GRE MARCH 2026

PROJECT ID: 4204-10-70

COUNTY: SHEBOYGAN

ORDER OF SHEETS

TOTAL SHEETS = 90

21

N

DESIGN DESIGNATION 4204-10-00

A.A.D.T.	(2026)	=	60
A.A.D.T.	(2046)	=	75
D.H.V.		=	7
D.D.		=	60/40
T.		=	5% (ASSUMED)
DESIGN SPEED		=	25 MPH
ESALS		=	0

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 (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE
- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES
- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T PLYMOUTH, RIVER HEIGHTS DRIVE

MULLET RIVER BRIDGE

LOCAL STREET
SHEBOYGAN COUNTY

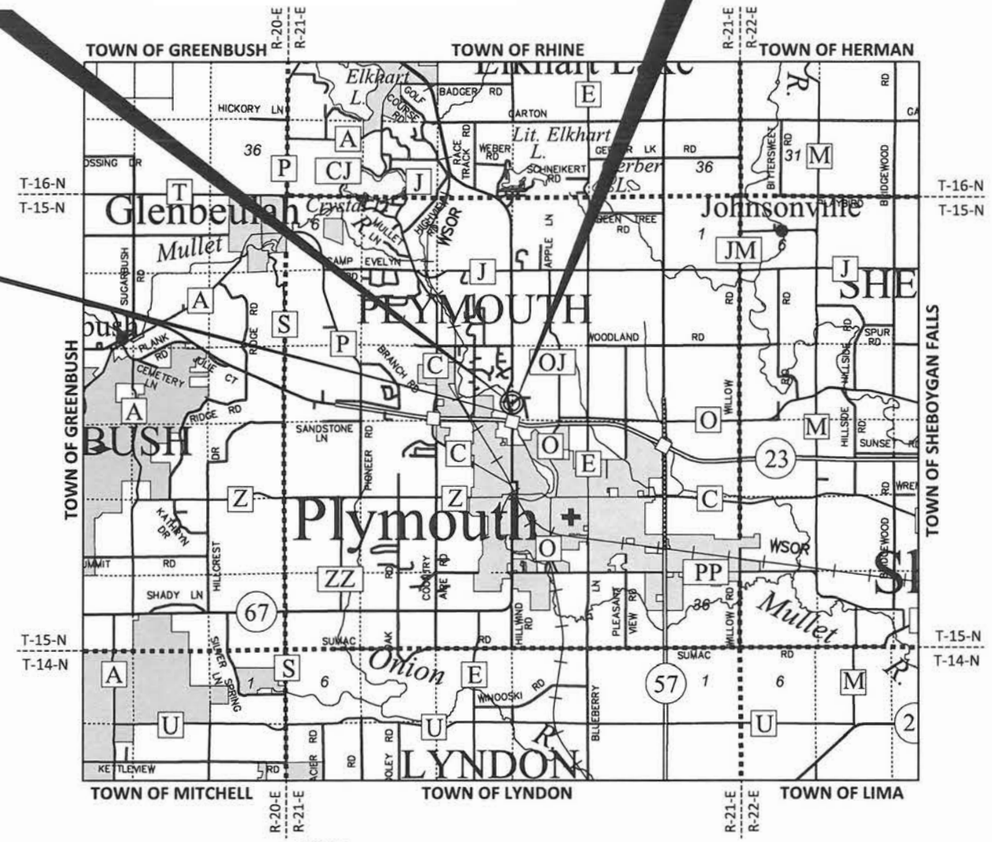
STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4204-10-70		

STATE PROJECT NUMBER
4204-10-70

STRUCTURE B-59-206

BEGIN PROJECT
STA. 10+00
Y = 181,962.33
X = 147,797.02

END PROJECT
STA. 12+00



LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 0.038 MILES

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

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

ACCEPTED FOR
COUNTY of SHEBOYGAN
10/16/25 (Date) (Transportation Director)

ORIGINAL PLANS PREPARED BY
JEWELL associates engineers, inc
Engineers-Architects-Surveyors

WISCONSIN
ANGELA L. CLARY
E-32243
LONE ROCK, WI
PROFESSIONAL ENGINEER
Angela Clary 10/8/2025

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	JEWELL ASSOCIATES ENGINEERS, INC.
Designer	JEWELL ASSOCIATES ENGINEERS, INC.
Project Manager	KATIE SCHWARTZ, P.E.
Regional Examiner	NE REGION
Regional Supervisor	KIMBERLY SLEZAK, P.E.

APPROVED FOR THE DEPARTMENT
DATE: 10/17/2025 (Signature)

E

FILE NAME : S:\PROJECTS\W11717 WISDOT - RIVER HEIGHTS DR BRIDGE, SHEBOYGAN CO\SHEETSPLAN\W11717_TITLE.DWG
PLOT DATE : 10/1/2025 2:52:07 PM
PLOT BY : CHLOE DIEHL
PLOT SCALE : 1" = 1'
LAYOUT : TITLE SHEET 1 IN EQ 2 MI

GENERAL NOTES

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

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

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE, AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS COMMON EXCAVATION. EXACT LOCATIONS OF EBS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

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

SEED, INSTALL EROSION MAT, MULCH AND FERTILIZE ALL SALVAGED TOPSOILED AREAS WITHIN 7 WORKING DAYS AFTER GRADING WORK IS COMPLETED.

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

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

ASPHALTIC QUANTITIES WERE CALCULATED USING 112 LB/SY/IN.

TACK COAT WERE CALCULATED A RATE OF 0.05 GAL/SY.

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

WETLANDS ARE PRESENT IN THE PROJECT LIMITS. THE CONTRACTOR SHALL NOT OPERATE OR STOCKPILE EQUIPMENT BEYOND STA 11+01 - 12+00, LT, AND STA. 100'A'+06 - 101'A'+42, RT. DO NOT USE FERTILIZER IN WETLANDS.

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

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

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

PRIOR TO ORDERING CULVERT PIPE, THE CONTRACTOR SHALL FIELD VERIFY RELATED DRAINAGE INFORMATION IN THE PLAN WITH THE ENGINEER.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

ORDER OF SECTION 2 SHEETS

CONTACTS

SHEBOYGAN COUNTY HIGHWAY DEPARTMENT:
BRYAN OLSON, DIRECTOR
W5741 CTH J
PLYMOUTH, WI 53703
PHONE: (920) 459-3822
EMAIL: bryan.olson@sheboygancounty.com

DESIGN CONSULTANT:
JEWELL ASSOCIATES ENGINEERS, INC.
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
ATTN: ANGIE CLARY, P.E.
PHONE: (608) 459-6061
EMAIL: angie.clary@jewellassoc.com

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

WDNR LIASON:
DNR NORTHEAST REGIONAL HEADQUARTERS
2984 SHAWANO AVE.
GREEN BAY, WI 54313
ATTN: JAY SCHIEFELBEIN
PHONE: (920) 360-3784
EMAIL: jeremiah.schiefelbein@wisconsin.gov

UTILITIES

COMMUNICATION LINE

SPECTRUM
ATTN: JOHN BALDE
1623 BROADWAY AVE
SHEBOYGAN, WI 53081
PHONE: (414) 430-6712
EMAIL: john.balde@charter.com

FRONTIER COMMUNICATIONS
ATTN: THOMAS REKOWSKI
118 DIVISION STREET
PLYMOUTH, WI 53073
PHONE: 608-844-0980
EMAIL: thomas.rekowski@FTR.com

ELECTRICITY

PLYMOUTH UTILITIES
ATTN: RYAN ROEHRBORN
900 CTH PP, PO BOX 277
PLYMOUTH, WI 53073
PHONE: (920) 893-3855
CELL: (920) 838-5231
EMAIL: rroehrborn@plymouthutilities.com

GAS

WISCONSIN PUBLIC SERVICE CORP
ATTN: UTILITY COORDINATOR
PO BOX 19001
GREEN BAY, WI 54307
PHONE: 920-433-1513
EMAIL: utilitiesrelocation@wisconsinpublicservice.com

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

LIST OF STANDARD ABBREVIATIONS

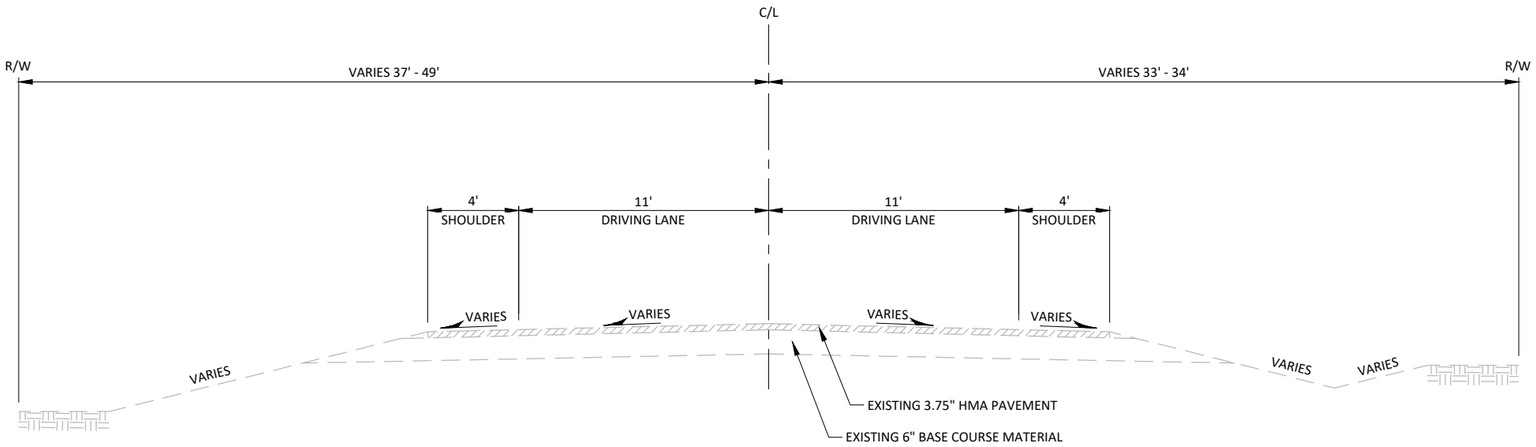
ABUT	Abutment	INV	Invert	RDWY	Roadway
AC	Acre	IP	Iron Pipe or Pin	SALV	Salvaged
AGG	Aggregate	IRS	Iron Rod Set	SAN S	Sanitary Sewer
AH	Ahead	JT	Joint	SEC	Section
<	Angle	JCT	Junction	SHLDR	Shoulder
ASPH	Asphaltic	LHF	Left-Hand Forward	SHR	Shrinkage
AVG	Average	L	Length of Curve	SW	Sidewalk
ADT	Average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

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

TOTAL PROJECT AREA = 0.75 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.51 ACRES

PROJECT NO: 4204-10-70	HWY: RIVER HEIGHTS DRIVE	COUNTY: SHEBOYGAN	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : S:\PROJECTS\W11717 WISDOT - RIVER HEIGHTS DR BRIDGE, SHEBOYGAN CO\SHEETSPLAN\DETAILS\W11717_PROJECTOVERVIEW.DWG PLOT DATE : 10/1/2025 2:52:29 PM PLOT BY : CHLOE DIEHL PLOT SCALE : 1" = 300' LAYOUT : LAYOUT1

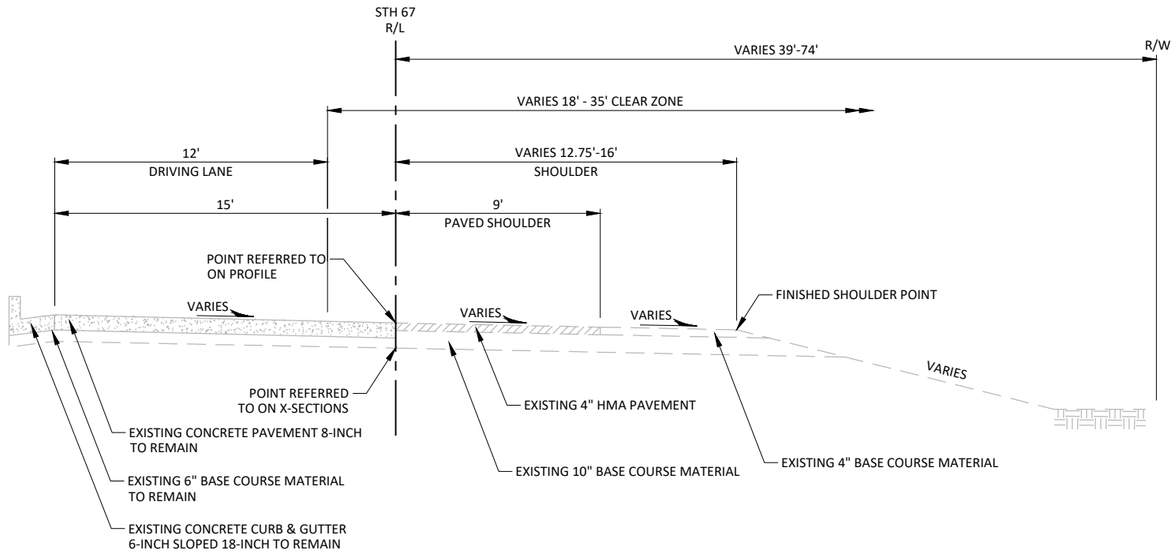


FILL

CUT

TYPICAL EXISTING SECTION

RIVER HEIGHTS DRIVE
STA. 10+00 - STA. 12+00



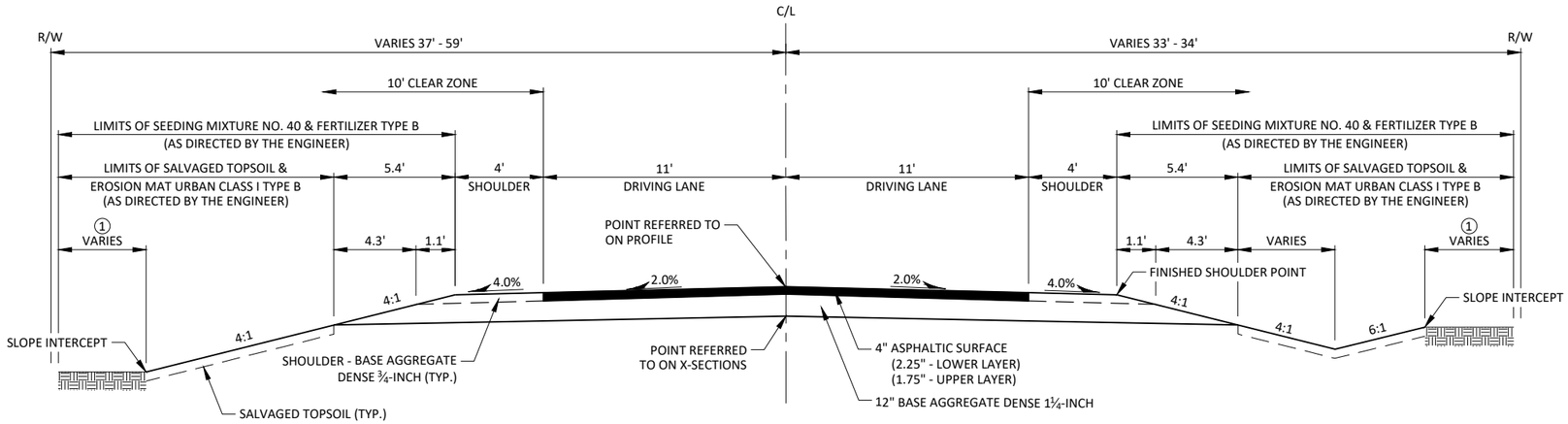
FILL

TYPICAL EXISTING SECTION

STH 67
STA. 100'A'+06.07 - STA. 103'A'+36.53

PROJECT NO: 4204-10-70	HWY: RIVER HEIGHTS DRIVE	COUNTY: SHEBOYGAN	TYPICAL SECTIONS - EXISTING	SHEET 4	E

2



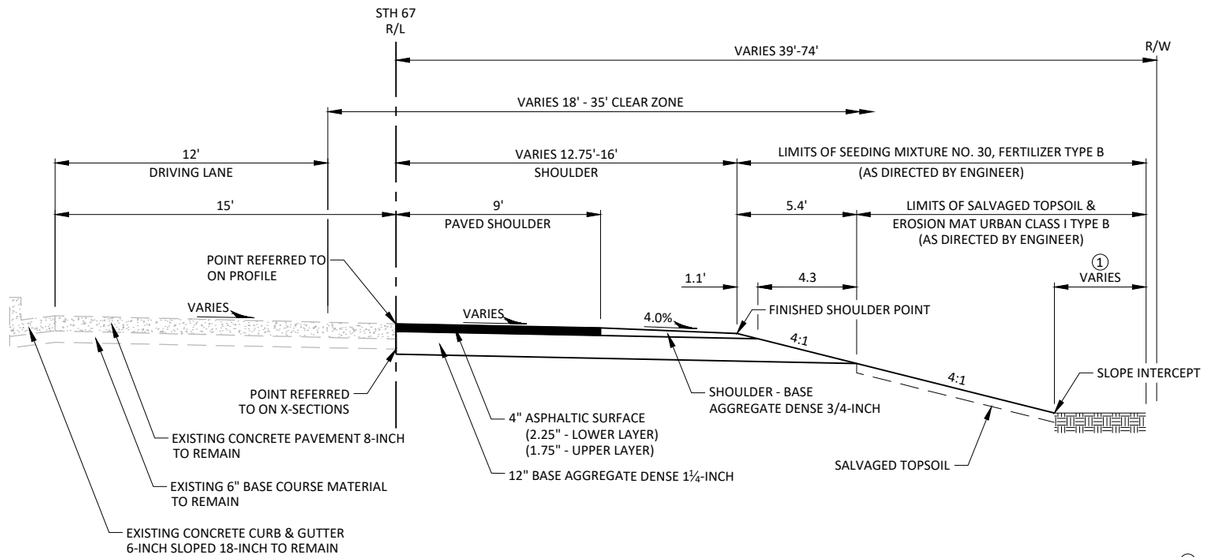
FILL

CUT

TYPICAL FINISHED SECTION

RIVER HEIGHTS DRIVE
STA. 10+00 - STA. 12+00

① USE SEEDING MIXTURE NO. 60 IN LIEU OF SEEDING MIXTURE NO. 40 IN AREAS ADJACENT TO DETERMINED WETLANDS AS SHOWN ON THE EROSION CONTROL AND PLAN & PROFILE SHEETS.



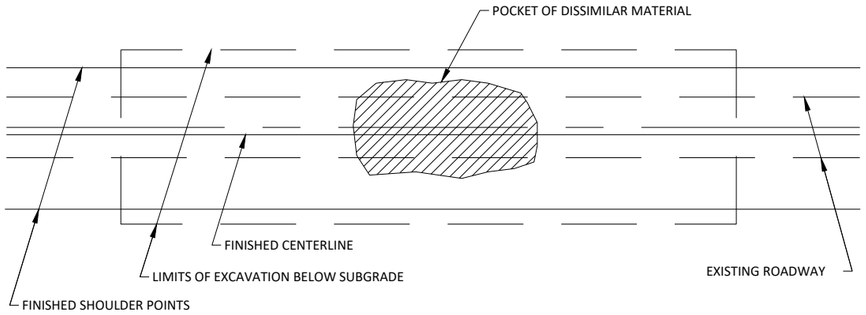
TYPICAL FINISHED SECTION

STH 67
STA. 100'A'+06.07 - STA. 103'A'+36.53

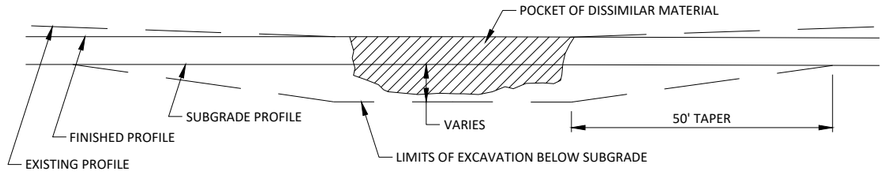
FILL

① USE SEEDING MIXTURE NO. 60 IN LIEU OF SEEDING MIXTURE NO. 30 IN AREAS ADJACENT TO DETERMINED WETLANDS AS SHOWN ON THE EROSION CONTROL AND PLAN & PROFILE SHEETS.

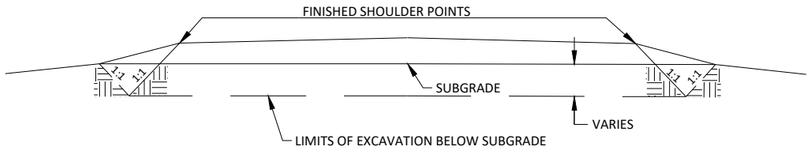
PROJECT NO: 4204-10-70	HWY: RIVER HEIGHTS DRIVE	COUNTY: SHEBOYGAN	TYPICAL SECTIONS - FINISHED	SHEET 5	E



PLAN VIEW



PROFILE VIEW

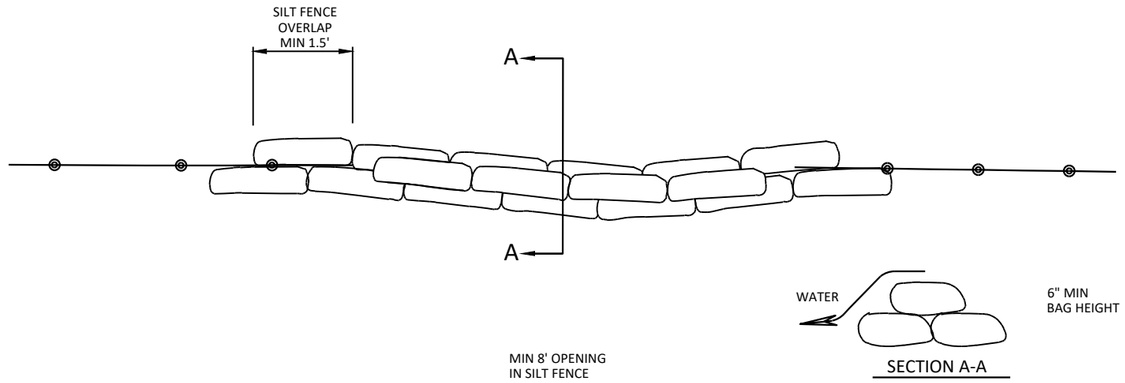


CROSS SECTION VIEW

1. EXACT LOCATION OF E.B.S. (EXCAVATION BELOW SUBGRADE) SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. E.B.S. AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER. BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.
3. THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED. LATERAL LIMITS OF EXCAVATION SHALL BE THE SUBGRADE SHOULDER POINTS.

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

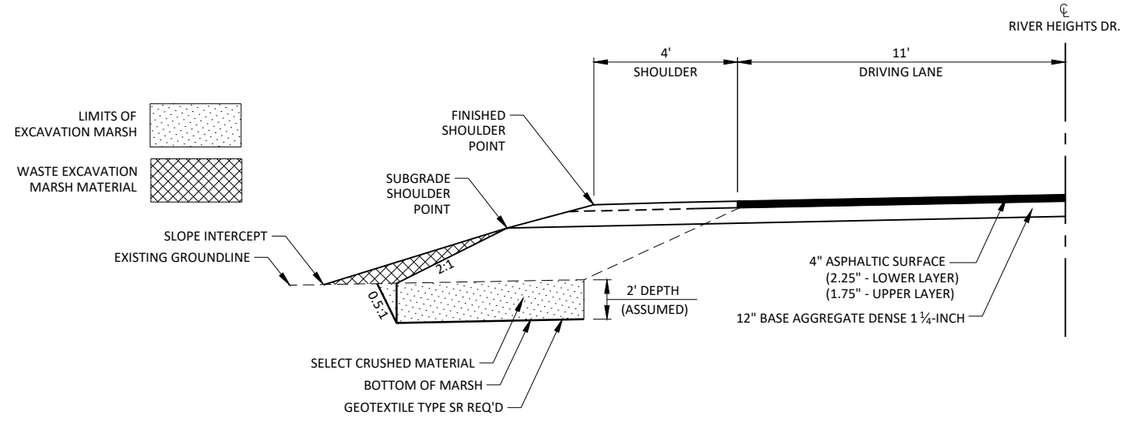
2



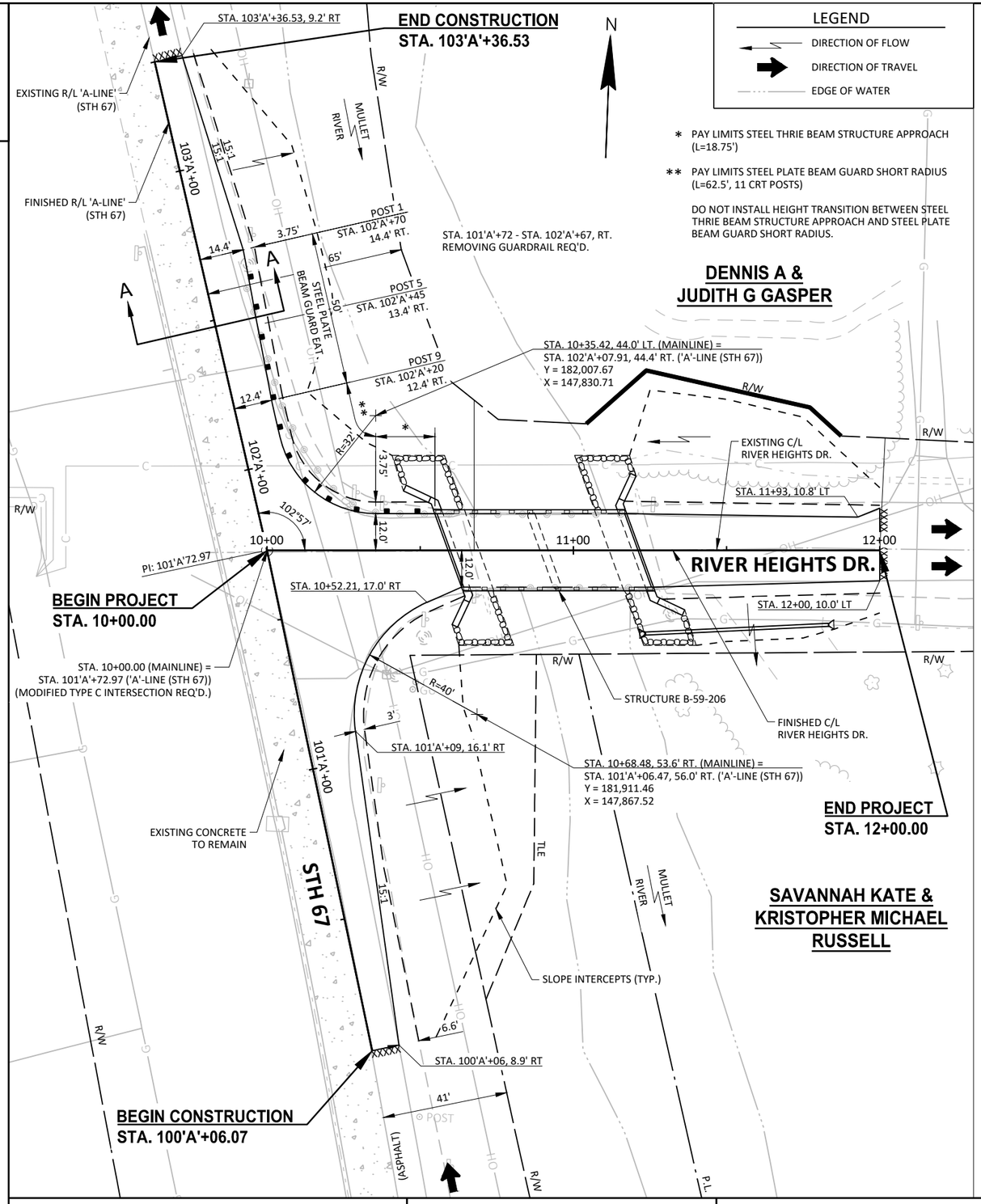
TOP VIEW

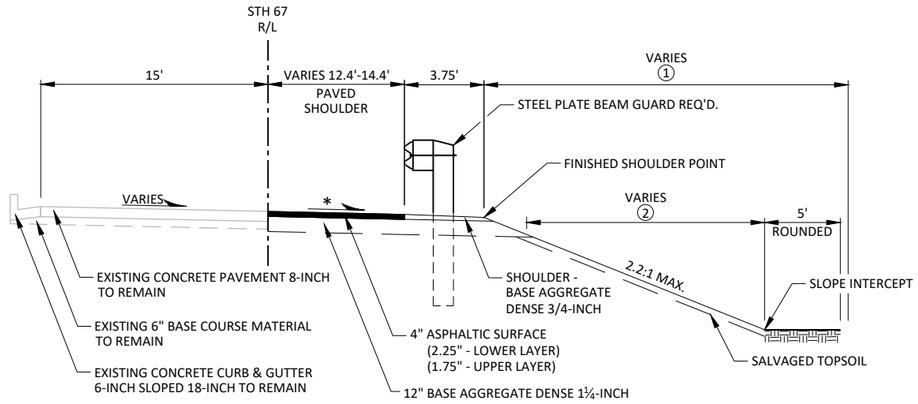
ROCK BAGS USED FOR SILT FENCE RELIEF

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



TYPICAL EXCAVATION MARSH





SECTION A-A

① LIMITS OF FERTILIZER TYPE B, SEEDING MIXTURE NO. 30 OR SEEDING MIXTURE NO. 60, (AS DIRECTED BY THE ENGINEER).

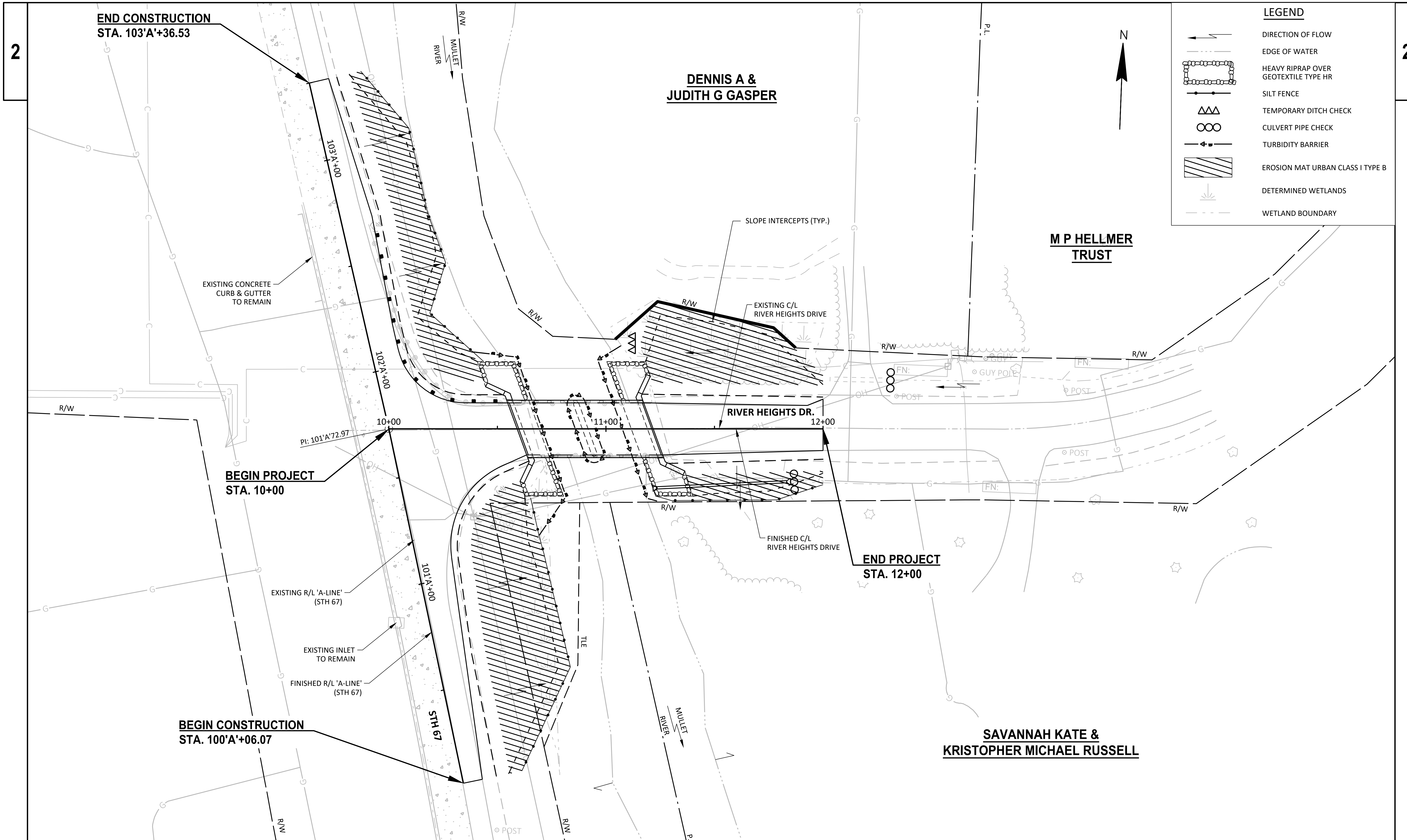
② LIMITS OF SALVAGED TOPSOIL & EROSION MAT URBAN CLASS I TYPE B (AS DIRECTED BY THE ENGINEER).

* VARIES; SEE CROSS SECTIONS FOR MORE INFORMATION.

2

PROJECT NO: 4204-10-70	HWY: RIVER HEIGHTS DRIVE	COUNTY: SHEBOYGAN	INTERSECTION DETAILS	SHEET	E

FILE NAME : S:\PROJECTS\W11717 WISDOT - RIVER HEIGHTS DR BRIDGE, SHEBOYGAN CO\SHEETSPLAN\DETAILS\W11717_INTERSECTIONDETAILS.DWG
PLOT DATE : 1/19/2026 10:28:47 AM
PLOT BY : CHLOE DIEHL
PLOT SCALE : 1" = 1'
LAYOUT : INTERSECTION DETAIL



2
END CONSTRUCTION
STA. 103'A'+36.53
DENNIS A &
JUDITH G GASPER
M P HELLMER
TRUST
LEGEND
DIRECTION OF FLOW
EDGE OF WATER
HEAVY RIPRAP OVER GEOTEXTILE TYPE HR
SILT FENCE
TEMPORARY DITCH CHECK
CULVERT PIPE CHECK
TURBIDITY BARRIER
EROSION MAT URBAN CLASS I TYPE B
DETERMINED WETLANDS
WETLAND BOUNDARY
N
MULLET RIVER
103'A'+00
102'A'+00
101'A'+00
EXISTING CONCRETE CURB & GUTTER TO REMAIN
SLOPE INTERCEPTS (TYP.)
EXISTING C/L RIVER HEIGHTS DRIVE
RIVER HEIGHTS DR.
10+00
11+00
12+00
PI: 101'A'72.97
BEGIN PROJECT
STA. 10+00
END PROJECT
STA. 12+00
FINISHED C/L RIVER HEIGHTS DRIVE
EXISTING R/L 'A-LINE' (STH 67)
EXISTING INLET TO REMAIN
FINISHED R/L 'A-LINE' (STH 67)
BEGIN CONSTRUCTION
STA. 100'A'+06.07
STH 67
TLE
R/W
P.L.
SAVANNAH KATE &
KRISTOPHER MICHAEL RUSSELL

PROJECT NO: 4204-10-70	HWY: RIVER HEIGHTS DRIVE	COUNTY: SHEBOYGAN	EROSION CONTROL PLAN	SHEET	E

FILE NAME : S:\PROJECTS\W11717 WISDOT - RIVER HEIGHTS DR BRIDGE, SHEBOYGAN CO\SHEETSPLAN\DETAILS\W11717_EROSIONCONTROL.DWG PLOT DATE : 1/19/2026 8:47:46 AM PLOT BY : CHLOE DIEHL PLOT SCALE : 1" = 1' LAYOUT : LAYOUT1

2

2

N

GROVE ST.

SUHRKE RD.

RUSTIC ST.

STH 67

ROAD WORK AHEAD
W20-1A

RIGHT SHOULDER CLOSED AHEAD
W21-5B

RIGHT SHOULDER CLOSED
W21-5A

1600'

700'

450'

STH 23 EAST

STH 23 WEST

LEGEND

- DIRECTION OF TRAFFIC
- WORK AREA
- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGNS
- CONNECTED ARROW BOARD
- * PLACE SIGN TO FACE KAYAK/CANOE TRAFFIC ON RIVER

N

BRIDGE OUT
R11-2B
48"X30"

BEGIN CONSTRUCTION
STA. 100'A'+06.07

END CONSTRUCTION
STA. 103'A'+36.53

* ROAD WORK AHEAD
W20-1A

END ROAD WORK
G20-2A
48"X24"

101

102

103

STH 67

50' (TYP.)

50' (TYP.)

500'

BEGIN PROJECT
STA. 10+00

* ROAD WORK AHEAD
W20-1A

50'

END PROJECT
STA. 12+00

RIVER HEIGHTS DR.

450'

200'
TAPER

500'
BUFFER SPACE

BRIDGE OUT
R11-2B
48"X30"

PROJECT NO: 4204-10-70	HWY: RIVER HEIGHTS DRIVE	COUNTY: SHEBOYGAN	TRAFFIC CONTROL PLAN	SHEET 9	E

FILE NAME : \\JEWELL2012AD\SHARE\PROJECTS\W11717 WISDOT - RIVER HEIGHTS DR BRIDGE, SHEBOYGAN CO\SHEETSPLAN\DETAILS\W11717_TRAFFICCONTROL.DWG PLOT DATE : 10/3/2025 10:21:10 AM PLOT BY : CHLOE DIEHL PLOT SCALE : 1 IN:200 FT LAYOUT : SHEET - (1)

END CONSTRUCTION
STA. 103'A'+36.53
Y = 182,120.19
X = 147,754.57

LEGEND
- REMOVING SIGNS TYPE II/REMOVING SMALL SIGN SUPPORTS
- SIGNS TYPE II REFLECTIVE F OR H ON POSTS
- XXXX DESIGNATES SIGN NUMBER
- Ⓐ MARKING LINE EPOXY 4-INCH (WHITE EDGELINE)
- * TOWNSHIP WILL REMOVE STREET SIGNS PRIOR TO CONSTRUCTION AND RE-ERECT POST CONSTRUCTION.

N

CONTROL POINTS

NO.	STA.	DESCRIPTION	Y	X
1	9+73	SMP SET ASPHALTIC MEDIAN, 24.9 LT.	181,986.15	147,769.04
2	12+70	3/4" IRON REBAR SET, 11.5 RT.	181,961.26	148,067.76
3	11+39	3/4" IRON REBAR SET, 34.8 RT.	181,932.98	147,937.47

DENNIS A & JUDITH G GASPER

M P HELLMER TRUST

SAVANNAH KATE & KRISTOPHER MICHAEL RUSSELL

R/W
P.L.
MULLET RIVER
103'A'+00
102'A'+00
101'A'+00
N15°10'08"W
N14°05'14"W
N87°47'07"E
10+00
11+00
12+00
PI: STA 101'A'72.97
RIVER HEIGHTS DR
RIVER HEIGHTS DR.
STH 67
C.P. 1
C.P. 2
C.P. 3
FN:
POST
TLE

3-01M DO NOT ENTER — MOVING SIGNS TYPE II & MOVING SMALL SIGN SUPPORTS
3-02 STOP R1-1 30"X30"
3-03R STOP — REMOVE
3-06 W5-52L 12"X36"
3-07R — REMOVE
3-11 W5-52R 12"X36"
3-12R — REMOVE
3-13R WEIGHT LIMIT 25 TONS — REMOVE
3-04 W14-1 30"X30" DEAD END
3-05R — REMOVE
3-08 W5-52R 12"X36"
3-09R WEIGHT LIMIT 25 TONS — REMOVE
3-10R — REMOVE
3-14R — REMOVE
3-15 W5-52L 12"X36"
3-00M DO NOT ENTER — MOVING SIGNS TYPE II & MOVING SMALL SIGN SUPPORTS
SPEED LIMIT 25 ESTR

FINISHED C/L RIVER HEIGHTS DRIVE
EXISTING C/L RIVER HEIGHTS DRIVE
STRUCTURE B-59-206 REQ'D.
EXISTING R/L 'A-LINE' (STH 67)
FINISHED R/L 'A-LINE' (STH 67)

BEGIN PROJECT
STA. 10+00
Y = 181,962.33
X = 147,797.02
STA. 10+00.00 (MAINLINE) = STA. 101'A'+72.97 ('A'-LINE (STH 67))

END PROJECT
STA. 12+00
Y = 181,970.06
X = 147,996.06

BEGIN CONSTRUCTION
STA. 100'A'+06.07
Y = 181,800.46
X = 147,837.64

PROJECT NO: 4204-10-70	HWY: RIVER HEIGHTS DRIVE	COUNTY: SHEBOYGAN	ALIGNMENT PLAN & PERMANENT SIGNING & PAVEMENT MARKING	SHEET 10	E

FILE NAME : S:\PROJECTS\W11717 WISDOT - RIVER HEIGHTS DR BRIDGE, SHEBOYGAN CO\SHEETSPLAN\DETAILS\W11717_ALIGNMENTDETAILS&SIGNING.DWG
PLOT DATE : 10/6/2025 8:42:58 AM
PLOT BY : CHLOE DIEHL
PLOT SCALE : 1" = 1'
LAYOUT : LAYOUT1

Estimate Of Quantities

4204-10-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	5.000	5.000
0004	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0006	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-59-120	EACH	1.000	1.000
0008	204.0165	Removing Guardrail	LF	130.000	130.000
0010	205.0100	Excavation Common	CY	520.000	520.000
0012	205.0400	Excavation Marsh	CY	10.000	10.000
0014	206.1001	Excavation for Structures Bridges (structure) 01. B-59-206	EACH	1.000	1.000
0016	210.1500	Backfill Structure Type A	TON	350.000	350.000
0018	213.0100	Finishing Roadway (project) 01. 4204-10-70	EACH	1.000	1.000
0020	305.0110	Base Aggregate Dense 3/4-Inch	TON	66.000	66.000
0022	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	950.000	950.000
0024	312.0115	Select Crushed Material	CY	16.000	16.000
0026	455.0605	Tack Coat	GAL	50.000	50.000
0028	465.0105	Asphaltic Surface	TON	228.000	228.000
0030	502.0100	Concrete Masonry Bridges	CY	187.000	187.000
0032	502.3200	Protective Surface Treatment	SY	260.000	260.000
0034	505.0400	Bar Steel Reinforcement HS Structures	LB	5,610.000	5,610.000
0036	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	21,210.000	21,210.000
0038	513.4061	Railing Tubular Type M	LF	130.000	130.000
0040	516.0500	Rubberized Membrane Waterproofing	SY	12.000	12.000
0042	520.1012	Apron Endwalls for Culvert Pipe 12-Inch	EACH	2.000	2.000
0044	520.3312	Culvert Pipe Class III-A 12-Inch	LF	60.000	60.000
0046	550.0500	Pile Points	EACH	19.000	19.000
0048	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	950.000	950.000
0050	606.0300	Riprap Heavy	CY	140.000	140.000
0052	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	150.000	150.000
0054	614.0200	Steel Thrie Beam Structure Approach	LF	18.750	18.750
0056	614.0345	Steel Plate Beam Guard Short Radius	LF	62.500	62.500
0058	614.0370	Steel Plate Beam Guard Energy Absorbing Terminal	EACH	1.000	1.000
0060	619.1000	Mobilization	EACH	1.000	1.000
0062	624.0100	Water	MGAL	16.000	16.000
0064	625.0500	Salvaged Topsoil	SY	1,240.000	1,240.000
0066	628.1504	Silt Fence	LF	480.000	480.000
0068	628.1520	Silt Fence Maintenance	LF	960.000	960.000
0070	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000
0072	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0074	628.2008	Erosion Mat Urban Class I Type B	SY	1,240.000	1,240.000
0076	628.6005	Turbidity Barriers	SY	370.000	370.000
0078	628.7504	Temporary Ditch Checks	LF	10.000	10.000
0080	628.7555	Culvert Pipe Checks	EACH	4.000	4.000
0082	628.7570	Rock Bags	EACH	51.000	51.000
0084	629.0210	Fertilizer Type B	CWT	1.000	1.000
0086	630.0130	Seeding Mixture No. 30	LB	50.000	50.000
0088	630.0140	Seeding Mixture No. 40	LB	19.000	19.000
0090	630.0160	Seeding Mixture No. 60	LB	1.000	1.000
0092	630.0200	Seeding Temporary	LB	44.000	44.000
0094	630.0500	Seed Water	MGAL	39.000	39.000
0096	633.5100	Markers ROW	EACH	4.000	4.000
0098	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	6.000	6.000

Estimate Of Quantities

4204-10-70

Line	Item	Item Description	Unit	Total	Qty
0100	637.2210	Signs Type II Reflective H	SF	5.180	5.180
0102	637.2230	Signs Type II Reflective F	SF	18.250	18.250
0104	638.2102	Moving Signs Type II	EACH	3.000	3.000
0106	638.2602	Removing Signs Type II	EACH	8.000	8.000
0108	638.3000	Removing Small Sign Supports	EACH	8.000	8.000
0110	638.4000	Moving Small Sign Supports	EACH	2.000	2.000
0112	642.5001	Field Office Type B	EACH	1.000	1.000
0114	643.0300	Traffic Control Drums	DAY	2,185.000	2,185.000
0116	643.0420	Traffic Control Barricades Type III	DAY	1,140.000	1,140.000
0118	643.0705	Traffic Control Warning Lights Type A	DAY	1,520.000	1,520.000
0120	643.0810	Traffic Control Connected Arrow Boards	DAY	95.000	95.000
0122	643.0900	Traffic Control Signs	DAY	855.000	855.000
0124	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0126	643.5000	Traffic Control	EACH	1.000	1.000
0128	645.0111	Geotextile Type DF Schedule A	SY	100.000	100.000
0130	645.0120	Geotextile Type HR	SY	240.000	240.000
0132	645.0135	Geotextile Type SR	SY	78.000	78.000
0134	646.1020	Marking Line Epoxy 4-Inch	LF	130.000	130.000
0136	650.4500	Construction Staking Subgrade	LF	469.000	469.000
0138	650.5000	Construction Staking Base	LF	469.000	469.000
0140	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
0142	650.6501	Construction Staking Structure Layout (structure) 01. B-59-206	EACH	1.000	1.000
0144	650.9911	Construction Staking Supplemental Control (project) 01. 4204-10-70	EACH	1.000	1.000
0146	650.9920	Construction Staking Slope Stakes	LF	469.000	469.000
0148	690.0150	Sawing Asphalt	LF	42.000	42.000
0150	715.0502	Incentive Strength Concrete Structures	DOL	1,122.000	1,122.000

3

GRUBBING

STATION - STATION	LOCATION	201.0205 GRUBBING (STA)
11+00 - 12+00	RIVER HEIGHTS DRIVE, LT. & RT.	1
100'A'+00 - 104'A'+00	A' LINE (STH 67), RT.	4
	TOTAL=	5

BASE AGGREGATE DENSE

STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH (TON)	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH (TON)	624.0100 WATER (MGAL)
10+14 - 10+59.81	RIVER HEIGHTS DRIVE	13	227	4
11+21.05 - 12+00	RIVER HEIGHTS DRIVE	21	244	4
100'A'+06.07 - 101'A'+72.97	'A'-LINE (STH 67), RT.	15	215	4
101'A'+72.97 - 103'A'+36.53	'A'-LINE (STH 67), RT.	17	264	4
	TOTAL=	66	950	16

ALL ITEMS 010 UNLESS OTHERWISE NOTED

MOBILIZATION EROSION CONTROL

PROJECT	628.1905 MOBILIZATION EROSION CONTROL (EACH)	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL (EACH)
4204-10-70	6	3
TOTALS=	6	3

3

REMOVING SMALL PIPE CULVERTS

STATION	LOCATION	DESCRIPTION	203.0100 (EACH)
11+54	RIVER HEIGHTS DRIVE, RT.	12" CMCP, L = 13'	1
	TOTAL=		1

SELECT CRUSHED MATERIAL & GEOTEXTILE TYPE SR

STATION - STATION	LOCATION	312.0115 SELECT CRUSHED MATERIAL (CY)	645.0135 GEOTEXTILE TYPE SR (SY)
11+21 - 12+00	RIVER HEIGHTS DRIVE, LT	16	78
	TOTALS=	16	78

TURBIDITY BARRIERS

LOCATION	628.6005 TURBIDITY BARRIERS (SY)
WEST ABUTMENT	110
EAST ABUTMENT	85
PIER	100
UNDISTRIBUTED	75
TOTALS=	370

REMOVING GUARDRAIL

STATION - STATION	LOCATION	204.0165 (LF)
101'A'+72 - 102'A'+67	'A'-LINE (STH 67), RT.	130
	TOTAL=	130

ASPHALTIC SURFACE

STATION - STATION	LOCATION	455.0605 TACK COAT (GAL)	465.0105 ASPHALTIC SURFACE (TON)
10+14 - 10+59.81	RIVER HEIGHTS DRIVE	12	54
11+21.05 - 12+00	RIVER HEIGHTS DRIVE	11	51
100'A'+06.07 - 103'A'+36.53	'A'-LINE (STH 67), RT	27	123
	TOTALS=	50	228

TEMPORARY DITCH CHECKS

STATION	LOCATION	628.7504 (LF)
11+13	RIVER HEIGHTS DRIVE, LT.	10
	TOTAL=	10

EARTHWORK SUMMARY

STATION - STATION	LOCATION	(1) 205.0100 EXCAVATION COMMON (CY)	(2) UNEXPANDED FILL (CY)	(3) 205.0400 EXCAVATION MARSH (CY)	(4) REDUCED MARSH (CY) FACTOR 0.6	(5) EXPANDED FILL (CY) FACTOR 1.25	(6) MASS ORDINATE +/- (CY)
10+00 - 12+00	MAINLINE (RIVER HEIGHTS DRIVE)	213	72	10	6	83.0	130.0
100'A'+06.07 - 103'A'+36.53	A'-LINE (STH 67)	307	85	-	-	106	201
	TOTALS =	520	157	10.0	6.0	189	331

NOTES:
(1) COMMON EXCAVATION IS THE SUM OF THE CUT, ITEM NUMBER 205.0100
(2) FILL DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUMES
(3) EXCAVATION MARSH - TO BE BACKFILLED WITH SELECT CRUSHED MATERIAL. ITEM 205.0400.
(4) REDUCED MARSH IN FILL - EXCAVATED MARSH MATERIAL IS USABLE IN FILLS OUTSIDE THE 2:1 SLOPE. MARSH IN FILL REDUCTION FACTOR = 0.6
(5) FILL EXPANDED = (UNEXPANDED FILL - REDUCED MARSH)*1.25
(6) THE MASS ORDINATE = CUT - EXPANDED FILL. + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITIY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION

CULVERT PIPE

STATION	LOCATION	APRON ENDWALLS FOR CULVERT PIPE 12-INCH 520.1012 (EACH)	CULVERT PIPE CLASS III-A 12-INCH 520.3312 (LF)	CONSTRUCTION STAKING CULVERT PIPES 650.6000 (EACH)
11+54	RIVER HEIGHTS DRIVE, RT.	2	60	1
	TOTALS =	2	60	1

PIPE SIZE	MINIMUM THICKNESS (IN.) STEEL
12-INCH	0.064

SILT FENCE

STATION - STATION	LOCATION	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)
11+23 - 12+00	RIVER HEIGHTS DRIVE, RT.	80	160
100'A'+06.07 - 103'A'+36.53	'A'-LINE (STH 67), RT.	305	610
	UNDISTRIBUTED	95	190
	TOTALS=	480	960

GUARDRAIL

STATION - STATION	LOCATION	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH (LF)	614.0345 STEEL PLATE BEAM GUARD SHORT RADIUS (LF)	614.0370 STEEL PLATE BEAM GUARD EAT (EACH)
101'A'+72 - 102'A'+70	'A'-LINE (STH 67), RT.	18.75	62.5	1
	TOTALS =	18.75	62.5	1

CULVERT PIPE CHECKS

STATION	LOCATION	628.7555 (EACH)
11+83	RIVER HEIGHTS DRIVE, RT	1
12+29	RIVER HEIGHTS DRIVE, LT.	3
	TOTAL=	4

ALL ITEMS 010 UNLESS OTHERWISE NOTED

3

ROCK BAGS

LOCATION	628.7570 (EACH)
SILT FENCE RELIEF - NW QUADRANT	17
SILT FENCE RELIEF - SW QUADRANT	17
SILT FENCE RELIEF - SE QUADRANT	17
TOTAL=	51

FINISHING ITEMS

STATION - STATION	LOCATION	625.0500 SALVAGED TOPSOIL (SY)	628.2008 EROSION MAT URBAN CLASS I TYPE B (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0130 SEEDING MIXTURE NO. 30 (LB)	630.0140 SEEDING MIXTURE NO. 40 (LB)	630.0160 SEEDING MIXTURE NO. 60 (LB)	630.0200 SEEDING TEMPORARY (LB)	630.0500 SEED WATER (MGAL)
11+16 - 12+00	RIVER HEIGHTS DRIVE, LT.	247	247	0.2	-	14	0.7	8	7
11+37 - 12+00	RIVER HEIGHTS DRIVE, RT.	79	79	0.1	-	5	-	3	3
100'A'+06.07 - 101'A'+38	'A'-LINE (STH 67), RT.	409	409	0.3	23	-	-	14	12
101'A'+85 - 103'A'+36.53	'A'-LINE (STH 67), RT.	257	257	0.2	17	-	-	10	9
-	UNDISTRIBUTED	248	248	0.2	10	5	0.3	9	8
	TOTALS=	1240	1240	1	50	19	1	44	39

