GRE Jan 11, 2022

PROJECT ID: 4854-04-71

WITH: N/A

COUNTY: FOND DU LAC

ORDER OF SHEETS

TOTAL SHEETS = 76

21

N

DESIGN DESIGNATION 4854-04-00

A.A.D.T.	2022	=	1,350
A.A.D.T.	2042	=	1,750
D.H.V.		=	350 (2042)
D.D.		=	60/40
T.		=	6.4
DESIGN SPEED		=	55 MPH
ESALS		=	220,000

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T FOREST, CTH G

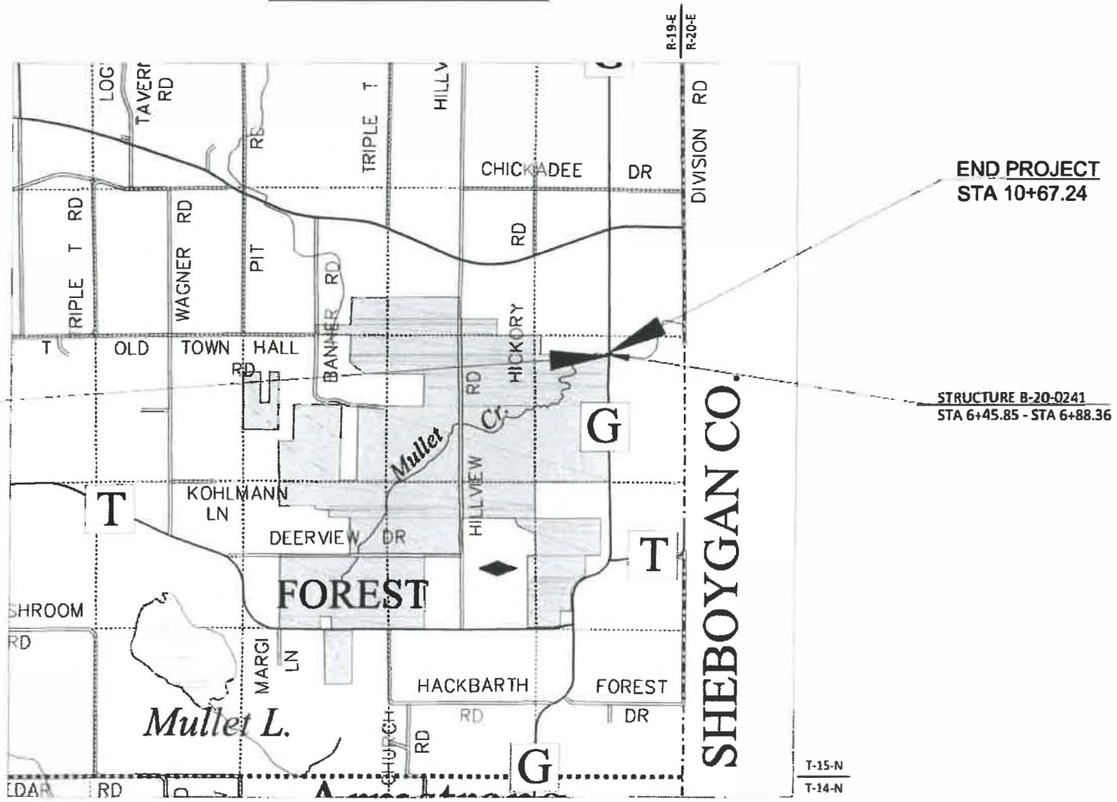
MULLET CREEK BRIDGE

CTH G

FOND DU LAC COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4854-04-71	WISC 2022123	1

STATE PROJECT NUMBER
4854-04-71



BEGIN PROJECT
STA 4+65.35
Y = 379,004.502
X = 889,964.855

END PROJECT
STA 10+67.24

STRUCTURE B-20-0241
STA 6+45.85 - STA 6+88.36

LAYOUT
SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.114 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), OUTAGAMIE COUNTY, NAD83 (2011), IN U S SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012) GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

ACCEPTED FOR
FOND DU LAC COUNTY

Date 7/12/21 (Signature and Title of Official) HIGHWAY COMMISSIONER

ORIGINAL PREPARED BY

WISCONSIN PROFESSIONAL ENGINEER
MURRAY R. GLEN
36246-006
GREEN BAY, WI

DATE: 7/12/21

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	JT ENGINEERING, INC
Designer	JT ENGINEERING, INC
Project Manager	JODI JAROSINSKI, PE
Regional Examiner	
Regional Supervisor	BRIAN EDWARDS, PE

APPROVED FOR THE DEPARTMENT

DATE: 7/14/21 (Signature)

E

FILE NAME : X:\PROJECTS\FOND DU LAC\4854-04-00 CTH G\DESIGN\C3D\SHEETSPLAN\010101_TI.DWG PLOT DATE : 12/8/2020 3:17 PM PLOT BY KEVIN LOHFF PLOT NAME -

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 1.69 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.25 ACRES

GENERAL NOTES

THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGER'S HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA.

ANY LOCAL OF MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

NO TREES OR SHRUBS SHALL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER

WHEN THE QUANTITY OF BASE AGGREGATE IS MEASURED BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

WISCONSIN DNR LIAISON

MR. JAY SCHIEFELBEIN
NORTHEAST REGION
2984 SHAWANO AVE
GREEN BAY, WI 54313
PHONE: 920-360-3784
E-MAIL: JEREMIAH.SCHIEFELBEIN@WISCONSIN.GOV

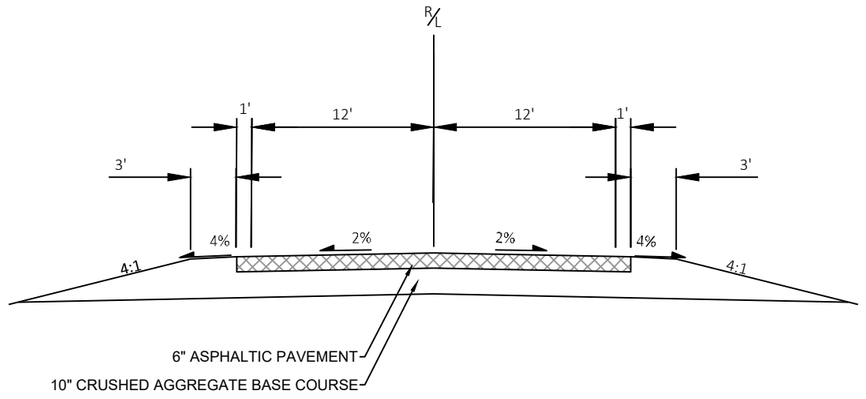
UTILITY CONTACTS

ALLIANT ENERGY
ELECTRICITY
MR. MIKE BROLIN
4902 N. BILTMORE LANE
MADISON, WI 53713-2148
TEL: (608) 458-4871
EMAIL: MICHAELBROLIN@ALLIANTENERGY.COM

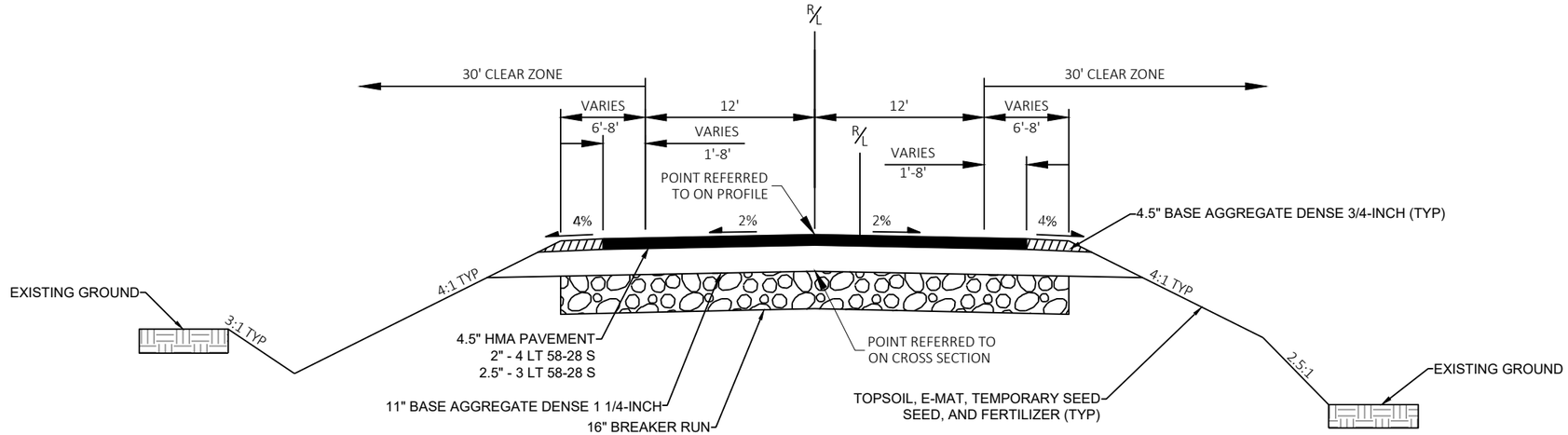
FRONTIER COMMUNICATIONS OF WI LLC
COMMUNICATION LINE
MARK SHANNON
PO BOX 368
MOUNTAIN LAKE, MN 56159
TEL: (507) 327-3679
EMAIL: MARK.SHANNON@FTR.COM

DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

2



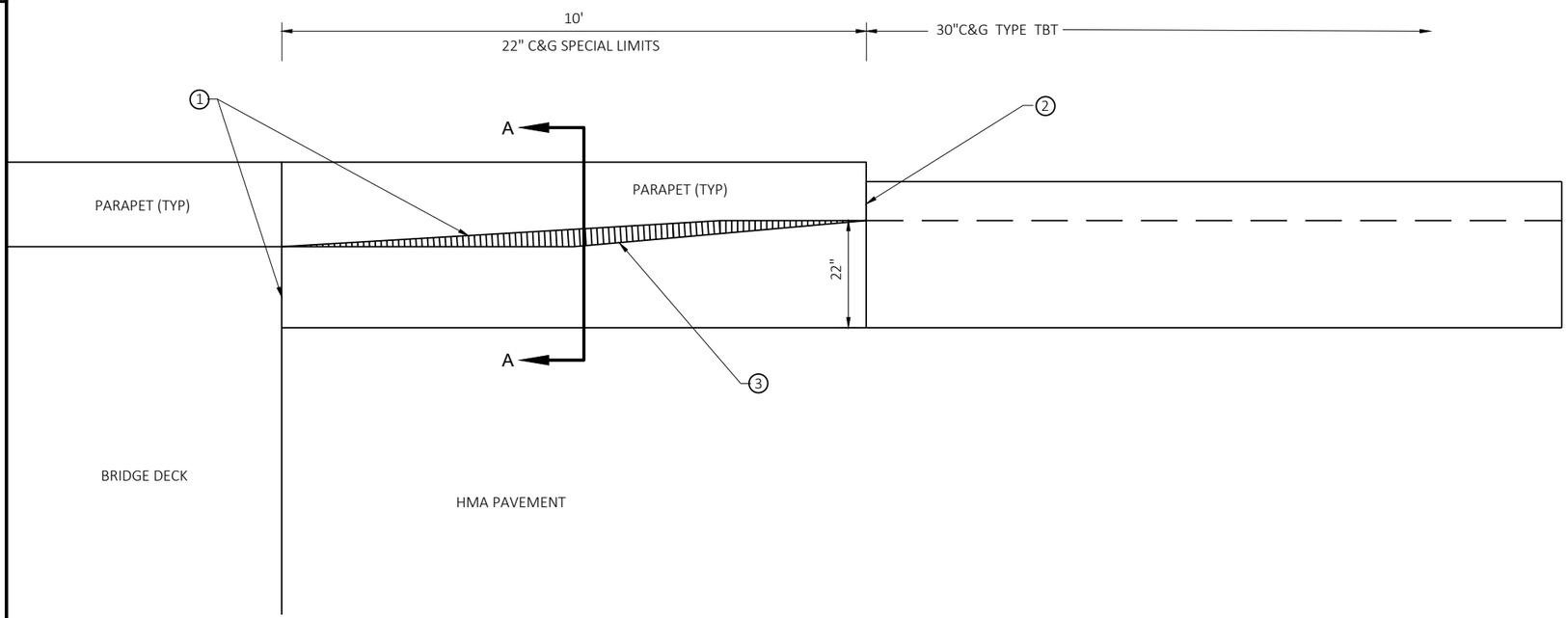
TYPICAL EXISTING SECTION - CTH G
STA 4+65.35 - STA 10+67.24

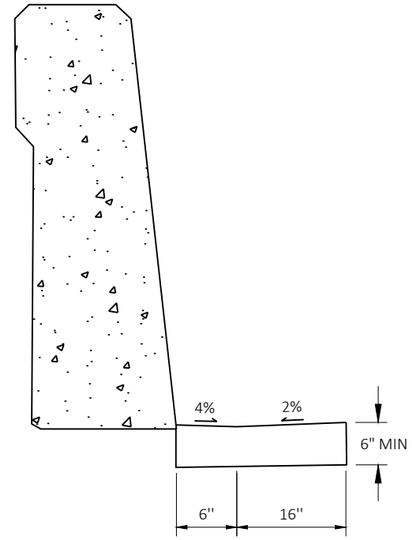


FINISHED TYPICAL SECTION - CTH G
STA 4+65.35 - STA 10+67.24

PROJECT NO: 4854-04-71	HWY: CTH G	COUNTY: FOND DU LAC	TYPICAL SECTIONS	SHEET 3	E

FILE NAME : X:\PROJECTS\FOND DU LAC\4854-04-00 CTH G\DESIGN\C3D\SHEETSPLAN\020301_TS.DWG
LAYOUT NAME - TYP
PLOT DATE : 10/26/2021 10:47 AM PLOT BY : ERIC ADAMSKI PLOT NAME : PLOT SCALE : 1 IN:10 FT





SECTION A-A

1. JOINT SEAL CONFORMING TO STANDARD SPECIFICATION 415.2.6 -INCIDENTAL TO 22" C&G SPECIAL
2. JOINT SEAL ACCORDING TO SDD-8D2
3. SEE STRUCTURE PLAN FOR TIE BAR CONNECTION INTO WING WALL

22-INCH CURB & GUTTER SPECIAL

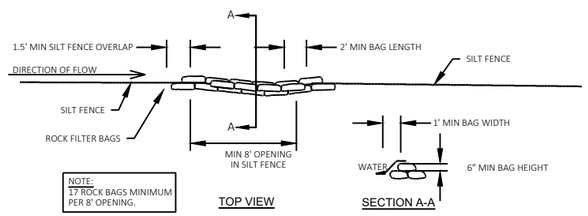
2

LEGEND

- EROSION MAT URBAN CLASS I, TYPE A
- SILT FENCE
- RIP RAP
- TURBIDITY BARRIER
- CULVERT PIPE DITCH CHECK

N

EXISTING R/W
SI
STRUCTURE B-20-241
MULLET CREEK
ROCK BAG SILT FENCE RELIEF
TLE
EXISTING R/W
SI
PI STA 9+75.00
3+00
CTH G
4+00
5+00
6+00
7+00
8+00
9+00
CTH G
10+00
BEGIN CONSTRUCTION
STA 3+06.50
SI
ROCK BAG SILT FENCE RELIEF
EXISTING R/W
SI
FEE
END PROJECT
STA 10+67.24



ROCK BAGS USED FOR SILT FENCE RELIEF

PROJECT NO: 4854-04-71	HWY: CTH G	COUNTY: FOND DU LAC	EROSION CONTROL PLAN	SHEET 5	E

FILE NAME : X:\PROJECTS\FOND DU LAC\4854-04-00 CTH G\DESIGN\C3D\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - TYP
PLOT DATE : 5/12/2021 2:26 PM
PLOT BY : BOB WILSON
PLOT NAME :
PLOT SCALE : 1 IN : 50 FT

4854-04-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0100	Removing Small Pipe Culverts	EACH	2.000	2.000
0008	203.0250	Removing Structure Over Waterway Remove Debris (structure) 01. 6+67.11	EACH	1.000	1.000
0010	204.0165	Removing Guardrail	LF	300.000	300.000
0012	205.0100	Excavation Common	CY	1,322.000	1,322.000
0014	206.1000	Excavation for Structures Bridges (structure) 01. B-20-0241	LS	1.000	1.000
0016	208.0100	Borrow	CY	852.000	852.000
0018	210.1500	Backfill Structure Type A	TON	210.000	210.000
0020	213.0100	Finishing Roadway (project) 01. 4854-04-71	EACH	1.000	1.000
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	150.000	150.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	2,020.000	2,020.000
0026	311.0110	Breaker Run	TON	2,310.000	2,310.000
0028	416.1010	Concrete Surface Drains	CY	5.000	5.000
0030	455.0605	Tack Coat	GAL	110.000	110.000
0032	460.2000	Incentive Density HMA Pavement	DOL	340.000	340.000
0034	460.5223	HMA Pavement 3 LT 58-28 S	TON	300.000	300.000
0036	460.5224	HMA Pavement 4 LT 58-28 S	TON	240.000	240.000
0038	502.0100	Concrete Masonry Bridges	CY	203.000	203.000
0040	502.3200	Protective Surface Treatment	SY	165.000	165.000
0042	502.3210	Pigmented Surface Sealer	SY	63.000	63.000
0044	505.0400	Bar Steel Reinforcement HS Structures	LB	4,500.000	4,500.000
0046	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	27,570.000	27,570.000
0048	516.0500	Rubberized Membrane Waterproofing	SY	20.000	20.000
0050	520.1036	Apron Endwalls for Culvert Pipe 36-Inch	EACH	2.000	2.000
0052	520.3336	Culvert Pipe Class III-A 36-Inch	LF	30.000	30.000
0054	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	560.000	560.000
0056	601.0584	Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type TBT	LF	100.000	100.000
0058	606.0200	Riprap Medium	CY	8.000	8.000
0060	606.0300	Riprap Heavy	CY	180.000	180.000
0062	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	200.000	200.000
0064	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0066	614.2300	MGS Guardrail 3	LF	175.000	175.000
0068	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0070	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0072	619.1000	Mobilization	EACH	1.000	1.000
0074	624.0100	Water	MGAL	15.000	15.000
0076	625.0100	Topsoil	SY	3,138.000	3,138.000
0078	628.1504	Silt Fence	LF	1,418.000	1,418.000
0080	628.1520	Silt Fence Maintenance	LF	2,835.000	2,835.000
0082	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0084	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0086	628.2006	Erosion Mat Urban Class I Type A	SY	3,138.000	3,138.000
0088	628.6005	Turbidity Barriers	SY	140.000	140.000
0090	628.7570	Rock Bags	EACH	85.000	85.000
0092	629.0210	Fertilizer Type B	CWT	2.000	2.000
0094	630.0120	Seeding Mixture No. 20	LB	85.000	85.000
0096	630.0200	Seeding Temporary	LB	85.000	85.000
0098	630.0500	Seed Water	MGAL	53.000	53.000

4854-04-71

Line	Item	Item Description	Unit	Total	Qty
0100	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0102	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0104	638.2602	Removing Signs Type II	EACH	4.000	4.000
0106	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0108	642.5001	Field Office Type B	EACH	1.000	1.000
0110	643.0420	Traffic Control Barricades Type III	DAY	670.000	670.000
0112	643.0705	Traffic Control Warning Lights Type A	DAY	1,340.000	1,340.000
0114	643.0900	Traffic Control Signs	DAY	670.000	670.000
0116	643.5000	Traffic Control	EACH	1.000	1.000
0118	645.0111	Geotextile Type DF Schedule A	SY	90.000	90.000
0120	645.0120	Geotextile Type HR	SY	362.000	362.000
0122	646.1020	Marking Line Epoxy 4-Inch	LF	2,182.000	2,182.000
0124	650.4500	Construction Staking Subgrade	LF	718.000	718.000
0126	650.5000	Construction Staking Base	LF	718.000	718.000
0128	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	100.000	100.000
0130	650.6500	Construction Staking Structure Layout (structure) 01. B-20-0241	LS	1.000	1.000
0132	650.9910	Construction Staking Supplemental Control (project) 01. 4854-04-71	LS	1.000	1.000
0134	650.9920	Construction Staking Slope Stakes	LF	718.000	718.000
0136	690.0150	Sawing Asphalt	LF	54.000	54.000
0138	715.0502	Incentive Strength Concrete Structures	DOL	500.000	500.000
0140	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 6+67.11	EACH	1.000	1.000
0142	SPV.0090	Special 01. CONCRETE CURB AND GUTTER 22-INCH, SPECIAL	LF	20.000	20.000

3

CLEARING & GRUBBING

STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
4+00	-	6+00	CTH G, LT	2	2
			TOTALS	2	2

REMOVING SMALL PIPE CULVERTS

STATION	LOCATION	203.0100 EACH	REMARKS
10+00	CTH G, RT	2	18" CMP - 62 LF
	TOTAL	2	

BASE AGGREGATE SUMMARY

CATEGORY	STATION		STATION	LOCATION	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	311.0110 BRAKER RUN TON	624.0100 WATER MGAL
0010	3+06	-	6+45	CTH G	790	70	900	9.00
0010	6+88	-	10+67	CTH G	1,230	80	1,410	6.00
				TOTAL 0010	**2,020**	**150**	**2,310**	**15.00**

HMA SUMMARY

CATEGORY	STATION		STATION	LOCATION	455.0605 TACK COAT GAL	460.5224 HMA PAVEMENT 4 LT 58-28 (upper) TON	460.5223 HMA PAVEMENT 3 LT 58-28 (lower) TON
0010	3+95	-	6+45	CTH G	40	85	105
0010	6+88	-	10+67	CTH G	70	155	195
				TOTAL 0010	**110**	**240**	**300**

EARTHWORK SUMMARY

Division	From/To Station	LOCATION	Common Excavation (item #205.0100) Cut (1)	Unusable Pavement Material (2)	Available Material (3)	Unexpanded Fill	Expanded Fill (4) Factor 1.35	Mass Ordinate +/- (5)	Borrow (item #208.0100)	Comment:
0010	3+06 TO 6+45	CTH G	713	95	618	337	455	163	---	SOUTH APPROACH
0010	6+88 to 10+67	CTH G	609	189	420	1,063	1435	-1,015	852	NORTH APPROACH
Totals			1,322	284	1,038	1,400	1,890	-852	852	

1) Unusable Pavement is included in Cut

2) Unusable Pavement Material = Existing Asphaltic Pavement

3) Available Material = Cut - Unusable Pavement Material

4) Expanded Fill Factor = 1.35 Expanded Fill = Unexpanded Fill * Fill Factor

5) 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.

3

CULVERT PIPES

STATION	LOCATION	520.1036 APRON ENDWALS FOR CULVERT PIPE 36-INCH EACH	520.3336 CULVERT PIPE CLASS III-A 36-INCH LF	REMARKS
10+00	CTH G	2	30	DRIVEWAY OPENING @ 50.6' RT
	TOTALS	2	30	

GUARDRAIL SUMMARY

CATEGORY	STATION		STATION		LOCATION	204.0165 REMOVING GUARDRAIL LF	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EA
0010	5+33	-	6+38	LT	CTH G	75.0	12.5	39.4	1
0010	4+70	-	6+38	RT	CTH G	75.0	75.0	39.4	1
0010	6+95	-	8+63	LT	CTH G	75.0	75.0	39.4	1
0010	6+95		8+00	RT	CTH G	75.0	12.5	39.4	1
					TOTAL	**300.0**	**175.0**	**157.6**	**4**

RIPRAP & GEOTEXTILE FABRIC

STATION	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE FABRIC TYPE HR * SY
STA 5+93, LT	3	11
STA 5+93, RT	5	16
TOTALS	8	27

* = ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ANCILLARY CONCRETE

STATION	TO	STATION	LOCATION	416.1010 CONCRETE SURFACE DRAINS CY	SPV.0090.01 22-INCH CURB AND GUTTER LF	601.0584 4-INCH SLOPED 30-INCH TYPE TBT LF	REMARKS
5+87	-	6+36	USH 45, LT	3	10	50	SDD 8D02 & CONSTRUCTION DETAIL
5+87	-	6+36	USH 45, RT	2	10	50	SDD 8D02 & CONSTRUCTION DETAIL
			TOTALS	5	20	100	

EROSION CONTROL SUMMARY

CATEGORY	STATION		STATION		LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATION EROSION CONTROL EACH	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL EACH	628.6005 TURBIDITY BARRIERS SY	628.7570 ROCK BAGS EACH
0010	3+06	-	6+46	LT	CTH G	275	550	5	3	---	---
0010	3+06	-	6+46	RT	CTH G	243	486	---	---	---	---
0010	6+46	-	6+67		CTH G	---	---	---	---	72	34
0010	6+67	-	6+88		CTH G	---	---	---	---	68	34
0010	6+88	-	10+67	LT	CTH G	393	786	---	---	---	---
0010	6+88	-	10+67	RT	CTH G	223	446	---	---	---	---
0010	UNDISTRIBUTED				CTH G	284	567	---	---	---	17
					TOTAL 0010	**1,418**	**2,835**	**5**	**3**	**140**	**85**

LANDSCAPING SUMMARY

CATEGORY	STATION		STATION		LOCATION	625.0100 TOPSOIL SY	628.2006 EROSION MAT URBAN CLASS I, TYPE A SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
0010	3+06	-	6+46	LT	CTH G	473	473	0.30	13	13	8
0010	3+06	-	6+46	RT	CTH G	405	405	0.26	11	11	7
0010	6+88	-	10+67	LT	CTH G	833	833	0.53	23	23	14
0010	6+88	-	10+67	RT	CTH G	799	799	0.50	22	22	13
0010	UNDISTRIBUTED				CTH G	628	628	0.42	17	17	11
					TOTAL	3,138	3,138	2.00	85	85	53

PERMANENT SIGNING, TYPE II

CATEGORY	STATION	LOCATION	SIGN CODE	SIZE		634.0614 POSTS WOOD 4X6 INCH X 14-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
0010	6+36	LT	W5-52L	12X36	BRIDGE HAZARD MARKER	1	3	1	1
0010	6+36	RT	W5-52R	12X36	BRIDGE HAZARD MARKER	1	3	1	1
0010	6+96	LT	W5-52L	12X36	BRIDGE HAZARD MARKER	1	3	1	1
0010	6+96	RT	W5-52R	12X36	BRIDGE HAZARD MARKER	1	3	1	1
					TOTAL 0010	4	12	4	4

TRAFFIC CONTROL SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	APPROXIMATE SERVICE DAYS	643.5000 TRAFFIC CONTROL PROJECT EA	643.0420 BARRICADES TYPE III NO. IN SERVICE	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A NO. IN SERVICE	643.0705 WARNING LIGHTS TYPE A DAYS	643.0900 SIGNS NO. IN SERVICE	643.0900 SIGNS DAYS
0010	3+06	-	10+67	CTH G	67	1	10	670	20	1,340	10	670
				TOTAL 0010		1		670		1,340		670

3

PAVEMENT MARKING SUMMARY

CATEGORY	STATION		STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH LF	Comments
0010	3+06	-	10+67	CTH G	660.00	CENTERLINE
0010	3+06	-	10+67	CTH G	1522.00	EDGELINES
				TOTAL	2,182.0	

SAWING SUMMARY

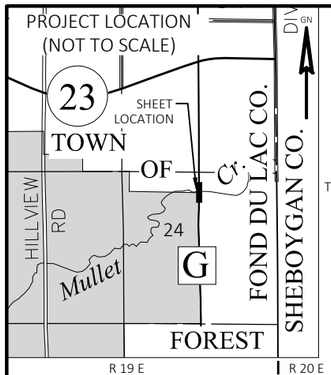
CATEGORY	STATION	LOCATION	690.0150 SAWING ASPHALT LF
0010	4+65	CTH G	27
0010	10+67	CTH G	27
		TOTAL 0010	54

CONSTRUCTION STAKING SUMMARY

CATEGORY	STATION		STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.5500 CURB CUTTER AND CURB & GUTTER LF	650.6500.01 STAKING STRUCTURE B-44-474 LS	650.9910 SUPPLEMENTAL CONTROL LS	650.9920 SLOPE STAKES LF
0010	3+06	-	10+67	CTH G	718	718	100	---	1	718
0010	6+45.85	-	6+88.36	CTH G	---	---	---	1	---	---
				TOTAL 0010	718	718	100	1	1	718

3

PROJECT NO: 4854-04-71	HWY: CTH G	COUNTY: FOND DU LAC	MISCELLANEOUS QUANTITIES	SHEET 11	E



NET CENTERLINE = 0.114 MILES

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
4854-04-00	4.01	1
FEDERAL PROJECT NUMBER ----------		

PLAT OF RIGHT-OF-WAY REQUIRED FOR

T FOREST, CTH G
MULLET CREEK BRIDGE

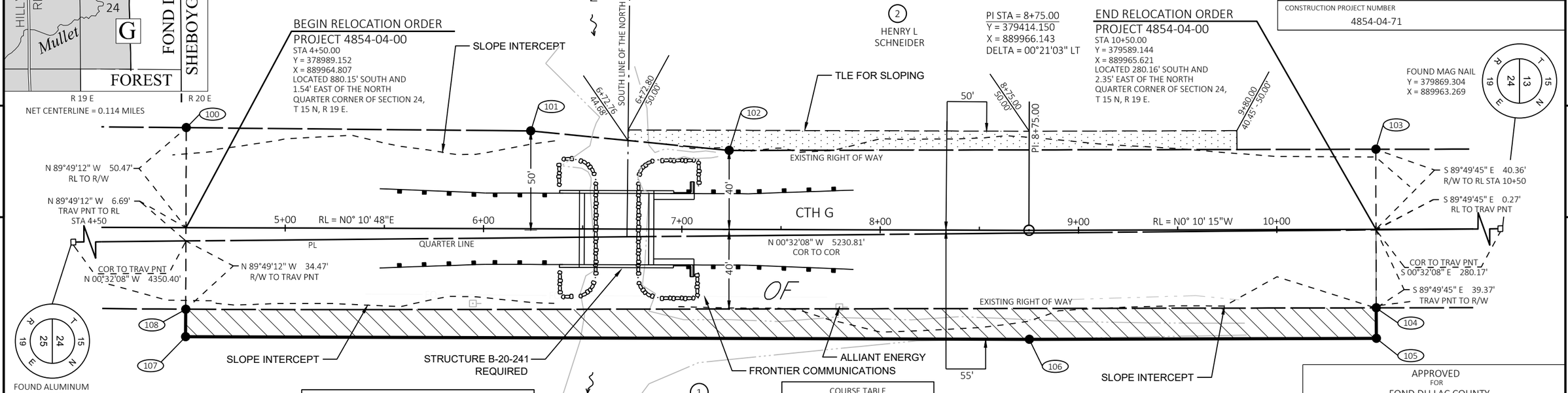
CTH G — FOND DU LAC COUNTY

CONSTRUCTION PROJECT NUMBER
4854-04-71

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	FEE R/W ACRES, REQUIRED			TLE ACRES
			NEW	EXISTING	TOTAL	
1	JOHN A & LOIS A QUACKENBOSS	FEE	0.204	0.511	0.715	---
2	HENRY L SCHNEIDER	TLE	---	---	---	0.066

NOTE: OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO FOND DU LAC COUNTY



STATION & OFFSET TABLE

POINT	STATION	OFFSET	Y COORDS	X COORDS
100	4+50.00	50.47'	378989.310	889914.341
101	6+23.65	49.35'	379162.958	889916.000
102	7+23.70	39.84'	379262.975	889925.826
103	10+50.00	40.36'	379589.028	889925.257
104	10+50.00	39.64'	379589.267	890005.257
105	10+50.00	55.00'	379589.313	890020.621
106*	8+75.00	55.00'	379414.314	890021.142
107	4+50.00	55.00'	378988.979	890019.807
108	4+50.00	41.16'	378989.022	890005.963

*STATIONED FROM AHEAD TANGENT

COURSE TABLE

COURSE	BEARING	DISTANCE
TRAV-RL	N89°49'12"W	6.69'
RL-100	N89°49'12"W	50.47'
100-101	N00°32'51"E	173.66'
101-102	N05°36'38"E	100.50'
102-103	N00°06'00"W	326.05'
103-RL	N89°49'45"E	40.36'
RL-TRAV	N89°49'45"E	0.27'
TRAV-104	N89°49'45"E	39.37'
104-105	N89°49'45"E	15.36'
105-106	S00°10'15"E	175.00'
106-107	S00°10'48"W	425.34'
107-108	N89°49'12"W	13.84'
108-TRAV	N89°49'12"W	34.47'

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN (1" UNLESS NOTED) — I.P.
R/W MONUMENT — (SET)
R/W STANDARD — (SET)
SIGN — SIGN
SECTION CORNER MONUMENT
SECTION CORNER SYMBOL
FEE (HATCH VARIES)
TEMPORARY LIMITED EASEMENT
PERMANENT LIMITED EASEMENT
R/W BOUNDARY POINT
PARCEL NUMBER
UTILITY PARCEL NUMBER
SIGN NUMBER (OFF PREMISE)
BUILDING
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W LINE
PROPERTY LINE
LOT & TIE
CORPORATE LIMITS
TEMPORARY LIMITED EASEMENT
FENCE
SLOPE INTERCEPTS
PERMANENT LIMITED EASEMENT
NO ACCESS (BY STATUTORY AUTHORITY)
NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)
ACCESS CONTROL BY ACQUISITION
ACCESS RESTRICTED (BY PREVIOUS PROJECT/CONTROL)

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	BUILDING	B
		REFERENCE LINE	R/L
ACCESS RIGHTS	AR	RELEASE OF RIGHTS	ROR
ACRES	AC.	REMAINING	REM.
AND OTHERS	ET.AL.	RIGHT-OF-WAY	R/W
CENTERLINE	C/L	SECTION	SEC.
CERTIFIED SURVEY MAP	CSM	STATION	STA.
CORNER	COR.	TEMPORARY LIMITED EASEMENT	TLE
DOCUMENT	DOC.	VOLUME	V.
EASEMENT	EASE.	CURVE DATA	
FIELD ENTRANCE	F.E.	LONG CHORD	LCH
LAND CONTRACT	LC	LONG CHORD BEARING	LCB
MONUMENT	MON.	RADIUS	R
PAGE	P.	DEGREE OF CURVE	D
PERMANENT LIMITED EASEMENT	PLE	CENTRAL ANGLE OR DELTA	DELTA
PROPERTY LINE	PL	LENGTH OF CURVE	L
RECORDED AS	(100')	TANGENT	TAN

CONVENTIONAL UTILITY SYMBOLS

	NON COMPENSABLE	COMPENSABLE
WATER	—W—	
GAS	—G—	
TELEPHONE	—T—	
OVERHEAD TRANSMISSION LINES	—OH—	
ELECTRIC	—E—	
CABLE TELEVISION	—TV—	
FIBER OPTIC	—FO—	
SANITARY SEWER	—SAN—	
STORM SEWER	—SS—	
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		
ELECTRIC TOWER		

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, FOND DU LAC ZONE, NAD83 (2011), IN U.S. SURVEY FEET. VALUES 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" CAPPED IRON BARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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

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

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINT OF REFERENCE:
EXISTING HIGHWAY RIGHT-OF-WAY FOR CTH G SHOWN HEREIN IS BASED ON A PREVIOUS ROADWAY JOB NO. 160.

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

GN
0' 25' 50'
SCALE, FEET

REVISION DATE

APPROVED
FOR
FOND DU LAC COUNTY

DATE (SIGNATURE)

JT ENGINEERING, INC
Consultant Services

THE SURVEY IS PREPARED AT THE REQUEST OF FOND DU LAC COUNTY. THE TOPOGRAPHY AND UTILITY SURVEY WAS PERFORMED IN SEPTEMBER 2019. THIS THIS SURVEY IS ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

WISCONSIN
James R. Cappeart
S-3044
Green Bay
Wis.
LAND SURVEYOR

JAMES CAPPEART
REGISTRATION NUMBER S-3044

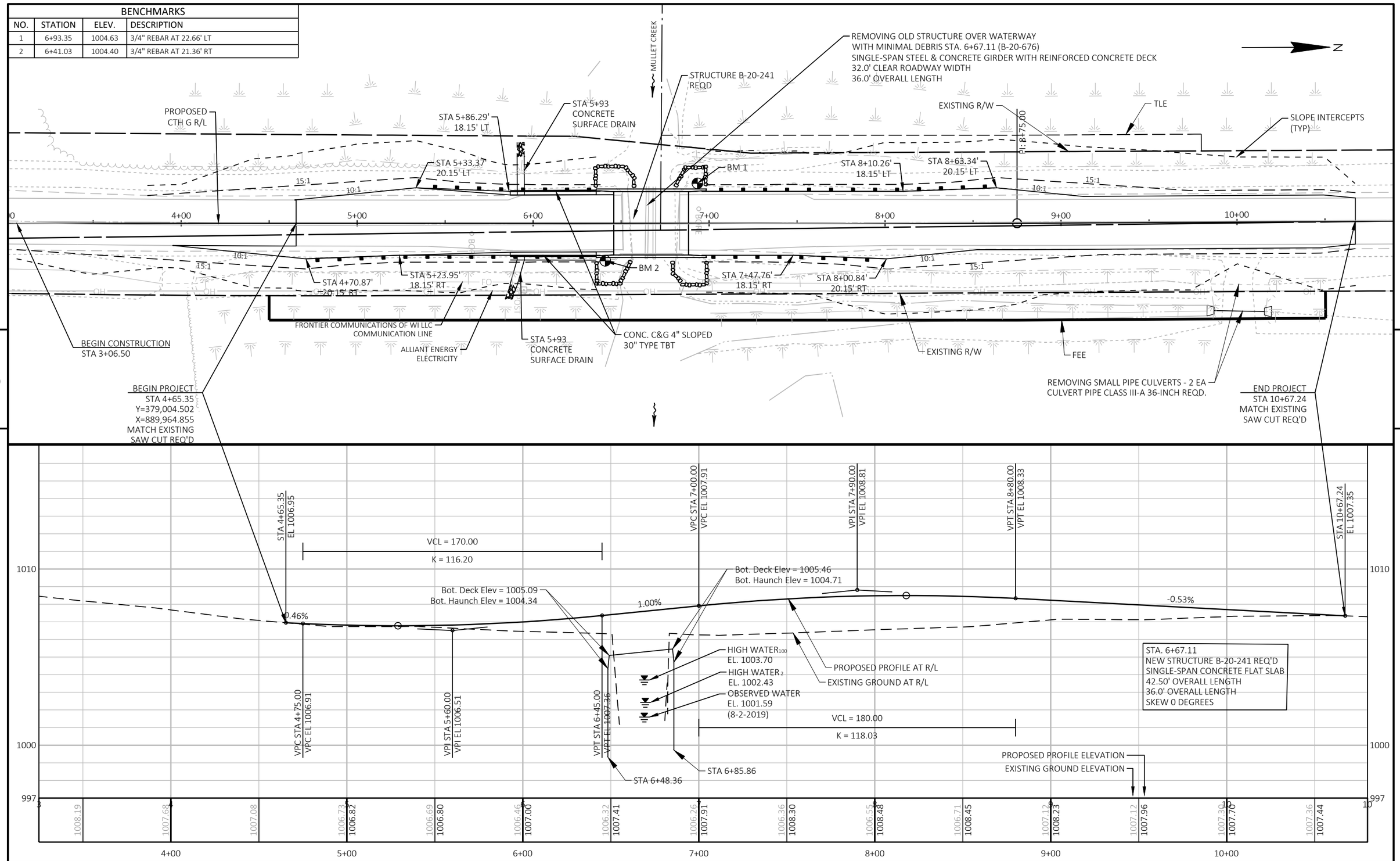
6/8/2020
DATE

FILE NAME : 040102.DWG
LAYOUT NAME - RW 1 IN 50 FT

PLOT DATE : 6/8/2020 9:13 AM
PLOT BY : JAMES CAPPEART
PLOT NAME :
PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 75

BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
1	6+93.35	1004.63	3/4" REBAR AT 22.66' LT
2	6+41.03	1004.40	3/4" REBAR AT 21.36' RT



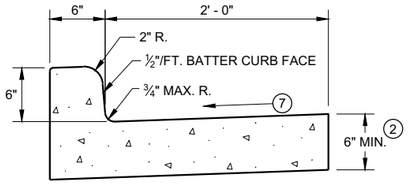
PROJECT NO: 4854-04-71	HWY: CTH G	COUNTY: FOND DU LAC	PLAN AND PROFILE: CTH G	SHEET 13	E

FILE NAME : X:\PROJECTS\FOND DU LAC\4854-04-00 CTH G\DESIGN\C3D\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - Sheet - (3)
PLOT DATE : 5/12/2021 2:30 PM
PLOT BY : BOB WILSON
PLOT NAME :
PLOT SCALE : 1 IN:50 FT

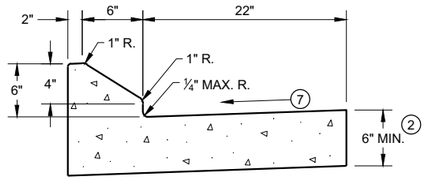
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

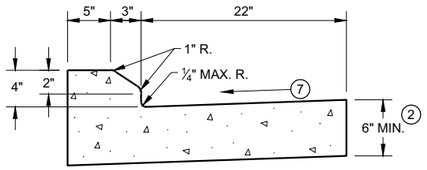
08D01-22A	CONCRETE CURB & GUTTER
08D01-22B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-07A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
12A03-10	NAME PLATE (STRUCTURES)
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11D	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS
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)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



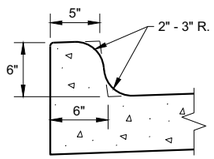
TYPES A[1] & D



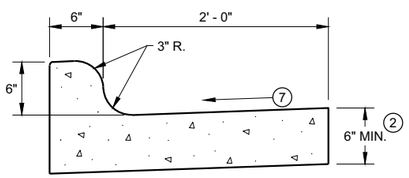
6" SLOPED CURB TYPES G[1] & J



4" SLOPED CURB TYPES G[1] & J

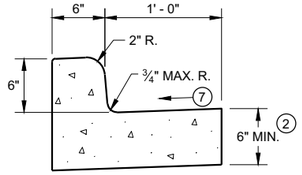


TYPES K[1] & L
(OPTIONAL CURB SHAPE)



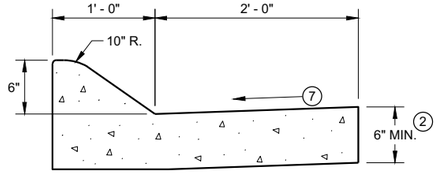
TYPES K[1] & L

CONCRETE CURB AND GUTTER 30"



TYPES A[1] & D

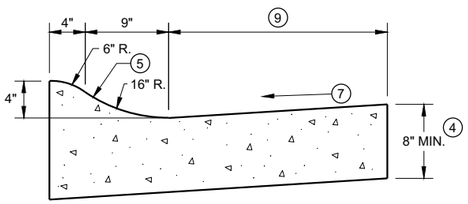
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A[1] & D

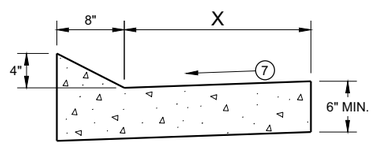
4" SLOPED CURB TYPES A[1] & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R[1] & T

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

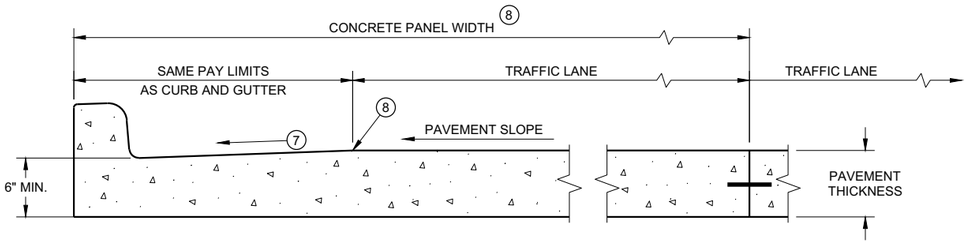


TYPES TBT & TBTT[1]

CONCRETE CURB AND GUTTER

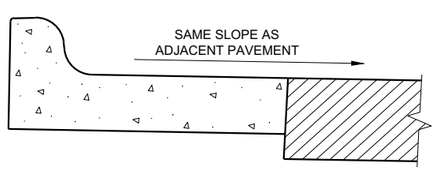
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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)

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.

