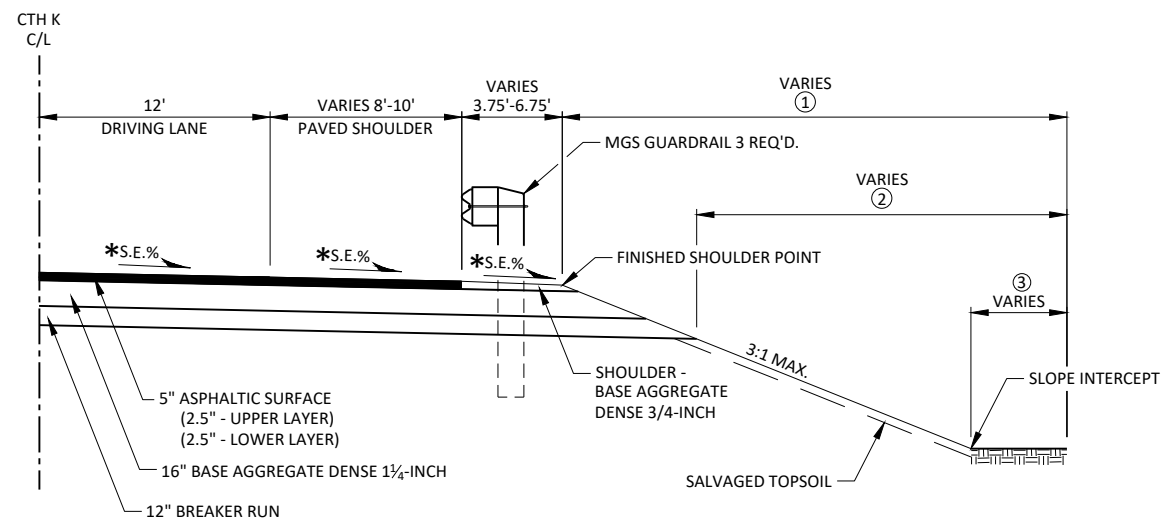
TYPICAL FINISHED SUPERELEVATED SECTION

CTH K
STA. 11+20 - STA. 17+00

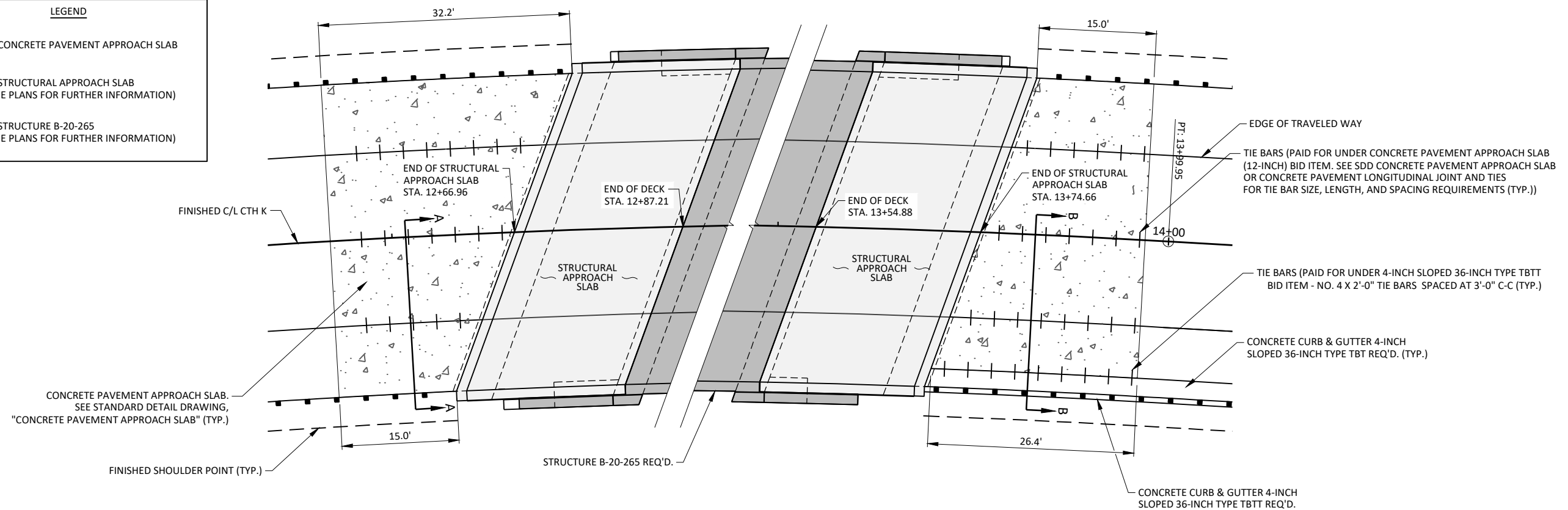
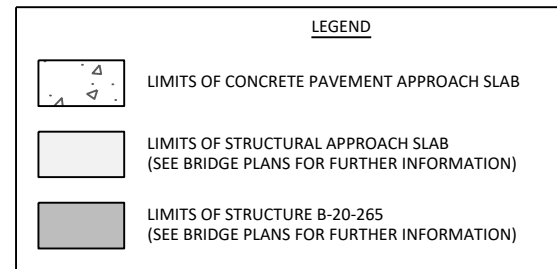


GUARDRAIL LAYOUT TABLE

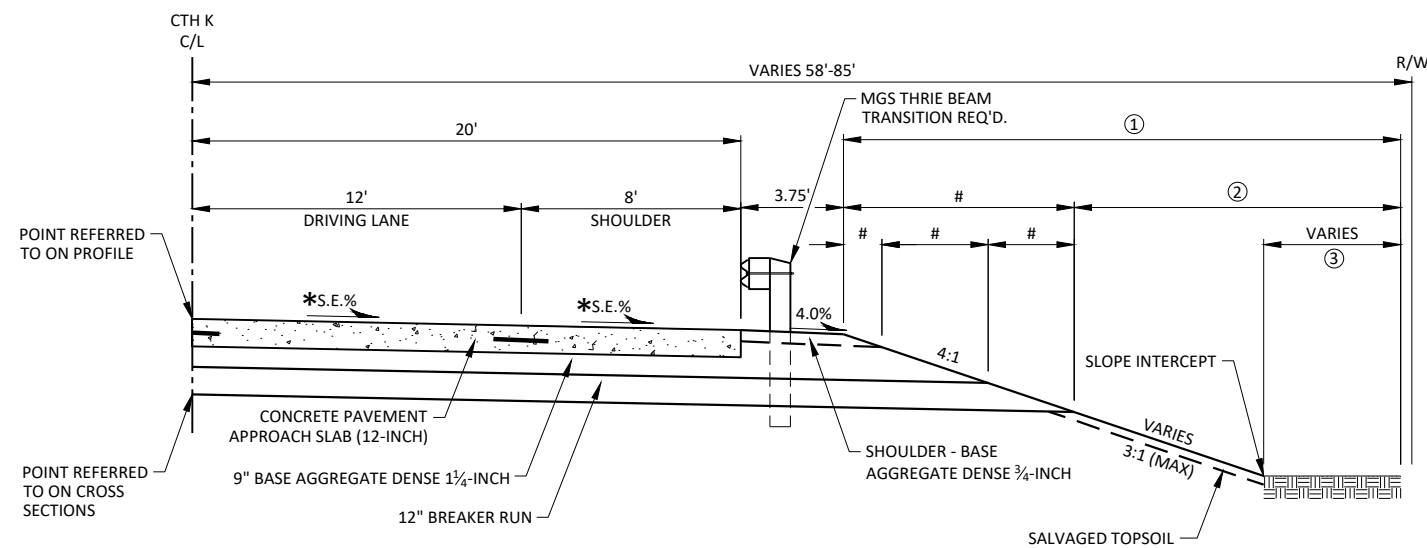
STATION-STATION	LOCATION	STATION			
		(A)	(B)	(C)	(D)
10+56 - 12+37	MAINLINE, LT.	10+56	10+66	11+85	12+37
9+13 - 11+30	MAINLINE, RT.	9+13	9+55	10+76	11+30
14+82 - 16+96	MAINLINE, LT.	16+96	16+55	15+35	14+82
14+07 - 16+21	MAINLINE, RT.	16+21	15+80	14+60	14+07

**SECTION A-A**

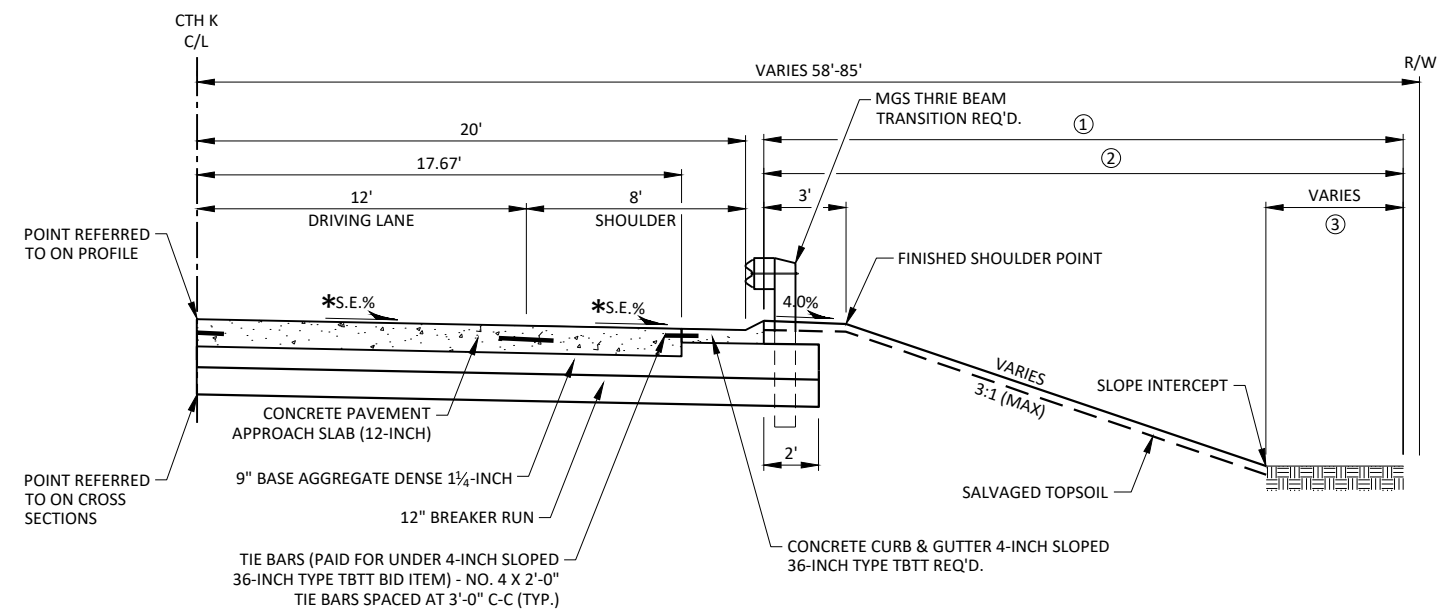
- ① LIMITS OF FERTILIZER TYPE B & SEEDING MIXTURE NO. 20 (AS DIRECTED BY THE ENGINEER).
- ② LIMITS OF SALVAGED TOPSOIL & EROSION MAT (AS DIRECTED BY THE ENGINEER).
- ③ USE SEEDING MIXTURE NO. 60 IN LIEU OF SEEDING MIXTURE NO. 20 IN AREAS ADJACENT TO DETERMINED WETLANDS AS SHOWN IN THE PLAN AND PROFILE SHEETS.
- * SEE SUPERELEVATION TABLE



STRUCTURE APPROACH DETAILS

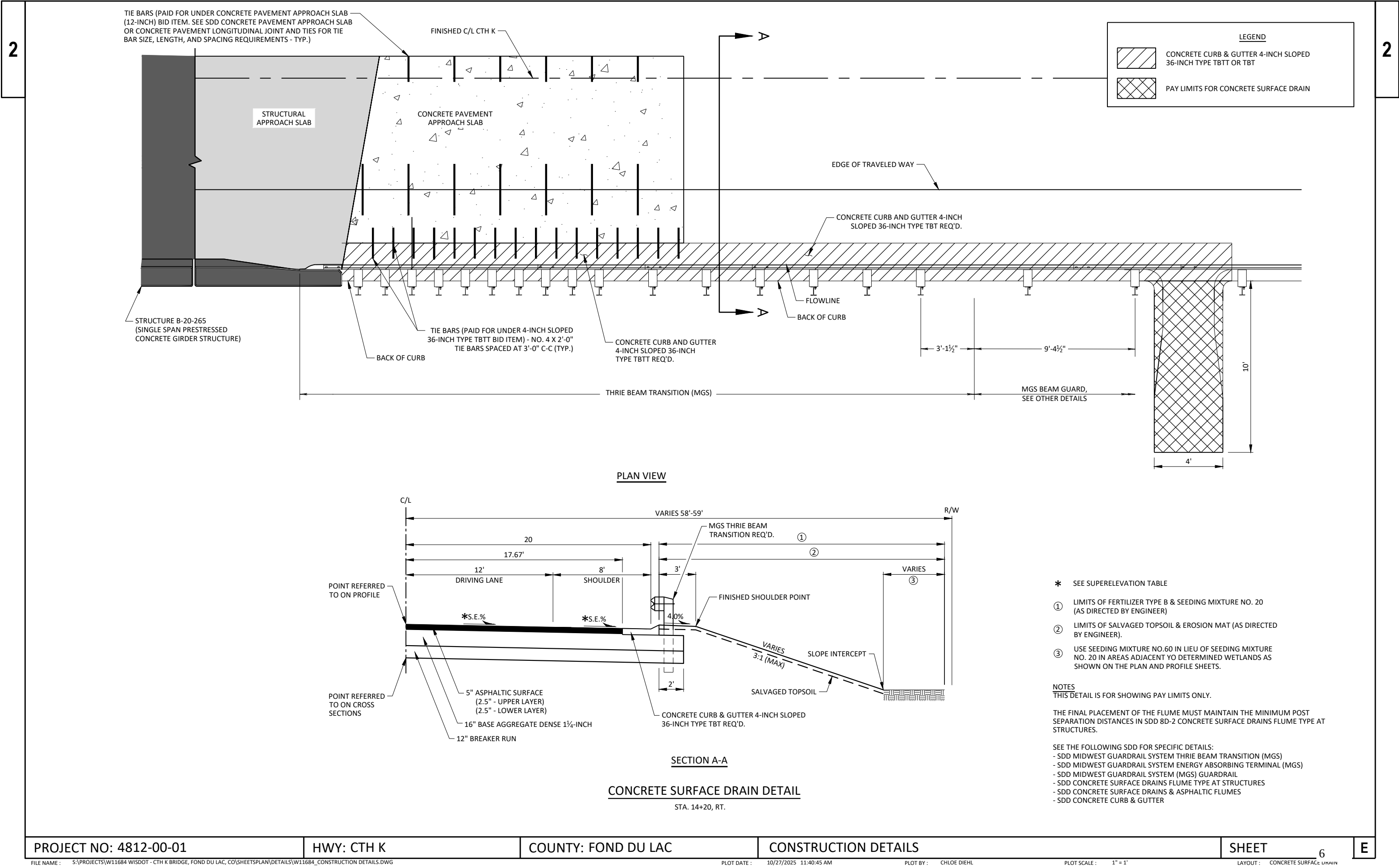


SECTION A-A



SECTION B-B

- * SEE SUPERELEVATION TABLE
- # VARIES - SEE CROSS SECTIONS FOR FURTHER INFORMATION
- ① LIMITS OF FERTILIZER TYPE B & SEEDING MIXTURE NO. 20 (AS DIRECTED BY ENGINEER)
- ② LIMITS OF SALVAGED TOPSOIL & EROSION MAT (AS DIRECTED BY ENGINEER).
- ③ USE SEEDING MIXTURE NO. 60 IN LIEU OF SEEDING MIXTURE NO. 20 IN AREAS ADJACENT TO DETERMINED WETLANDS AS SHOWN ON THE PLAN AND PROFILE SHEETS.



PROJECT NO: 4812-00-01

HWY: CTH K

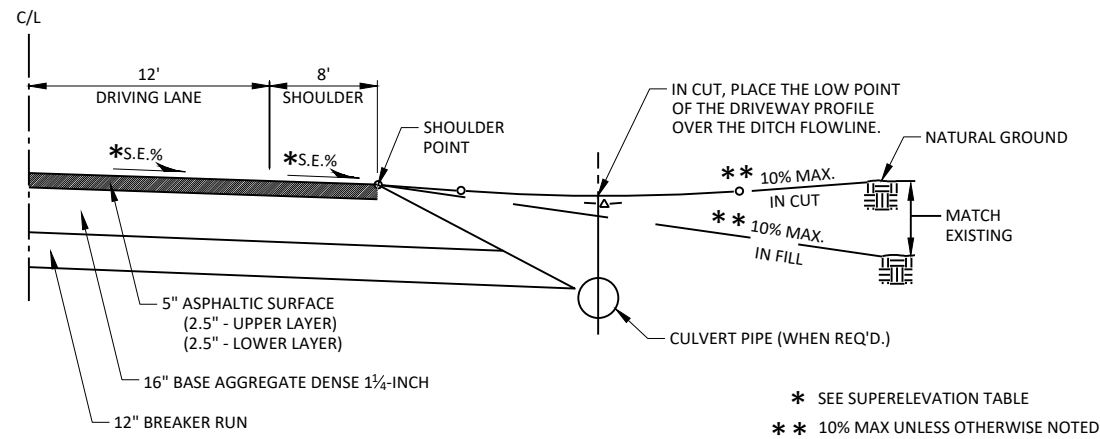
COUNTY: FOND DU LAC

CONSTRUCTION DETAILS

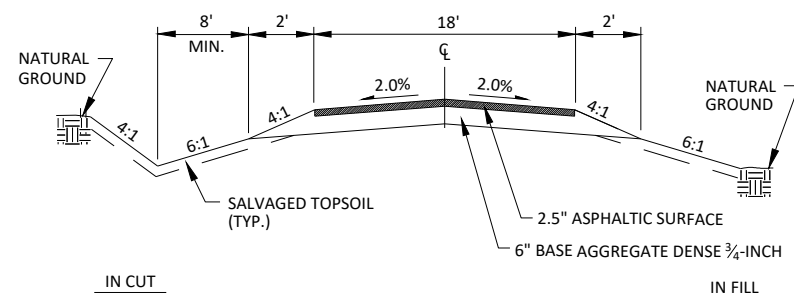
SHEET

6

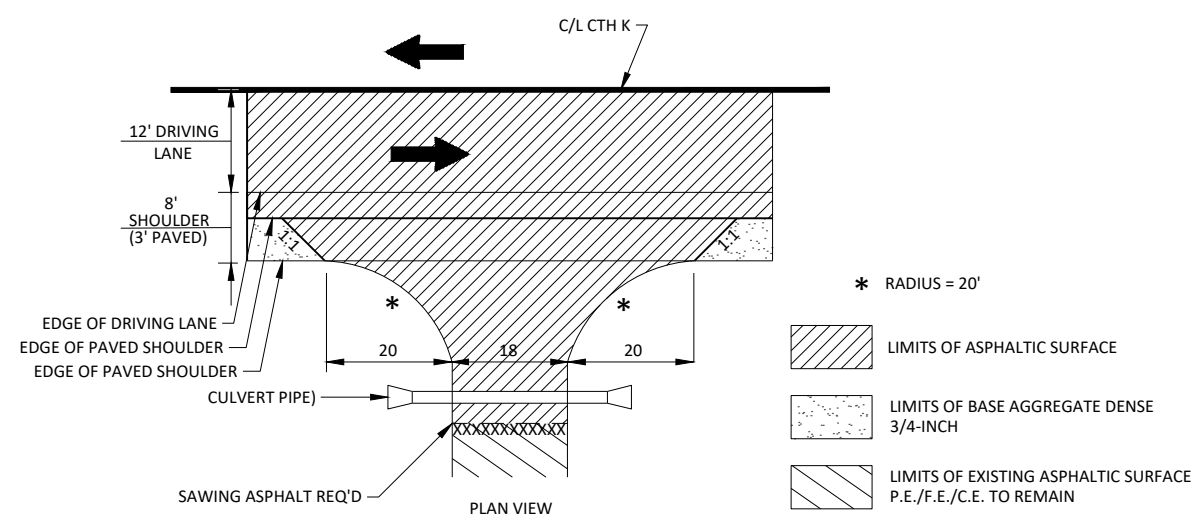
E



TYPICAL P.E. PROFILE

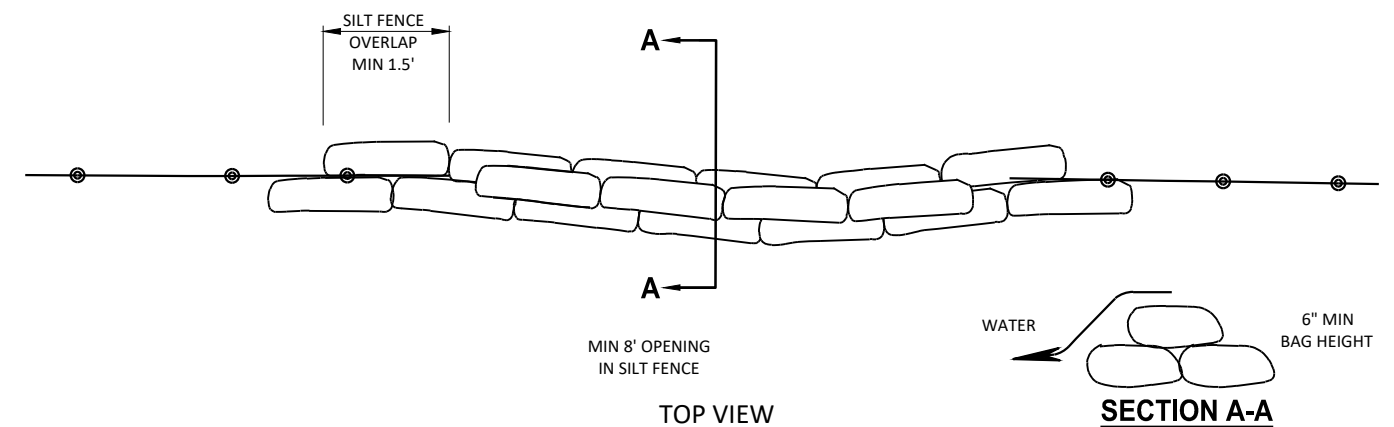


TYPICAL CROSS-SECTION FOR P.E.

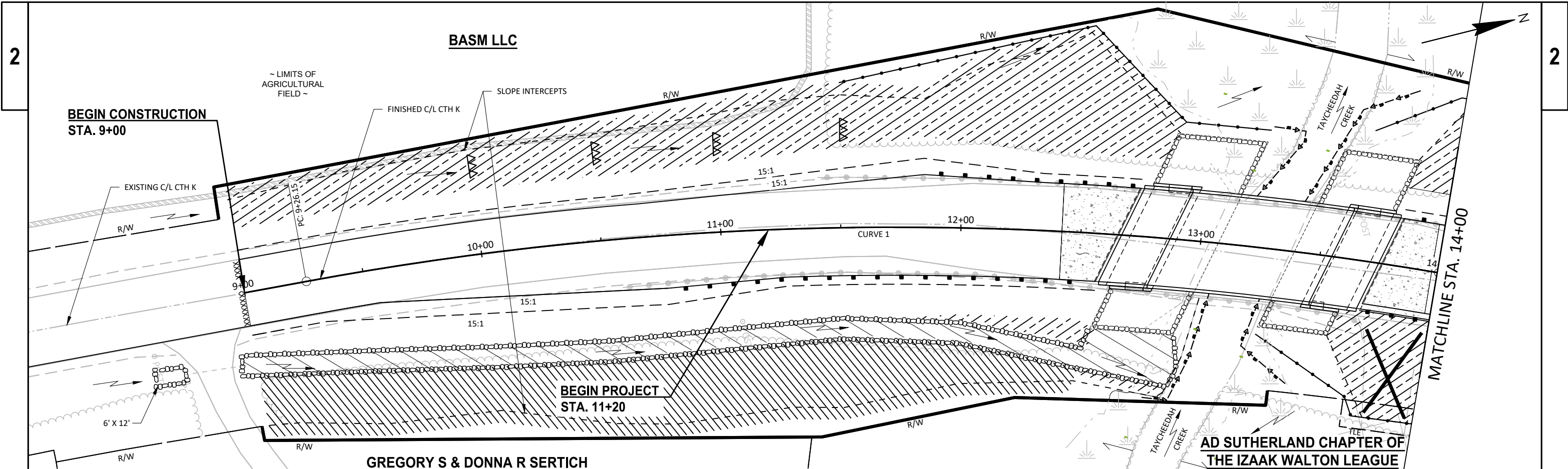


APPROACH AT P.E.

TYPICAL FIELD ENTRANCE (P.E.) DETAILS

TOP VIEW
ROCK BAGS USED FOR SILT FENCE RELIEF

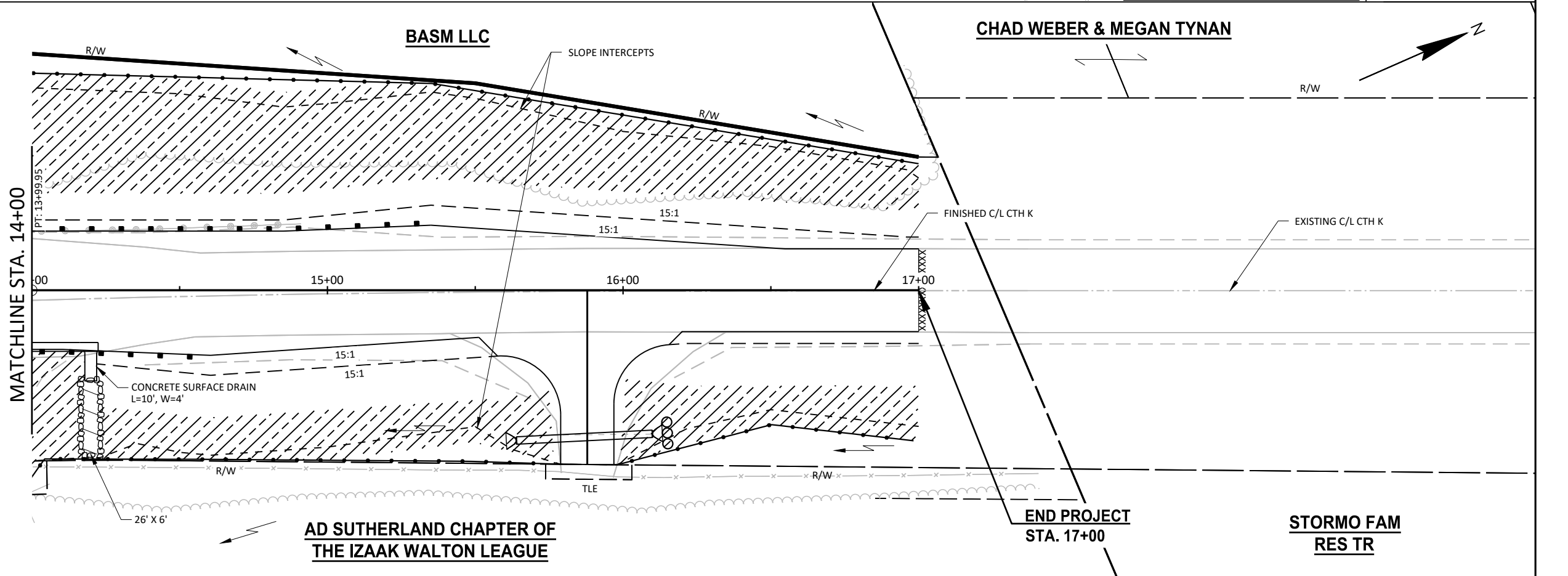
NOTE: LOCATION AND NUMBER OF ROCK BAGS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.



LEGEND

- DIRECTION OF FLOW
- EDGE OF WATER
- RIPRAP LIGHT OVER GEOTEXTILE TYPE R (CATEGORY 010)
- EXTRA HEAVY RIPRAP OVER GEOTEXTILE TYPE HR (CATEGORY 020)
- SILT FENCE
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- TURBIDITY BARRIER
- EROSION MAT CLASS I TYPE B
- EROSION MAT URBAN CLASS I TYPE B
- DETERMINED WETLANDS BOUNDARY
- DETERMINED WETLANDS

NOTE: LOCATION AND NUMBER OF ROCK BAGS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

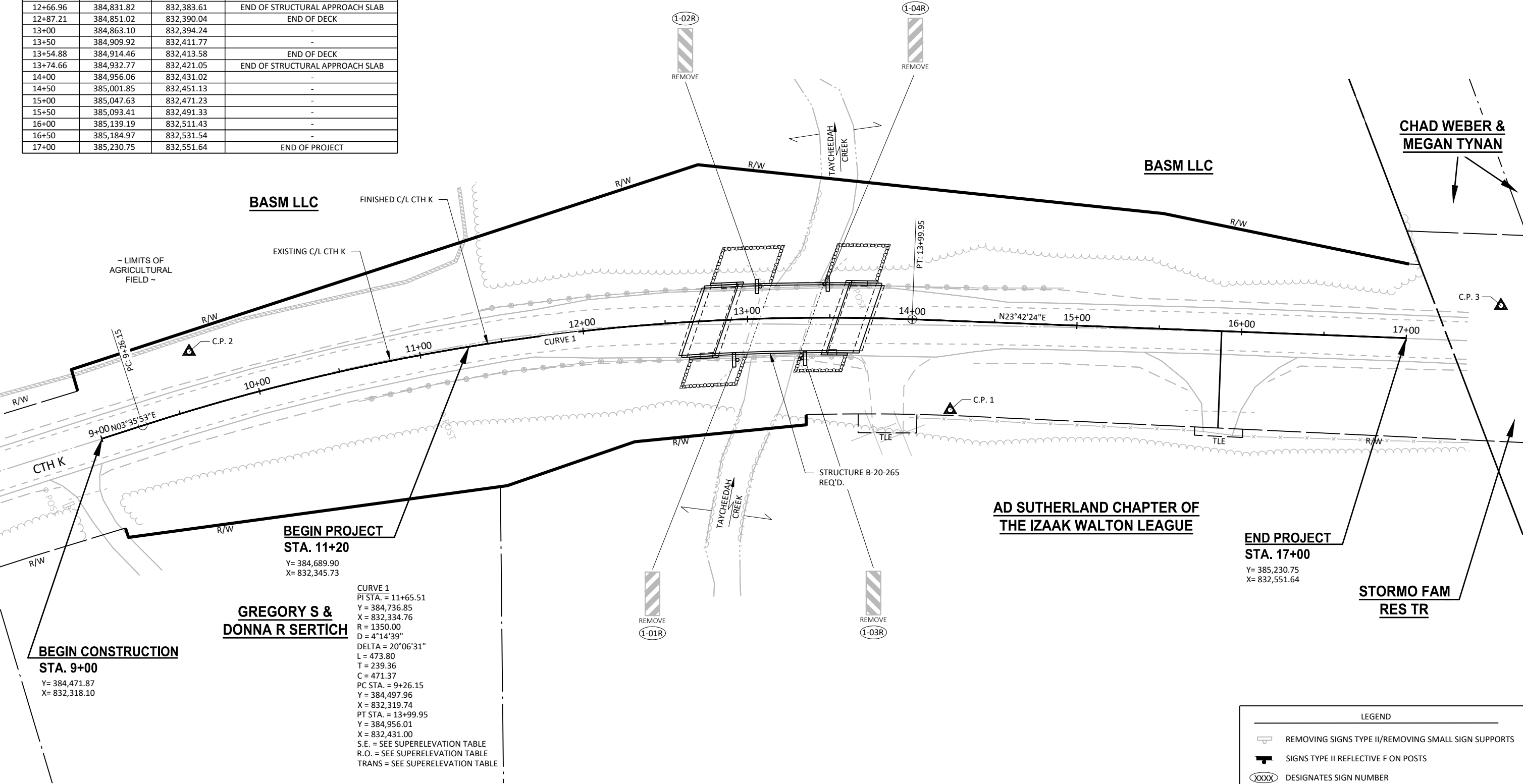


MAINLINE STATION LAYOUT

STATION	Y	X	COMMENTS
9+00	384,471.87	832,318.10	BEGIN CONSTRUCTION
9+50	384,521.75	832,321.45	-
10+00	384,571.51	832,326.39	-
10+50	384,621.04	832,333.17	-
11+00	384,670.29	832,341.78	-
11+20	384,689.90	832,345.73	BEGIN PROJECT
11+50	384,719.19	832,352.21	-
12+00	384,767.67	832,364.44	-
12+50	384,815.66	832,378.46	-
12+66.96	384,831.82	832,383.61	END OF STRUCTURAL APPROACH SLAB
12+87.21	384,851.02	832,390.04	END OF DECK
13+00	384,863.10	832,394.24	-
13+50	384,909.92	832,411.77	-
13+54.88	384,914.46	832,413.58	END OF DECK
13+74.66	384,932.77	832,421.05	END OF STRUCTURAL APPROACH SLAB
14+00	384,956.06	832,431.02	-
14+50	385,001.85	832,451.13	-
15+00	385,047.63	832,471.23	-
15+50	385,093.41	832,491.33	-
16+00	385,139.19	832,511.43	-
16+50	385,184.97	832,531.54	-
17+00	385,230.75	832,551.64	END OF PROJECT

CONTROL POINTS

NO.	STA.	DESCRIPTION	Y	X
1	14+25	3/4" IRON REBAR SET, 54.1' RT	384,957.28	832,490.68
2	9+65	3/4" IRON REBAR SET, 34.6' LT	384,540.55	832,288.31
3	17+57	3/4" IRON REBAR SET, 22.0' LT	385,291.50	832,554.33



Estimate Of Quantities

4812-00-01					
Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	8.000	8.000
0004	201.0205	Grubbing	STA	8.000	8.000
0006	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0008	203.0250	Removing Structure Over Waterway Remove Debris (structure) 01. B-20-015	EACH	1.000	1.000
0010	204.0165	Removing Guardrail	LF	600.000	600.000
0012	205.0100	Excavation Common	CY	4,350.000	4,350.000
0014	206.1001	Excavation for Structures Bridges (structure) 01. B-20-265	EACH	1.000	1.000
0016	210.1500	Backfill Structure Type A	TON	330.000	330.000
0018	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 4812-00-01	EACH	1.000	1.000
0020	213.0100	Finishing Roadway (project) 01. 4812-00-01	EACH	1.000	1.000
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	310.000	310.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	3,470.000	3,470.000
0026	311.0110	Breaker Run	TON	2,700.000	2,700.000
0028	415.0410	Concrete Pavement Approach Slab	SY	195.000	195.000
0030	455.0605	Tack Coat	GAL	150.000	150.000
0032	465.0105	Asphaltic Surface	TON	780.000	780.000
0034	502.0100	Concrete Masonry Bridges	CY	375.000	375.000
0036	502.3200	Protective Surface Treatment	SY	535.000	535.000
0038	502.3210	Pigmented Surface Sealer	SY	110.000	110.000
0040	503.0137	Prestressed Girder Type I 36W-Inch	LF	330.000	330.000
0042	505.0400	Bar Steel Reinforcement HS Structures	LB	6,750.000	6,750.000
0044	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	47,380.000	47,380.000
0046	505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB	1,460.000	1,460.000
0048	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	10.000	10.000
0050	506.4000	Steel Diaphragms (structure) 01. B-20-265	EACH	4.000	4.000
0052	516.0500	Rubberized Membrane Waterproofing	SY	18.000	18.000
0054	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	2.000	2.000
0056	520.3324	Culvert Pipe Class III-A 24-Inch	LF	46.000	46.000
0058	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	1,200.000	1,200.000
0060	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	26.000	26.000
0062	601.0590	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT	LF	28.000	28.000
0064	602.3010	Concrete Surface Drains	CY	1.000	1.000
0066	606.0100	Riprap Light	CY	150.000	150.000
0068	606.0400	Riprap Extra-Heavy	CY	465.000	465.000
0070	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	220.000	220.000
0072	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0074	614.2300	MGS Guardrail 3	LF	150.000	150.000
0076	614.2500	MGS Thrie Beam Transition	LF	160.000	160.000
0078	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0080	619.1000	Mobilization	EACH	1.000	1.000
0082	624.0100	Water	MGAL	90.000	90.000
0084	625.0500	Salvaged Topsoil	SY	5,000.000	5,000.000
0086	628.1504	Silt Fence	LF	1,100.000	1,100.000
0088	628.1520	Silt Fence Maintenance	LF	3,400.000	3,400.000
0090	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0092	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0094	628.2004	Erosion Mat Class I Type B	SY	1,300.000	1,300.000
0096	628.2008	Erosion Mat Urban Class I Type B	SY	3,750.000	3,750.000
0098	628.6005	Turbidity Barriers	SY	475.000	475.000

Estimate Of Quantities

4812-00-01

Line	Item	Item Description	Unit	Total	Qty
0100	628.7504	Temporary Ditch Checks	LF	70.000	70.000
0102	628.7555	Culvert Pipe Checks	EACH	3.000	3.000
0104	628.7570	Rock Bags	EACH	21.000	21.000
0106	629.0210	Fertilizer Type B	CWT	5.000	5.000
0108	630.0120	Seeding Mixture No. 20	LB	320.000	320.000
0110	630.0160	Seeding Mixture No. 60	LB	2.000	2.000
0112	630.0200	Seeding Temporary	LB	190.000	190.000
0114	630.0500	Seed Water	MGAL	150.000	150.000
0116	633.5100	Markers ROW	EACH	16.000	16.000
0118	638.2602	Removing Signs Type II	EACH	4.000	4.000
0120	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0122	642.5001	Field Office Type B	EACH	1.000	1.000
0124	643.0420	Traffic Control Barricades Type III	DAY	1,890.000	1,890.000
0126	643.0705	Traffic Control Warning Lights Type A	DAY	2,940.000	2,940.000
0128	643.0900	Traffic Control Signs	DAY	1,470.000	1,470.000
0130	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0132	643.5000	Traffic Control	EACH	1.000	1.000
0134	645.0111	Geotextile Type DF Schedule A	SY	90.000	90.000
0136	645.0120	Geotextile Type HR	SY	615.000	615.000
0138	645.0130	Geotextile Type R	SY	535.000	535.000
0140	646.2020	Marking Line Epoxy 6-Inch	LF	3,200.000	3,200.000
0142	650.4500	Construction Staking Subgrade	LF	730.000	730.000
0144	650.5000	Construction Staking Base	LF	645.000	645.000
0146	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	26.000	26.000
0148	650.6501	Construction Staking Structure Layout (structure) 01. 4812-00-01	EACH	1.000	1.000
0150	650.7000	Construction Staking Concrete Pavement	LF	90.000	90.000
0152	650.9911	Construction Staking Supplemental Control (project) 01. 4812-00-01	EACH	1.000	1.000
0154	650.9920	Construction Staking Slope Stakes	LF	730.000	730.000
0156	690.0150	Sawing Asphalt	LF	80.000	80.000
0158	715.0502	Incentive Strength Concrete Structures	DOL	2,250.000	2,250.000
0160	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. Station 13+21	EACH	1.000	1.000
0162	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	300.000	300.000
0164	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000
0166	SPV.0195	Special 01. Select Crushed Material for Travel Corridor	TON	200.000	200.000

3

REMOVING SMALL PIPE CULVERTS

REMOVING GUARDRAIL

EARTHWORK SUMMARY

NOTES:

- (1) EXCAVATION COMMON IS THE SUM OF THE CUT ITEM NUMBER 205.0100
- (2) AVAILABLE MATERIAL = CUT
- (3) EXPANDED FILL FACTOR 1.25: EXPANDED FILL = (UNEXPANDED FILL)*1.25
- (4) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

CONCRETE PAVEMENT

CULVERT PIPES

		520.1024	520.3324	628.7555
		APRON ENDWALLS FOR CULVERT PIPE	CULVERT PIPE CLASS III-A	CULVERT PIPE CHECKS
STATION	LOCATION	24-INCH (EACH)	24-INCH (LF)	(EACH)
15+88	MAINLINE, LT.	2	46	3
TOTALS=		2	46	3
		MINIMUM THICKNESS (IN)		
PIPE SIZE	STEEL			
24-INCH	0.064			

CONCRETE SURFACE DRAINS

STATION - STATION	LOCATION	602.3010 (CY)
14+20	MAINLINE, RT.	1
	TOTALS=	1

3

RIPRAP			
		606.0100 RIPRAP LIGHT (CY)	645.0130 GEOTEXTILE TYPE R (SY)
STATION - STATION	LOCATION		
8+57 - 8+70	MAINLINE, RT.	8	15
8+93 - 12+94	MAINLINE, RT.	136	495
14+20	MAINLINE, RT.	6	25
TOTALS=		150	535

GUARDRAIL					
		614.2300 MGS GUARDRAIL 3 (LF)	614.2500 MGS THRIE BEAM TRANSITION (LF)	614.2610 MGS GUARDRAIL TERMINAL EAT (EACH)	
STATION - STATION	LOCATION				
10+76 - 12+57	MAINLINE, RT.	88	40	1	
11+85 - 12+74	MAINLINE, LT.	-	40	1	
13+69 - 14+60	MAINLINE, RT.	-	40	1	
13+82 - 15+35	MAINLINE, LT.	62	40	1	
TOTALS=		150	160	4	

TURBIDITY BARRIERS	
LOCATION	628.6005 TURBIDITY BARRIERS (SY)
SW & SE QUAD	185
NW & NE QUAD	195
UNDISTRIBUTED	95
TOTAL=	475

TEMPORARY DITCH CHECKS		
STATION	LOCATION	628.7504 (LF)
10+00	MAINLINE, LT.	10
10+50	MAINLINE, LT.	10
11+00	MAINLINE, LT.	10
11+50	MAINLINE, LT.	10
11+85	MAINLINE, LT.	20
-	UNDISTRIBUTED	10
TOTAL=		70

3

MOBILIZATION EROSION CONTROL		
PROJECT	628.1905 MOBILIZATION EROSION CONTROL (EACH)	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL (EACH)
4812-00-01	5	4
TOTALS=	5	4

ROCK BAGS		
STATION	LOCATION	628.7570 (EACH)
-	SILT FENCE RELIEF	7
-	SILT FENCE RELIEF	7
-	SILT FENCE RELIEF	7
TOTAL=		21

FINISHING ITEMS									
STATION - STATION	LOCATION	625.0500 SALVAGED TOPSOIL (SY)	628.2004 EROSION MAT CLASS I TYPE B (SY)	628.2008 EROSION MAT URBAN CLASS I TYPE B (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0120 SEEDING MIXTURE NO. 20 (LB)	630.0160 SEEDING MIXTURE NO. 60 (LB)	630.0200 SEEDING TEMPORARY (LB)	630.0500 SEED WATER (MGAL)
9+00 - 12+90	MAINLINE, LT.	1180	-	1180	1	70	-	42	35
9+00 - 12+53	MAINLINE, RT.	1070	1050	-	1	75	-	44	36
11+90 - 12+92	MAINLINE, RT.	-	-	70	-	-	-	-	-
12+61 - 12+88	MAINLINE, RT.	-	-	-	-	-	1	-	-
13+57 - 15+77	MAINLINE, RT.	510	-	510	1	35	-	21	18
13+81 - 17+00	MAINLINE, LT.	1040	-	1040	1	60	-	36	31
15+99 - 17+00	MAINLINE, RT.	200	-	200	-	20	-	9	10
-	UNDISTRIBUTED	1000	250	750	1	60	1	38	20
TOTALS=		5000	1300	3750	5	320	2	190	150

SILT FENCE			
STATION - STATION	LOCATION	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)
11+50 - 13+24	MAINLINE, LT.	200	600
13+27 - 15+79	MAINLINE, RT.	260	780
13+66 - 17+00	MAINLINE, LT.	345	1035
15+98 - 16+99	MAINLINE, RT.	105	315
-	UNDISTRIBUTED	190	670
TOTALS=		1100	3400

REMOVING SIGNS							
SIGN NUMBER	APPROX. STATION	LOCATION	SIGN CODE	SIGN DESCRIPTION	SIGN SIZE (IN X IN)	638.2602 REMOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)
1-01R	12+92	MAINLINE, RT.	-	CLEARANCE STRIPER DOWN RIGHT	-	1	1
1-02R	13+07	MAINLINE, LT.	-	CLEARANCE STRIPER DOWN LEFT	-	1	1
1-03R	13+33	MAINLINE, RT.	-	CLEARANCE STRIPER DOWN LEFT	-	1	1
1-04R	13+48	MAINLINE, LT.	-	CLEARANCE STRIPER DOWN RIGHT	-	1	1
TOTALS=						4	4

MARKERS ROW		
STATION	LOCATION	633.5100 (EACH)
8+50	MAINLINE, LT.	1
8+50	MAINLINE, RT.	1
8+95	MAINLINE, LT.	1
8+95	MAINLINE, LT.	1
8+97	MAINLINE, RT.	1
8+97	MAINLINE, RT.	1
11+40	MAINLINE, RT.	1
12+25	MAINLINE, RT.	1
12+75	MAINLINE, LT.	1
13+35	MAINLINE, RT.	1
13+35	MAINLINE, RT.	1
14+39	MAINLINE, RT.	1
15+50	MAINLINE, LT.	1
17+00	MAINLINE, LT.	1
17+00	MAINLINE, LT.	1
17+06.52	MAINLINE, LT.	1
TOTAL=		16

TRAFFIC CONTROL									
		643.0420 TRAFFIC CONTROL BARRICADES TYPE III	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A	643.0900 TRAFFIC CONTROL SIGNS	643.1050 TRAFFIC CONTROL SIGNS PCMS				
LOCATION	DURATION	(COUNT)	(DAY)	(COUNT)	(DAY)	(COUNT)	(DAY)	(COUNT)	(DAY)
PROJECT	105	18	1,890	28	2,940	14	1,470	2	14
TOTALS =		1,890		2,940		1,470		14	

3

3

ALL ITEMS ARE CATEGORY 010 UNLESS NOTED OTHERWISE

PAVEMENT MARKING

646.2020 MARKING LINE EPOXY 6-INCH				
STATION - STATION	LOCATION	DESCRIPTION	SOLID	SOLID
			YELLOW (LF)	WHITE (LF)
9+00 - 17+00	MAINLINE	DOUBLE YELLOW	1600	-
9+00 - 17+00	MAINLINE, LT.	WHITE EDGELINE	-	800
9+00 - 17+00	MAINLINE, RT.	WHITE EDGELINE	-	800
SUBTOTALS=			1600	1600
TOTAL =			3200	

CONSTRUCTION STAKING

(CATEGORY 020)						
STATION - STATION	LOCATION	650.4500 SUBGRADE (LF)	650.5000 BASE (LF)	650.6501	650.9911	650.9920 SLOPE STAKES (LF)
				STRUCTURE LAYOUT (B-20-265) (LS)	SUPPLEMENTAL CONTROL (4812-00-01) (EACH)	
9+00 - 12+42	MAINLINE	342	342	-	-	342
12+42 - 12+87	MAINLINE	44	-	-	-	44
13+55 - 13+97	MAINLINE	41	-	-	-	41
13+97 - 17+00	MAINLINE	303	303	-	-	303
PROJECT	-	-	-	1	1	-
TOTALS=		730	645	1	1	730

SAWING ASPHALT

STATION - STATION	LOCATION	690.0150 (LF)
9+00	MAINLINE	30
15+88	MAINLINE, RT. (DRIVEWAY)	20
17+00	MAINLINE	30
TOTAL=		80

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')
AND OTHERS	ET AL	REEL / IMAGE	R/I
BACK	BK	REFERENCE LINE	R/L
BLOCK	BLK	REMAINING	REM
CENTERLINE	C/L	RESTRICTIVE DEVELOPMENT	RDE
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	SEPV
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	TLE
GRID NORTH	GN	EASEMENT	
HIGHWAY EASEMENT	HE	TRANSPORTATION PROJECT PLAT	TPP
IDENTIFICATION	ID	UNITED STATES HIGHWAY	USH
LAND CONTRACT	LC	VOLUME	V
LEFT	LT		
MONUMENT	MON		
NATIONAL GEODETIC SURVEY	NGS		
NUMBER	NO		
OUTLOT	OL		
PAGE	P		
POINT OF TANGENCY	PT		
PERMANENT LIMITED	PLE		
EASEMENT			
POINT OF BEGINNING	POB		
POINT OF CURVATURE	PC		

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 SYMBOLS

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

CONVENTIONAL UTILITY SYMBOLS

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

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), FOND DU LAC COUNTY, NAD83(2011), IN U.S. 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 MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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.

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.

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 TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE.

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

FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE FOND DU LAC COUNTY HIGHWAY DEPARTMENT.

FILE NAME : S:\Projects\W11684 WisDOT - CTH K Bridge, Fond du Lac, Co\RW\DWG\W11684_CTH K_RW TITLE.dwg

PLOT DATE : 1/7/2025 12:09 PM

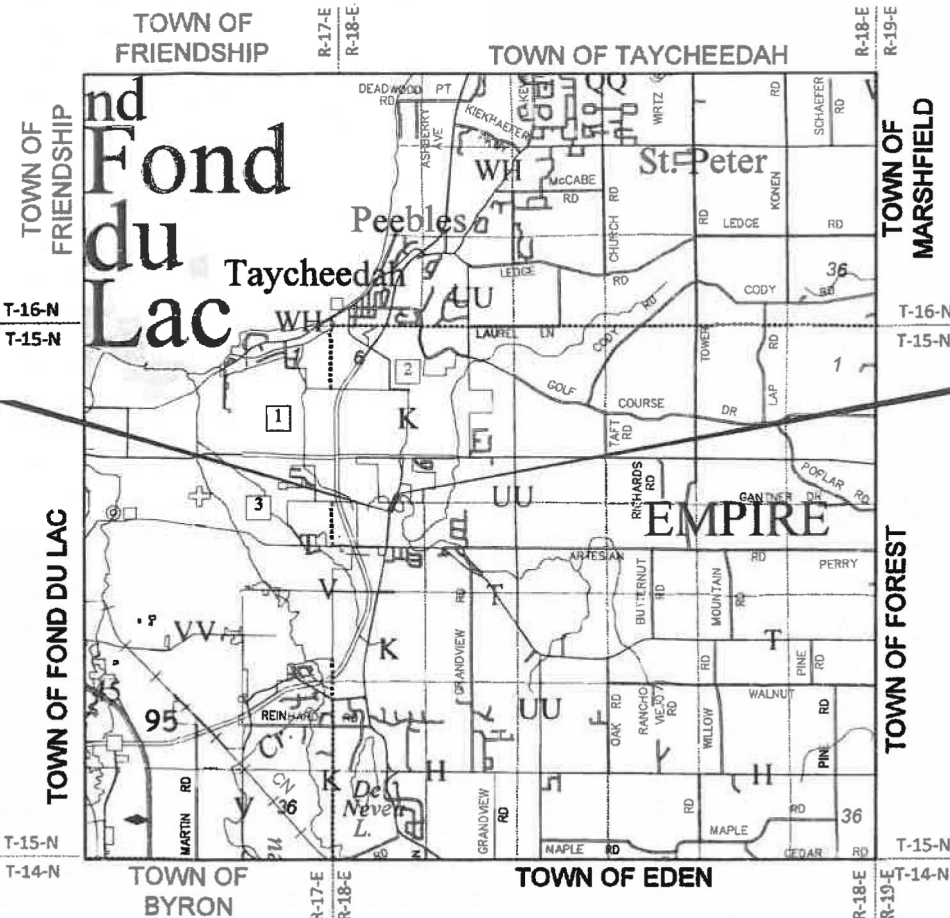
PLOT BY : Tim Velte

PLOT NAME :

PLOT SCALE : 1:1

WISDOT/CADDs SHEET 50

R/W PROJECT NUMBER	4812-00-00	SHEET NUMBER	TOTAL SHEETS
FEDERAL PROJECT NUMBER		4.01	2
PLAT OF RIGHT-OF-WAY REQUIRED FOR			
FOND DU LAC CO, CTH K			
(TAYCHEEDAH CREEK BRIDGE)			
CTH K		FOND DU LAC COUNTY	
CONSTRUCTION PROJECT NUMBER			
4812-00-01			



BEGIN RELOCATION ORDER

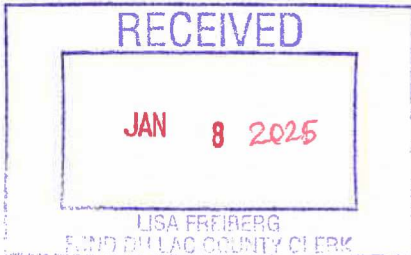
STA. 8+50.00

841.57' SOUTH AND 595.37' EAST OF THE NORTH QUARTER CORNER OF SEC. 18, TOWN 15 NORTH, RANGE 18 EAST, TOWN OF EMPIRE, FOND DU LAC COUNTY, WI
Y = 384421.965
X = 832314.964

END RELOCATION ORDER

STA. 17+00.00

32.79' SOUTH AND 832.05' EAST OF THE NORTH QUARTER CORNER OF SEC. 18, TOWN 15 NORTH, RANGE 18 EAST, TOWN OF EMPIRE, FOND DU LAC COUNTY, WI
Y = 385230.749
X = 832551.640



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 FOND DU LAC COUNTY, WISCONSIN AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



THIS PLAT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES AND ACCESS RIGHTS.

REVISION DATE
3-31-2025 N.C.

APPROVED FOR FOND DU LAC COUNTY

DATE: 1-8-2025 (NAME / TITLE)

SCHEDULE OF LANDS AND INTERESTS						
PARCEL NUMBER	OWNER(S)	INTERESTS REQUIRED	R/W ACRES REQUIRED			TLE ACRES REQUIRED
			NEW	EXISTING	TOTAL	
1	BASM LLC, A WISCONSIN LIMITED LIABILITY COMPANY	FEE	0.49	0.84	1.33	-
2	GREGORY S. SERTICH AND DONNA R. SERTICH, HUSBAND AND WIFE, AS SURVIVORSHIP MARITAL PROPERTY	FEE	0.11	0.38	0.49	-
3	A.D. SUTHERLAND CHAPTER OF THE IZACK WALTON LEAGUE OF AMERICA, INC., A WISCONSIN CORPORATION	FEE, TLE	0.06	0.74	0.80	0.01

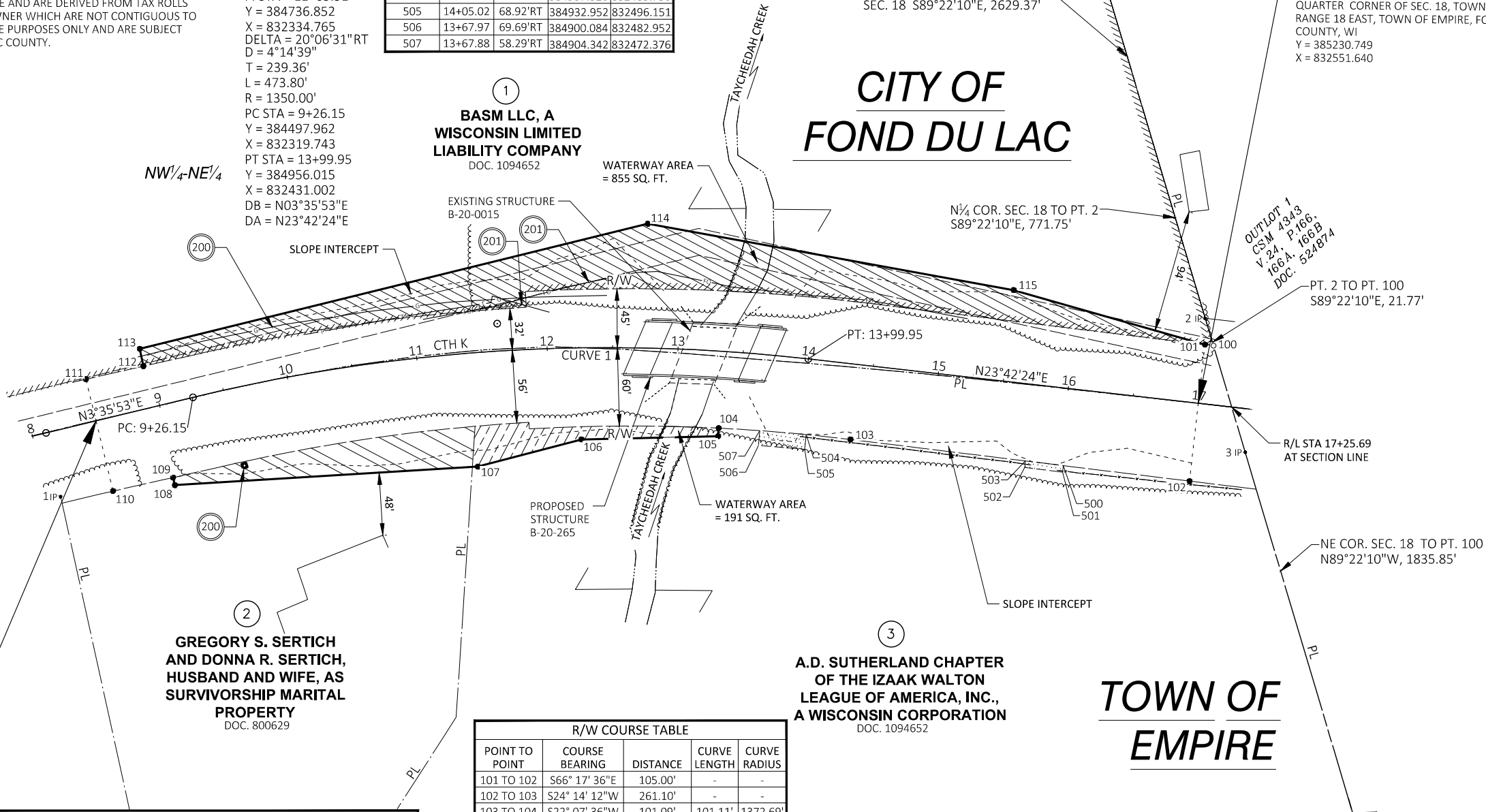
NOTE: AREAS SHOWN IN THE TOTAL ACRES COLUMN MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED. OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO FOND DU LAC COUNTY.

R/W MONUMENTS TABLE					
POINT	STATION	OFFSET	Y	X	
100	17+06.52	44.99'LT	385254.807	832513.063	
101	17+00.00	45.05'LT	385248.863	832510.388	
102	17+00.00	59.95'RT	385206.646	832606.531	
103	14+38.91	57.53'RT	384968.558	832499.347	
104	13+35.00	58.83'RT	384874.913	832461.271	
105	13+35.00	65.00'RT	384872.702	832467.033	
106	12+25.00	70.00'RT	384772.102	832438.418	
107	11+40.00	87.00'RT	384690.352	832434.858	
108	8+97.00	62.00'RT	384464.982	832379.792	
109	8+97.00	56.01'RT	384465.357	832373.818	
110	8+50.00	55.25'RT	384418.498	832370.110	
111	8+50.00	32.76'LT	384424.021	832282.272	
112	8+95.00	32.03'LT	384468.887	832285.822	
113	8+95.43	45.67'LT	384470.168	832272.234	
114	12+75.00	95.00'LT	384869.446	832295.987	
115	15+49.97	70.00'LT	385121.524	832427.227	

FOUND MONUMENTS TABLE					
POINT	STATION	OFFSET	Y	X	TYPE & SIZE
1	8+09.95	50.04'RT	384378.853	832362.389	0.75" IRON ROD
2	16+97.98	65.02'LT	385255.046	832491.294	1" IRON PIPE
3	17+39.89	33.24'RT	385253.914	832598.093	1" IRON PIPE

TLE POINTS TABLE					
POINT	STATION	OFFSET	Y	X	
500	16+02.78	59.06'RT	385117.989	832566.629	
501	16+02.83	64.06'RT	385116.018	832571.226	
502	15+73.62	63.79'RT	385089.383	832559.235	
503	15+73.66	58.79'RT	385091.435	832554.675	
504	14+04.85	57.65'RT	384937.326	832485.756	
505	14+05.02	68.92'RT	384932.952	832496.151	
506	13+67.97	69.69'RT	384900.084	832482.952	
507	13+67.88	58.29'RT	384904.342	832472.376	

CURVE 1
PI STA = 11+65.51
Y = 384736.852
X = 832334.765
DELTA = 20°06'31"RT
D = 4°14'39"
T = 239.36'
L = 473.80'
R = 1350.00'
PC STA = 9+26.15
Y = 384497.962
X = 832319.743
PT STA = 13+99.95
Y = 384956.015
X = 832431.002
DB = N03°35'53"E
DA = N23°42'24"E



BEGIN RELOCATION ORDER
STA. 8+50.00

841.57' SOUTH AND 595.37' EAST OF THE NORTH
QUARTER CORNER OF SEC.18, TOWN 15 NORTH,
RANGE 18 EAST, TOWN OF EMPIRE, FOND DU LAC
COUNTY, WI
Y = 384421.965
X = 832314.964

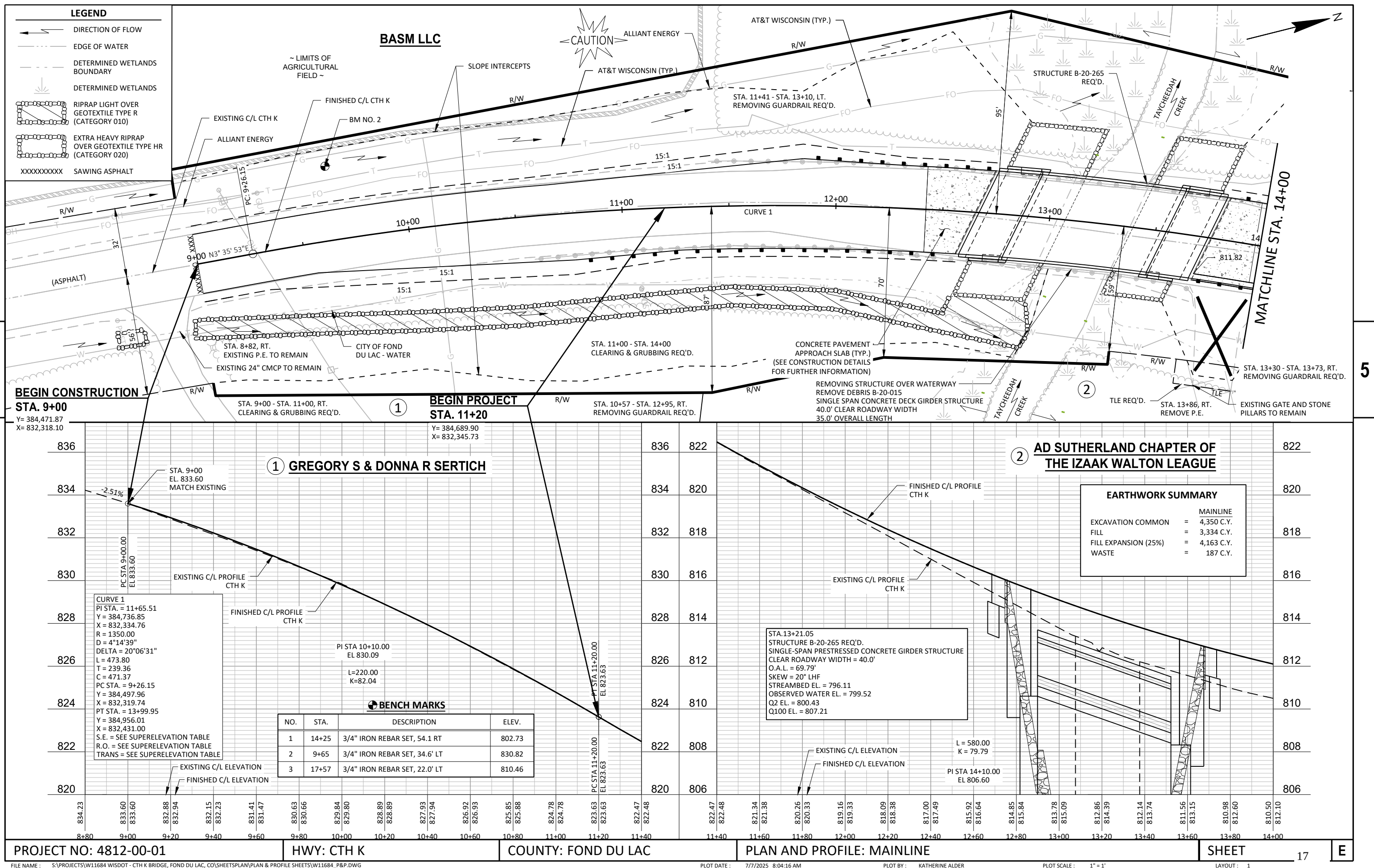
UTILITY EASEMENT TABLE				
UTILITY NUMBER	OWNER	RECORDING INFORMATION	LOCATED IN PARCEL #	REMARKS
200	WP&L	DOC.216277, V.548, P. 341-342	1	20' WIDE EASEMENT

R/W COURSE TABLE				
POINT TO POINT	COURSE BEARING	DISTANCE	CURVE LENGTH	CURVE RADIUS
101 TO 102	S66° 17' 36"E	105.00'	-	-
102 TO 103	S24° 14' 12"W	261.10'	-	-
103 TO 104	S22° 07' 36"W	101.09'	101.11'	1372.69'
104 TO 105	S69° 00' 13"E	6.17'	-	-
105 TO 106	S15° 52' 42"W	104.59'	-	-
106 TO 107	S02° 29' 37"W	81.83'	-	-
107 TO 108	S13° 43' 49"W	232.00'	-	-
108 TO 109	N86° 24' 07"W	5.99'	-	-
109 TO 110	S04° 31' 29"W	47.01'	-	-
110 TO 111	N86° 24' 07"W	88.01'	-	-
111 TO 112	N04° 31' 29"E	45.01'	-	-
112 TO 113	N84° 36' 56"W	13.65'	-	-
113 TO 114	N03° 24' 17"E	399.98'	-	-
114 TO 115	N27° 30' 10"E	284.20'	-	-
115 TO 101	N33° 08' 49"E	152.09'	-	-

UTILITY INTEREST REQUIRED		
UTILITY NUMBER	OWNER	INTEREST REQUIRED
200	ALLIANT ENERGY	RELEASE OF RIGHTS
201	AT&T AMERICA	RELEASE OF RIGHTS

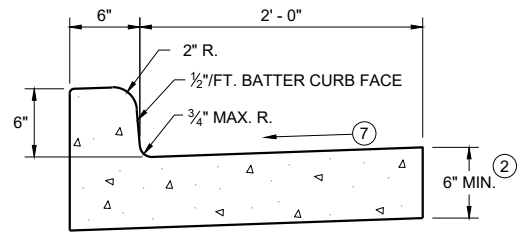
NOTE: EXISTING C/L OF CTH K BASED ON
CENTERLINE OF EXISTING PAVEMENT.
EXISTING RIGHT-OF-WAY FOR CTH K BASED ON
THE CENTERLINE OF EXISTING PAVEMENT,
PREVIOUS SURVEYS AND WIS.
STATUTE 82.31(2).