MARKERS ROW

PT #	STATION	LOCATION	633.5100 (EACH)
104	11+04.21	RIVER HEIGHTS DRIVE, 41.30' LT.	1
105	11+23.78	RIVER HEIGHTS DRIVE, 58.68' LT.	1
106	11+77.18	RIVER HEIGHTS DRIVE, 46.65' LT.	1
107	11+87.36	RIVER HEIGHTS DRIVE, 37.33'LT.	1
		TOTAL=	4

3

PERMANENT SIGNING

SIGN NUMBER	APPROX. STATION	LOCATION	SIGN CODE	SIGN DESCRIPTION	SIGN SIZE (IN X IN)	637.2210 SIGNS TYPE II REFLECTIVE H (SF)	637.2230 SIGNS TYPE II REFLECTIVE F (SF)	634.0616 POSTS WOOD 4X6-INCH 16-FT (EACH)	638.2602 REMOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)	638.2102 MOVING SIGNS TYPE II (EACH)	638.4000 MOVING SMALL SIGN SUPPORTS (EACH)	COMMENT
3-00M	100'A'+91	A'-LINE (STH 67), RT.	-	RIGHT REVERSE CURVE & DO NOT ENTER	-	-	-	-	-	-	2	1	W1-4R & R5-1 ; MOVE TO STA. 100'A'+83
3-01M	102'A'+75	A'-LINE (STH 67), RT.	-	DO NOT ENTER	-	-	-	1	-	-	1	1	R5-1; MOVE TO STA. 102'A'+79
3-02	10+35	RIVER HEIGHTS DRIVE, LT.	R1-1	STOP	30X30	5.18	-	1	-	-	-	-	
3-03R	10+37	RIVER HEIGHTS DRIVE, LT.	-	STOP	-	-	-	-	1	1	-	-	
3-04	10+47	RIVER HEIGHTS DRIVE, RT.	W14-1	DEAD END	30X30	-	6.25	1			-	-	
3-05R	10+52	RIVER HEIGHTS DRIVE, RT.	-	DEAD END	-	-	-	-	1	1	-	-	
3-06	10+50	RIVER HEIGHTS DRIVE, LT.	W5-52L	BRIDGE HASH MARKS	12X36	-	3.00	1	-	-	-	-	
3-07R	10+60	RIVER HEIGHTS DRIVE, LT.	-	BRIDGE HASH MARKS	-	-	-	-	1	1	-	-	
3-08	10+62	RIVER HEIGHTS DRIVE, RT.	W5-52R	BRIDGE HASH MARKS	12X36	-	3.00	1	-	-	-	-	
3-09R	10+68	RIVER HEIGHTS DRIVE, RT.	-	WEIGHT LIMIT 25 TONS	-	-	-	-	1	1	-	-	
3-10R	10+70	RIVER HEIGHTS DRIVE, RT.	-	BRIDGE HASH MARKS	-	-	-	-	1	1	-	-	
3-11	11+17	RIVER HEIGHTS DRIVE, LT.	W5-52R	BRIDGE HASH MARKS	12X36	-	3.00	1	-	-	-	-	
3-12R	11+20	RIVER HEIGHTS DRIVE, LT.	-	BRIDGE HASH MARKS	-	-	-	-	1	1	-	-	
3-13R	11+25	RIVER HEIGHTS DRIVE, LT.	-	WEIGHT LIMIT 25 TONS	-	-	-	-	1	1	-	-	
3-14R	11+28	RIVER HEIGHTS DRIVE, RT.	-	BRIDGE HASH MARKS	-	-	-	-	1	1	-	-	
3-15	11+31	RIVER HEIGHTS DRIVE, RT.	W5-52L	BRIDGE HASH MARKS	12X36	-	3.00		-	-	-	-	
					TOTALS	5.18	18.25	6	8	8	3	2	

TRAFFIC CONTROL

LOCATION	*CALENDAR DAY DURATION*	643.0300 TRAFFIC CONTROL DRUMS (COUNT)	643.0300 TRAFFIC CONTROL DRUMS (DAY)	643.0420 TRAFFIC CONTROL BARRICADES TYPE III (COUNT)	643.0420 TRAFFIC CONTROL BARRICADES TYPE III (DAY)	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A (COUNT)	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A (DAY)	643.0810 CONNECTED ARROW BOARD (COUNT)	643.0810 CONNECTED ARROW BOARD (DAY)	643.0900 TRAFFIC CONTROL SIGNS (COUNT)	643.0900 TRAFFIC CONTROL SIGNS (DAY)	643.1050 TRAFFIC CONTROL SIGNS PCMS (COUNT)	643.1050 TRAFFIC CONTROL SIGNS PCMS (DAY)	COMMENTS
RIVER HEIGHTS DRIVE PRE-CLOSURE	*7*	-	-	-	-	-	-	-	-	-	-	2	14	-
RIVER HEIGHTS DRIVE	*95*	-	-	12	1,140	16	1,520	-	-	3	285	-	-	-
STH 67 SHOULDER CLOSURE	*95*	23	2,185	-	-	-	-	1	95	4	380	-	-	-
MULLET RIVER	*95*	-	-	-	-	-	-	-	-	2	190	-	-	PLACE UPSTREAM & DOWNSTREAM FROM BRIDGE
	TOTALS =		2,185		1,140		1,520		95		855		14	

PAVEMENT MARKING

STATION - STATION	LOCATION	DESCRIPTION	646.1020 MARKING LINE EPOXY 4-INCH SOLID WHITE (LF)
102'A'+08 - 103'A'+36.53	'A'-LINE (STH 67), RT.	INTERSECTION	130
		TOTAL =	130

ALL ITEMS 010 UNLESS OTHERWISE NOTED

3

CONSTRUCTION STAKING

STATION - STATION	LOCATION	650.4500 SUBGRADE (LF)	650.5000 BASE (LF)	650.9920 SLOPE STAKES (LF)
10+00 - 10+60	RIVER HEIGHTS DRIVE	60	60	60
11+21 - 12+00	RIVER HEIGHTS DRIVE	79	79	79
100'A'+06.07 - 103'A'+36.53	'A'-LINE (STH 67), RT.	330	330	330
4204-10-70	PROJECT	-	-	-
	TOTALS =	469	469	469

*CATEGORY 020

SAWING ASPHALT

STATION - STATION	LOCATION	690.0150 (LF)
12+00	RIVER HEIGHTS DRIVE	22
100'A'+06.07	'A'-LINE (STH 67)	10
103'A'+36.53	'A'-LINE (STH 67)	10
	TOTAL =	42

3

PROJECT NO: 4204-10-70	HWY: RIVER HEIGHTS DRIVE	COUNTY: SHEBOYGAN	MISCELLANEOUS QUANTITIES	SHEET 15	E

FILE NAME : S:\PROJECTS\W11717 WISDOT - RIVER HEIGHTS DR BRIDGE, SHEBOYGAN CO\SHEETSPLAN\DETAILS\W11717_MISCELLANEOUS QUANTITIES.DWG PLOT DATE : 1/19/2026 10:11:05 AM PLOT BY : CHLOE DIEHL PLOT SCALE : 1" = 1' LAYOUT : 03

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
4204-10-00	4.01	3
FEDERAL PROJECT NUMBER		

PLAT OF RIGHT-OF-WAY REQUIRED FOR

T. PLYMOUTH, RIVER HEIGHTS DRIVE

MULLET RIVER BRIDGE

SHEBOYGAN COUNTY

CONSTRUCTION PROJECT NUMBER
4204-10-70

CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W OR HE LINE
PROPERTY LINE (P.L.)
LOT, TIE & OTHER MINOR LINES
SLOPE INTERCEPT
CORPORATE LIMITS
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC) (W (TYPE))
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)
TEMPORARY LIMITED EASEMENT AREA
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)
TRANSMISSION STRUCTURES
BUILDING
TO BE REMOVED
BRIDGE
CULVERT

SECTION CORNER SYMBOL
SECTION CORNER MONUMENT
GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
SIGN
OFF-PREMISE SIGN (#1-25)

R/W MONUMENT (TO BE SET)
NON-MONUMENTED R/W POINT
FOUND IRON PIN (1-INCH UNLESS NOTED) IP

	COMPENSABLE	NON-COMPENSABLE
ELECTRIC POLE		
TELEPHONE POLE		
PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.)		

ACCESS RESTRICTED BY ACQUISITION
NO ACCESS (BY STATUTORY AUTHORITY)
ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)
NO ACCESS (NEW HIGHWAY)
PARCEL NUMBER (25)
UTILITY NUMBER (40)
PARALLEL OFFSETS

CONVENTIONAL ABBREVIATIONS

ACCESS RIGHTS	AR	POINT OF COMPOUND CURVE	PCC
ACRES	AC	POINT OF INTERSECTION	PI
AHEAD	AH	PROPERTY LINE	PL
ALUMINUM	ALUM	RECORDED AS	(100')
AND OTHERS	ET AL	REEL / IMAGE	R/I
BACK	BK	REFERENCE LINE	R/L
BLOCK	BLK	REMAINING	REM
CENTERLINE	C/L	RESTRICTIVE DEVELOPMENT EASEMENT	RDE
CERTIFIED SURVEY MAP	CSM	RIGHT	RT
CONCRETE	CONC	RIGHT OF WAY	R/W
COUNTY	CO	SECTION	SEC
COUNTY TRUNK HIGHWAY	CTH	SEPTIC VENT	SEPV
DISTANCE	DIST	SQUARE FEET	SF
CORNER	COR	STATE TRUNK HIGHWAY	STH
DOCUMENT NUMBER	DOC	STATION	STA
EASEMENT	EASE	TELEPHONE PEDESTAL	TP
EXISTING	EX	TEMPORARY LIMITED EASEMENT	TLE
GAS VALVE	GV	TRANSPORTATION PROJECT PLAT	TPP
GRID NORTH	GN	UNITED STATES HIGHWAY	USH
HIGHWAY EASEMENT	HE	VOLUME	V
IDENTIFICATION	ID	PAGE	P
LAND CONTRACT	LC	POINT OF TANGENCY	PT
LEFT	LT	PERMANENT LIMITED EASEMENT	PLE
MONUMENT	MON	POINT OF BEGINNING	POB
NATIONAL GEODETIC SURVEY NUMBER	NGS / NO	POINT OF CURVATURE	PC
OUTLOT	OL		

CURVE DATA ABBREVIATIONS

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

CONVENTIONAL UTILITY SYMBOLS

WATER	W
GAS	G
TELEPHONE	T
OVERHEAD TRANSMISSION LINES	OH
ELECTRIC	E
CABLE TELEVISION	TV
FIBER OPTIC	FO
SANITARY SEWER	SAN
STORM SEWER	SS
ELECTRIC TOWER	⊠

NOTES

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, SHEBOYGAN COUNTY, NAD 83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY AND PERMANENT EASEMENT MONUMENTS WILL BE TYPE 2 MONUMENTS (TYPICALLY ¾ X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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

FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE SHEBOYGAN COUNTY HIGHWAY DEPARTMENT.

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, OR FROM CENTERLINE OF EXISTING PAVEMENTS.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

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

AN EASEMENT FOR HIGHWAY PURPOSES (HE), AS LONG AS SO USED. INCLUDING THE RIGHT-OF-WAY TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE.

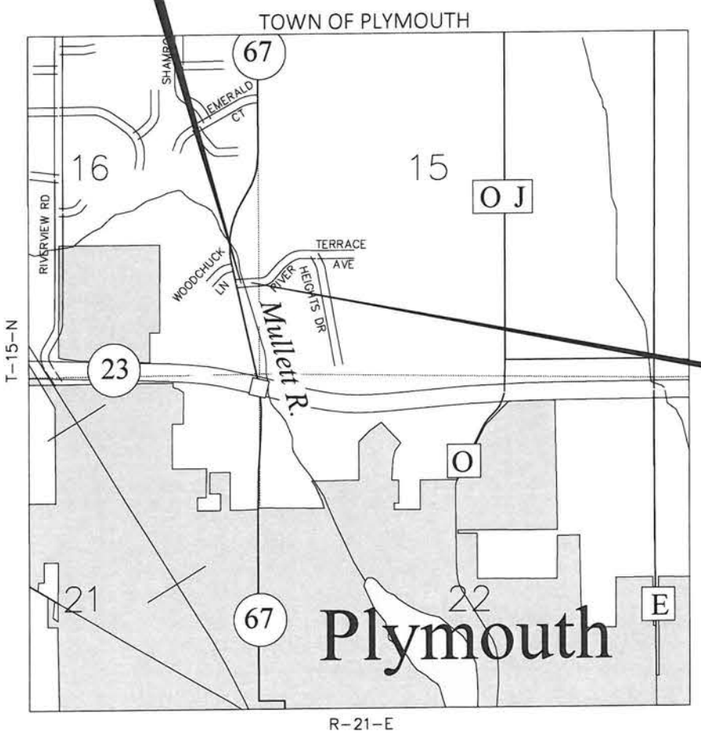
THIS PLAT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSE ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES AND ACCESS RIGHTS.

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

BEGIN RELOCATION ORDER

STA 10+59.49

1316.76' NORTH AND 205.08' WEST OF THE SE CORNER OF SECTION 16 T.15N., R.21E., TOWN OF PLYMOUTH, SHEBOYGAN COUNTY, WI
Y = 181964.628
X = 147856.466



END RELOCATION ORDER

STA. 12+00.00

1322.19' NORTH AND 64.68' WEST OF THE SE CORNER OF SECTION 16, T.15N., R.21E., TOWN OF PLYMOUTH, SHEBOYGAN COUNTY, WI
Y = 181970.058
X = 147996.871

N

LAYOUT
SCALE 0 2000 FT.

TOTAL NET LENGTH OF CENTERLINE = 0.027 MI.

SHEBOYGAN COUNTY WISCONSIN
2025 JUL 16 P 1:23
FILED
COUNTY CLERK

REVISION DATE

JEWELL associates engineers, inc.
Engineers-Architects-Surveyors
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
PHONE : 608.588.7484
FAX : 608.588.9322

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

WISCONSIN
NOAH E. ANLIKER
S-3265
CAZENOVIA
WISCONSIN
LAND SURVEYOR

DATE: 7/8/2025

APPROVED FOR SHEBOYGAN COUNTY
DATE: 6-9-25 Warren Laufle
(NAME / TITLE)
Chairman

FILE NAME : S:\Projects\W11717 WisDOT – River Heights Dr Bridge, Sheboygan Co\RW\DWG\River Heights Drive Plat.dwg
PLOT DATE : 7/8/2025 2:58 PM
PLOT BY : Tim Velte
PLOT NAME :
PLOT SCALE : 1:1
WISDOT/CADDS SHEET 50

SCHEDULE OF LANDS AND INTERESTS						
PARCEL NUMBER	OWNER(S)	INTERESTS REQUIRED	FEE R/W ACRES REQUIRED			TLE ACRES REQUIRED
			NEW	EXISTING	TOTAL	
1	DENNIS A. GASPER AND JUDITH G. GASPER, HUSBAND AND WIFE, AS SURVIVORSHIP MARITAL PROPERTY	FEE	0.02	-	0.02	-
2	SAVANNAH KATE RUSSELL AND KRISTOPHER MICHAEL RUSSELL, MARRIED TO EACH OTHER, AS SURVIVORSHIP MARITAL PROPERTY	TLE	-	-	-	0.07

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

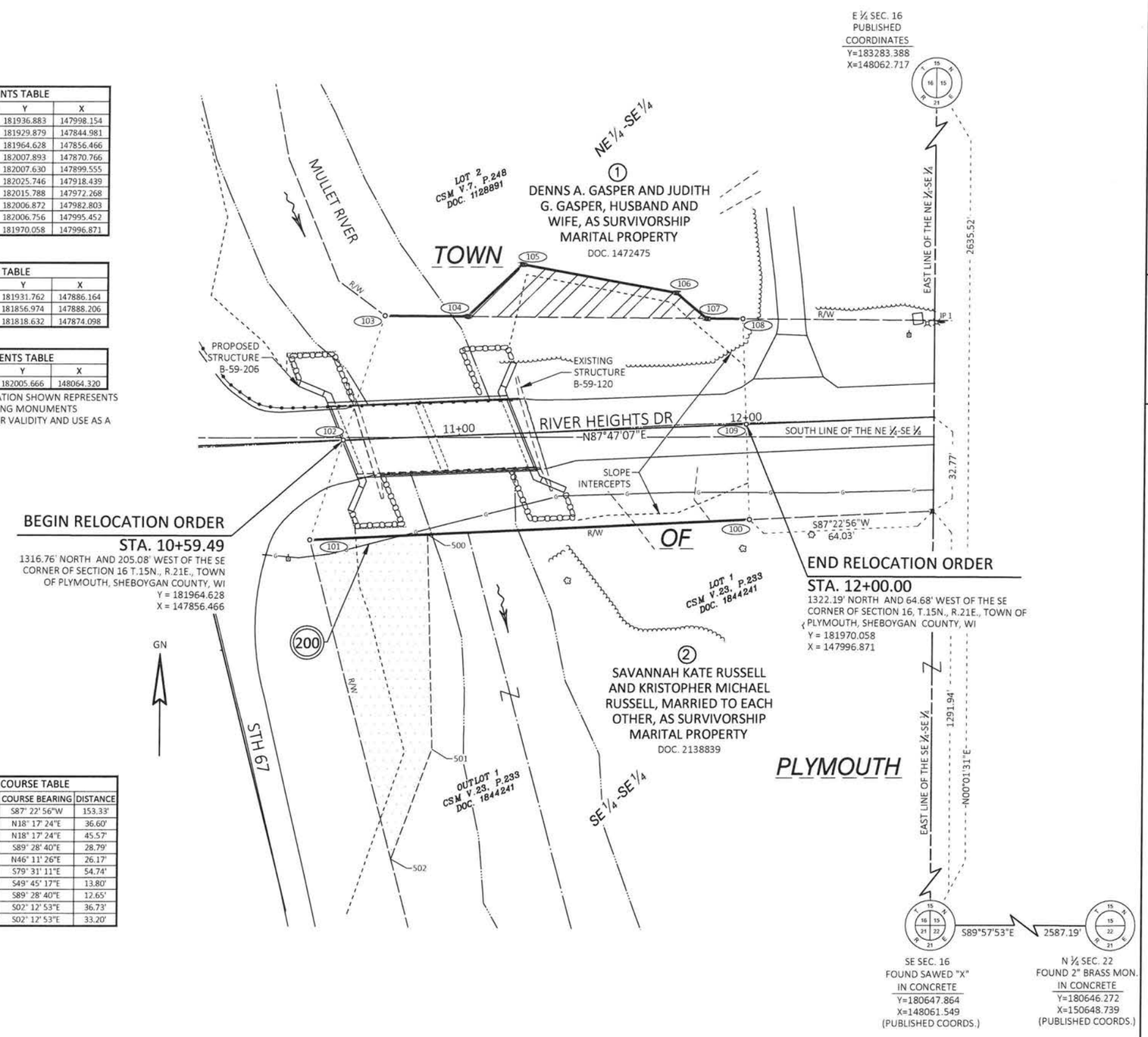
UTILITY INTERESTS REQUIRED		
UTILITY NUMBER	OWNER	INTEREST REQUIRED
200	WISCONSIN PUBLIC SERVICE *NO EASEMENT OF RECORD	RELEASE OF RIGHTS

R/W MONUMENTS TABLE				
POINT	STATION	OFFSET	Y	X
100	12+00.00	33.20'RT	181936.883	147998.154
101	10+46.67	34.28'RT	181929.879	147844.981
102	10+59.49	0.00'RT	181964.628	147856.466
103	10+75.45	42.68'LT	182007.893	147870.766
104	11+04.21	41.30'LT	182007.630	147899.555
105	11+23.78	58.68'LT	182025.746	147918.439
106	11+77.18	46.65'LT	182015.788	147972.268
107	11+87.36	37.33'LT	182006.872	147982.803
108	12+00.00	36.73'LT	182006.756	147995.452
109	12+00.00	0.00'RT	181970.058	147996.871

TLE POINTS TABLE				
POINT	STATION	OFFSET	Y	X
500	10+87.90	33.99'RT	181931.762	147886.164
501	10+87.05	108.80'RT	181856.974	147888.206
502	10+71.47	146.57'RT	181818.632	147874.098

FOUND MONUMENTS TABLE				
POINT	STATION	OFFSET	Y	X
1	12+68.77	32.97'LT	182005.666	148064.320

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



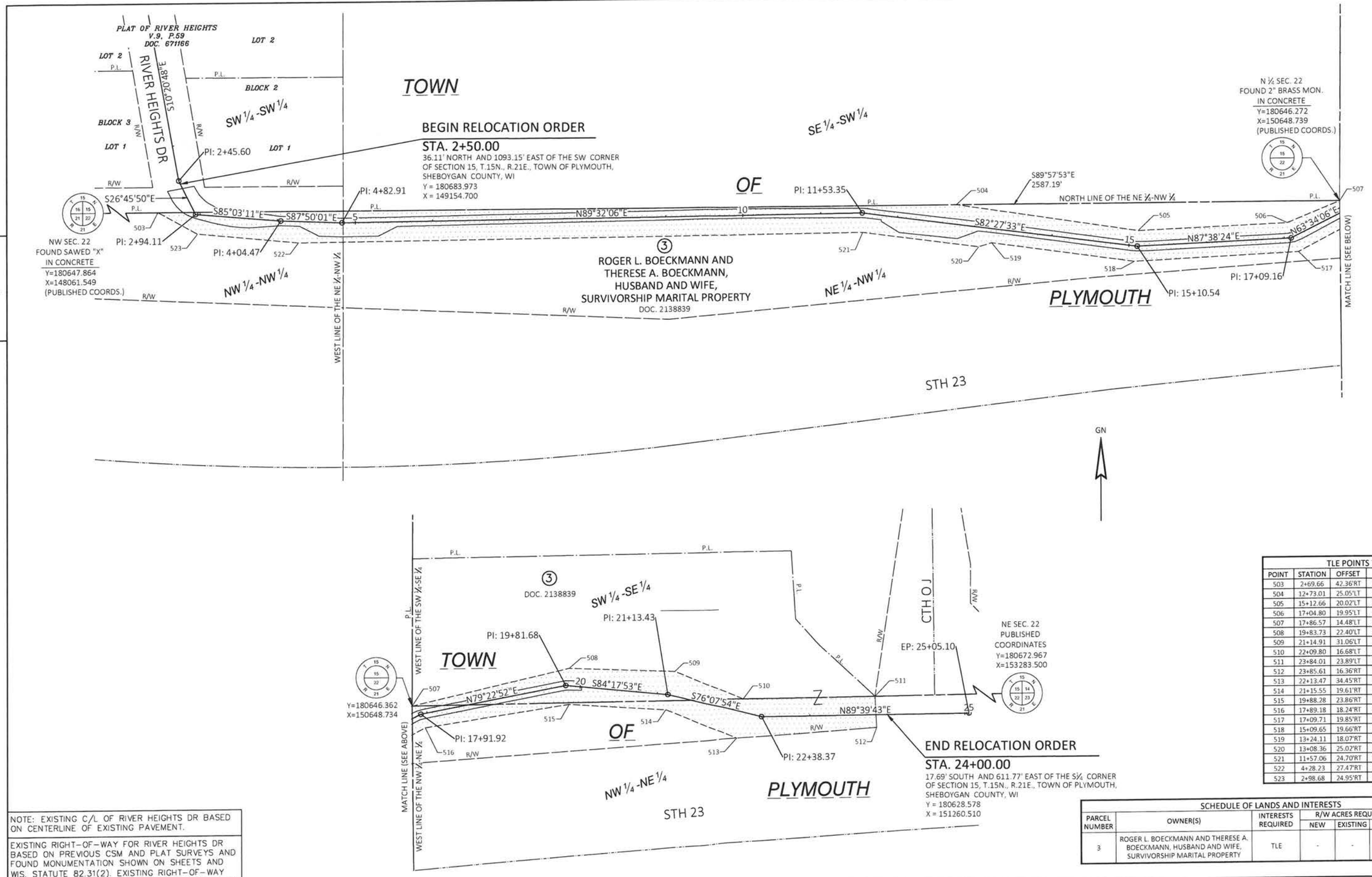
R/W COURSE TABLE		
POINT TO POINT	COURSE BEARING	DISTANCE
100 TO 101	S87° 22' 56"W	153.33'
101 TO 102	N18° 17' 24"E	36.60'
102 TO 103	N18° 17' 24"E	45.57'
103 TO 104	S89° 28' 40"E	28.79'
104 TO 105	N46° 11' 26"E	26.17'
105 TO 106	S79° 31' 11"E	54.74'
106 TO 107	S49° 45' 17"E	13.80'
107 TO 108	S89° 28' 40"E	12.65'
108 TO 109	S02° 12' 53"E	36.73'
109 TO 100	S02° 12' 53"E	33.20'

NOTE: EXISTING C/L OF RIVER HEIGHTS DR BASED ON CENTERLINE OF EXISTING PAVEMENT.

EXISTING RIGHT-OF-WAY FOR RIVER HEIGHTS DR BASED ON PREVIOUS CSM AND PLAT SURVEYS AND FOUND MONUMENTATION SHOWN ON SHEETS AND WIS. STATUTE 82.31(2). EXISTING RIGHT-OF-WAY FOR STH 67 BASED ON RW PROJECT ID 1445-1-22.

REVISION DATE	DATE 7/8/2025	SCALE, FEET 0 20 40	HWY: RIVER HEIGHTS DRIVE	R/W PROJECT NUMBER 4204-10-00	PLAT SHEET 4.02	
			COUNTY: SHEBOYGAN	CONSTRUCTION PROJECT NUMBER 4204-10-70	PS&E SHEET	E

FILE NAME : RIVER HEIGHTS DRIVE PLAT.DWG PLOT DATE : 7/8/2025 2:58 PM PLOT BY : TIM VELTE PLOT NAME :



TLE POINTS TABLE				
POINT	STATION	OFFSET	Y	X
503	2+69.66	42.36'RT	180647.343	149125.733
504	12+73.01	25.05'LT	180646.680	150155.224
505	15+12.66	20.02'LT	180610.764	150388.711
506	17+04.80	19.95'LT	180618.610	150580.692
507	17+86.57	14.48'LT	180646.272	150648.739
508	19+83.73	22.40'LT	180692.748	150850.747
509	21+14.91	31.06'LT	180687.370	150986.461
510	22+09.80	16.68'LT	180650.668	151075.140
511	23+84.01	23.89'LT	180652.377	151244.384
512	23+85.61	16.36'RT	180612.130	151246.215
513	22+13.47	34.45'RT	180600.152	151066.448
514	21+15.55	19.61'RT	180638.024	150974.942
515	19+88.28	23.86'RT	180646.266	150850.684
516	17+89.18	18.24'RT	180618.140	150665.641
517	17+09.71	19.85'RT	180581.322	150595.194
518	15+09.65	19.66'RT	180571.298	150383.949
519	13+24.11	18.07'RT	180597.224	150200.222
520	13+08.36	25.02'RT	180592.398	150183.702
521	11+57.06	24.70'RT	180612.573	150033.748
522	4+28.23	27.47'RT	180606.724	149307.213
523	2+98.68	24.95'RT	180619.341	149176.968

SCHEDULE OF LANDS AND INTERESTS						
PARCEL NUMBER	OWNER(S)	INTERESTS REQUIRED	R/W ACRES REQUIRED			TLE ACRES REQUIRED
			NEW	EXISTING	TOTAL	
3	ROGER L. BOECKMANN AND THERESE A. BOECKMANN, HUSBAND AND WIFE, SURVIVORSHIP MARITAL PROPERTY	TLE	-	-	-	1.94

NOTE: EXISTING C/L OF RIVER HEIGHTS DR BASED ON CENTERLINE OF EXISTING PAVEMENT.

EXISTING RIGHT-OF-WAY FOR RIVER HEIGHTS DR BASED ON PREVIOUS CSM AND PLAT SURVEYS AND FOUND MONUMENTATION SHOWN ON SHEETS AND WIS. STATUTE 82.31(2). EXISTING RIGHT-OF-WAY FOR STH 23 BASED ON RW PROJECT ID 1445-1-22.

REVISION DATE

DATE 7/8/2025

SCALE, FEET 0 60 120

HWY: RIVER HEIGHTS DRIVE

COUNTY: SHEBOYGAN

R/W PROJECT NUMBER 4204-10-00

CONSTRUCTION PROJECT NUMBER 4204-10-70

PLAT SHEET 4.03

PS&E SHEET 18 E

FILE NAME : RIVER HEIGHTS DRIVE PLAT.DWG

PLOT DATE : 7/8/2025 2:59 PM

PLOT BY : TIM VELTE

PLOT NAME :

WISDOT/CADDS SHEET 75

PLYMOUTH UTILITIES & SPECTRUM (TYP.)

SLOPE INTERCEPTS (TYP.)

STA. 100'A'+30 - STA. 103'A'+30, RT.
GRUBBING REQ'D.

STA. 11+04 - STA. 11+94, LT.
GRUBBING REQ'D.

DENNIS A & JUDITH G GASPER

M P HELLMER TRUST

REMOVING STRUCTURE OVER WATERWAY
MINIMAL DEBRIS (B-59-120)
SINGLE SPAN PRESTRESSED BOX GIRDER BRIDGE
16.0' CLEAR ROADWAY WIDTH
24.7' DECK WIDTH
60.0' OVERALL LENGTH

FRONTIER COMMUNICATIONS (TYP.)

EXISTING 24" CMP TO REMAIN

EXISTING CONCRETE DRIVEWAY TO REMAIN

PLYMOUTH UTILITIES

EXISTING C/L RIVER HEIGHTS DR.

STA. 101'A'+72 - STA. 102'A'+67, RT.
REMOVING GUARDRAIL REQ'D.

STRUCTURE B-59-206 REQ'D.

BM 1

PI: 101'A'72.97

N87°47'07"E

(ASPHALT)
RIVER HEIGHTS DR.

BM 2

FINISHED C/L RIVER HEIGHTS DR.

BM 3

STA. 11+17 - STA. 11+40, RT.
GRUBBING REQ'D.

REMOVING SMALL PIPE CULVERTS
STA. 11+54, RT.
(1) CULVERT PIPE CLASS III-A 12-INCH
(2) APRON ENDWALLS REQ'D.

WISCONSIN PUBLIC SERVICE (TYP.)

EXISTING ASPHALT DRIVEWAY TO REMAIN

SAVANNAH KATE & KRISTOPHER MICHAEL RUSSELL

EXISTING R/L 'A-LINE' (STH 67)

FINISHED R/L 'A-LINE' (STH 67)

MULLET RIVER

BEGIN PROJECT
STA. 10+00
Y= 181,962.33
X= 147,797.02

END PROJECT
STA. 12+00
Y= 181,970.06
X= 147,996.87

LEGEND

- DIRECTION OF FLOW
- XXXXXXXXXX SAWING ASPHALT
- EDGE OF WATER
- RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
- DETERMINED WETLANDS
- WETLAND BOUNDARY

STA. 10+90.43
STRUCTURE B-59-206 REQ'D
TWO SPAN REINFORCED CONCRETE FLAT SLAB STRUCTURE
CLEAR ROADWAY WIDTH = 24.0'
O.A.L. = 62.67'
SKEW = 20° RHF

-1.89%

-2.10%

STA. 10+00
EL. 843.95
MATCH EXISTING

VPI STA 10+16.44
EL 843.64

HIGH WATER100
EL = 840.61

EXISTING C/L PROFILE RIVER HEIGHTS DR.

FINISHED C/L PROFILE RIVER HEIGHTS DR.

STA. 12+00
EL. 839.78
MATCH EXISTING

HIGH WATER2
EL = 835.98

OBSERVED WATER
EL = 833.48

STREAMBED
EL = 831.80

EXISTING C/L ELEVATION

FINISHED C/L ELEVATION

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	9+73	SMP SET ASPHALTIC MEDIAN, 24.9 LT.	843.93
2	12+70	3/4" IRON REBAR SET, 11.5 RT.	839.03
3	11+39	3/4" IRON REBAR SET, 34.8 RT.	837.02

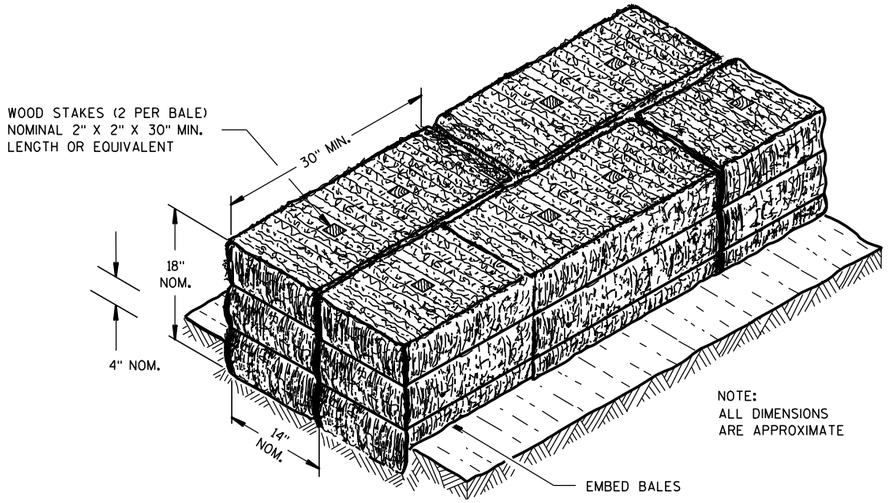
9+00	9+20	9+40	9+60	9+80	10+00	10+20	10+40	10+60	10+80	11+00	11+20	11+40	11+60	11+80	12+00	12+20	12+40	12+60	12+80	13+00	13+20	13+40	13+60	13+80	14+00	14+20	14+40	14+60
				843.93	843.95	843.95	843.58	843.57	843.26	843.14	842.99	842.72	842.68	842.30	842.20	841.88	841.70	841.46	841.13	841.04	840.59	840.62	840.09	840.20	839.78	839.78	839.47	839.34	839.30	839.30	839.51	839.73	839.99	840.25

PROJECT NO: 4204-10-70	HWY: RIVER HEIGHTS DRIVE	COUNTY: SHEBOYGAN	PLAN AND PROFILE: MAINLINE	SHEET	E

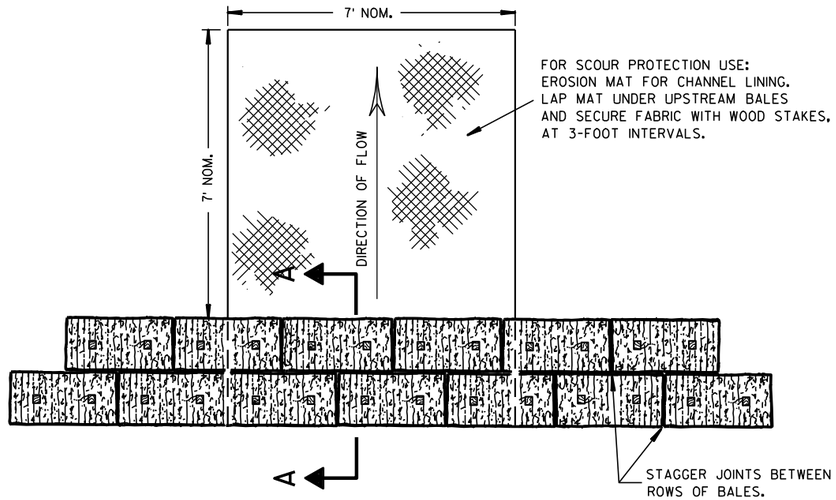
FILE NAME : S:\PROJECTS\W11717 WISDOT - RIVER HEIGHTS DR BRIDGE, SHEBOYGAN CO\SHEETSPLAN\PLAN & PROFILE SHEETS\W11717_P&P.DWG
PLOT DATE : 10/29/2025 9:53:19 AM
PLOT BY : CHLOE DIEHL
PLOT SCALE : 1" = 1'
LAYOUT : RIVER HEIGHTS P&P

Standard Detail Drawing List

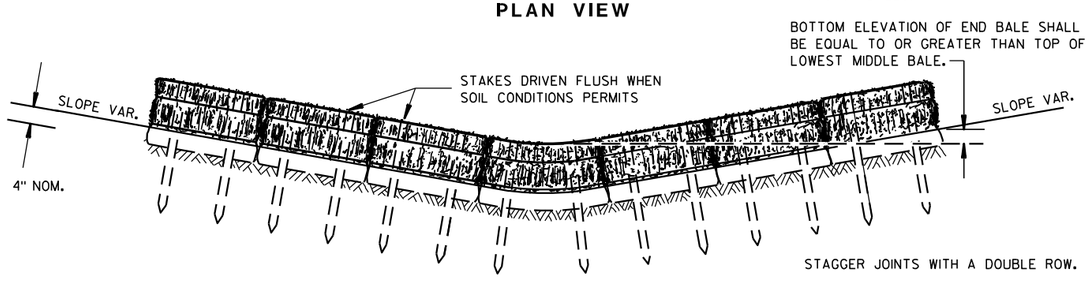
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09A01-14A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09A01-14B	AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS
14B20-12A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-12F	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"
14B24-09A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B27-01A	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01B	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01C	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
15A01-13A	MARKER POST FOR RIGHT-OF-WAY
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-24A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)
15D27-04	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH



SECTION A-A



PLAN VIEW



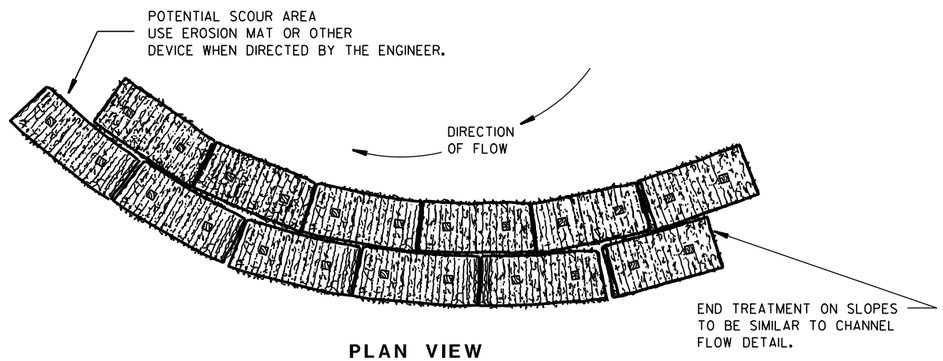
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

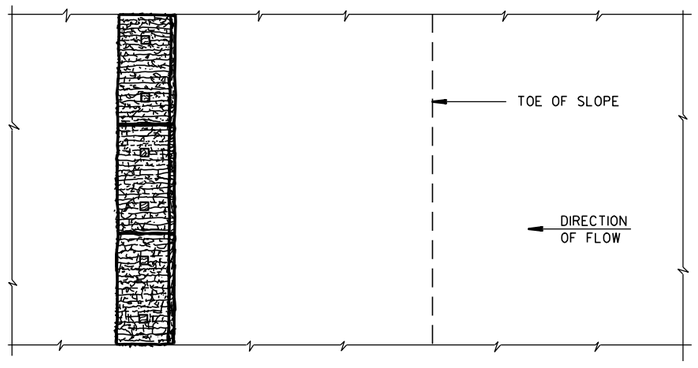
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

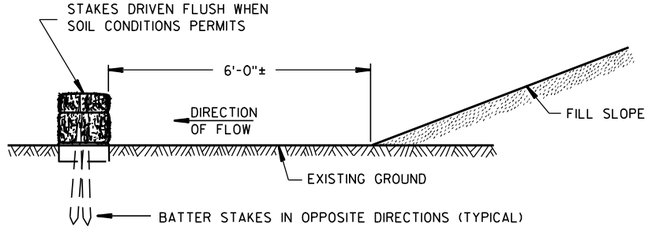


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

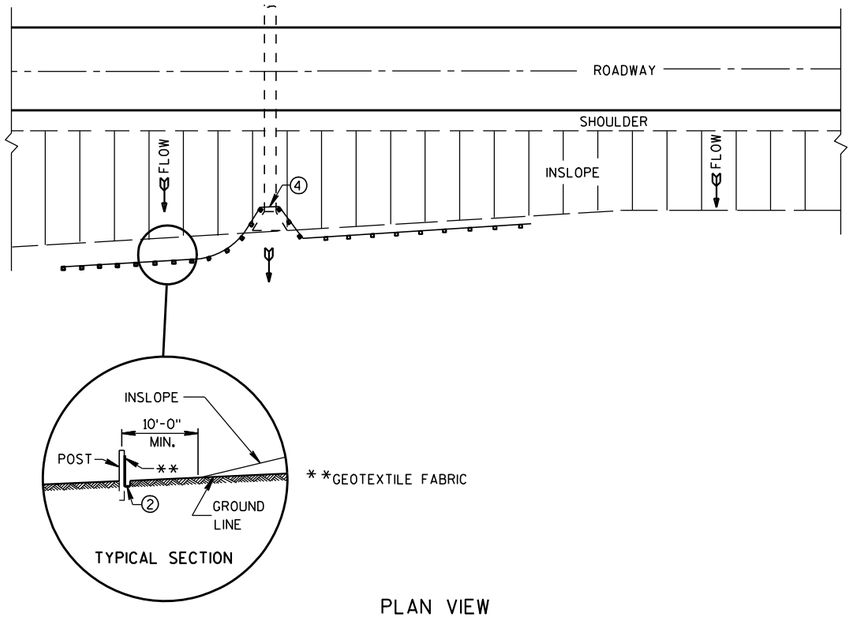
6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

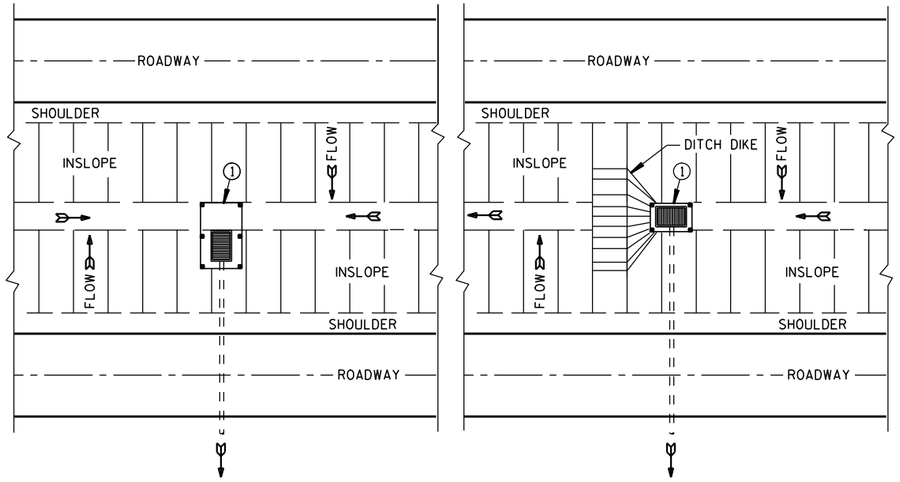
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



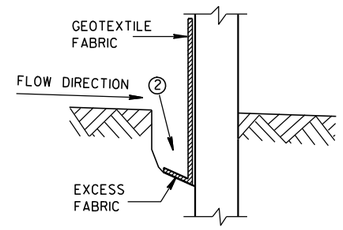
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

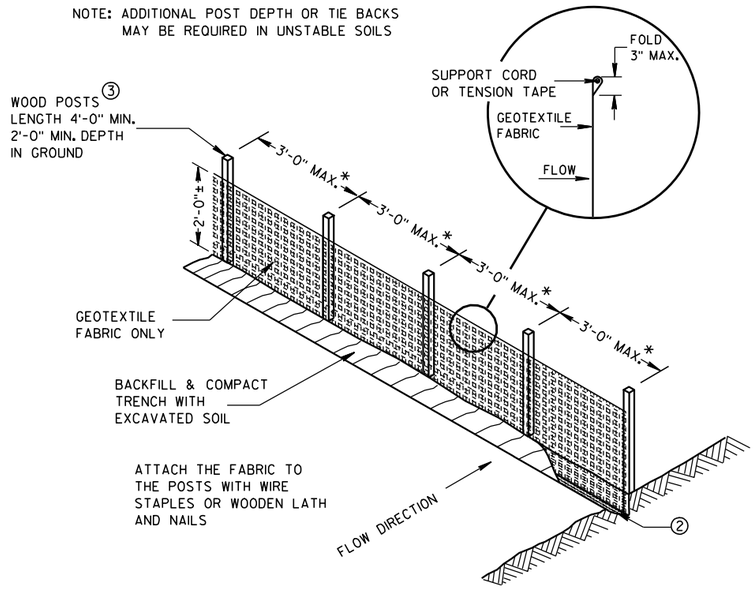
GENERAL NOTES

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

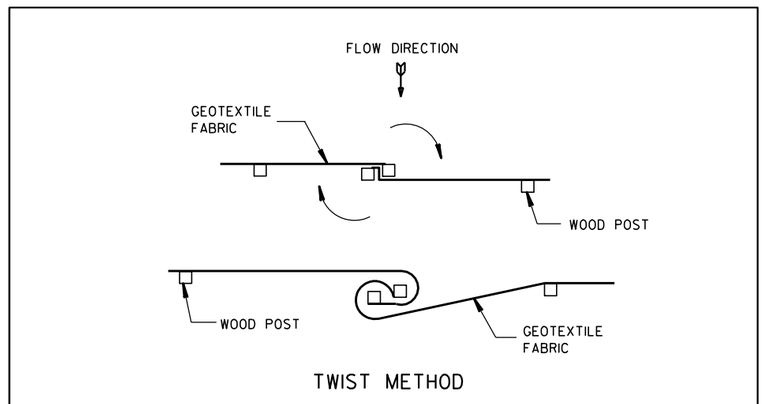
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL 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.



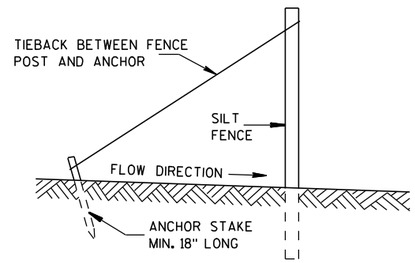
TRENCH DETAIL



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

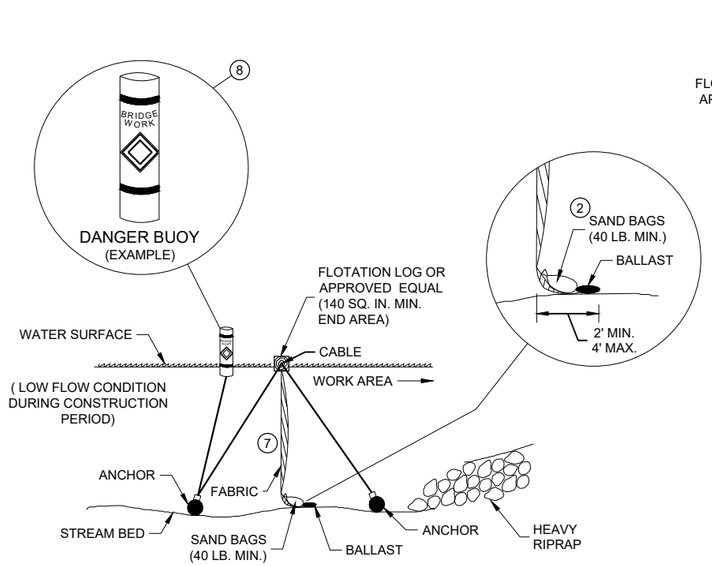
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

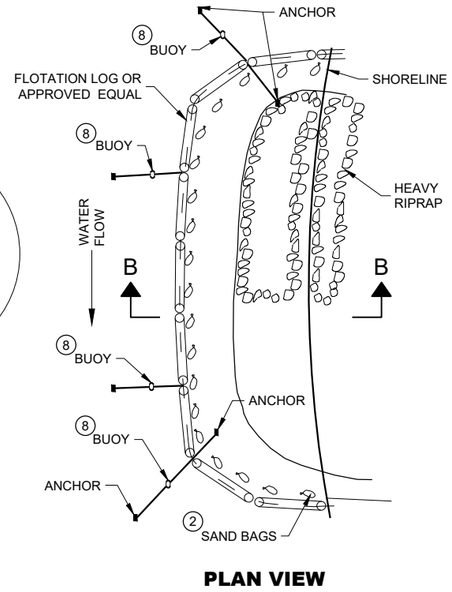
S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

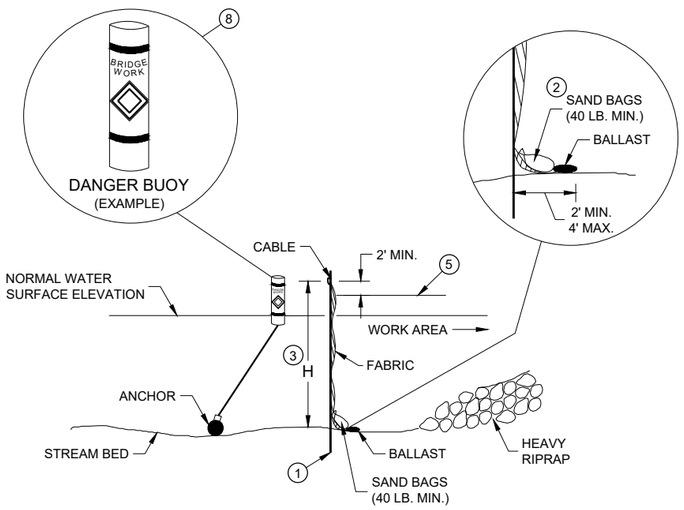


SECTION B - B

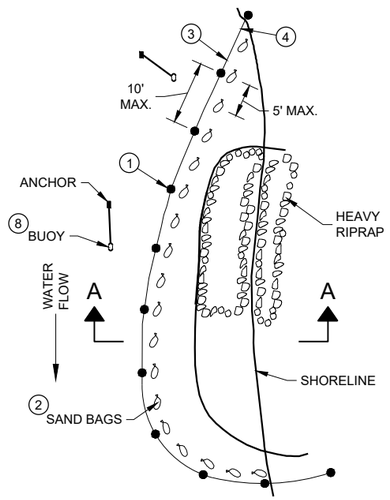


PLAN VIEW

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.

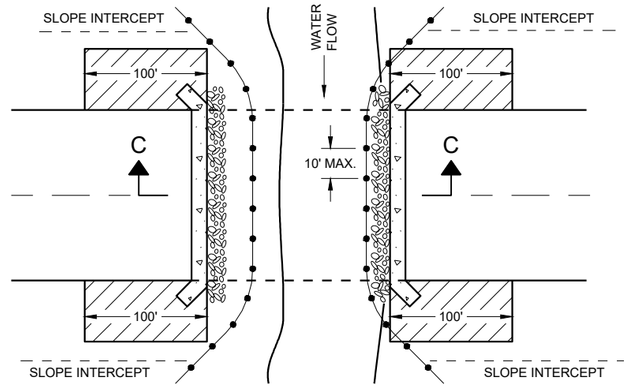
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(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.