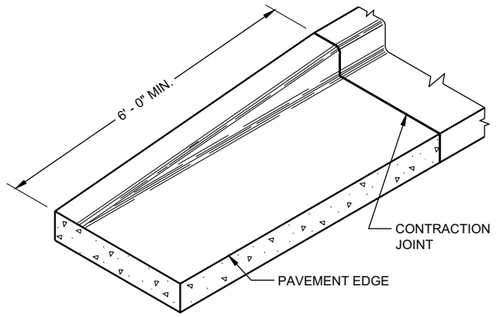
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

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. CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
   CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

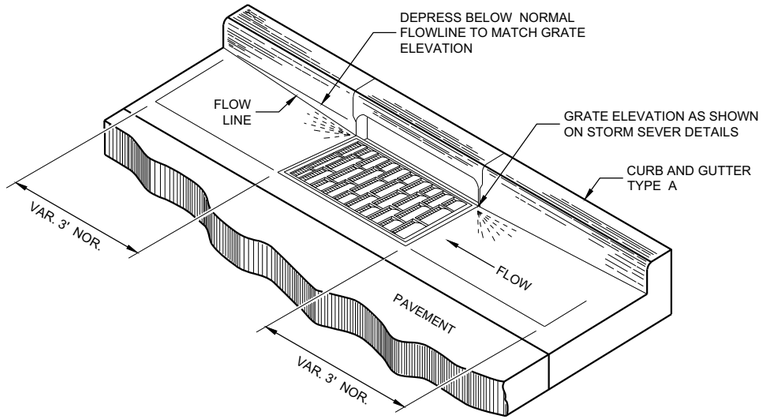
CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 08D01 - 22a



END SECTIONCURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

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

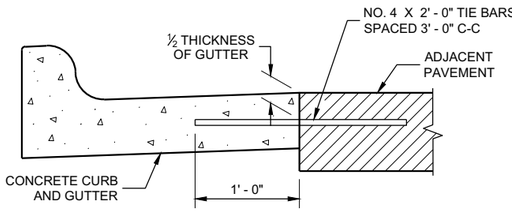
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

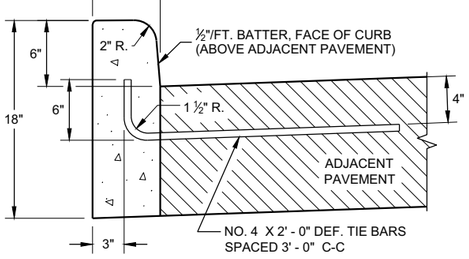
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(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.

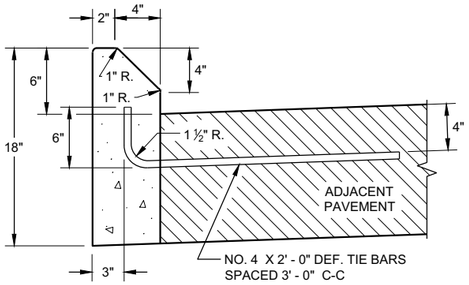
(9) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION (1)

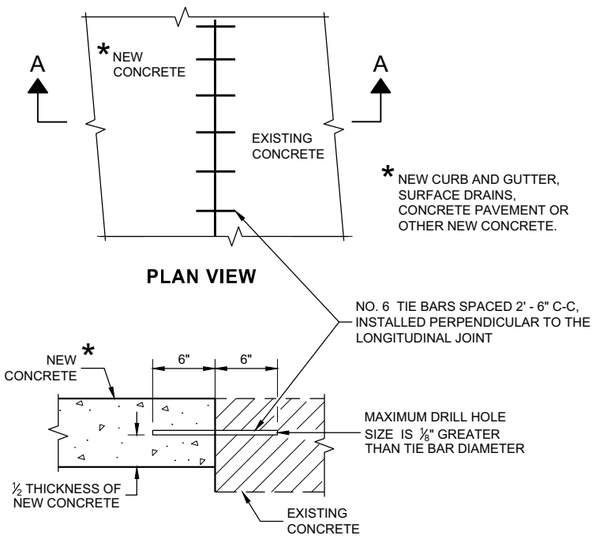


TYPES A (1) & D



TYPES G (1) & J

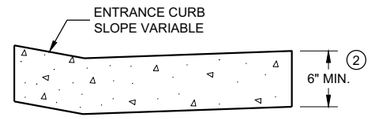
CONCRETE CURB



PLAN VIEW

SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB (9)

(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

6

SDD08D01 - 22b

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)

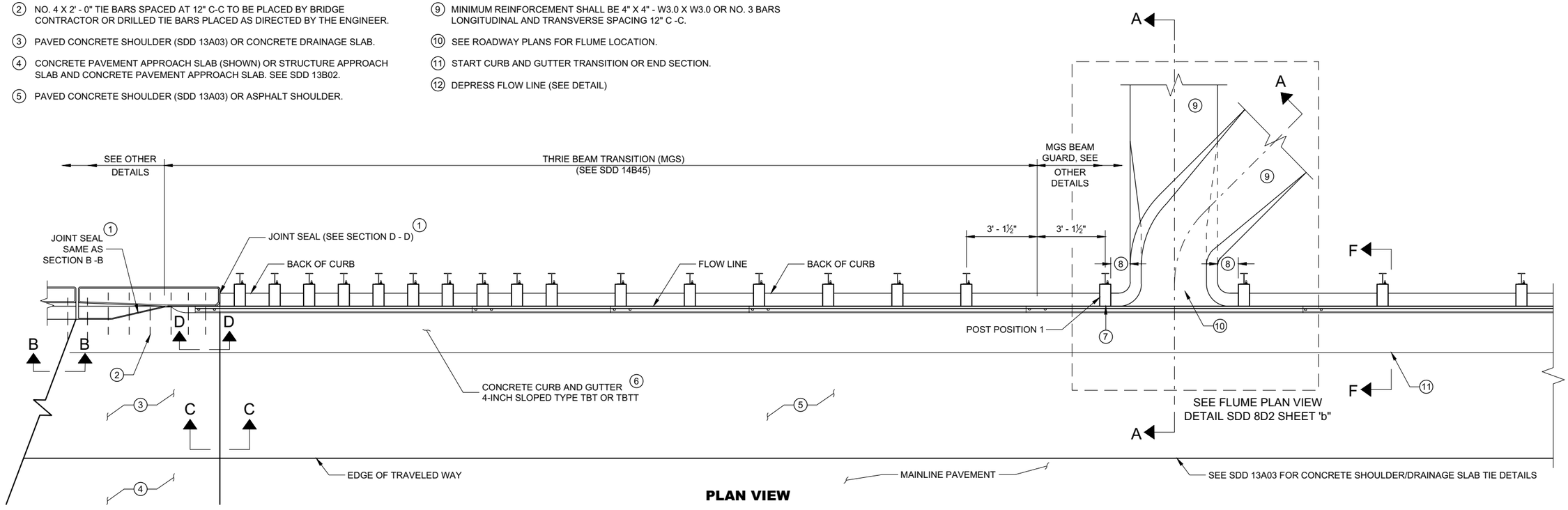
(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

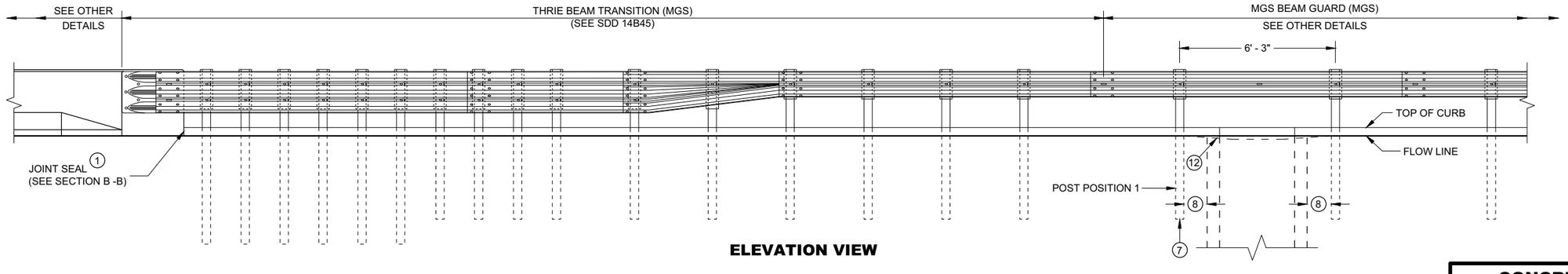
(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)



PLAN VIEW



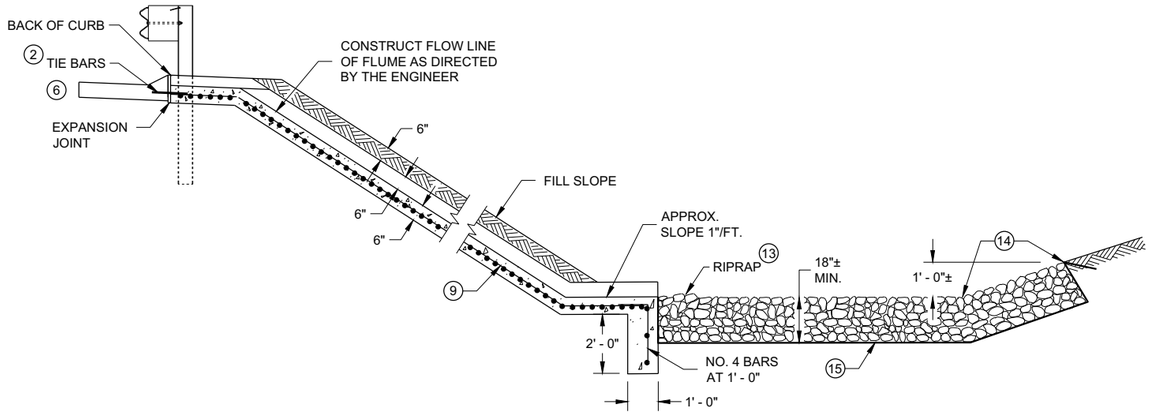
ELEVATION VIEW

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

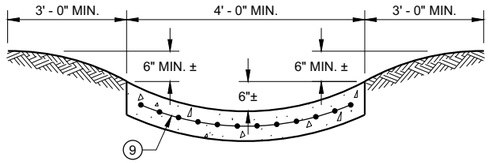
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D02 - 07a

SDD 08D02 - 07a



SECTION A - A



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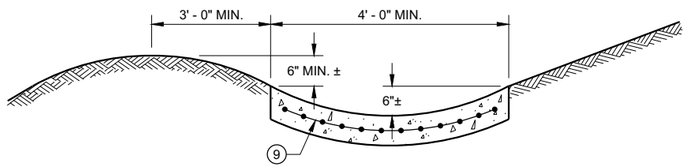

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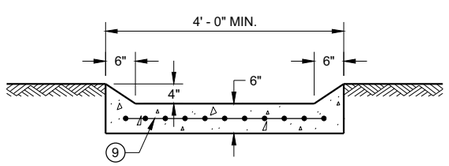
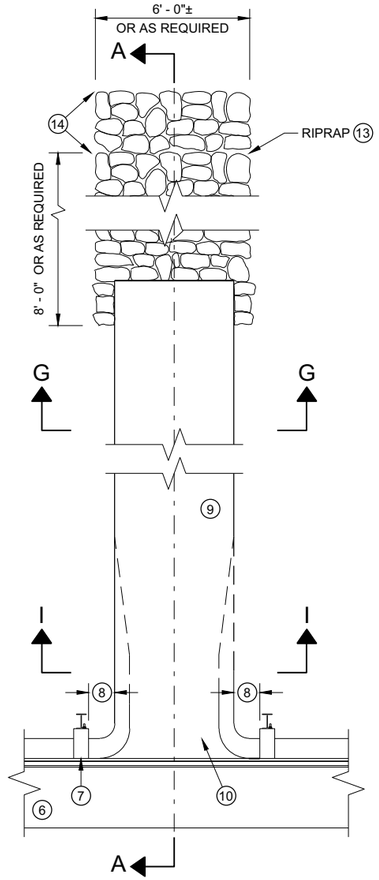
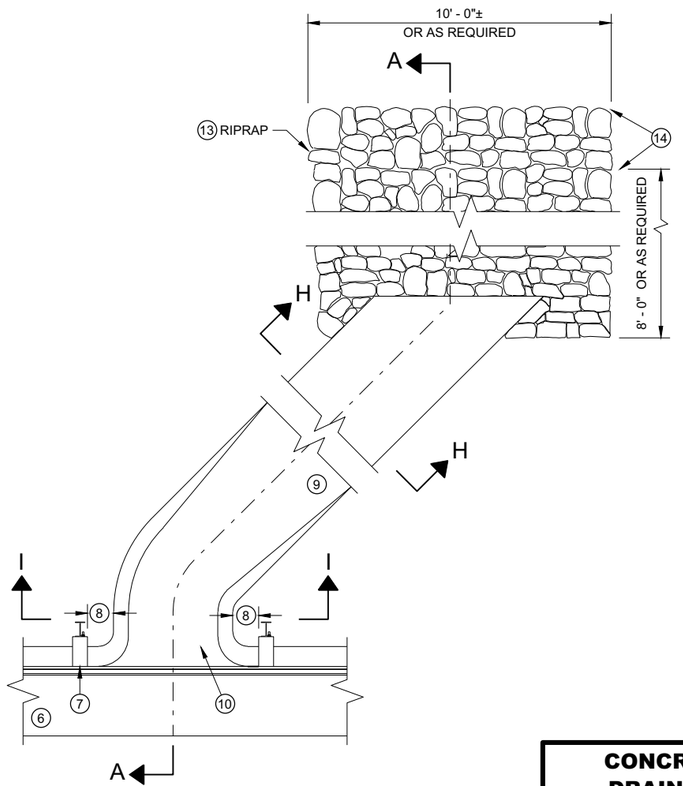


SECTION I - I



PLAN VIEW PERPENDICULAR FLUME



PLAN 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.

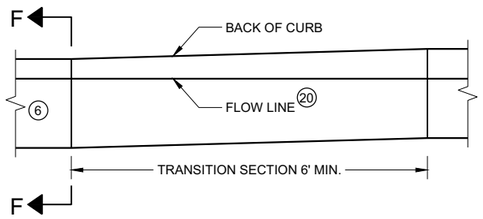
1. USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
2. NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
3. PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
4. CONCRETE PAVEMENT APPROACH 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 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 AS REQUIRED.
15. GEOTEXTILE FABRIC TYPE HR.

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

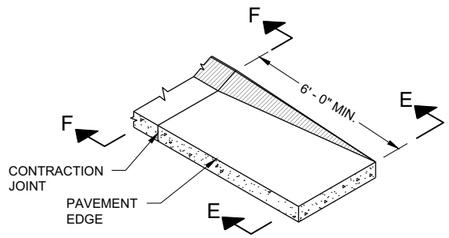
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

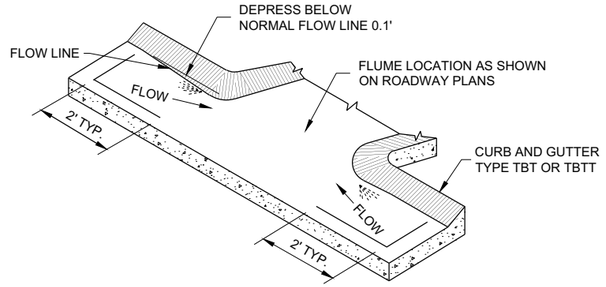
SDD 08D02 - 07b



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

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.

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(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 FABRIC 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.

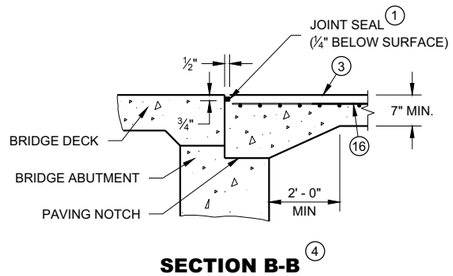
(17) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

(18) MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.

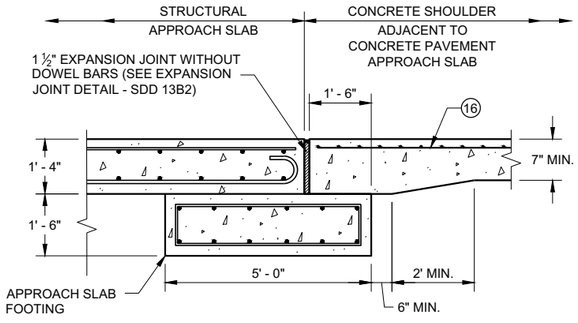
(19) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

(20) MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

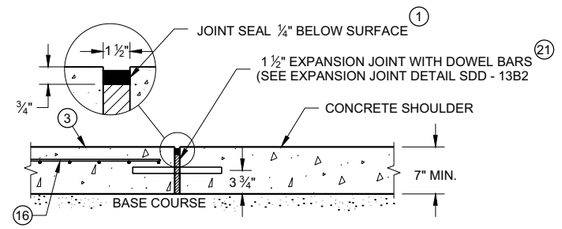
(21) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



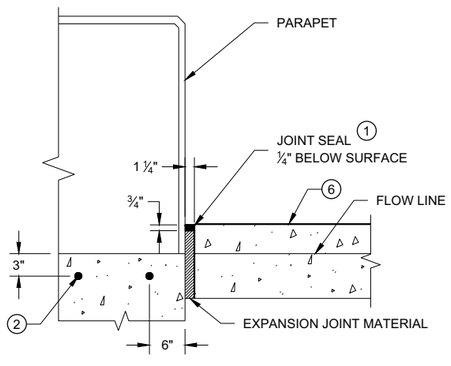
SECTION B-B (4)



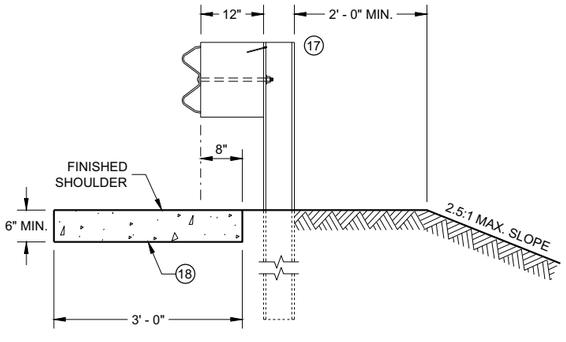
SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



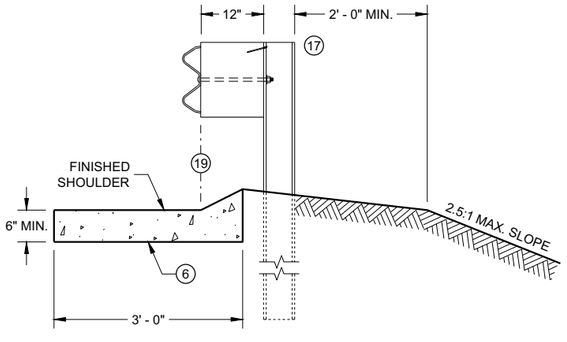
SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS



SECTION D - D



SECTION E - E



SECTION F - F

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

SDD 08D02 - 07c

SDD 08D02 - 07c

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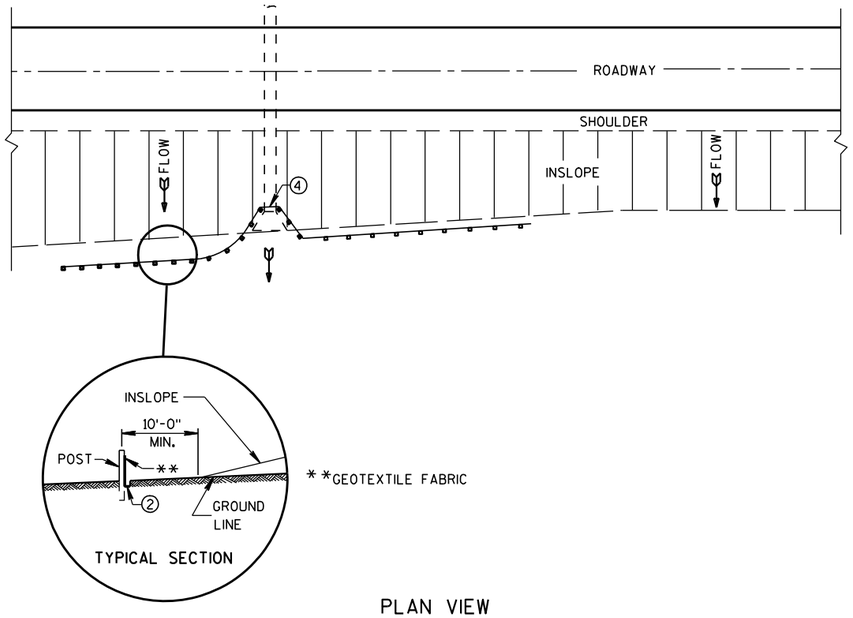
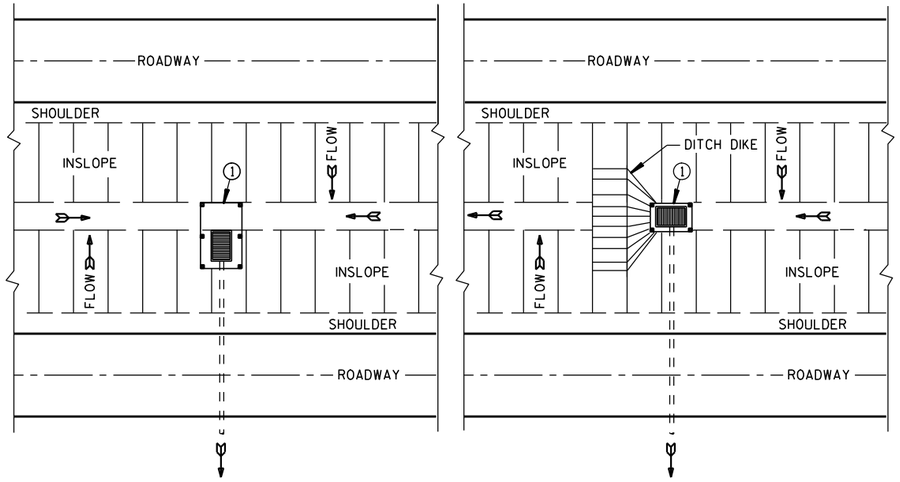


PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



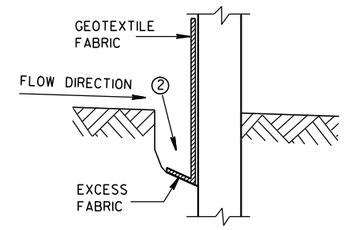
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

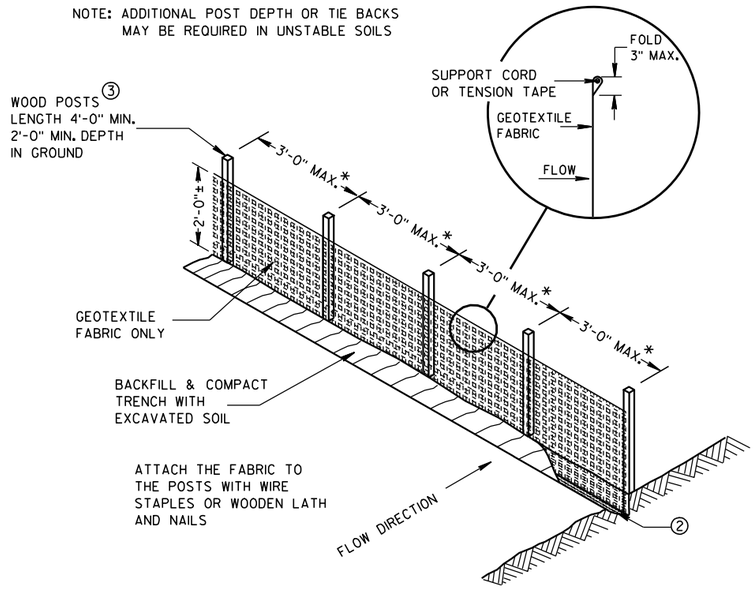
GENERAL NOTES

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

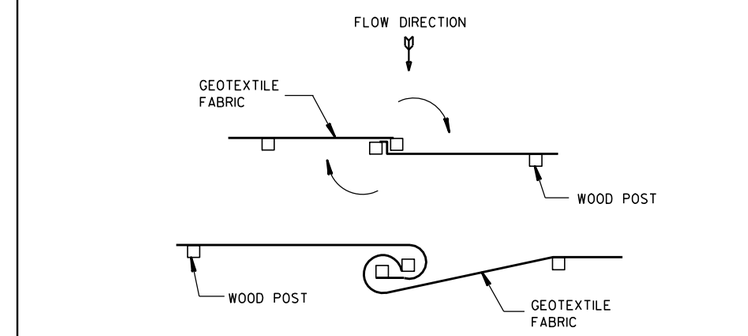
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



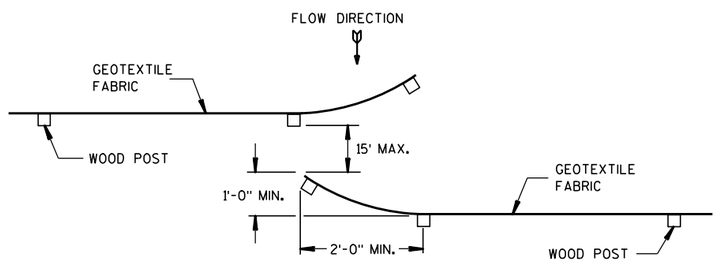
TRENCH DETAIL



SILT FENCE

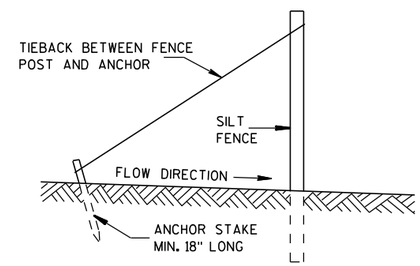


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

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

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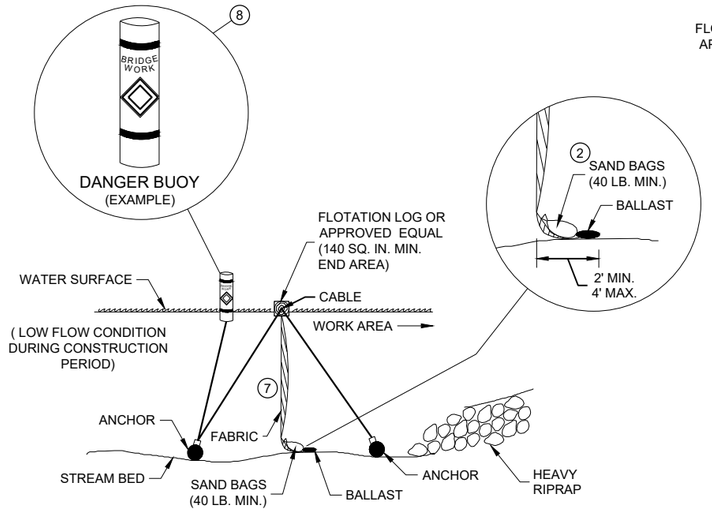
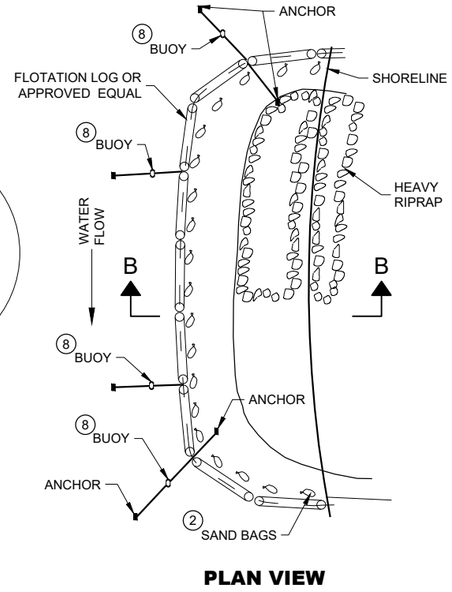
S.D.D. 8 E 9-6

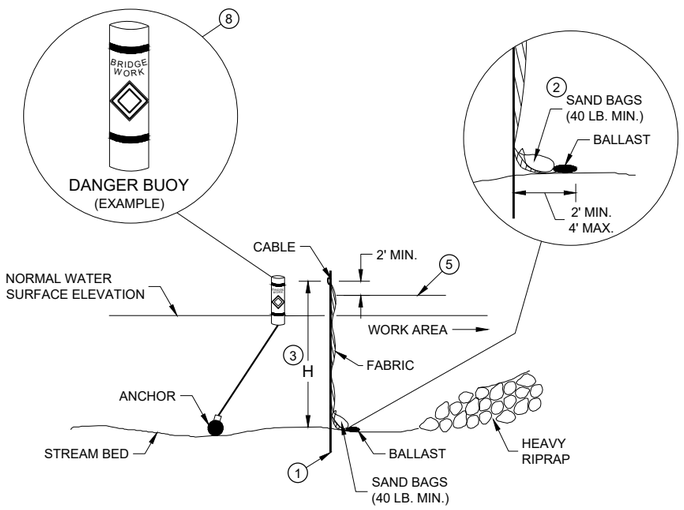


SECTION B - B

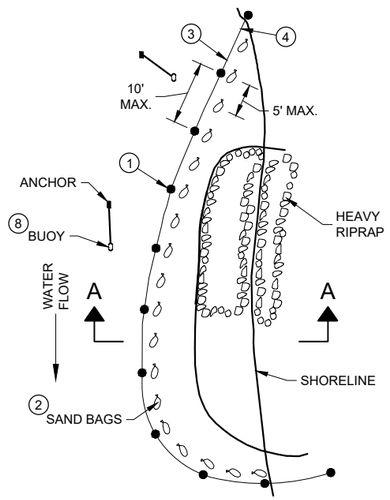


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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.

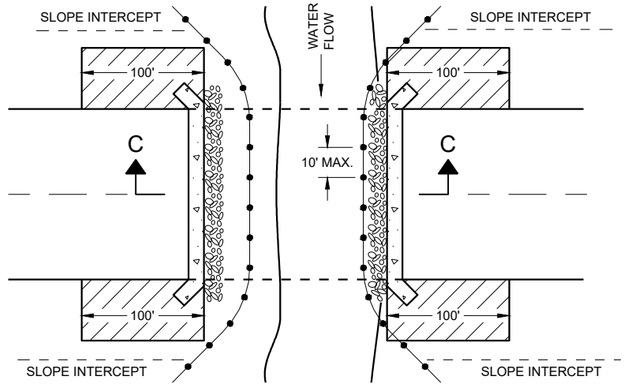
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(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.

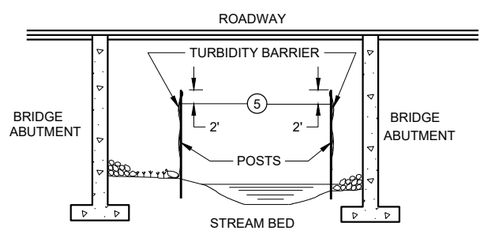
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(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
CHIEF ROADWAY DEVELOI
ENGINEER

FHWA

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SDD 08E11 - 02

METAL APRON ENDWALLS

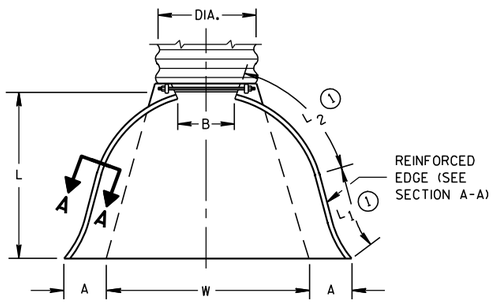
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

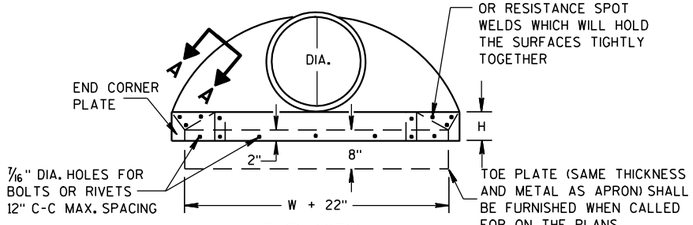
REINFORCED CONCRETE APRON ENDWALLS

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

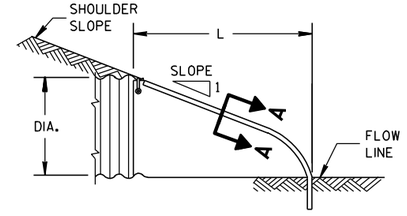
*MINIMUM
**MAXIMUM



PLAN VIEW

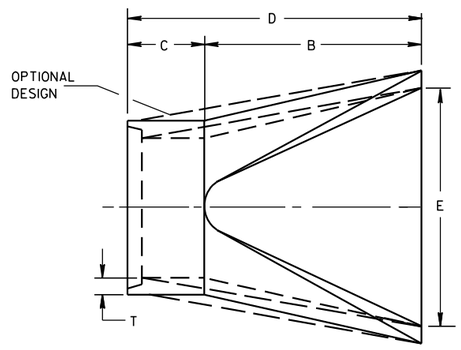


END VIEW

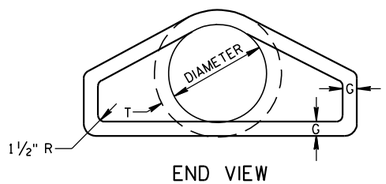


SIDE ELEVATION

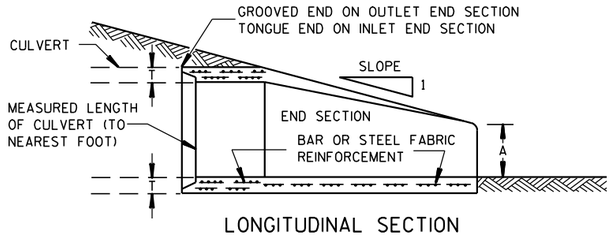
METAL ENDWALLS



PLAN

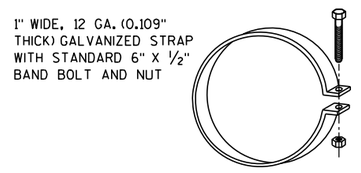


END VIEW



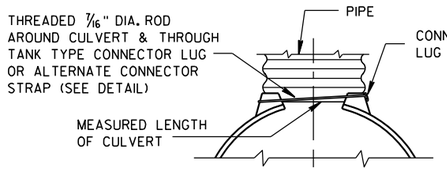
LONGITUDINAL SECTION

CONCRETE ENDWALLS

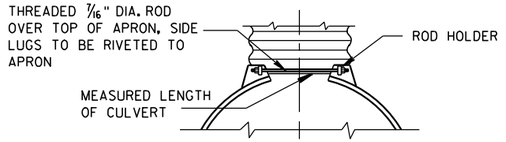


ALTERNATE FOR TYPE 1 CONNECTION

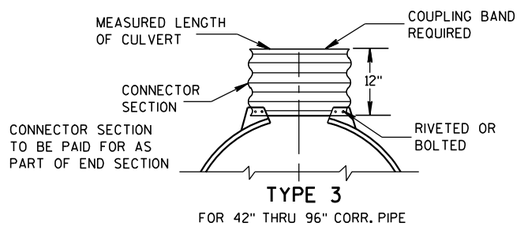
END SECTION CONNECTOR STRAP



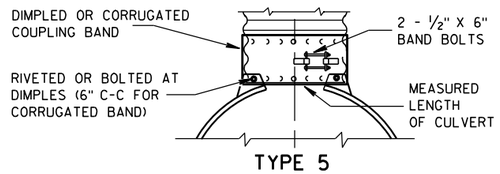
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

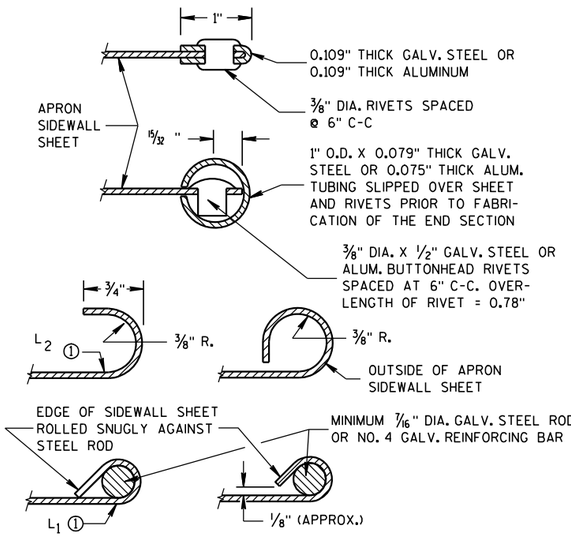
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

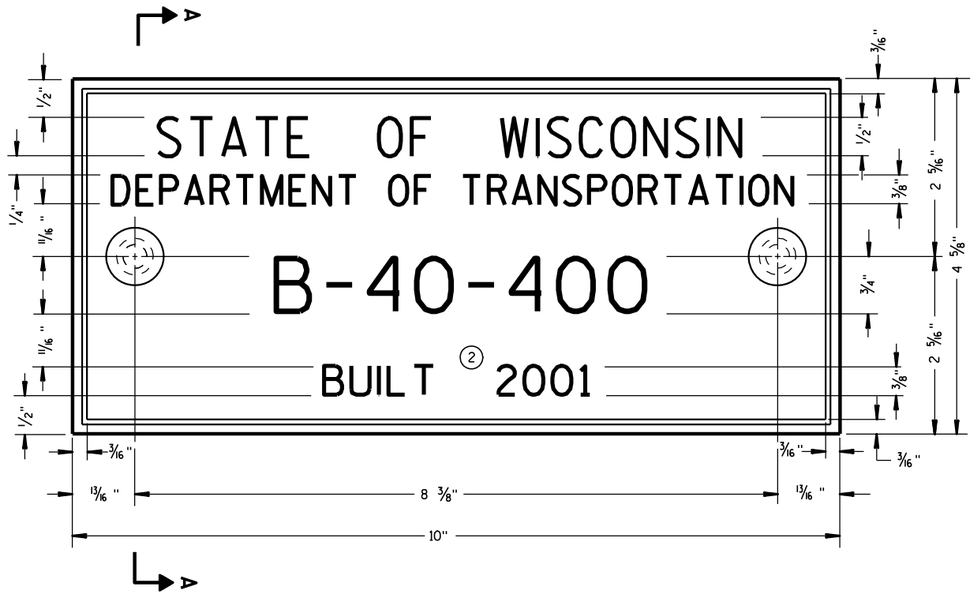
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

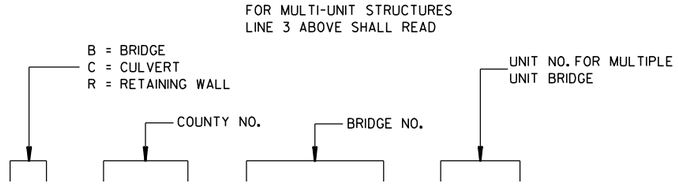
APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 F 1-11



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION MULTI-UNIT STRUCTURES

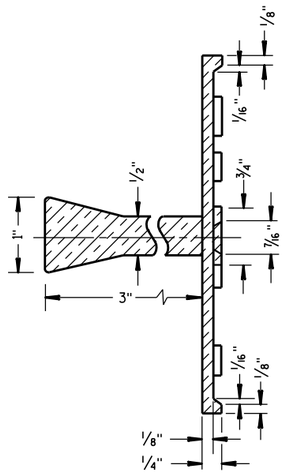
GENERAL NOTES

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.

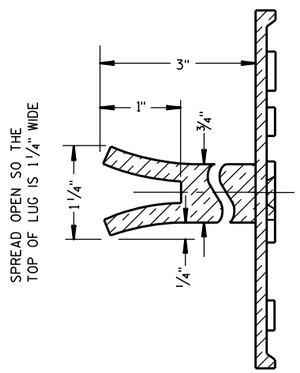
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

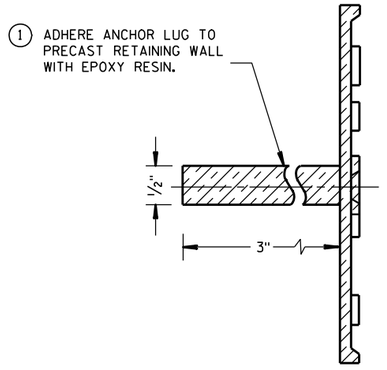
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

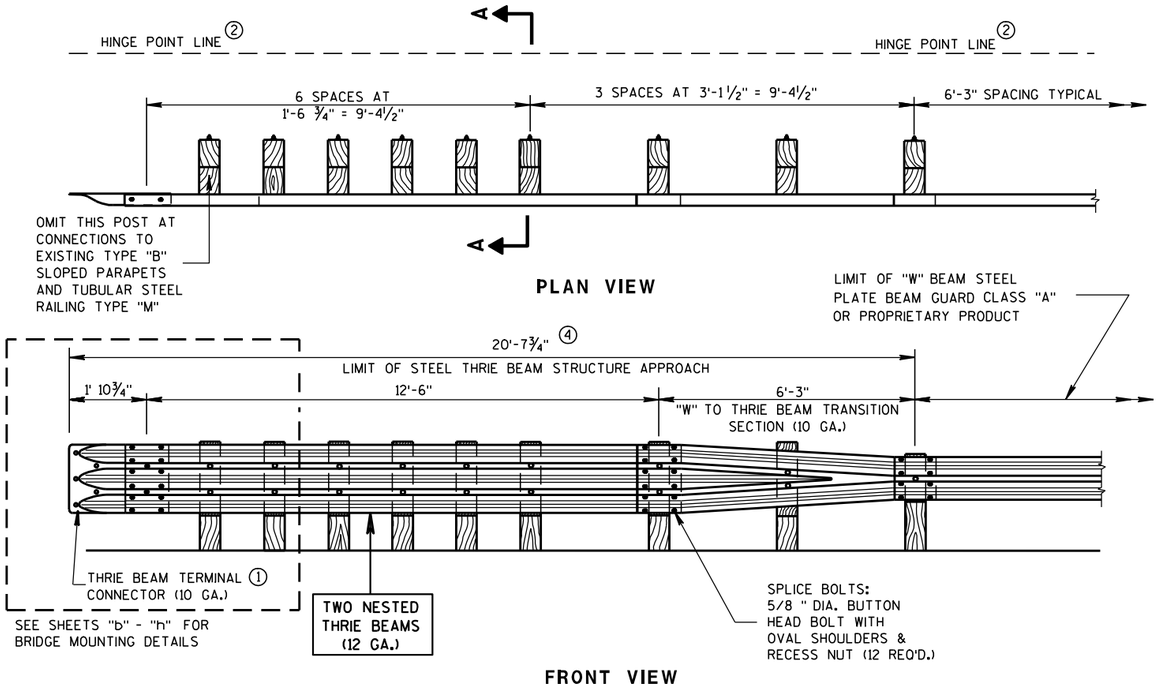
NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
3/26/10 DATE	/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER
FHWA	

6

S.D.D. 12 A 3-10

6

S.D.D. 12 A 3-10



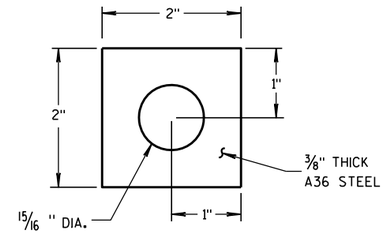


PLATE WASHER DETAIL

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

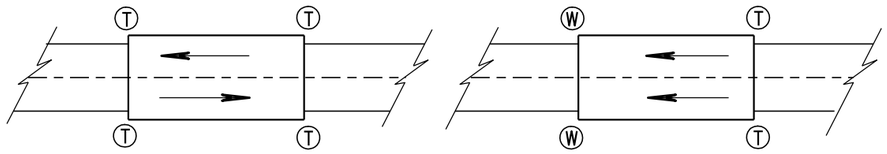
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

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

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



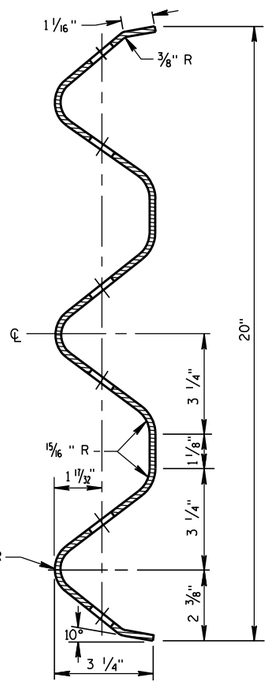
TWO WAY TRAFFIC

ONE WAY TRAFFIC

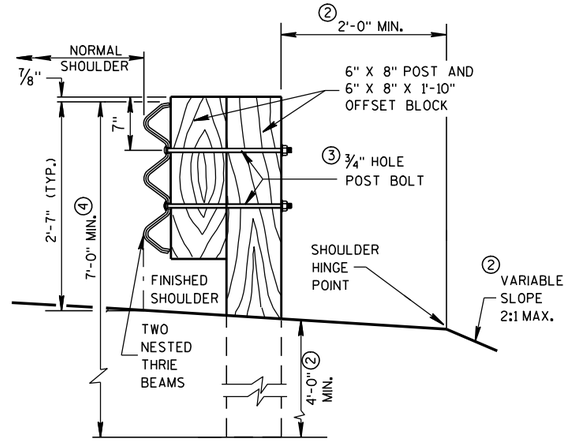
(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

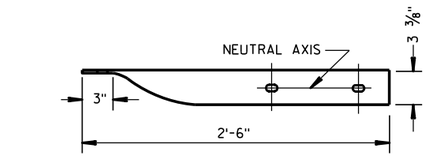
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

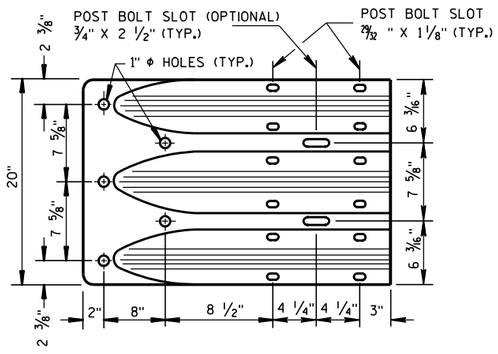


SECTION THRU THRIE BEAM RAIL ELEMENT

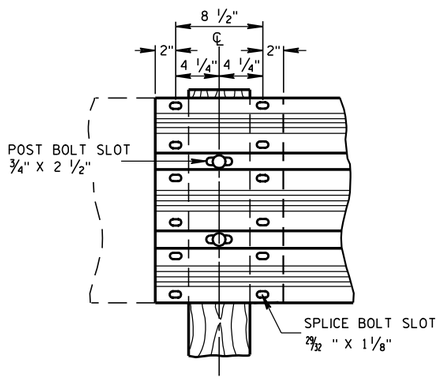


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

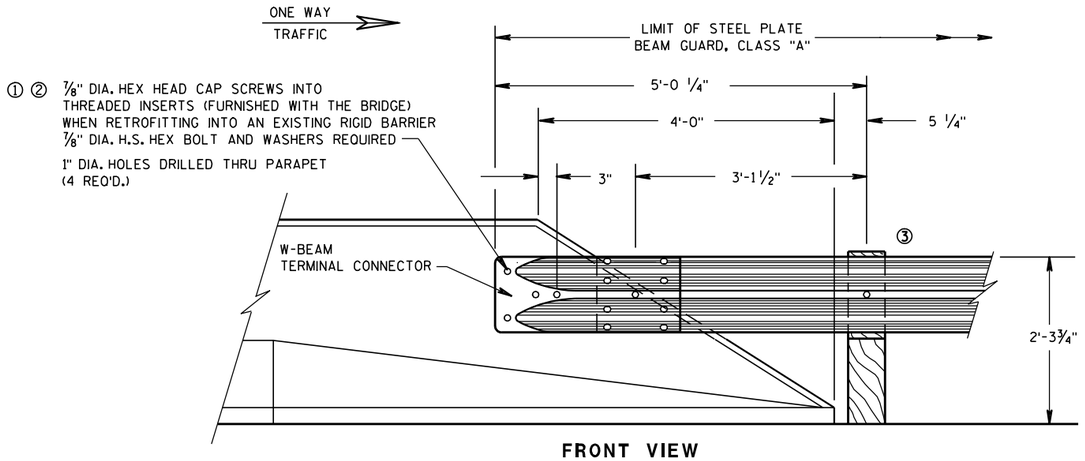
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

FHWA



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

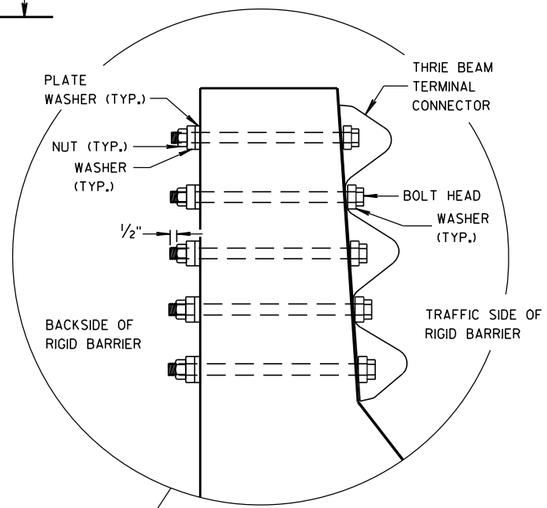
BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

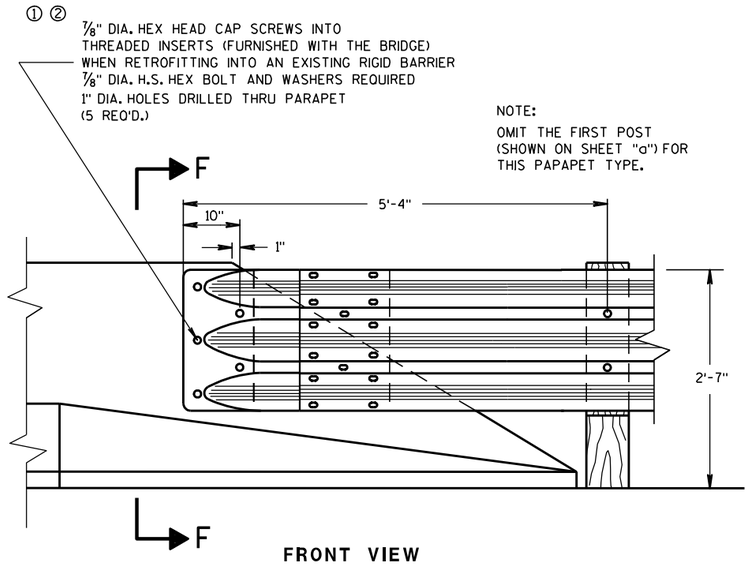
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

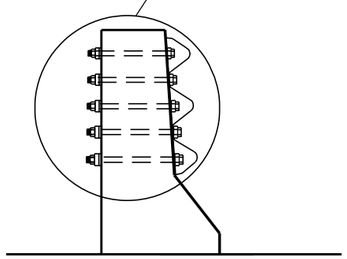
DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION F-F

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS [illegible] ENGINEER
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.