REVISION DATE 3/31/2025	DATE 1/8/2025	SCALE, FEET 0 25 50	HWY: CTH K	STATE R/W PROJECT NUMBER 4812-00-00	PLAT SHEET 4.02
			COUNTY: Fond du Lac	CONSTRUCTION PROJECT NUMBER 4812-00-01	PS&E SHEET 16

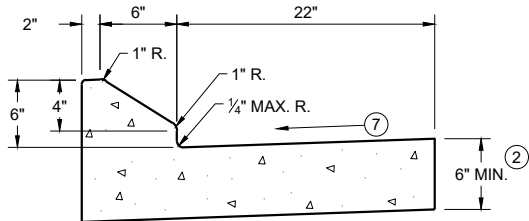


Standard Detail Drawing List

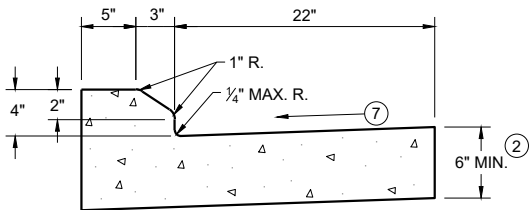
08D01-24A	CONCRETE CURB & GUTTER
08D01-24B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-08A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D04-07	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
12A03-10	NAME PLATE (STRUCTURES)
13A03-07	CONCRETE PAVEMENT SHOULDERS
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13B02-09B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
13C19-03	HMA LONGITUDINAL JOINTS
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
15A01-13B	FLEXIBLE MARKER POST FOR RIGHT-OF-WAY
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-24A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



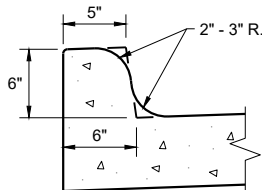
TYPES A^① & D



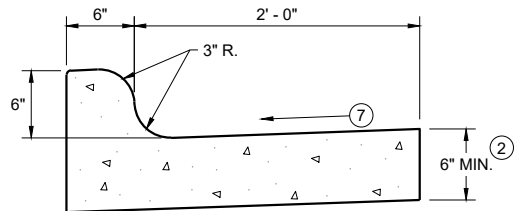
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

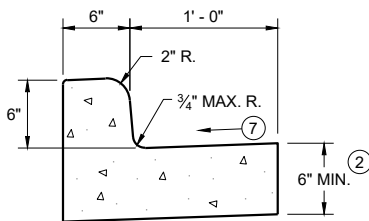


TYPES K^① & L
(OPTIONAL CURB SHAPE)



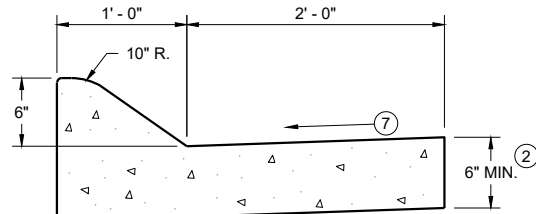
TYPES K^① & L

CONCRETE CURB AND GUTTER 30"

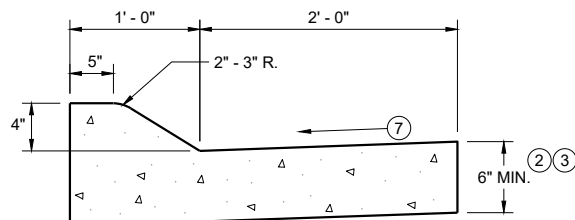


TYPES A^① & D

CONCRETE CURB AND GUTTER 18"

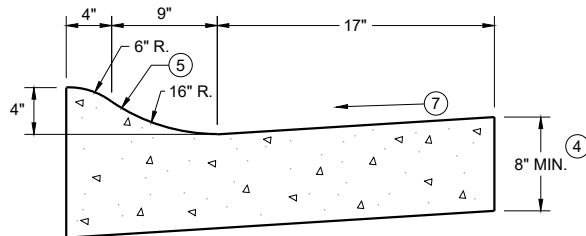


6" SLOPED CURB TYPES A^① & D



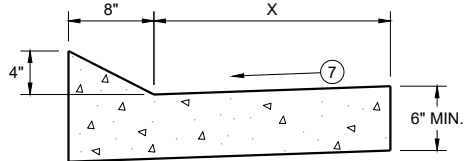
4" SLOPED CURB TYPES A^① & D

CONCRETE CURB AND GUTTER 36"



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

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

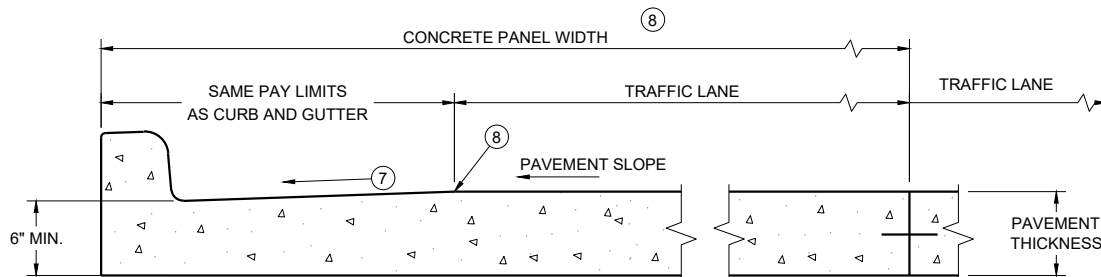


TYPES TBT & TBTT^①

CONCRETE CURB AND GUTTER

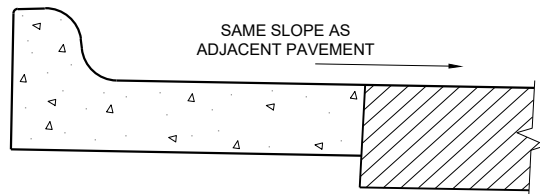
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

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

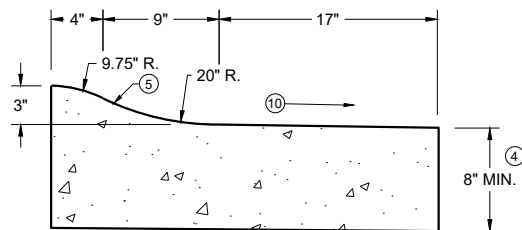


PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB AND GUTTER

* 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

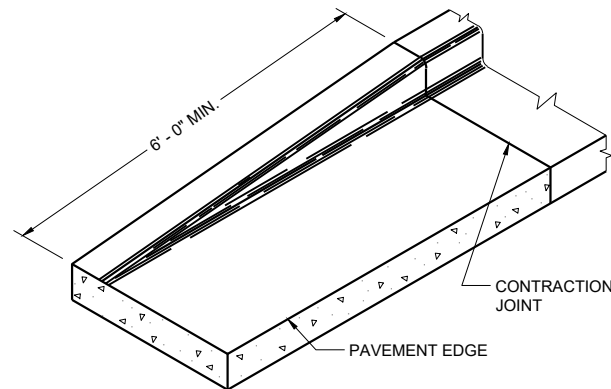
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

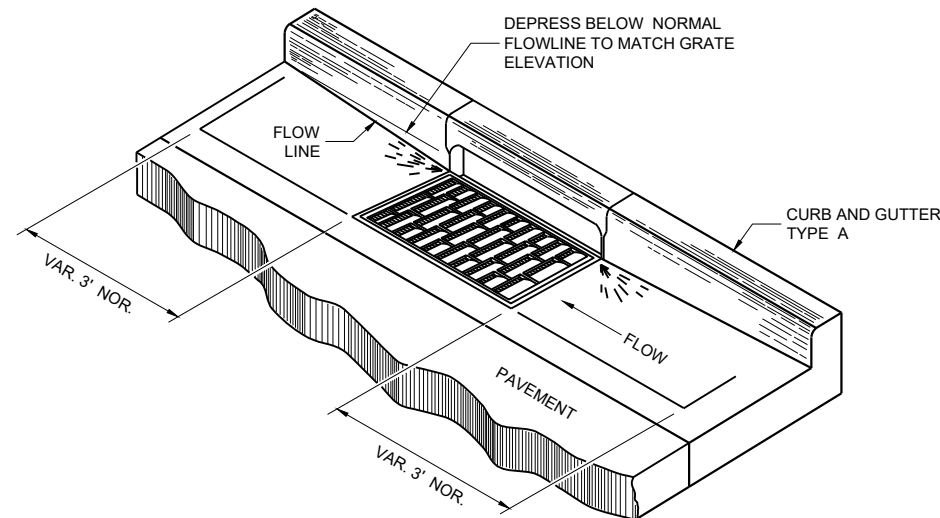
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

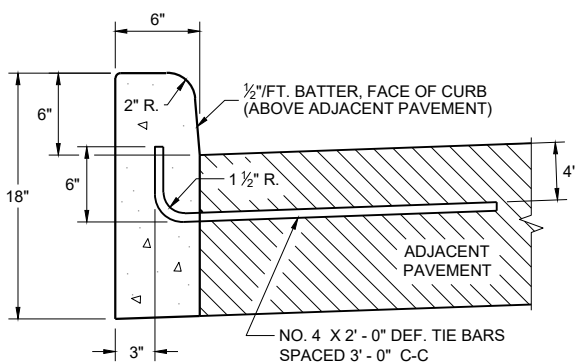


END SECTION CURB AND GUTTER

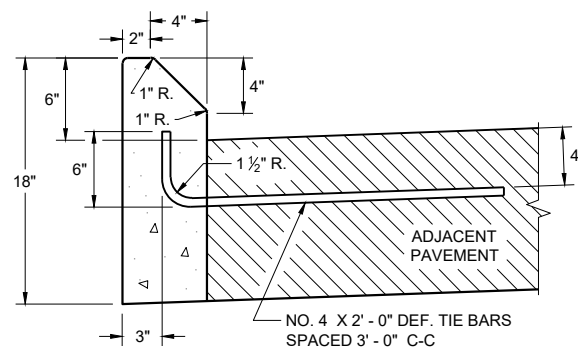


DETAIL OF CURB AND GUTTER AT INLETS

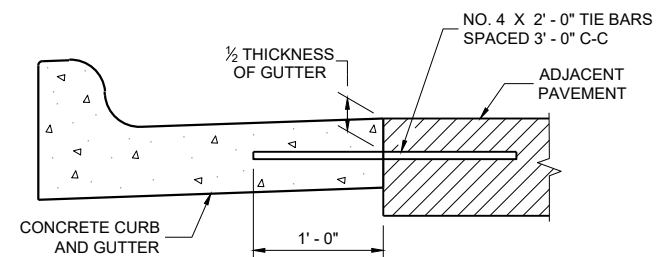
(TYPICAL H INLET COVER SHOWN)



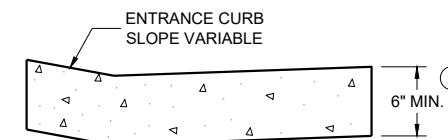
TYPES A^① & D



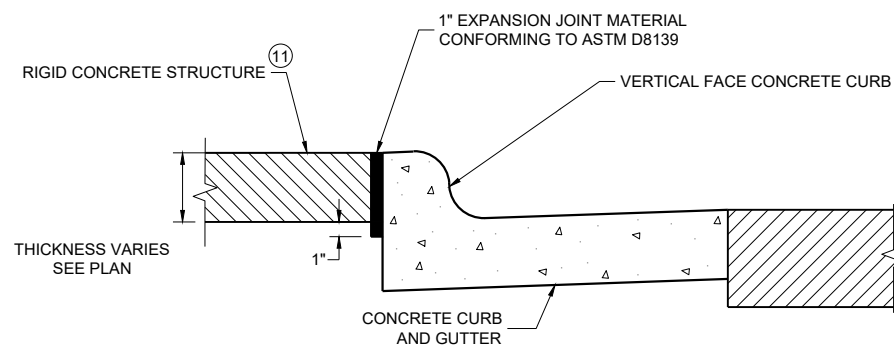
TYPES G^① & J
CONCRETE CURB



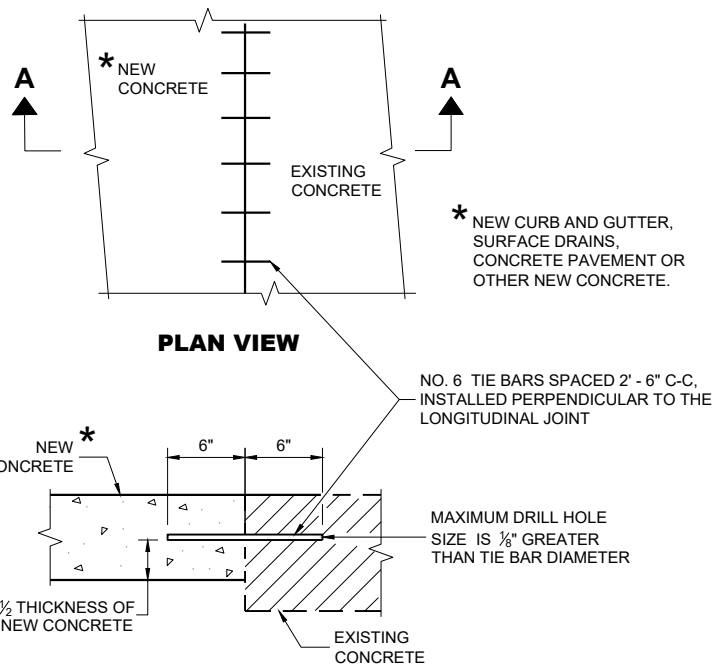
TYPICAL TIE BAR LOCATION



DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE



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.

6

SDD 08D01-24b

6

SDD 08D01-24b

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

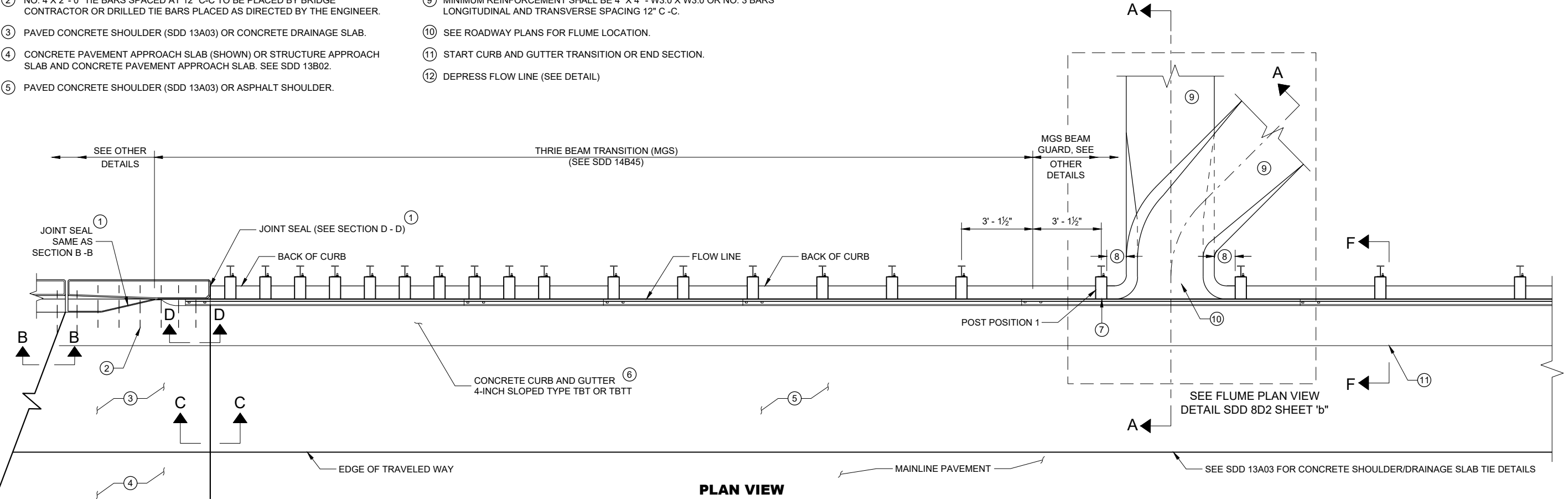
GENERAL NOTES

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.

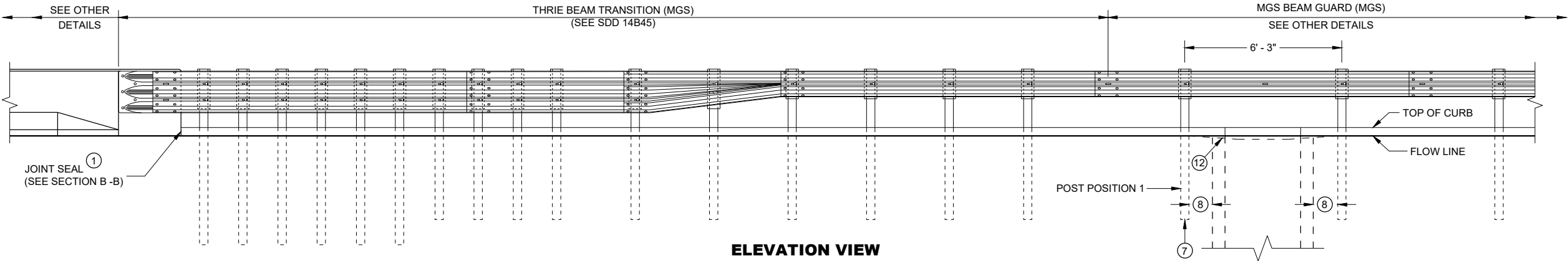
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

- 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)



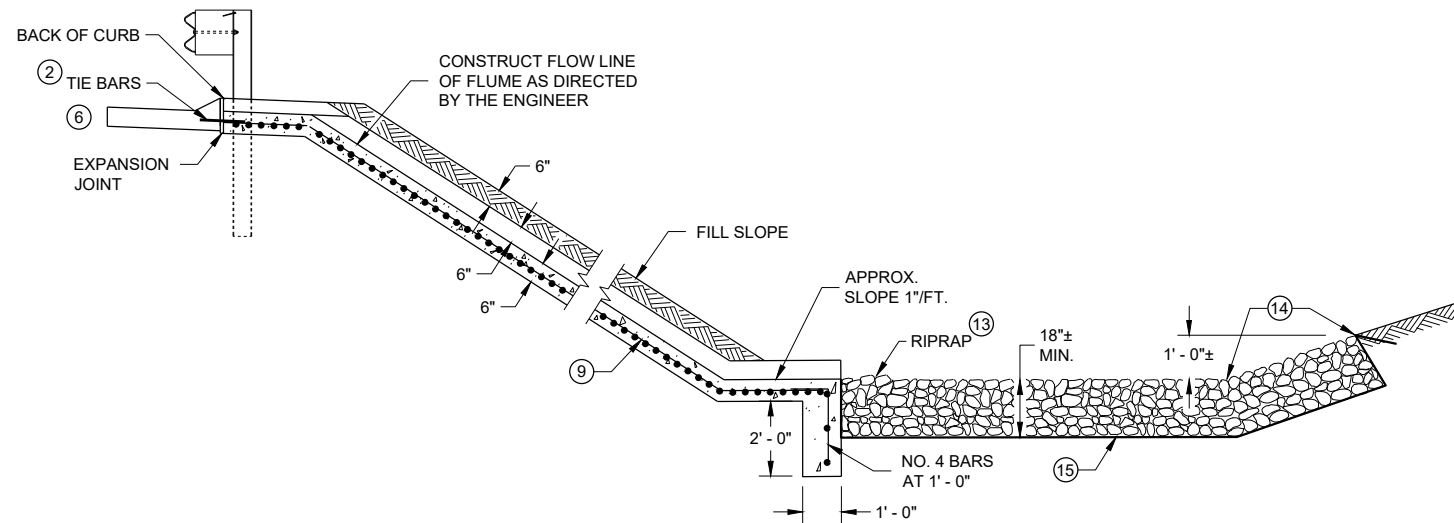
PLAN VIEW



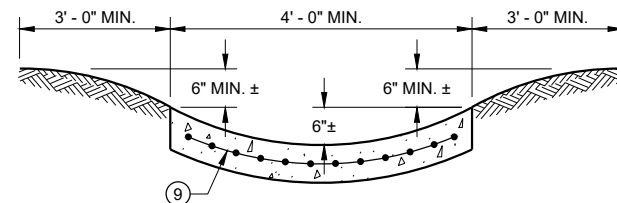
ELEVATION VIEW

CONCRETE SURFACE
DRAINS FLUME TYPE
AT STRUCTURES

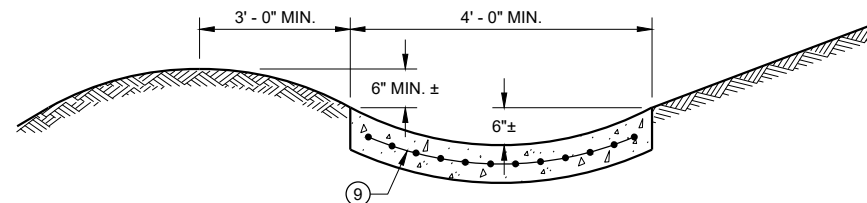
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



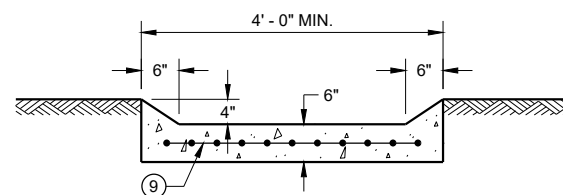
SECTION A - A



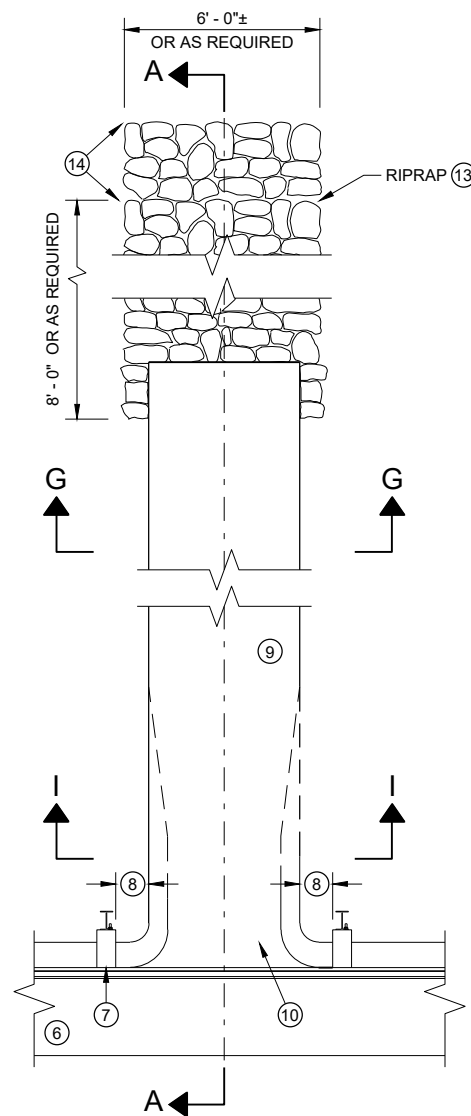
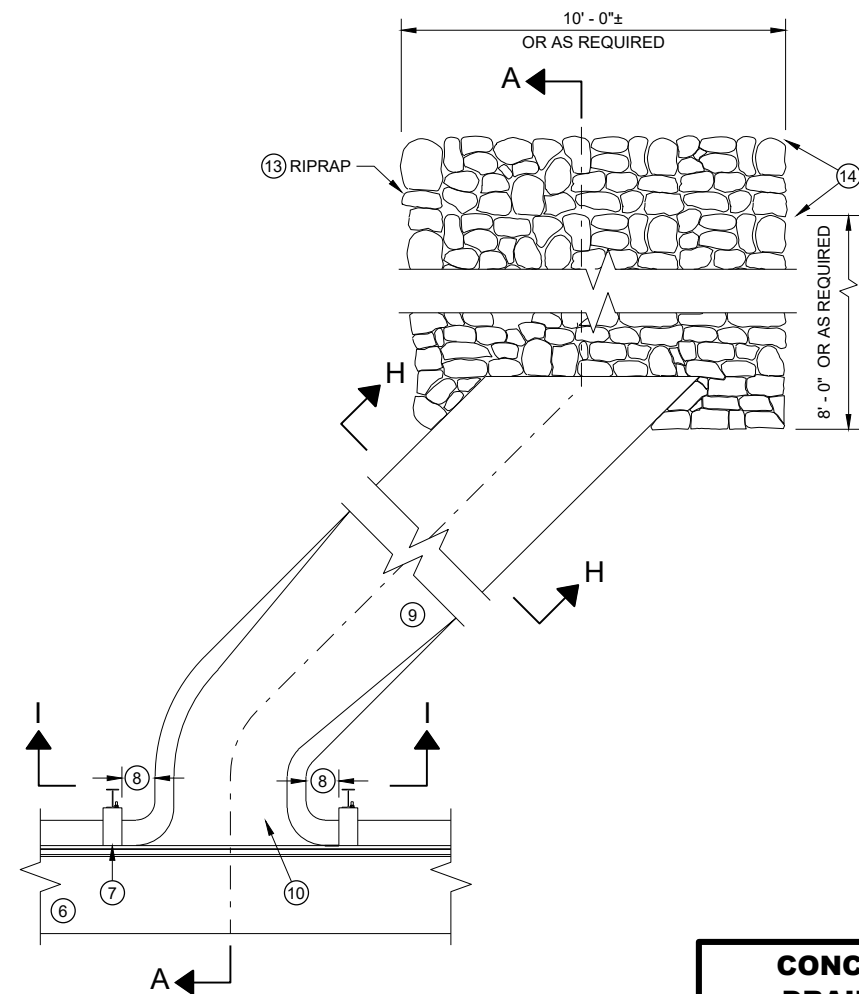
SECTION G - G



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.

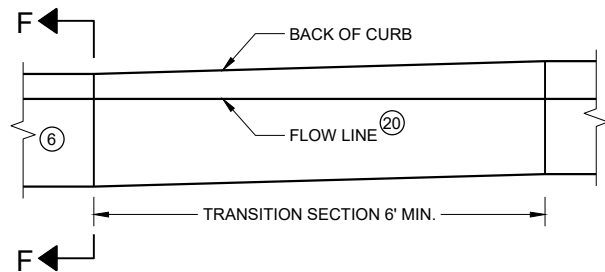
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

- 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.

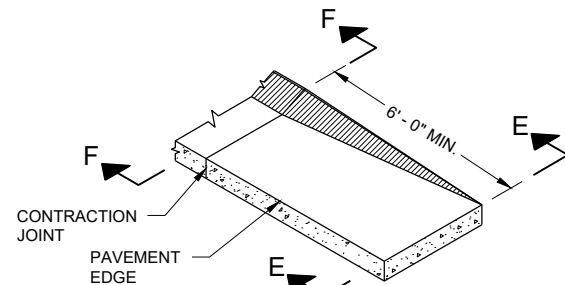
- ⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.
- ⑩ SEE ROADWAY 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**

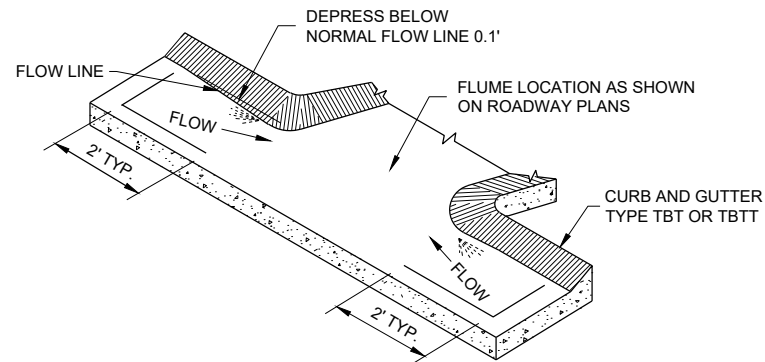
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 23



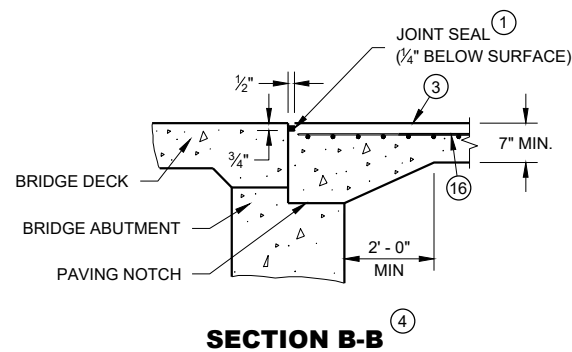
**CURB AND GUTTER TRANSITION SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



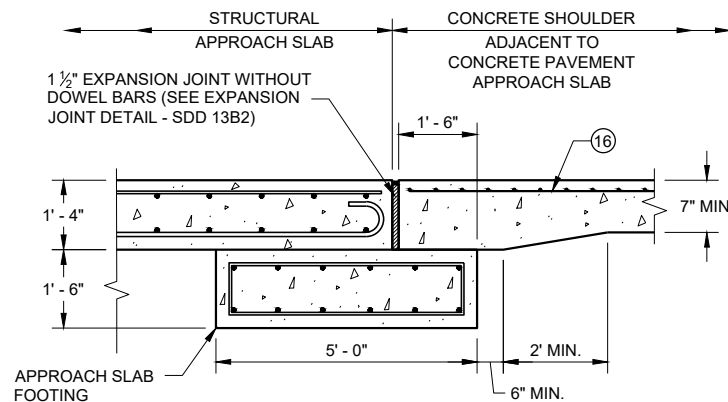
**CURB AND GUTTER END SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



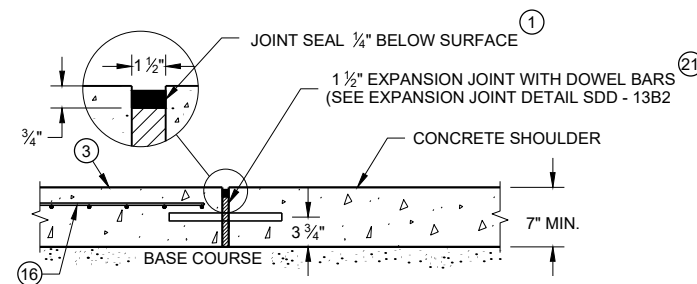
**CURB AND GUTTER FLOW LINE DEPRESSION
AT FLUMES CONCRETE CURB AND GUTTER
4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**



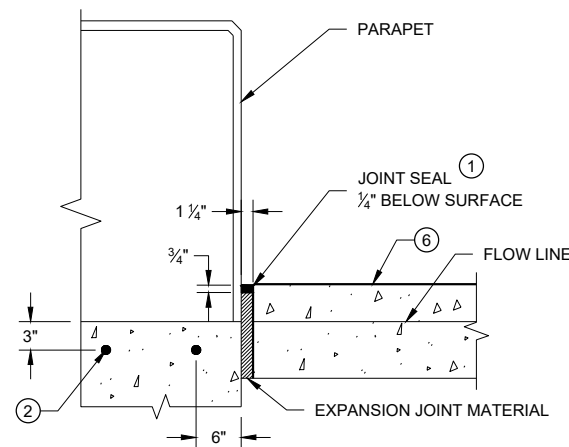
SECTION B-B



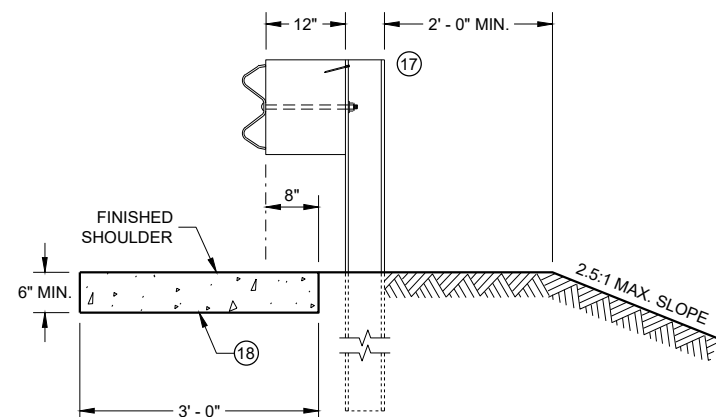
**SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL
APPROACH SLAB AND CONCRETE APPROACH SLAB**



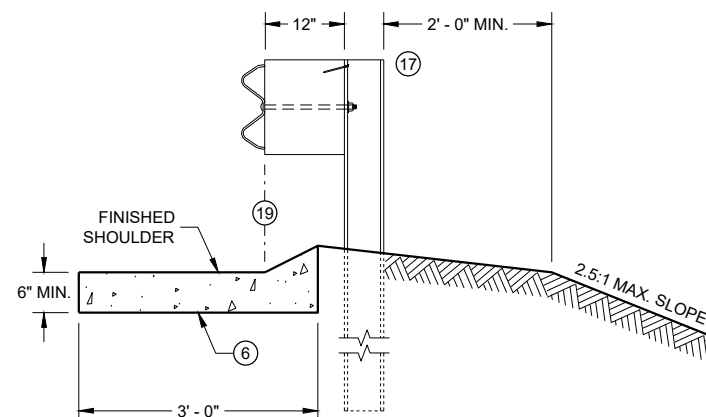
**SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH
WITH CONCRETE SHOULDERS**



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.

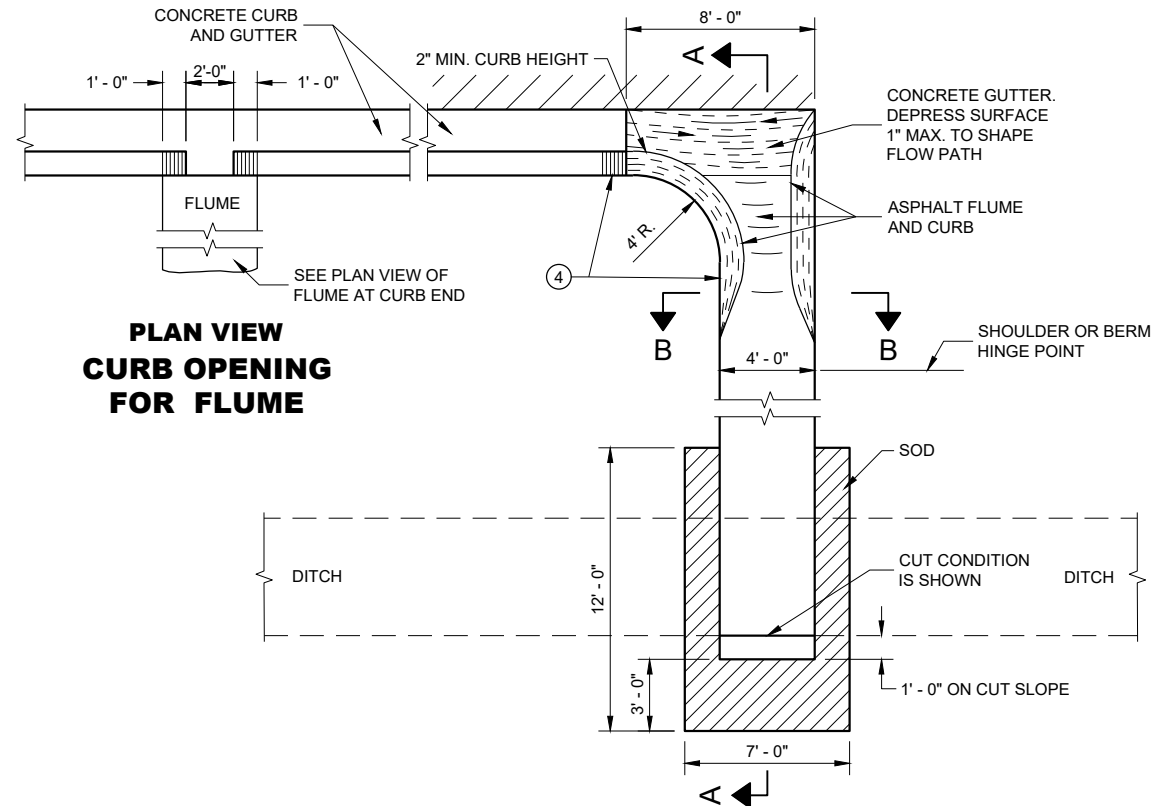
CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVE 24
ENGINEER
FHWA

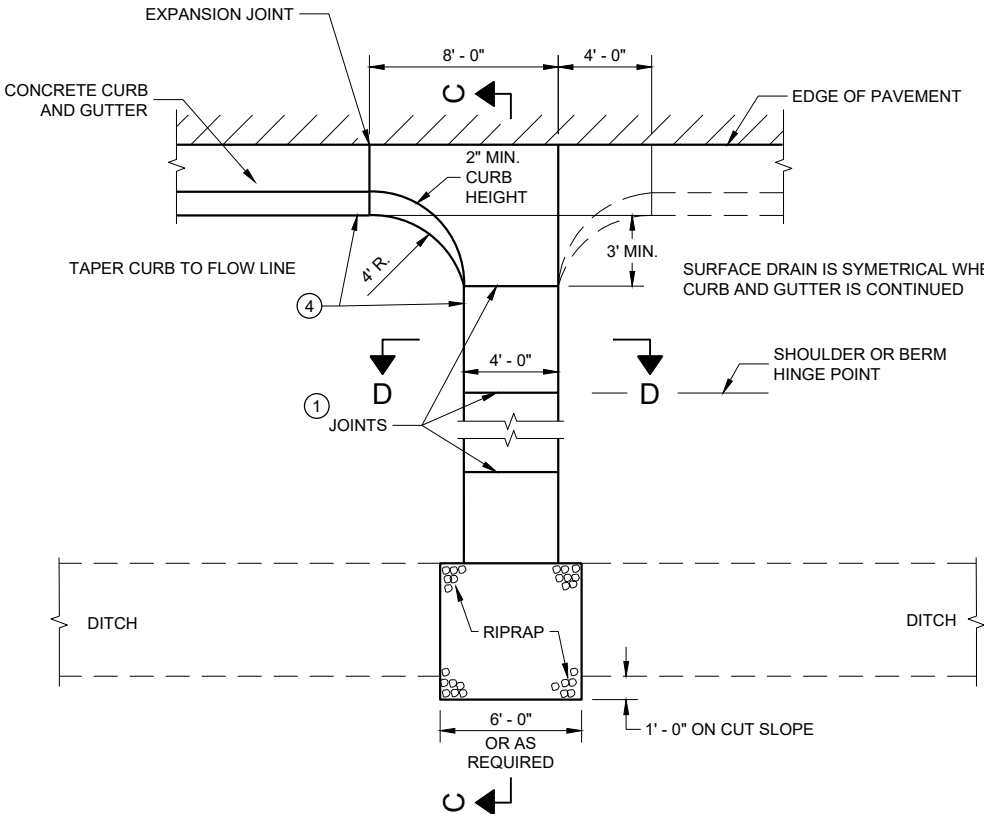
NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

ASPHALTIC FLUME



PLAN VIEW
CURB OPENING
FOR FLUME

PLAN VIEW
FLUME AT CURB END



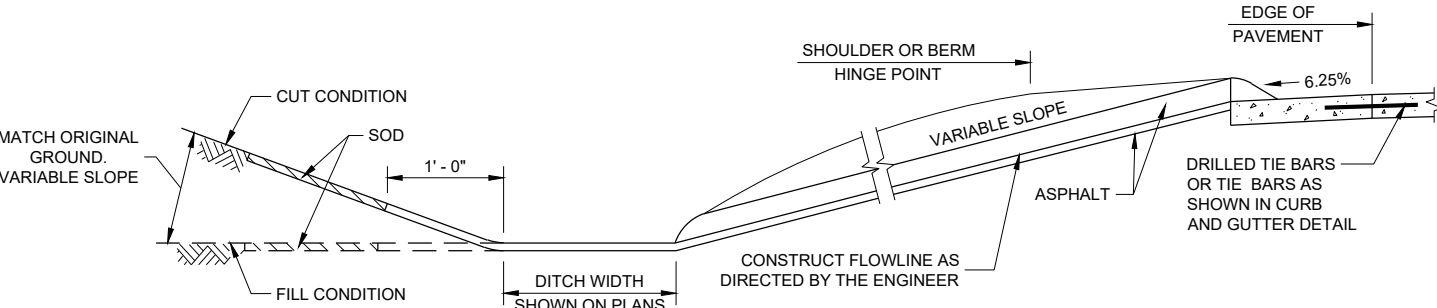
PLAN VIEW
CONCRETE SURFACE DRAIN

GENERAL NOTES

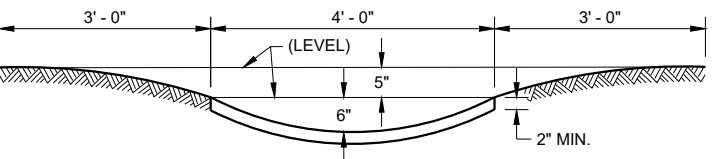
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

4" X 4" - W3.0 X W3.0 CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

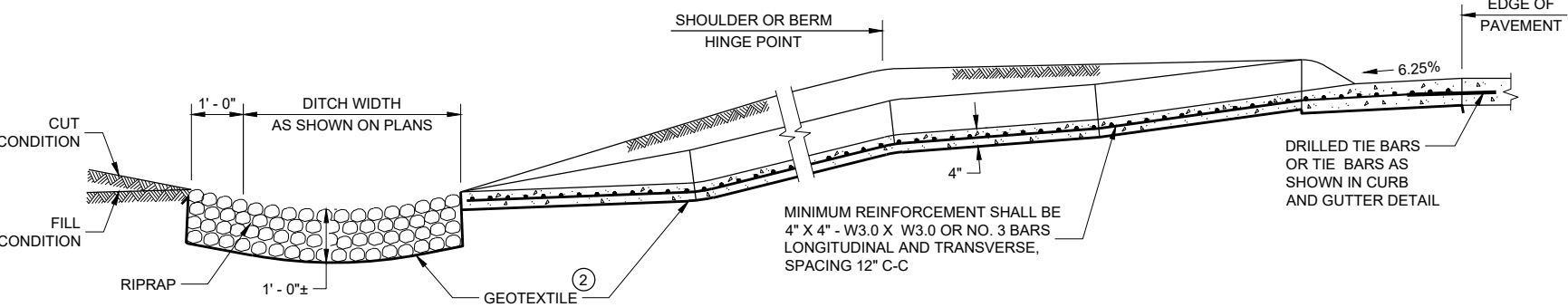
- ① JOINTS SHALL BE 1/8" TO 1/4" WIDE BY 1 1/2" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.
- ④ ANGLE OF FLUME IN RELATION TO BACK OF CURB TO BE CONSTRUCTED PER THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. ANGLE OF FLUME MAY BE OTHER THAN 90 DEGREES AS SHOWN.



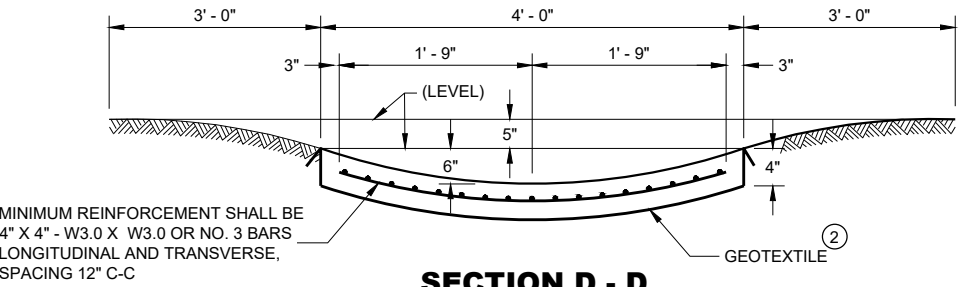
SECTION A - A



SECTION B - B



SECTION C - C

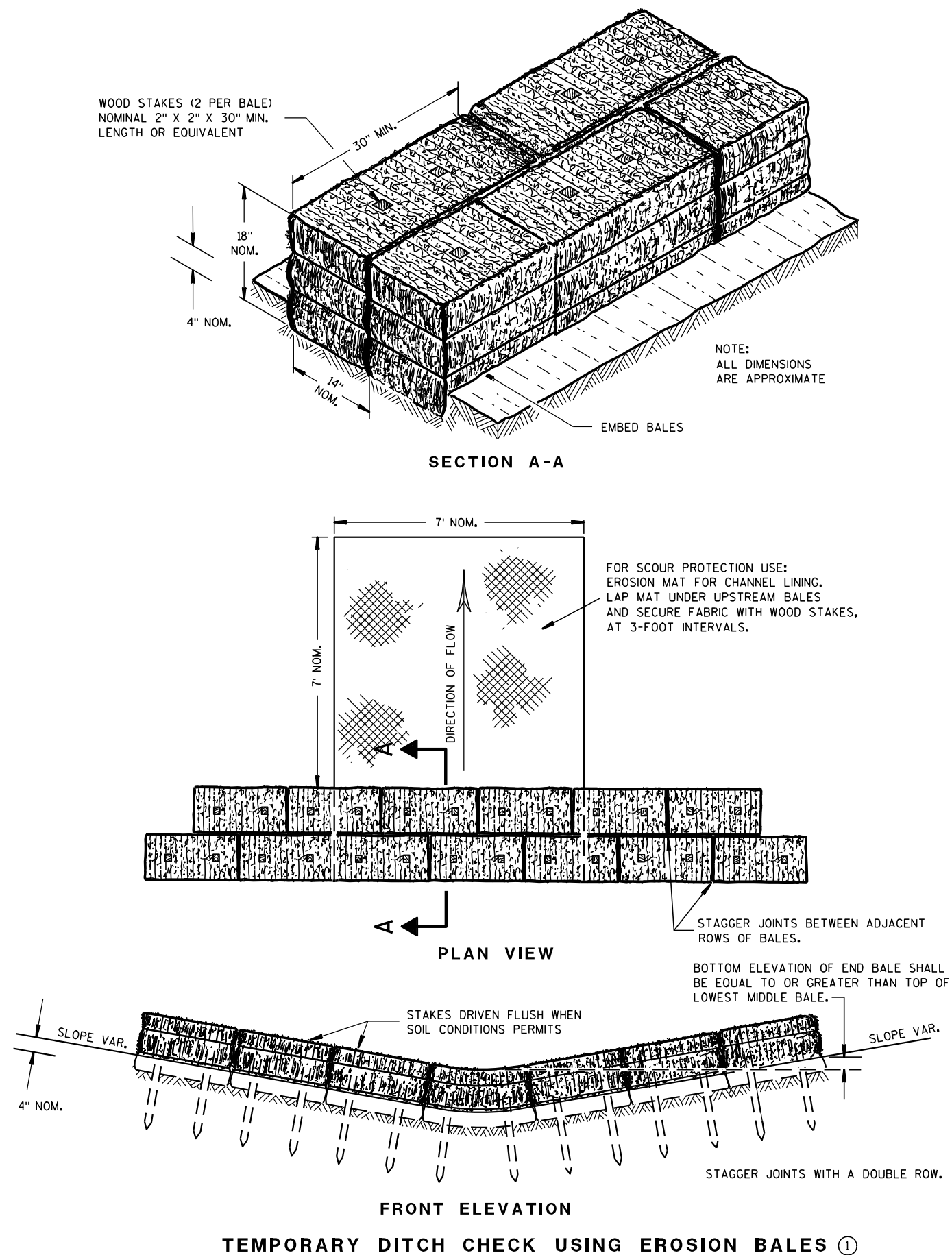


SECTION D - D

CONCRETE SURFACE
DRAINS AND
ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

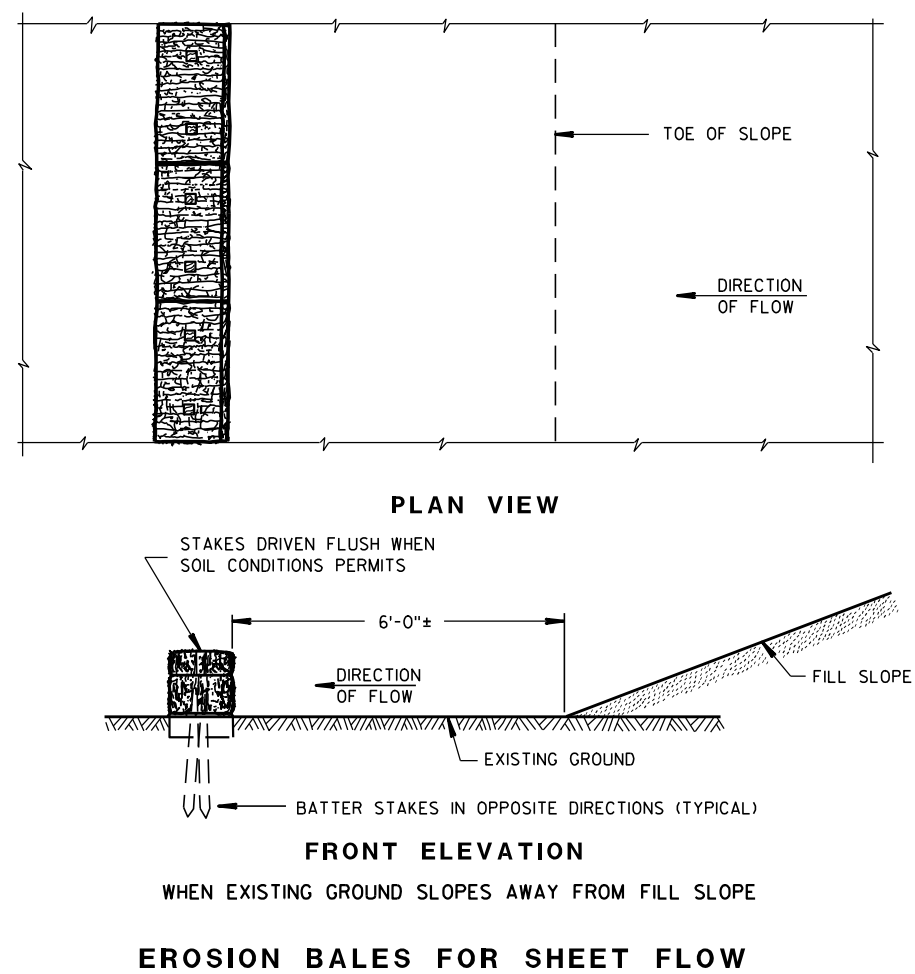
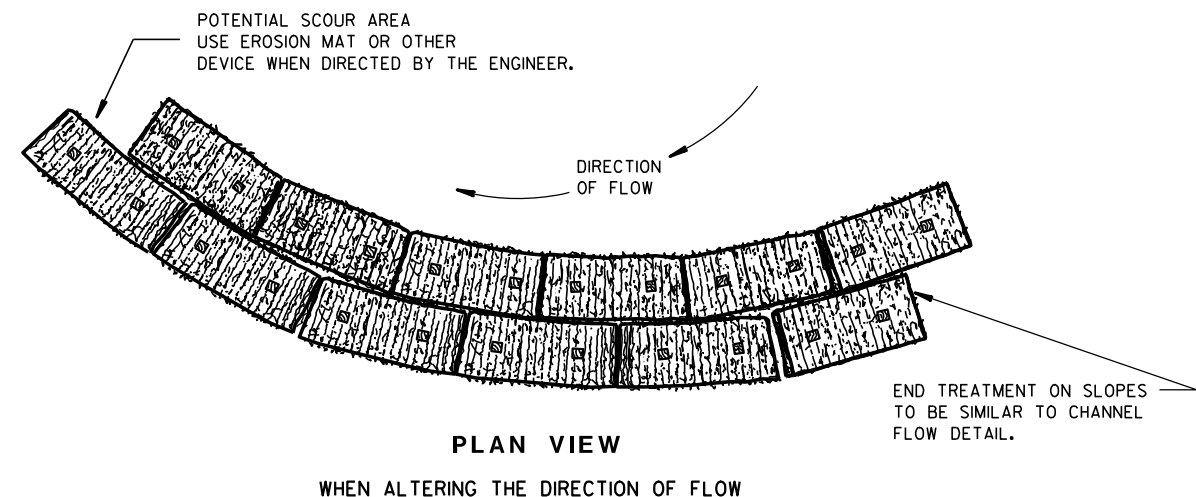
APPROVED
May 2023
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER
25
FHWA



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.

- 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

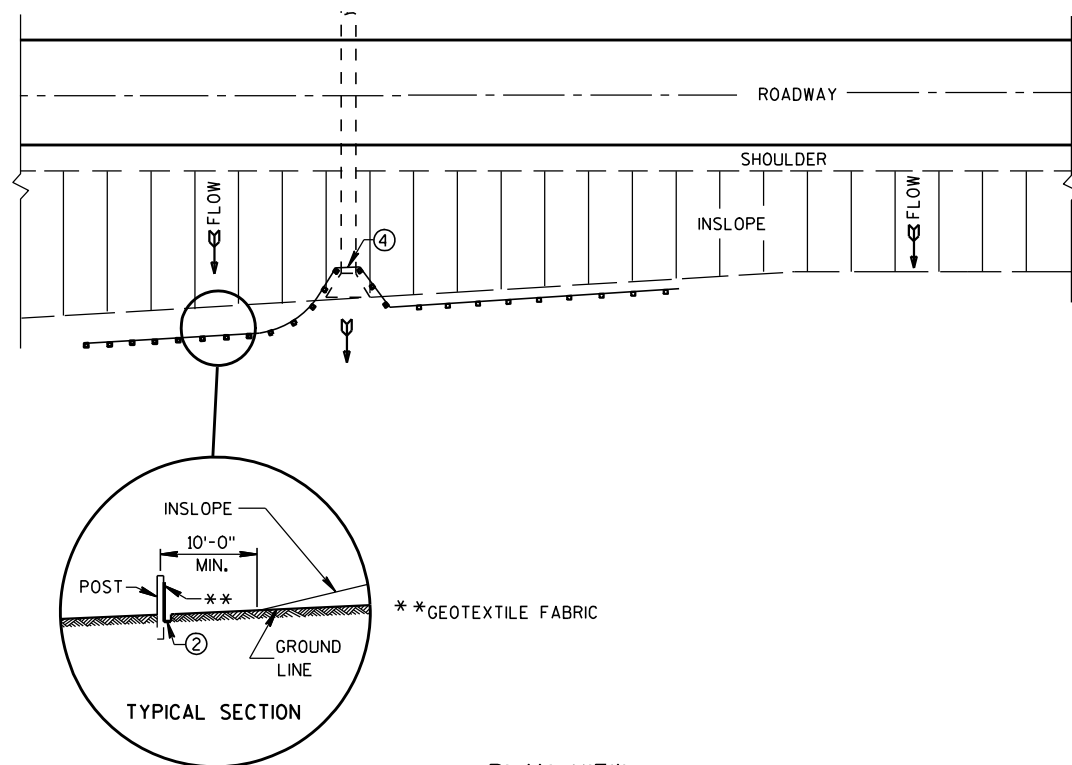
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE

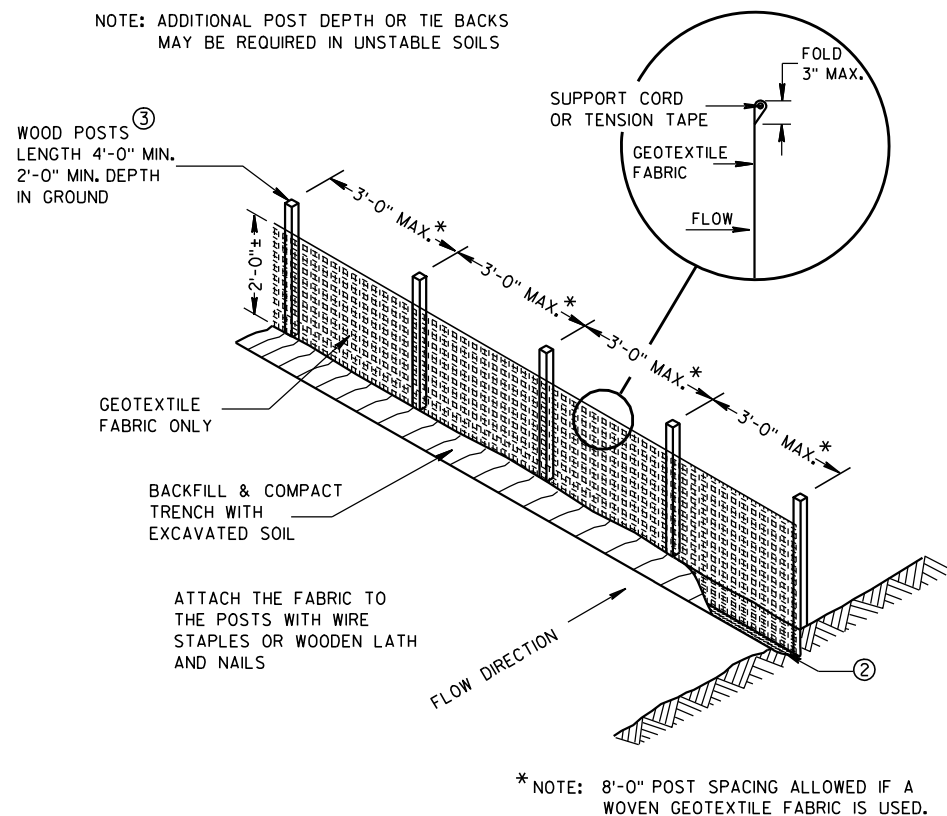
/S/ Beth Conn-----
CHIEF ROADWAY DEVELOP 26 ENGINEER

FHWA

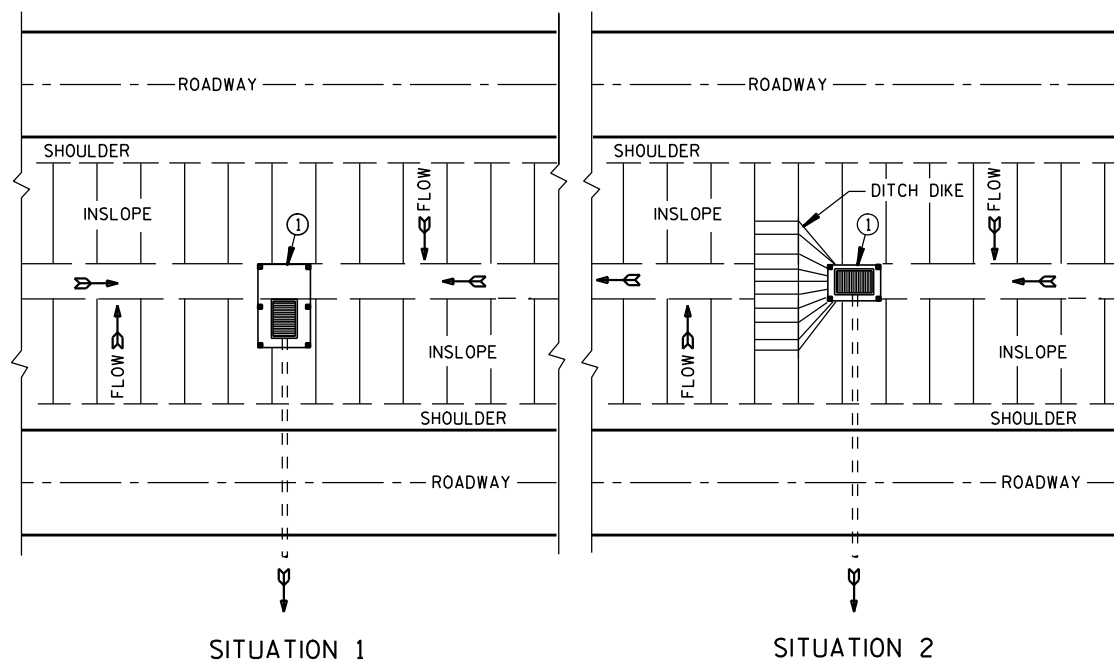


TYPICAL APPLICATION OF SILT FENCE

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

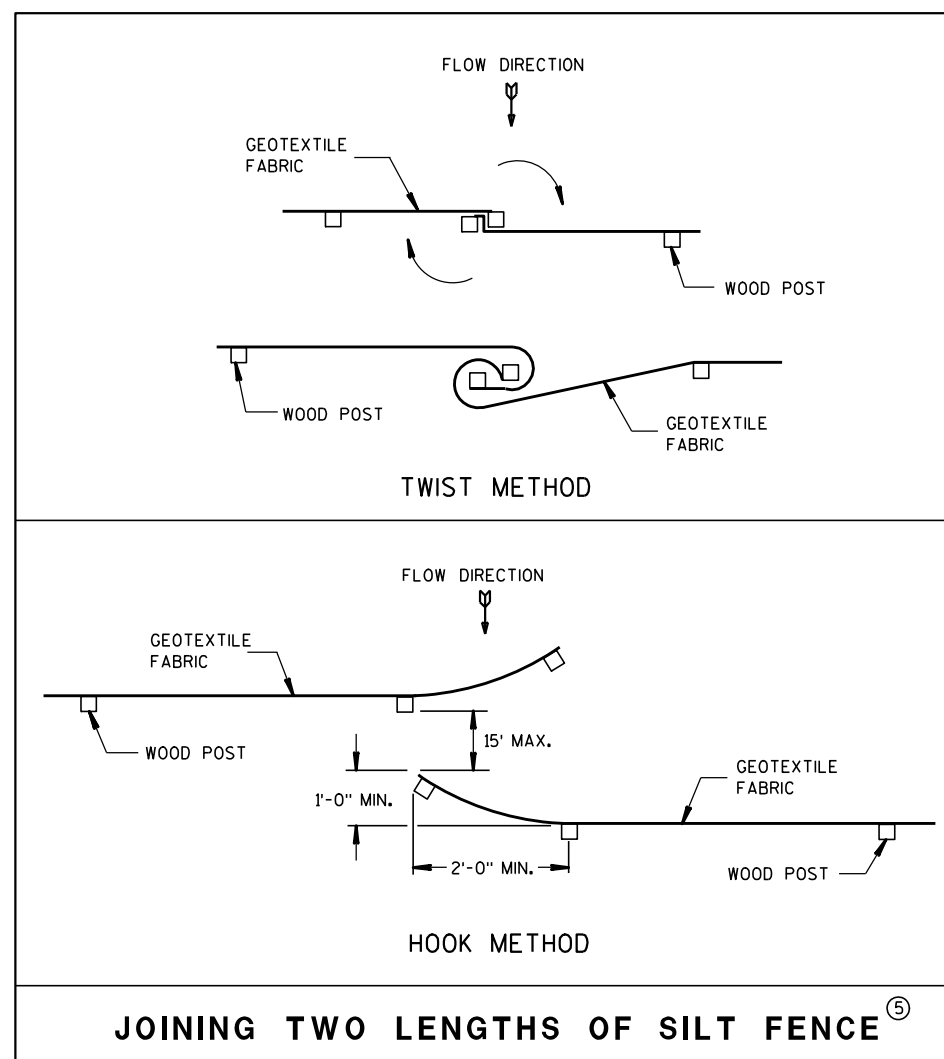


SILT FENCE



PLAN VIEW

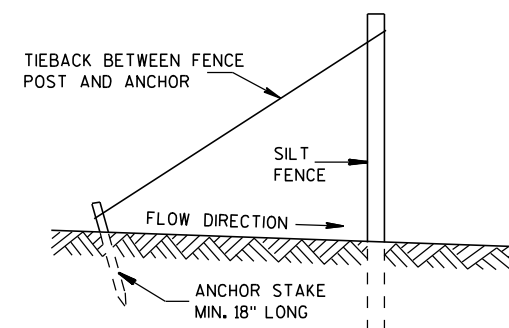
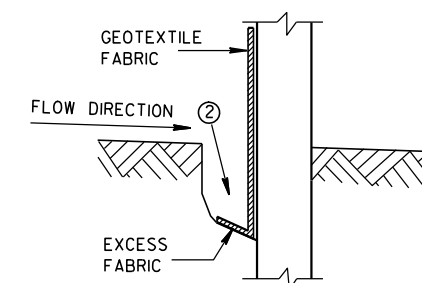
SILT FENCE AT MEDIAN SURFACE DRAINS



GENERAL NOTES

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

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



SILT FENCE TIE BACK (WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-29-05

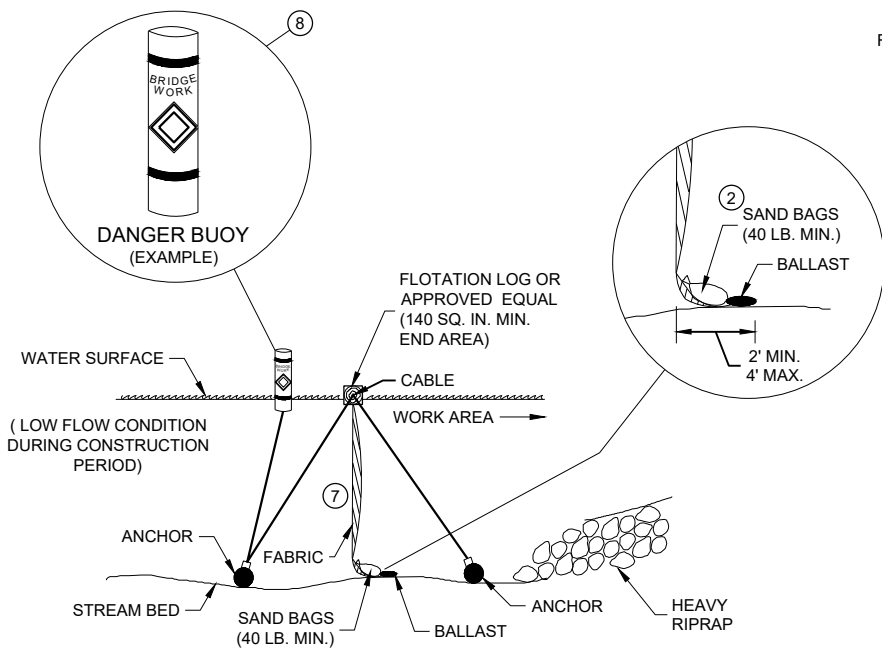
DATE

/S/ Beth Conn

CHIEF ROADWAY DEVELOPER

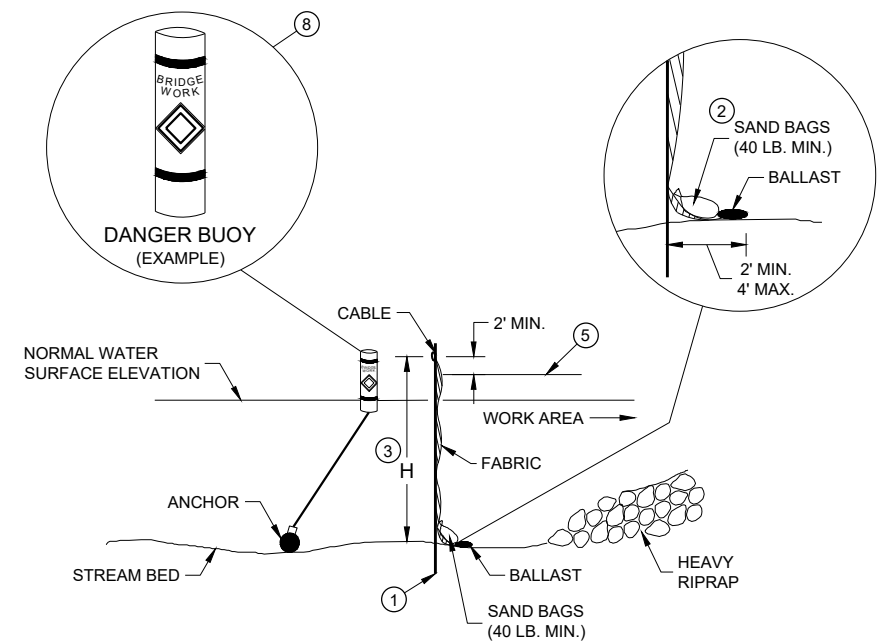
ENGINEER

FHWA



SECTION B - B

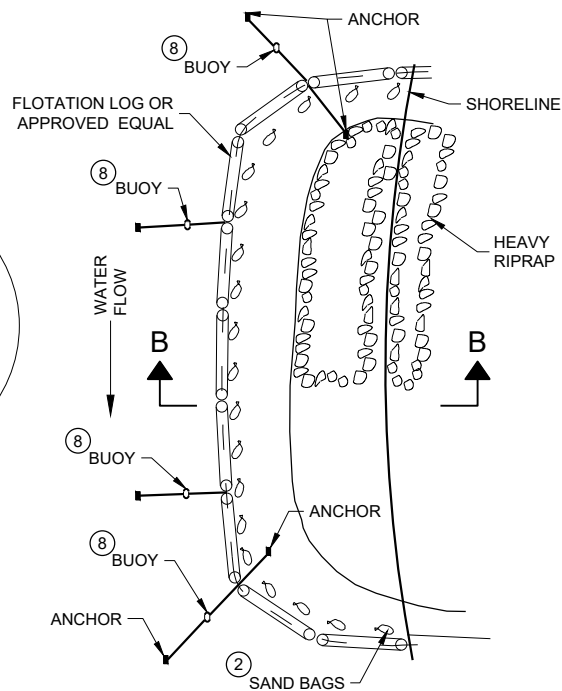
TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



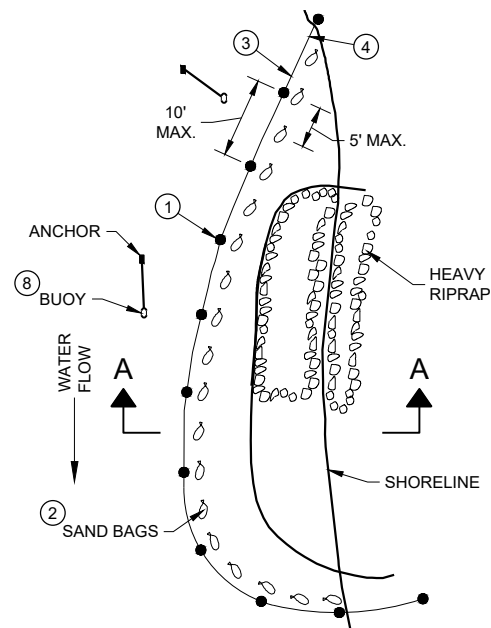
SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS



PLAN VIEW



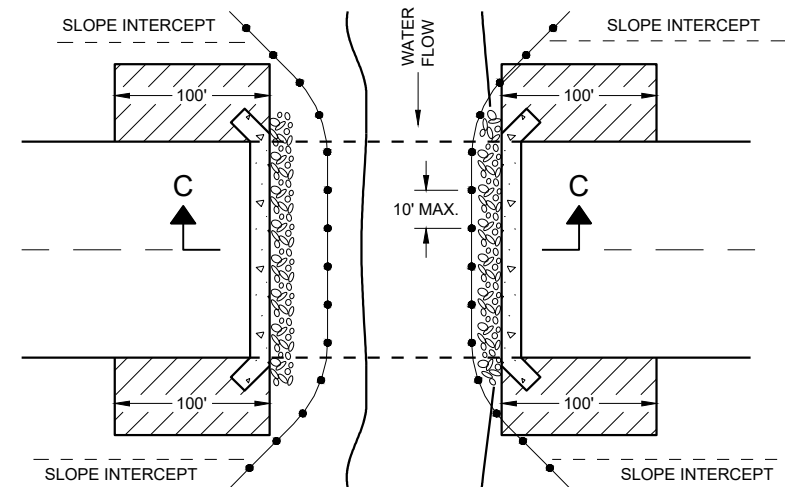
PLAN VIEW

GENERAL NOTES

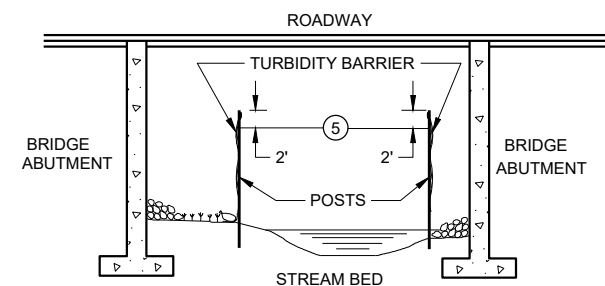
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

- 1 DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- 2 SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- 3 WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.
- 4 IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- 5 ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- 6 FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.
- 7 ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- 8 USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



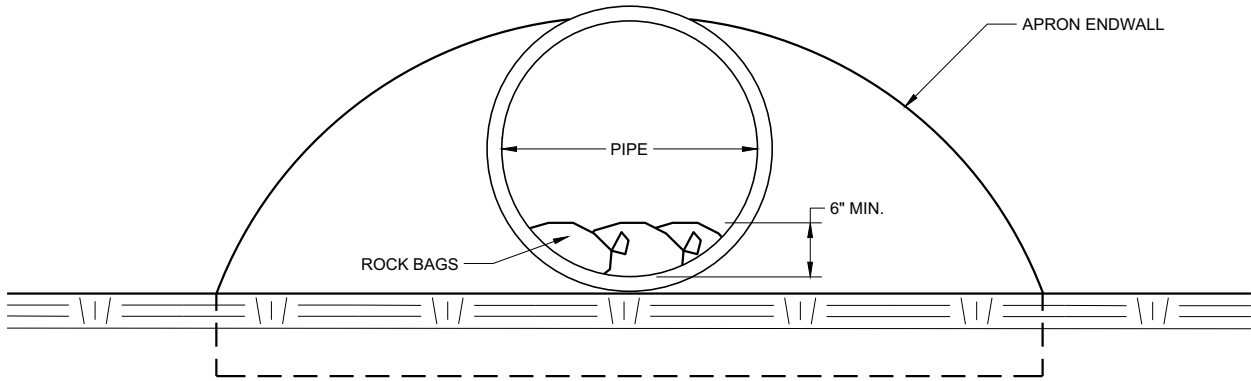
SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING
TYPICAL PLACEMENT AT STRUCTURES

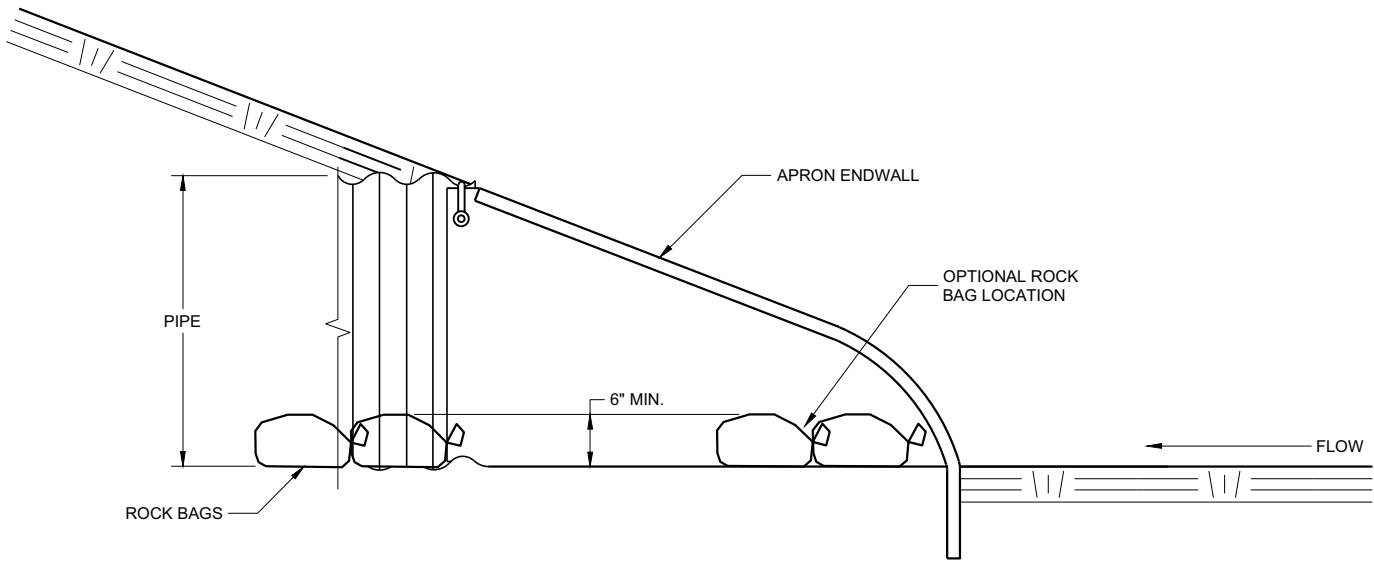
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/4/02 DATE /S/ Beth Cannestra
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER 28
FHWA



END VIEW



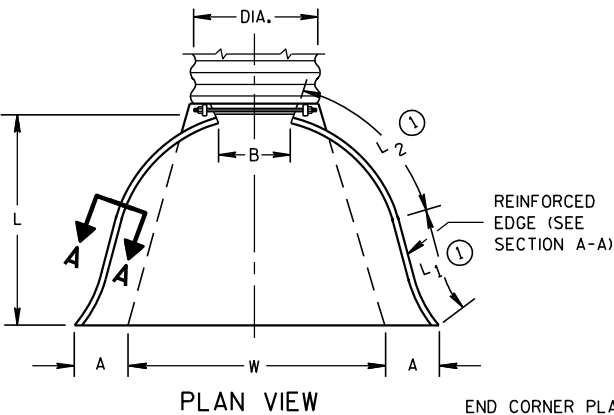
SIDE VIEW

CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGI 29
FHWA	

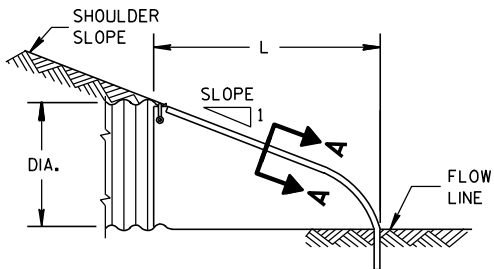
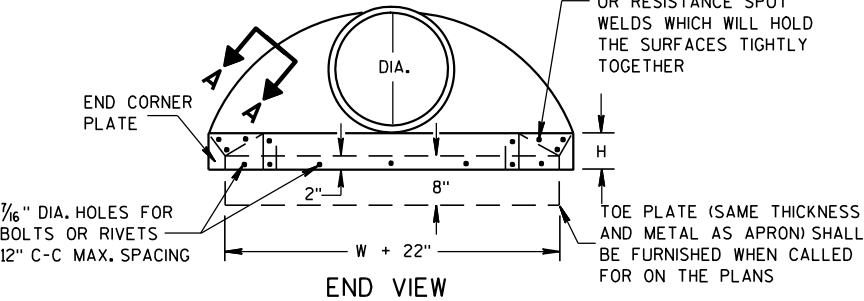
METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY	
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L ₁ ①	L ₂ ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.	
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.	
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.	
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.	
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.	
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.	
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.	
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.	
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.	
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.	
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.	
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.	
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.	
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.	
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.	
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.	
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.	