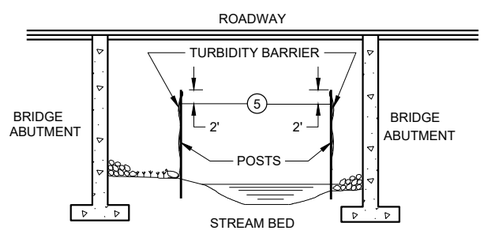
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(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

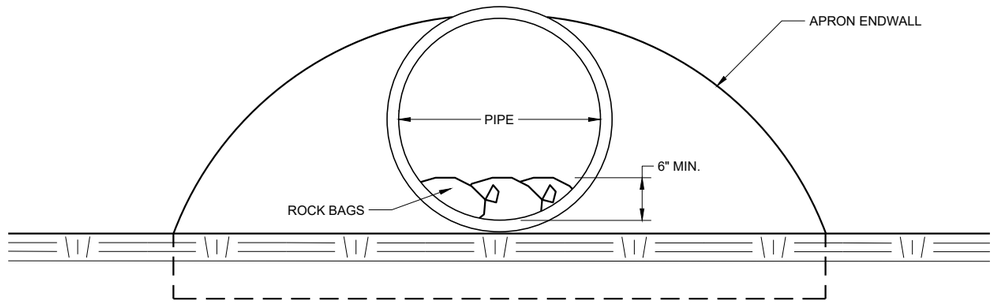
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

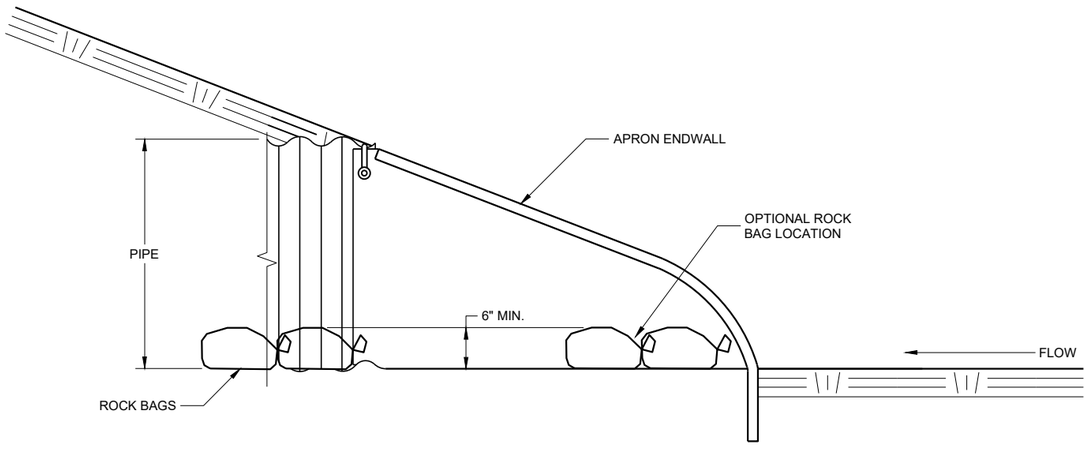
APPROVED
6/4/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOI
ENGINEER

FHWA

6
SDD 08E11 - 02



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

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

6
SDD 08E15 - 01

METAL APRON ENDWALLS

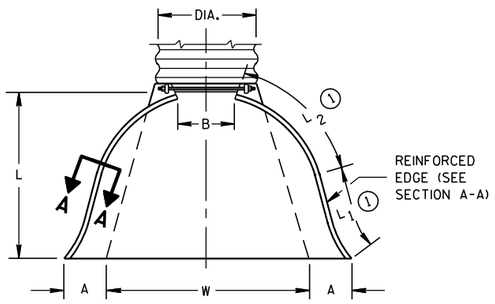
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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

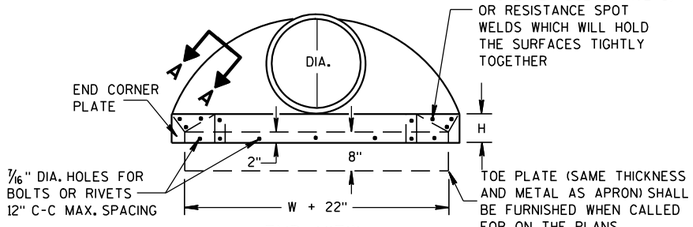
REINFORCED CONCRETE APRON ENDWALLS

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

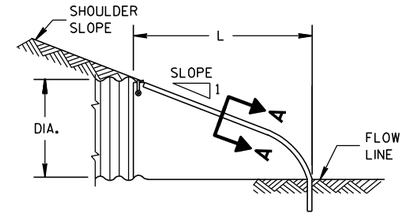
*MINIMUM
**MAXIMUM



PLAN VIEW

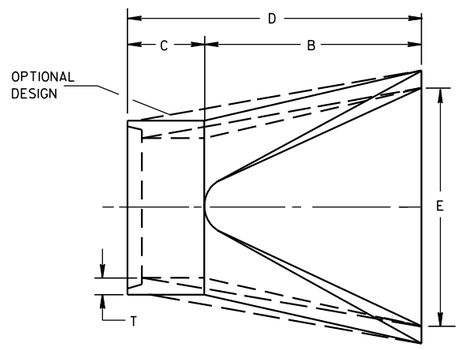


END VIEW

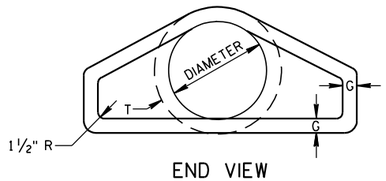


SIDE ELEVATION

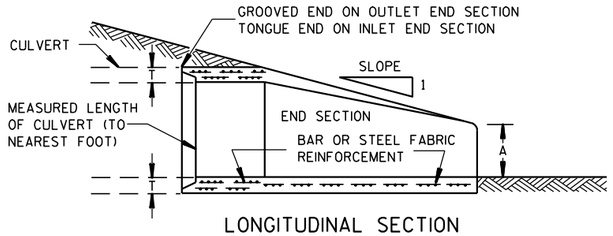
METAL ENDWALLS



PLAN

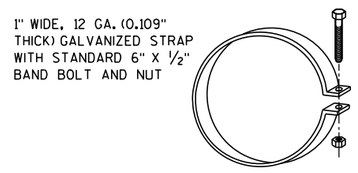


END VIEW



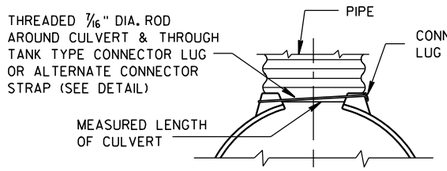
LONGITUDINAL SECTION

CONCRETE ENDWALLS

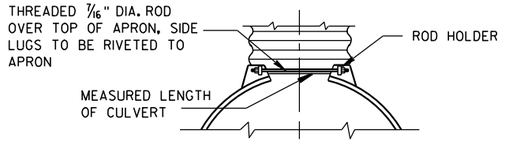


ALTERNATE FOR TYPE 1 CONNECTION

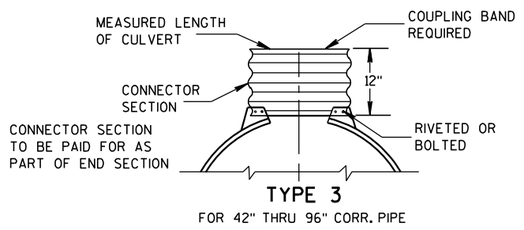
END SECTION CONNECTOR STRAP



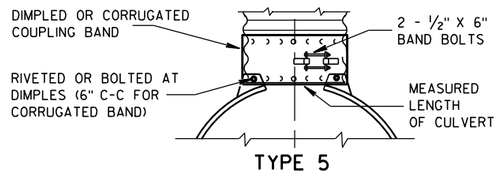
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

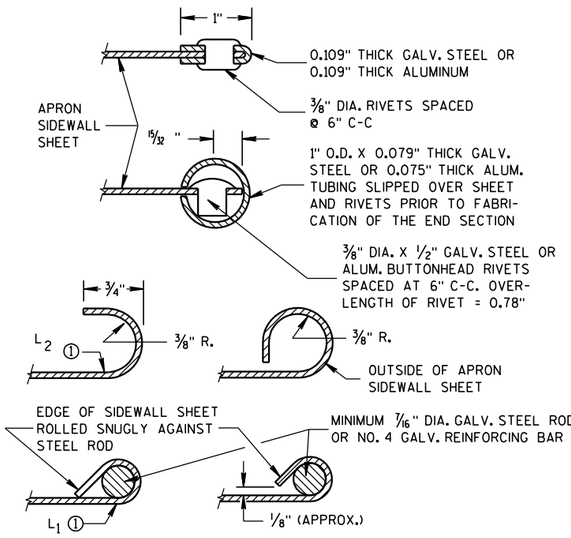
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

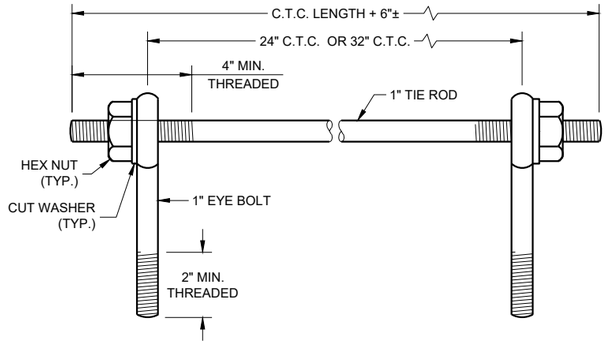
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

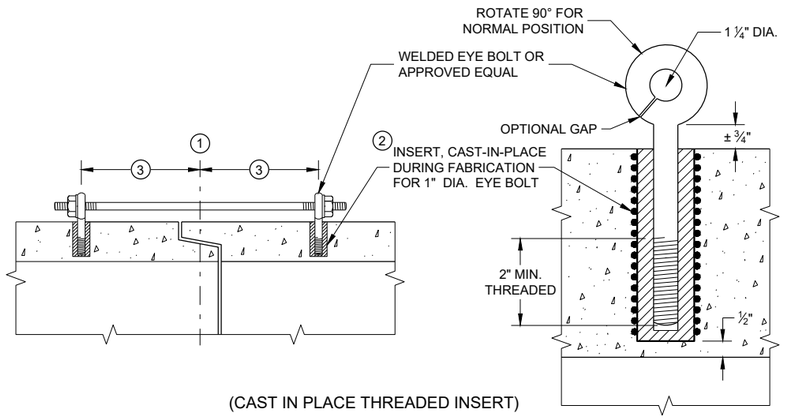
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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



EYE BOLTS AND TIE ROD



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

(1) CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

(2) THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

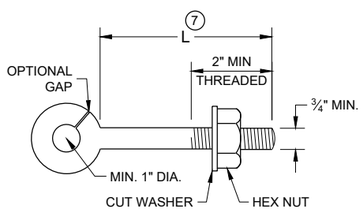
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

(4) BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

(5) OPENING TO BE ROD DIAMETER PLUS 1 INCH.

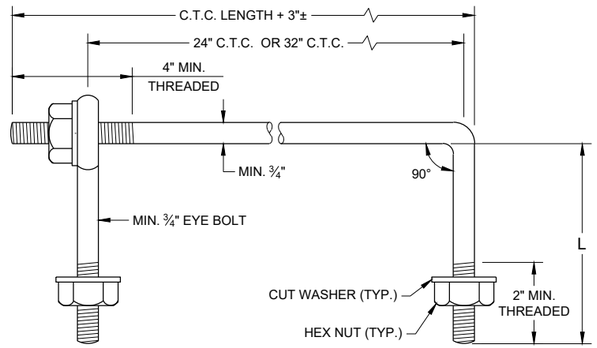
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

(7) EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

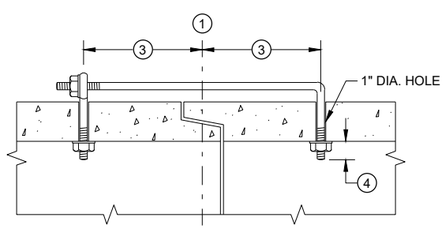


EYE BOLT (7)

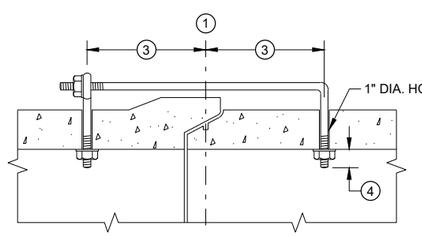
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

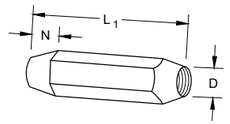
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

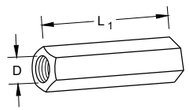
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12 - 60	⅝	⅝	5	½
66 - 84	¾	¾	5	½
90 - 144	1	1	7	1 7/16

DIMENSIONS SHOWN ARE IN INCHES



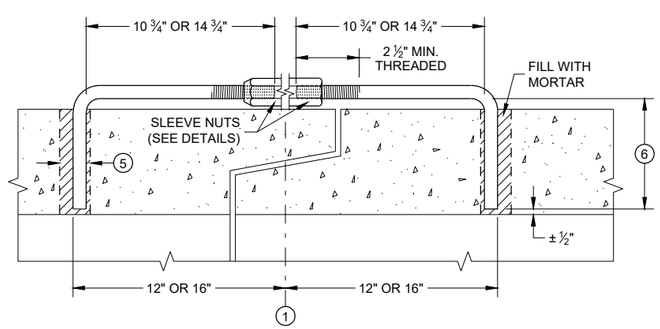
TAPERED



PLAIN

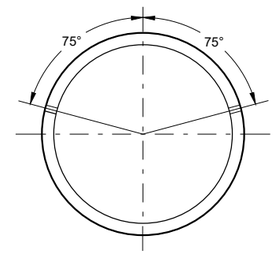
RIGHT AND LEFT THREADS

SLEEVE NUTS



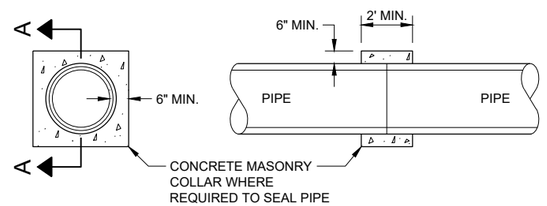
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A - A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

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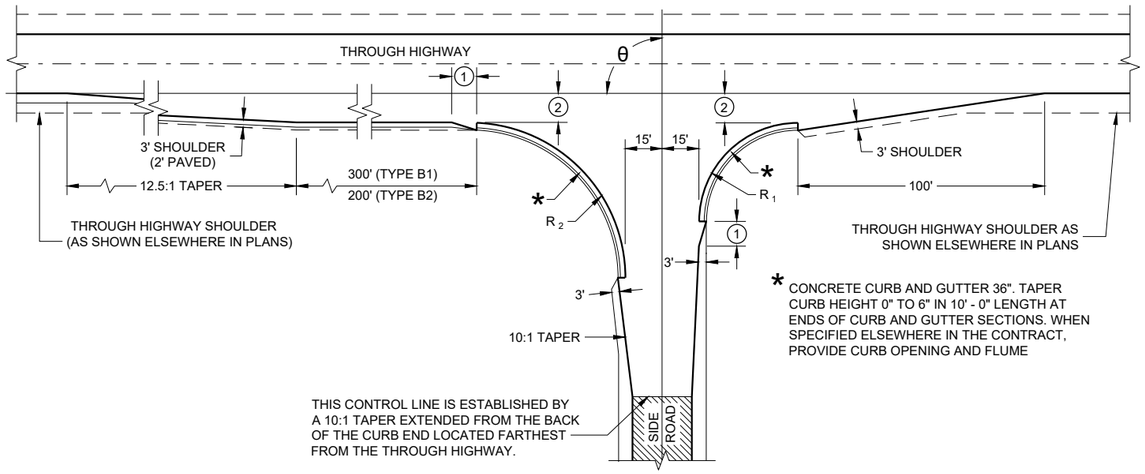


* CONCRETE CURB AND GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10' - 0" LENGTH AT ENDS OF CURB AND GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME

TYPE "B1" AND "B2"

RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R_1	R_2
65 - 70	35	70
71 - 80	40	70
81 - 90	40	60
91 - 100	50	55
101 - 110	60	45

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

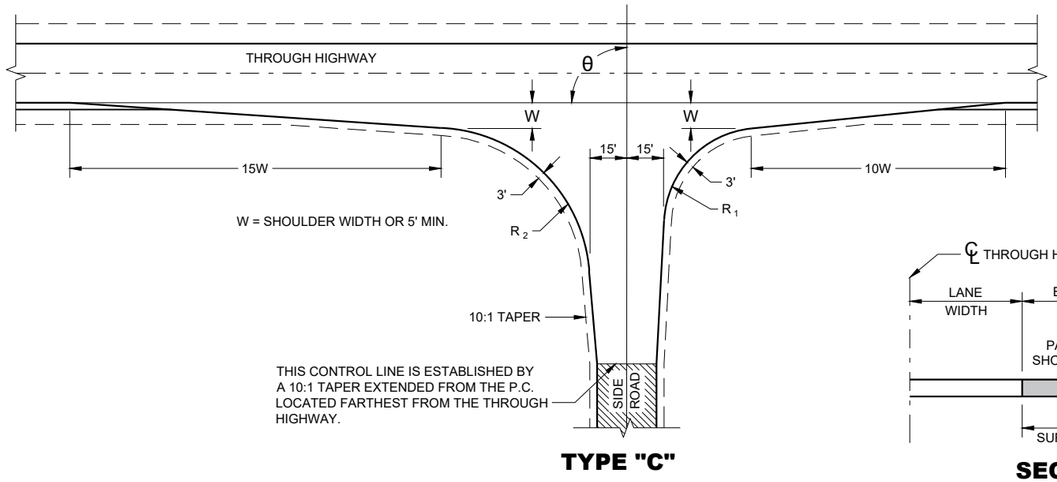
(1) 10-FT TYPICAL.

(2) 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

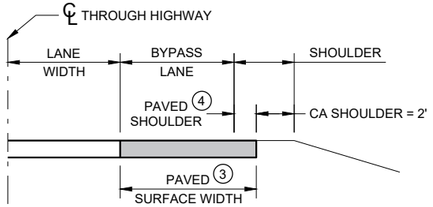
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

(3) BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
- ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH
- PC CONCRETE = 13-FT PLUS PAVED SHOULDER WIDTH

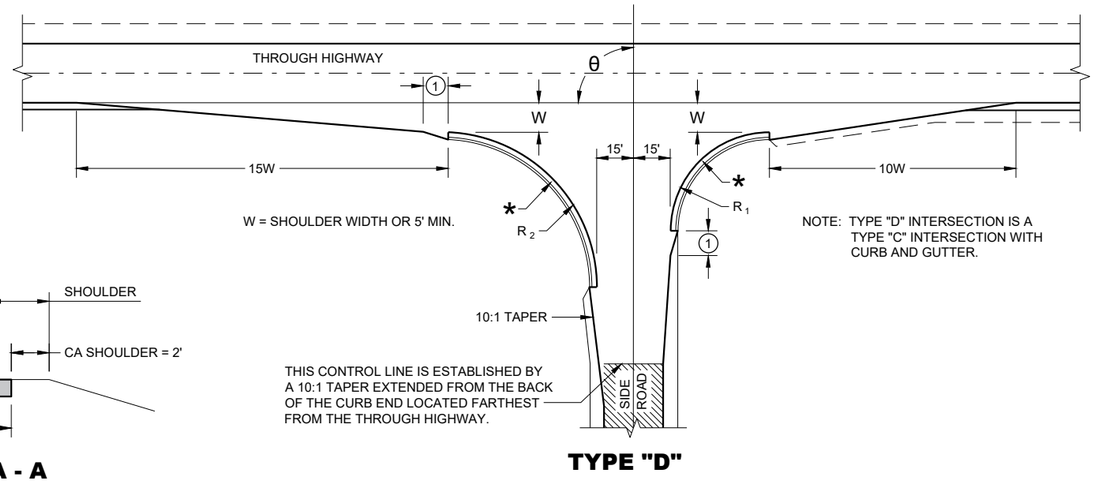
(4) BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



TYPE "C"

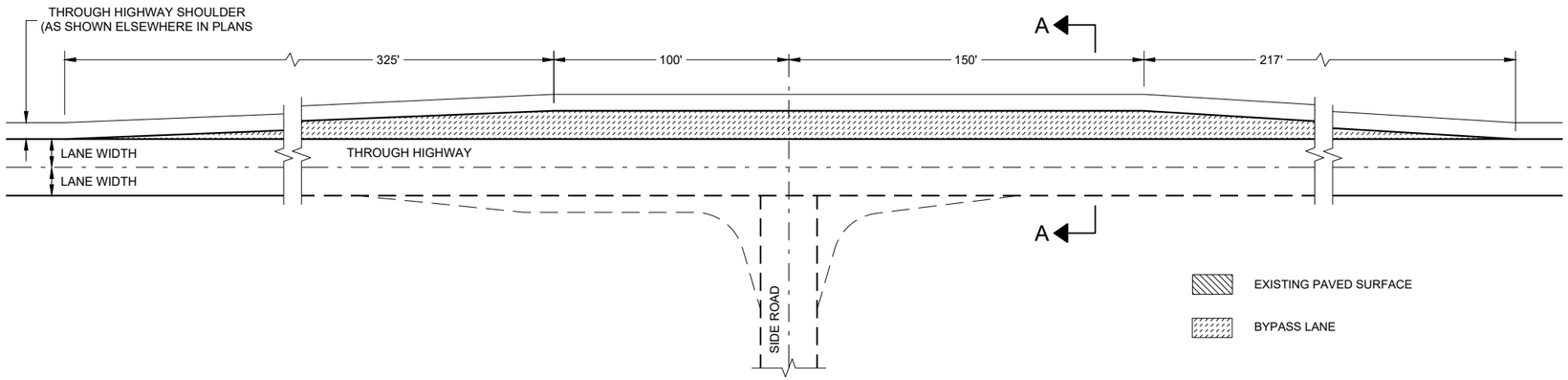


SECTION A - A
(SHOWING BYPASS LANE AND SHOULDER)



NOTE: TYPE "D" INTERSECTION IS A TYPE "C" INTERSECTION WITH CURB AND GUTTER.

TYPE "D"



TEE INTERSECTION BYPASS LANE DETAIL

AT GRADE SIDE ROAD INTERSECTION TYPES "B1", "B2", "C", "D" AND TEE INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 09A01 - 14a

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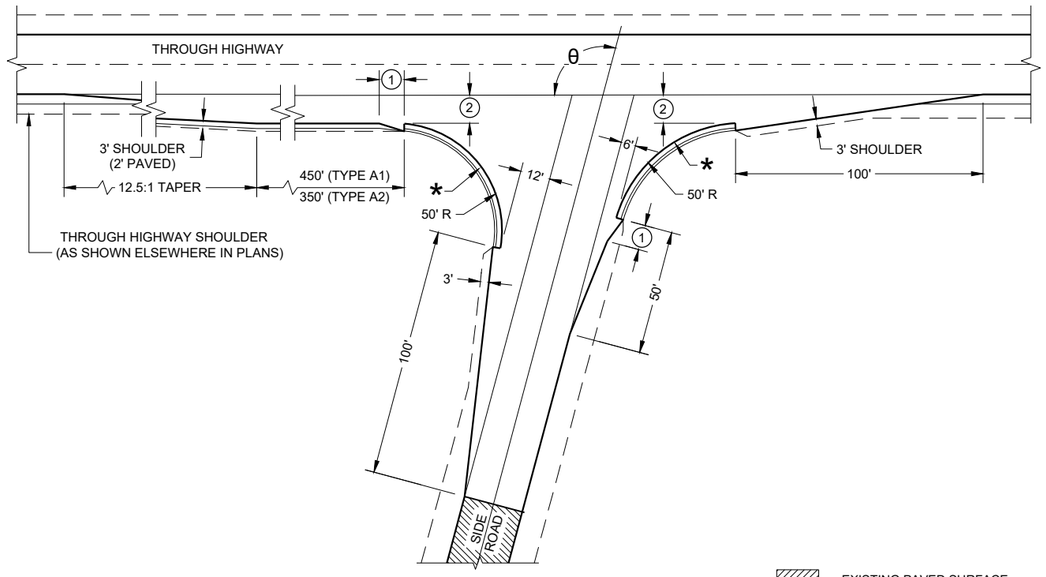
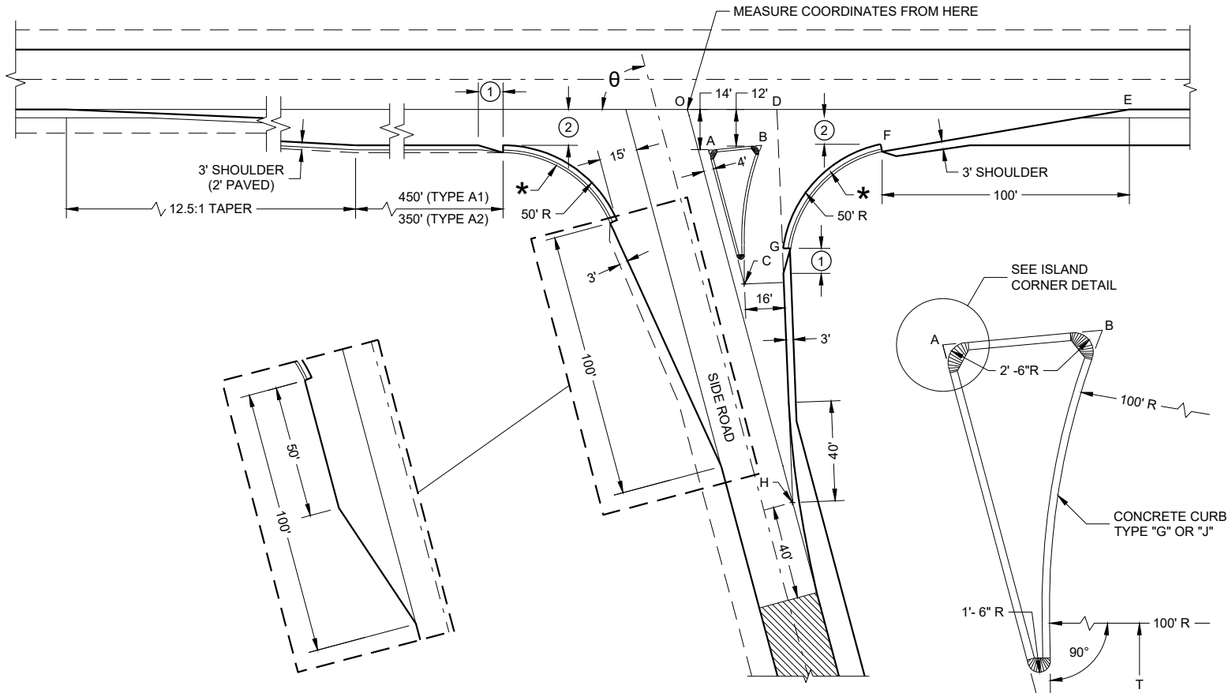
SDD 09A01 - 14a

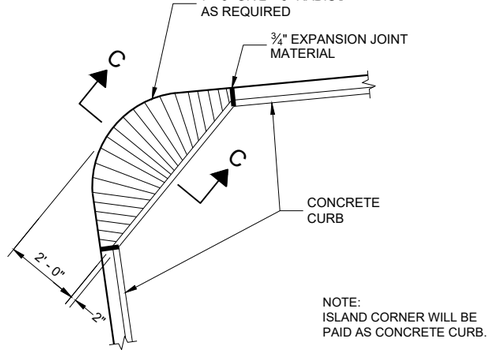


θ = MORE THAN 80°

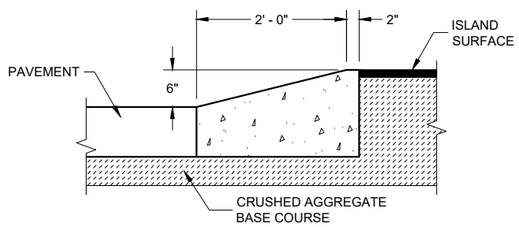


SIDE ROAD WIDENING AND TAPER REQUIRED WHERE
THE THROUGH HIGHWAY CARRIES TWO-WAY TRAFFIC
θ = ACUTE ANGLES 70° OR LESS

θ = ACUTE ANGLES 80° OR LESS



PLAN VIEW



SECTION C - C

ISLAND CORNER DETAIL

(TO BE CONSTUCTED AT ALL ISLAND CORNERS)

TABLE OF DIMENSIONS FOR VARIABLE SIDE ROAD INTERSECTION ANGLES

(INTERPOLATE VALUES FOR ANGLES NOT SHOWN)

ANGLE θ DEGREES	COORDINATES IN FEET (MEASURED FROM POINT 'O') X/Y								LENGTH IN FEET				
	A	B	C	D	E	F	G	H	AB	AC	T	OJ	OH
60	12.7 / -14.0	44.9 / -12.0	46.4 / -72.4	41.9 / 0.0	205.0 / 0.0	104.6 / -12.0	64.0 / -75.5	85.0 / -147.1	32.3	67.4	4.9	85.9	169.9
65	10.9 / -14.0	39.0 / -12.0	37.8 / -71.6	39.4 / 0.0	196.1 / 0.0	95.7 / -12.0	54.1 / -71.5	70.5 / -151.3	28.2	63.6	8.5	80.9	166.9
70	9.4 / -14.0	33.9 / -12.0	29.8 / -70.1	37.4 / 0.0	188.3 / 0.0	87.8 / -12.0	45.6 / -67.5	56.1 / -154.2	24.6	59.7	11.5	76.1	164.1
75	7.9 / -14.0	29.3 / -12.0	22.3 / -67.9	35.7 / 0.0	181.2 / 0.0	80.7 / -12.0	38.2 / -63.4	41.8 / -155.9	21.5	55.8	13.8	71.4	161.4
80	6.5 / -14.0	25.4 / -12.0	15.6 / -65.2	34.4 / 0.0	174.8 / 0.0	74.4 / -12.0	31.8 / -59.3	27.6 / -156.5	18.9	52.0	15.6	66.9	158.9

TYPE 'A1" AND "A2" SIDE ROAD INTERSECTION DETAILS

AT GRADE SIDE ROAD INTERSECTIONS
TYPES "A1" AND "A2"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 — DATE
/S/ John Jenkins — ROADWAY STANDARDS DEVE ENGINEER
FHWA

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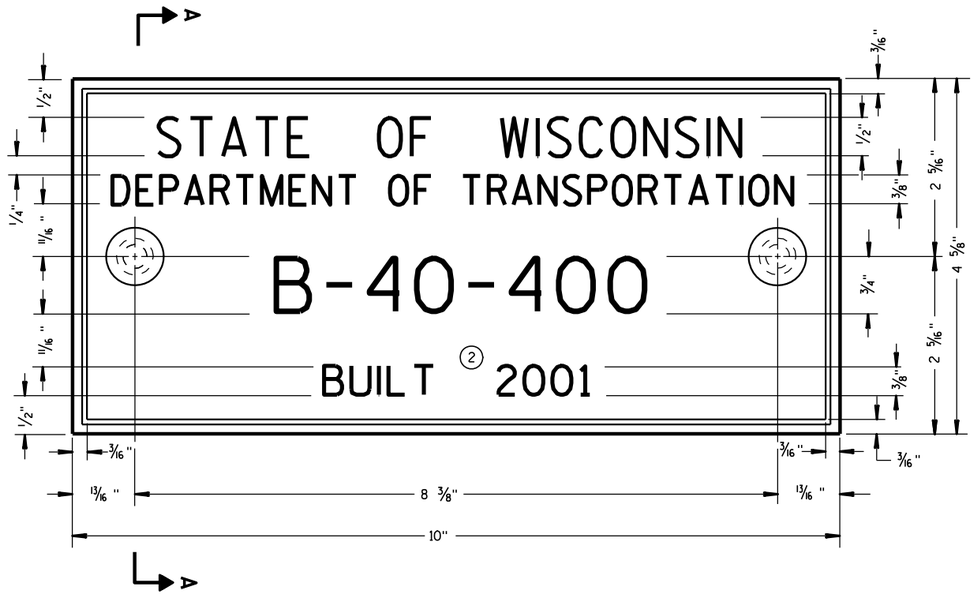


TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

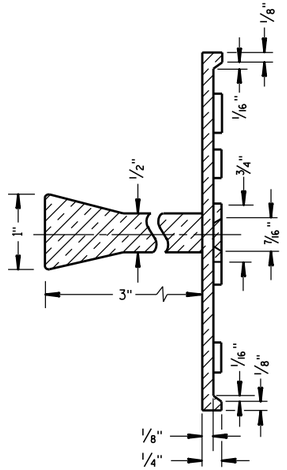
GENERAL NOTES

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.

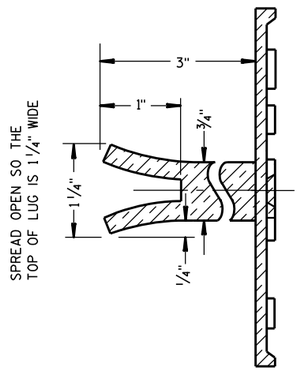
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(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

FOR MULTI-UNIT STRUCTURES LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

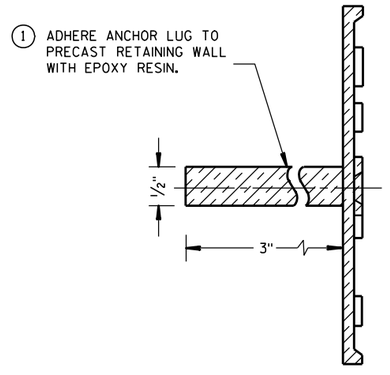
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES



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

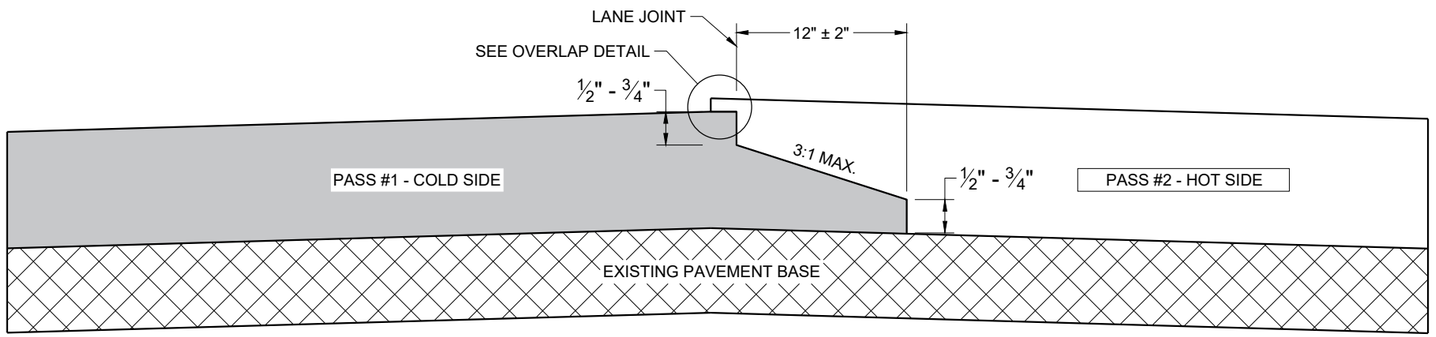
FHWA

6

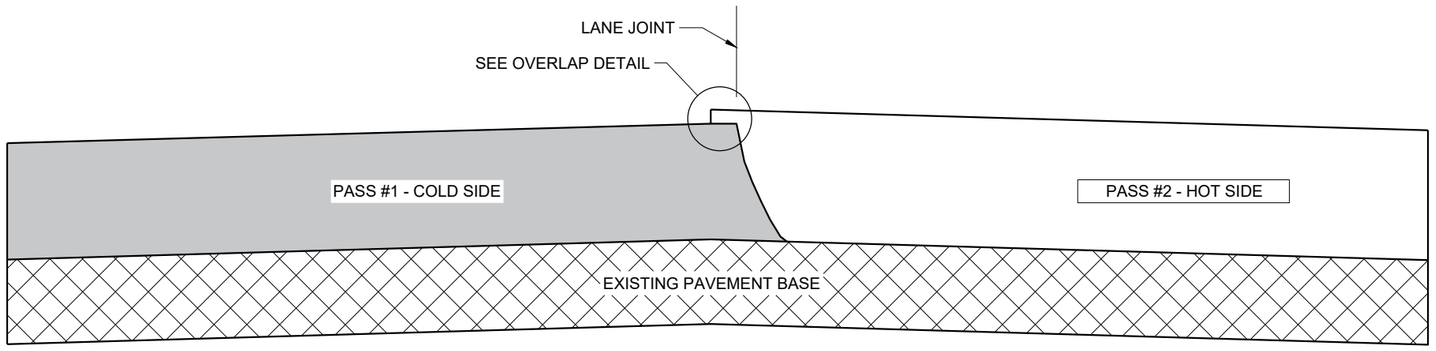
S.D.D. 12 A 3-10

6

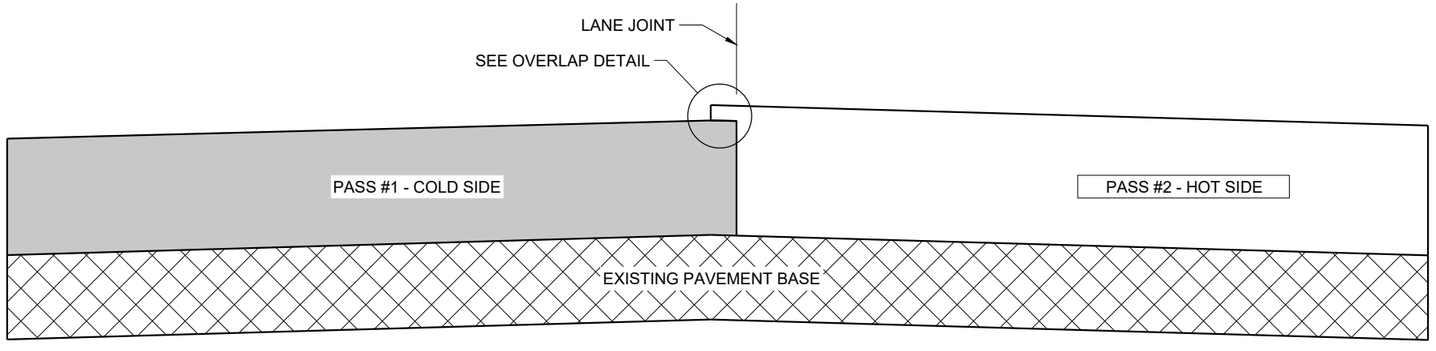
S.D.D. 12 A 3-10



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

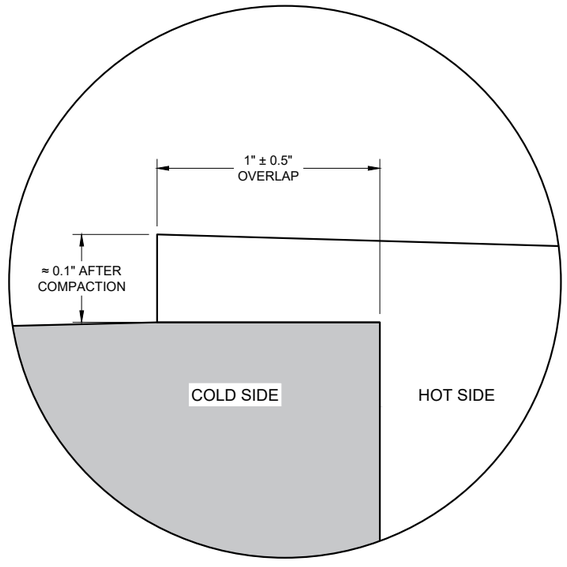
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

SDD 14B15a Steel Plate Beam Guard, Class "A", Installation and Elements

GENERAL NOTES

1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6"X8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS. DO NOT MIX STEEL AND WOOD POSTS IN A SINGLE INSTALLATION.

2. USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGE SPELTER COATING ON GALVANIZED POSTS.

3. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

4. USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

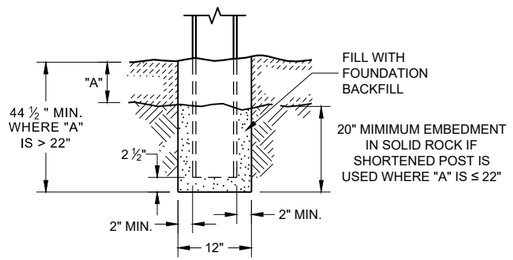
5. IF THE DISTACE FROM BACK OF POST TO SHOULDER HIGHE POINT IS LESS THAN 2 FEET, INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

6. IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCHES IN DIAMETER POST HOLE 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 ADEQUATELY.

7. 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.

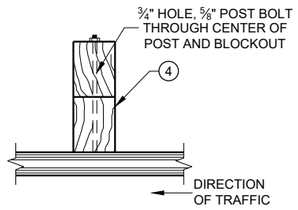
INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



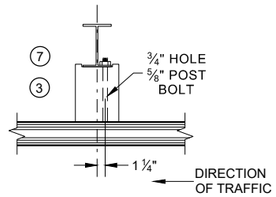
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (6)



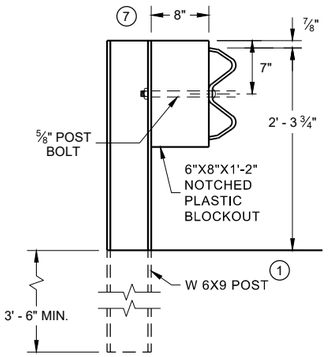
PLAN VIEW

WOOD POST, BLOCKOUT AND BEAM



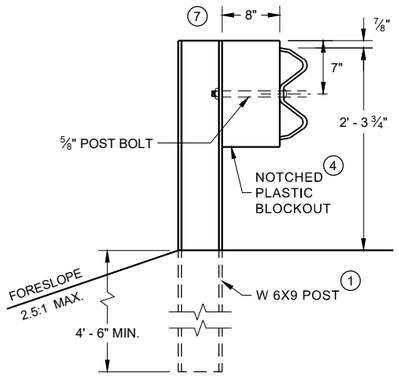
PLAN VIEW

WOOD POST, BLOCKOUT AND BEAM



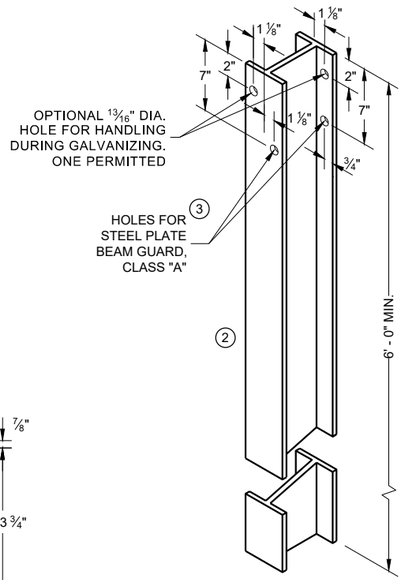
END VIEW

STEEL POST AND NOTCHED PLASTIC BLOCKOUT ALTERNATIVE STANDARD INSTALLATION



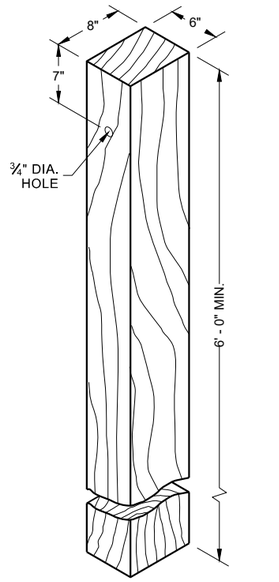
END VIEW

LONGER POST AT HALF POST SPACING W BEAM (LHW)

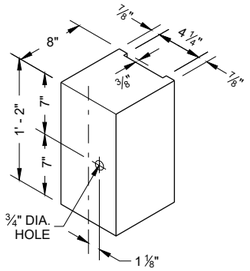


STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)

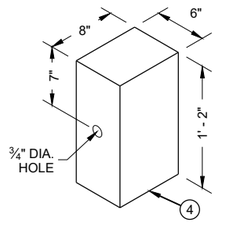
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



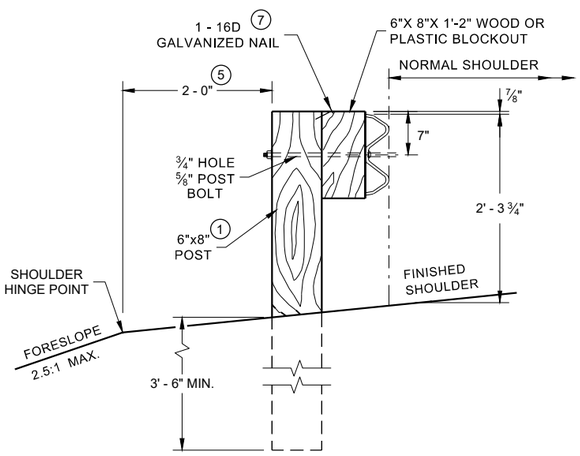
WOOD POST (6" X 8") NOMINAL (1)



TYPICAL NOTCHED PLASTIC BLOCKOUT FOR STEEL POSTS

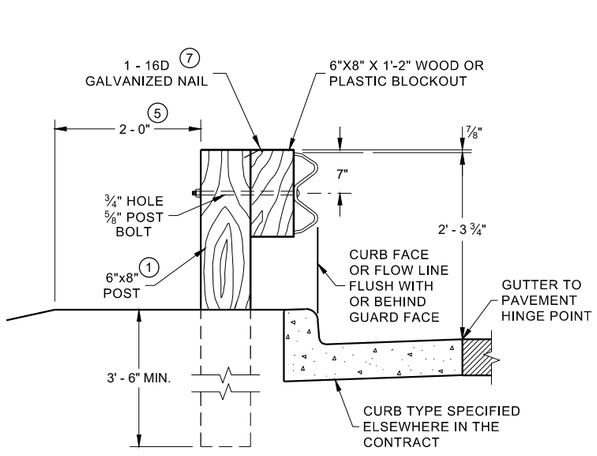


WOOD OR PLASTIC BLOCKOUT FOR WOOD POSTS



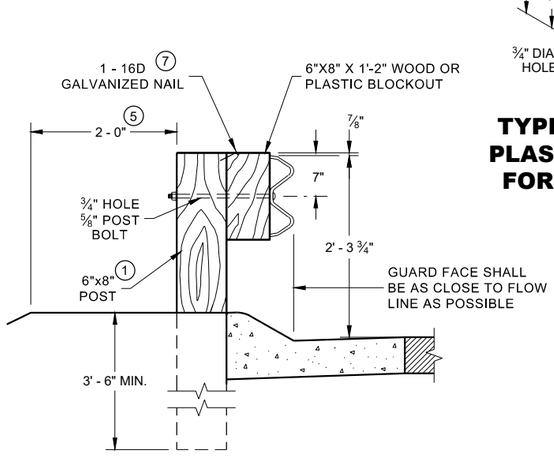
END VIEW

LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



END VIEW

LOCATED ALONG A CURBED ROADWAY



END VIEW

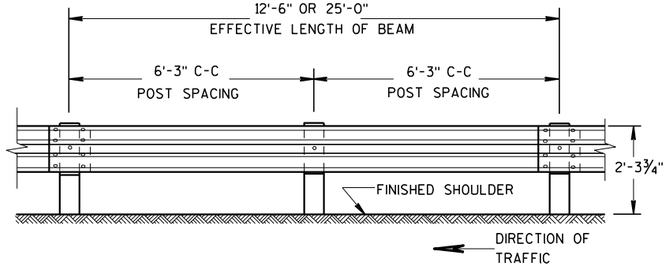
LOCATED ALONG A MOUNTABLE CURBED ROADWAY

STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION AND ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

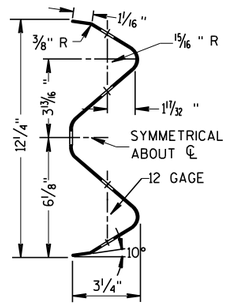
6

SDD 14B15 -11a

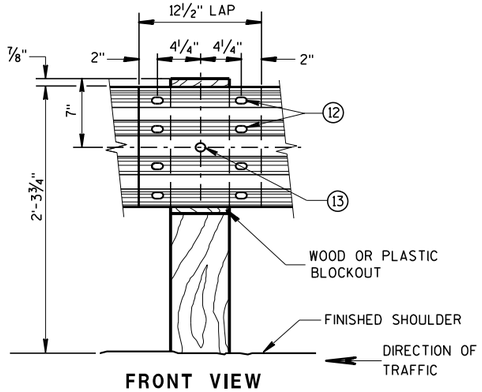


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

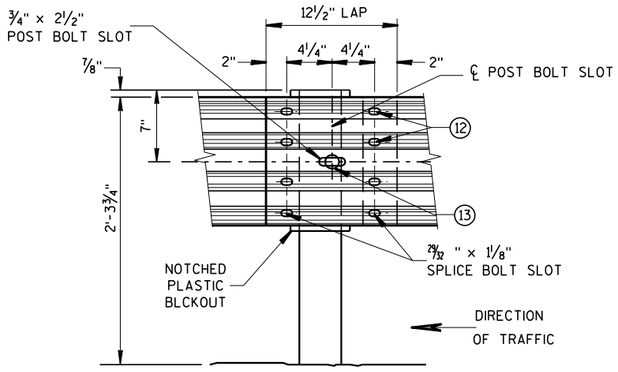
(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.

(12) 8 -5/8" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.

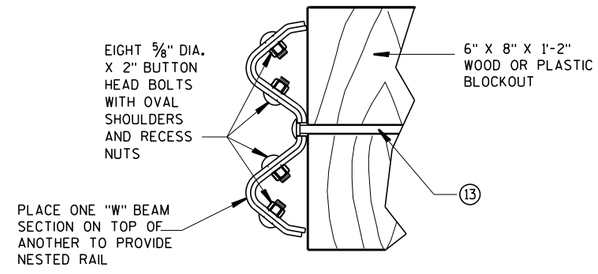
FRONT VIEW

POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

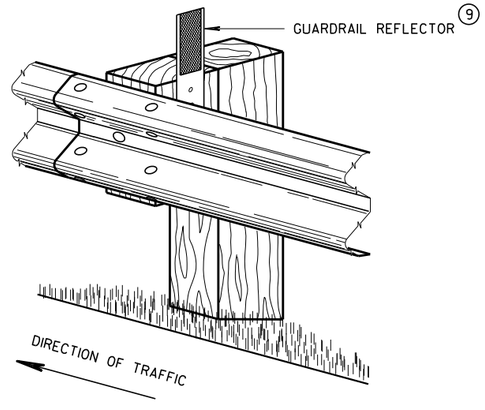


NESTED W BEAM (NW)

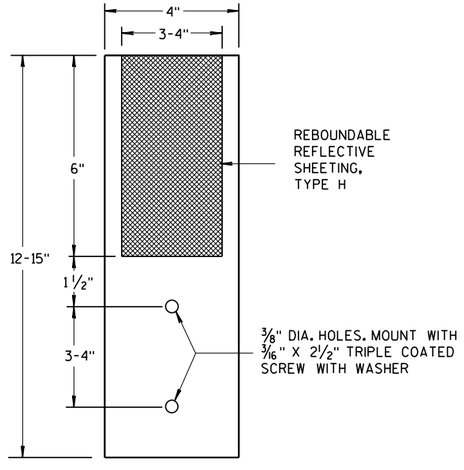
USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

* USE DOUBLE SIDED WHITE GUADRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



4" X 12" GUARDRAIL REFLECTOR DETAIL AND TYPICAL INSTALLATION *



4"x 12" GUARDRAIL REFLECTOR

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCO 32
DEPARTMENT OF TRANSPORTATION

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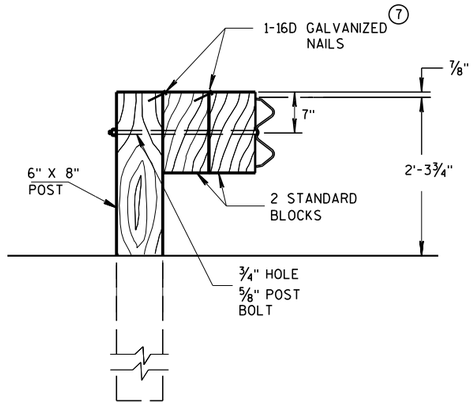
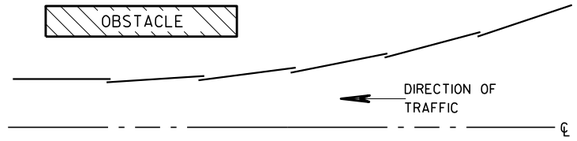


DETAIL FOR DOUBLE BLOCKS

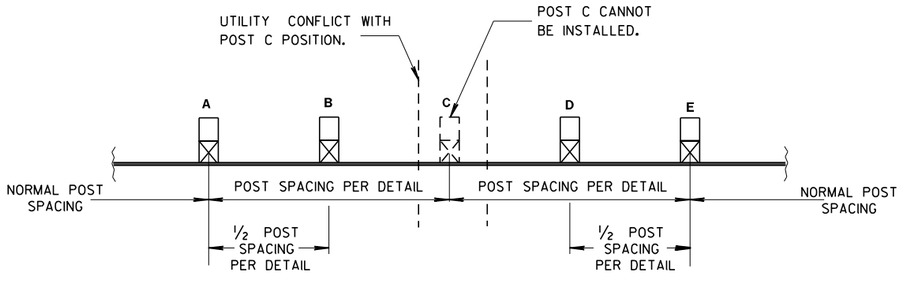
THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED



PLAN VIEW
BEAM LAPPING DETAIL

DETAIL FOR TRIPLE BLOCKS

TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA 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.