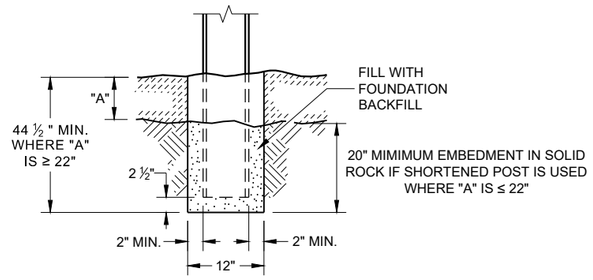
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL 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).

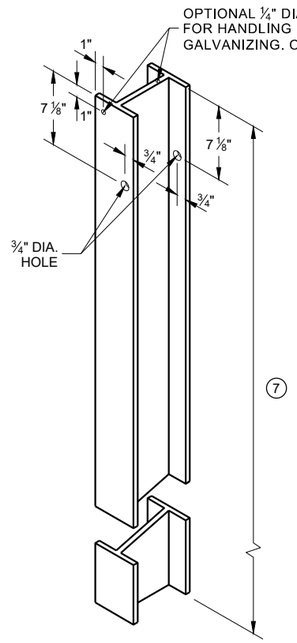
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

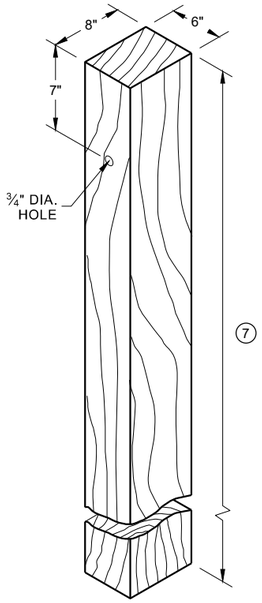
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



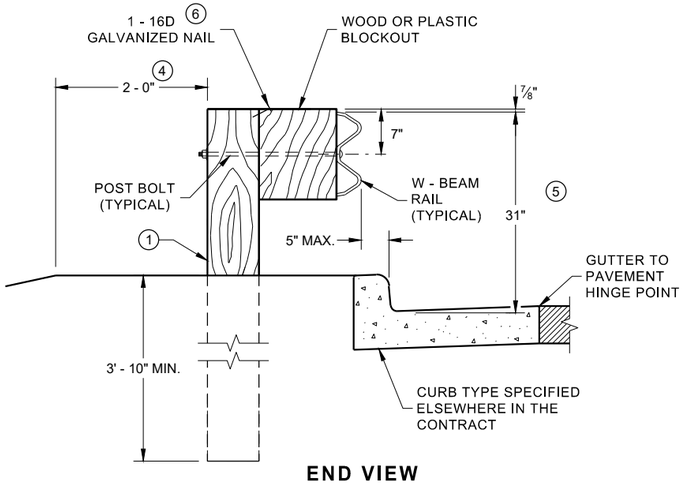
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



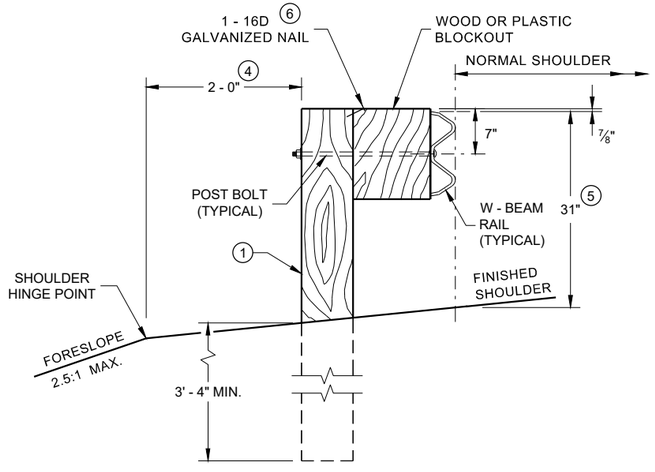
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



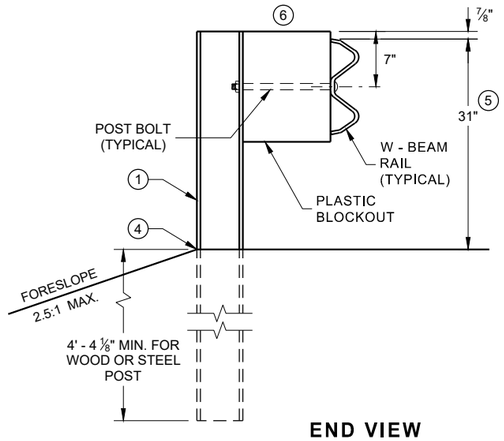
WOOD POST (6" X 8") NOMINAL (1)



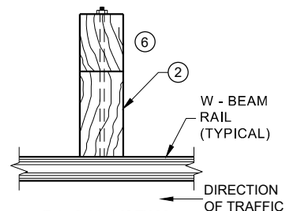
END VIEW
LOCATED ALONG A CURBED ROADWAY



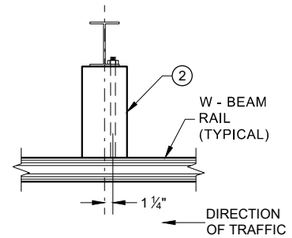
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



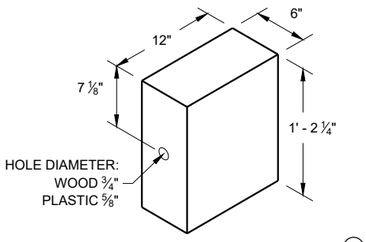
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM

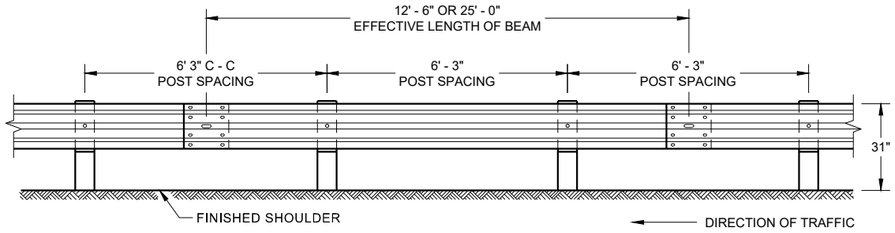


WOOD OR PLASTIC BLOCKOUT (2)

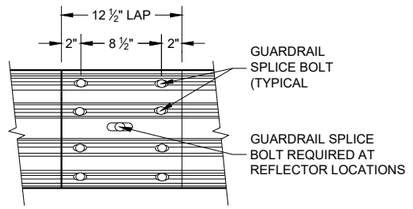
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B42 - 07a



FRONT VIEW
POST SPACING STANDARD INSTALLATION



FRONT VIEW
MID-SPAN BEAM SPLICE

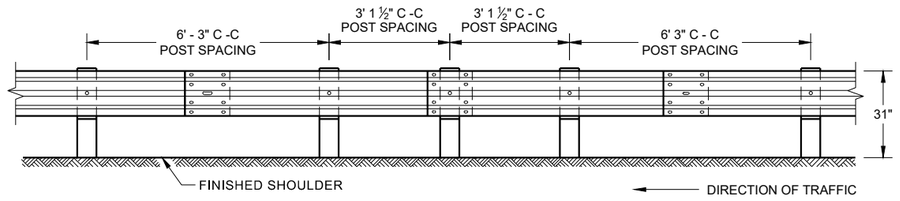
GENERAL NOTES

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

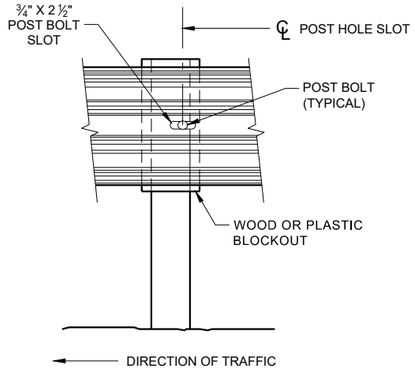
(9) 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

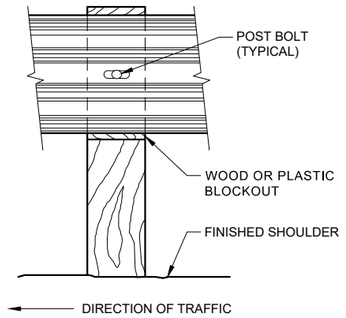
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



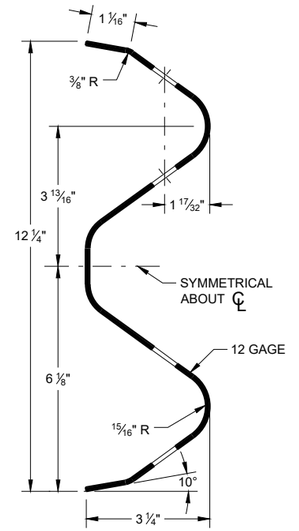
FRONT VIEW
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



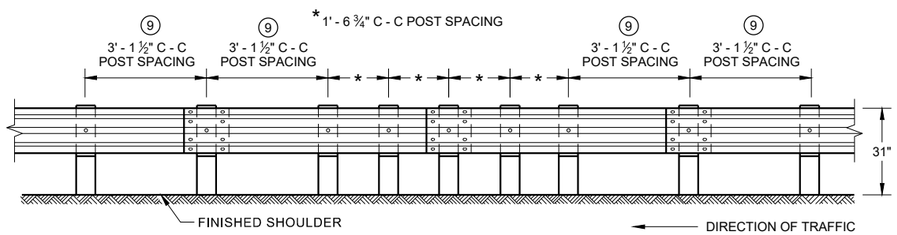
FRONT VIEW AT STEEL POST



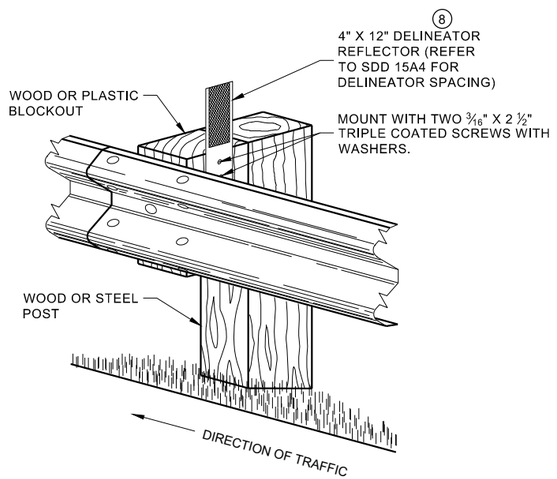
FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



FRONT VIEW
QUARTER POST SPACING (QS)

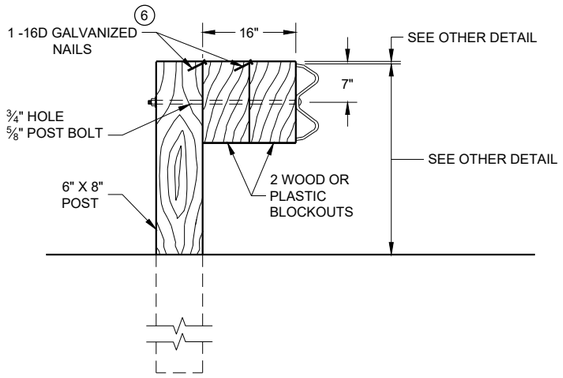


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B42 - 07b

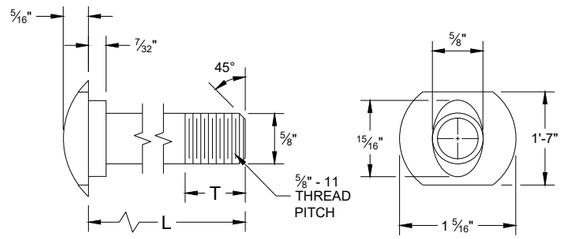


DETAIL FOR 16" BLOCKOUT DEPTH

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

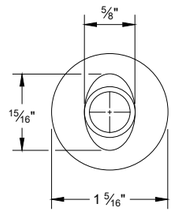
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

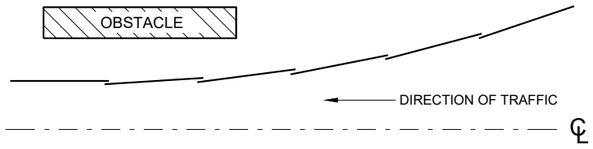


POST BOLT TABLE

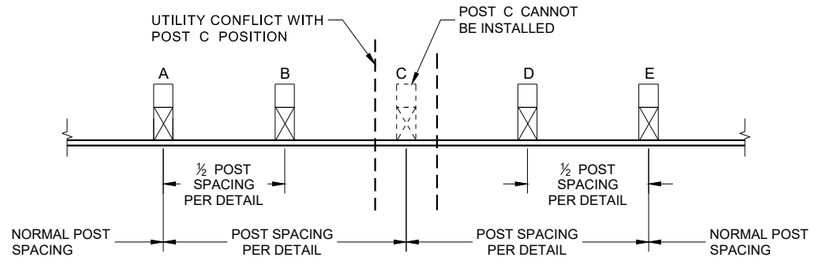
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



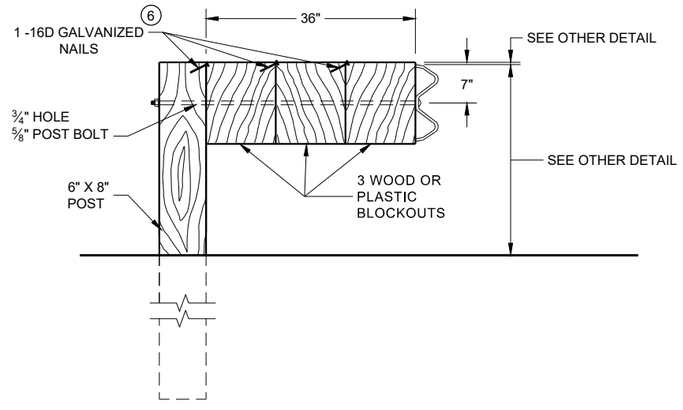
ALTERNATE BOLT HEAD



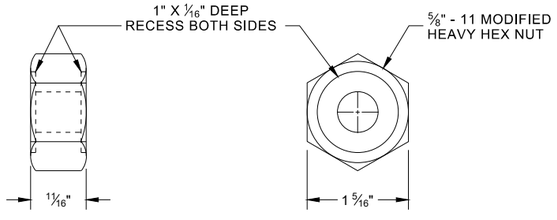
PLAN VIEW
BEAM LAPPING DETAIL



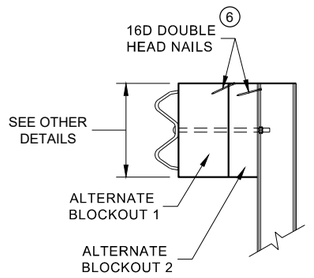
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



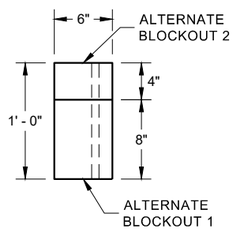
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

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.

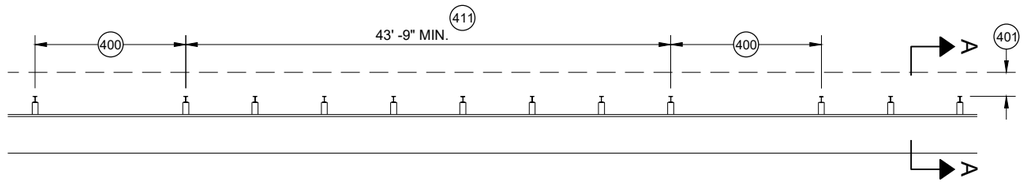
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(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.

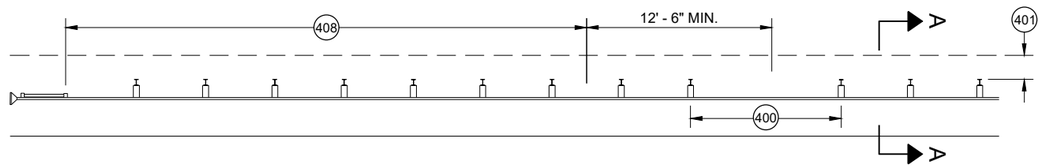
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

6

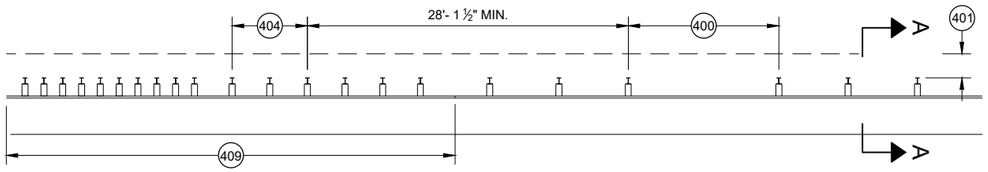
SDD 14B42 - 07c



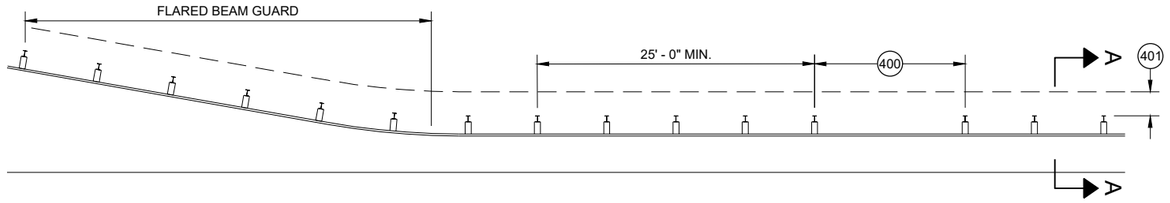
MISSING POST IN MGS GUARDRAIL



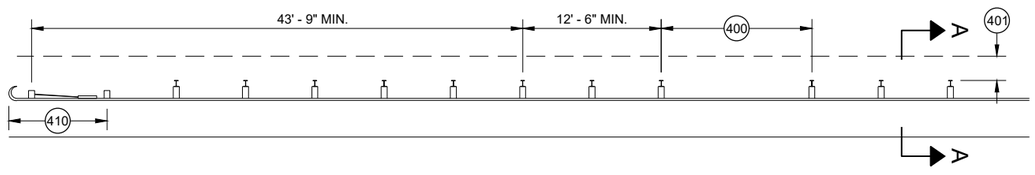
MISSING POST IN MGS GUARDRAIL NEAR EAT



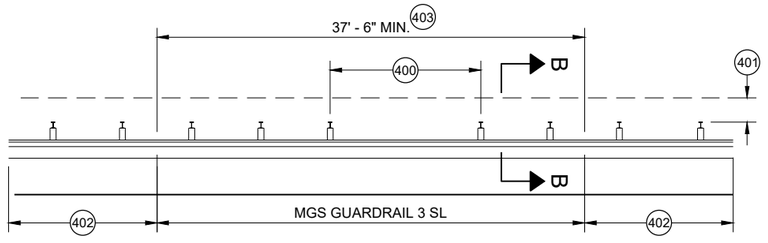
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

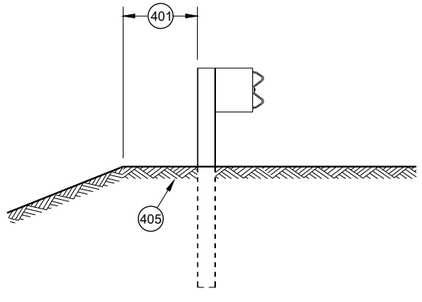


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

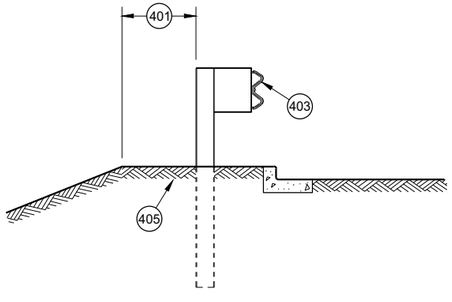


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

(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 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B42 - 07d

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

(D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

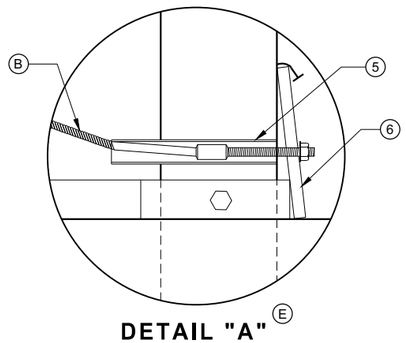
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

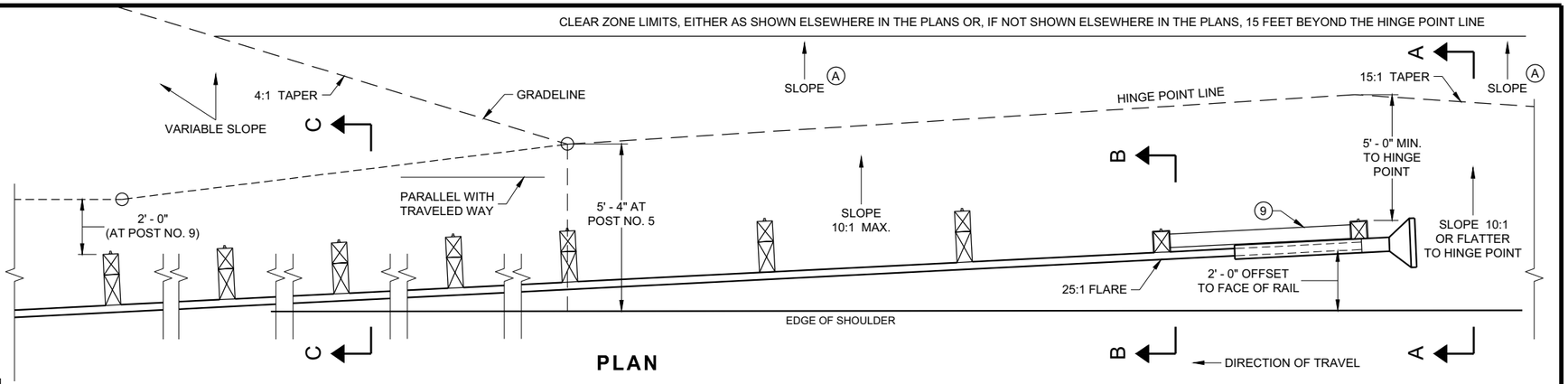
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

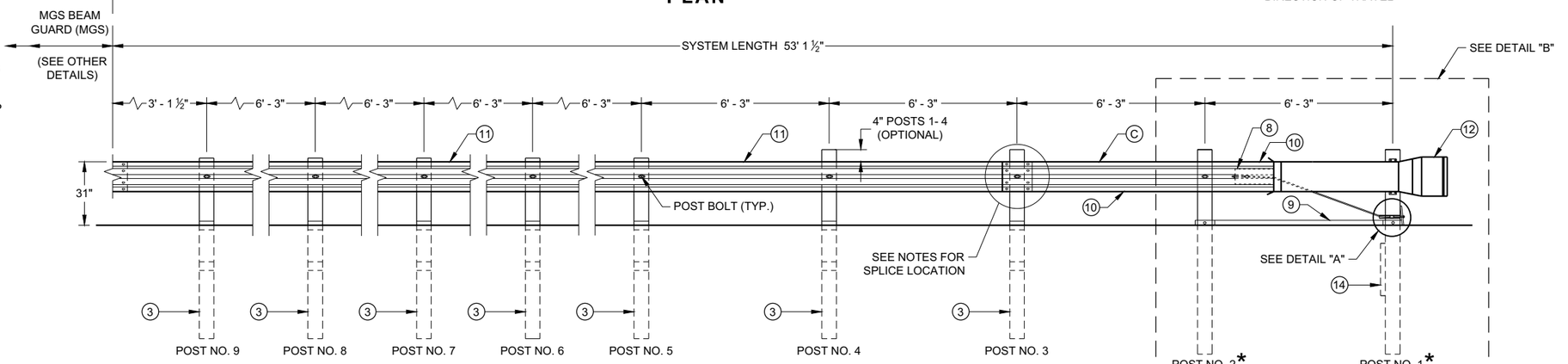
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

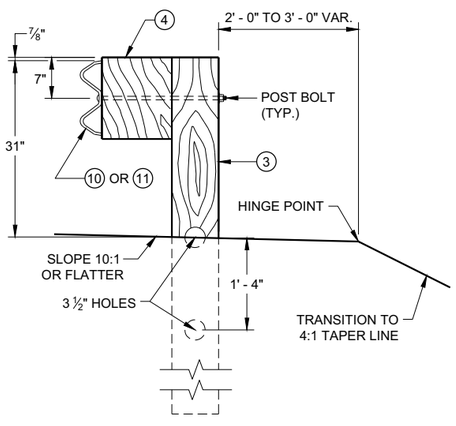
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



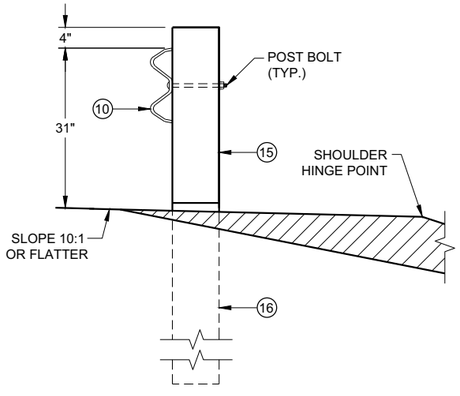
DETAIL "A" (E)



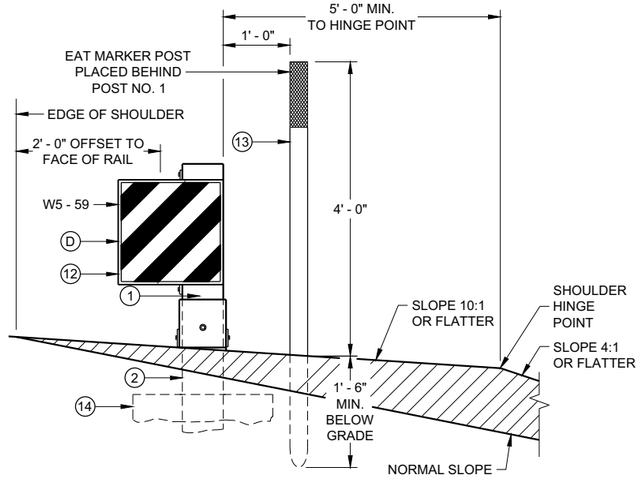




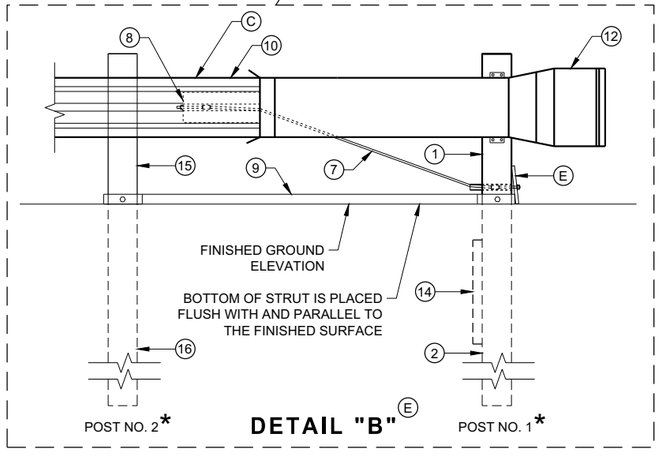
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



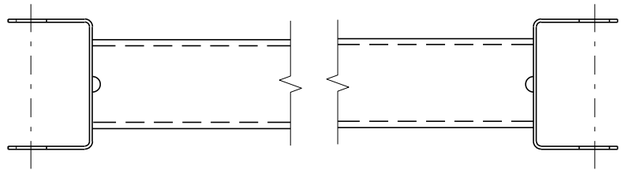
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

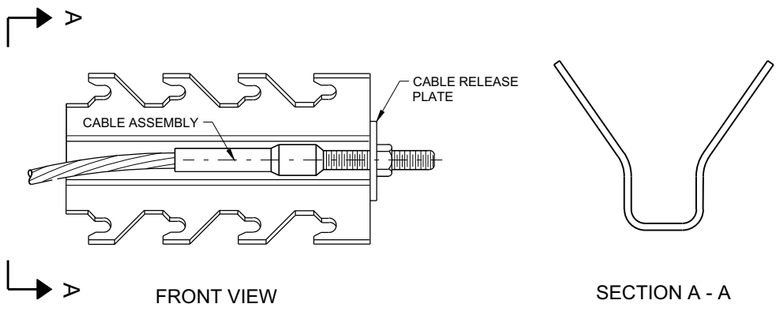
SDD 14B44 - 04a



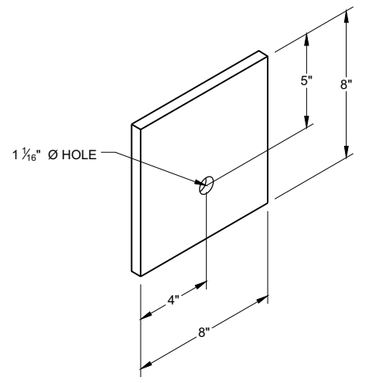
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'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 BOX ⑧ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

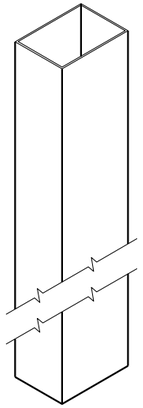
6

SDD 14B44 - 04b

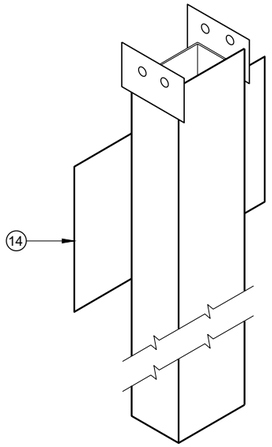
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



UPPER POST NO. 1 (1) (E)



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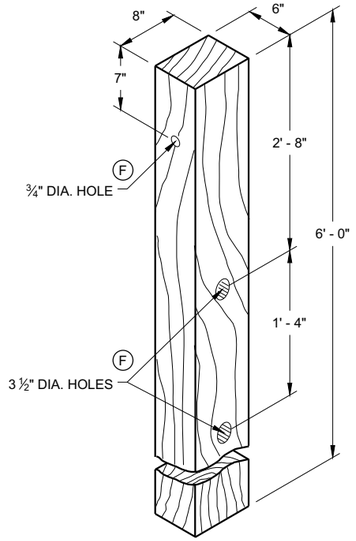
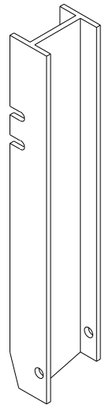


WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



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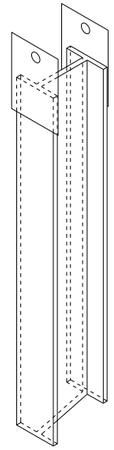

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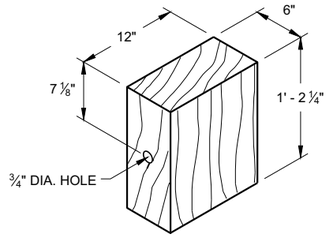
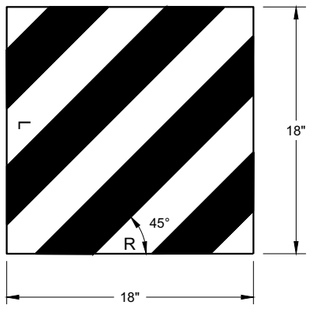
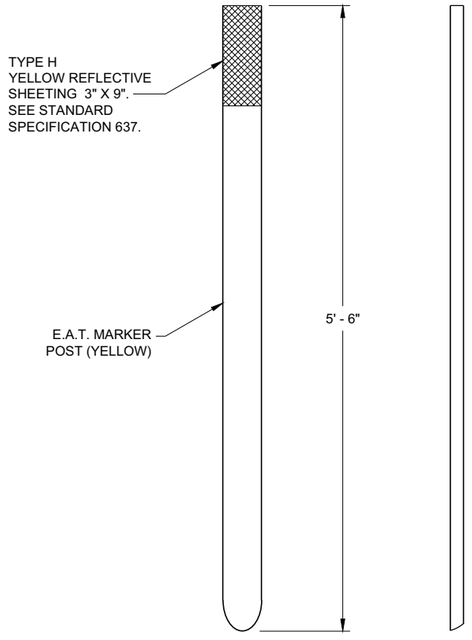


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



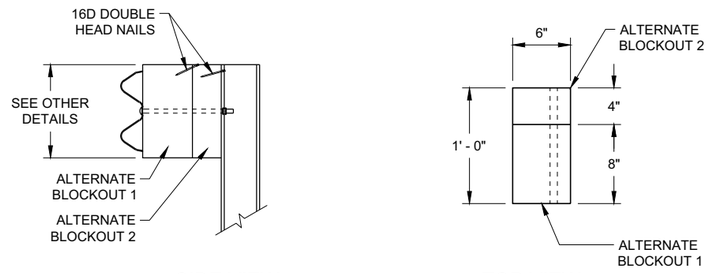
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

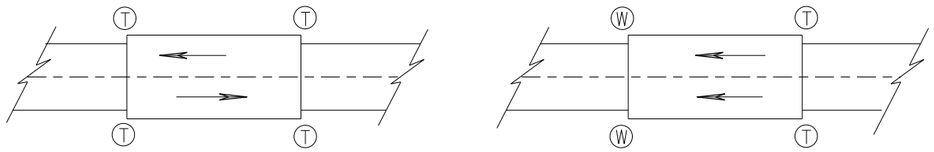
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

SDD 14B44 - 04c



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 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

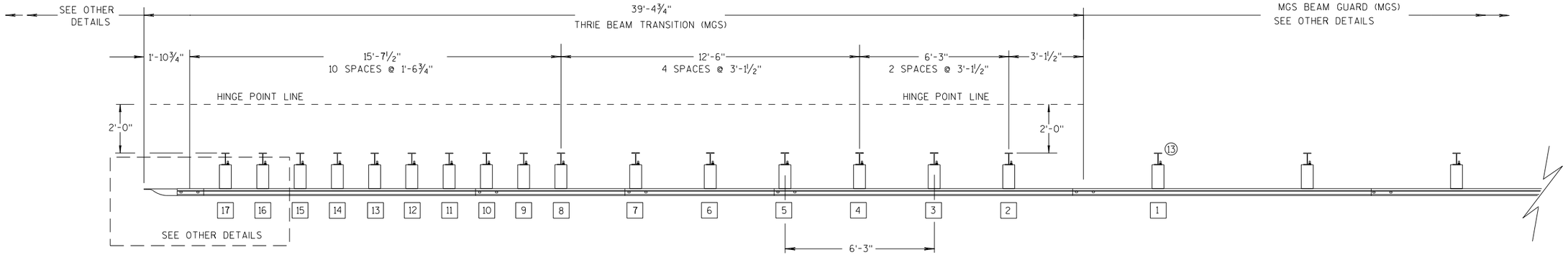
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

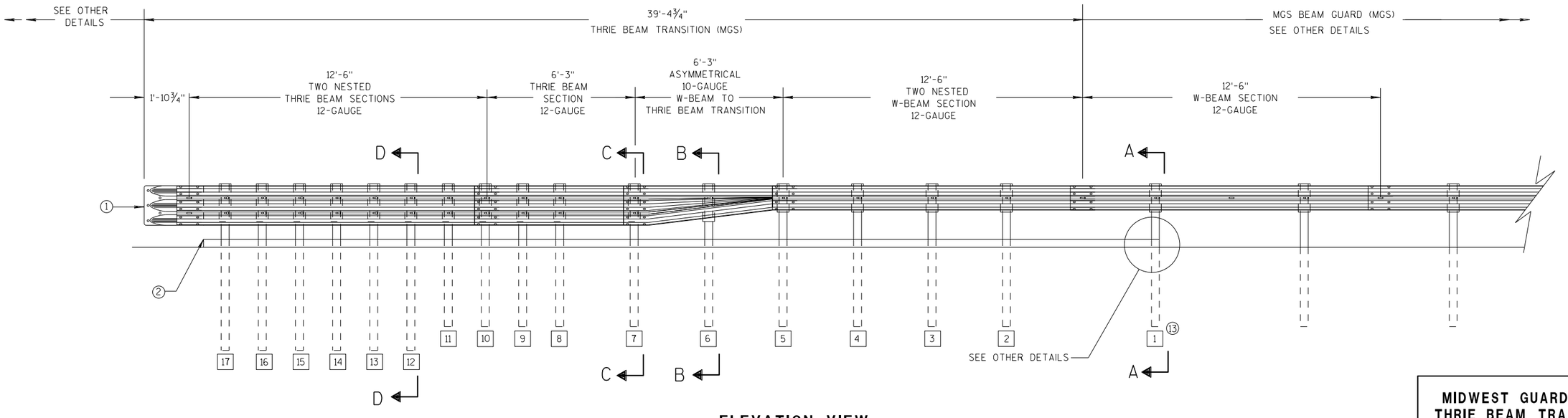
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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 TRANSPOR

6
S.D.D. 14 B 45-5a

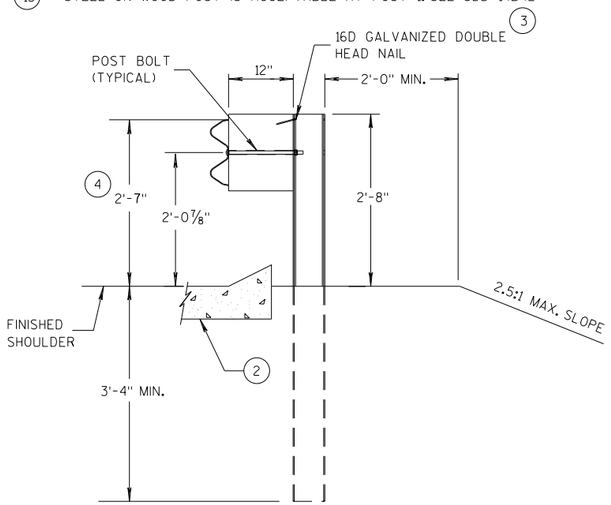
GENERAL NOTES

(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.