* EXCEPT CENTER PANEL
SEE GENERAL NOTES



END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

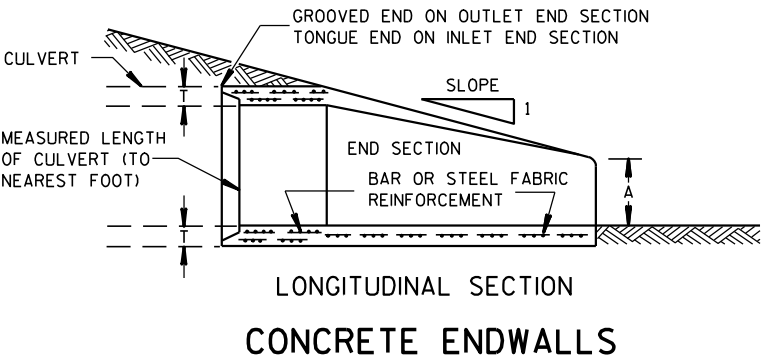
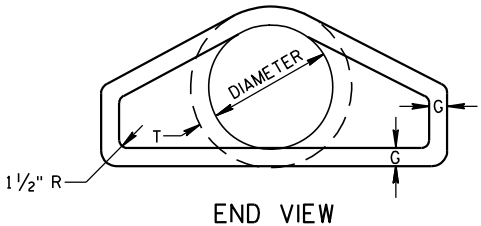
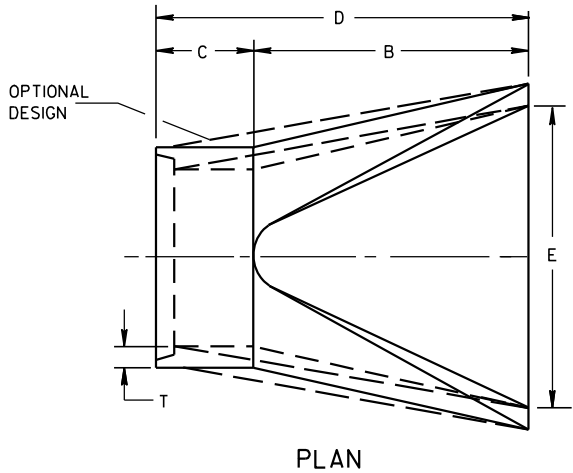
TOE PLATE (SAME THICKNESS AND METAL AS APRON) SHALL BE FURNISHED WHEN CALLED FOR ON THE PLANS



SIDE ELEVATION
METAL ENDWALLS

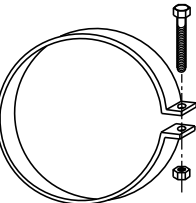
REINFORCED CONCRETE APRON ENDWALLS								
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48 ⁷ / ₈	72 ⁷ / ₈	24	2	3 to 1
15	2 ¹ / ₄	6	27	46	73	30	2 ¹ / ₄	3 to 1
18	2 ¹ / ₂	9	27	46	73	36	2 ¹ / ₂	3 to 1
21	2 ³ / ₄	9	36	37 ¹ / ₂	73 ¹ / ₂	42	2 ³ / ₄	3 to 1
24	3	9 ¹ / ₂	43 ¹ / ₂	30	73 ¹ / ₂	48	3	3 to 1
27	3 ¹ / ₄	10 ¹ / ₂	49 ¹ / ₂	24	73 ¹ / ₂	54	3 ¹ / ₄	3 to 1
30	3 ¹ / ₂	12	54	19 ³ / ₄	73 ¹ / ₂	60	3 ¹ / ₂	3 to 1
36	4	15	63	34 ³ / ₄	97 ³ / ₄	72	4	3 to 1
42	4 ¹ / ₂	21	63	35	98	78	4 ¹ / ₂	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 ¹ / ₂	27	65	33 ¹ / ₄ -35 ^{**}	98 ¹ / ₄ -100 ^{**}	90	5 ¹ / ₂	2 ¹ / ₂ to 1
60	6	30-35 ^{**}	60	39	99	96	5	2 to 1
66	6 ¹ / ₂	24-30 ^{**}	72-78 ^{**}	21-27 ^{**}	99	102	5 ¹ / ₂	2 to 1
72	7	24-36 ^{**}	78	21	99	108	6	2 to 1
78	7 ¹ / ₂	24-36 ^{**}	78	21	99	114	6 ¹ / ₂	2 to 1
84	8	36	90 ¹ / ₂	21	111 ¹ / ₂	120	6 ¹ / ₂	1 ¹ / ₂ to 1
90	8 ¹ / ₂	41	87 ¹ / ₂	24	111 ¹ / ₂	132	6 ¹ / ₂	1 ¹ / ₂ to 1

* MINIMUM
** MAXIMUM

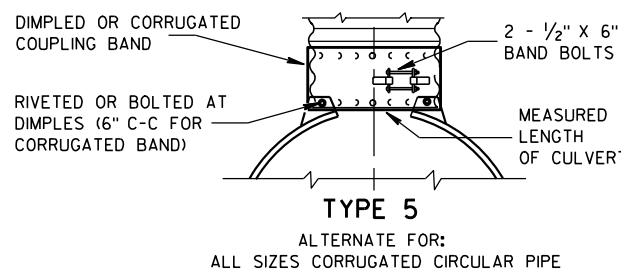
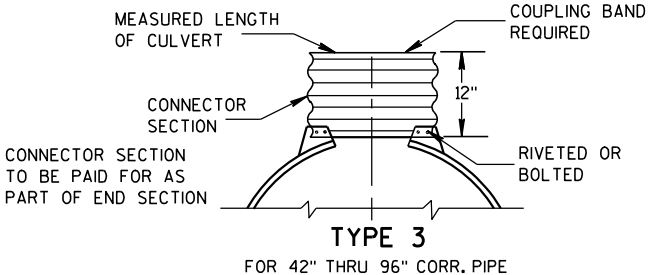
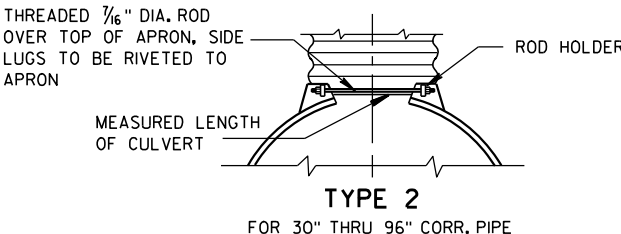
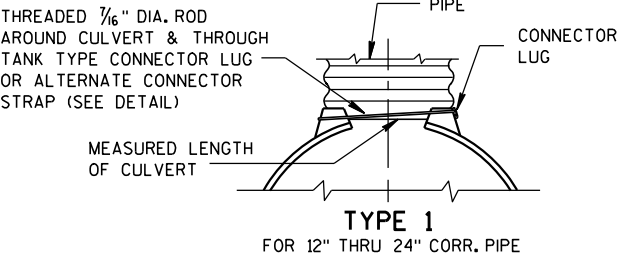


LONGITUDINAL SECTION
CONCRETE ENDWALLS

1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



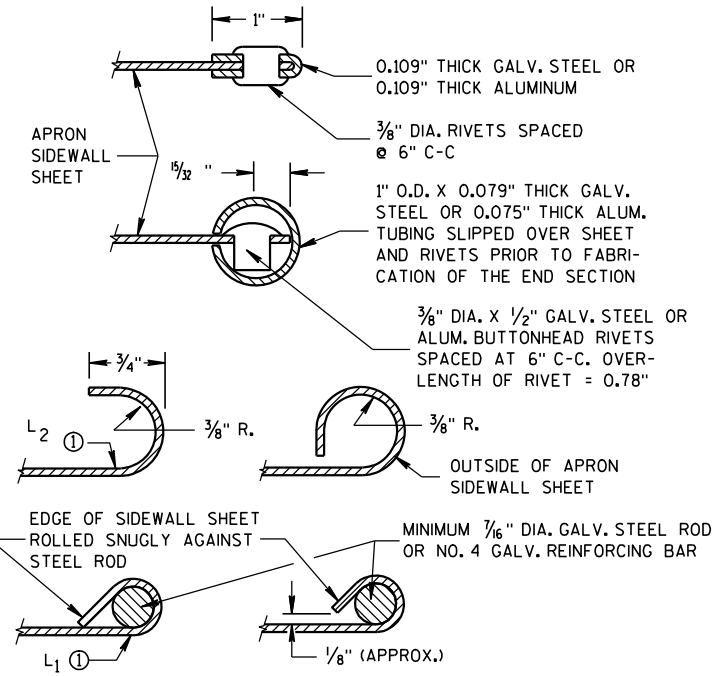
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

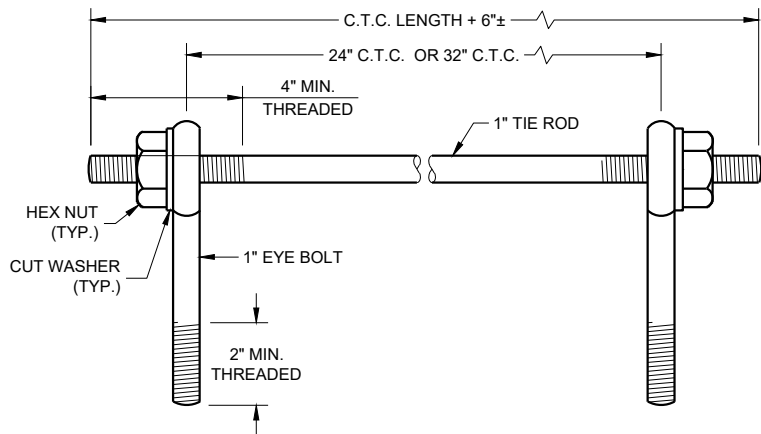
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT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

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

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

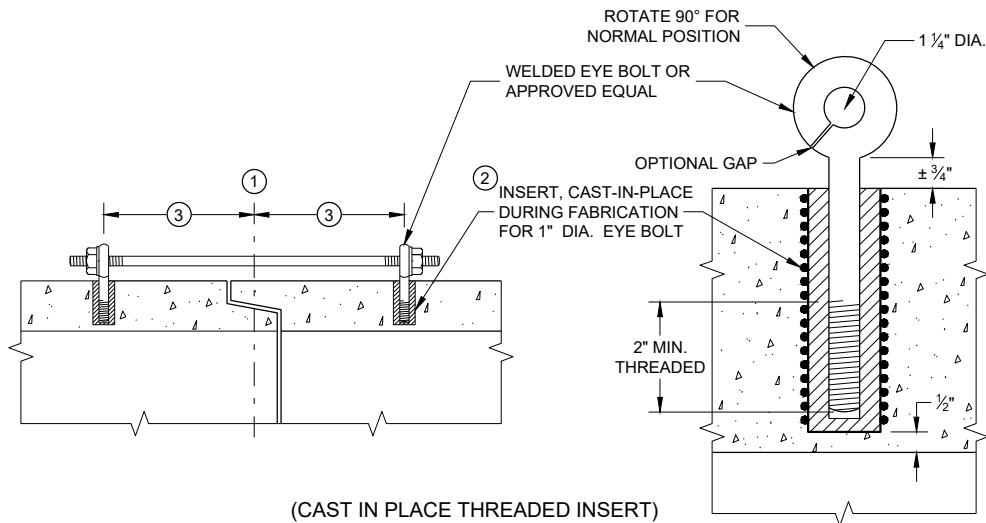
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED 11/30/94 DATE	/S/ Rory L. Rhinehart CHIEF ROADWAY DEVELOP	30	NEER
FHWA			



EYE BOLTS AND TIE ROD

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

GENERAL NOTES

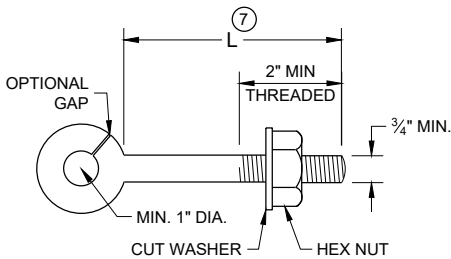
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

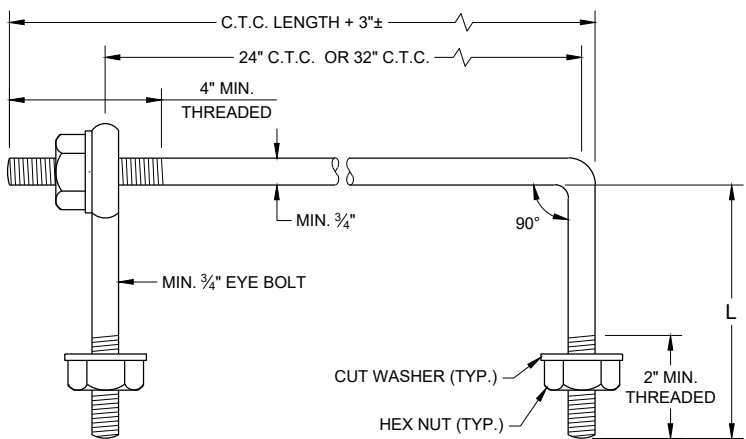
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- 1 CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- 2 THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- 3 HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
- 4 BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- 5 OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- 6 LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.
- 7 EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

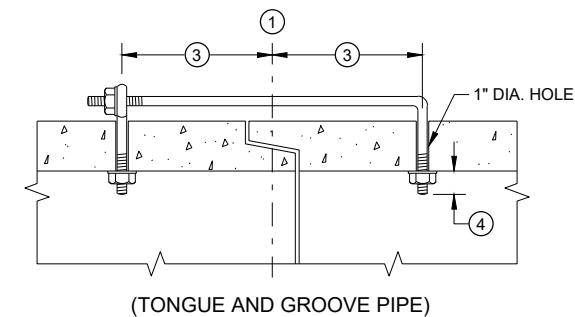


EYE BOLT 7

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

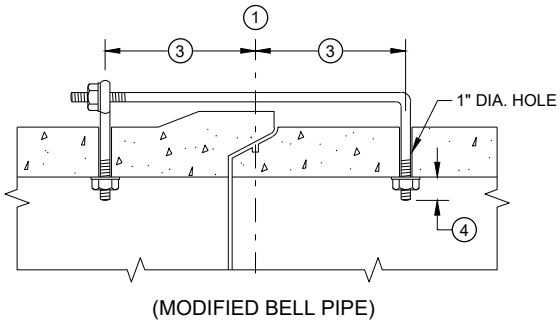


(TONGUE AND GROOVE PIPE)

LONGITUDINAL SECTION

(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

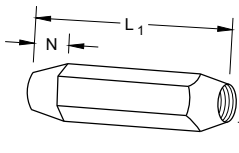


(MODIFIED BELL PIPE)

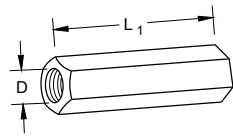
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L ₁	N
12 - 60	5/8	5/8	5	1/2
66 - 84	3/4	3/4	5	1/2
90 - 144	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES

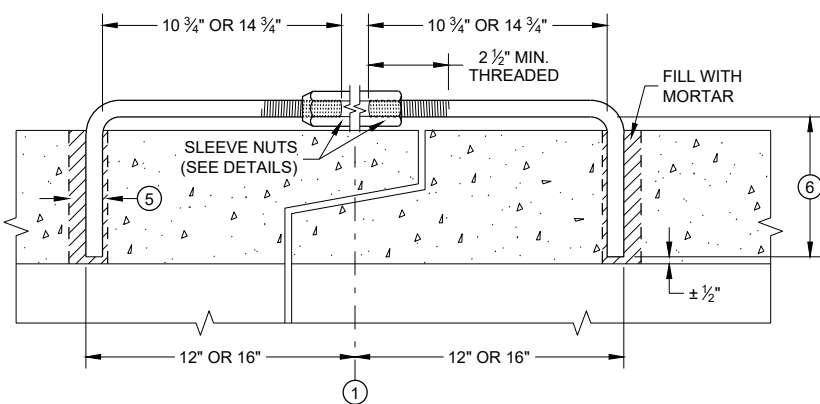


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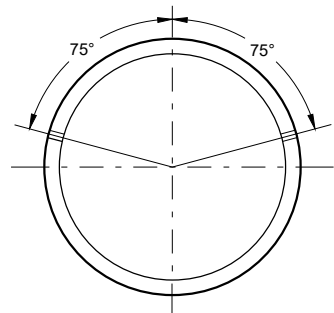
PLAIN

RIGHT AND LEFT THREADS
SLEEVE NUTS



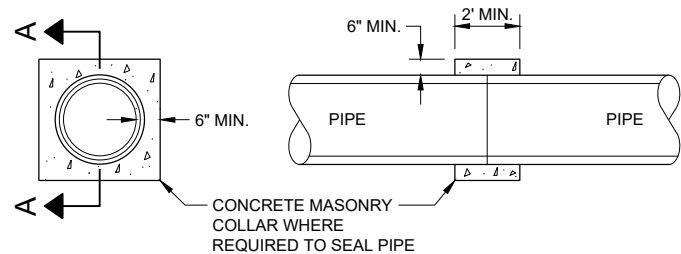
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



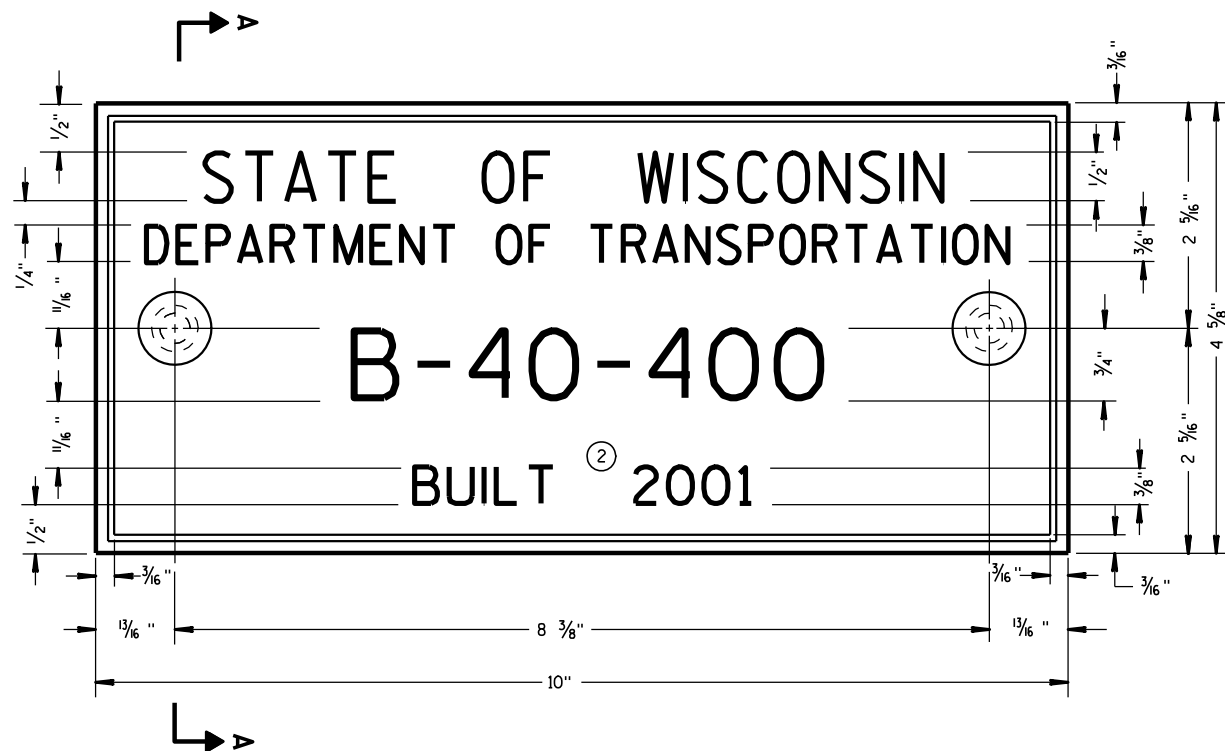
SECTION A - A

CONCRETE COLLAR DETAIL

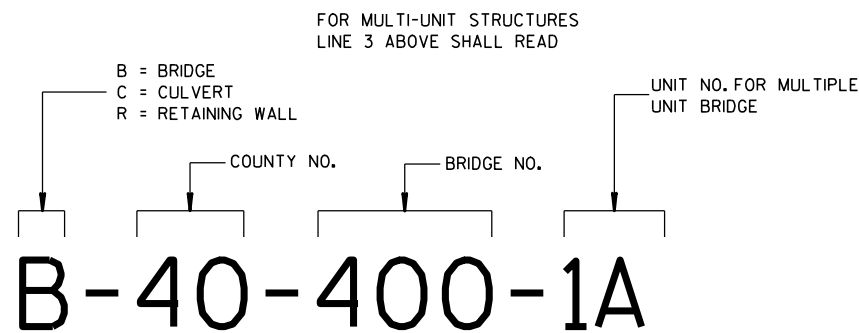
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER 31
FHWA



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



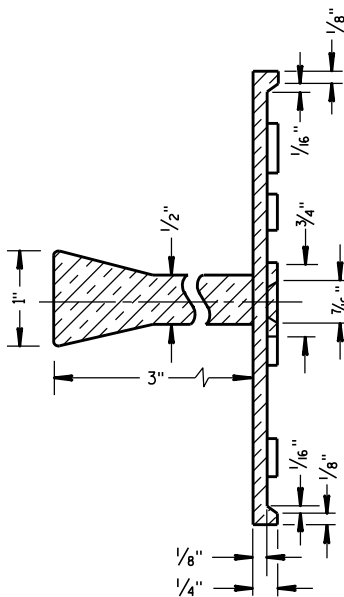
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

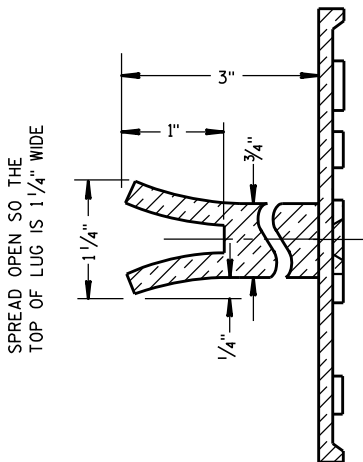
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.

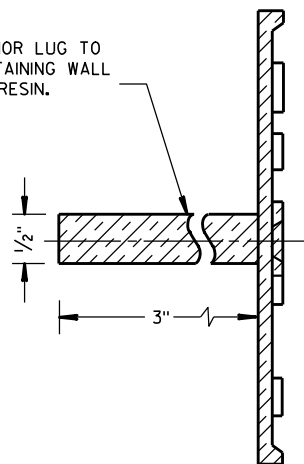


SECTION A-A



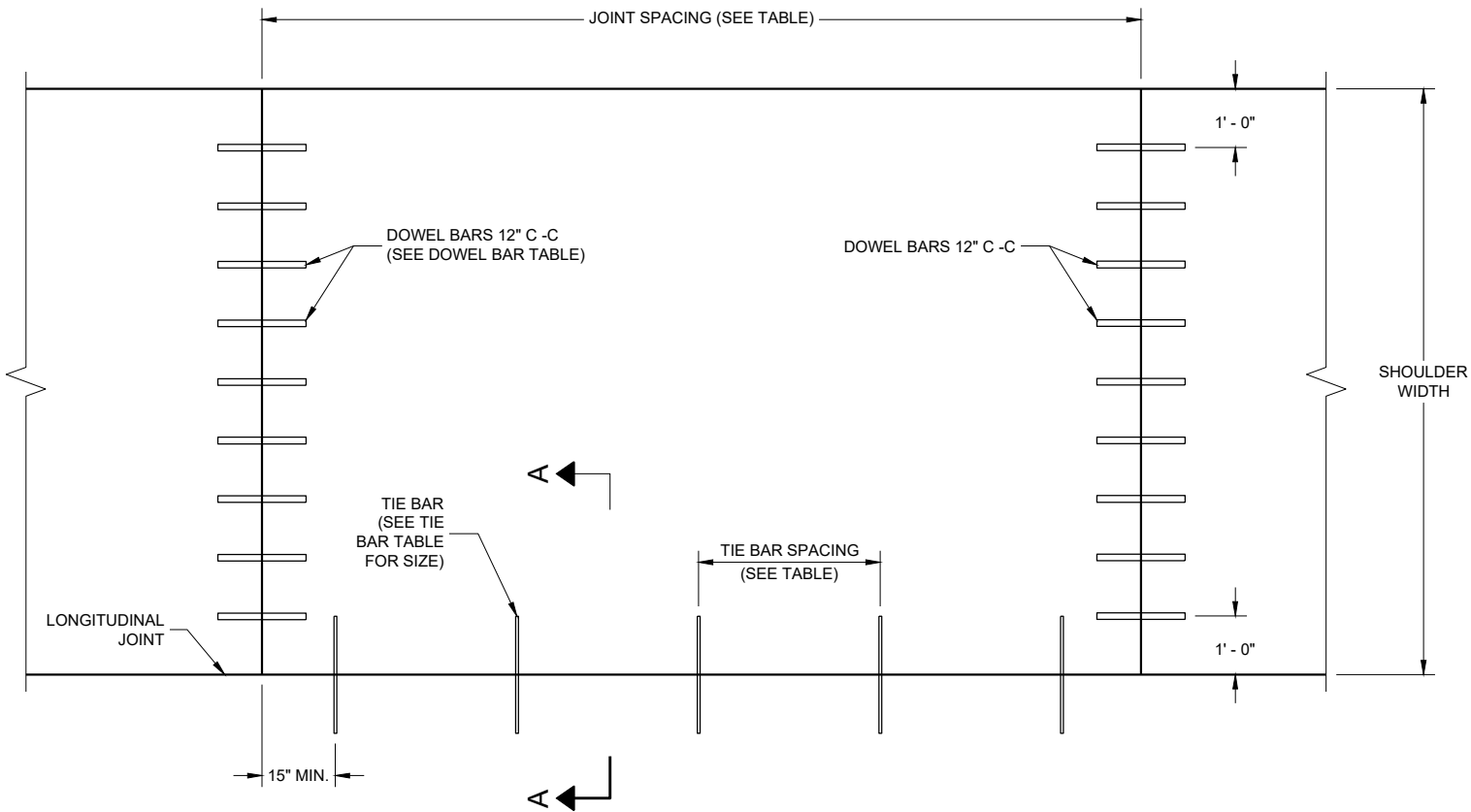
ALTERNATE LUG

- 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 DATE 3/26/10	CHIEF STRUCTURAL DEVELOPER /S/ Scot Beck 32	JEER
FHWA		



PLAN VIEW
CONCRETE PAVEMENT SHOULDER

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
<10 1/2"	NO. 4	30"	36"
>10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BATS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES).

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PAVEMENT DEPTH, DOWEL BAR SIZE
AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER ***	CONTRACTION JOINT SPACING
6", 6 1/2"	NONE	12"
7", 7 1/2"	1"	14"
8" & ABOVE	1 1/4"	15"

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FRO THE AVERAGE THICKNESS OF THE CROSS SECTION.

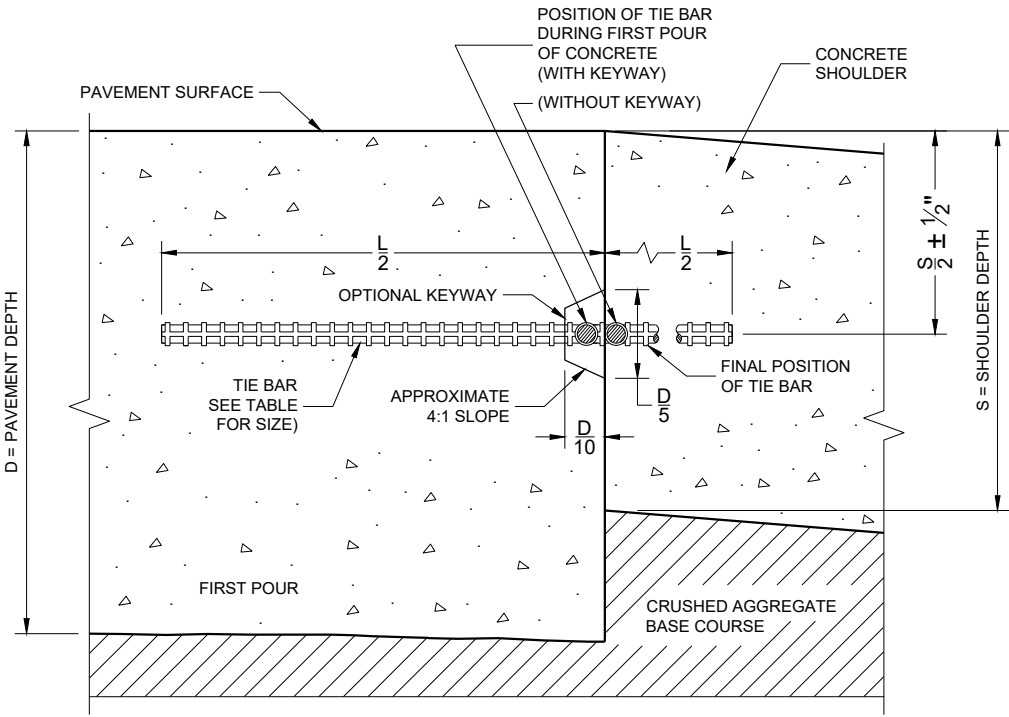
GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.

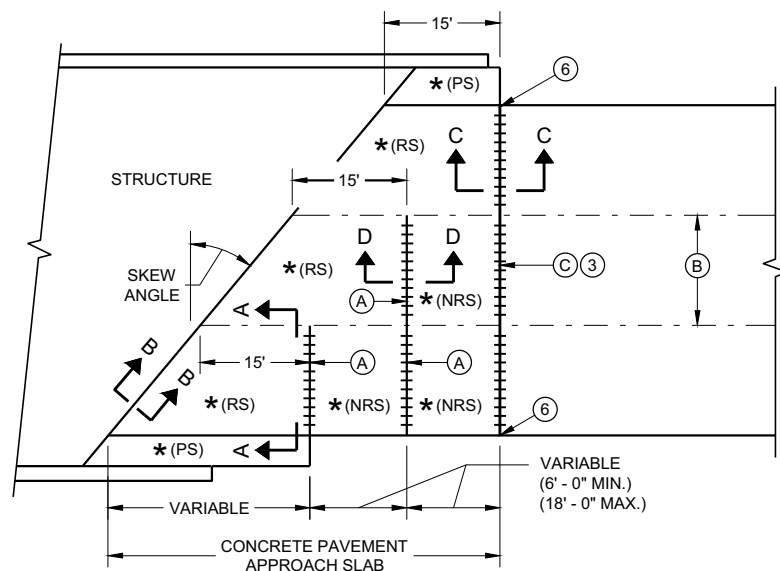


SECTION A - A
LONGITUDINAL CONSTRUCTION JOINT

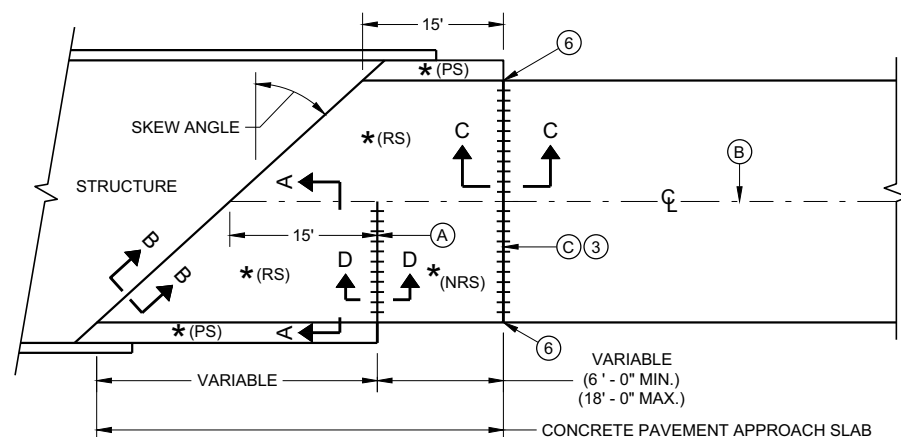
CONCRETE PAVEMENT
SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

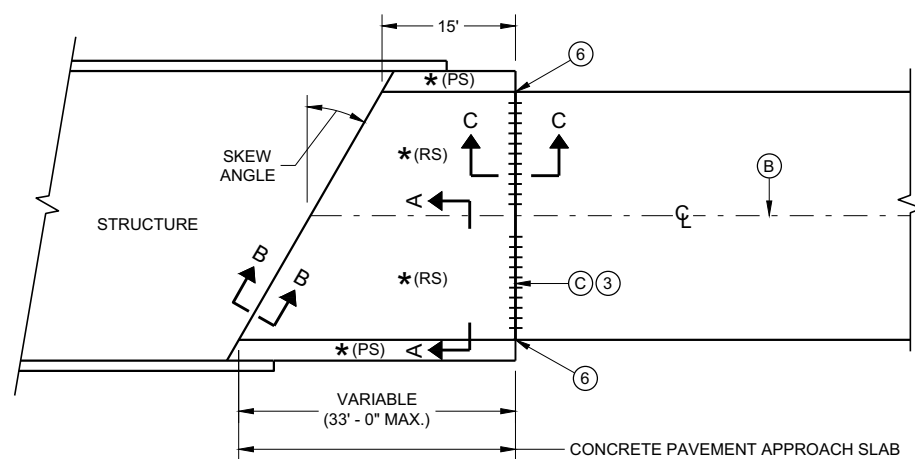
APPROVED
November 2022 /S/ Peter Kemp
DATE PAVEMENT SUPERVISOR 33
FHWA



**SKewed APPROACH
(PAVEMENT MORE THAN TWO LANES)**



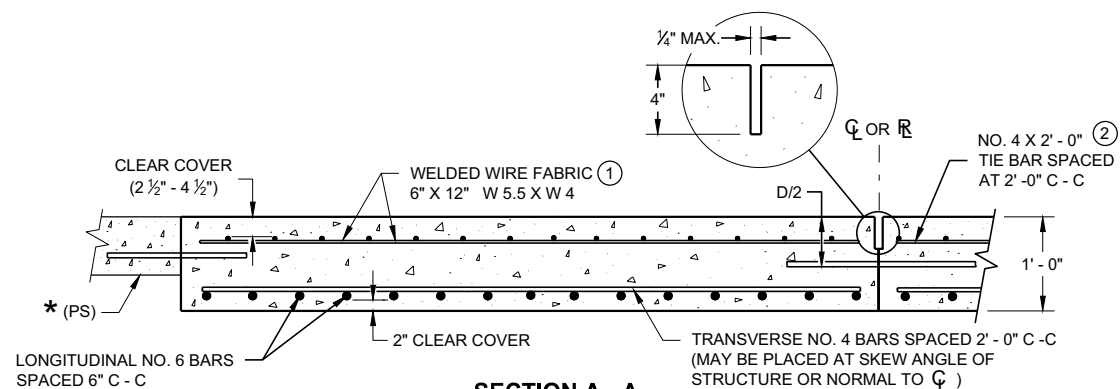
**SKews > 20°
(PAVEMENT WIDTH ≤ 30')**



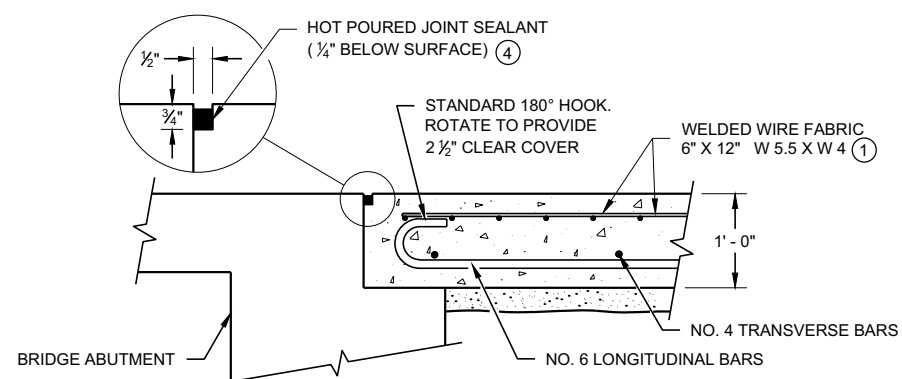
**SKews ≤ 20°
(PAVEMENT WIDTH ≤ 30')**

APPROACH SLAB AND ADJACENT PAVEMENT

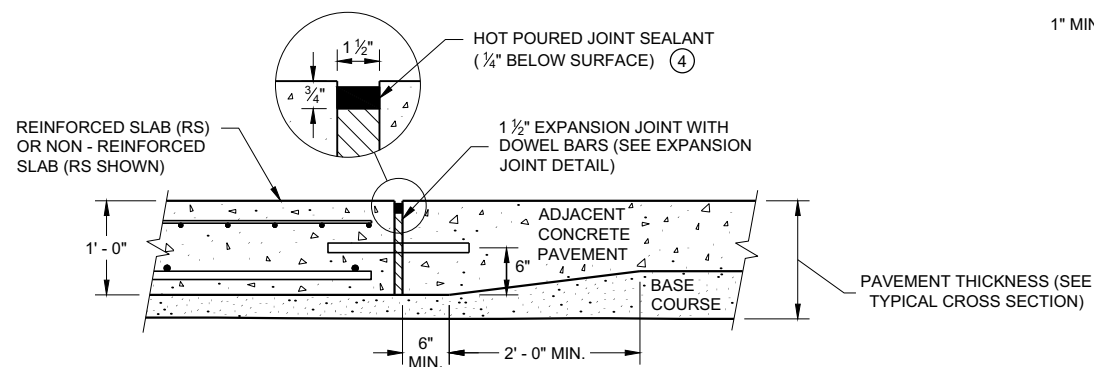
- * (RS) = REINFORCED CONCRETE SLAB
- * (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
- * (NRS) = NON - REINFORCED CONCRETE SLAB
- *** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



**SECTION A - A
REINFORCEMENT POSITIONING DETAIL**



**SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT**



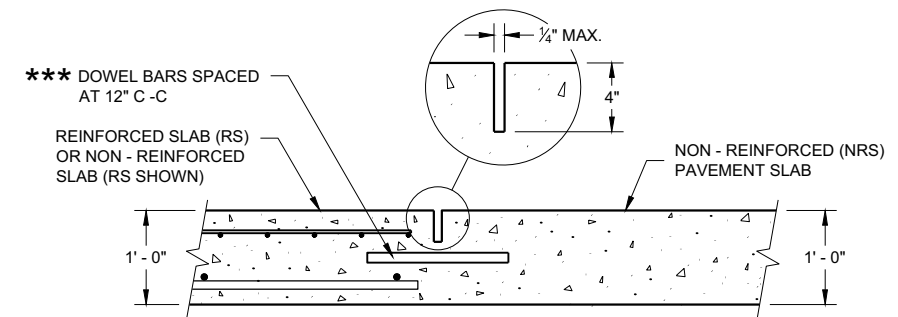
**SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT**

GENERAL NOTES

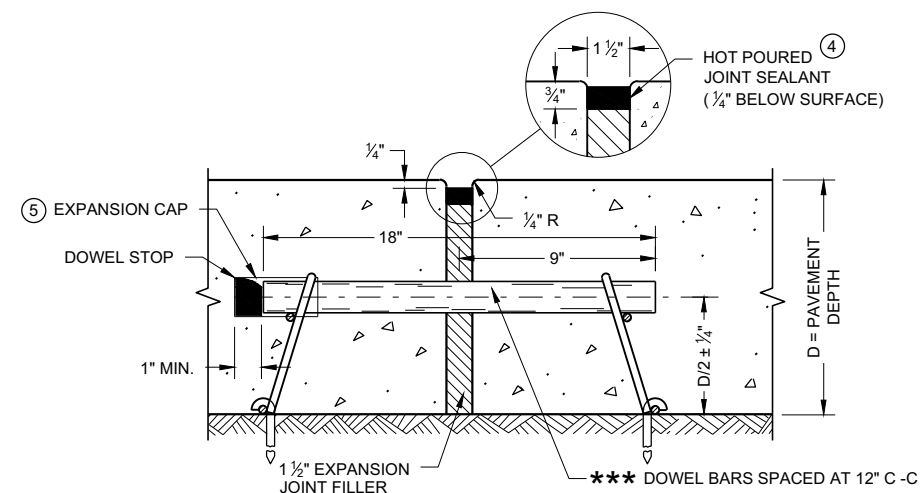
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- ① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0" C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
- ② THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- ④ USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.
- ⑥ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
- (A) STANDARD CONTRACTION JOINT NORMAL TO $\mathcal{C}$ OR $\mathcal{R}$.
- (B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
- (C) 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO $\mathcal{C}$ OR $\mathcal{R}$.



**SECTION D - D
CONTRACTION JOINT**



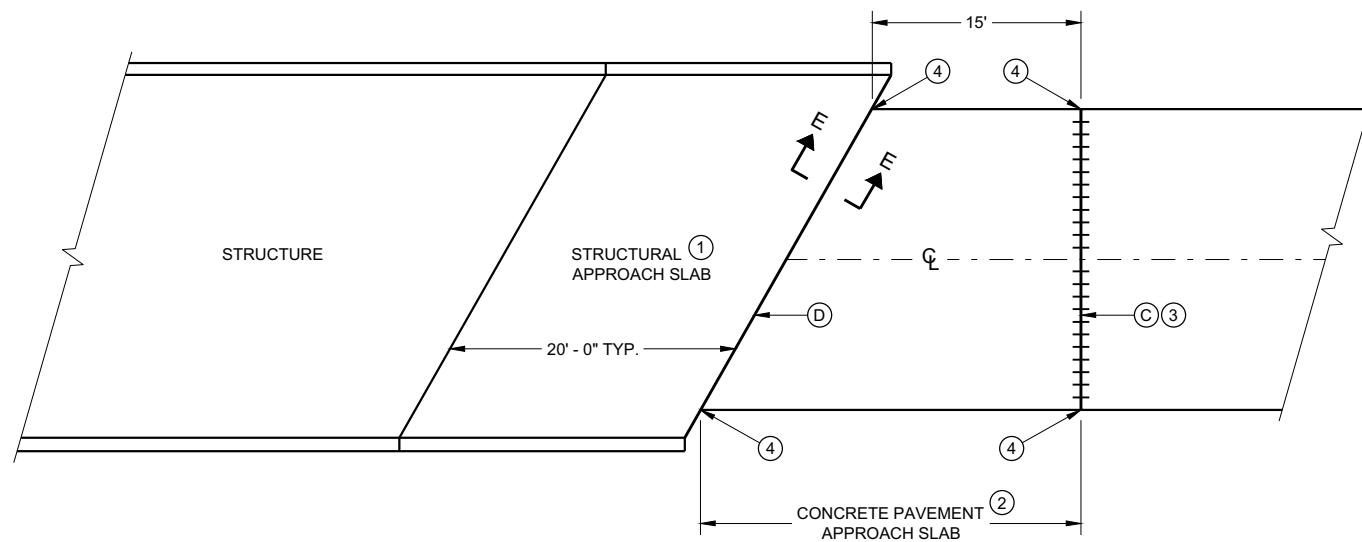
EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR 34

FHWA

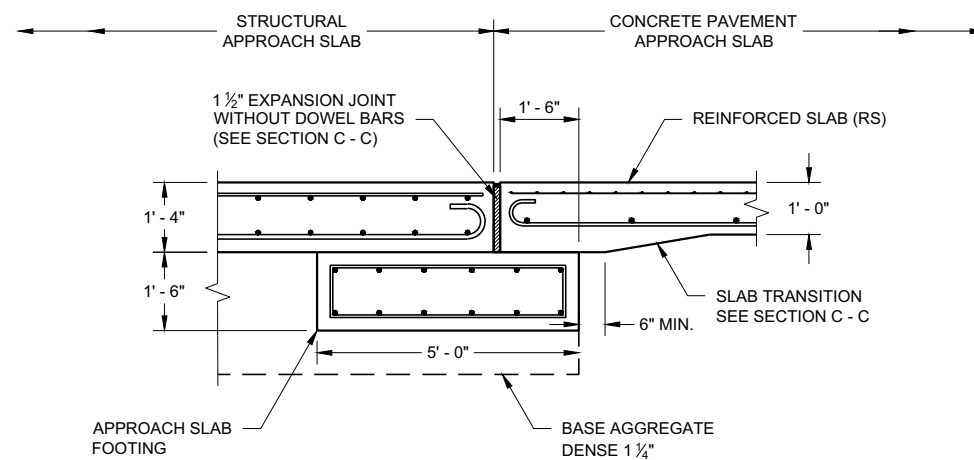


GENERAL NOTES

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

- ① SEE BRIDGE PLAN.
- ② CONFORM TO SDD 13B02 SHEET A FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS
- ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- ④ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
- Ⓒ 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO CL OR RL.
- Ⓓ 1 ½" EXPANSION JOINT (NO DOWELS)

BRIDGE APPROACHES

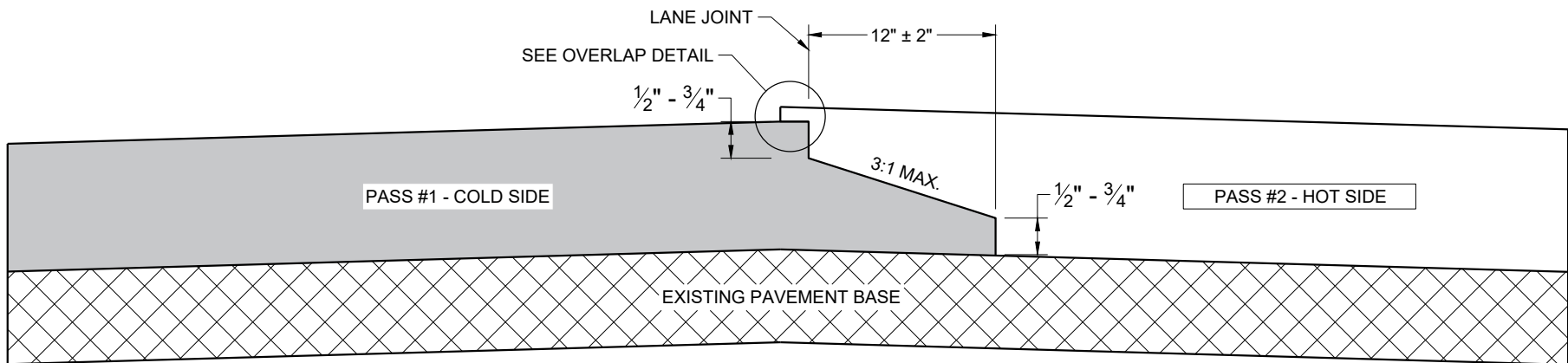


SECTION E - E FOOTING DETAIL STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

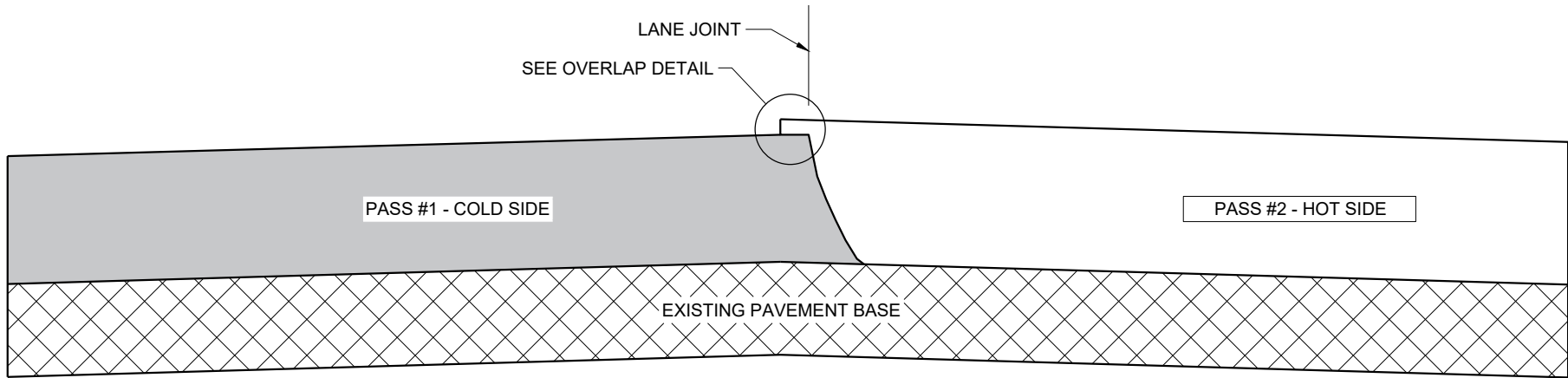
STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

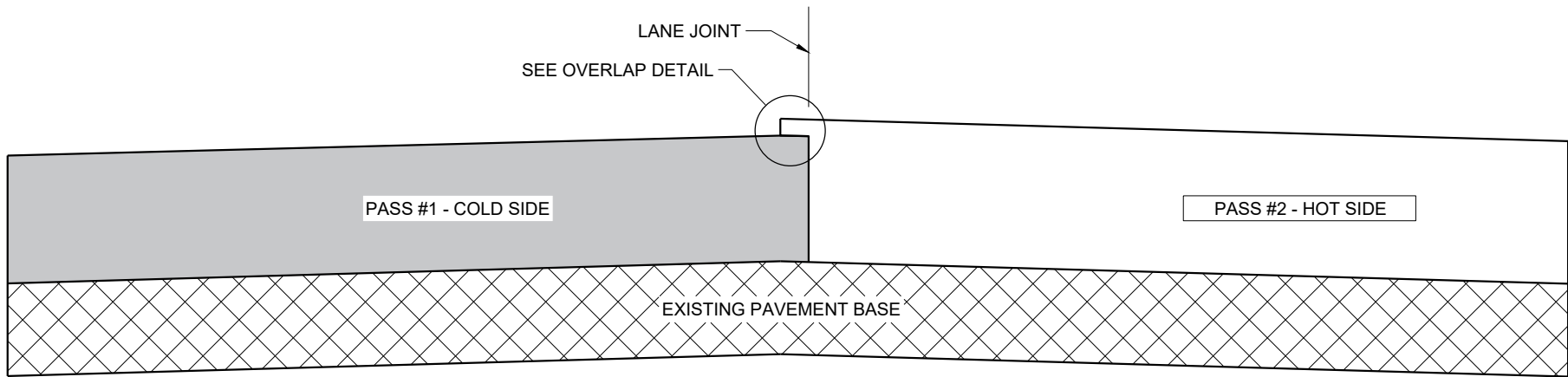
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November 2018 /S/ Peter Kemp P.E.
DATE PAVEMENT SUPERVISOR 35
FHWA



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

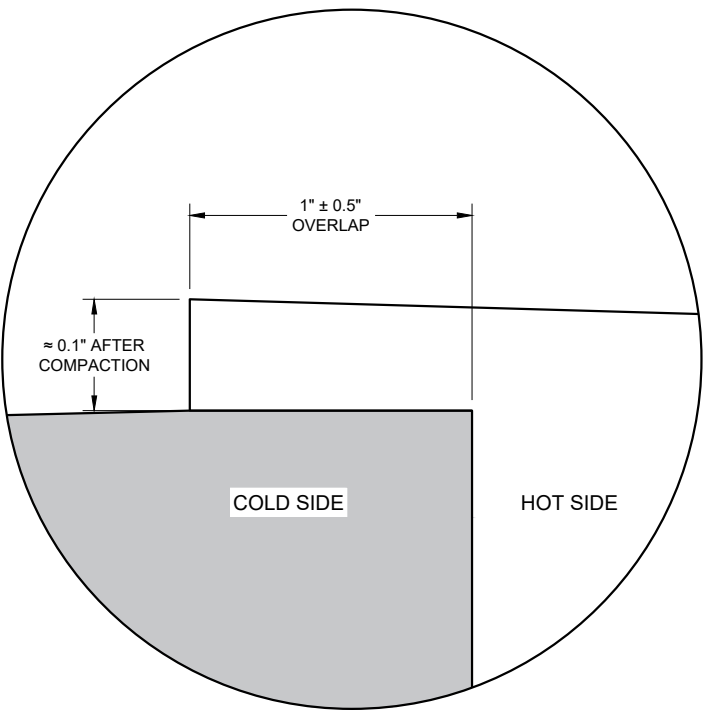
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY $1" \pm 0.5"$ 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.



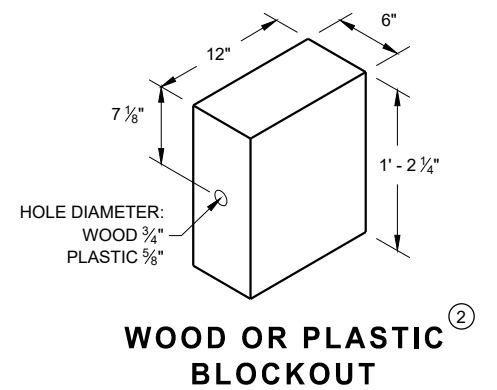
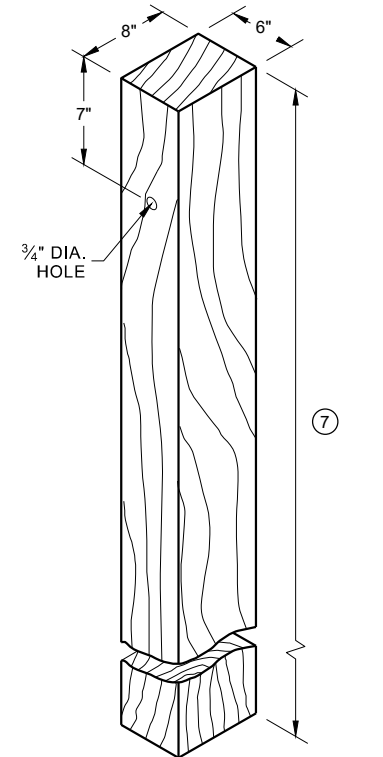
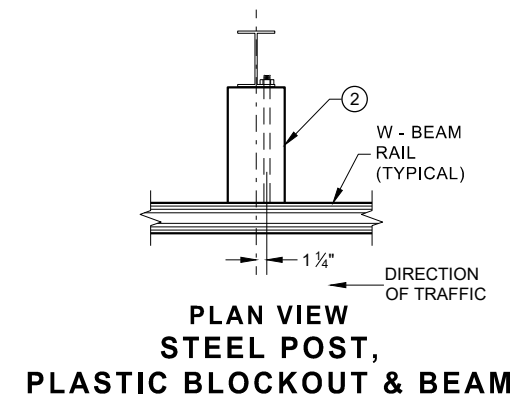
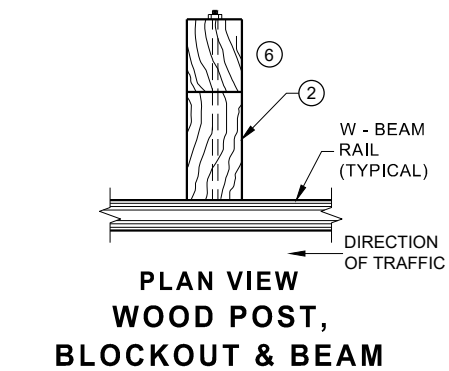
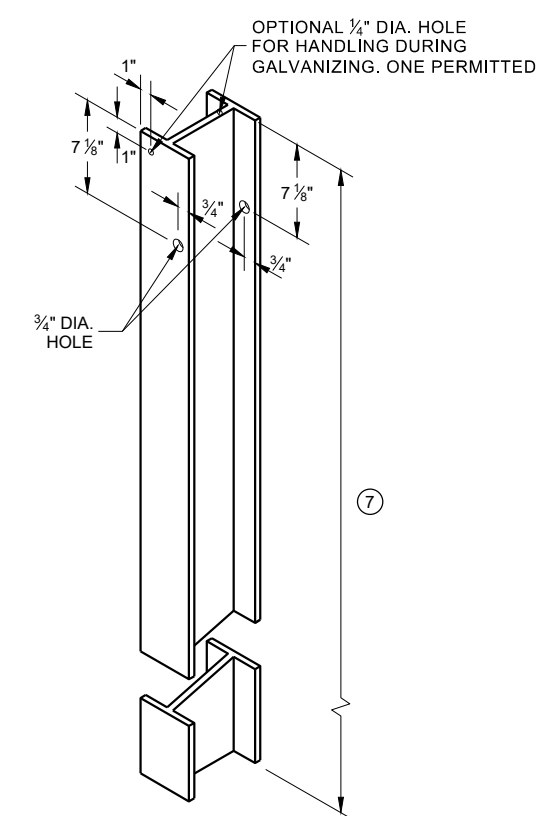
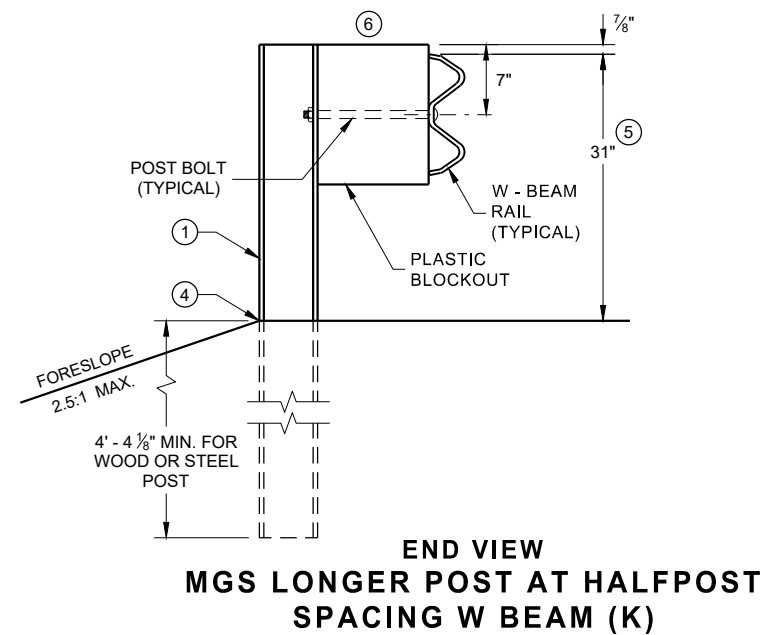
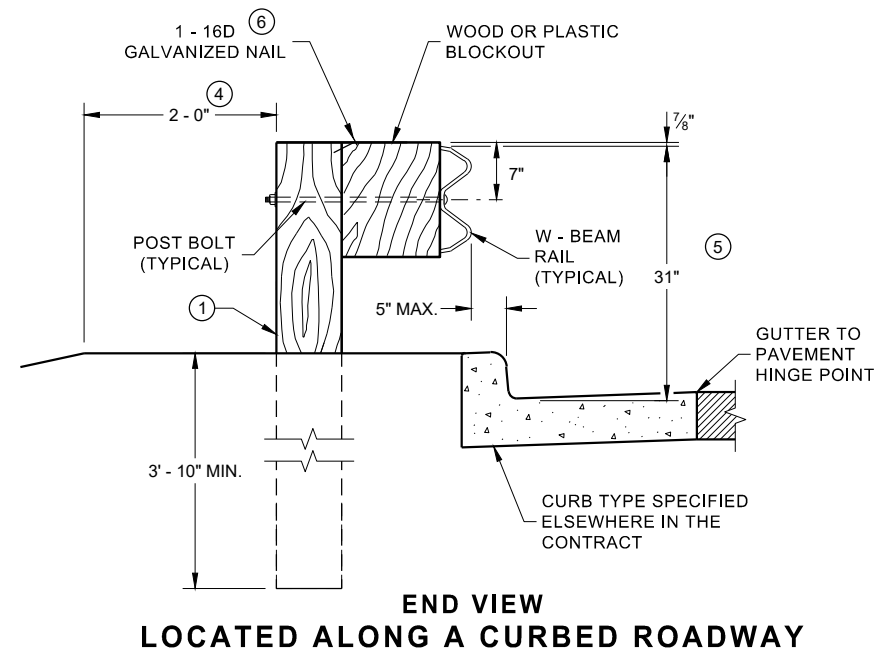
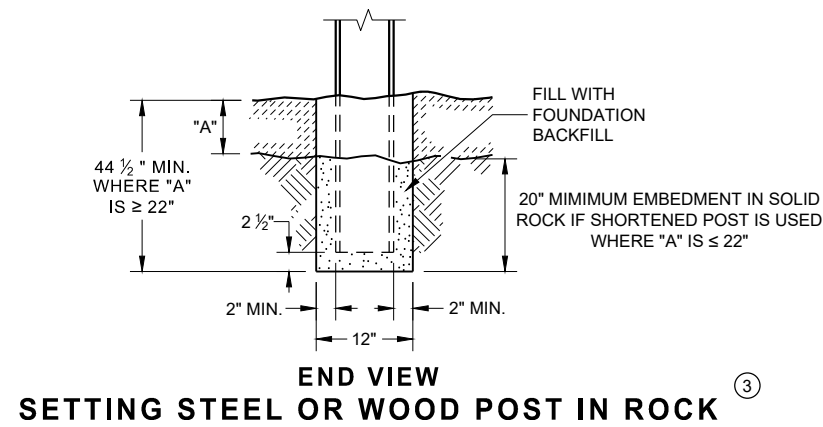
OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

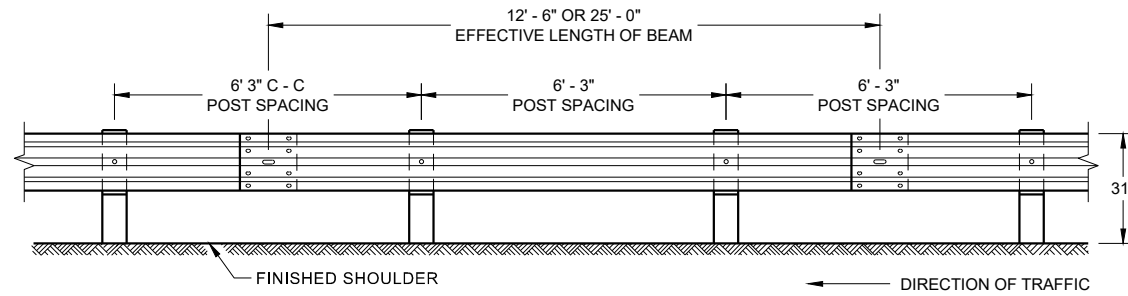
APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGIN 36
FHWA

- 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 AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS $\pm 1"$. 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".

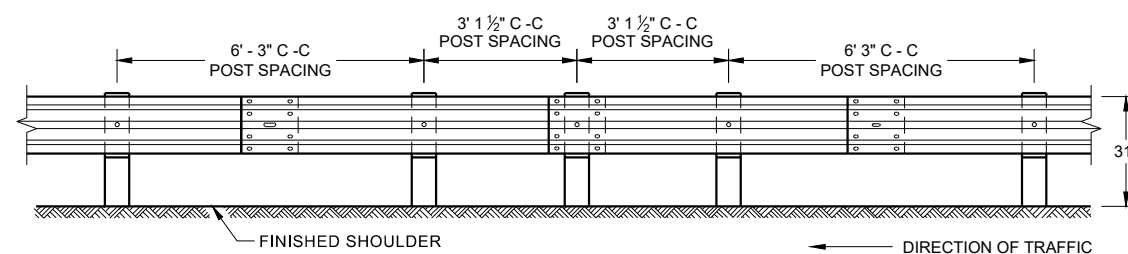


MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

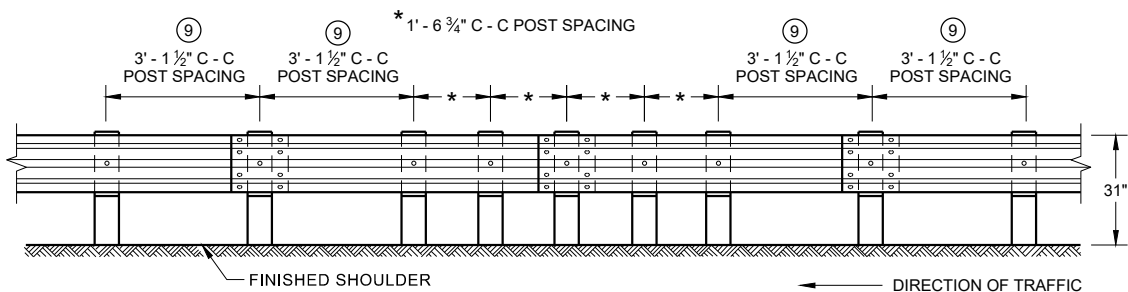
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



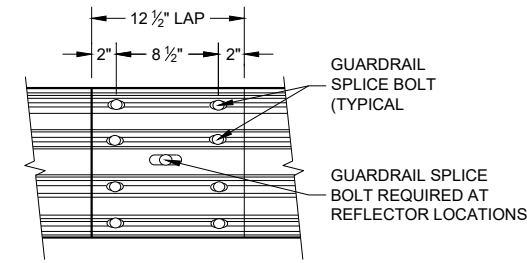
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



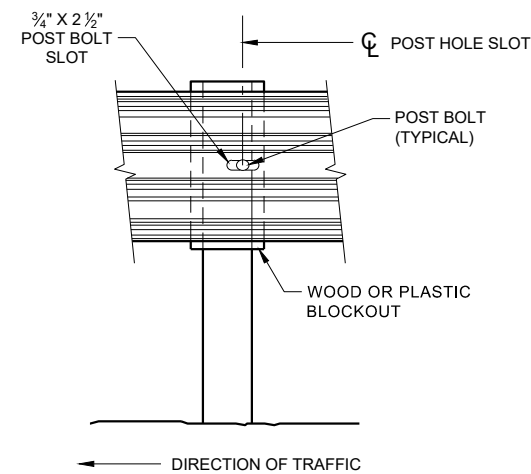
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



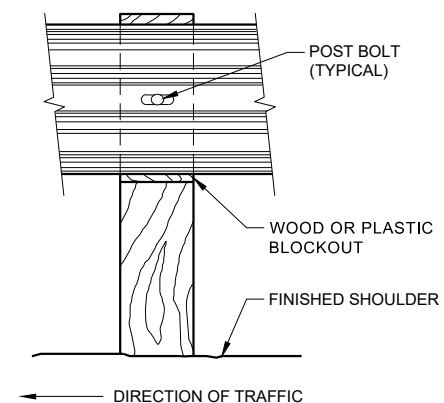
**FRONT VIEW
QUARTER POST SPACING (QS)**



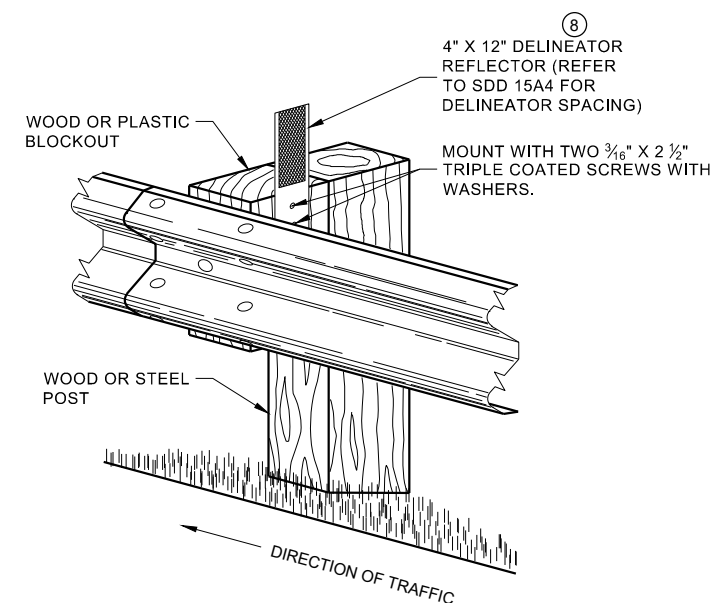
**FRONT VIEW
MID-SPAN BEAM SPLICE**



FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



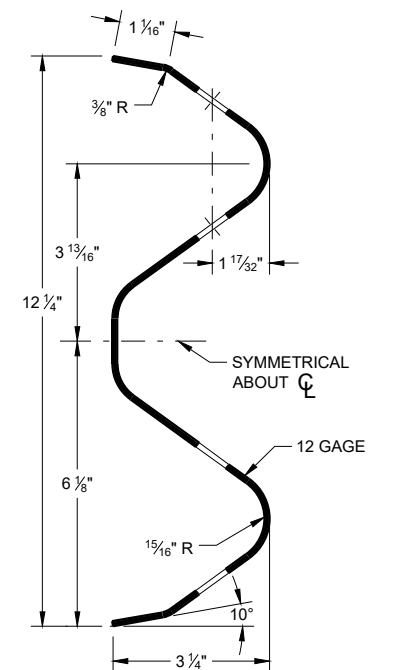
**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

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 3/4" 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



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.

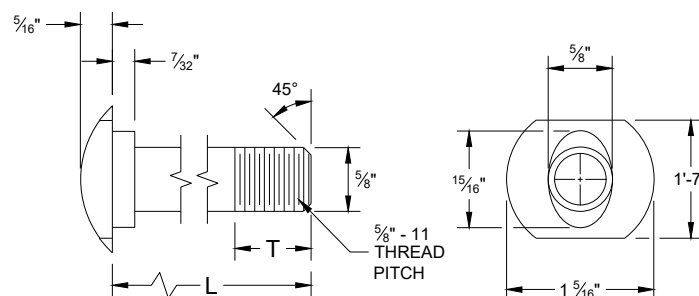


NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

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

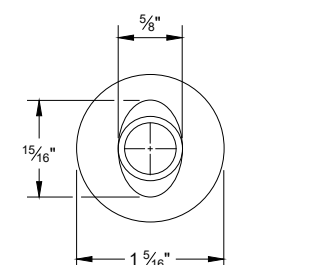
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF $\frac{3}{16}$ ".
2. IF THE BOLT EXTENDS MORE THAN $\frac{1}{4}$ " FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

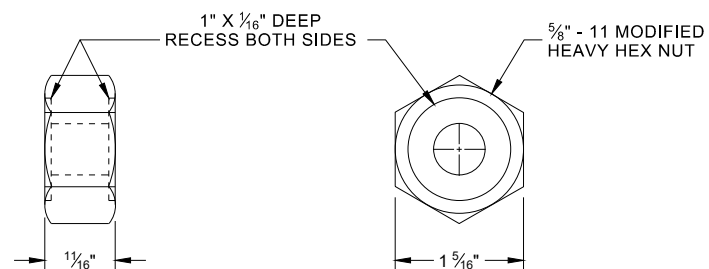


POST BOLT TABLE

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"

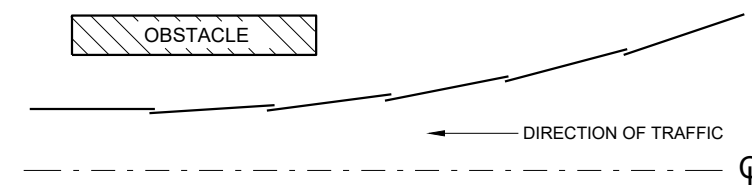


ALTERNATE BOLT HEAD

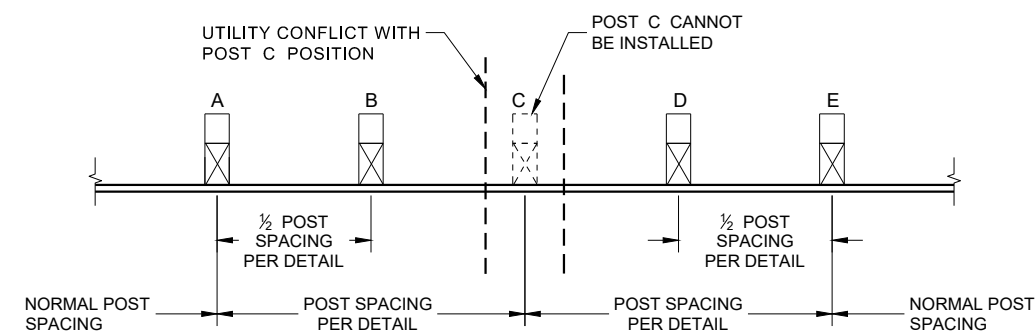


POST BOLT, SPLICE BOLT AND RECESS NUT

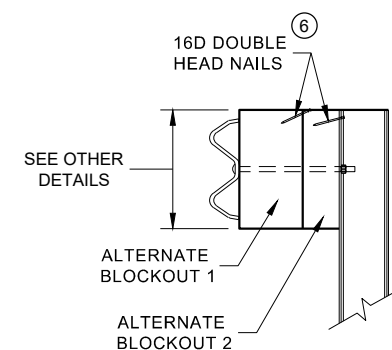
⑥ WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



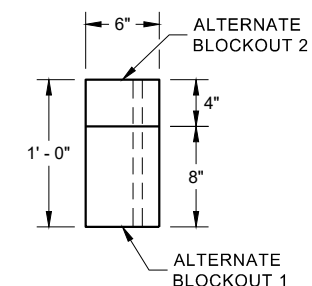
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW

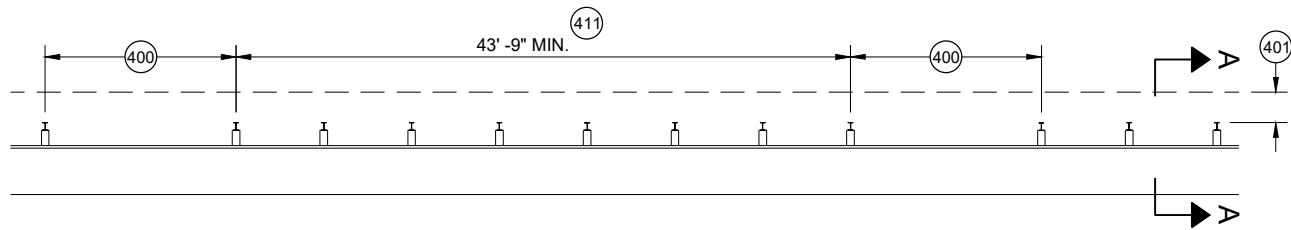


PLAN VIEW

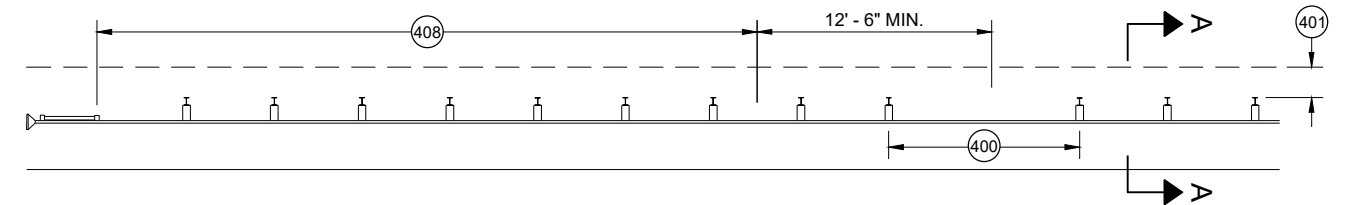
ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

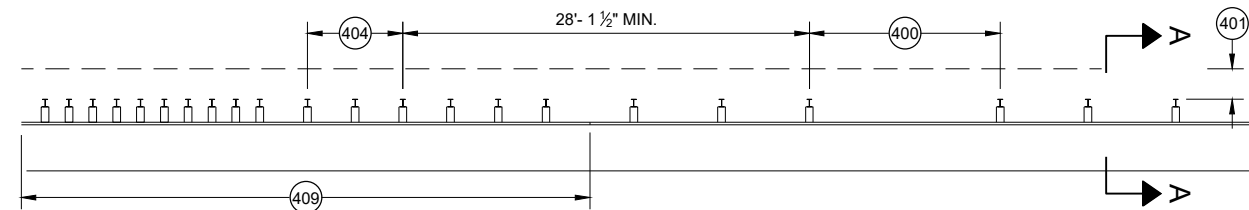
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 39



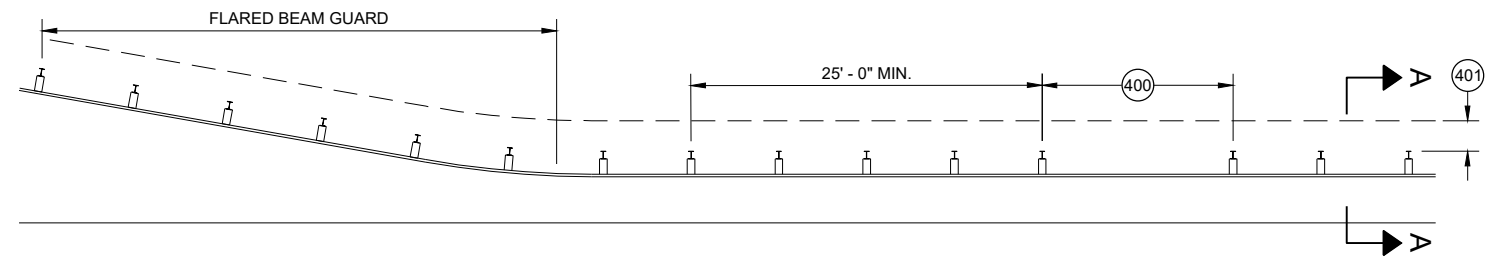
MISSING POST IN MGS GUARDRAIL



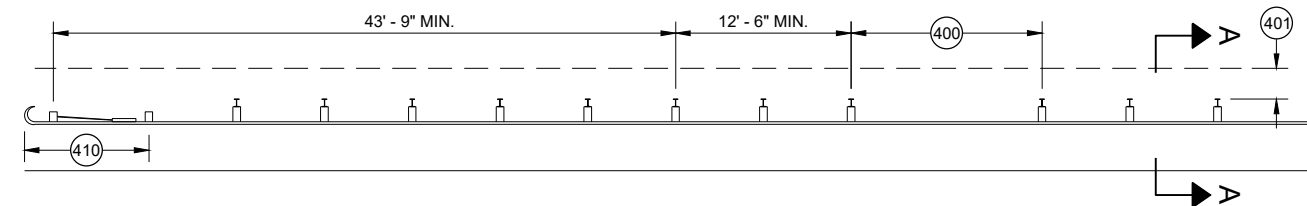
MISSING POST IN MGS GUARDRAIL NEAR EAT



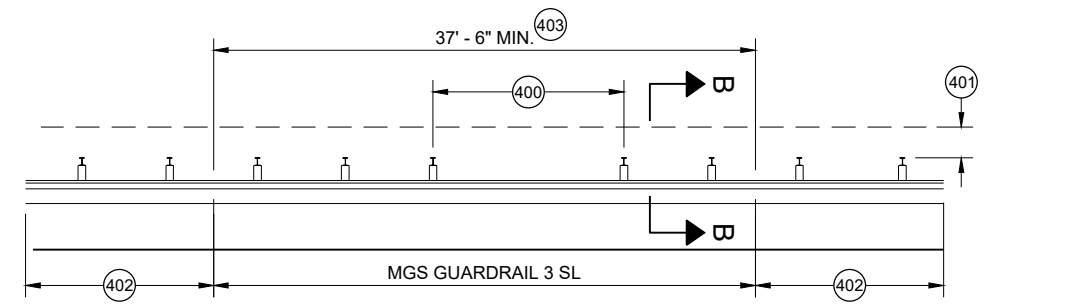
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

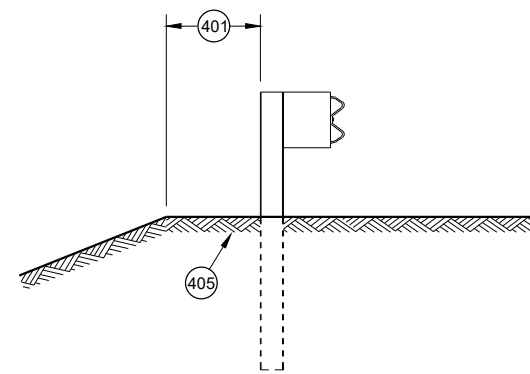


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

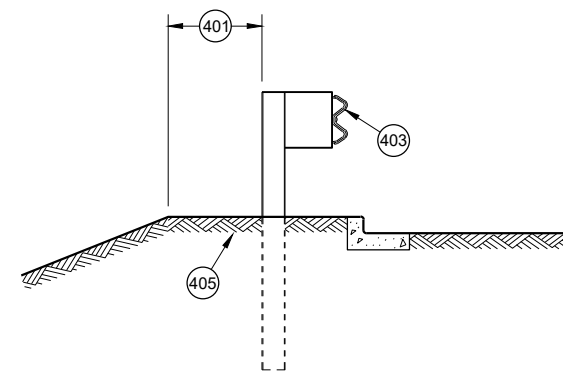


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)

- (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 40
FHWA

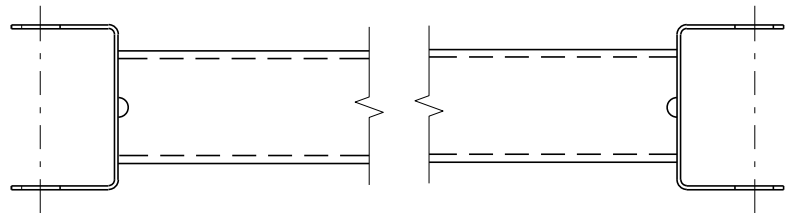
- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
- (C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. 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.

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.

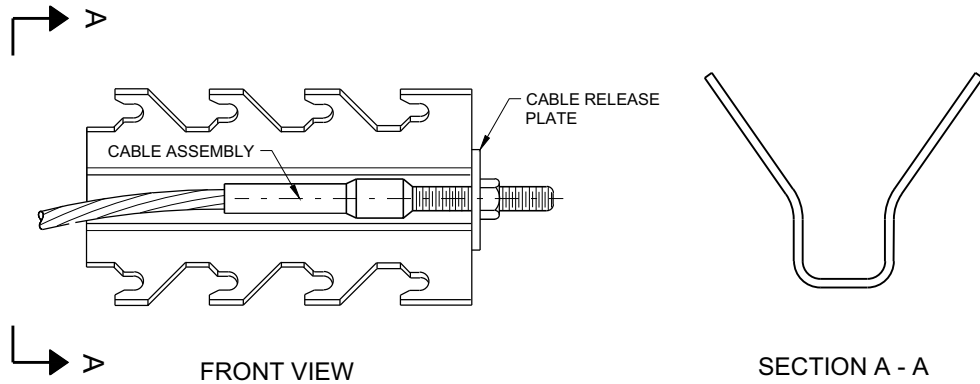


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 41

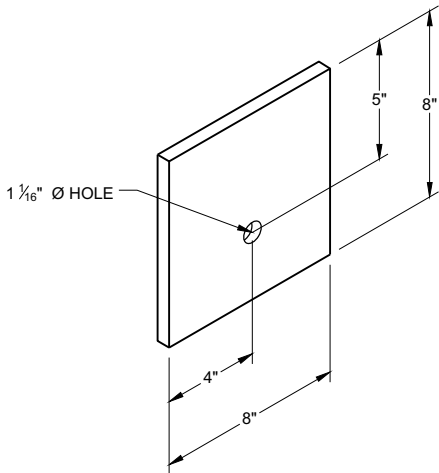


GENERIC GROUND STRUT⁹ ^E

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



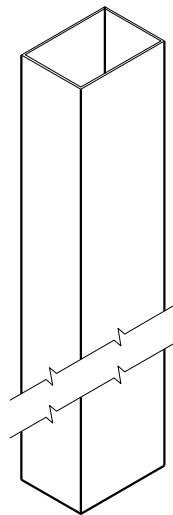
GENERIC ANCHOR CABLE BOX⁹ ^E



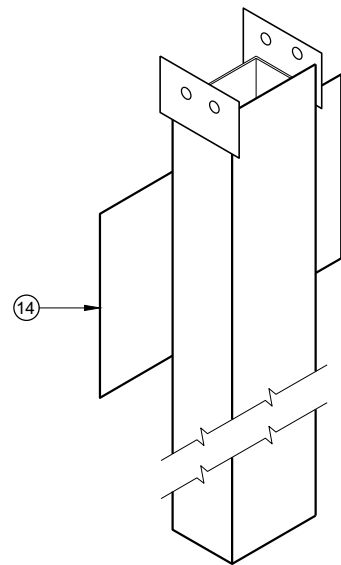
BEARING PLATE⁶ ^E

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

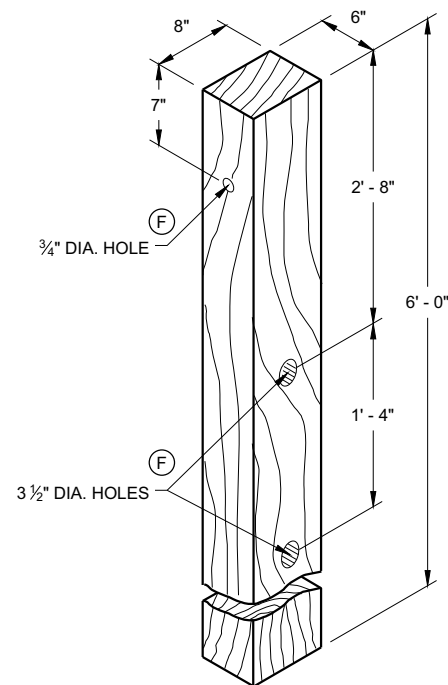
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



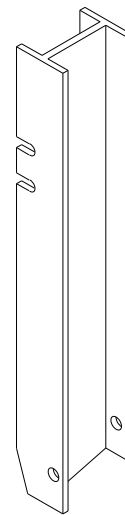
UPPER POST NO. 1 ⁽¹⁾ (E)



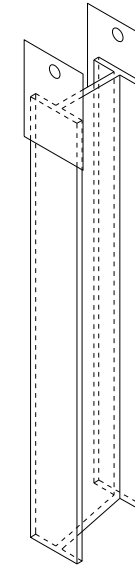
LOWER POST NO. 1 ⁽²⁾ (E)



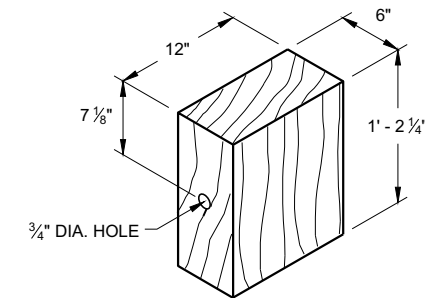
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



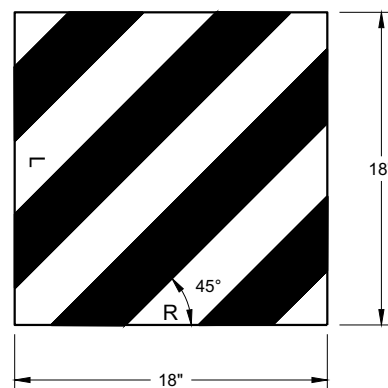
UPPER POST NO. 2 ⁽¹⁵⁾ (E)



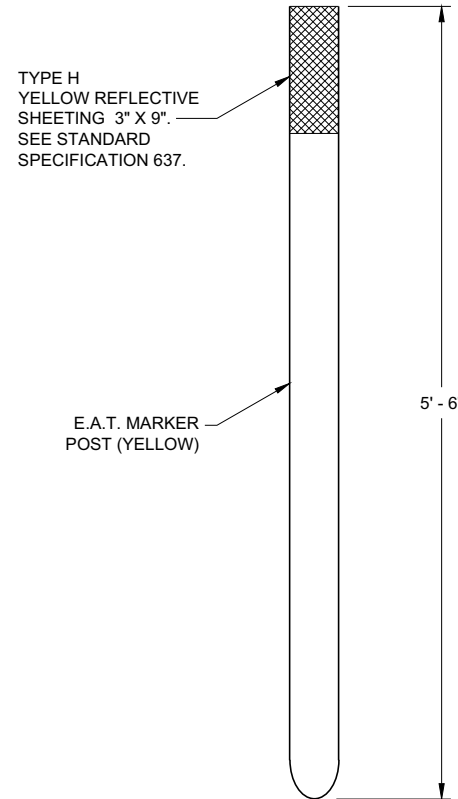
LOWER POST NO. 2 ⁽¹⁶⁾ (E)



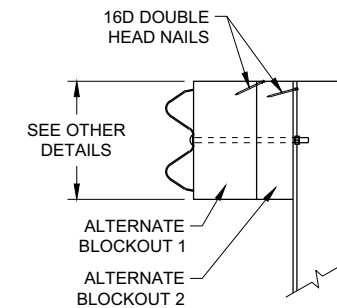
WOOD BLOCKOUT ⁽⁴⁾
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



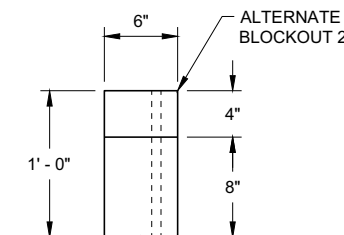
REFLECTIVE SHEETING DETAIL ^(E)



E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW



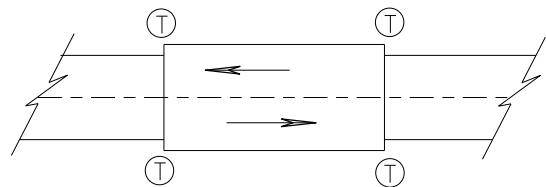
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

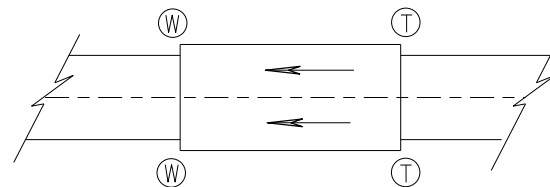
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
43
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.

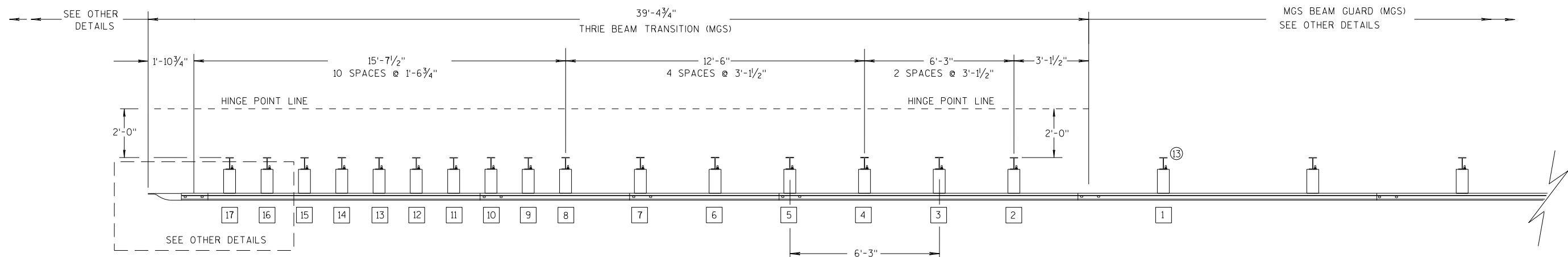
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

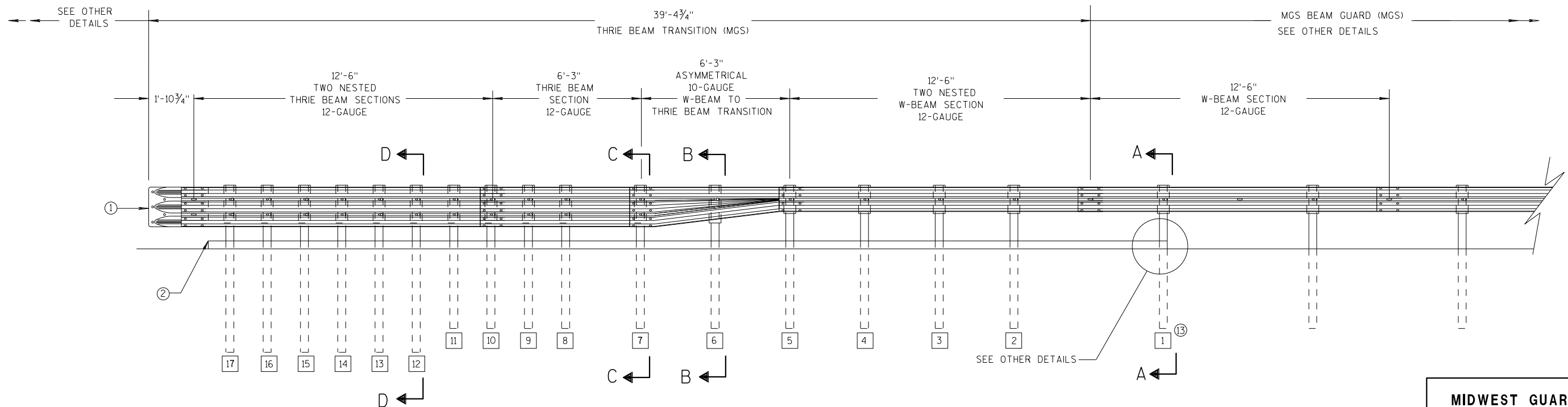
① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

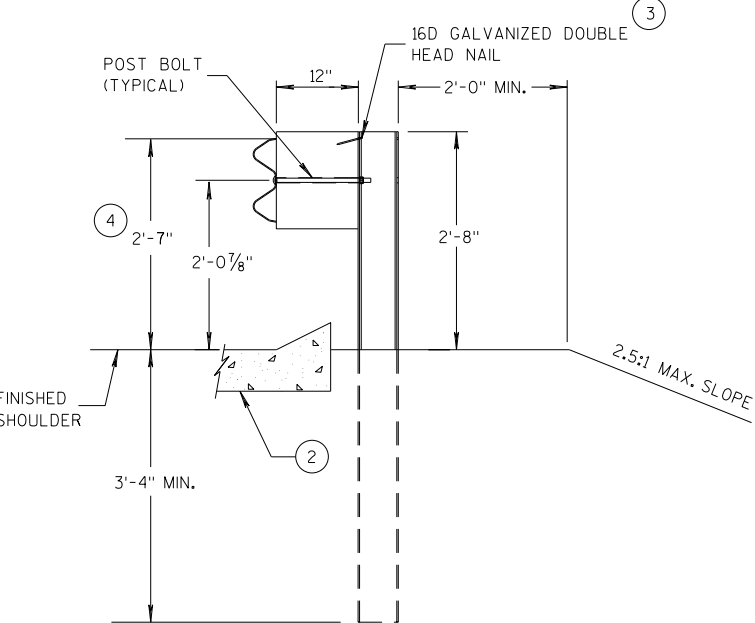
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

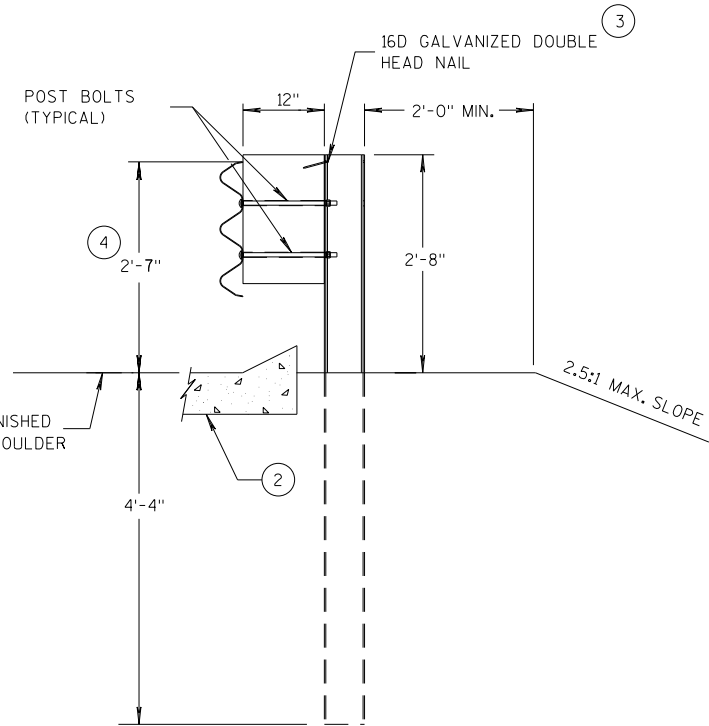
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

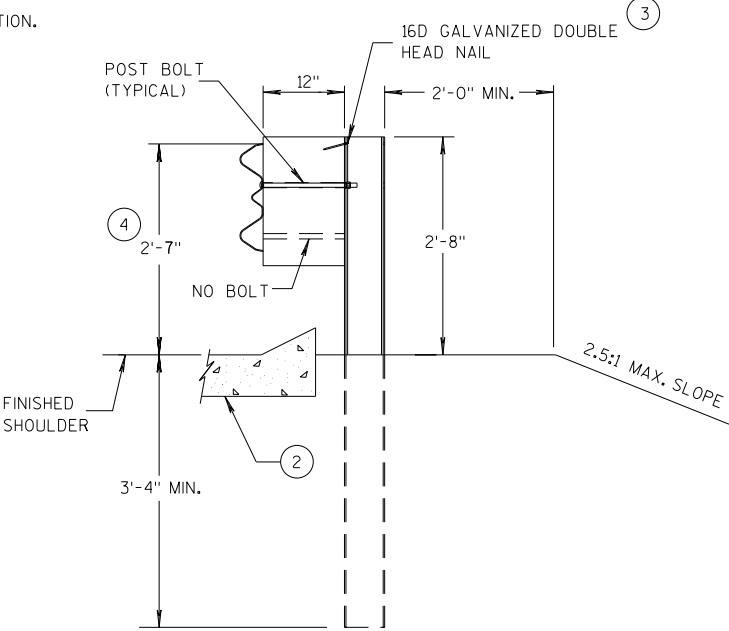
- 2 OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- 4 TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm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



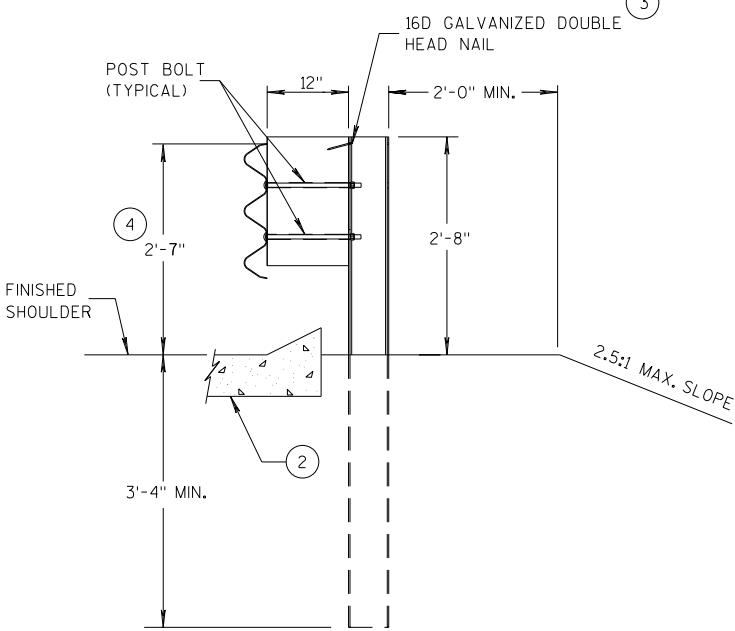
SECTION A-A
POSTS 1-5



SECTION D-D
POSTS 12-17



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11

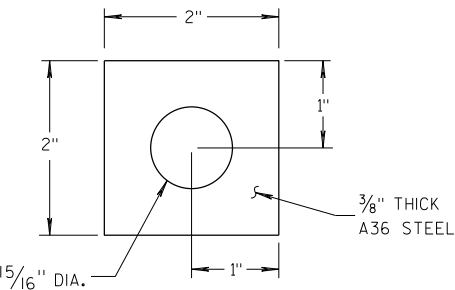
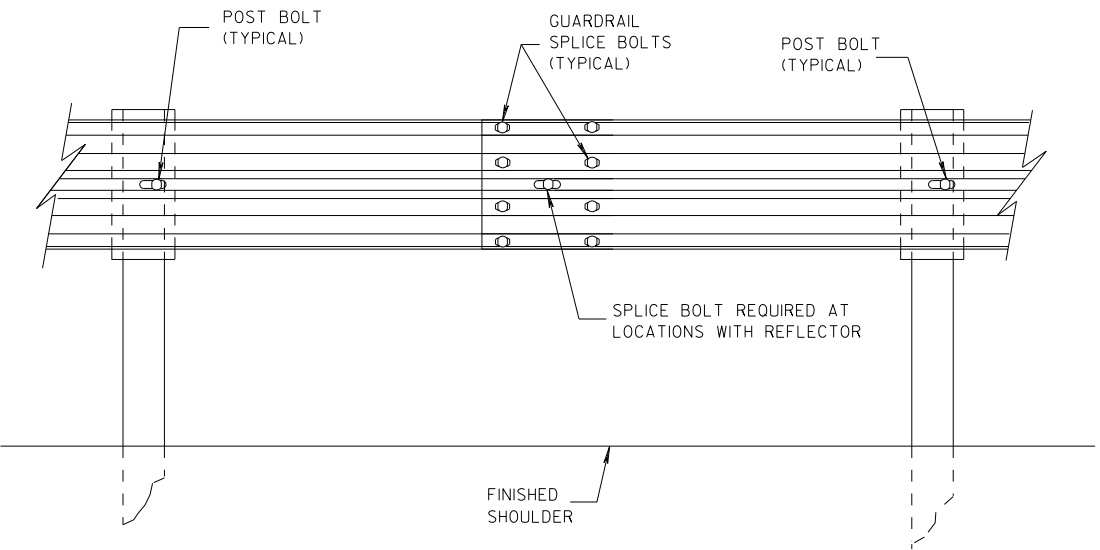
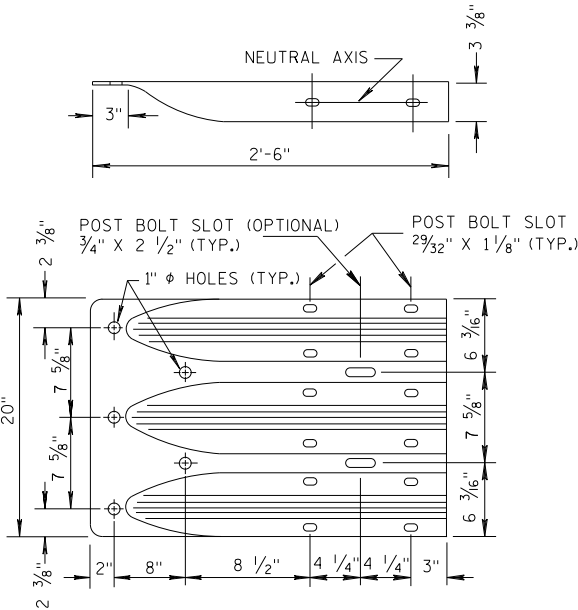


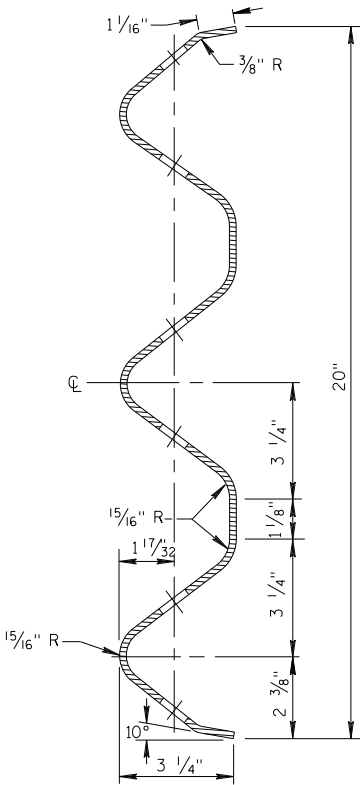
PLATE WASHER DETAIL



SPLICE DETAIL



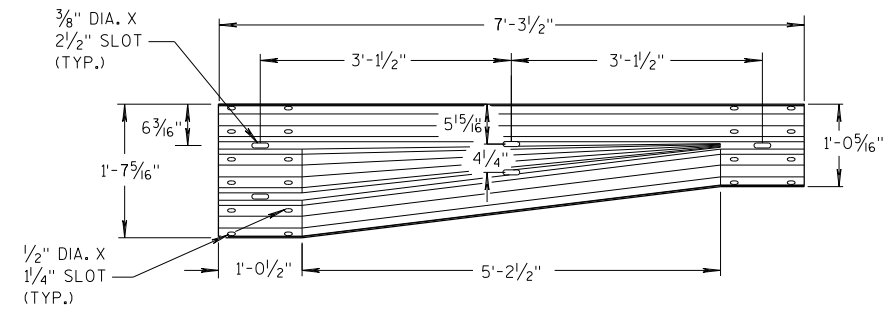
THRIE BEAM
TERMINAL CONNECTOR



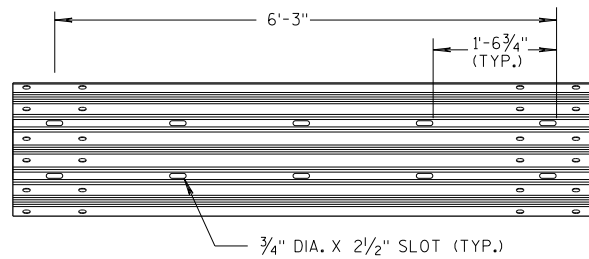
SECTION THRU THRIE
BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

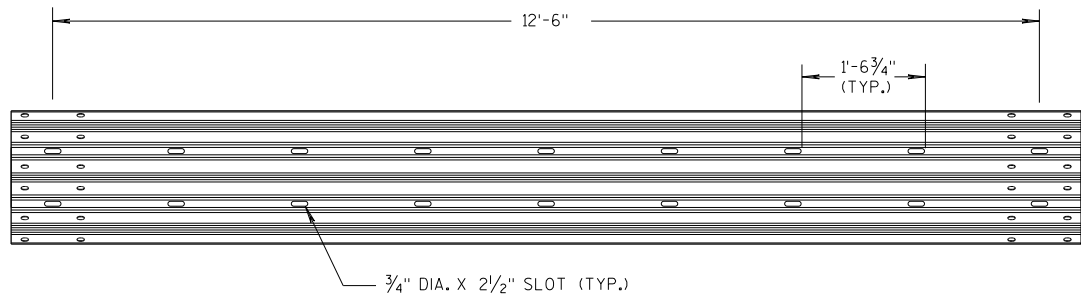
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



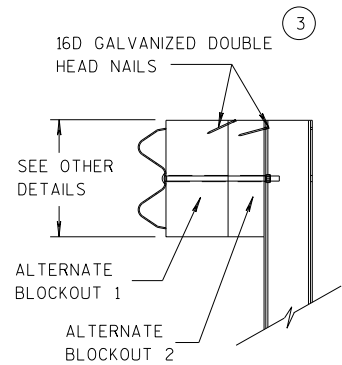
W-BEAM TO THRIE BEAM TRANSITION SECTION



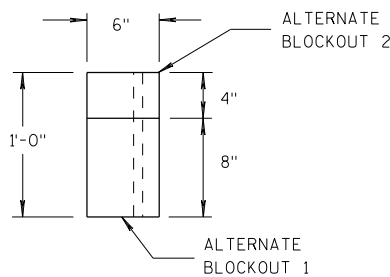
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

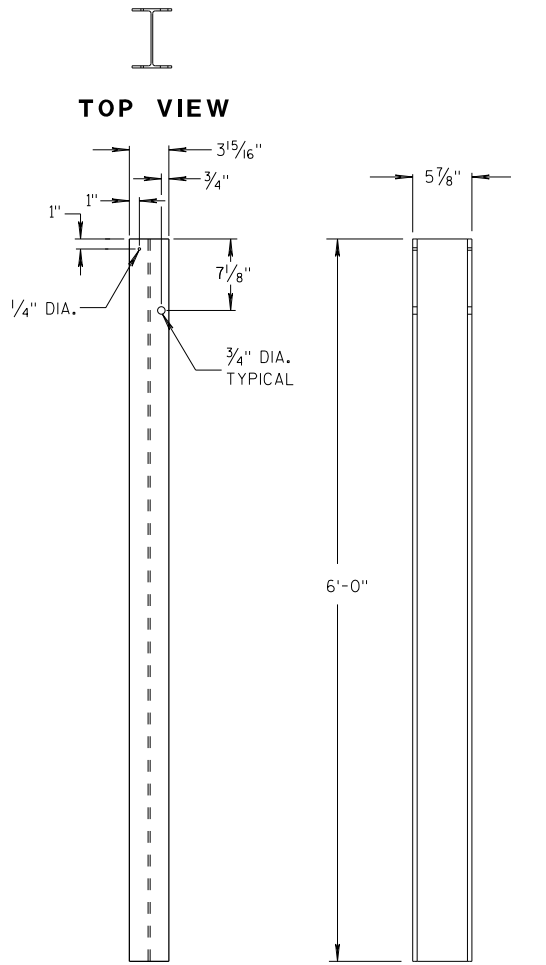


SIDE VIEW



TOP VIEW

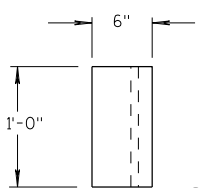
ALTERNATE WOOD BLOCKOUT DETAIL



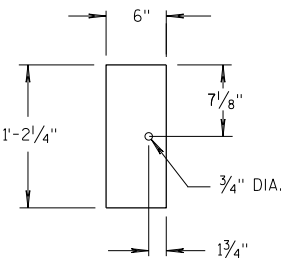
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

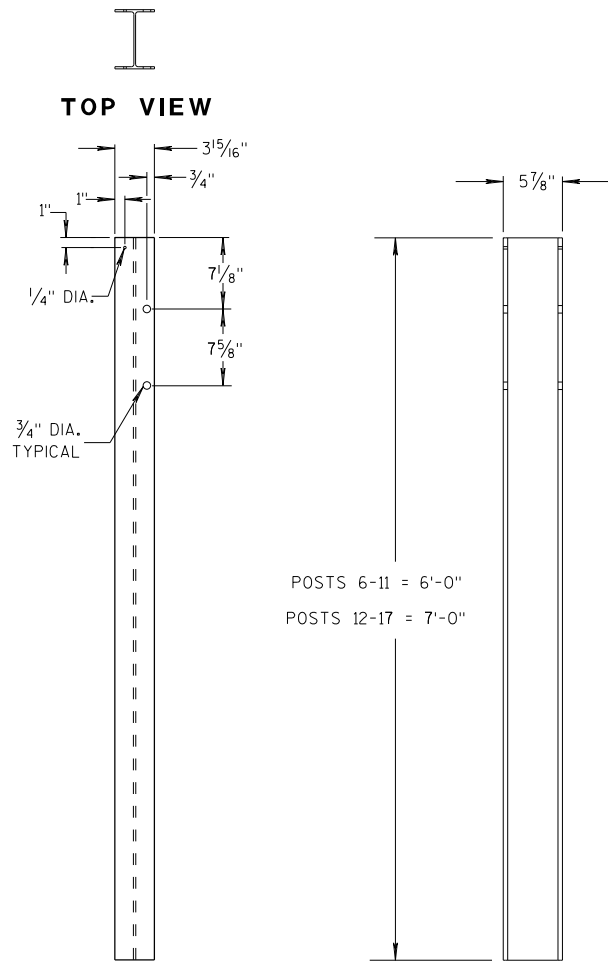


TOP VIEW



FRONT VIEW

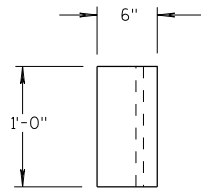
BLOCKOUT POSTS 1-5



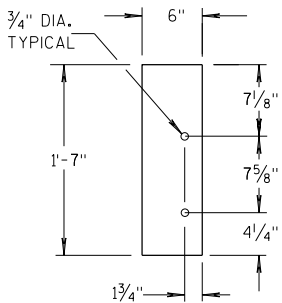
FRONT VIEW

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.

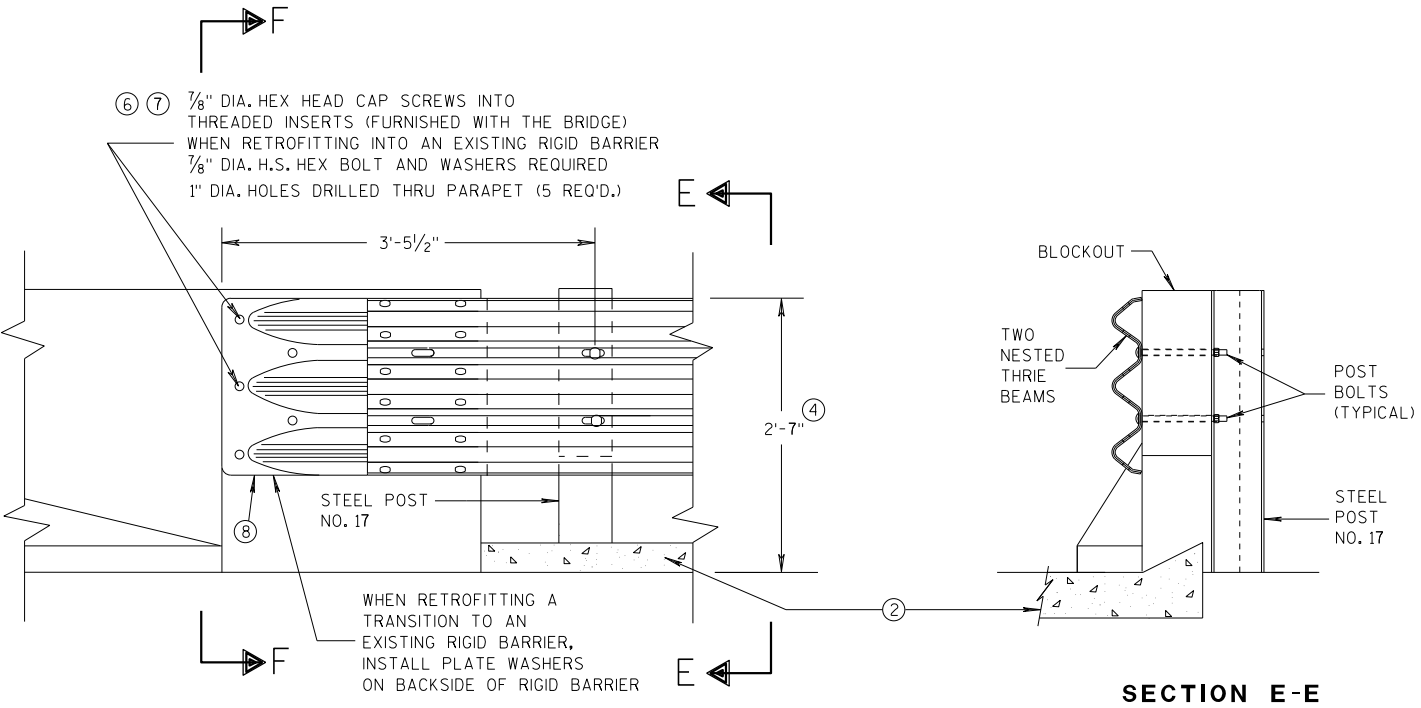
③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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.

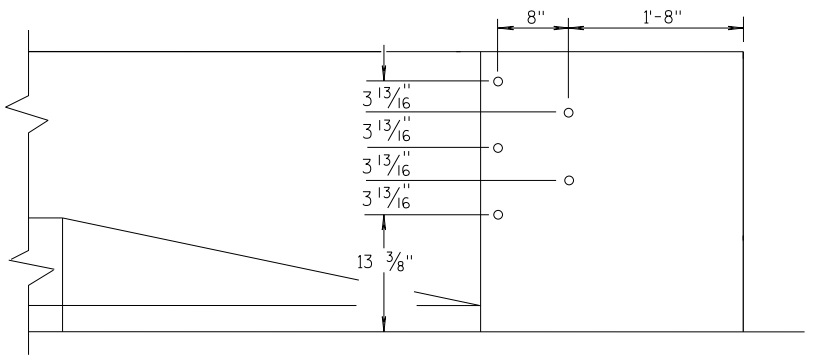
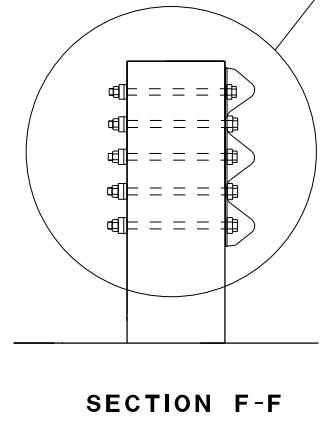
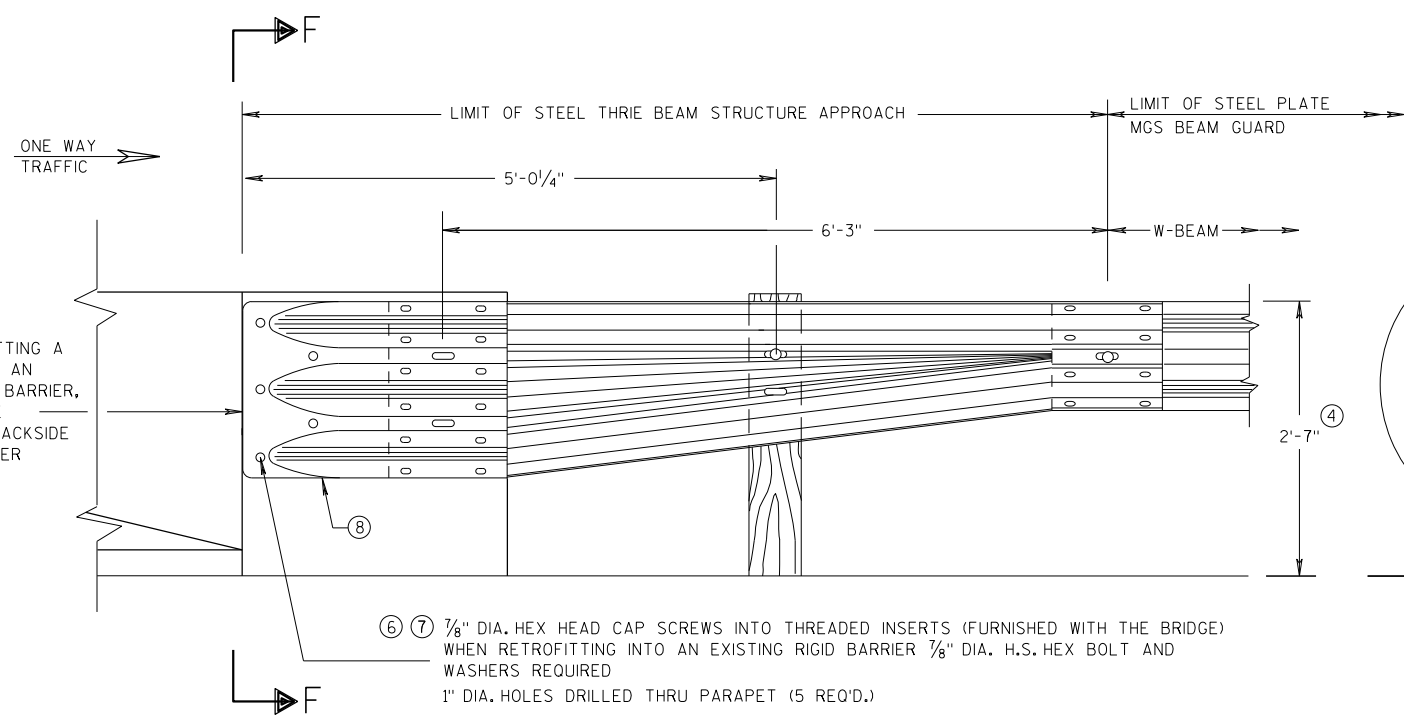
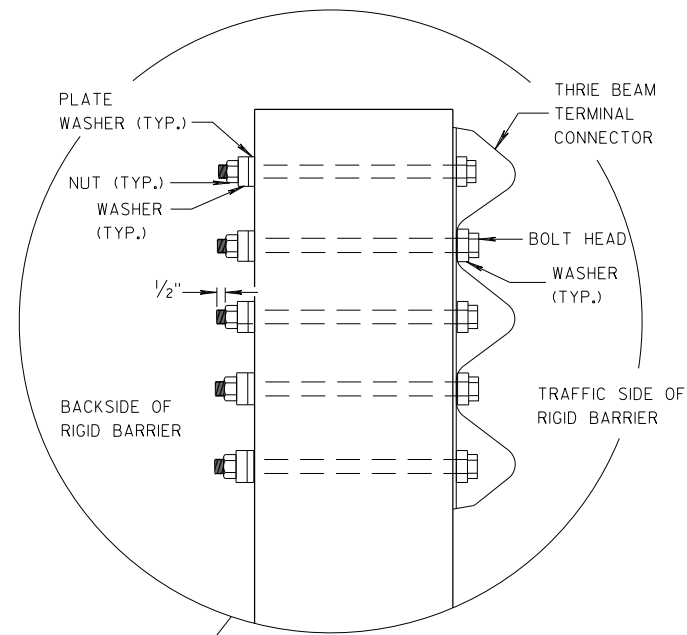
**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



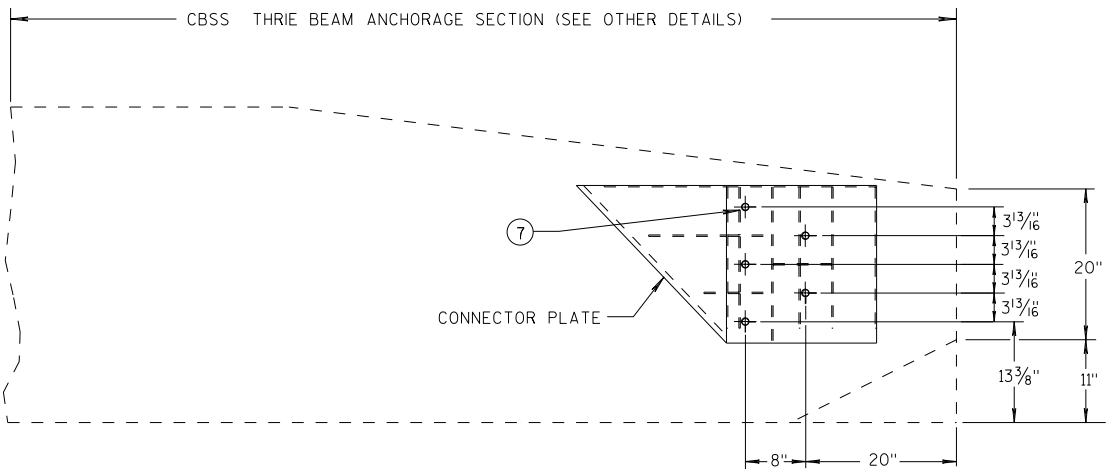
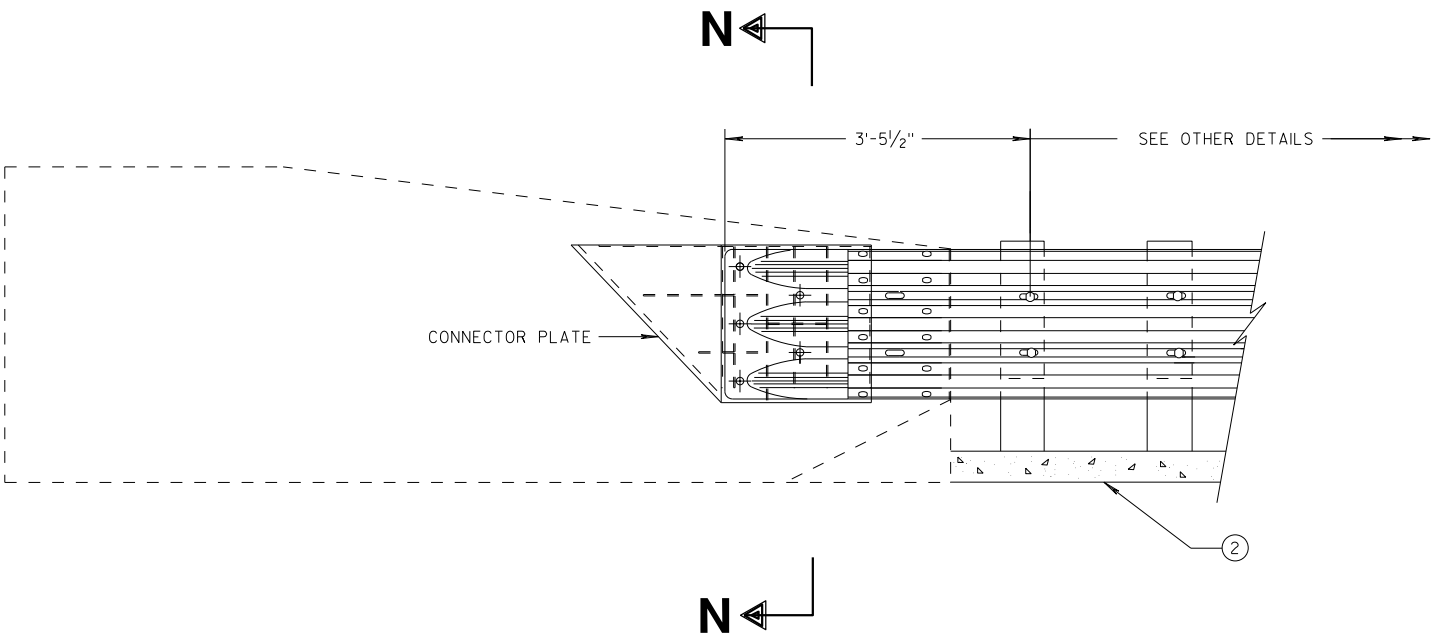
GENERAL NOTES

- 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".



MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED 07/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS UNIT SUPERVISOR		
FHWA	47	NT	

THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



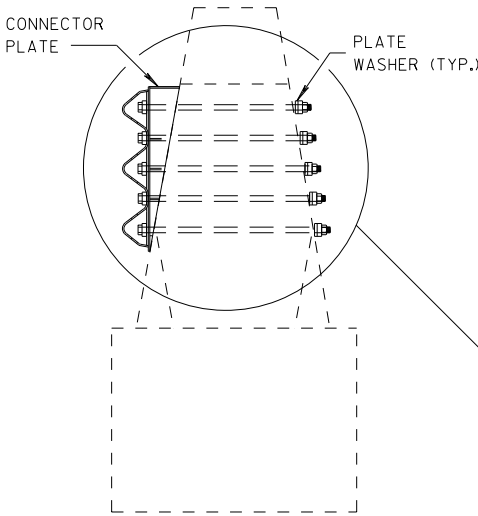
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

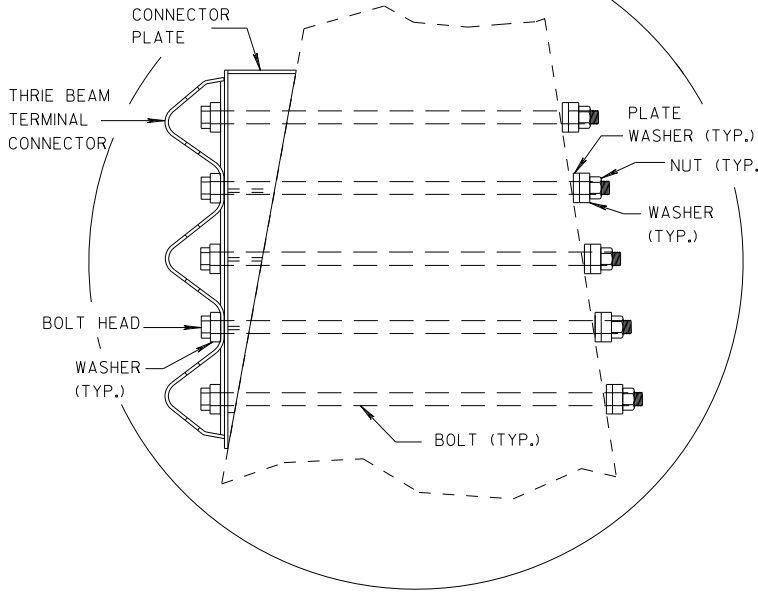
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

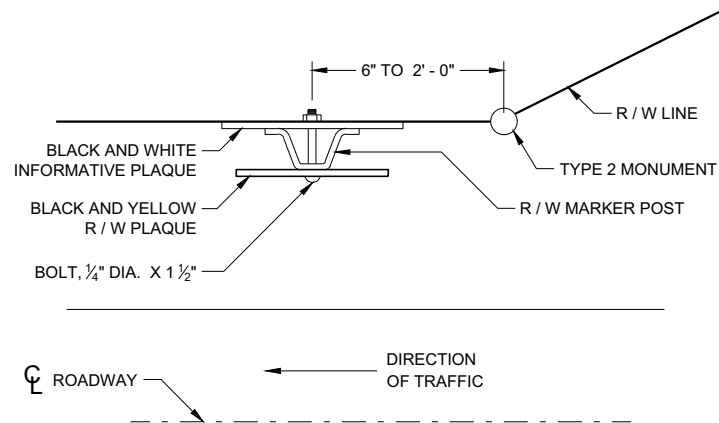


MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

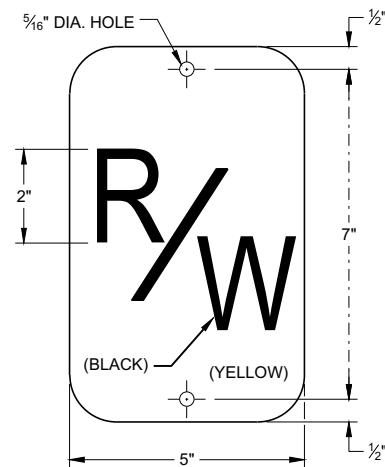
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 7/2018
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS DISTRICT UNIT SUPERVISOR 48

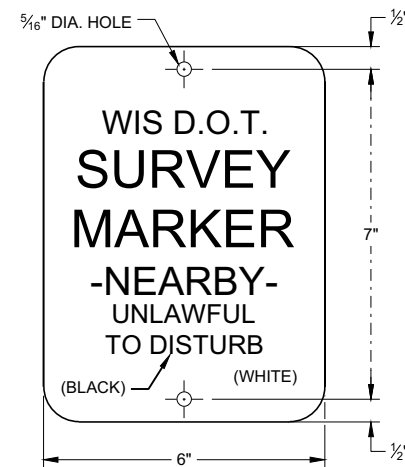


**PLAN VIEW
STEEL MARKER POST**



R / W PLAQUE

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



INFORMATIVE PLAQUE

GENERAL NOTES

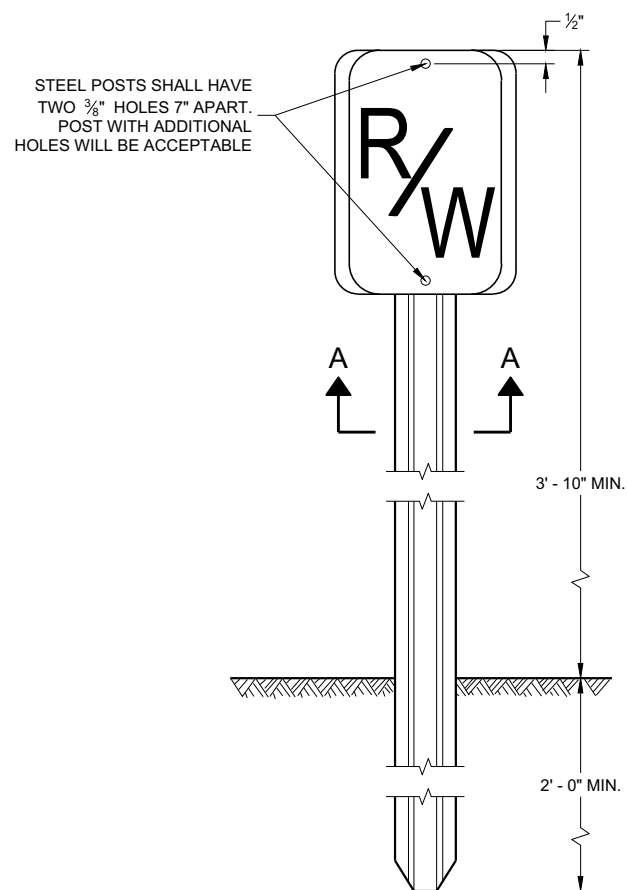
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

A STEEL MARKER POST FOR RIGHT -OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

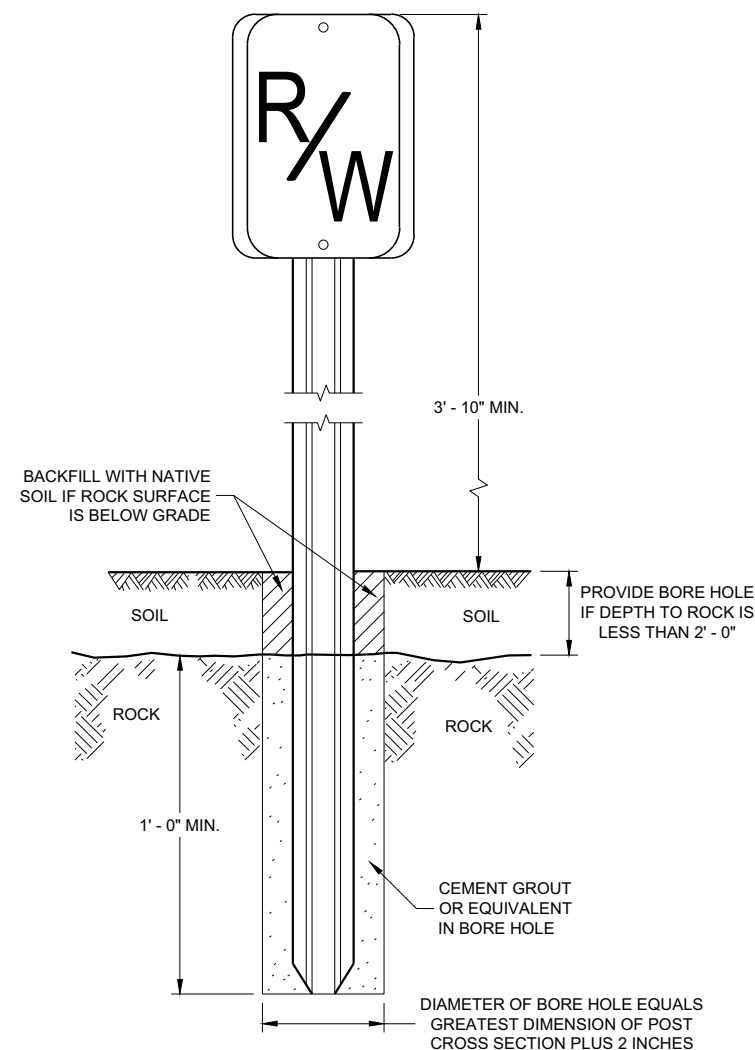
THE "R/W" PLAQUE SHALL FACE THE ROADWAY AND THE INFORMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. "R/W" AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

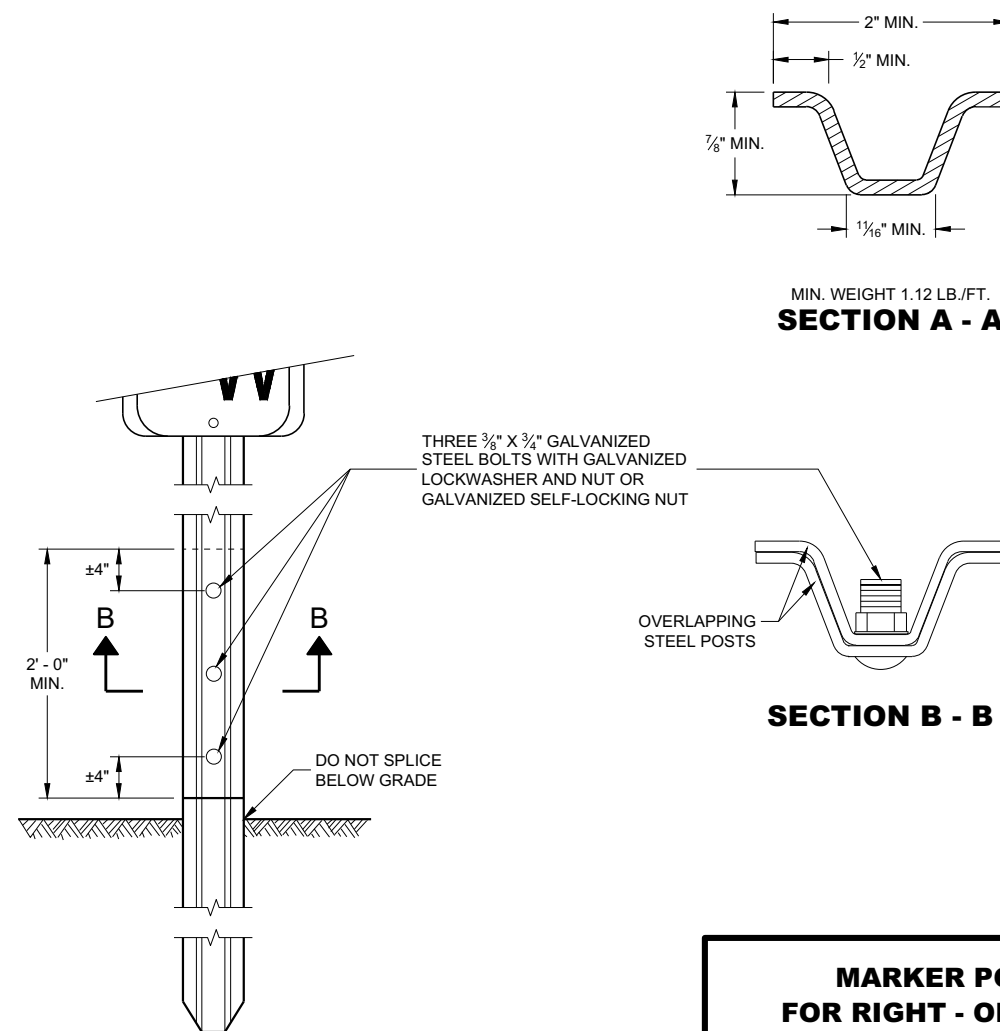
- ① IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3' - 10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR. FILL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



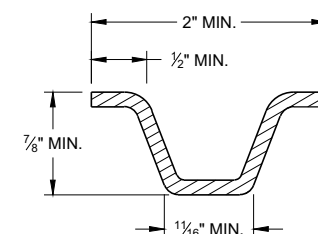
**FRONT VIEW
STEEL MARKER POST**



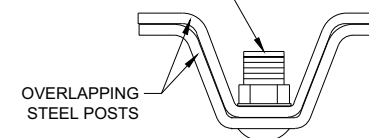
**FRONT VIEW
ROCK INSTALLATION** ①



**FRONT VIEW
SPLICE DETAIL**



MIN. WEIGHT 1.12 LB./FT.
SECTION A - A



SECTION B - B

MARKER POST FOR RIGHT - OF - WAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/18/2016
DATE
/S/ Ray Kumapayi
CHIEF SURVEYING AND MAPPING ENGINEER
49

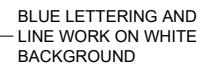
FHWA



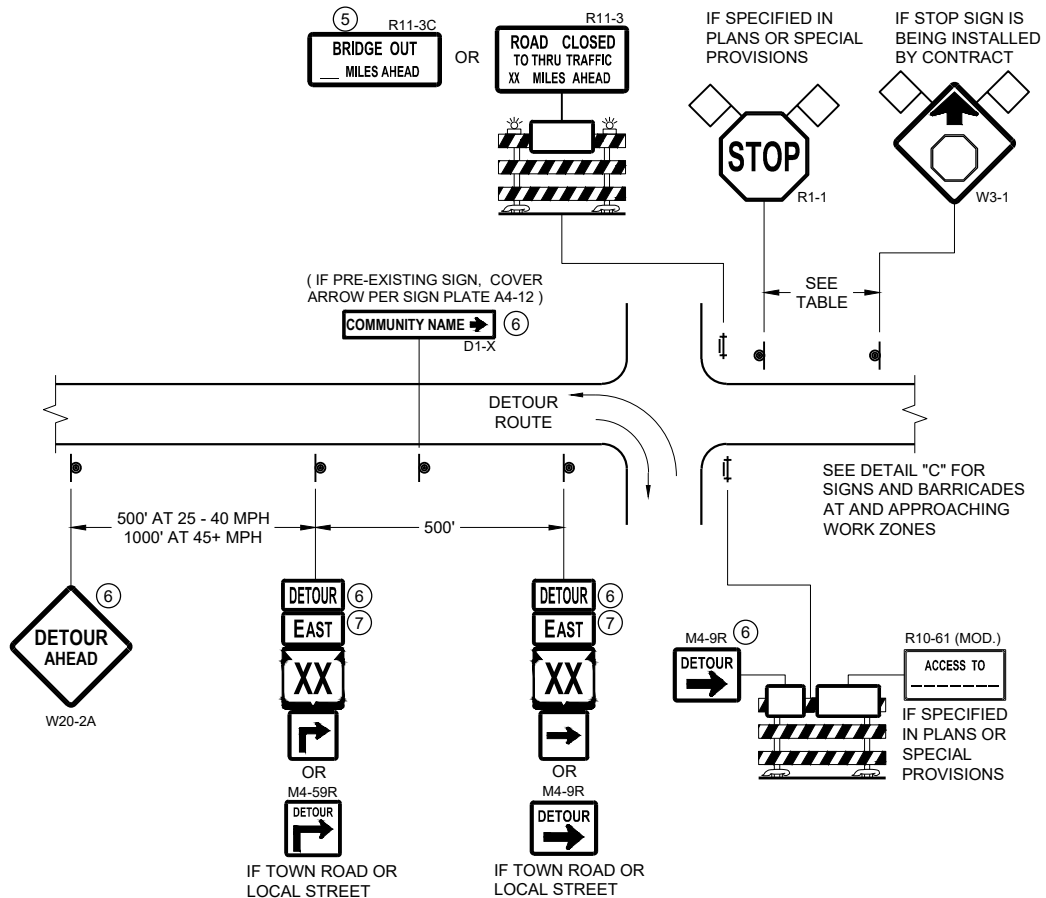
RIGHT-OF-WAY STICKER

- ① FLEXIBLE MARKER POSTS SHALL BE INCLUDED IN THE APPROVED PRODUCTS LIST FOR MARKER POSTS AND SHALL BE FEDERAL YELLOW IN COLOR.
- ② 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 4' - 0" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR.

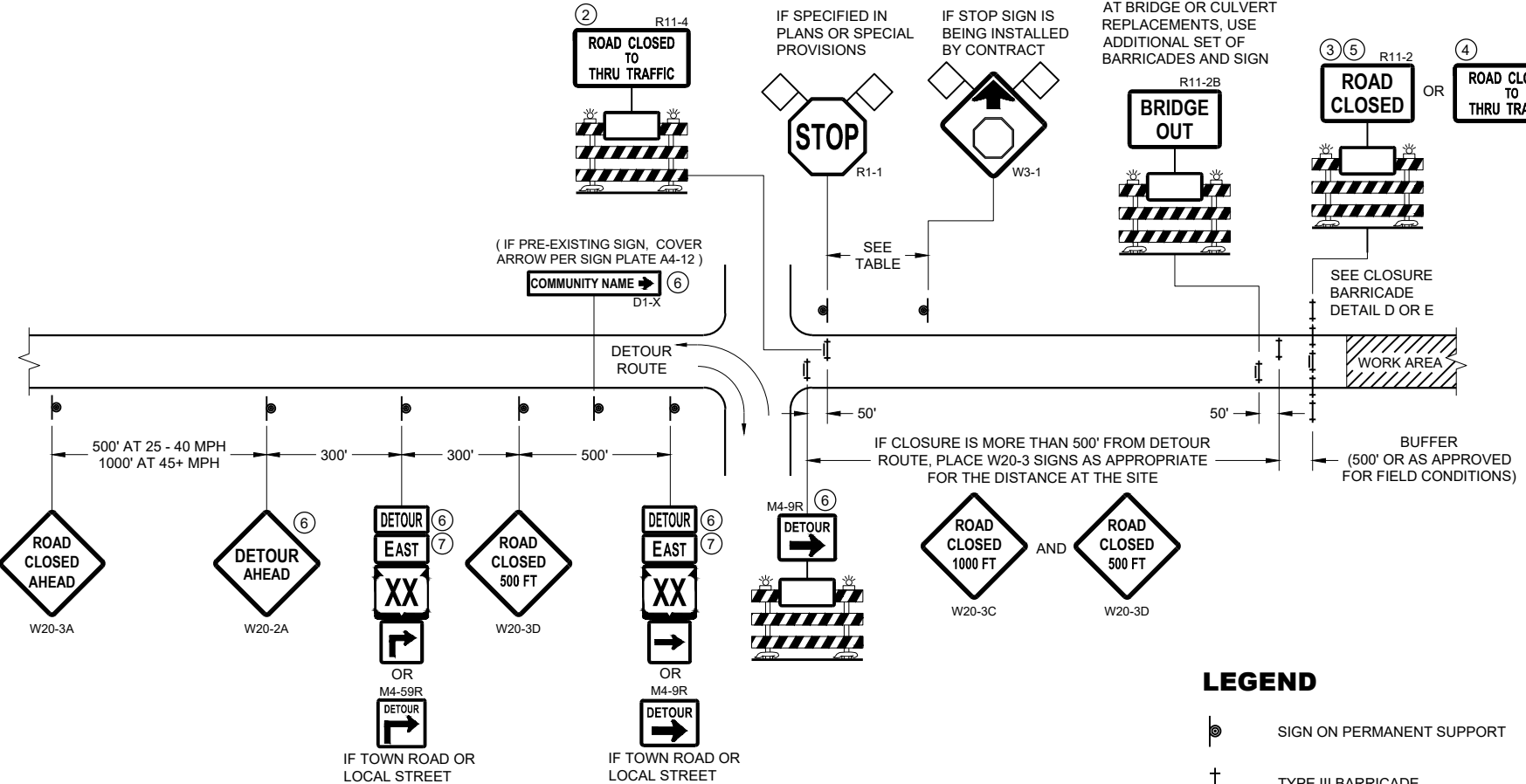
FILL THE BORE HOLE WITH CEMENT GROUT OR EQUIVALENT, DEPENDING ON THE STABILITY OF THE ROCK.



FLEXIBLE MARKER POST FOR RIGHT - OF - WAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED <u>2/16/2016</u> DATE	<u>/S/ Ray Kumapayii</u> CHIEF SURVEYING AND M/ ENGINEER 50
FHWA	



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



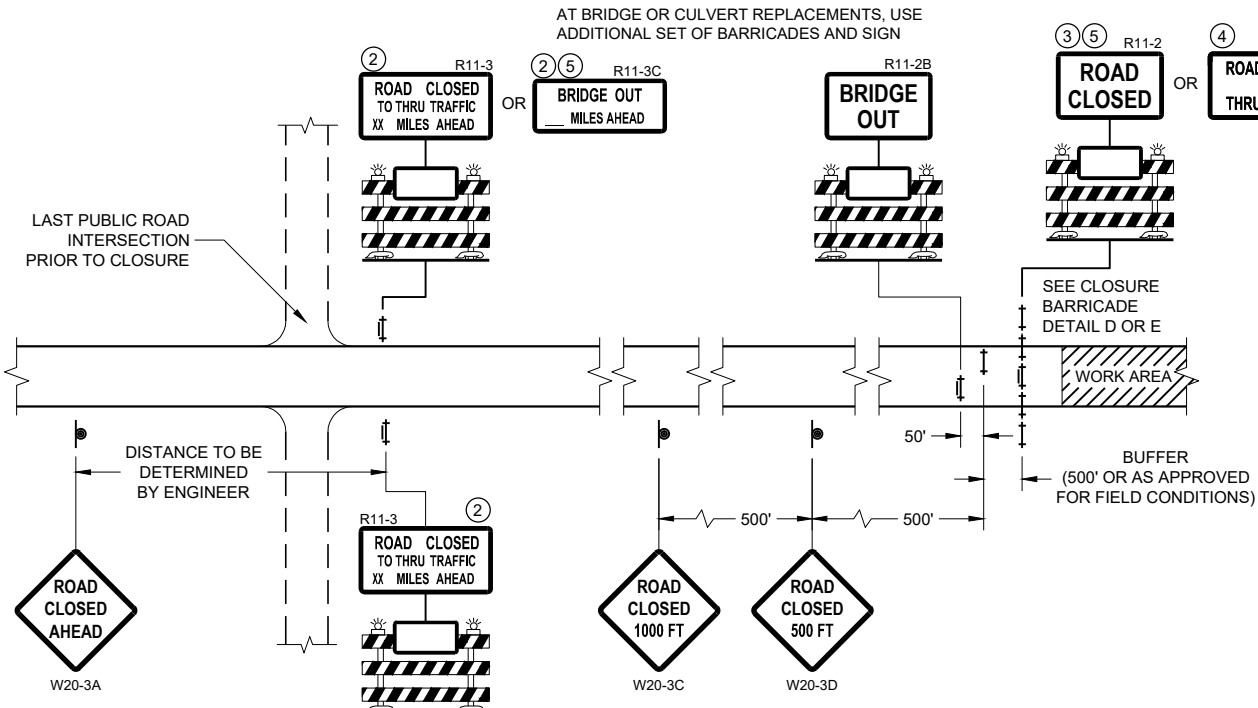
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

- 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 X M1 - 5A
- OR M05 - 1 OR M06 - 1

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



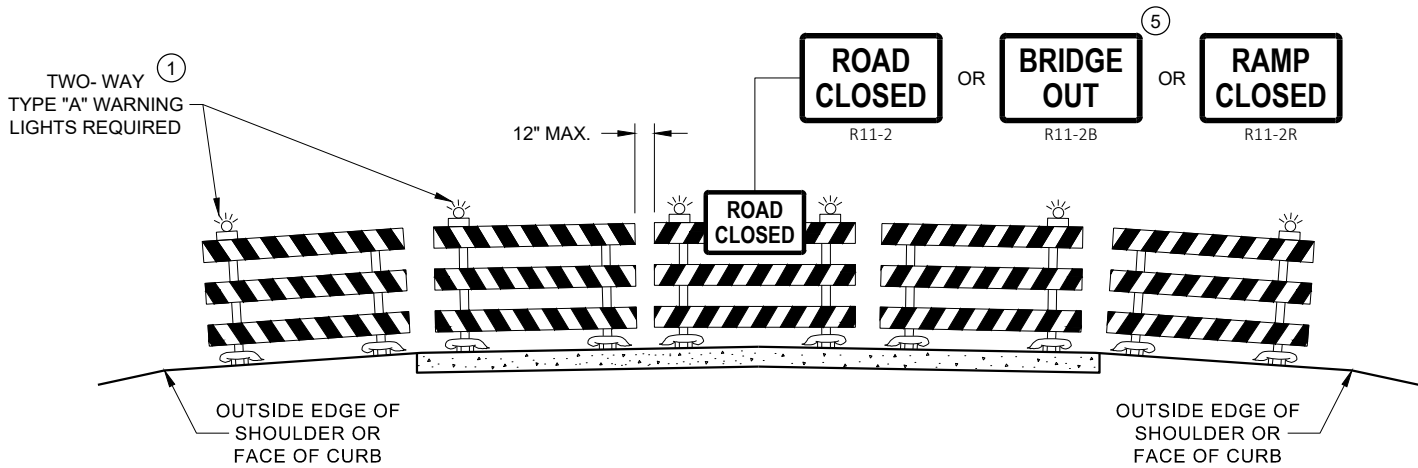
DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

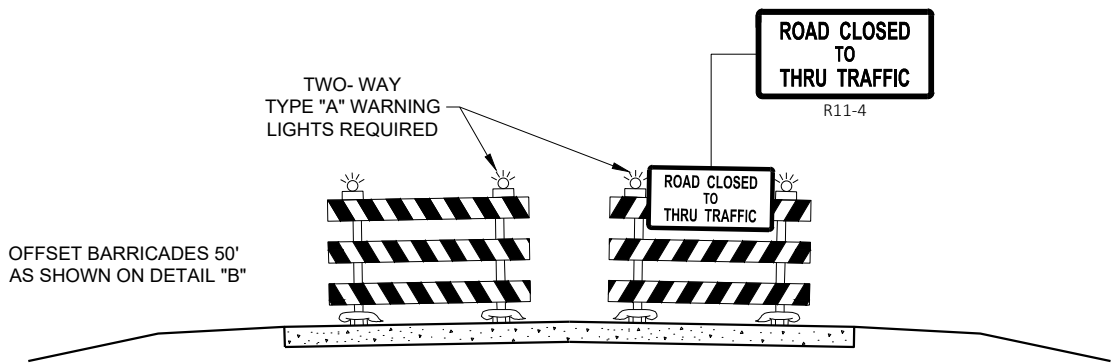
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 51

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.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

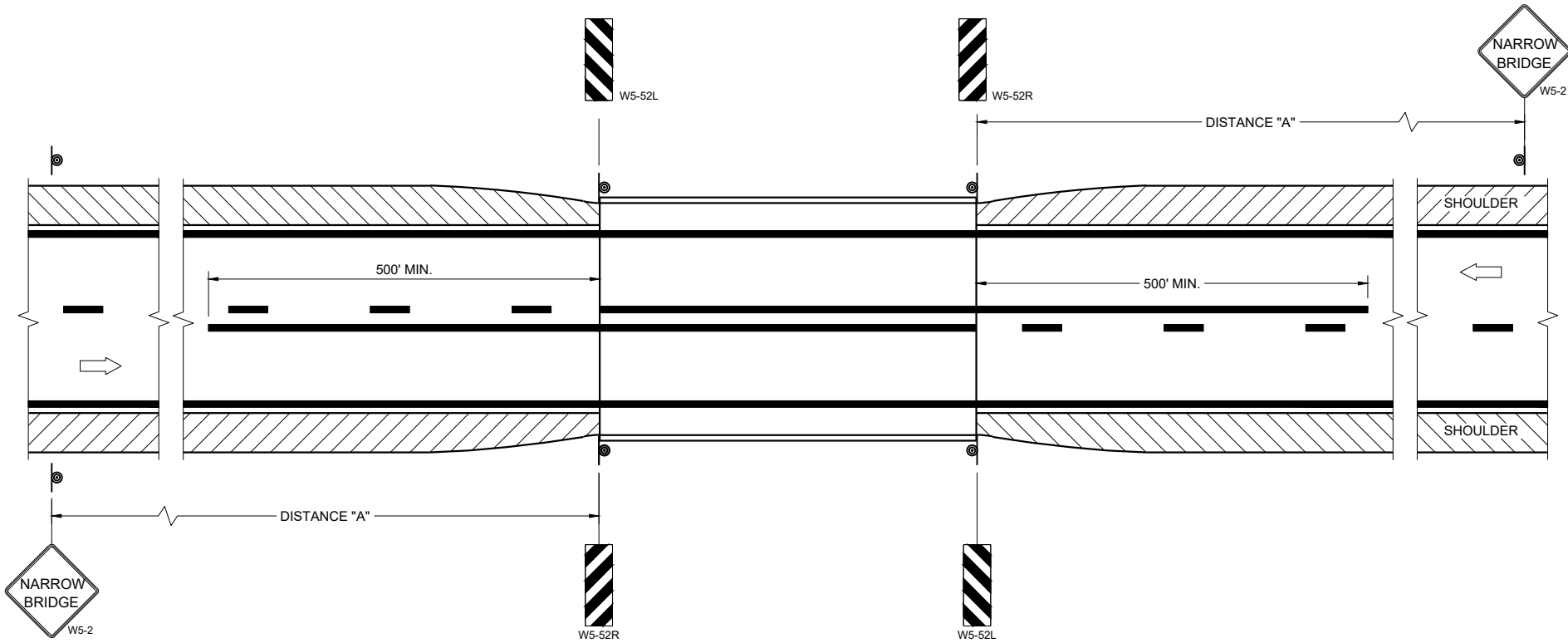
- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS 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

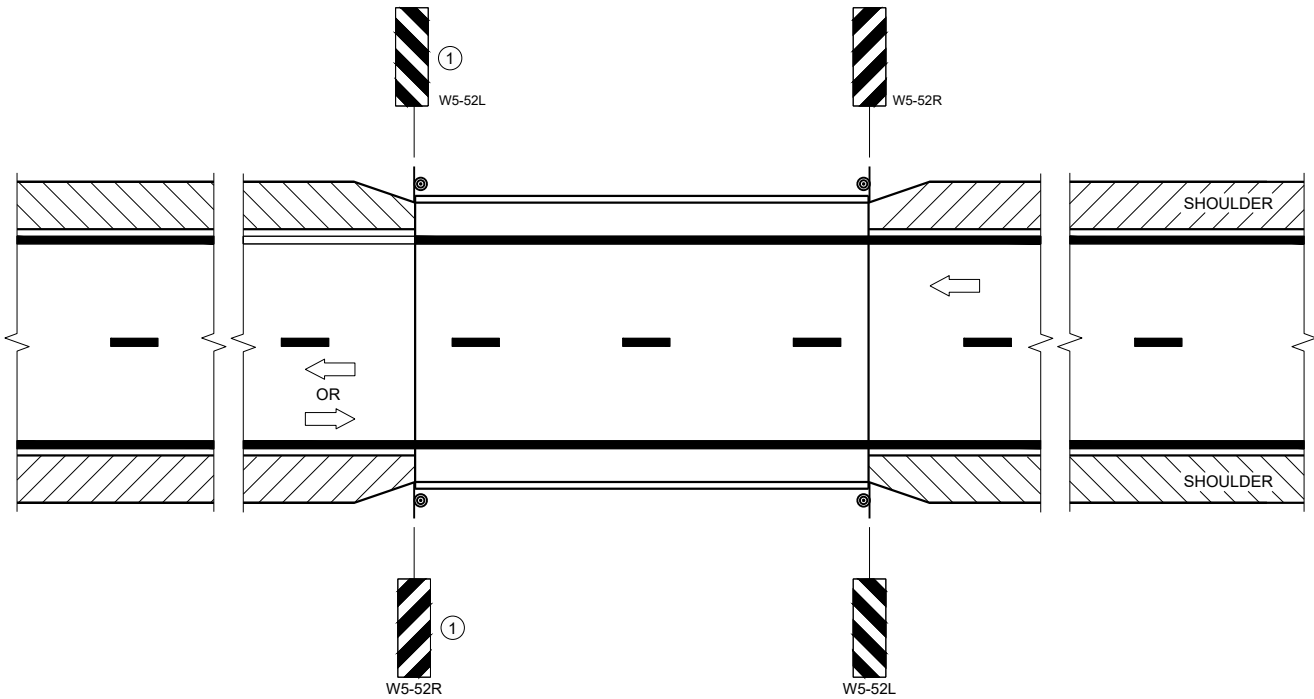
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 52

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'

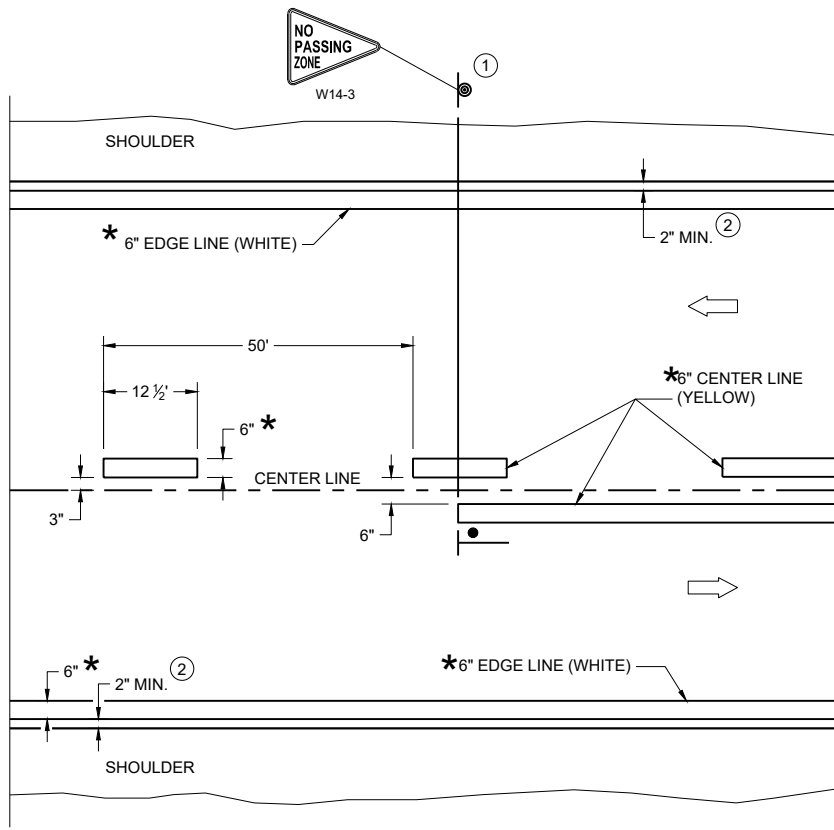
**SIGNING AND MARKING
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

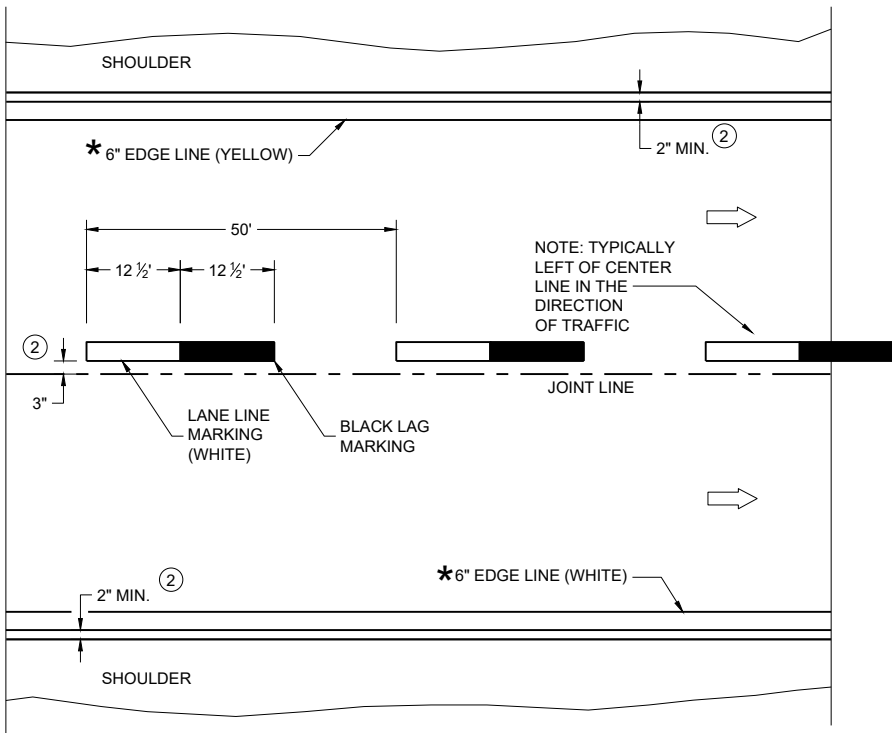
APPROVED
May 2023
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

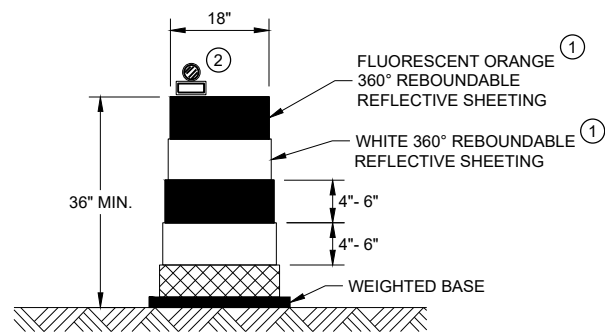
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- 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

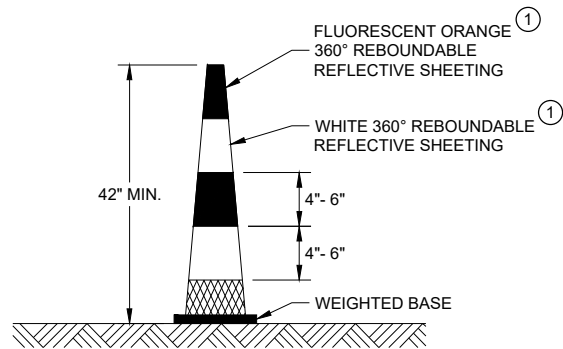
- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED December 2024 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer



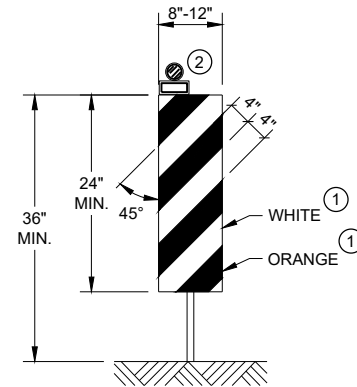
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



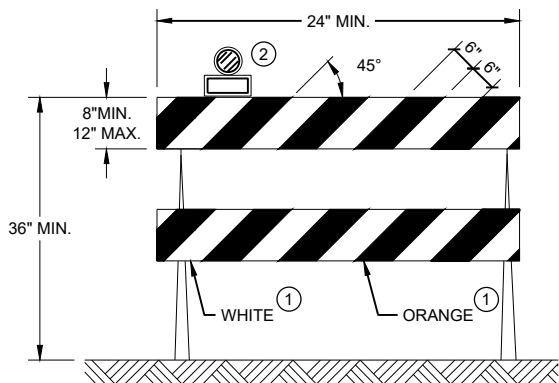
42" CONE

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



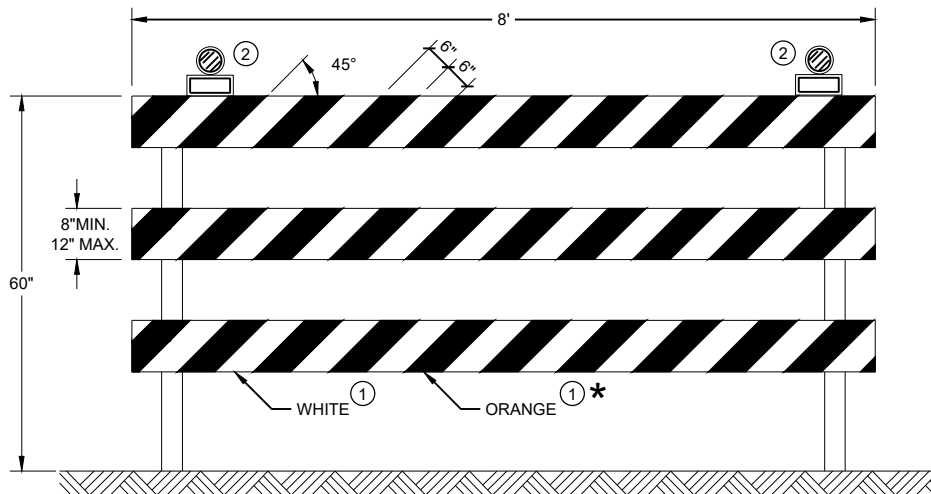
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

GENERAL NOTES

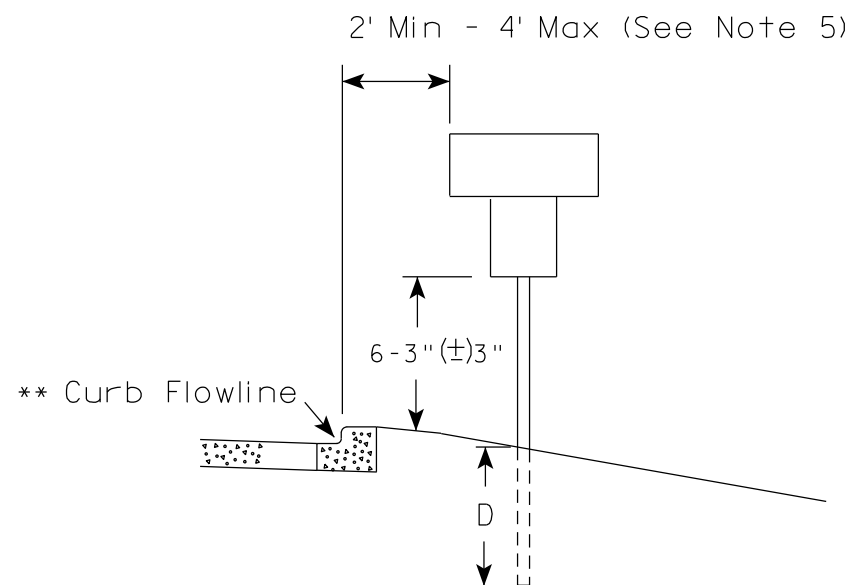
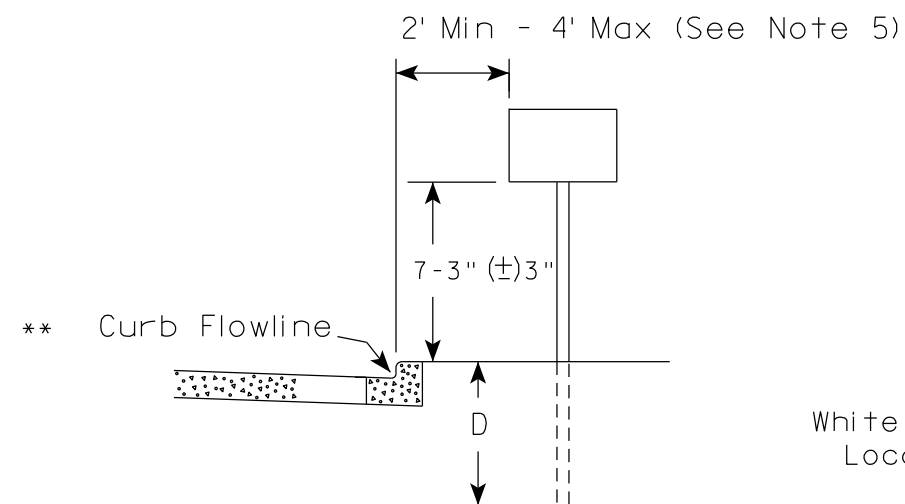
- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

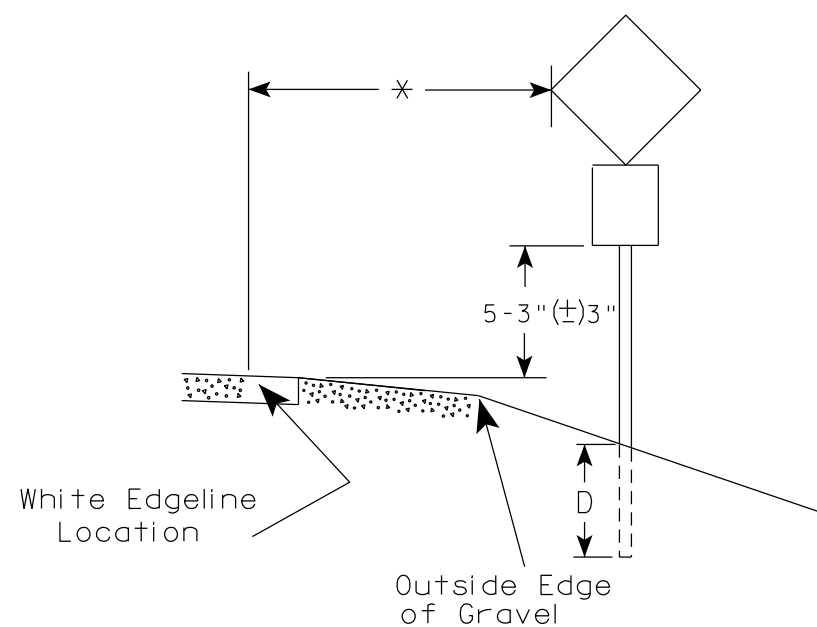
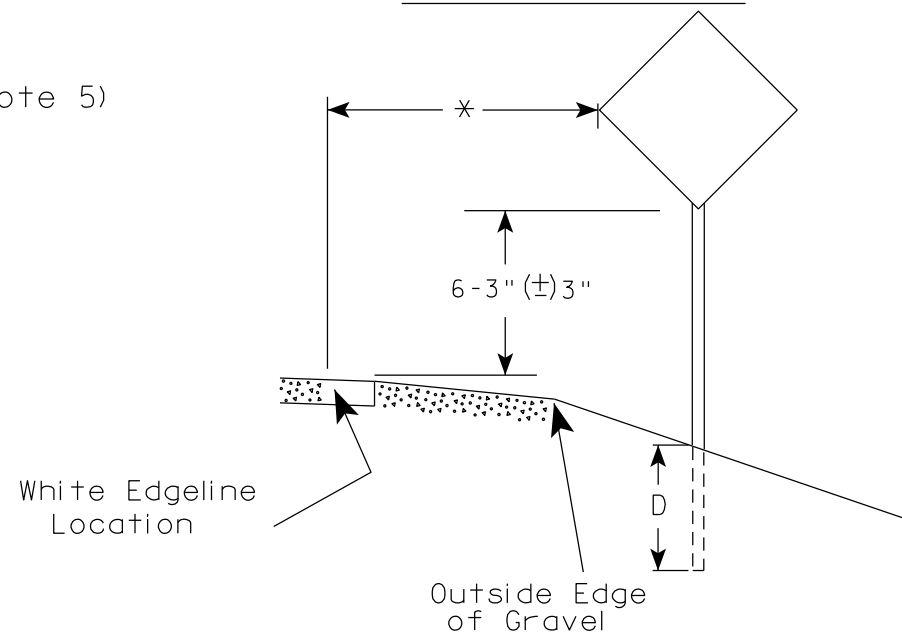
APPROVED
November 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 55
FHWA

URBAN AREA



* * 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.

RURAL AREA (See Note 2)



* 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.

POST EMBEDMENT DEPTH

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

GENERAL NOTES

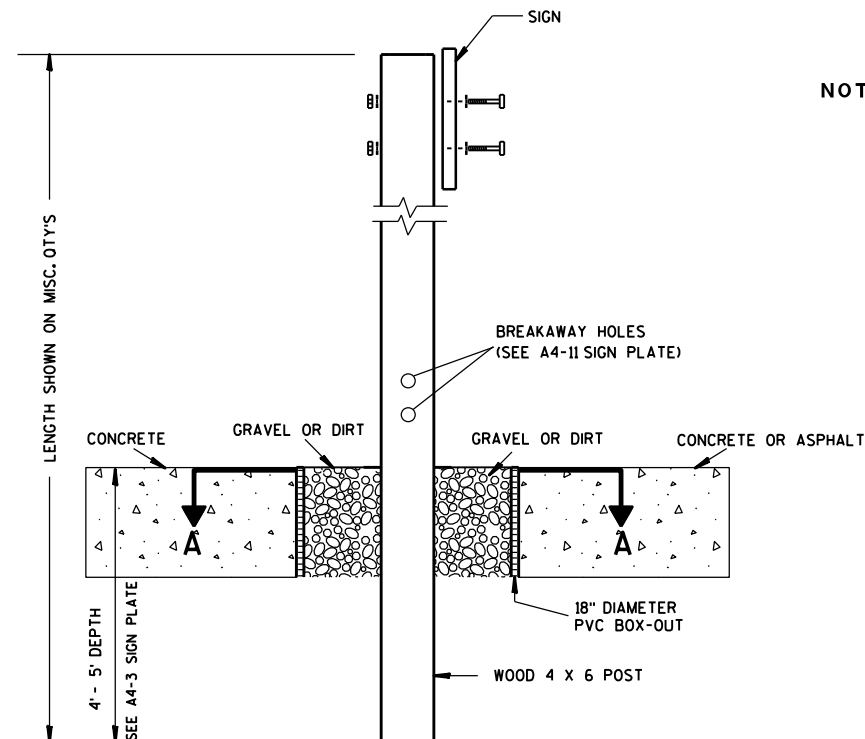
1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron 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.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

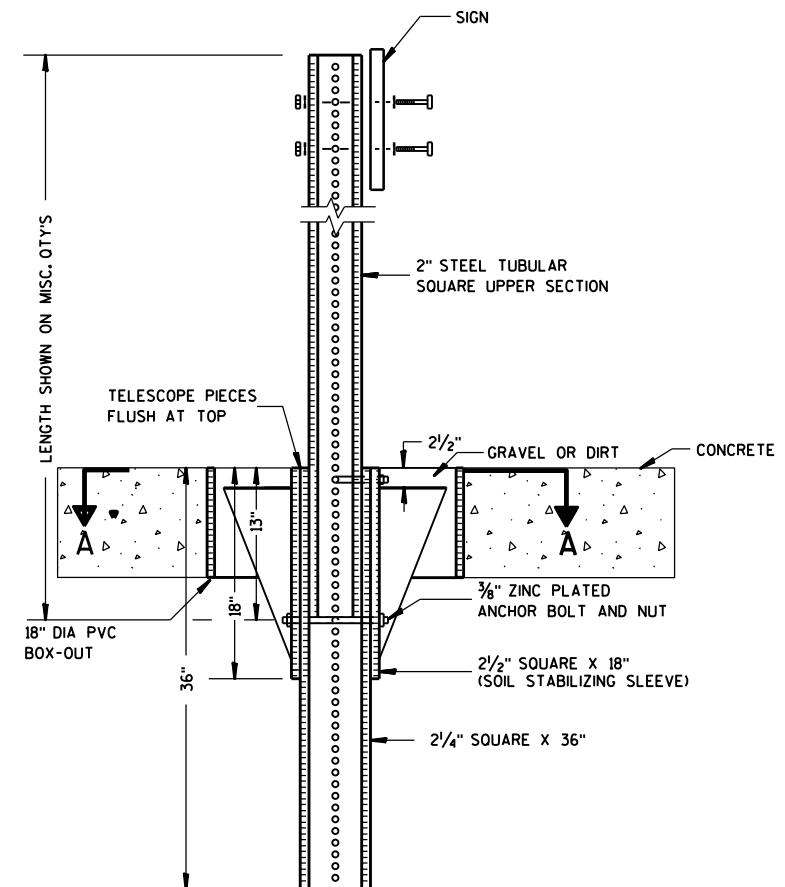
DATE 12/6/23 PLATE NO. A4-3.23



- 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.

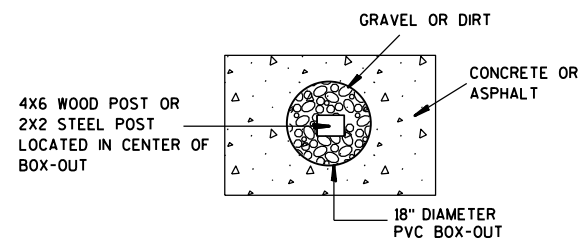
ELEVATION VIEW

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



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 PLAT 57 A4-3B.1

PROJECT NO:

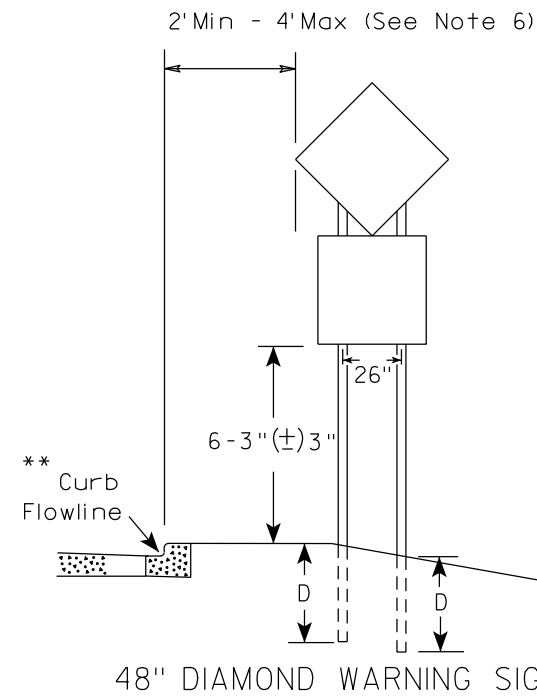
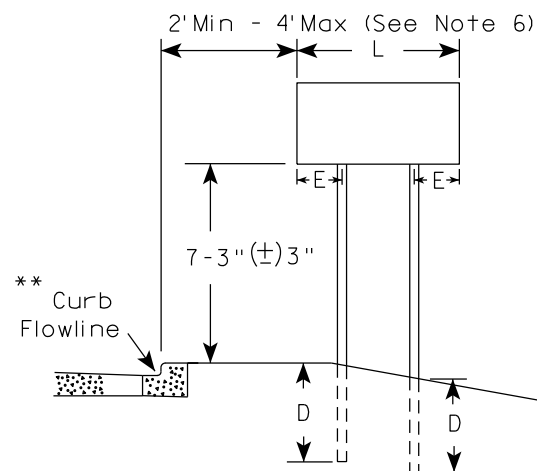
HWY:

COUNTY:

SHEET NO:

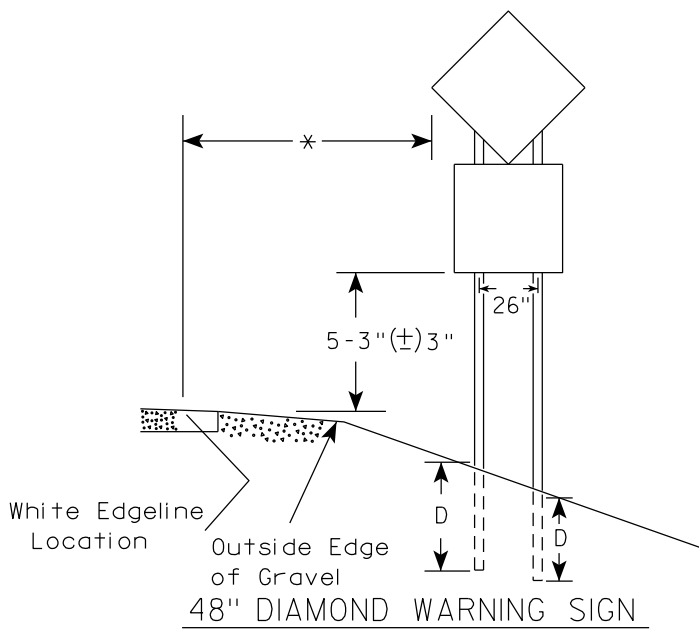
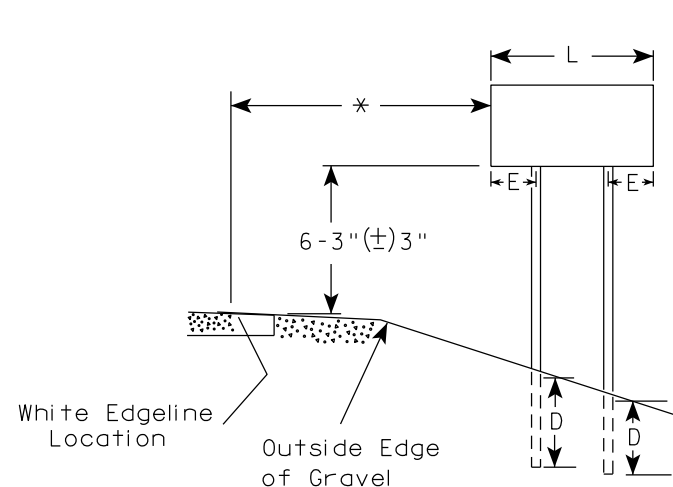
E

URBAN AREA

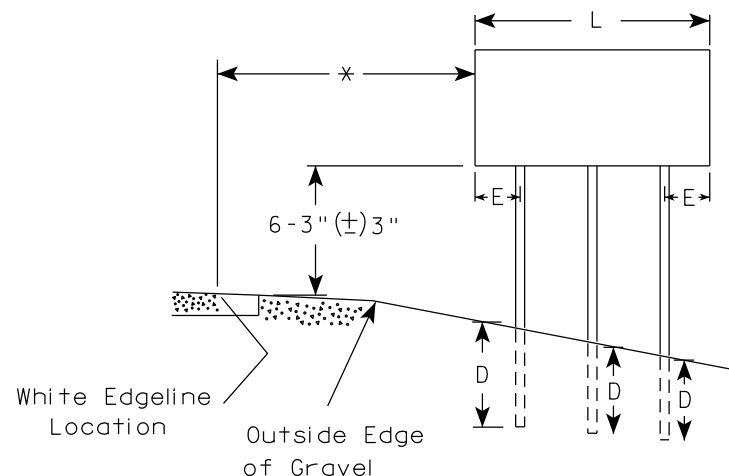


SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

RURAL AREA (See Note 3)



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



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

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

GENERAL NOTES

- For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
- The (±) tolerance for mounting height is 3 inches.
- J-Assemblies are considered to be one sign for mounting height.
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the engineer.
- The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".

POST EMBEDMENT DEPTH

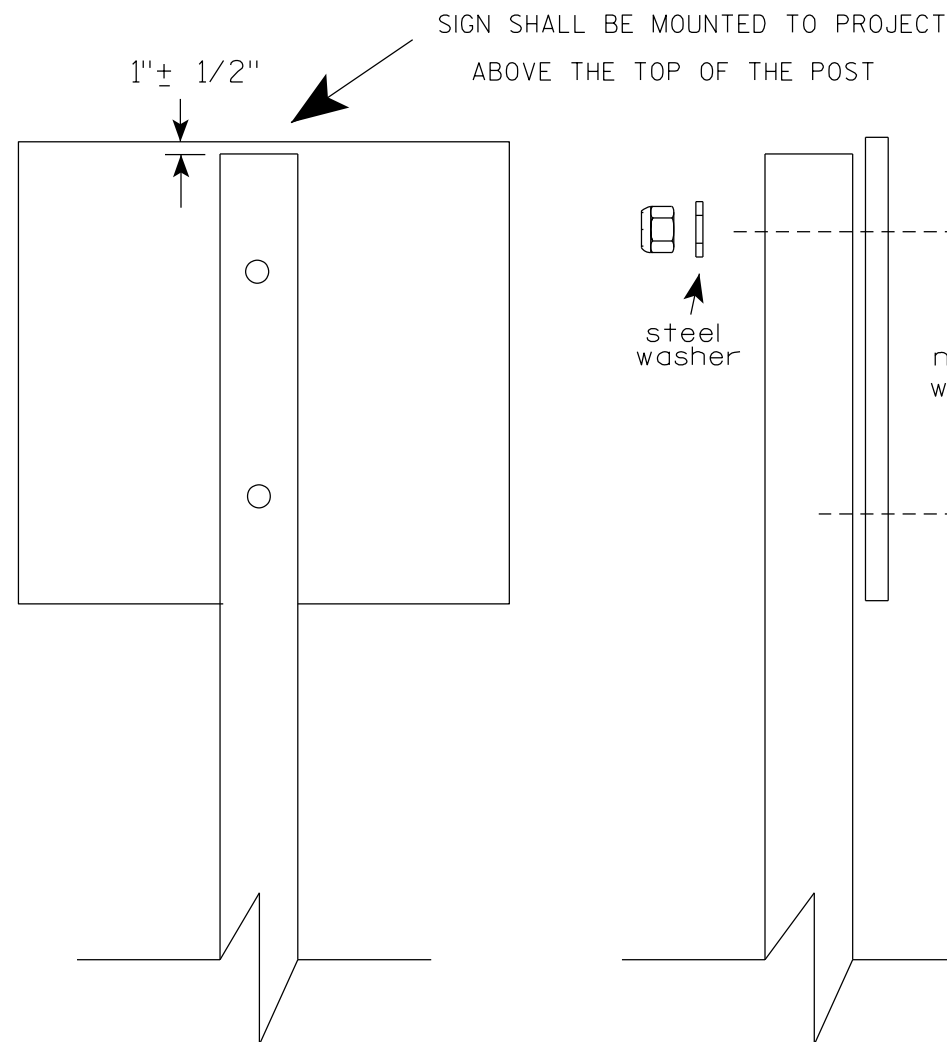
Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

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



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.

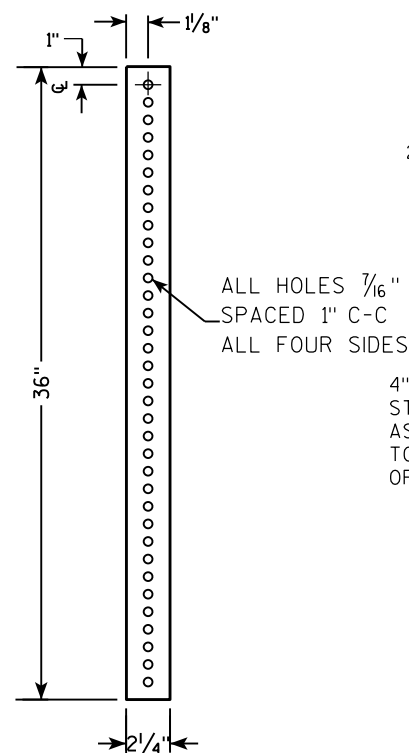
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- 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

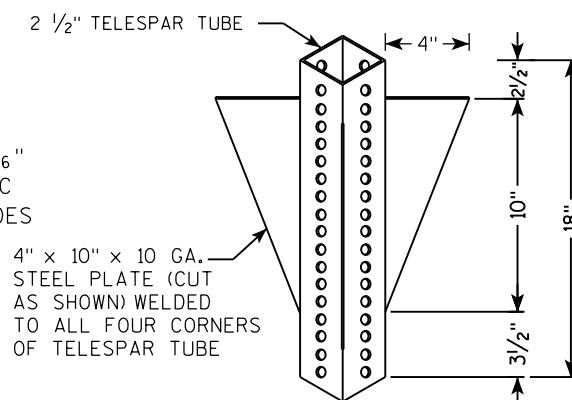
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

**2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



**2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**



TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY.

Side View Dimensions:

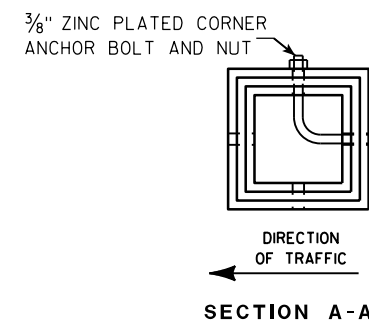
- Overall height: 36"
- Section A-A: 18" (top section), 12" (bottom section)
- Section B-B: 18" (top section), 12" (bottom section)

End View Dimensions:

- Overall width: 2 1/4" SQUARE X 36"
- Section A-A: 18" (top section), 12" (bottom section)
- Section B-B: 18" (top section), 12" (bottom section)

Material and Assembly Specifications:

- 2" STEEL TUBULAR SQUARE UPPER SECTION
- ALL HOLES 7/16" SPACED 1" C-C ALL FOUR SIDES
- 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT
- 3/8" ZINC PLATED ANCHOR BOLT AND NUT
- 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
- 2 1/4" SQUARE X 36"
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
- SIGN



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 PLATI 60 14-9.9

SHEET NO:	E
-----------	---

PROJECT NO:

HWY:

COUNTY:

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN

PLOT DATE : 05-FEB-2015 17:09

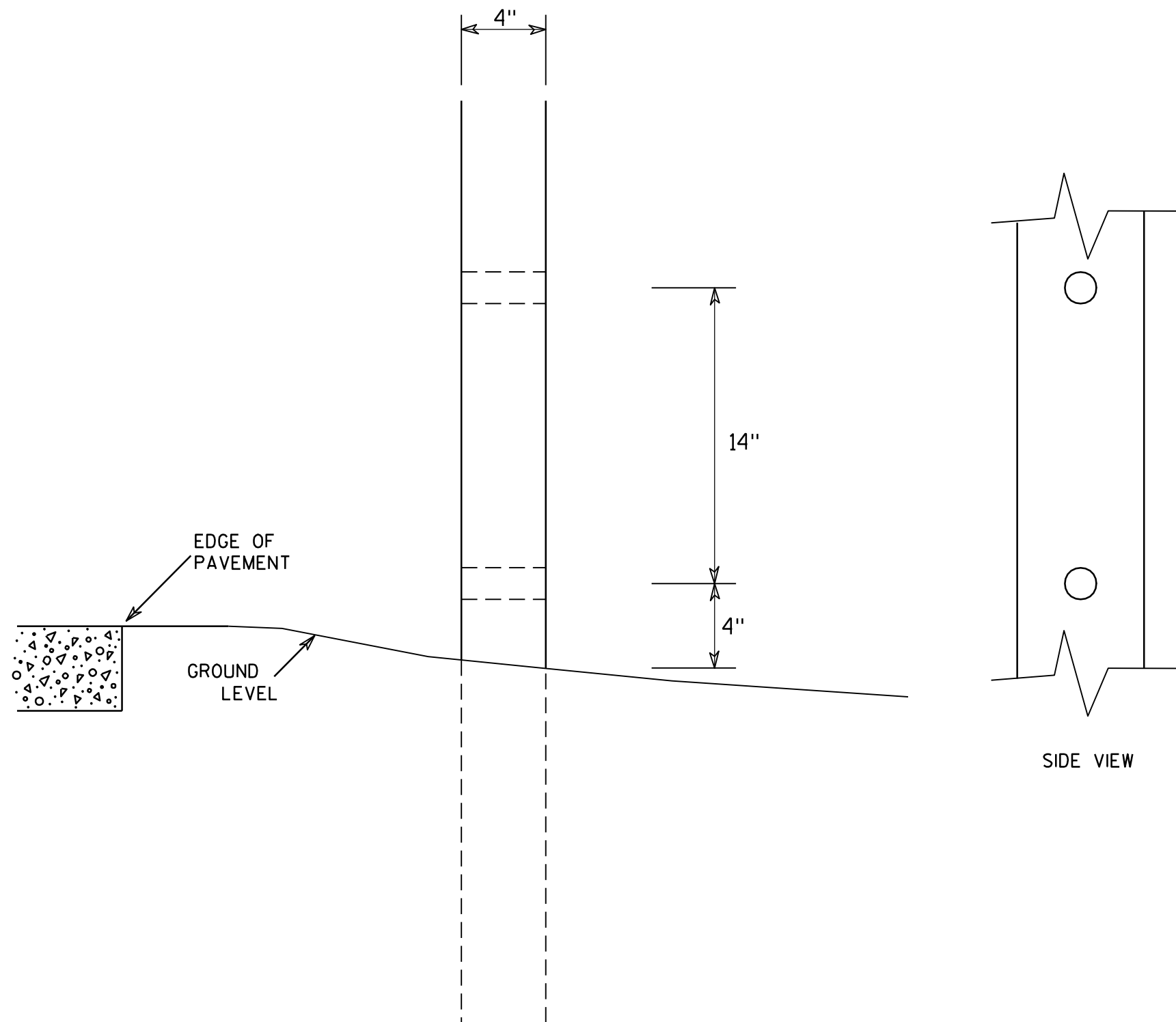
PLOT BY : mscs_ja

PLOT NAME :

PLOT SCALE : 13.659812:1.000000

WISDOT/CADDS SHEET 42

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:

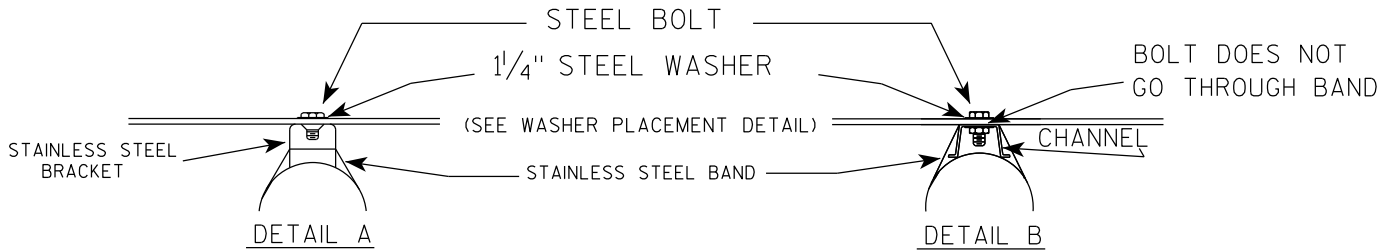
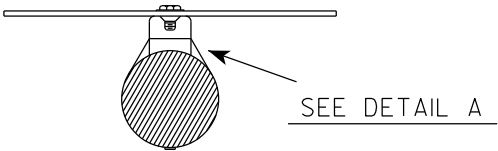
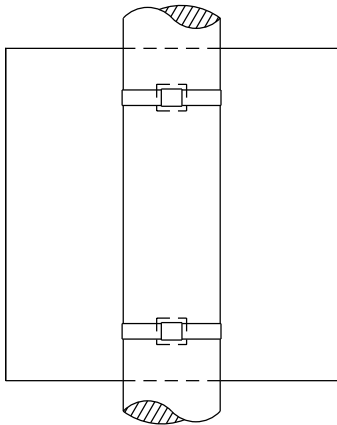
COUNTY:

SHEET NO: 61

E

BANDING

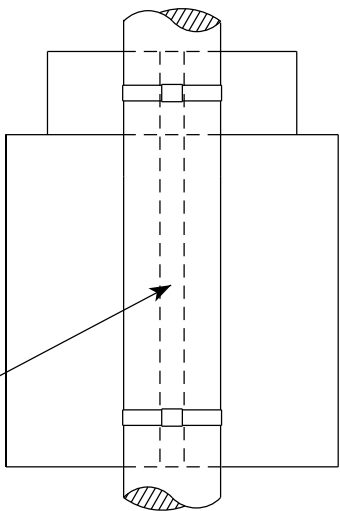
SINGLE SIGN



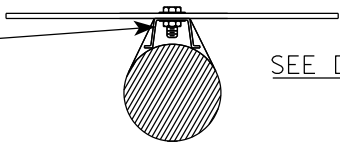
GENERAL NOTES

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

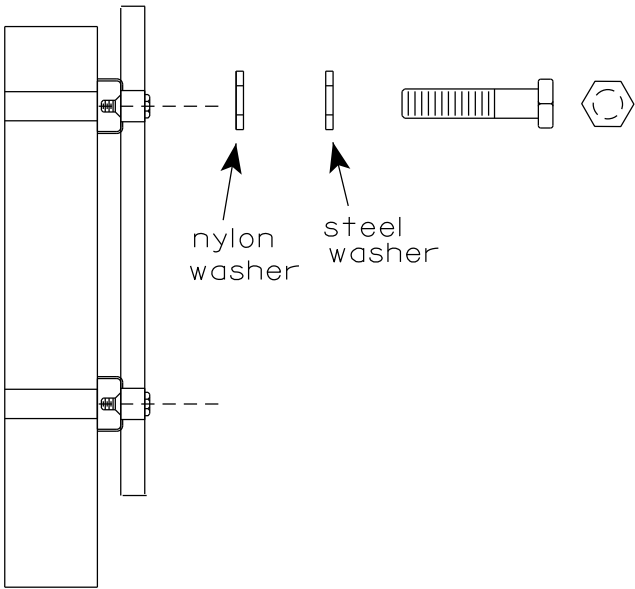
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



WASHER PLACEMENT

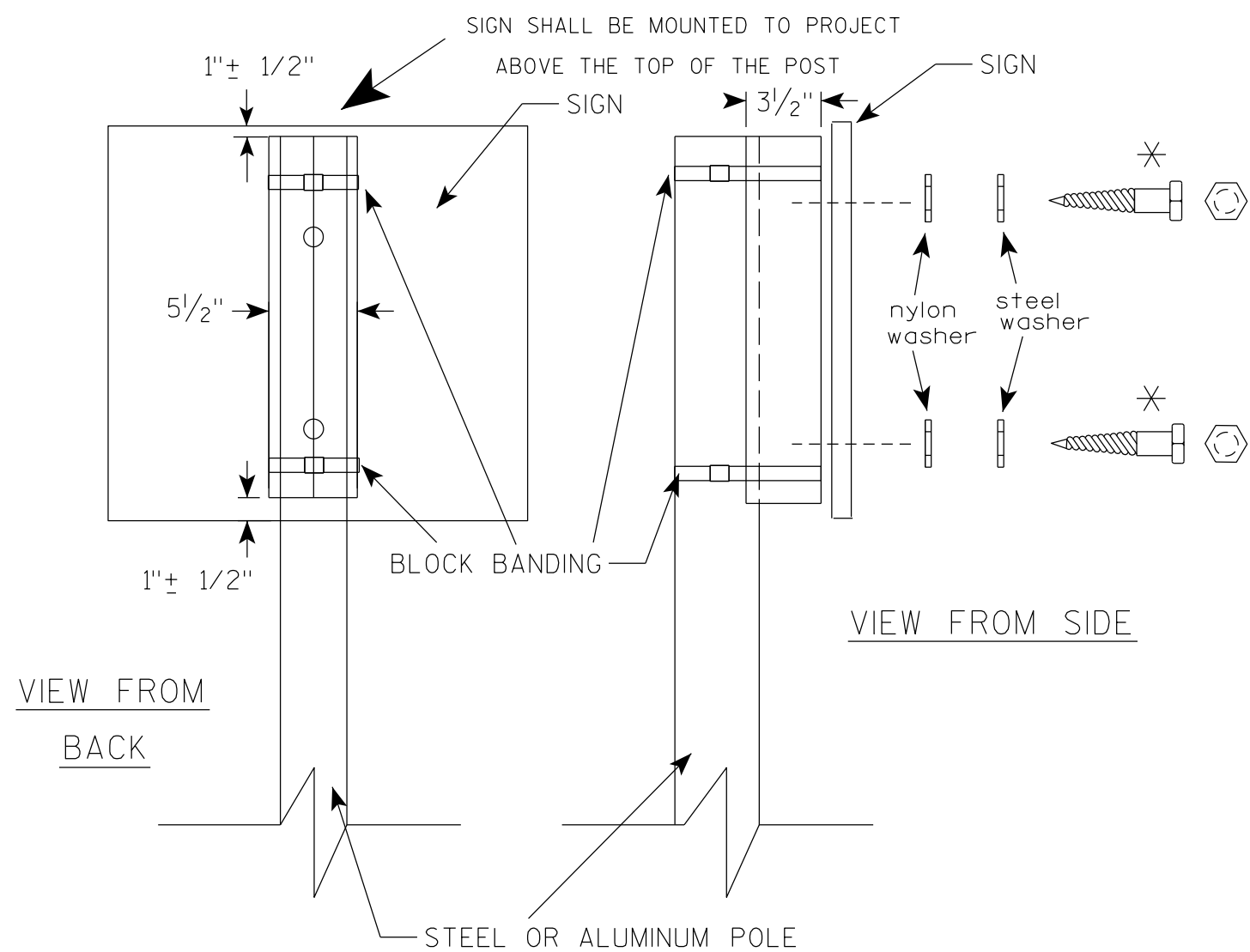


WASHERS (ALL POSTS) -
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

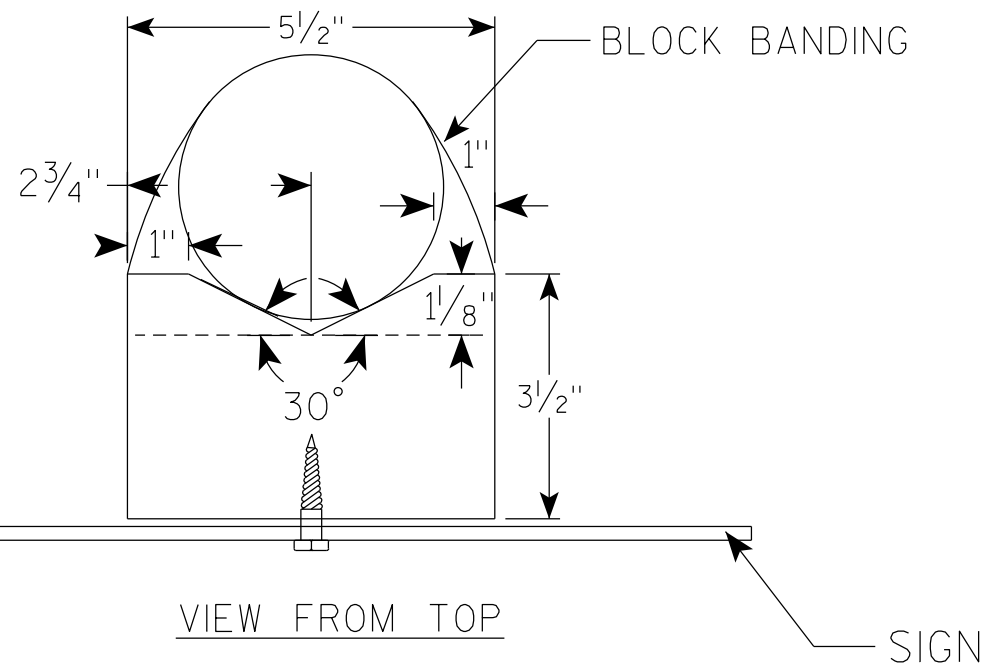
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM
BACK

VIEW FROM SIDE



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

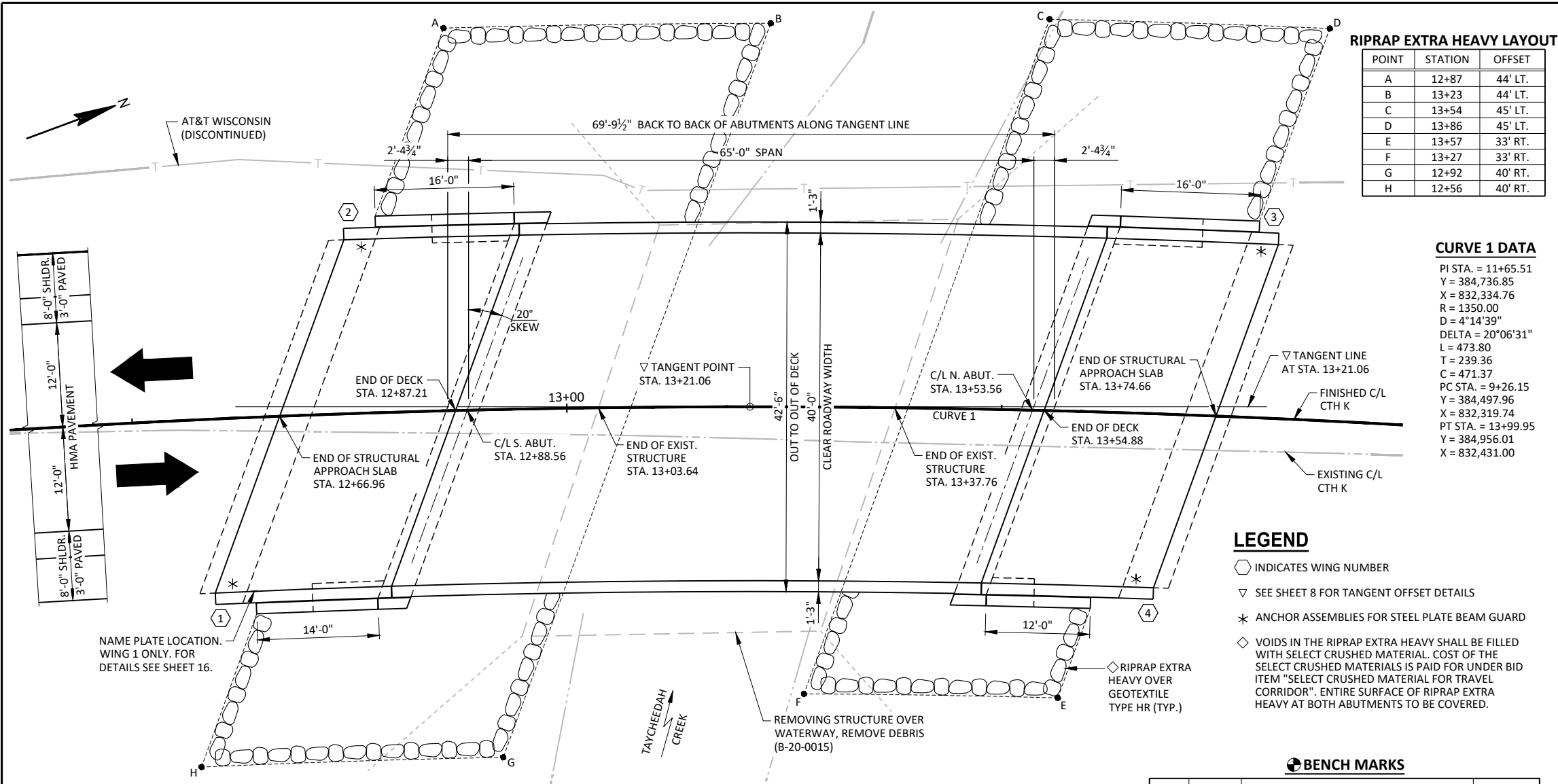
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 63

E



RIPRAP EXTRA HEAVY LAYOUT		
POINT	STATION	OFFSET
A	12+87	44' LT.
B	13+23	44' LT.
C	13+54	45' LT.
D	13+86	45' LT.
E	13+57	33' RT.
F	13+27	33' RT.
G	12+92	40' RT.
H	12+56	40' RT.

CURVE 1 DATA

PI STA. = 11+65.51
Y = 384,736.85
X = 832,334.76
R = 1350.00
D = 4°14'39"
DELTA = 20°06'31"
L = 473.80
T = 239.36
C = 471.37
PC STA. = 9+26.15
Y = 384,497.96
X = 832,319.74
PT STA. = 13+99.95
Y = 384,956.01
X = 832,431.00

LEGEND

- ◻ INDICATES WING NUMBER
- ▽ SEE SHEET 8 FOR TANGENT OFFSET DETAILS
- * ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD
- ◇ VOIDS IN THE RIPRAP EXTRA HEAVY SHALL BE FILLED WITH SELECT CRUSHED MATERIAL. COST OF THE SELECT CRUSHED MATERIALS IS PAID FOR UNDER BID ITEM "SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR". ENTIRE SURFACE OF RIPRAP EXTRA HEAVY AT BOTH ABUTMENTS TO BE COVERED.

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	14+25	3/4" IRON REBAR SET, 54.1 RT	802.73
2	9+65	3/4" IRON REBAR SET, 34.6' LT	830.82
3	17+57	3/4" IRON REBAR SET, 22.0' LT	810.46

DESIGN DATA

LIVE LOAD:

DESIGN LOADING _____ HL-93
INVENTORY RATING FACTOR _____ RF=1.18
OPERATING RATING FACTOR _____ RF=1.66
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.
STRUCTURAL APPROACH SLAB _____ f'c = 4,000 P.S.I.
ALL OTHER _____ f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT:
GRADE 60 _____ fy = 60,000 P.S.I.
STAINLESS, GRADE 60 _____ fy = 60,000 P.S.I.

36W-INCH PRESTRESSED GIRDERS _____ f'c = 8,000 P.S.I.

PRESTRESSING STRANDS:
(0.6-INCH) ULTIMATE TENSILE STRENGTH _____ fy = 270,000 P.S.I.

ALLOWABLE SOIL BEARING PRESSURE _____ 2,000 P.S.F.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB DRIVEN TO A REQ'D. DRIVING RESISTANCE OF 160 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 60 FT PILE LENGTHS AT BOTH ABUTMENTS.

**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. (2026) _____ 3,900
A.D.T. (2046) _____ 5,800
DESIGN SPEED _____ 45 M.P.H.

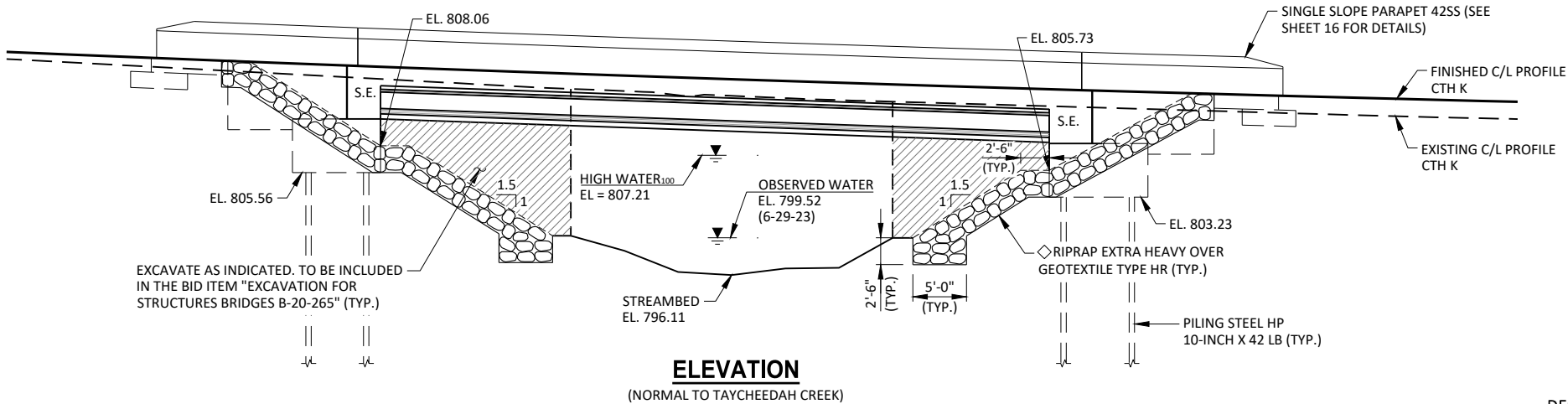
HYDRAULIC DATA

100 YEAR FREQUENCY
DRAINAGE AREA _____ 12.9 SQ. MI.
Q₁₀₀ TOTAL _____ 2,600 C.F.S.
THROUGH STRUCTURE _____ 2,600 C.F.S.
OVERTOPPING ROADWAY _____ N.A.
VELOCITY - THROUGH STRUCTURE _____ 11.4 F.P.S.
WATERWAY AREA - THROUGH STRUCTURE _____ 227.7 SQ. FT.
HIGH WATER₁₀₀ ELEVATION _____ 807.21
SCOUR CRITICAL CODE _____ 5

EROSION CONTROL
Q₂ _____ 310 C.F.S.
VELOCITY₂ _____ 3.5 F.P.S.
HIGH WATER₂ ELEVATION _____ 800.43

LIST OF DRAWINGS

GENERAL PLAN _____ 1.
CROSS SECTION AND QUANTITIES _____ 2.
SUBSURFACE EXPLORATION _____ 3.
SOUTH ABUTMENT _____ 4.
SOUTH ABUTMENT DETAILS _____ 5.
NORTH ABUTMENT _____ 6.
NORTH ABUTMENT DETAILS _____ 7.
ABUTMENT DETAILS _____ 8.
GIRDER LAYOUT _____ 9.
36W PRESTRESSED GIRDER DETAILS _____ 10.
STEEL DIAPHRAGM _____ 11.
SUPERSTRUCTURE _____ 12.
SUPERSTRUCTURE DETAILS _____ 13.
SOUTH STRUCTURAL APPROACH SLAB _____ 14.
NORTH STRUCTURAL APPROACH SLAB _____ 15.
SINGLE SLOPE PARAPET 42SS _____ 16.



DESIGN CONSULTANT

PATRICK BOLAND, PE
(608) 588-7484

BRIDGE OFFICE CONTACT

AARON BONK, PE
(608) 261-0261

STATE PROJECT NUMBER

4812-00-01

560 SUNRISE DRIVE
SPRING GREEN, WI 53588
OFFICE: (608) 588-7484
www.JewellAssoc.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED *[Signature]* JLR 08/04/25
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-20-265

CTH K OVER TAYCHEedah CREEK

COUNTY FOND DU LAC TOWN/CITY/VILLAGE EMPIRE

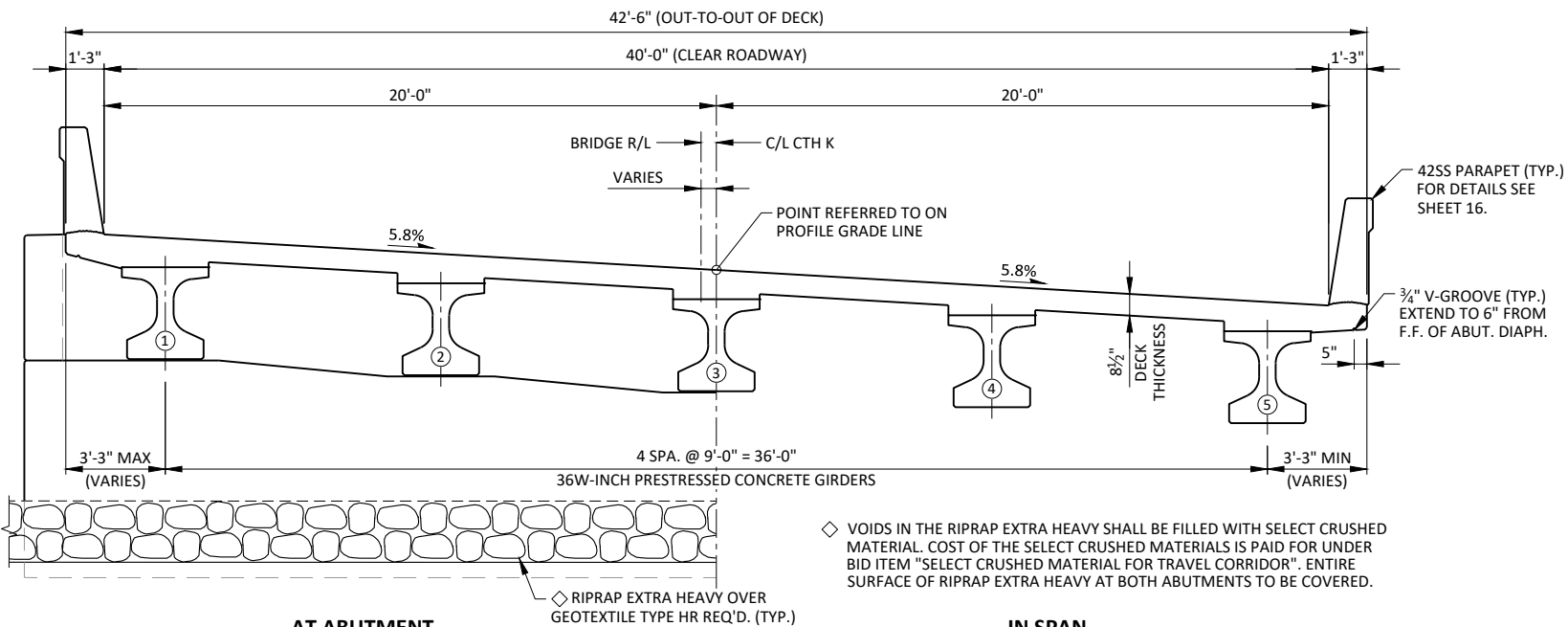
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY ZMF DESIGN CK'D. PTB DRAWN BY ZMF PLANS CK'D. PTB

GENERAL PLAN

SHEET 1 OF 16

64

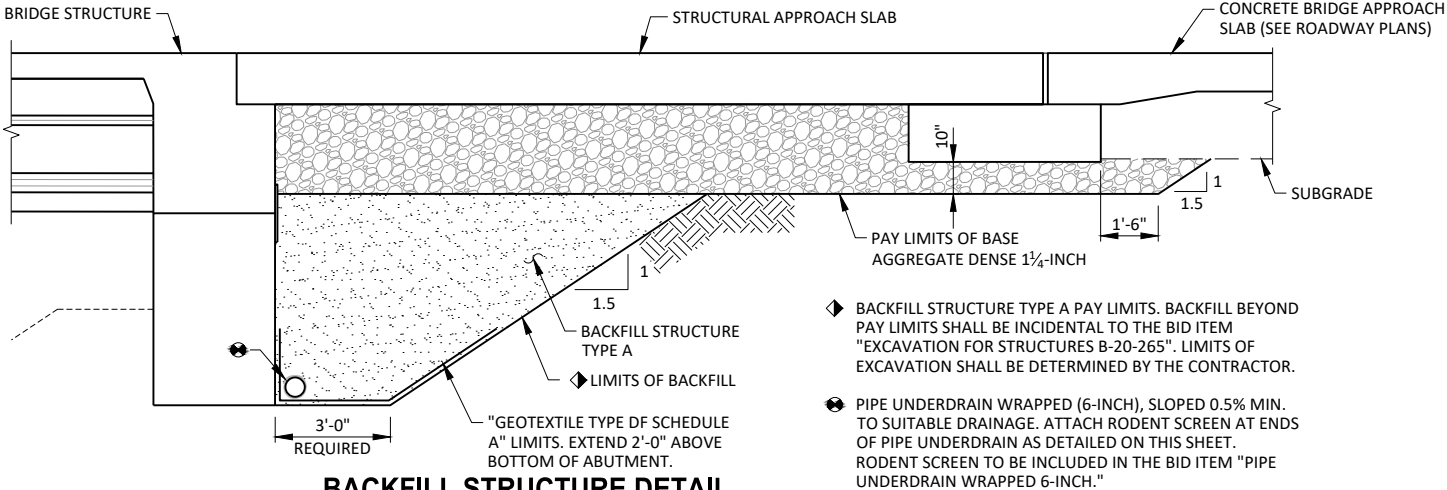


AT ABUTMENT

IN SPAN

PROPOSED CROSS-SECTION THROUGH ROADWAY

LOOKING NORTH



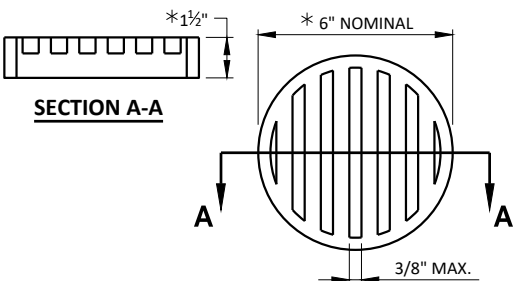
BACKFILL STRUCTURE DETAIL

(TYPICAL AT ABUTMENTS)

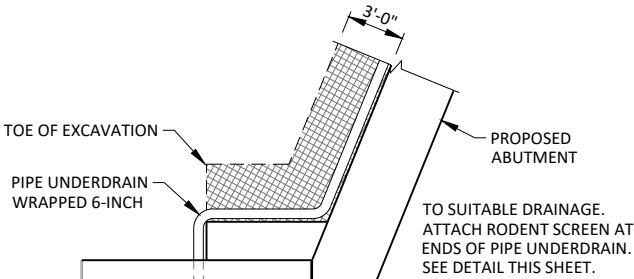
TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	S. APPR. SLAB	SOUTH ABUT.	NORTH ABUT.	N. APPR. SLAB	* SUPER	TOTALS
203.0250	REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS B-20-0015	EACH	--	--	--	--	--	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-20-265	EACH	--	--	--	--	--	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	--	165	165	--	--	330
305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	135	--	--	135	--	270
502.0100	CONCRETE MASONRY BRIDGES	CY	55.1	55.5	54.1	53.7	156.6	375
502.3200	PROTECTIVE SURFACE TREATMENT	SY	105	--	--	105	325	535
502.3210	PIGMENTED SURFACE SEALER	SY	--	--	--	--	110	110
503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	--	--	--	--	330	330
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	--	3,360	3,390	--	--	6,750
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	9,170	1,780	1,640	9,060	25,730	47,380
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	730	--	--	730	--	1,460
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	--	5	5	--	--	10
506.4000	STEEL DIAPHRAGMS B-20-265	EACH	--	--	--	--	4	4
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	--	9	9	--	--	18
550.1100	PIILING STEEL HP 10-INCH X 42 LB	LF	--	600	600	--	--	1,200
606.0400	RIPRAP EXTRA-HEAVY	CY	--	265	200	--	--	465
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	--	110	110	--	--	220
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	--	--	--	--	4	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	--	45	45	--	--	90
645.0120	GEOTEXTILE TYPE HR	SY	--	350	265	--	--	615
SPV.0195.01	SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR	TON	--	115	85	--	--	200
NON-BID ITEMS								
	FILLER	SIZE						1/2" & 3/4"
	NAME PLATE							

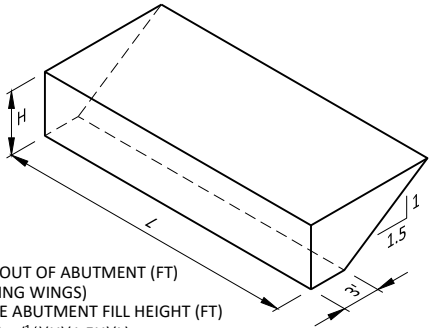
* THE SUPERSTRUCTURE QUANTITIES INCLUDE THE CONCRETE AND BAR STEEL REINFORCEMENT OF THE PARAPETS INCLUDING THOSE PORTIONS LOCATED ON THE STRUCTURAL APPROACH SLABS.



NOTES:
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.
ORIENT SCREEN SO SLOTS ARE VERTICAL.
THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".
THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED ENDS OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

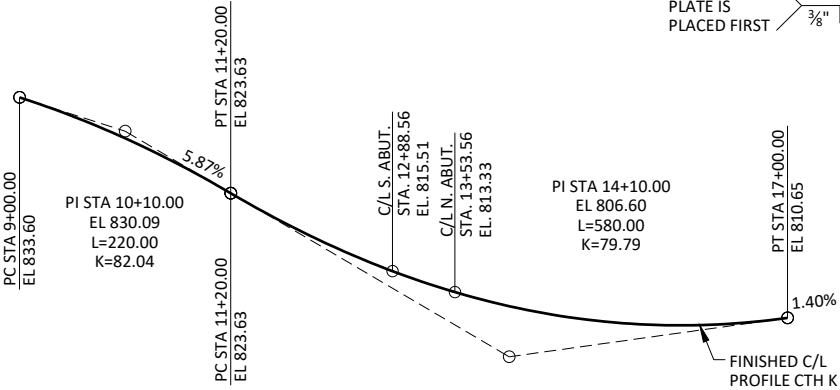


PIPE UNDERDRAIN DETAIL



L = OUT TO OUT OF ABUTMENT (FT) (INCLUDING WINGS)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
 $V_{CF} = (H)(3')(L) + (1/2)(H)(1.5H)(L)$
 $V_{CY} = (V_{CF})/(127)$
 $V_{TON} = (V_{CY})(2.0)$

ABUTMENT BACKFILL DIAGRAM



PROFILE GRADE LINE

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD 2012).
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
JOINT FILLER SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION MI53, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M213.
THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE GIRDER LAYOUT SHEET, WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP EXTRA HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS, OR AS DIRECTED BY THE ENGINEER IN THE FIELD. VOIDS IN THE RIPRAP EXTRA HEAVY SHALL BE FILLED WITH SELECT CRUSHED MATERIAL. COST OF THE SELECT CRUSHED MATERIALS IS PAID FOR UNDER BID ITEM "SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR". ENTIRE SURFACE OF RIPRAP EXTRA HEAVY AT BOTH ABUTMENTS TO BE COVERED.

AT THE BACK FACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A AND BASE AGGREGATE DENSE 1 1/4". THE BACKFILL STRUCTURE TYPE A QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THIS SHEET AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

ANY EXCAVATION BELOW THE ABUTMENT AND ASSOCIATED ABUTMENT BEDDING MATERIALS REQUIRE THE APPROVAL OF THE ENGINEER IN THE FIELD.

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE DECK, TOP OF STRUCTURAL APPROACH SLABS, AND THE VERTICAL AND HORIZONTAL FACES OF ALL PAVING NOTCHES.

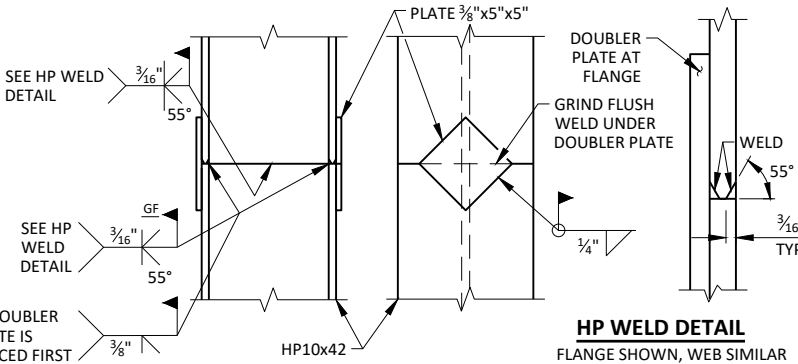
APPLY PIGMENTED SURFACE SEALER TO THE FRONT FACE, TOP, AND ENDS OF PARAPETS INCLUDING PARAPETS ON STRUCTURAL APPROACH SLABS.

ALL STATIONS AND ELEVATIONS SHOWN ARE IN FEET.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-20-265" SHALL BE THE EXISTING GROUNDLINE.

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

THE EXISTING STRUCTURE (B-20-0015) IS A SINGLE SPAN CONCRETE DECK GIRDER STRUCTURE WITH CONCRETE ABUTMENTS. THE STRUCTURE HAS A 40' CLEAR BRIDGE WIDTH AND IS 35' LONG AND SHALL BE REMOVED.



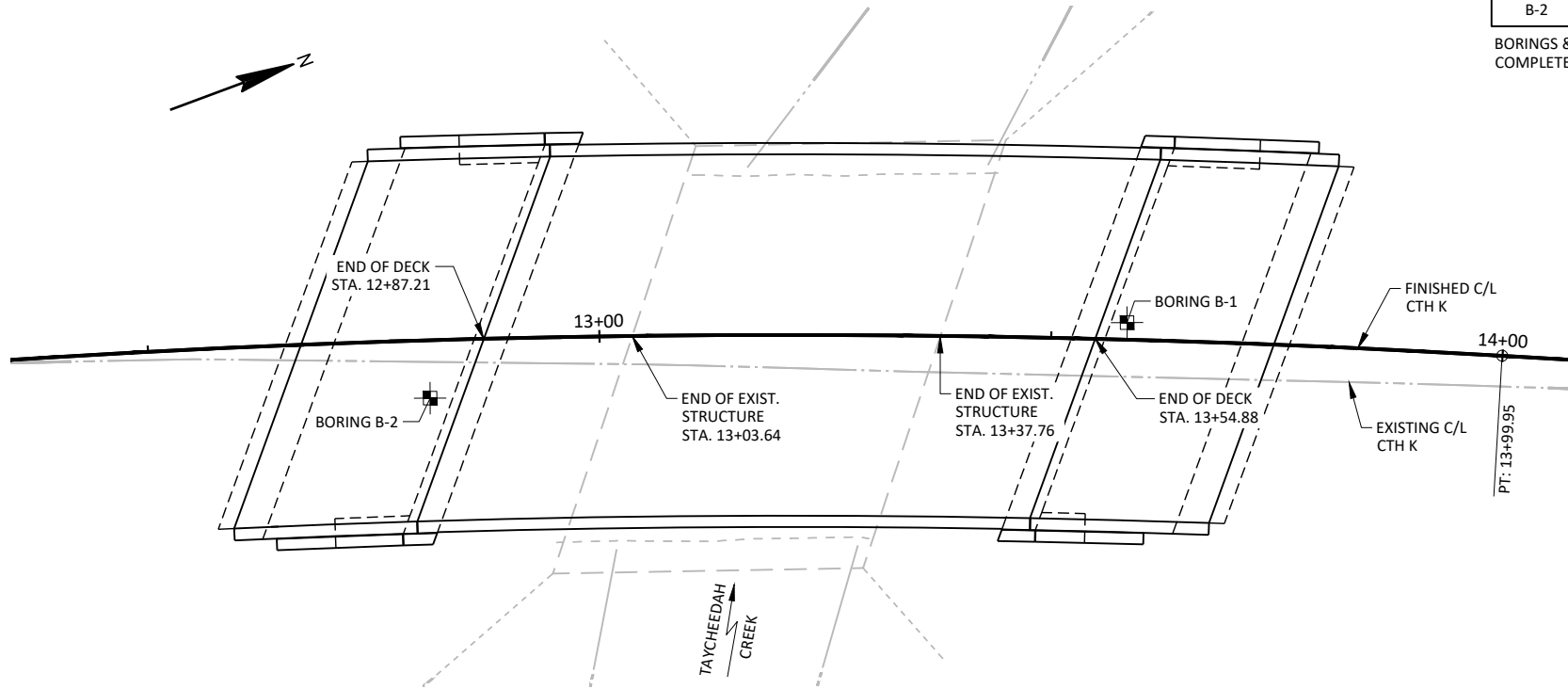
PILE SPLICE DETAIL

STEEL "HP" PILE MATERIAL SHALL BE ASTM A 572 GRADE 50.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-20-265			
DRAWN BY		ZMF	PLANS CK'D. PTB
CROSS SECTION AND QUANTITIES			SHEET 2 OF 16 65

SOIL BORINGS			
BORING NUMBER	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-1	04/15/2024	384,918.39	832,413.12
B-2	04/15/2024	384,843.16	832,394.12

BORINGS & REPORT COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.
4203 SCHOFIELD AVE, SUITE 1
SCHOFIELD, WI 54476



STATE PROJECT NUMBER

4812-00-01

MATERIAL SYMBOLS

Asphalt

Concrete

Sand

Boulders or Cobbles

Shale

Topsoil

Fill

Clay

Limestone

Sandstone

Peat

Gravel

Silt

Bedrock (unknown)

Igneous/meta

LEGEND OF BORING

BORING/EL STA./OFFSET

ST 17

0.25

F-C COBBLE OR BOULDER

WEATHERED LIMESTONE

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

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

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

GROUND WATER ELEVATIONS

AT TIME OF DRILLING

END OF DRILLING

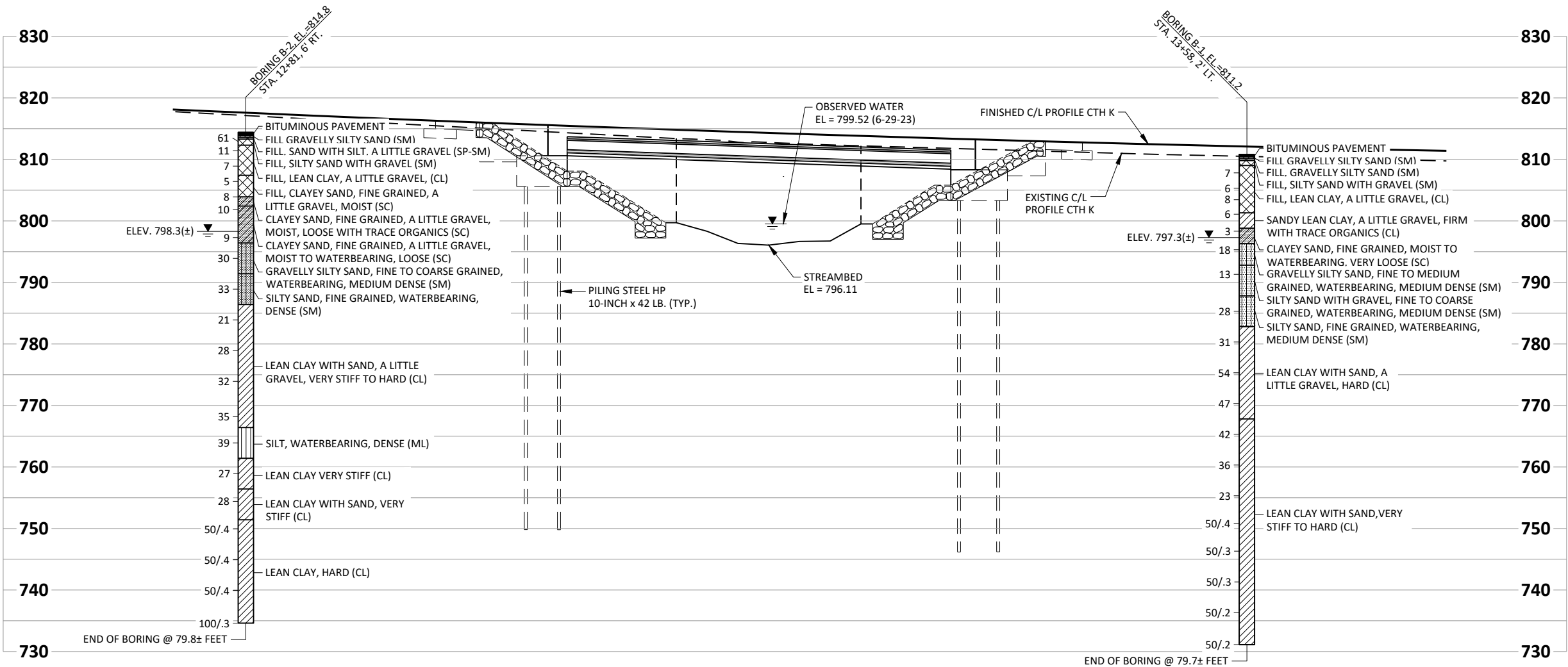
AFTER DRILLING

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.

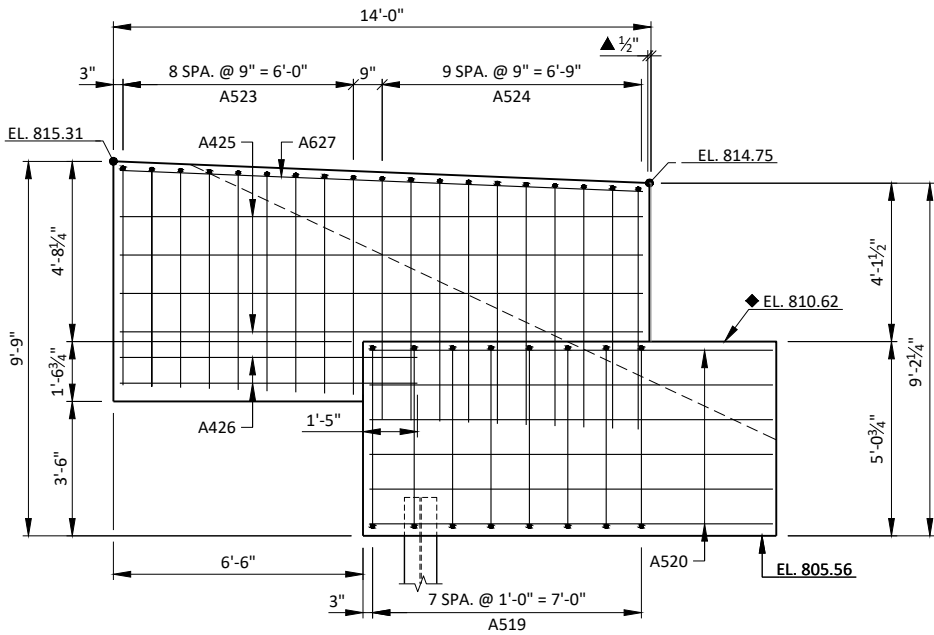


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-20-265			
DRAWN BY		ZMF	PLANS CK'D. PTB
SOUTH ABUTMENT		SHEET 4 OF 16	
		67	

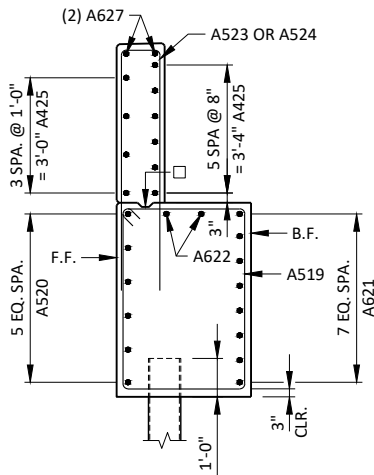
NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 8 FOR BILL OF BARS.

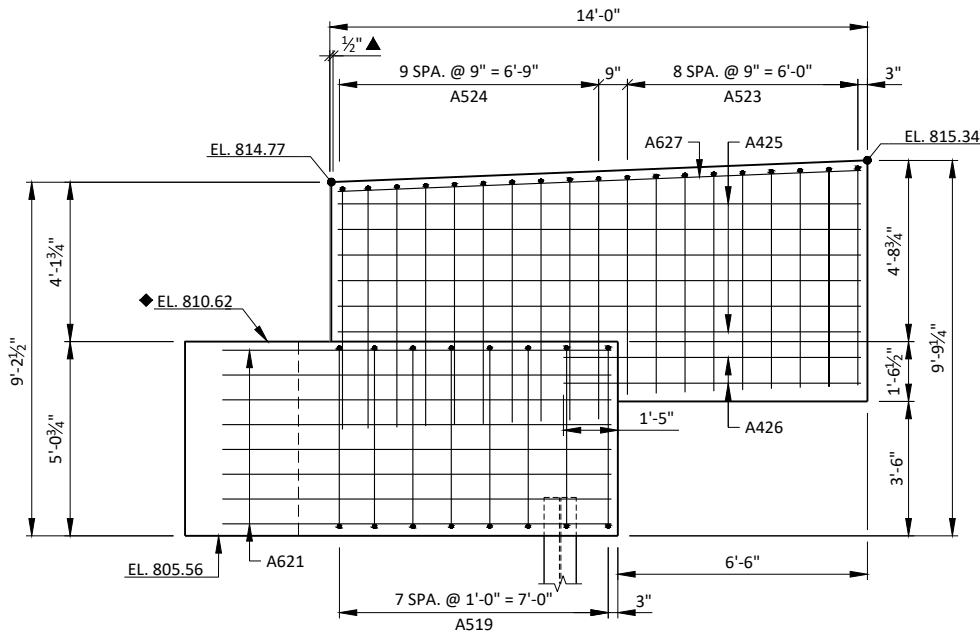
SPACE REINFORCEMENT TO MISS PILING



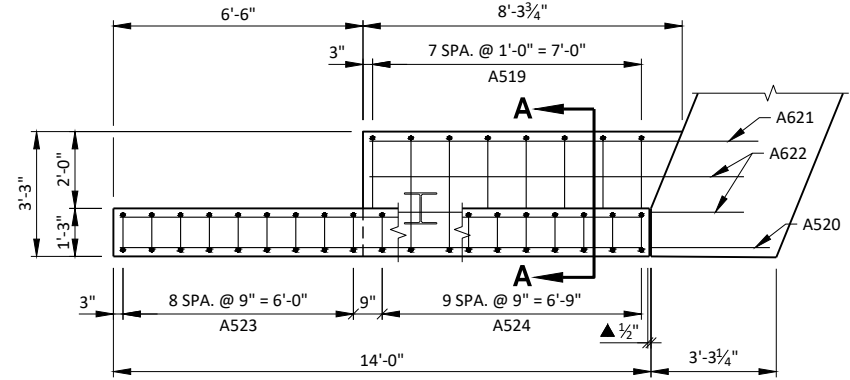
F.F. ELEVATION - WING 1



SECTION A-A



B.F. ELEVATION - WING 1



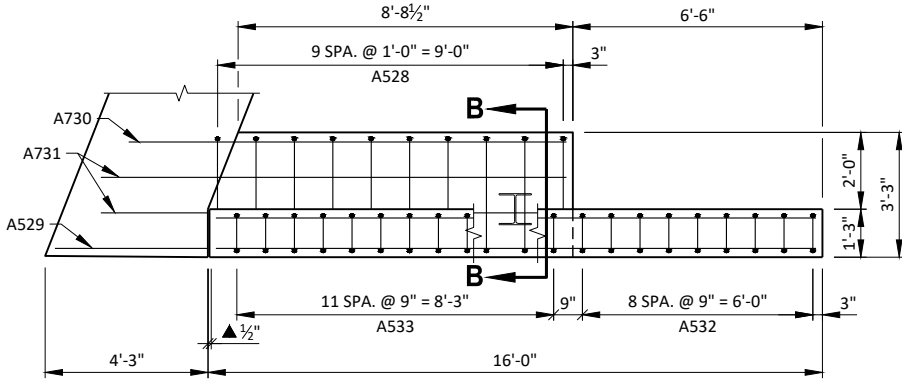
PLAN VIEW - WING 1

LEGEND

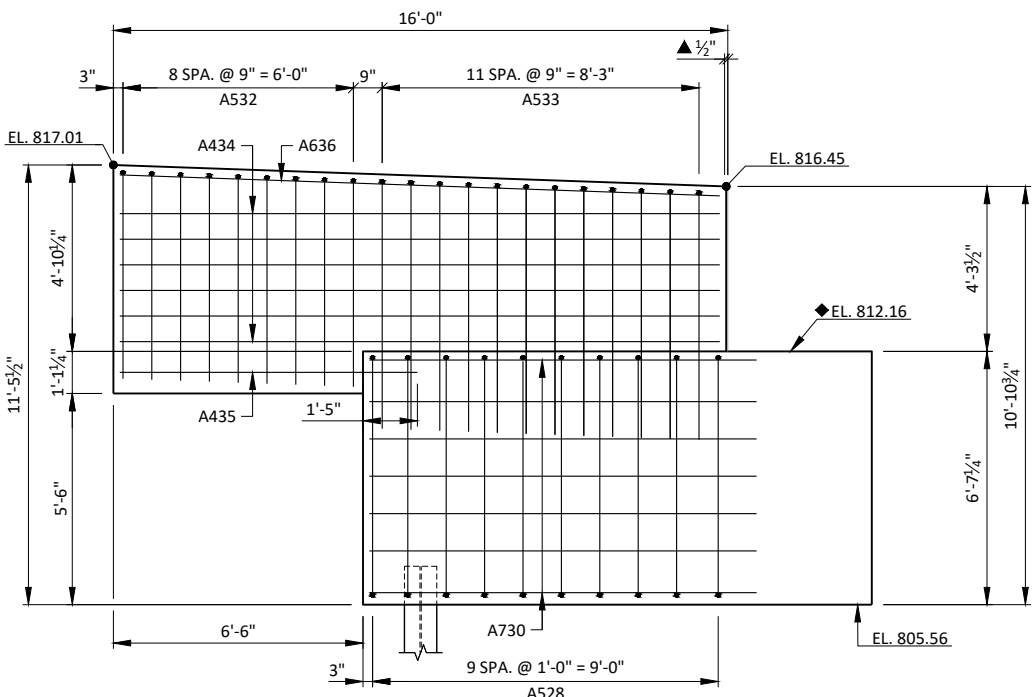
OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6. 3/4" "V" GROOVE AT FRONT FACE OF WING WALL AND HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE IF CONSTRUCTION JOINT IS USED. COST IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".

GIRDER SEAT. SEE SHEET 8 FOR ELEVATIONS.

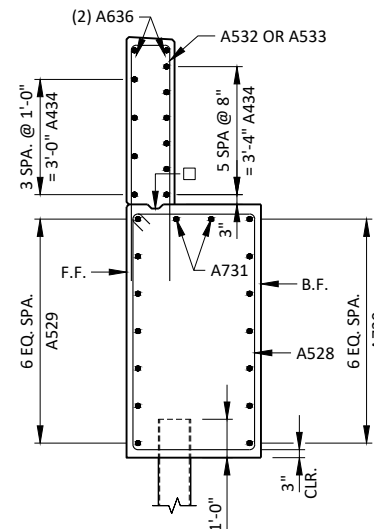
1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).



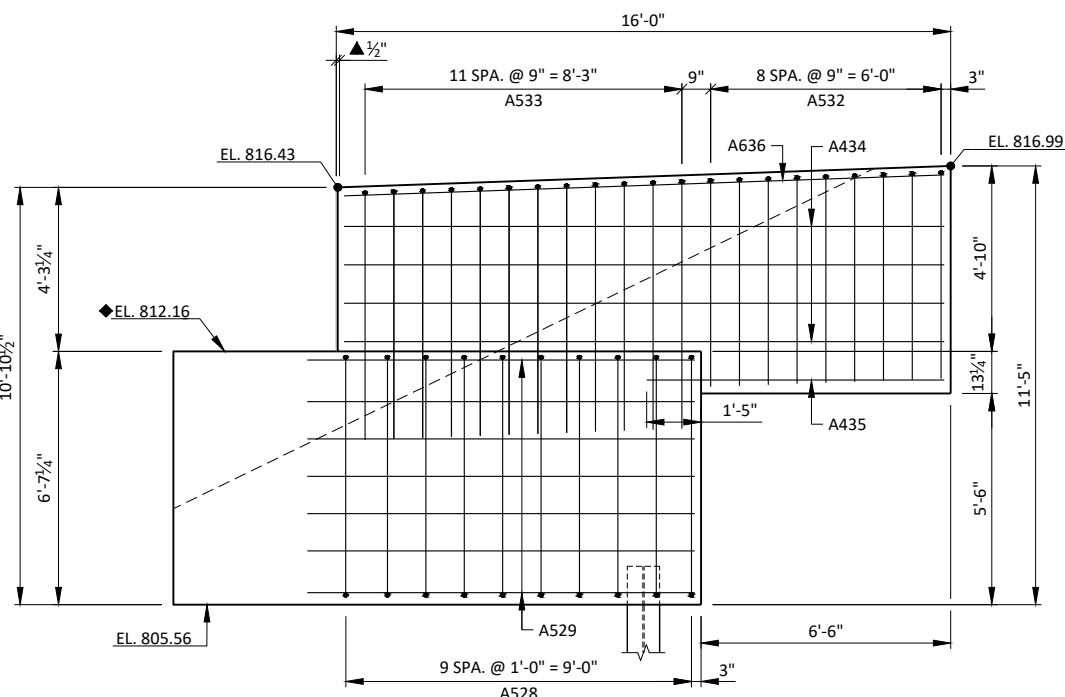
PLAN VIEW - WING 2



B.F. ELEVATION - WING 2



SECTION B-B



F.F. ELEVATION - WING 2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-20-265			
DRAWN BY		ZMF	PTB
SOUTH ABUTMENT DETAILS		SHEET 5 OF 16 68	

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 8 FOR BILL OF BARS.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE

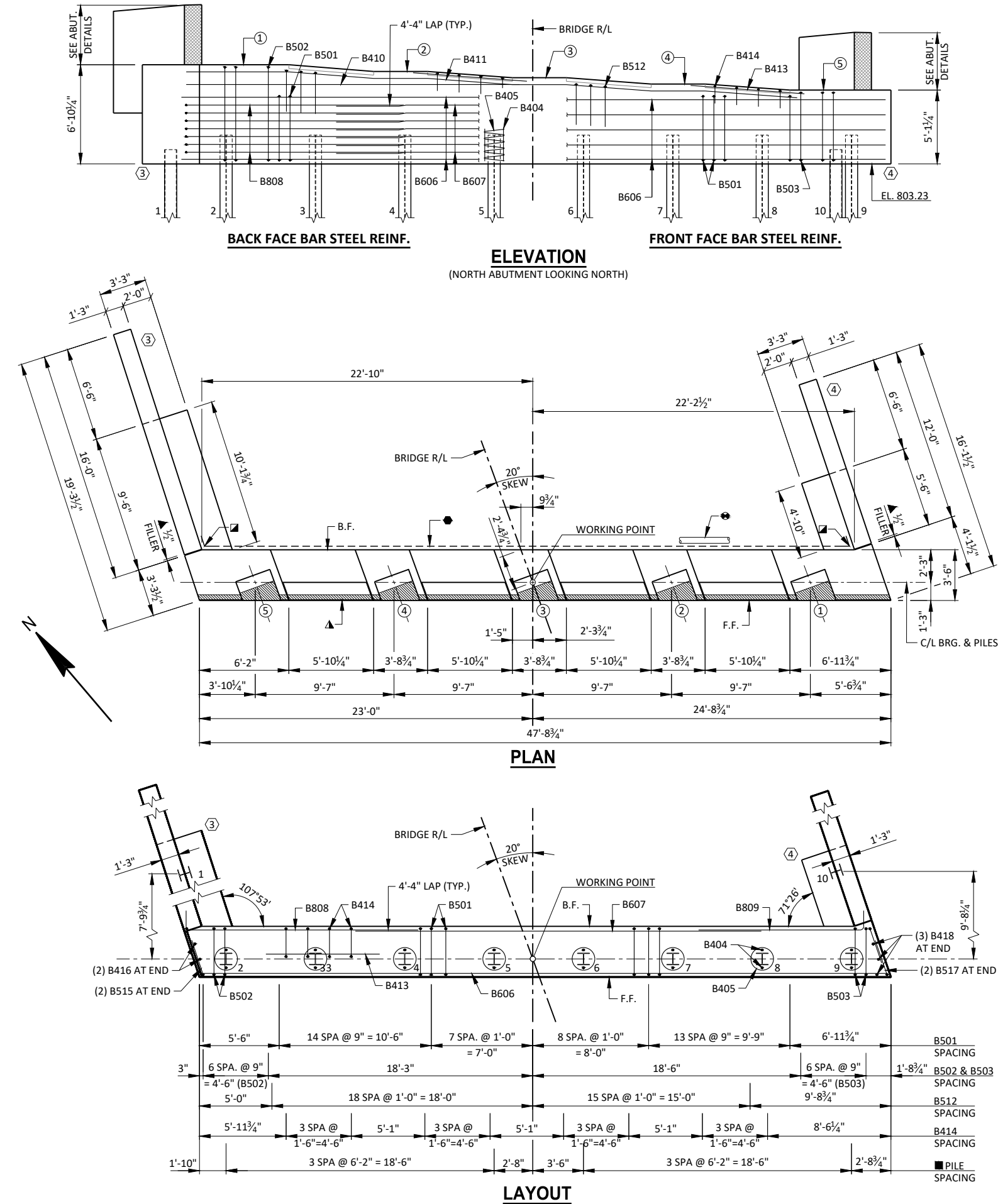
TYPICAL SECTION THROUGH ABUTMENT BODY

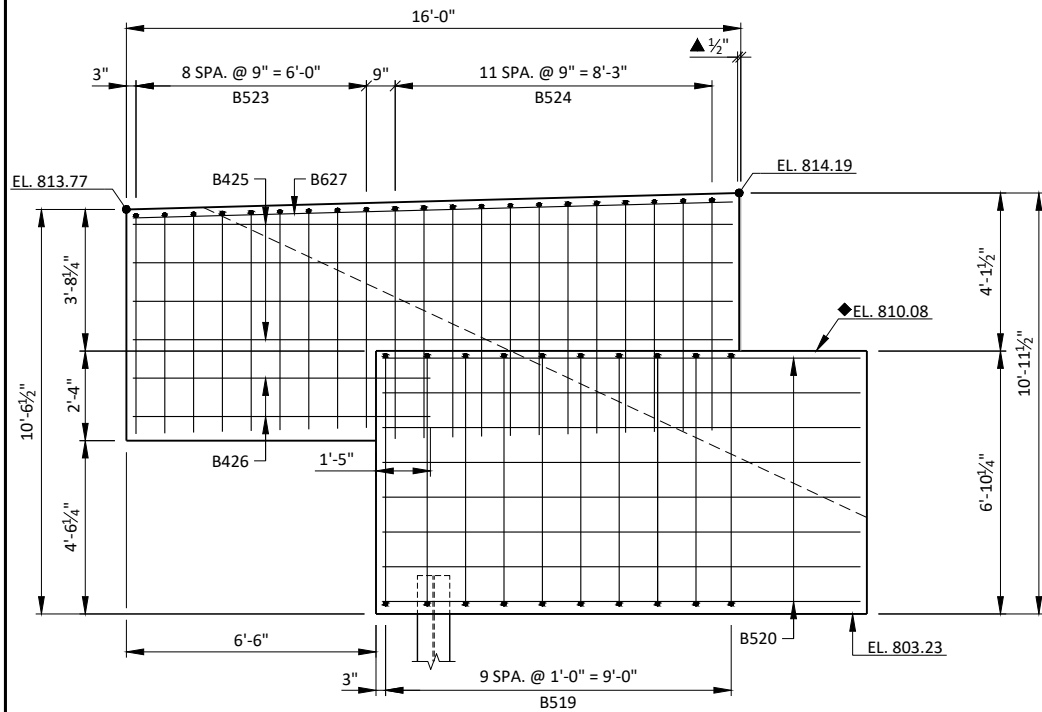
NORTH ABUTMENT TO BE SUPPORTED ON PILING STEEL 10-INCH X 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 60 FT PILE LENGTHS AT NORTH ABUTMENT.

LEGEND

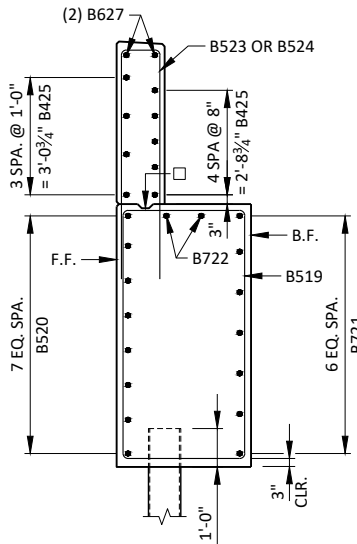
- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE)
- ½" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF DIAPHRAGM. USE ½" PREFORMED FILLER UNDER GIRDERS.
- 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 AS DETAILED ON SHEET 2. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."
- 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".
- INDICATES WING NUMBER.
- INDICATES GIRDER LINE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-20-265			
DRAWN BY		ZMF	PLANS CK'D. PTB
NORTH ABUTMENT		SHEET 6 OF 16	
		69	

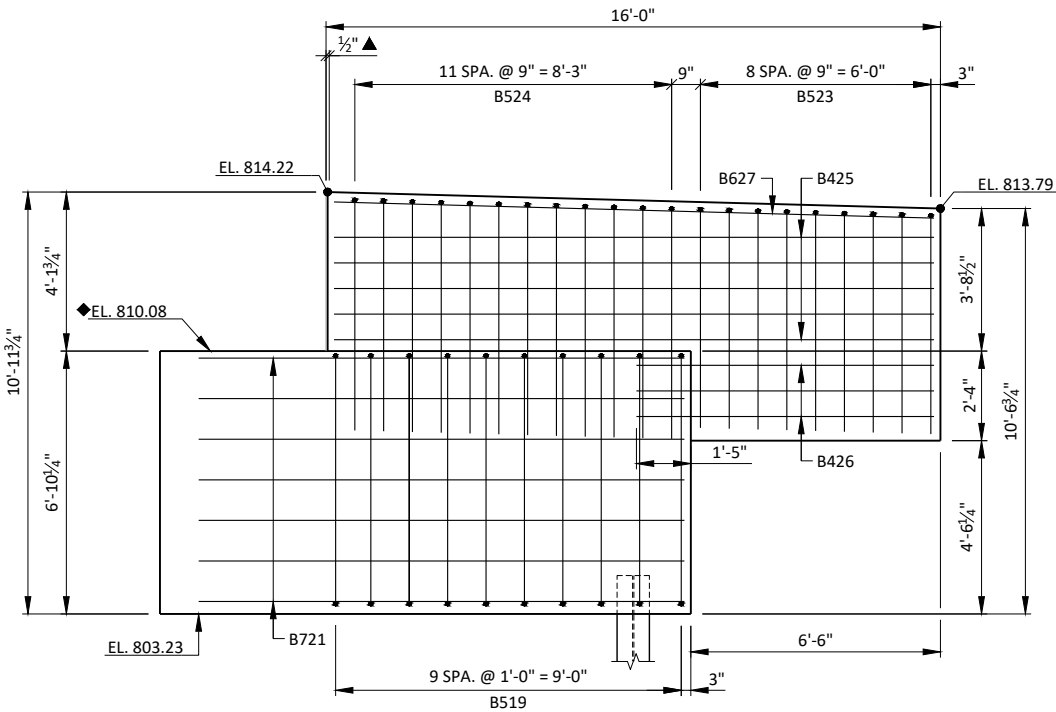




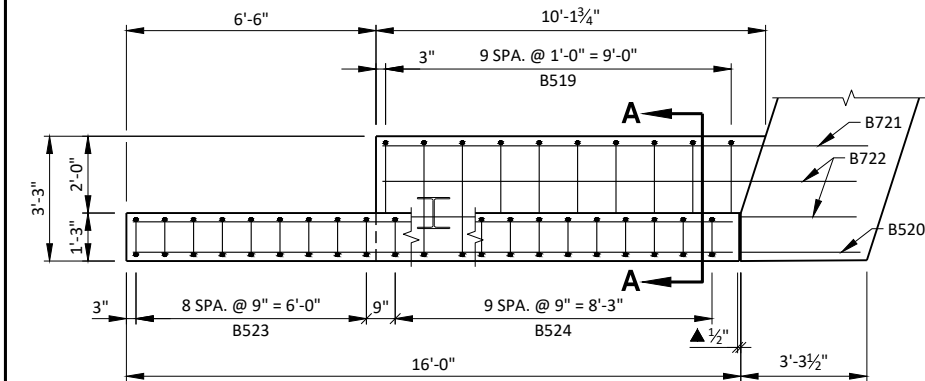
F.F. ELEVATION - WING 3



SECTION A-A

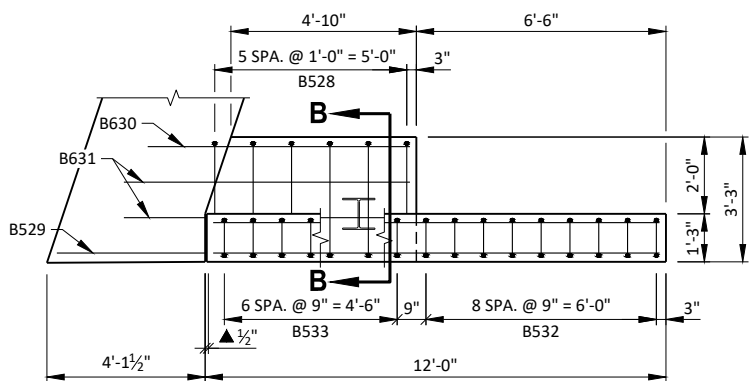


B.F. ELEVATION - WING 3



PLAN VIEW - WING 3

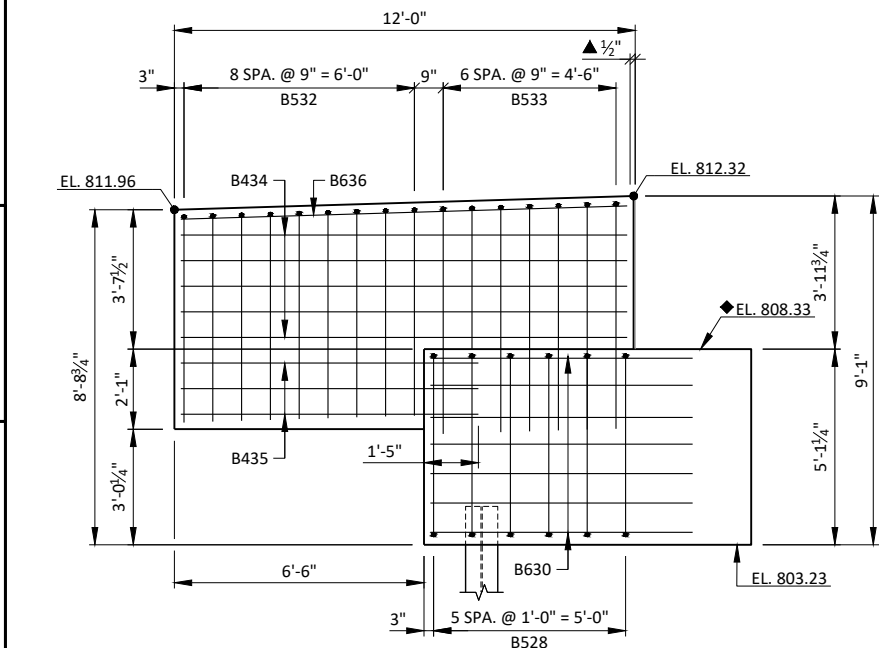
- LEGEND**
- OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6. 3/4" "V" GROOVE AT FRONT FACE OF WING WALL AND HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE IF CONSTRUCTION JOINT IS USED. COST IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".
 - GIRDER SEAT. SEE SHEET 8 FOR ELEVATIONS.
 - 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).



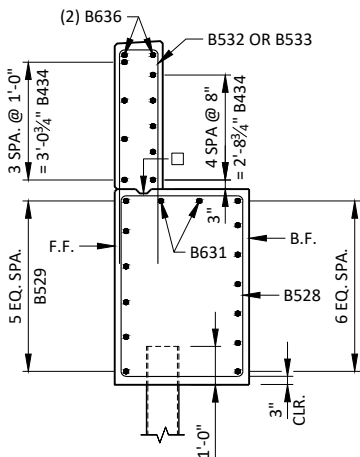
PLAN VIEW - WING 4

LEGEND

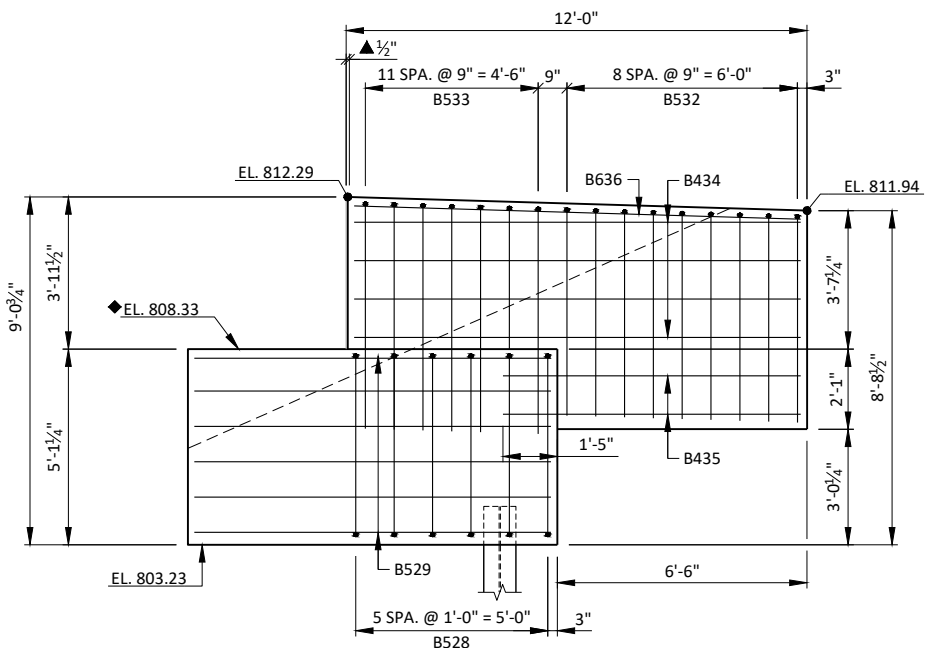
- OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6. 3/4" "V" GROOVE AT FRONT FACE OF WING WALL AND HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE IF CONSTRUCTION JOINT IS USED. COST IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".
- GIRDER SEAT. SEE SHEET 4 FOR ELEVATIONS.
- 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 1/8" BELOW SURFACE OF CONCRETE)



B.F. ELEVATION - WING 4



SECTION B-B



F.F. ELEVATION - WING 4

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 8 FOR BILL OF BARS.

SPACE REINFORCEMENT TO MISS PILING

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-20-265			
DRAWN BY		ZMF	PTB
NORTH ABUTMENT DETAILS		SHEET 7 OF 16 70	

BILL OF BARS
SOUTH ABUTMENT

1,780 LB (COATED)
3,360 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
A501	43	15-8	X		BODY - VERT. - STIRRUP
A502	7	16-2	X		BODY - VERT. - STIRRUP
A503	7	19-2	X		BODY - VERT. - STIRRUP
A404	16	2-3			BODY - VERT. - 2 PER PILE
A405	8	28-0	X		BODY - VERT. - SPIRAL - 1 PER PILE
A606	11	48-2			BODY - HORIZ. F.F., TOP, AND BOTTOM
A607	7	26-11			BODY - HORIZ. B.F. - CENTER
A808	7	15-2	X		BODY - HORIZ. B.F. - EAST END
A809	7	17-2	X		BODY - HORIZ. B.F. - WEST END
A410	2	21-6			BODY - HORIZ. - TOP
A411	4	42-6			BODY - HORIZ. - TOP
A512	29	8-5	X		BODY - HORIZ. - TOP STIRRUPS
A413	8	8-0			BODY - HORIZ. - TOP BETWEEN SEATS
A414	16	4-3	X		BODY - VERT. - TOP BETWEEN SEATS
A515	2	9-4	X		BODY - VERT. - EAST END - STIRRUP
A416	2	4-7			BODY - VERT. - EAST END
A517	2	10-10	X		BODY - VERT. - WEST END - STIRRUP
A418	3	6-1			BODY - VERT. - WEST END
A519	8	15-8	X	X	WING 1 - VERT. - STIRRUP
A520	6	17-0		X	WING 1 - HORIZ. F.F.
A621	8	10-2		X	WING 1 - HORIZ. B.F.
A622	2	9-9		X	WING 1 - HORIZ. - TOP
A523	9	11-10	X	X	WING 1 - VERT. - TOP AT ENDS
A524	10	13-2	X	X	WING 1 - VERT. - TOP
A425	10	13-7		X	WING 1 - HORIZ. - F.F. & B.F.
A426	4	7-9		X	WING 1 - HORIZ. - BOTTOM
A627	2	13-7		X	WING 1 - HORIZ. - TOP
A528	10	18-8	X	X	WING 2 - VERT. - STIRRUP
A529	7	19-9		X	WING 2 - HORIZ. F.F.
A730	7	11-5		X	WING 2 - HORIZ. B.F.
A731	2	12-2		X	WING 2 - HORIZ. - TOP
A532	9	11-4	X	X	WING 2 - VERT. - TOP AT ENDS
A533	12	13-6	X	X	WING 2 - VERT. - TOP
A434	10	15-7		X	WING 2 - HORIZ. - F.F. & B.F.
A435	2	7-9		X	WING 2 - HORIZ. - BOTTOM
A636	2	15-7		X	WING 2 - HORIZ. - TOP

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

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

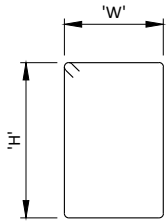
BILL OF BARS
NORTH ABUTMENT

1,640 LB (COATED)
3,390 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
B501	43	15-8	X		BODY - VERT. - STIRRUP
B502	7	19-8	X		BODY - VERT. - STIRRUP
B503	7	16-2	X		BODY - VERT. - STIRRUP
B404	16	2-3			BODY - VERT. - 2 PER PILE
B405	8	28-0	X		BODY - VERT. - SPIRAL - 1 PER PILE
B606	11	47-4			BODY - HORIZ. F.F., TOP, AND BOTTOM
B607	7	28-0			BODY - HORIZ. B.F. - CENTER
B808	7	17-2	X		BODY - HORIZ. B.F. - WEST END
B809	7	13-2	X		BODY - HORIZ. B.F. - EAST END
B410	2	23-0			BODY - HORIZ. - TOP
B411	4	42-3			BODY - HORIZ. - TOP
B512	34	8-11	X		BODY - HORIZ. - TOP STIRRUPS
B413	8	8-0			BODY - HORIZ. - TOP BETWEEN SEATS
B414	16	4-3	X		BODY - VERT. - TOP BETWEEN SEATS
B515	2	11-1	X		BODY - VERT. - WEST END - STIRRUP
B416	2	6-4			BODY - VERT. - WEST END
B517	2	9-4	X		BODY - VERT. - EAST END - STIRRUP
B418	3	4-7			BODY - VERT. - EAST END
B519	10	19-2	X	X	WING 3 - VERT. - STIRRUP
B520	8	18-11		X	WING 3 - HORIZ. F.F.
B721	7	12-8		X	WING 3 - HORIZ. B.F.
B722	2	12-5		X	WING 3 - HORIZ. - TOP
B523	9	12-0	X	X	WING 3 - VERT. - TOP AT ENDS
B524	12	12-8	X	X	WING 3 - VERT. - TOP
B425	9	15-7		X	WING 3 - HORIZ. - F.F. & B.F.
B426	6	7-9		X	WING 3 - HORIZ. - BOTTOM
B627	2	15-7	X	X	WING 3 - HORIZ. - TOP
B528	6	15-8	X	X	WING 4 - VERT. - STIRRUP
B529	6	15-8		X	WING 4 - HORIZ. F.F.
B630	7	6-10		X	WING 4 - HORIZ. B.F.
B631	2	7-6		X	WING 4 - HORIZ. - TOP
B532	9	11-4	X	X	WING 4 - VERT. - TOP AT ENDS
B533	7	12-4	X	X	WING 4 - VERT. - TOP
B434	9	11-7		X	WING 4 - HORIZ. - F.F. & B.F.
B435	4	7-9		X	WING 4 - HORIZ. - BOTTOM
B636	2	11-7		X	WING 4 - HORIZ. - TOP

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

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

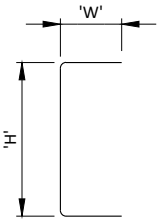


BAR MARK	'W'	'H'
A501	3-2	4-4
A502	3-2	4-7
A503	3-2	6-1
A519	2-11	4-7
A528	2-11	6-1

A501, A502, A503
A519, A528

BAR MARK	'W'	'H'
B501	3-2	4-4
B502	3-2	6-4
B503	3-2	4-7
B519	2-11	6-4
B528	2-11	4-7

B501, B502, B503
B519, B528

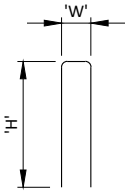


BAR MARK	'W'	'H'
A515	2-6	4-7
A517	2-6	6-1

A515, A517

BAR MARK	'W'	'H'
B515	2-6	6-4
B517	2-6	4-7

B515, B517

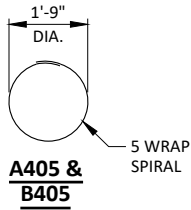


BAR MARK	'W'	'H'
A512	3-2	2-9
A414	1-11	1-3
A523	0-11	5-7
A524	0-11	6-3
A532	0-11	5-4
A533	0-11	6-5

A512, A414, A523,
A524, A532, & A533

BAR MARK	'W'	'H'
B512	3-2	3-0
B414	1-11	1-3
B523	0-11	5-8
B524	0-11	6-0
B532	0-11	5-4
B533	0-11	5-10

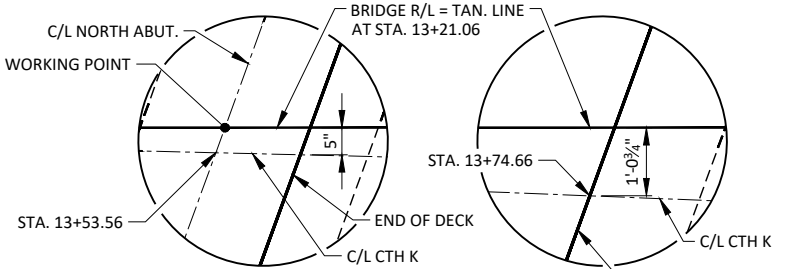
B512, B414, B523,
B524, B532 & B533



A405 & B405

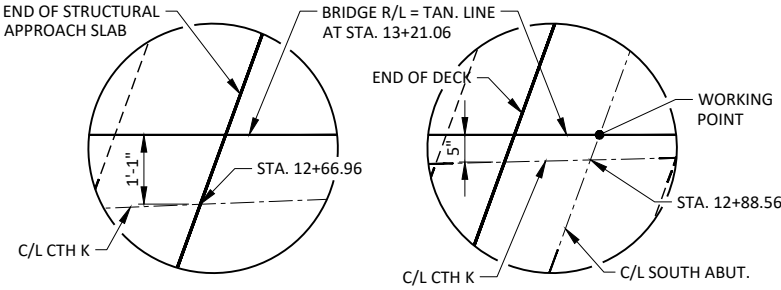


A808, A809, B808, & B809



NORTH ABUTMENT

NORTH STRUCTURAL
APPROACH SLAB



SOUTH STRUCTURAL
APPROACH SLAB

SOUTH ABUTMENT

TANGENT OFFSET DETAILS

LEGEND

- ½"x8"x2'-10" NON-LAMINATED ELASTOMERIC BEARING PAD.
- ☆ ¾" CORK FILLER ON VERTICAL GIRDER SEAT FACES THAT RUN PARALLEL WITH GIRDER.

GIRDER SEAT ELEVATIONS

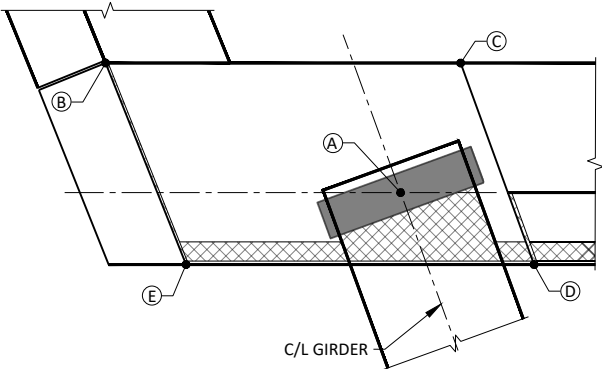
(SOUTH ABUTMENT)

GIRDER NUMBER	ELEV. (A)	ELEV. (B)	ELEV. (C)	ELEV. (D)	ELEV. (E)
①	812.16	812.25	812.20	812.09	812.14
②	811.77	811.86	811.82	811.71	811.75
③	811.38	811.47	811.43	811.32	811.36
④	811.00	811.09	811.05	810.94	810.98
⑤	810.62	810.73	810.67	810.56	810.62

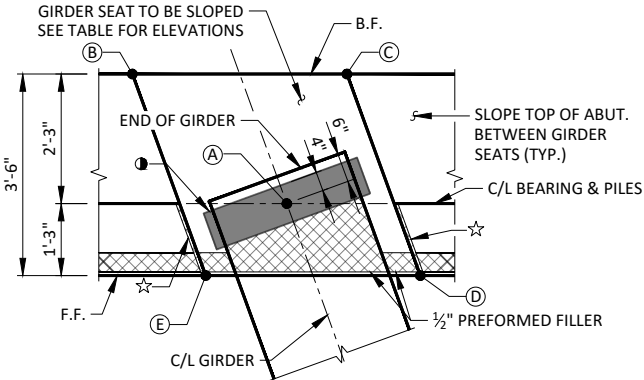
GIRDER SEAT ELEVATIONS

(NORTH ABUTMENT)

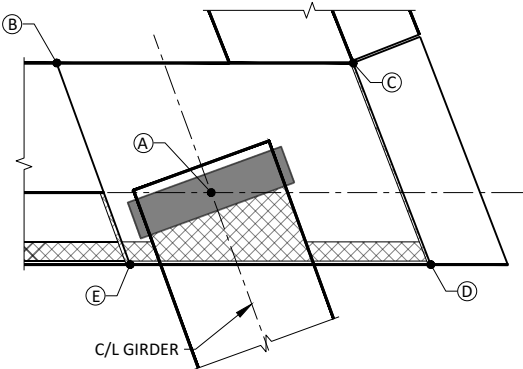
GIRDER NUMBER	ELEV. (A)	ELEV. (B)	ELEV. (C)	ELEV. (D)	ELEV. (E)
①	810.08	810.20	810.14	810.01	810.07
②	809.64	809.75	809.70	809.57	809.61
③	809.20	809.31	809.26	809.13	809.17
④	808.77	808.88	808.83	808.70	808.74
⑤	808.33	808.44	808.37	808.23	808.30



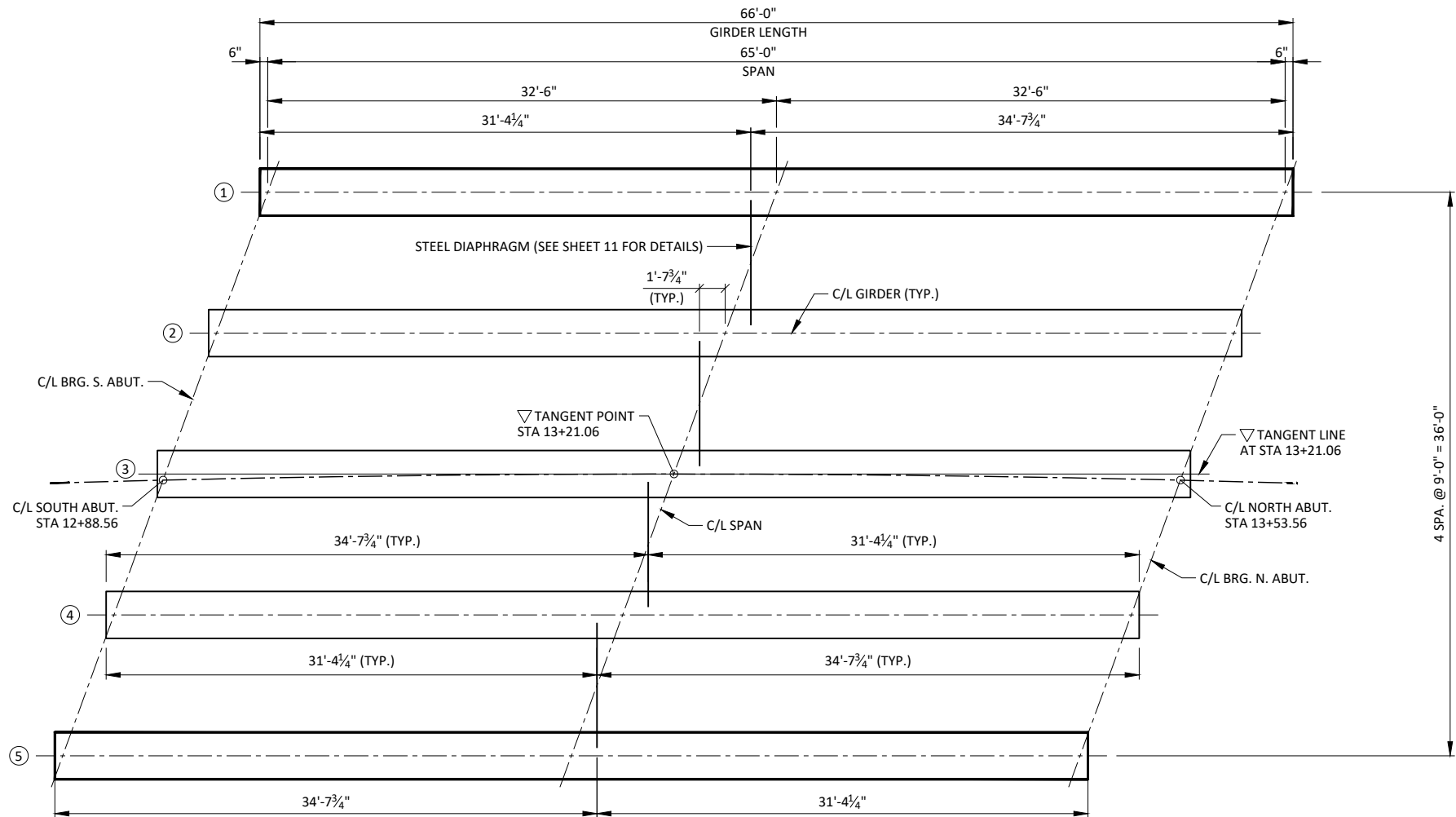
GIRDER SEAT AT EXTERIOR WING
(WING 1 SHOWN, WING 3 SIMILAR)



INTERIOR GIRDER SEAT DETAIL



GIRDER SEAT AT EXTERIOR WING
(WING 2 SHOWN, WING 4 SIMILAR)



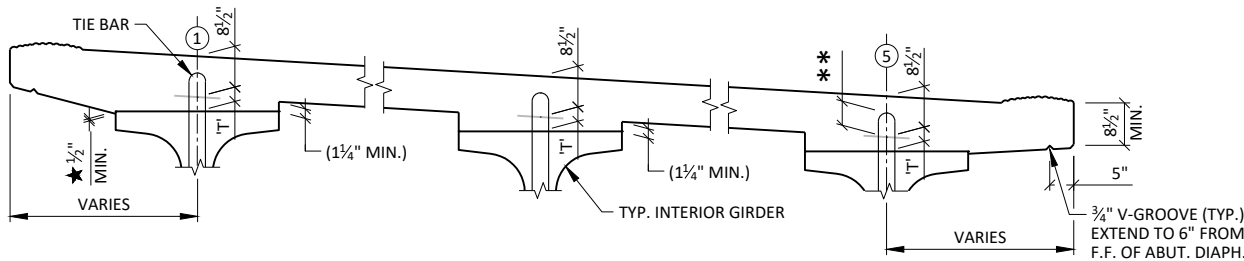
LEGEND

○ INDICATES GIRDER LINE.

GIRDER LAYOUT

TOP OF DECK ELEVATIONS

GIRDER LINE	C/L S. 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 N. ABUT.
W. FLOW LINE	816.39	816.15	815.93	815.70	815.49	815.28	815.07	814.87	814.67	814.48	814.30
①	816.31	816.07	815.84	815.61	815.39	815.18	814.98	814.78	814.59	814.41	814.23
②	815.92	815.67	815.44	815.21	814.98	814.77	814.56	814.35	814.16	813.97	813.79
③	815.53	815.28	815.04	814.80	814.57	814.35	814.14	813.93	813.73	813.54	813.35
C/L	815.51	815.27	815.03	814.80	814.57	814.35	814.14	813.93	813.72	813.53	813.33
④	815.15	814.89	814.64	814.40	814.17	813.94	813.72	813.51	813.31	813.11	812.92
⑤	814.76	814.50	814.25	814.00	813.77	813.53	813.31	813.09	812.88	812.68	812.48
E. FLOW LINE	814.66	814.40	814.15	813.91	813.67	813.44	813.22	813.00	812.79	812.58	812.38



DECK HAUNCH DETAIL

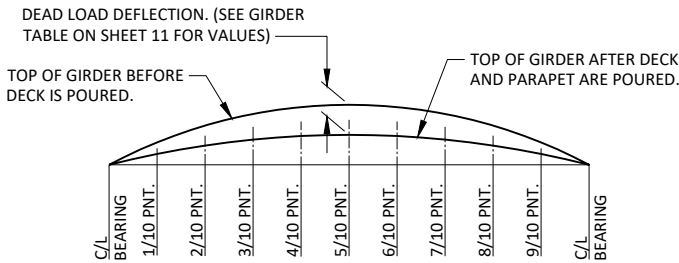
IF 1 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE BUREAU OF STRUCTURES IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR, ** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', OBTAIN THE ELEVATION OF THE TOP OF GIRDER AT C/L OF SUBSTRUCTURE UNITS AND AT 1/10 POINTS FOR EVERY GIRDER AND ALL SPANS, THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEVATION AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS
= HAUNCH HEIGHT "T"

NOTE: AN AVERAGE HAUNCH ('T') OF 3.5" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

★ DECK THICKNESS SHALL BE INCREASED AS NECESSARY TO CONCEAL INTERSECTION OF SLAB AND TOP OF GIRDER AT ALL FASCIA GIRDERS.



DEAD LOAD DEFLECTION DIAGRAM

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-20-265			
DRAWN BY		ZMF	PLANS CK'D. PTB
GIRDER LAYOUT		SHEET 9 OF 16	
		72	

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

STRANDS SHALL BE FLUSH WITH END OF GIRDER. END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

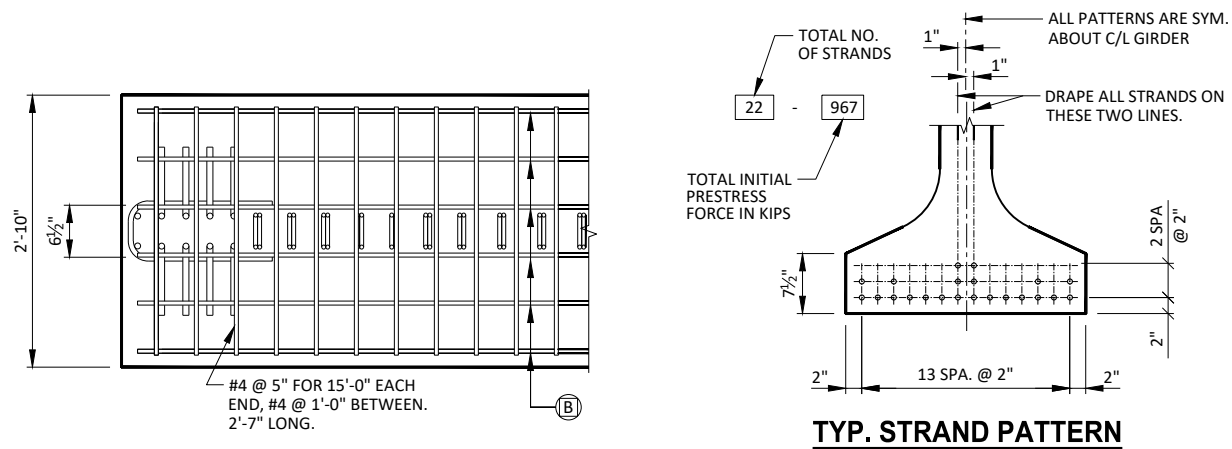
SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

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

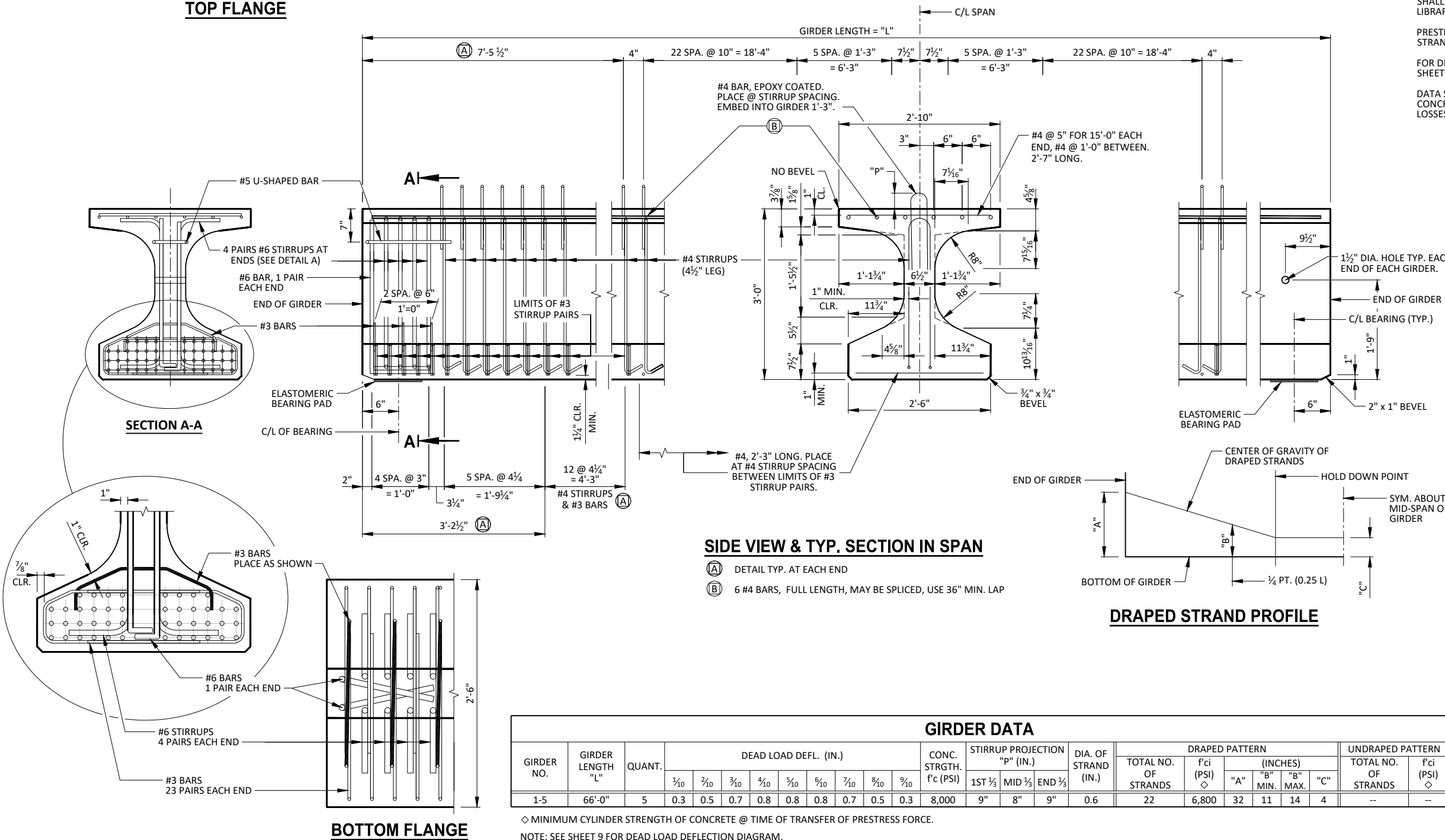
PRESTRESSING STRANDS SHALL BE 0.60" DIA.-7-WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM"
SHEET. SEE SHEET 11 FOR LOCATIONS ALONG THE GIRDERS.

DATA SHOWN IN DEFLECTION DATA IS THEORETICAL AND MAY VARY WITH CONCRETE STRENGTH, VARIABLE PRESTRESS CONDITIONS AND PRESTRESS LOSSES.



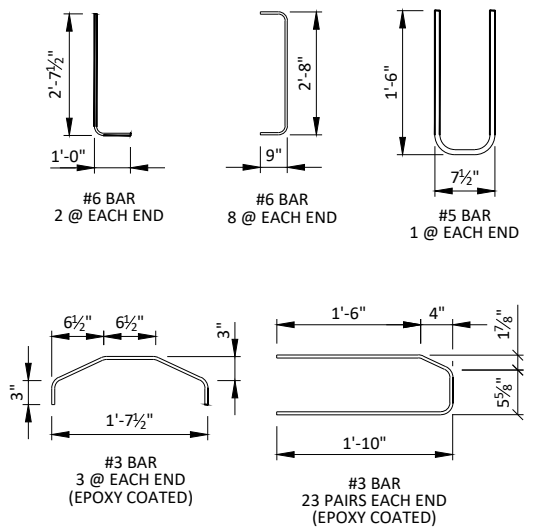
TOP FLANGE



DRAPED STRAND PROFILE

GIRDER DATA																								
GIRDER NO.	GIRDER LENGTH "L"	QUANT.	DEAD LOAD DEFL. (IN.)										CONC. STRGTH. f'c (PSI)	STIRRUP PROJECTION "P" (IN.)			DIA. OF STRAND (IN.)	DRAPED PATTERN (INCHES)					UNDRAINED PATTERN	
			1/40	3/40	1/20	1/10	3/20	1/5	3/10	1/4	3/8	1/2		3/4	1ST 1/3	MID 1/3		END 1/3	TOTAL NO. OF STRANDS	f'c (PSI) ◇	"A" MIN.	"B" MAX.	"C" MAX.	TOTAL NO. OF STRANDS
1-5	66'-0"	5	0.3	0.5	0.7	0.8	0.8	0.8	0.7	0.5	0.3	8,000	9"	8"	9"	0.6	22	6,800	32	11	14	4	--	--

◇ MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.
NOTE: SEE SHEET 9 FOR DEAD LOAD DEFLECTION DIAGRAM.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-20-265			
		DRAWN BY	PLANS CK'D.
		ZMF	PTB
36W PRESTRESSED GIRDER DETAILS		SHEET 10 OF 16	
		73	

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-20-265", EACH.

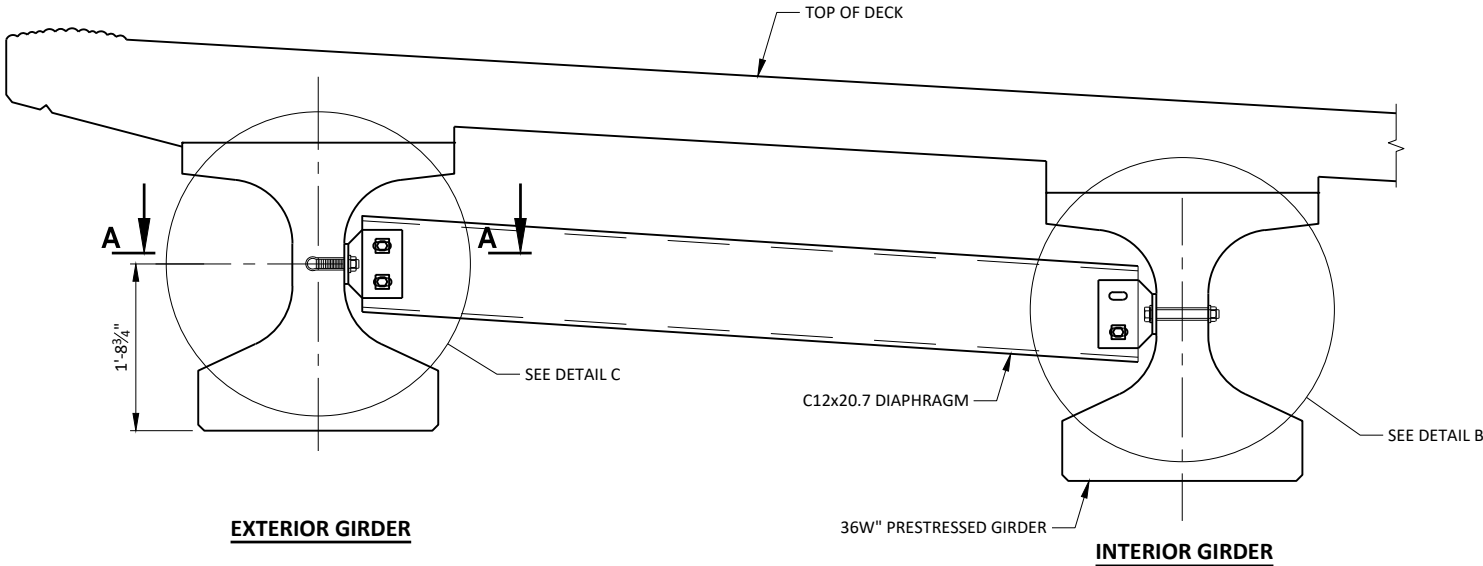
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

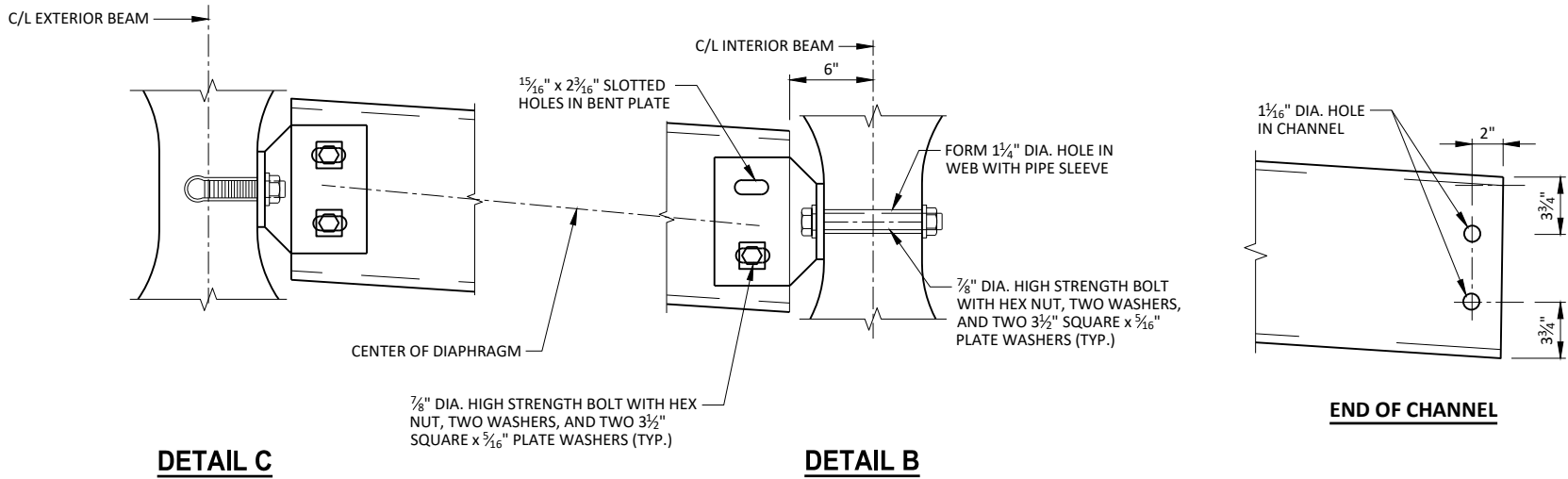
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS ¼ TURN UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.

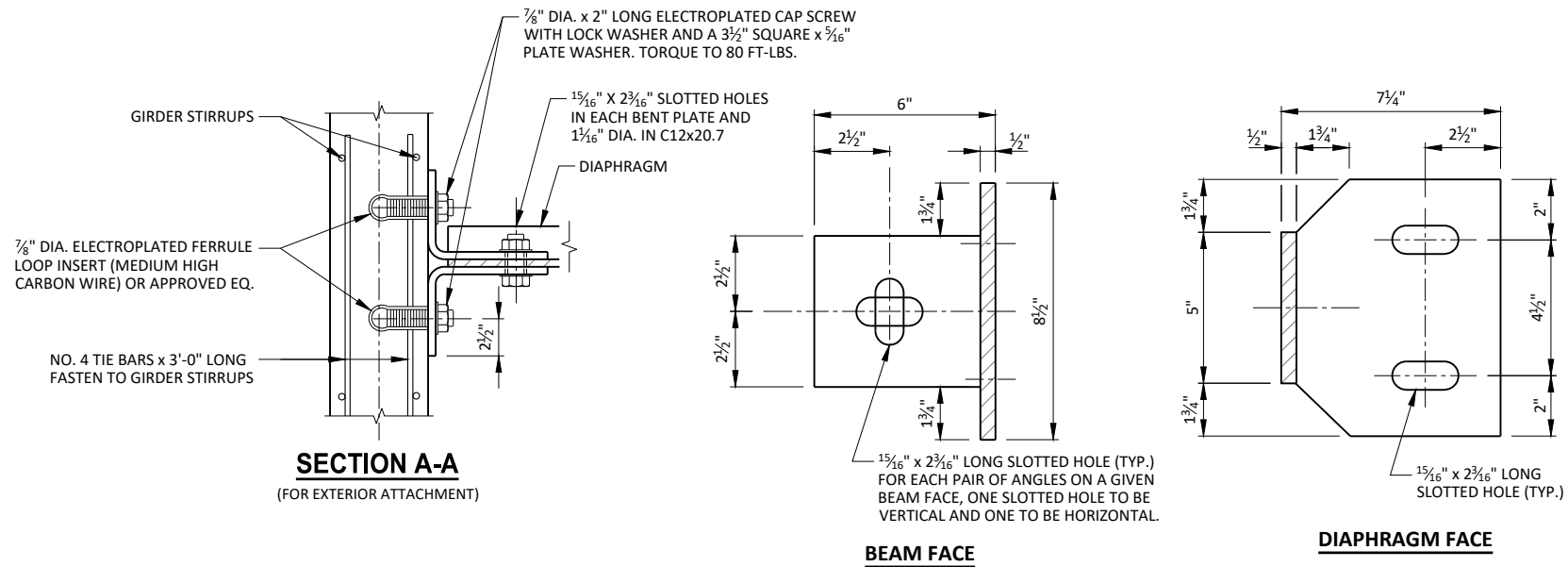
PLACE ONE DIAPHRAGM NEAR MID-LENGTH OF GIRDER AS INDICATED ON SHEET 9.



PART TRANSVERSE SECTION AT DIAPHRAGM



END OF CHANNEL



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-20-265			
DRAWN BY		ZMF	PLANS CK'D. PTB
STEEL DIAPHRAGM		SHEET 11 OF 16	
		74	

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.

SEE SHEET 1 FOR HORIZONTAL CURVE DATA.

LEGEND

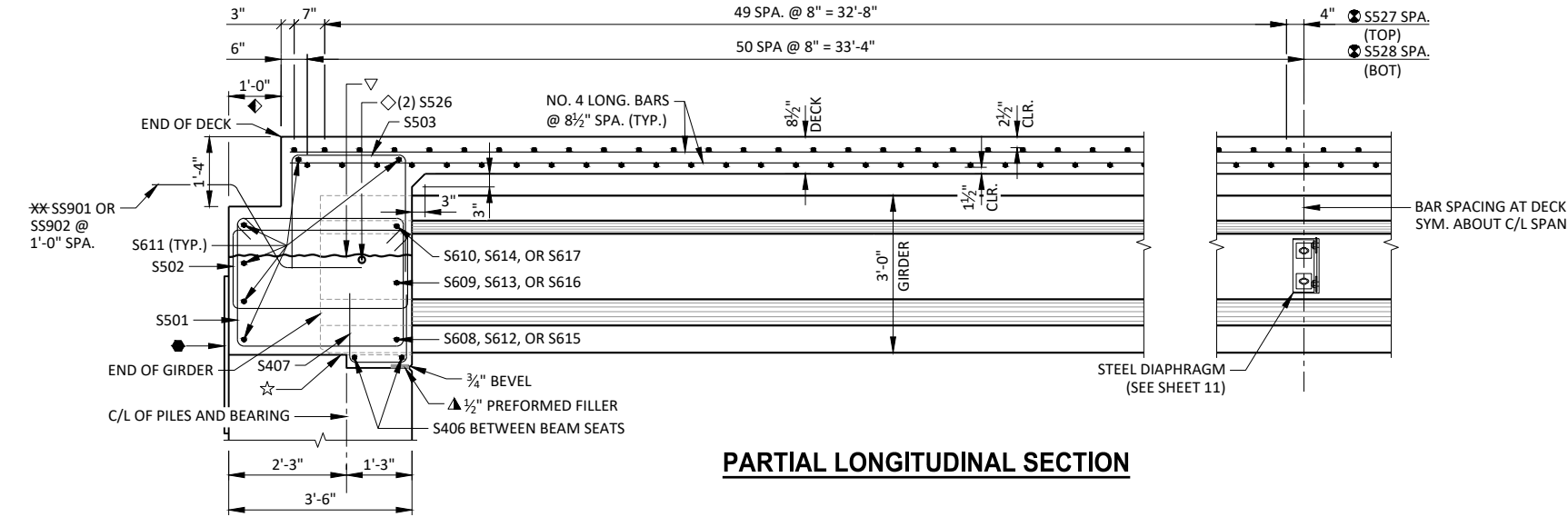
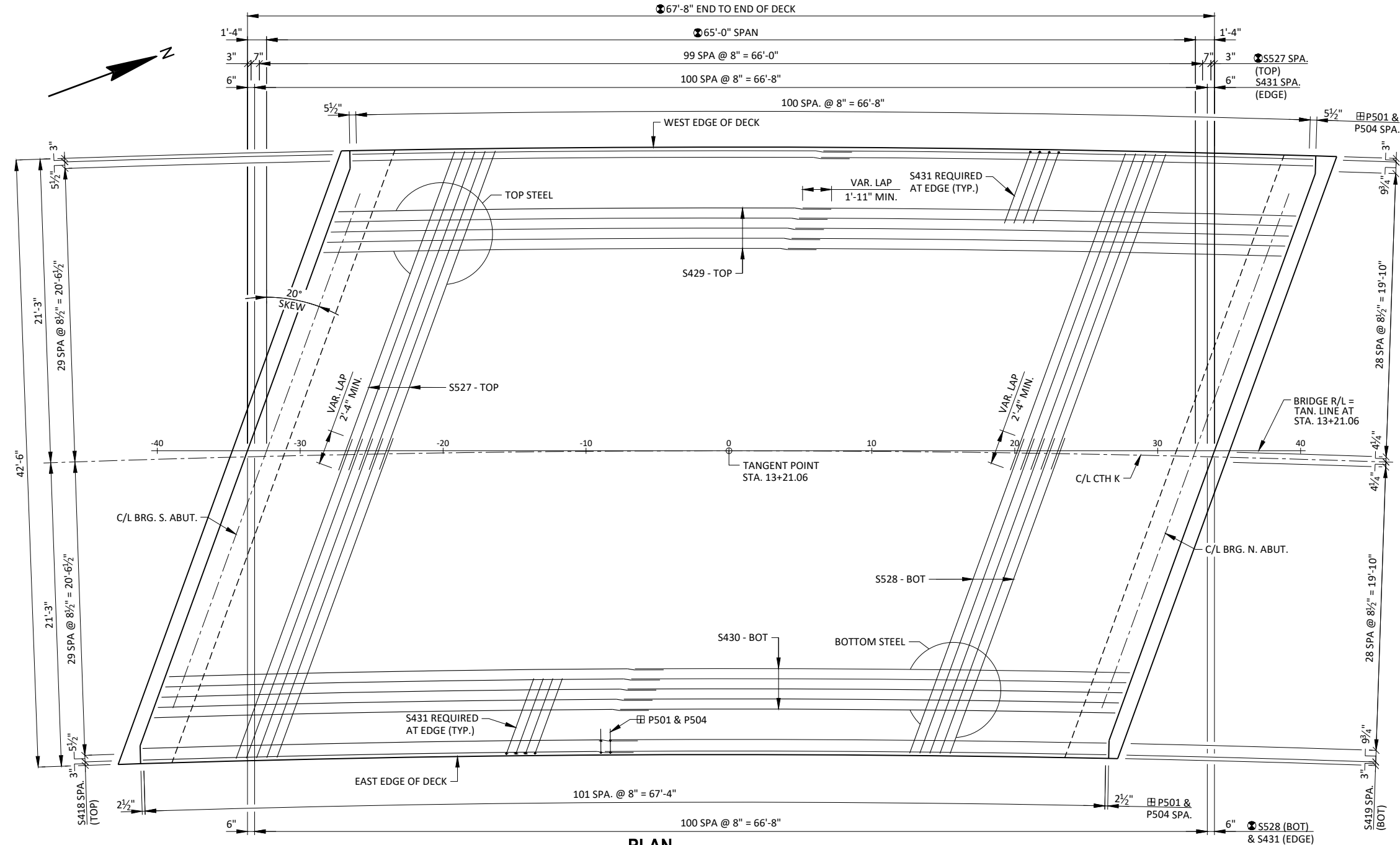
- 18" RUBBERIZED MEMBRANE WATERPROOFING (HORIZONTAL)
- 1/2" NON-LAMINATED ELASTOMERIC BEARING PAD AND 1/2" PREFORMED FILLER.
- 4"x 1/2" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF DIAPHRAGM.
- (1) 1 1/2" DIAMETER HOLE IN WEB FOR (2) S526 HORIZONTAL BARS. BARS TO BE PLACED SYMMETRICAL ABOUT C/L OF INTERIOR GIRDERS.
- OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR. IF OPTIONAL JOINT IS USED, PLACE RUBBERIZED MEMBRANE WATERPROOFING BEHIND JOINT. COST IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES"
- DIMENSION IS NORMAL TO THE C/L OF SUBSTRUCTURE UNITS
- DIMENSION IS TAKEN ALONG THE BRIDGE REFERENCE LINE
- SEE SHEET 14 FOR PLACEMENT OF SS901 BARS AND SHEET 15 FOR PLACEMENT OF SS902 BARS.
- P501 BARS TO BE TIED TO DECK STEEL BEFORE DECK IS POURED. SEE SHEET 16 FOR PLACEMENT AND THIS SHEET FOR SPACING.

PLAN

PARTIAL LONGITUDINAL SECTION

TANGENT LINE OFFSETS
AT EDGE OF DECK

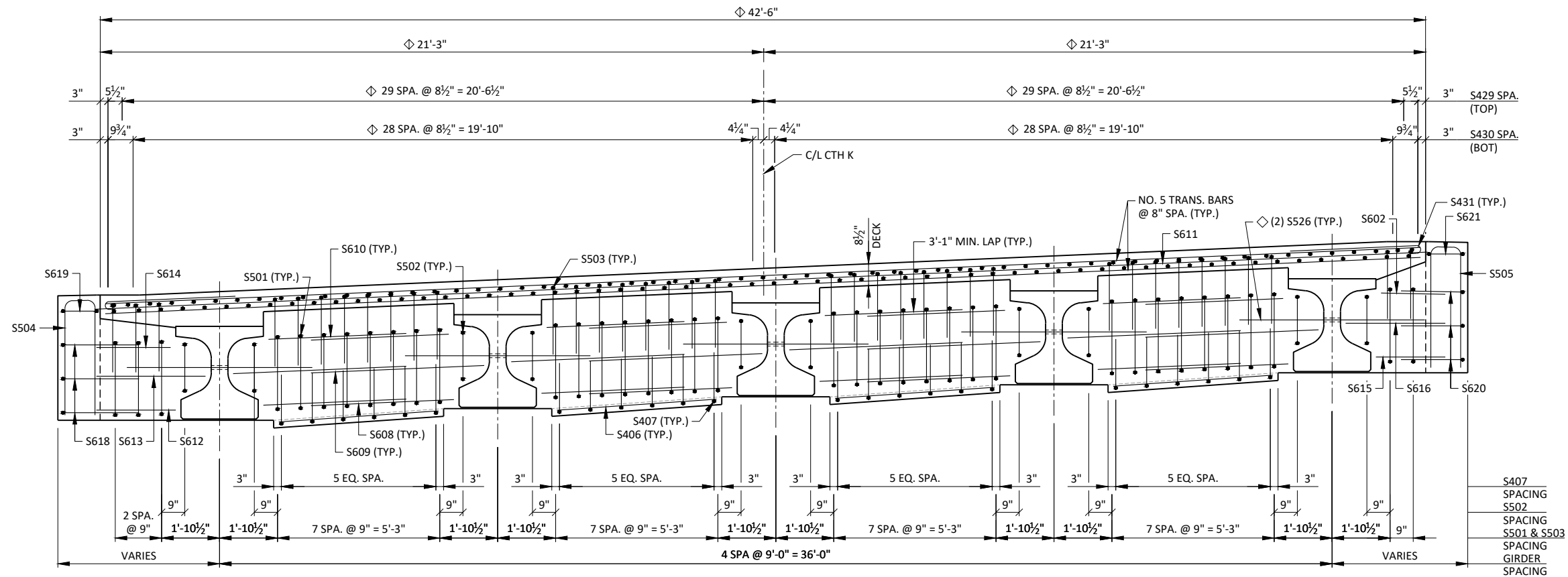
TANGENT OFFSET LOCATION	WEST EDGE OF DECK TAN. OFFSET	EAST EDGE OF DECK TAN. OFFSET
-40	--	21'-10 1/4"
-30	--	21'-7"
-20	21'-1 1/4"	21'-4 3/4"
-10	21'-2 1/2"	21'-3 1/2"
0	21'-3"	21'-3"
+10	21'-2 1/2"	21'-3 1/2"
+20	21'-1 1/4"	21'-4 3/4"
+30	20'-11"	--
+40	20'-8"	--



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-20-265			
DRAWN BY		ZMF	PLANS CK'D. PTB
SUPERSTRUCTURE		SHEET 12 OF 16	
		75	

◇ (1) 1½" DIAMETER HOLE IN WEB FOR (2) S513 HORIZONTAL BARS. BARS TO BE PLACED SYMMETRICAL ABOUT C/L OF INTERIOR GIRDERS.

◆ DECK DIMENSIONS AND DECK BARS AS SHOWN IN CROSS SECTION VIEW THROUGH ROADWAY ARE MEASURED RADIALLY.

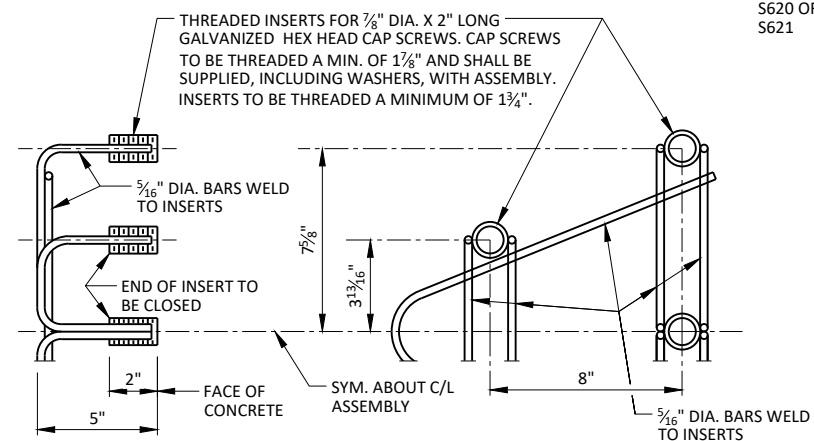
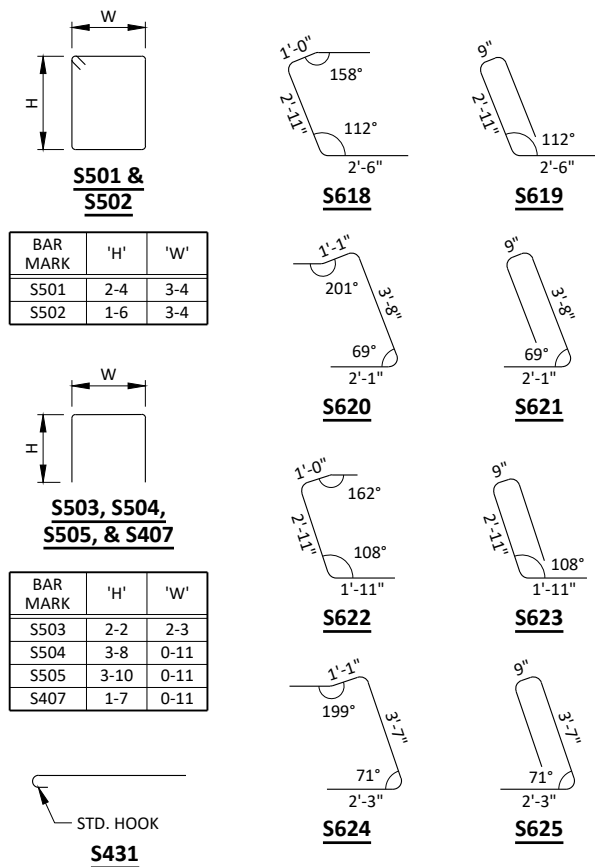


SOUTH ABUTMENT LOOKING SOUTH
NORTH ABUTMENT SIMILAR

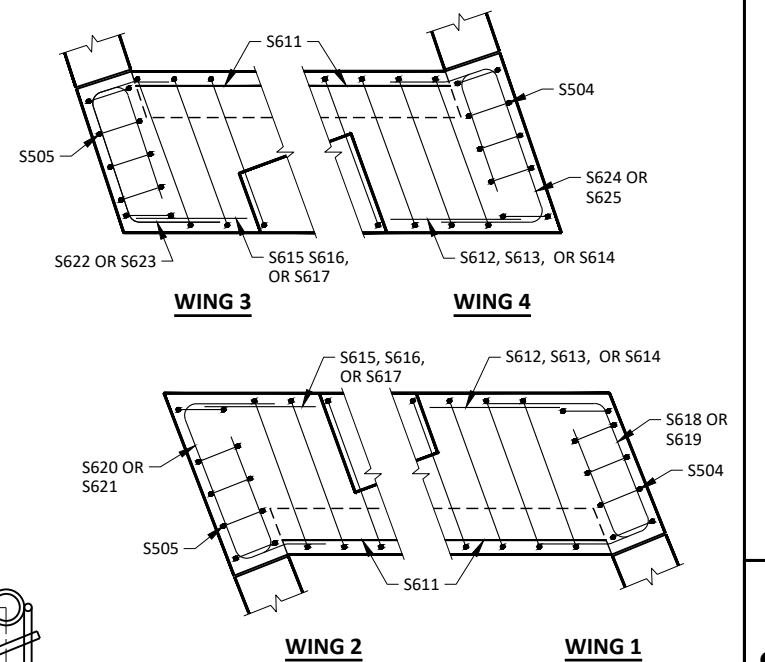
19,880 LB (COATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
S501	74	12-0	X	X	ABUT DIAPH - VERT.
S502	20	10-4	X	X	ABUT DIAPH - VERT. - GIRDER FLANGE
S503	74	6-4	X	X	ABUT DIAPH - VERT. - TOP
S504	10	8-0	X	X	ABUT DIAPH - VERT. - ENDS - WINGS 1 & 4
S505	10	8-4	X	X	ABUT DIAPH - VERT. - ENDS - WINGS 2 & 3
S406	16	5-6		X	ABUT DIAPH - HORIZ. - BOT.
S407	48	3-10	X	X	ABUT DIAPH. - VERT. - BOT.
S608	16	4-10		X	ABUT DIAPH - HORIZ. - FRONT - BOT.
S609	16	5-11		X	ABUT DIAPH - HORIZ. - FRONT
S610	16	4-8		X	ABUT DIAPH - HORIZ. - FRONT - TOP
S611	12	46-0		X	ABUT DIAPH - HORIZ. - BACK & TOP
S612	2	2-10		X	ABUT DIAPH - HORIZ. - FRONT - BOT. - WINGS 1 & 4
S613	2	3-10		X	ABUT DIAPH - HORIZ. - FRONT - WINGS 1 & 4
S614	2	2-8		X	ABUT DIAPH - HORIZ. - FRONT - TOP - WINGS 1 & 4
S615	2	2-5		X	ABUT DIAPH - HORIZ. - FRONT - BOT. - WINGS 2 & 3
S616	2	3-5		X	ABUT DIAPH - HORIZ. - FRONT - WINGS 2 & 3
S617	2	2-3		X	ABUT DIAPH - HORIZ. - FRONT - TOP - WINGS 2 & 3
S618	3	7-9	X	X	ABUT DIAPH - HORIZ. - END - WING 1
S619	1	8-5	X	X	ABUT DIAPH - HORIZ. - END - TOP - WING 1
S620	3	7-3	X	X	ABUT DIAPH - HORIZ. - END - WING 2
S621	1	8-6	X	X	ABUT DIAPH - HORIZ. - END - TOP - WING 2
S622	3	6-4	X	X	ABUT DIAPH - HORIZ. - END - WING 3
S623	1	7-10	X	X	ABUT DIAPH - HORIZ. - END - TOP - WING 3
S624	3	7-9	X	X	ABUT DIAPH - HORIZ. - END - WING 4
S625	1	8-8	X	X	ABUT DIAPH - HORIZ. - END - TOP - WING 4
S526	20	6-0		X	ABUT DIAPH - GIRDER WEB
S527	204	23-10		X	DECK - TRANS. - TOP
S528	202	23-10		X	DECK - TRANS. - BOT
S429	122	34-9		X	DECK - LONG. - TOP
S430	120	34-9		X	DECK - LONG. - BOT
S431	202	4-8	X	X	DECK - OVERHANG AT EDGE

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



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

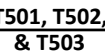


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-20-265			
DRAWN BY		ZMF	PLANS CK'D. PTB
SUPERSTRUCTURE DETAILS		SHEET 13 OF 16	
		76	



CROSS SECTION THROUGH APPROACH SLAB



BAR MARK	'H'	'W'
T501	1-1	4-8
T502	1-1	5-1
T503	1-1	2-11

SS901



9,170 LB (COATED)
730 LB (STAINLESS STEEL)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
T501	41	12-2	X	X	APPROACH SLAB FTG. - STIRRUP
T502	2	12-10	X	X	APPROACH SLAB FTG. - ENDS
T503	4	8-6	X	X	APPROACH SLAB FTG. - ENDS @ NOTCH
T804	8	45-8		X	APPROACH SLAB FTG. - TRANS
T805	4	42-10		X	APPROACH SLAB FTG. - TRANS @ NOTCH
T506	43	19-10		X	APPROACH SLAB - LONG. - TOP
T807	71	21-8	X	X	APPROACH SLAB - LONG. - BOT.
T508	21	45-5		X	APPROACH SLAB - TRANS. - TOP
T509	21	45-5		X	APPROACH SLAB - TRANS. - BOT.
T510	40	4-1	X	X	APPROACH SLAB - EDGE
STAINLESS STEEL					
S5901	43	5-0	X		CONC. ABUT. DIAPH. TO APPROACH SLAB

● APPLY PROTECTIVE SURFACE TREATMENT TO HORIZONTAL AND VERTICAL SURFACES OF PAVING NOTCH PRIOR TO POURING STRUCTURAL APPROACH SLAB.

▲ 3/4" PREFORMED JOINT FILLER, EXTEND AS SHOWN.

▲ FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD $\frac{1}{8}$ " BELOW SURFACE OF CONCRETE).

▽ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE TOP OF FOOTING. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

▼ PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

⊞ P501 BARS TO BE TIED TO APPROACH SLAB STEEL BEFORE APPROACH SLAB IS POURED. SEE SHEET 16 FOR PLACEMENT AND SPACING.

TANGENT LINE OFFSETS

	END OF STRUCTURAL APPROACH SLAB			MIDPOINT			END OF BRIDGE DECK		
LOCATION	R/L STA.	OFFSET	ELEV.	R/L STA.	OFFSET	ELEV.	R/L STA.	OFFSET	ELEV.
FACE W. PARAPET	-46.70	19'-2½" LT	817.19	-36.59	19'-6¾" LT	816.81	-26.50	19'-9" LT	816.44
R/L	-53.69	--	816.40	-43.69	--	815.98	-33.69	--	815.58
FACE E. PARAPET	-61.48	21'-5" RT	815.53	-51.33	21'-0" RT	815.11	-41.20	20'-7¾" RT	814.71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

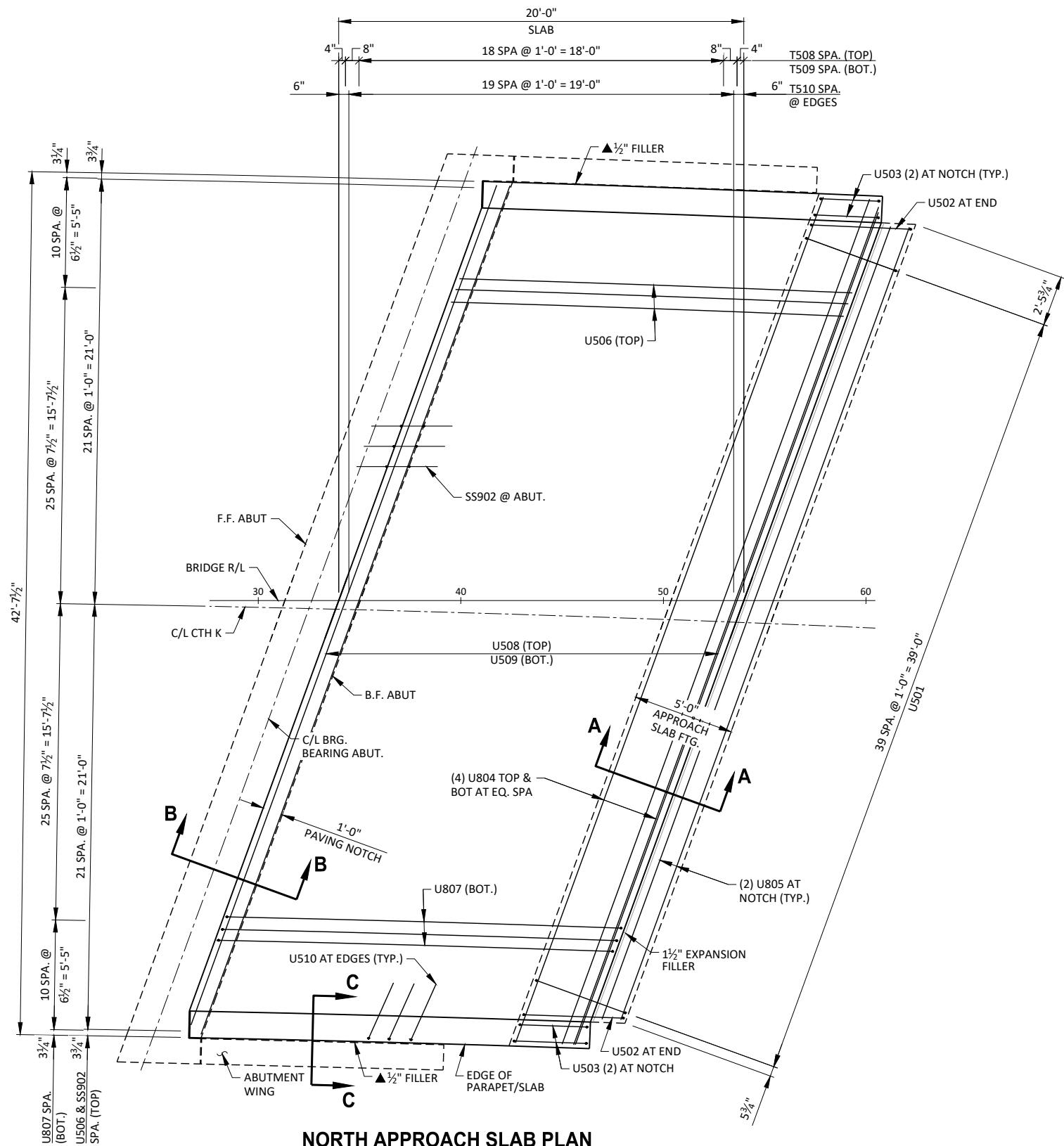
STRUCTURE B-20-265

DRAWN BY	ZMF	PLANS CK'D.	PTB
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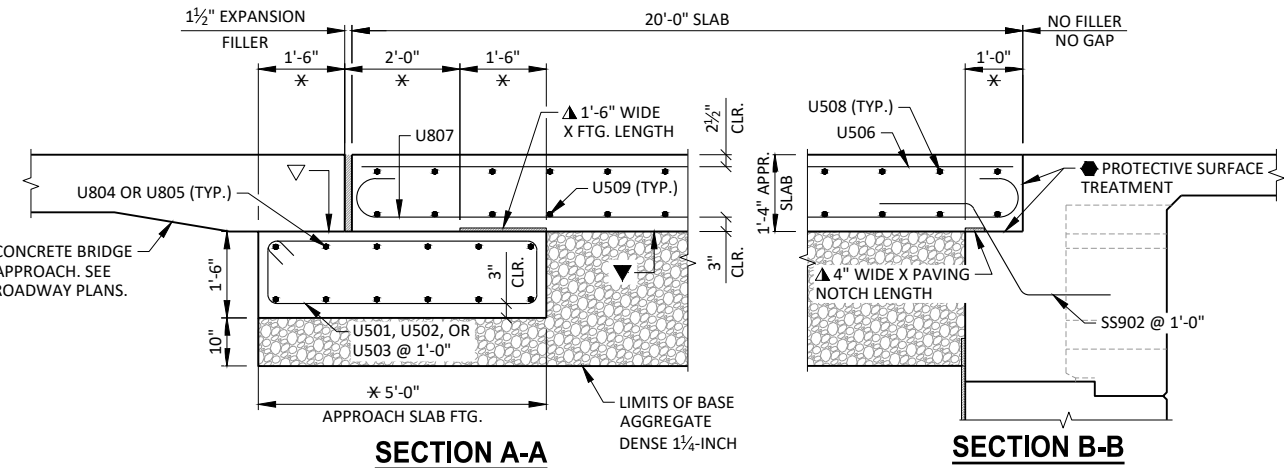
SOUTH STRUCTURAL APPROACH SLAB

SHEET 14 OF 16

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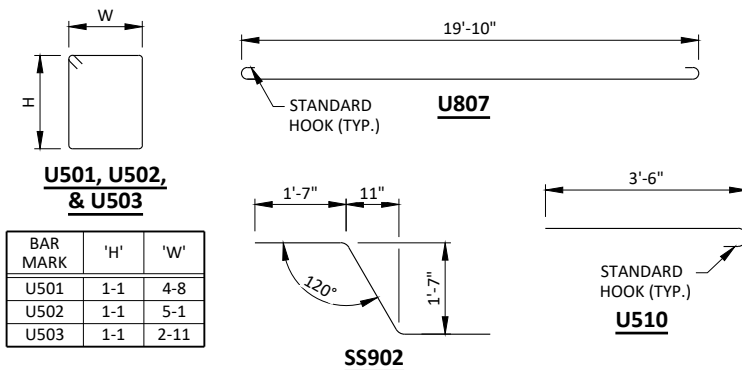
NORTH APPROACH SLAB PLAN



SECTION A-A

SECTION B-B

CROSS SECTION THROUGH APPROACH SLAB



LEGEND

◆ APPLY PROTECTIVE SURFACE TREATMENT TO HORIZONTAL AND VERTICAL SURFACES OF PAVING NOTCH PRIOR TO POURING STRUCTURAL APPROACH SLAB.

✱ DIMENSION IS NORMAL TO THE C/L OF THE SUBSTRUCTURE UNITS.

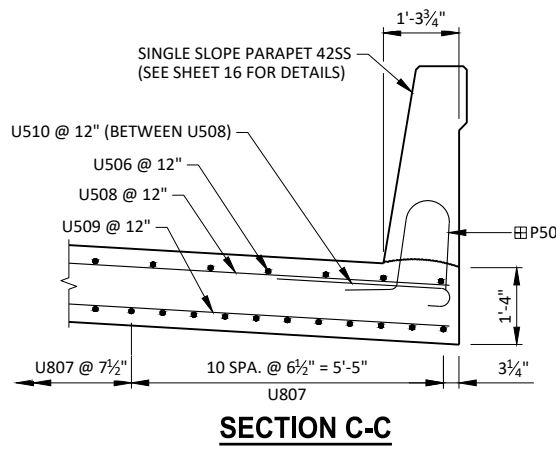
▲ 3/4" PREFORMED JOINT FILLER, EXTEND AS SHOWN.

▲ FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).

▽ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE TOP OF FOOTING. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

▼ PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

▣ P501 BARS TO BE TIED TO APPROACH SLAB STEEL BEFORE APPROACH SLAB IS POURED. SEE SHEET 16 FOR PLACEMENT AND SPACING.



SECTION C-C

BILL OF BARS

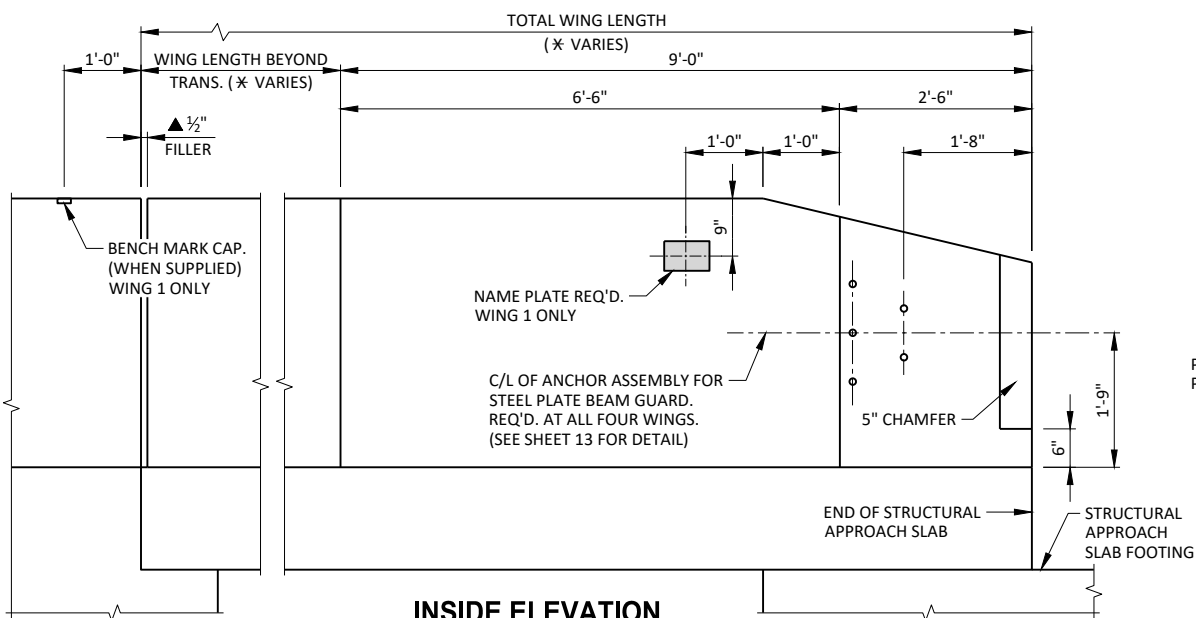
NORTH STRUCTURAL
APPROACH SLAB9,060 LB (COATED)
730 LB (STAINLESS STEEL)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
U501	40	12-2	X	X	APPROACH SLAB FTG. - STIRRUP
U502	2	12-8	X	X	APPROACH SLAB FTG. - ENDS
U503	4	8-6	X	X	APPROACH SLAB FTG. - ENDS @ NOTCH
U804	8	44-5		X	APPROACH SLAB FTG. - TRANS
U805	4	41-8		X	APPROACH SLAB FTG. - TRANS @ NOTCH
U506	43	19-5		X	APPROACH SLAB - LONG. - TOP
U807	71	21-8	X	X	APPROACH SLAB - LONG. - BOT.
U508	21	44-5		X	APPROACH SLAB - TRANS. - TOP
U509	21	44-5		X	APPROACH SLAB - TRANS. - BOT.
U510	40	4-1	X	X	APPROACH SLAB - EDGE
STAINLESS STEEL					
SS902	43	5-0	X		CONC. ABUT. DIAPH. TO APPROACH SLAB

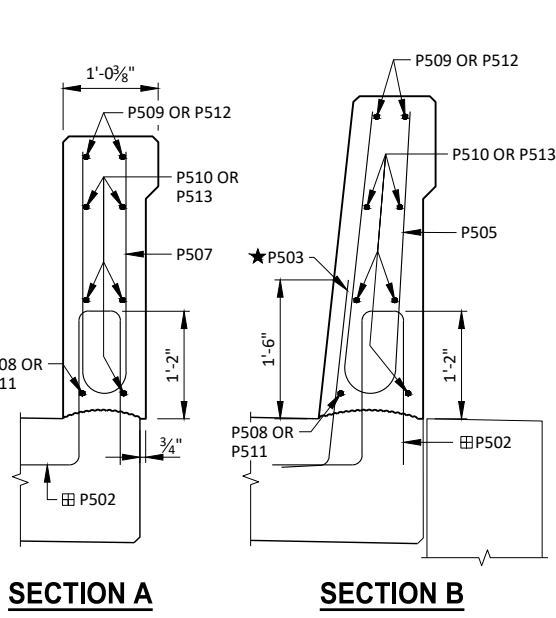
TANGENT LINE OFFSETS

LOCATION	END OF BRIDGE DECK			MIDPOINT			END OF STRUCTURAL APPROACH SLAB		
	R/L STA.	OFFSET	ELEV.	R/L STA.	OFFSET	ELEV.	R/L STA.	OFFSET	ELEV.
FACE W. PARAPET	41.03	19'-4 3/4" LT	814.26	50.91	19'-0 3/4" LT	813.99	60.76	18'-7 3/4" LT	813.73
R/L	33.97	--	813.32	43.97	--	813.05	53.97	--	812.79
FACE E. PARAPET	26.60	20'-3 3/4" RT	812.34	36.51	20'-6" RT	812.04	46.40	20'-9 3/4" RT	811.76

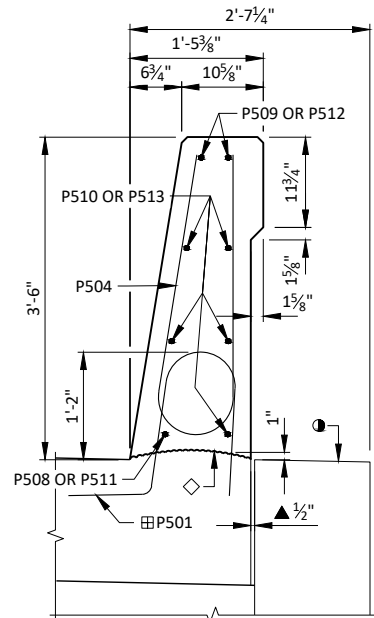
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-20-265			
DRAWN BY		ZMF	PLANS CK'D. PTB
NORTH STRUCTURAL APPROACH SLAB		SHEET 15 OF 16 78	



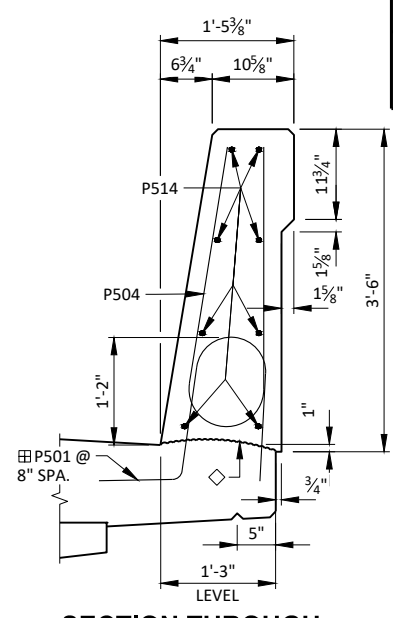
INSIDE ELEVATION
WING 1 SHOWN, OTHER WINGS SIMILAR



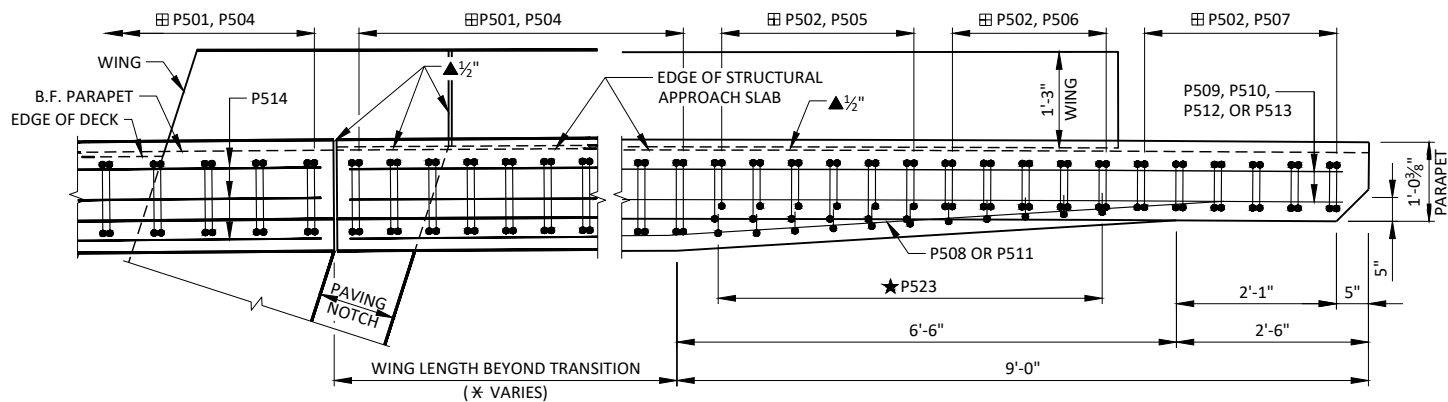
SECTION A
SECTION B



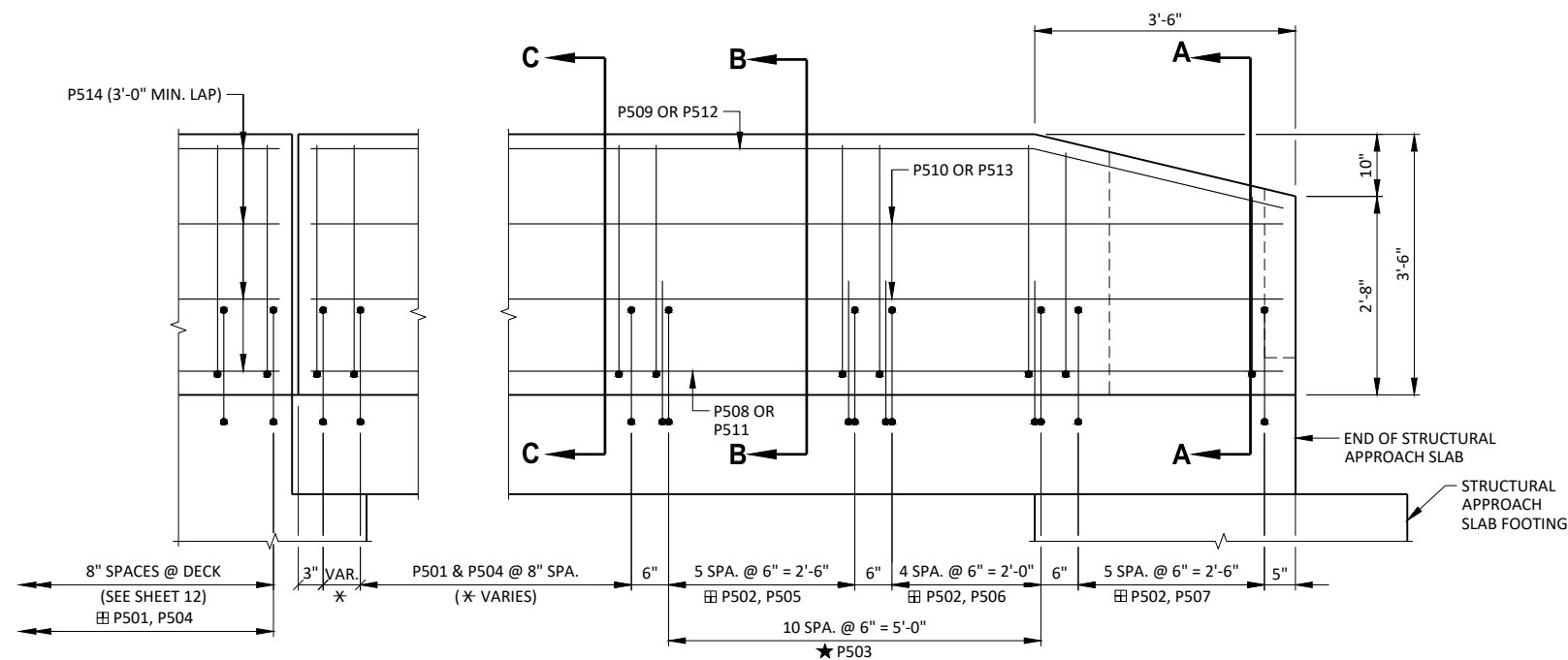
SECTION C



SECTION THROUGH
PARAPET ON BRIDGE



PLAN



STEEL LAYOUT

BILL OF BARS
PARAPET

5,850 LB (COATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	BAR SERIES	LOCATION
P501	273	4-5	X	X		PARAPET - VERT.
P502	68	4-4	X	X		PARAPET - VERT.
P503	44	2-9	X	X		PARAPET - VERT.
P504	273	6-8	X	X		PARAPET - VERT.
P505	24	6-6	X	X		PARAPET - VERT.
P506	20	6-5	X	X		PARAPET - VERT.
P507	24	5-5	X	X	*	PARAPET - VERT.
P508	2	19-9	X	X		PARAPET - HORIZ. - WINGS 1&2
P509	4	19-10	X	X		PARAPET - HORIZ. - WINGS 1&2
P510	10	19-10		X		PARAPET - HORIZ. - WINGS 1&2
P511	2	19-3	X	X		PARAPET - HORIZ. - WINGS 3&4
P512	4	19-5	X	X		PARAPET - HORIZ. - WINGS 3&4
P513	10	19-5		X		PARAPET - HORIZ. - WINGS 3&4
P514	32	35-3		X		PARAPET - HORIZ.

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.

LEGEND

◇ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.

▲ ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ½" BELOW SURFACE OF CONCRETE)

★ P503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE P523 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

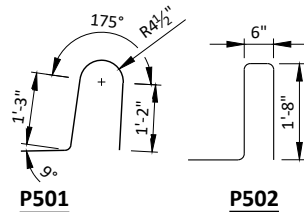
⊞ P501 AND P502 BARS TO BE TIED TO DECK AND APPROACH SLAB STEEL BEFORE EACH IS POURED.

* DIMENSION VARIES BY WING. SEE WING DIMENSION TABLE FOR VALUES.

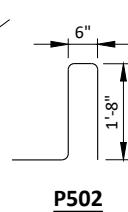
● SLOPE FOR DRAINAGE.

STATE PROJECT NUMBER

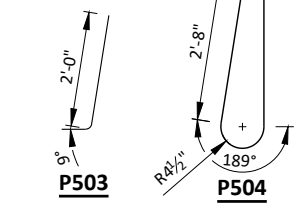
4812-00-01



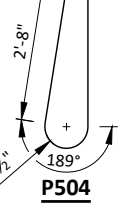
P501



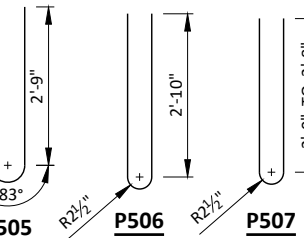
P502



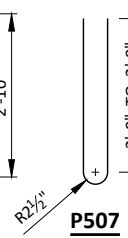
P503



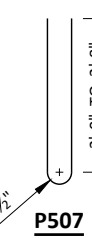
P504



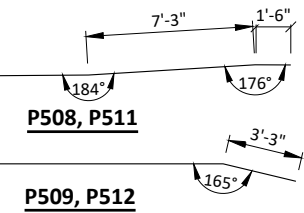
P505



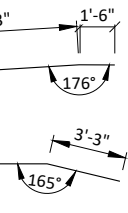
P506



P507



P508, P511



P509, P512

BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
P507	4 SERIES OF 6	4-9 TO 6-1

BUNDLE AND TAG EACH SERIES SEPARATELY

WING DIMENSION TABLE

WING NO.	TOTAL WING LENGTH	WING LENGTH BEYOND TRANS.	P501 & P504 SPA. IN WING	SPA. AT END OF WING
1	20'-3½"	11'-3½"	16 @ 8" = 10'-8"	5"
2	20'-2½"	11'-2½"	16 @ 8" = 10'-8"	4"
3	19'-9"	10'-9"	15 @ 8" = 10'-0"	6½"
4	19'-9¾"	10'-9¾"	15 @ 8" = 10'-0"	7¼"

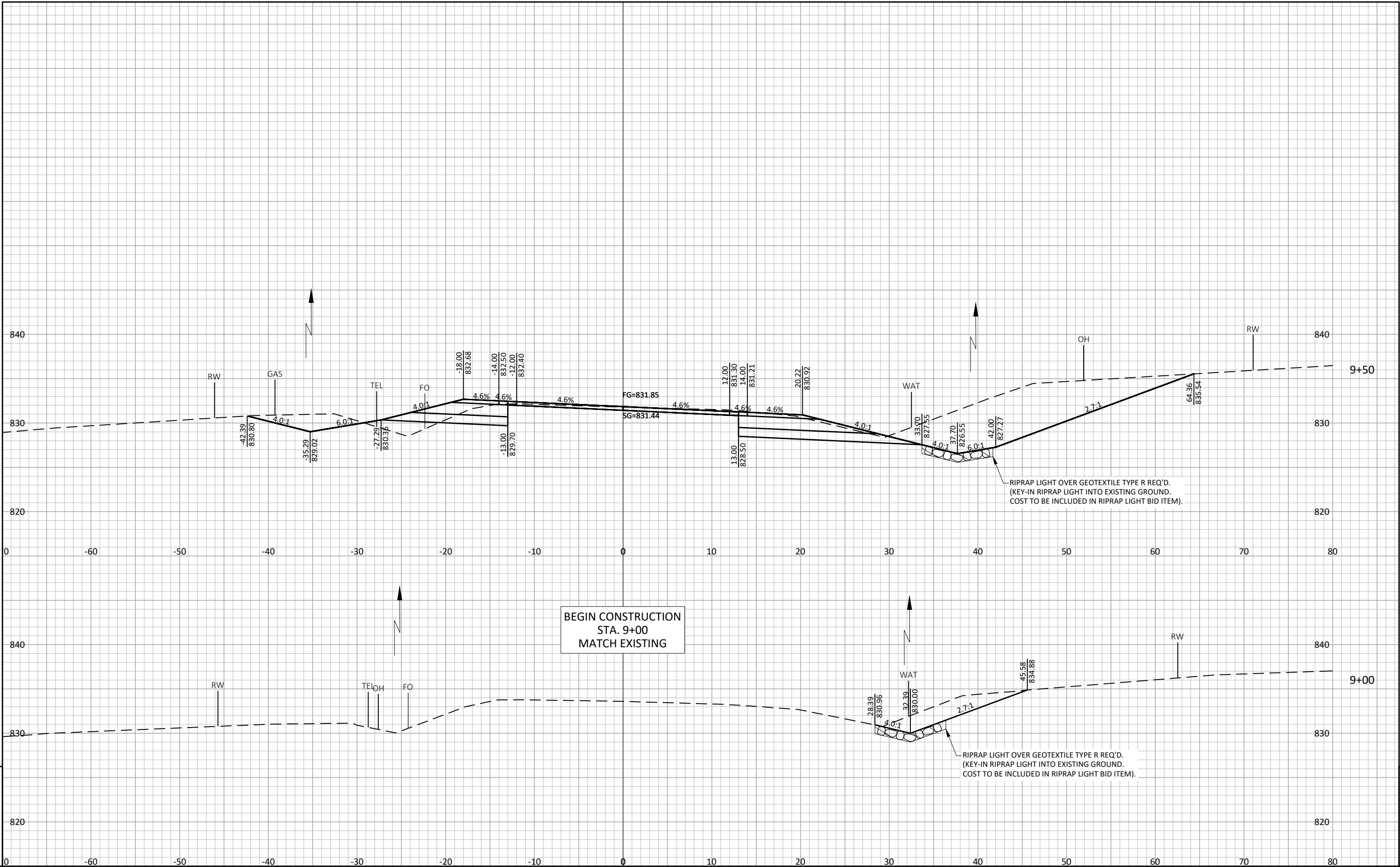
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-20-265			
DRAWN BY		PLANS CK'D.	PTB
ZMF			
SINGLE SLOPE PARAPET 42SS			SHEET 16 OF 16
			79

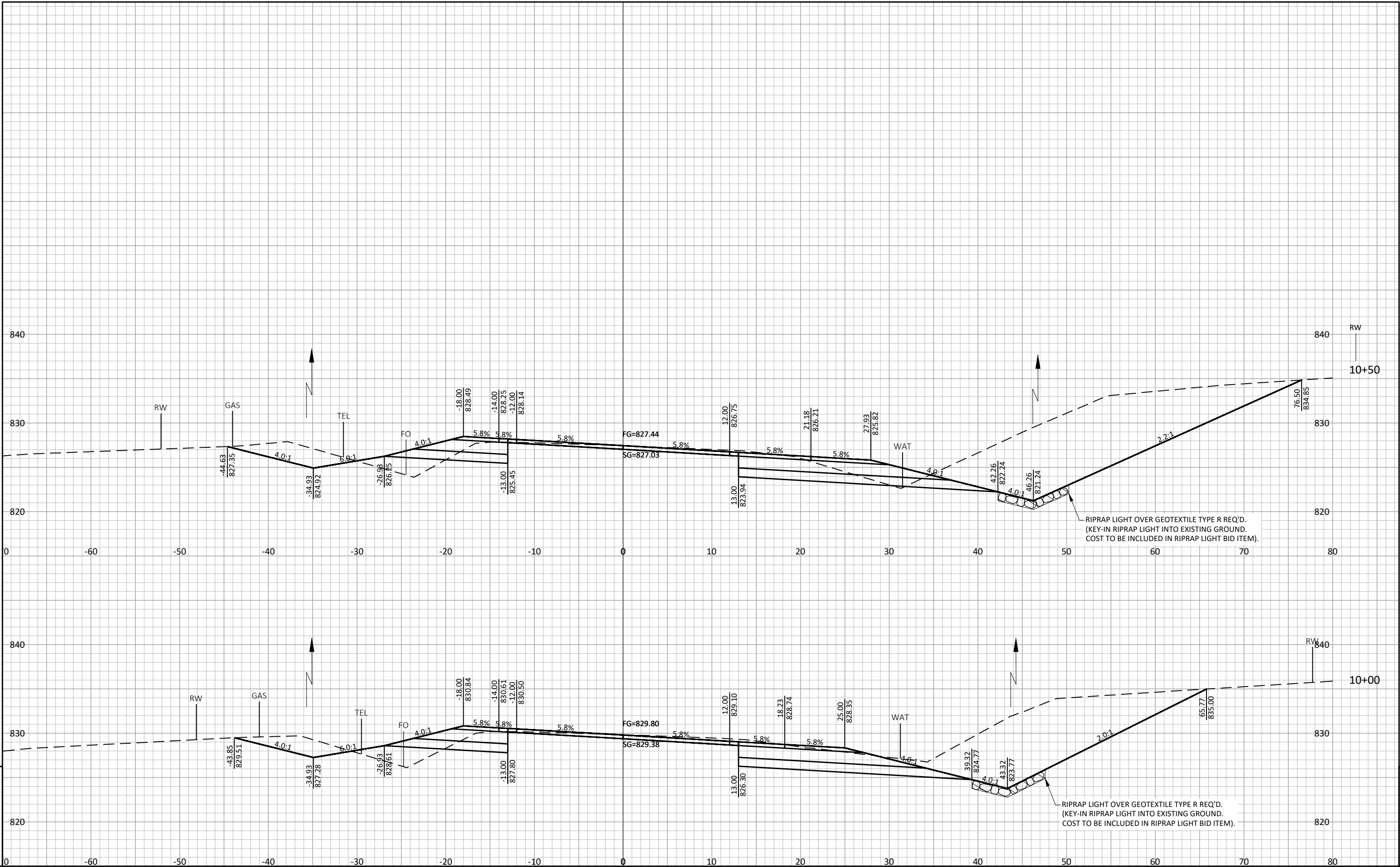
EARTHWORK - MAINLINE

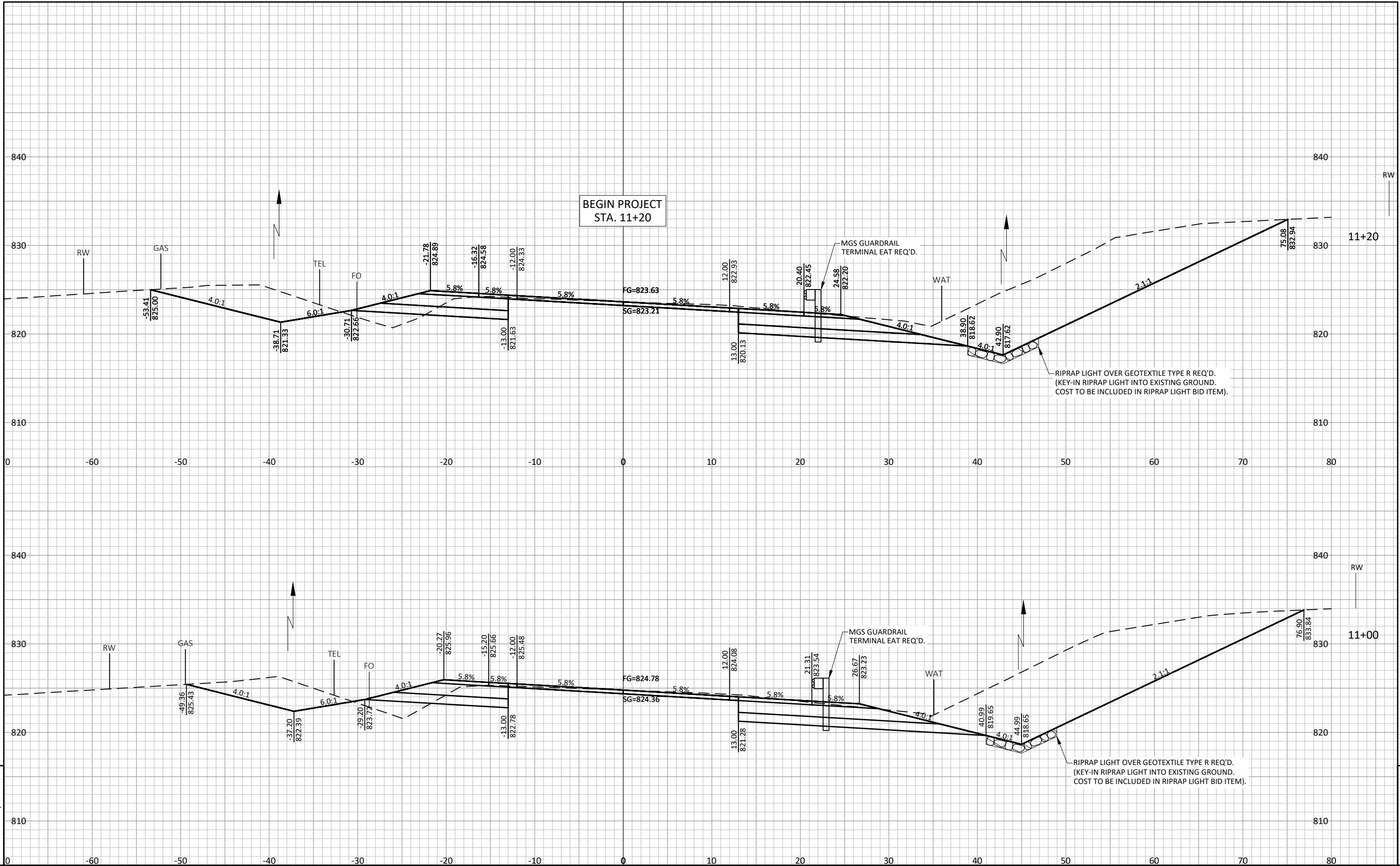
STATION	AREA (SF)		INCREMENTAL VOLUME (CY)			CUMULATIVE VOLUME (CY)			
	CUT	FILL	EXPANDED			CUT (1.0) NOTE 1	FILL NOTE 2	FILL (1.25) NOTE 3	MASS ORDINATE NOTE 4
			CUT NOTE 1	FILL NOTE 2	FILL (1.25) NOTE 3				
9+00	61	0	0	0	0	0	0	0	0
9+50	206	8	90	15	18	90	15	18	72
10+00	260	13	434	20	25	524	35	43	481
10+50	301	12	519	24	29	1043	59	72	971
11+00	348	9	620	20	24	1663	79	96	1567
11+20	338	9	254	7	8	1917	86	104	1813
11+50	360	8	396	10	12	2313	96	116	2197
12+00	176	134	486	119	149	2799	215	265	2534
12+50	104	413	259	482	605	3058	697	870	2188
12+57	104	413	141	566	707	3199	1263	1577	1622
12+57	0	0	0	0	0	3199	1263	1577	1622
13+55	0	0	0	0	0	3199	1263	1577	1622
13+55	46	260	0	0	0	3199	1263	1577	1622
14+00	45	260.1	77	434	543	3276	1697	2120	1156
14+50	44	224	84	450	562	3360	2147	2682	678
15+00	57	201	93	380	475	3453	2527	3157	296
15+50	79	188	127	387	481	3580	2914	3638	-58
16+00	104	79	171	248	310	3751	3162	3948	-197
16+50	112	53	209	122	152	3960	3284	4100	-140
17+00	91	0	390	50	63	4350	3334	4163	187
MAINLINE COLUMN TOTALS =			4350	3334	4163	187			

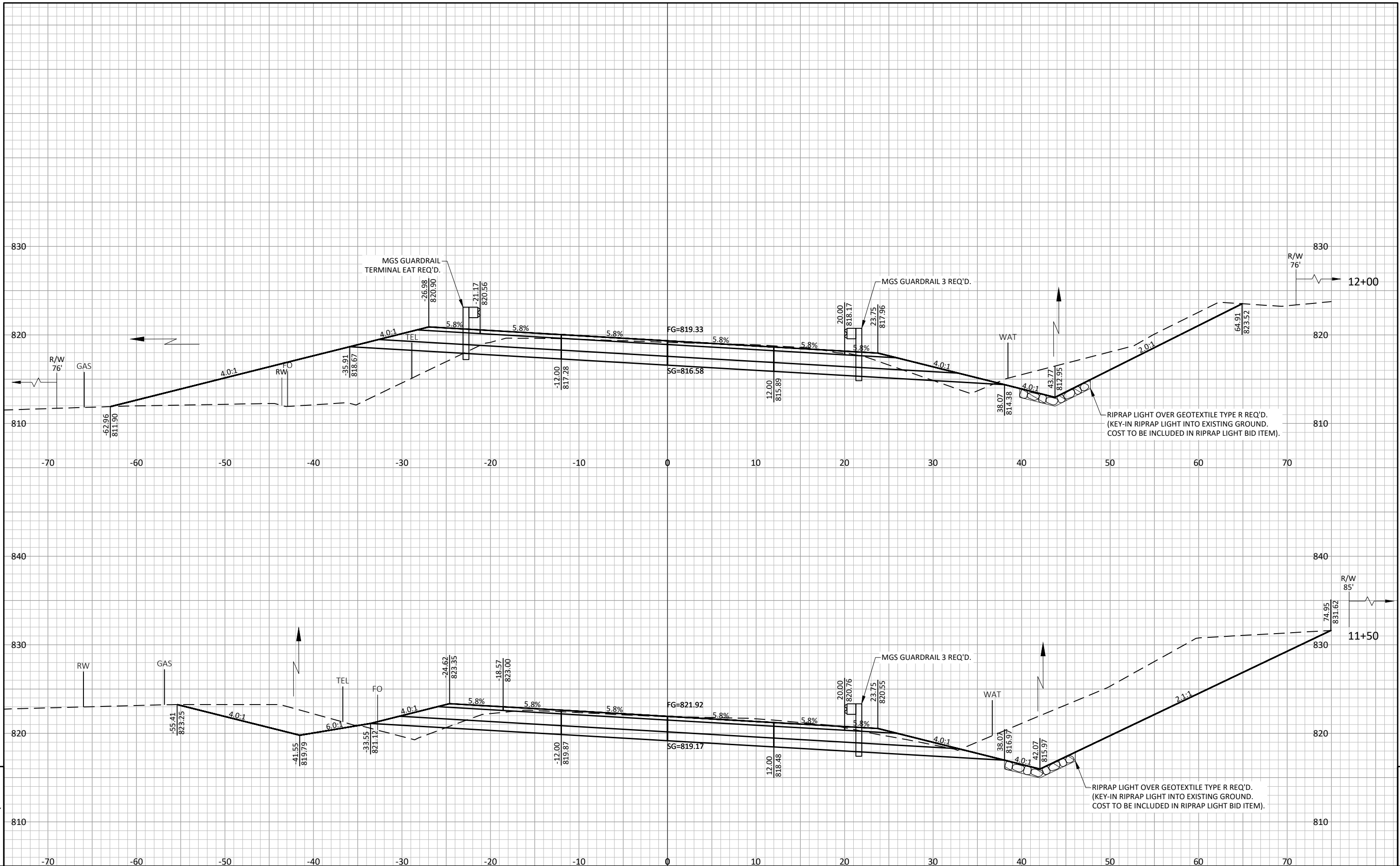
NOTES:
EARTHWORK REQUIRED TO CONSTRUCT DRIVEWAY LOCATED AT STA. 15+88, RT. INCLUDED
IN MAINLINE QUANTITIY.

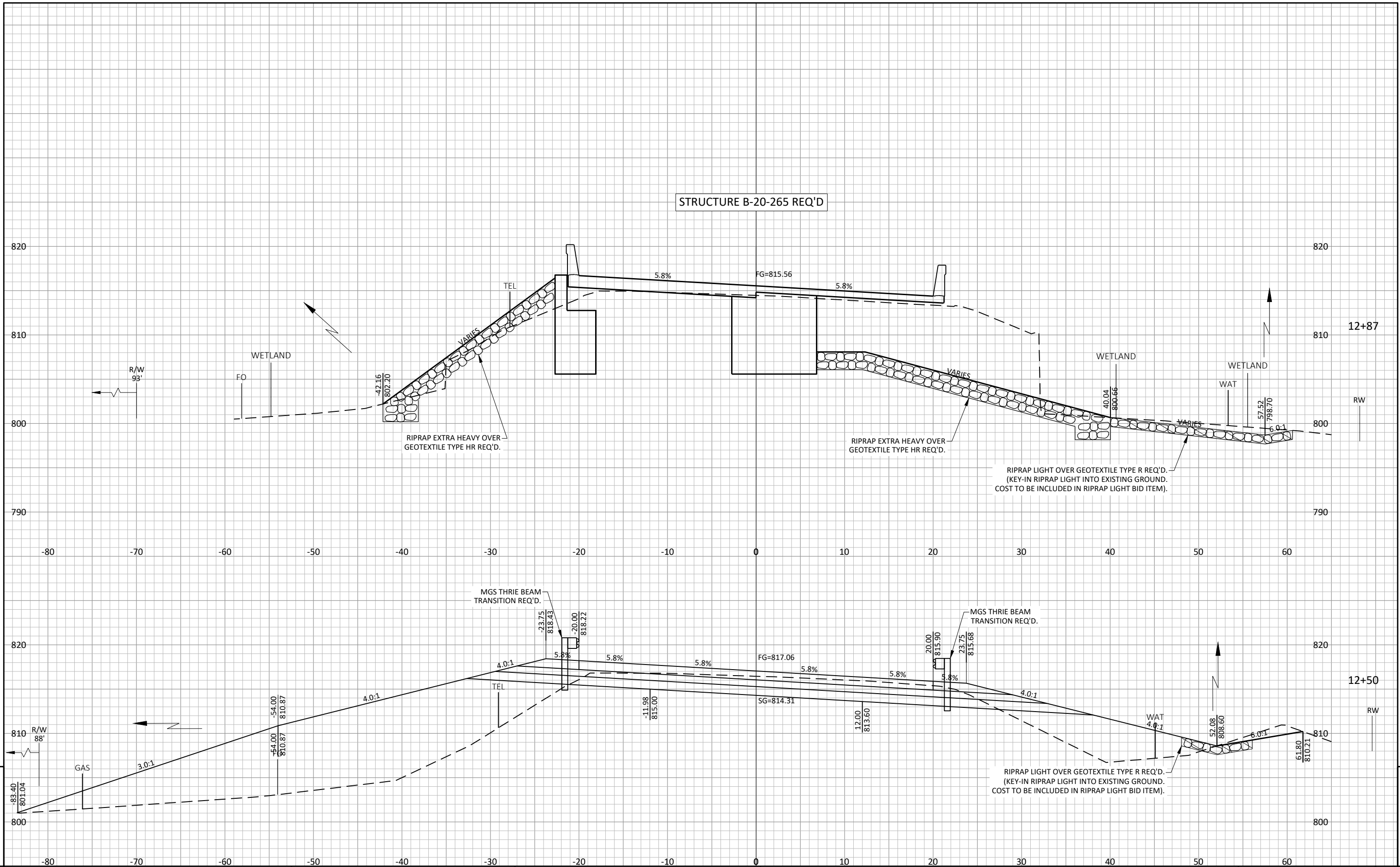
NOTES: 1 - CUT 2 - FILL 3 - FILL 25% 4 - MASS ORDINATE	CUT INCLUDES DALVAGED/UNUSABLE PAVEMENT MATERIAL DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME (UNEXPANDED FILL)*1.25 CUT - FILL (25%)
--	---

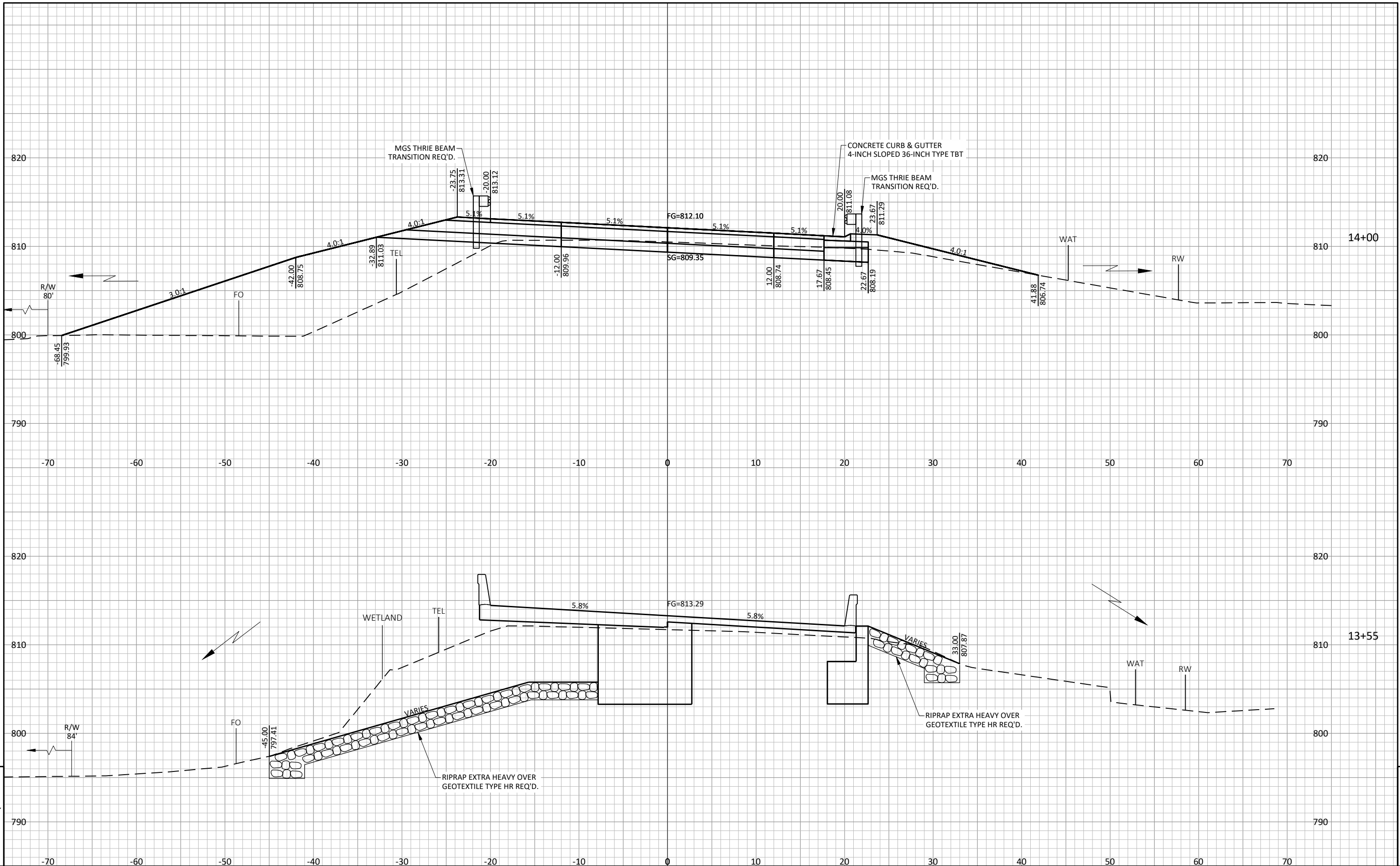


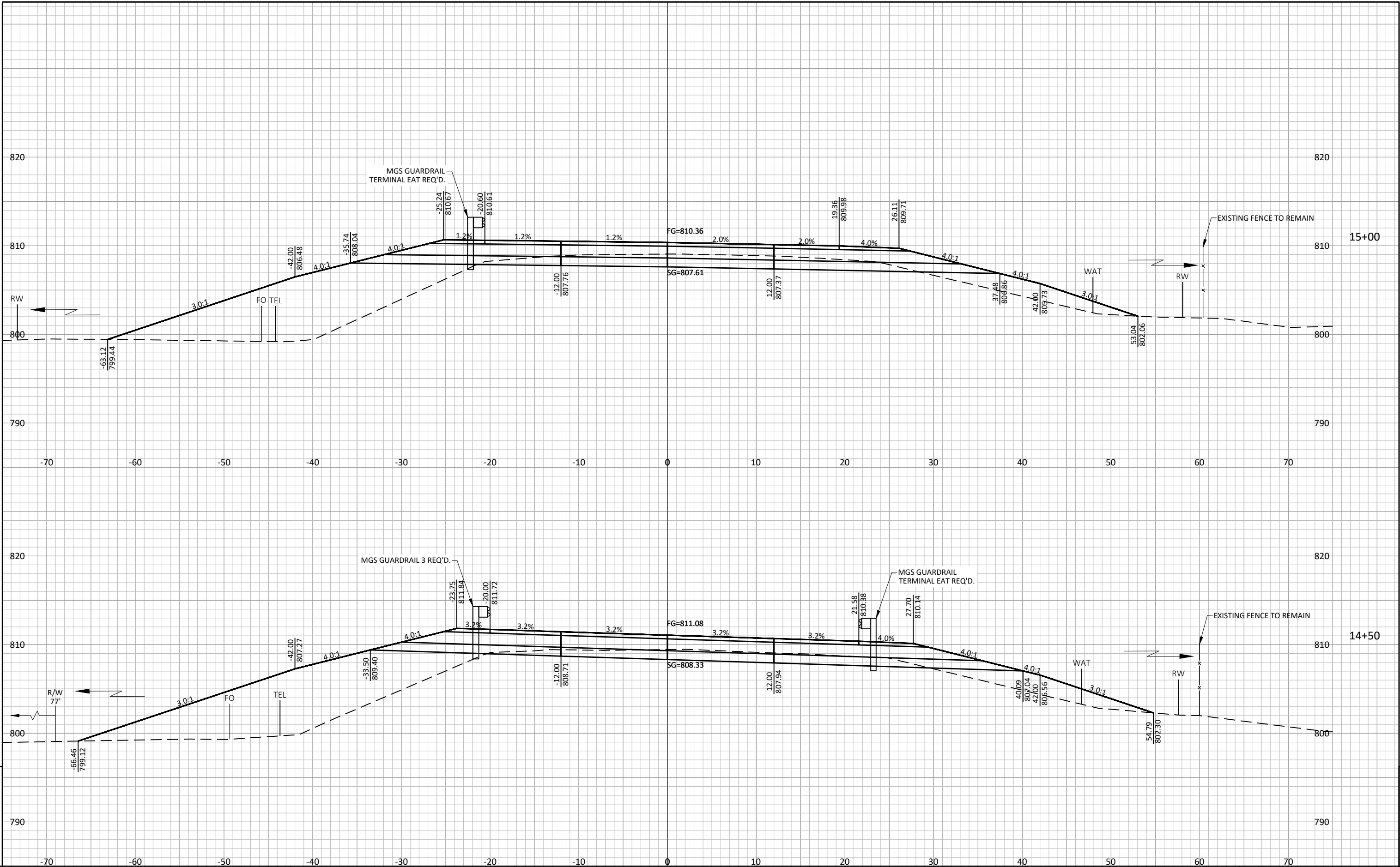


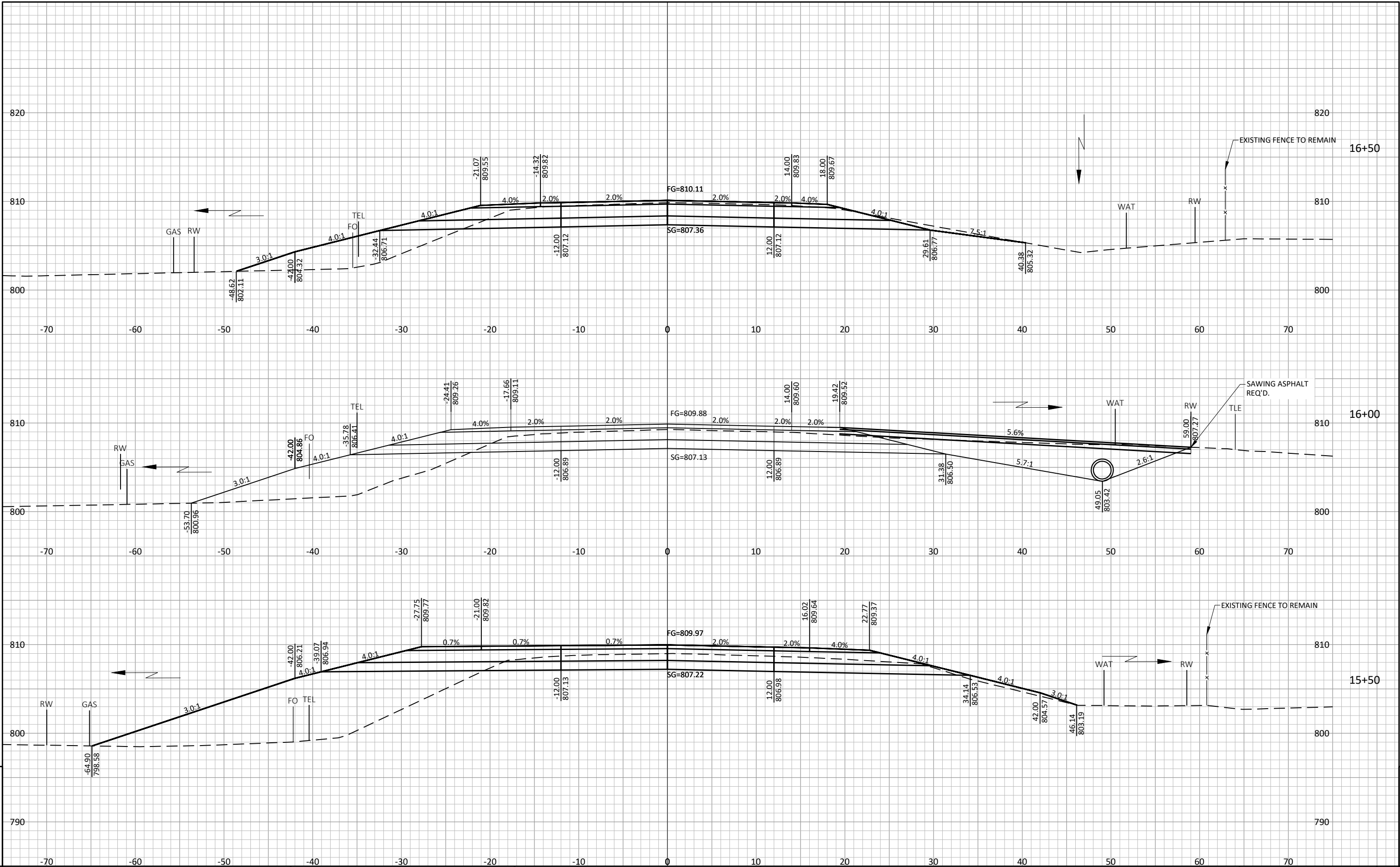


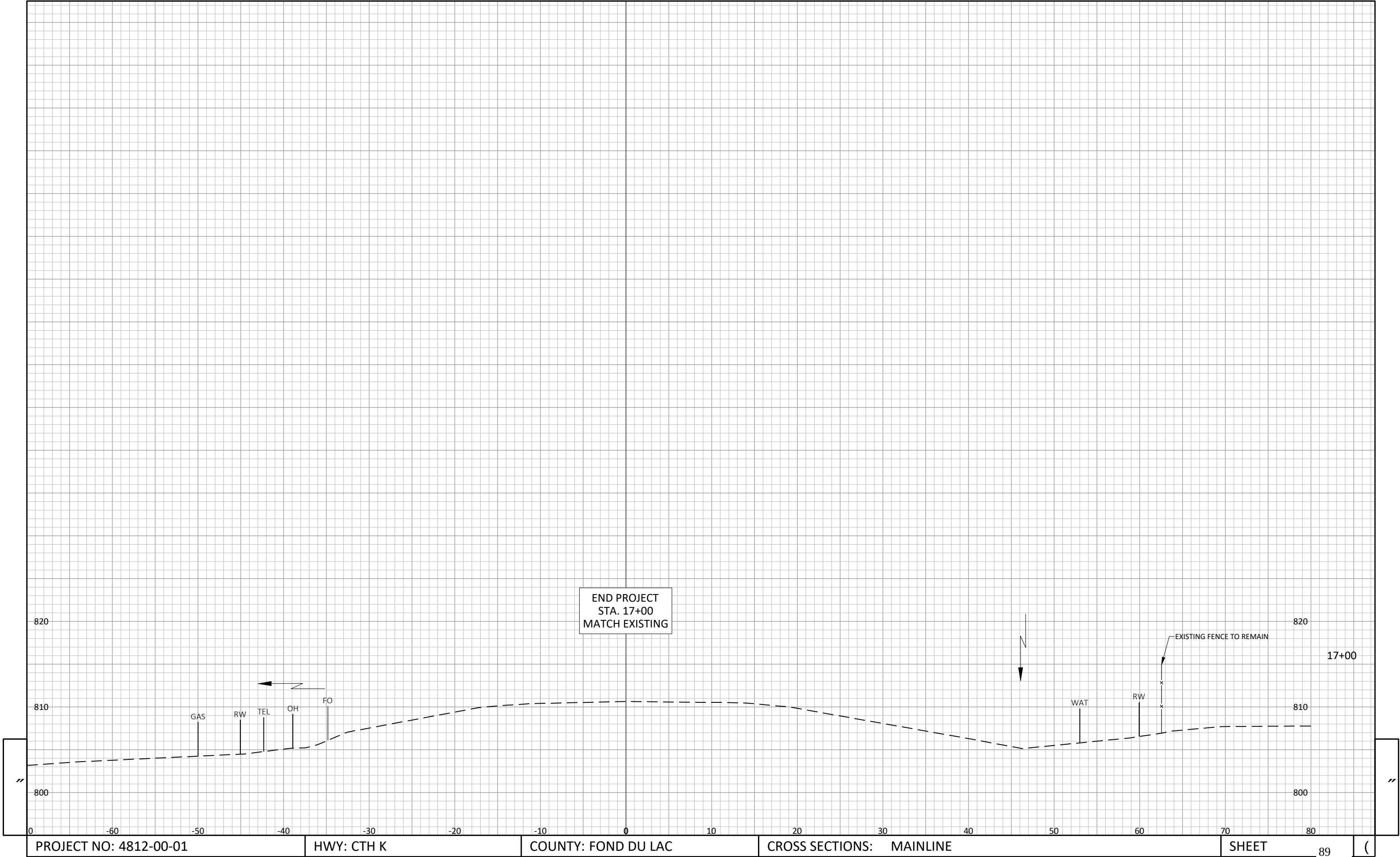


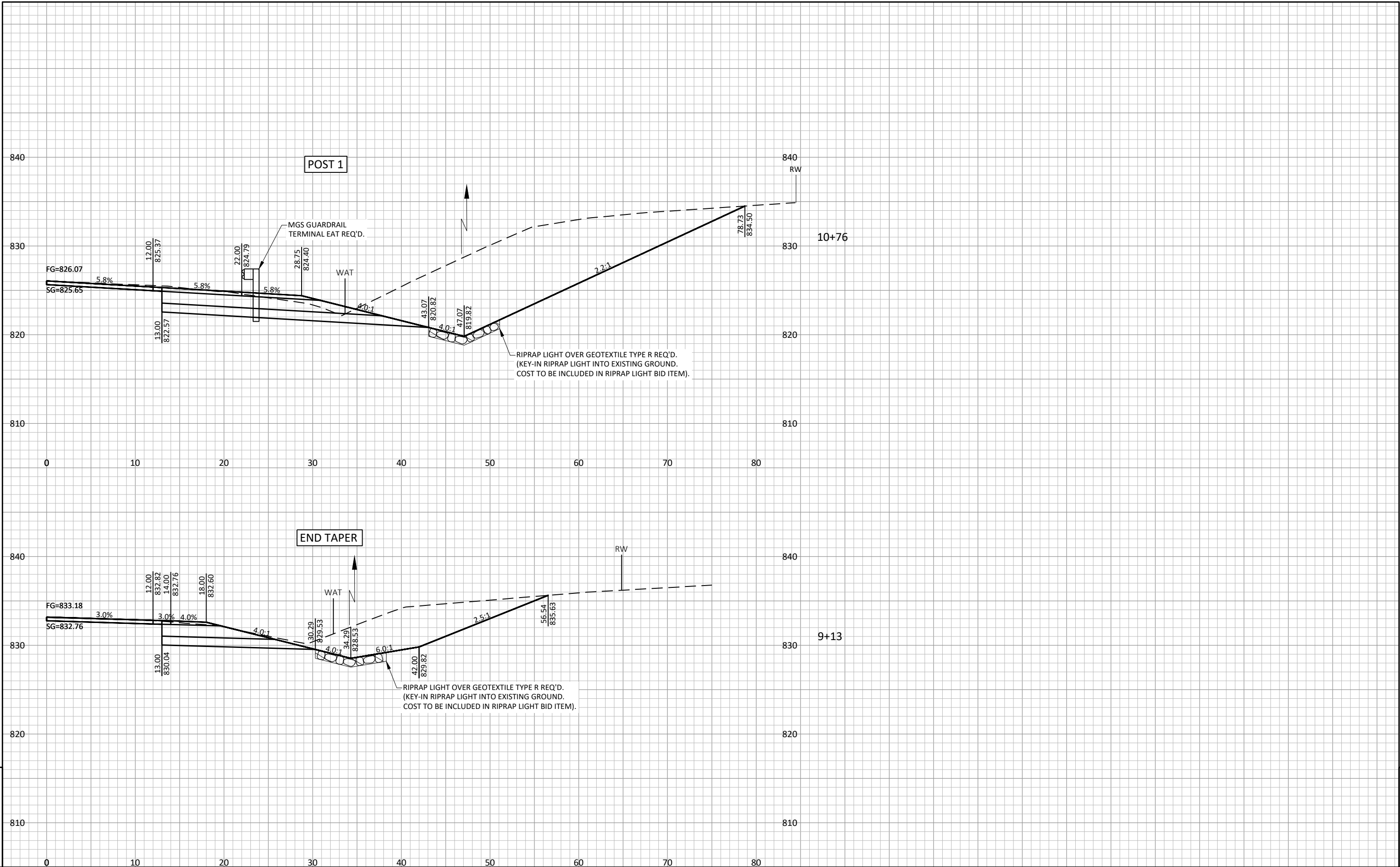


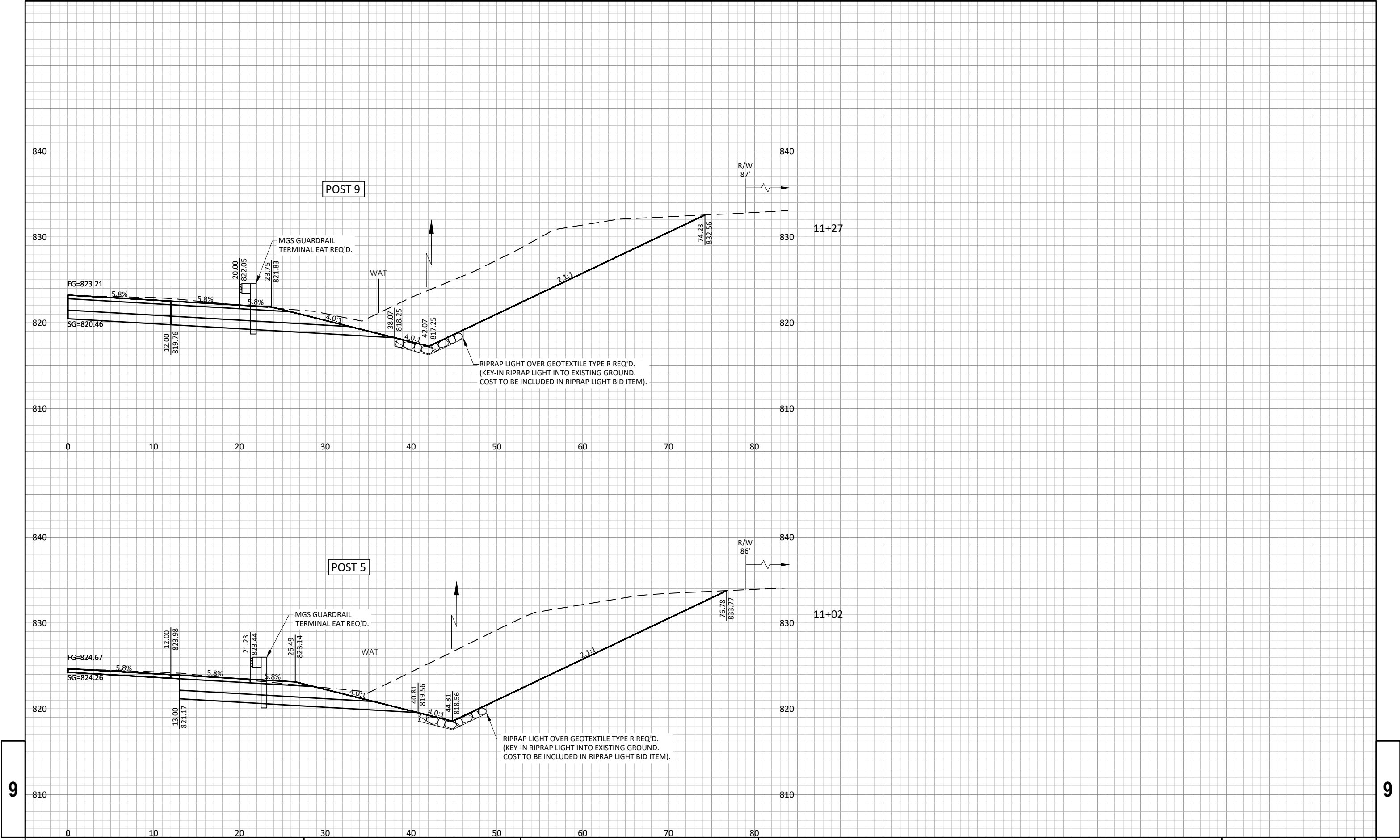


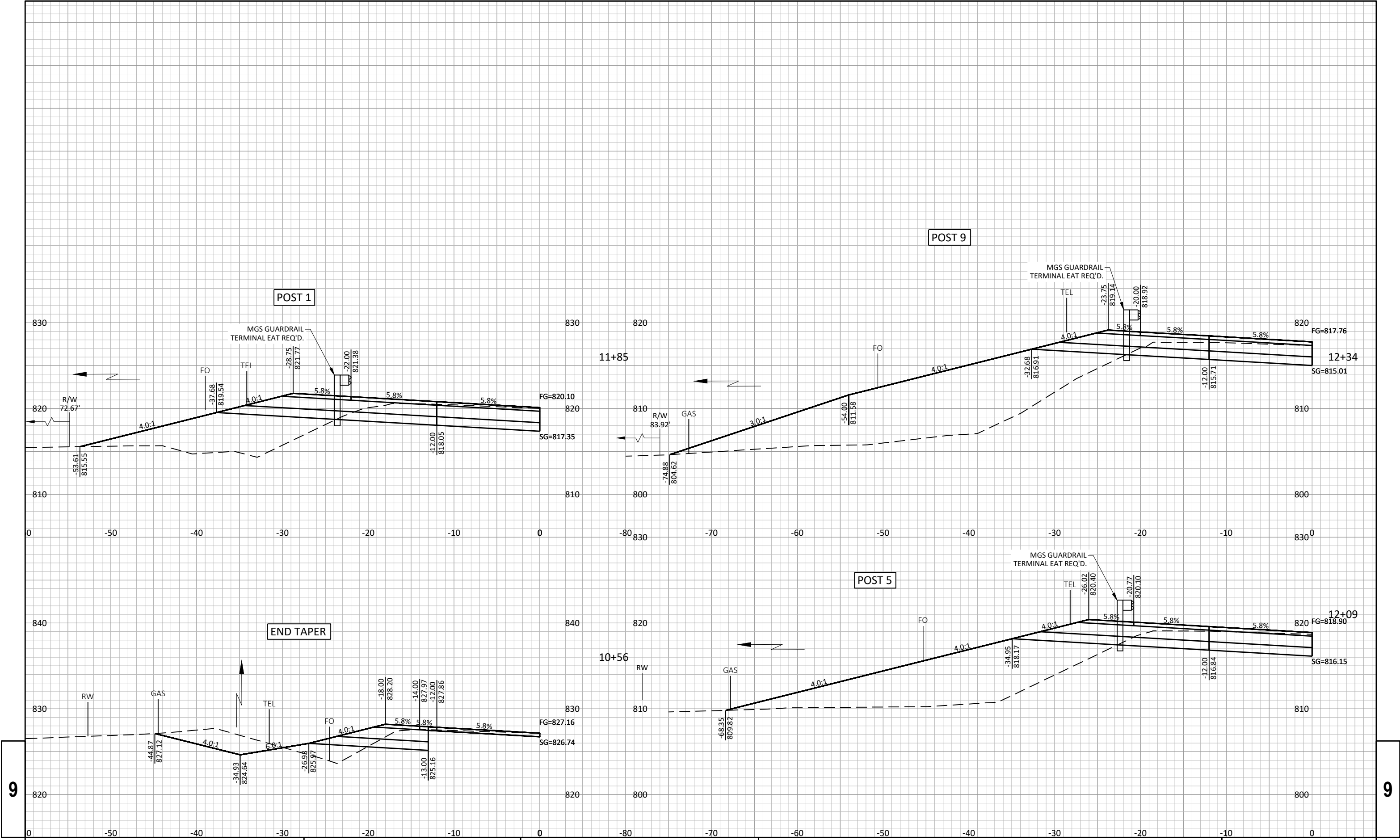












PROJECT NO: 4812-00-01

HWY: CTH K

COUNTY: FOND DU LAC

CROSS SECTIONS: MAINLINE (MGS GUARDRAIL)

SHEET

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E

FILE NAME: S:\PROJECTS\W11684 WISDOT - CTH K BRIDGE, FOND DU LAC, CO\DESIGN\CORRIDORS\W11684_CORRIDOR.DWG

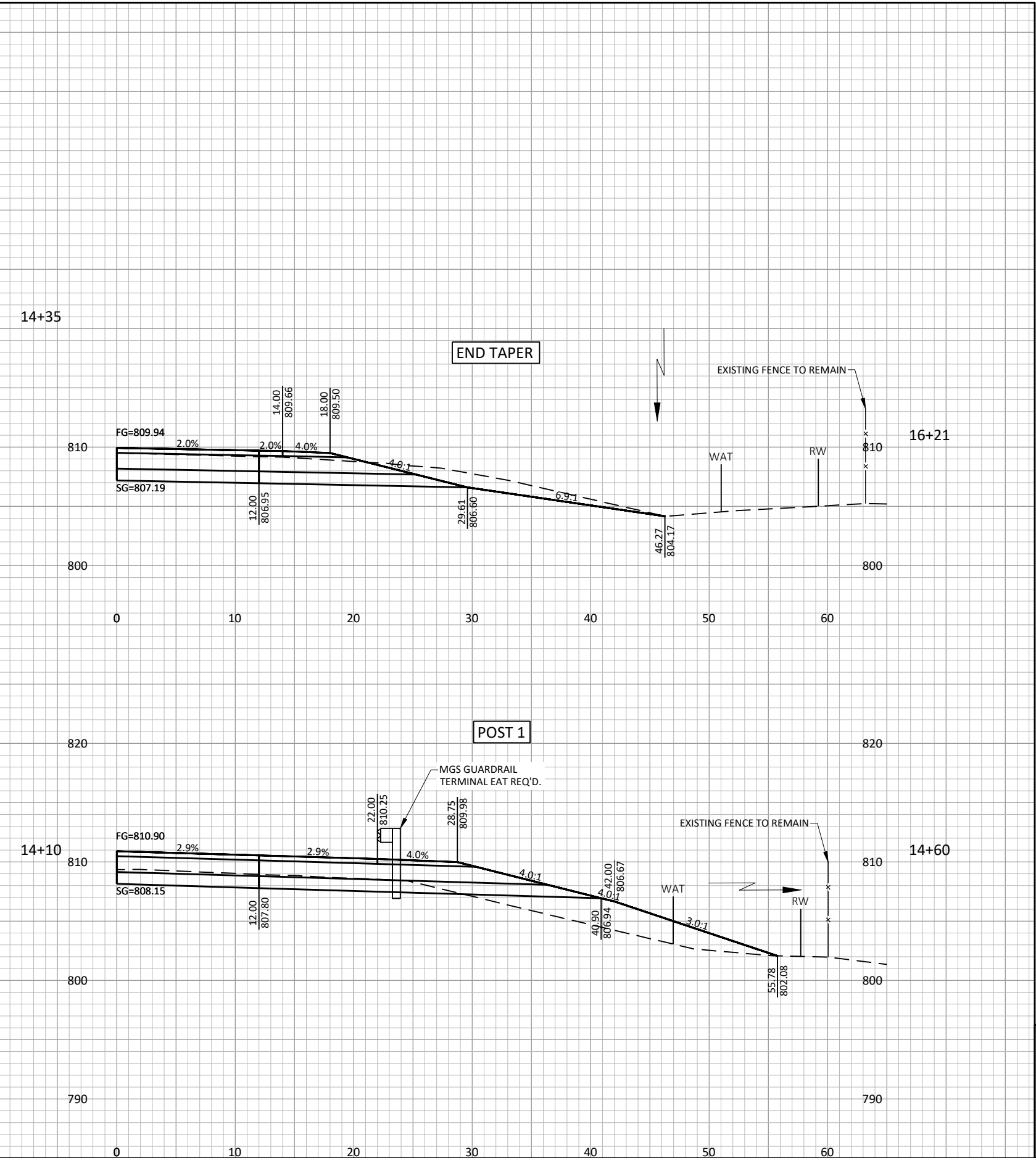
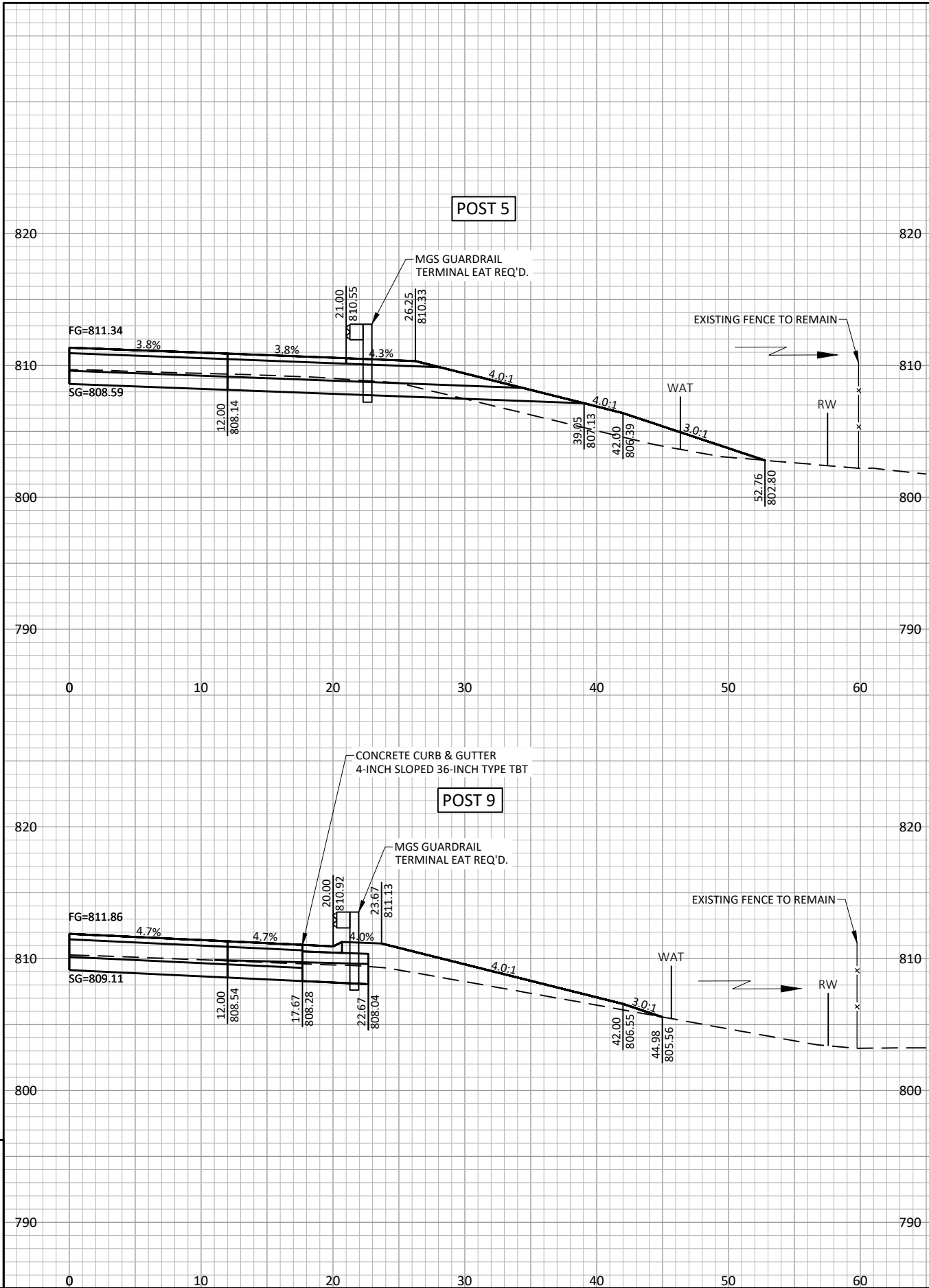
PLOT DATE: 6/5/2025 4:18:02 PM

PLOT BY: KATHERINE ALDER

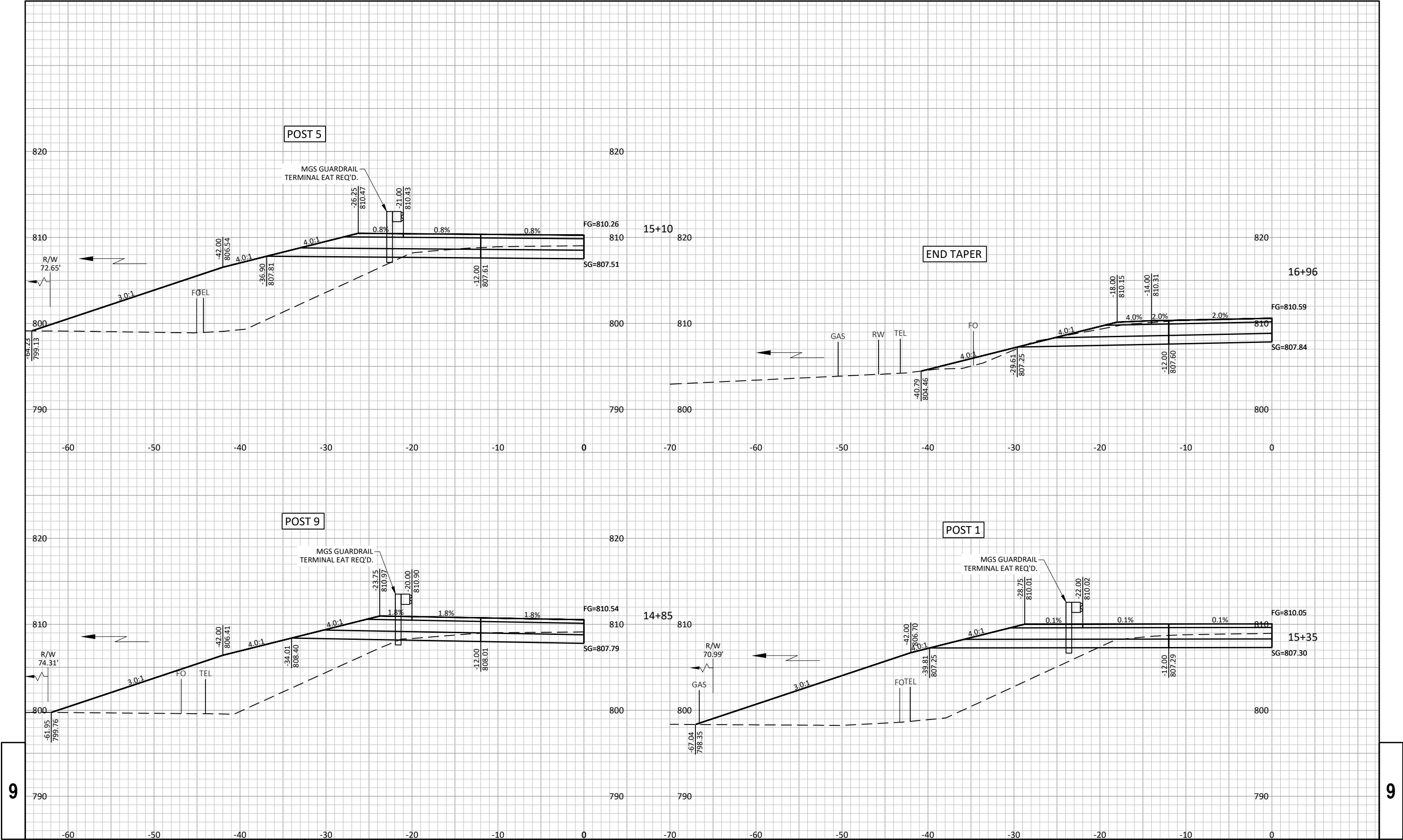
PLOT SCALE: 1" = 1'

LAYOUT: BG - SW QUAD

9



9



9

9

STA. 15+88, RT.
CONSTRUCT P.E. (ASPHALT)
(1) CULVERT PIPE CLASS III-A 24-INCH
(2) APRON ENDWALLS REQ'D.



PROJECT NO: 4812-00-01

HWY: CTH K

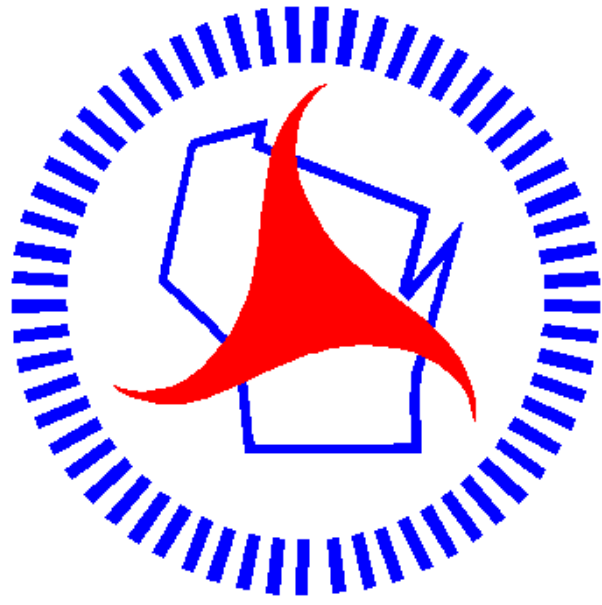
COUNTY: FOND DU LAC

CROSS SECTIONS: DRIVEWAY

SHEET

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E



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