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVISOR
33
FHWA

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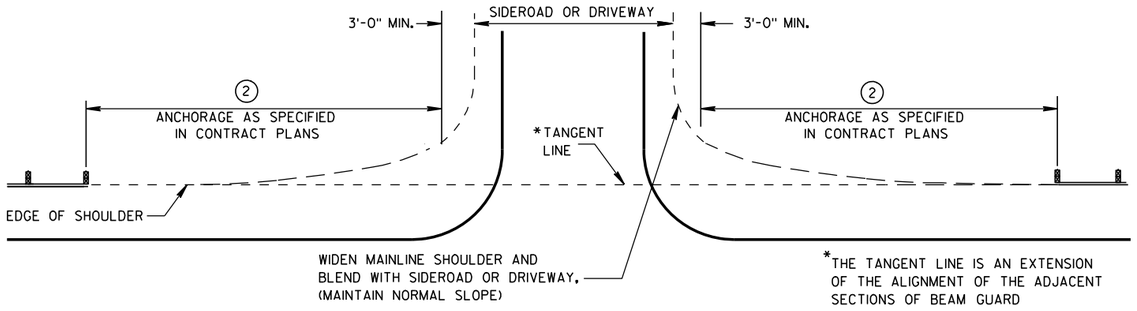
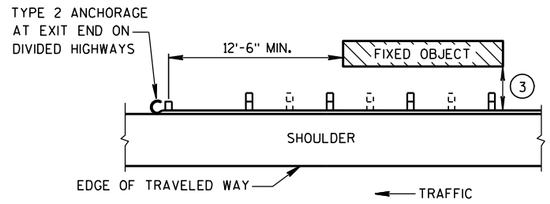
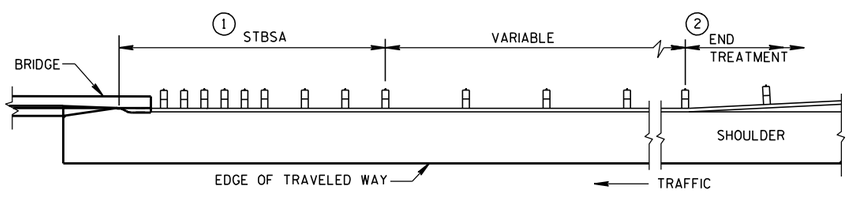


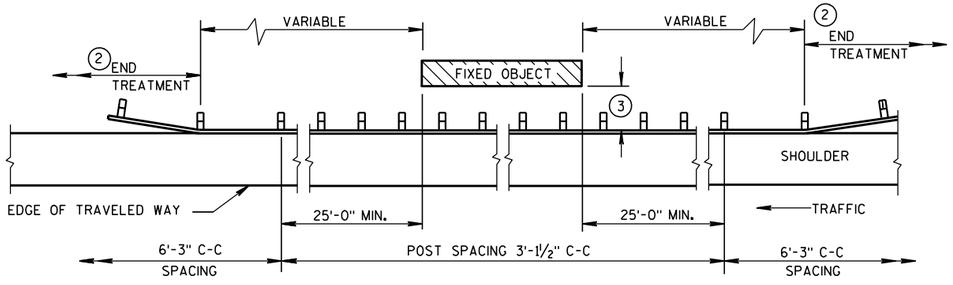
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

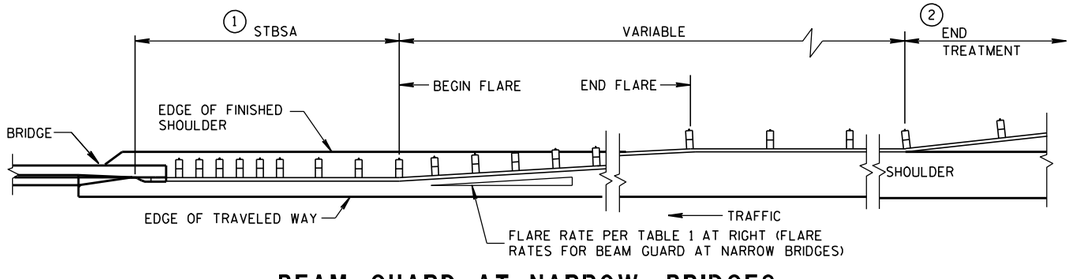


BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")



BEAM GUARD AT NARROW BRIDGES

(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

(1) STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.

(2) USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

(3)

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"

STEEL PLATE BEAM GUARD CLASS "A" AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-21-07 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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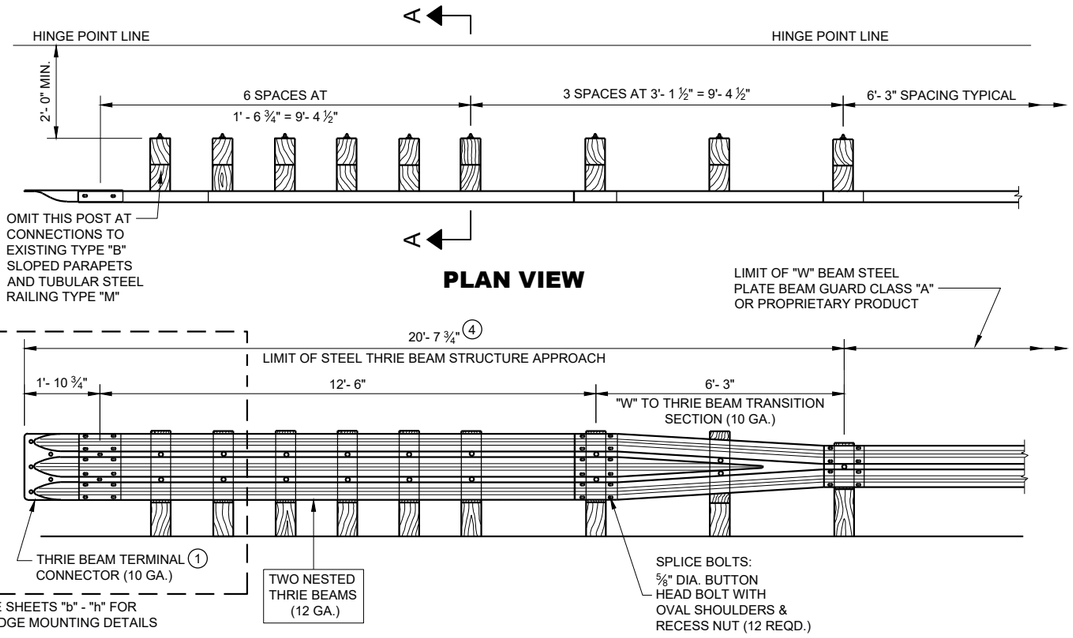


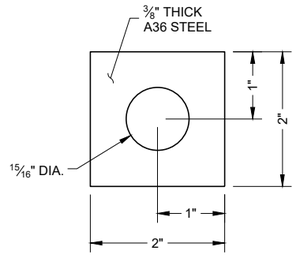


PLATE WASHER DETAIL

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.

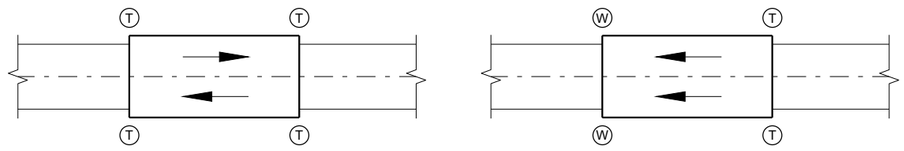
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 ½" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

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

(2) MINIMUM EMBEDMENT SHALL BE 4'- 0".

(3) POST BOLTS ARE ⅝" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A ⅝" 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.



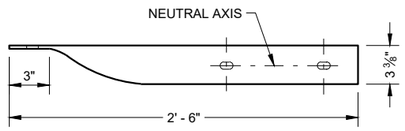
TWO WAY TRAFFIC

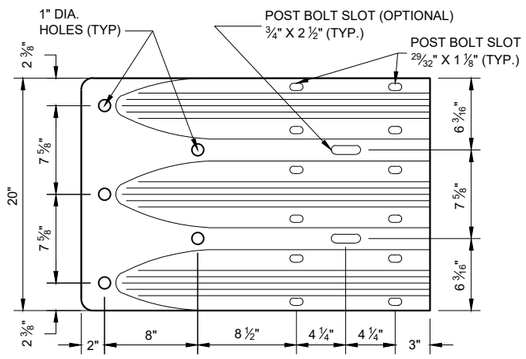
ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

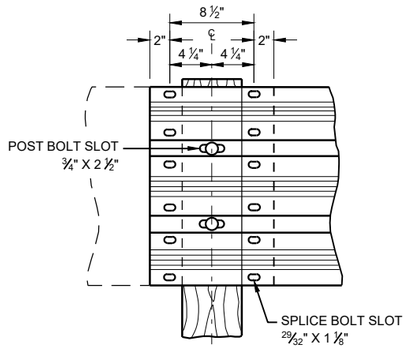
(W) W-BEAM CONNECTION WHEN REQUIRED

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

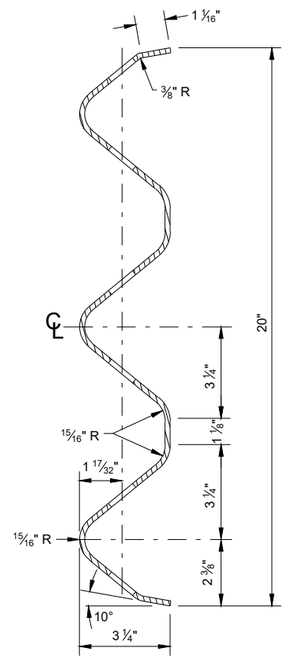




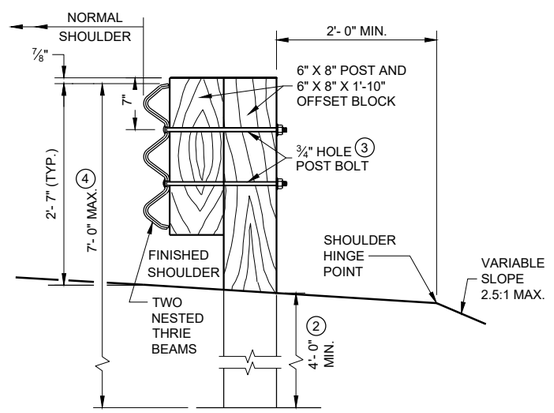
THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE



SECTION THRU BEAM RAIL ELEMENT



SECTION A-A

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

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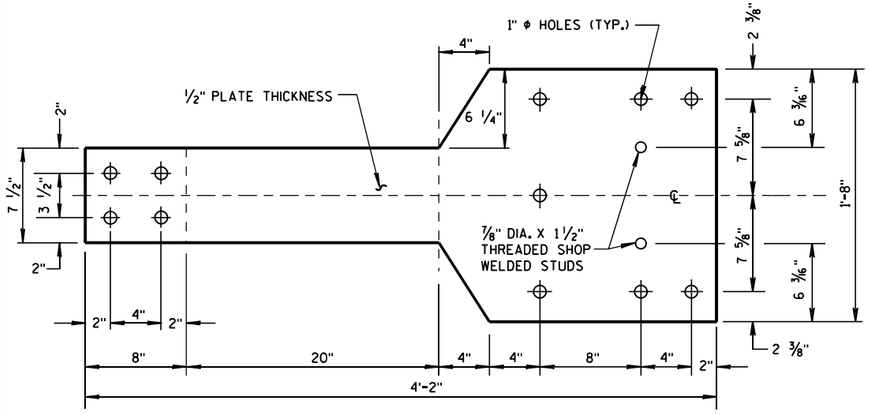
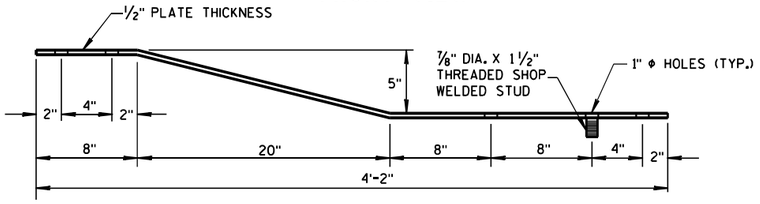
SDD 14B20 - 12a

GENERAL NOTES

① VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL BE AS CLOSE AS FEASIBLE TO THE STEEL END POST.

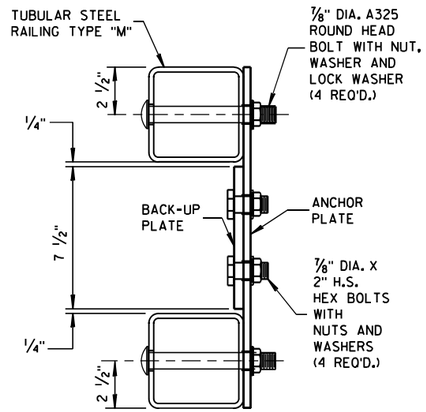


FRONT VIEW

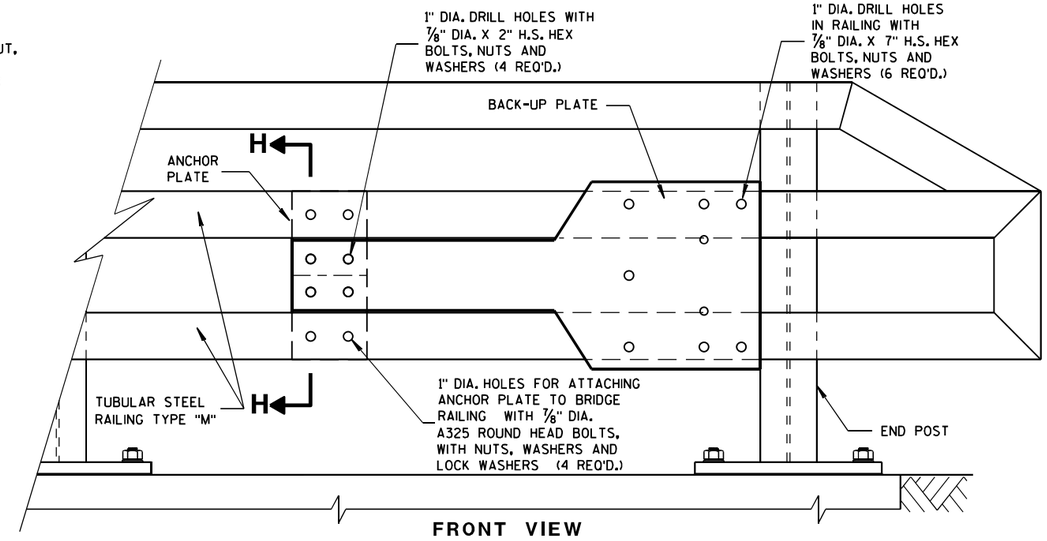


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

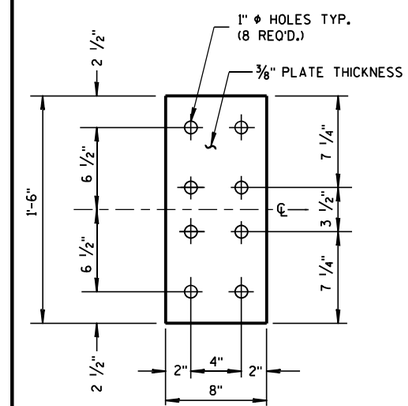


SECTION H-H



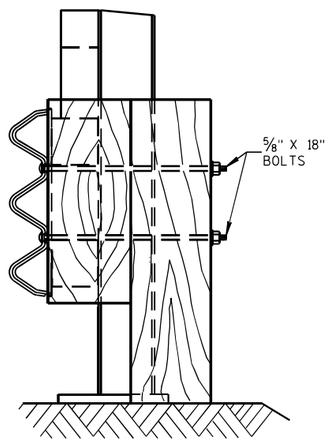
FRONT VIEW

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

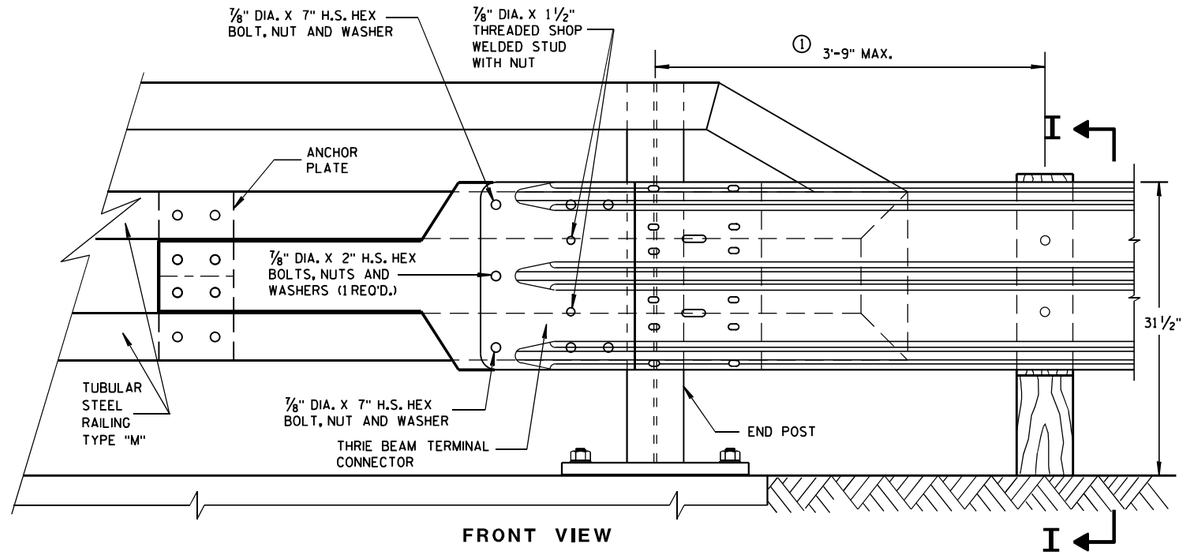


FRONT VIEW

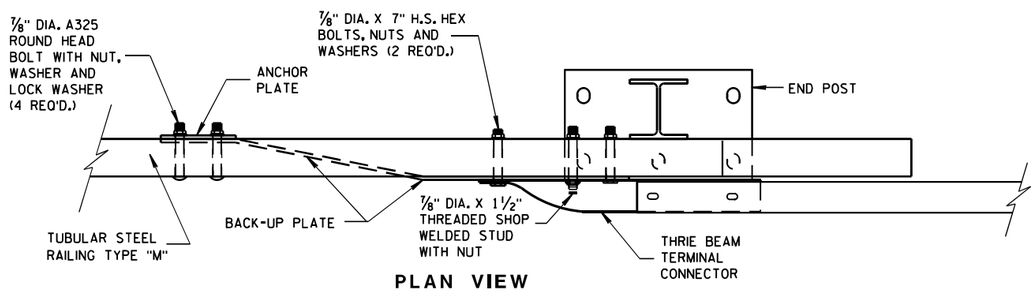
ANCHOR PLATE DETAIL, TYPE "M"



SECTION I-I



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

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SDD 14B20 - 12f

6

SDD 14B20 - 12f

BILL OF MATERIALS

NOTE NO.	DESCRIPTION
①	WOOD BREAKAWAY TERMINAL POST: 5½" X 7½" X 3'-9"
②	STEEL TUBE TS 8" X 6" X 0.188", 6'-0"
④	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
⑤	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
⑥	PIPE SLEEVE: 2" X 5 ½" STANDARD PIPE
⑦	BEARING PLATE
⑧	BCT CABLE ASSEMBLY
⑨	CABLE ANCHOR BOX
⑩	STRUT & YOKE
⑪	STEEL PLATE BEAM, END PANEL 12 GA.
⑫	STEEL PLATE BEAM: 12 GA. 13'-6½"
⑬	IMPACT HEAD
⑭	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS

GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS.

(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.

(D) THE TOP OF THE STEEL TUBE ON POSTS 1 AND 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

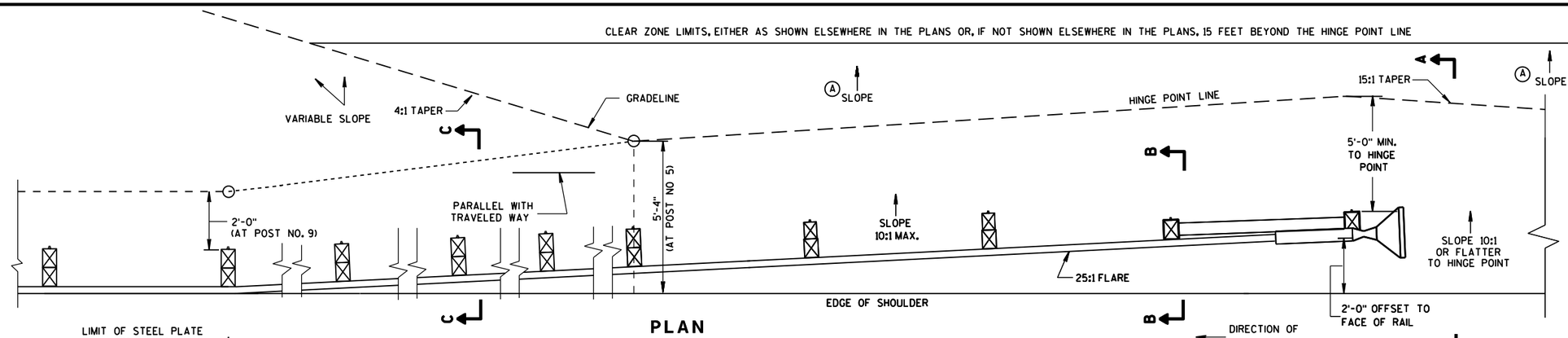
(E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 3 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.

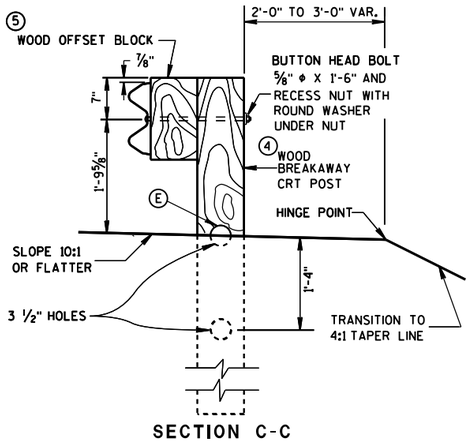
(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

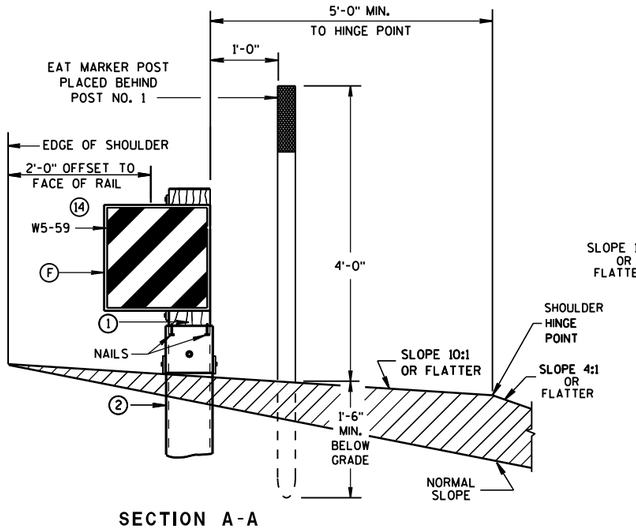
STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

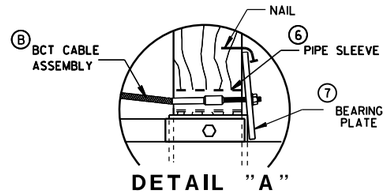
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

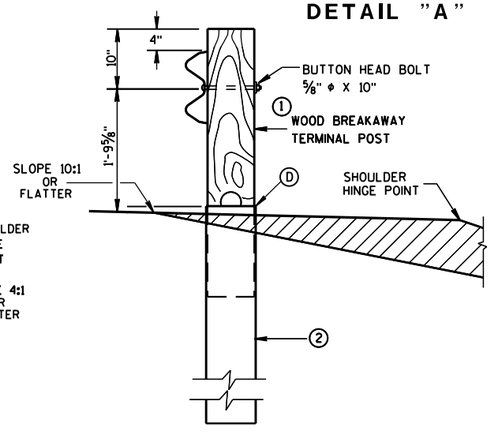
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

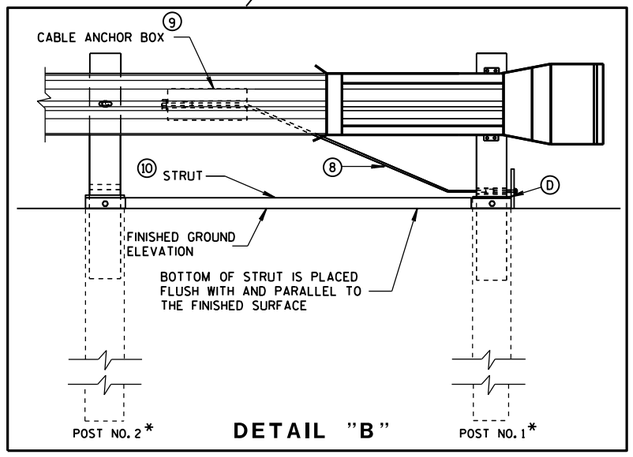












STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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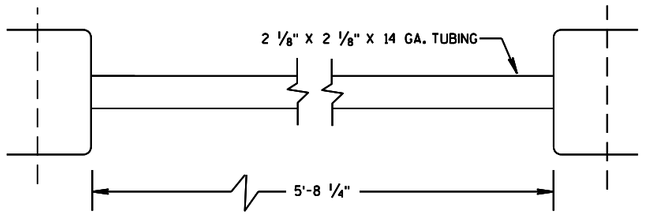
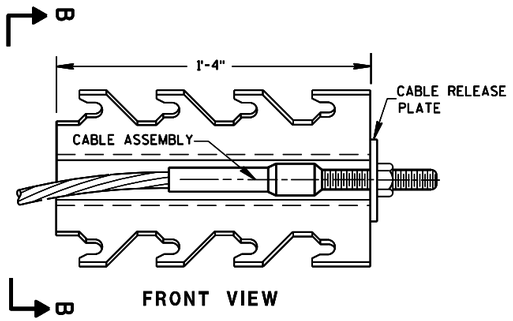
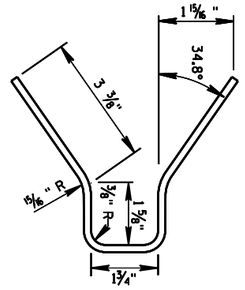


⑩ STRUT DETAIL

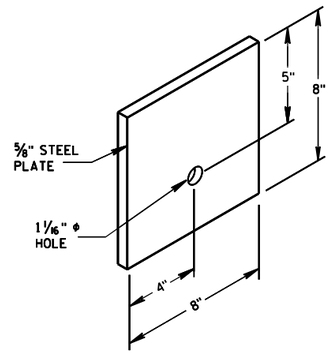


FRONT VIEW



SECTION B-B

⑨ CABLE ANCHOR BOX



⑦ STEEL BEARING PLATE

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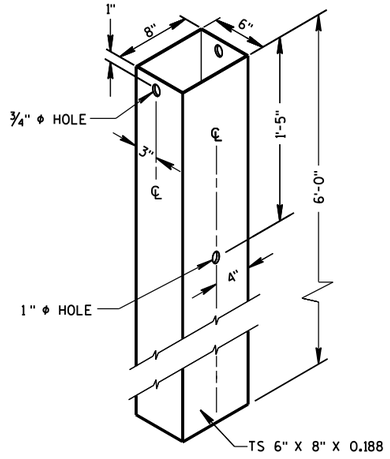
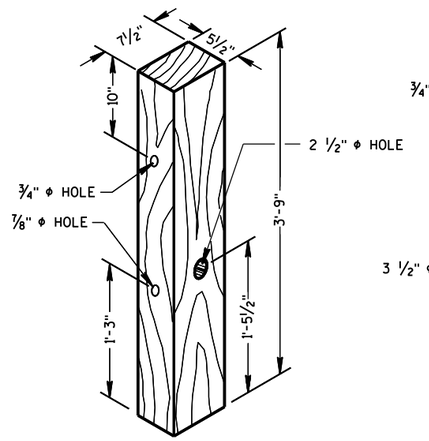
S.D.D. 14 B 24-9b

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

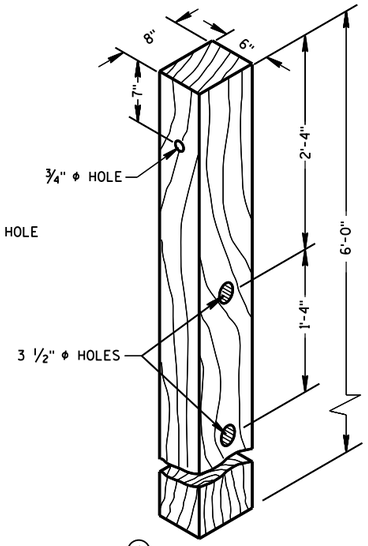
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



② 72" STEEL TUBE
(POSTS NO. 1-2



① TERMINAL POST

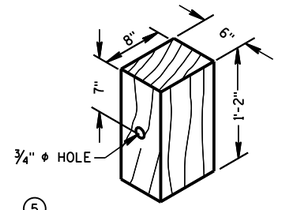


④ CRT POST
(POSTS NO'S 5-8

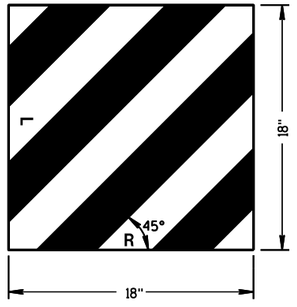
WOOD BREAKAWAY POSTS

GENERAL NOTES

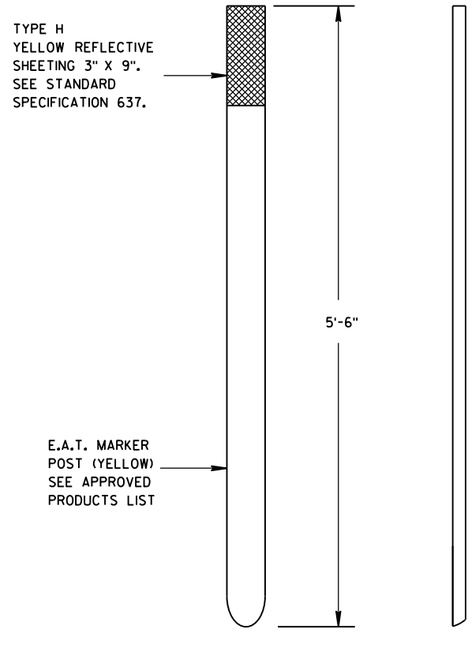
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.



⑤ WOOD OFFSET BLOCK
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



⑭ REFLECTIVE SHEETING DETAILS



E.A.T. MARKER POST

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS
UNIT SUPERV...

39

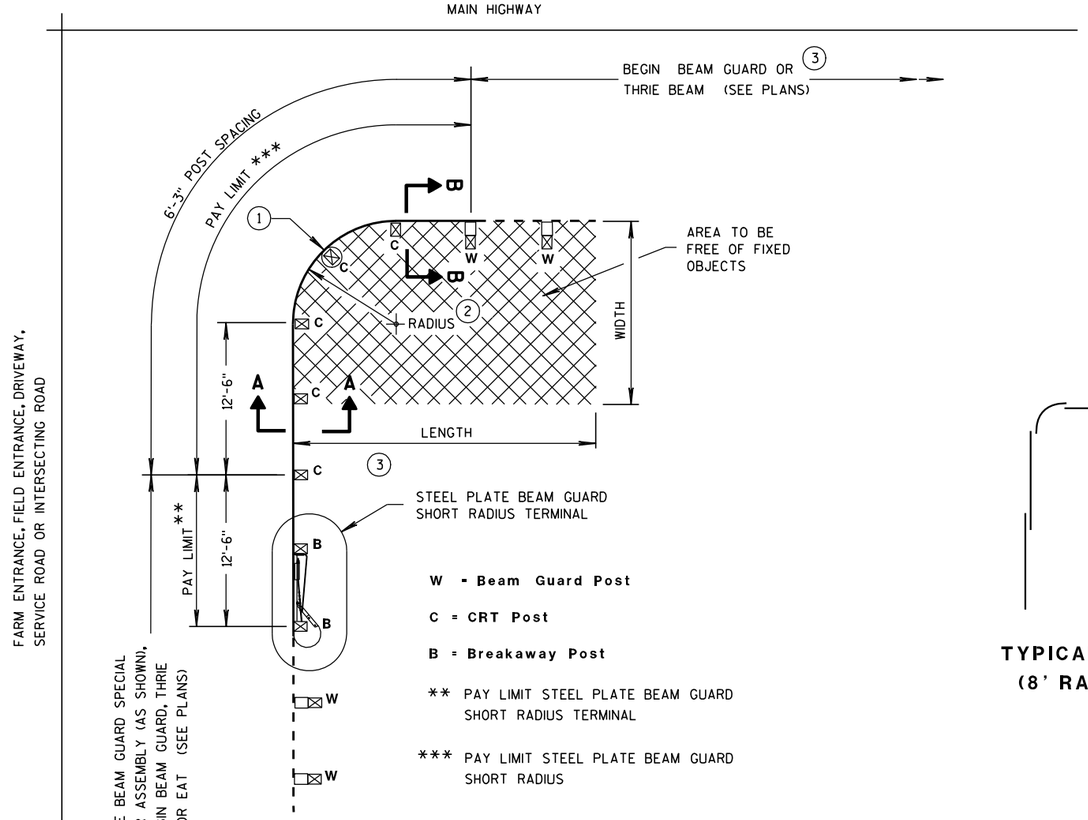
ENT

6

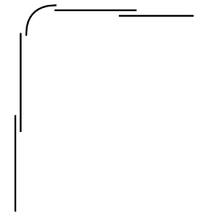
S.D.D. 14 B 24-9c

6

S.D.D. 14 B 24-9c



TYPICAL LAYOUT
(8' RADIUS SHOWN)



TYPICAL LAP SPLICES
(8' RADIUS SHOWN)

GENERAL NOTES

ALL ANGLES, CHANNELS, AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36 AND THE STRUCTURAL TUBING SHALL CONFORM TO ASTM A 500. WELDING SHALL MEET THE CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI/AWS D1.1. ALL STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 123. PUNCHING, DRILLING, CUTTING, OR WELDING WILL NOT BE PERMITTED AFTER GALVANIZING. FURNISH AND INSTALL HARDWARE PER STANDARD SPECIFICATION 614.2. UNLESS NOTED OTHERWISE.

SHOP BEND CURVED RAIL SECTIONS.

SEE STANDARD DETAIL DRAWING 14 B 15 FOR OTHER DETAIL.

(1) ON THE 8 FOOT RADIUS INSTALLATION, DO NOT INSTALL BUTTON HEAD BOLT AT CENTER CRT POST.

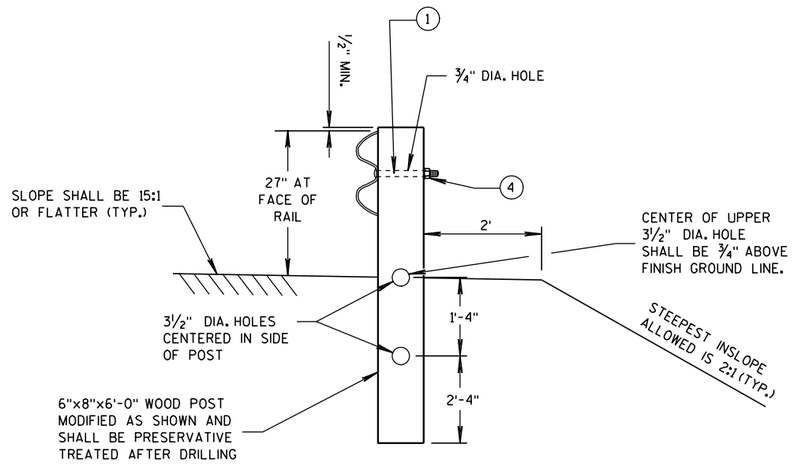
(2) RADIUS FROM 8' - 36'. SEE PLAN.

(3) HEIGHT TRANSITION MAY BE REQUIRED. SEE PLAN OR PROJECT ENGINEER.

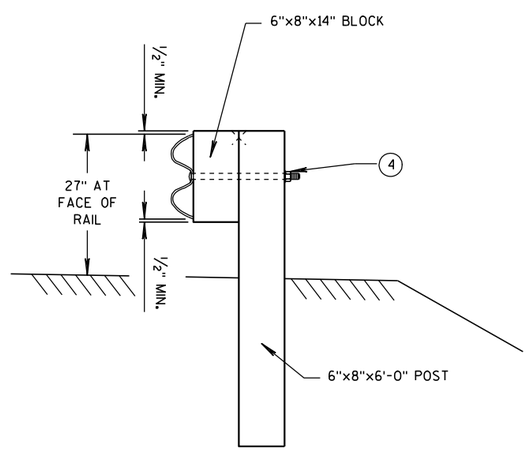
(4) 5/8" ø X 1'-6" BUTTON HEAD BOLT AND RECESS NUT WITH ROUND WASHER UNDER NUT.

RADIUS	NUMBER OF CRT POSTS	*NUMBER AND LENGTH OF CURVED RAILS	REQUIRED AREA FREE OF FIXED OBJECTS (LENGTH x WIDTH)
8'	5	1 at 12.5'	25' x 15'
16'	7	1 at 25'	30' x 15'
24'	9	1 at 25' and 1 at 12.5'	40' x 20'
32'	11	2 at 25'	50' x 20'

* THE NUMBER OF RAILS IS BASED ON A 90° INTERSECTION. SEE PLAN FOR NON 90° INSTALLATIONS.



SECTION A-A
(CRT POST)



SECTION B-B
(BEAM GUARD POST)

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

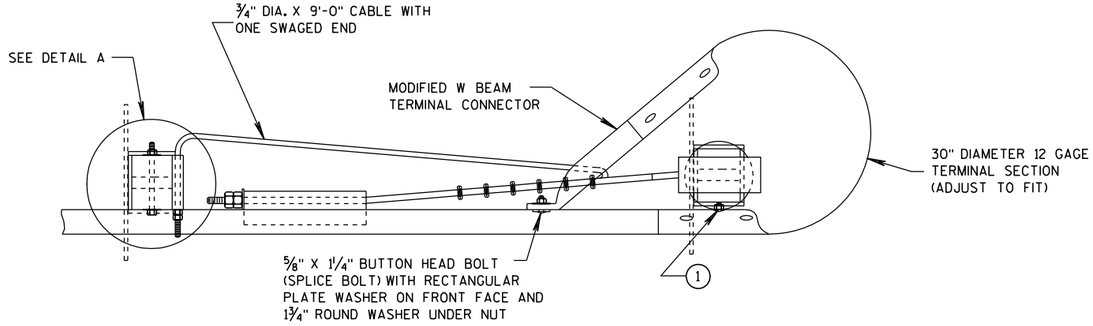
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

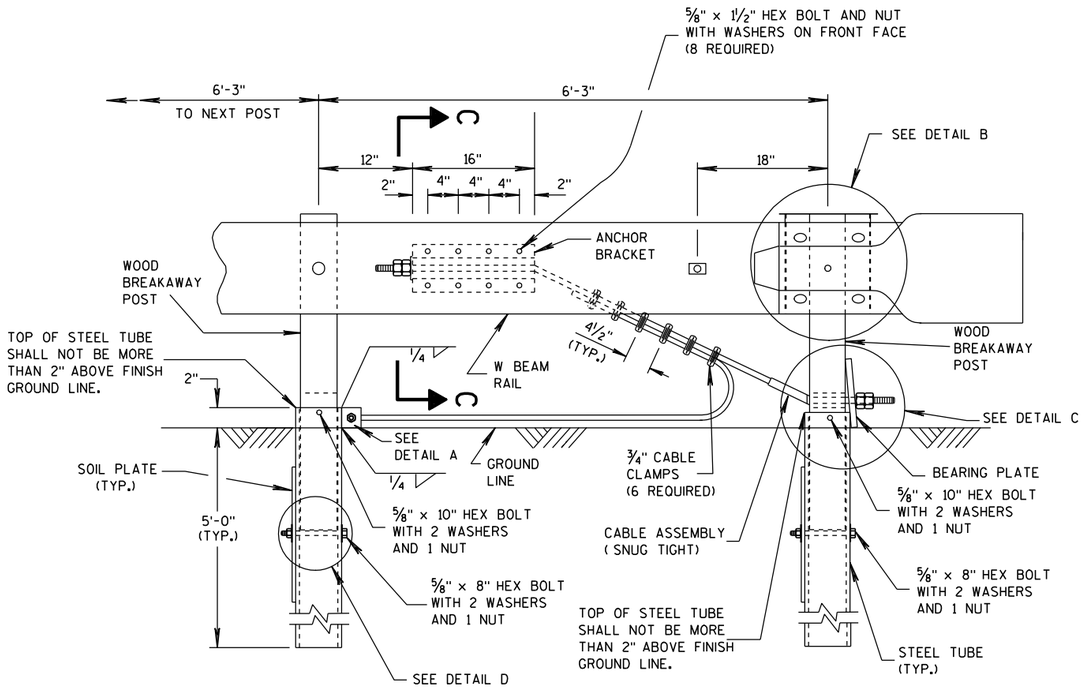
S.D.D. 14 B 27-1a

6

S.D.D. 14 B 27-1a



PLAN VIEW



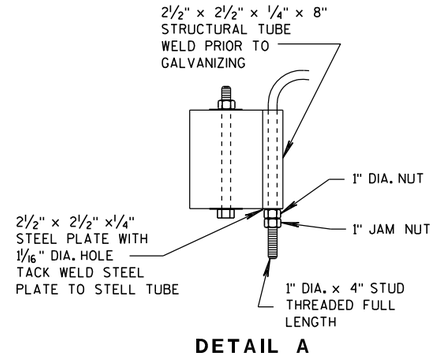
ELEVATION VIEW

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

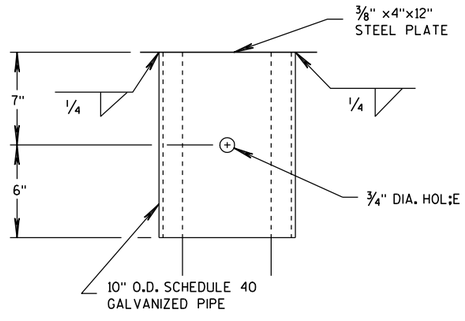
GENERAL NOTES

(1) ATTACH W BEAM RAIL TO THE STEEL PIPE WITH A ⅝" X 2" BUTTON HEAD BOLT WITH NO WASHER. CONNECTION TO THE POST IS NOT REQUIRED.

INSTALL GALVANIZED ¾" (6X19) PREFORMED WIRE OR INDEPENDENT WIRE ROPE CORE CONFORMING TO AASHTO M 30. MANUFACTURE WIRE ROPE OUT OF IMPROVED PLOW STEEL WITH A MINIMUM BREAKING STRENGTH OF 42,800 PSI.



DETAIL A



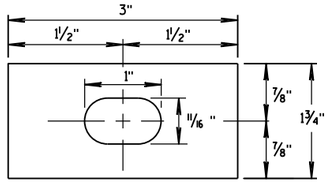
DETAIL B

(BEAM GUARD AND TERMINAL SECTION NOT SHOWN)

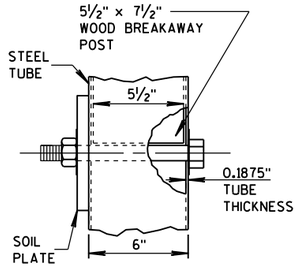
STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

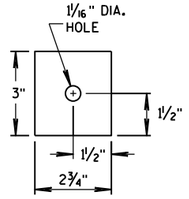
6
S.D.D. 14 B 27-1b



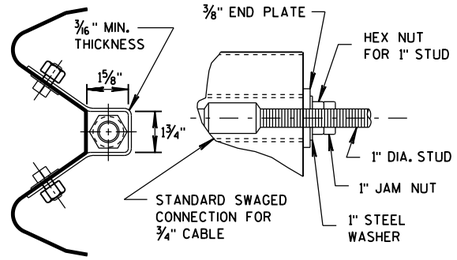
RECTANGULAR PLATE WASHER



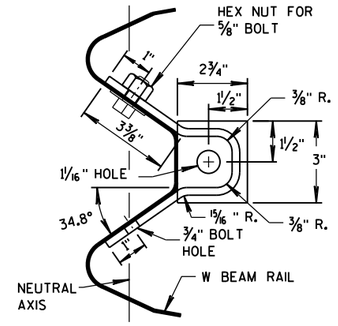
DETAIL D



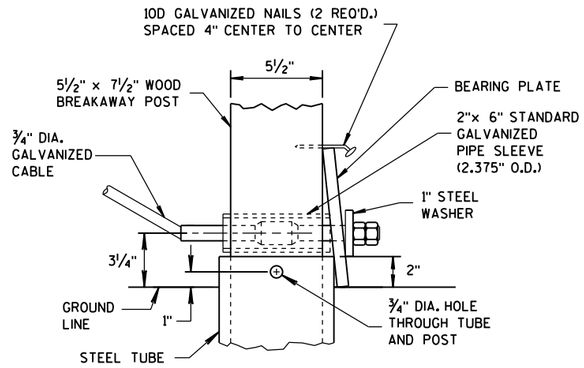
END PLATE



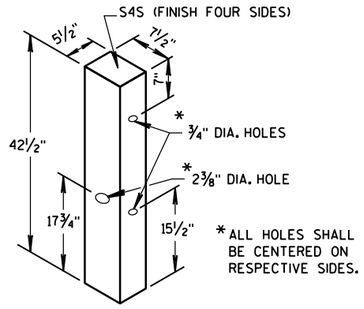
SECTION C-C
(END PLATE REMOVED)



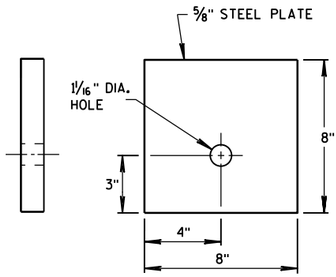
ANCHOR BRACKET



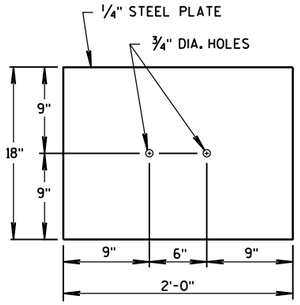
DETAIL C



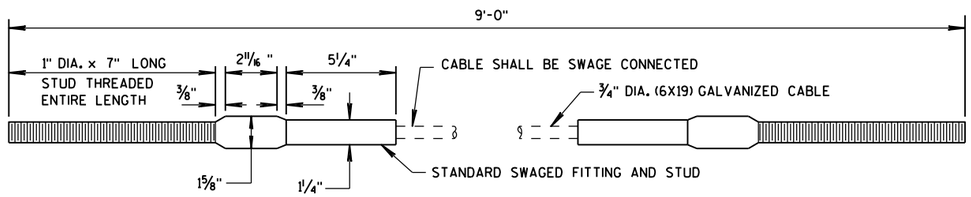
WOOD BREAKAWAY POST



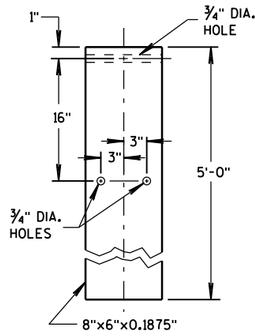
BEARING PLATE



SOIL PLATE



CABLE ASSEMBLY



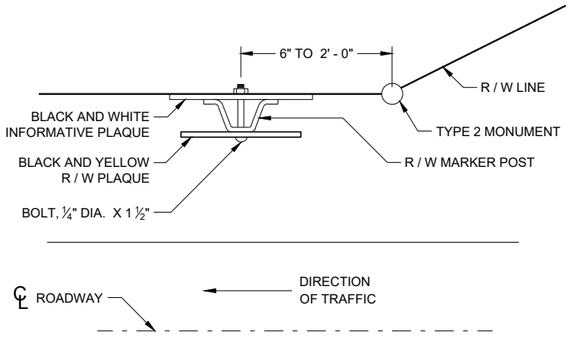
STEEL TUBE

STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL

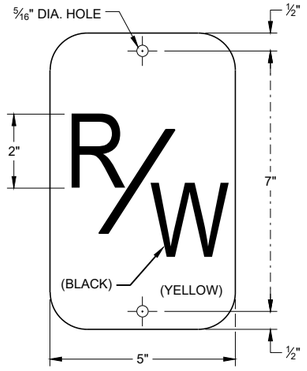
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/18/08 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 14 B 27-1c

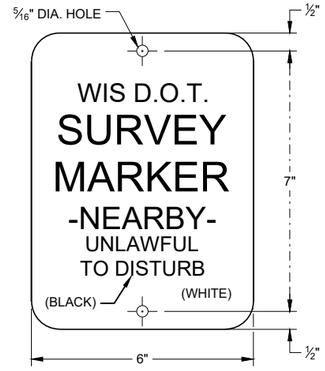


PLAN VIEW
STEEL MARKER POST



R / W PLAQUE

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



INFORMATIVE PLAQUE

GENERAL NOTES

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

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

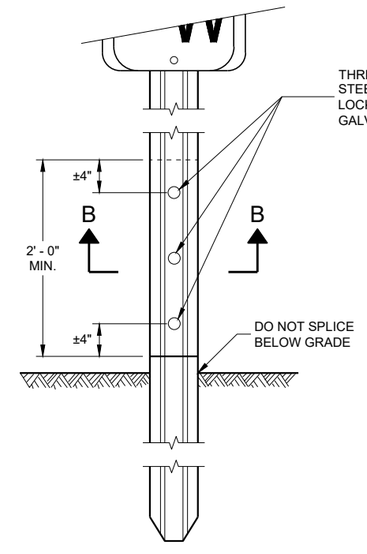
THE "R/W" PLAQUE SHALL FACE THE ROADWAY AND THE INFROMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. "R/W" AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

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

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

FRONT VIEW
STEEL MARKER POST

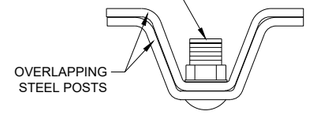
FRONT VIEW
ROCK INSTALLATION (1)



FRONT VIEW
SPLICE DETAIL

MIN. WEIGHT 1.12 LB./FT.