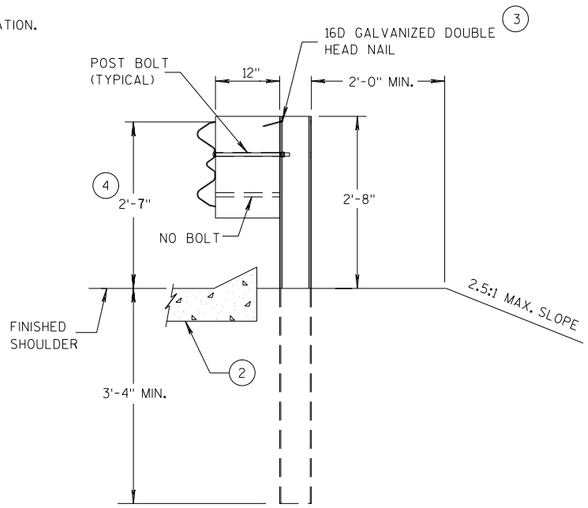
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



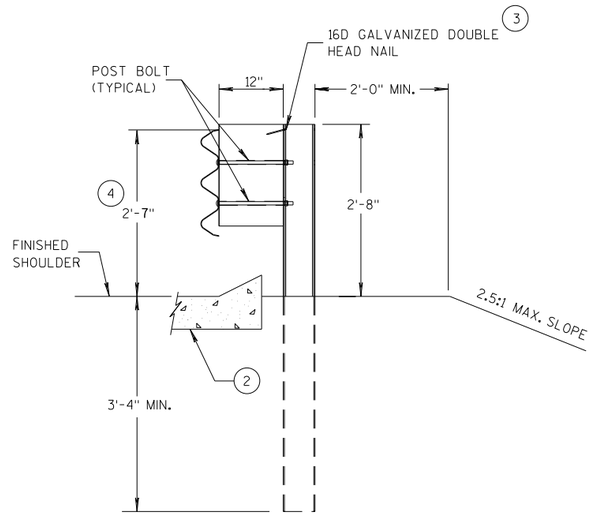
SECTION A-A (13)

POSTS 1-5



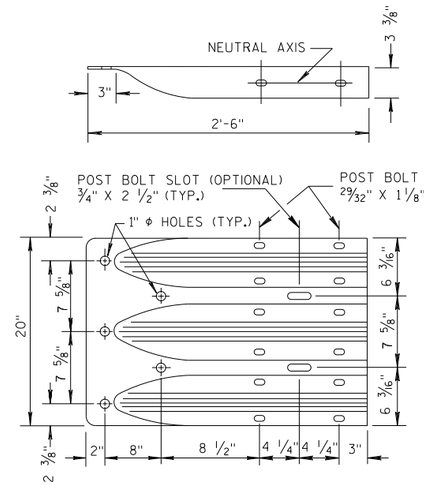
SECTION B-B

POST 6

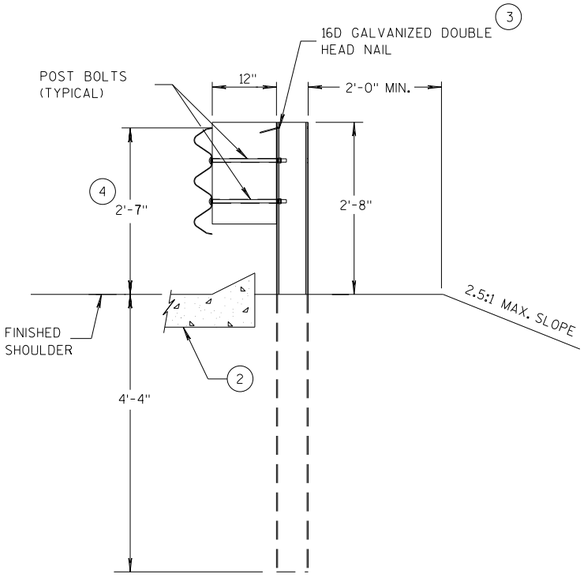


SECTION C-C

POSTS 7-11

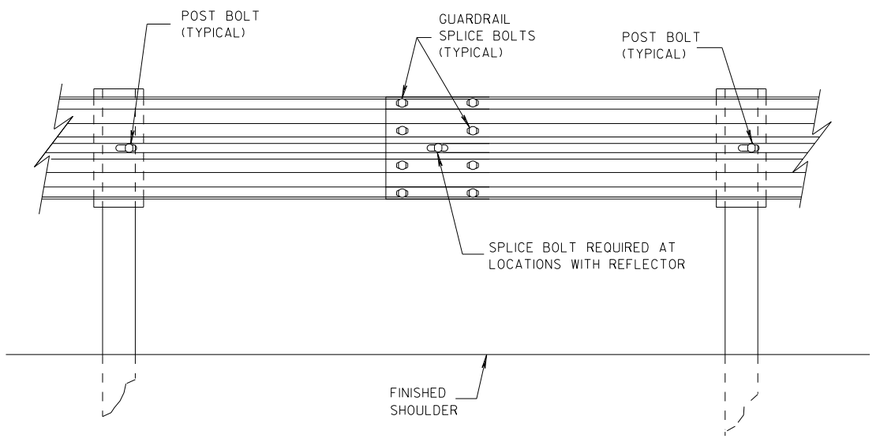


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

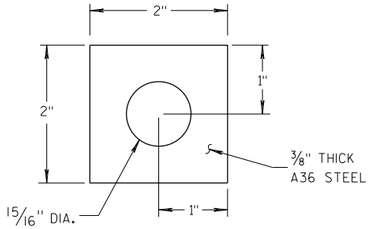
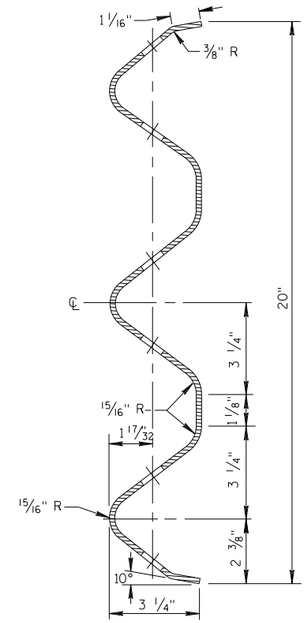


PLATE WASHER DETAIL



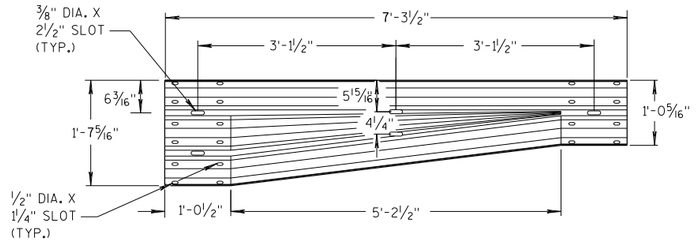
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

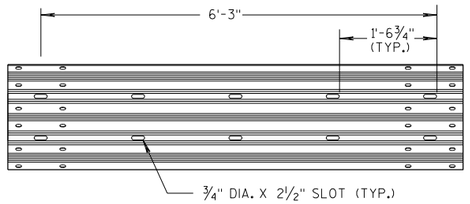
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORT

6

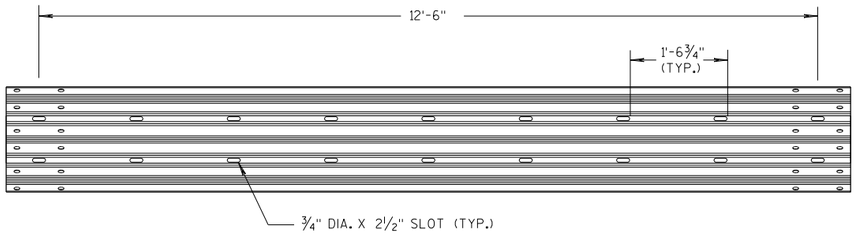
S.D.D. 14 B 45-5b



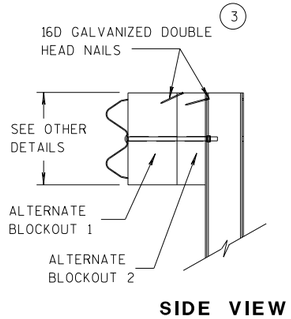
W-BEAM TO THRIE BEAM TRANSITION SECTION



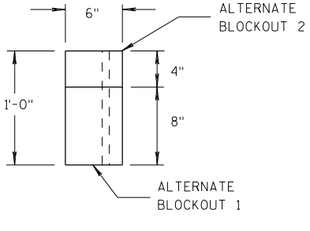
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

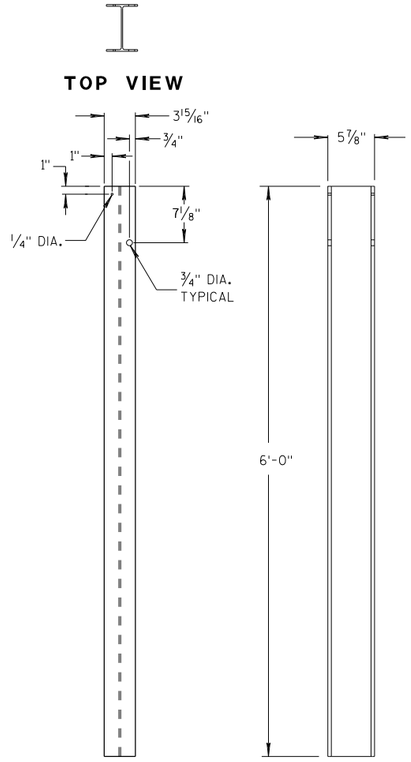


SIDE VIEW



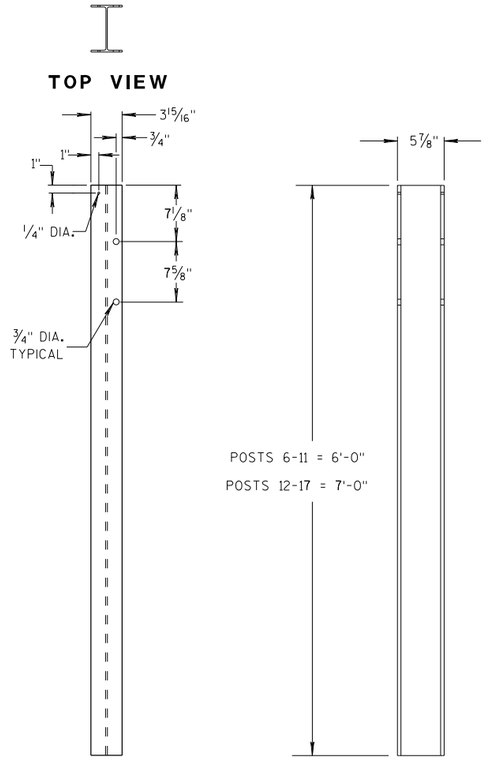
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



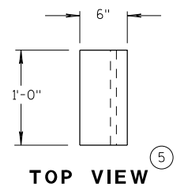
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

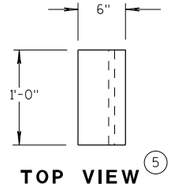


FRONT VIEW SIDE VIEW

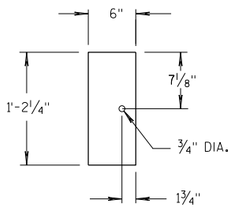
STEEL POSTS 6-17



TOP VIEW (5)

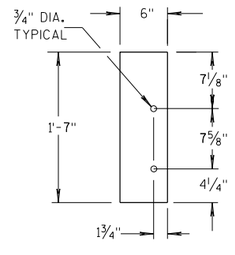


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



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)

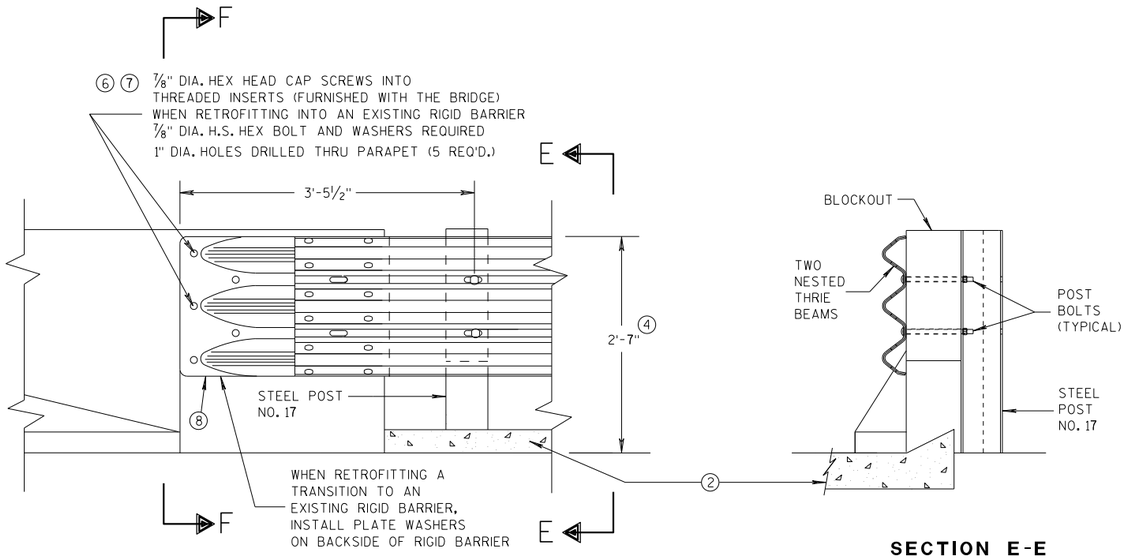
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 35

6

S.D.D. 14 B 45-5c

6

S.D.D. 14 B 45-5c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

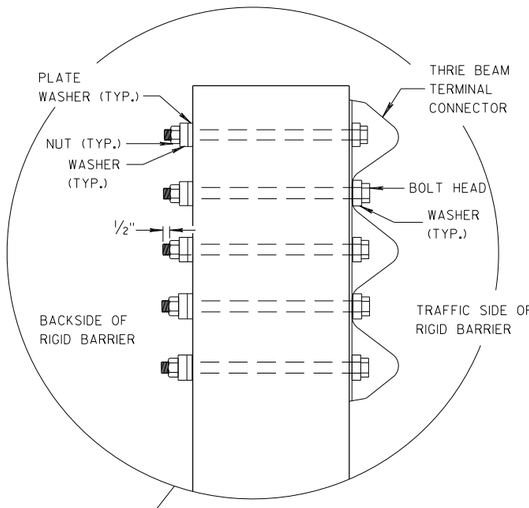
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

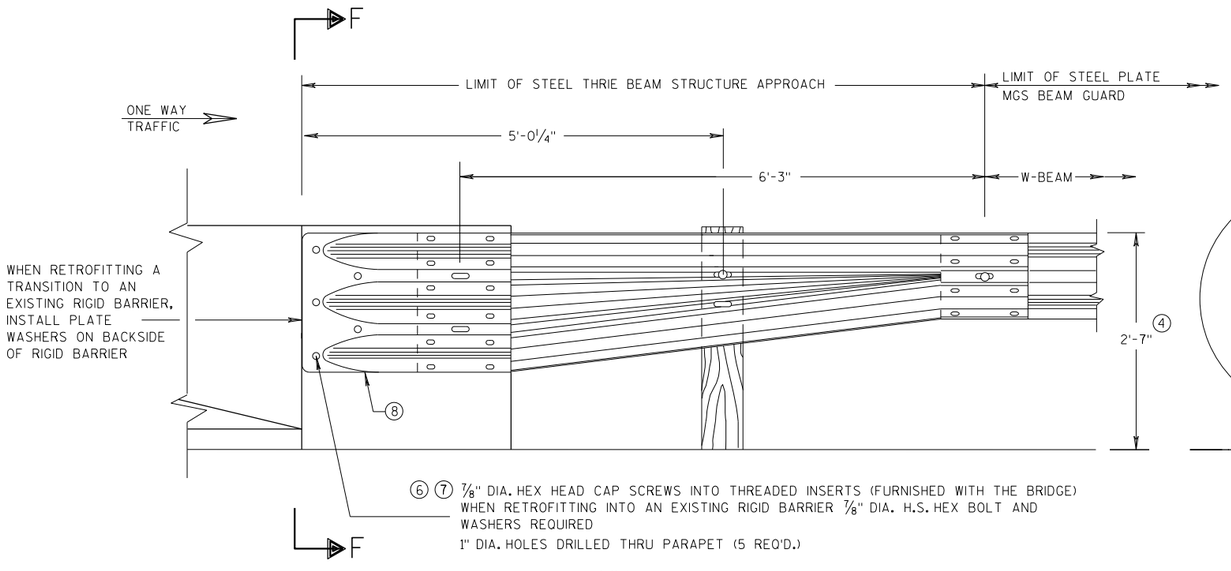
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

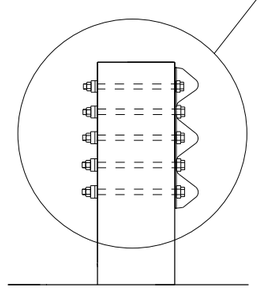
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. 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".

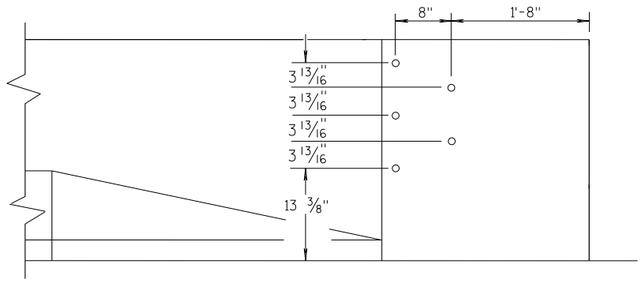




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D UNIT SUPERVI
NT
FHWA

6

S.D.D. 14 B 45-5d

6

S.D.D. 14 B 45-5d

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.

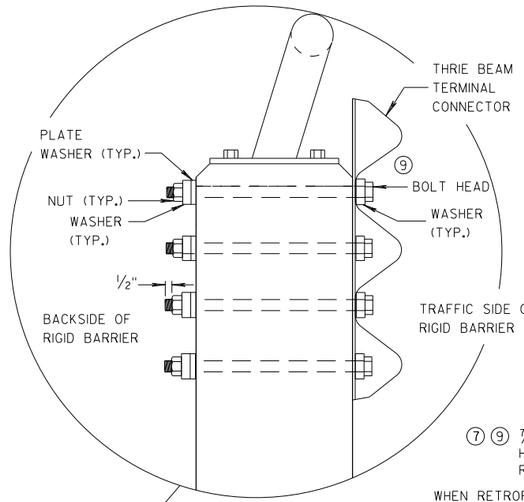
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

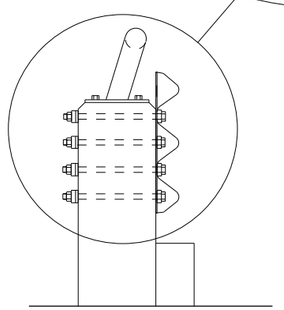
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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.

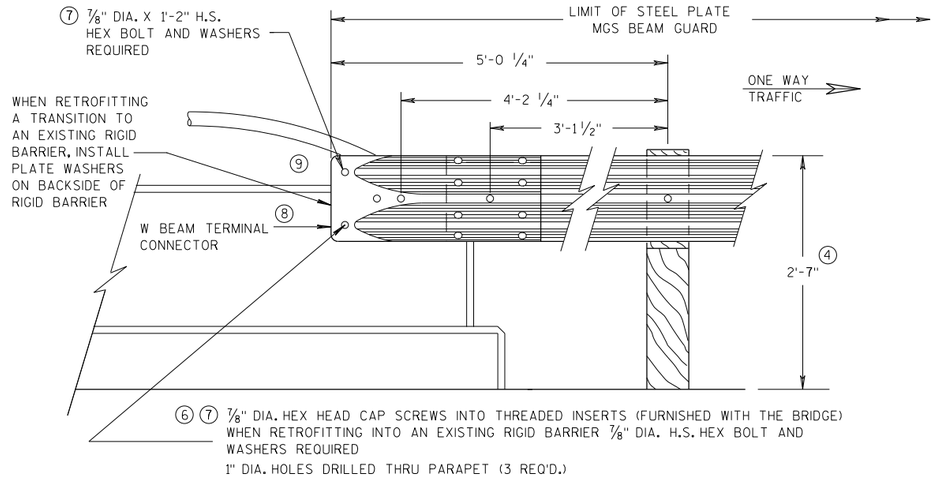
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

(9) BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.





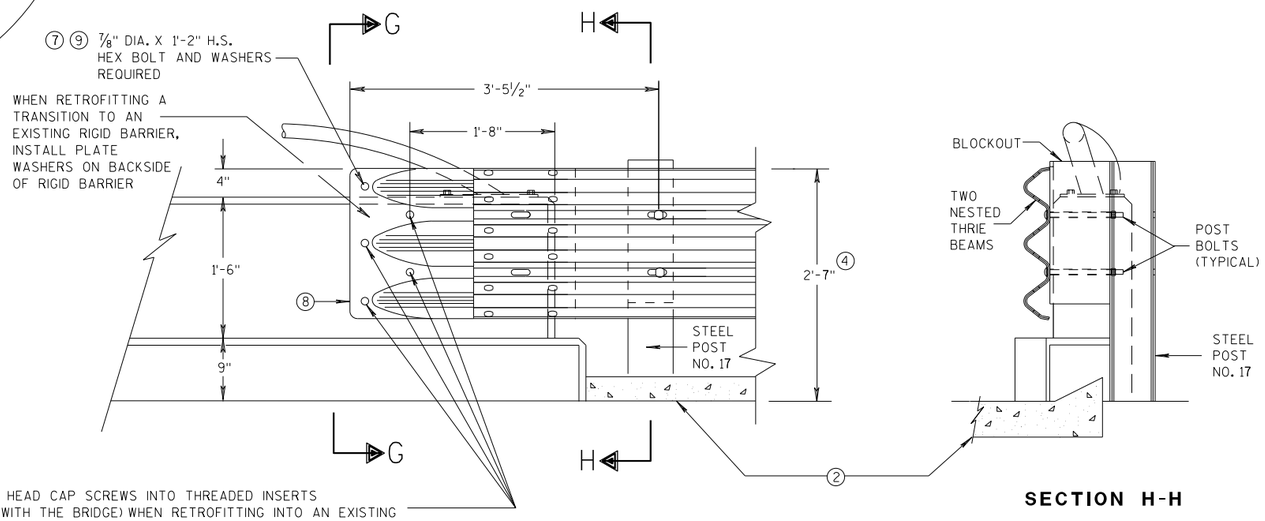
SECTION G-G



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D UNIT SUPERVI
FHWA

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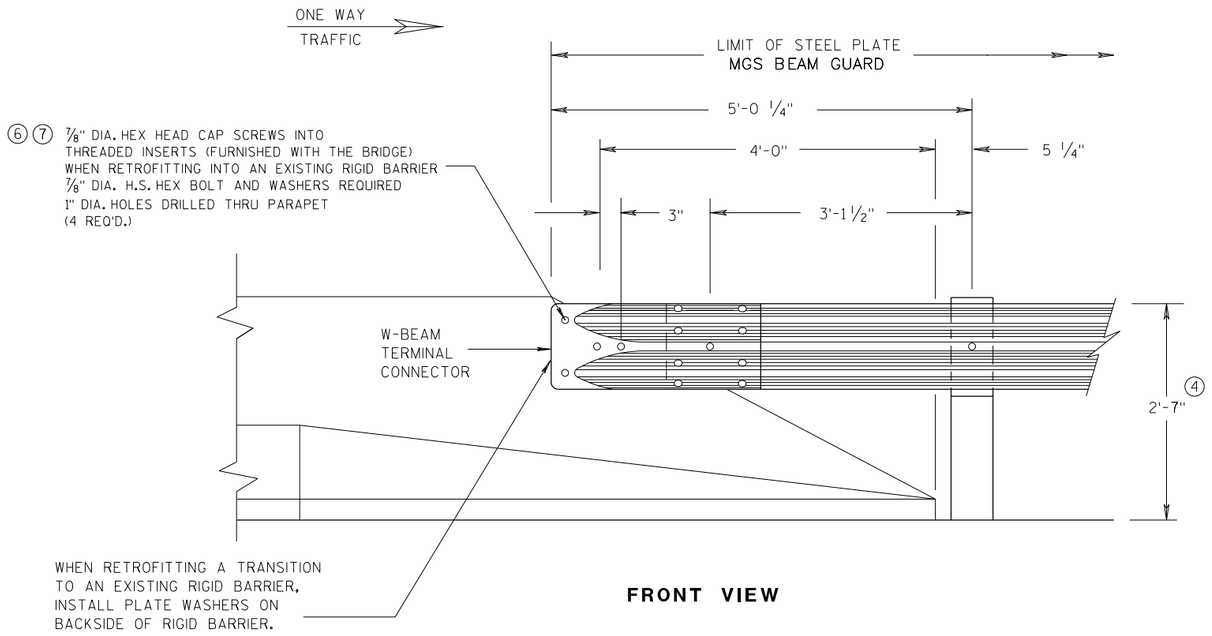


FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

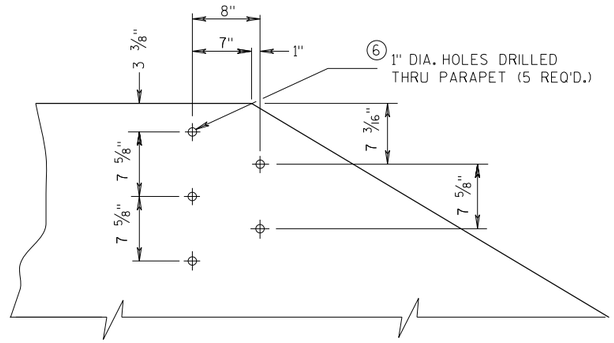
GENERAL NOTES

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

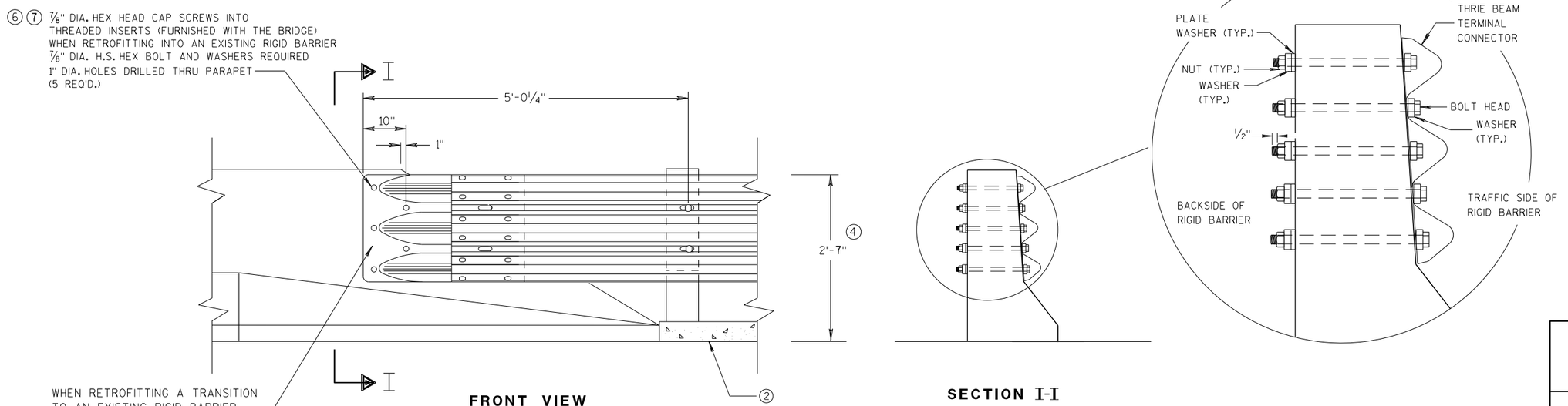
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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.



DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW

SECTION I-I

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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/S/ Rodney Taylor — ROADWAY STANDARDS I[illegible]ENT UNIT SUPERVI
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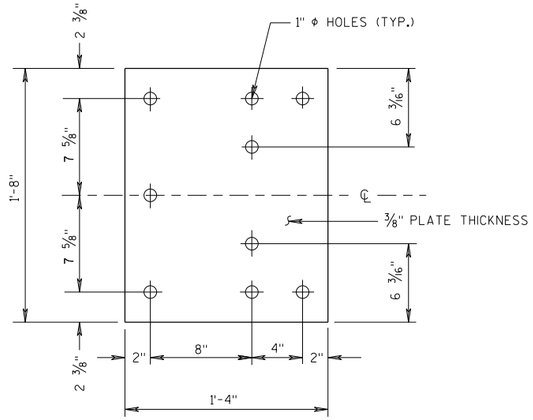
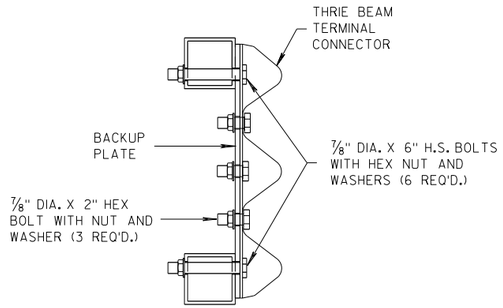


BACK-UP PLATE DETAIL

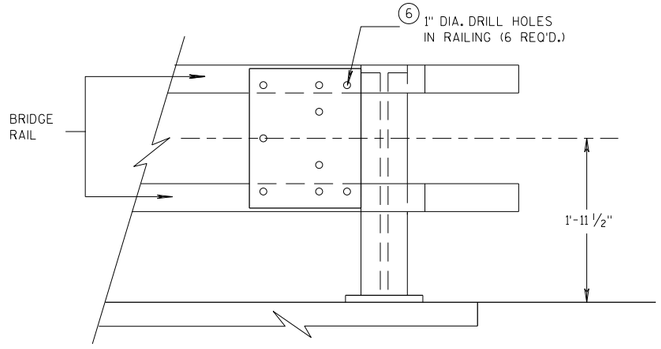


SECTION J-J

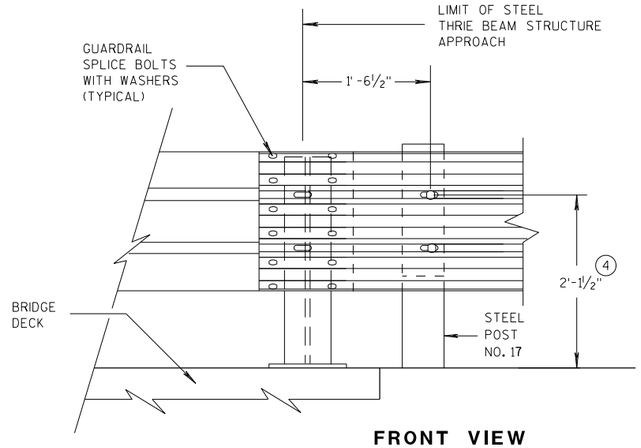
GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(6) DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

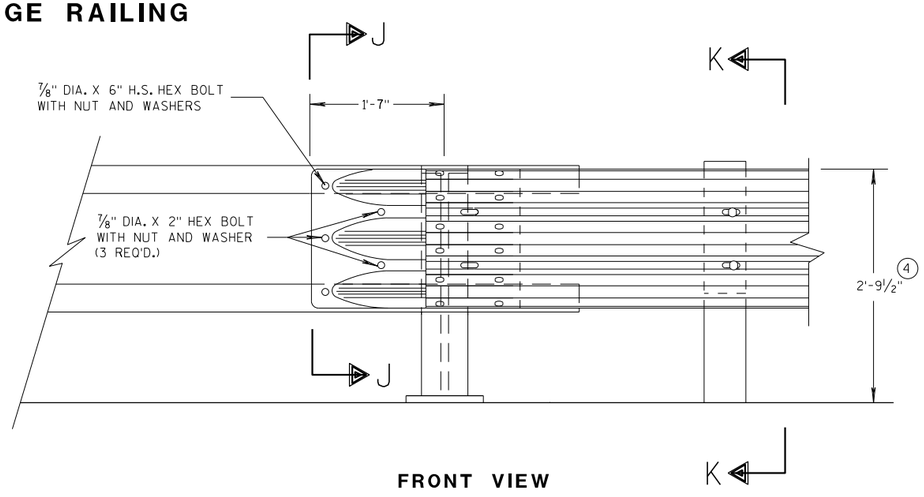


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

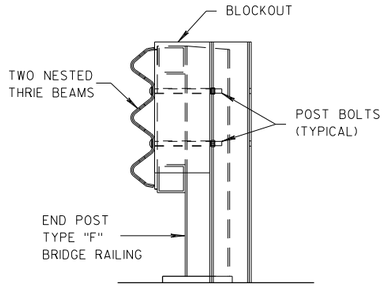


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 07/2018 — DATE — FHWA

/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

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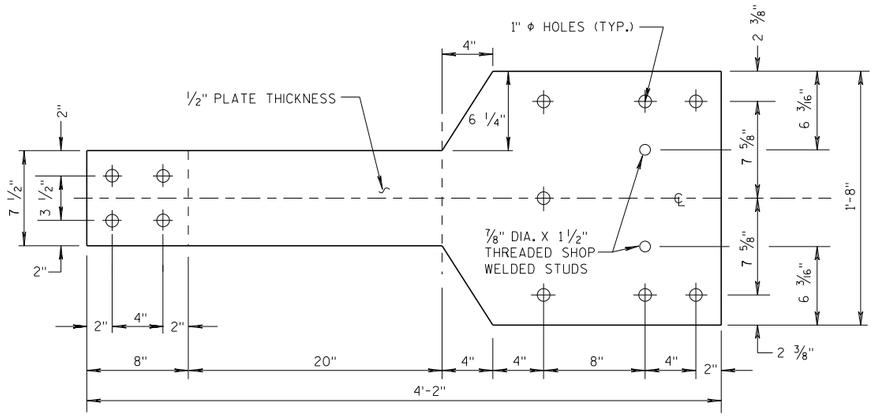
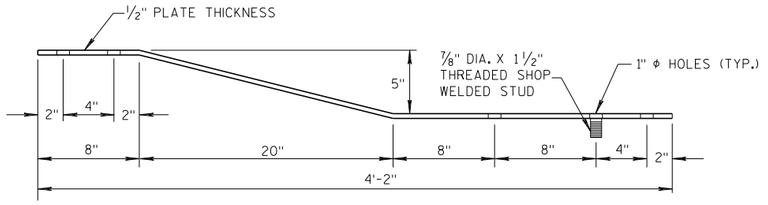
GENERAL NOTES

(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

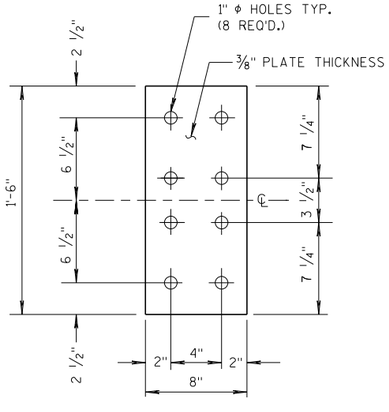


FRONT VIEW



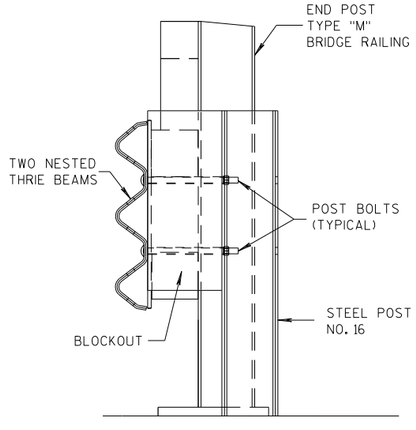
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

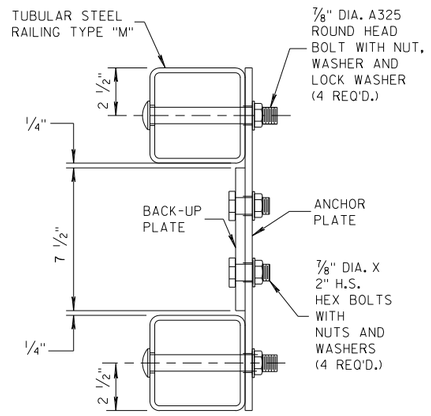


FRONT VIEW

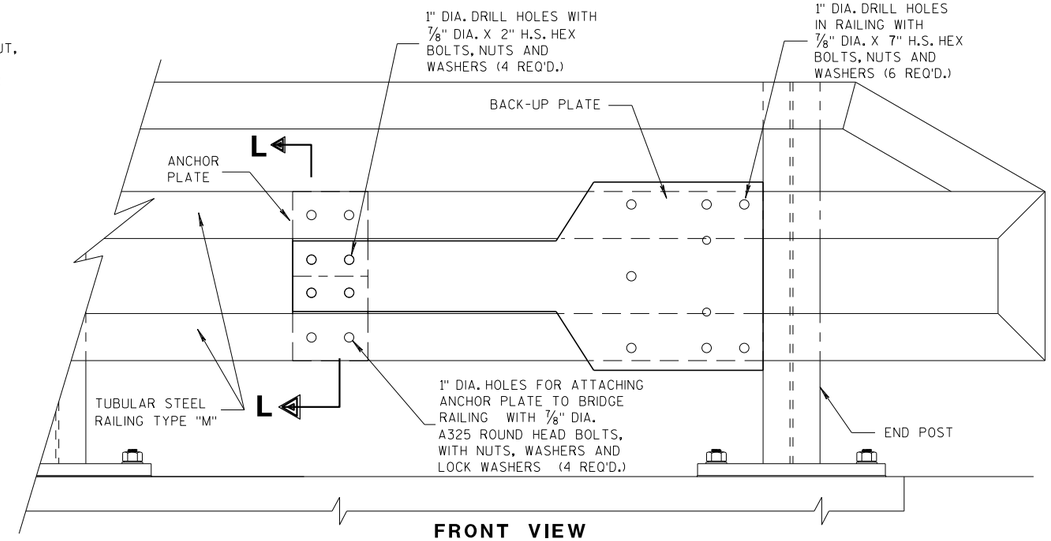
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

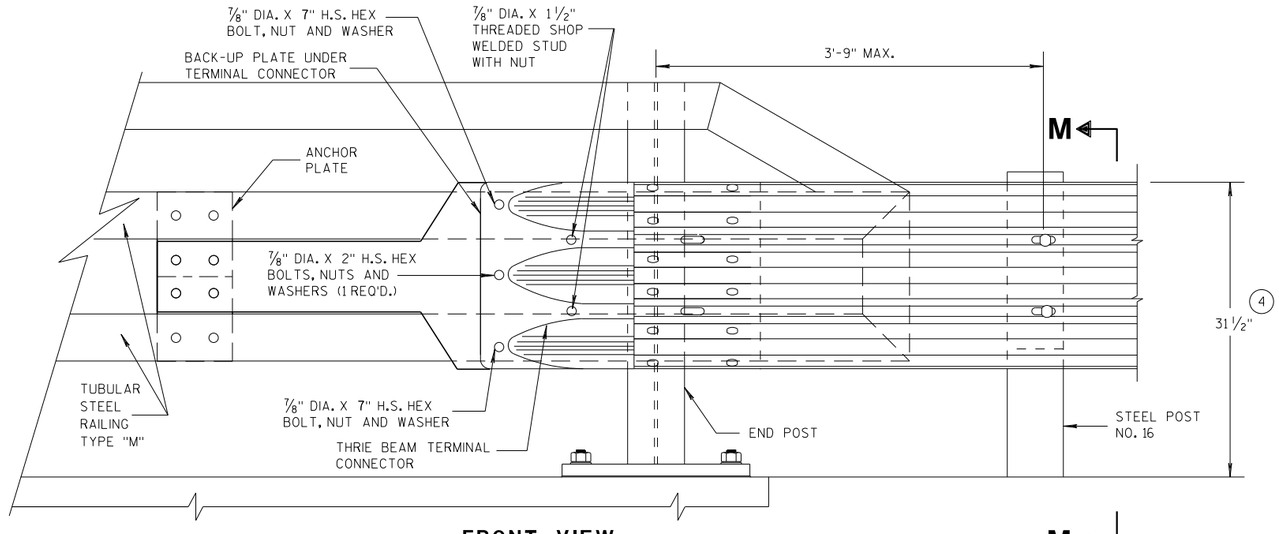


SECTION L-L

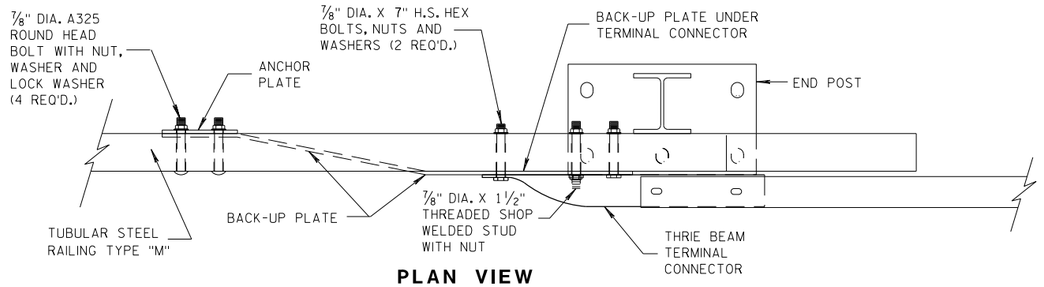


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
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GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

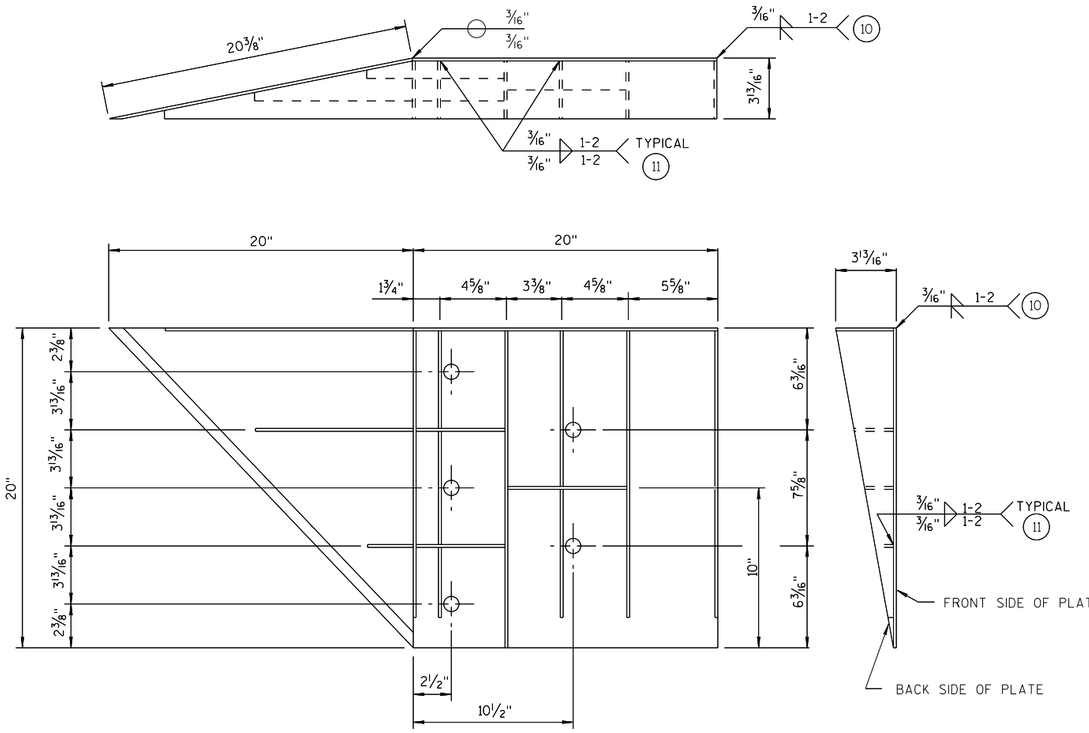
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

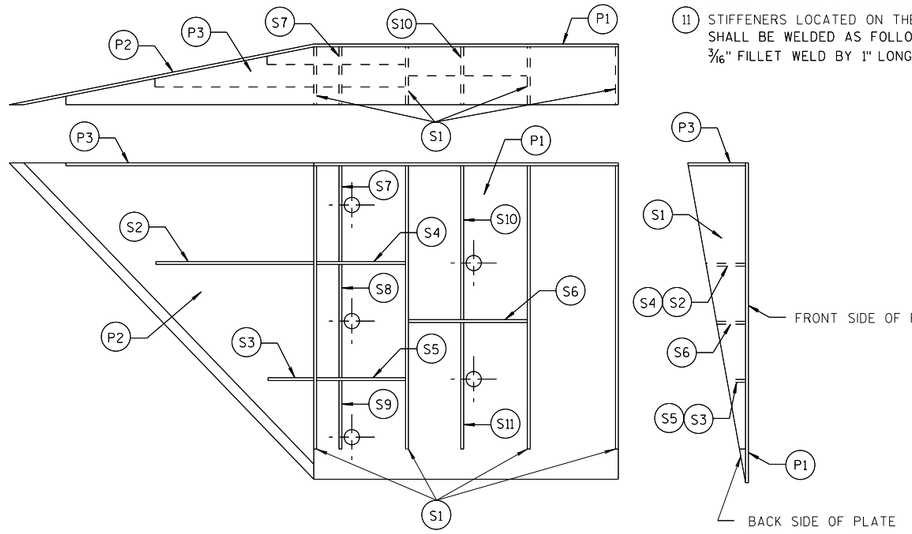


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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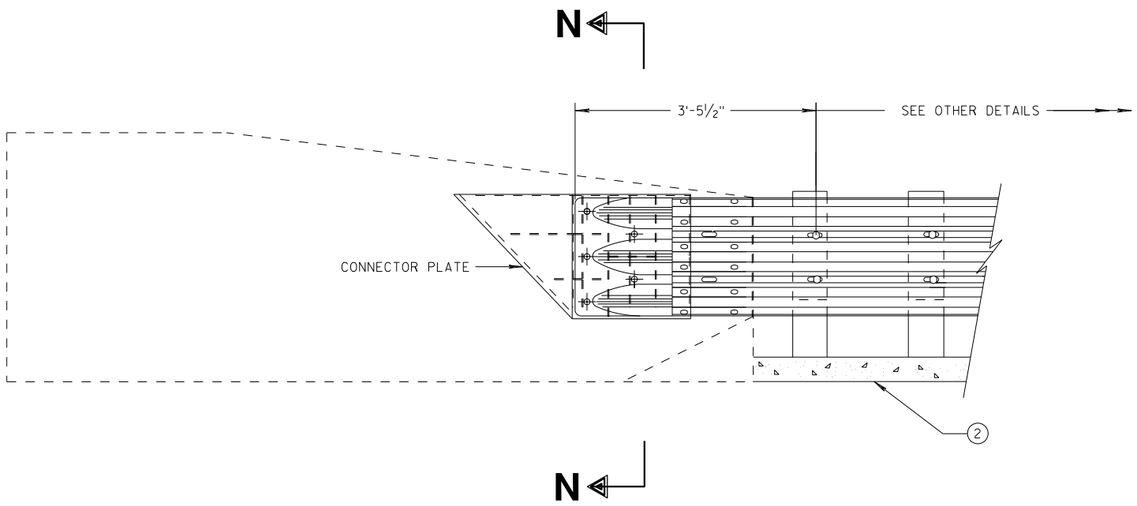
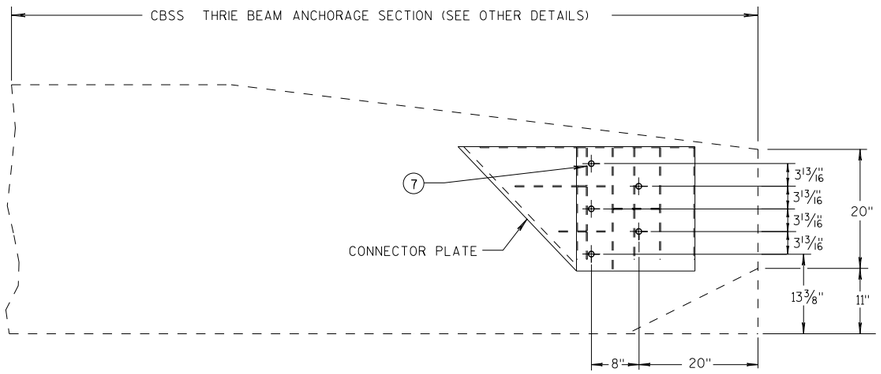