SECTION A - A



SECTION B - B

MARKER POST
FOR RIGHT - OF - WAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

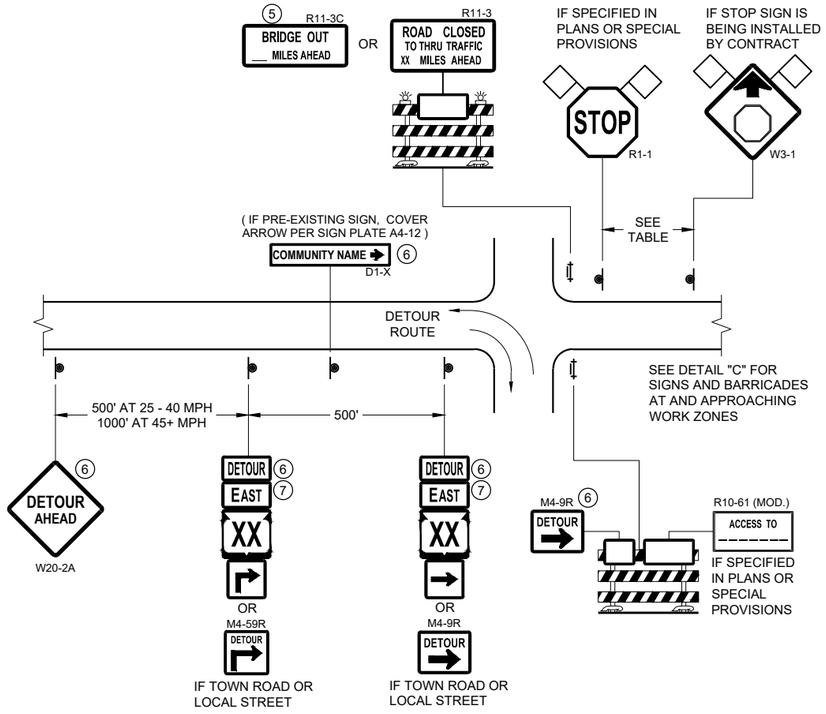
FHWA

6

SDD 15A01 - 13a

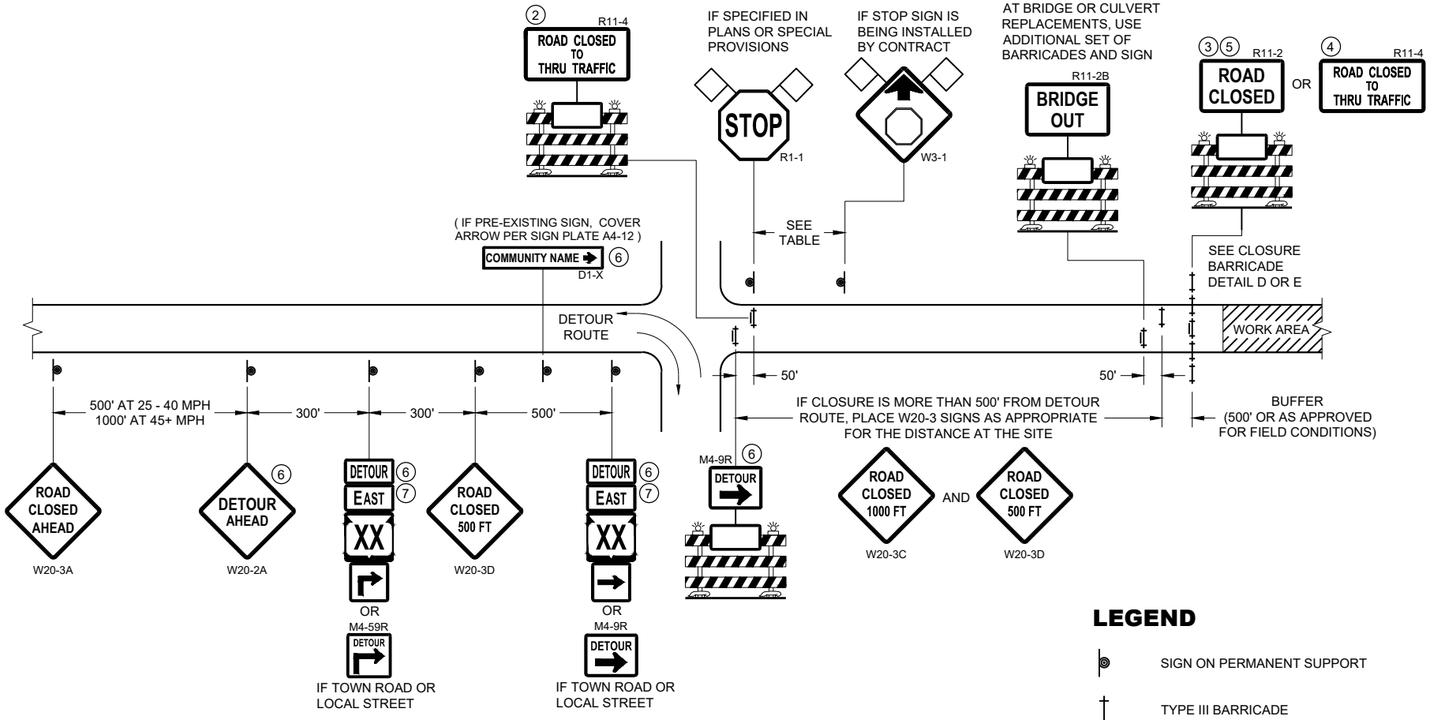
6

SDD15A01 - 13a



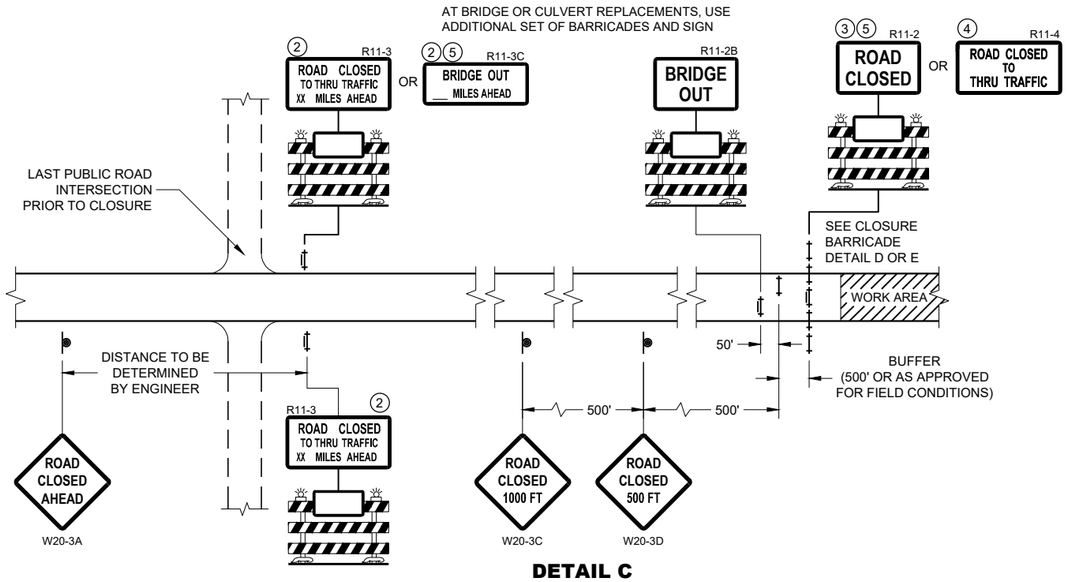
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

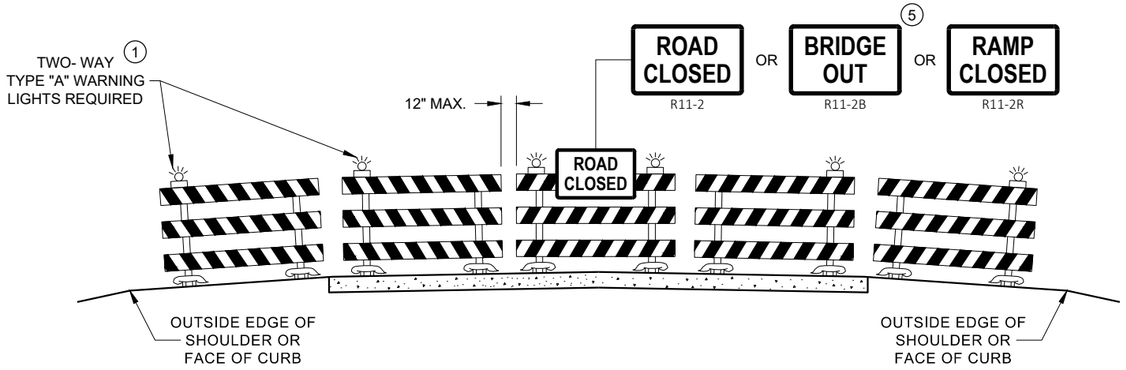
APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

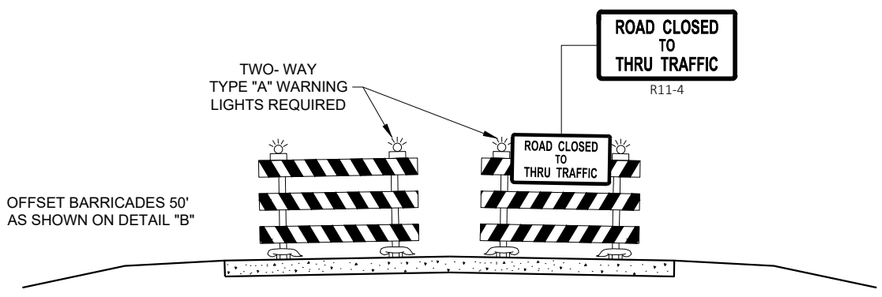
6

SDD 15C02 - 09a

SDD 15C02 - 09a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

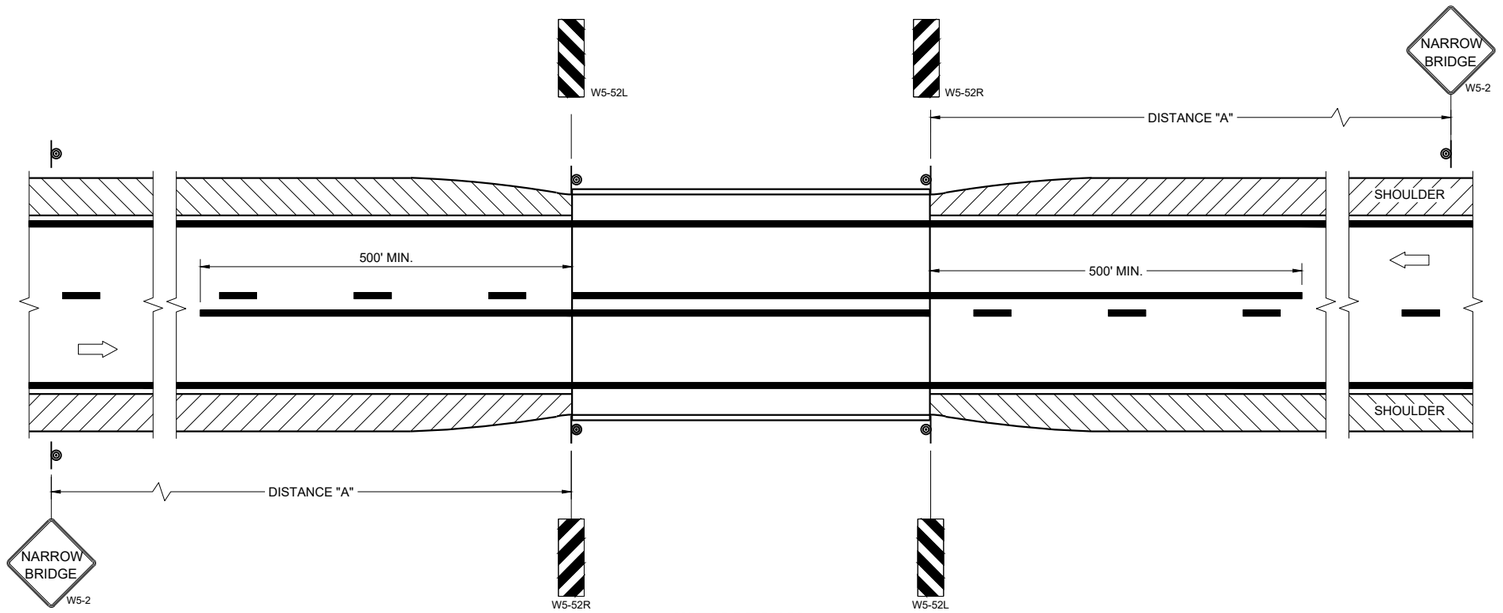
APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

SDD 15C02 - 09b

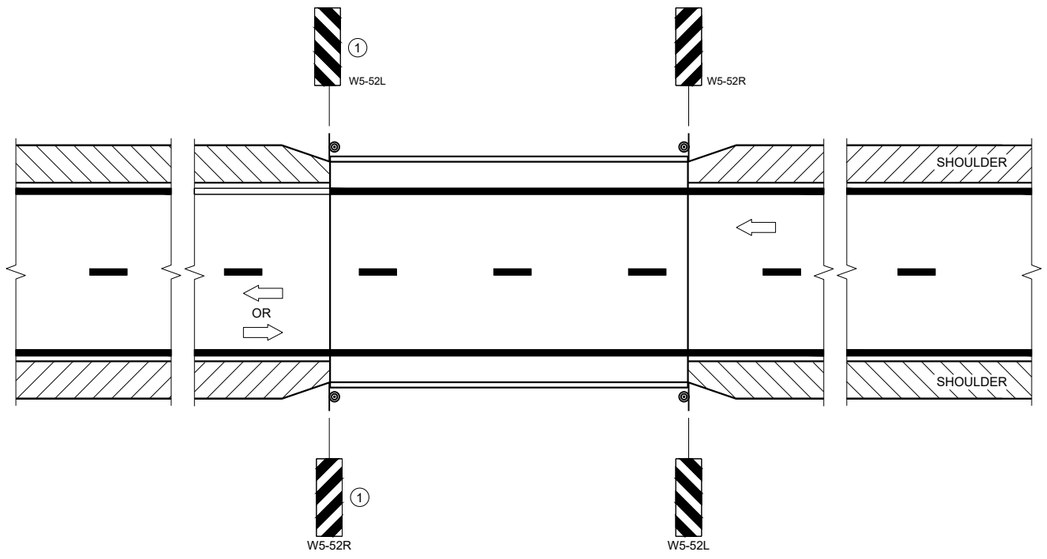
6

SDD 15C02 - 09b



SITUATION 1

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



SITUATION 2

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

GENERAL NOTES

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

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

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

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

(1) OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

DISTANCE TABLE

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

SIGNING AND MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
SDD 15C06-12

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

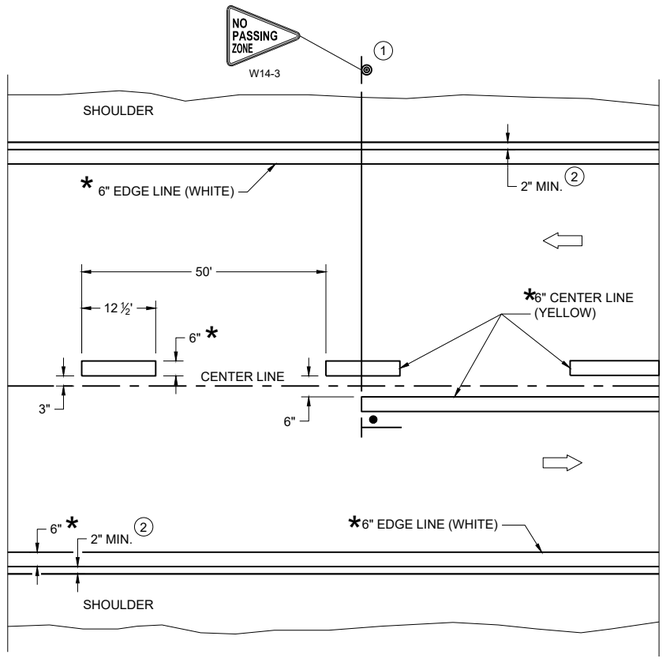
LEGEND

"T" MARKING

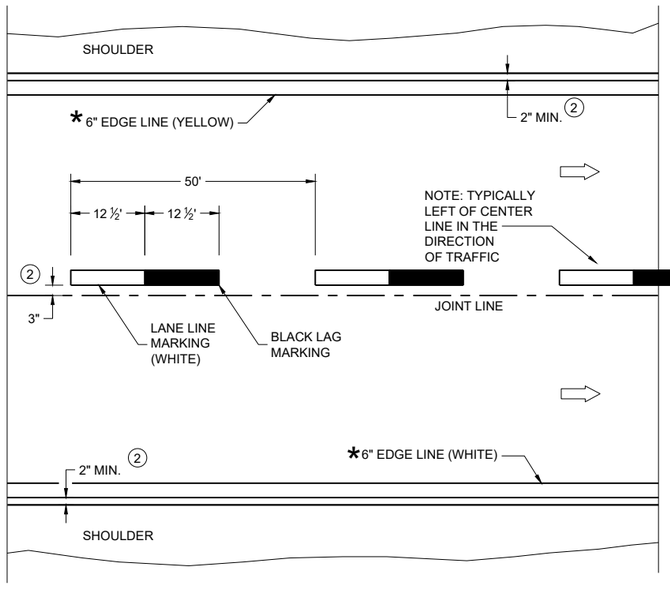
SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

6

SDD 15C08-24a

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2024
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

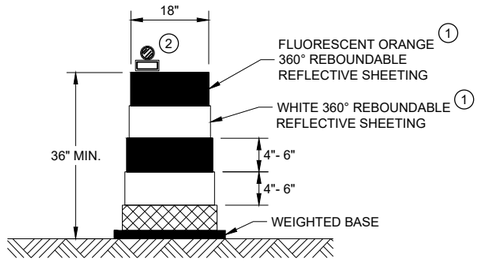
FHWA

6

SDD 15C08-24a

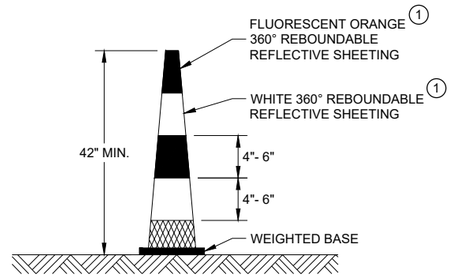
GENERAL NOTES

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

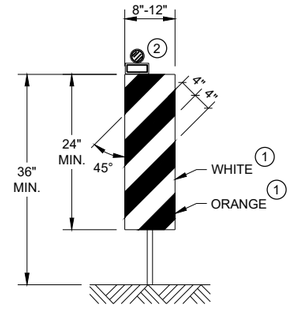
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

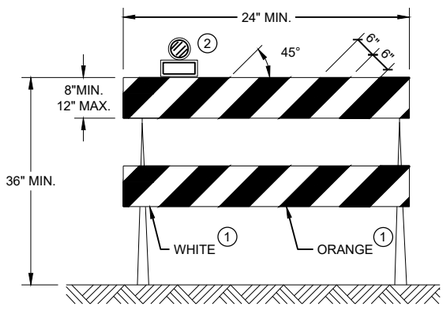
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



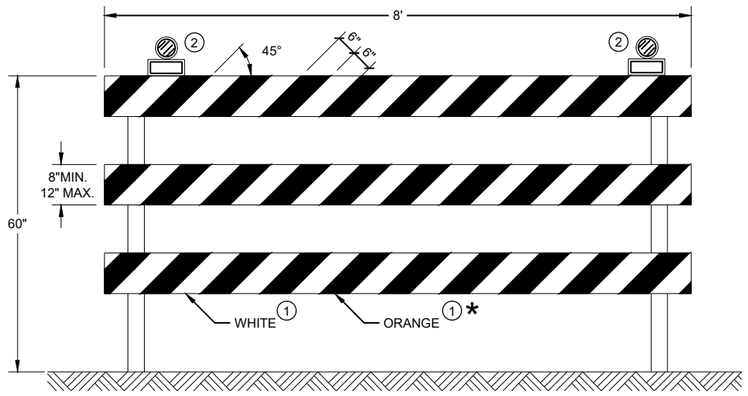
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C11 - 10b

6

SDD 15C11 - 10b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

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.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

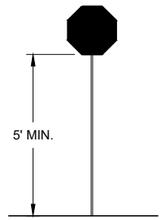
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



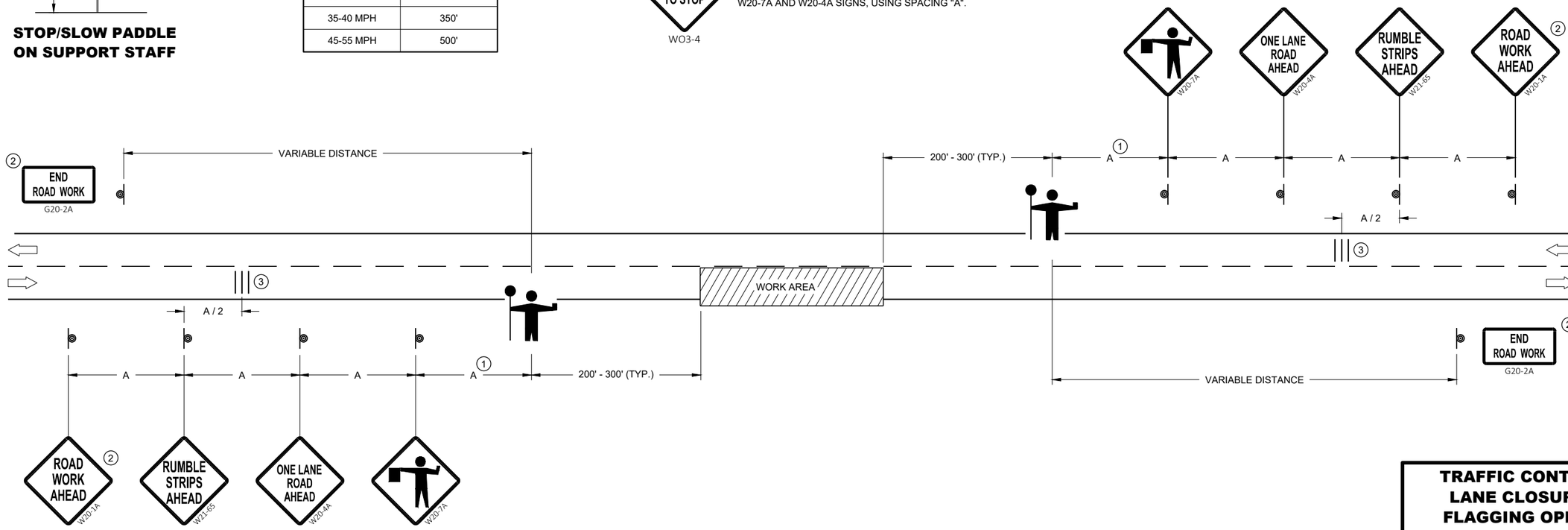
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15C12 - 09a

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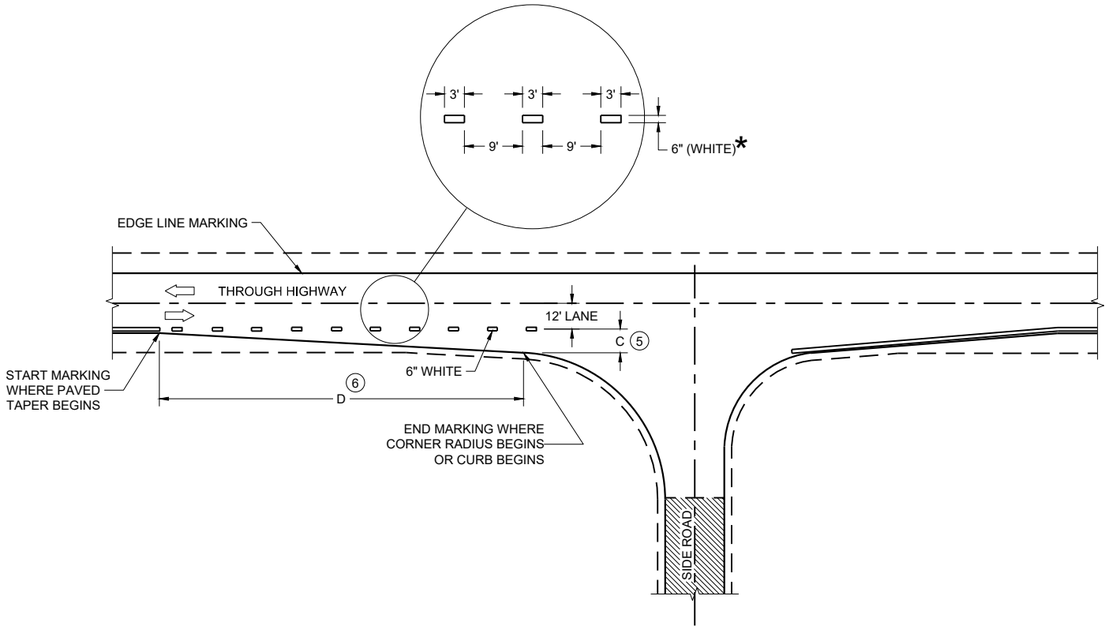
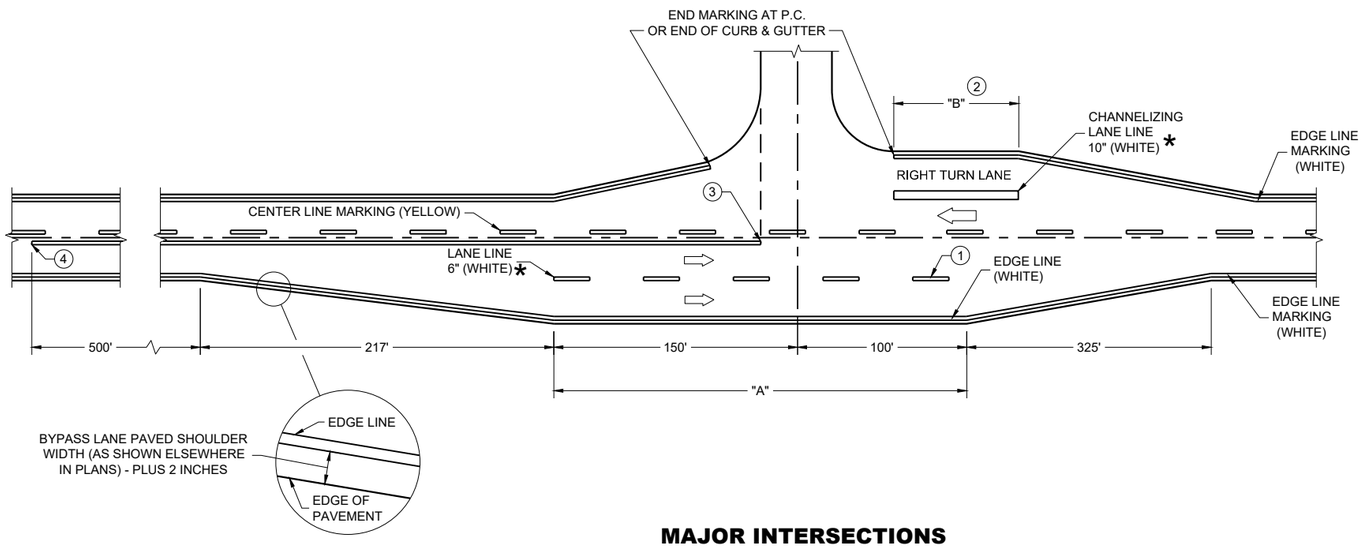
SDD 15C12 - 09a



MINOR INTERSECTION



MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

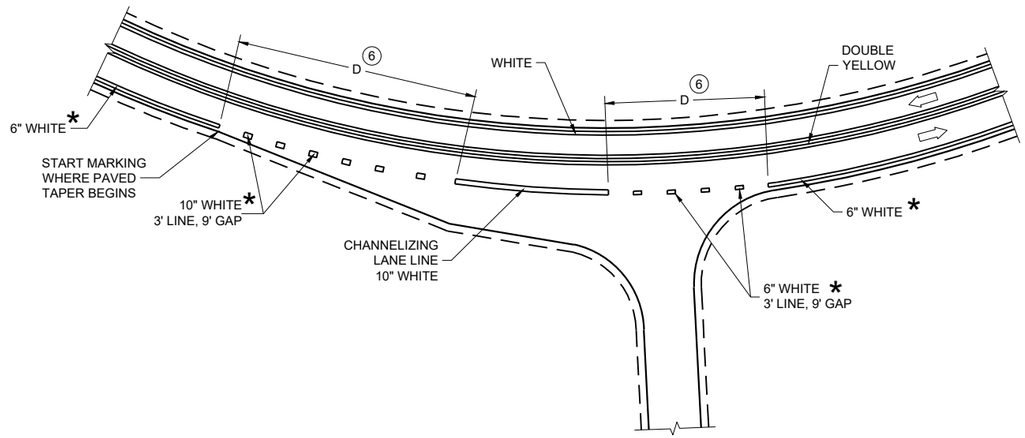
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

1. WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
2. WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
3. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
4. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
5. WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
6. WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

LEGEND

DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING (INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- DIRECTION OF TRAFFIC
- CONNECTED ARROW BOARD
- WORK AREA
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

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

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

WHEN A RAMP OR SIDE ROAD INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

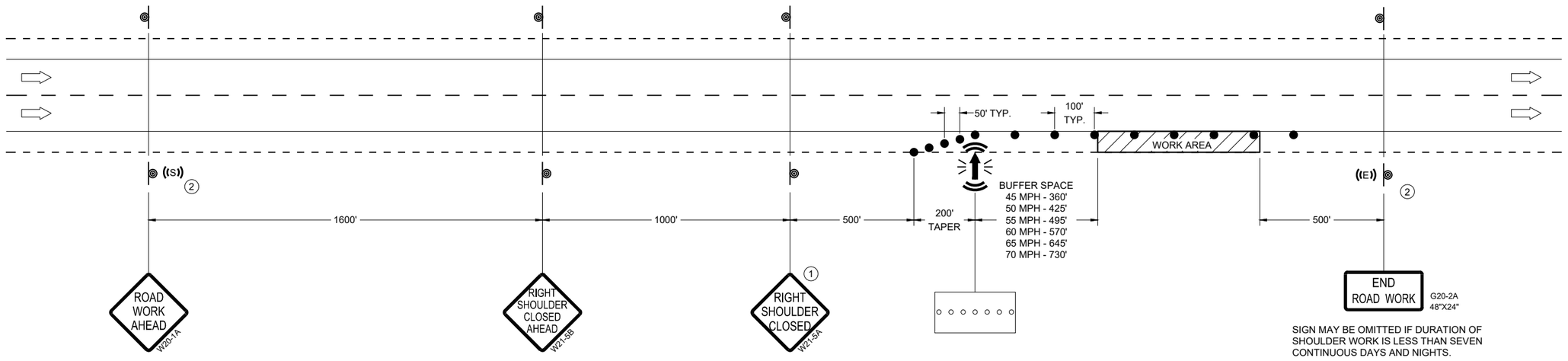
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

(1) FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR THE W21-5A SIGN MAY BE OMITTED.

(2) IF ALREADY PRESENT WITHIN PROJECT , DO NOT INCLUDE ADDITIONAL DEVICE.



SIGN MAY BE OMITTED IF DURATION OF SHOULDER WORK IS LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS.

TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

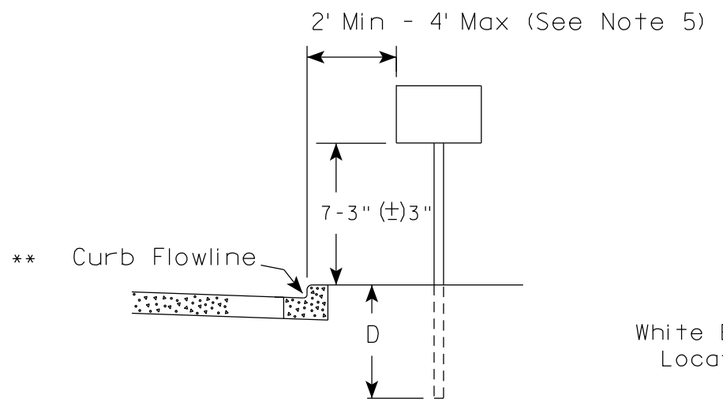
Noveber 2025
DATE

/S/ Andrew Heidtke
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

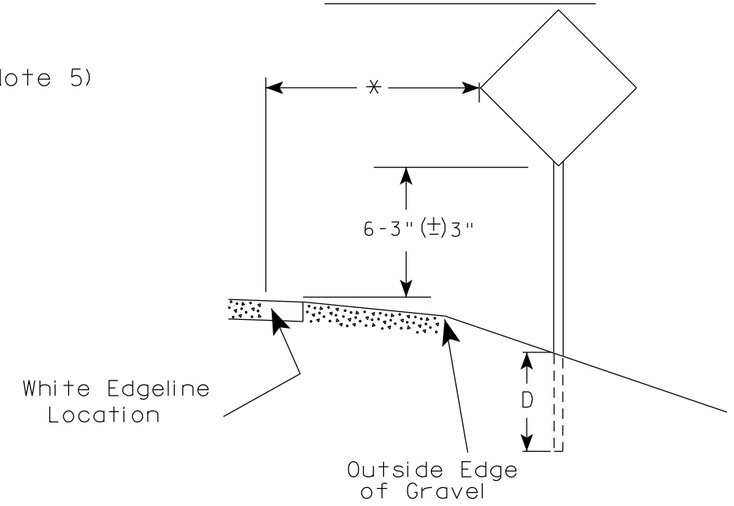
FHWA

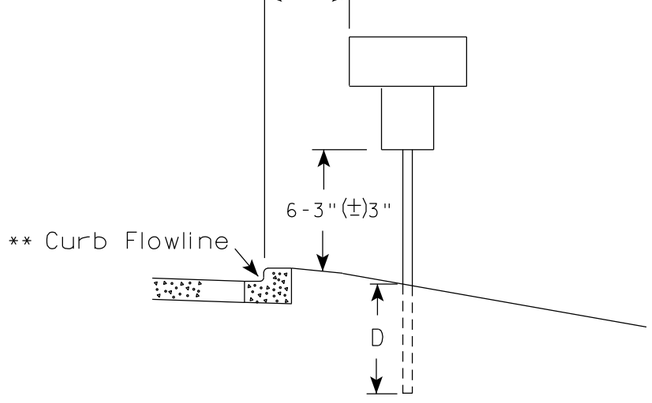
6
SDD 15D27-05

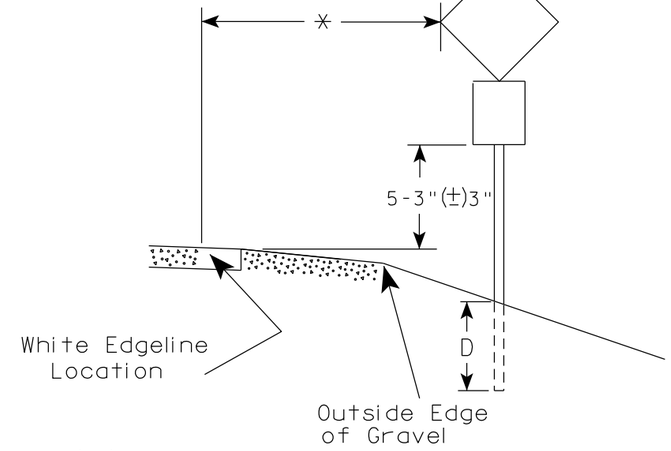
URBAN AREA



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" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directd by the Engineer.

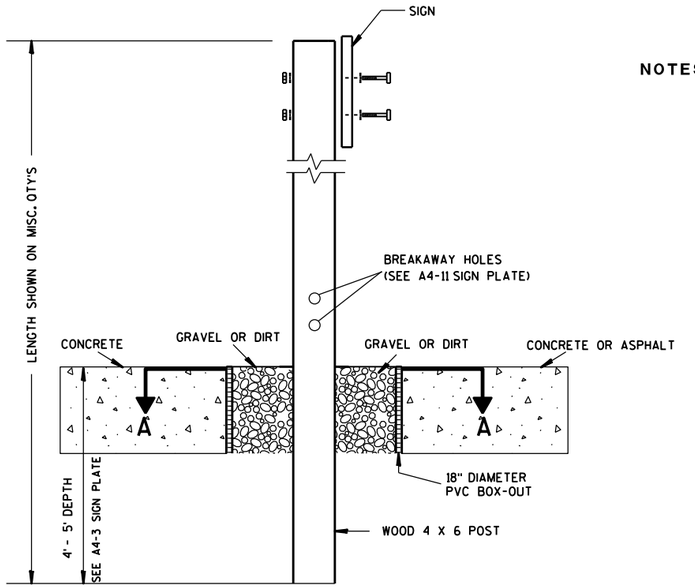
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

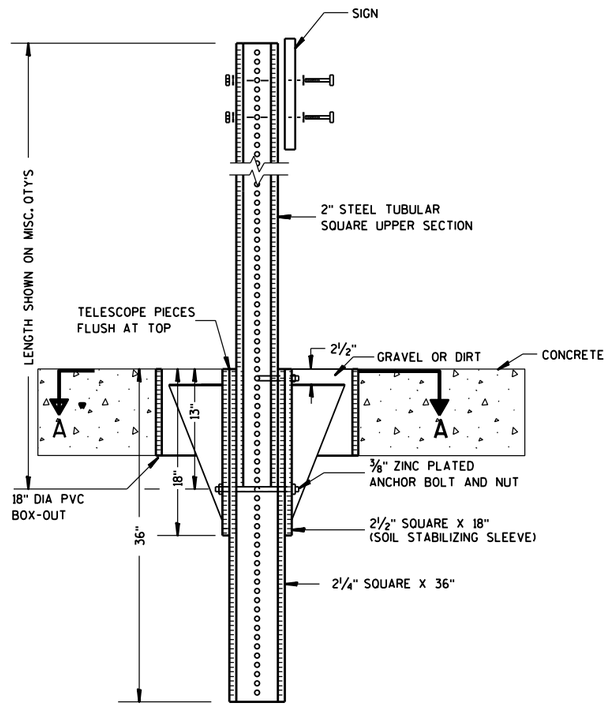
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 52	E



ELEVATION VIEW

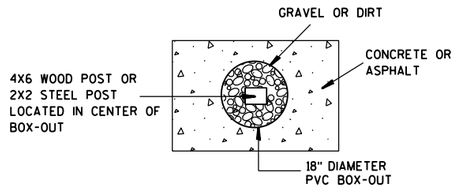
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

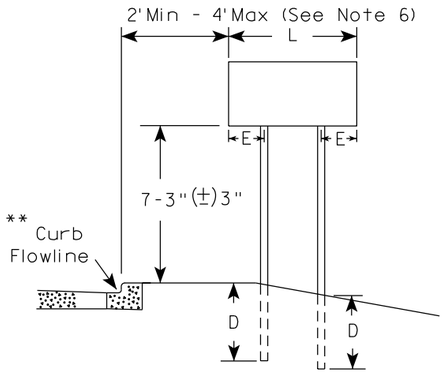
APPROVED Matthew R Rauch
for State Traffic Engineer

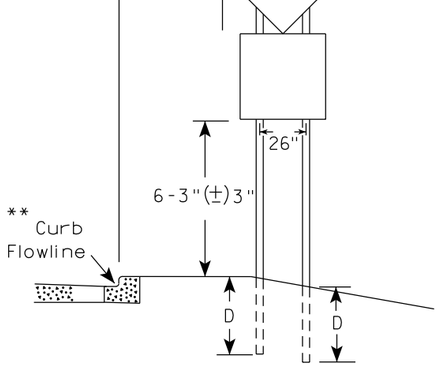
DATE 1/27/14 PLATE NO. A4-3B.1

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

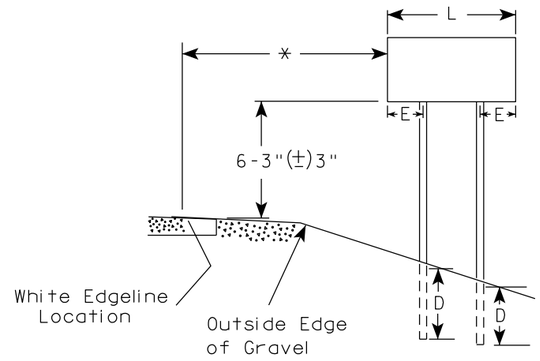
URBAN AREA

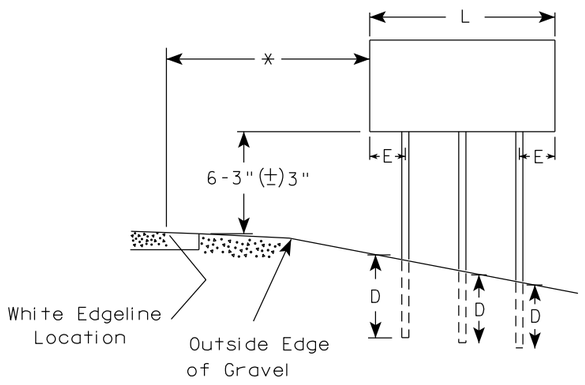


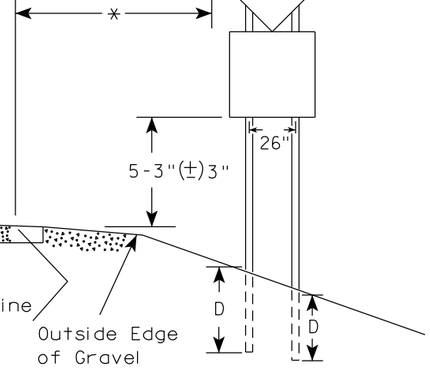


48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)







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" (±) 3" or 6'-3" (±) 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" (±) 3" or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±) 3".

* 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'

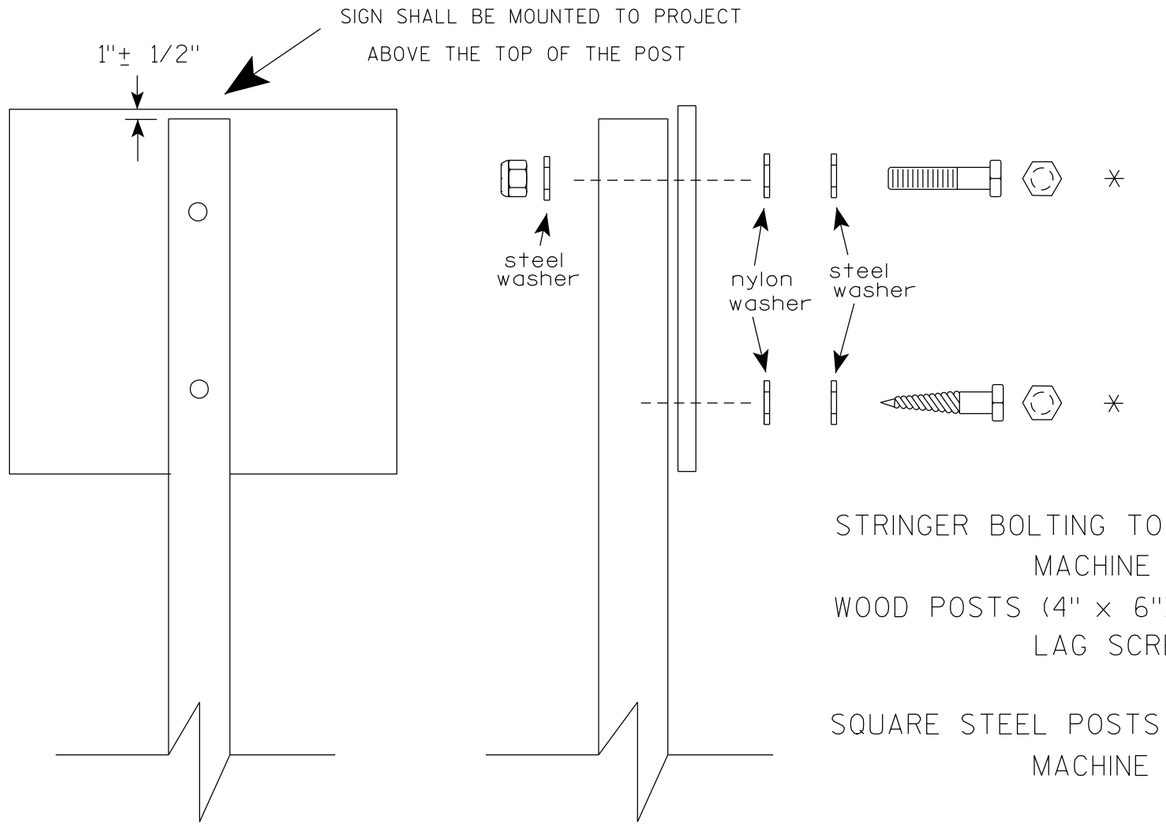
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 54	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

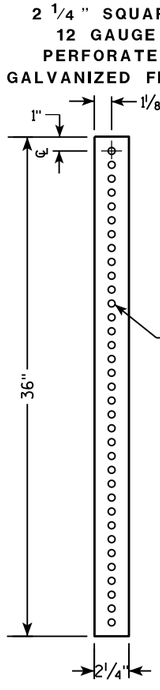
DATE 4/1/2020 PLATE NO. A4-8.9

PROJECT NO:

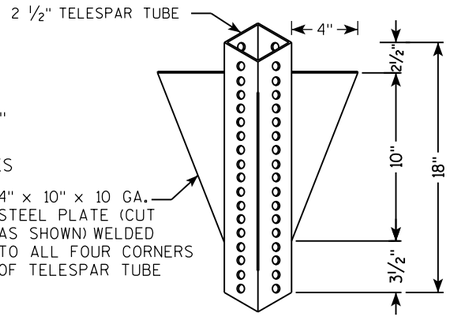
SHEET NO: 55 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

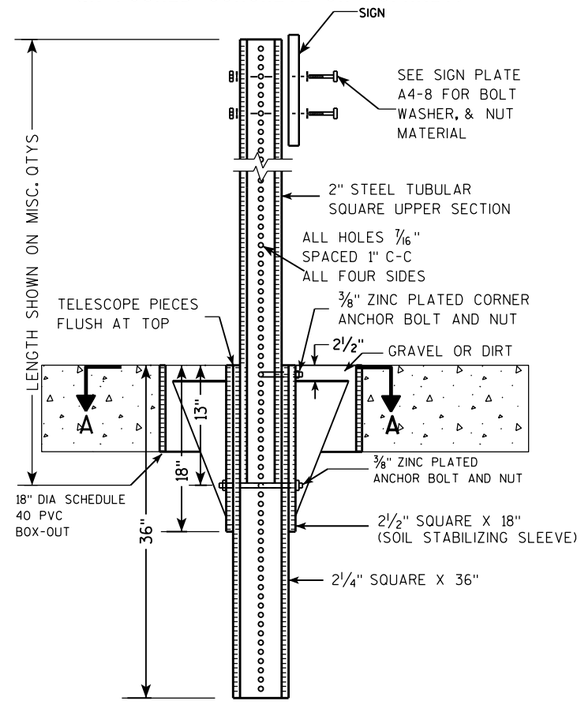
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



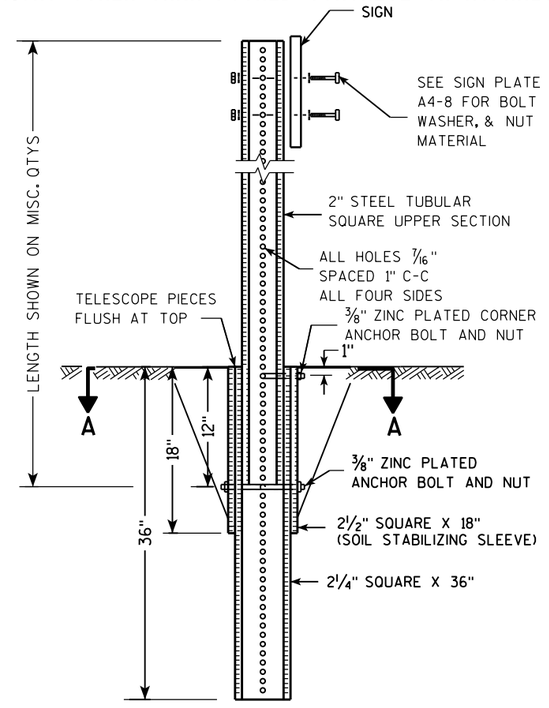
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

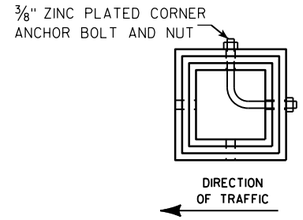


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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).

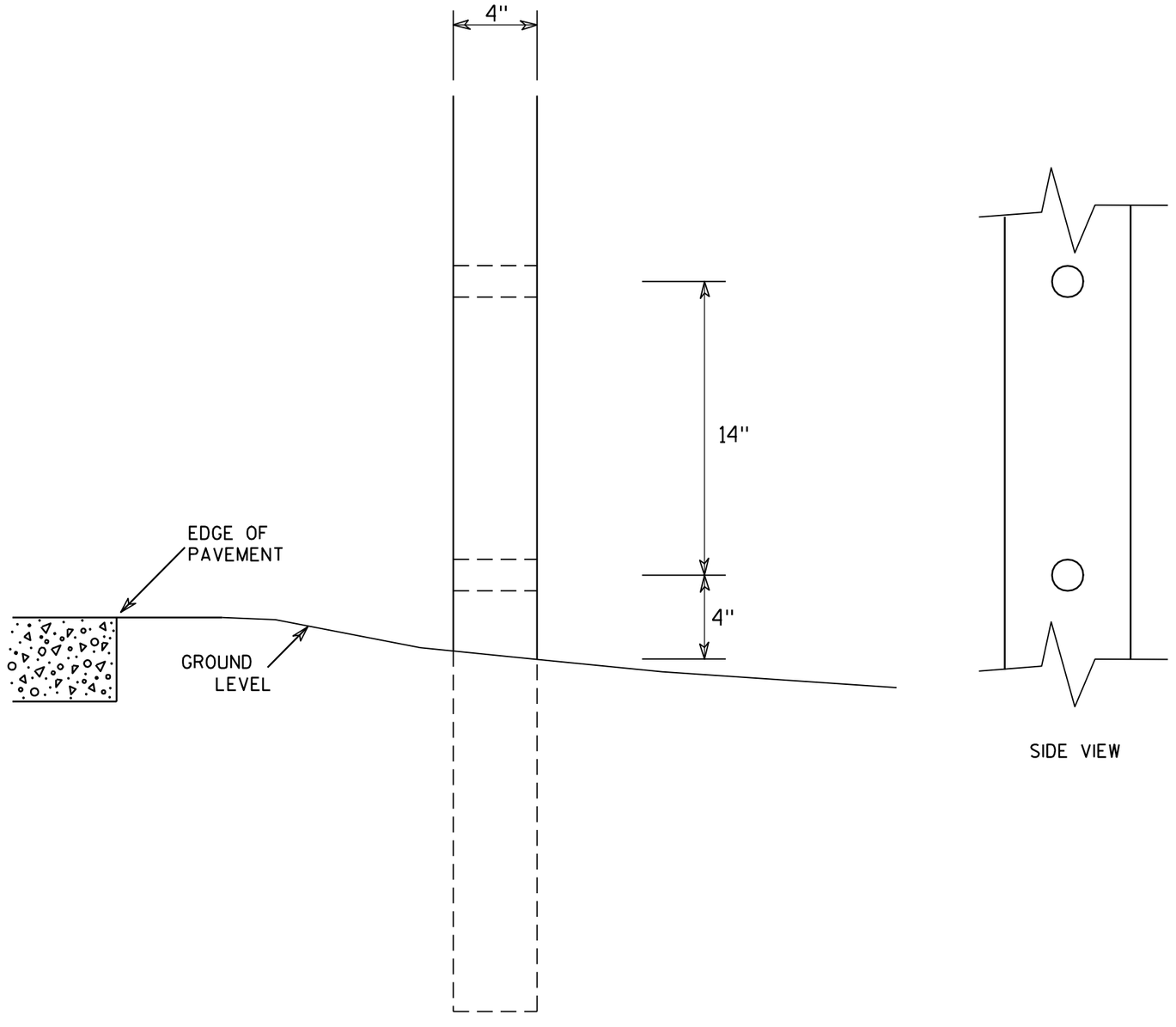
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 56 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



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.

7

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

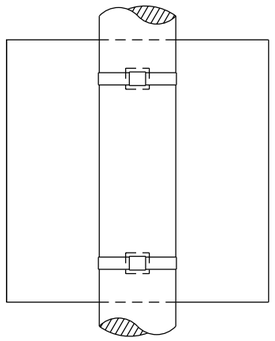
APPROVED Chester J Spang for State Traffic Engineer

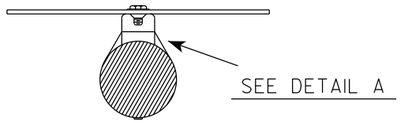
DATE 3/27/97 PLATE NO. A4-11.2

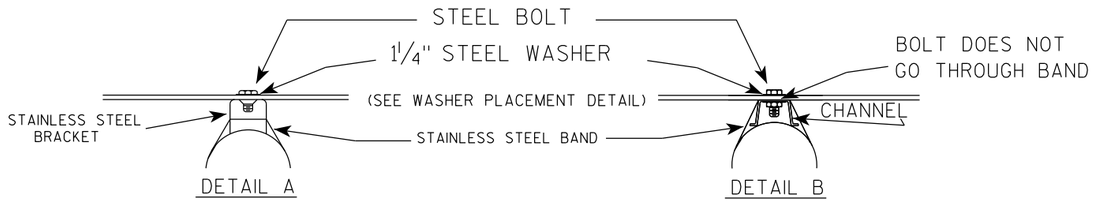
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 57	E

BANDING

SINGLE SIGN



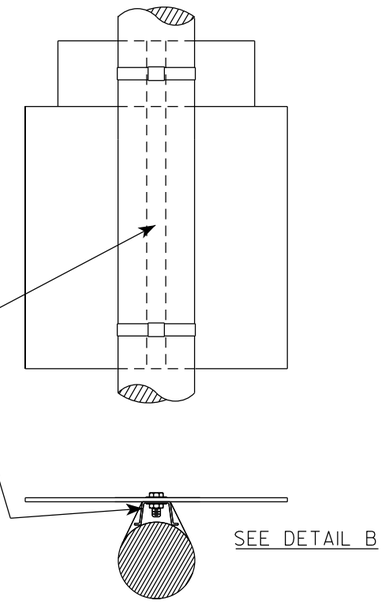




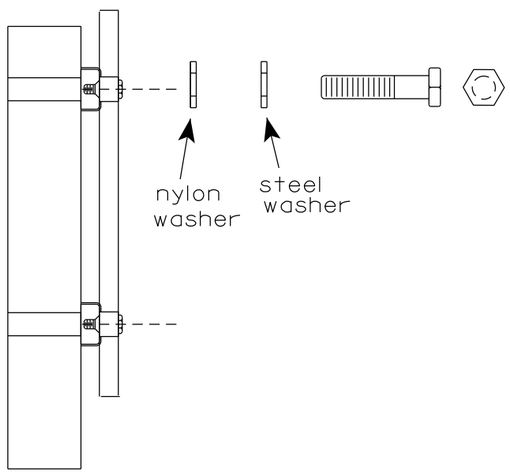
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X ⅜" I.D. X 1/16" STEEL
1-1/4" O.D. X ⅜" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

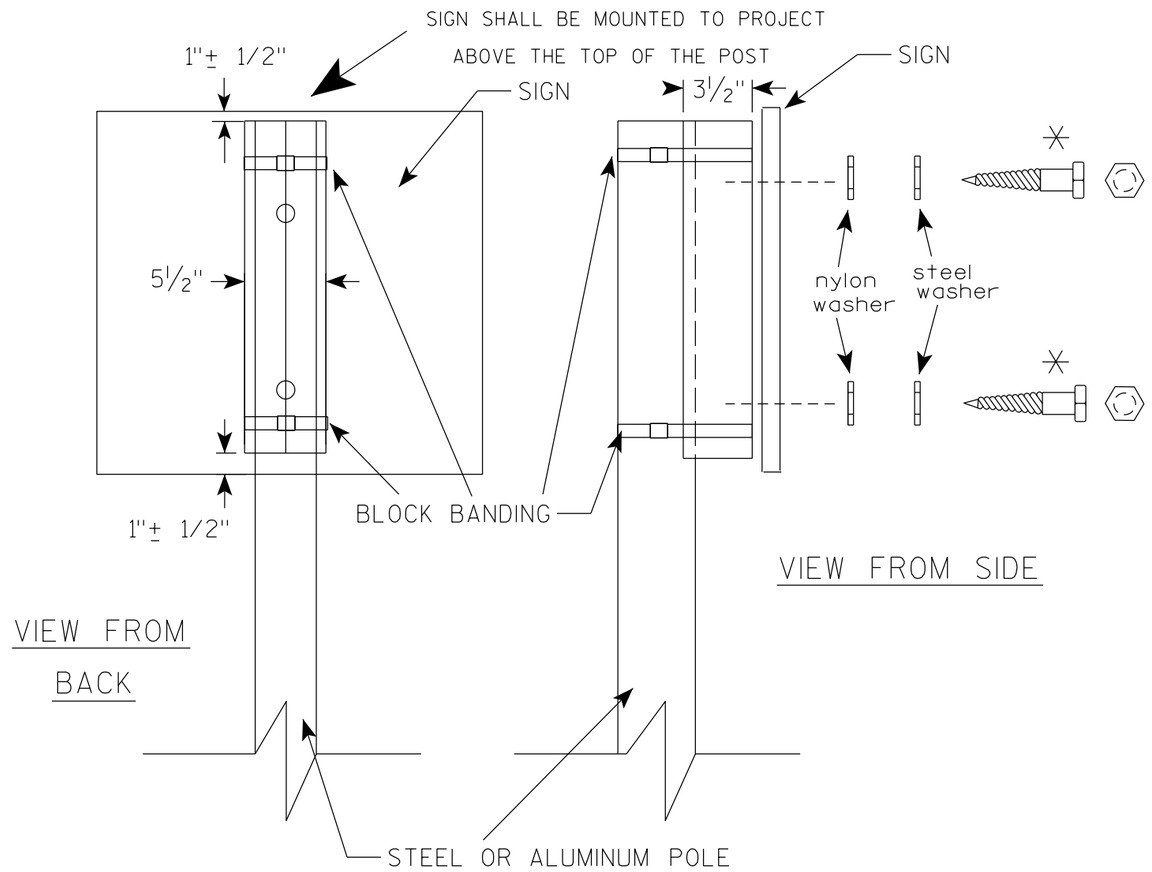
WISCONSIN DEPT OF TRANSPORTATION

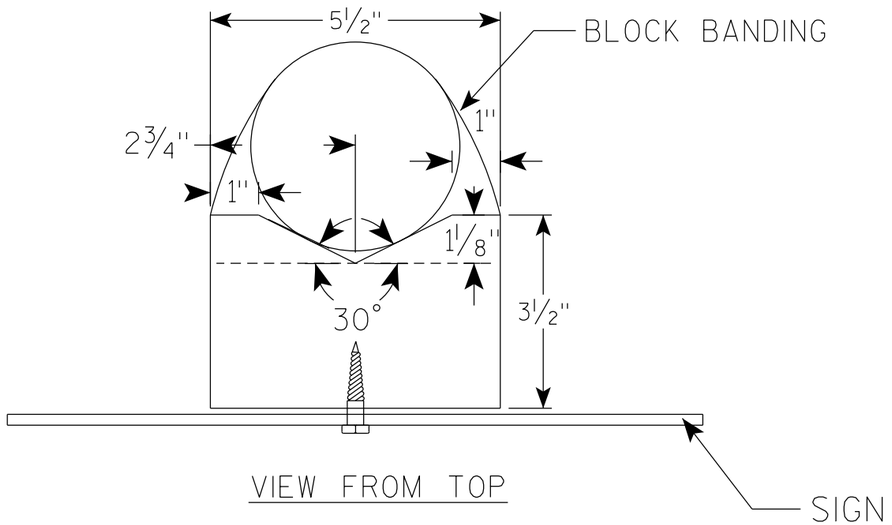
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 58	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

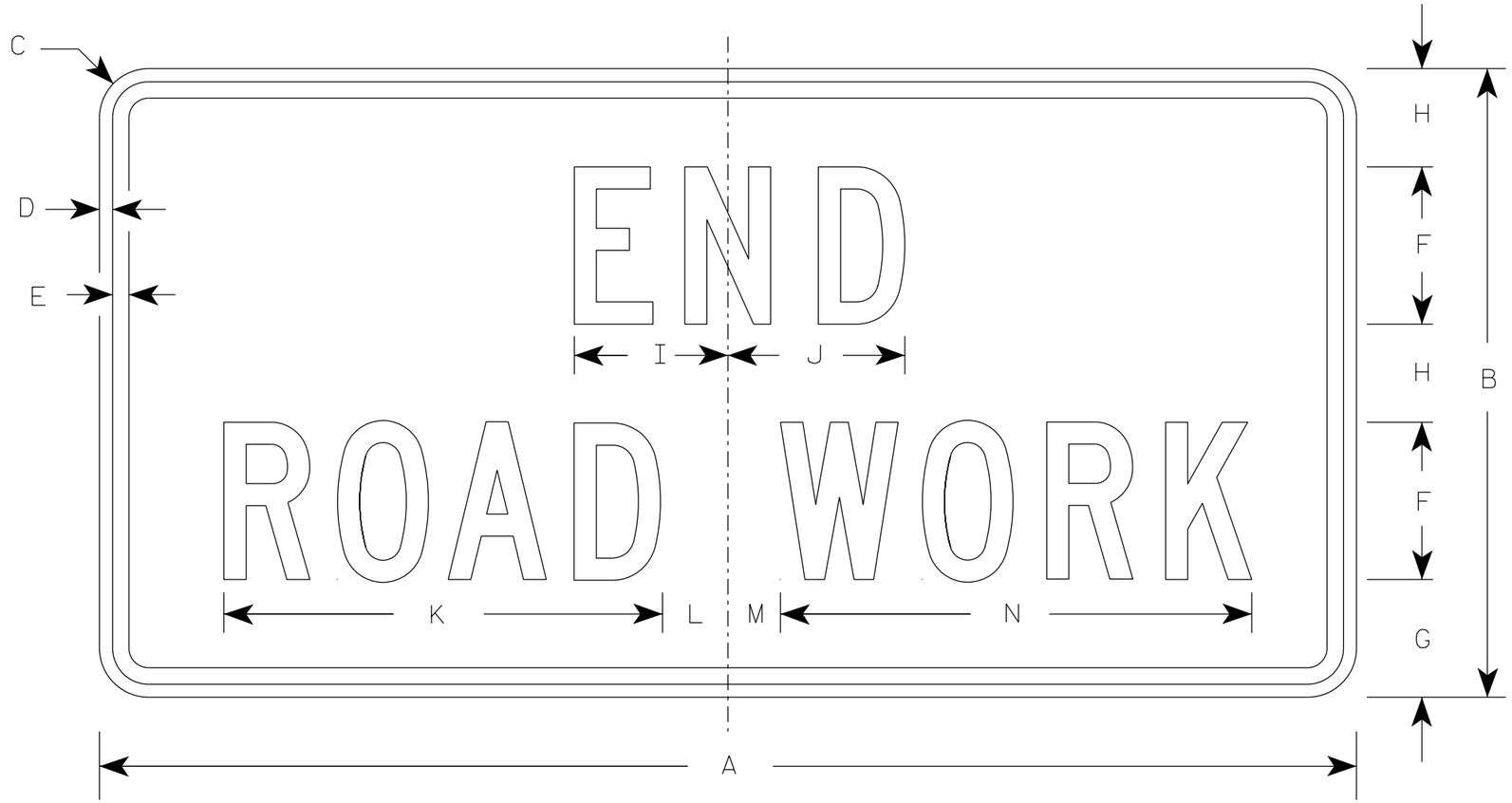
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

SHEET NO: 59 E



G20-2A

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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	36	18	1 1/2	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5
2	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
2M	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
3	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
4	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
5	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0

STANDARD SIGN

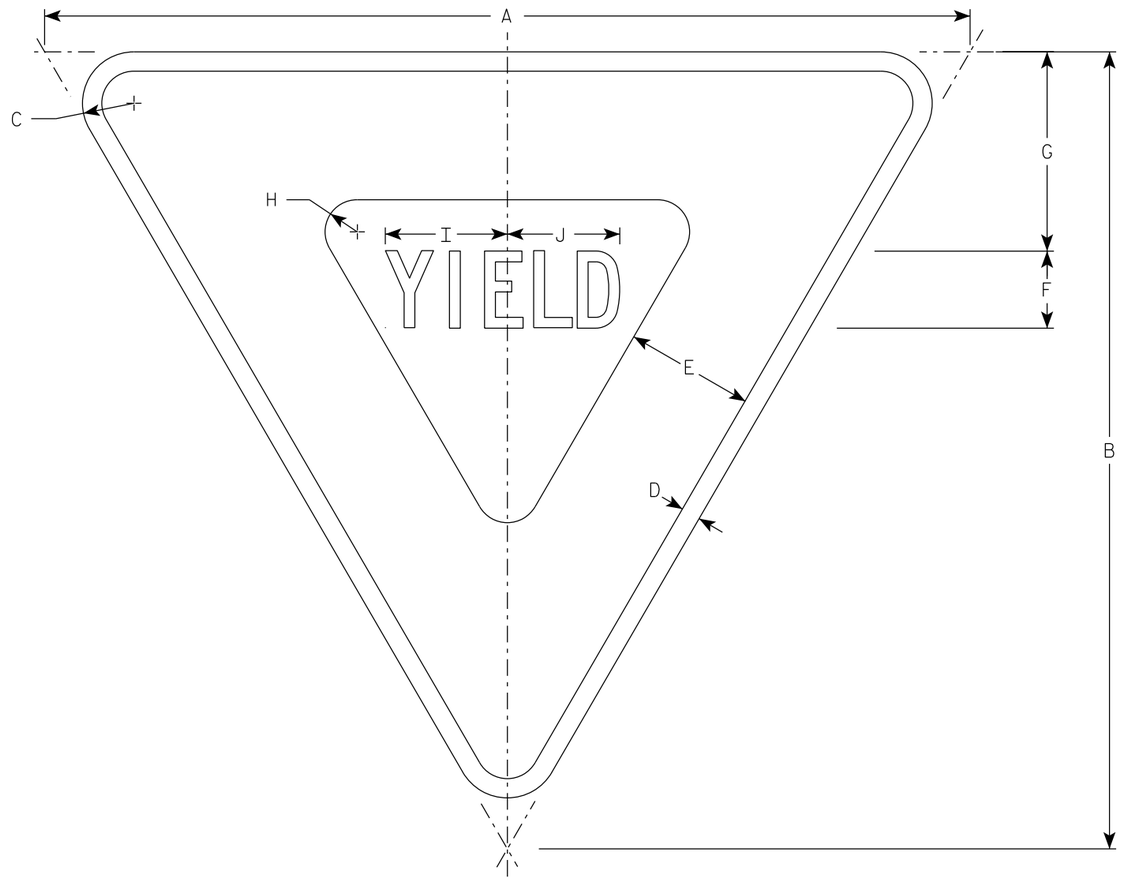
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/26/2023 PLATE NO. G20-2A.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 60 E



R1-2

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - See note 4
3. Message Series - C
4. The border strip and word message are reflectorized red.

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	30	26	2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

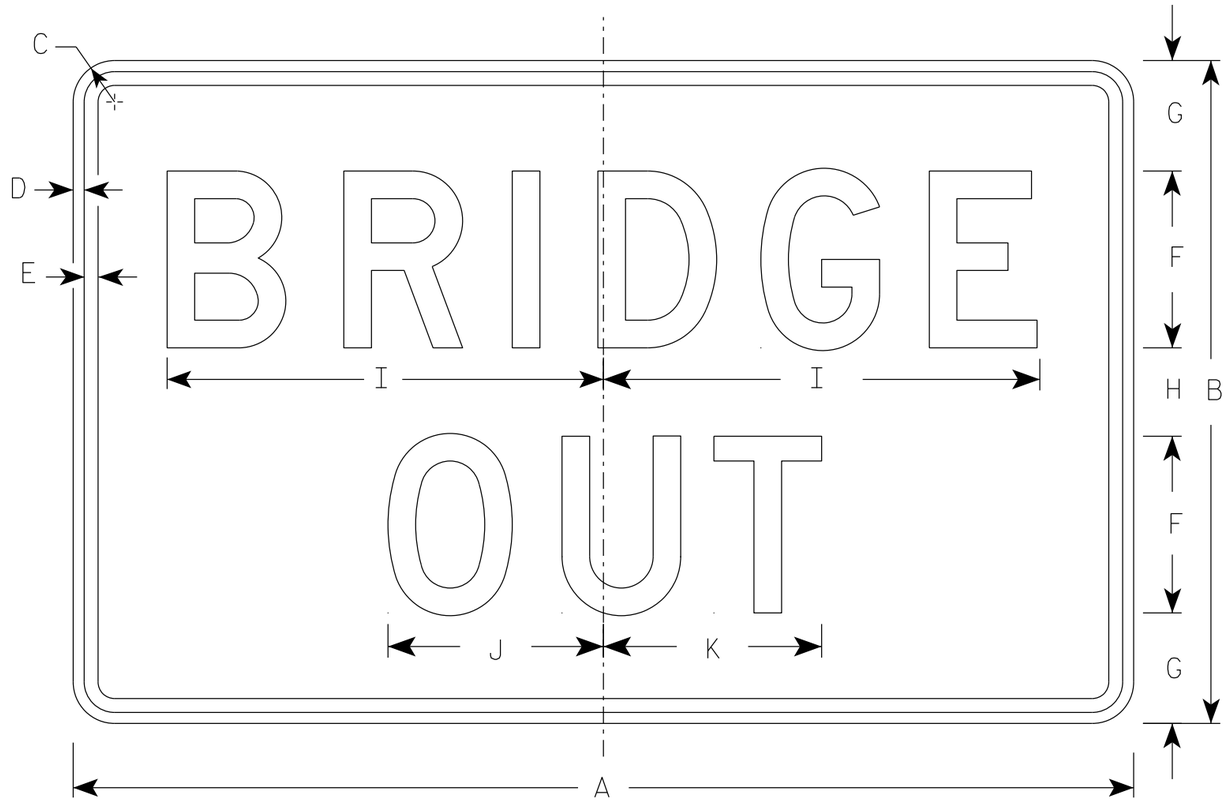
STANDARD SIGN
R1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/10/2024 PLATE NO. R1-2.13

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 61	E



R11-2B

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

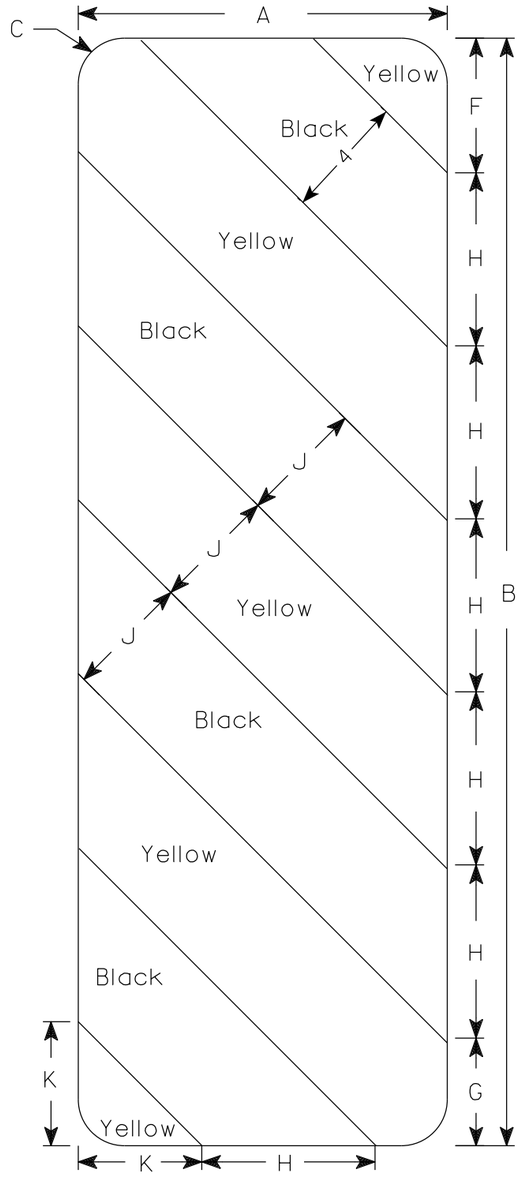
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

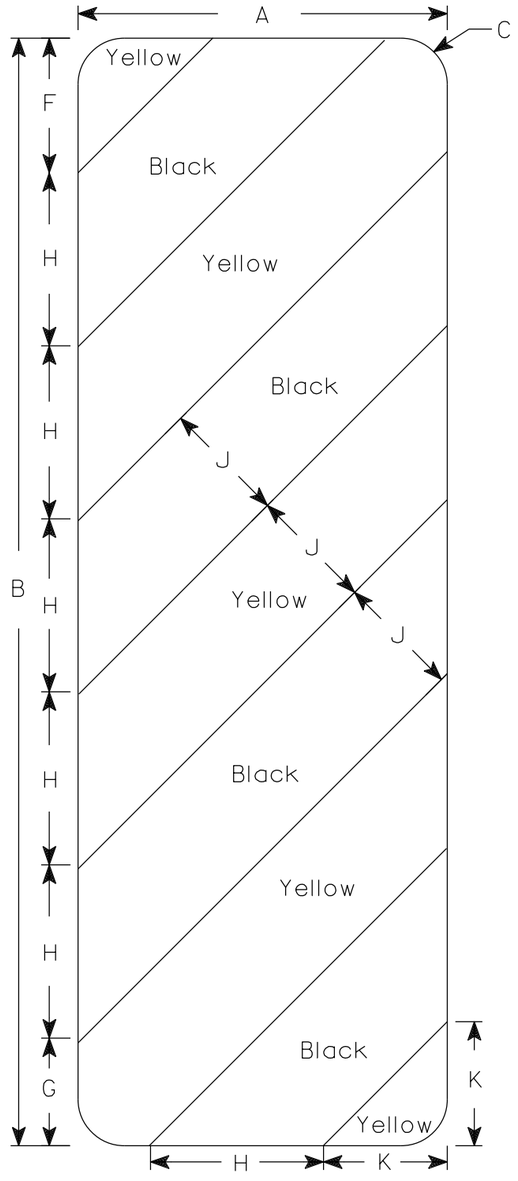
DATE 2/5/24 PLATE NO. R11-2B.3

PROJECT NO:

SHEET NO: 62 E



W5-52L



W5-52R

NOTES

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

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

STANDARD SIGN

W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

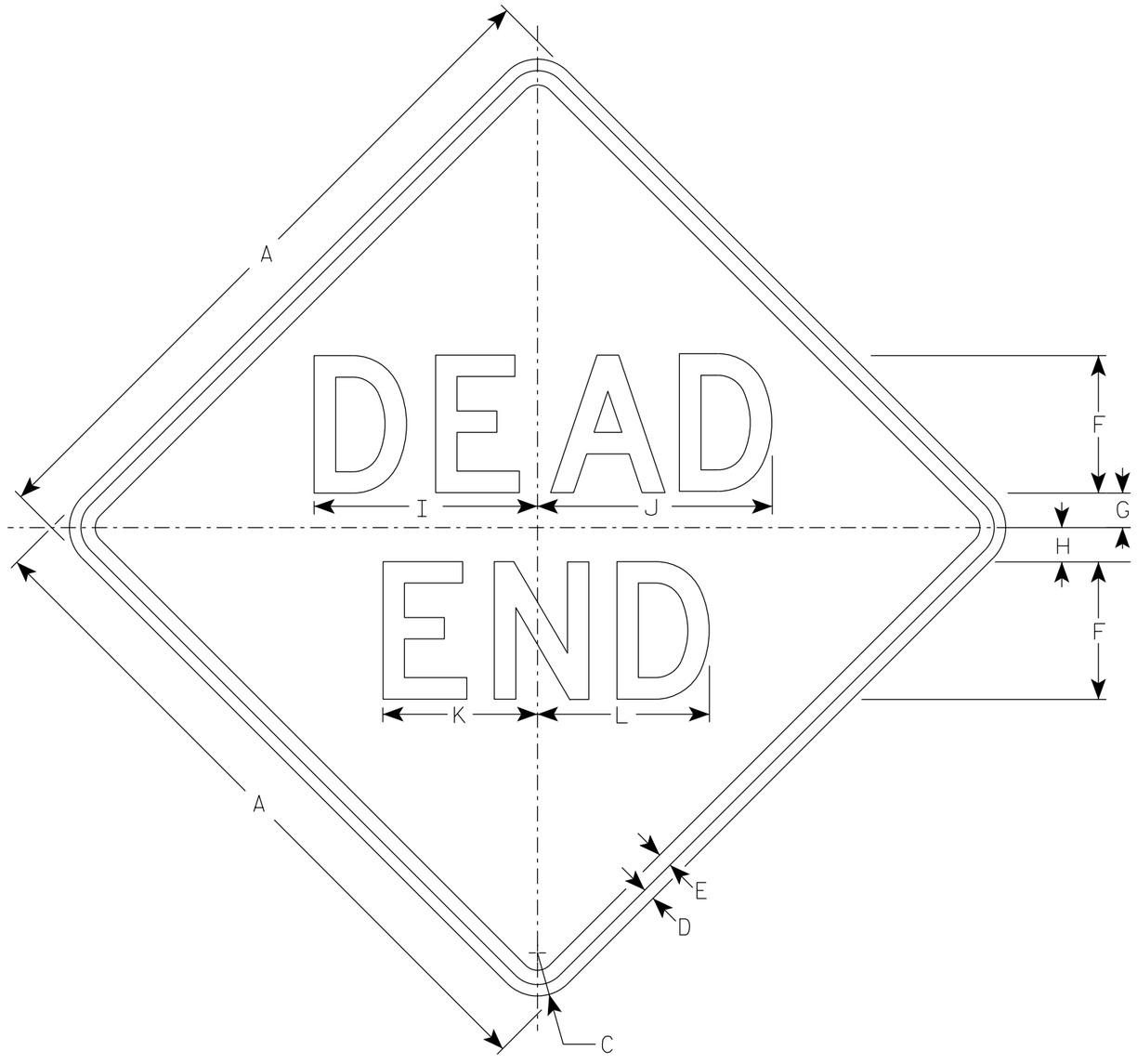
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 63 E

7

7



W14-1

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - D

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	Areq sq. ft.
1	24		1 1/2	3/8	1/2	5	1	2	8 1/4	8 5/8	5 5/8	6 1/4															4.0
2S	30		1 7/8	1/2	5/8	6	1 1/2	2 1/2	9 3/4	10 1/4	6 3/4	7 1/2															6.25
2M	30		1 7/8	1/2	5/8	6	1 1/2	2 1/2	9 3/4	10 1/4	6 3/4	7 1/2															6.25
3	36		2 1/4	5/8	3/4	7	2	3	11 3/8	12	7 7/8	8 3/4															9.0
4																											
5																											

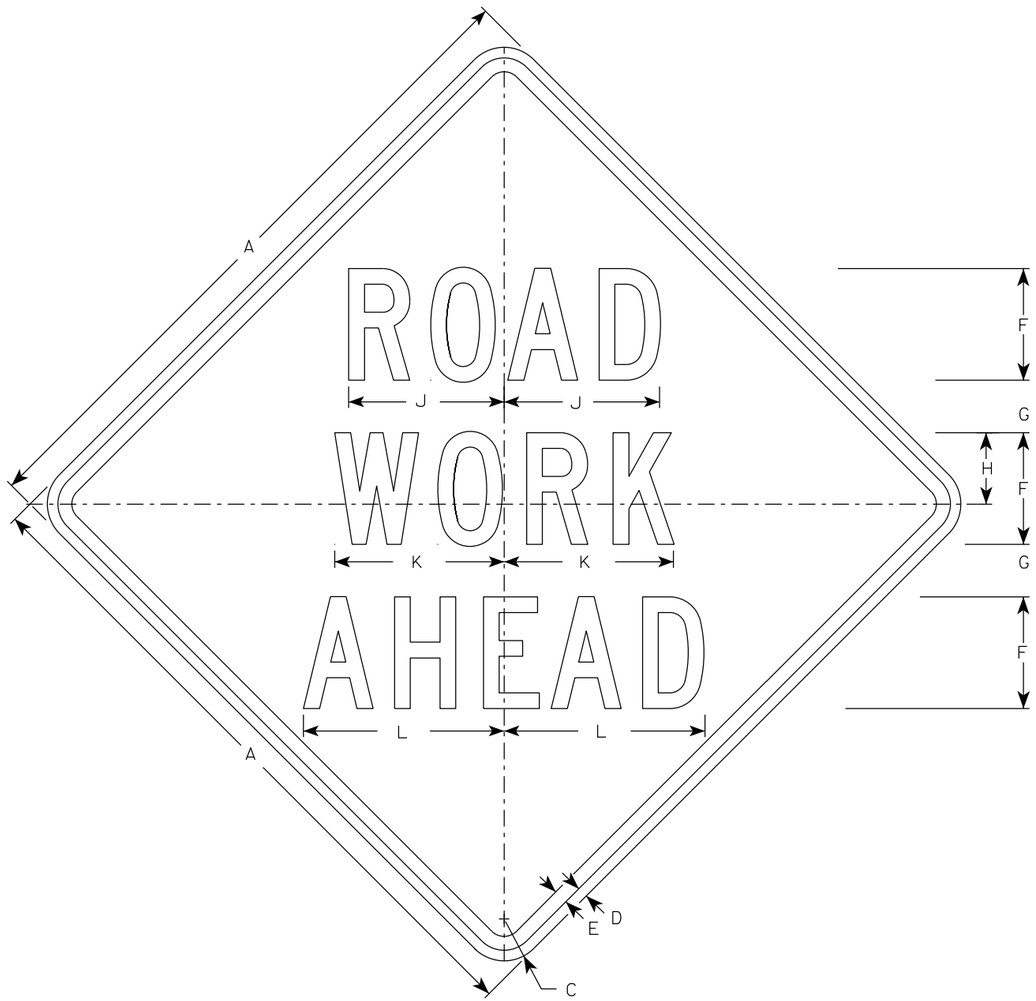
STANDARD SIGN
W14-1

WISCONSIN DEPT OF TRANSPORTATION

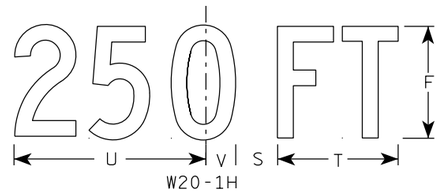
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/8/2024 PLATE NO. W14-1.8

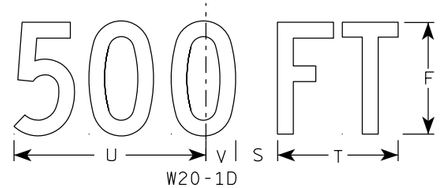
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E



W20-1A

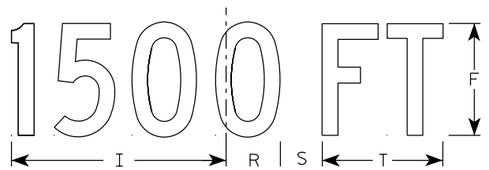


W20-1H



W20-1D

W20-1C

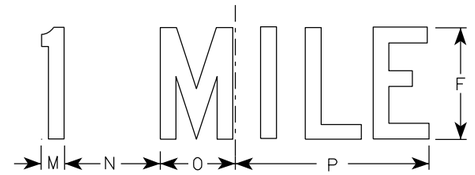


W20-1B

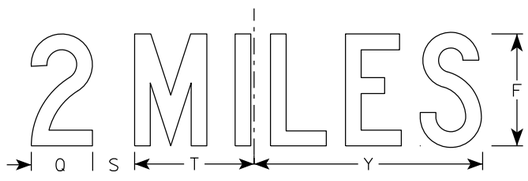
NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

W20-1G



W20-1F



W20-1E

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	36		2 1/4	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, E, F, G & H

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-1.12

PROJECT NO:

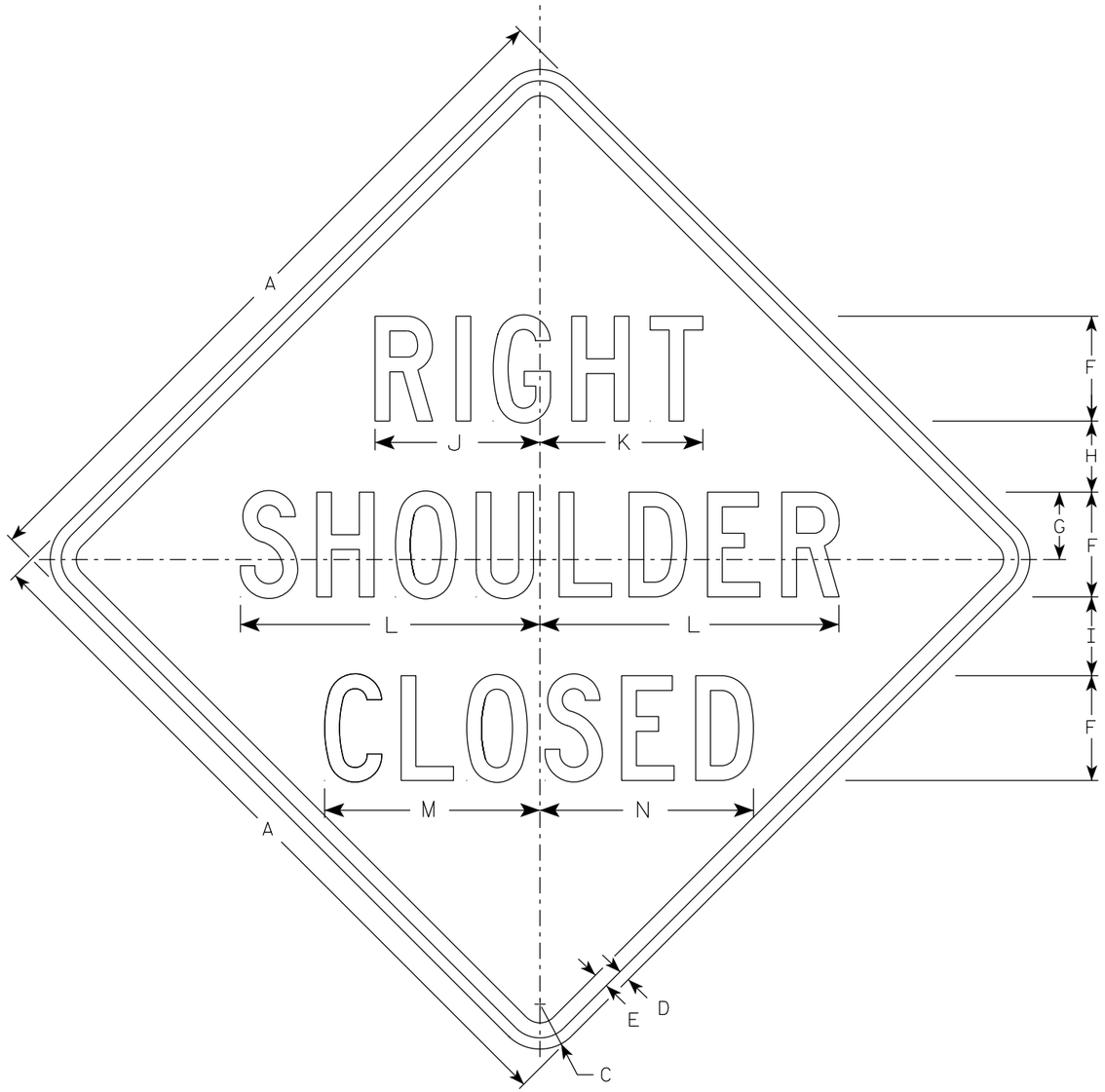
SHEET NO: 65 E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 10-JAN 2024 11:16 PLOT BY : dotc4c

WISDOT/CADDS SHEET 42

7

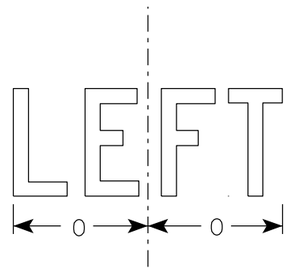
7



W21-5A

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D



W21-5AL

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	36		2 1/4	5/8	3/4	5	3 3/8	3 1/2	4	7 7/8	7 3/4	14 1/4	10 1/4	10 1/8	6 1/4												9.0
2S	48		3	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
2M	48		3	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
3	48		3	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
4	48		3	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
5	48		3	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0

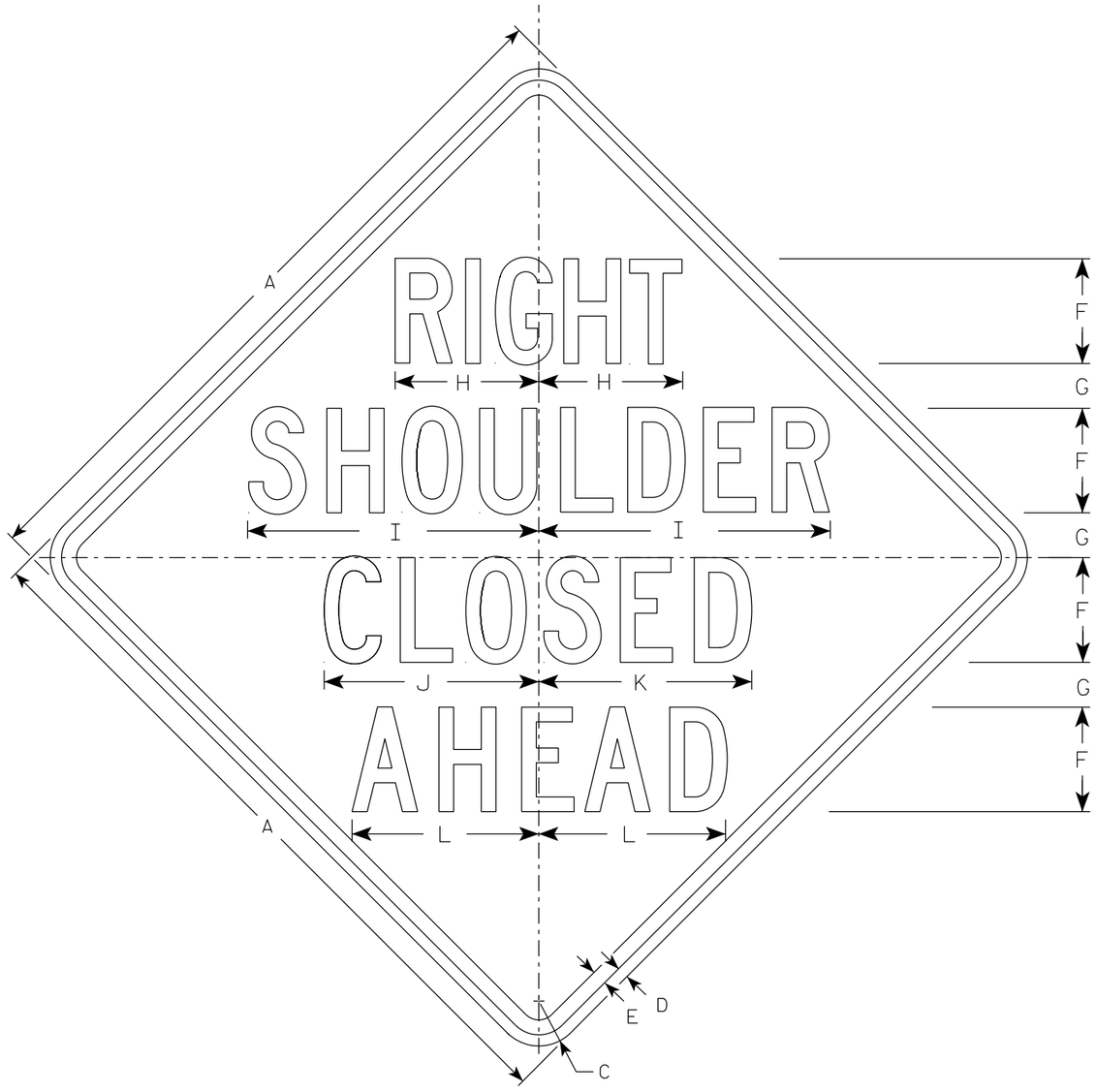
STANDARD SIGN
W21-5A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/11/2024 PLATE NO. W21-5A.4

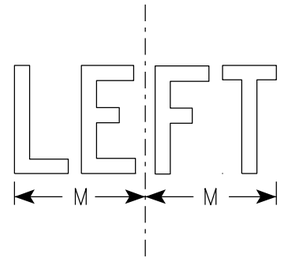
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 66 | E



W21-5B

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C



W21-5BL

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	36		2 1/4	5/8	3/4	5	2 1/4	7 3/8	14 1/4	10 1/4	10 1/8	8 7/8	6 1/4														9.0
2S	48		3	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
2M	48		3	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
3	48		3	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
4	48		3	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
5	48		3	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0

STANDARD SIGN
W21-5B

WISCONSIN DEPT OF TRANSPORTATION

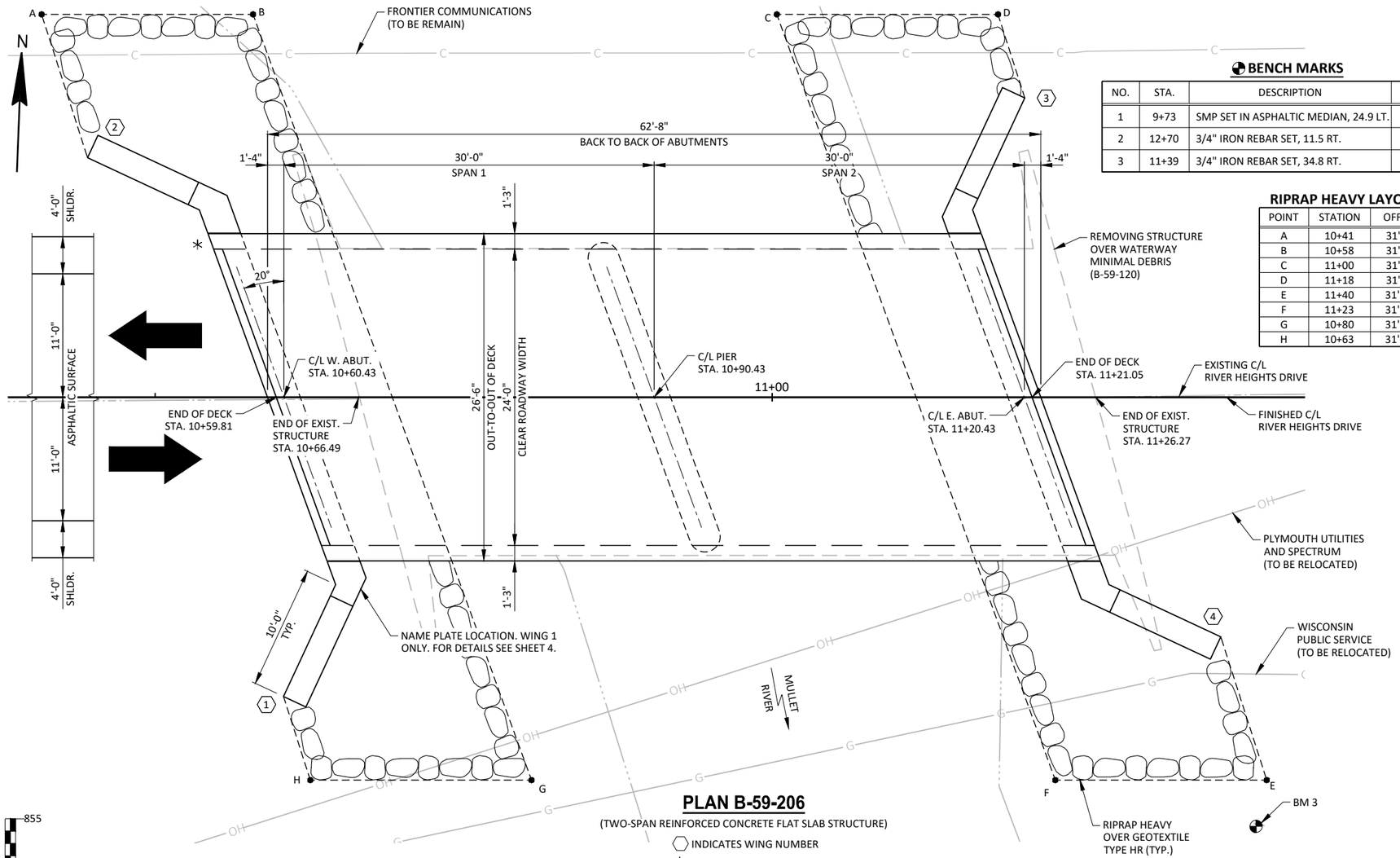
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/16/2024 PLATE NO. W21-5B.4

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 67 | E

7

7



BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	9+73	SMP SET IN ASPHALTIC MEDIAN, 24.9 LT.	843.93
2	12+70	3/4" IRON REBAR SET, 11.5 RT.	839.03
3	11+39	3/4" IRON REBAR SET, 34.8 RT.	837.02

RIPRAP HEAVY LAYOUT

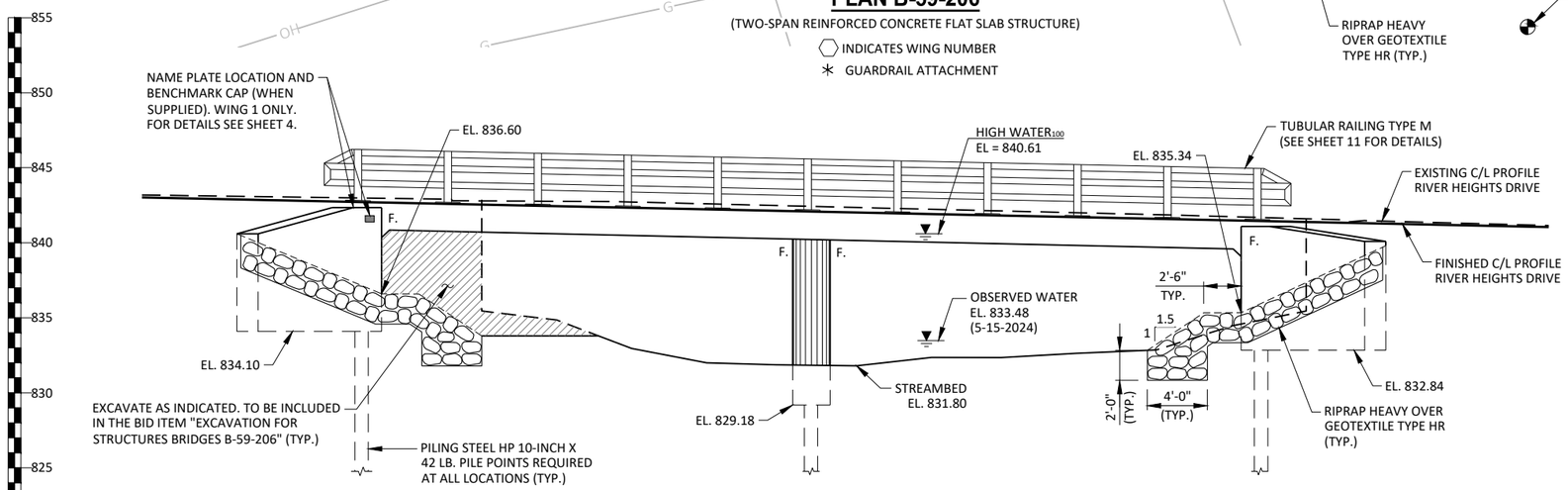
POINT	STATION	OFFSET
A	10+41	31' LT.
B	10+58	31' LT.
C	11+00	31' LT.
D	11+18	31' LT.
E	11+40	31' RT.
F	11+23	31' RT.
G	10+80	31' RT.
H	10+63	31' RT.

PLAN B-59-206

(TWO-SPAN REINFORCED CONCRETE FLAT SLAB STRUCTURE)

⬡ INDICATES WING NUMBER

✳ GUARDRAIL ATTACHMENT



ELEVATION

(NORMAL TO MULLET RIVER)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING — HL-93
INVENTORY RATING FACTOR — RF = 1.17
OPERATING RATING FACTOR — RF = 1.52
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) — 250 KIPS

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

MATERIAL PROPERTIES:

CONCRETE MASONRY, SUPERSTRUCTURE — f'c = 4,000 P.S.I.
ALL OTHER — f'c = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL
REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.

FOUNDATION DATA

ABUTMENTS AND PIER TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS PER PILE FOR EACH ABUTMENT AND 170 TONS PER PILE IN THE PIER **, AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 50 FT PILE LENGTHS AT BOTH ABUTMENTS AND PIER. PILE POINTS REQUIRED AT ALL LOCATIONS.

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

TRAFFIC DATA

A.D.T. (2026) — 60
A.D.T. (2046) — 75
DESIGN SPEED — 25 M.P.H.

HYDRAULIC DATA

100 YEAR FREQUENCY
DRAINAGE AREA — 52.6 SQ. MI.
Q_{100} TOTAL — 3,200 C.F.S.
THROUGH STRUCTURE — 2,614 C.F.S.
OVERTOPPING ROADWAY — 586 C.F.S.
VELOCITY - THROUGH STRUCTURE — 8.2 F.P.S.
WATERWAY AREA - THROUGH STRUCTURE — 317 SQ. FT.
HIGH WATER100 ELEVATION — 840.61
SCOUR CRITICAL CODE — 5

EROSION CONTROL
Q_2 — 470 C.F.S.
$VELOCITY_2$ — 3.8 F.P.S.
HIGH $WATER_2$ ELEVATION — 835.98 FT.

DESIGN ROADWAY OVERFLOW FREQUENCY
ROADWAY OVERFLOW FREQUENCY — 32 YEARS
Q_{32} — 2,462 C.F.S.
HIGH $WATER_{32}$ ELEVATION — 839.27

LIST OF DRAWINGS

STATE PROJECT NUMBER
4204-10-70

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED — JLR — CHIEF STRUCTURES DESIGN ENGINEER — 12/02/25 DATE

STRUCTURE B-59-206

RIVER HEIGHTS DRIVE OVER MULLET RIVER

COUNTY: SHEBOYGAN — TOWN/~~CITY/VILLAGE~~: PLYMOUTH
DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

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

WISCONSIN PROFESSIONAL ENGINEER
PATRICK T. BOLAND
E-36303
HILLPOINT WIS.
Patrick Boland 10-1-25

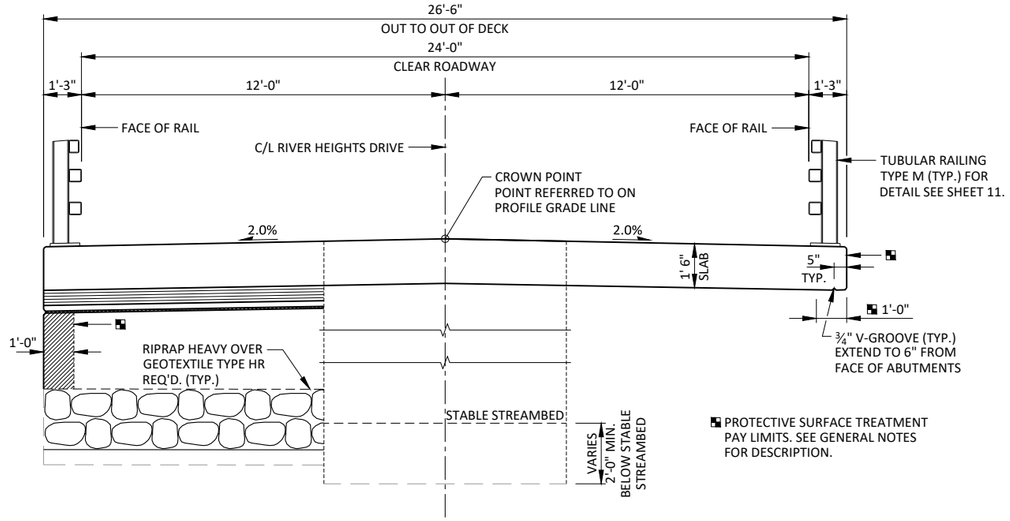
DESIGN CONSULTANT
PATRICK BOLAND, PE
(608) 588-7484

BRIDGE OFFICE CONTACT
AARON BONK, PE
(608) 261-0261

GENERAL PLAN

SHEET 1 OF 11
68

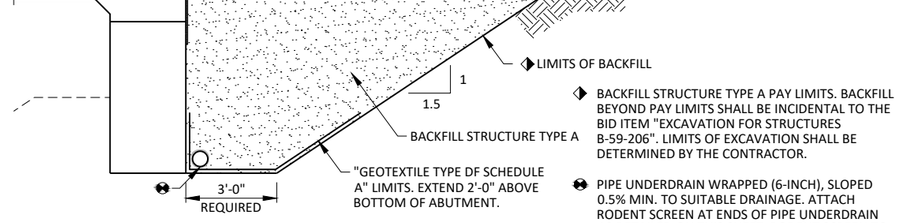
FILE NAME : S:\PROJECTS\W11717 WISDOT - RIVER HEIGHTS DR BRIDGE, SHEBOYGAN CO\STRUCTURE\CAD FILES\FINALS\W11717_GENERAL PLAN.DWG
PLOT DATE : 10/1/2025 3:20:17 PM
PLOT BY : MITCHELL NYBERG
PLOT SCALE : 1" = 1'
LAYOUT : GENERAL LAYOUT



AT ABUTMENT **AT PIER** **IN SPAN**

PROPOSED CROSS-SECTION THROUGH ROADWAY

LOOKING EAST



BACKFILL STRUCTURE TYPE A PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO THE BID ITEM "EXCAVATION FOR STRUCTURES B-59-206". LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

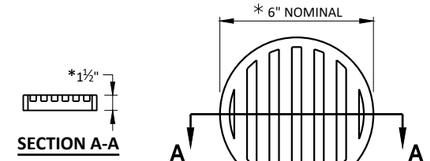
PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."

BACKFILL STRUCTURE DETAIL

(TYPICAL AT ABUTMENTS. ABUTMENT BODY SHOWN - WING WALLS SIMILAR)

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	WEST ABUT.	PIER	EAST ABUT.	SUPER	TOTALS
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS (B-59-120)	EACH	--	--	--	--	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-59-206	EACH	--	--	--	--	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	175	--	175	--	350
502.0100	CONCRETE MASONRY BRIDGES	CY	32.3	27	32.3	95.4	187
502.3200	PROTECTIVE SURFACE TREATMENT	SY	19	--	19	222	260
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,190	1,230	2,190	--	5,610
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,540	50	1,540	18,140	21,210
513.4061	RAILING TUBULAR TYPE M	LF	--	--	--	130	130
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6	--	6	--	12
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	350	250	350	--	950
550.0500	PILE POINTS	EACH	7	5	7	--	19
606.0300	RIPRAP HEAVY	CY	70	--	70	--	140
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	75	--	75	--	150
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	50	--	50	--	100
645.0120	GEOTEXTILE TYPE HR	SY	120	--	120	--	240
	NON-BID ITEMS						
	FILLER	SIZE			½" & ¾"		
	NAME PLATE						



RODENT SCREEN

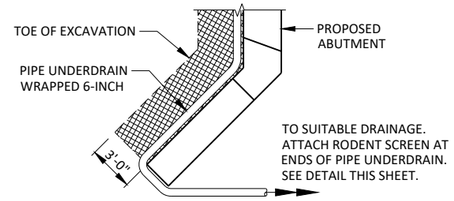
NOTES:

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

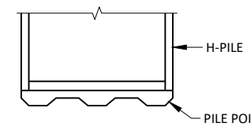
ORIENT SCREEN SO SLOTS ARE VERTICAL.

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

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

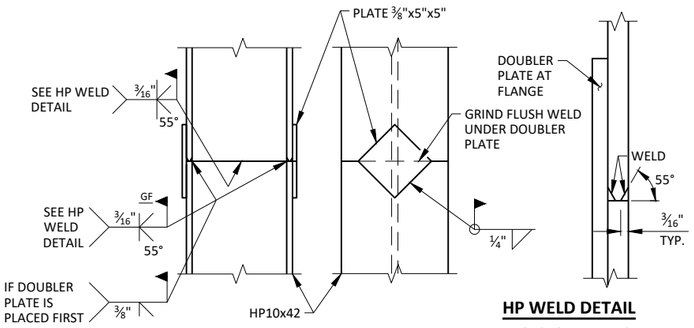


PIPE UNDERDRAIN DETAIL



PILE POINT

PILE POINT SHALL BE INSTALLED ACCORDING TO THE PILE POINT MANUFACTURE'S INSTRUCTIONS.

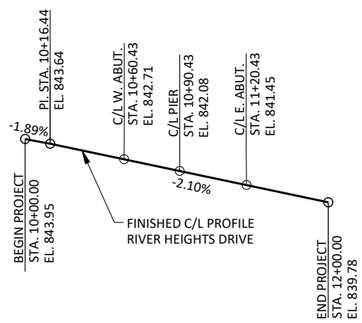


HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE SPLICE DETAIL

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



PROFILE GRADE LINE

RIVER HEIGHTS DRIVE

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD 88).

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

JOINT FILLER SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION MI53, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M213.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATE METHOD IS APPROVED BY THE FIELD ENGINEER.

THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS, OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

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

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO ENTIRE EXPOSED TOP OF SLAB, INCLUDING THE SLAB EDGE AND 1'-0" UNDER THE SLAB, THE TOP AND EXTERIOR EXPOSED FACE OF WINGS, FRONT FACE OF ABUTMENT TO 1'-0" PAST THE EDGE OF SLAB, AND HORIZONTAL AND VERTICAL FACES OF THE PAVING NOTCHES.

ALL STATIONS AND ELEVATIONS SHOWN ARE IN FEET.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-59-206" SHALL BE THE EXISTING GROUNDLINE AT THE ABUTMENTS AND THE EXISTING STREAM BED AT THE PIER.

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

THE EXISTING STRUCTURE (B-59-120) IS A SINGLE SPAN PRESTRESSED CONCRETE BOX GIRDER STRUCTURE WITH CONCRETE ABUTMENTS. THE STRUCTURE HAS A 24' CLEAR BRIDGE WIDTH AND IS 60' LONG AND SHALL BE REMOVED.

STATE PROJECT NUMBER

4204-10-70

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-206

DRAWN BY MAN | PLANS CK'D. PTB

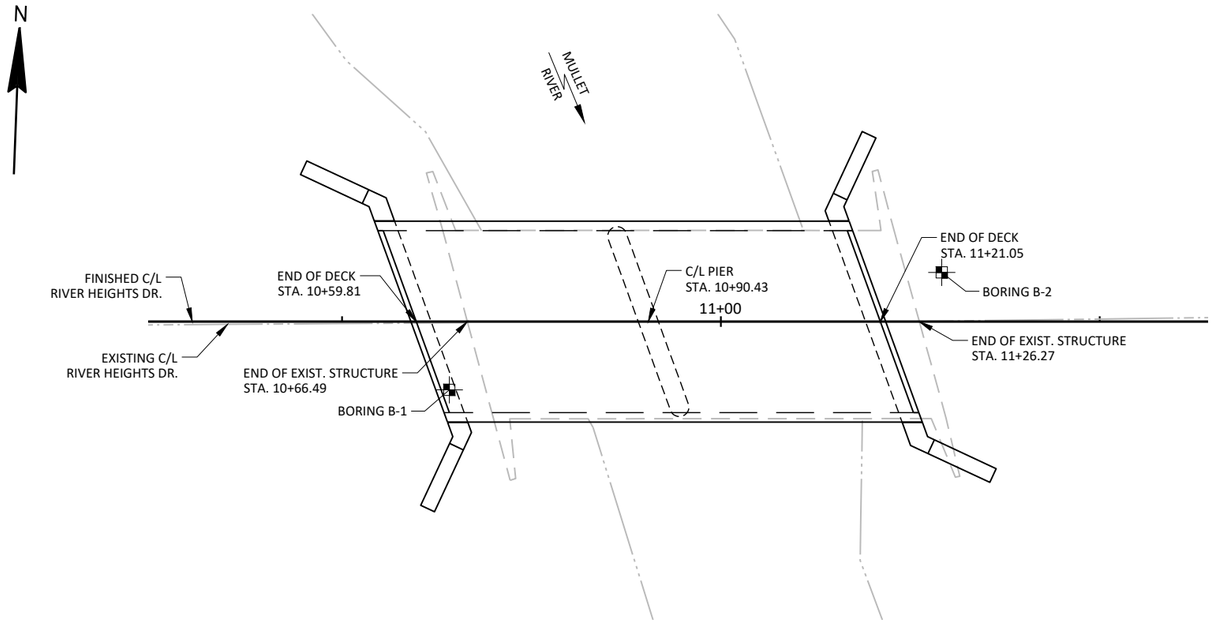
CROSS SECTION AND QUANTITIES

SHEET 2 OF 11

69

8

8



SOIL BORINGS

BORING NUMBER	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-1	11/05/24	181,955.8	147,861.5
B-2	11/06/24	181,973.8	147,925.8

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

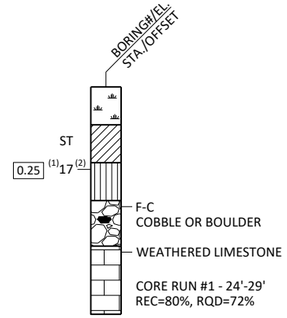
STATE PROJECT NUMBER

4204-10-70

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 ELEVATIONS

AT TIME OF DRILLING
END OF DRILLING
AFTER DRILLING

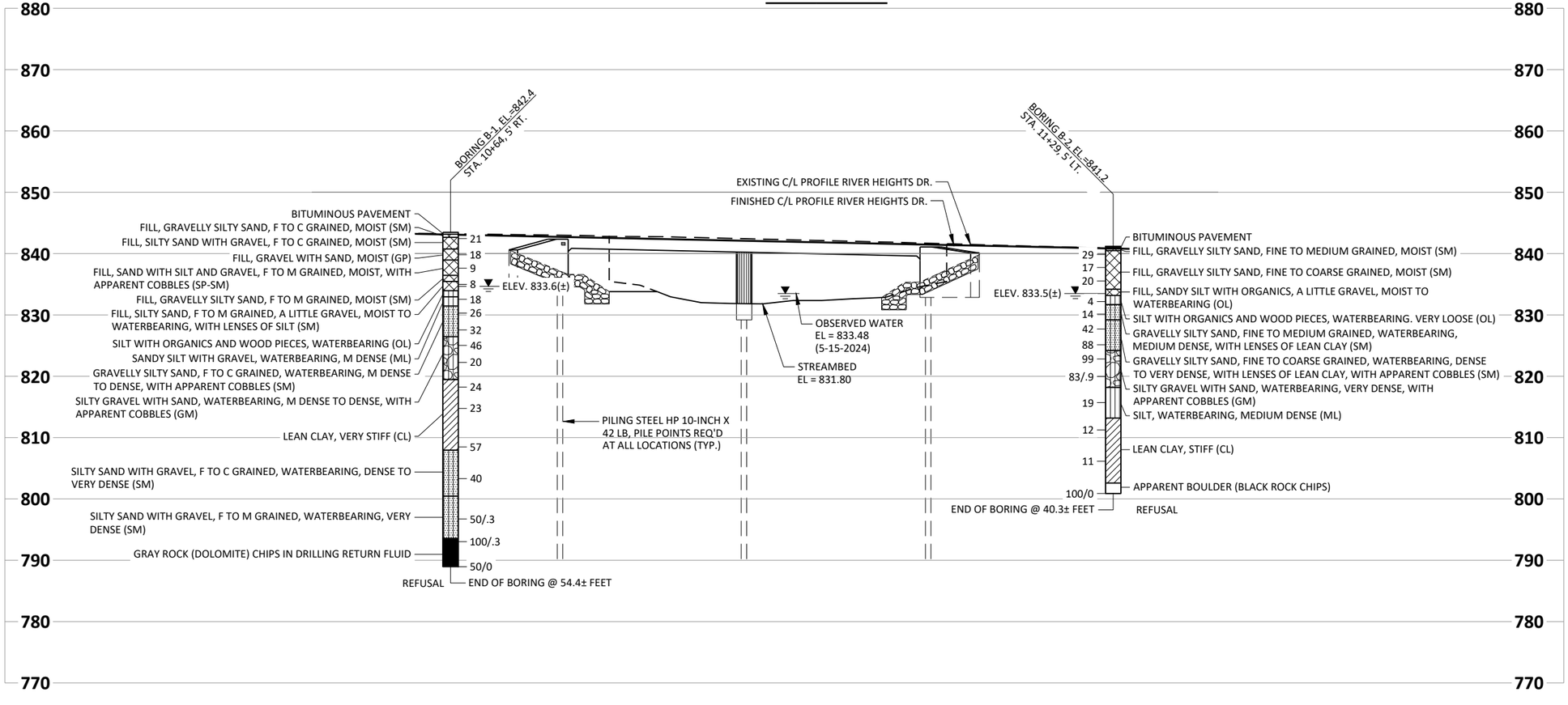
ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

PLAN B-59-206



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-206

DRAWN BY MAN | PLANS CK'D. PTB

SUBSURFACE EXPLORATION

SHEET 3 OF 11

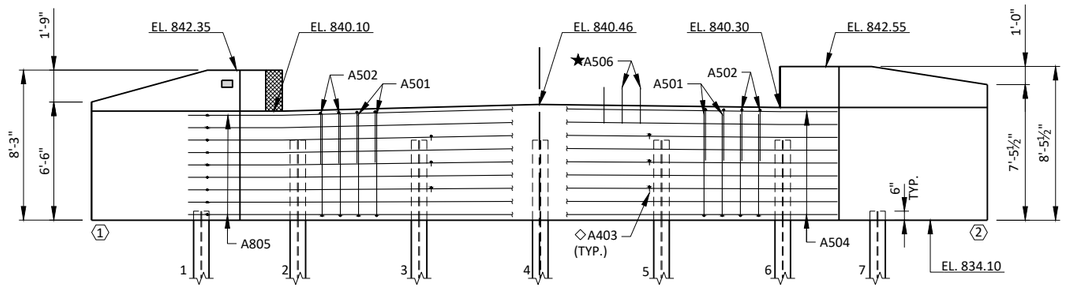
70

8

8

STATE PROJECT NUMBER

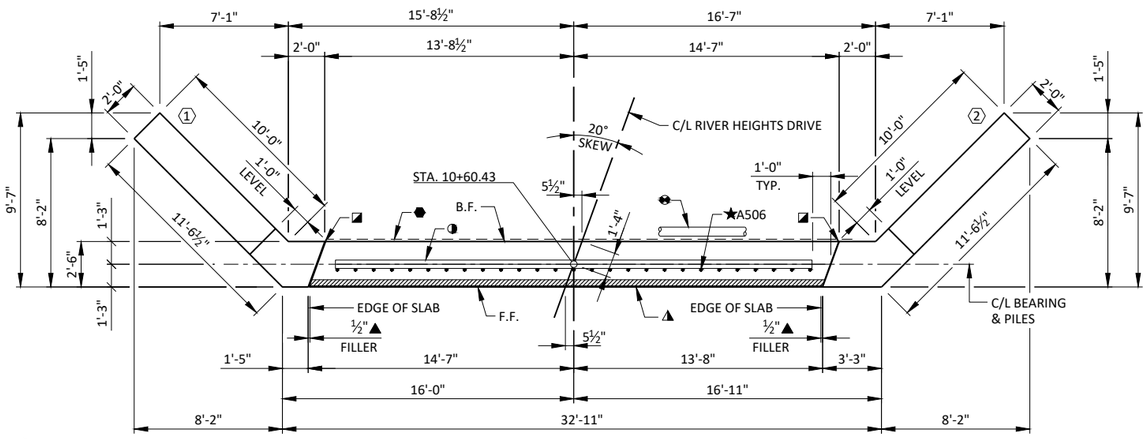
4204-10-70



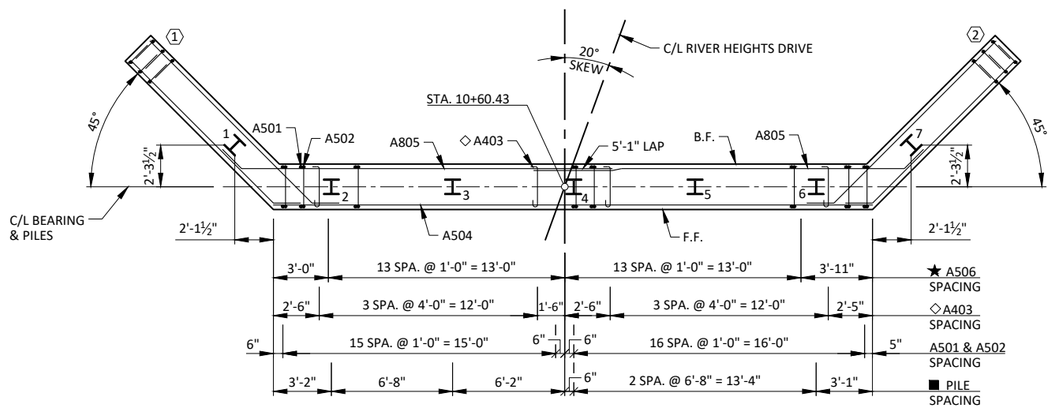
BACK FACE BAR STEEL REINF. **FRONT FACE BAR STEEL REINF.**

ELEVATION

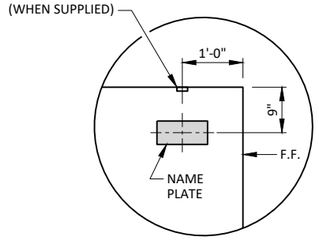
LOOKING EAST



PLAN

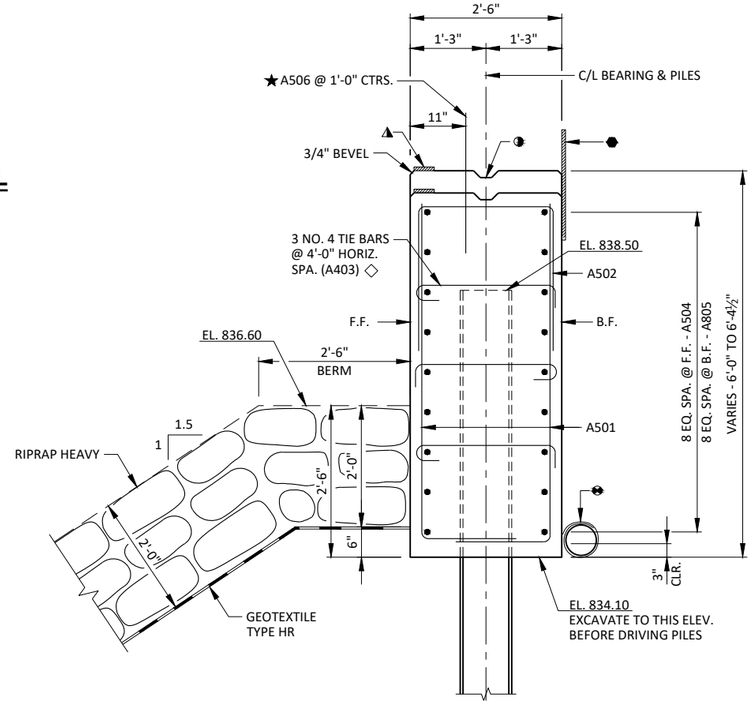


LAYOUT



NAME PLATE AND BENCHMARK CAP DETAIL

(WING 1 ONLY)



ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 50 FT PILE LENGTHS AT WEST ABUTMENT. PILE POINTS REQ'D AT ALL LOCATIONS.

TYPICAL SECTION THROUGH ABUTMENT BODY

LEGEND

- KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.
- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE)
- ¾" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- ★ A506 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".
- ■ PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."
- ◇ ALTERNATE THE POSITION OF THE 90° AND THE 180° BENDS AT EACH VERTICAL LAYER OF TIES.

NOTES

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

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

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

SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-206

DRAWN BY: MAN | PLANS CK'D.: PTB

WEST ABUTMENT

SHEET 4 OF 11

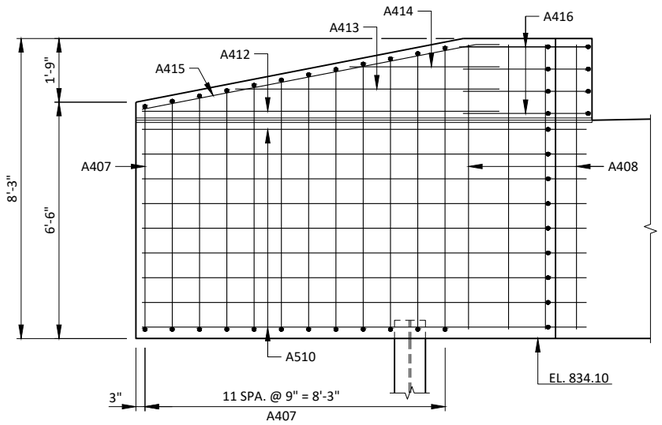
71

8

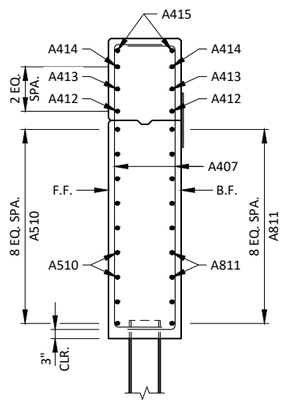
8

STATE PROJECT NUMBER

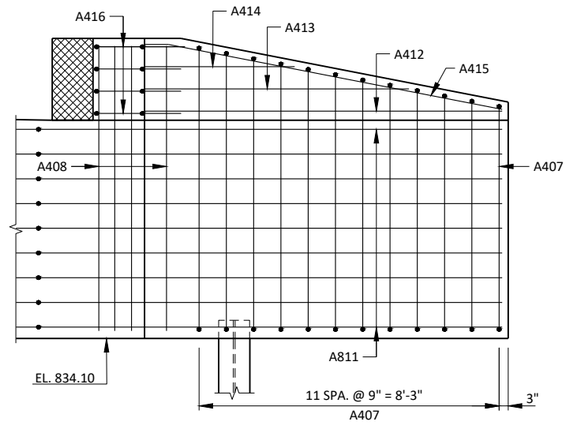
4204-10-70



F.F. ELEVATION - WING 1



SECTION A-A



B.F. ELEVATION - WING 1

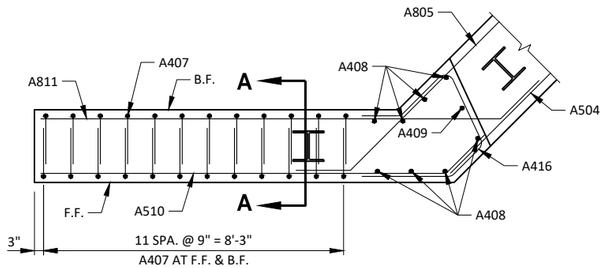
NOTES

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

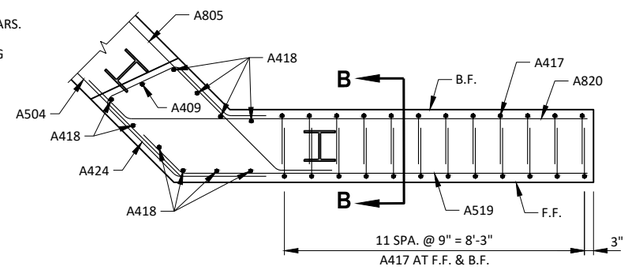
SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE



PLAN VIEW - WING 1



PLAN VIEW - WING 2

BILL OF BARS
WEST ABUTMENT

1,540 LB (COATED)
2,190 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	BAR SERIES	LOCATION
A501	66	7-1	X			BODY - VERT. - F.F & B.F.
A502	33	7-7	X			BODY - VERT. - TOP
A403	24	2-11	X			TIE BARS
A504	9	32-9				BODY - HORIZ. - F.F.
A805	18	22-7	X			BODY - HORIZ. - B.F.
A506	27	2-0		X		BODY - VERT. - DOWELS
A407	24	9-5	X	X	⚹	WING 1 - VERT. - F.F. & B.F.
A408	8	7-10		X		WING 1 - VERT.
A409	2	3-1		X		WING 1 - VERT. - TOP
A510	9	12-9	X	X		WING 1 - HORIZ. - F.F.
A811	9	14-5	X	X		WING 1 - HORIZ. - B.F.
A412	2	9-10		X		WING 1- HORIZ. - F.F. & B.F.
A413	2	7-4		X		WING 1- HORIZ. - F.F. & B.F.
A414	2	4-2		X		WING 1- HORIZ. - F.F. & B.F.
A415	2	10-0	X	X		WING 1 - HORIZ. - F.F. & B.F. - TOP
A416	4	8-7	X	X		WING 1 - HORIZ. - TOP
A417	24	10-0	X	X	⚹	WING 2 - VERT. - F.F. & B.F.
A418	10	8-0		X		WING 2 - VERT.
A519	9	12-9	X	X		WING 2 - HORIZ. - F.F.
A820	9	14-4	X	X		WING 2 - HORIZ. - B.F.
A421	4	9-10		X		WING 2 - HORIZ. - F.F. & B.F.
A422	2	6-6		X		WING 2- HORIZ. - F.F. & B.F.
A423	2	9-11	X	X		WING 2 - HORIZ. - F.F. & B.F. - TOP
A424	4	10-5	X	X		WING 2 - HORIZ. - TOP

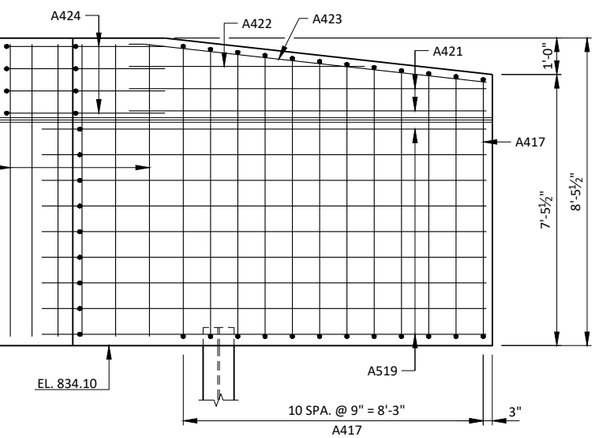
NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

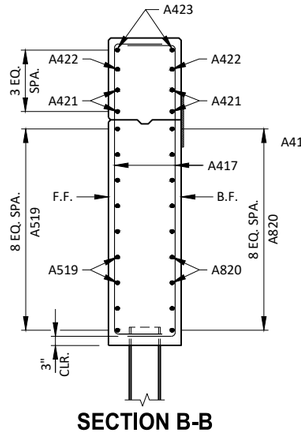
⚹ LENGTH SHOWN IS AN AVERAGE LENGTH ONLY. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

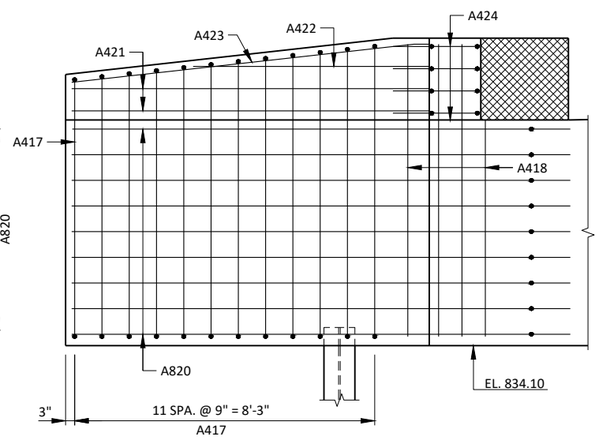
BAR MARK	NO. REQ'D.	LENGTH
A407	2 SERIES OF 12	8-7 TO 10-3
A417	2 SERIES OF 12	9-6 TO 10-6



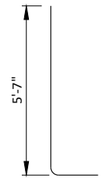
F.F. ELEVATION - WING 2



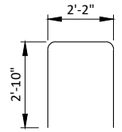
SECTION B-B



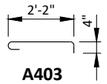
B.F. ELEVATION - WING 2



A501

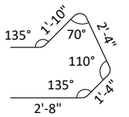


A502

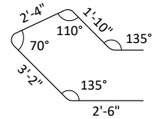


A403

A407 & A417

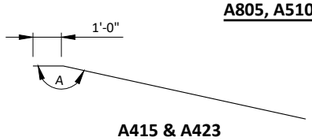


A416



A424

A805, A510, A811, A519, A821



A415 & A423

MARK	'A'
A415	169°0'
A423	173°40'

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-206

DRAWN BY MAN | PLANS CK'D. PTB

WEST ABUTMENT DETAILS

SHEET 5 OF 11

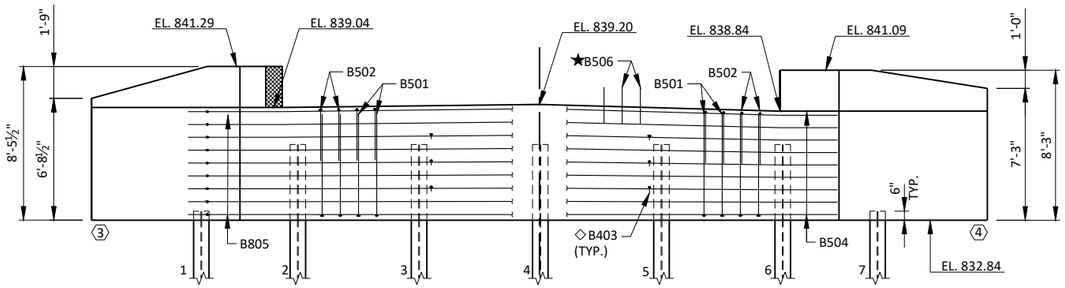
72

8

8

STATE PROJECT NUMBER

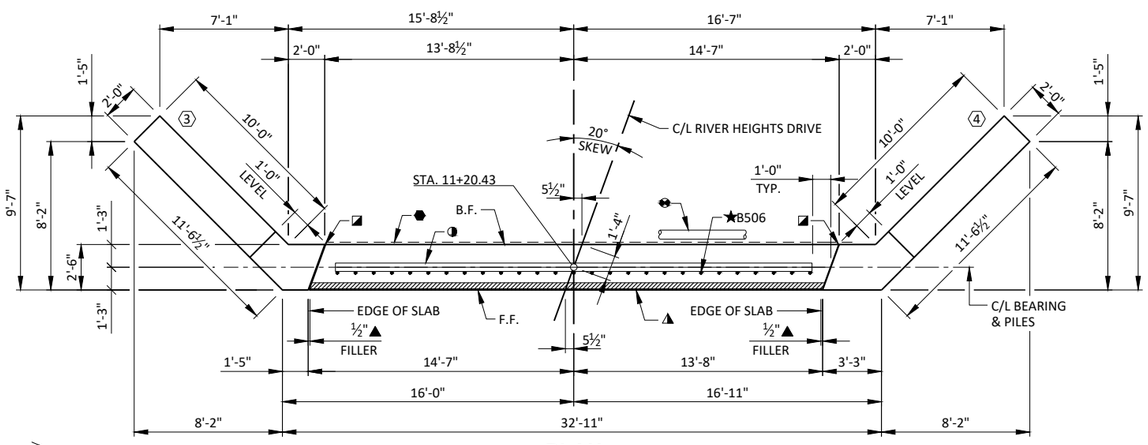
4204-10-70



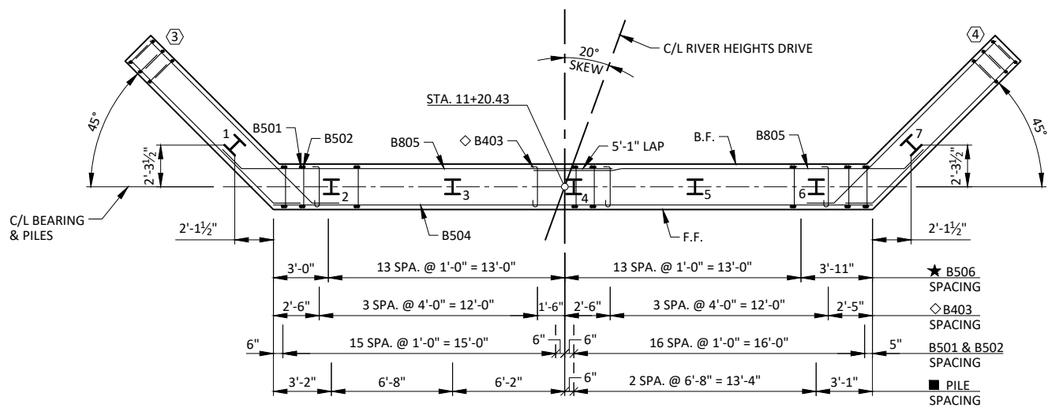
BACK FACE BAR STEEL REINF. **FRONT FACE BAR STEEL REINF.**

ELEVATION

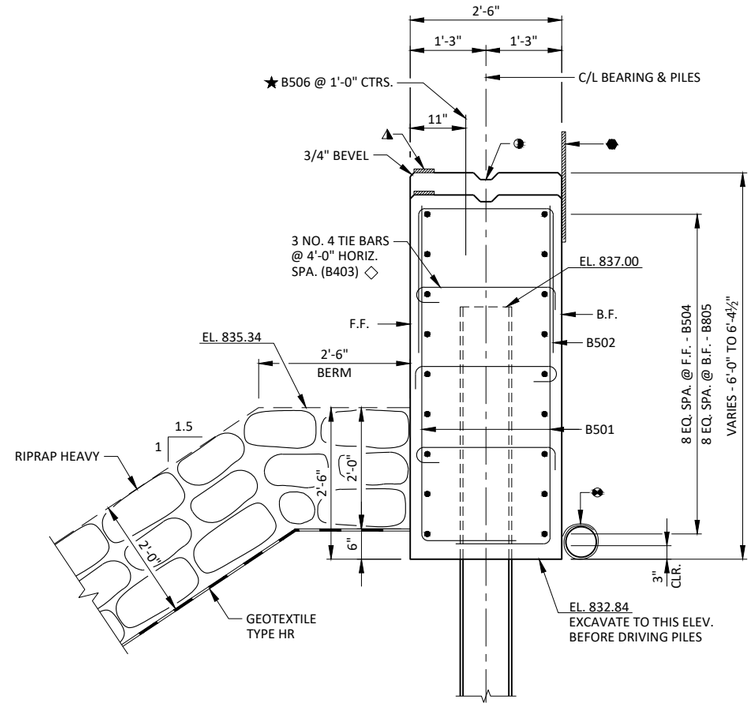
LOOKING WEST



PLAN



LAYOUT



ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 50 FT PILE LENGTHS AT EAST ABUTMENT. PILE POINTS REQ'D AT ALL LOCATIONS.

TYPICAL SECTION THROUGH ABUTMENT BODY

LEGEND

- ◑ KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.
- ◪ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- ⬣ 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ▲ ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE)
- ◭ ¾" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- ★ B506 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".
- ■ PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- ⬬ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."
- ◇ ALTERNATE THE POSITION OF THE 90° AND THE 180° BENDS AT EACH VERTICAL LAYER OF TIES.

NOTES

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

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

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

SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-206

DRAWN BY: MAN | PLANS CK'D.: PTB

EAST ABUTMENT

SHEET 6 OF 11

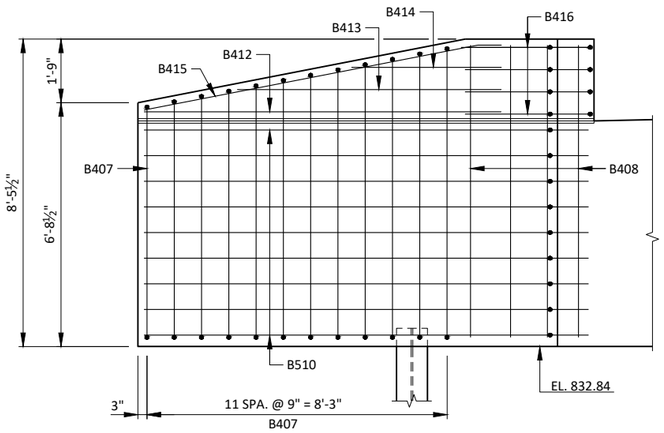
73

8

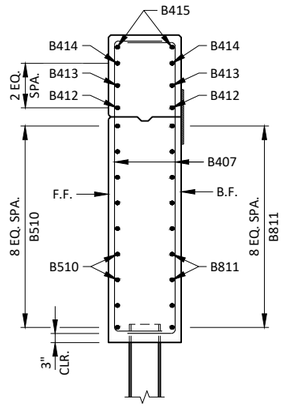
8

STATE PROJECT NUMBER

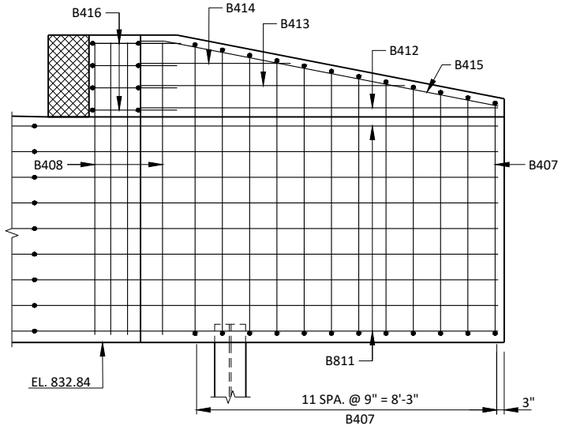
4204-10-70



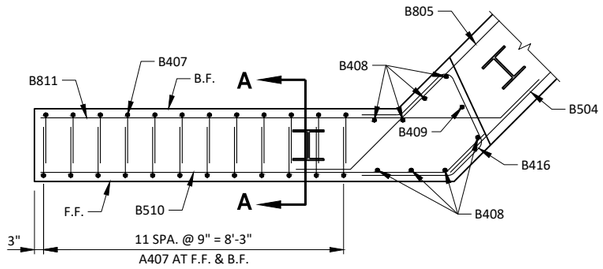
F.F. ELEVATION - WING 3



SECTION A-A



B.F. ELEVATION - WING 3



PLAN VIEW - WING 3

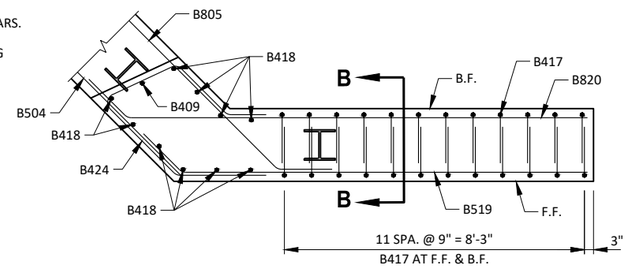
NOTES

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

SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE



PLAN VIEW - WING 4

BILL OF BARS
EAST ABUTMENT

1,540 LB (COATED)
2,190 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	BAR SERIES	LOCATION
B501	66	7-1	X			BODY - VERT. - F.F & B.F.
B502	33	7-7	X			BODY - VERT. - TOP
B403	24	2-11	X			TIE BARS
B504	9	32-9				BODY - HORIZ. - F.F.
B805	18	22-7	X			BODY - HORIZ. - B.F.
B506	27	2-0		X		BODY - VERT. - DOWELS
B407	24	9-7	X	X	⚹	WING 3 - VERT. - F.F. & B.F.
B408	8	8-0		X		WING 3 - VERT.
B409	2	3-1		X		WING 3 - VERT. - TOP
B510	9	12-9	X	X		WING 3 - HORIZ. - F.F.
B811	9	14-5	X	X		WING 3 - HORIZ. - B.F.
B412	2	9-10		X		WING 3- HORIZ. - F.F. & B.F.
B413	2	7-4		X		WING 3- HORIZ. - F.F. & B.F.
B414	2	4-2		X		WING 3- HORIZ. - F.F. & B.F.
B415	2	10-0	X	X		WING 3 - HORIZ. - F.F. & B.F. - TOP
B416	4	8-7	X	X		WING 3 - HORIZ. - TOP
B417	24	9-10	X	X	⚹	WING 4 - VERT. - F.F. & B.F.
B418	10	7-10		X		WING 4 - VERT.
B519	9	12-9	X	X		WING 4 - HORIZ. - F.F.
B820	9	14-4	X	X		WING 4 - HORIZ. - B.F.
B421	4	9-10		X		WING 4 - HORIZ. - F.F. & B.F.
B422	2	6-6		X		WING 4- HORIZ. - F.F. & B.F.
B423	2	9-11	X	X		WING 4 - HORIZ. - F.F. & B.F. - TOP
B424	4	10-5	X	X		WING 4 - HORIZ. - TOP

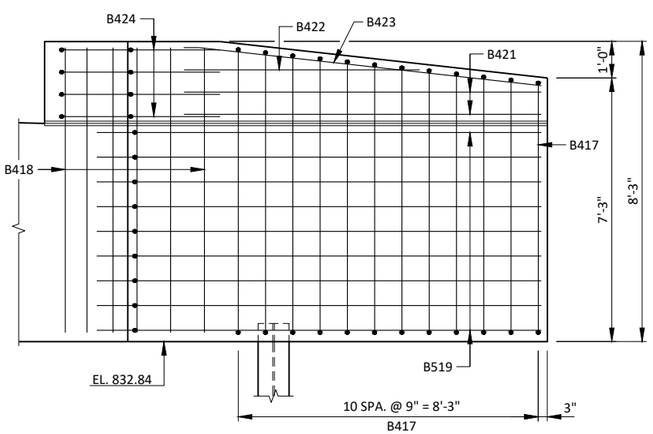
NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

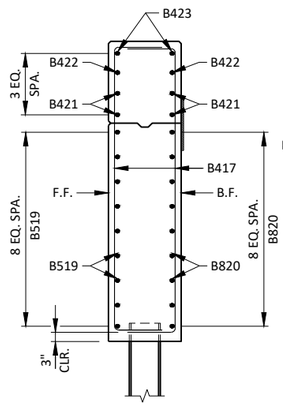
⚹ LENGTH SHOWN IS AN AVERAGE LENGTH ONLY. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

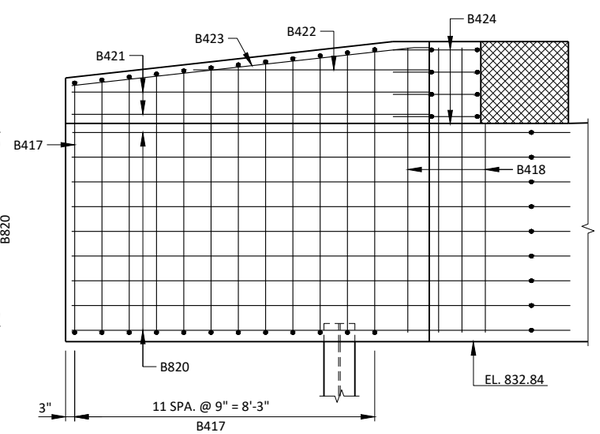
BAR MARK	NO. REQ'D.	LENGTH
B407	2 SERIES OF 12	8-9 TO 10-5
B417	2 SERIES OF 12	9-4 TO 10-4



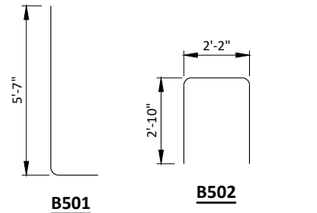
F.F. ELEVATION - WING 4



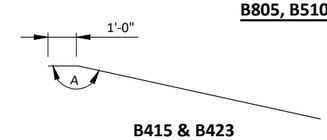
SECTION B-B



B.F. ELEVATION - WING 4



B805, B510, B811, B519, B821



B415 & B423

MARK	'A'
B415	169°0'
B423	173°40'

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-206

DRAWN BY MAN | PLANS CK'D. PTB

EAST ABUTMENT DETAILS

SHEET 7 OF 11

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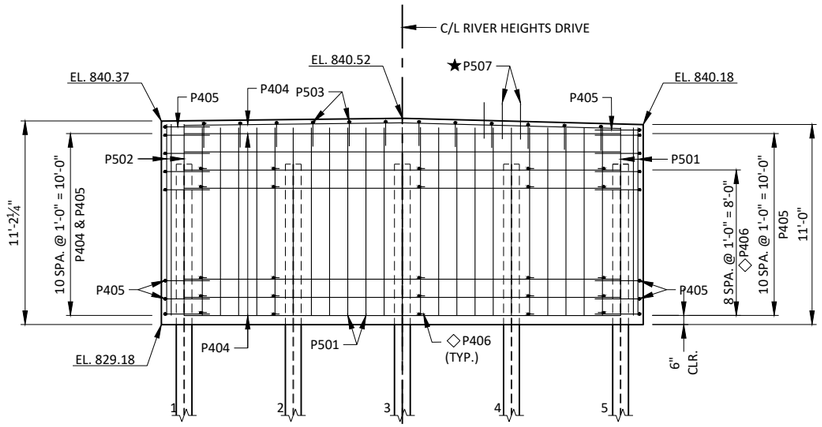
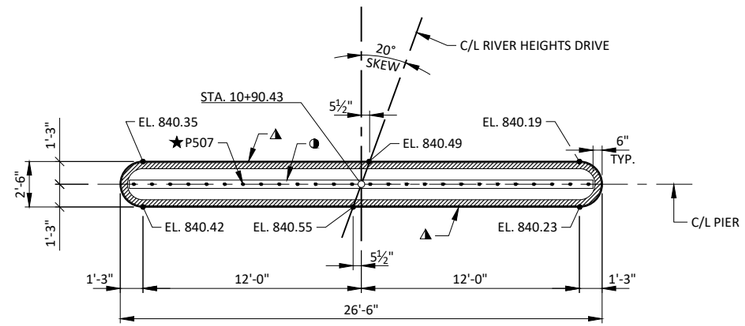
STATE PROJECT NUMBER

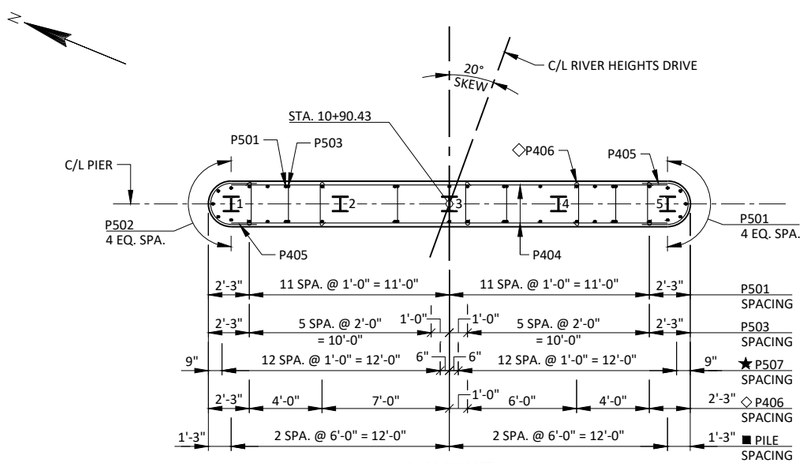
4204-10-70



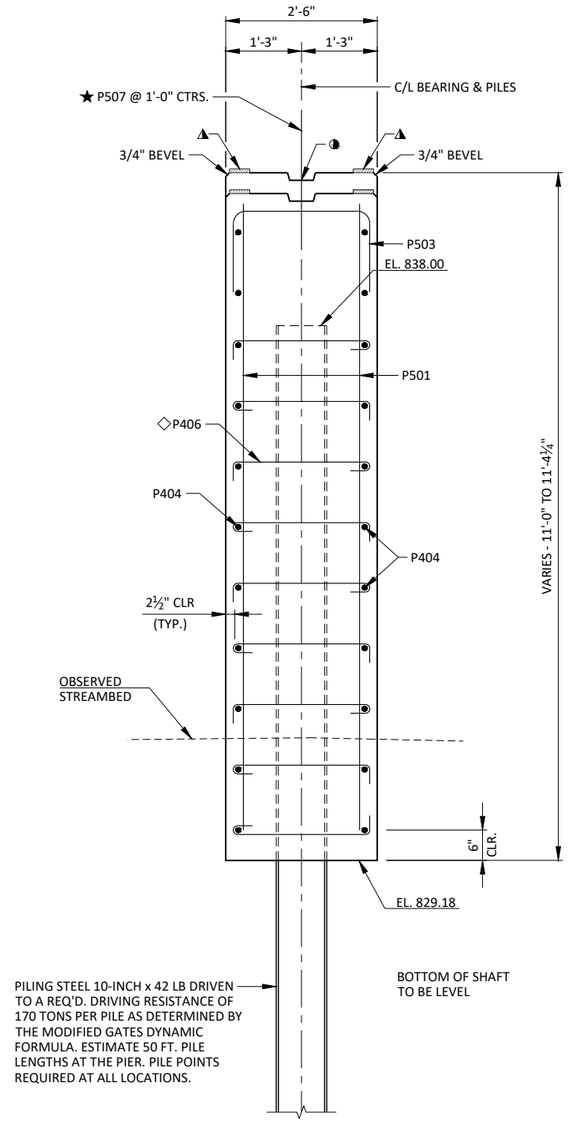
ELEVATION
LOOKING EAST



PLAN



LAYOUT



TYPICAL SECTION THROUGH PIER

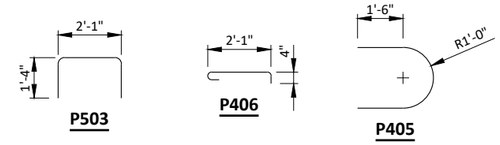
BILL OF BARS
PIER

50 LB (COATED)
1,230 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
P501	51	10-4			BODY - VERT. - E.F. & S. END
P502	5	10-6			BODY - VERT. - N. END
P503	12	4-6	X		BODY - VERT. - TOP
P404	24	24-0			BODY - HORIZ. - E.F.
P405	24	6-1	X		BODY - HORIZ. - ENDS
P406	45	2-10	X		TIE BARS
P507	26	2-0		X	BODY - VERT. - DOWELS

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

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



NOTES

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

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

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

TOP OF PIER ELEVATIONS ARE ¾" BELOW BOTTOM OF DECK TO ALLOW FOR FILLER.

E.F. - EACH FACE

LEGEND

◑ KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.

▲ ¾"x4" PREFORMED FILLER, EXTEND FULL PERIMETER OF PIER AS SHOWN.

★ P507 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".

■ PILE SPACING MEASURED AT BASE OF SHAFT.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-206

DRAWN BY MAN | PLANS CK'D. PTB

PIER

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NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 10 FOR BILL OF BARS.

SEE SUPERSTRUCTURE DETAILS SHEET (SHEET 10 OF 11) FOR BAR SPACINGS NOT SHOWN ON THIS SHEET.

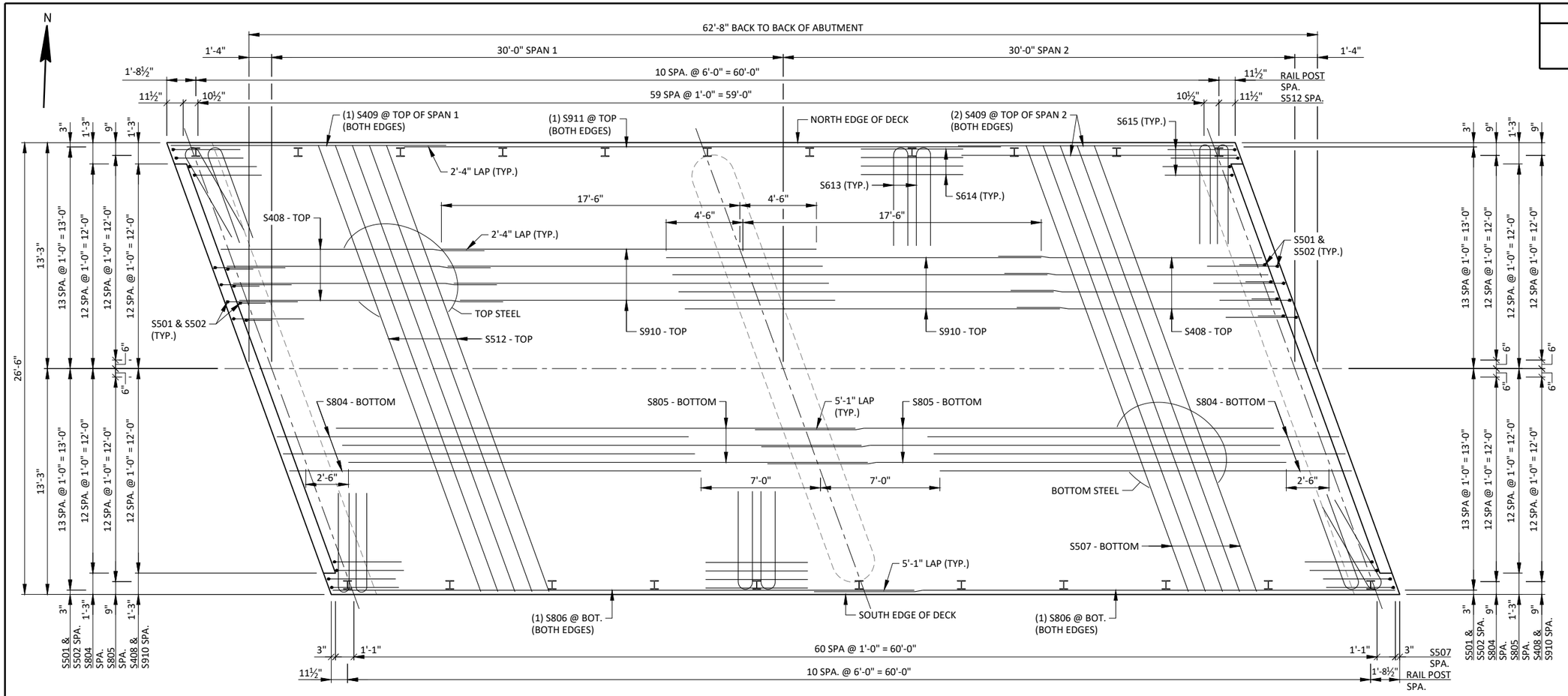
SUPPORT ALTERNATE TOP TRANSVERSE BARS IN SLAB BY INDIVIDUAL BAR CHAIRS AT APPROX. 3'-0" CENTERS. SUPPORT BOTTOM LONGITUDINAL BARS BY CONTINUOUS BAR CHAIRS AT APPROX. 4'-0" CENTERS.

PLACE TRANSVERSE BARS PARALLEL TO THE CENTERLINE OF SUBSTRUCTURE UNITS.

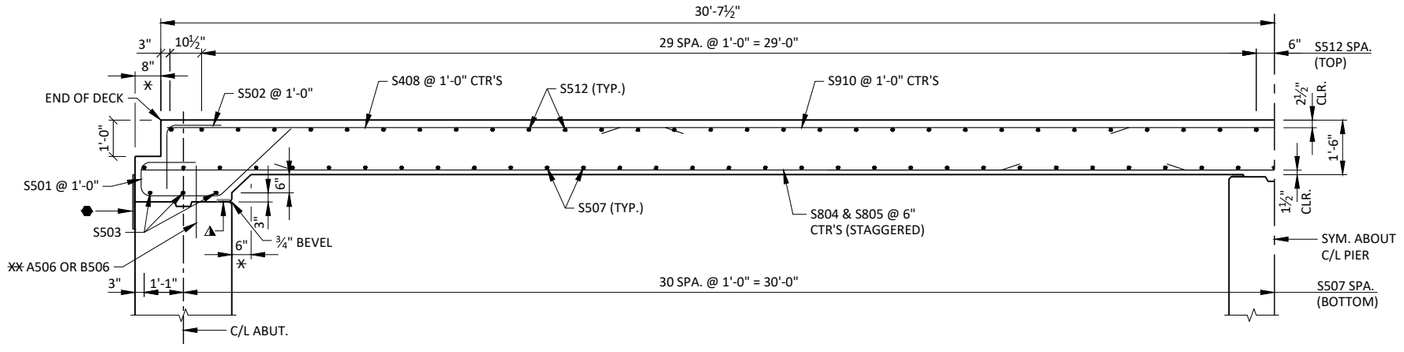
THE SLAB THICKNESS DIMENSION IS MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

LEGEND

- ⬣ 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ◭ ¾" x 4" PERFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB
- ⚹ DIMENSION IS NORMAL TO THE C/L OF SUBSTRUCTURE UNITS.
- ⚹⚹ SEE SHEETS 4 AND 6 FOR PLACEMENT OF A506 AND B506 BARS.



PLAN



PARTIAL LONGITUDINAL SECTION THROUGH ROADWAY

SURVEY TOP OF DECK ELEVATIONS

	W. ABUT.	0.50 PT.	PIER	0.50 PT.	E. ABUT.
NORTH EDGE OF DECK					
CENTER LINE					
SOUTH EDGE OF DECK					

PRIOR TO RELEASING SLAB FASLEWORK, TAKE TOP OF DECK ELEVATIONS AT THE C/L OF THE ABUTMENTS AND AT 0.50 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG THE EDGE OF DECK AND CENTER LINE. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

NO.	DATE	REVISION	BY

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STRUCTURE B-59-206

DRAWN BY CES | PLANS CK'D. PTB

SUPERSTRUCTURE

SHEET 9 OF 11

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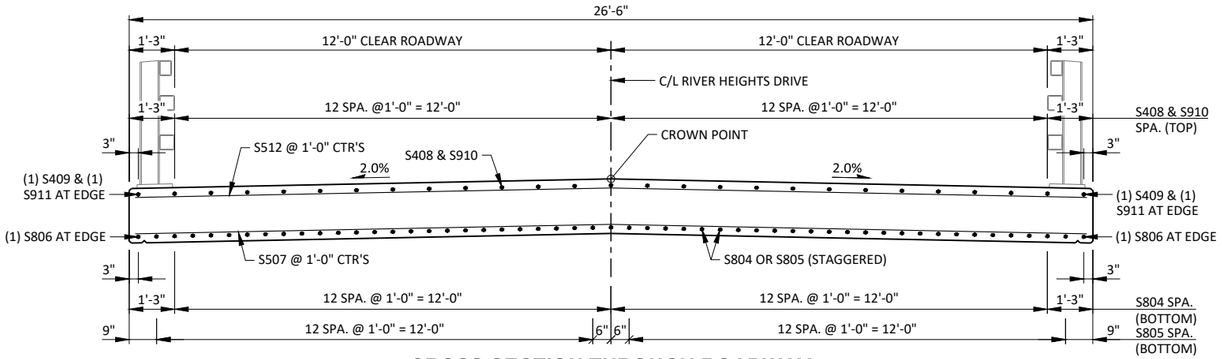
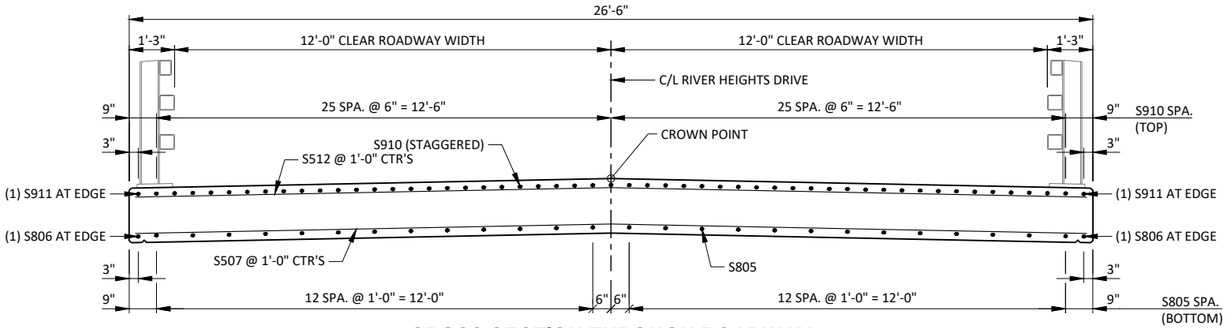


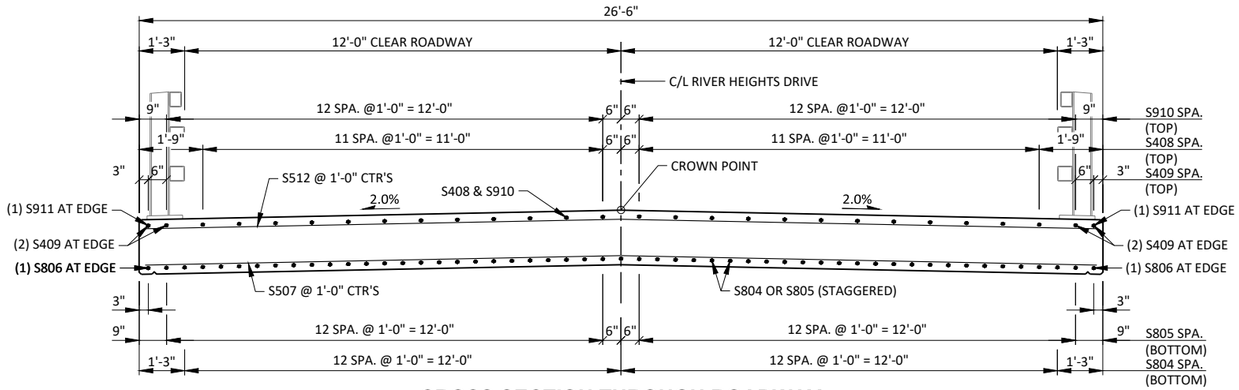
CROSS SECTION THROUGH ROADWAY

AT SPAN 1 - LOOKING EAST



CROSS SECTION THROUGH ROADWAY

AT PIER - LOOKING EAST



CROSS SECTION THROUGH ROADWAY

AT SPAN 2 - LOOKING EAST

NOTES

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

PLACE TRANSVERSE BARS PARALLEL TO THE CENTERLINE OF SUBSTRUCTURE UNITS.

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

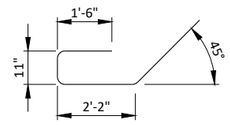
BILL OF BARS SUPERSTRUCTURE

18,140 LB (COATED)

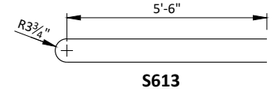
BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
S501	54	6-9	X	X	ENDS OF DECK
S502	54	3-2	X	X	ENDS OF DECK
S503	6	27-10		X	SLAB - LONGIT. AT ABUTMENTS
S804	50	24-2		X	SLAB - BOTTOM - LONGIT.
S805	52	30-1		X	SLAB - BOTTOM - LONGIT.
S806	4	33-9		X	SLAB - BOTTOM - LONGIT. AT EDGES
S507	63	27-10		X	SLAB - BOTTOM - TRANS.
S408	49	15-4		X	SLAB - TOP - LONGIT. AT ENDS
S409	6	16-0		X	SLAB - TOP - LONGIT. AT EDGES
S910	51	22-0		X	SLAB - TOP - LONGIT. AT PIER
S911	2	35-0		X	SLAB - TOP - LONGIT. AT EDGES
S512	62	27-10		X	SLAB - TOP - TRANS
S613	44	11-9	X	X	RAIL POSTS
S614	72	4-8		X	RAIL POSTS - INTERIOR
S615	16	4-8	X	X	RAIL POSTS - ENDS

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

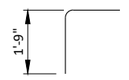
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



S501



S613



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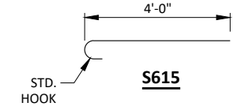
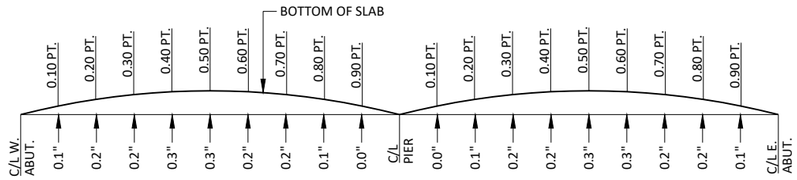


S615



CAMBER DIAGRAM

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

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB OR CENTER LINE FOLLOW THIS PROCEDURE:

TOP OF SLAB ELEVATION AT FINAL GRADE
-SLAB THICKNESS
+CAMBER
+FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (COMPUTED BY CONTRACTOR)
=TOP OF SLAB FALSEWORK ELEVATION.

TOP OF DECK ELEVATIONS

	C/L W. ABUT.	0.10 PNT.	0.20 PNT.	0.30 PNT.	0.40 PNT.	0.50 PNT.	0.60 PNT.	0.70 PNT.	0.80 PNT.	0.90 PNT.	C/L PIER	0.10 PNT.	0.20 PNT.	0.30 PNT.	0.40 PNT.	0.50 PNT.	0.60 PNT.	0.70 PNT.	0.80 PNT.	0.90 PNT.	C/L E. ABUT.
N. EDGE OF DECK	842.55	842.49	842.43	842.36	842.30	842.24	842.17	842.11	842.05	841.98	841.92	841.86	841.79	841.73	841.67	841.61	841.54	841.48	841.42	841.35	841.29
C/L	842.72	842.65	842.59	842.53	842.46	842.40	842.34	842.27	842.21	842.15	842.08	842.02	841.96	841.90	841.83	841.77	841.71	841.64	841.58	841.52	841.45
S. EDGE OF DECK	842.35	842.29	842.22	842.16	842.10	842.03	841.97	841.91	841.84	841.78	841.72	841.66	841.59	841.53	841.47	841.40	841.34	841.28	841.21	841.15	841.09

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-206

DRAWN BY CES | PLANS CK'D. PTB

SUPERSTRUCTURE DETAILS

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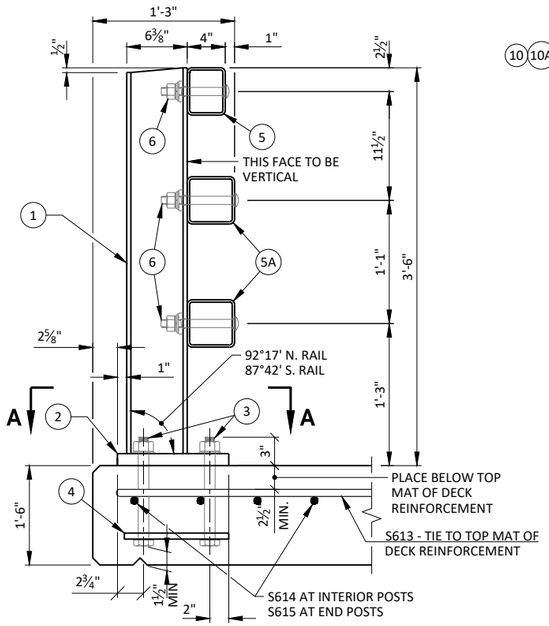
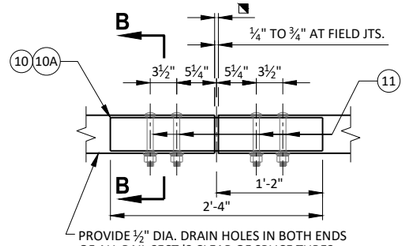
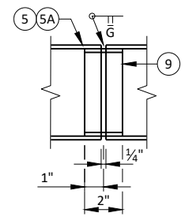


SECTION THROUGH RAILING ON DECK



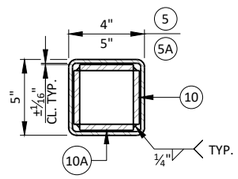
FIELD ERECTION JOINT DETAIL

RDWY. OPENING OR 2½" MIN. FOR STRIP SEAL EXP. JOINT & (¼" TO ¾") OPENING FOR A1 ABUTMENT.

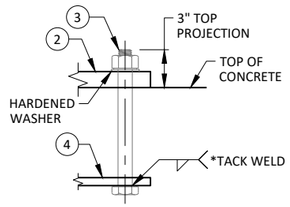


SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)

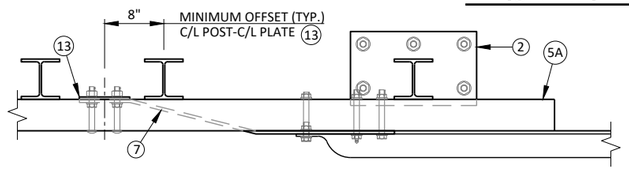


SECTION B-B



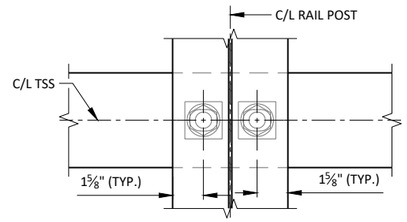
ANCHOR BOLTS

* ANCHOR BOLT ASSEMBLY MAY BE TACK WELDED, EITHER IN THE SHOP, OR IN THE FIELD AFTER THE ANCHOR PLATE IS PLACED.

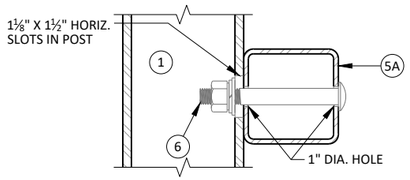


TOP VIEW AT END POST

(THRIE BEAM RAIL ATTACHMENT)



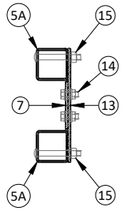
SECTION THROUGH POST WEB



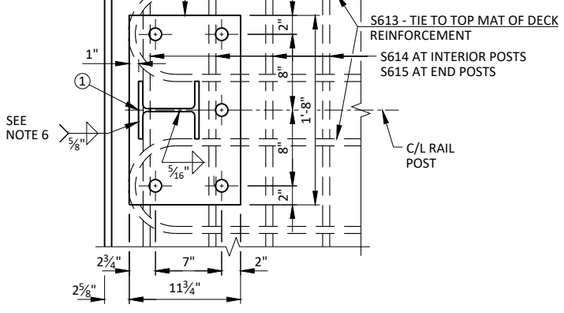
SECTION THROUGH RAIL

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

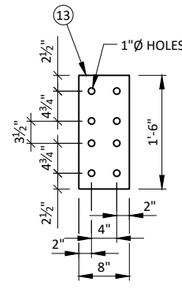
TYPICAL RAIL TO POST CONNECTIONS



SECTION C-C

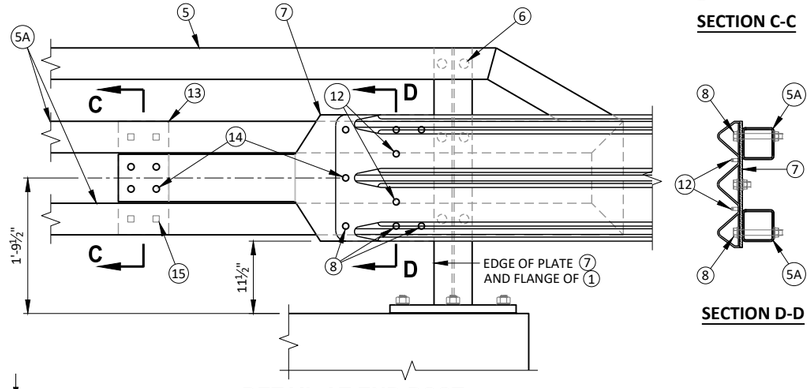


SECTION A-A



ANCHOR PLATE

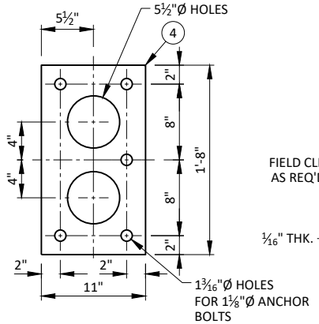
AT BEAM GUARD ATTACHMENT



DETAIL AT END POST

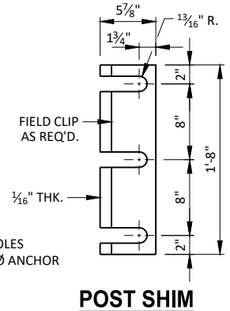
(THRIE BEAM RAIL ATTACHMENT)

SECTION D-D

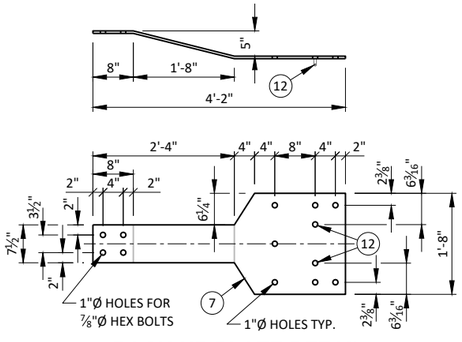


ANCHOR PLATE

AT RAIL TO DECK CONNECTION

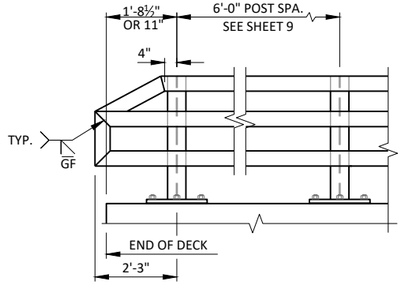


POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

LEGEND

1. W6x25 WITH 1⅛" x 1½" HORIZONTAL SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
2. PLATE 1½"x11¾"x1'-8" WITH 1 7⁄16" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
3. ASTM A449 - 1⅛" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG AT ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10¾" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTABILITY.)
4. ⅝"x11"x1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3⁄16" DIA. HOLES FOR ANCHOR BOLTS NO. 3.
5. TSS 5x4x0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
5A. TSS 5x5x0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
6. ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3⁄16"x1¾"x1⅛" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION).
7. ½" THK. BACK-UP PLATE WITH 2 - ⅞"x1½" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
8. 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR ⅞" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
9. SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".
10. ⅜"x3⅜"x2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
10A. ⅜"x2⅝"x2'-4" PLATE USED IN NO. 5, ⅜"x3⅜"x2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
11. ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15⁄16"x1¼" LONGIT. SLOTTED HOLES IN PLATE NO. 10A. AT FIELD JOINTS AND 15⁄16"x2¾" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A. PROVIDE 15⁄16" DIA. ROUND HOLES IN TUBES NO. 5 AND NO. 5A.
12. ⅞" DIA. BY 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
13. ⅜"x8"x1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
14. ⅞" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
15. 1" DIA. HOLES IN TUBES NO. 5A FOR ⅞" A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY=50 KSI. ANCHOR PLATES AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅛ TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-206

DRAWN BY: MAN | PLANS CK'D.: PTB

RAILING TUBULAR TYPE M

SHEET 11 OF 11

78

8

EARTHWORK MAINLINE

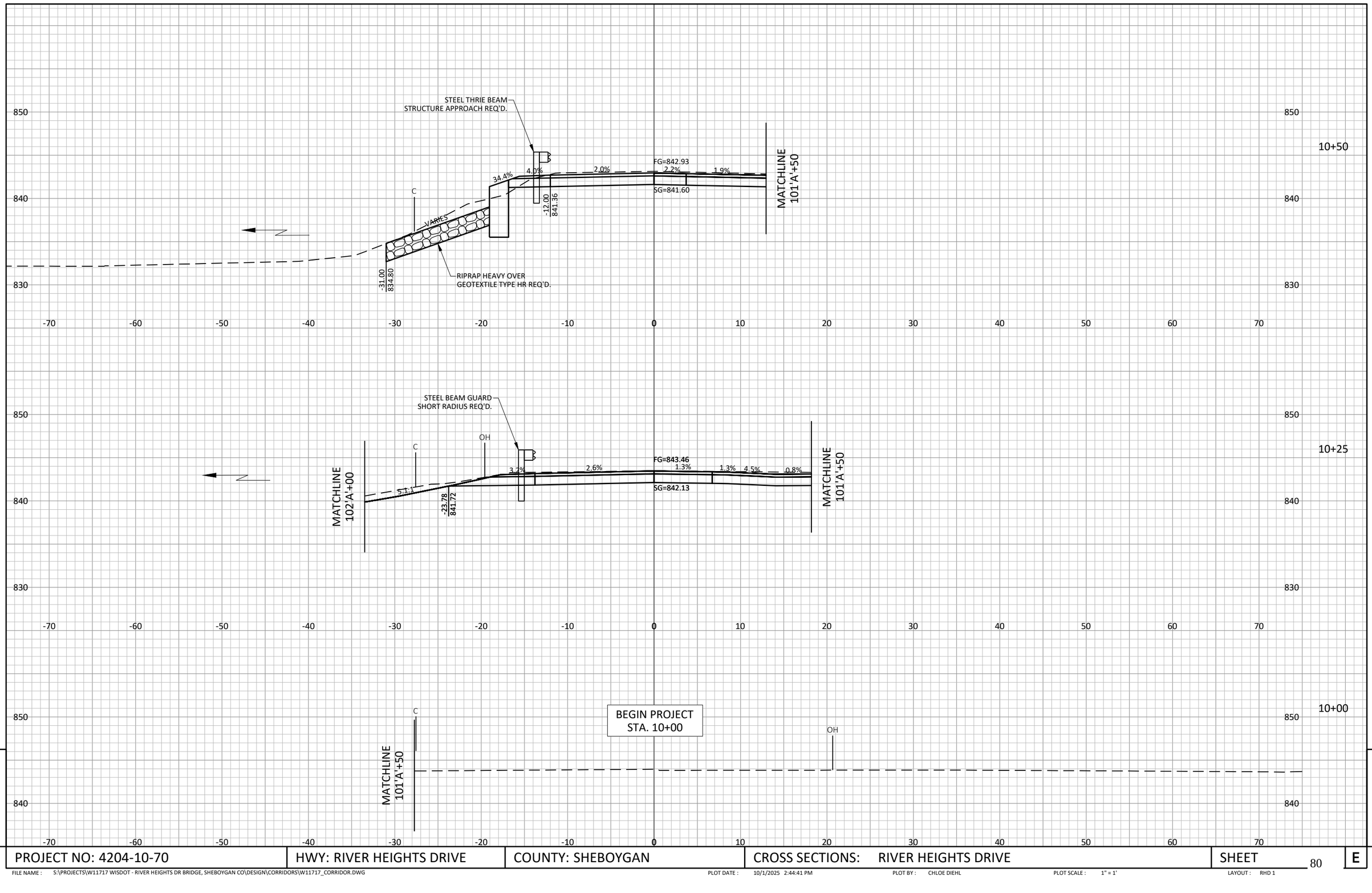
STATION	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT NOTE 1	FILL NOTE 2	EXCAVATION MARSH	REDUCED MARSH IN FILL (0.6) NOTE 3	EXPANDED FILL (1.25) NOTE 4	SELECT CRUSHED MATERIAL (1.5)	CUMULATIVE VOLUME (CY) CUT NOTE 1	FILL NOTE 2	EXCAVATION MARSH	REDUCED MARSH IN FILL (0.6) NOTE 3	FILL 1.25 NOTE 4	MASS ORDINATE NOTE 5
10+00	39	0	0	0	0	0	0	0	0	0	0	0	0	0
10+25	65	0	48	0	0	0	0	0	48	0	0	0	0	48
10+50	42	0	49	0	0	0	0	0	97	0	0	0	0	97
10+60	22	0	12	0	0	0	0	0	109	0	0	0	0	109
10+60	0	0	0	0	0	0	0	0	109	0	0	0	0	109
11+21	0	0	0	0	0	0	0	0	109	0	0	0	0	109
11+21	46	43	0	0	0	0	0	0	109	0	0	0	0	109
11+25	46	43	7	6	2	1	6	3	116	6	2	1	6	110
11+50	58	27	48	32	5	3	37	8	164	38	7	4	43	121
11+75	24	23	38	23	3	2	26	5	202	61	10	6	69	133
12+00	0	0	11	11	0	0	14	0	213	72	10	6	83	130
		TOTALS =	213	72	10	6	83	16	213	72	10	6	83	130

NOTES:

1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE MATERIAL
2- FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUMES
3- REDUCED MARSH IN FILL	REDUCED MARSH THAT CAN BE USED AS FILL
4 - FILL (25%)	FILL 25% = (FILL - REDUCED MARSH (.06))*1.25
5 - MASS ORDINATE	CUT - FILL (25%)

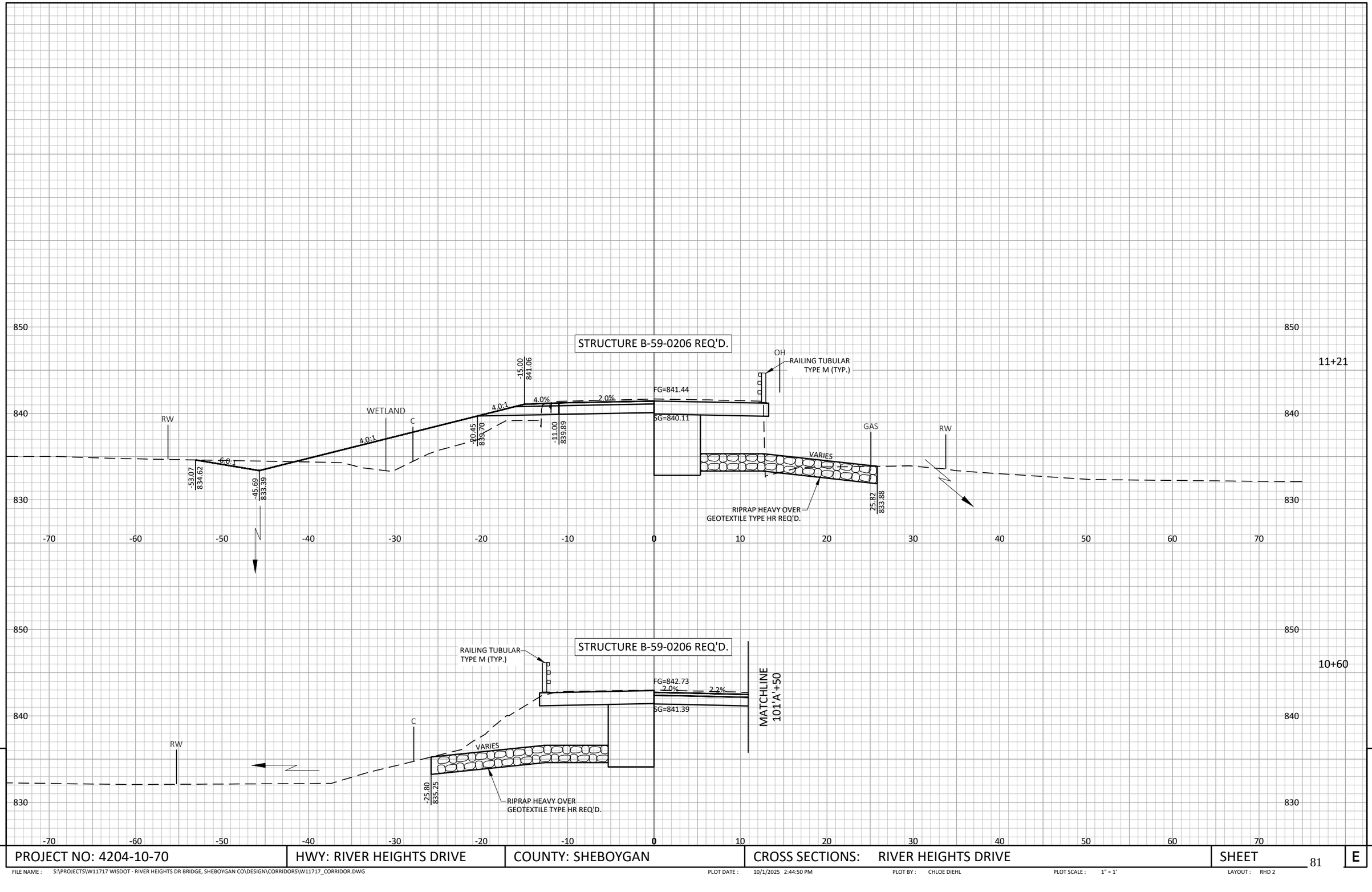
EARTHWORK 'A' LINE

STATION	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT NOTE 1	FILL NOTE 2	FILL (1.25) NOTE 4	CUMULATIVE VOLUME (CY) CUT NOTE 1	FILL NOTE 2	FILL 1.25 NOTE 4	MASS ORDINATE NOTE 5
100+00	0	0	0	0	0	0	0	0	0
100+06	0	0	20	15	19	20	15	19	1
100+50	25	18	47	27	33	67	42	52	15
101+00	26	10	104	10	12	171	52	64	107
101+50	87	0	0	0	0	171	52	64	107
101+50	0	0	0	0	0	171	52	64	107
102+00	0	0	0	0	0	171	52	64	107
102+00	45	0	29	0	0	200	52	64	136
102+20	32	0	28	6	8	228	58	72	156
102+45	28	13	5	3	3	233	61	75	158
102+50	28	15	20	9	11	253	70	86	167
102+70	25	10	26	8	11	279	78	97	182
103+00	22	6	28	7	9	307	85	106	201
103+36	20	4	0	0	0	307	85	106	201
103+35.53	0	0	0	0	0	307	85	106	201
		TOTALS =	307	85	106	307	85	106	201



PROJECT NO: 4204-10-70	HWY: RIVER HEIGHTS DRIVE	COUNTY: SHEBOYGAN	CROSS SECTIONS: RIVER HEIGHTS DRIVE	SHEET 80	E

FILE NAME : S:\PROJECTS\W11717 WISDOT - RIVER HEIGHTS DR BRIDGE, SHEBOYGAN CO\DESIGN\CORRIDORS\W11717_CORRIDOR.DWG
PLOT DATE : 10/1/2025 2:44:41 PM
PLOT BY : CHLOE DIEHL
PLOT SCALE : 1" = 1'
LAYOUT : RHD 1



PROJECT NO: 4204-10-70	HWY: RIVER HEIGHTS DRIVE	COUNTY: SHEBOYGAN	CROSS SECTIONS: RIVER HEIGHTS DRIVE	SHEET 81	E

FILE NAME : S:\PROJECTS\W11717 WISDOT - RIVER HEIGHTS DR BRIDGE, SHEBOYGAN CO\DESIGN\CORRIDORS\W11717_CORRIDOR.DWG PLOT DATE : 10/1/2025 2:44:50 PM PLOT BY : CHLOE DIEHL PLOT SCALE : 1" = 1' LAYOUT : RHD 2

LEGEND

LIMITS OF EXCAVATION MARSH

11+50

RW
WETLAND
C
OH
GAS
RW
TREE
6.0:1
4.0:1
2.0:1
4.0%
2.0%
4.0%
4.0:1
5.9:1
FG=840.83
SG=839.50
-49.29 835.71
-40.09 834.18
-29.85 832.35
-29.71 832.35
-15.00 840.45
-20.45 839.09
-11.00 839.28
11.00 839.28
15.00 840.45
20.45 839.09
25.92 834.71
29.78 837.51
850
840
830
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

11+25

RW
WETLAND
C
OH
GAS
RW
6.0:1
4.0:1
2.0:1
4.0%
2.0%
4.0:1
VARIES
FG=841.36
SG=840.02
-52.66 834.77
-44.95 833.49
-32.43 831.57
-32.03 831.57
-15.00 840.98
-20.45 839.61
-11.00 839.80
27.05 833.95
31.00 834.70
850
840
830
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9 9

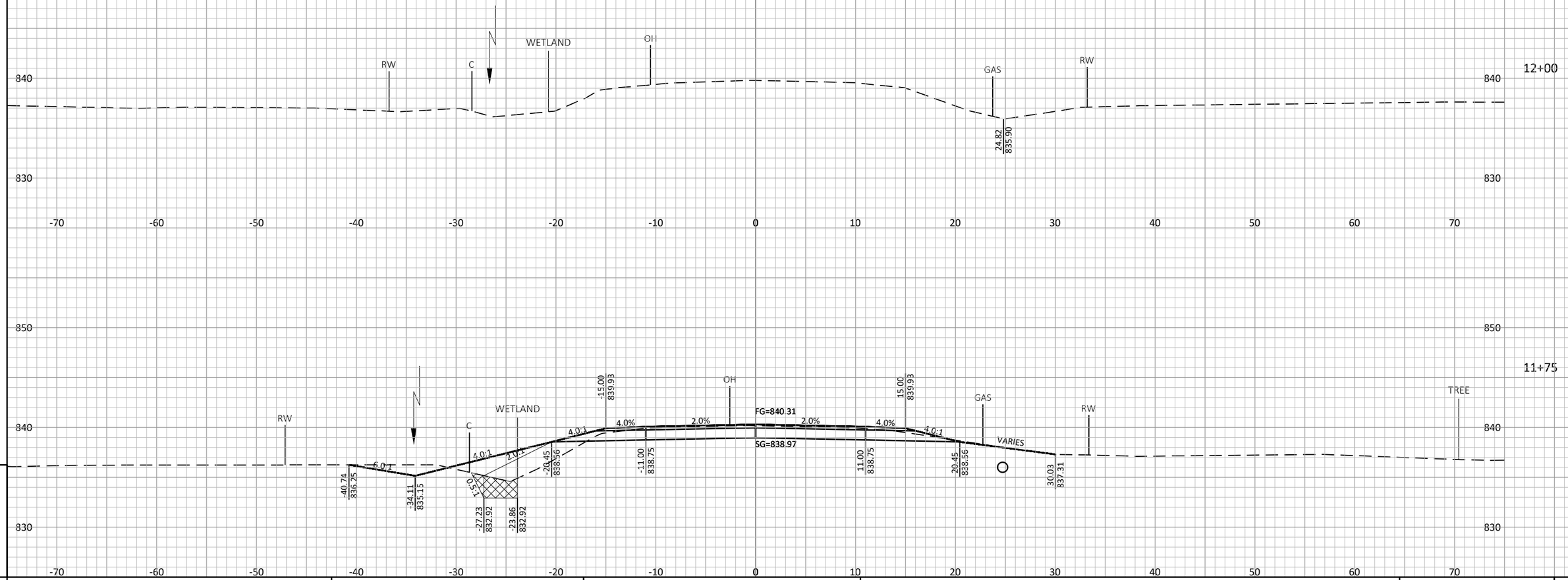
PROJECT NO: 4204-10-70	HWY: RIVER HEIGHTS DRIVE	COUNTY: SHEBOYGAN	CROSS SECTIONS: RIVER HEIGHTS DRIVE	SHEET	E

FILE NAME : S:\PROJECTS\W11717 WISDOT - RIVER HEIGHTS DR BRIDGE, SHEBOYGAN CO\DESIGN\CORRIDORS\W11717_CORRIDOR.DWG
PLOT DATE : 10/1/2025 2:45:00 PM
PLOT BY : CHLOE DIEHL
PLOT SCALE : 1" = 1'
LAYOUT : RHD 3

LEGEND

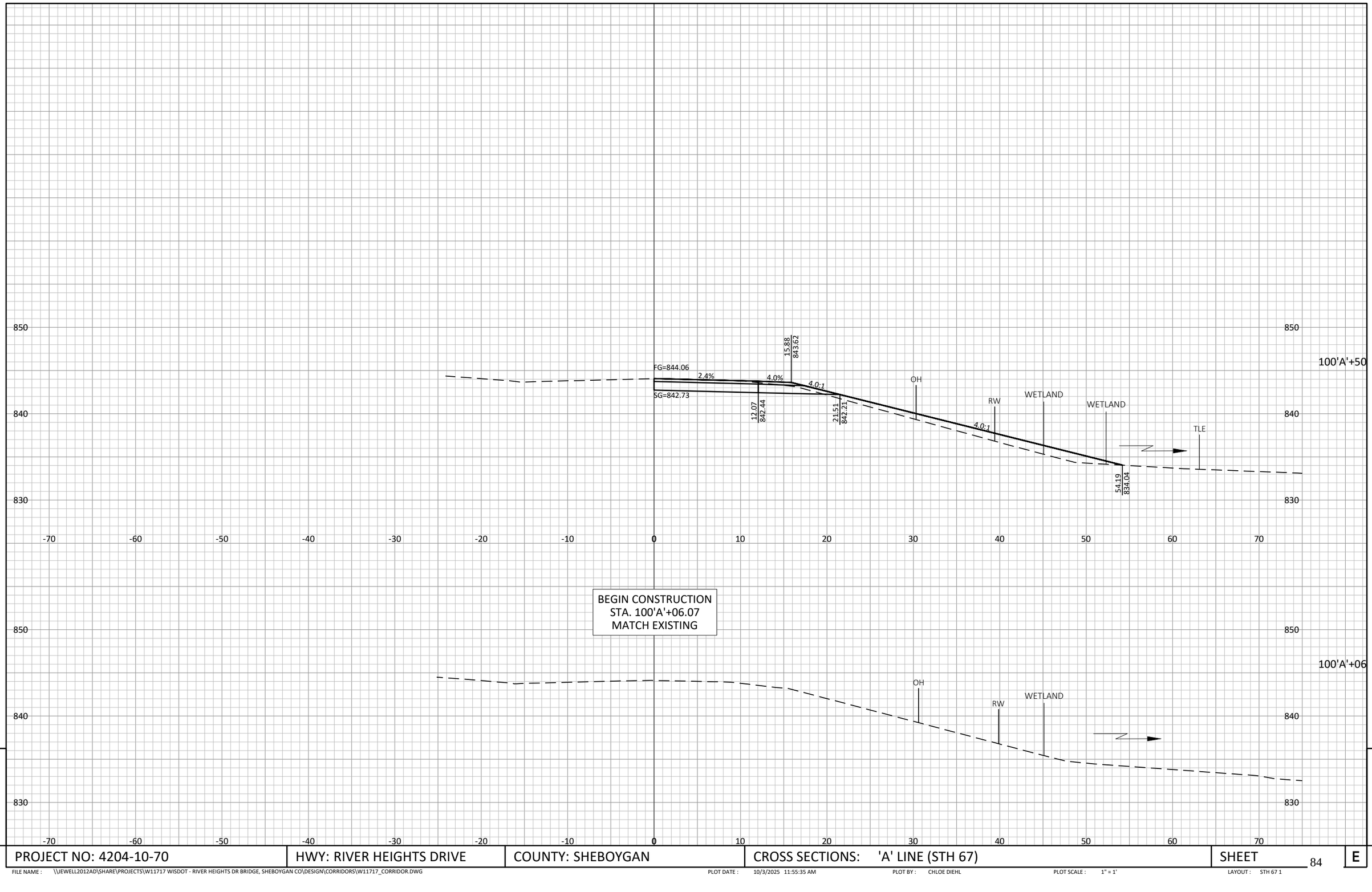
LIMITS OF EXCAVATION MARSH

END PROJECT
STA. 12+00
MATCH EXISTING



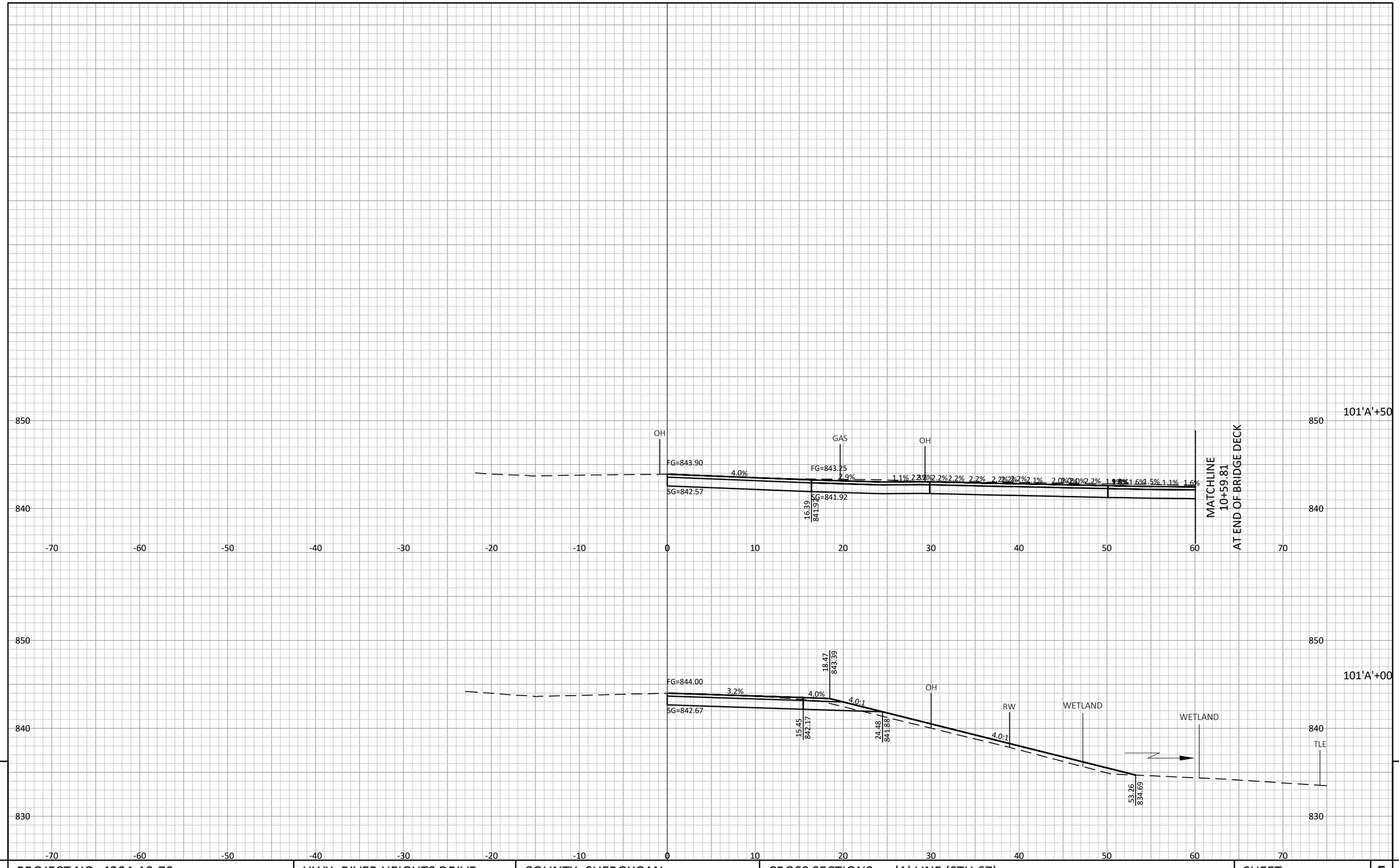
PROJECT NO: 4204-10-70	HWY: RIVER HEIGHTS DRIVE	COUNTY: SHEBOYGAN	CROSS SECTIONS: RIVER HEIGHTS DRIVE	SHEET	E

FILE NAME : S:\PROJECTS\W11717 WISDOT - RIVER HEIGHTS DR BRIDGE, SHEBOYGAN CO\DESIGN\CORRIDORS\W11717_CORRIDOR.DWG PLOT DATE : 10/1/2025 2:45:10 PM PLOT BY : CHLOE DIEHL PLOT SCALE : 1" = 1' LAYOUT : RHD 4



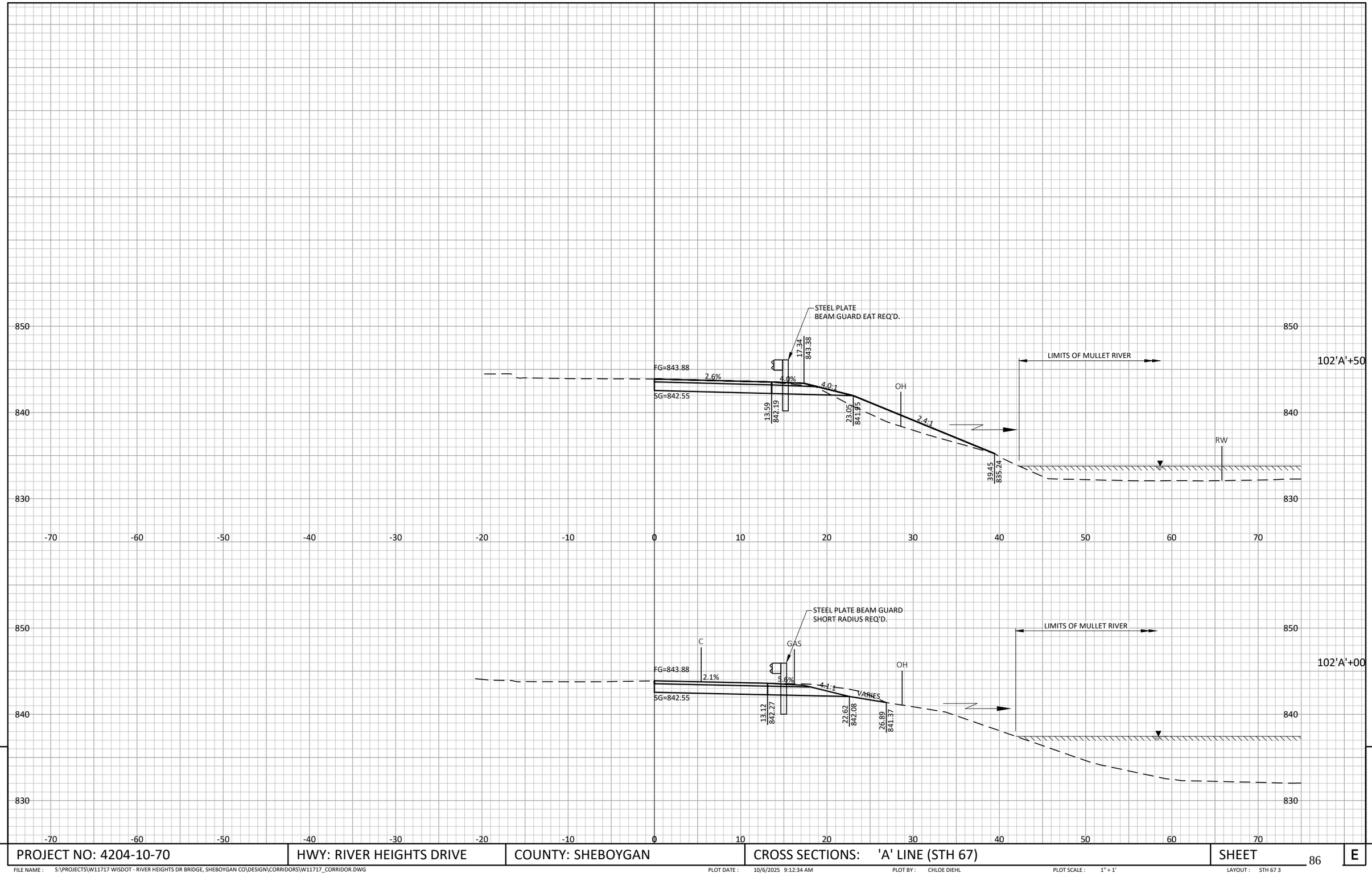
PROJECT NO: 4204-10-70	HWY: RIVER HEIGHTS DRIVE	COUNTY: SHEBOYGAN	CROSS SECTIONS: 'A' LINE (STH 67)	SHEET	E

FILE NAME : \\JEWELL2012AD\SHARE\PROJECTS\W11717 WISDOT - RIVER HEIGHTS DR BRIDGE, SHEBOYGAN CO\DESIGN\CORRIDORS\W11717_CORRIDOR.DWG PLOT DATE : 10/3/2025 11:55:35 AM PLOT BY : CHLOE DIEHL PLOT SCALE : 1" = 1' LAYOUT : STH 67 1



PROJECT NO: 4204-10-70	HWY: RIVER HEIGHTS DRIVE	COUNTY: SHEBOYGAN	CROSS SECTIONS: 'A' LINE (STH 67)	SHEET

FILE NAME : S:\PROJECTS\W11717 WISDOT - RIVER HEIGHTS DR BRIDGE, SHEBOYGAN CO\DESIGN\CORRIDORS\W11717_CORRIDOR.DWG PLOT DATE : 10/6/2025 9:12:09 AM PLOT BY : CHLOE DIEHL PLOT SCALE : 1" = 1' LAYOUT : STH 67 2



9

9

PROJECT NO: 4204-10-70	HWY: RIVER HEIGHTS DRIVE	COUNTY: SHEBOYGAN	CROSS SECTIONS: 'A' LINE (STH 67)	SHEET 86	E

FILE NAME : S:\PROJECTS\W11717 WISDOT - RIVER HEIGHTS DR BRIDGE, SHEBOYGAN CO\DESIGN\CORRIDORS\W11717_CORRIDOR.DWG PLOT DATE : 10/6/2025 9:12:34 AM PLOT BY : CHLOE DIEHL PLOT SCALE : 1" = 1' LAYOUT : STH 67 3

END CONSTRUCTION
STA. 103'A'+36.53
MATCH EXISTING

850
840
830

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

LIMITS OF MULLET RIVER

OH

RW

103'A'+37

FG=844.06
SG=842.72
2.9%
4.0%
2.5:1
15.81
843.56
12.05
842.37
19.32
842.16
40.54
833.74

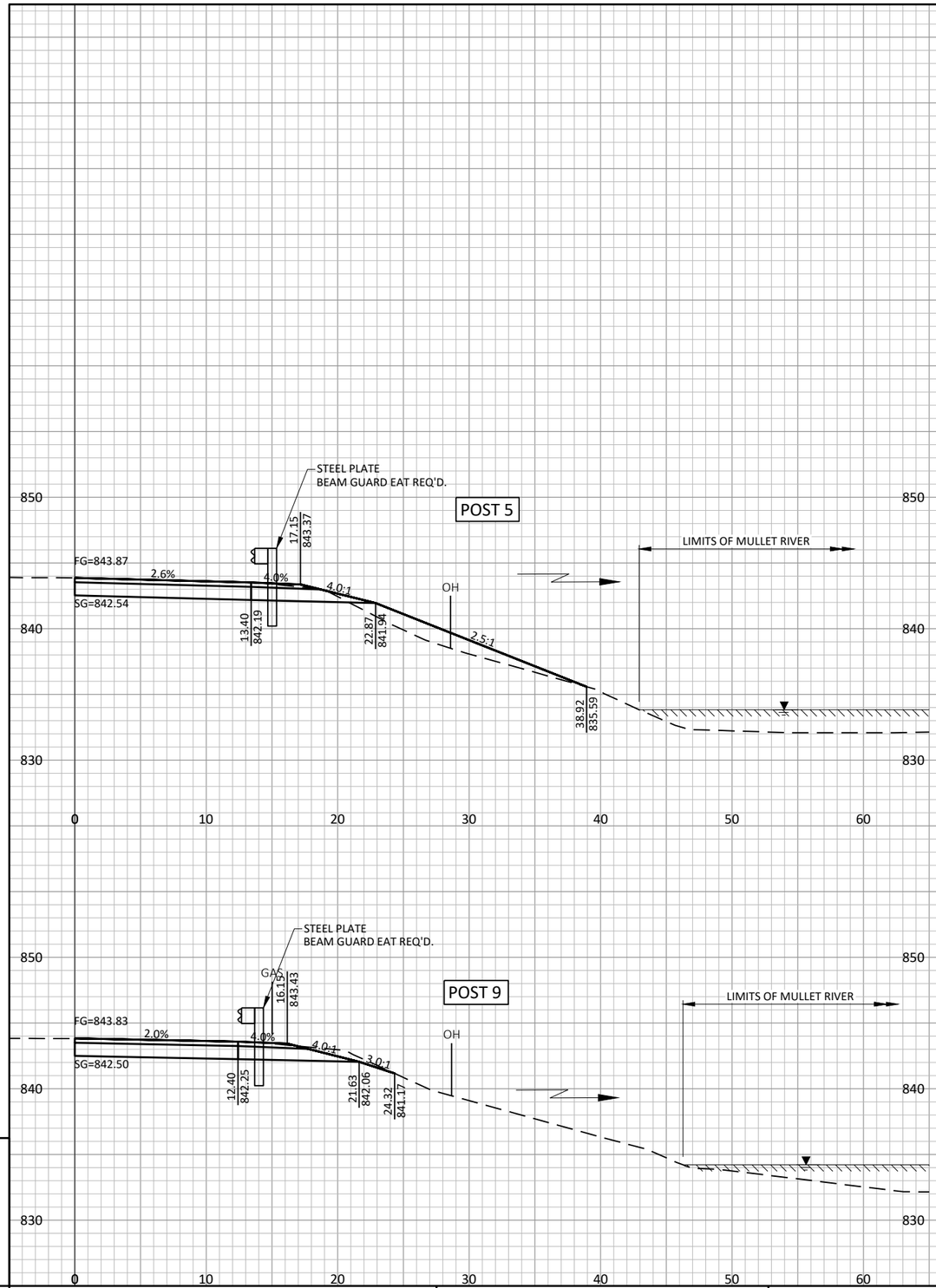
103'A'+00

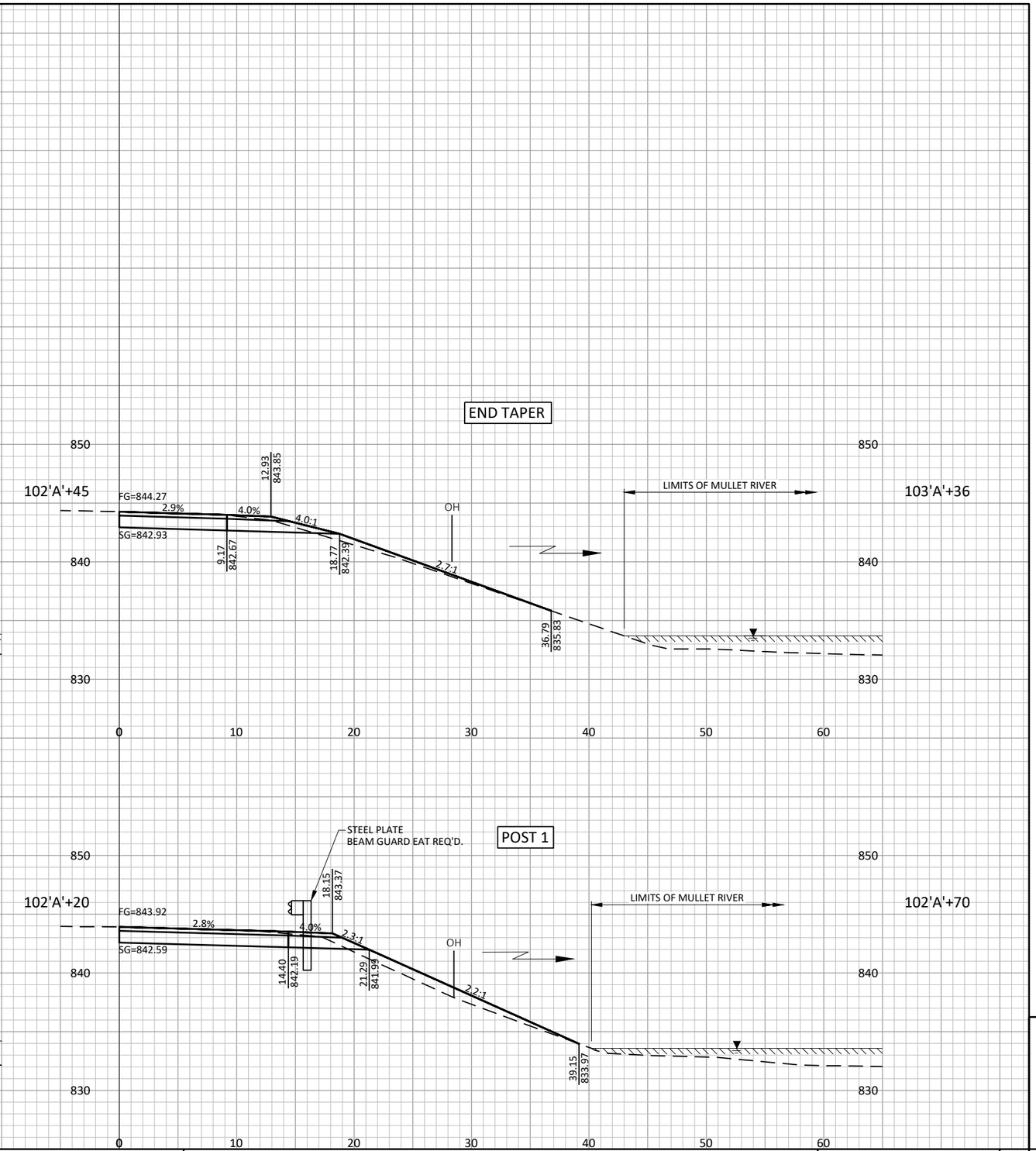
9

9

PROJECT NO: 4204-10-70	HWY: RIVER HEIGHTS DRIVE	COUNTY: SHEBOYGAN	CROSS SECTIONS: 'A' LINE (STH 67)	SHEET 87	E

FILE NAME : \\JEWELL2012AD\SHARE\PROJECTS\W11717 WISDOT - RIVER HEIGHTS DR BRIDGE, SHEBOYGAN CO\DESIGN\CORRIDORS\W11717_CORRIDOR.DWG PLOT DATE : 10/3/2025 11:56:03 AM PLOT BY : CHLOE DIEHL PLOT SCALE : 1" = 1' LAYOUT : STH 67 4





9

9

PROJECT NO: 4204-10-70	HWY: RIVER HEIGHTS DRIVE	COUNTY: SHEBOYGAN	CROSS SECTIONS: GUARDRAIL	SHEET	E

FILE NAME : S:\PROJECTS\W11717 WISDOT - RIVER HEIGHTS DR BRIDGE, SHEBOYGAN CO\DESIGN\CORRIDORS\W11717_CORRIDOR.DWG
PLOT DATE : 10/6/2025 9:12:52 AM
PLOT BY : CHLOE DIEHL
PLOT SCALE : 1" = 1'
LAYOUT : BG

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
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http://www.dot.wisconsin.gov