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



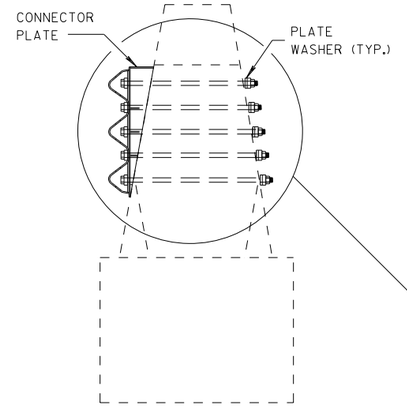
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

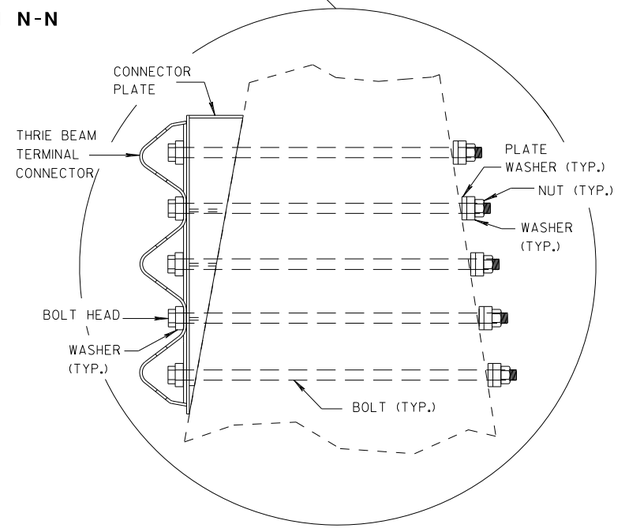
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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 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.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
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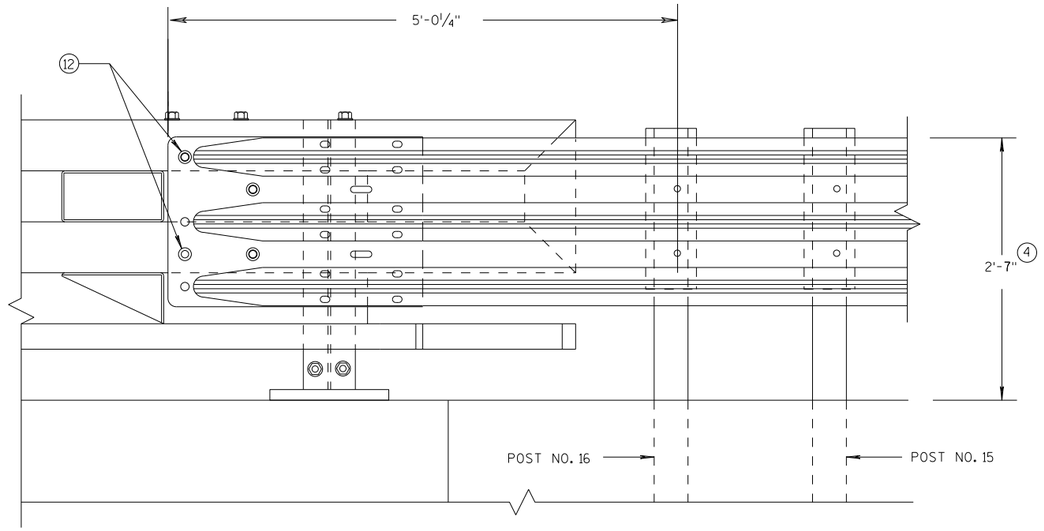
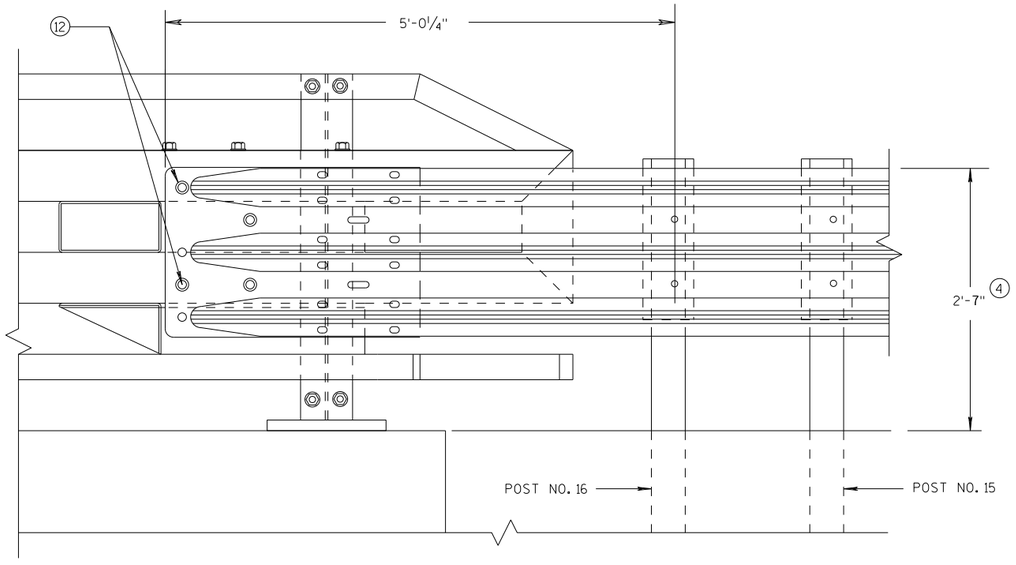


ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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/S/ Rodney Taylor
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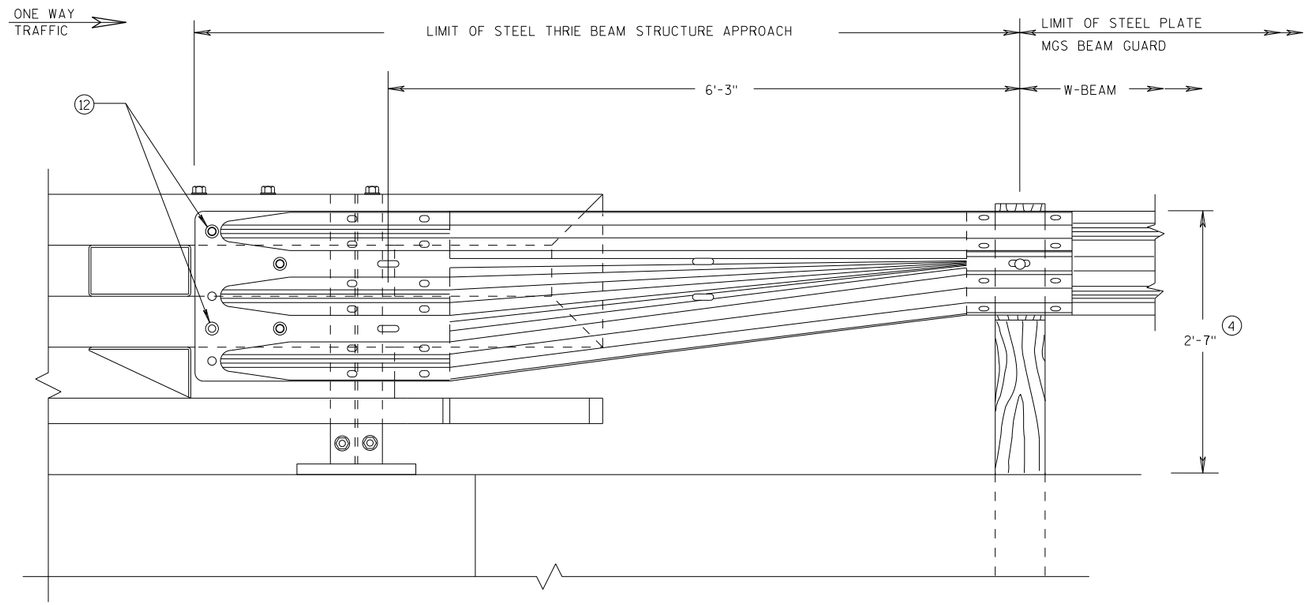


FRONT VIEW

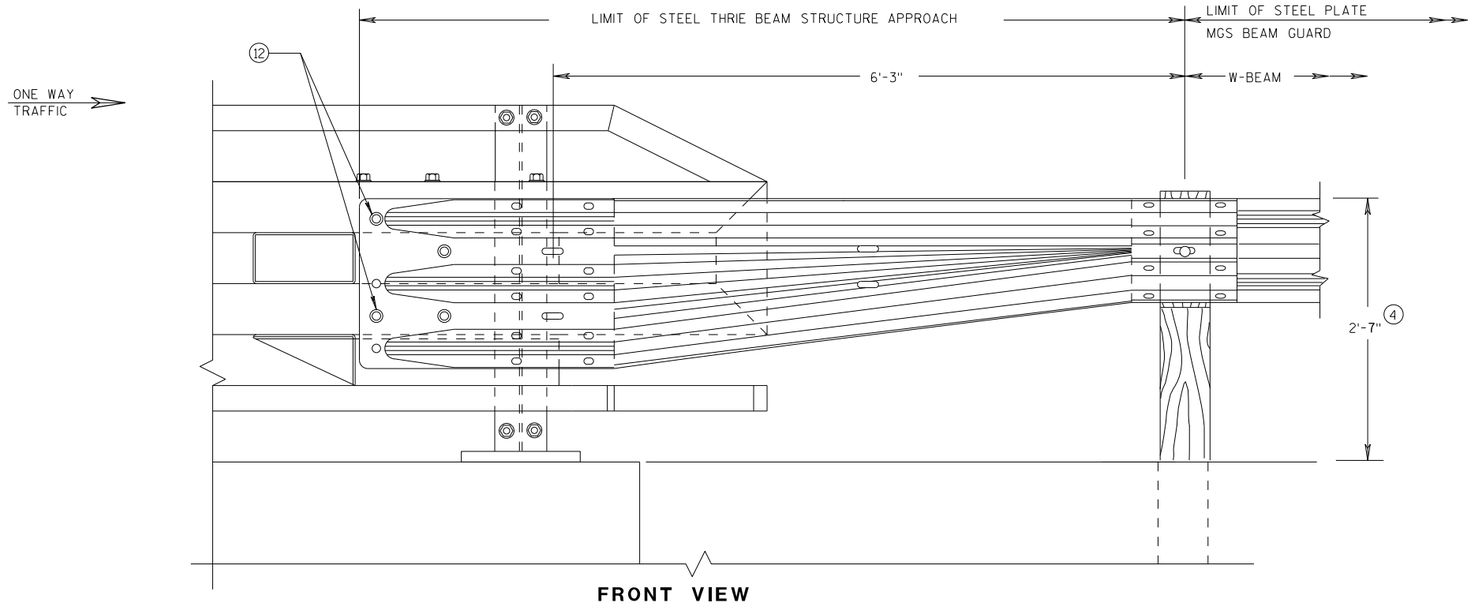
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND ½-INCH BEYOND NUT.



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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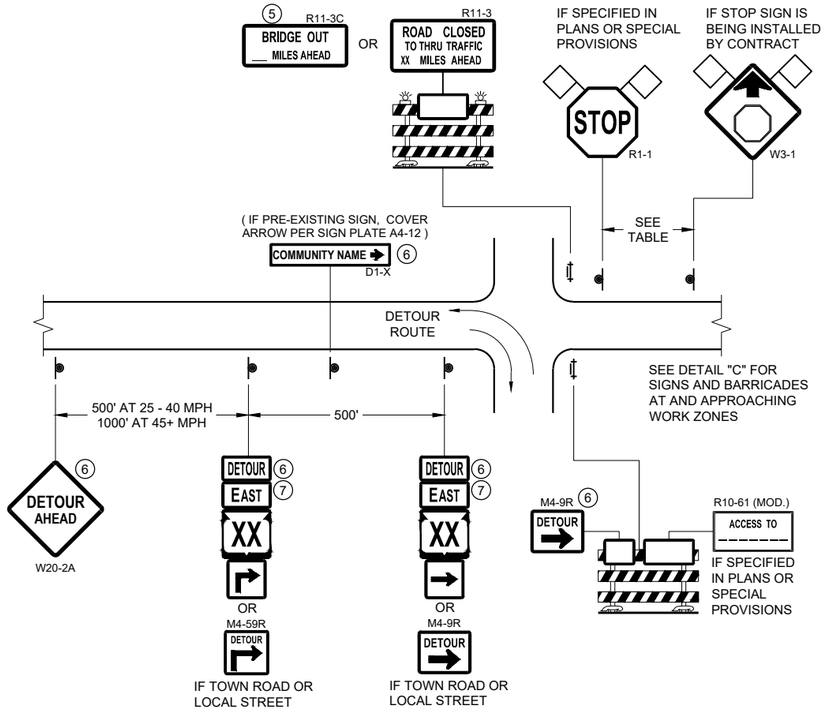
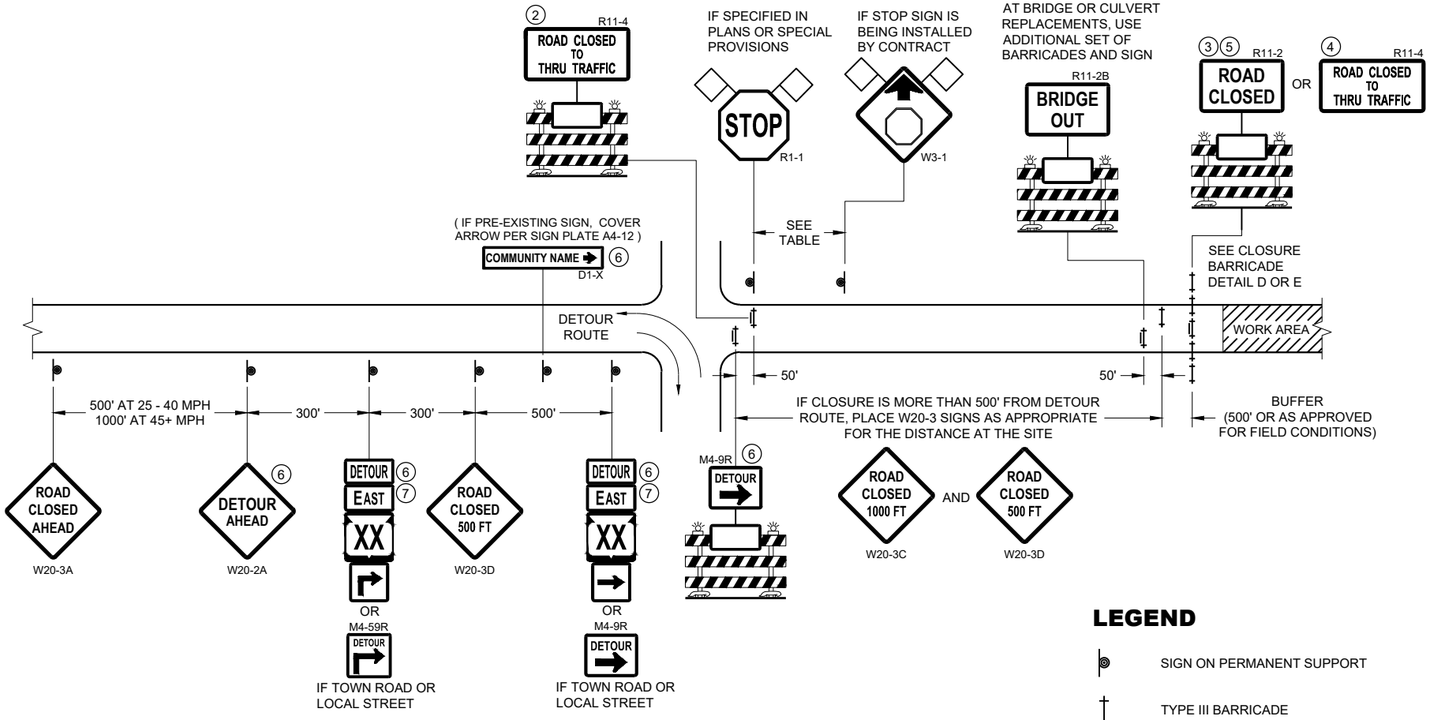


DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



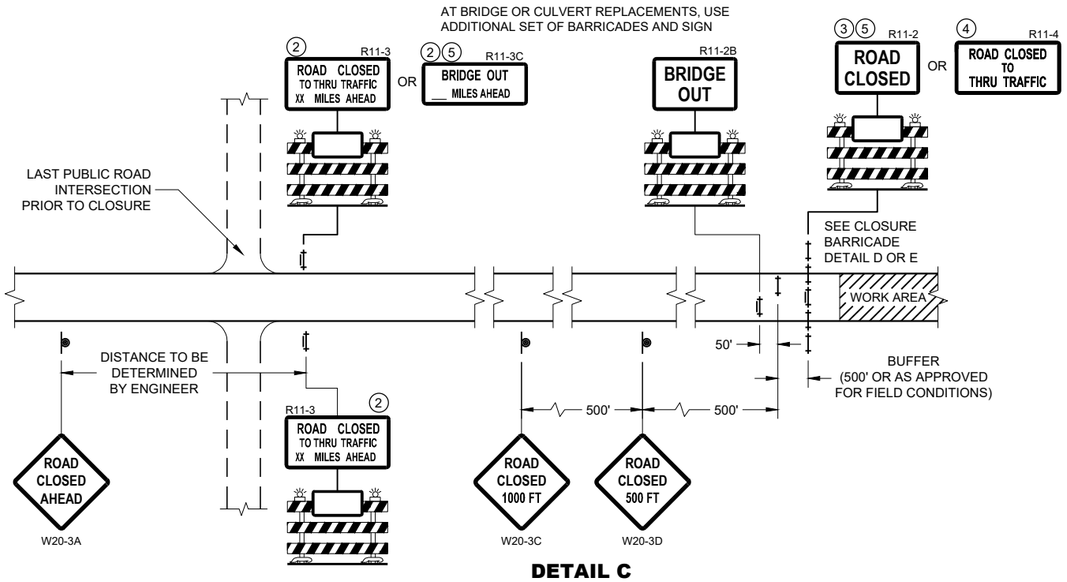
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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
M05 - 1 OR M06 - 1



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

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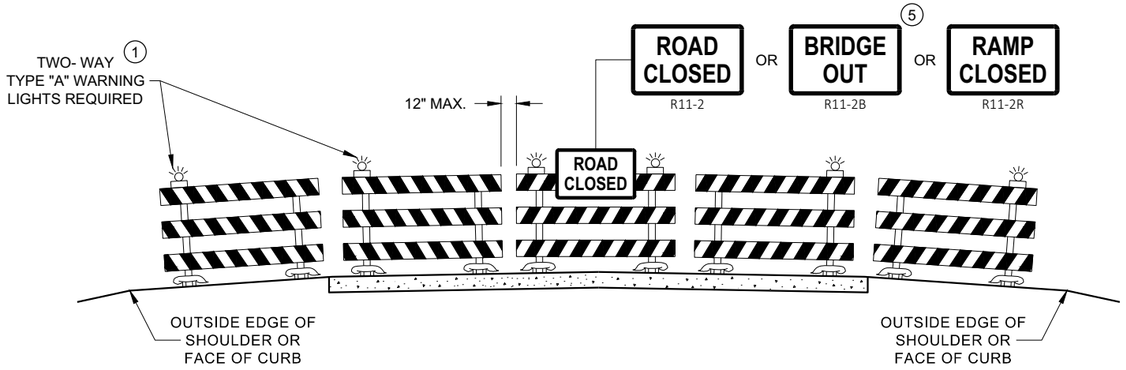
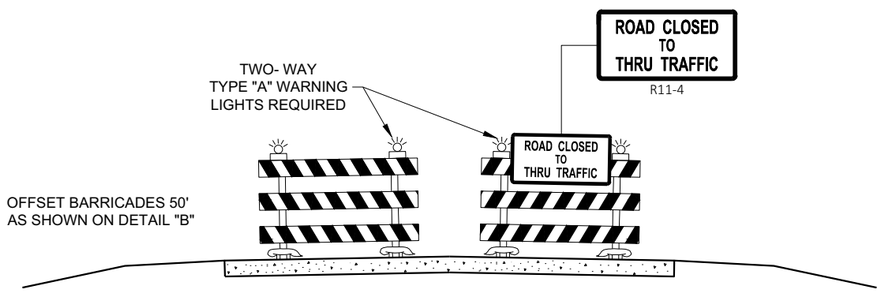
SDD 15C02 - 08a

SDD 15C02 - 08a



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

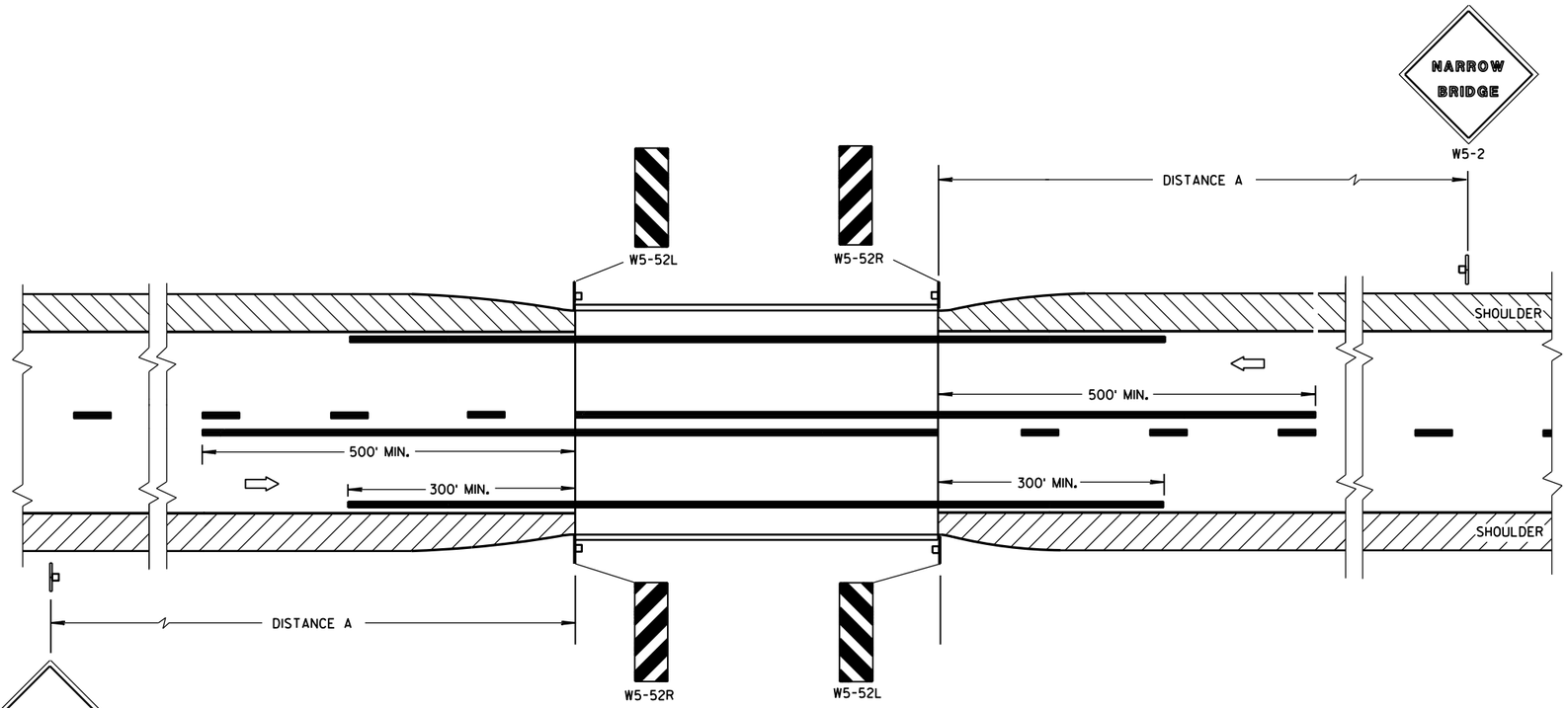
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER
FHWA

6

SDD 15C02 - 08b

6

SDD 15C02 - 08b



SITUATION 1

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

DISTANCE TABLE

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

GENERAL NOTES

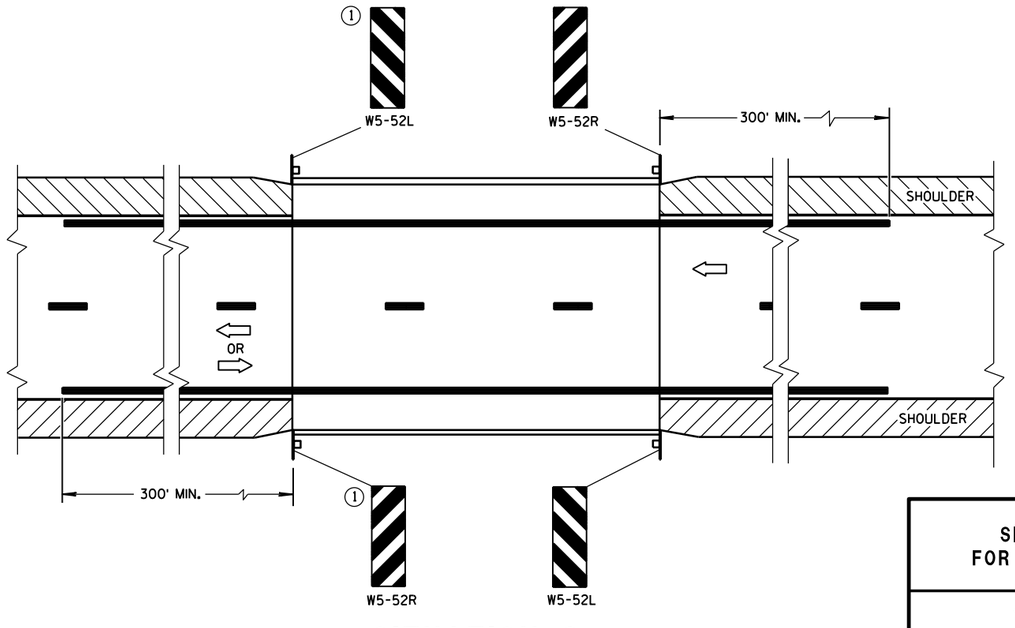
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

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

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

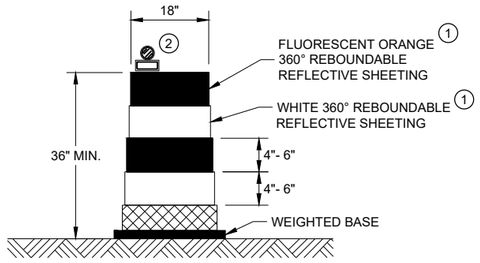
APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

6

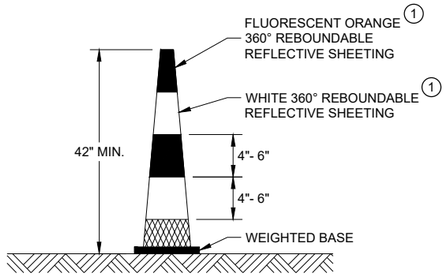
S.D.D. 15 C 6-9

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.

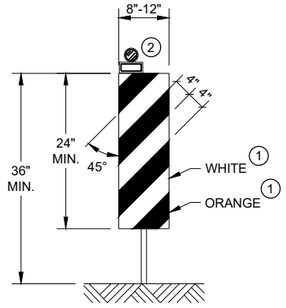


DRUM



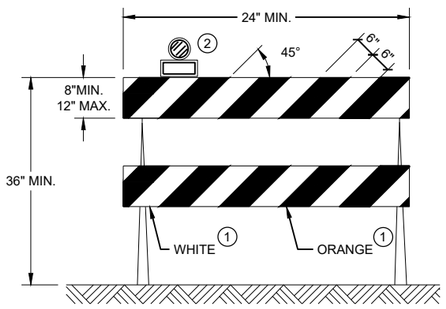
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



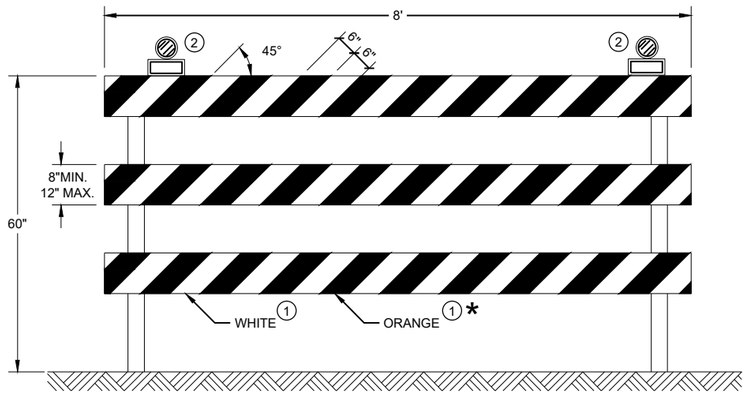
VERTICAL PANEL

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.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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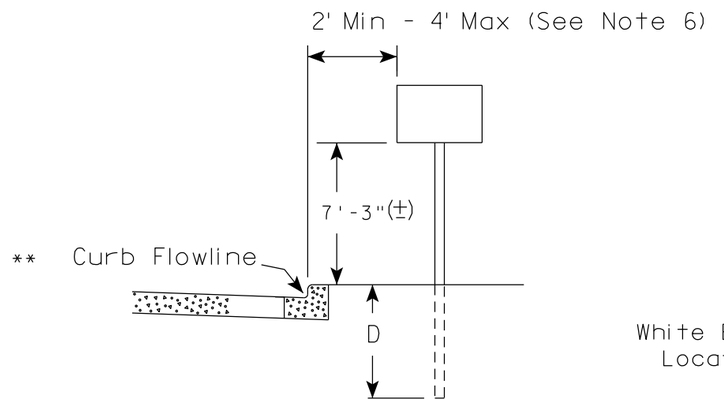
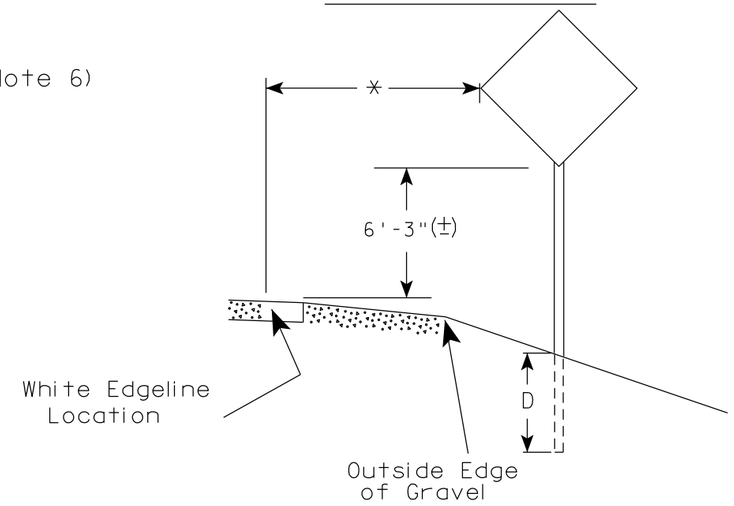
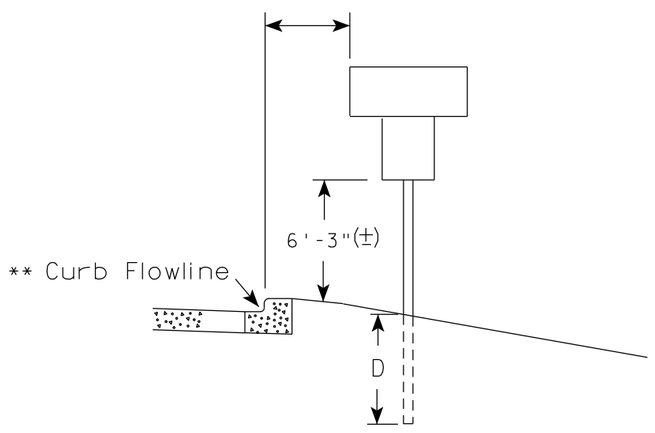
SDD 15C11 - 09b
SDD 15C11 - 09b

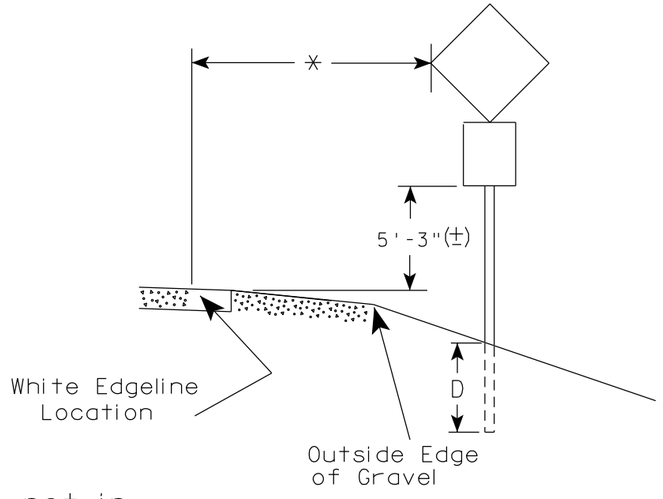
URBAN AREA



RURAL AREA (See Note 2)







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

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

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" (±). 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. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.

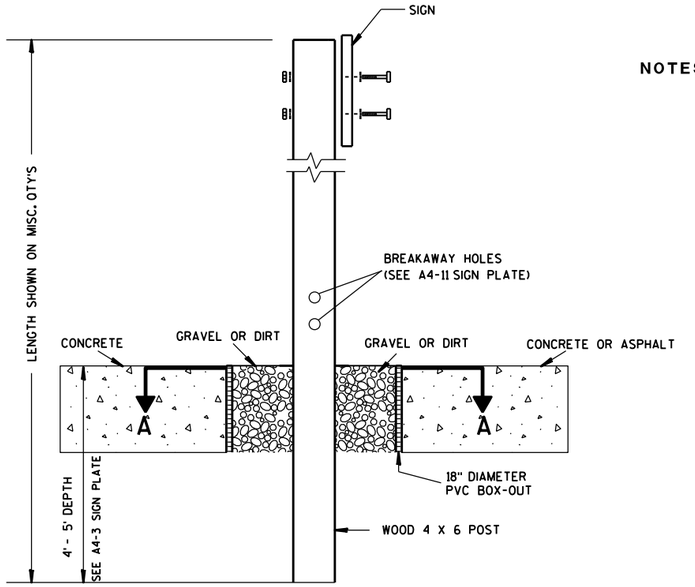
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-3.22

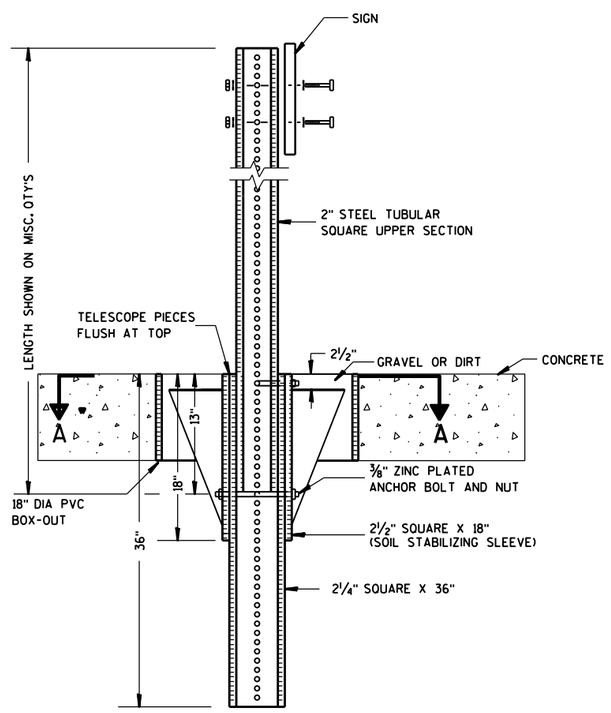
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 49	E



ELEVATION VIEW

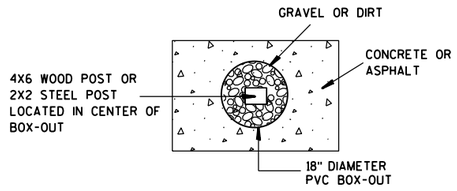
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

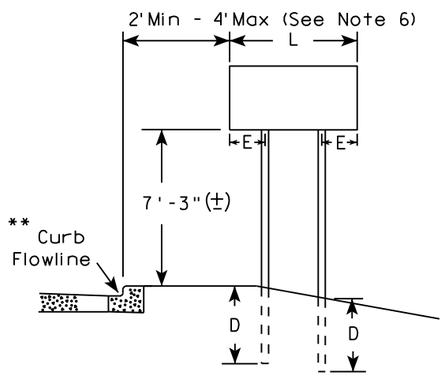
APPROVED Matthew R Rauch
for State Traffic Engineer

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

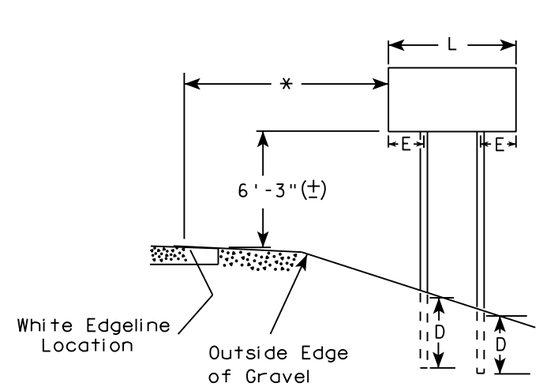
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

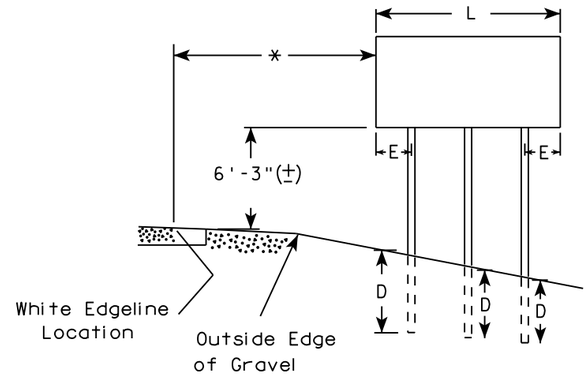
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

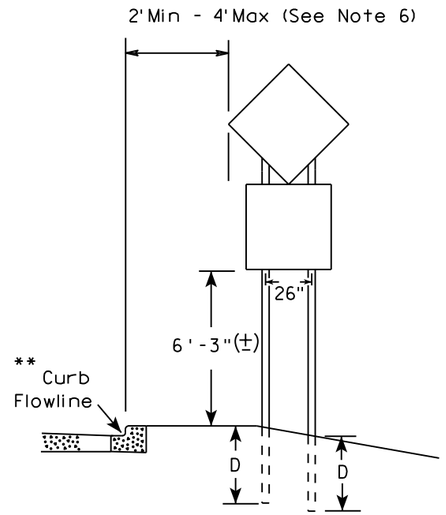
URBAN AREA



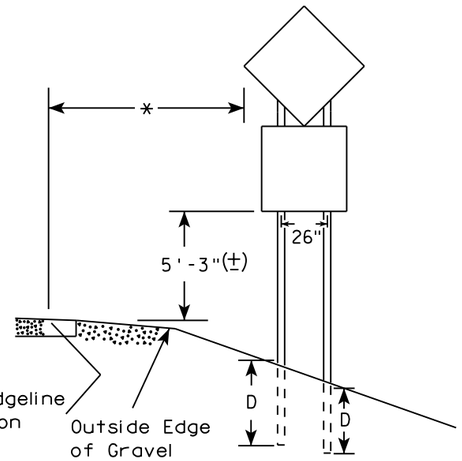
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

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

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

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

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

POST EMBEDMENT DEPTH

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

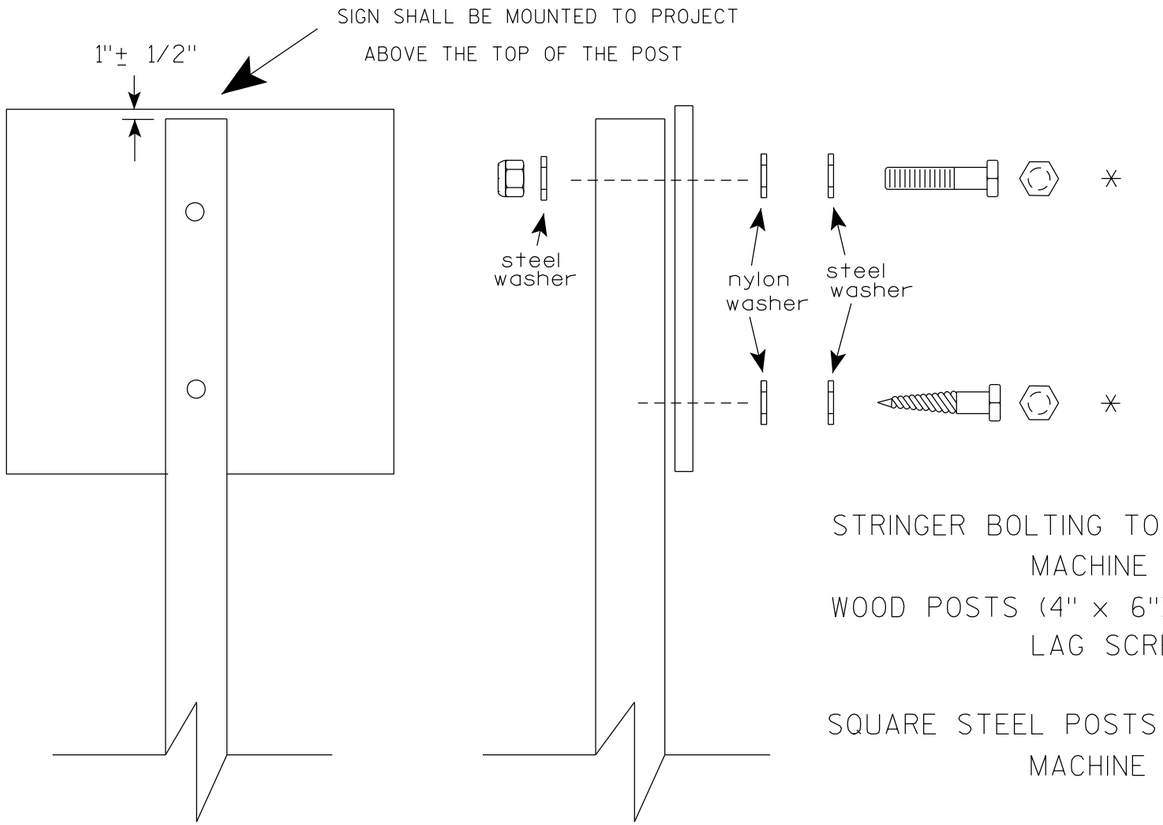
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 51	E



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

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

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

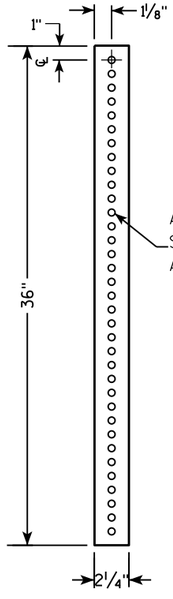
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

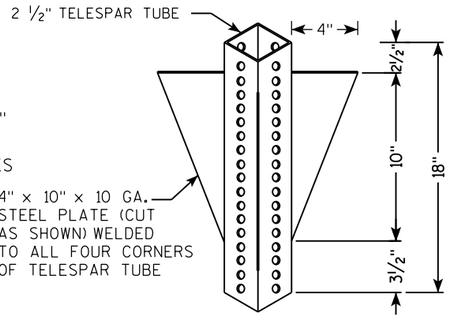
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

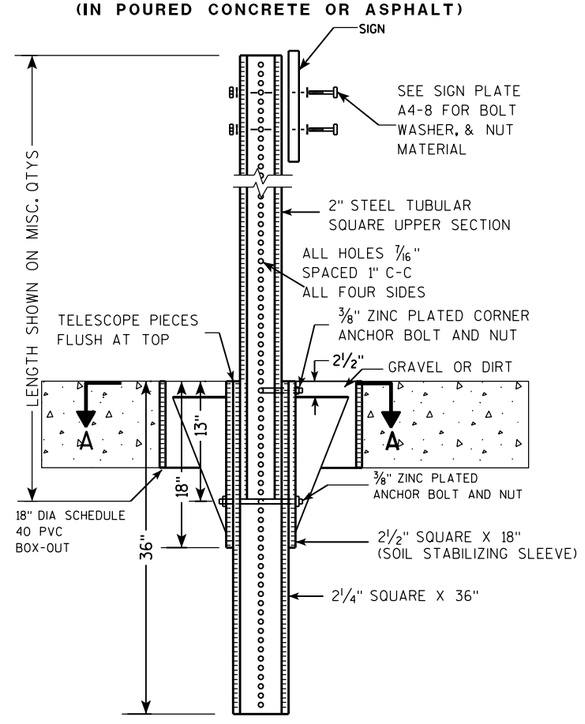
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



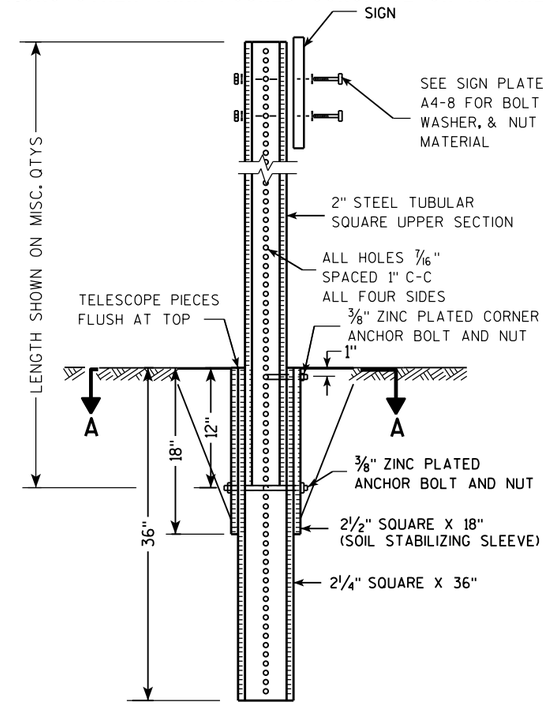
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

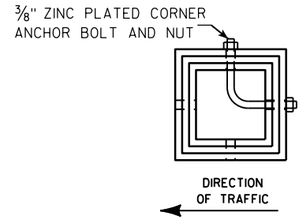


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

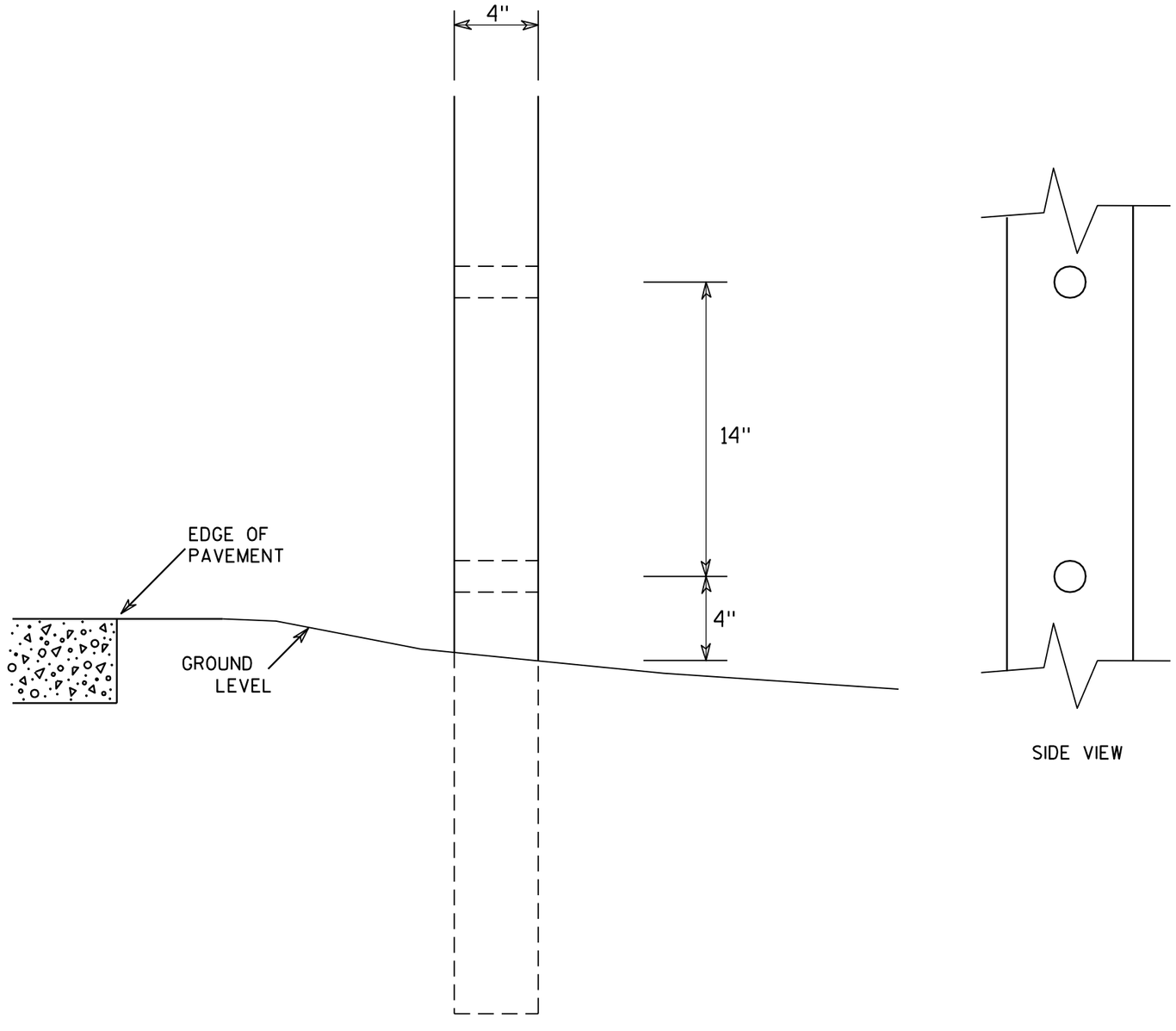
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000
WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

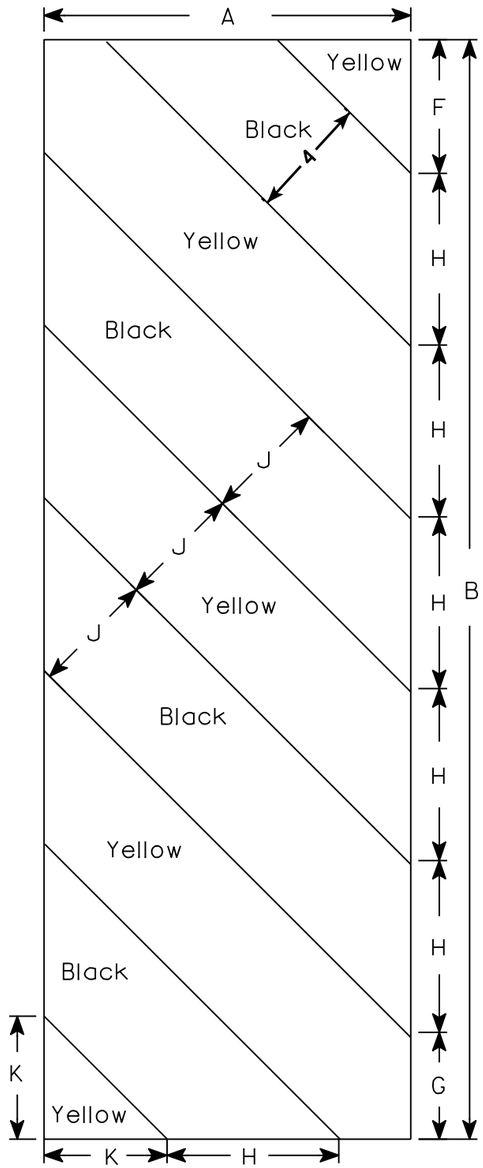
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

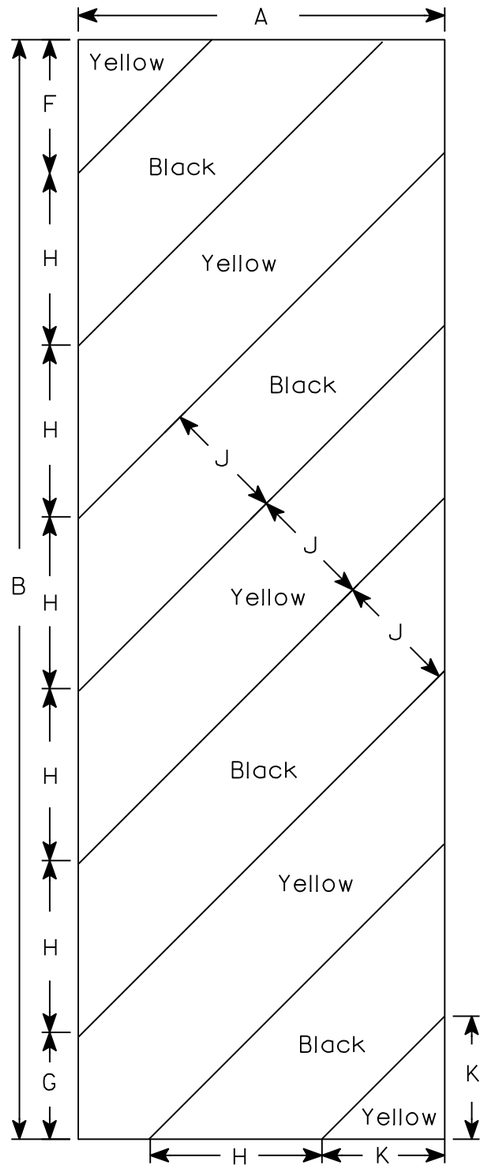
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 54	E



W5-52L



W5-52R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Alternate colors of stripes as shown.

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

STANDARD SIGN

W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 55 | E

STATE PROJECT NUMBER

4854-04-71

LEGEND

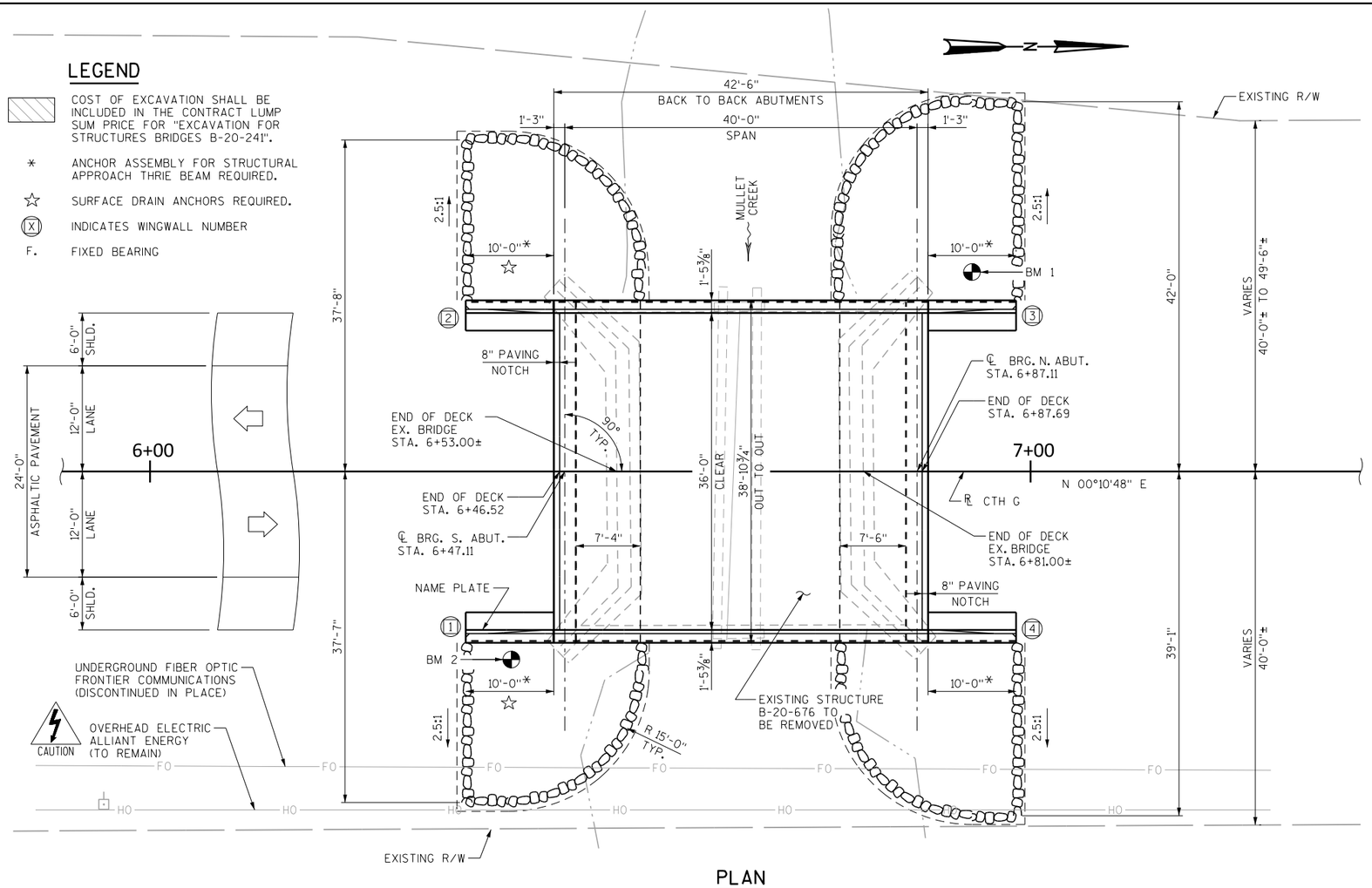
COST OF EXCAVATION SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-20-241".

* ANCHOR ASSEMBLY FOR STRUCTURAL APPROACH THRIE BEAM REQUIRED.

☆ SURFACE DRAIN ANCHORS REQUIRED.

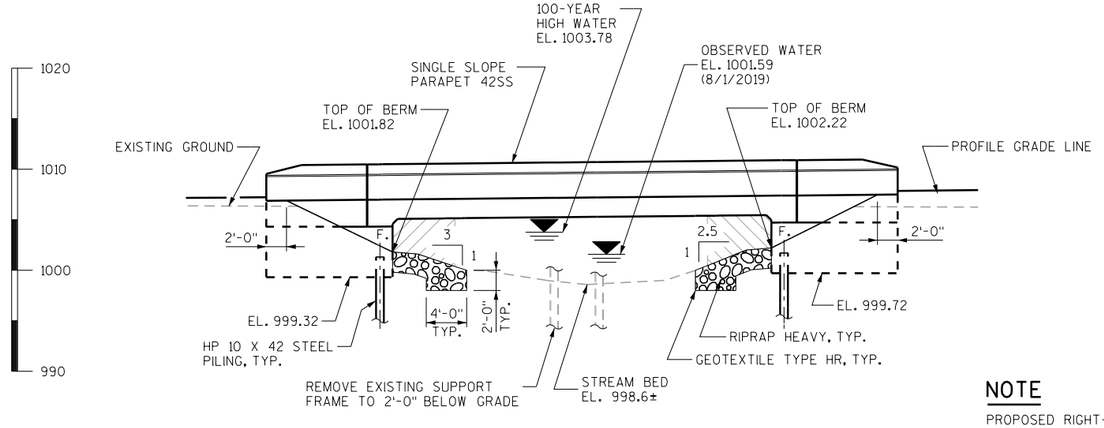
Ⓧ INDICATES WINGWALL NUMBER

F. FIXED BEARING



PLAN

SINGLE SPAN CONCRETE FLAT SLAB



ELEVATION

LOOKING WEST

NOTE

PROPOSED RIGHT-OF-WAY AND TEMPORARY LIMITED EASEMENT IS OFF OD THE PAGE AND IS NOT SHOWN FOR CLARITY. SEE SECTION 4 OF THE PLANS FOR PROPOSED RIGHT-OF-WAY AND EASEMENT LIMITS.

DESIGN DATA

LIVE LOAD:
DESIGN LOAD: HL-93
INVENTORY RATING FACTOR = 1.21
OPERATING RATING FACTOR = 1.56
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 PSF.

MATERIAL PROPERTIES:
CONCRETE MASONRY:
SUPERSTRUCTURE.....f'c = 4,000 PSI
ALL OTHER.....f'c = 3,500 PSI
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60.....fy = 60,000 PSI

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10 x 42 AND DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.

ESTIMATED 35'-0" LONG AT SOUTH ABUTMENT.
ESTIMATED 45'-0" LONG AT NORTH ABUTMENT.

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

HYDRAULIC DATA

100 YEAR FREQUENCY

Q_{100} = 570 C.F.S
VEL. = 4.58 F.P.S.
HW_{100} = EL. 1003.78
WATERWAY AREA = 125 SQ. FT.
DRAINAGE AREA = 16.7 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 5

2 YEAR FREQUENCY

Q_2 = 200 C.F.S.
VEL. = 2.27 F.P.S.
HW_2 = EL. 1002.46

LIST OF DRAWINGS

TRAFFIC DATA

CTH G
A.D.T. = 1,350 (2022)
A.D.T. = 1,750 (2042)
R.D.S. = 55 MPH

BENCH MARK

NO.	STATION	DESCRIPTION	ELEVATION
1	STA. 6+93.35, 22.66' LT.	¾" REBAR AT GRADE - WING 3	1004.63
2	STA. 6+41.03, 21.36' RT.	¾" REBAR AT GRADE - WING 1	1004.40

WISCONSIN
VINCENT J. DIFRANCES
E-45790
MILWAUKEE
WI
PROFESSIONAL ENGINEER

11/4/2021

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
AARON BONK, P.E. (608) 261-0261

CONSULTANT:
VINCENT DIFRANCES, P.E. (920) 468-4771

NO.	DATE	REVISION	BY

jt ENGINEERING, INC
Consultant Services

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 11/05/21
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-20-241

CTH G OVER MULLET CREEK

COUNTY: FOND DU LAC
TOWN: FOREST

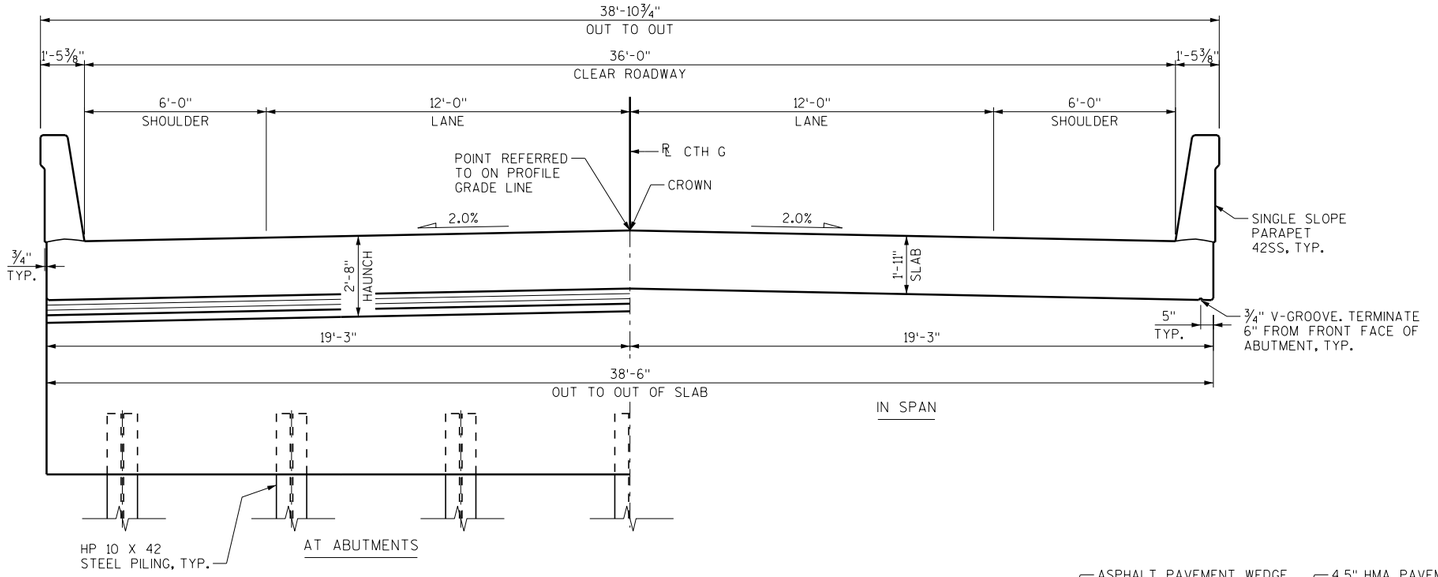
DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
VJD	FKH	VJD	FKH

GENERAL PLAN AND ELEVATION

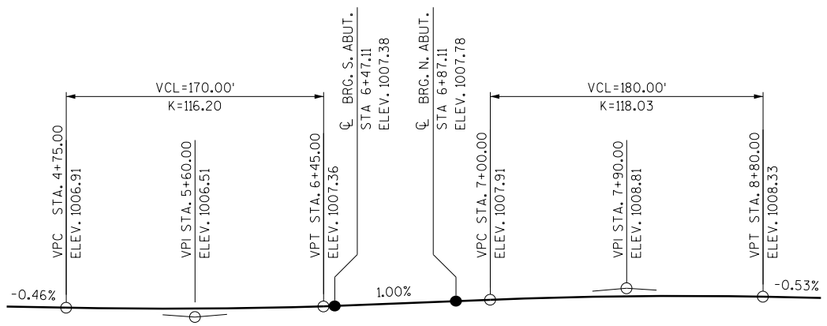
SHEET 1 OF 11
56

STATE PROJECT NUMBER
4854-04-71



TYPICAL CROSS SECTION THRU BRIDGE

LOOKING NORTH

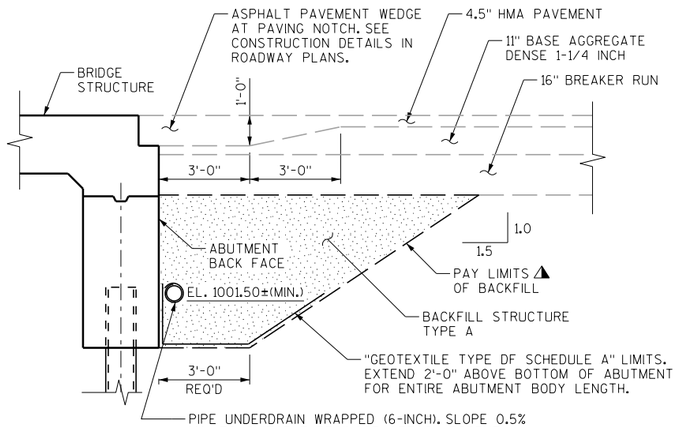


PROFILE GRADE LINE - CTH G

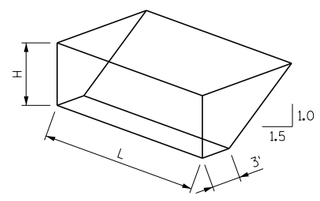
TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEM	UNIT	S. ABUT. CAT 0020	S. ABUT. CAT 0030	N. ABUT. CAT 0020	N. ABUT. CAT 0030	SUPER CAT 0020	SUPER CAT 0030	TOTAL
203.0250	REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS B-20-241	LS	-	-	-	-	-	-	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-20-241	LS	-	-	-	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	95	10	95	10	-	-	210
502.0100	CONCRETE MASONRY BRIDGES	CY	34	2	34	2	119	12	203
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	-	-	145	20	165
502.3210	PIGMENTED SURFACE SEALER	SY	10	-	10	-	43	-	63
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,025	225	2,025	225	-	-	4,500
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,060	-	2,040	-	21,120	2,350	27,570
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10	-	10	-	-	-	20
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	245	-	315	-	-	-	560
606.0300	RIPRAP HEAVY	CY	85	-	95	-	-	-	180
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	95	5	95	5	-	-	200
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	-	2	-	-	-	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	40	5	40	5	-	-	90
645.0120	GEOTEXTILE TYPE HR	SY	160	-	175	-	-	-	335
	NON-BID ITEMS								
	PREFORMED JOINT FILLER	SIZE							1/2" & 3/4"
	NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER	SIZE							1"
	NAME PLATE	EACH							1

CAT 0020 IS PARTICIPATING FUNDING. CAT 0030 IS NON-PARTICIPATING FUNDING.



STRUCTURE BACKFILL DETAIL



ABUTMENT BACKFILL DIAGRAM

L = OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)
V_{CY} = V_{CF} (EF)/27
V_{TON} = V_{CY} (2.0)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). HORIZONTAL POSITIONS ARE WISCONSIN COUNTY COORDINATES, FOND DU LAC COUNTY, NAD 83 (2011).

EXISTING SUBSTRUCTURE LOCATIONS ARE BASED ON SURVEY AND AS-BUILT PLANS. REMOVE EXISTING SUBSTRUCTURES AS NEEDED TO CONSTRUCT NEW SUBSTRUCTURES. COST OF REMOVAL IS INCIDENTAL TO THE BID ITEM "REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS B-20-241".

THE EXISTING STRUCTURE, B-20-676, IS A SINGLE SPAN REINFORCED CONCRETE GIRDER BRIDGE ORIGINALLY CONSTRUCTED IN 1929. THE ORIGINAL BRIDGE WAS WIDENED IN 1960 WITH STEEL GIRDERS AT THE EXTERIOR EDGES OF THE STRUCTURE AND REINFORCED WITH A STEEL PIER FRAME IN 1988. THE BRIDGE IN ITS CURRENT CONFIGURATION HAS A WIDTH OF 38'-3" AND AN END OF DECK TO END OF DECK LENGTH OF APPROXIMATELY 36'-0". THE EXISTING STRUCTURE B-20-676 IS TO BE REMOVED. REMOVE THE STEEL PIER FRAME TO A MINIMUM OF 2'-0" BELOW THE STREAM BED.

THE UPPER LIMIT OF "EXCAVATION FOR STRUCTURES BRIDGES B-20-241" SHALL BE THE EXISTING GROUNDLINE.

FILL AND/OR EXCAVATE TO THE BOTTOM OF THE ABUTMENT ELEVATION PRIOR TO DRIVING PILES.

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

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENTS SHOWN ON SHEET 1. RIPRAP HEAVY SHALL BE PLACED PRIOR TO THE ERECTION OF FALSEWORK.

ABUTMENT CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECITON 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

THE FIRST DIGIT OF A THREE DIGIT OR FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

PREFORMED FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M153, TYPES I, II OR III OR M213.

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE ENTIRE ROADWAY SURFACE OF THE BRIDGE DECK.

PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE ROADWAY FACE AND THE TOP OF THE CONCRETE PARAPETS.

THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OVERHEAD UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MARKING THEIR OWN DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

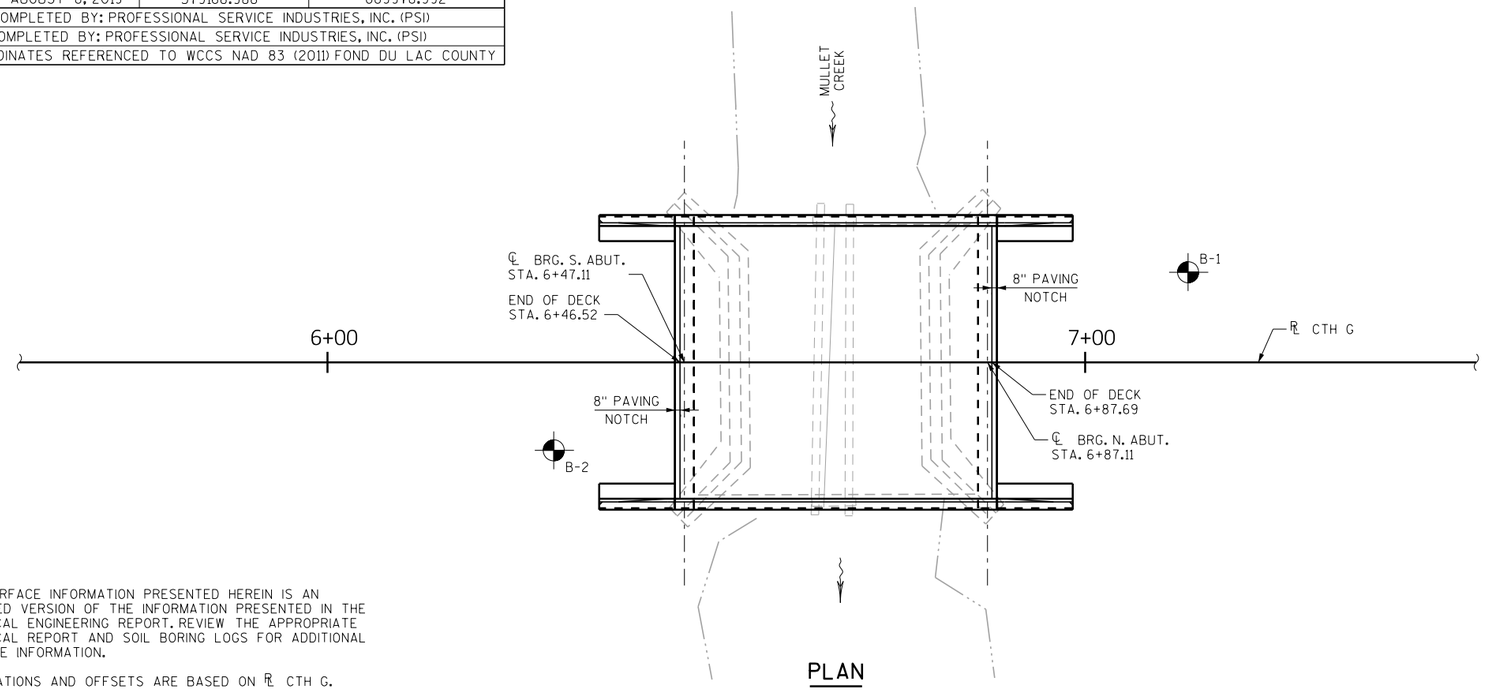
STRUCTURE B-20-241

DRAWN BY VJD | PLANS CK'D. FKH

CROSS SECTION AND QUANTITIES

SHEET 2 OF 11
57

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	AUGUST 7, 2019	379252.787	889953.739
2	AUGUST 8, 2019	379168.988	889976.992
BORINGS COMPLETED BY: PROFESSIONAL SERVICE INDUSTRIES, INC. (PSI)			
REPORT COMPLETED BY: PROFESSIONAL SERVICE INDUSTRIES, INC. (PSI)			
ALL COORDINATES REFERENCED TO WCCS NAD 83 (2011) FOND DU LAC COUNTY			

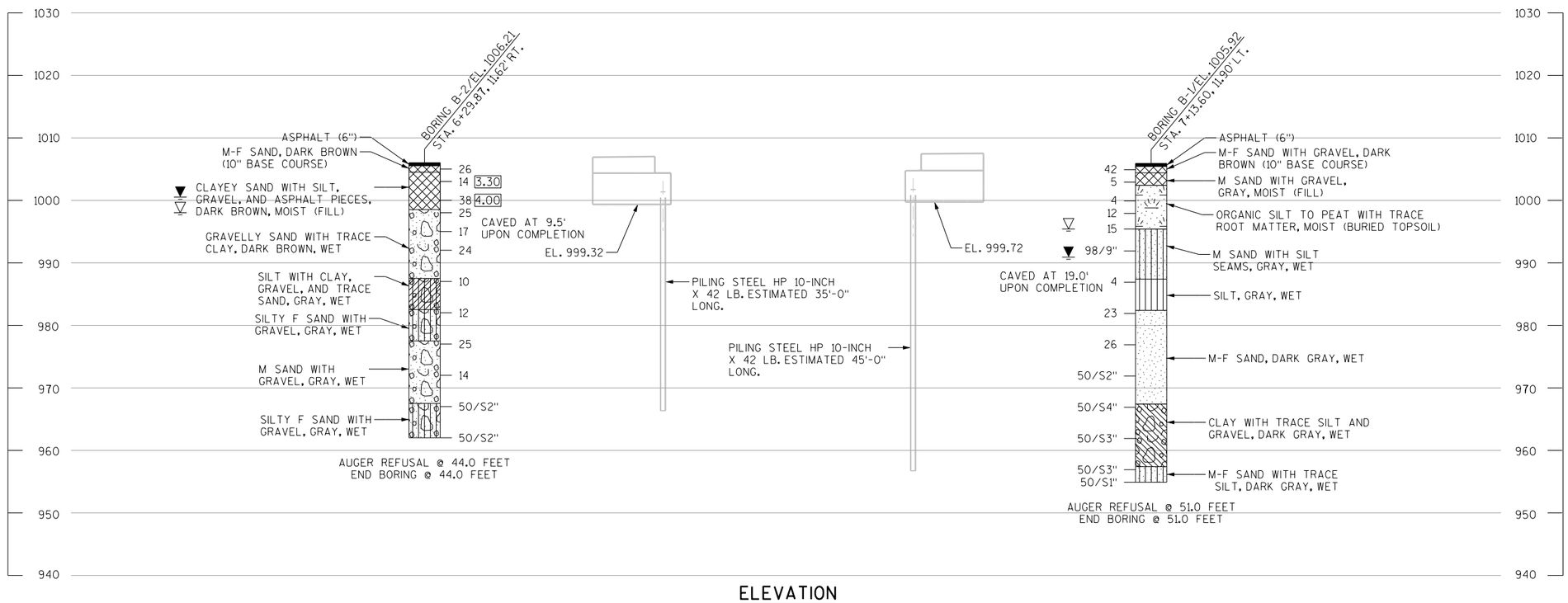


PLAN

NOTE:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

BORING STATIONS AND OFFSETS ARE BASED ON ℄ CTH G.



ELEVATION
LOOKING WEST

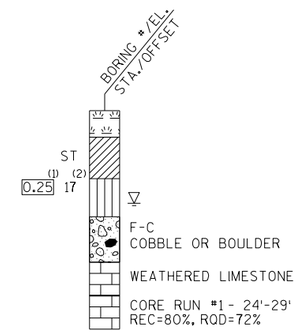
STATE PROJECT NUMBER

4854-04-71

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▼ AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-20-241

DRAWN BY VJD | PLANS CK'D. FKH

SUBSURFACE EXPLORATION

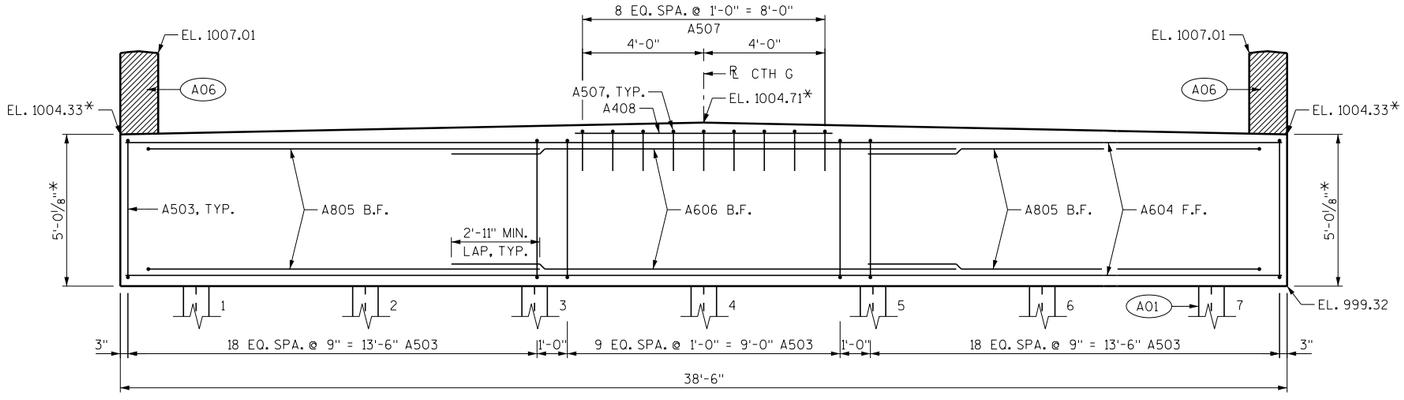
SHEET 3 OF 11
58

8

8

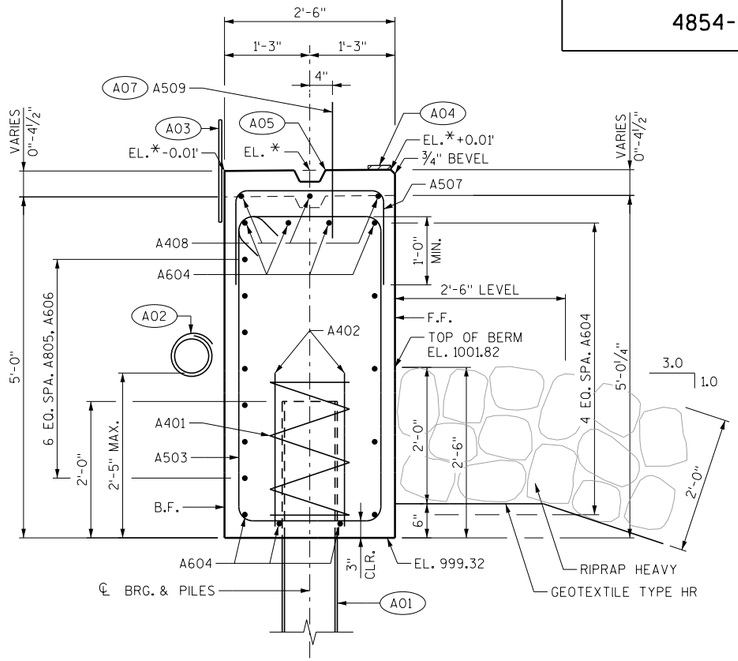
STATE PROJECT NUMBER

4854-04-71



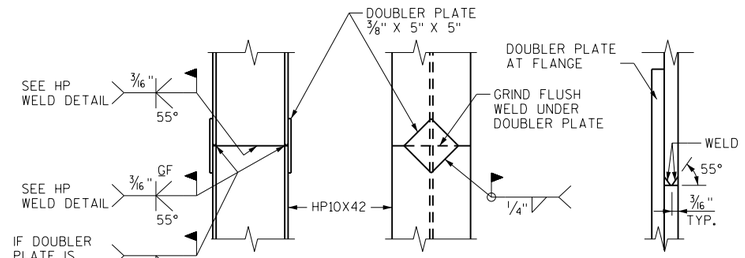
ELEVATION

LOOKING SOUTH AT FRONT FACE



SECTION THRU BODY

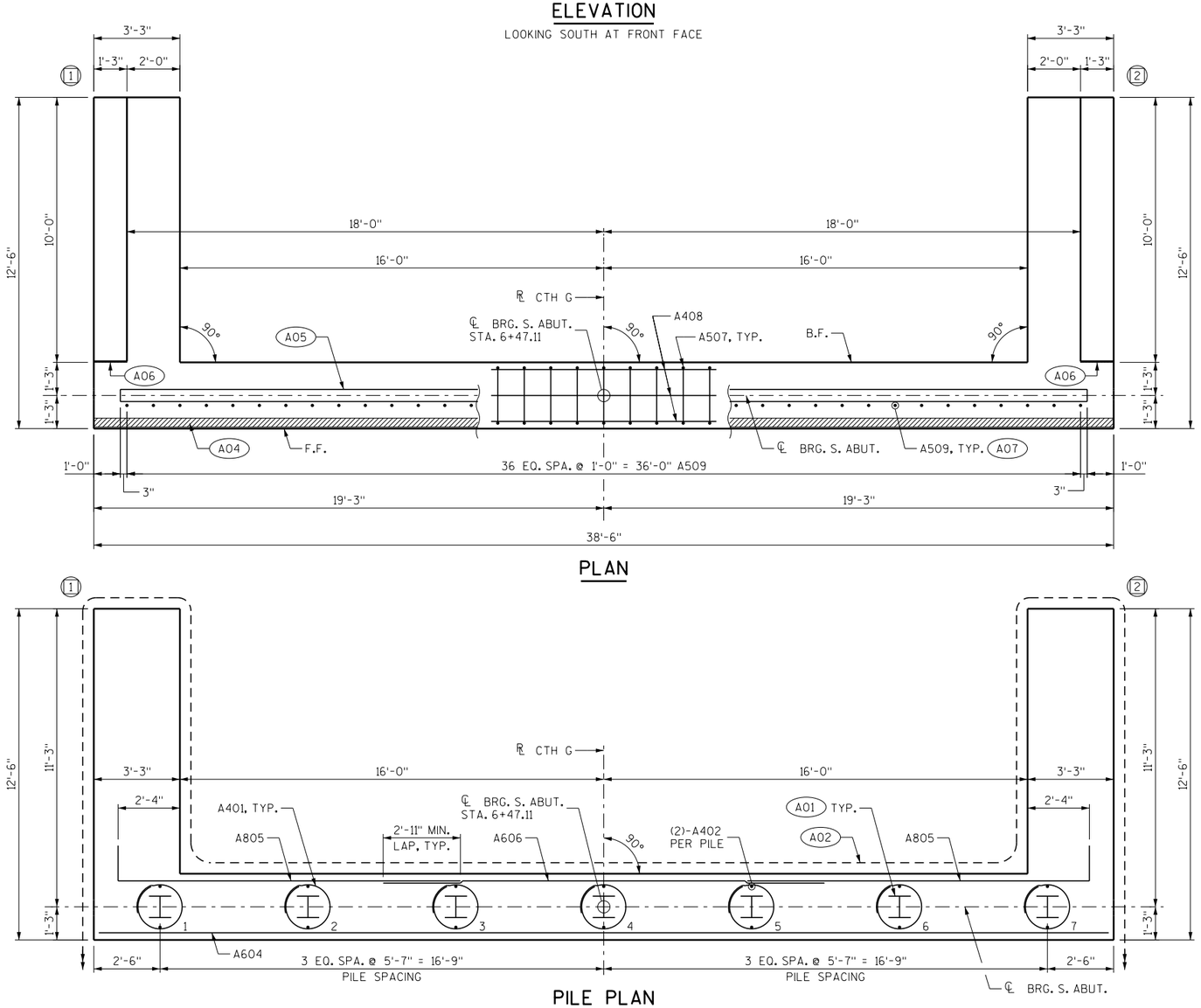
LOOKING WEST



STEEL 'HP' SHAPE

HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR



PLAN

PILE PLAN

LEGEND

- (A01) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING. ESTIMATED 35'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TON.
- (A02) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MINIMUM TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAILS ON SHEET 8.
- (A03) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- (A04) ¾" X 4" PREFORMED FILLER, OUT TO OUT OF ABUTMENT.
- (A05) KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".
- (A06) ½" FILLER. EXTEND FROM SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH.
- (A07) BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED BARS 1'-0".
- (X) INDICATES WINGWALL NUMBER.
- * ELEVATION IS AT CENTERLINE OF BEARING.
- F.F. = FRONT FACE B.F. = BACK FACE

PILE SPLICE DETAIL

NOTES

SEE SHEET 8 FOR SOUTH ABUTMENT BILL OF BARS.

SPACE A503 TO MISS PILE LOCATIONS.

CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-20-241

DRAWN BY VJD | PLANS CK'D. FKH

SOUTH ABUTMENT

SHEET 4 OF 11

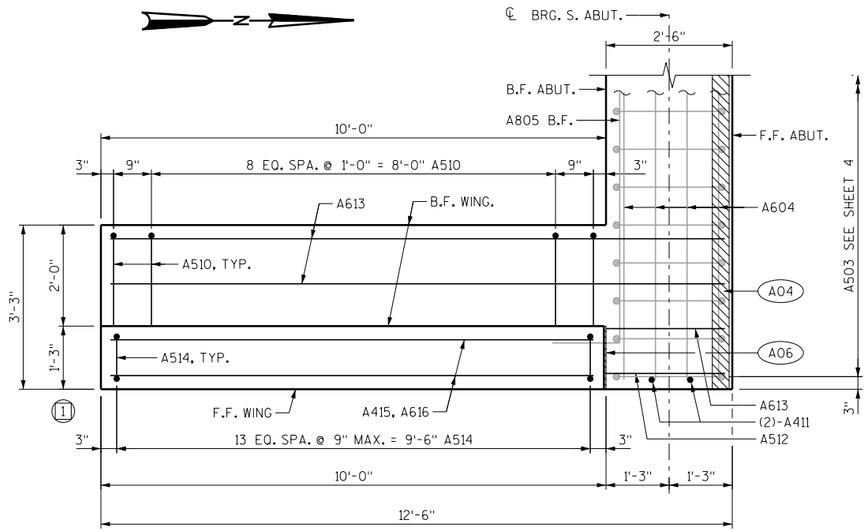
59

8

8

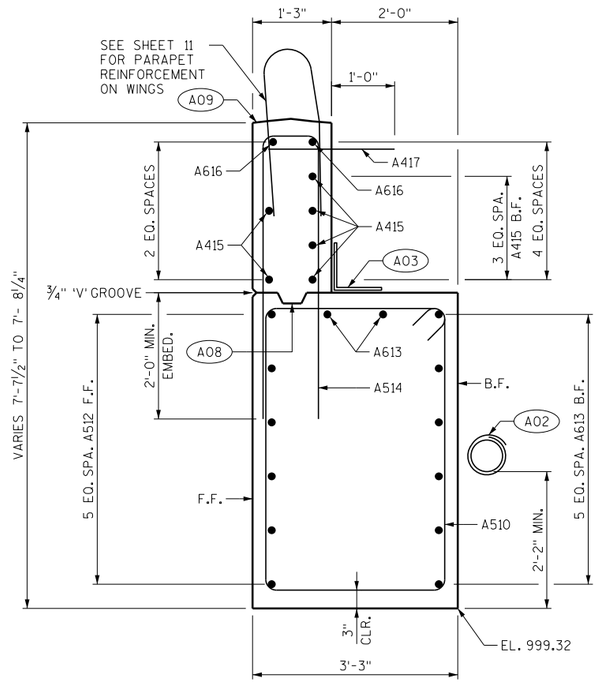
STATE PROJECT NUMBER

4854-04-71



WING PLAN

WING 1 SHOWN, WING 2 SIMILAR
PARAPET NOT SHOWN FOR CLARITY



SECTION THRU WING

WING 1 SHOWN, WING 2 SIMILAR
PARAPET NOT SHOWN FOR CLARITY

NOTES

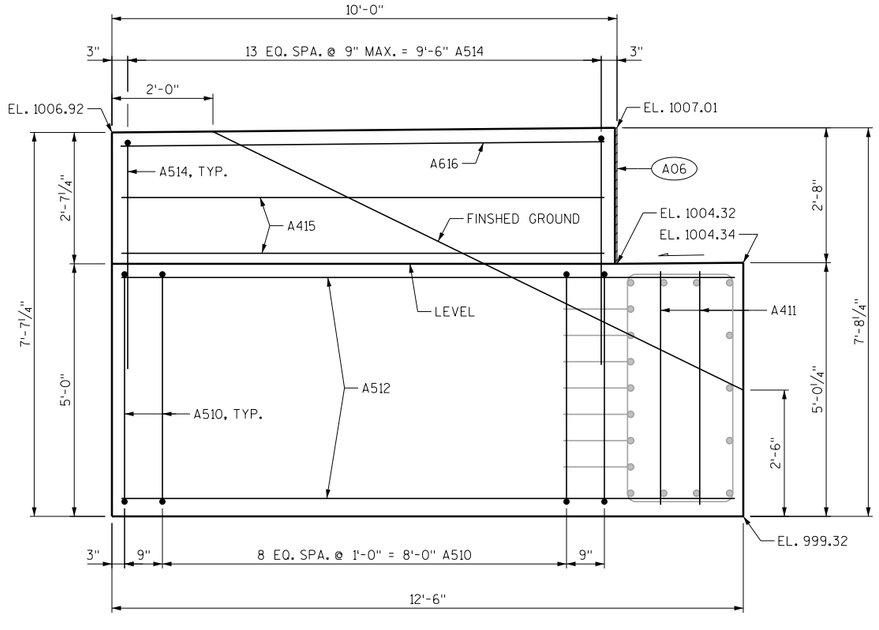
SEE SHEET 8 FOR SOUTH ABUTMENT BILL OF BARS. REINFORCEMENT FOR THE PARAPET TRANSITION ON THE WINGS ARE SHOWN ON SHEET 11.

SEE SHEET 8 FOR TYPICAL FILL SECTIONS AT WING TIPS.

SEE SHEET 11 FOR SECTIONS THRU PARAPET AND TRANSITION, AND FOR PARAPET REINFORCEMENT IN WING WALLS.

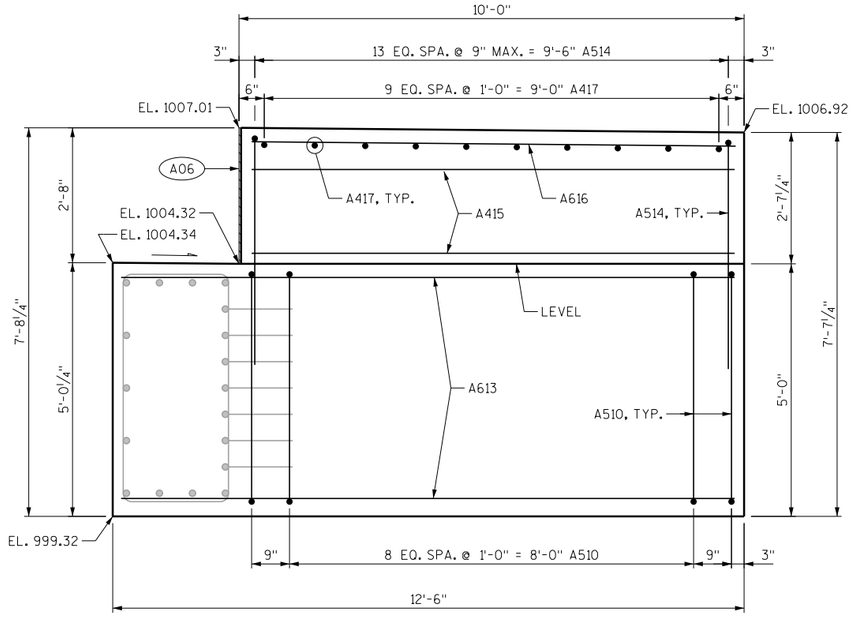
CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

SHADED REINFORCEMENT SHOWN ON THIS SHEET IS DETAILED ON SHEET 4 FOR THE ABUTMENT BODY.



FRONT FACE WING ELEVATION

WING 1 SHOWN, WING 2 SIMILAR
PARAPET NOT SHOWN FOR CLARITY
DIMENSIONS AND ELEVATIONS ARE AT FRONT FACE



BACK FACE WING ELEVATION

WING 1 SHOWN, WING 2 SIMILAR
PARAPET NOT SHOWN FOR CLARITY
DIMENSIONS AND ELEVATIONS ARE AT FRONT FACE

LEGEND

- (A02) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MINIMUM TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAILS ON SHEET 8.
- (A03) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- (A04) ¾" X 4" PREFORMED FILLER, CUT TO OUT OF ABUTMENT.
- (A06) ½" FILLER. EXTEND FROM SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH.
- (A08) OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY WITH MEMBRANE ON BACKFACE.
- (A09) STRIKE OFF AS SHOWN AND LEAVE ROUGH. FINISH HORIZONTAL SURFACES NOT COVERED BY PARAPET.
- (X) INDICATES WING WALL NUMBER.
- F.F. = FRONT FACE
- B.F. = BACK FACE

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-20-241

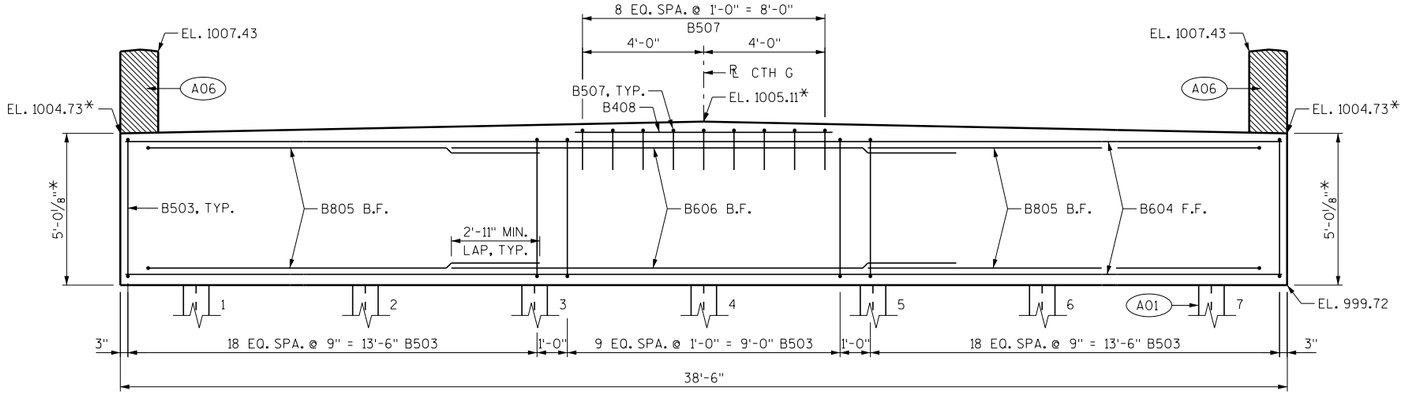
DRAWN BY VJD | PLANS CK'D. FKH

SOUTH ABUTMENT DETAILS

SHEET 5 OF 11
60

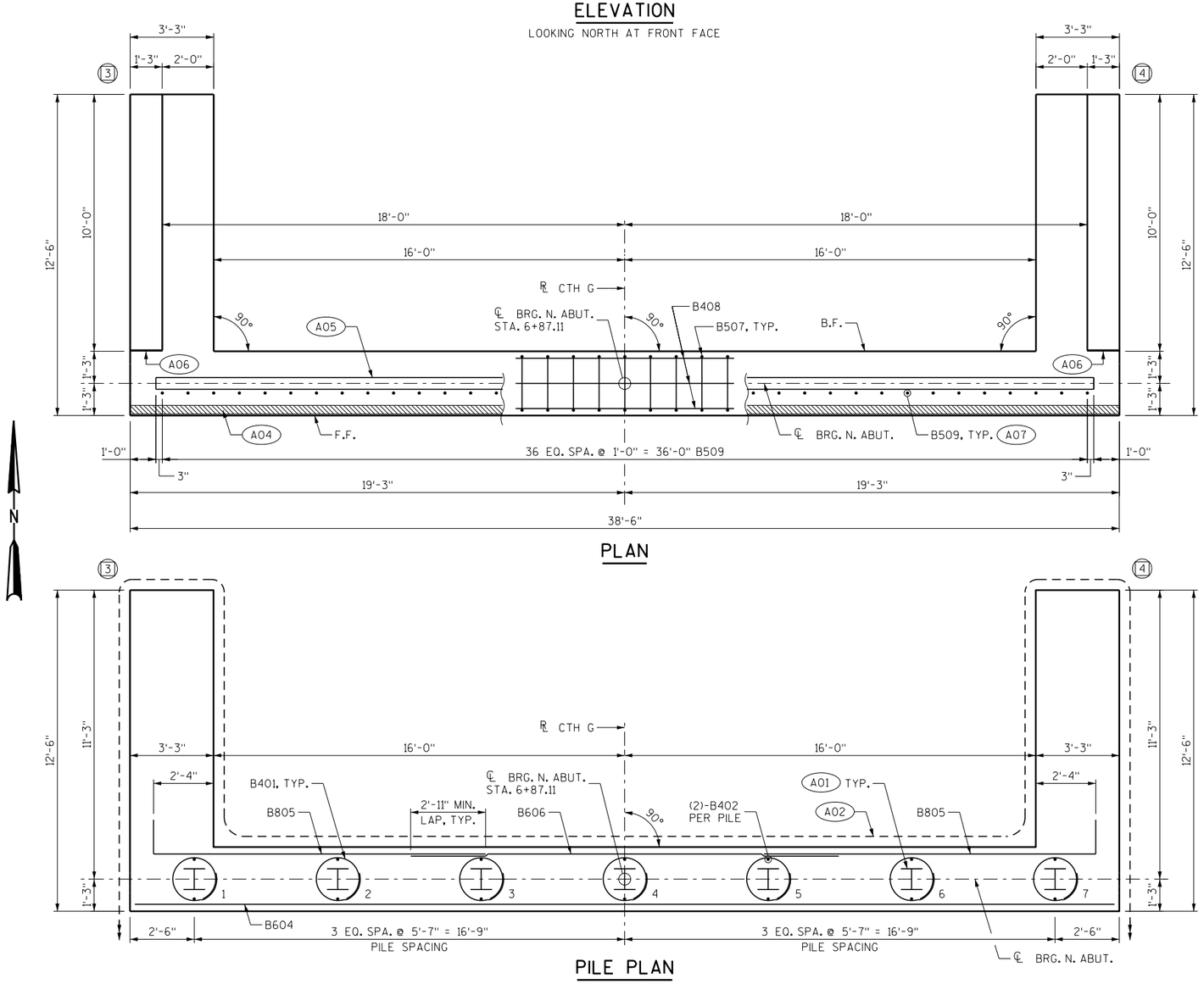
STATE PROJECT NUMBER

4854-04-71



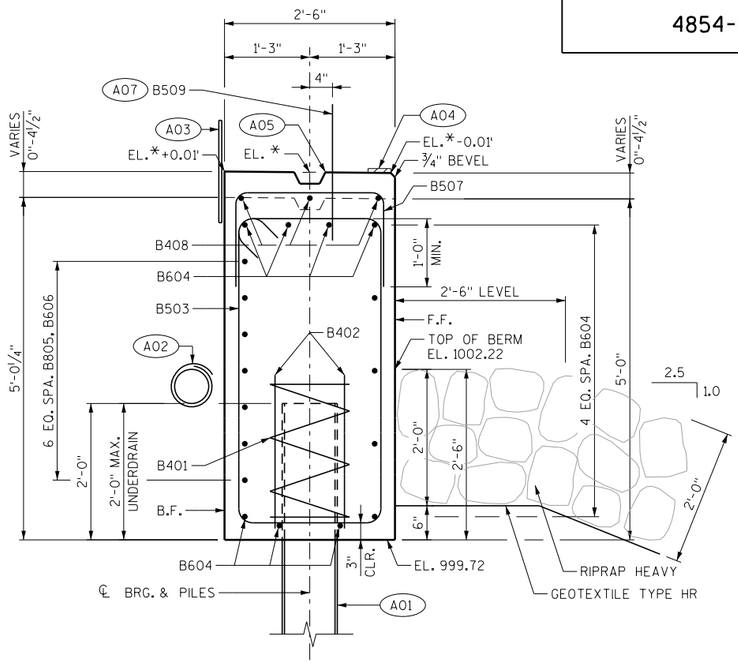
ELEVATION

LOOKING NORTH AT FRONT FACE



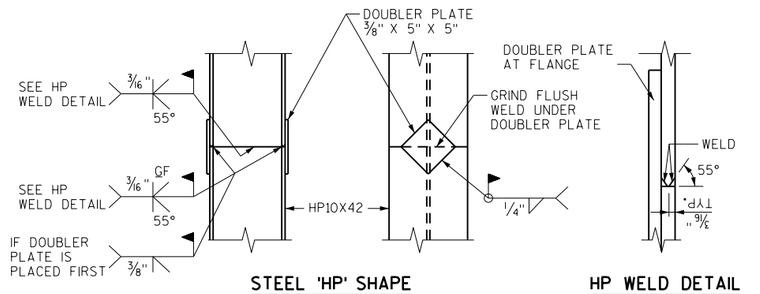
PLAN

PILE PLAN



SECTION THRU BODY

LOOKING EAST



STEEL 'HP' SHAPE

HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

LEGEND

- (A01) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING. ESTIMATED 45'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TON.
- (A02) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MINIMUM TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAILS ON SHEET 8.
- (A03) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- (A04) ¾" X 4" PREFORMED FILLER, OUT TO OUT OF ABUTMENT.
- (A05) KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".
- (A06) ½" FILLER. EXTEND FROM SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH.
- (A07) BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED BARS 1'-0".
- (X) INDICATES WINGWALL NUMBER.
- * ELEVATION IS AT CENTERLINE OF BEARING.
- F.F. = FRONT FACE B.F. = BACK FACE

PILE SPLICE DETAIL

NOTES

SEE SHEET 8 FOR NORTH ABUTMENT BILL OF BARS.

SPACE B503 TO MISS PILE LOCATIONS.

CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

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NORTH ABUTMENT

SHEET 6 OF 11

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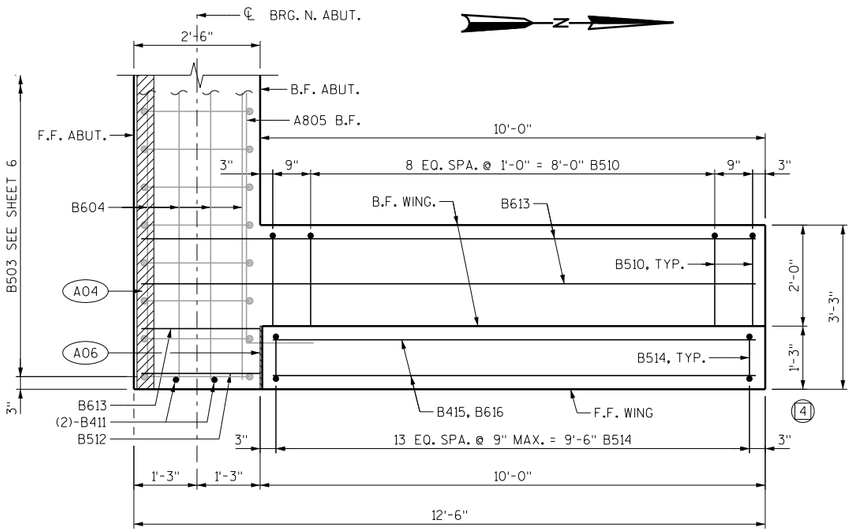
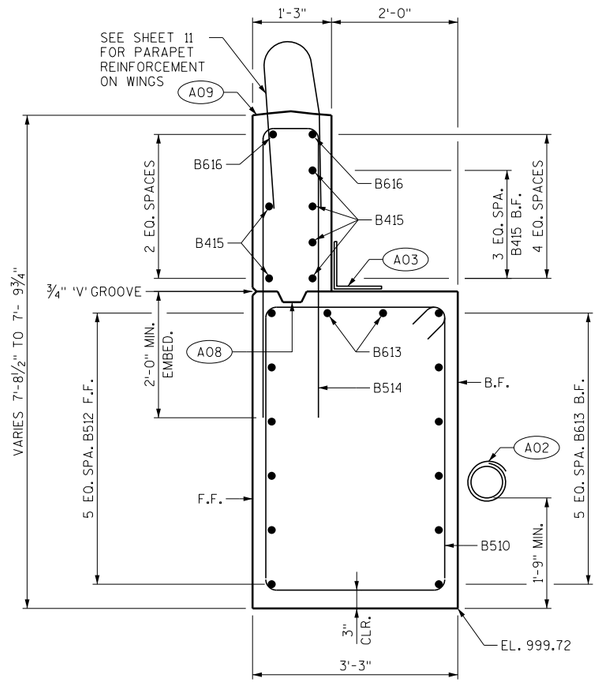


WING PLAN

WING 4 SHOWN, WING 3 SIMILAR
PARAPET NOT SHOWN FOR CLARITY



SECTION THRU WING

WING 4 SHOWN, WING 3 SIMILAR
PARAPET NOT SHOWN FOR CLARITY

NOTES

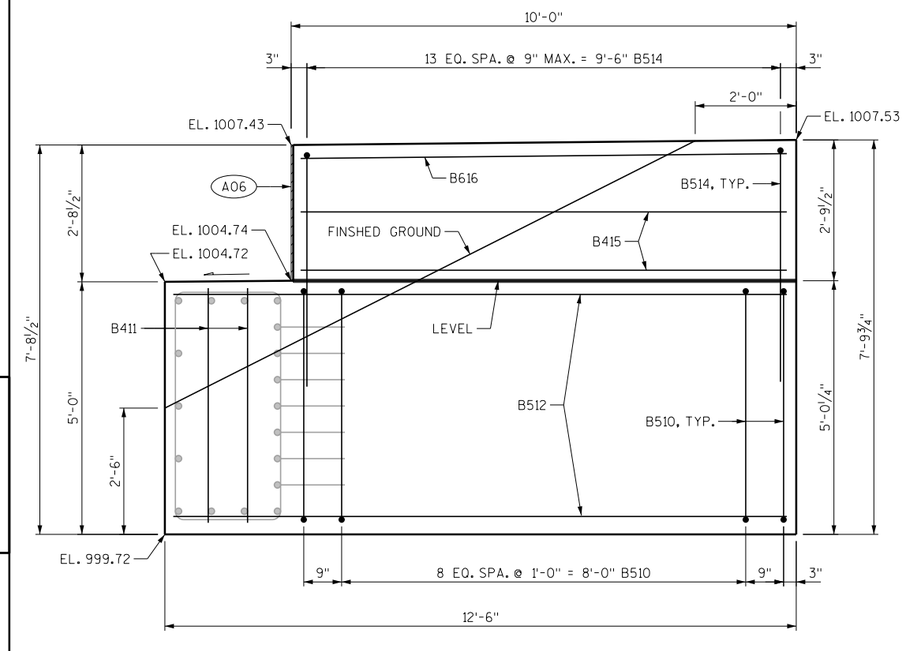
SEE SHEET 8 FOR NORTH ABUTMENT BILL OF BARS. REINFORCEMENT FOR THE PARAPET TRANSITION ON THE WINGS ARE SHOWN ON SHEET 11.

SEE SHEET 8 FOR TYPICAL FILL SECTIONS AT WING TIPS.

SEE SHEET 11 FOR SECTIONS THRU PARAPET AND TRANSITION, AND FOR PARAPET REINFORCEMENT IN WING WALLS.

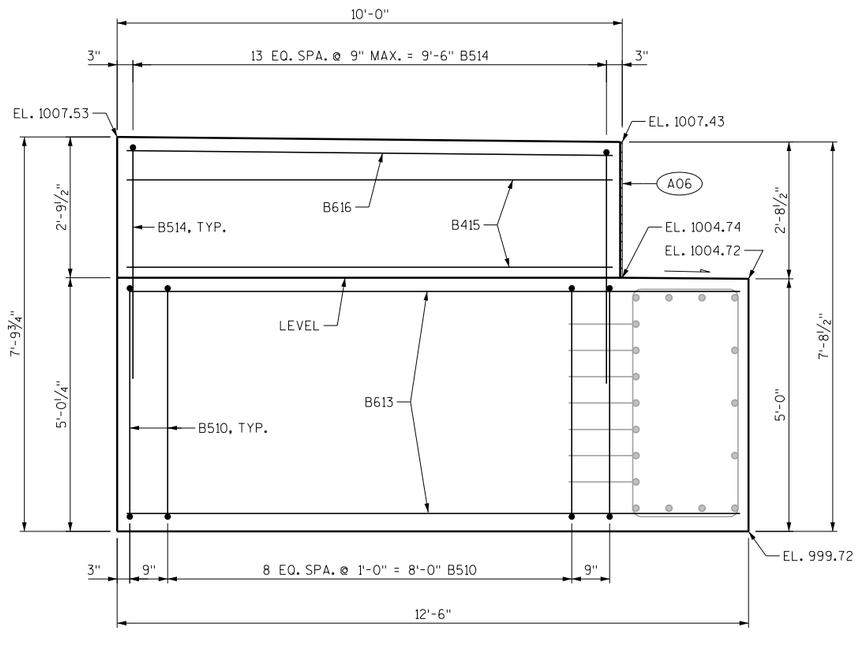
CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

SHADED REINFORCEMENT SHOWN ON THIS SHEET IS DETAILED ON SHEET 6 FOR THE ABUTMENT BODY.



FRONT FACE WING ELEVATION

WING 4 SHOWN, WING 3 SIMILAR
PARAPET NOT SHOWN FOR CLARITY
DIMENSIONS AND ELEVATIONS ARE AT FRONT FACE



BACK FACE WING ELEVATION

WING 4 SHOWN, WING 3 SIMILAR
PARAPET NOT SHOWN FOR CLARITY
DIMENSIONS AND ELEVATIONS ARE AT FRONT FACE

LEGEND

- (A02) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MINIMUM TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAILS ON THIS SHEET 8.
- (A03) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- (A04) 3/4" X 4" PREFORMED FILLER, OUT TO OUT OF ABUTMENT.
- (A06) 1/2" FILLER. EXTEND FROM SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH.
- (A08) OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY WITH MEMBRANE ON BACKFACE.
- (A09) STRIKE OFF AS SHOWN AND LEAVE ROUGH. FINISH HORIZONTAL SURFACES NOT COVERED BY PARAPET.
- (X) INDICATES WING WALL NUMBER.
- F.F. = FRONT FACE
- B.F. = BACK FACE

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-20-241

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NORTH ABUTMENT DETAILS

SHEET 7 OF 11
62

STATE PROJECT NUMBER

4854-04-71

BILL OF BARS - SOUTH ABUTMENT

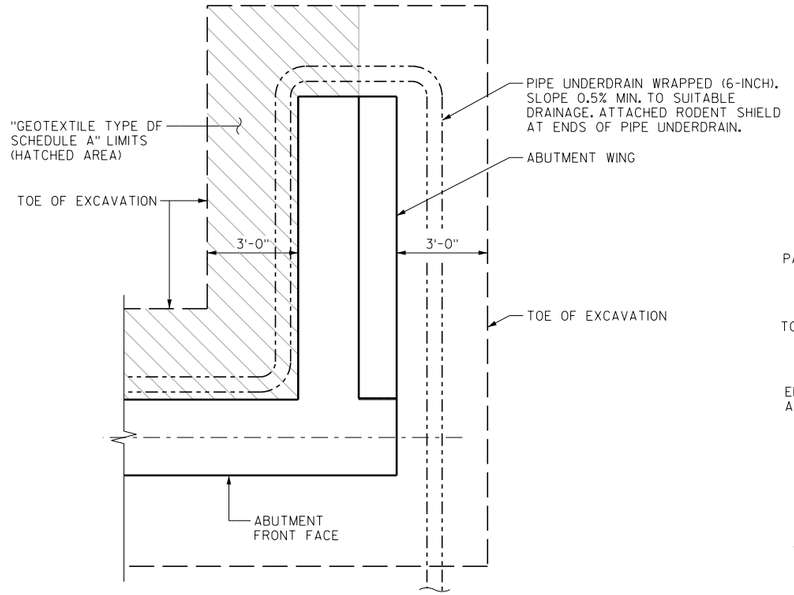
COATED: 1,330 LBS
UNCOATED: 2,250 LBS

BAR MARK	COAT	NO REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
A401		7	28'-0"	X		PILES - 1 PER PILE
A402		14	2'-3"			PILES - 2 PER PILE
A503		48	13'-10"	X		BODY - STIRRUP
A604		11	38'-0"			BODY - HORIZ. - F.F. & B.F.
A805		14	14'-1"	X		BODY - HORIZ. - B.F.
A606		7	16'-8"			BODY - HORIZ. - B.F.
A507		9	4'-10"	X		BODY - VERT. - HIGH SEAT
A408		3	8'-6"			BODY - HORIZ. - HIGH SEAT
A509	X	37	2'-0"			BODY - VERT. - DOWELS
A510	X	22	15'-4"	X		WINGS - BODY - STIRRUPS
A411	X	4	4'-7"			WINGS - BODY - VERT. - AT ABUT. ENDS
A512	X	12	12'-1"			WINGS - BODY - HORIZ. - F.F.
A613	X	16	12'-1"			WINGS - BODY - HORIZ. - B.F.
A514	X	28	9'-7"	X		WINGS - STEM - VERT.
A415	X	12	9'-6"			WINGS - STEM - HORIZ. - F.F. & B.F.
A616	X	4	9'-6"			WINGS - STEM - HORIZ. - TOP
A417	X	20	2'-0"			WINGS - STEM - DRAIN ANCHORS

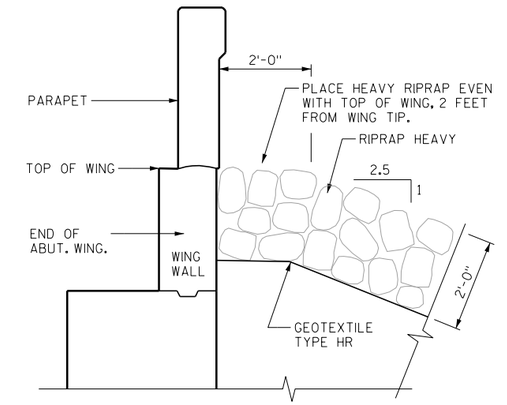
BILL OF BARS - NORTH ABUTMENT

COATED: 1,310 LBS
UNCOATED: 2,250 LBS

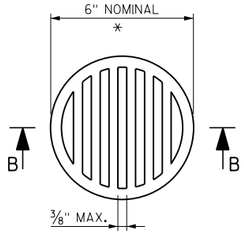
BAR MARK	COAT	NO REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
B401		7	28'-0"	X		PILES - 1 PER PILE
B402		14	2'-3"			PILES - 2 PER PILE
B503		48	13'-10"	X		BODY - STIRRUP
B604		11	38'-0"			BODY - HORIZ. - F.F. & B.F.
B805		14	14'-1"	X		BODY - HORIZ. - B.F.
B606		7	16'-8"			BODY - HORIZ. - B.F.
B507		9	4'-10"	X		BODY - VERT. - HIGH SEAT
B408		3	8'-6"			BODY - HORIZ. - HIGH SEAT
B509	X	37	2'-0"			BODY - VERT. - DOWELS
B510	X	22	15'-4"	X		WINGS - BODY - STIRRUPS
B411	X	4	4'-7"			WINGS - BODY - VERT. - AT ABUT. ENDS
B512	X	12	12'-1"			WINGS - BODY - HORIZ. - F.F.
B613	X	16	12'-1"			WINGS - BODY - HORIZ. - B.F.
B514	X	28	9'-7"	X		WINGS - STEM - VERT.
B415	X	12	9'-6"			WINGS - STEM - HORIZ. - F.F. & B.F.
B616	X	4	9'-6"			WINGS - STEM - HORIZ. - TOP

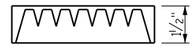


ABUTMENT PLAN WITH WING



TYPICAL FILL SECTION AT WING TIPS





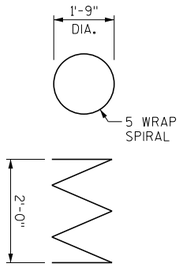
SECTION B-B

RODENT SHIELD DETAIL

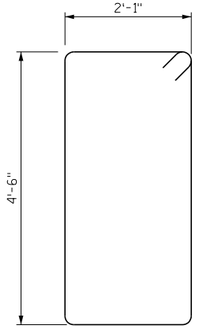
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL

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

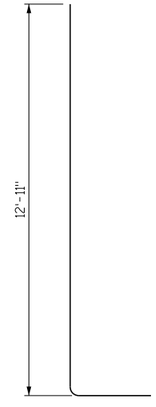
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X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



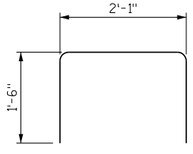
A401, B401



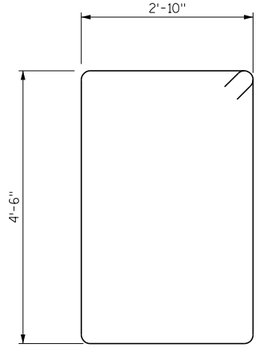
A503, B503



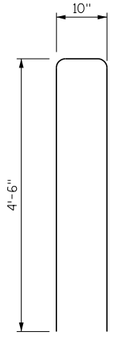
A805, B805



A507, B507



A510, B510



A514, B514

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-20-241

DRAWN BY VJD | PLANS CK'D. FKH

ABUTMENT BILL OF BARS

SHEET 8 OF 11
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8

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STATE PROJECT NUMBER

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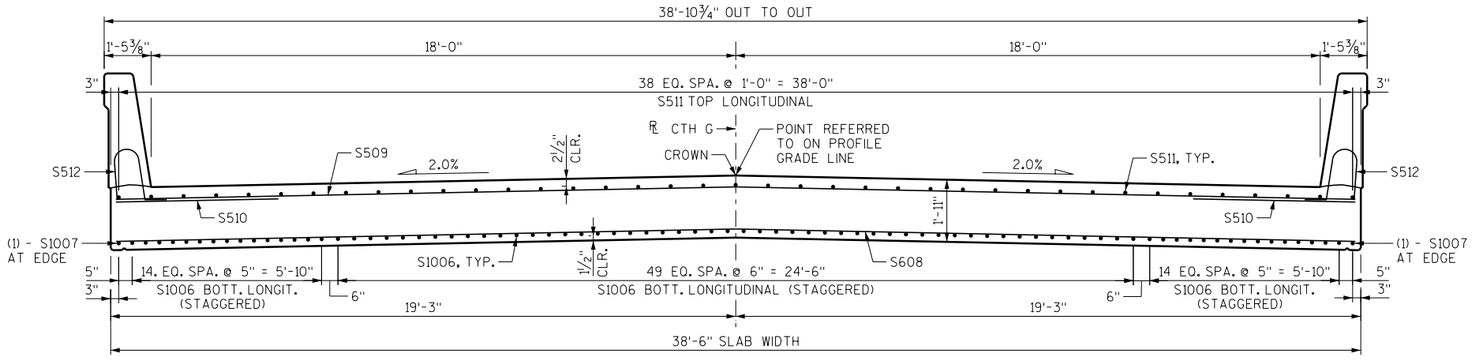
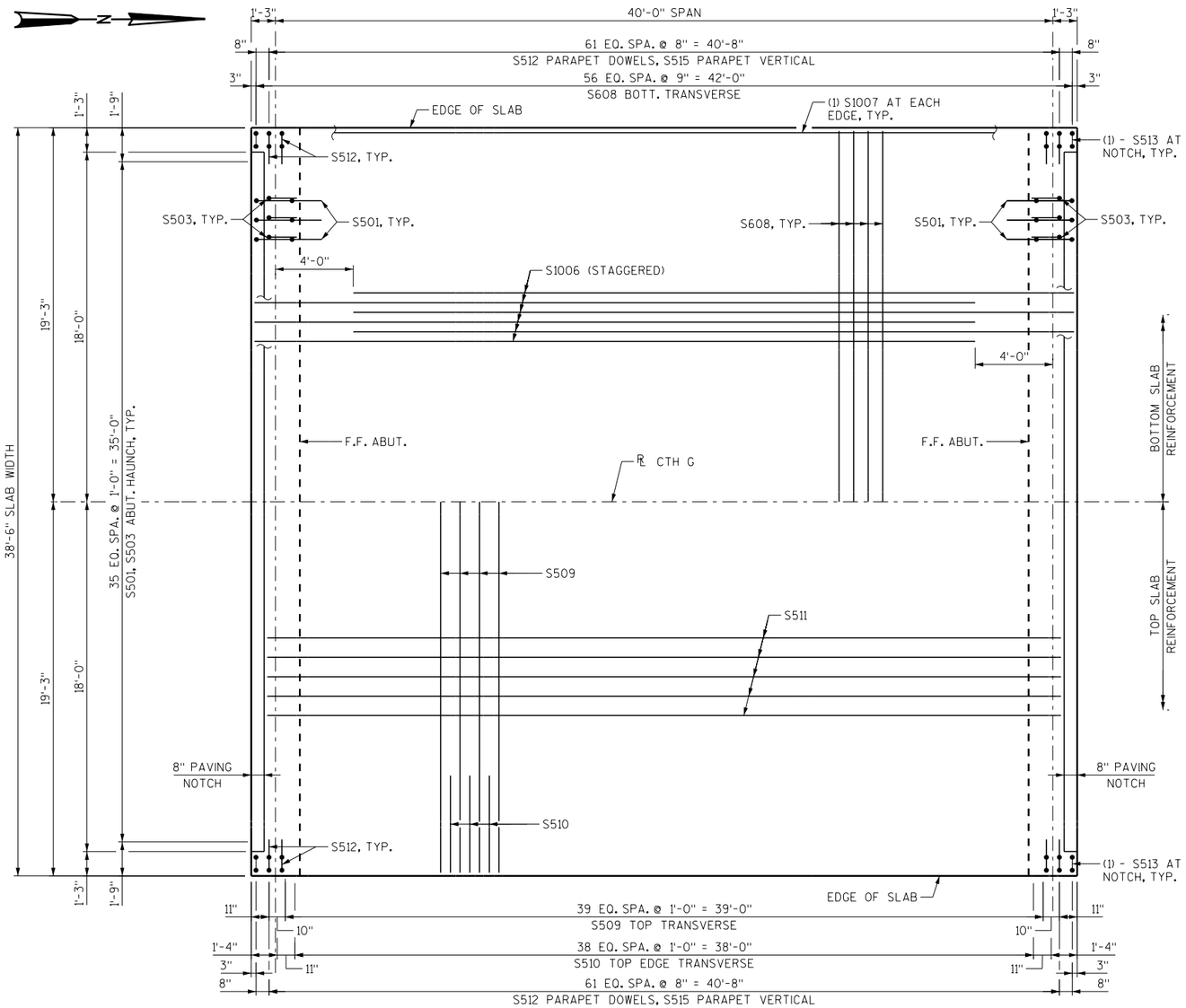
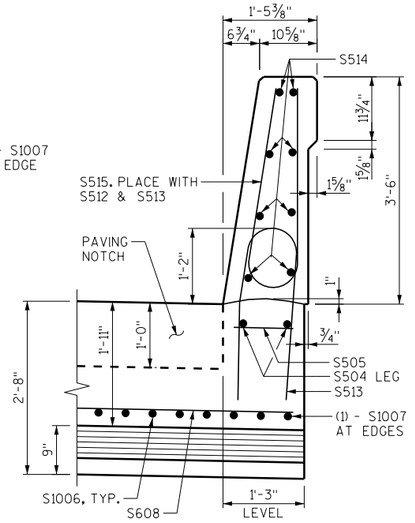


REINFORCEMENT CROSS SECTION



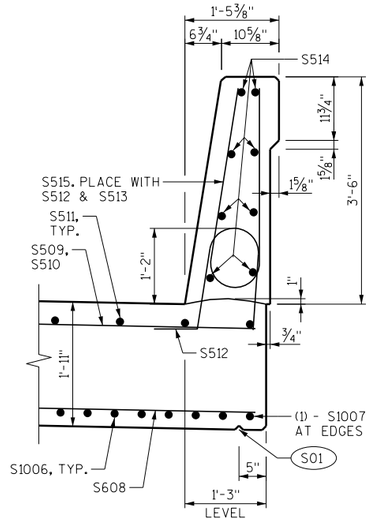
REINFORCEMENT PLAN

PARAPET NOT SHOWN FOR CLARITY



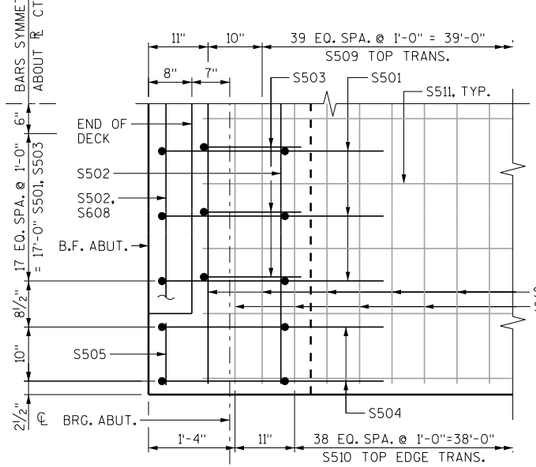
SECTION THRU PARAPET

AT PAVING NOTCH
SHOWING ABUTMENT DIAPHRAGM



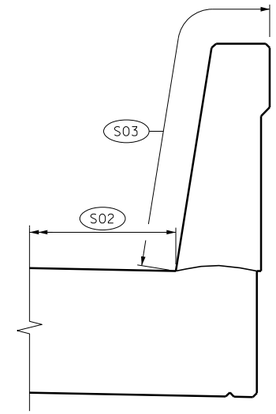
SECTION THRU PARAPET

IN SPAN



CORNER DETAIL

CORNER AT WING 1 SHOWN, ALL CORNERS SIMILAR
SHOWING TOP MAT REINFORCEMENT



SECTION THRU PARAPET

SHOWING LIMITS OF PIGMENTED SURFACE SEALER AND PROTECTIVE SURFACE TREATMENT

LEGEND

(S01) ¾" V-GROOVE REQ'D. EXTEND TO 6" FROM FRONT FACE OF ABUTMENT DIAPH.

(S02) COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS.

(S03) COAT WITH "PIGMENTED SURFACE SEALER" AS PER THE STANDARD SPECIFICATIONS. PARAPET ON WING WALLS SIMILAR.

NOTES

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

SEE SHEET 10 FOR LONGITUDINAL SECTION THRU SLAB AND ADDITIONAL SLAB REINFORCEMENT DETAILS.

FOR SUPERSTRUCTURE BILL OF BARS, SEE SHEET 10.

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STRUCTURE B-20-241

DRAWN BY VJD | PLANS CK'D. FKH

SUPERSTRUCTURE

SHEET 9 OF 11
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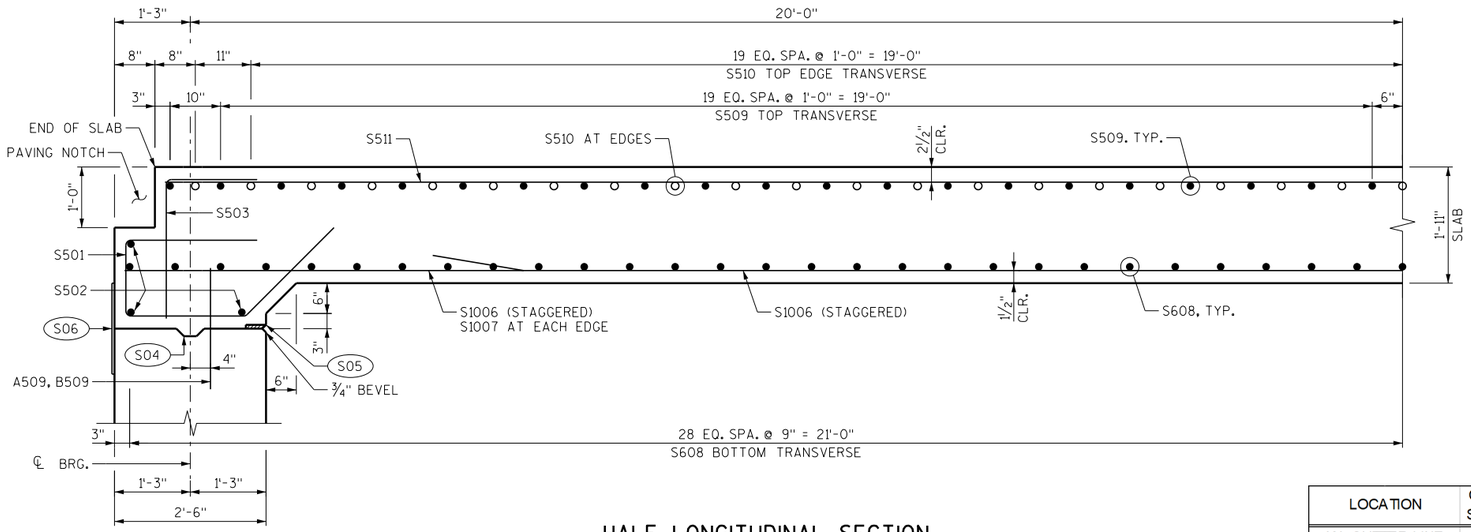


HALF LONGITUDINAL SECTION

SYMMETRICAL ABOUT MID-SPAN

BILL OF BARS - SUPERSTRUCTURE — COATED: 23,470 LBS; UNCOATED: 0 LBS

BAR MARK	COAT	NO REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S501	X	72	7'-3"	X		ABUT. DIAPH. - VERT.
S502	X	6	38'-1"			ABUT. DIAPH. - HORIZ.
S503	X	72	3'-8"	X		ABUT. DIAPH - VERT.
S504	X	8	8'-3"	X		ABUT. DIAPH. - VERT. - AT NOTCH
S505	X	4	0'-9"			ABUT. DIAPH. - HORIZ. - AT NOTCH
S1006	X	80	37'-1"			SLAB - BOTT. LONGIT.
S1007	X	2	42'-1"			SLAB - BOTT. LONGIT. - EDGES
S608	X	57	38'-1"			SLAB. - BOTT. TRANSVERSE
S509	X	42	38'-1"			SLAB - TOP TRANSVERSE
S510	X	82	5'-0"			SLAB - TOP TRANS. AT EDGES
S511	X	39	40'-9"			SLAB - TOP LONGITUDINAL
S512	X	124	4'-5"	X		SLAB - PARAPET DOWELS
S513	X	4	5'-10"	X		SLAB - PARAPET DOWELS - AT NOTCH
S514	X	16	42'-1"			PARAPET - HORIZ.
S515	X	128	6'-8"	X		PARAPET - VERT.

LOCATION	CL BRG. S. ABUT.	0.10 PT	0.20 PT	0.30 PT	0.40 PT	0.50 PT	0.60 PT	0.70 PT	0.80 PT	0.90 PT	CL BRG. N. ABUT.
W. GUTTER LINE	1007.02	1007.06	1007.10	1007.14	1007.18	1007.22	1007.26	1007.30	1007.34	1007.38	1007.42
CROWN (REF. LINE)	1007.38	1007.42	1007.46	1007.50	1007.54	1007.58	1007.62	1007.66	1007.70	1007.74	1007.78
S. GUTTER LINE	1007.02	1007.06	1007.10	1007.14	1007.18	1007.22	1007.26	1007.30	1007.34	1007.38	1007.42

TOP OF DECK ELEVATIONS

ELEVATIONS SHOWN ARE FINISHED DECK AND DO NOT INCLUDE ALLOWANCES FOR DEAD LOAD DEFLECTION AND FUTURE CREEP

SURVEY TOP OF DECK ELEVATIONS

	S. ABUT.	0.50 PT	N. ABUT.
WEST GUTTER LINE			
CROWN			
EAST GUTTER LINE			

LEGEND

(S04) KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".

(S05) 4" X ¾" PREFORMED JOINT FILLER. SEE ABUTMENT SHEETS FOR ADDITIONAL DETAILS.

(S06) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACK FACE.

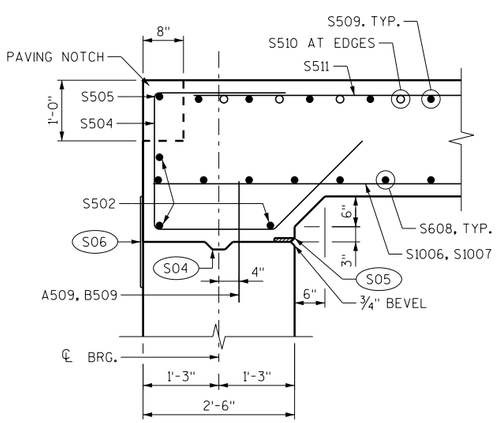
NOTES

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

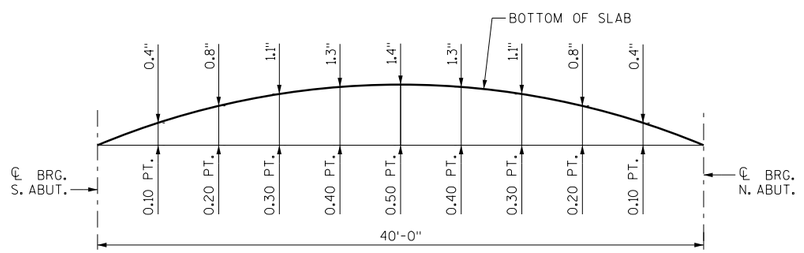
CAMBER SPAN AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS AND AT 5/10 POINTS TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR ℄. RECORD THE ELEVATIONS IN THE TABLE ON THIS SHEET FOR "AS-BUILT" PLANS.



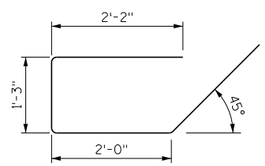
SECTION THRU ABUTMENT DIAPHRAGM

AT CORNERS, ADJACENT TO PAVING NOTCH

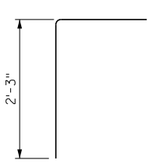


CAMBER DIAGRAM

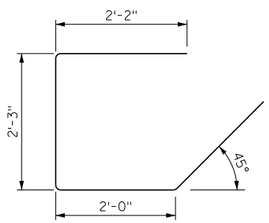
SEE NOTES



S501



S503



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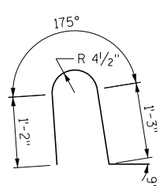
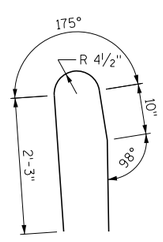


S512



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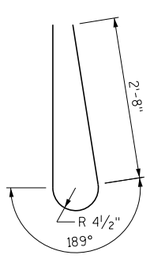


S515

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-20-241

DRAWN BY VJD | PLANS CK'D. FKH

SUPERSTRUCTURE DETAILS

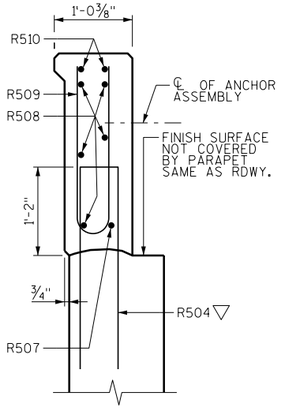
SHEET 10 OF 11
65

8

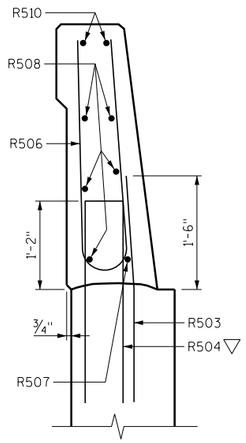
8

STATE PROJECT NUMBER

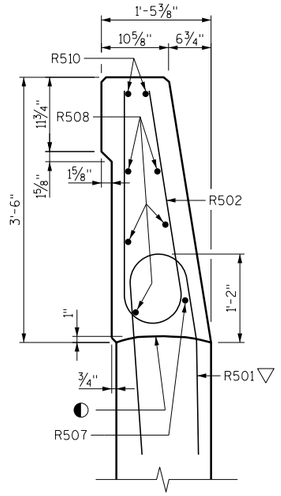
4854-04-71



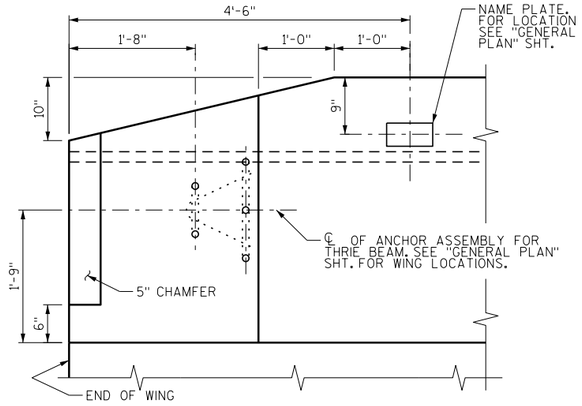
SECTION A-A



SECTION B-B

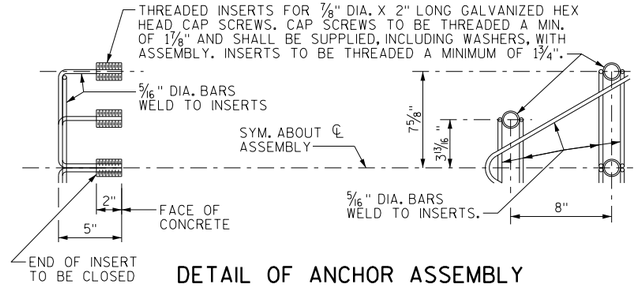


SECTION C-C



PARAPET END TREATMENT DETAIL

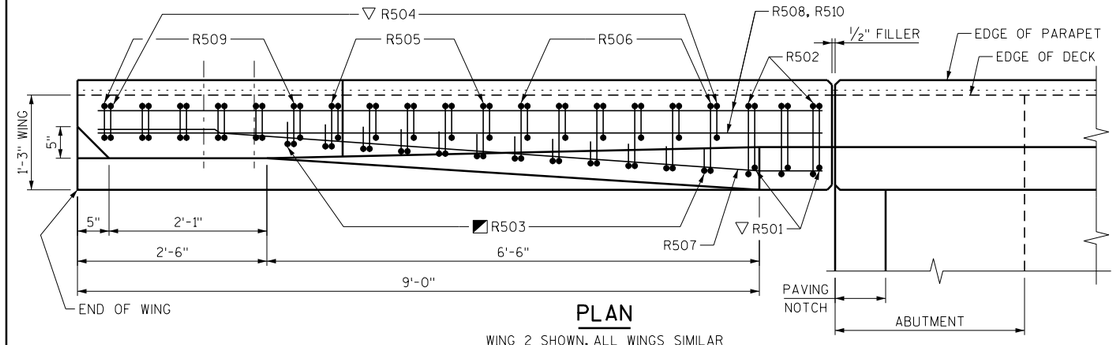
LOOKING AT INSIDE FACE OF PARAPET



DETAIL OF ANCHOR ASSEMBLY

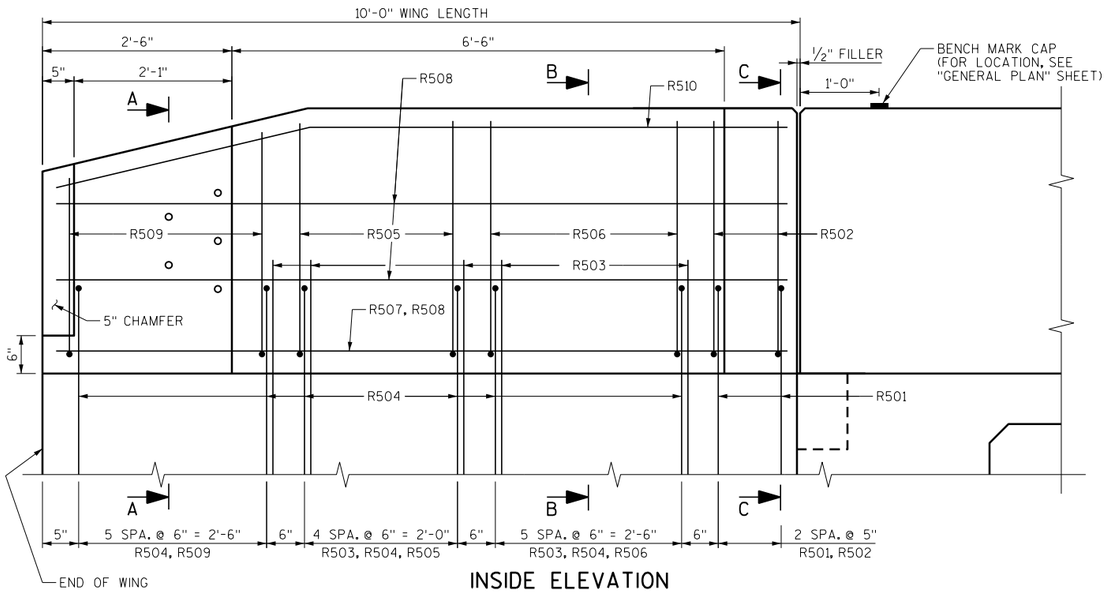
NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH ASSHTO M232 CLASS C.

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



PLAN

WING 2 SHOWN, ALL WINGS SIMILAR



INSIDE ELEVATION

WING 2 SHOWN, ALL WINGS SIMILAR

BILL OF BARS - ABUTMENT PARAPETS

COATED (S. ABUT.)	730	LBS
COATED (N. ABUT.)	730	LBS

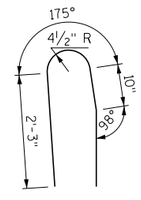
BAR MARK	COAT	S. ABUT. NO. REQD	N. ABUT. NO. REQD	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	6	6	5'-10"	X		PARAPET - VERTICAL
R502	X	6	6	6'-8"	X		PARAPET - VERTICAL
R503	X	24	24	3'-0"	X		PARAPET - VERTICAL
R504	X	34	34	5'-7"	X		PARAPET - VERTICAL
R505	X	10	10	6'-5"	X		PARAPET - VERTICAL
R506	X	12	12	6'-6"	X		PARAPET - VERTICAL
R507	X	2	2	9'-7"	X		PARAPET - HORIZ.
R508	X	10	10	9'-7"			PARAPET - HORIZ.
⚠ R509	X	12	12	5'-5"	X	X	PARAPET - VERTICAL
R510	X	4	4	9'-6"	X		PARAPET - HORIZ.

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

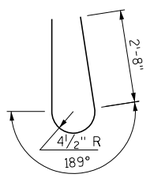
BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
R509	4 SERIES OF 6	4'-9" TO 6'-1"

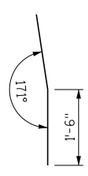
BUNDLE AND TAG EACH SERIES SEPARATELY.



R501

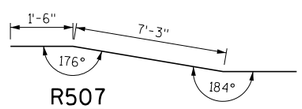


R502

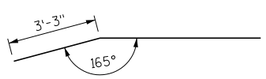


R503

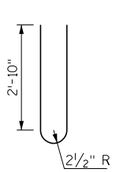
R504



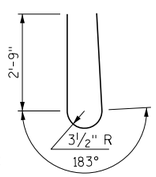
R507



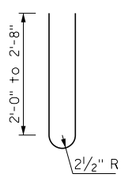
R510



R505



R506



R509

LEGEND

- ◓ CONST. JOINT - STRIKE OFF AS SHOWN.
- ◩ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-20-241

DRAWN BY VJD | PLANS CK'D. FKH

SINGLE SLOPE PARAPET 42SS TRANSITION

SHEET 11 OF 11

66

8

8

EARTHWORK - CTH G

STATION	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
	Cut	Unusable Pavement Material	Fill	Cut	Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.35	
				Note 1	Note 2	Note 3	Note 1		Note 4
3+50	15.85		1.02				0	0	0
4+00	37.18		0.00	49		1	49	1	48
4+50	42.55		25.96	74		24	123	34	89
4+70.87	97.27	13.1	39.97	54	2.7	25	177	68	106
5+00	93.01	13.1	52.14	103	14.1	50	280	135	128
5+20.83	92.66	13.1	49.80	72	10.1	39	351	188	136
5+33.37	92.35	13.1	51.35	43	6.1	23	394	220	141
5+50	89.74	13.4	46.97	56	8.2	30	450	261	148
5+58.35	87.12	13.6	44.84	27	4.2	14	478	280	152
5+83.33	78.02	14.2	33.42	76	13.1	36	554	329	167
6+00	67.10	15.7	41.30	45	9.7	23	599	360	171
6+45.85	67.10	15.7	41.30	114	26.7	70	713	455	163
B-44-474									
6+88.36	21.18	15.7	78.99				713	455	163
7+08.65	21.18	15.7	78.99	16	12	59	729	535	87
7+50	16.44	15.1	80.51	29	23	122	757	700	-72
7+75.86	15.58	13.1	98.01	15	13	85	773	815	-185
8+00	17.56	13.1	144.45	15	12	108	788	961	-328
8+13.38	17.79	13.1	135.83	9	6	69	796	1055	-419
8+38.36	20.92	13.1	123.97	18	12	120	814	1217	-576
8+50	23.33	13.1	117.46	10	6	52	824	1288	-642
8+63.34	27.78	13.1	112.08	13	6	57	836	1364	-713
9+00	45.61	13.1	84.78	50	18	134	886	1545	-861
9+50	60.05	13.1	61.30	98	24	135	984	1727	-970
10+00	77.95	13.1	12.60	128	24	68	1,112	1820	-959
10+50	88.56	13.1	25.90	154	24	36	1,266	1868	-877
10+67	88.56	13.1	25.90	56	8	16	1,322	1890	-852
				1,322	284	1,400			

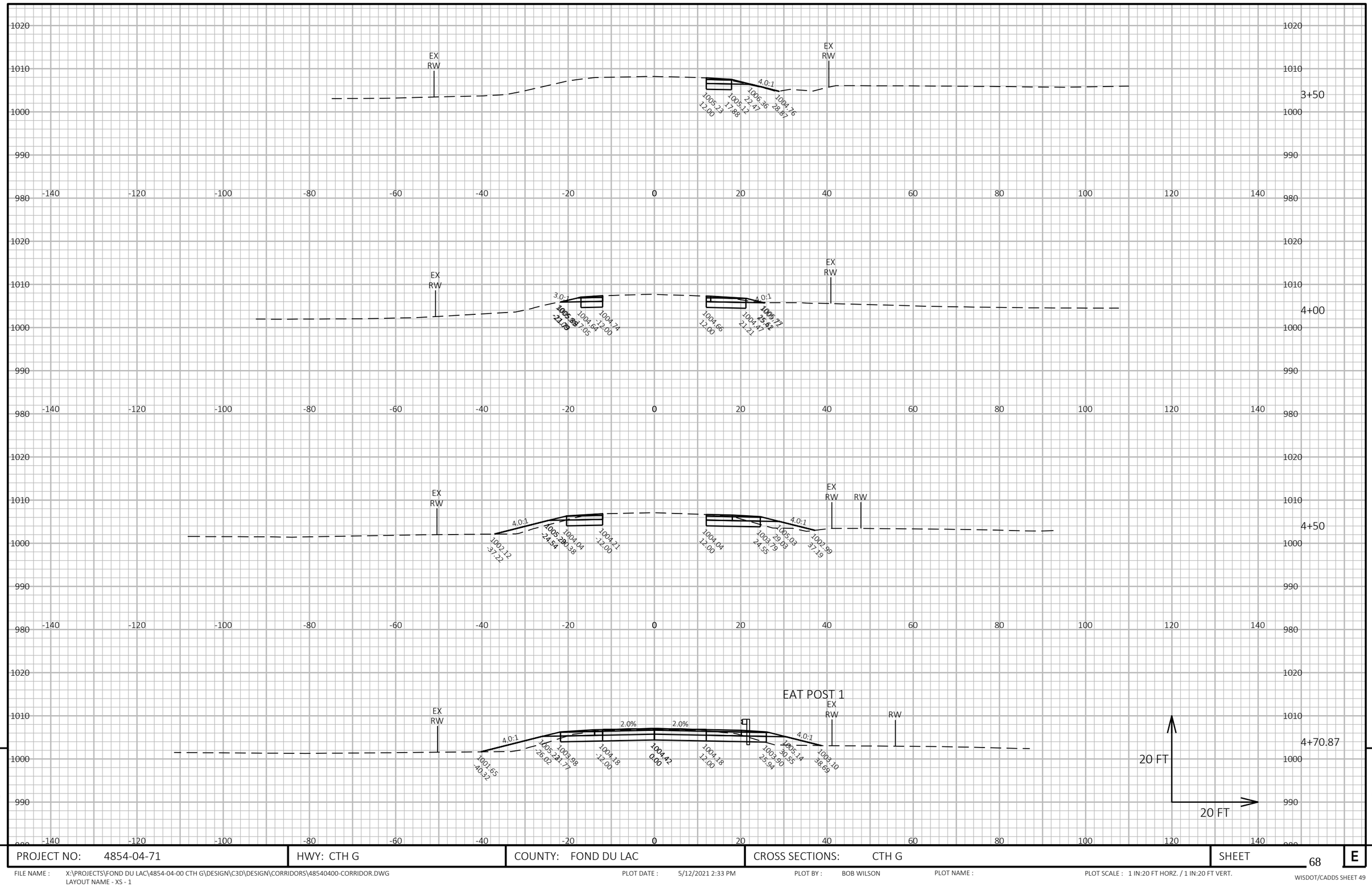
Notes:	
1 - Cut	Cut includes existing asphalt and base material
2 - Unusable Pavement Material	Does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Material Volume
4 - Mass Ordinate	Cut - Unusable Pavement Material - (Fill * Fill Factor)

9

9

PROJECT NO: 4854-04-71	HWY: CTH G	COUNTY: FOND DU LAC	EARTHWORK	SHEET: 67	E

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ PLOT SCALE : 1:1



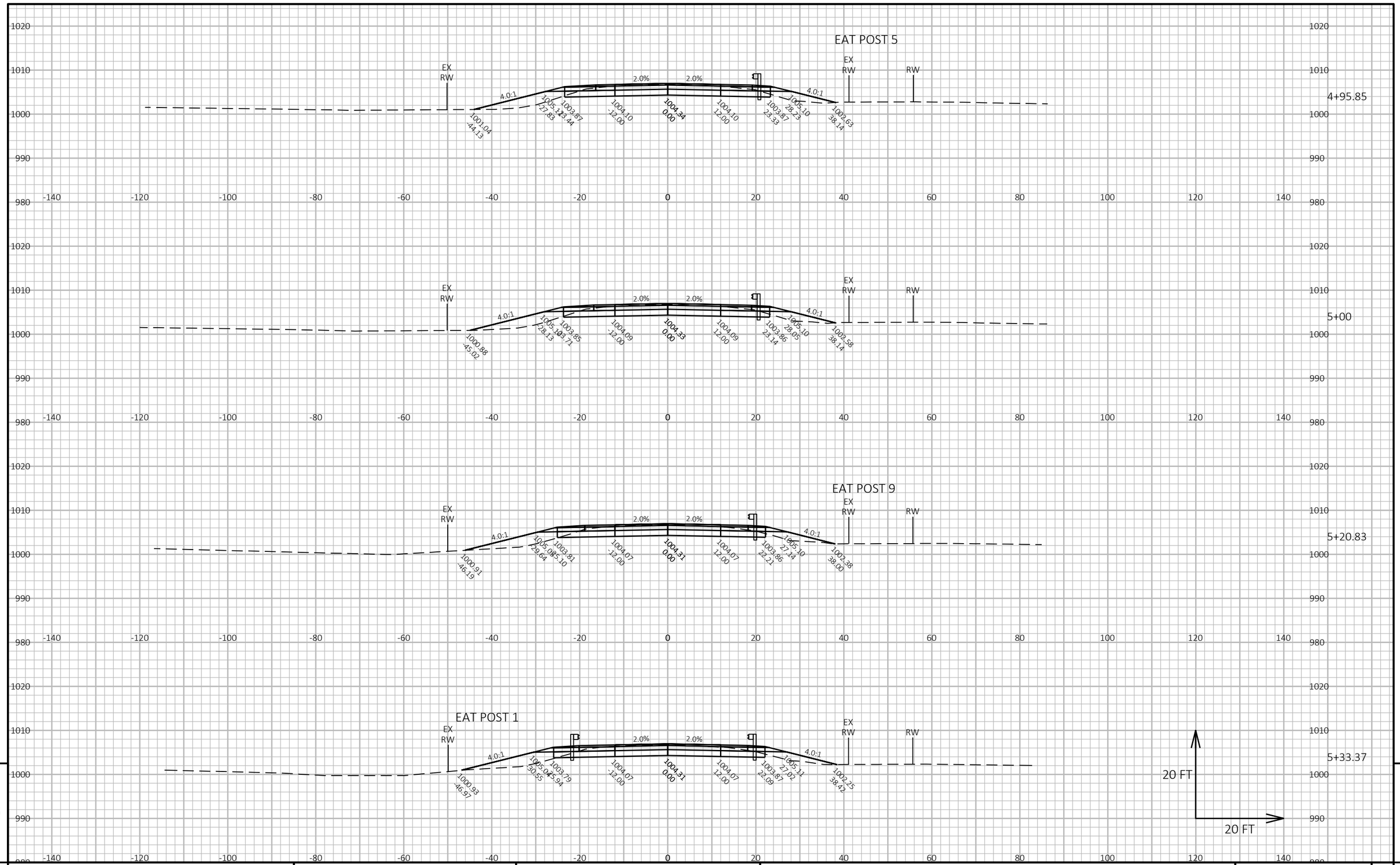
9

9

PROJECT NO: 4854-04-71	HWY: CTH G	COUNTY: FOND DU LAC	CROSS SECTIONS: CTH G	SHEET 68	E

FILE NAME : X:\PROJECTS\FOND DU LAC\4854-04-00 CTH G\DESIGN\C3D\DESIGN\CORRIDORS\48540400-CORRIDOR.DWG
LAYOUT NAME - XS - 1

PLOT DATE : 5/12/2021 2:33 PM PLOT BY : BOB WILSON PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.



9

9

PROJECT NO: 4854-04-71	HWY: CTH G	COUNTY: FOND DU LAC	CROSS SECTIONS: CTH G	SHEET 69	E

FILE NAME : X:\PROJECTS\FOND DU LAC\4854-04-00 CTH G\DESIGN\C3D\DESIGN\CORRIDORS\48540400-CORRIDOR.DWG
LAYOUT NAME - XS - 2

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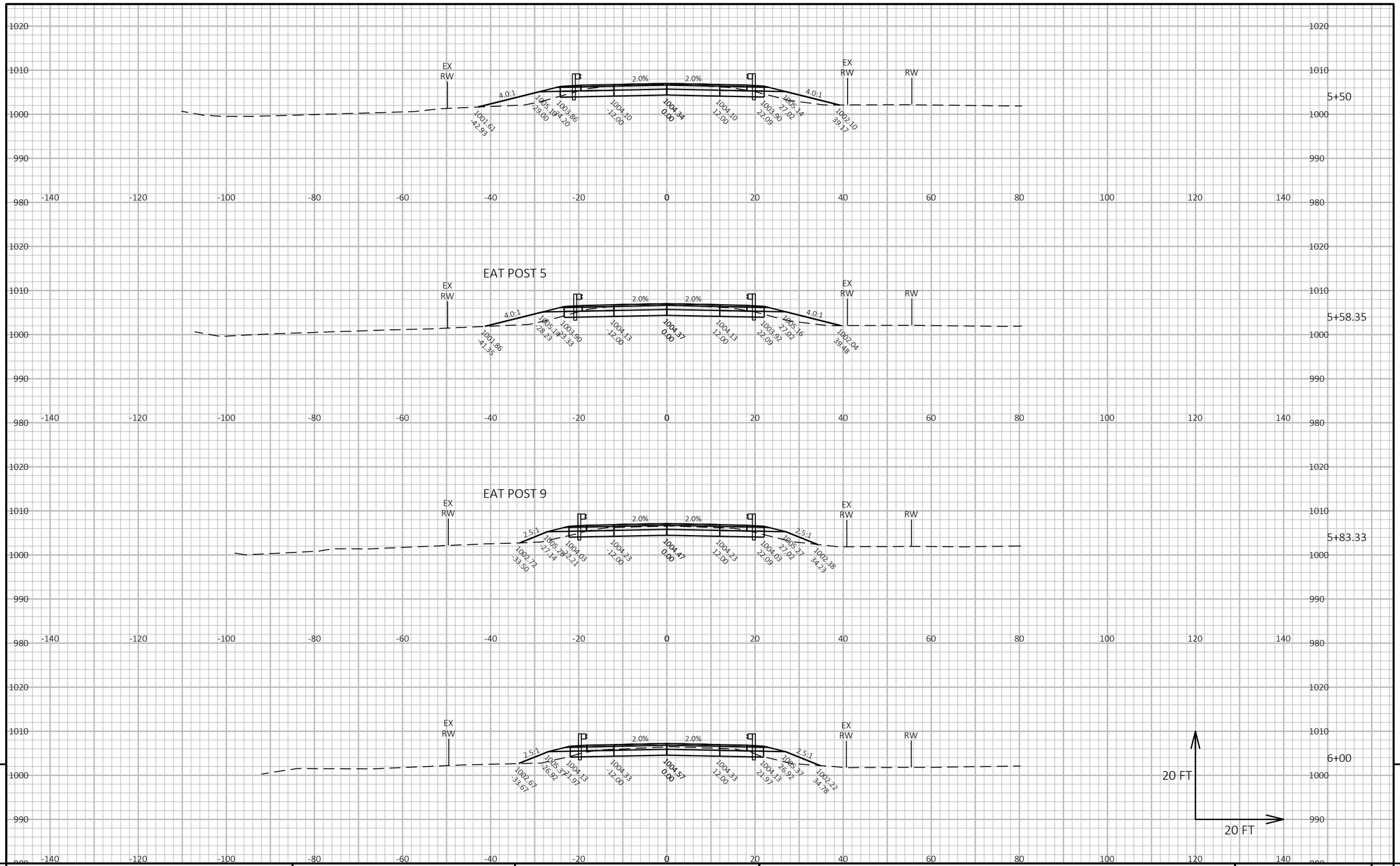


9

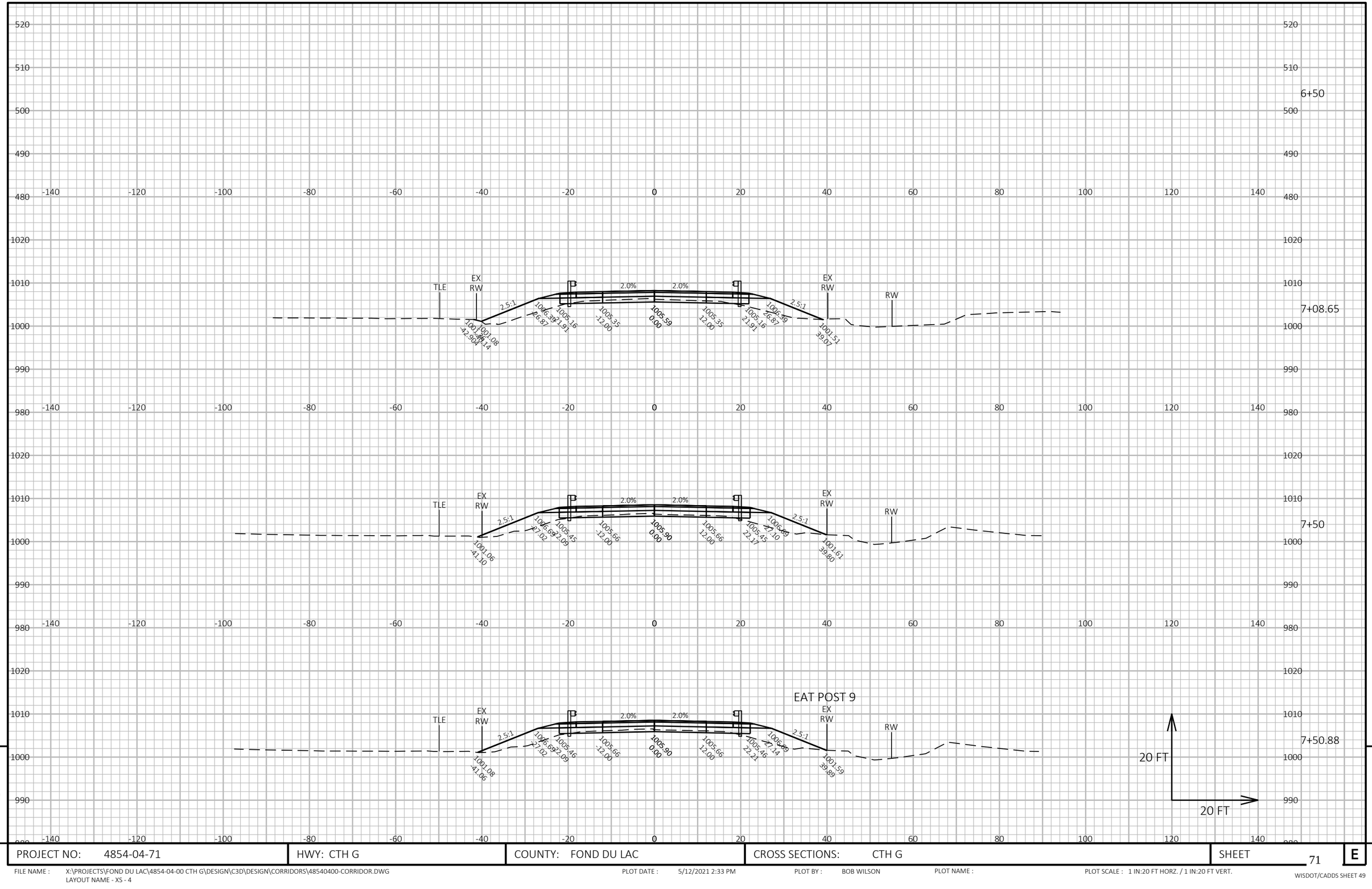
9

PROJECT NO: 4854-04-71	HWY: CTH G	COUNTY: FOND DU LAC	CROSS SECTIONS: CTH G	SHEET 70	E

FILE NAME : X:\PROJECTS\FOND DU LAC\4854-04-00 CTH G\DESIGN\C3D\DESIGN\CORRIDORS\48540400-CORRIDOR.DWG
LAYOUT NAME - XS - 3

PLOT DATE : 5/12/2021 2:33 PM PLOT BY : BOB WILSON PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

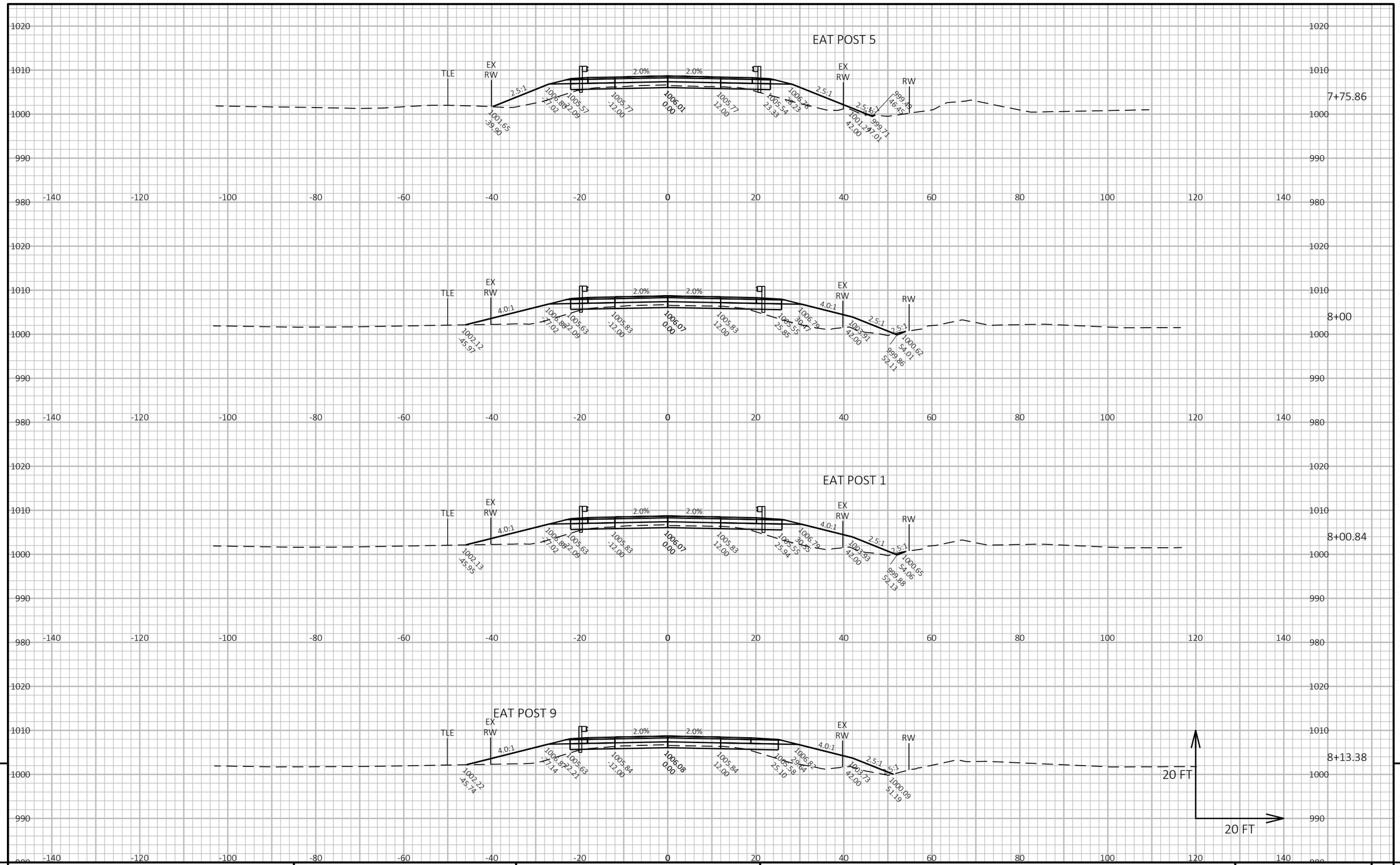


9 9

PROJECT NO: 4854-04-71	HWY: CTH G	COUNTY: FOND DU LAC	CROSS SECTIONS: CTH G	SHEET 71	E

FILE NAME : X:\PROJECTS\FOND DU LAC\4854-04-00 CTH G\DESIGN\C3D\DESIGN\CORRIDORS\48540400-CORRIDOR.DWG
LAYOUT NAME - XS - 4

PLOT DATE : 5/12/2021 2:33 PM PLOT BY : BOB WILSON PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.



9

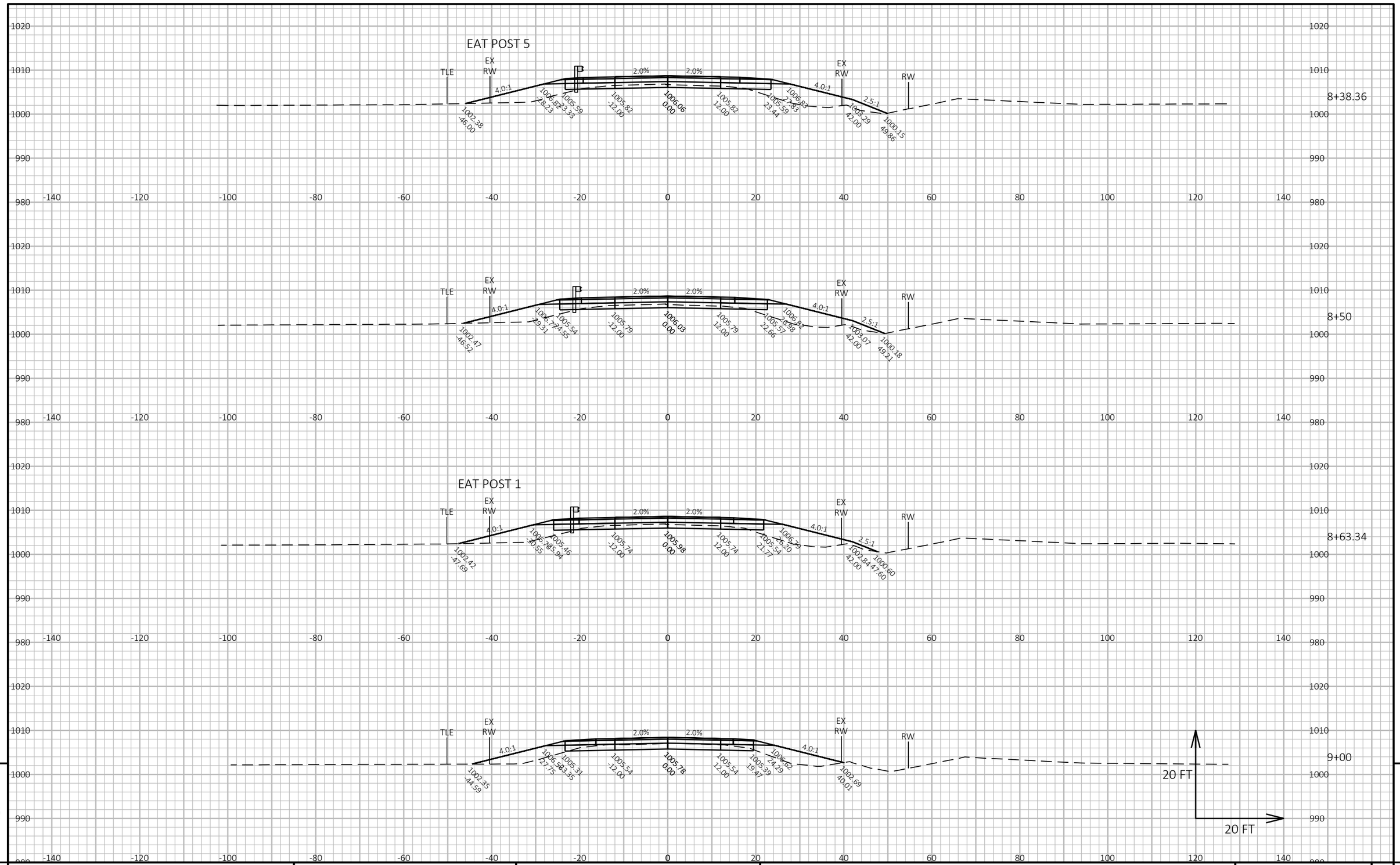
9

PROJECT NO: 4854-04-71	HWY: CTH G	COUNTY: FOND DU LAC	CROSS SECTIONS: CTH G	SHEET 72	E

FILE NAME : X:\PROJECTS\FOND DU LAC\4854-04-00 CTH G\DESIGN\C3D\DESIGN\CORRIDORS\48540400-CORRIDOR.DWG
LAYOUT NAME - XS - 5

PLOT DATE : 5/12/2021 2:33 PM PLOT BY : BOB WILSON PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9 9

PROJECT NO: 4854-04-71	HWY: CTH G	COUNTY: FOND DU LAC	CROSS SECTIONS: CTH G	SHEET 73	E

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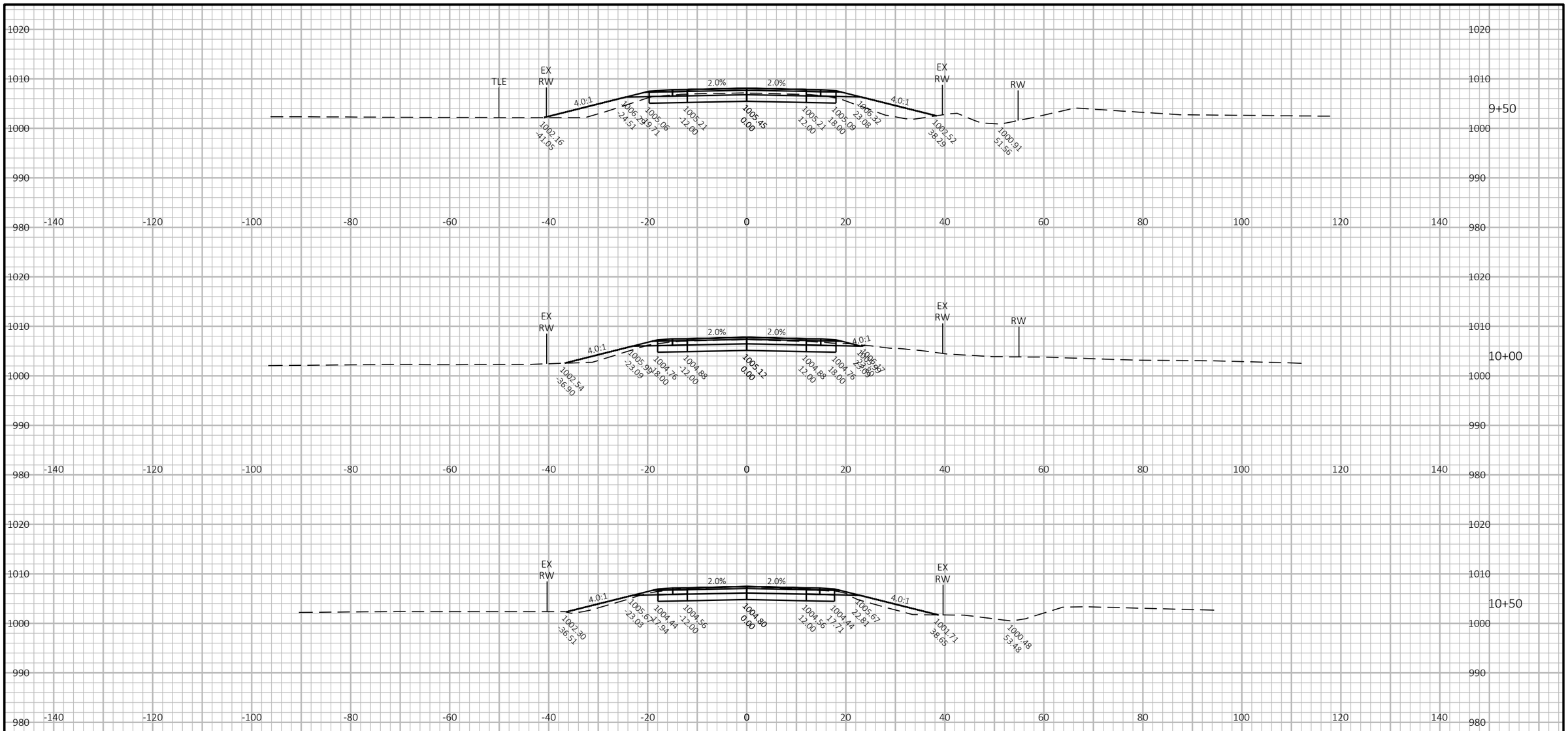
LAYOUT NAME - XS - 6

PLOT DATE : 5/12/2021 2:33 PM PLOT BY : BOB WILSON PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 4854-04-71	HWY: CTH G	COUNTY: FOND DU LAC	CROSS SECTIONS: CTH G	SHEET 74	E

FILE NAME : X:\PROJECTS\FOND DU LAC\4854-04-00 CTH G\DESIGN\C3D\DESIGN\CORRIDORS\48540400-CORRIDOR.DWG
LAYOUT NAME - XS - 7

PLOT DATE : 5/12/2021 2:33 PM PLOT BY : BOB WILSON PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov