GRE NOVEMBER 2025

PROJECT ID: 4273-00-71

WITH: N/A

COUNTY: SHEBOYGAN

ORDER OF SHEETS

TOTAL SHEETS = 96

N

16

DESIGN DESIGNATION 4273-00-00

A.A.D.T.	(2026)	=	825
A.A.D.T.	(2046)	=	1,225
D.H.V.	(2046)	=	110
D.D.		=	60/40
T.		=	11%
DESIGN SPEED		=	50 M.P.H.
ESALS		=	36,500

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

LIMA - SHEBOYGAN FALLS

ONION RIVER BRIDGE

CTH OO

SHEBOYGAN COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4273-00-71		

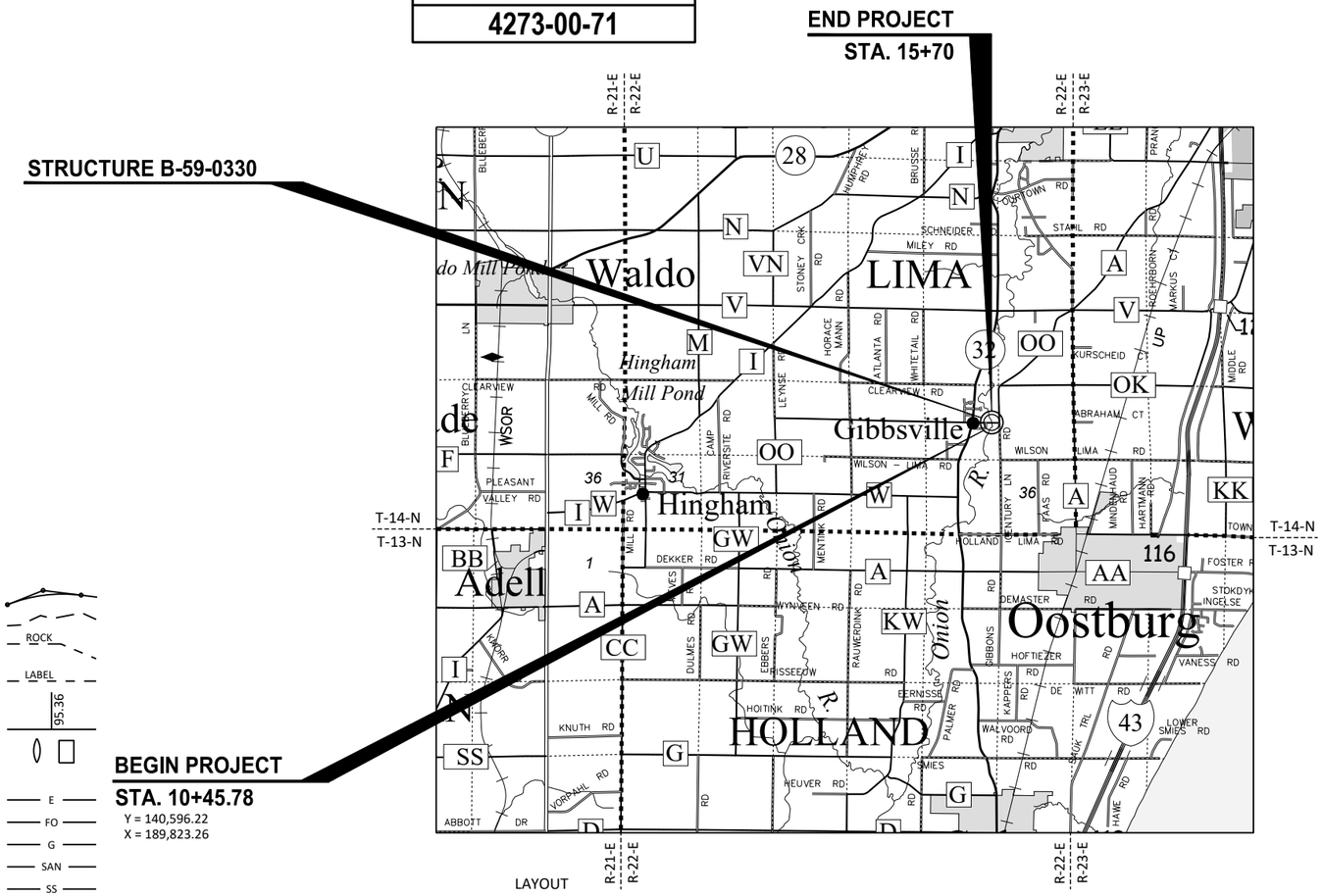
STATE PROJECT NUMBER

4273-00-71

END PROJECT

STA. 15+70

STRUCTURE B-59-0330



BEGIN PROJECT

STA. 10+45.78

Y = 140,596.22

X = 189,823.26

TOTAL NET LENGTH OF CENTERLINE = 0.099 MILES

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

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

ACCEPTED FOR

COUNTY of SHEBOYGAN

6/30/25 (Date)

(Transportation Director)

ORIGINAL PLANS PREPARED BY

JEWELL

WISCONSIN
ROBERT B. HANOLD
E-45655
PRAIRIE DU SAC WI
PROFESSIONAL ENGINEER

6/23/2025

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: 7/14/2025

(Signature)

E

2

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.

UNLESS SHOWN OTHERWISE, DISTURBED AREAS SHOWN WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS ARE TO BE FERTILIZED (TYPE B), SEEDED (USE SEED MIX NO. 70 OR NO. 20), AND MULCHED AS DIRECTED BY THE ENGINEER. ALL POST CONSTRUCTION WET AREAS SHALL BE SEEDED WITH SEEDING MIXTURE NO. 60. DO NOT FERTILIZE WETLAND AREAS.

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

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 SHALL BE IN PLACE PRIOR TO STRUCTURE REMOVAL.

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 EQUIPMENT OR STOCKPILE MATERIALS BEYOND THE EXISTING SLOPE INTERCEPT FROM STA. 13+20 - 13+23, RT. & STA. 13+62 - 14+11, RT.

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

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

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

ADD TACK COAT AT A RATE OF 0.05 GAL/SY.

4-INCHES OF ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 2 ¼-INCH LOWER LAYER AND A 1 ¾-INCH UPPER LAYER.

ORDER OF SECTION 2 SHEETS:

CONTACTS

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

SHEBOYGAN COUNTY HIGHWAY DEPARTMENT:
BRYAN OLSON, TRANSPORTATION DIRECTOR
W5741 CTH J
PLYMOUTH, WI 53073
PHONE: (920) 459-3822
EMAIL: bryan.olson@sheboygancounty.com

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

DNR LIAISON:
STATE OF WISCONSIN
DNR SERVICE CENTER
2984 SHAWANO AVE
GREEN BAY, WI 54313
ATTN: JAY SCHIEFELBEIN
PHONE: (920) 360-3784
EMAIL: jeremiah.schiefelbein@wisconsin.gov

UTILITIES

ELECTRIC
WE ENERGIES
ATTN: JOE FELLENZ
W140N9100 LILLY ROAD
MENOMONEE FALLS, WI 53051
PHONE: (262) 502-6831
CELL: (414) 322-8928
EMAIL: joseph.fellenz@we-energies.com

COMMUNICATIONS
CHARTER COMMUNICATIONS
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1320 N. DR. MARTIN LUTHER KING JR. DRIVE
MILWAUKEE, WI 53212
PHONE: (414) 430-6712
EMAIL: john.balde@charter.com

TIME WARNER CABLE
ATTN: JOHN BALDE
1320 N. DR. MARTIN LUTHER KING JR. DRIVE
MILWAUKEE, WI 53212
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EMAIL: john.balde@charter.com

TELEPHONE
FRONTIER COMMUNICATIONS
ATTN: CHRIS POLLACK
521 4TH STREET
WAUSAU, WI 54403
PHONE: (715) 847-1240
EMAIL: christopher.pollack@ftr.com

GAS
WE ENERGIES
ATTN: JACOB HYBERT
500 S. 166th STREET
WEST ALLIS, WI 53214
PHONE: (262) 968-5718
CELL: (414) 651-1577
MAIL: jacob.hybert@we-energies.com

SANITARY
GIBBSVILLE SANITARY DISTRICT
ATTN: KEN TEBEEST
P.O. BOX 700398
OOSTBURG, WI 53070
PHONE: (920) 889-9666
EMAIL: kentebeest@gmail.com

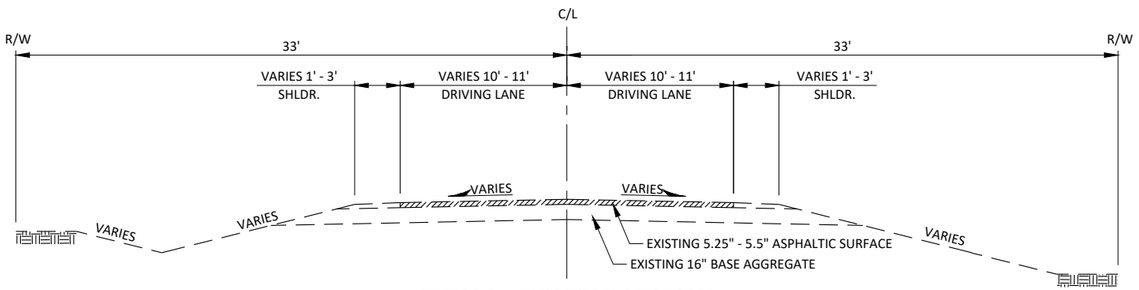
DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

LIST OF STANDARD ABBREVIATIONS

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

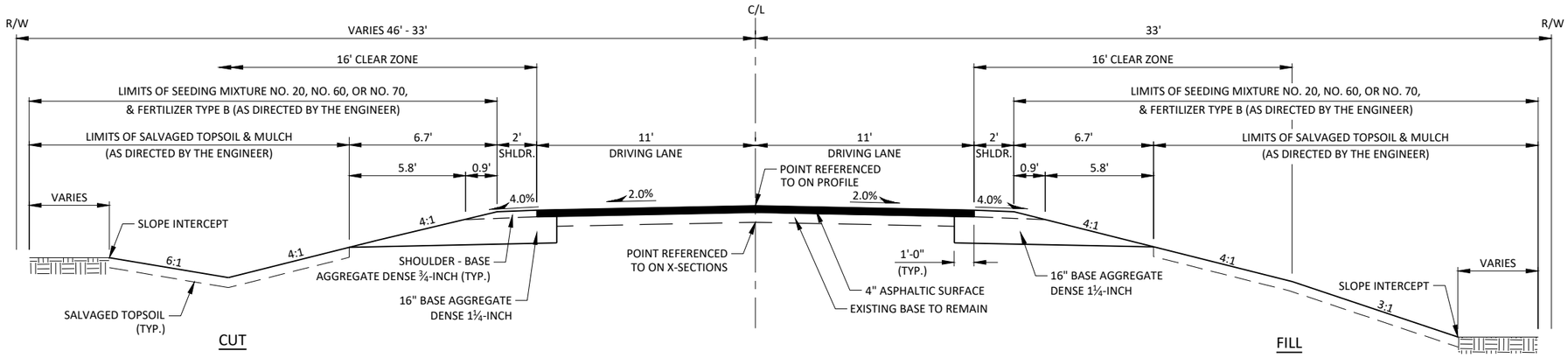
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33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

TOTAL PROJECT AREA= 1.17 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.68 ACRES



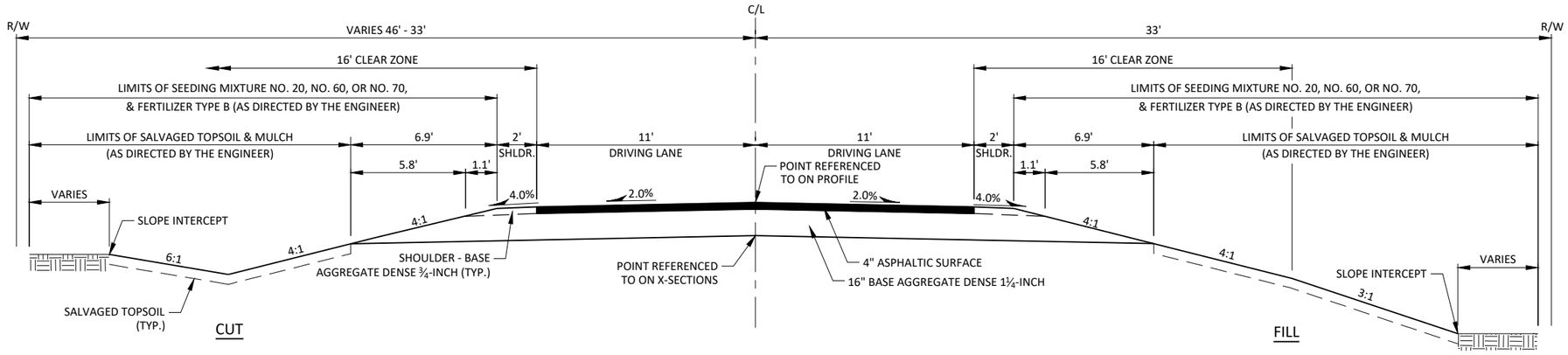
TYPICAL EXISTING SECTION
CTH OO
STA. 10+45.78 - STA. 15+70

2



TYPICAL FINISHED RECONDITION SECTION

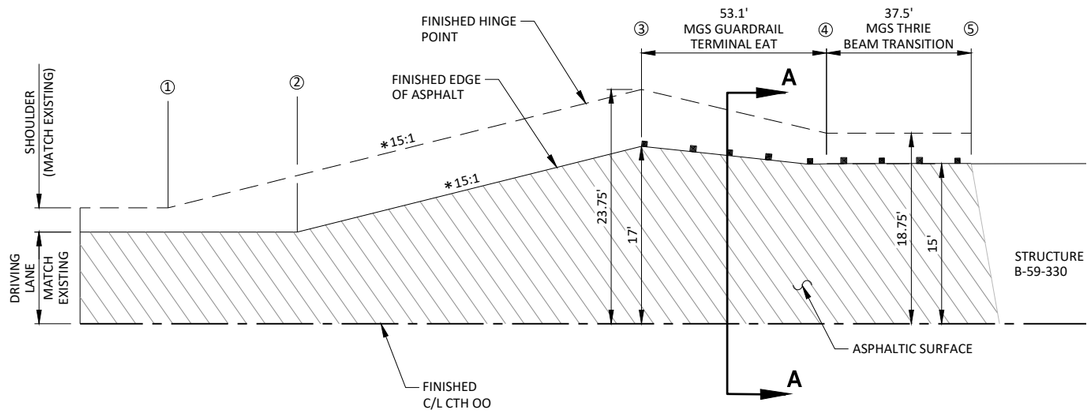
CTH OO
STA. 10+45.78 - STA. 11+45
STA. 14+25 - STA. 15+70



TYPICAL FINISHED RECONSTRUCTION SECTION

CTH OO
STA. 11+45 - STA. 14+25

PROJECT NO: 4273-00-71	HWY: CTH OO	COUNTY: SHEBOYGAN	TYPICAL FINISHED SECTION	SHEET 3	E

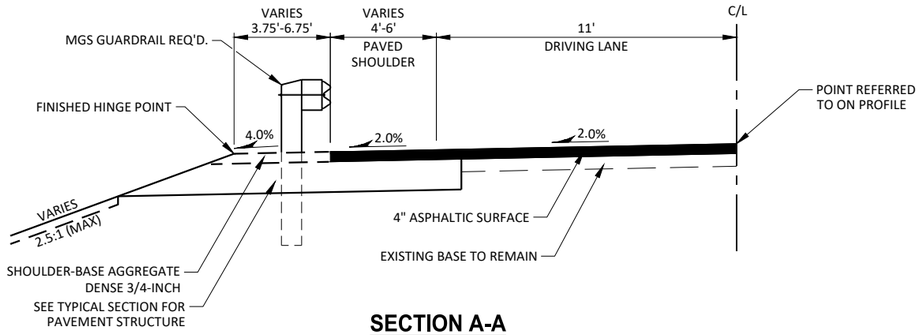


GUARDRAIL LAYOUT TABLE

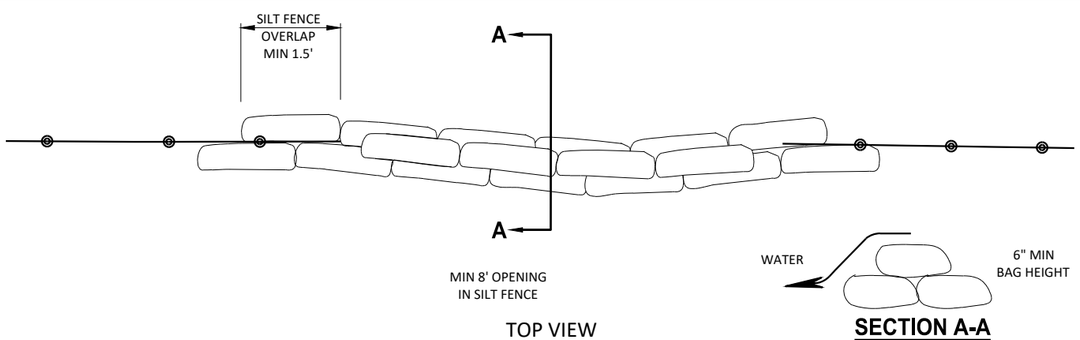
QUADRANT	LOCATION	STATION ①	②	③	④	⑤
SOUTHWEST	MAINLINE, RT.	10+46	10+46	11+01	11+54	11+91
NORTHWEST	MAINLINE, LT.	10+46	10+46	10+96	11+49	11+86
NORTHEAST	MAINLINE, LT.	16+32	15+60	14+69	14+16	13+79
SOUTHEAST	MAINLINE, RT.	15+70	15+70	14+74	14+21	13+84

GUARDRAIL LAYOUT DETAIL

∗ 15:1 TAPER UNLESS OTHERWISE NOTED IN PLAN & PROFILE



SECTION A-A

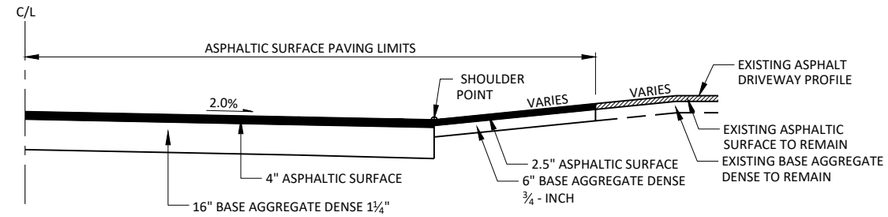


TOP VIEW

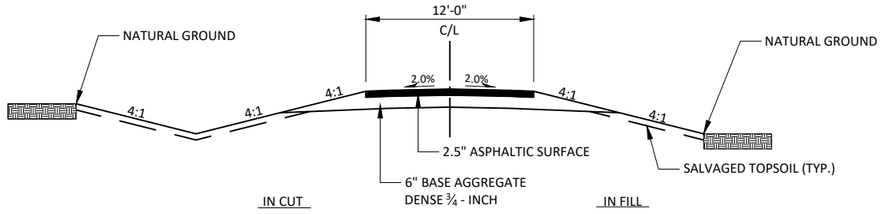
SECTION A-A

ROCK BAGS USED FOR SILT FENCE RELIEF

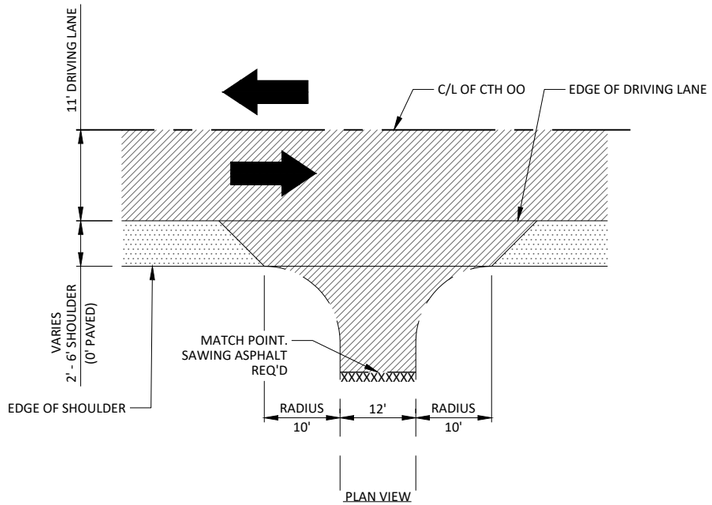
NOTE: LOCATION AND NUMBER OF ROCK BAGS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.



TYPICAL DRIVEWAY PROFILE



TYPICAL CROSS-SECTION FOR DRIVEWAY

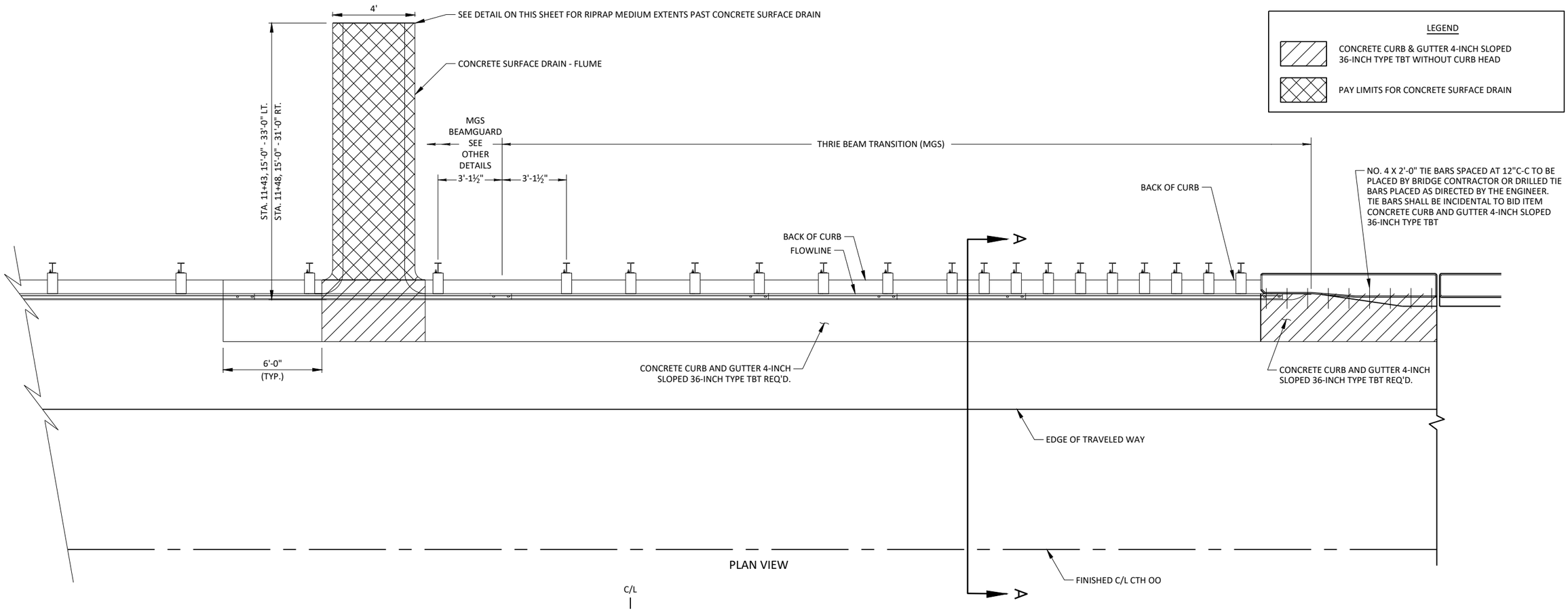


APPROACH AT DRIVEWAY TYPICAL DRIVEWAY DETAILS

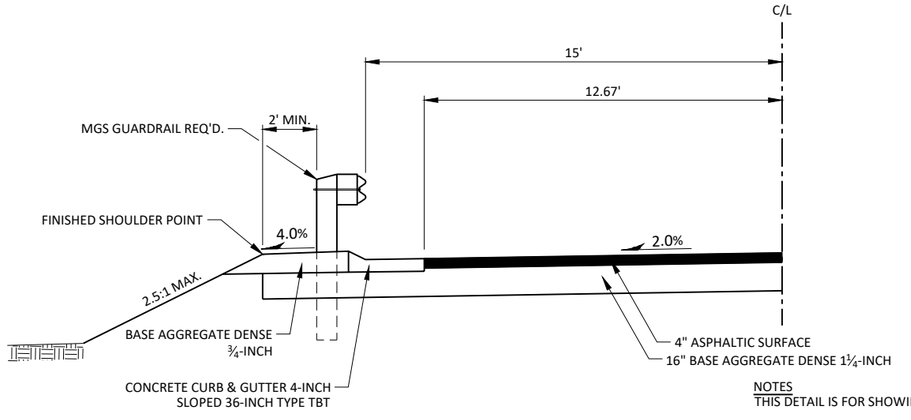
LIMITS OF ASPHALTIC SURFACE PAVING

LIMITS OF BASE AGGREGATE DENSE

2



PLAN VIEW

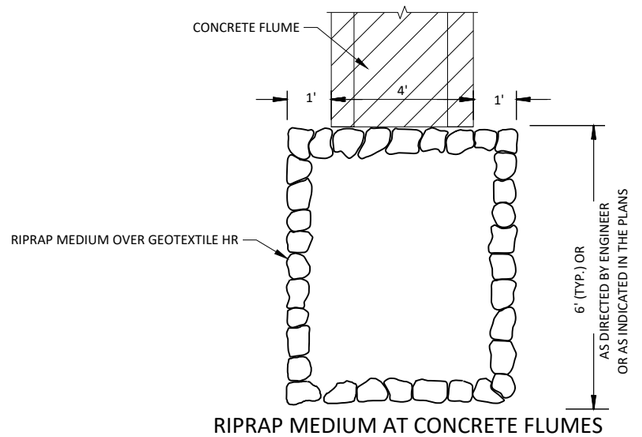


SECTION A-A

NOTES
THIS DETAIL IS FOR SHOWING PAY LIMITS ONLY.

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

SEE THE FOLLOWING SDD FOR SPECIFIC DETAILS:
- SDD MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
- SDD MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
- SDD MIDWEST GUARDRAIL SYSTEM (MGS) GUADRDRAIL
- SDD CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
- SDD CONCRETE CURB & GUTTER



RIPRAP MEDIUM AT CONCRETE FLUMES

KEEP RIPRAP MEDIUM WITHIN EXISTING RIGHT-OF-WAY LIMITS

PROJECT NO: 4273-00-71	HWY: CTH OO	COUNTY: SHEBOYGAN	CONSTRUCTION DETAIL: CONCRETE SURFACE DRAIN	SHEET 5	E

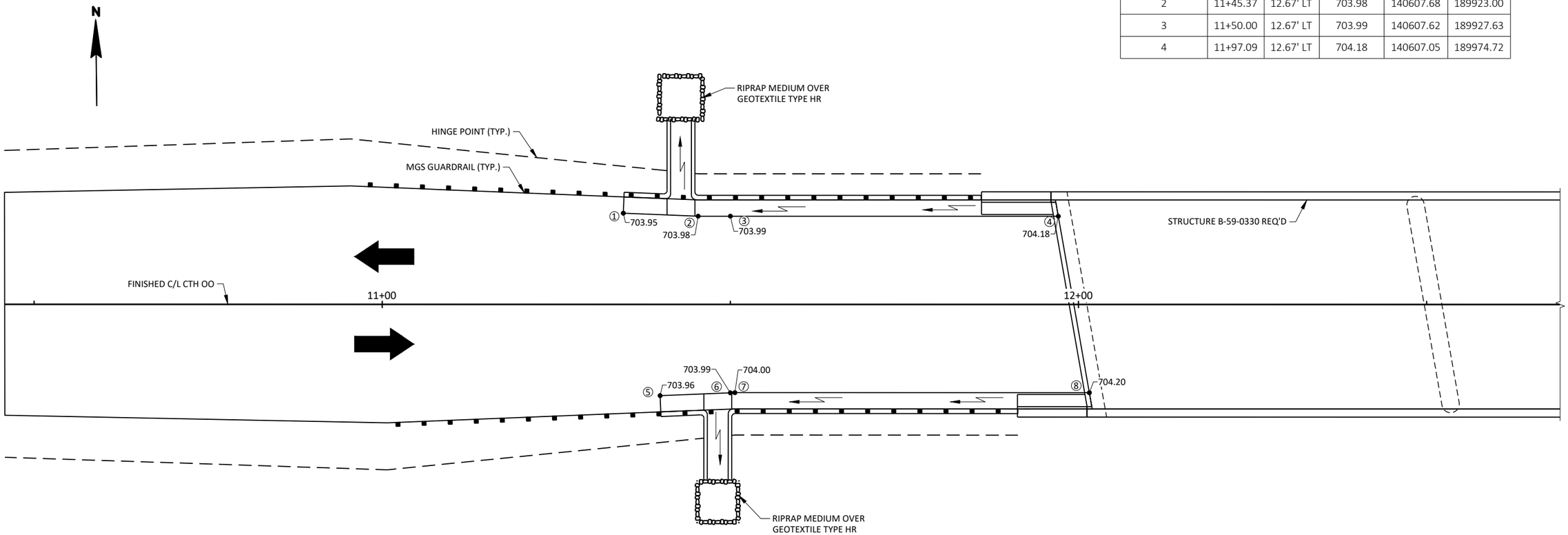
2

LEGEND

DIRECTION OF FLOW

DIRECTION OF TRAVEL

NW C&G LAYOUT					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
1	11+34.62	13.10' LT	703.95	140608.24	189912.26
2	11+45.37	12.67' LT	703.98	140607.68	189923.00
3	11+50.00	12.67' LT	703.99	140607.62	189927.63
4	11+97.09	12.67' LT	704.18	140607.05	189974.72



SW C&G LAYOUT					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
5	11+39.91	13.10' RT	703.96	140581.98	189917.23
6	11+50.00	12.69' RT	703.99	140582.26	189927.32
7	11+50.65	12.67' RT	704.00	140582.28	189927.97
8	12+01.56	12.67' RT	704.20	140581.67	189978.88

NOTE:

ALL WORK AND MATERIALS ASSOCIATED WITH GAINING ACCESS TO THE WATERWAY ARE INCIDENTAL TO CONTRACT ITEMS. (INCLUDES EROSION CONTROL AND RESTORATION).

CONSTRUCTING A CAUSEWAY IS ONE ALTERNATIVE TO GAINING ACCESS TO THE OVERBANKS FOR CONSTRUCTION.

OTHER METHODS, SUCH AS CONSTRUCTING A TEMPORARY STRUCTURE OR THE USE OF BARGES, ARE ENCOURAGED TO REDUCE WETLAND/WATERWAY IMPACTS.

COORDINATE EARLY WITH THE DEPARTMENT TO DETERMINE ACCEPTABLE METHODS AND IMPACTS.

N

ONION RIVER

P.L.

TLE

R/W

WE ENERGIES
CHARTER COMMUNICATIONS
TIME WARNER CABLE

OH

POST

STRUCTURE B-59-330

TEMPORARY CAUSEWAY PERMITTED FILL FOR BRIDGE REMOVAL AND CONSTRUCTION.

EXISTING STRUCTURE P-59-069 TO BE REMOVED

EXISTING C/L CTH OO

FINISHED C/L CTH OO

12+00

13+00

14+00

CAUSEWAY SLOPE INTERCEPT

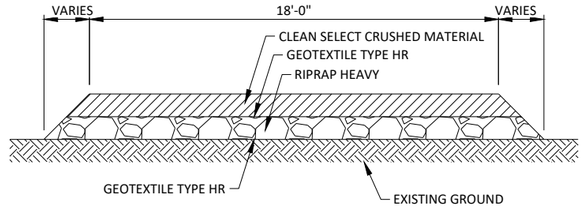
18'-0" (TYP.)

FRONTIER COMMUNICATIONS

SILT FENCE (TYP.)

WETLAND BOUNDARY (TYP.)

TOTAL WETLAND IMPACTS 0.088 ACRES



TYPICAL TEMPORARY CAUSEWAY SECTION

PROJECT NO: 4273-00-71	HWY: CTH OO	COUNTY: SHEBOYGAN	CONSTRUCTION DETAILS: TEMPORARY CAUSEWAY CONCEPT	SHEET 7	E

FILE NAME : S:\PROJECTS\SD9070 SHEBOYGAN CO - CTH OO BRIDGE REPLACEMENT\SHEETSPLAN\DETAILS\SD9070_CAUSEWAY LAYOUT.DWG PLOT DATE : 6/26/2025 9:36:24 AM PLOT BY : COLTON PEPER PLOT SCALE : 1" = 1' LAYOUT :

2

2

N

LEGEND

- DIRECTION OF FLOW
- EDGE OF WATER
- RIPRAP MEDIUM OVER GEOTEXTILE TYPE HR
- WETLANDS
- WETLAND BOUNDARY
- TEMPORARY DITCH CHECKS
- TURBIDITY BARRIER
- SILT FENCE
- SEED MIXTURE NO. 70 LIMITS

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

TYLER W. LEROY

JOSHUA J. DEPAGTER

BEGIN PROJECT
STA. 10+45.78

END PROJECT
STA. 15+70

END CONSTRUCTION
STA. 16+31.54

SLOPE INTERCEPT (TYP.)

TLE

6' X 6'

R/W

CONCRETE SURFACE DRAIN L=10', W=4'

RIPRAP HEAVY OVER GEOTEXTILE HR CAT 020 (TYP.)

FINISHED C/L CTH OO

EXISTING C/L CTH OO

11+00 12+00 13+00 14+00 15+00 16+00

ONION RIVER

P.L.

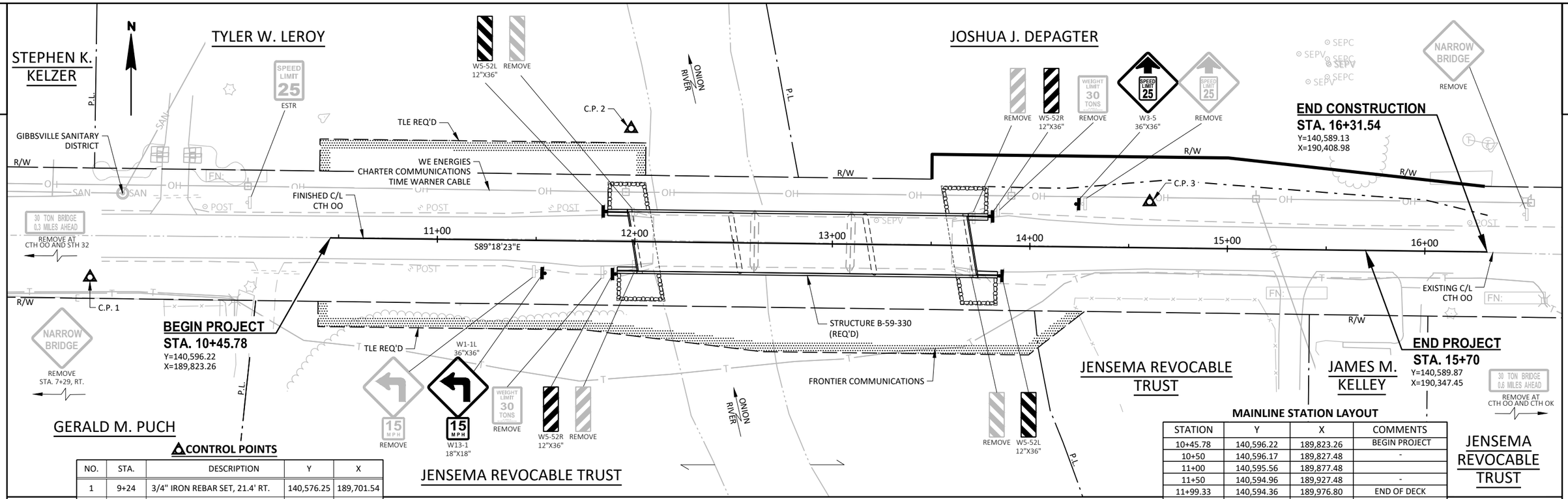
WETLAND BOUNDARY (TYP.)

JENSEMA REVOCABLE TRUST

JAMES M. KELLEY

JENSEMA REVOCABLE TRUST

PROJECT NO: 4273-00-71	HWY: CTH OO	COUNTY: SHEBOYGAN	EROSION CONTROL PLAN	SHEET 8	E

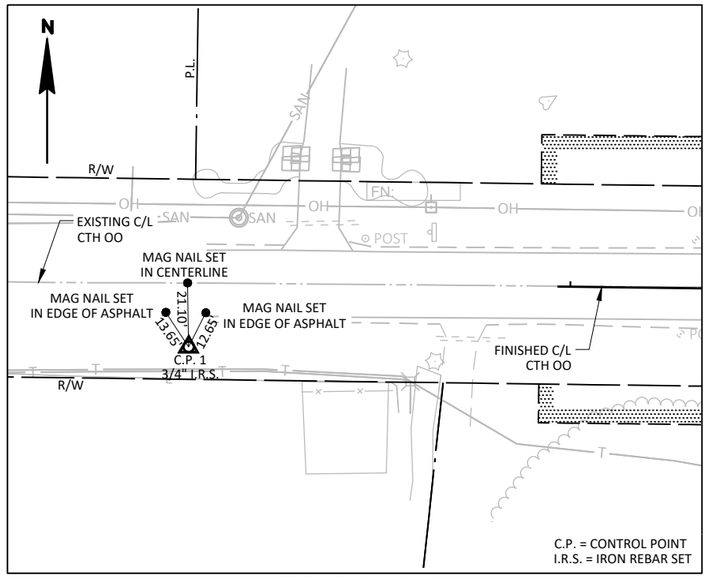


CONTROL POINTS

NO.	STA.	DESCRIPTION	Y	X
1	9+24	3/4" IRON REBAR SET, 21.4' RT.	140,576.25	189,701.54
2	11+97	3/4" IRON REBAR SET, 57.2' LT.	140,651.58	189,975.58
3	14+60	3/4" IRON REBAR SET, 23.2' LT.	140,614.42	190,238.10

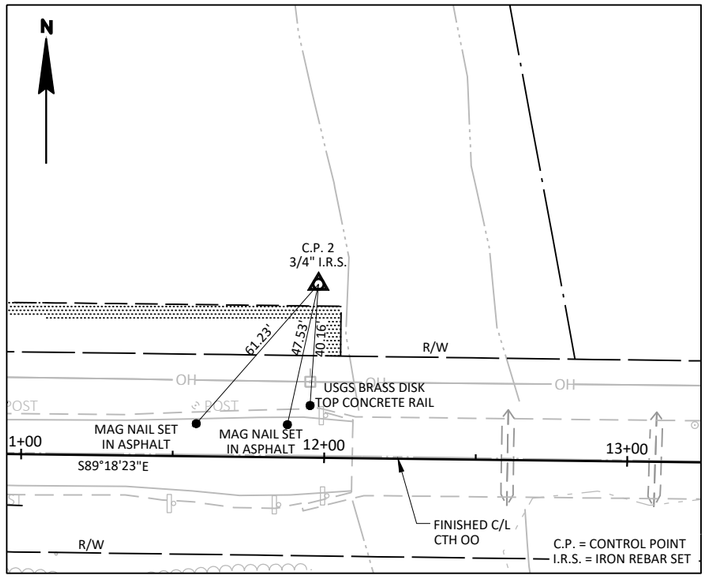
MAINLINE STATION LAYOUT

STATION	Y	X	COMMENTS
10+45.78	140,596.22	189,823.26	BEGIN PROJECT
10+50	140,596.17	189,827.48	-
11+00	140,595.56	189,877.48	-
11+50	140,594.96	189,927.48	-
11+99.33	140,594.36	189,976.80	END OF DECK
12+00	140,594.35	189,977.47	-
12+50	140,593.75	190,027.47	-
13+00	140,593.14	190,077.46	-
13+50	140,592.54	190,127.46	-
13+70.51	140,592.29	190,147.97	END OF DECK
14+00	140,591.93	190,177.46	-
14+50	140,591.33	190,227.45	-
15+00	140,590.72	190,277.45	-
15+50	140,590.11	190,327.45	-
15+70	140,589.87	190,347.45	
16+00	140,589.51	190,377.44	END PROJECT
16+31.54	140,589.13	190,408.98	END CONSTRUCTION



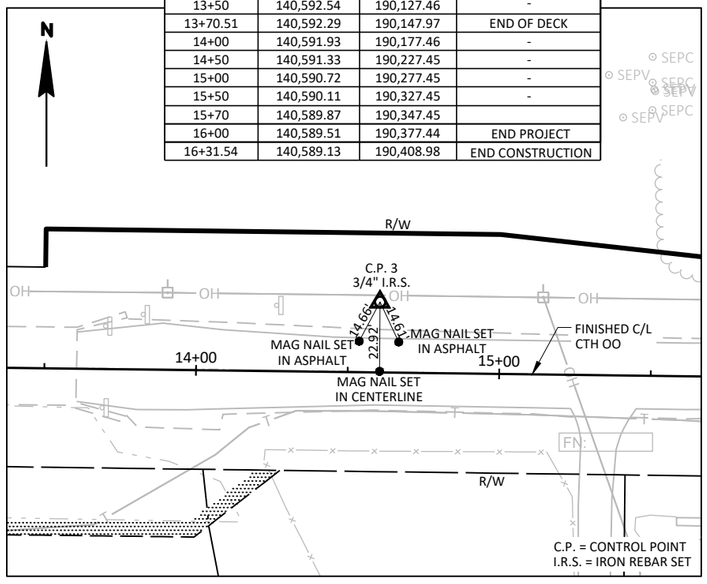
TIES TO C.P.#1

STA. 9+24; 21.4' RT.
Y = 140,576.25
X = 189,701.54



TIES TO C.P.#2

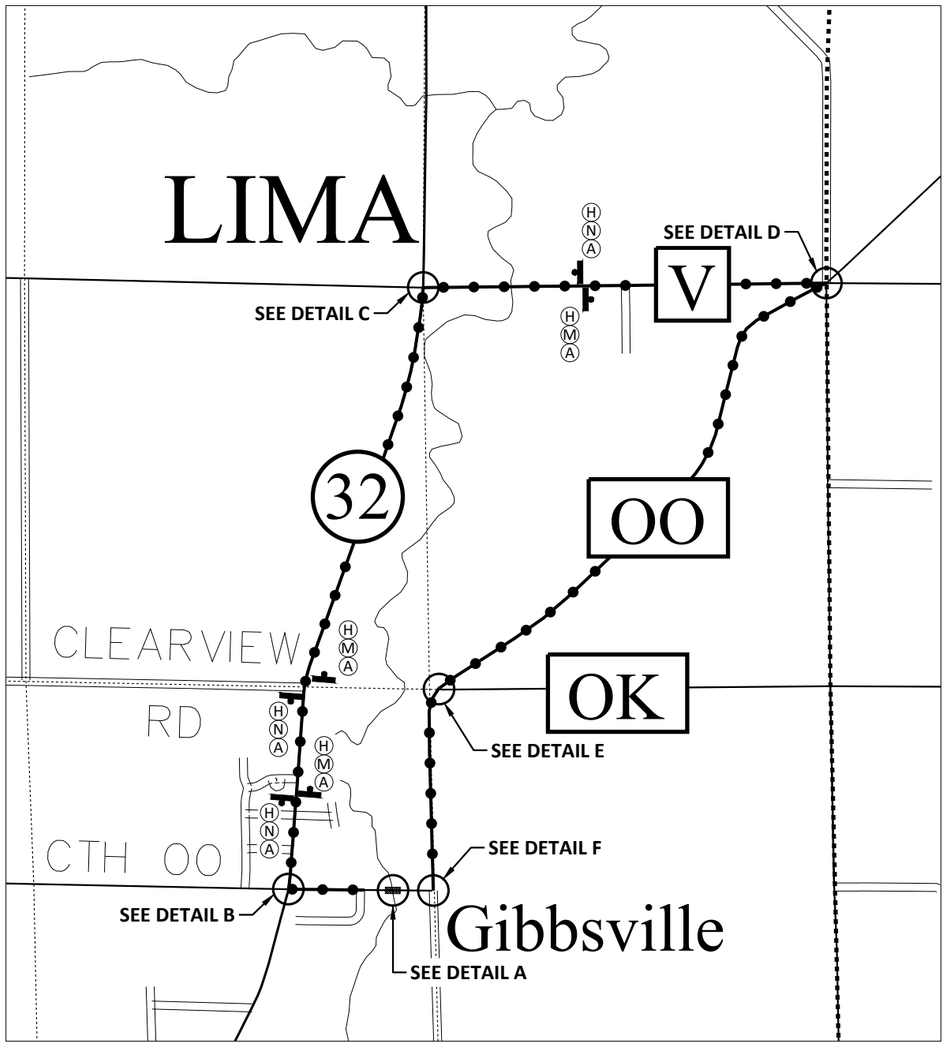
STA. 11+97; 57.2' LT.
Y = 140,651.58
X = 189,975.58



TIES TO C.P.#3

STA. 14+60; 23.2' LT.
Y = 140,614.42
X = 190,238.10

PROJECT NO: 4273-00-71	HWY: CTH OO	COUNTY: SHEBOYGAN	ALIGNMENT & TIES AND PERMANENT SIGNING	SHEET 9	E



LEGEND

- DETOUR ROUTE
- WORK ZONE
- COVER SIGN
- SIGN ON PERMANENT SUPPORT
- EXISTING SIGN ON SINGLE POST
- EXISTING SIGN ON DOUBLE POST
- BARRICADES TYPE III WITH ATTACHED SIGN AND WITH TRAFFIC CONTROL LIGHTS TYPE A
- BARRICADES TYPE III

GENERAL NOTES

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

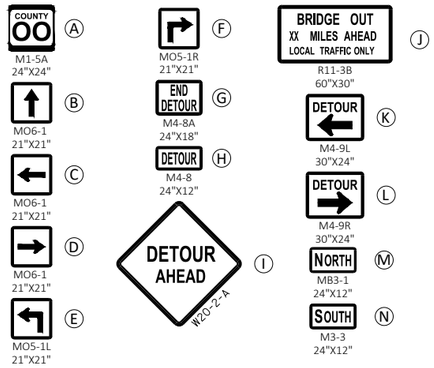
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

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

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

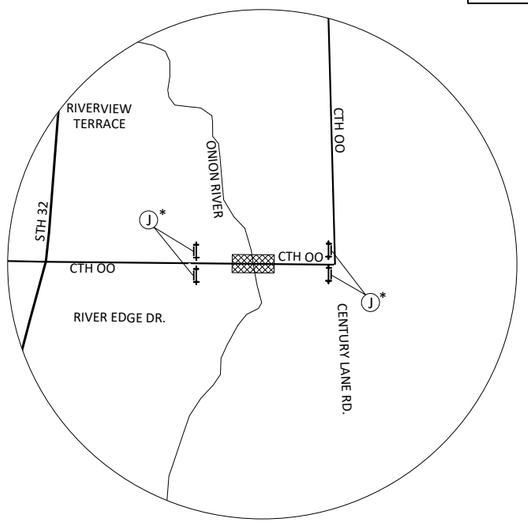
ALL "WO" AND "W" SIGNS SHALL BE 48"X48" UNLESS OTHERWISE NOTE.

IMMEDIATELY RE-ESTABLISH "STOP" SIGNS THAT ARE REMOVED FOR A CONSTRUCTION OPERATION.



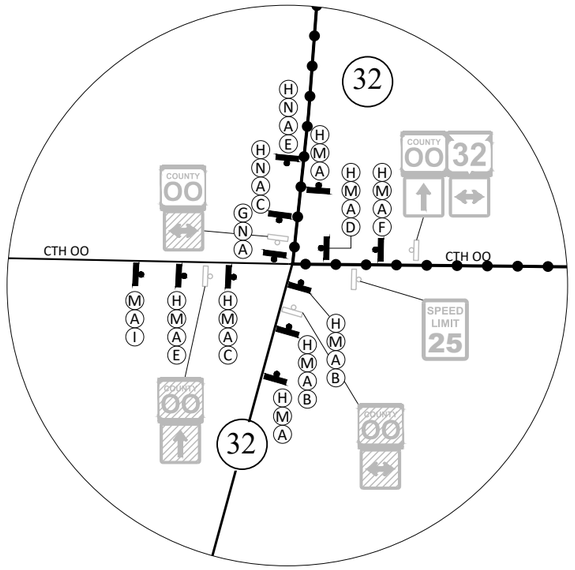
* SIGN READS "BRIDGE OUT 0.1 MILES AHEAD"

** SIGN READS "BRIDGE OUT 2 MILES AHEAD"

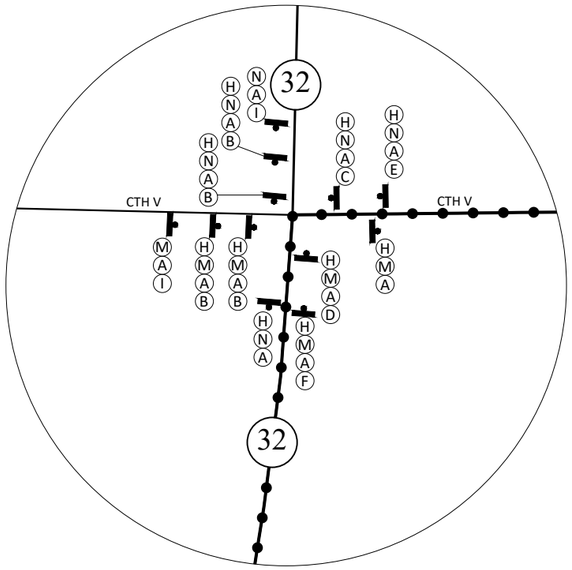


DETAIL A

NOTE: SEE SDD 15C2-09A " BARRICADES AND SIGNS FOR MAINLINE CLOSURES" DETAIL A, B, C, AND D FOR ADDITIONAL TRAFFIC CONTROL AT AND APPROACHING WORK ZONE.



DETAIL B



DETAIL C

N

LEGEND

- DETOUR ROUTE
- WORK ZONE
- COVER SIGN
- SIGN ON PERMANENT SUPPORT
- EXISTING SIGN ON SINGLE POST
- EXISTING SIGN ON DOUBLE POST
- BARRICADES TYPE III WITH ATTACHED SIGN AND WITH TRAFFIC CONTROL LIGHTS TYPE A
- BARRICADES TYPE III

GENERAL NOTES

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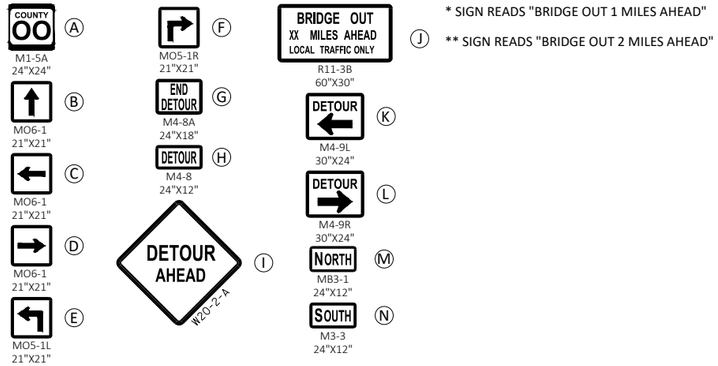
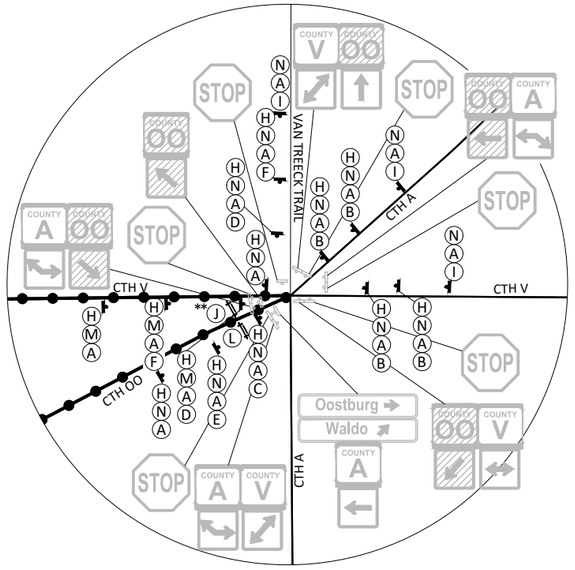
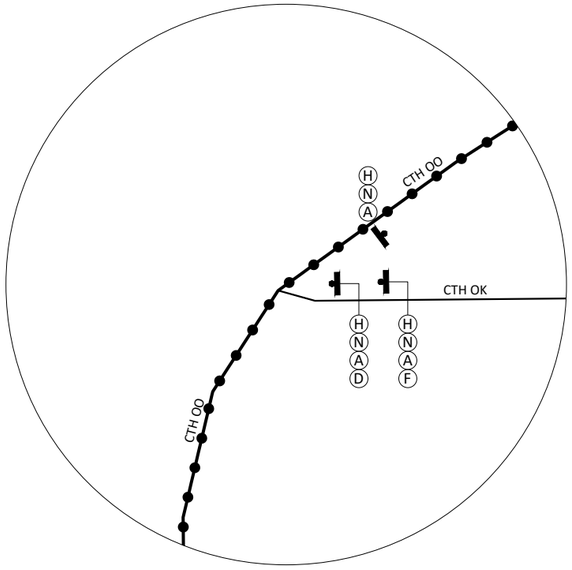


* SIGN READS "BRIDGE OUT 1 MILES AHEAD"

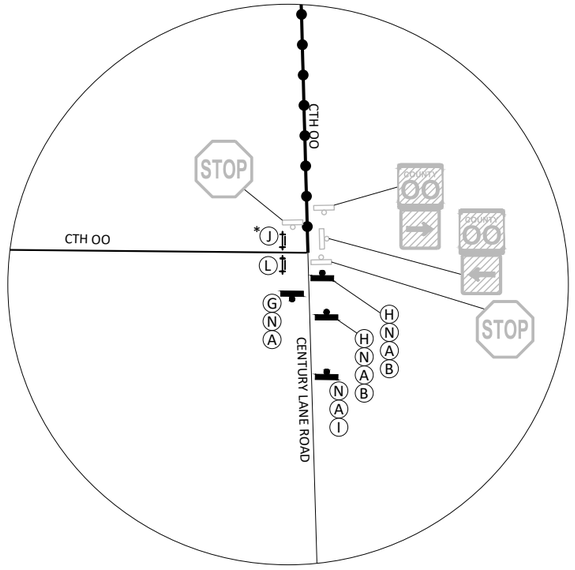
** SIGN READS "BRIDGE OUT 2 MILES AHEAD"



DETAIL D



DETAIL E



DETAIL F

PROJECT NO: 4273-00-71	HWY: CTH OO	COUNTY: SHEBOYGAN	CONSTRUCTION DETAILS	SHEET 11	E

Estimate Of Quantities

4273-00-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	4.000	4.000
0004	201.0205	Grubbing	STA	4.000	4.000
0006	203.0211.S	Abatement of Asbestos Containing Material (structure) 01. P-59-069	EACH	1.000	1.000
0008	203.0250	Removing Structure Over Waterway Remove Debris (structure) 01. P-59-069	EACH	1.000	1.000
0010	204.0110	Removing Asphaltic Surface	SY	620.000	620.000
0012	204.0180	Removing Delineators and Markers	EACH	3.000	3.000
0014	205.0100	Excavation Common	CY	500.000	500.000
0016	206.1001	Excavation for Structures Bridges (structure) 01. B-59-330	EACH	1.000	1.000
0018	208.0100	Borrow	CY	630.000	630.000
0020	210.1500	Backfill Structure Type A	TON	250.000	250.000
0022	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 4273-00-71	EACH	1.000	1.000
0024	213.0100	Finishing Roadway (project) 01. 4273-00-71	EACH	1.000	1.000
0026	305.0110	Base Aggregate Dense 3/4-Inch	TON	130.000	130.000
0028	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,280.000	1,280.000
0030	455.0605	Tack Coat	GAL	60.000	60.000
0032	465.0105	Asphaltic Surface	TON	298.000	298.000
0034	502.0100	Concrete Masonry Bridges	CY	593.000	593.000
0036	502.3200	Protective Surface Treatment	SY	585.000	585.000
0038	502.3210	Pigmented Surface Sealer	SY	210.000	210.000
0040	505.0400	Bar Steel Reinforcement HS Structures	LB	7,190.000	7,190.000
0042	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	77,920.000	77,920.000
0044	516.0500	Rubberized Membrane Waterproofing	SY	12.000	12.000
0046	550.2104	Piling CIP Concrete 10 3/4 X 0.25-Inch	LF	510.000	510.000
0048	550.2126	Piling CIP Concrete 12 3/4 X 0.375-Inch	LF	1,170.000	1,170.000
0050	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	126.000	126.000
0052	602.3010	Concrete Surface Drains	CY	2.000	2.000
0054	606.0200	Riprap Medium	CY	8.000	8.000
0056	606.0300	Riprap Heavy	CY	185.000	185.000
0058	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	150.000	150.000
0060	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0062	614.2500	MGS Thrie Beam Transition	LF	160.000	160.000
0064	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0066	619.1000	Mobilization	EACH	1.000	1.000
0068	624.0100	Water	MGAL	21.000	21.000
0070	625.0500	Salvaged Topsoil	SY	1,650.000	1,650.000
0072	627.0200	Mulching	SY	1,650.000	1,650.000
0074	628.1504	Silt Fence	LF	940.000	940.000
0076	628.1520	Silt Fence Maintenance	LF	1,880.000	1,880.000
0078	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000
0080	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0082	628.6005	Turbidity Barriers	SY	300.000	300.000
0084	628.7504	Temporary Ditch Checks	LF	32.000	32.000
0086	628.7570	Rock Bags	EACH	21.000	21.000
0088	629.0210	Fertilizer Type B	CWT	2.000	2.000
0090	630.0120	Seeding Mixture No. 20	LB	90.000	90.000
0092	630.0160	Seeding Mixture No. 60	LB	2.000	2.000
0094	630.0170	Seeding Mixture No. 70	LB	1.000	1.000
0096	630.0200	Seeding Temporary	LB	52.000	52.000
0098	630.0300	Seeding Borrow Pit	LB	17.000	17.000

4273-00-71

Line	Item	Item Description	Unit	Total	Qty
0100	630.0500	Seed Water	MGAL	64.000	64.000
0102	633.5100	Markers ROW	EACH	7.000	7.000
0104	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	6.000	6.000
0106	637.2230	Signs Type II Reflective F	SF	32.250	32.250
0108	638.2602	Removing Signs Type II	EACH	12.000	12.000
0110	638.3000	Removing Small Sign Supports	EACH	11.000	11.000
0112	642.5001	Field Office Type B	EACH	1.000	1.000
0114	643.0420	Traffic Control Barricades Type III	DAY	2,215.000	2,215.000
0116	643.0705	Traffic Control Warning Lights Type A	DAY	3,445.000	3,445.000
0118	643.0900	Traffic Control Signs	DAY	24,970.000	24,970.000
0120	643.0920	Traffic Control Covering Signs Type II	EACH	18.000	18.000
0122	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0124	643.5000	Traffic Control	EACH	1.000	1.000
0126	645.0111	Geotextile Type DF Schedule A	SY	70.000	70.000
0128	645.0120	Geotextile Type HR	SY	310.000	310.000
0130	646.1020	Marking Line Epoxy 4-Inch	LF	1,710.000	1,710.000
0132	650.4500	Construction Staking Subgrade	LF	355.000	355.000
0134	650.5000	Construction Staking Base	LF	355.000	355.000
0136	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	126.000	126.000
0138	650.6501	Construction Staking Structure Layout (structure) 01. B-59-330	EACH	1.000	1.000
0140	650.9911	Construction Staking Supplemental Control (project) 01. 4273-00-71	EACH	1.000	1.000
0142	650.9920	Construction Staking Slope Stakes	LF	355.000	355.000
0144	690.0150	Sawing Asphalt	LF	56.000	56.000
0146	715.0502	Incentive Strength Concrete Structures	DOL	3,570.000	3,570.000
0148	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 12+85	EACH	1.000	1.000
0150	SPV.0090	Special 01. Parapet Concrete Type 'TX'	LF	385.000	385.000
0152	SPV.0195	Special 01. Select Crushed Material For Travel Corridor	TON	45.000	45.000

ALL ITEMS 010 UNLESS OTHERWISE NOTED

CLEARING AND GRUBBING

STATION - STATION	LOCATION	201.0105 CLEARING (STA)	201.0205 GRUBBING (STA)
10+45.78 - 14+40	MAINLINE	4	4
	TOTAL=	4	4

REMOVING ASPHALTIC SURFACE

STATION - STATION	LOCATION	204.0110 (SY)
10+45.78 - 11+45	MAINLINE	240
14+25 - 15+70	MAINLINE	380
	TOTAL=	620

REMOVING DELINATORS AND MARKERS

STATION - STATION	LOCATION	204.0180 (EACH)
10+87	MAINLINE, RT.	1
10+91	MAINLINE, LT.	1
11+57	MAINLINE, LT.	1
	TOTAL=	3

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)
10+45.78 - 11+99.33	MAINLINE	60	540
13+70.51 - 16+31.54	MAINLINE	70	740
	TOTALS =	130	1,280

NOTE: BASE AGGREGATE DENSE 3/4-INCH QUANTITY FOR DRIVEWAY AT STA 15+33, RT. INCLUDED IN MAINLINE QUANTITY.

EARTHWORK SUMMARY

FROM/TO STA	LOCATION	205.0100 COMMON EXCAVATION CUT (CY)	AVAILABLE MATERIAL (CY) (1)	UNEXPANDED FILL (CY)	EXPANDED FILL (CY) FACTOR 1.25 (2)	MASS ORDINATE +/- (CY) (3)	208.0100 BORROW (CY)
10+45.78 - 16+31.54	MAINLINE	500	500	904	1,130	-630	630
	TOTALS =	500	500	904	1,130	-630	630

NOTES:
1.) AVAILABLE MATERIAL=CUT
2.) EXPANDED FILL FACTOR 1.25: EXPANDED FILL = (UNEXPANDED FILL)*1.25
3.) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE CATEGORY. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE CATEGORY.

ASPHALTIC SURFACE

STATION - STATION	LOCATION	455.0605 TACK COAT (GAL)	465.0105 ASPHALTIC SURFACE (TON)
10+45.78 - 11+99.33	MAINLINE	26	129
13+70.51 - 16+31.54	MAINLINE	34	169
	TOTALS =	60	298

NOTE: ASPHALTIC SURFACE QUANTITY FOR DRIVEWAY AT STA 15+33, RT. INCLUDED IN MAINLINE QUANTITY.

GUARDRAIL

STATION - STATION	LOCATION	614.2500 MGS THRIE BEAM TRANSITION (LF)	614.2610 MGS GUARDRAIL TERMINAL EAT (EACH)
11+54 - 11+91	MAINLINE, RT.	40	1
11+49 - 11+86	MAINLINE, LT.	40	1
13+79 - 14+16	MAINLINE, LT.	40	1
13+84 - 12+41	MAINLINE, RT.	40	1
	TOTALS =	160	4

WATER

STATION - STATION	LOCATION	624.0100 (MGAL)
10+45.78 - 15+70	MAINLINE	21
	TOTAL =	21

SILT FENCE

STATION - STATION	LOCATION	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)
10+45.78 - 12+16	MAINLINE, RT.	175	350
10+45.78 - 12+05	MAINLINE, LT.	170	340
13+01 - 13+31	MAINLINE	130	260
13+65 - 15+27	MAINLINE, RT.	250	500
15+39 - 15+70	MAINLINE, RT.	30	60
-	UNDISTRIBUTED	185	370
	TOTALS =	940	1,880

CONCRETE CURB & GUTTER

STATION - STATION	LOCATION	601.0588 4-INCH SLOPED 36-INCH TYPE TBT (LF)
11+35 - 11+97	MAINLINE, LT.	63
11+40 - 12+02	MAINLINE, RT.	63
	TOTALS =	126

FINISHING ITEMS

STATION - STATION	LOCATION	625.0500 SALVAGED TOPSOIL (SY)	627.0200 MULCHING (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0120 SEEDING MIXTURE NO. 20 (LB)	630.0160 SEEDING MIXTURE NO. 60 (LB)	630.0170 SEEDING MIXTURE NO. 70 (LB)	630.0200 SEEDING TEMPORARY (LB)	630.0300 SEEDING BORROW PIT (LB)	630.0500 SEED WATER (MGAL)
10+45.78 - 10+99.33	MAINLINE	610	610	0.50	40	-	-	22	-	-
13+70.51 - 15+70	MAINLINE	710	710	0.75	32	1.5	0.75	20	-	42
-	BORROW PIT	-	-	-	-	-	-	-	17	9
-	UNDISTRIBUTED	330	330	0.75	18	0.5	0.25	10	-	13
	TOTALS =	1,650	1,650	2.0	90	2.0	1.0	52	17	64

CONCRETE SURFACE DRAINS

STATION	LOCATION	602.3010 (CY)
11+43	MAINLINE, LT.	1.0
11+48	MAINLINE, RT.	1.0
	TOTALS =	2.0

RIPRAP MEDIUM

STATION	LOCATION	606.0200 (CY)
11+43	MAINLINE, LT.	4.0
11+48	MAINLINE, RT.	4.0
	TOTALS =	8.0

TURBIDITY BARRIER

LOCATION	628.6005 (SY)
WEST BANK	110
EAST BANK	130
UNDISTRIBUTED	60
TOTALS =	300

TEMPORARY DITCH CHECKS

STATION	LOCATION	628.7504 (LF)
13+85	MAINLINE, LT.	8
15+00	MAINLINE, LT.	8
16+20	MAINLINE, LT.	8
	UNDISTRIBUTED	8
	TOTALS =	32

ROCK BAGS

STATION	LOCATION	628.7570 (EACH)
-	UNDISTRIBUTED	7
-	UNDISTRIBUTED	7
-	UNDISTRIBUTED	7
	TOTALS =	21

MARKERS ROW

PT #	STATION	LOCATION	OFFSET FROM FINISHED C/L FT	633.5100 MARKERS ROW (EACH)
101	10+40	LEFT	33.78	1
102	13+50	LEFT	33.43	1
103	13+50	LEFT	46.00	1
104	15+00	LEFT	46.00	1
105	16+30	LEFT	33.10	1
108	16+30	RIGHT	32.90	1
109	10+40	RIGHT	32.22	1
		TOTAL=		7

MOBILIZATION EROSION CONTROL

PROJECT	628.1905 MOBILIZATION EROSION CONTROL (EACH)	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL (EACH)
4273-00-71	6	5
TOTALS =	6	5

ALL ITEMS 010 UNLESS OTHERWISE NOTED

3

PERMANENT SIGNING

APPROX. STATION	POSITION	LOCATION	SIGN CODE	SIGN DESCRIPTION	ORDER LINES	SIGN SIZE	634.0612 POSTS WOOD 4X6-INCH X 12-FT (EACH)	637.2230 SIGNS TYPE II REFLECTIVE F (SF)	638.2602 REMOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)
-	-	AT STH 32	R12-55	XX TON BRIDGE XX MILES AHEAD	30 TON / 0.3 MILES	48X18	--	--	1	1
7+29	RIGHT	MAINLINE	W5-2	NARROW BRIDGE	--	36X36	--	--	1	1
11+51	RIGHT	MAINLINE	W1-1L	ROAD TURNS LEFT	--	36X36	--	--	1	1
11+51	RIGHT	MAINLINE	W13-1	XX MPH	15 MPH	18X18	--	--	1	--
11+55	RIGHT	MAINLINE	W1-1L	ROAD TURNS LEFT	--	36X36	1	9.00	--	--
11+55	RIGHT	MAINLINE	W13-1	XX MPH	15 MPH	18X18	--	2.25	--	--
11+85	RIGHT	MAINLINE	R12-1	WEIGHT LIMIT XX TONS	30 TONS	24X30	--	--	1	1
11+85	LEFT	MAINLINE	W5-52L	BRIDGE HASH MARKS	--	12X36	1	3.00	--	--
11+90	RIGHT	MAINLINE	W5-52R	BRIDGE HASH MARKS	--	12X36	1	3.00	--	--
12+00	LEFT	MAINLINE	W5-52L	BRIDGE HASH MARKS	--	12X36	--	--	1	1
12+01	RIGHT	MAINLINE	W5-52R	BRIDGE HASH MARKS	--	12X36	--	--	1	1
13+69	RIGHT	MAINLINE	W5-52L	BRIDGE HASH MARKS	--	12X36	--	--	1	1
13+70	LEFT	MAINLINE	W5-52R	BRIDGE HASH MARKS	--	12X36	--	--	1	1
13+80	LEFT	MAINLINE	W5-52R	BRIDGE HASH MARKS	--	12X36	1	3.00	--	--
13+82	LEFT	MAINLINE	R12-1	WEIGHT LIMIT XX TONS	30 TONS	24X30	--	--	1	1
13+85	RIGHT	MAINLINE	W5-52L	BRIDGE HASH MARKS	--	12X36	1	3.00	--	--
14+23	LEFT	MAINLINE	W3-5	SPEED REDUCTION AHEAD XX MPH	25 MPH	36X36	1	9.00	--	--
14+26	LEFT	MAINLINE	W3-5	SPEED REDUCTION AHEAD XX MPH	25 MPH	36X36	--	--	1	1
16+50	LEFT	MAINLINE	W5-2	NARROW BRIDGE	--	36X36	--	--	1	1
-	-	AT CTH OK	R12-55	XX TON BRIDGE XX MILES AHEAD	30 TON / 0.6 MILES	48X18	--	--	1	1
						TOTALS =	6	32.25	12	11

3

GEOTEXTILE TYPE HR

STATION	LOCATION	645.0120 (SY)
11+43	MAINLINE, LT.	5.0
11+48	MAINLINE, RT.	5.0
	TOTALS =	10.0

NOTE: ADDITIONAL QUANTITIES LISTED ELSEWHERE

TRAFFIC CONTROL

LOCATION	643.0420 BARRICADES TYPE III (DAY)	643.0705 WARNING LIGHTS TYPE A (DAY)	643.0900 SIGNS (DAY)	**643.0920 COVERING SIGNS TYPE II (EACH)	643.1050 SIGNS PCMS (DAY)	643.5000 TRAFFIC CONTROL (EACH)
PROJECT	2,215	3,445	24,970	18	14	1
TOTALS =	2,215	3,445	24,970	18	14	1

** A SINGLE CYCLE IS REQUIRED FOR COVERING SIGNS

MARKING LINE EPOXY 4-INCH

STATION - STATION	LOCATION	DESCRIPTION	646.1020 (LF)
10+45.78 - 15+70	MAINLINE	WHITE EDGELINE	1050
10+45.78 - 15+70	MAINLINE	C/L SOLID YELLOW	525
10+45.78 - 15+70	MAINLINE	C/L DASHED YELLOW	135
		TOTAL =	1,710

SAWING ASPHALT

STATION	LOCATION	690.0150 (LF)
10+45.78	MAINLINE	22
15+33	P.E., RT.	12
15+70	MAINLINE	22
	TOTAL =	56

CONSTRUCTION STAKING

STATION -STATION	LOCATION	650.4500 SUBGRADE (LF)	650.5000 BASE (LF)	650.5500 CURB GUTTER AND CURB & GUTTER (LF)	*650.6501 STRUCTURE LAYOUT (B-59-0330) (EACH)	650.9911 SUPPLEMENTAL CONTROL (4273-00-71) (EACH)	650.9920 SLOPES STAKES (LF)
10+45.78 - 11+99	MAINLINE	155	155	126	-	-	155
13+71 - 15+70	MAINLINE	200	200	-	-	-	200
4273-00-71	PROJECT	-	-	-	1	1	-
	TOTAL =	355	355	126	1	1	355

*CATEGORY 020

PROJECT NO: 4273-00-71	HWY: CTH OO	COUNTY: SHEBOYGAN	MISCELLANEOUS QUANTITIES	SHEET 15	E

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
4273-00-00	4.01	2
FEDERAL PROJECT NUMBER		

PLAT OF RIGHT-OF-WAY REQUIRED FOR

LIMA SHEBOYGAN FALLS

(ONION RIVER BRIDGE)

CTH OO — SHEBOYGAN COUNTY

CONSTRUCTION PROJECT NUMBER
4273-00-71

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 (18, 13, 24, 19, 16, 15, 21, 22)
SECTION CORNER MONUMENT
GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
SIGN (SIGN)
R/W MONUMENT (TO BE SET)
NON-MONUMENTED R/W POINT
FOUND IRON PIN (1-INCH UNLESS NOTED) (IP)
OFF-PREMISE SIGN (#1-25) (SIGN)

	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

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 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.

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

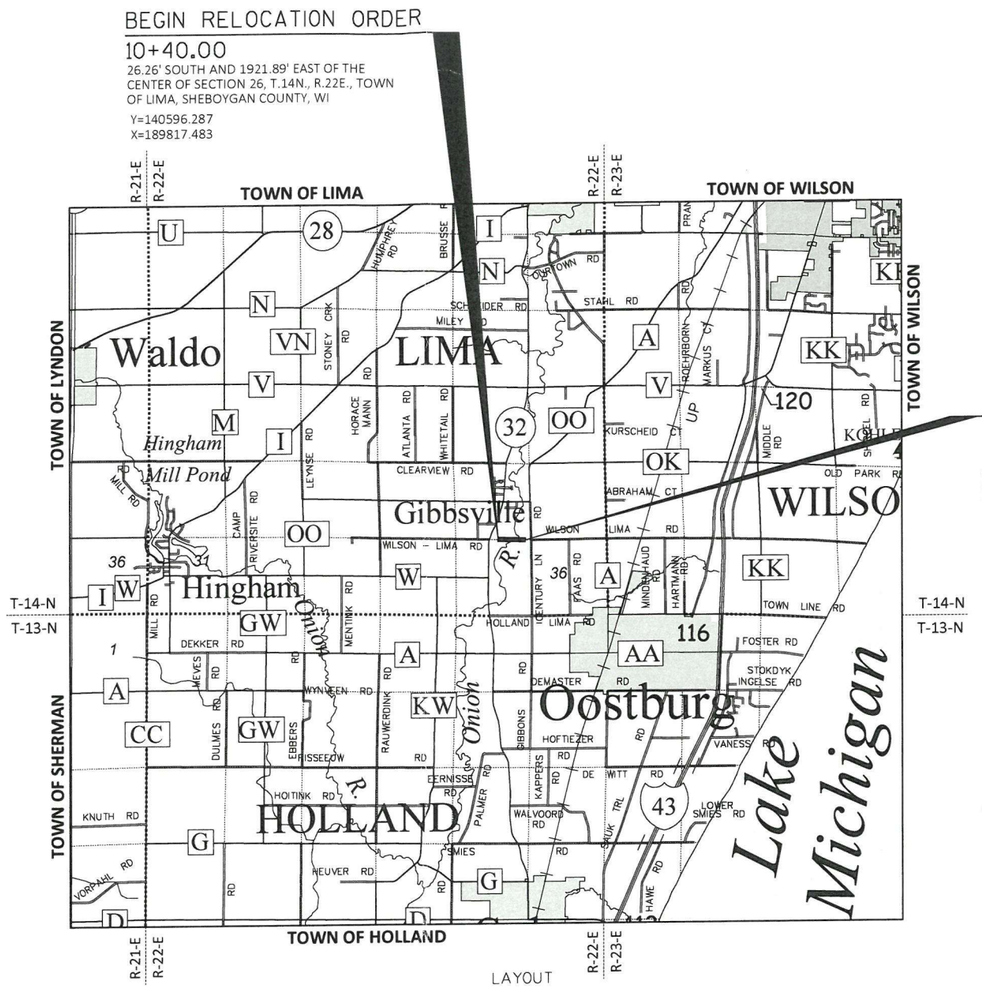
A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY 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.

A PERMANENT LIMITED EASEMENT (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHTS TO MAKE OR CONSTRUCT IMPROVEMENTS ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

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

BEGIN RELOCATION ORDER
10+40.00
26.26' SOUTH AND 1921.89' EAST OF THE CENTER OF SECTION 26, T.14N., R.22E., TOWN OF LIMA, SHEBOYGAN COUNTY, WI
Y=140596.287
X=189817.483

END RELOCATION ORDER
16+30.00
1.96' NORTH AND 155.48' WEST OF THE E¼ CORNER OF SECTION 26, T.14N., R.22E., TOWN OF LIMA, SHEBOYGAN COUNTY, WI
Y=140589.146
X=190407.438



TOTAL NET LENGTH OF CENTERLINE = 0.11 MI.

CONVENTIONAL ABBREVIATIONS

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

COUNTY CLERK
FILED
2025 JAN 17 A 11:07
SHEBOYGAN COUNTY
WISCONSIN

REVISION DATE

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

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: 01-15-2025

APPROVED FOR SHEBOYGAN COUNTY
DATE: 1/17/25 Transportation Director
(NAME/TITLE)

E

FILE NAME : S:\Projects\SD9070 Sheboygan Co – CTH OO Bridge Replacement\RW\DWG\SD9070_RW_TITLE.dwg
PLOT DATE : 1/15/2025 7:52 AM PLOT BY : Anliker, Noah PLOT NAME : PLOT SCALE : 1:1
WISDOT/CADDS SHEET 50

EASEMENT TABLE				
EASEMENT NUMBER	OWNER	RECORDING INFORMATION	LOCATED IN R/W PARCEL	REMARKS
1	GENERAL TELEPHONE COMPANY OF WISCONSIN	DOC. 919387, V.589, P.233	3,4	4 ROD WIDE EASEMENT
2	GENERAL TELEPHONE COMPANY OF WISCONSIN	DOC. 919389, V.589, P.235	3,4	4 ROD WIDE EASEMENT

BEGIN RELOCATION ORDER

10+40.00

26.26' SOUTH AND 1921.89' EAST OF THE CENTER OF SECTION 26, T.14N., R.22E., TOWN OF LIMA, SHEBOYGAN COUNTY, WI

Y=140596.287

X=189817.483

GN

CENTER. SEC. 26 TO E¼ COR. SEC 26 S89°14'26"E, 2667.56'

FOUND MAG NAIL

Y = 140622.543

X = 187895.596

LOT 27

LOT 26

CUPOLA ESTATES

LOT 2 CSM V.9, P.67 DOC.1195446

① TYLER W. LeROY, A SINGLE PERSON DOC.2065796

SE¼-NE¼

② JOSHUA J. DePAGTER, A SINGLE PERSON DOC.1665915

TOWN OF LIMA

LOT 1 CSM V.19, P.102–103 DOC.1664040

PROPOSED STUCTURE B-59-330

EXISTING STUCTURE P-59-069

SLOPE INTERCEPT

FINISHED C/L CTH OO

EXISTING C/L CTH OO

HOUSE

CTH OO

S89°18'23"E

WATERWAY AREA 0.02 ACRES

ONION RIVER

③ JAMES M. KELLEY DOC.2072884

④ THOMAS J.JENSEMA AND SUSAN L. JENSEMA, AS TRUSTEES OF THE THOMAS J. JENSEMA REVOCABLE TRUST DATED JANUARY 28, 2016 DOC.2028129

NE¼-SE¼

PLAT OF SURVEY BY: MICHAEL L. KOBER DATED: 8–26–10

PLAT OF SURVEY BY: DENNIS VAN SLUYS DATED: 29 MAY 1979

FOUND 1" IRON PIPE

Y = 140587.189

X = 190562.918

END RELOCATION ORDER

16+30.00

1.96' NORTH AND 155.48' WEST OF THE E¼ CORNER OF SECTION 26, T.14N., R.22E., TOWN OF LIMA, SHEBOYGAN COUNTY, WI

Y=140589.146

X=190407.438

FOUND MONUMENTS TABLE					
POINT NUMBER	STATION	OFFSET	Y	X	TYPE AND SIZE
1	8+59.45	32.01'RT	140,566.465'	189,636.559'	1.25" IRON BAR
2	10+08.40	32.18'RT	140,564.490'	189,785.496'	1.25" IRON BAR
3	12+82.40	-33.50'LT	140,626.854'	190,060.273'	1" IRON PIPE
4	16+01.76	23.90'RT	140,565.588'	190,378.916'	1" IRON PIPE
5	17+51.23	-32.96'LT	140,620.641'	190,529.057'	1" IRON PIPE

NOTE: EXISTING C/L OF CTH OO, BASED ON CENTERLINE OF EXISTING PAVEMENT.

EXISTING RIGHT–OF–WAY FOR CTH OO, BASED ON THE QUARTERLINE OF SECTION 26, PREVIOUS CSM AND PLAT OF SURVEYS AND WIS. STATUTE 82.31(2).

R/W MONUMENTS TABLE				
POINT NUMBER	STATION	OFFSET	Y	X
100	10+40.00	0.78'LT	140597.069	189817.494
101	10+40.00	33.78'LT	140630.067	189817.891
102	13+50.00	33.43'LT	140625.958	190127.865
103	13+50.00	46.00'LT	140638.532	190128.018
104	15+00.00	46.00'LT	140636.716	190278.007
105	16+30.00	33.10'LT	140622.247	190407.846
106	16+30.00	0.10'LT	140589.250	190407.444
107	16+30.00	0.00'RT	140589.146	190407.443
108	16+30.00	32.90'RT	140556.252	190407.042
109	10+40.00	32.22'RT	140564.072	189817.094
110	10+40.00	0.00'RT	140596.287	189817.483

R/W COURSE TABLE		
POINT TO POINT	COURSE BEARING	DISTANCE
1000 TO 100	S89° 14' 26"E	1922.07'
100 TO 101	N00° 41' 32"E	33.00'
101 TO 102	S89° 14' 26"E	310.00'
102 TO 103	N00° 41' 37"E	12.57'
103 TO 104	S89° 18' 23"E	150.00'
104 TO 105	S83° 38' 29"E	130.64'
105 TO 106	S00° 41' 55"W	33.00'
106 TO 107	S00° 41' 55"W	0.10'
107 TO 108	S00° 41' 55"W	32.90'
108 TO 109	N89° 14' 26"W	590.00'
109 TO 110	N00° 41' 32"E	32.22'
110 TO 100	N00° 41' 32"E	0.78'

TLE POINTS TABLE				
POINT NUMBER	STATION	OFFSET	Y	X
500	10+40.00	50.00'LT	140,646.284	189,818.089
501	12+05.00	50.00'LT	140,644.287	189,983.077
502	12+05.00	33.59'LT	140,627.880	189,982.878
503	14+28.00	32.71'RT	140,558.886	190,205.063
504	14+00.00	55.00'RT	140,536.934	190,176.791
505	12+65.00	55.00'RT	140,538.568	190,041.801
506	11+75.00	45.00'RT	140,549.657	189,951.929
507	10+40.00	45.00'RT	140,551.291	189,816.939

SCHEDULE OF LANDS & INTERESTS REQUIRED						
			R/W ACRES REQUIRED			
PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	NEW	EXISTING	TOTAL	TLE ACRES REQUIRED
1	TYLER W. LeROY, A SINGLE PERSON	FEE, TLE	-	0.19	0.19	0.06
2	JOSHUA J. DePAGTER, A SINGLE PERSON	FEE	0.06	0.26	0.32	-
3	JAMES M. KELLEY	FEE, TLE	-	0.17	0.17	0.005
4	THOMAS J. JENSEMA AND SUSAN L. JENSEMA, AS TRUSTEES OF THE THOMAS J. JENSEMA REVOCABLE TRUST DATED JANUARY 28, 2016	FEE, TLE	-	0.28	0.28	0.15
200	FRONTIER COMMUNICATIONS	RELEASE OF RIGHTS				

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

REVISION DATE

DATE 1/15/2025

GRID FACTOR

SCALE, FEET 0 40 80

HWY: CTH OO

COUNTY: SHEBOYGAN

STATE R/W PROJECT NUMBER 4273-00-00

CONSTRUCTION PROJECT NUMBER 4273-00-71

PLAT SHEET 4.02

PS&E SHEET 17

E

FILE NAME : SD9070_CTH OO_PLAT.DWG
LAYOUT NAME - Layout1

PLOT DATE : 1/15/2025 7:46 AM PLOT BY : ANLIKER, NOAH PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 75

LEGEND

- XXXXXXXXX — SAWING ASPHALT
- EDGE OF WATER
- RIPRAP MEDIUM OVER GEOTEXTILE TYPE HR
- WETLANDS
- WETLAND BOUNDARY
- WORK BY OTHERS

STEPHEN K. KELZER

TYLER W. LEROY

JOSHUA J. DEPAGTER

GERALD M. PUCH

JENSEMA REVOCABLE TRUST

N

P.L.

RECONSTRUCTION OF CTH OO (BY OTHERS)

STA. 11+43, LT.
CONCRETE SURFACE DRAIN REQ'D

SLOPE INTERCEPT (TYP.)

TLE REQ'D

BM 2

ONION RIVER

REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS P-59-069, THREE SPAN CAST IN PLACE CONCRETE GIRDER STRUCTURE, 27.3' OVERALL DECK WIDTH, 146' OVERALL LENGTH

GIBBSVILLE SANITARY DISTRICT

WE ENERGIES GAS

WE ENERGIES CHARTER COMMUNICATIONS TIME WARNER CABLE

RIPRAP MEDIUM OVER GEOTEXTILE HR (TYP.)

RIPRAP HEAVY OVER GEOTEXTILE HR CAT 020 (TYP.)

R/W

33'

CTH OO

(ASPHALT)

EXISTING C/L CTH OO

FINISHED C/L CTH OO

STA. 10+45.78, 22.1' LT.

STA. 10+45.78, 16.1' LT.

STA. 10+45.78, 15.9' RT.

STA. 10+45.78, 21.9' RT.

S89°18'23"E

11+00 12+00 13+00 14+

MATCHLINE STA. 14+00

STRUCTURE B-59-0330 (REQ'D)

BM 1

WE ENERGIES ELECTRIC

RIVER EDGE DRIVE

BEGIN PROJECT
STA. 10+45.78
Y=140,596.22
X=189,823.26

BIOINFILTRATION BASIN, BY OTHERS

FRONTIER COMMUNICATIONS

STA. 11+48, RT.
CONCRETE SURFACE DRAIN REQ'D

TLE REQ'D

WETLAND BOUNDARY (TYP.)

CLEARING AND GRUBBING REQ'D
STA 10+45.78 - 14+40

5

5

EARTHWORK SUMMARY

		MAINLINE
EXCAVATION COMMON	=	500 C.Y.
FILL	=	904 C.Y.
FILL EXPANSION (25%)	=	1,130 C.Y.
BORROW	=	630 C.Y.

STA. 12+85
STRUCTURE B-59-0330 REQ'D
THREE SPAN REINFORCED CONCRETE
HAUNCHED SLAB STRUCTURE
CLEAR ROADWAY WIDTH = 30.0'
O.A.L. = 172.54'
SKEW = 10° RHF

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	9+24	3/4" IRON REBAR SET, 21.4' RT.	703.33
2	11+97	3/4" IRON REBAR SET, 57.2' LT.	697.80
3	14+60	3/4" IRON REBAR SET, 23.2' LT.	704.98

-0.16%

STA. 10+45.78
EL. 704.18
MATCH EXISTING

PC STA 10+47.50
EL 704.18

L=150.00
K=228.66

PI STA 11+22.50
EL 704.06

PT STA 11+97.50
EL 704.43

HIGH WATER$_{100}$
EL = 703.44

0.50%

PC STA 13+23.25
EL 705.06

FINISHED C/L PROFILE CTH OO

EXISTING C/L PROFILE CTH OO

OBSERVED WATER
EL. 692.95
(1-18-2023)

STREAMBED
EL. 691.06

EXISTING C/L ELEVATION

FINISHED C/L ELEVATION

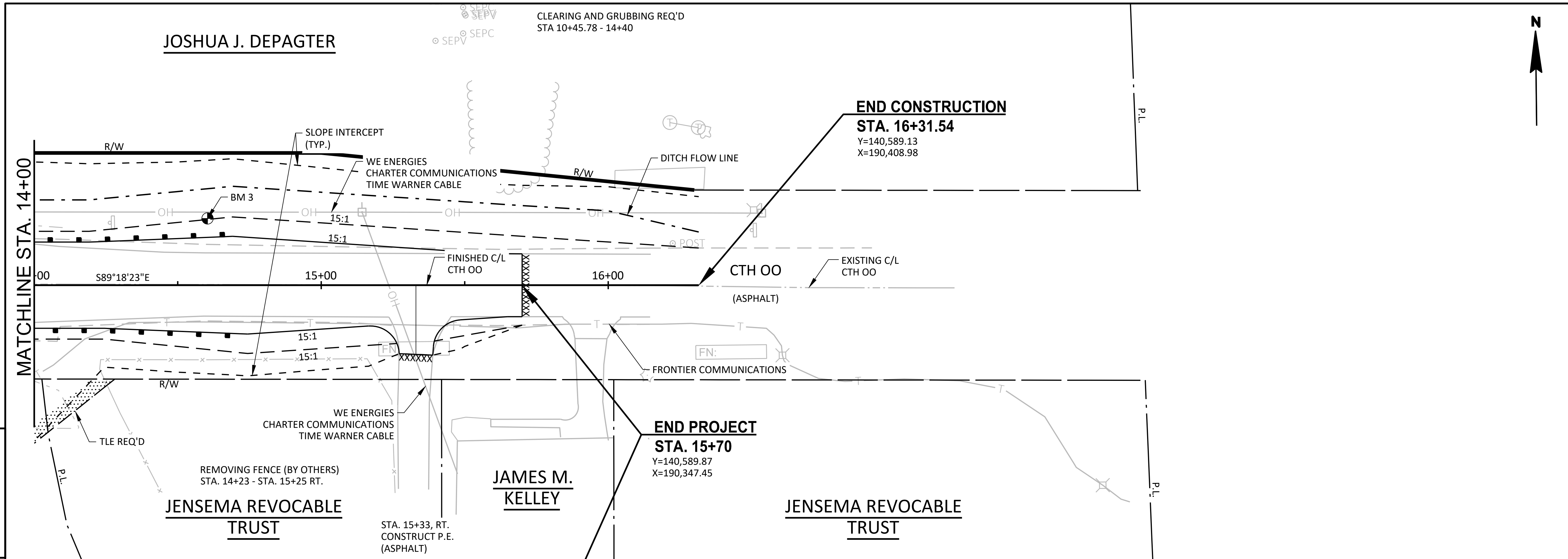
706 704 702 700 698 696 694 692 690

705.21 704.88 704.56 704.40 704.29 704.18 704.18 704.16 704.17 704.15 704.17 704.16 704.18 704.18 704.19 704.22 704.23 704.28 704.38 704.35 704.54 704.45 704.66 704.55 704.71 704.65 704.75 704.75 704.75 704.85 704.76 704.95 704.73 705.05 704.68 705.16 704.68 705.32 705.02 705.51 705.36 705.75

8+20 8+40 8+60 8+80 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

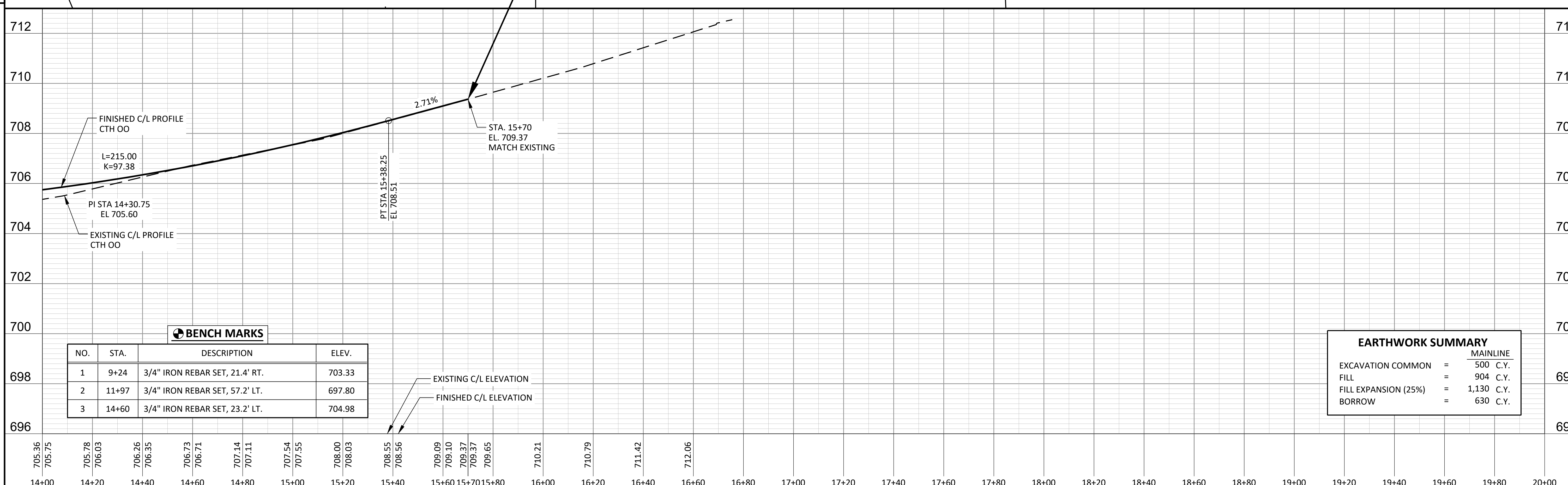
PROJECT NO: 4273-00-71	HWY: CTH OO	COUNTY: SHEBOYGAN	PLAN AND PROFILE: MAINLINE	SHEET 18 E

FILE NAME : S:\PROJECTS\SD9070 SHEBOYGAN CO - CTH OO BRIDGE REPLACEMENT\SHEETSPLAN\PLAN & PROFILE SHEETS\SD9070_P&P.DWG
PLOT DATE : 6/19/2025 2:50:34 PM
PLOT BY : COLTON PEPER
PLOT SCALE : 1" = 1'
LAYOUT :



LEGEND

XXXXXXXXX	SAWING ASPHALT
	EDGE OF WATER
	RIPRAP MEDIUM OVER GEOTEXTILE TYPE HR
	WETLANDS
	WETLAND BOUNDARY
	WORK BY OTHERS



BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	9+24	3/4" IRON REBAR SET, 21.4' RT.	703.33
2	11+97	3/4" IRON REBAR SET, 57.2' LT.	697.80
3	14+60	3/4" IRON REBAR SET, 23.2' LT.	704.98

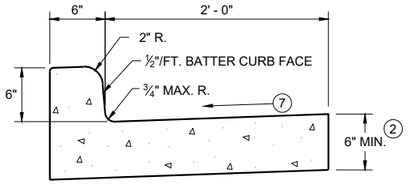
EARTHWORK SUMMARY

		MAINLINE	
EXCAVATION COMMON	=	500	C.Y.
FILL	=	904	C.Y.
FILL EXPANSION (25%)	=	1,130	C.Y.
BORROW	=	630	C.Y.

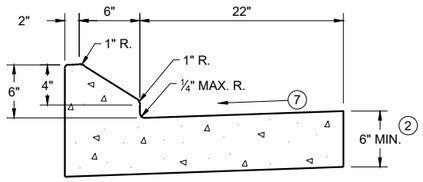
PROJECT NO: 4273-00-71	HWY: CTH OO	COUNTY: SHEBOYGAN	PLAN AND PROFILE: MAINLINE	SHEET 19	E

Standard Detail Drawing List

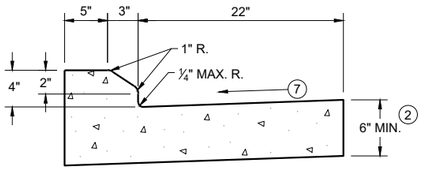
08D01-24A	CONCRETE CURB & GUTTER
08D01-24B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-08A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A01-13A	MARKER POST FOR RIGHT-OF-WAY
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



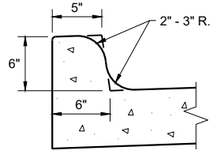
TYPES A (1) & D



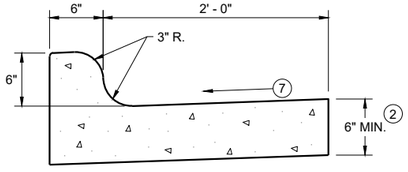
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

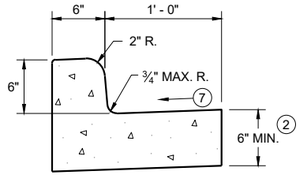


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



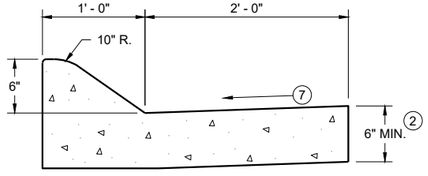
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

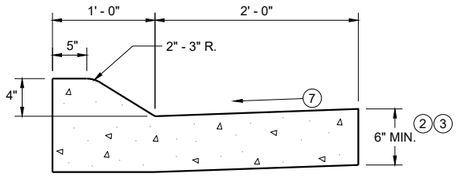


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

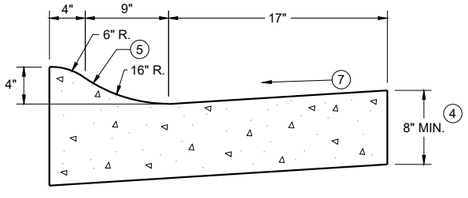


6" SLOPED CURB TYPES A (1) & D



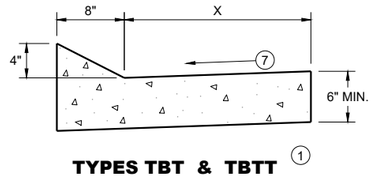
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



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

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

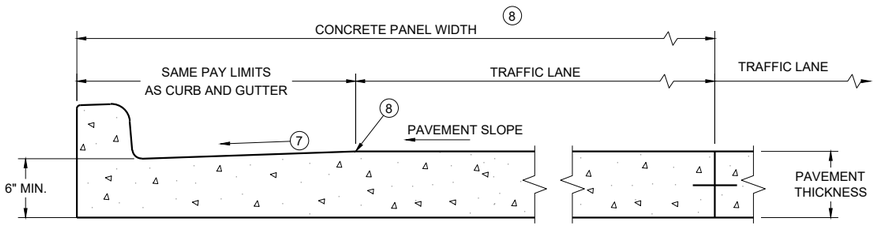


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

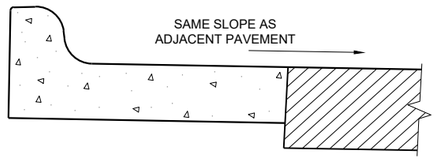
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB AND GUTTER *

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

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

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

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

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

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

(4) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

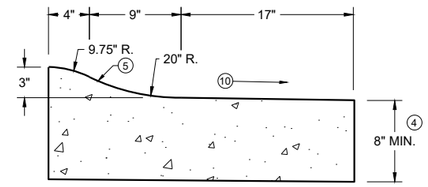
(5) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

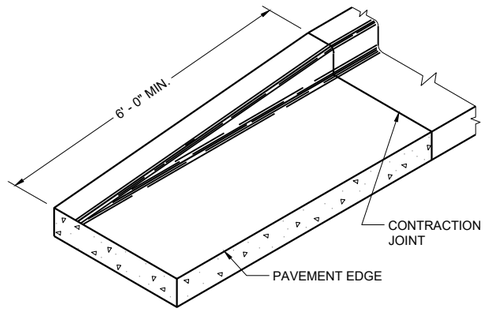
(9) SLOPE TO BE REVERSE SLOPE MATCHING THE SLOPE OF THE PAVEMENT AND THE CIRCULATORY ROADWAY



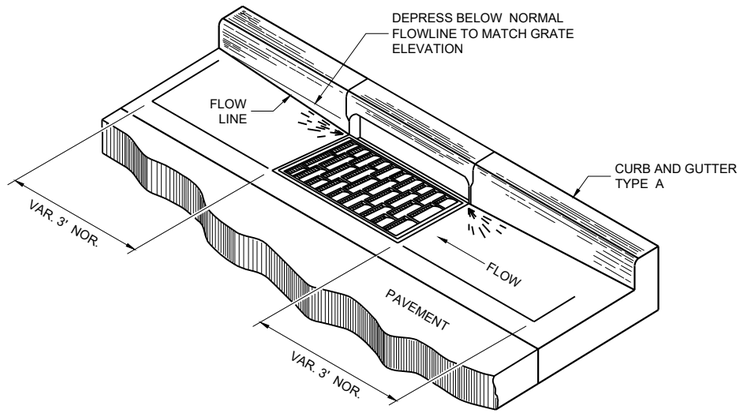
3" SLOPED CURB TYPES R (1) & T

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

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

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

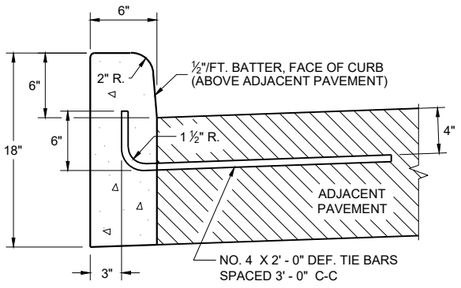
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

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

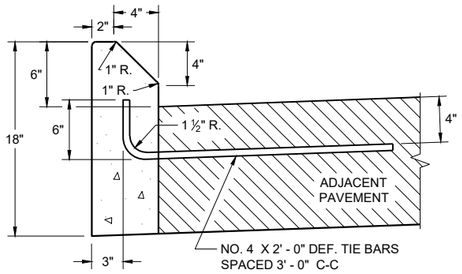
(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

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

(11) PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.

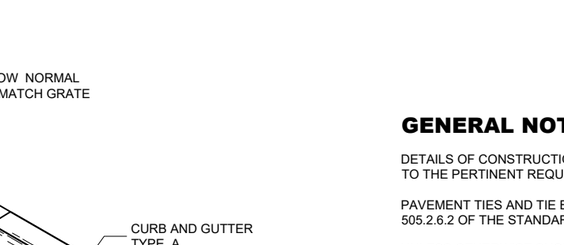


TYPES A (1) & D

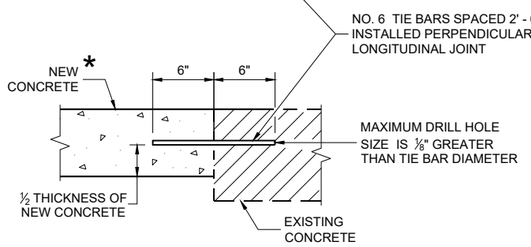


TYPES G (1) & J

CONCRETE CURB

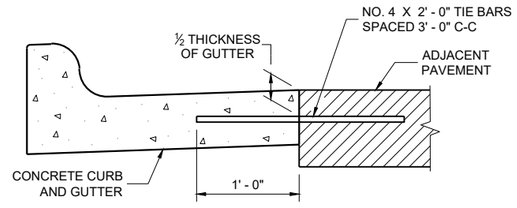


PLAN VIEW

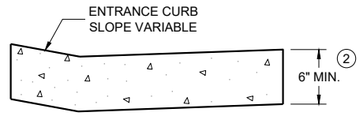


SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT

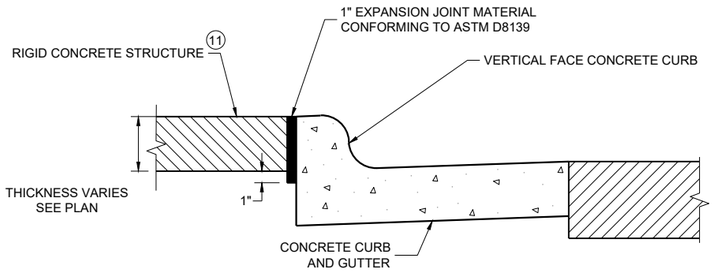


TYPICAL TIE BAR LOCATION (1)



DRIVEWAY ENTRANCE CURB (10)

(WHEN DIRECTED BY THE ENGINEER)



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE (11)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 08D01-24b

GENERAL NOTES

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

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

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

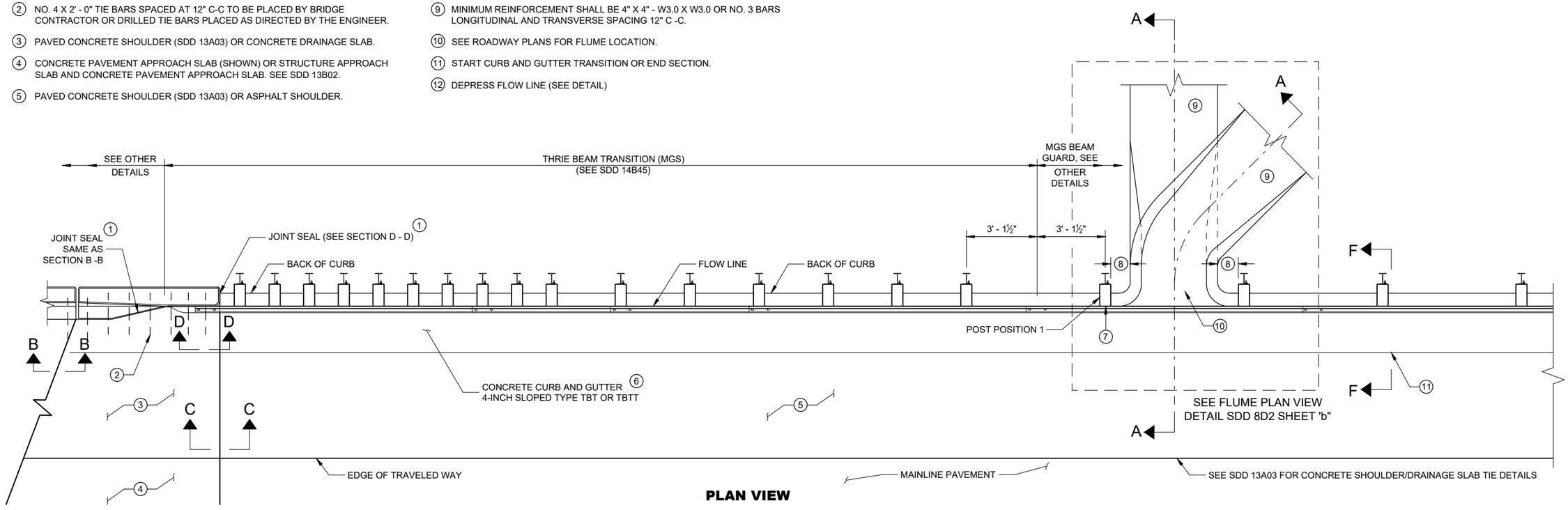
(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

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

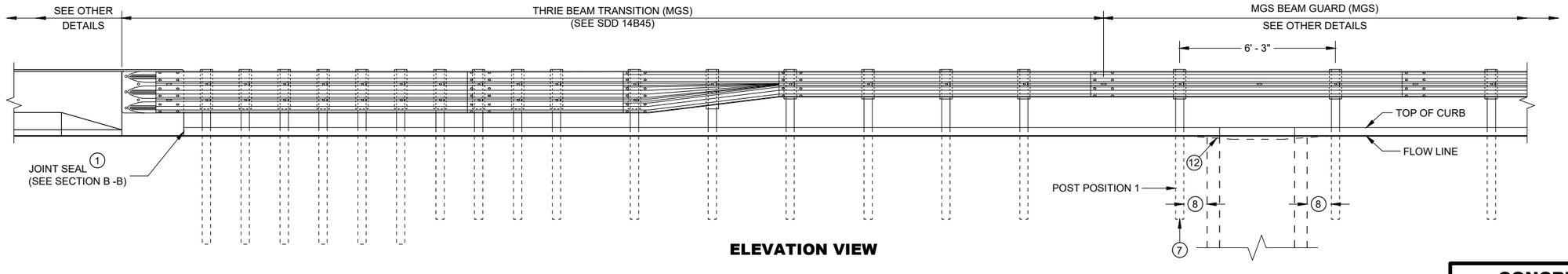
(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

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

(12) DEPRESS FLOW LINE (SEE DETAIL)



PLAN VIEW



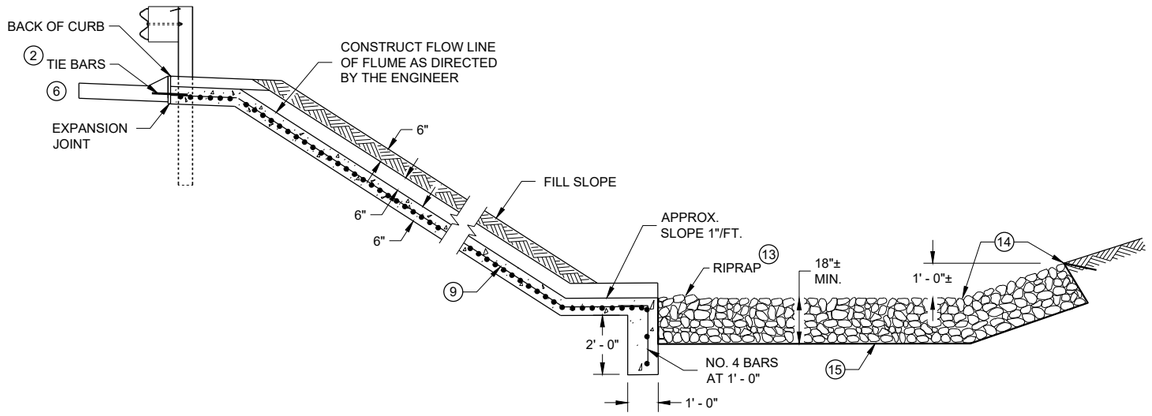
ELEVATION VIEW

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

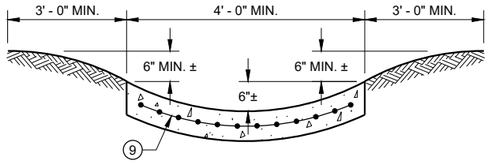
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D02 - 08a

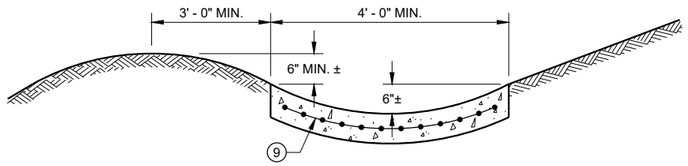
SDD 08D02 - 08a



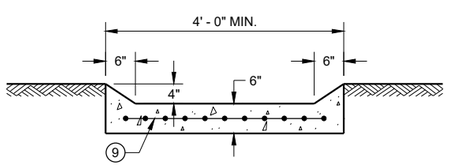
SECTION A - A



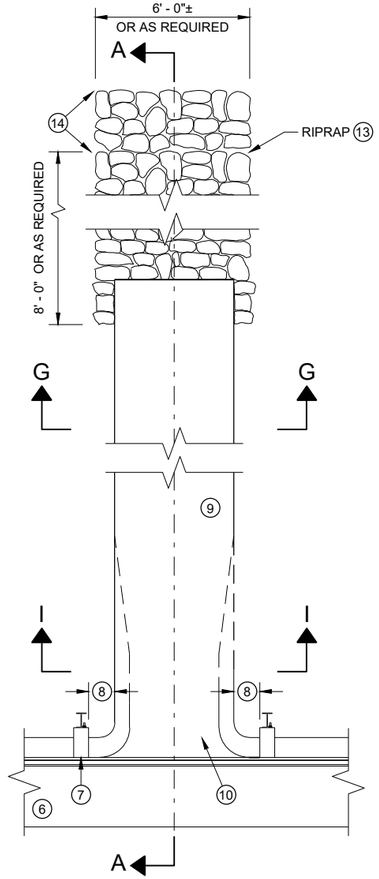
SECTION G - G



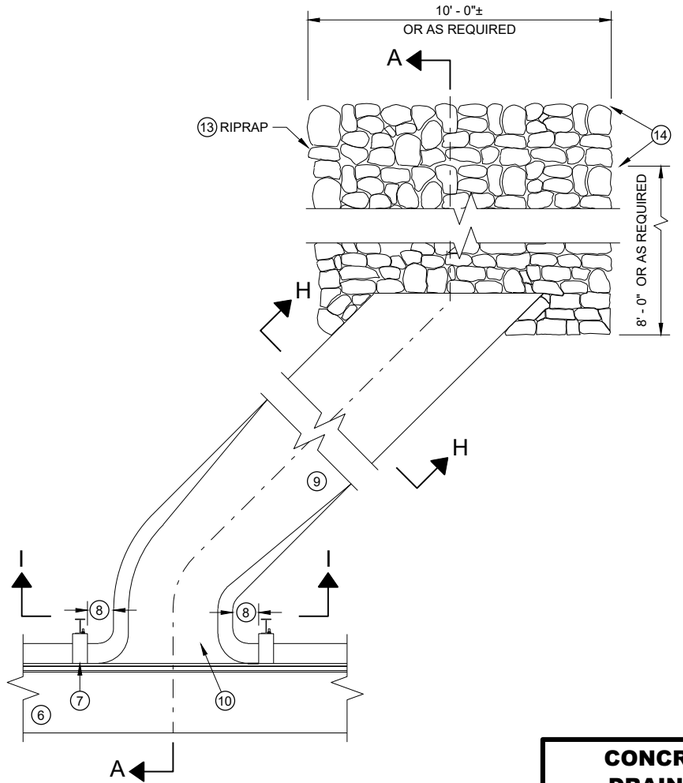
SECTION H - H



SECTION I - I



PLAN VIEW PERPENDICULAR FLUME



PLAN VIEW SKEWED FLUME

GENERAL NOTES

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

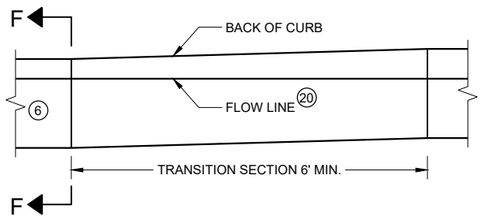
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

1. USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
2. NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
3. PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
4. CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
5. PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
6. CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
7. PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
8. CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
9. MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.
10. SEE ROADWAY PLANS FOR FLUME LOCATION.
11. START CURB AND GUTTER TRANSITION OR END SECTION.
12. DEPRESS FLOW LINE (SEE DETAIL)
13. MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
14. LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.
15. GEOTEXTILE TYPE HR.

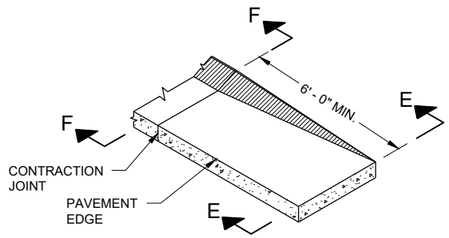
CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

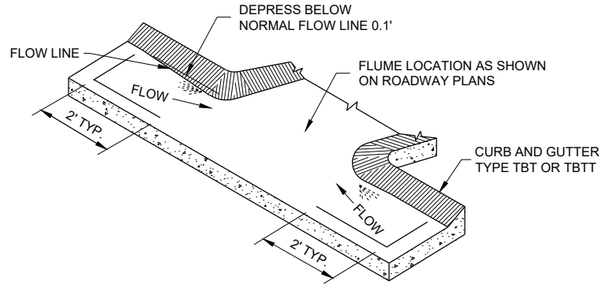
6
SDD 08D02 - 08b



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



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



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

GENERAL NOTES

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

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

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

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

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

(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

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

(12) DEPRESS FLOW LINE (SEE DETAIL)

(13) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(14) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

(15) GEOTEXTILE TYPE HR.

(16) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.

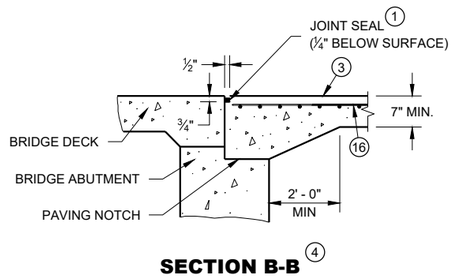
(17) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

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

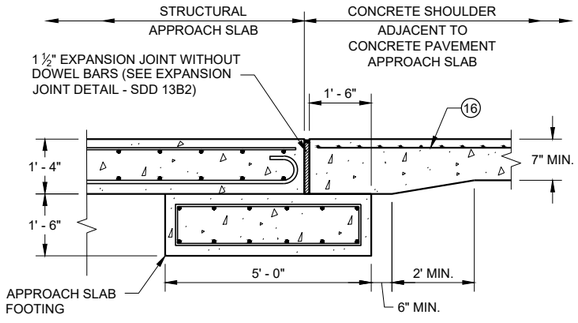
(19) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

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

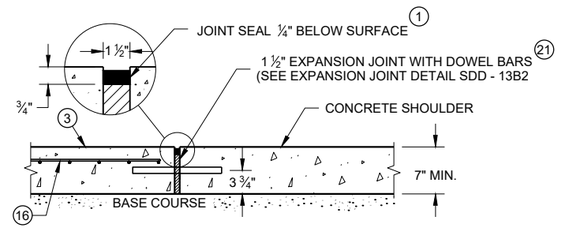
(21) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



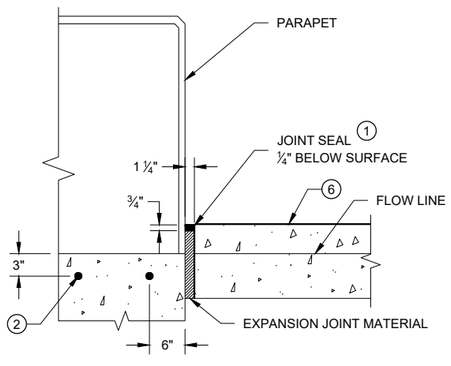
SECTION B-B



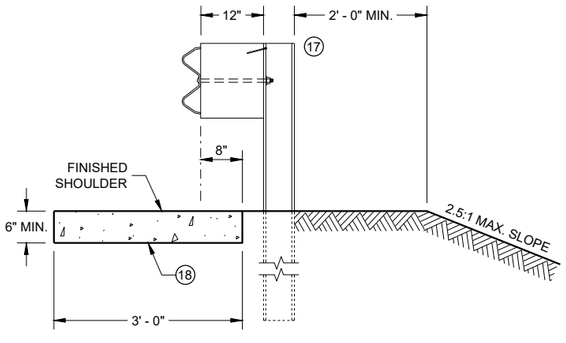
SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



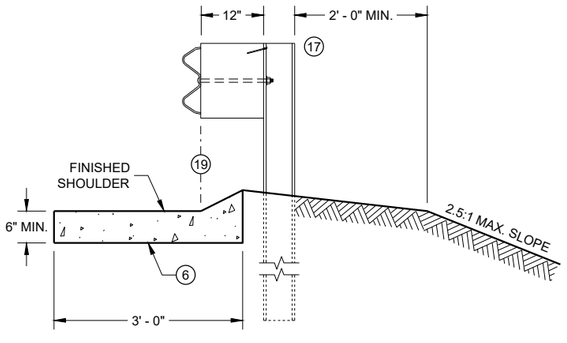
SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS



SECTION D - D



SECTION E - E



SECTION F - F

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

SDD 08D02 - 08c

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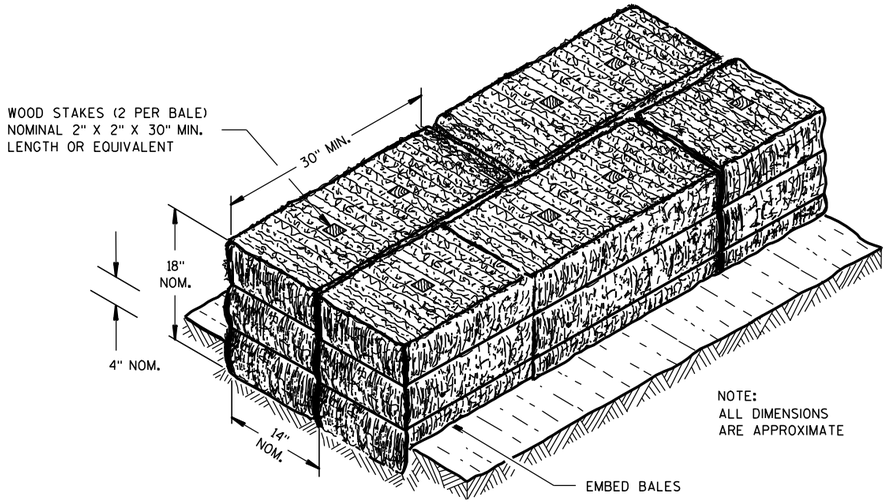
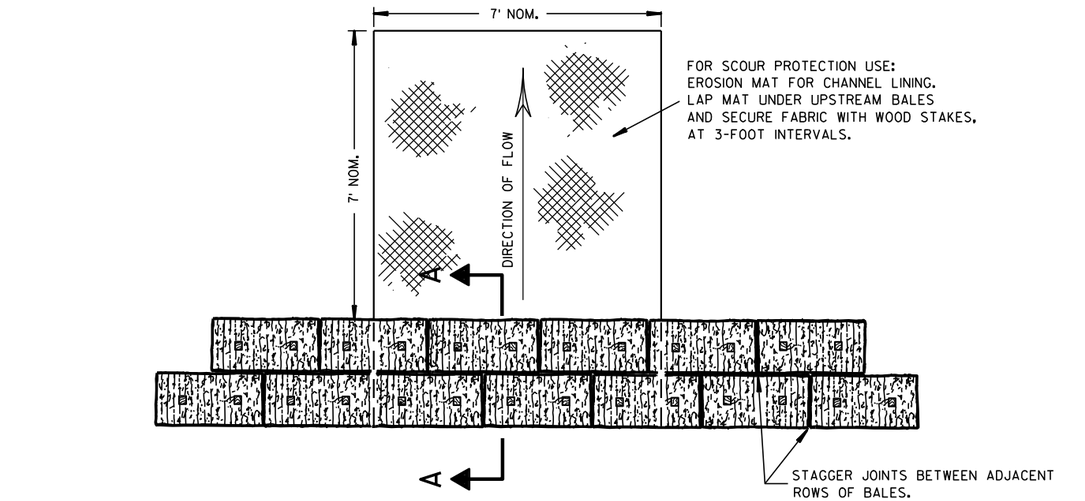
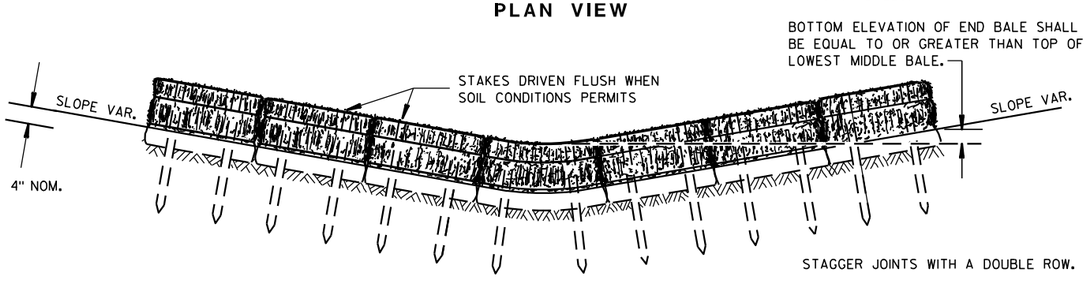


SECTION A-A



PLAN VIEW



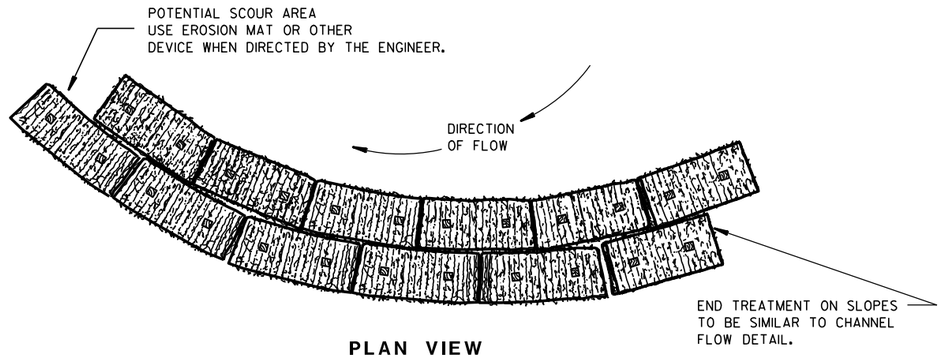
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

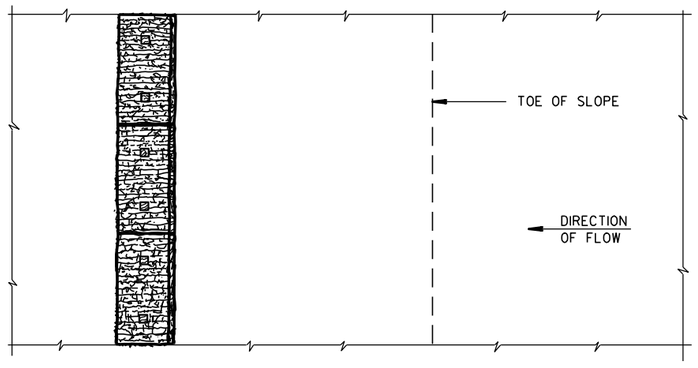
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

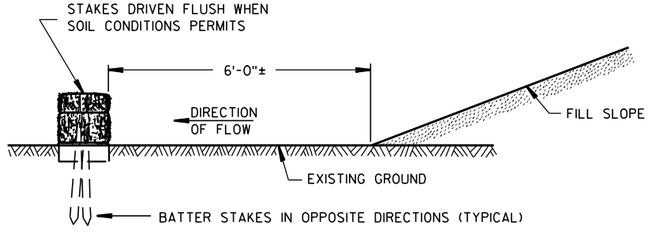


PLAN VIEW

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

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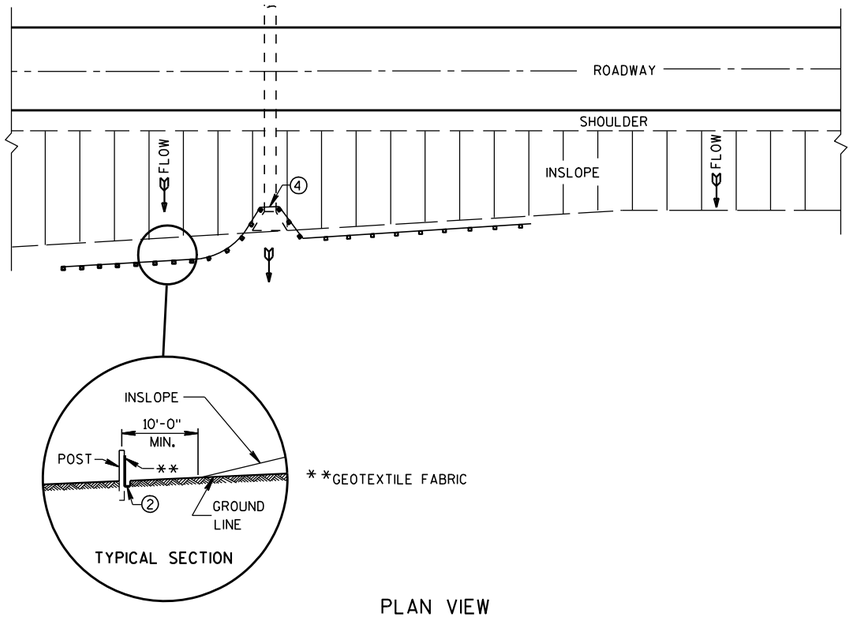
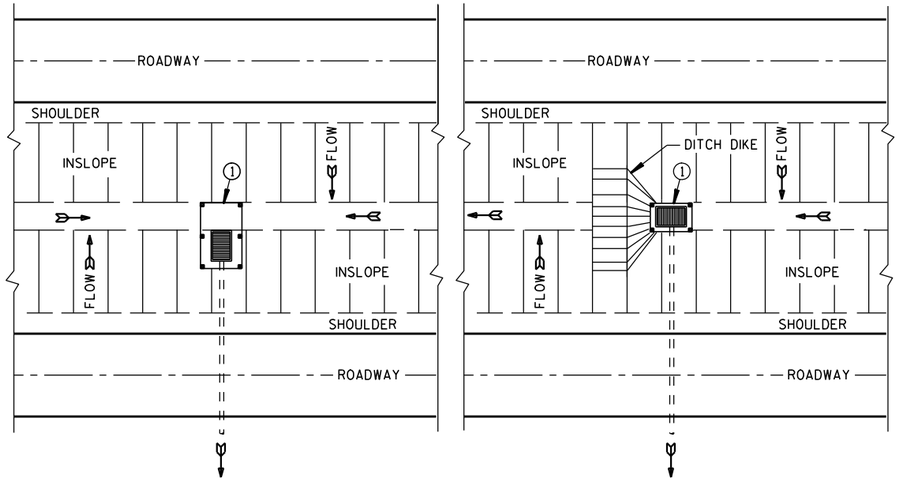
S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



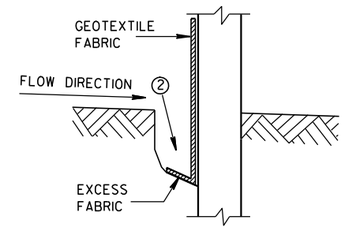
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

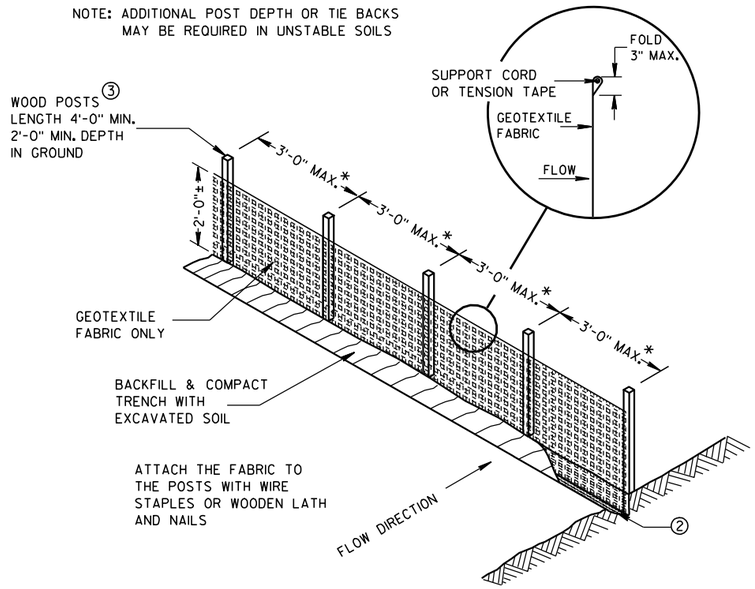
GENERAL NOTES

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

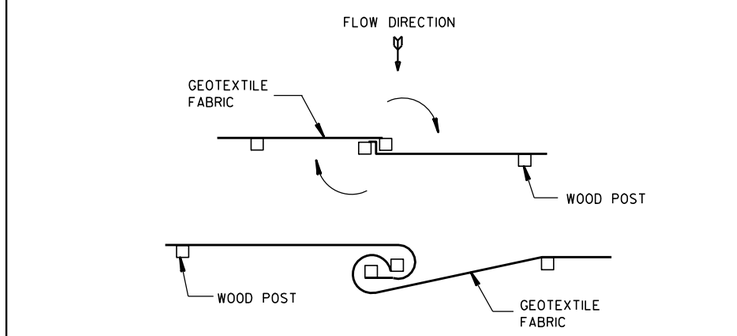
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



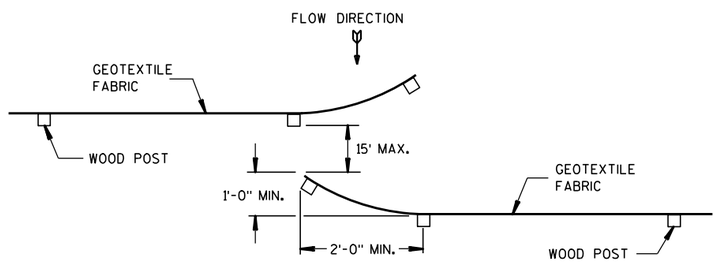
TRENCH DETAIL



SILT FENCE

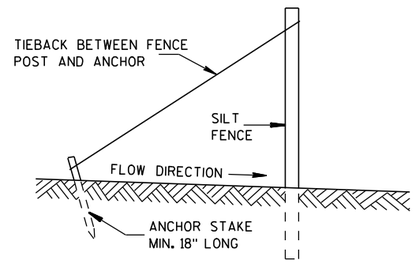


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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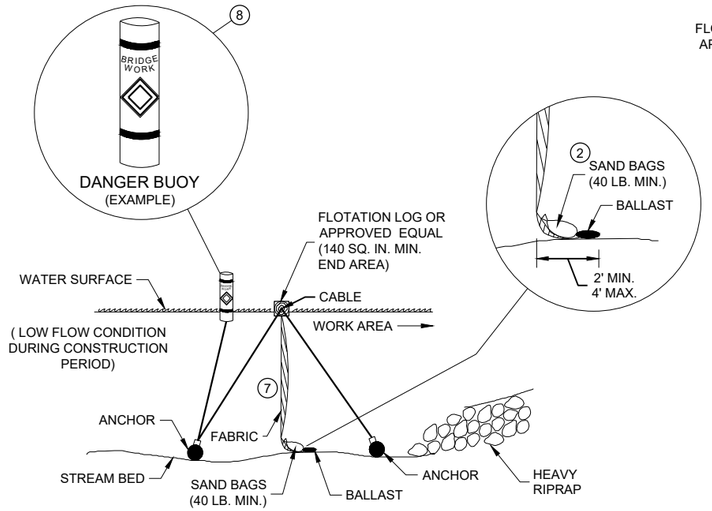
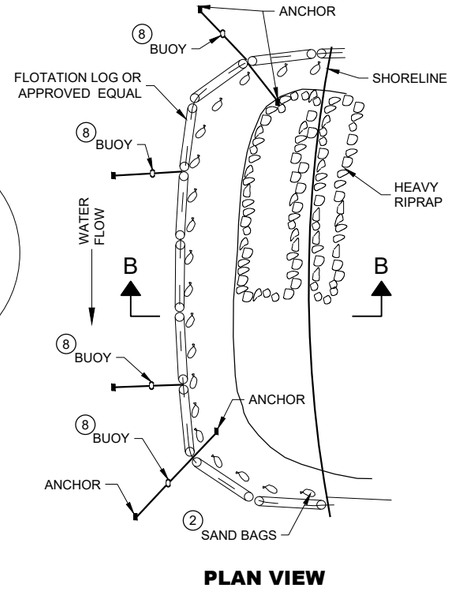
S.D.D. 8 E 9-6

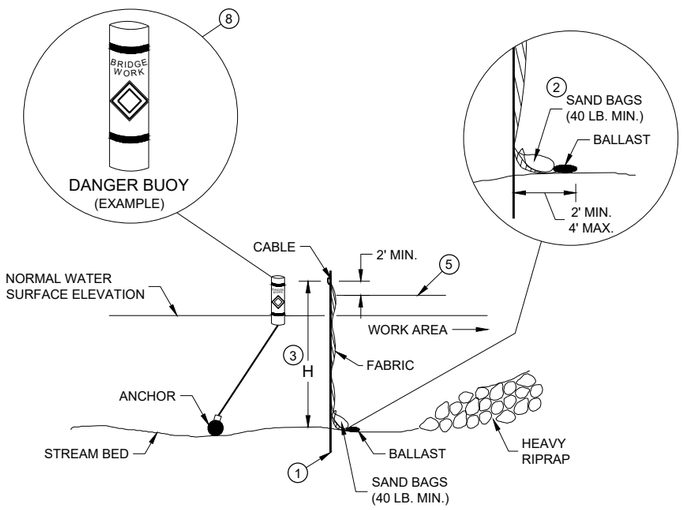


SECTION B - B

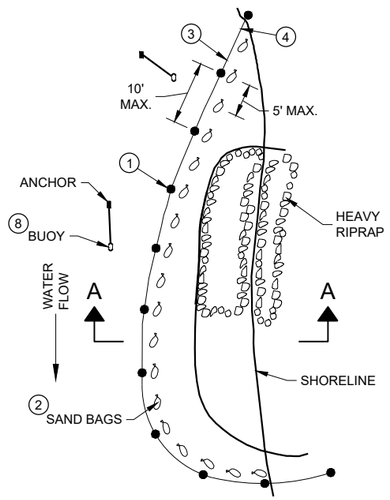


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

(1) DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

(2) SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

(3) WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.

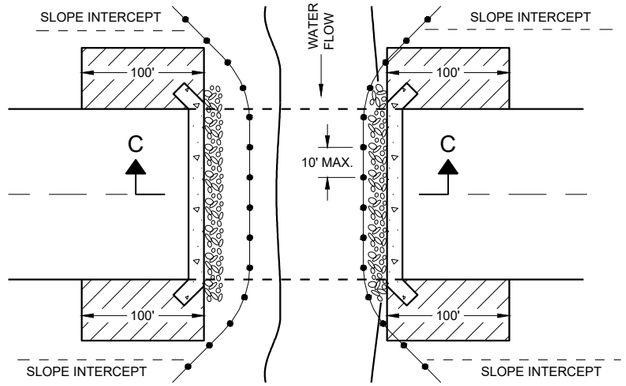
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(5) ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.

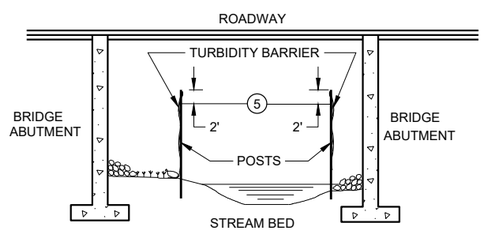
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(7) ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

(8) USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

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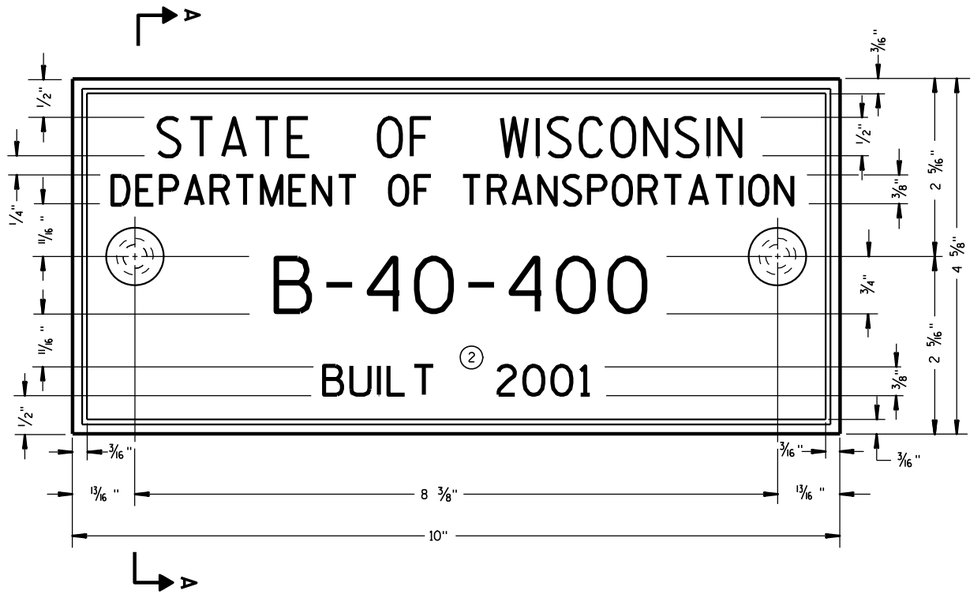
SDD 08E11 - 02



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

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

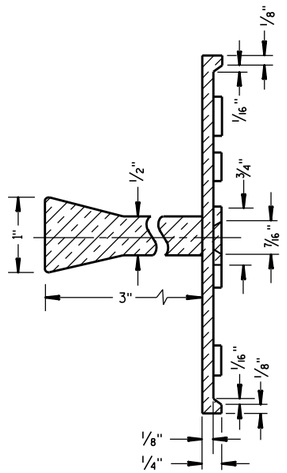
GENERAL NOTES

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

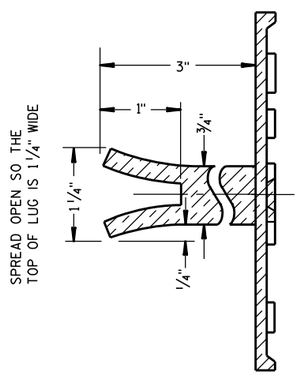
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

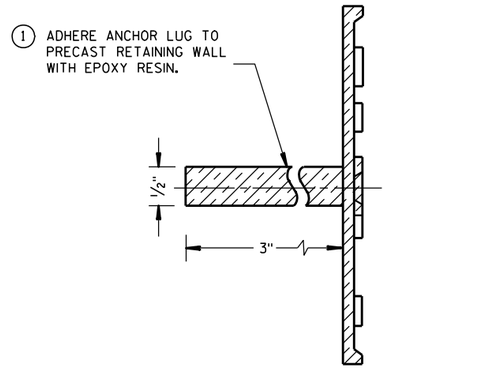
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

FHWA

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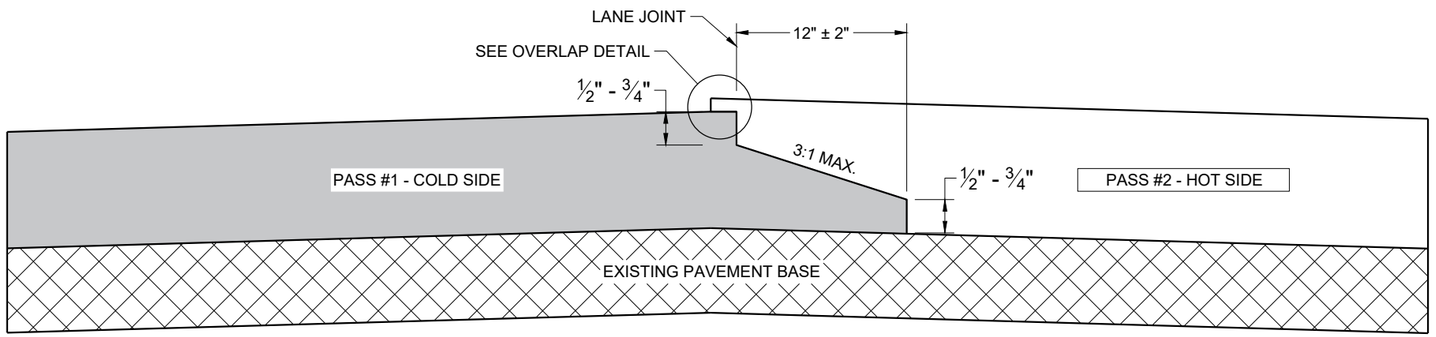
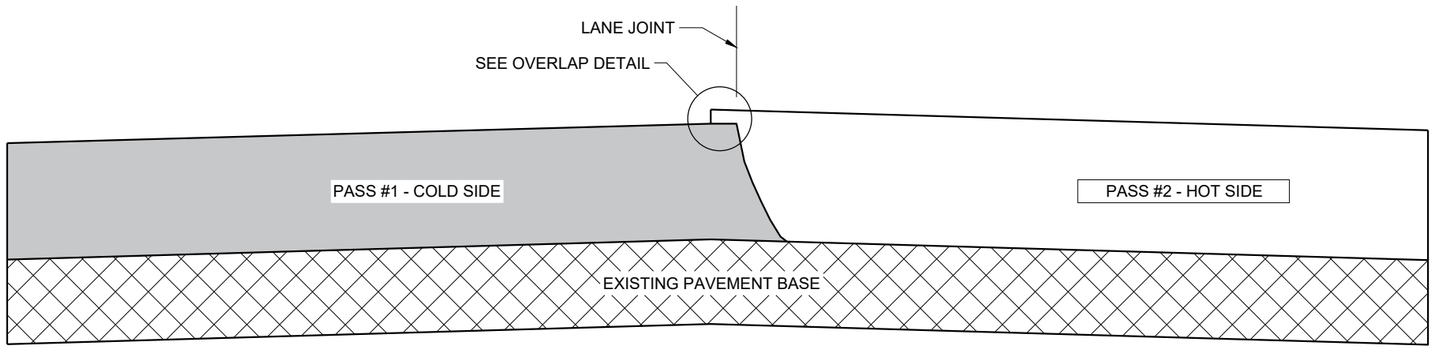
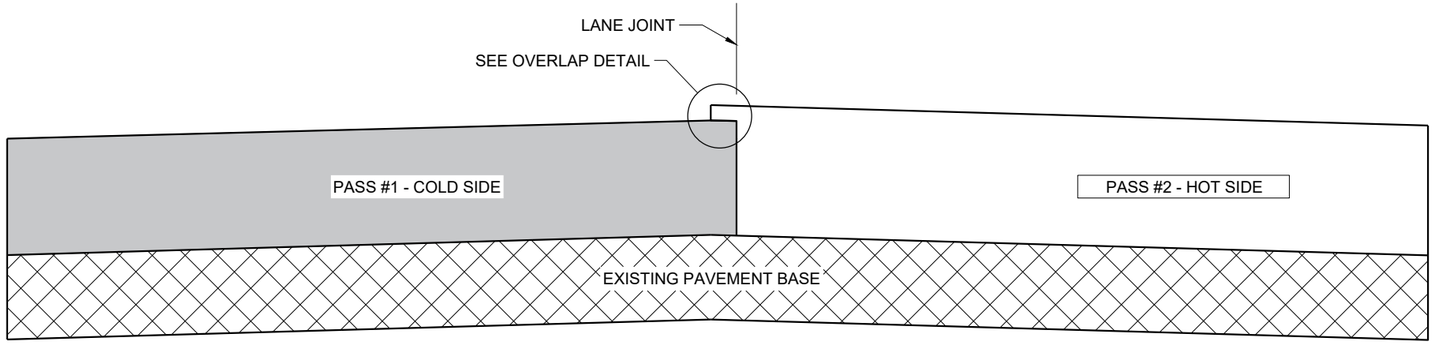
S.D.D. 12 A 3-10



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

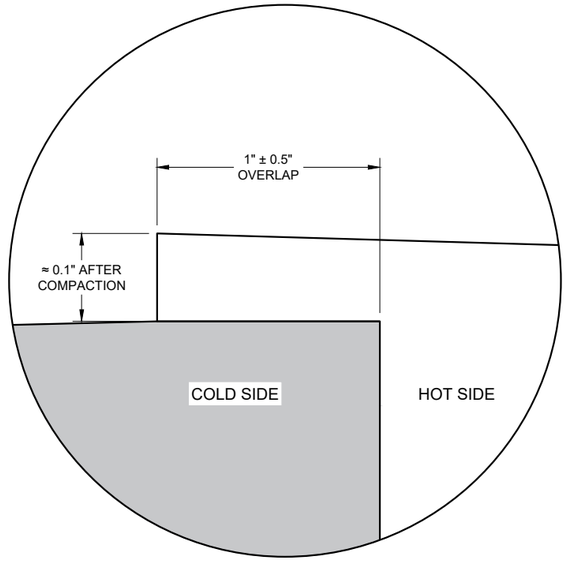
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

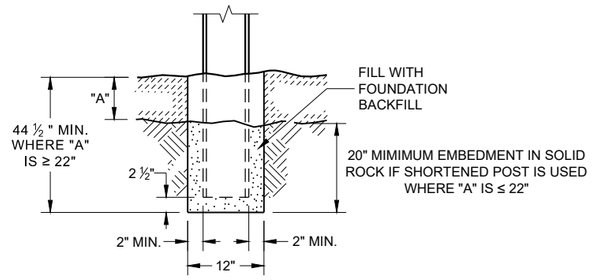
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

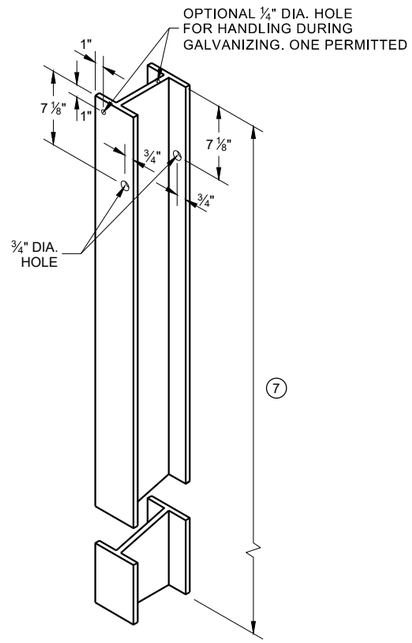
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

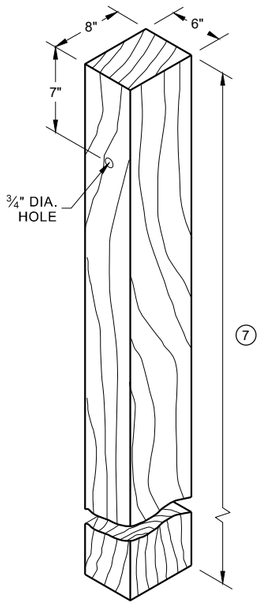
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



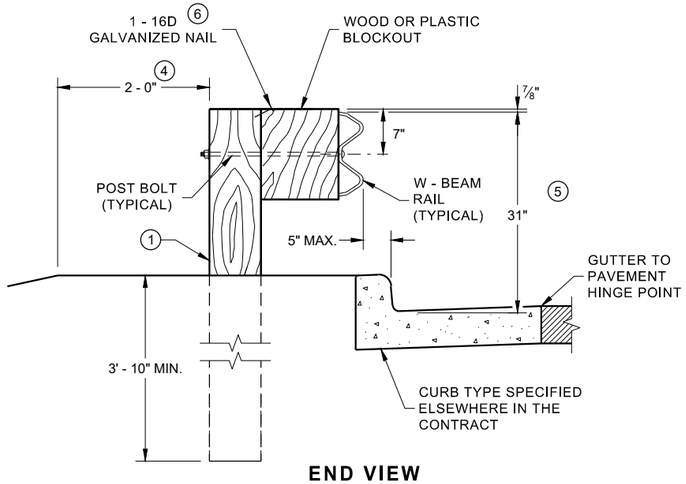
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



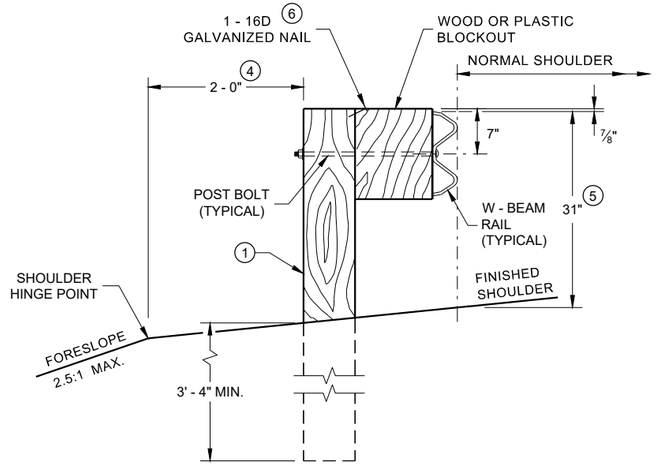
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



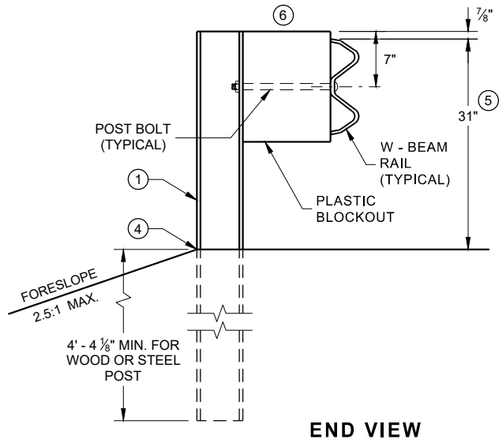
WOOD POST (6" X 8") NOMINAL (1)



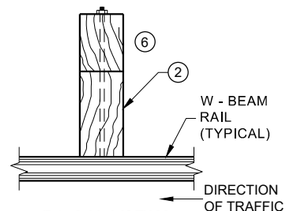
END VIEW
LOCATED ALONG A CURBED ROADWAY



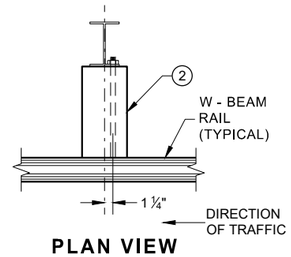
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



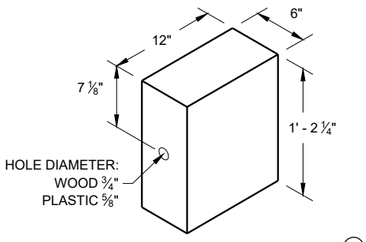
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM

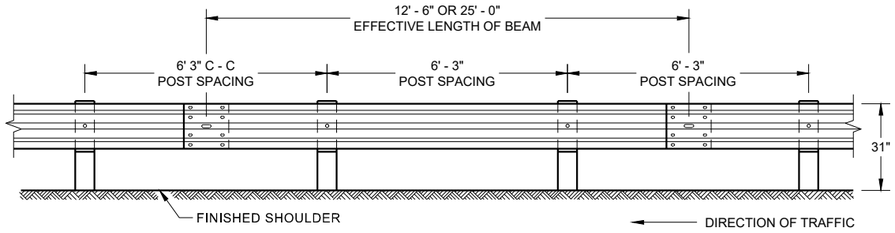


WOOD OR PLASTIC BLOCKOUT (2)

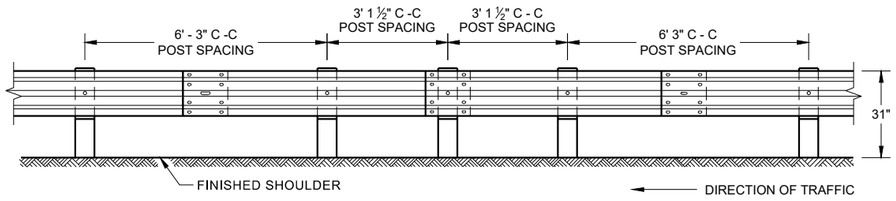
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

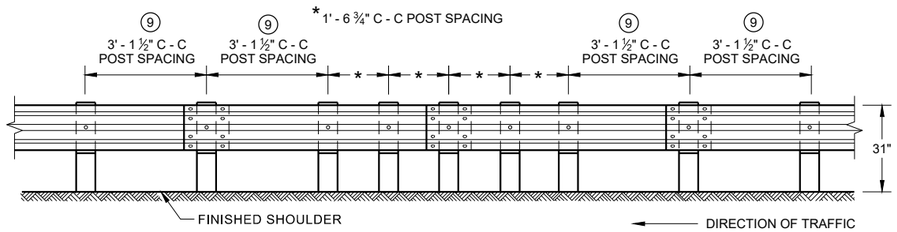
6
SDD 14B42 - 07a



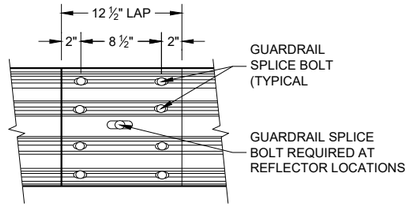
FRONT VIEW
POST SPACING STANDARD INSTALLATION



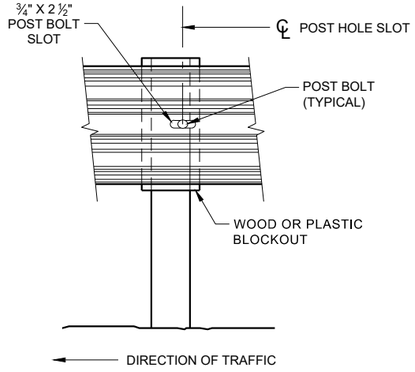
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



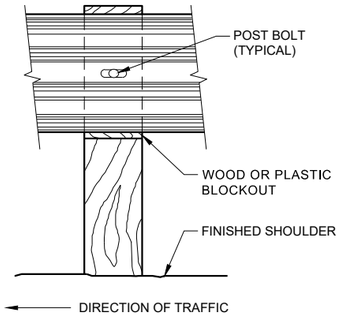
FRONT VIEW
QUARTER POST SPACING (QS)



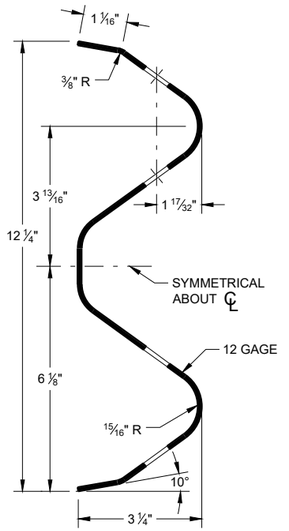
FRONT VIEW
MID-SPAN BEAM SPLICE



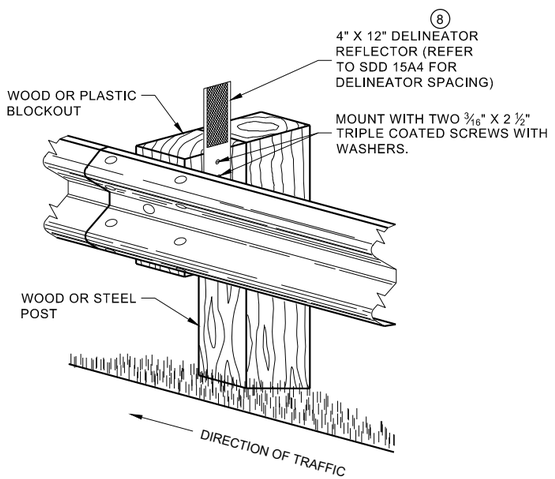
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

GENERAL NOTES

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

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

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

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

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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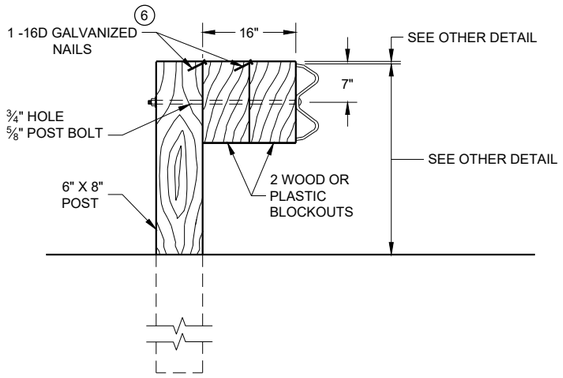
SDD 14B42 - 07b
SDD 14B42 - 07b

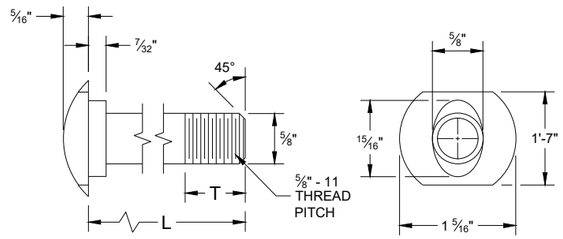


DETAIL FOR 16" BLOCKOUT DEPTH

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

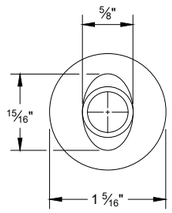
NOTE:

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

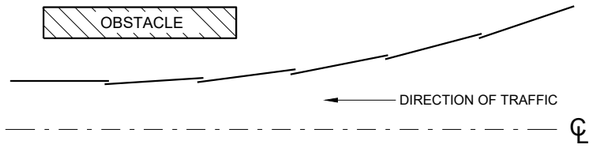


POST BOLT TABLE

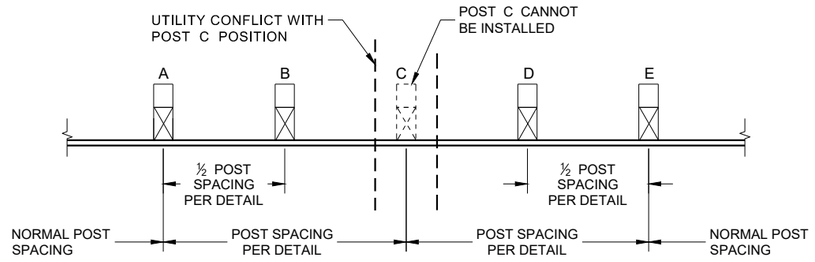
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



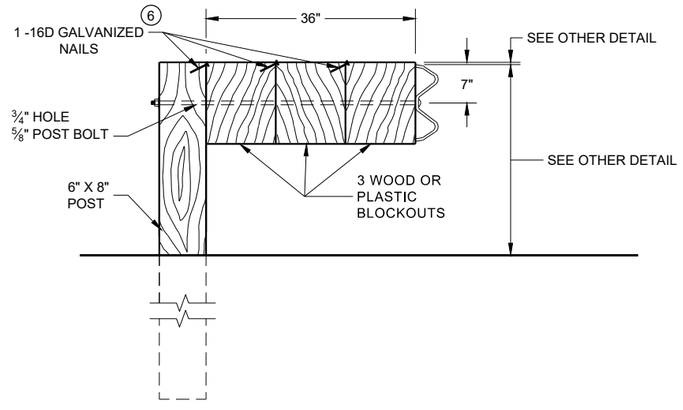
ALTERNATE BOLT HEAD



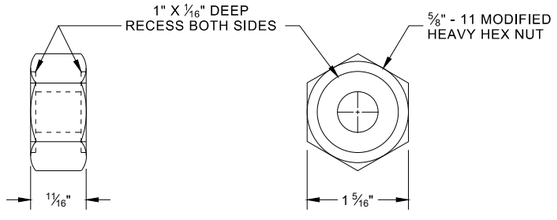
PLAN VIEW
BEAM LAPPING DETAIL



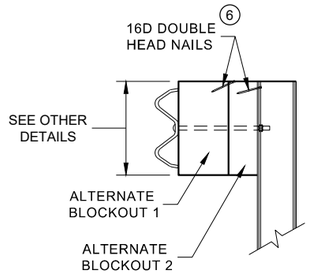
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



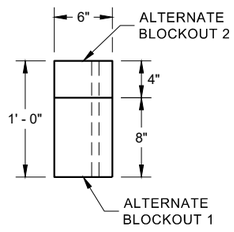
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

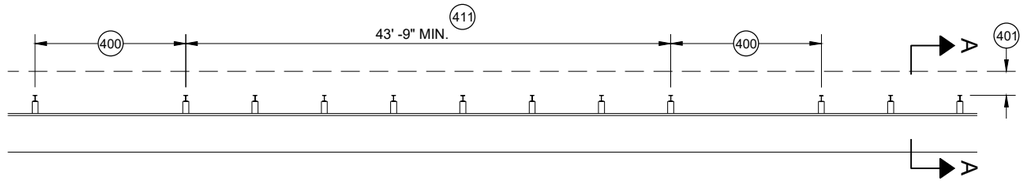
ALTERNATE WOOD BLOCKOUT DETAIL

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

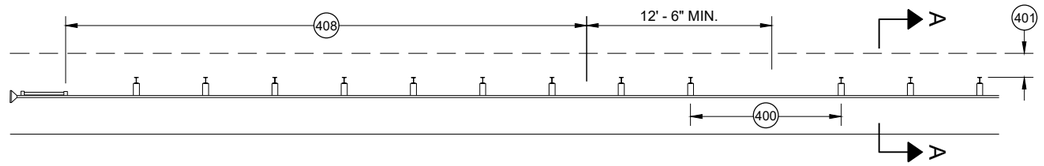
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

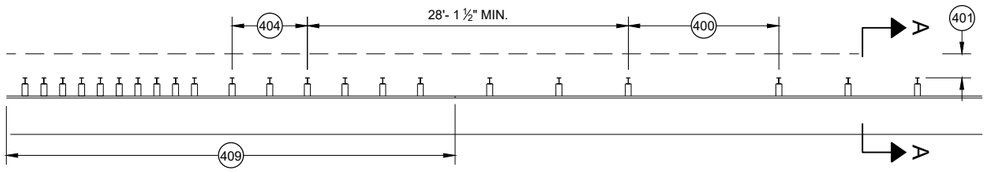
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL



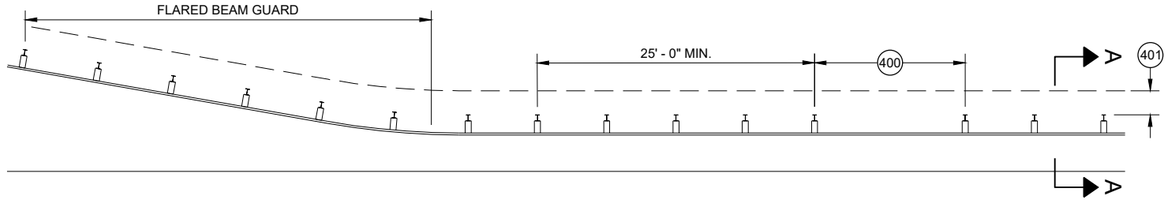
MISSING POST IN MGS GUARDRAIL



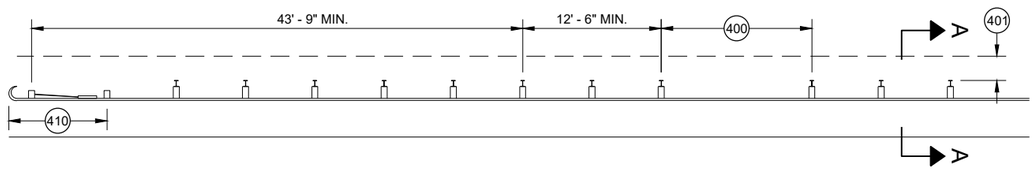
MISSING POST IN MGS GUARDRAIL NEAR EAT



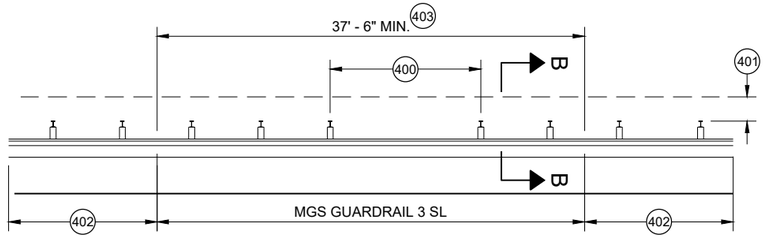
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

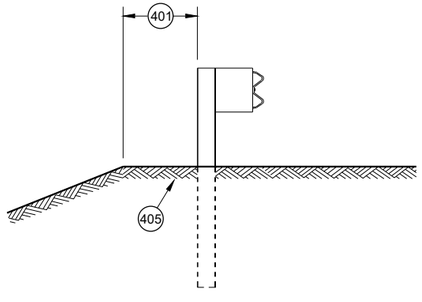


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

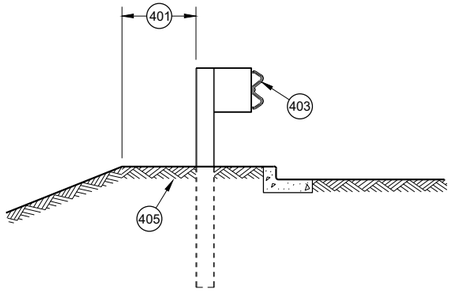


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

6

SDD 14B42 - 07d

SDD 14B42 - 07d

GENERAL NOTES

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

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

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

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

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

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

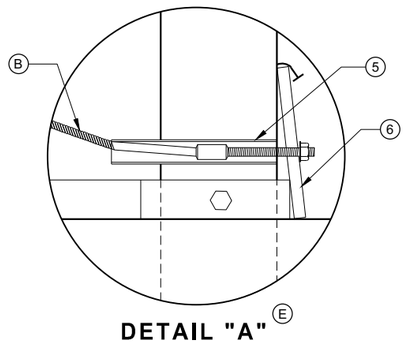
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

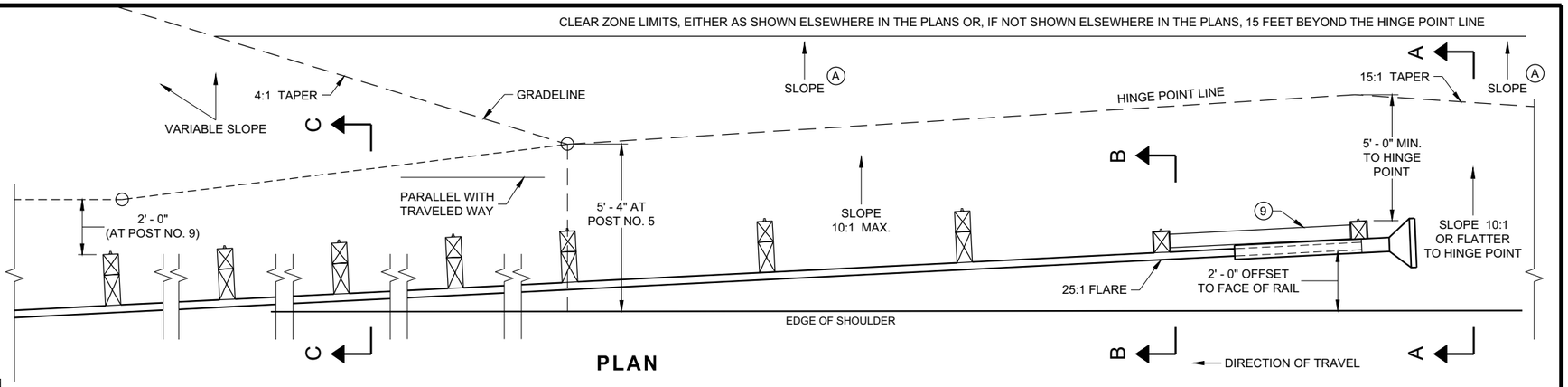
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

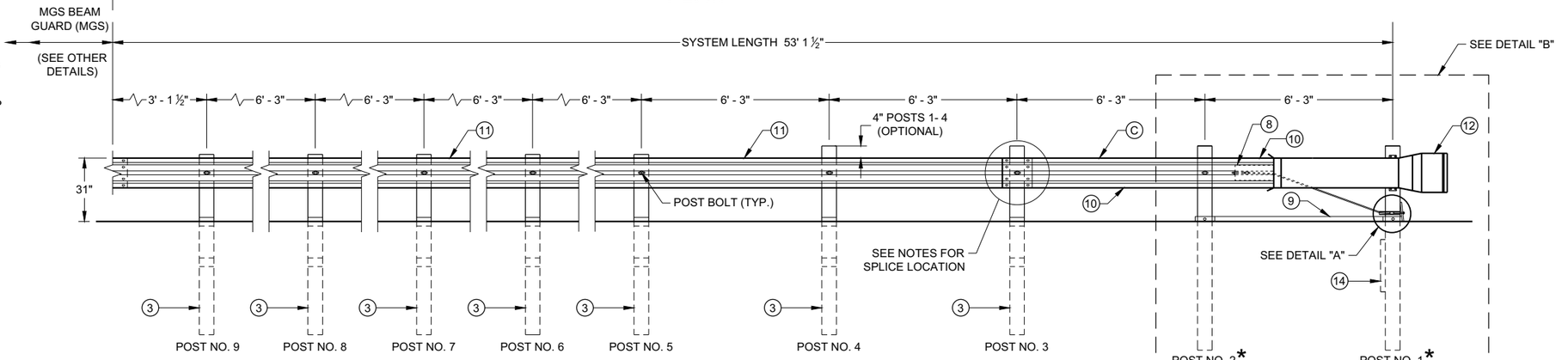
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



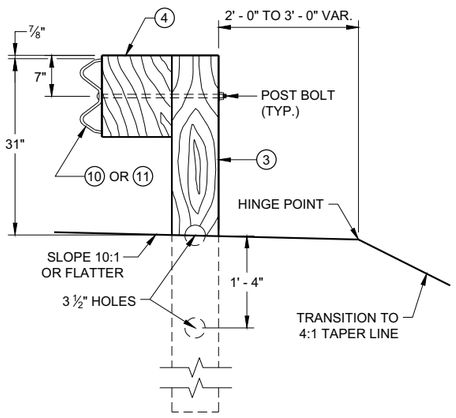
DETAIL "A" (E)



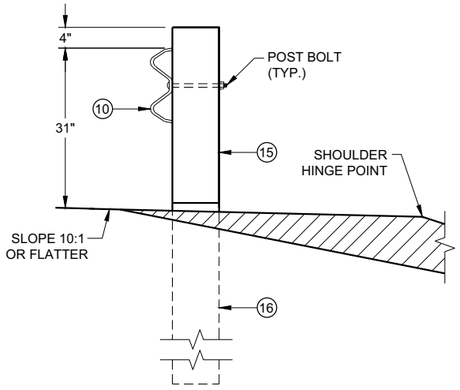
PLAN



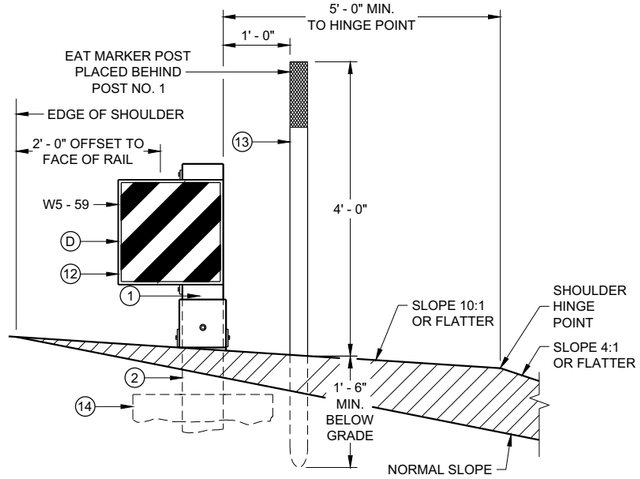
ELEVATION



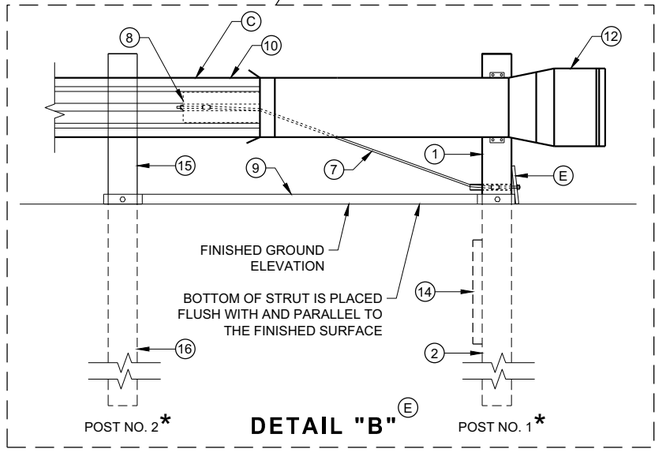
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



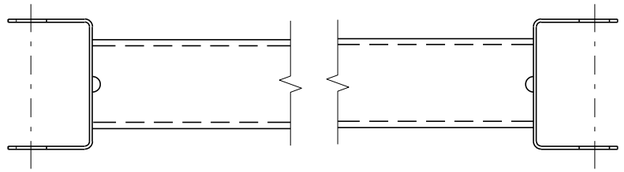
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

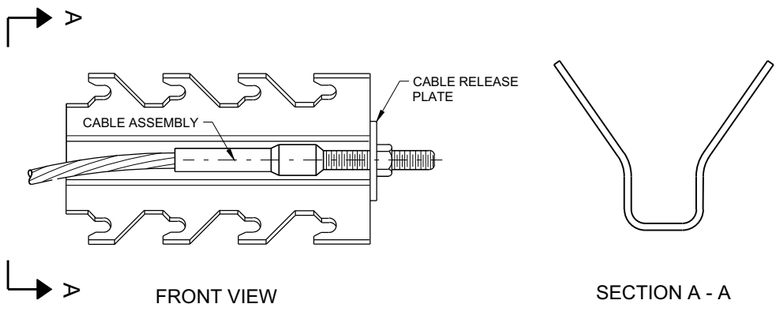
SDD 14B44 - 04a



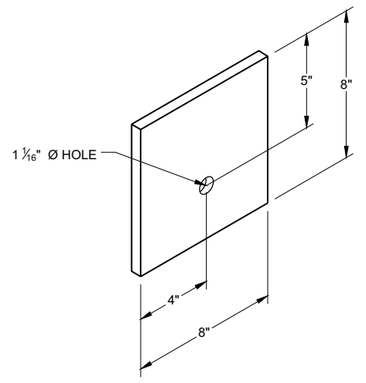
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

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



GENERIC ANCHOR CABLE BOX ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

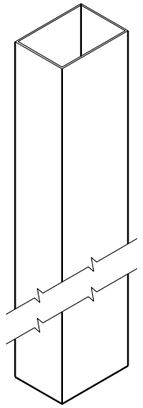
SDD 14B44 - 04b

6

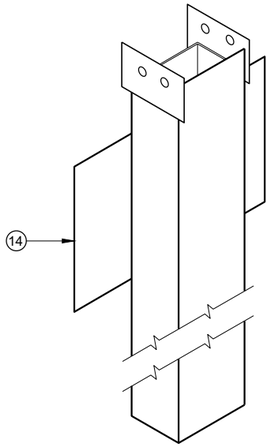
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

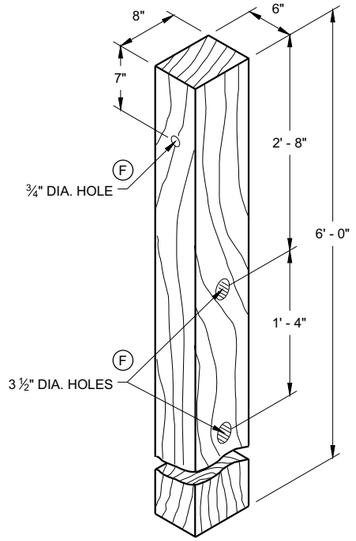
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



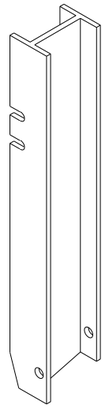
UPPER POST NO. 1 (1) (E)



LOWER POST NO. 1 (2) (E)



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



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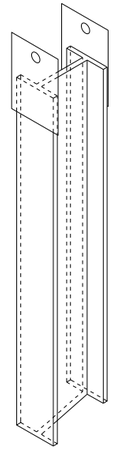
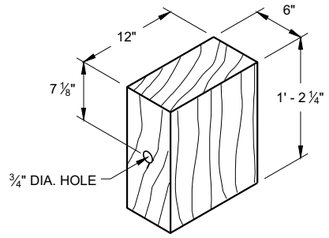
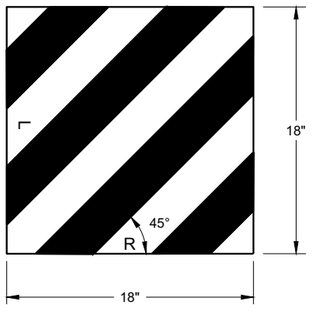


LOWER POST NO. 2 (16) (E)

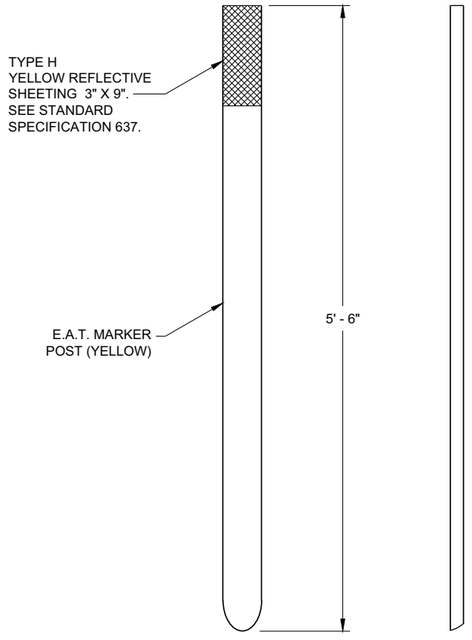


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



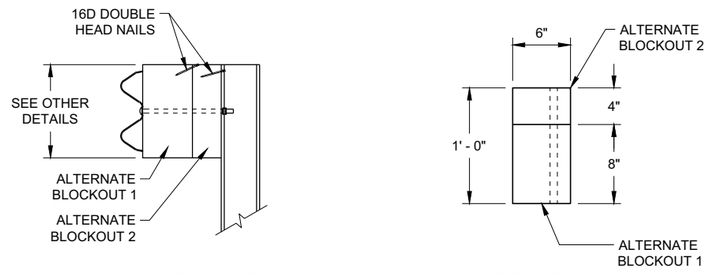
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

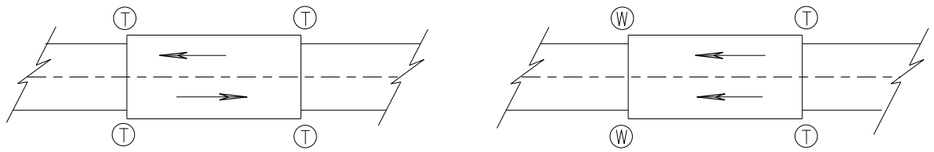
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

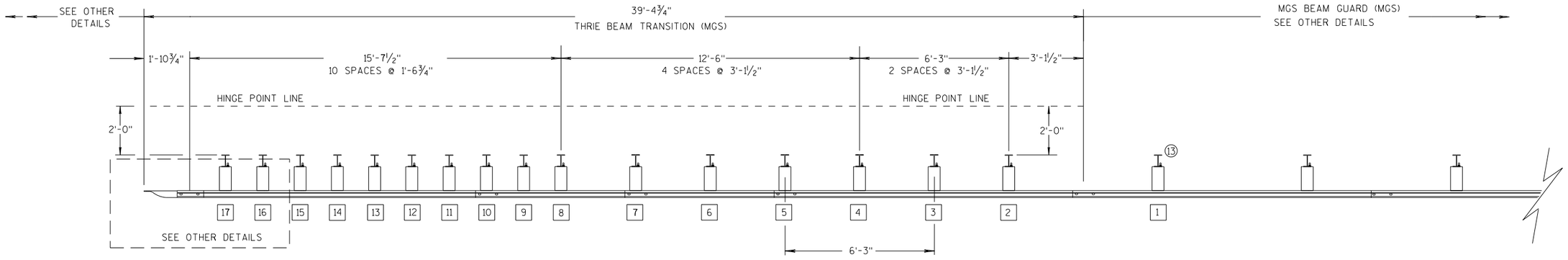
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

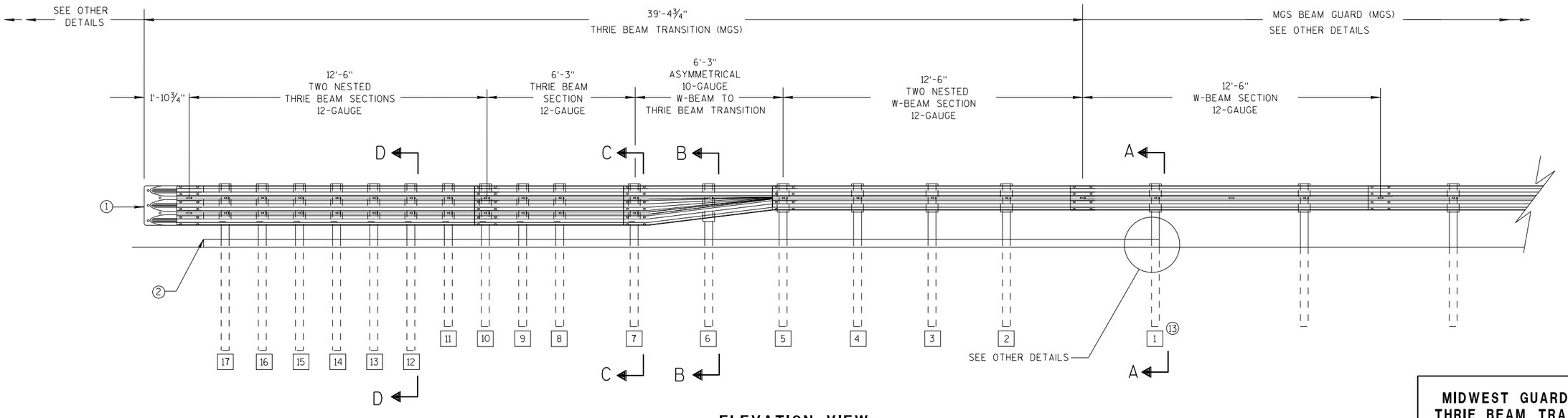
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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

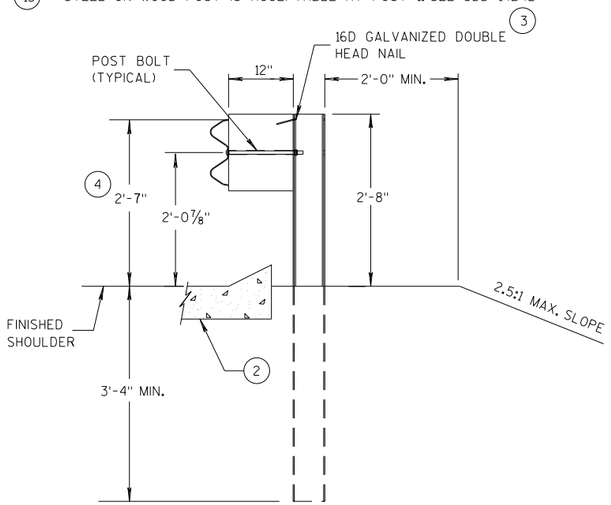
GENERAL NOTES

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

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

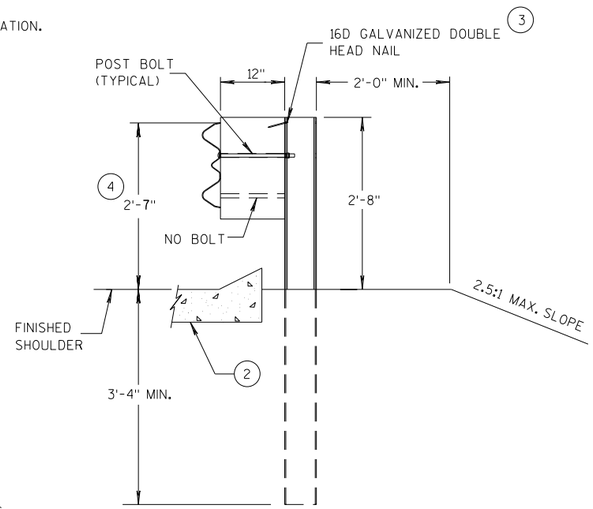
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



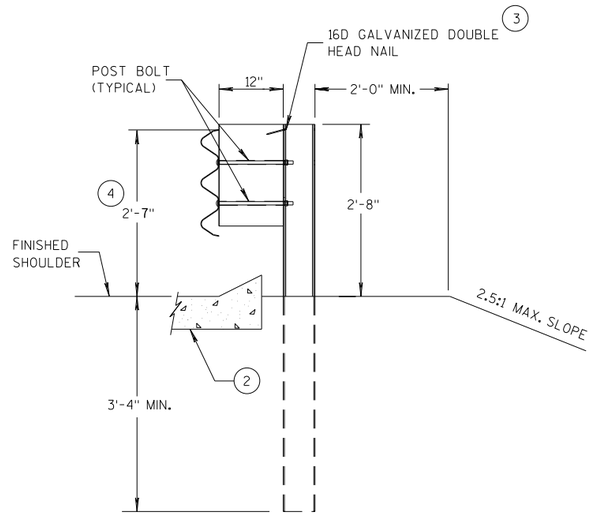
SECTION A-A (13)

POSTS 1-5



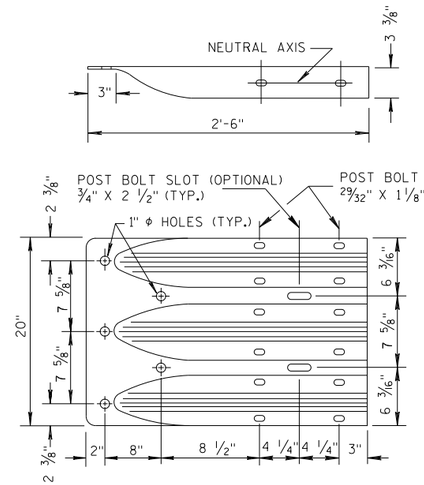
SECTION B-B

POST 6

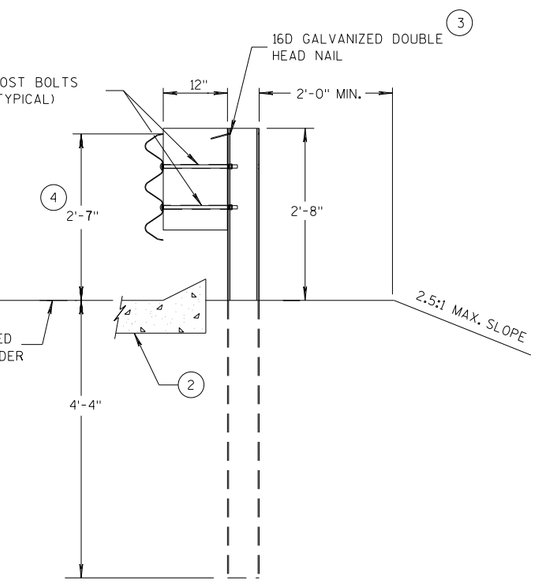


SECTION C-C

POSTS 7-11

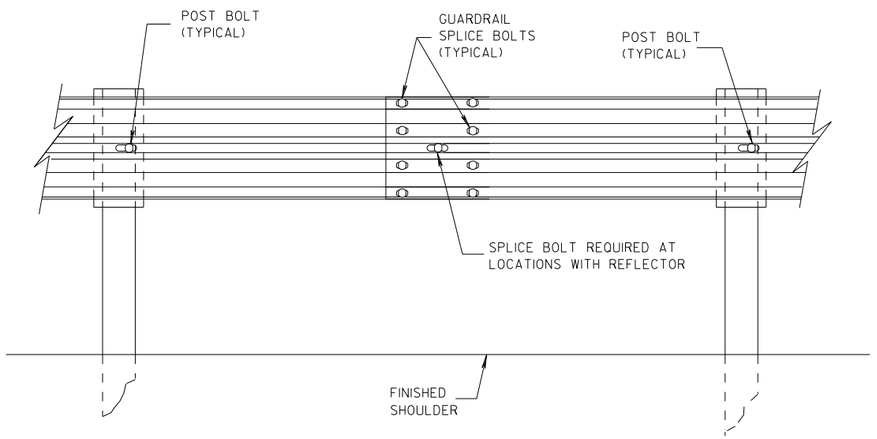


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

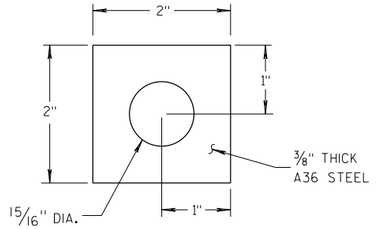
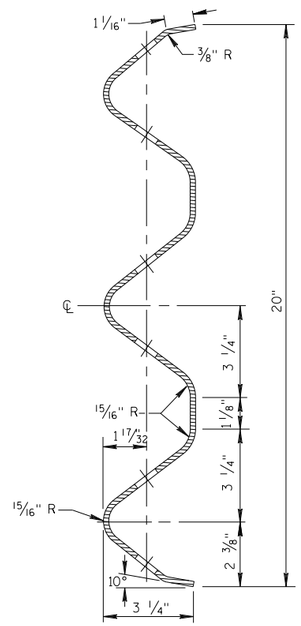


PLATE WASHER DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

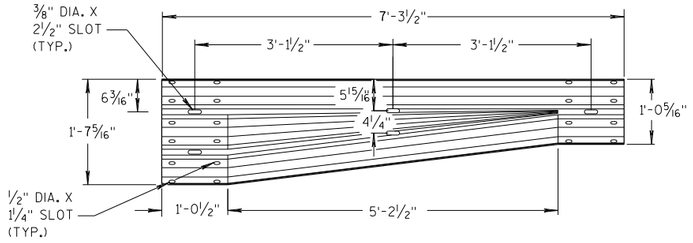
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

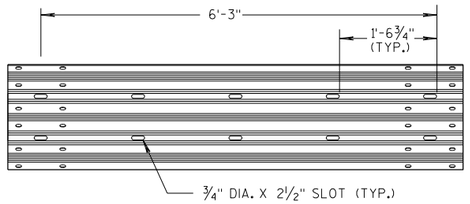
S.D.D. 14 B 45-5b

6

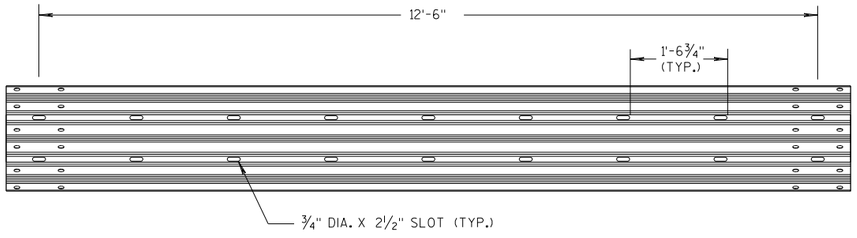
S.D.D. 14 B 45-5b



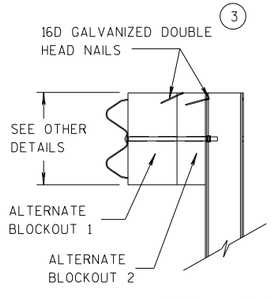
W-BEAM TO THRIE BEAM TRANSITION SECTION



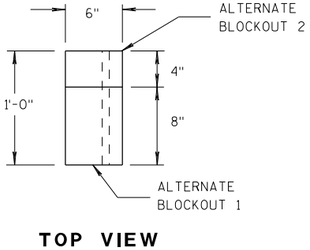
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

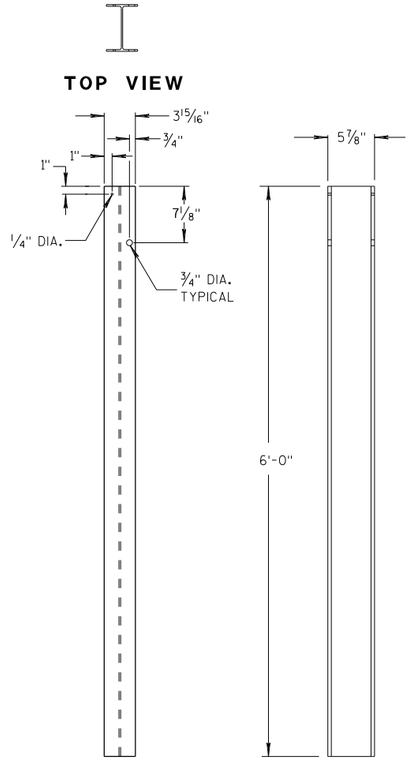


SIDE VIEW



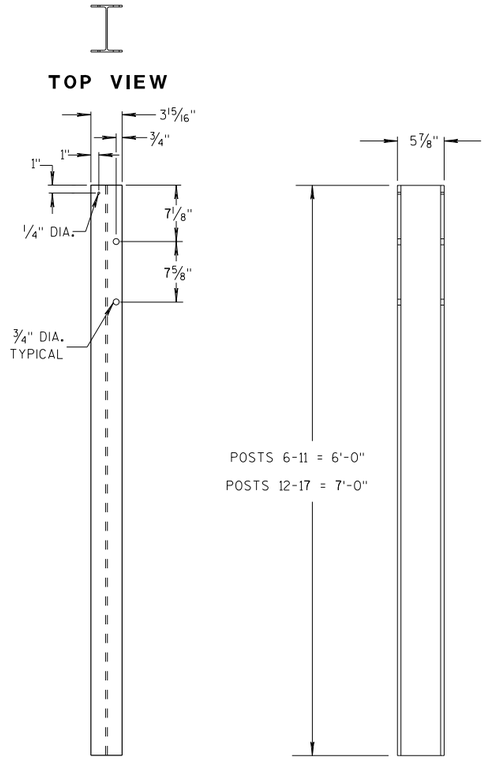
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



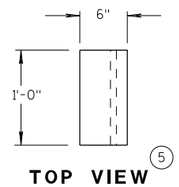
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

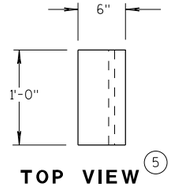


FRONT VIEW SIDE VIEW

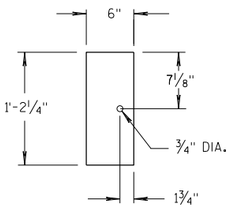
STEEL POSTS 6-17



TOP VIEW (5)

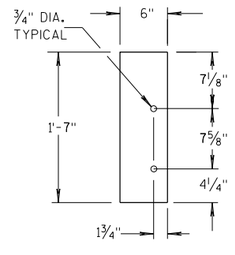


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

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

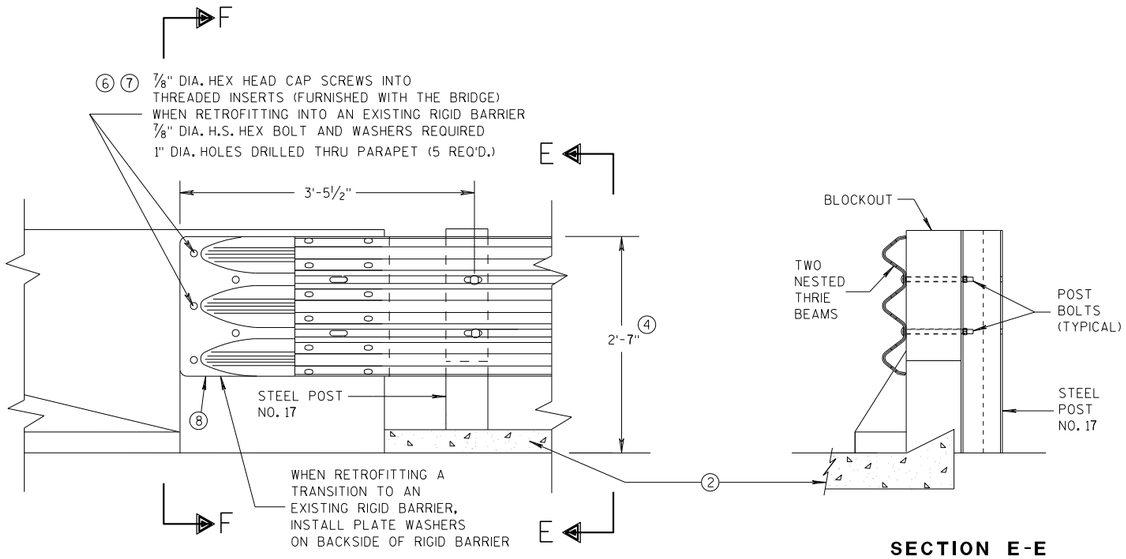
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

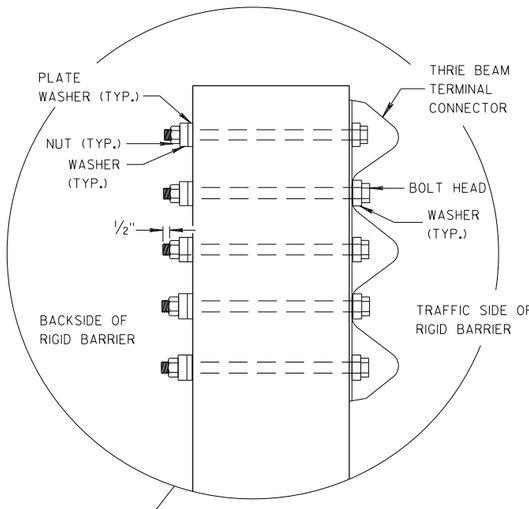
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

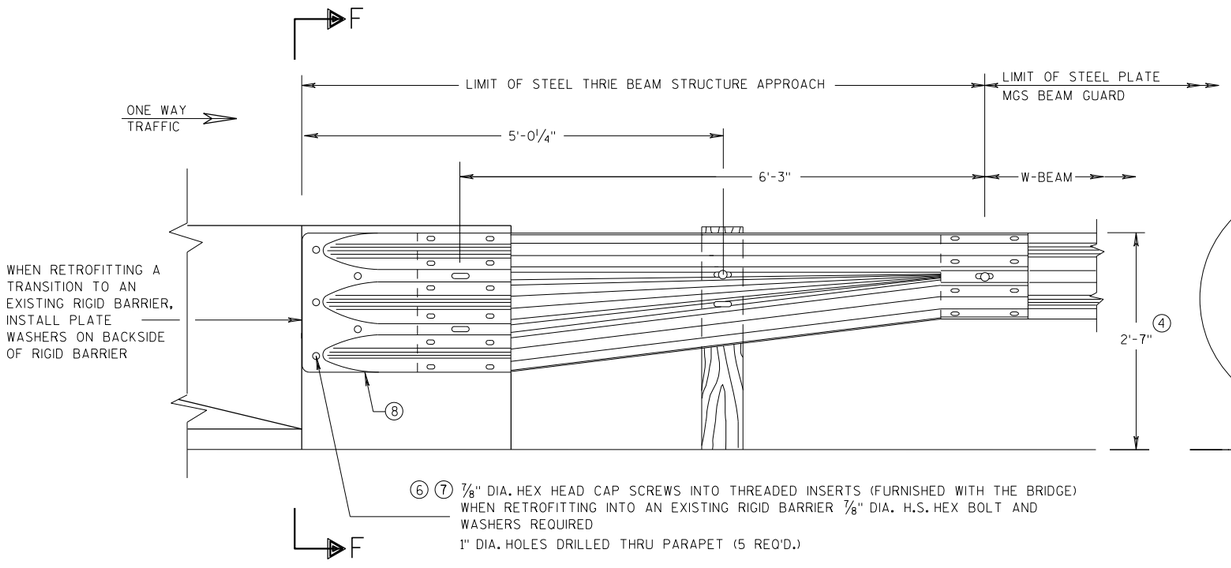
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

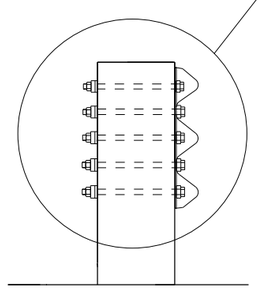
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

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

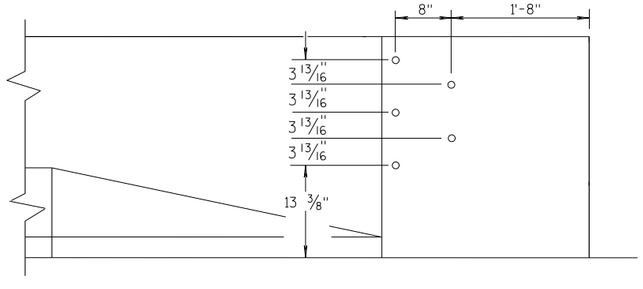




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

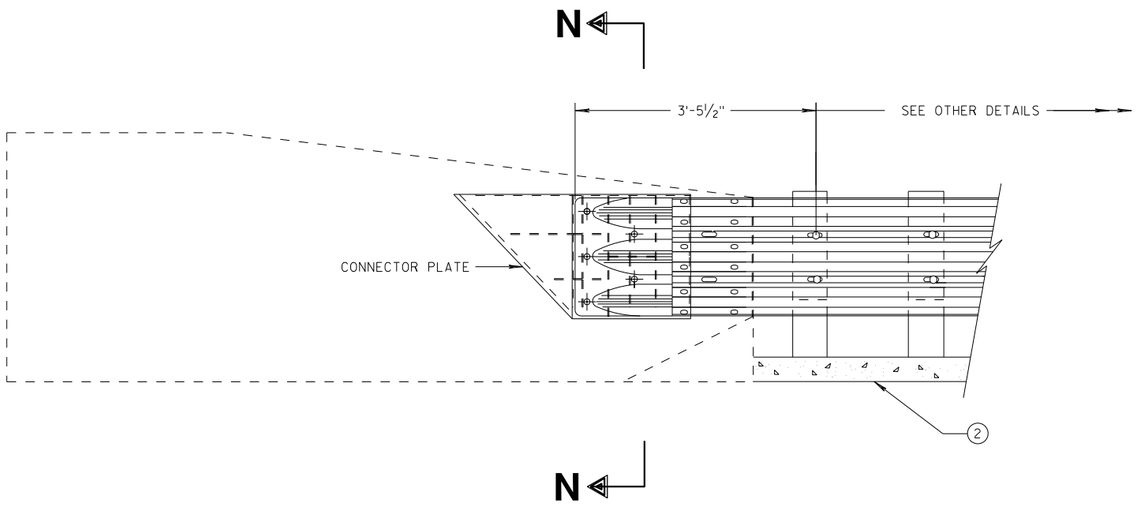
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

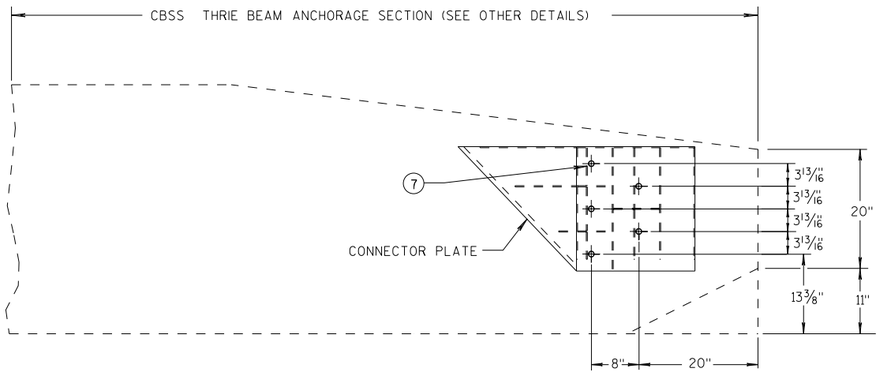
APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D UNIT SUPERVIS
NT
FHWA

6

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



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



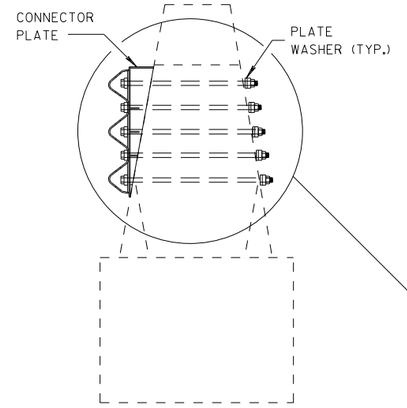
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

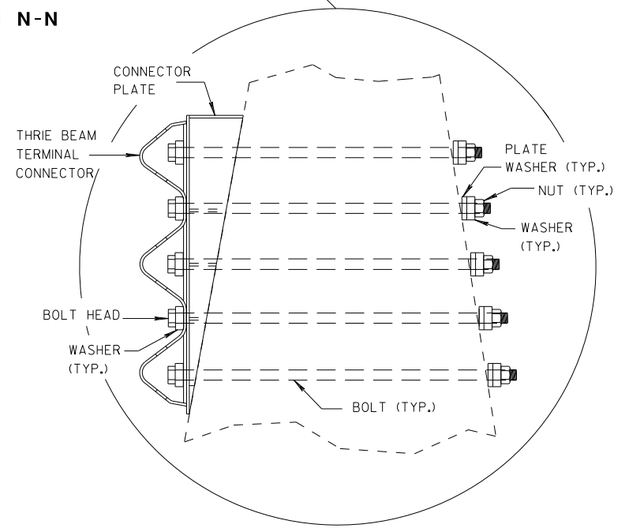
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

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



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DI UNIT SUPERVIS
FHWA

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

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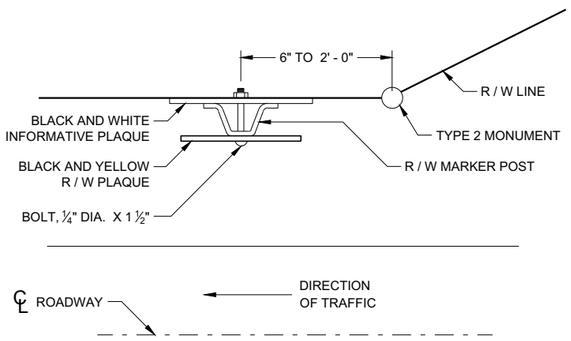
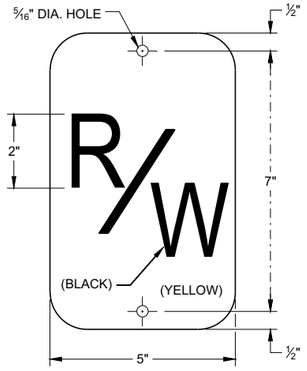
S.D.D. 14 B 45-5j



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

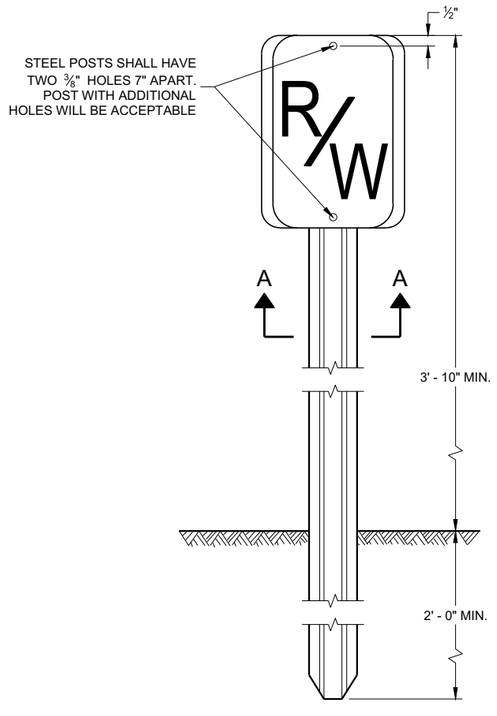
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

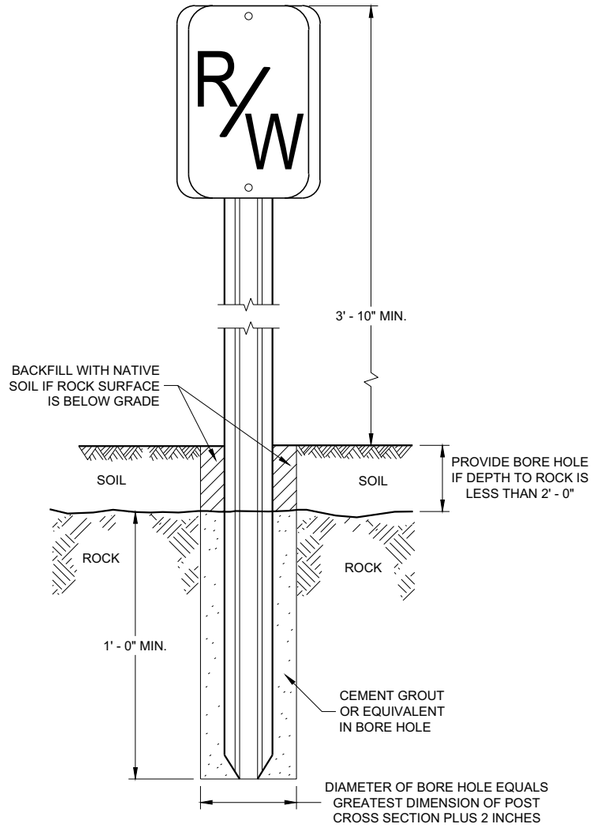
THE "R/W" PLAQUE SHALL FACE THE ROADWAY AND THE INFROMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. "R/W" AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

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.

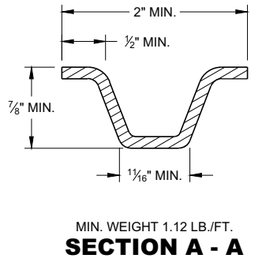
(1) IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3' - 10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR. FILL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



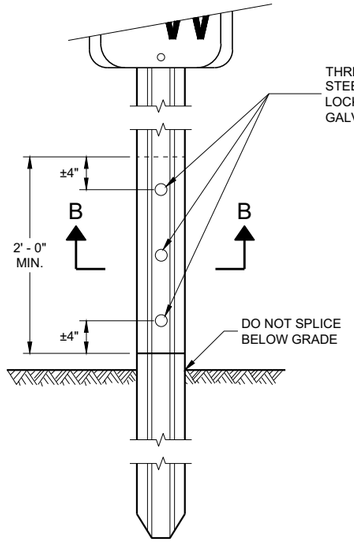
FRONT VIEW
STEEL MARKER POST



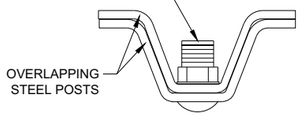
FRONT VIEW
ROCK INSTALLATION (1)



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



FRONT VIEW
SPLICE DETAIL



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

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SDD 15A01 - 13a

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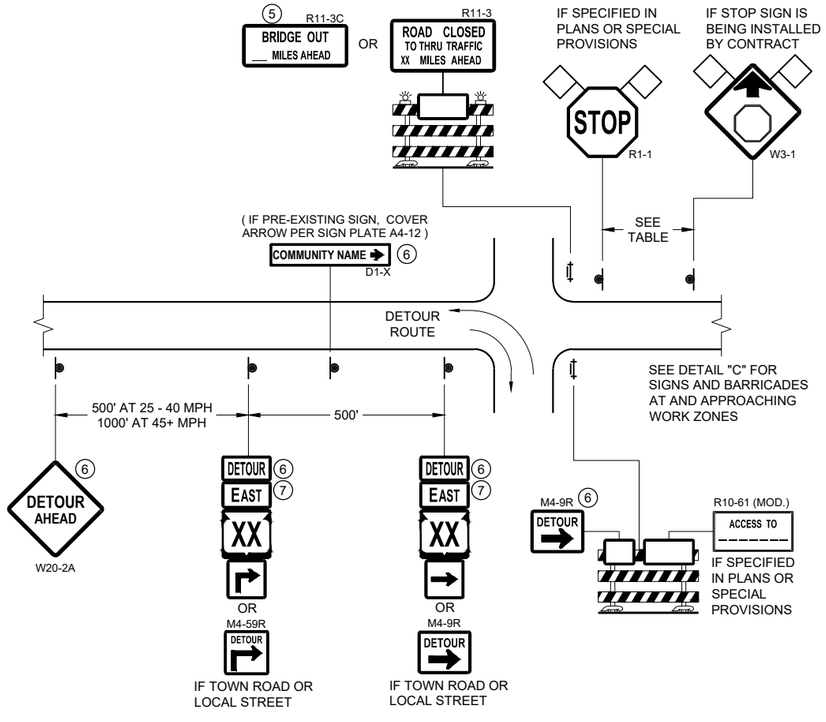
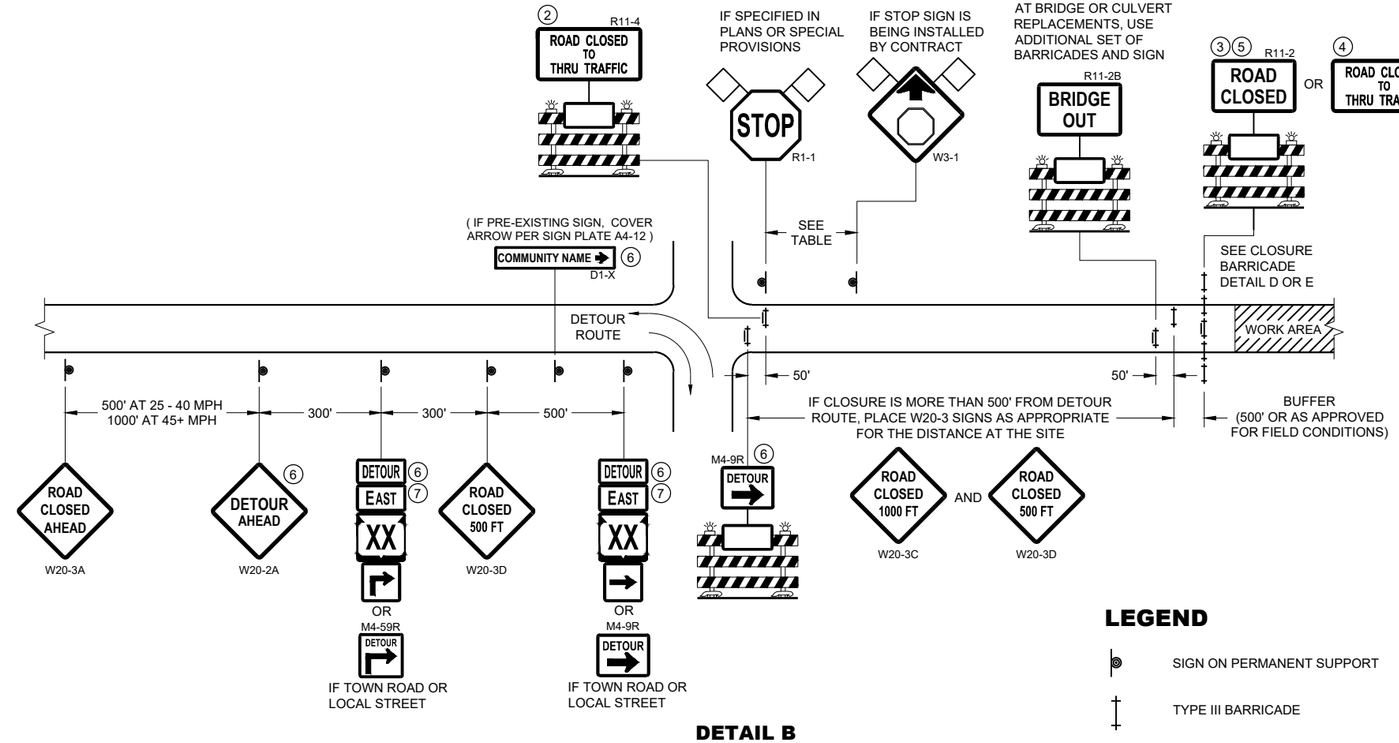
SDD15A01 - 13a



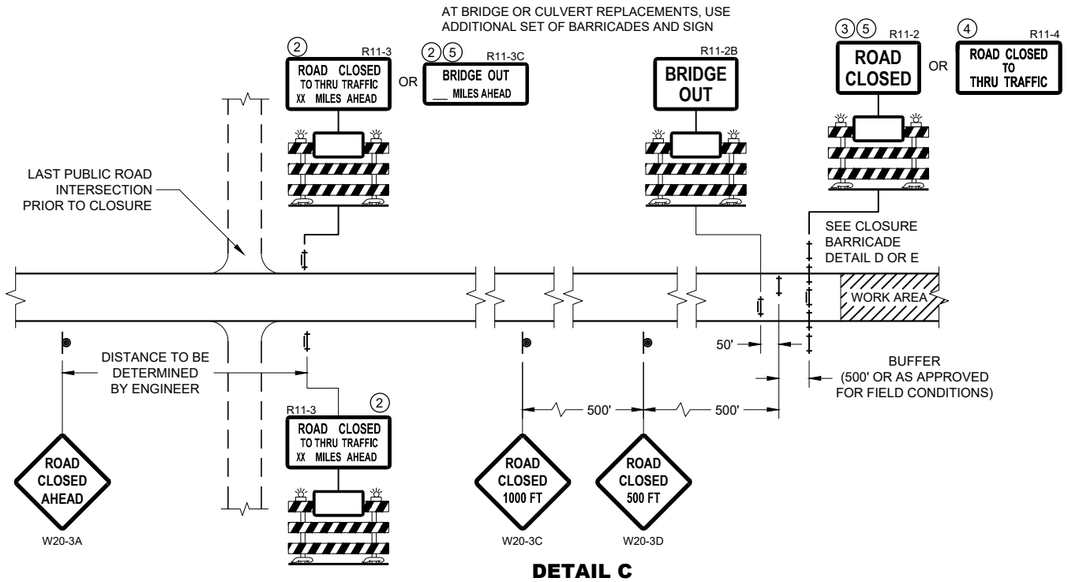
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

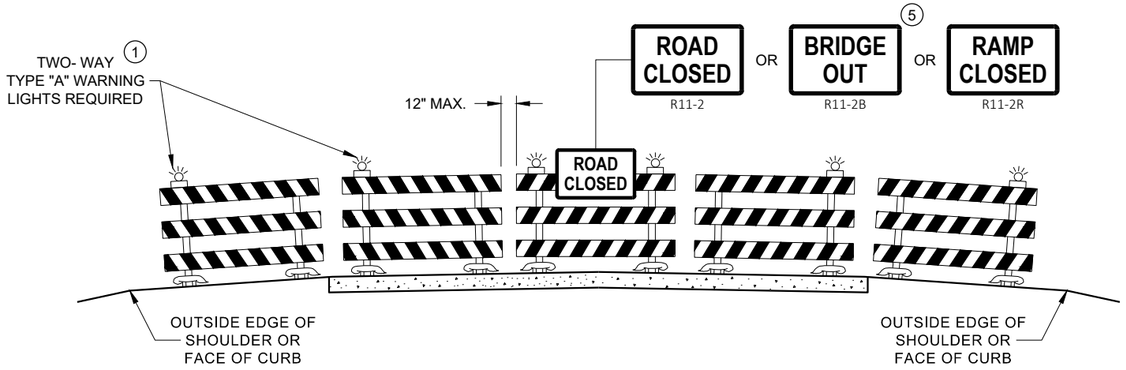
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

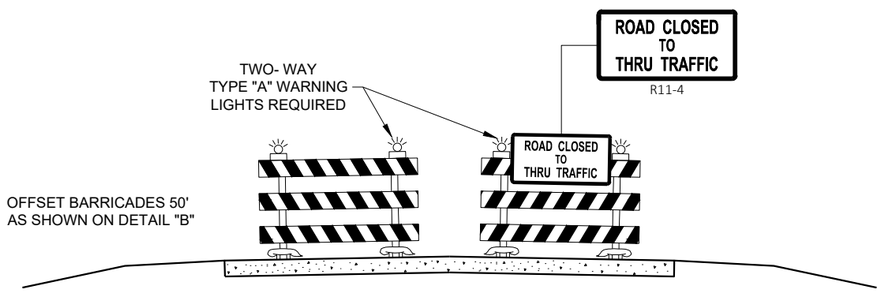
FHWA

6

SDD 15C02 - 09a



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

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SDD 15C02 - 09b

6

SDD 15C02 - 09b

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR / EAST — M4 - 8, M3 - X
- XX — M1 - 4
- OR XX — M1 - 6
- OR COUNTY X — M1 - 5A
- M05 - 1
- OR M06 - 1
- OR M06 - 1

GENERAL NOTES

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

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. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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.

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

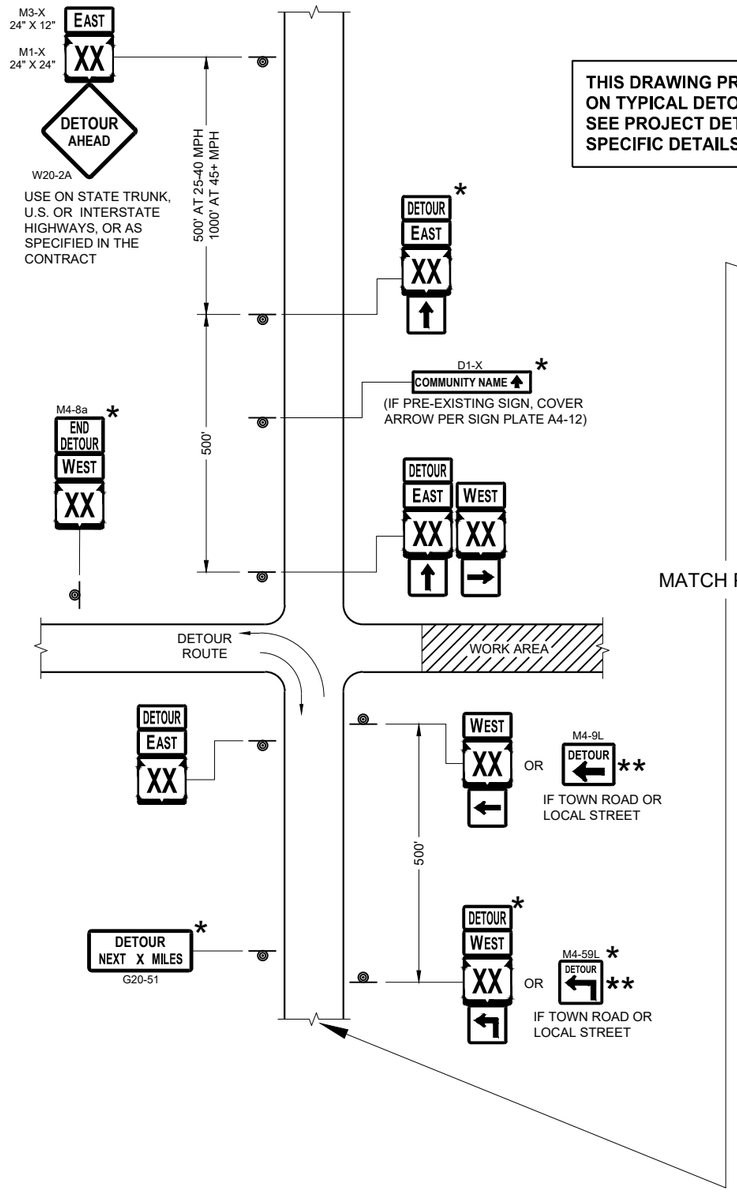
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

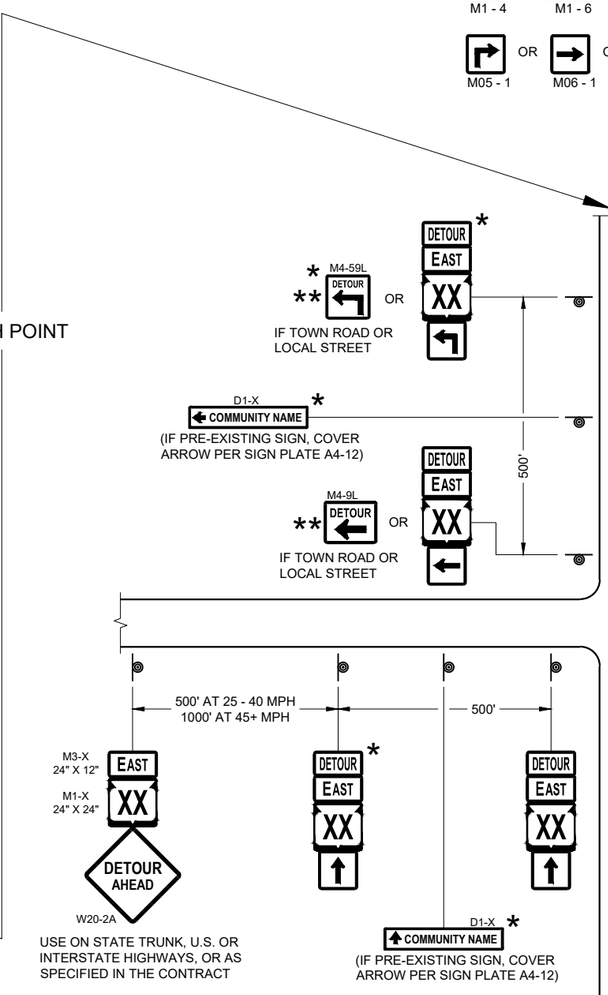
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

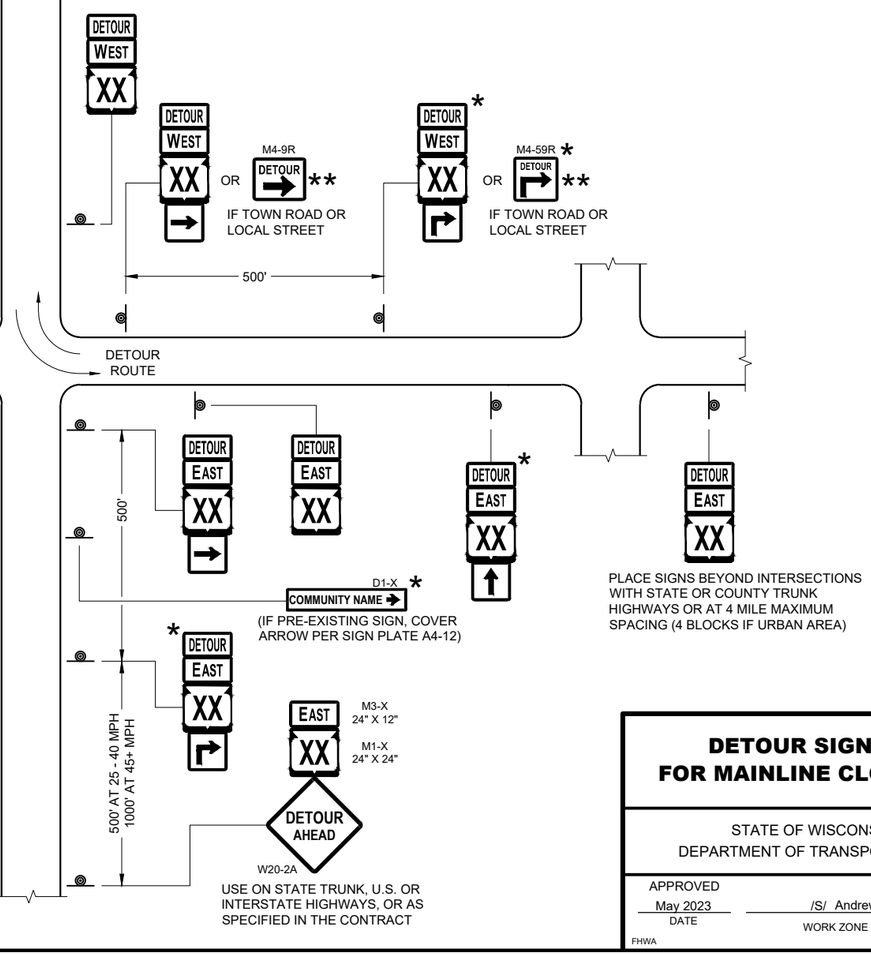
* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT



MATCH POINT





SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

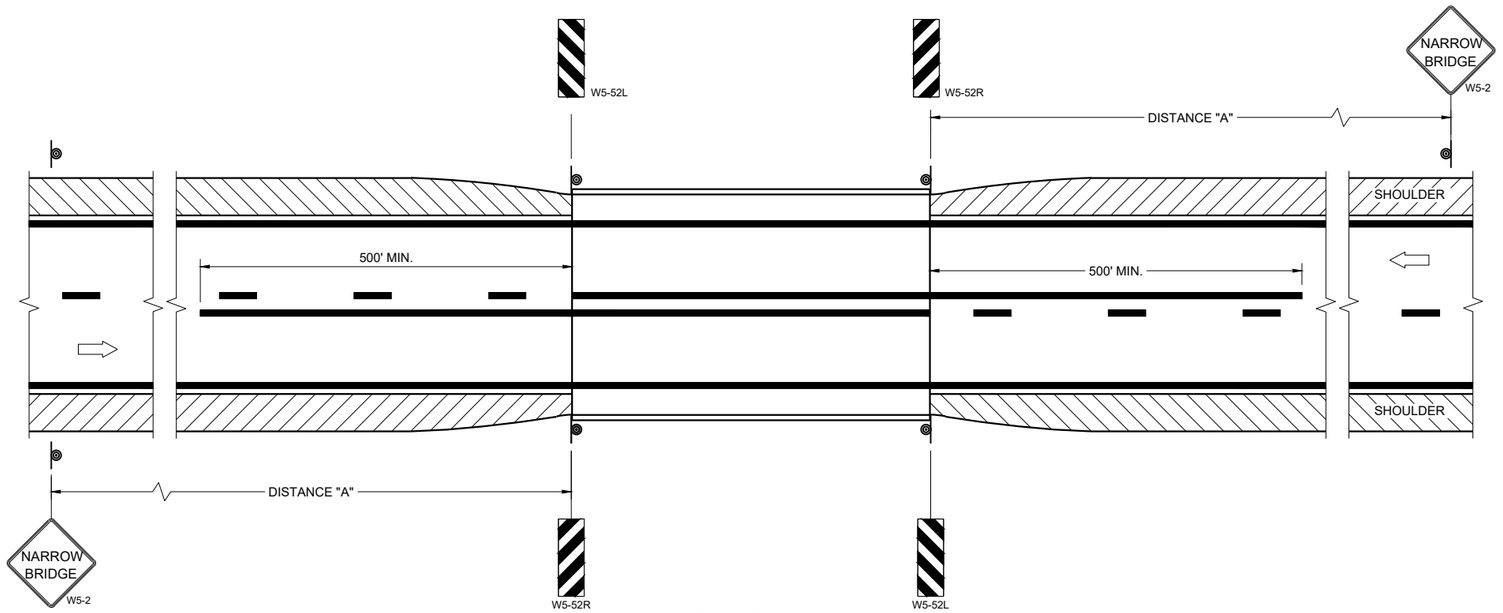
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

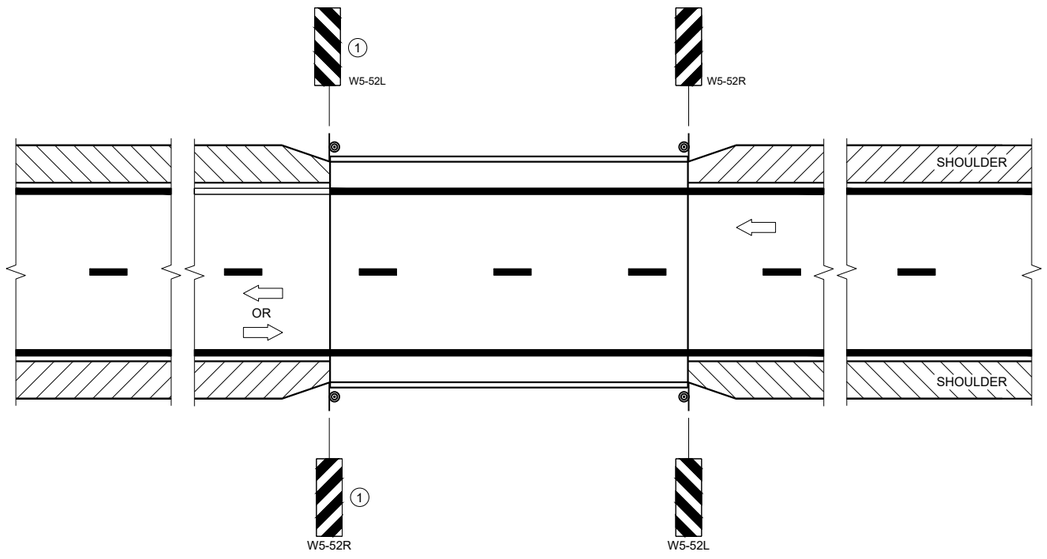
6

SDD 15C02 - 09c



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.

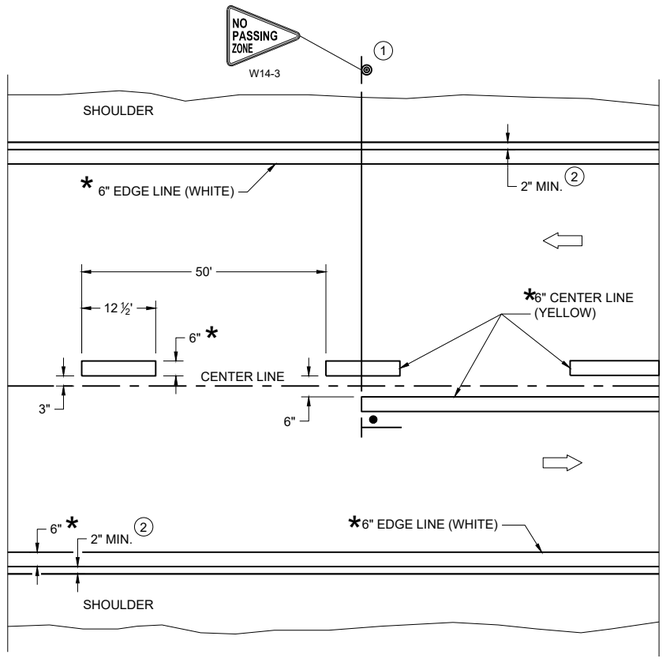
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

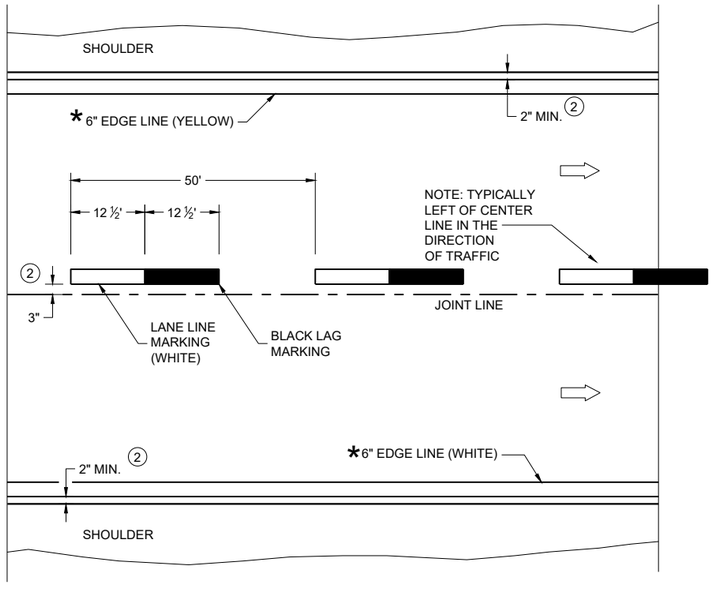
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

6

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023
DATE

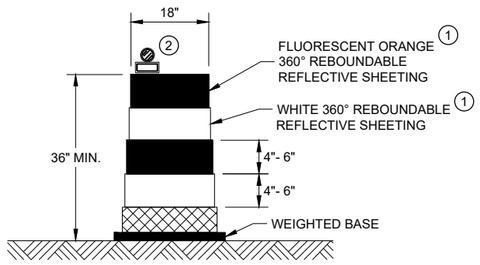
/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA

SDD 15C08-23a

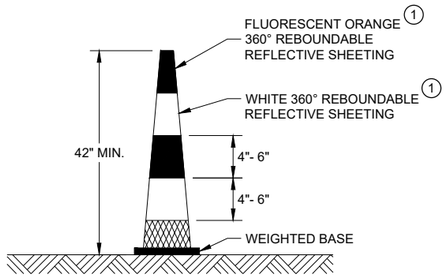
GENERAL NOTES

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

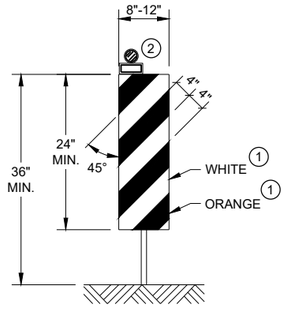
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

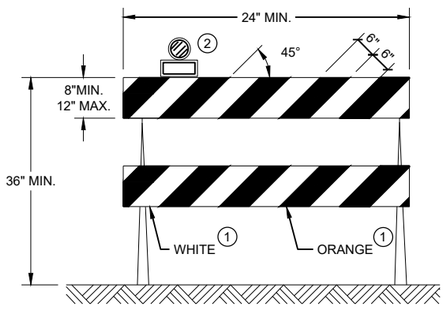
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



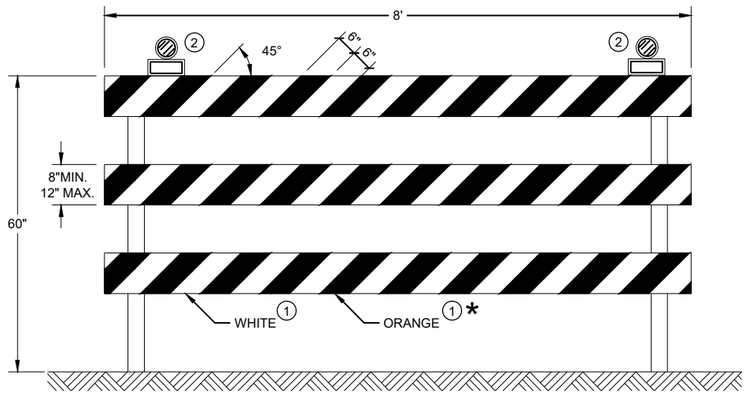
VERTICAL PANEL

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

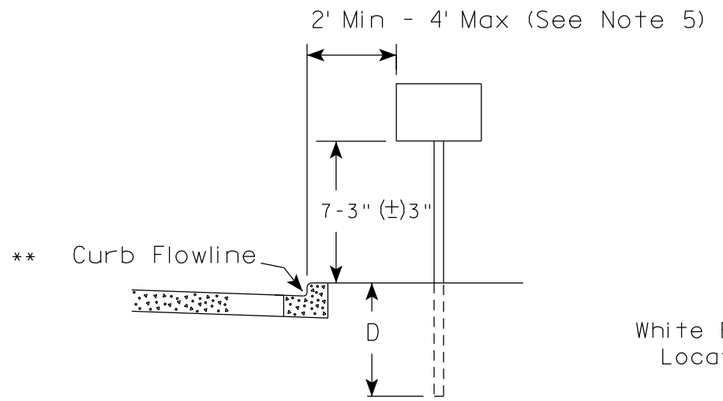
6

SDD 15C11 - 10b

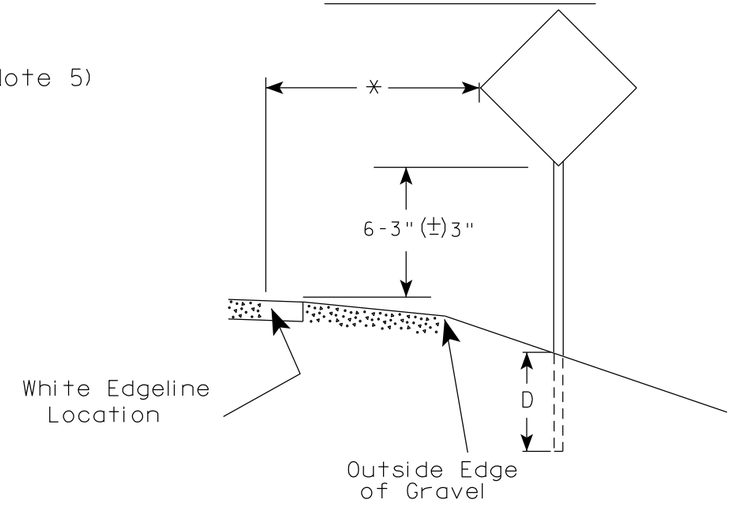
6

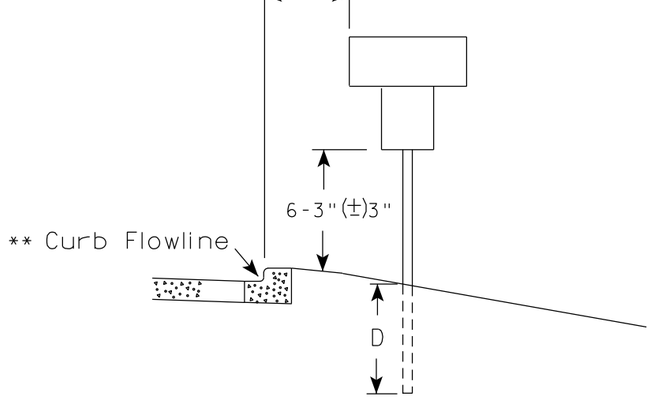
SDD 15C11 - 10b

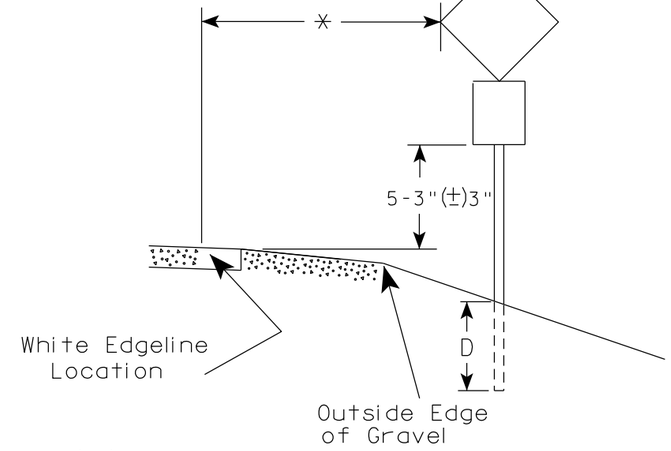
URBAN AREA



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.

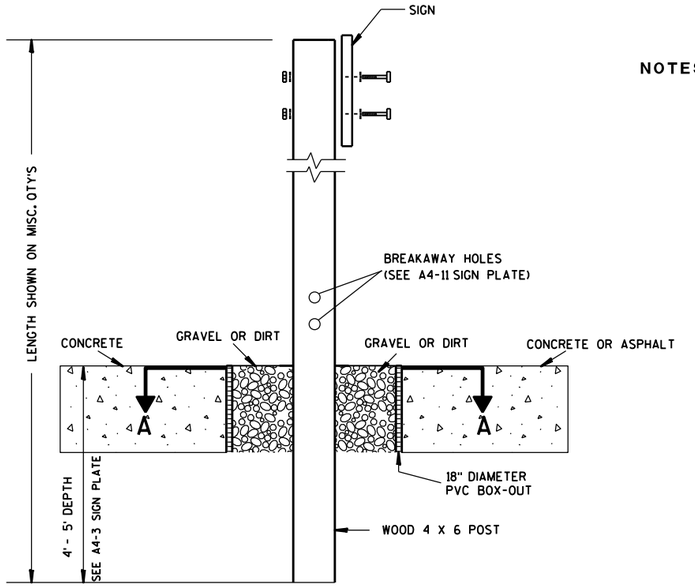
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

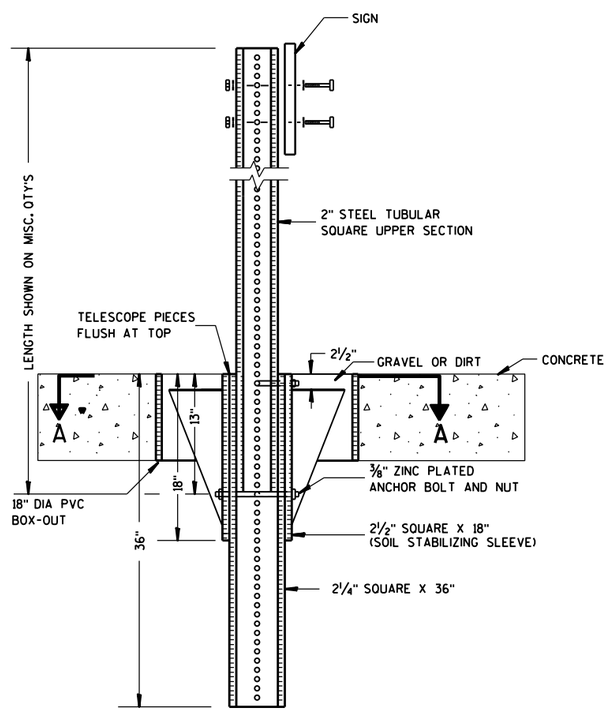
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 50	E



ELEVATION VIEW

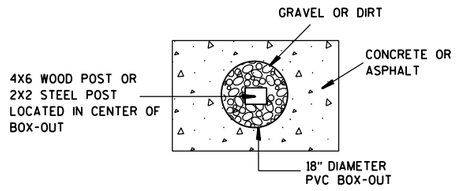
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

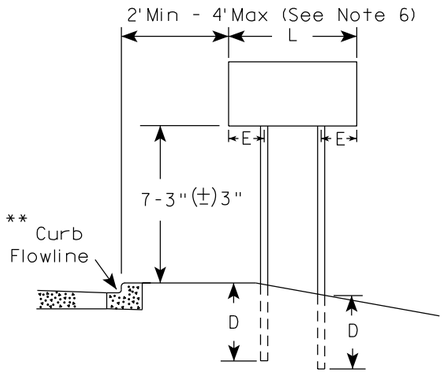
APPROVED Matthew R Rauch
for State Traffic Engineer

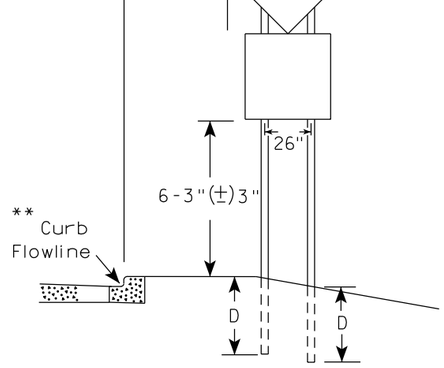
DATE 1/27/14 PLATE NO. A4-3B.1

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

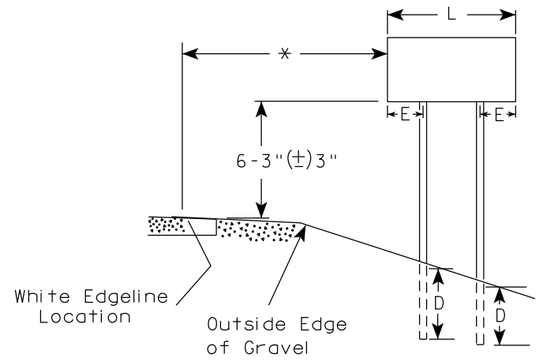
URBAN AREA

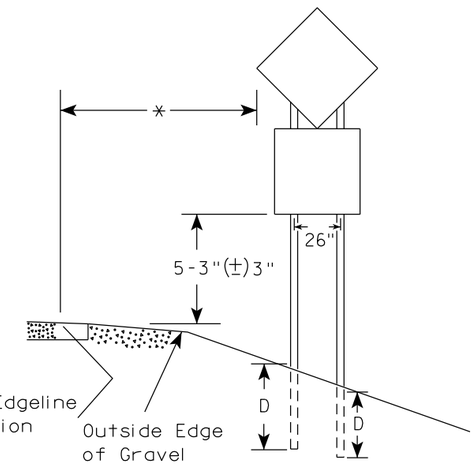




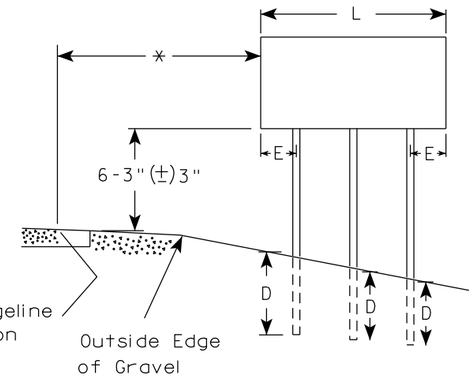
48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)





48" DIAMOND WARNING SIGN



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.

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

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

POST EMBEDMENT DEPTH

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

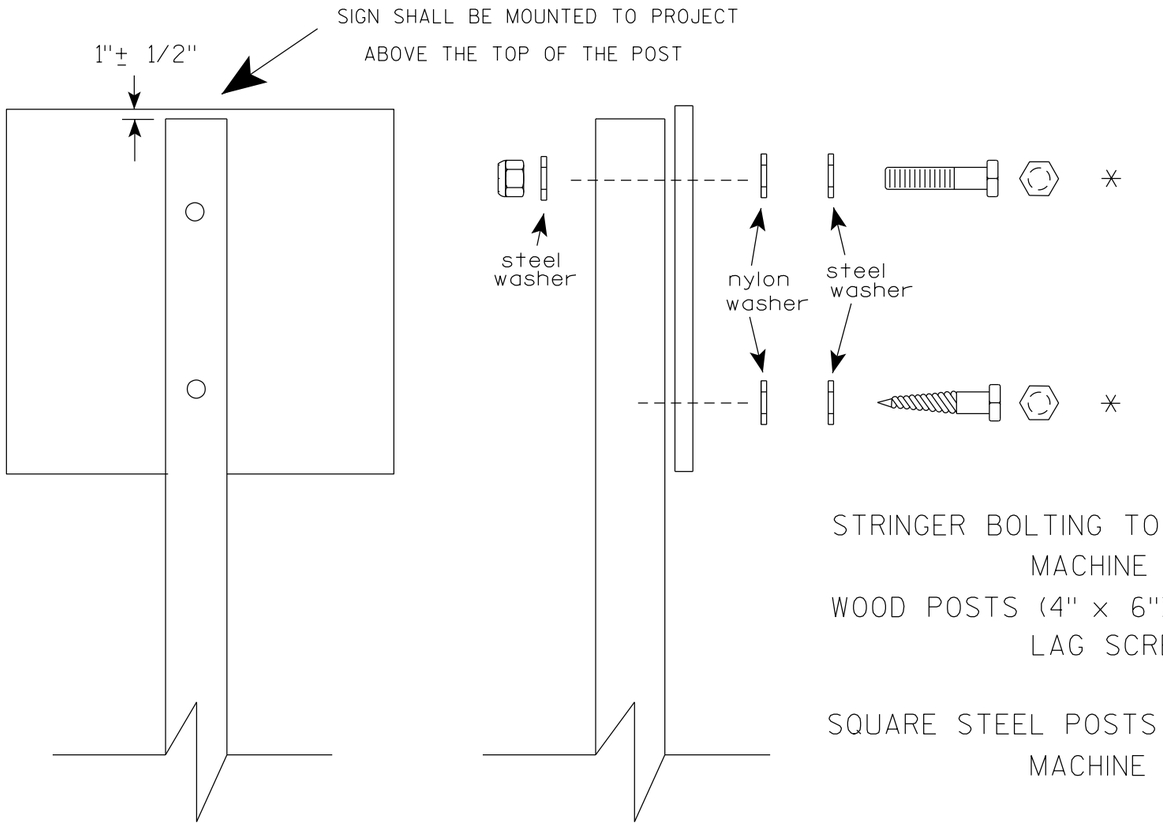
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

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



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

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

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

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

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

ATTACHMENT OF SIGNS TO POSTS

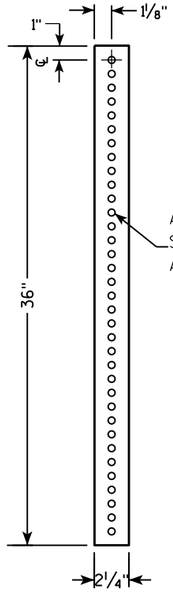
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

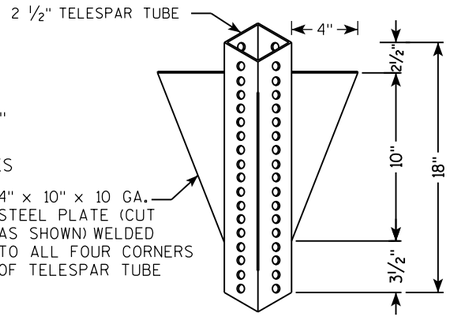
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

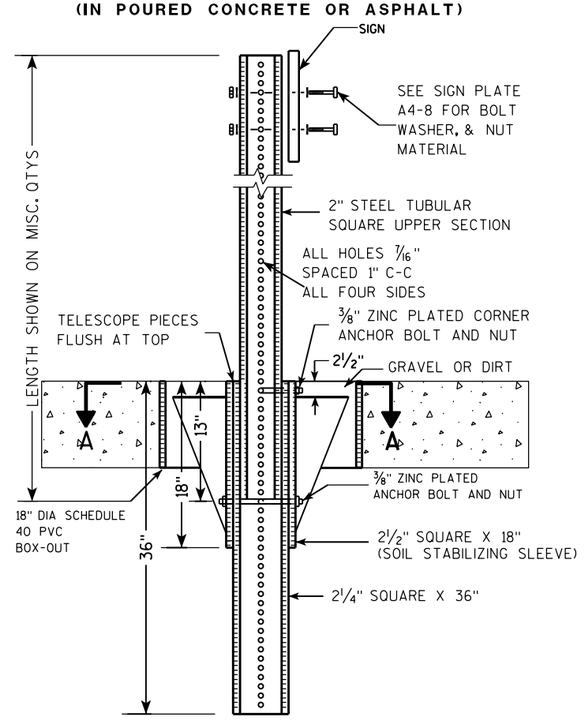
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



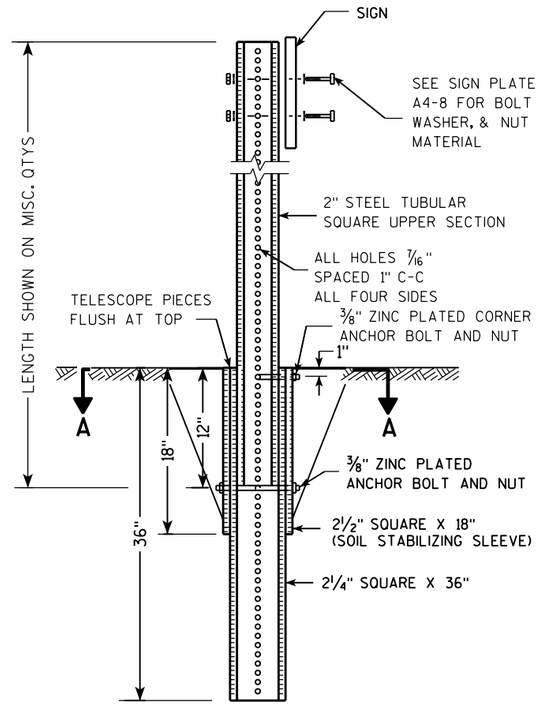
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

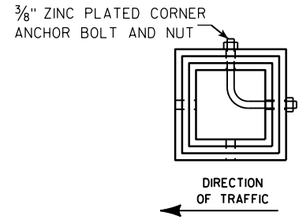


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

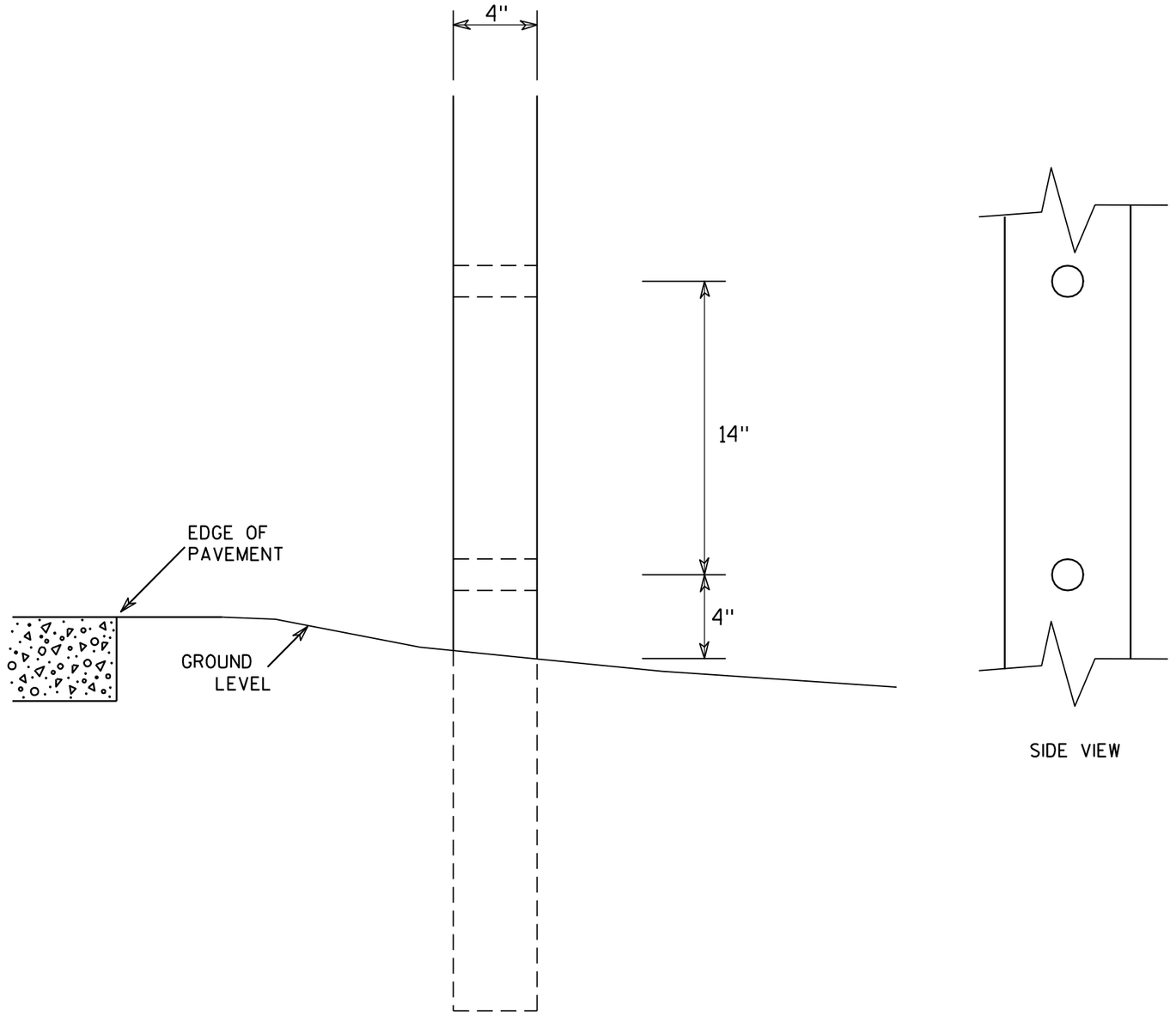
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 54 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.

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

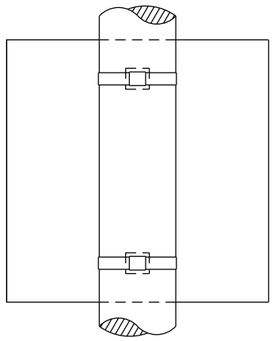
APPROVED Chester J Spang for State Traffic Engineer

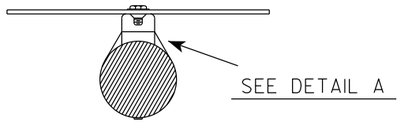
DATE 3/27/97 PLATE NO. A4-11.2

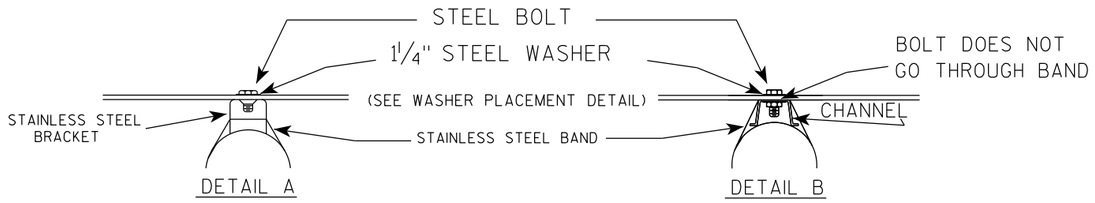
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 55	E

BANDING

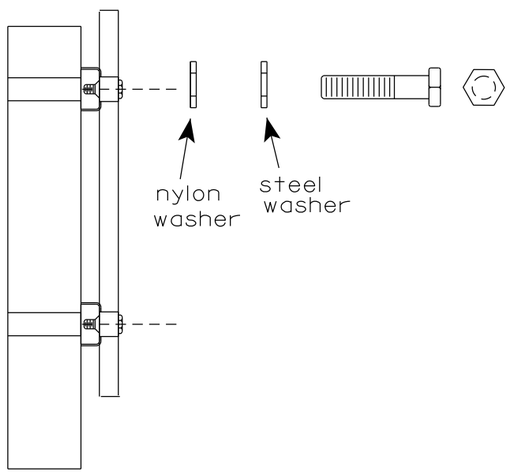
SINGLE SIGN







WASHER PLACEMENT

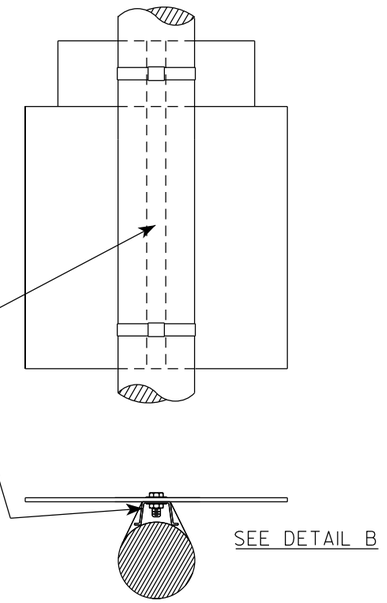


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 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



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

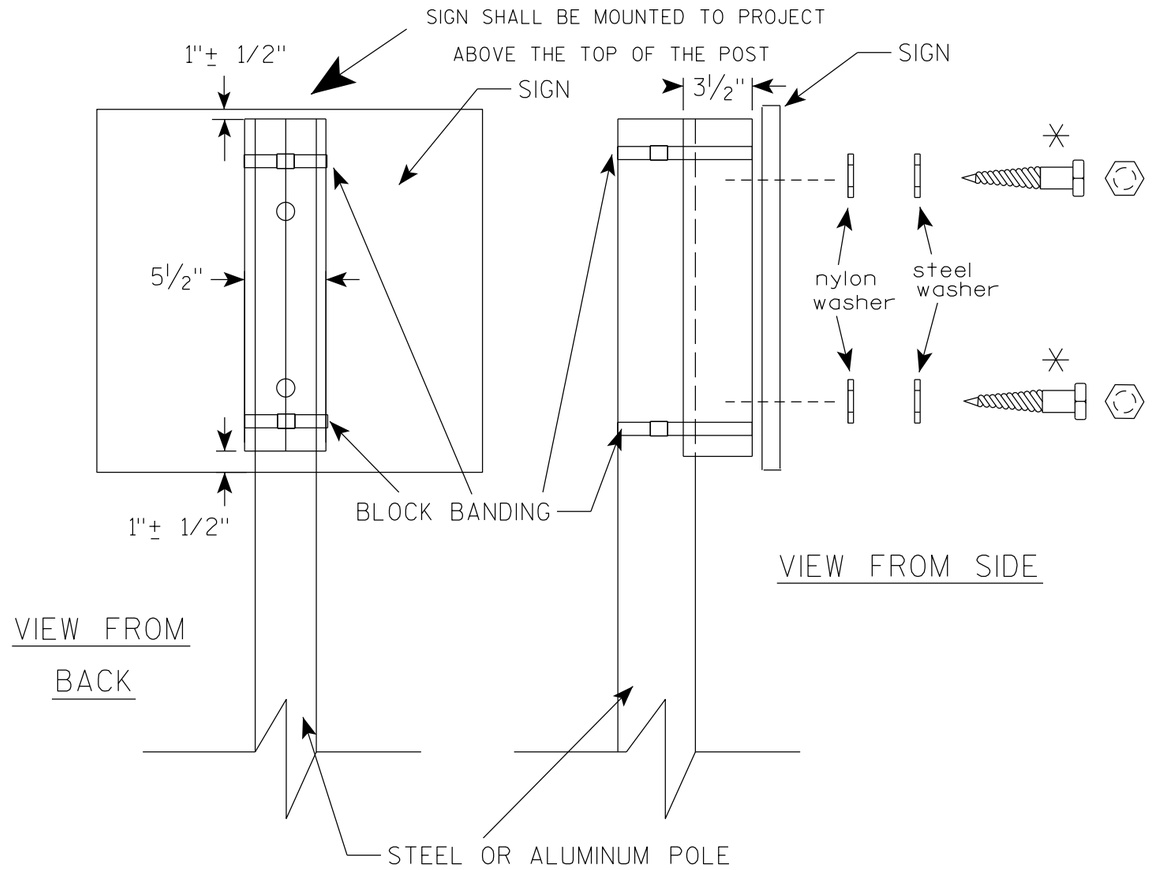
DATE 6/10/19 PLATE NO. A5-9.4

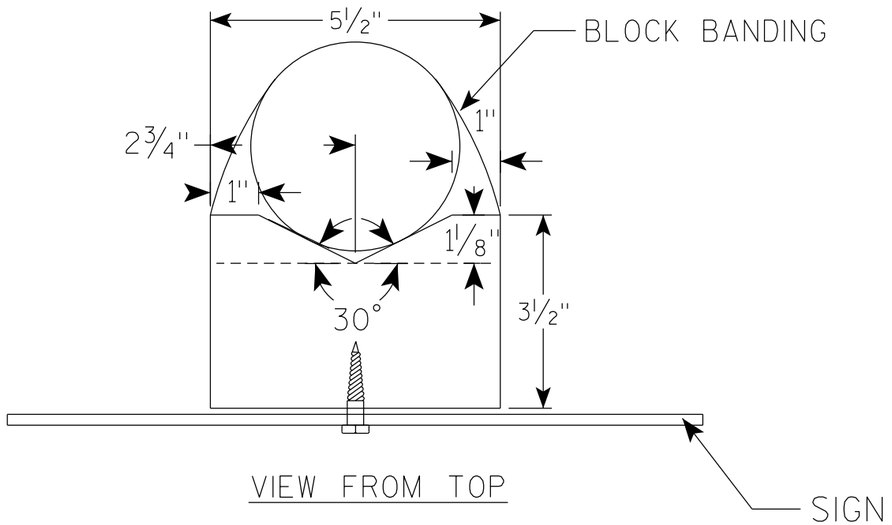
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 56	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





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)

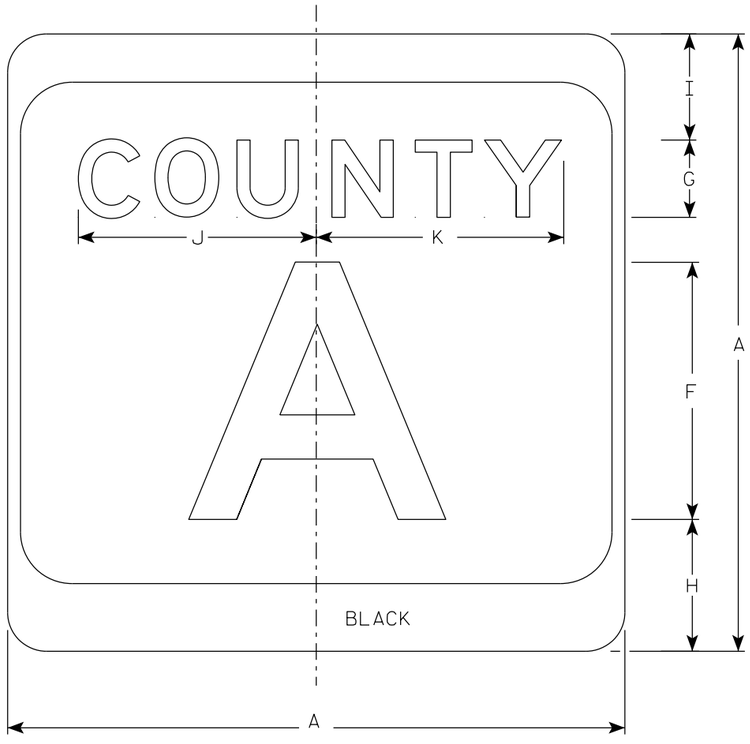
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

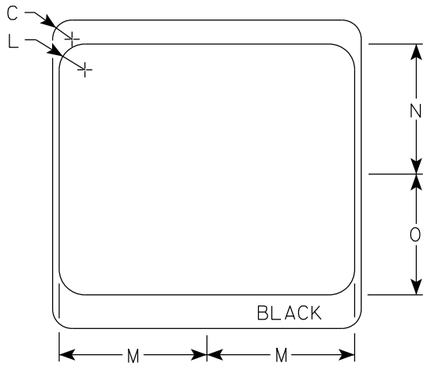
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 57 E

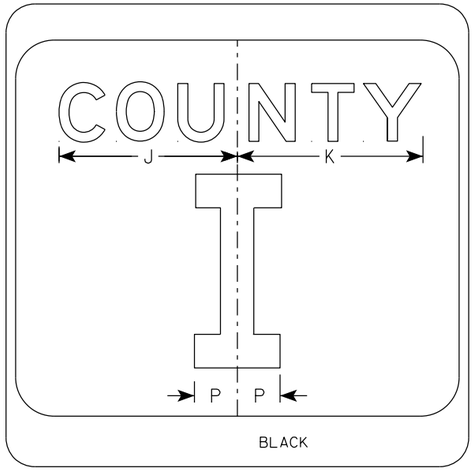


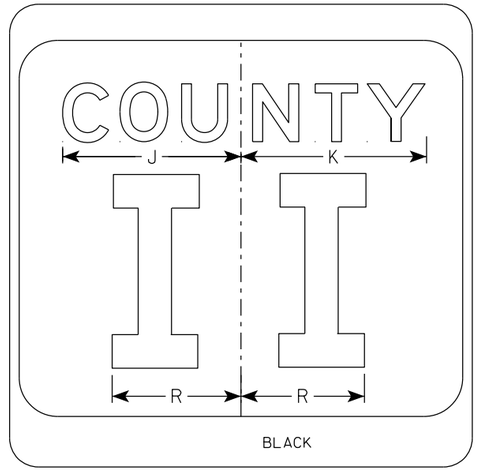
M1-5A



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White & Black
   Message - Black
3. Message Series - see Note 4
4. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
5. Substitute appropriate letters & optically center to achieve proper balance.





SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
2M	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

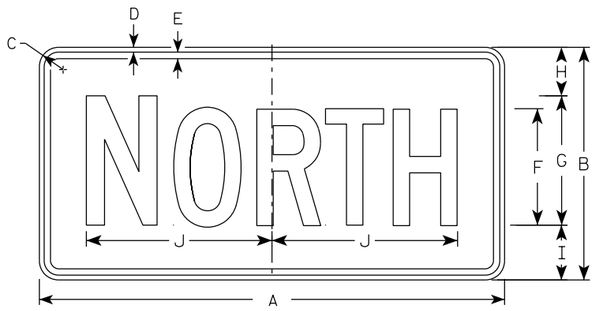
DATE 11/8/2022 PLATE NO. M1-5A.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

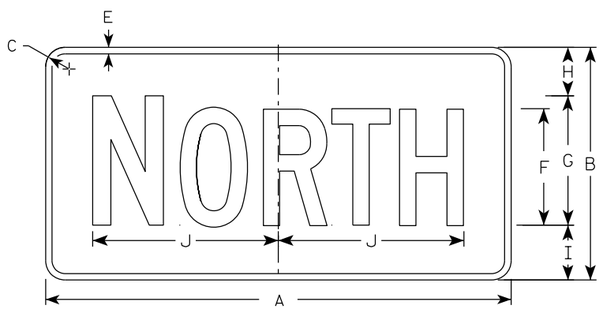
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M15A.dgn PLOT DATE : 8-NOV 2022 8:26 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

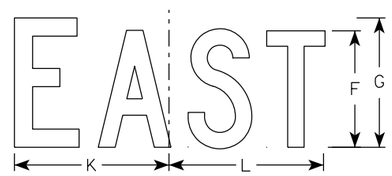
7



M3-1
MM3-1
MP3-1

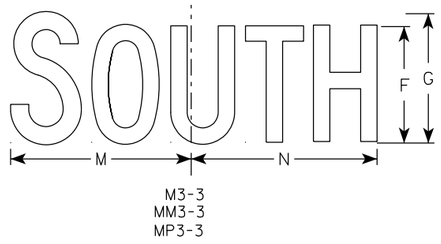


MB3-1
MK3-1
MN3-1

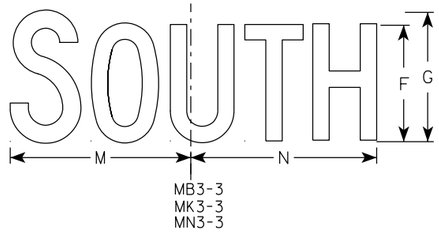


M3-2
MM3-2
MP3-2

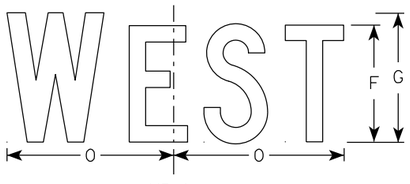
MB3-2
MK3-2
MN3-2



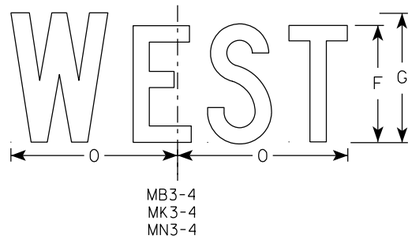
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H Reflective
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	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	24	12	1 1/2	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4												2.00
2M	24	12	1 1/2	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4												2.00
3	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
4	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
5	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5

STANDARD SIGNS
M3-1 THRU M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

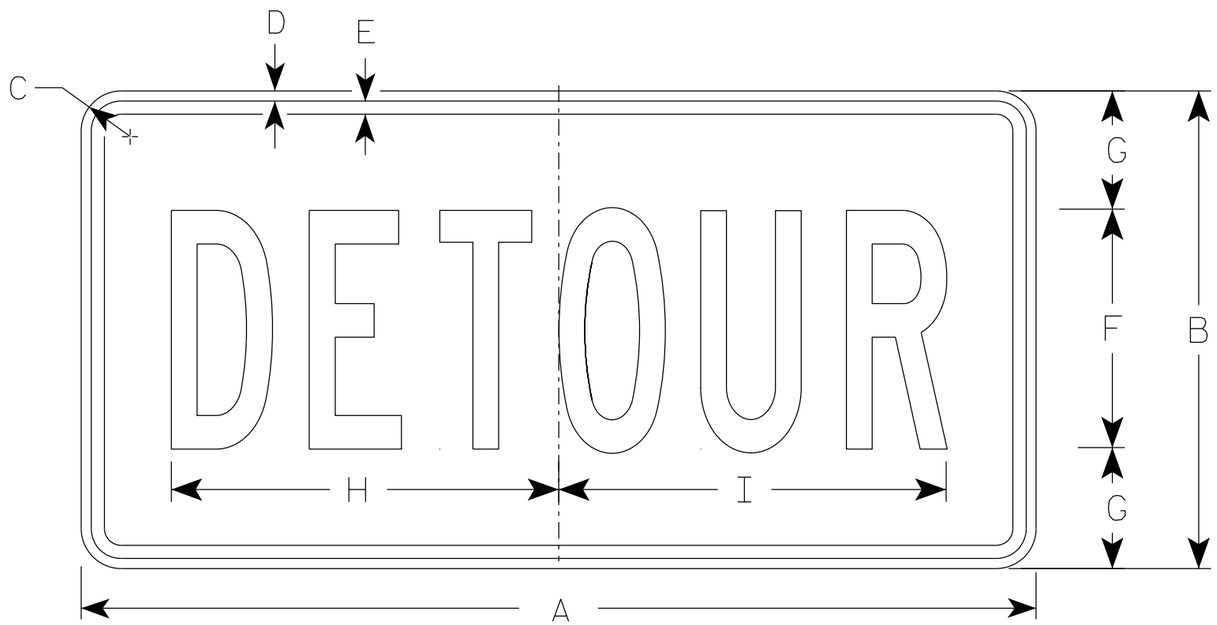
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/8/2023 PLATE NO. M3-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 59 | E

NOTES

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



M4-8

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
2M	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
5	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5

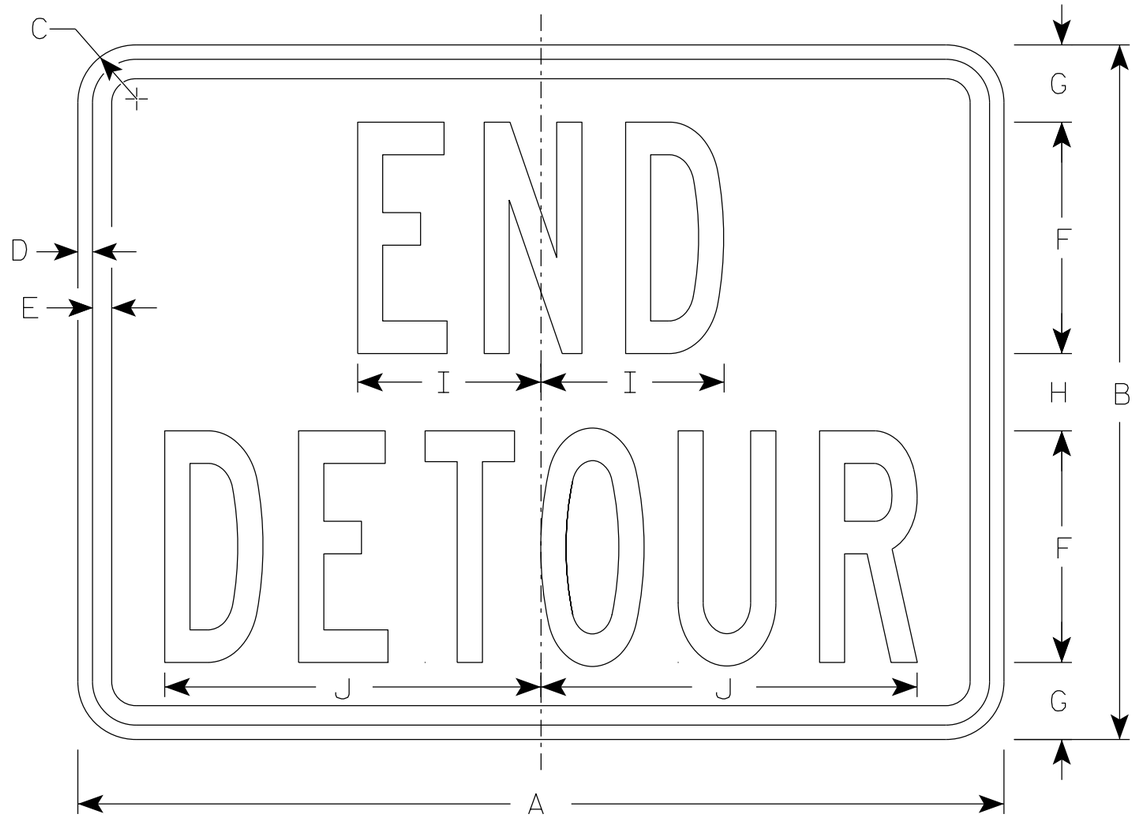
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8.4

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



M4-8A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 ½	⅜	½	6	2	2	4 ¾	9 ¾																	3.0
2M	24	18	1 ½	⅜	½	6	2	2	4 ¾	9 ¾																	3.0
3	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0
4	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0
5	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0

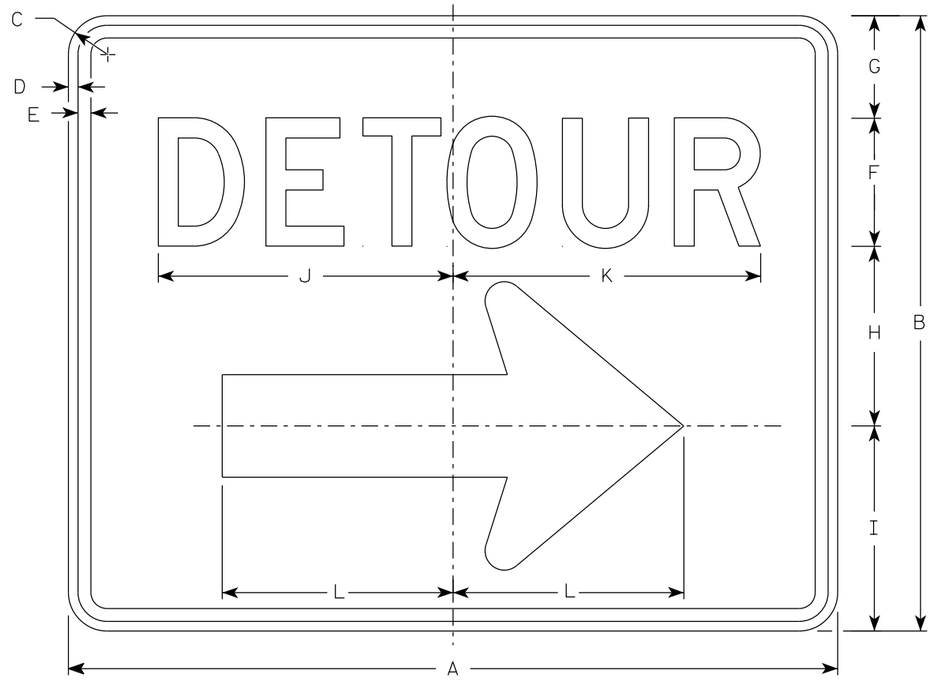
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8A.4

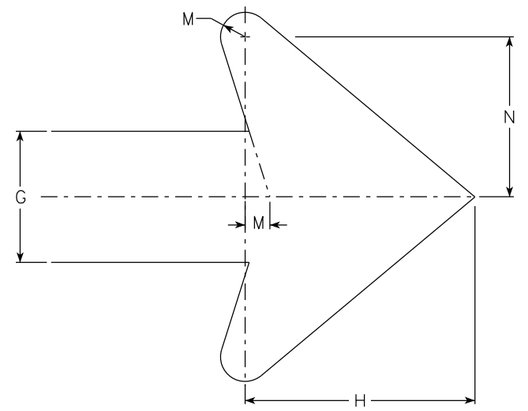
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 61 | E



M4-9R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   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.
4. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
2M	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

STANDARD SIGN
M4-9 R & L

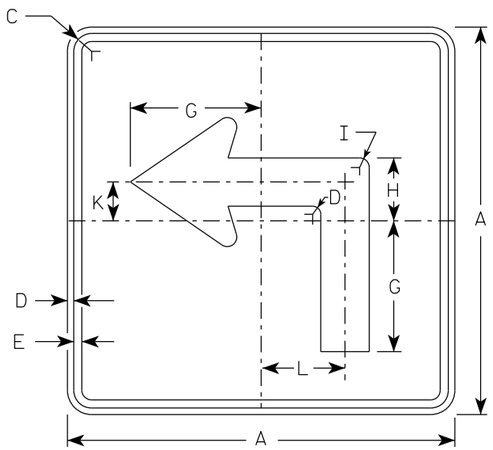
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

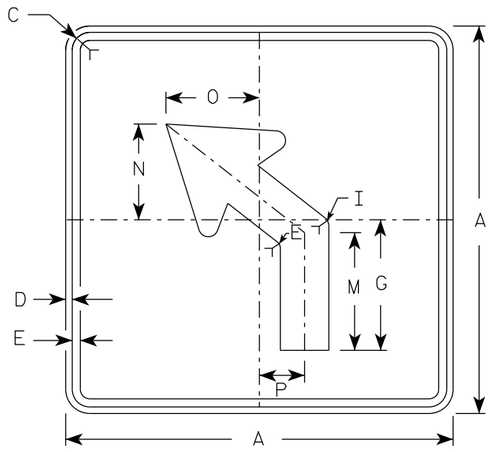
DATE 2/9/2023 PLATE NO. M4-9R.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

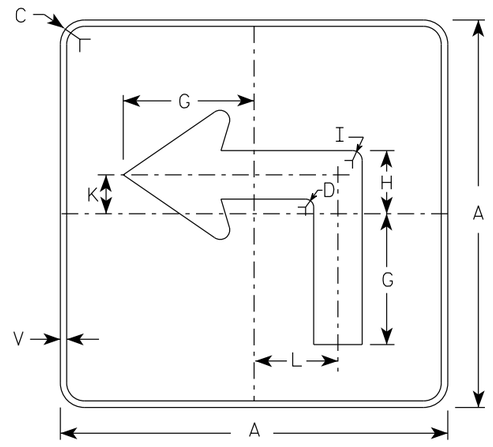
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M49R.dgn PLOT DATE : 21-MARCH 2023 1:40 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



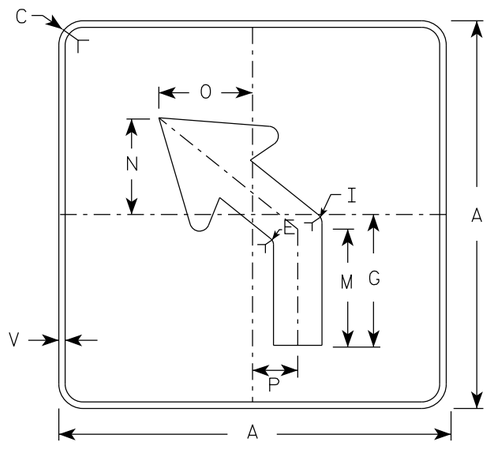
M5-1L
MM5-1L
MO5-1L
MP5-1L



M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L

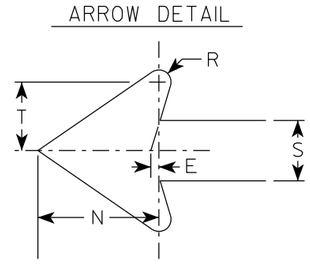


MB5-2L
MK5-2L
MN5-2L
MR5-2L

NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

ARROW DETAIL



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
2M	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
3	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
4	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
5	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25

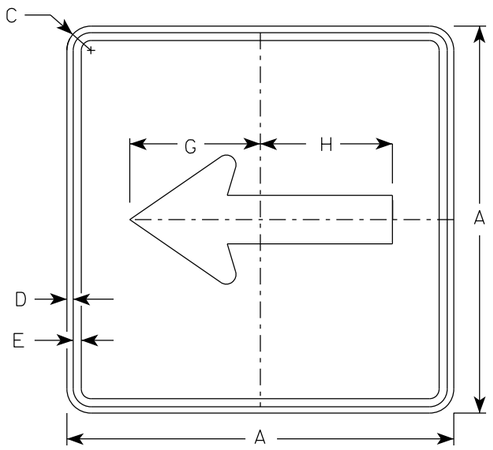
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

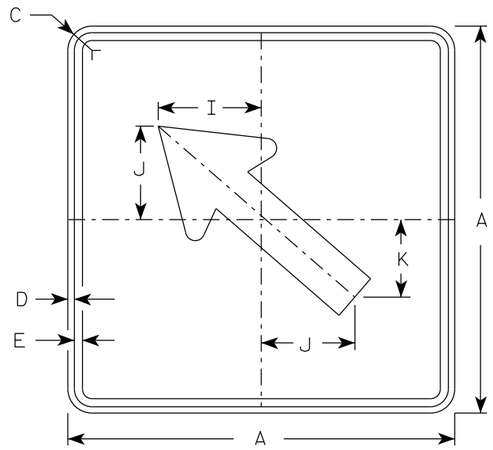
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M5-1.15

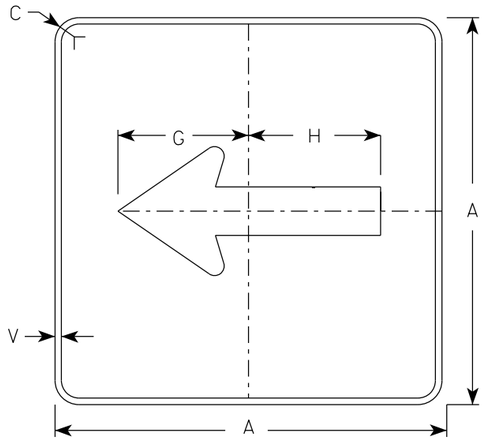
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 63 | E



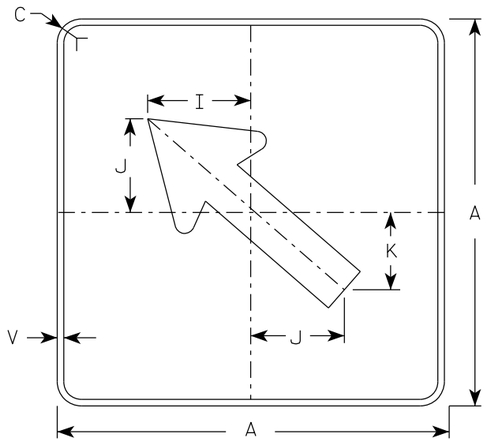
M6-1
MM6-1
MO6-1
MP6-1



M6-2
MM6-2
MO6-2
MP6-2



MB6-1
MK6-1
MN6-1
MR6-1

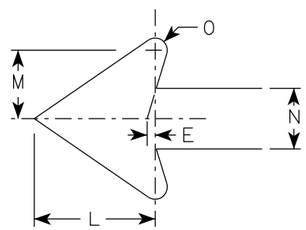


MB6-2
MK6-2
MN6-2
MR6-2

NOTES

1. Signs are Type II - Type H Reflective except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow

ARROW DETAIL



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2					3.06
2M	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2					3.06
3	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
4	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
5	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25

STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M6-1.16

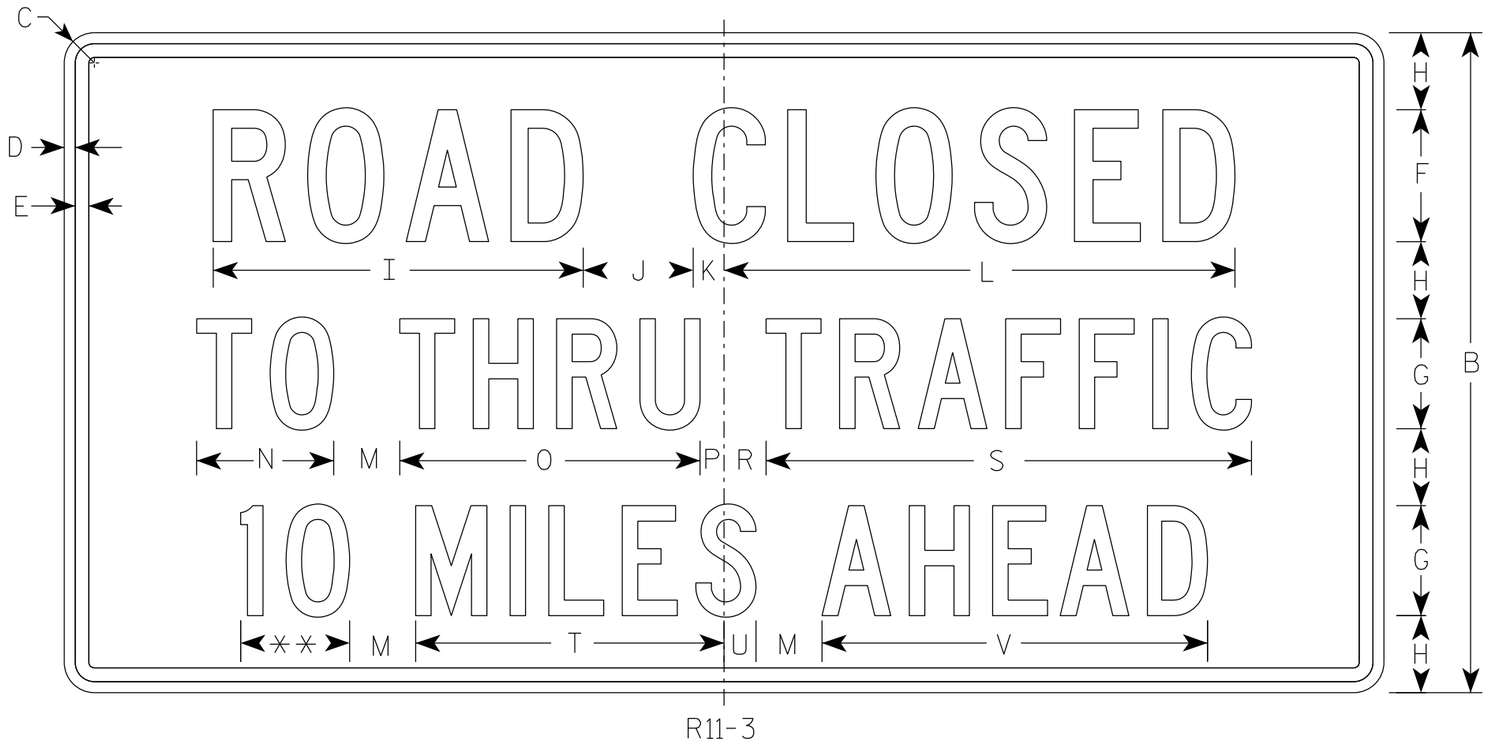
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 64 | E

7

7

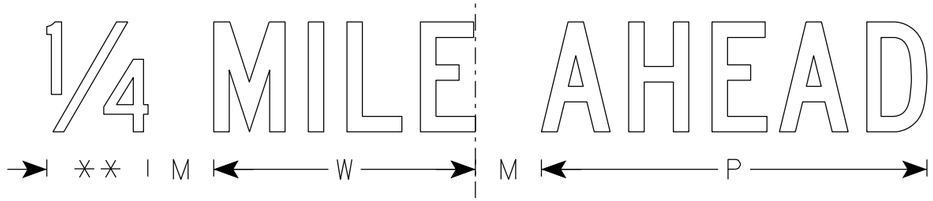
NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3

** See Note 5



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	3/8	4	3	2	11 1/4	3	1 1/8	15 3/8	2	3 3/4	8 1/4	5/8		1 3/8	13 1/4	8 3/8	7/8	10 1/2	7 1/8				4.5
2S	60	30	1 7/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5
2M	60	30	1 7/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5
3																											
4																											
5																											

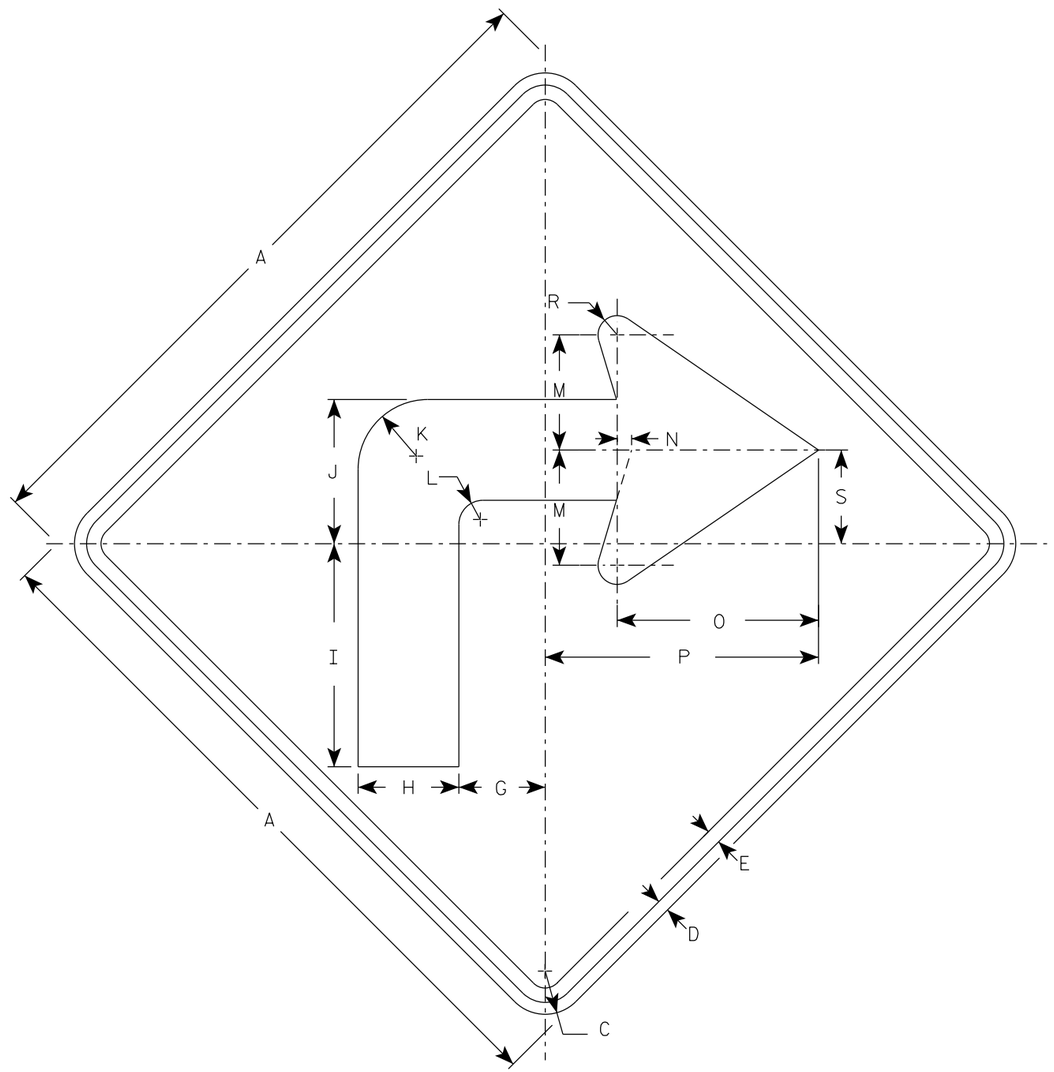
STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-3.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 65 | E



W1-1R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. W1-1L is the same as W1-1R except the arrow is reversed along the vertical centerline.

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	24		1 1/2	3/8	1/2		3	3 1/2	7 3/4	5	2 1/2	7/8	4	1/2	7	9 1/2		5/8	3 1/4								4.0
2S	36		2 1/4	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
2M	36		2 1/4	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
3	36		2 1/4	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
4	48		3	3/4	1		6	7	15 1/2	10	4 7/8	1 5/8	8	1	14	19		1 1/4	6 1/2								16.0
5	48		3	3/4	1		6	7	15 1/2	10	4 7/8	1 5/8	8	1	14	19		1 1/4	6 1/2								16.0

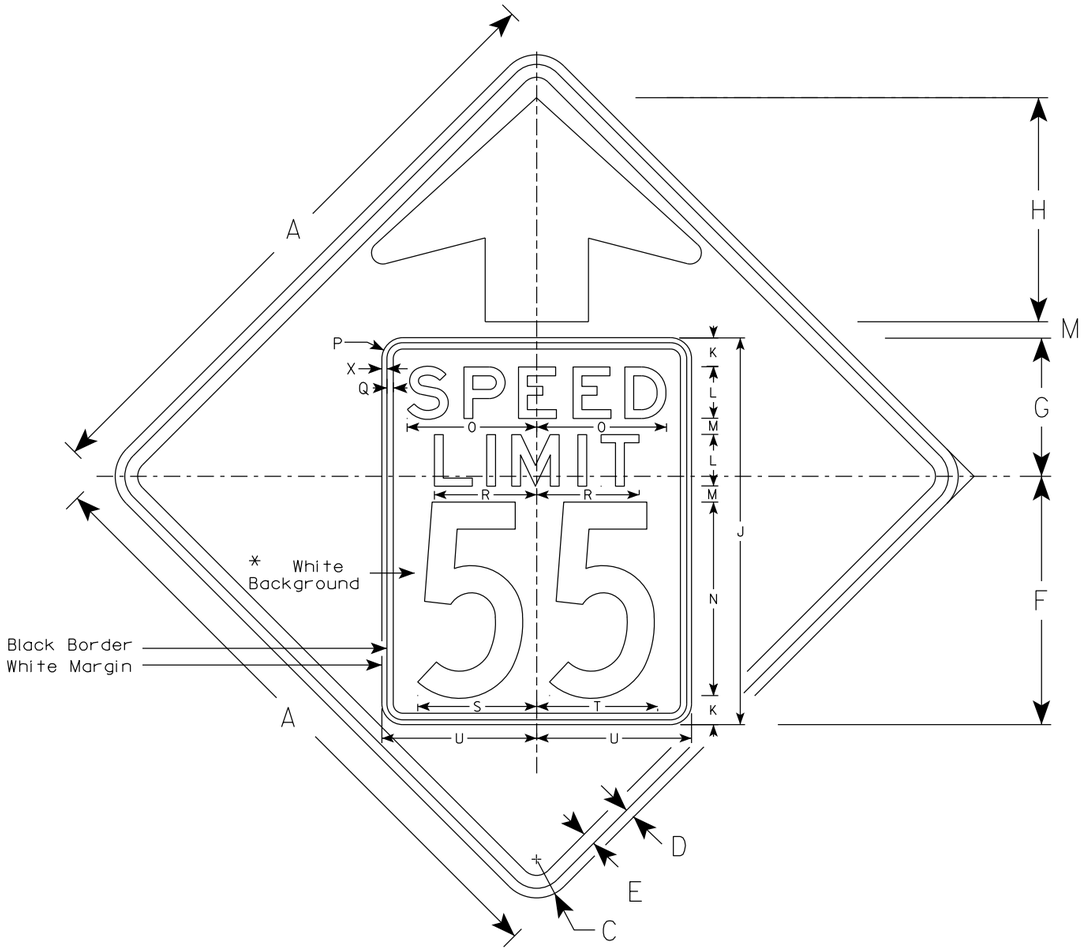
STANDARD SIGN
W1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/22/2023 PLATE NO. W1-1.12

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

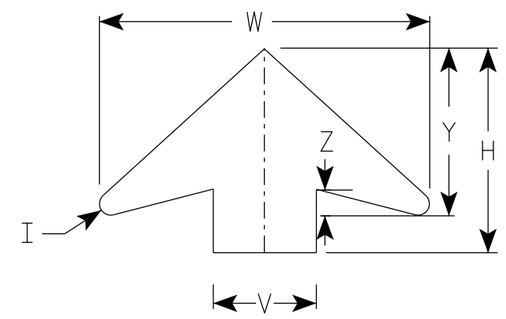


W3-5

NOTES

1. Sign is Type II - See Note 2 for Sheeting Type
2. Color: *
   Background - Yellow* (Type F Reflective)
   Message - Black
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background with black message (Type SH Reflective)



ARROW DETAIL

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	36		2 1/4	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2M	36		2 1/4	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
3	36		2 1/4	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
4	48		3	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		3	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W3-5

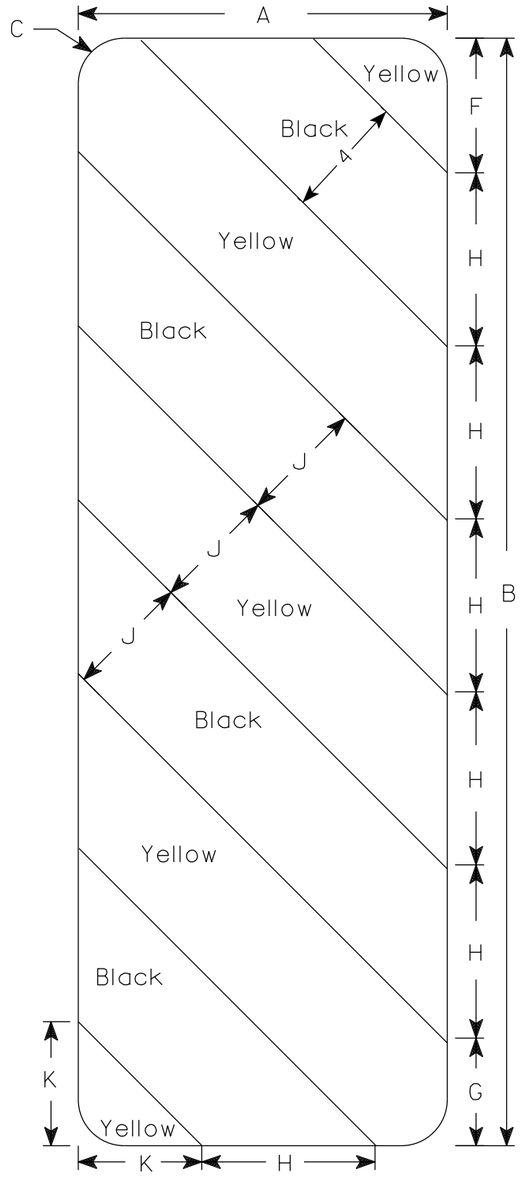
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

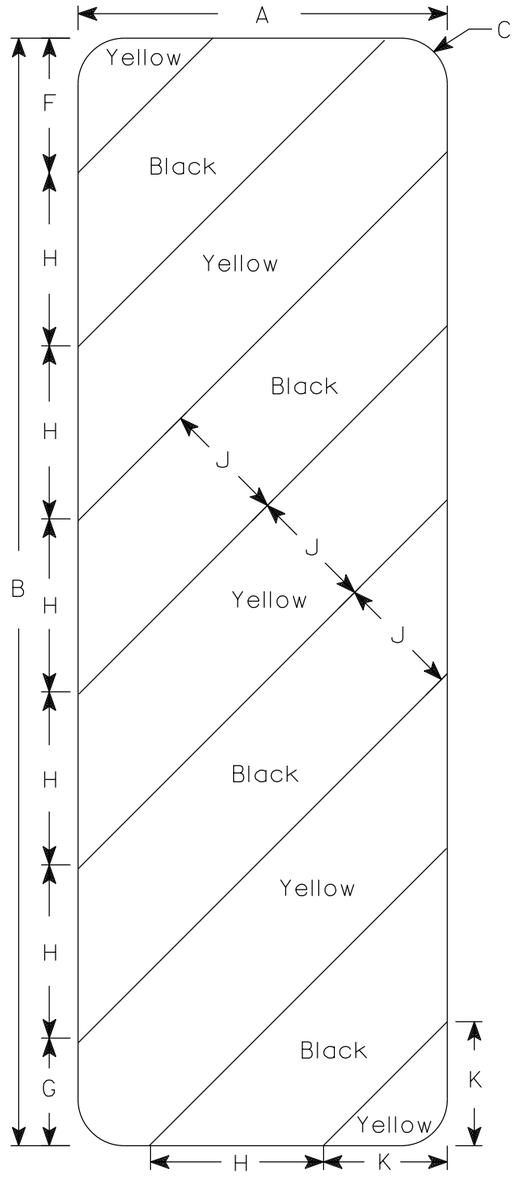
DATE 8/30/2023 PLATE NO. W3-5.7

PROJECT NO:

SHEET NO: 67 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

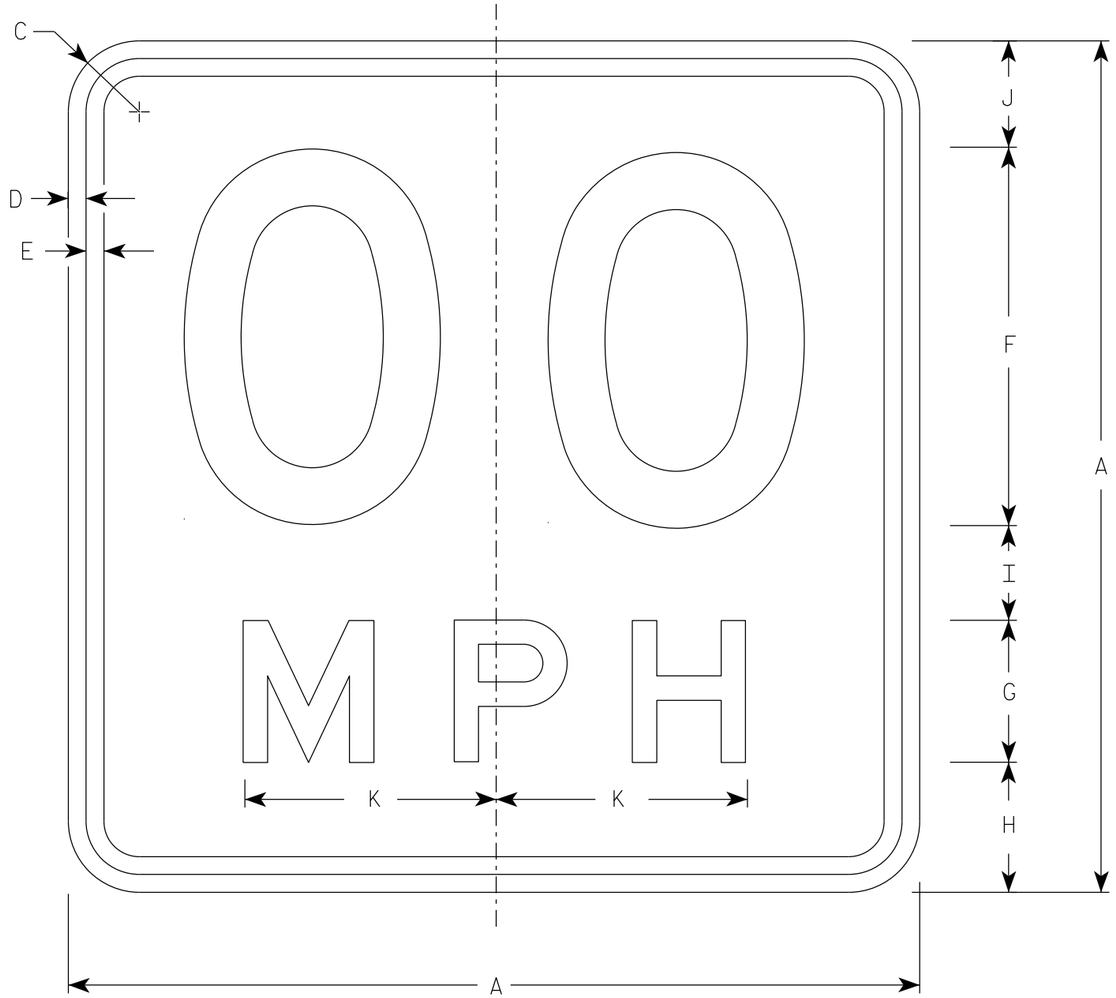
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 68 E

7

7



W13-1

* For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See Note 5
4. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
5. Line 1 is Series D
   Line 2 is Series E

	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	18		1 1/2	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
*	2S	18		1 1/2	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
*	2M	18		1 1/2	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
	3	24		1 1/2	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8																4.00
	4	36		2 1/4	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
	5	36		2 1/4	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

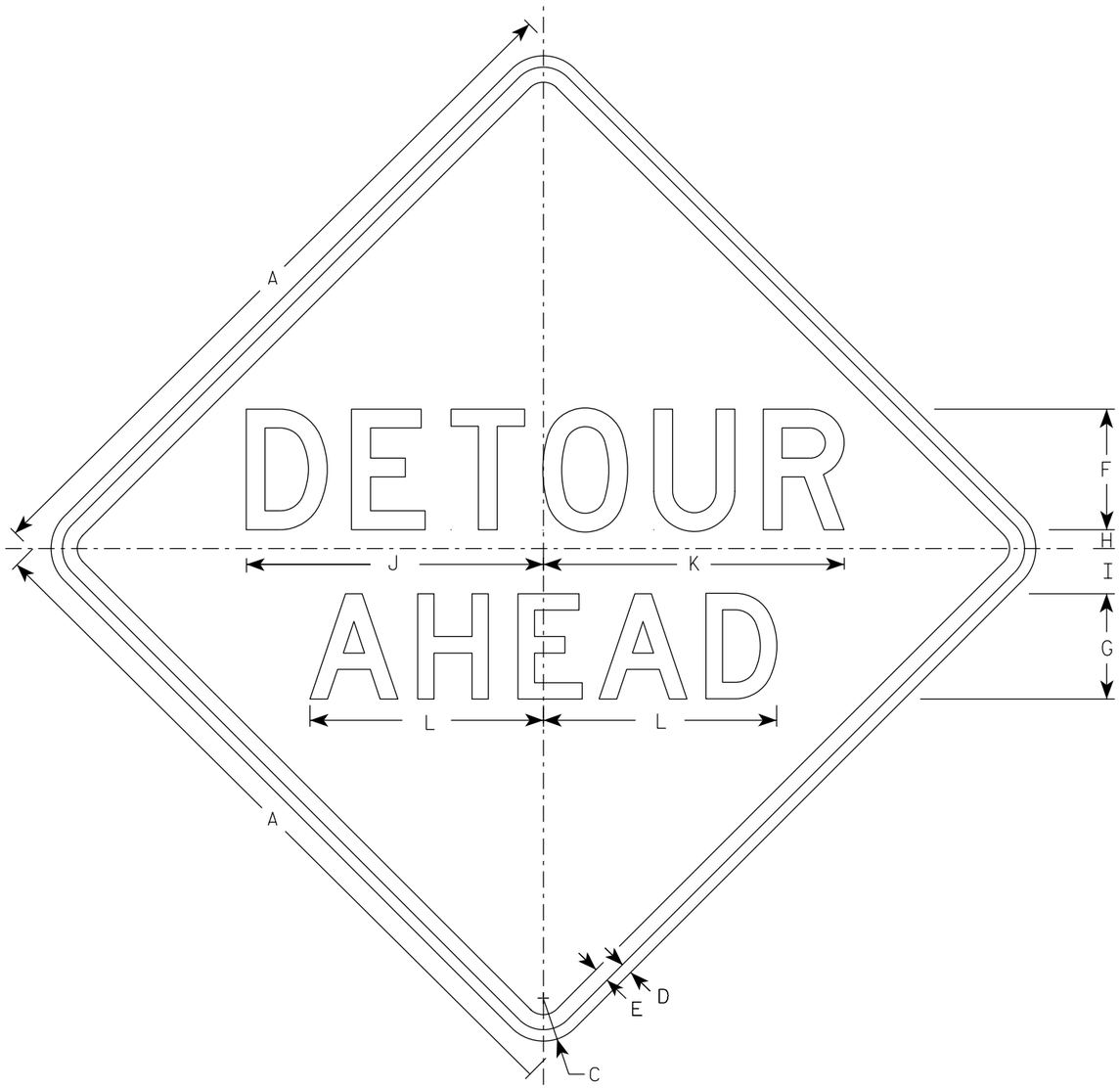
STANDARD SIGN
W13-1

WISCONSIN DEPT OF TRANSPORTATION

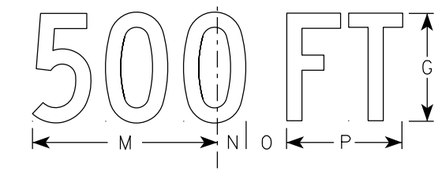
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 1/8/2024 PLATE NO. W13-1.17

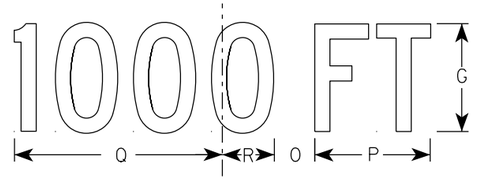
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E



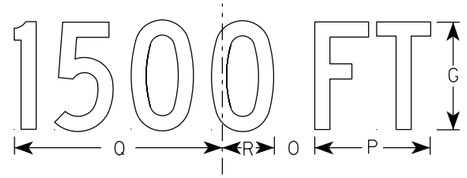
W20-2A



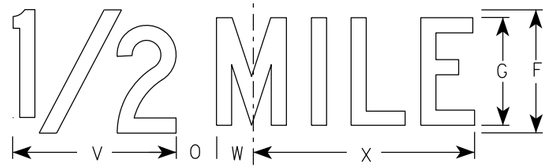
W20-2D



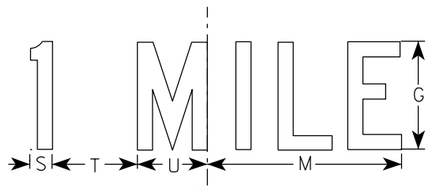
W20-2C



W20-2B



W20-2G



W20-2F

NOTES

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

SIZE	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	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

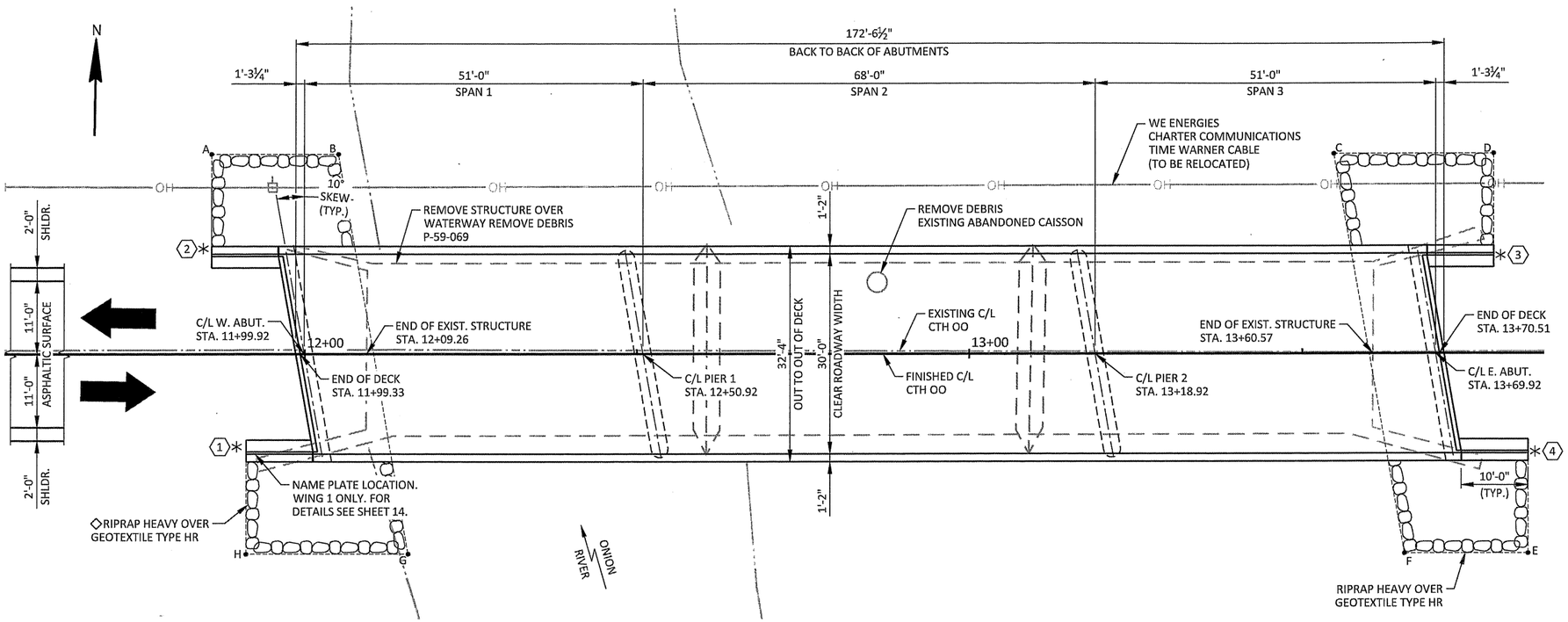
DATE 1/10/2024 PLATE NO. W20-2.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W202.DGN PLOT DATE : 10-JAN 2024 11:36 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

STATE PROJECT NUMBER

4273-00-71



BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	9+24	3/4" IRON REBAR SET, 21.4' RT.	703.33
2	11+97	3/4" IRON REBAR SET, 57.2' LT.	697.80
3	14+60	3/4" IRON REBAR SET, 23.2' LT.	704.98

PLAN B-59-330

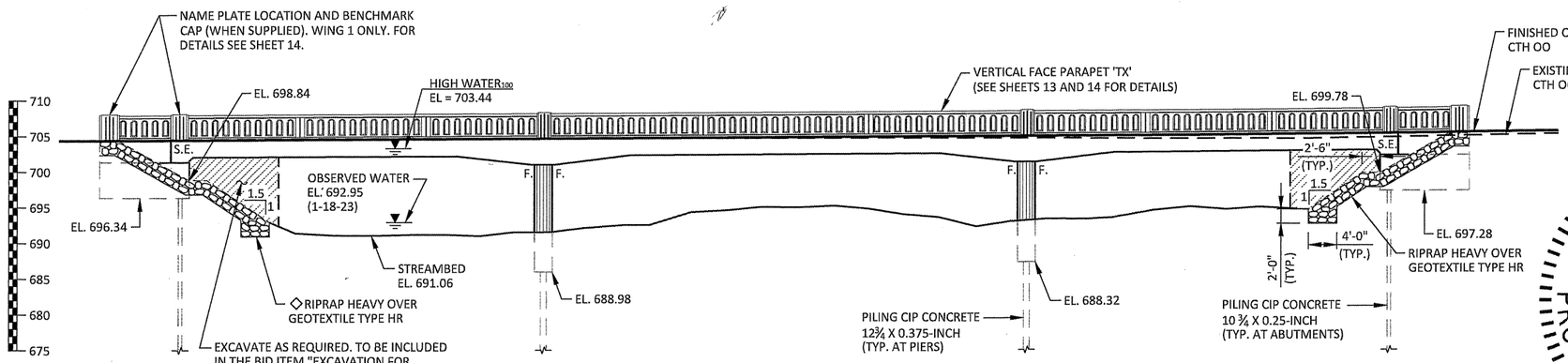
(THREE-SPAN REINFORCED CONCRETE HAUNCHED SLAB)

RIPRAP HEAVY LAYOUT

POINT	STATION	OFFSET
A	11+86	30' LT.
B	12+05	30' LT.
C	13+55	30' LT.
D	13+79	30' LT.
E	13+84	30' RT.
F	13+65	30' RT.
G	12+16	30' RT.
H	11+91	30' RT.

LEGEND

- ⬡ INDICATES WING NUMBER
- ✳ ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD
- ◇ FILL THE VOIDS IN THE RIPRAP HEAVY AT WEST ABUTMENT ONLY WITH 2" STONE. COST OF THE 2-INCH STONE IS PAID FOR UNDER BID ITEM " SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR ". ENTIRE SURFACE OF RIPRAP HEAVY AT WEST ABUTMENT TO BE COVERED.



ELEVATION

(NORMAL TO ONION RIVER)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING	HL-93
INVENTORY RATING FACTOR	RF=1.27
OPERATING RATING FACTOR	RF=1.64
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 TO BE SUPPORTED ON PILING CIP CONCRETE 10 ¾ X 0.25-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 120 TONS** PER PILE. APPROXIMATELY 40 FT PILE LENGTHS AT WEST ABUTMENT AND 45 FT AT THE EAST ABUTMENT.

PIERS TO BE SUPPORTED ON PILING CIP CONCRETE 12 ¾ X 0.375-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 200 TONS** PER PILE. APPROXIMATELY 80 FT PILE LENGTHS AT PIER 1 AND 50 FT PILE LENGTHS AT PIER 2.

**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)	825
A.D.T. (2046)	1,225
DESIGN SPEED	50 M.P.H.

HYDRAULIC DATA

100 YEAR FREQUENCY	
DRAINAGE AREA	83.6 SQ. MI.
Q_{100} TOTAL	5,600 C.F.S.
THROUGH STRUCTURE	5,600 C.F.S.
OVERTOPPING ROADWAY	N/A
VELOCITY - THROUGH STRUCTURE	4.3 F.P.S.
WATERWAY AREA - THROUGH STRUCTURE	1,098.0 SQ. FT.
HIGH $WATER_{100}$ ELEVATION	703.44
SCOUR CRITICAL CODE	5
EROSION CONTROL	
Q_2	1,050 C.F.S.
$VELOCITY_2$	1.9 F.P.S.
HIGH $WATER_2$ ELEVATION	697.47

LIST OF DRAWINGS

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 08/22/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

WISCONSIN
COLIN J. OLSON
E-49386
LA CROSSE
WIS.
PROFESSIONAL ENGINEER
8-7-25

STRUCTURE B-59-330

CTH OO OVER ONION RIVER

COUNTY	SHEBOYGAN
TOWN/~~CITY/VILLAGE~~	LIMA
DESIGN SPEC.	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CJO	PTB	CTMP	PTB

GENERAL PLAN

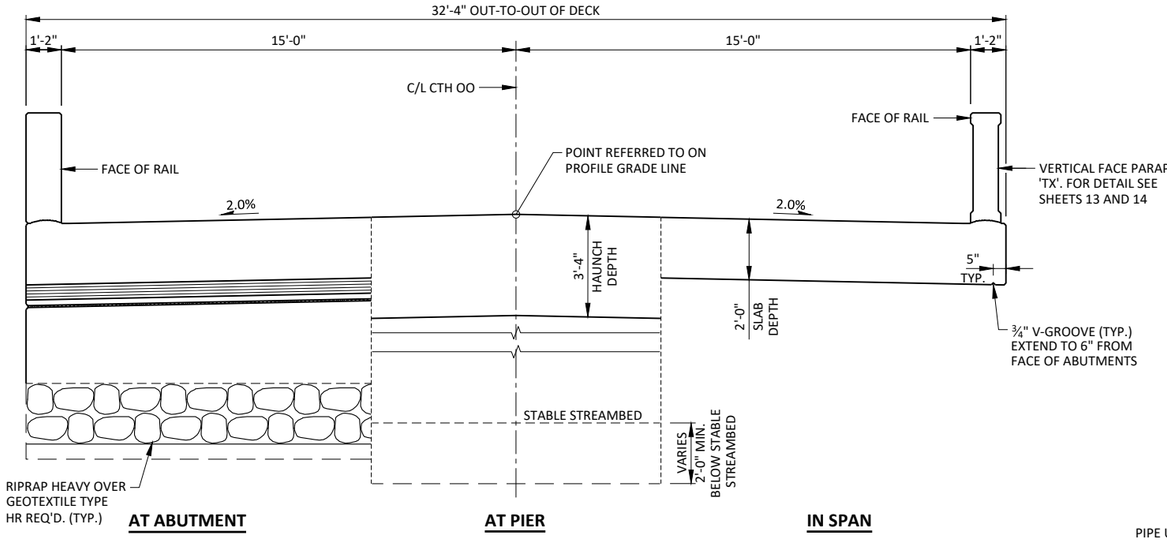
71 OF 14

DESIGN CONSULTANT
COLIN OLSON, PE
(608) 390-2851

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

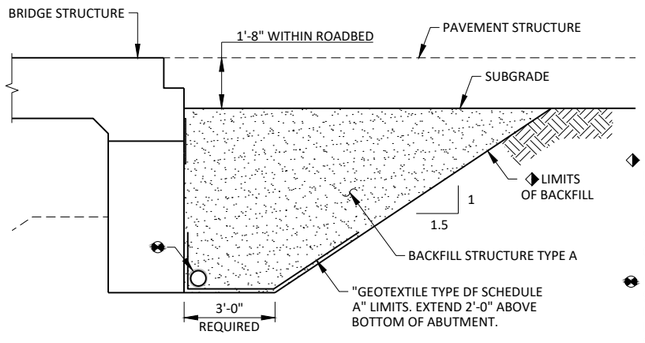
STATE PROJECT NUMBER

4273-00-71



PROPOSED CROSS-SECTION THROUGH ROADWAY

LOOKING EAST

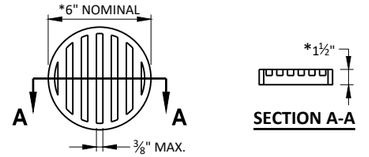


◆ BACKFILL STRUCTURE TYPE A PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO THE BID ITEM "EXCAVATION FOR STRUCTURES B-59-330". LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

◆ 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)



SECTION A-A

RODENT SCREEN

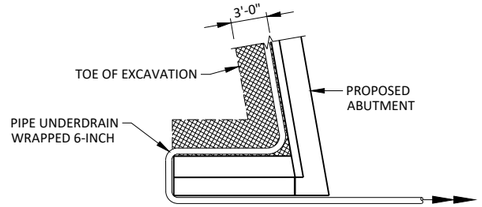
NOTES:

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

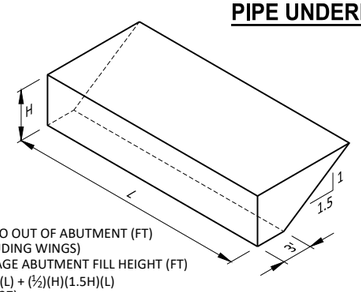
ORIENT SCREEN SO SLOTS ARE VERTICAL.

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

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

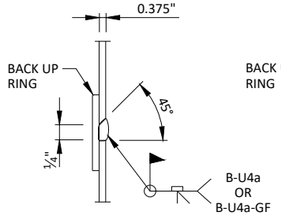


PIPE UNDERDRAIN DETAIL



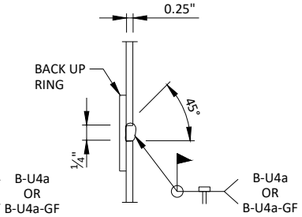
L = OUT TO OUT OF ABUTMENT (FT) (INCLUDING WINGS)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
V_{CF} = (H)(3')(L) + (½)(H)(1.5H)(L)
V_{CY} = (V_{CF})/(27)
V_{TON} = (V_{CY})(2.0)

ABUTMENT BACKFILL DIAGRAM



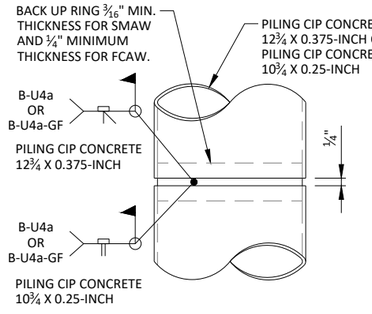
C.I.P. PILE WELD DETAIL

PILING CIP CONCRETE 12¾ X 0.375-INCH



C.I.P. PILE WELD DETAIL

PILING CIP CONCRETE 10¾ X 0.25-INCH



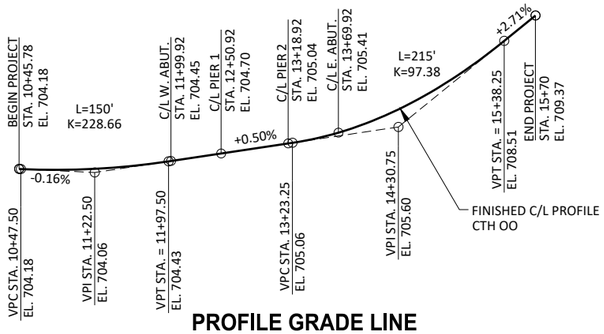
CAST-IN-PLACE 'PIPE PILE'

NOTES:

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

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	W. ABUT.	PIER 1	PIER 2	E. ABUT.	SUPER	TOTALS
203.0250	REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS P-59-069	EACH	--	--	--	--	--	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-59-330	EACH	--	--	--	--	--	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	125	--	--	125	--	250
502.0100	CONCRETE MASONRY BRIDGES	CY	30.9	34.9	37.8	31.1	458.6	593
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	--	--	--	585	585
502.3210	PIGMENTED SURFACE SEALER	SY	--	--	--	--	210	210
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1,960	1,590	1,680	1,960	--	7,190
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,170	60	60	1,170	75,460	77,920
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6	--	--	6	--	12
550.2104	PILING CIP CONCRETE 10 ¾ X 0.25-INCH	LF	240	--	--	270	--	510
550.2126	PILING CIP CONCRETE 12 ¾ X 0.375-INCH	LF	--	720	450	--	--	1,170
606.0300	RIPRAP HEAVY	CY	95	--	--	90	--	185
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	75	--	--	75	--	150
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	--	--	--	--	4	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	35	--	--	35	--	70
645.0120	GEOTEXTILE TYPE HR	SY	150	--	--	150	--	300
SPV.0090	PARAPET CONCRETE TYPE TX	LF	--	--	--	--	385	385
SPV.0195	SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR	TON	45	--	--	--	--	45
	NON-BID ITEMS							
	FILLER	SIZE						½" & ¾"
	NAME PLATE							



PROFILE GRADE LINE

CTH OO

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (2012).

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

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

THE 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 WEST ABUTMENT ONLY, VOIDS IN THE RIPRAP HEAVY SHALL BE FILLED WITH 2-INCH STONE. COST FOR THE 2-INCH STONE IS PAID FOR UNDER BID ITEM "SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR"

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. THE BACKFILL STRUCTURE TYPE A QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THIS SHEET AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

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

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE DECK (FINISHED AREAS ONLY) AND TO THE HORIZONTAL AND VERTICAL FACES OF THE PAVING NOTCHES.

APPLY PIGMENTED SURFACE SEALER TO THE INSIDE, TOP, WINDOWS, AND END FACES OF PARAPETS.

ALL STATIONS AND ELEVATIONS SHOWN ARE IN FEET.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-59-330" SHALL BE THE EXISTING GROUNDLINE OR THE EXISTING STREAMBED.

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

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

THE EXISTING STRUCTURE (P-59-069) CONSISTS OF THREE SPAN CAST IN PLACE CONCRETE GIRDER STRUCTURE ON RECTANGULAR CONCRETE PIERS, 27.3' OVERALL DECK WIDTH, 146' OVERALL LENGTH AND SHALL BE REMOVED.

THE EXISTING ABANDONED STEEL CAISSON UNDER SPAN TWO OF THE EXISTING STRUCTURE SHALL BE REMOVED. COST IS INCIDENTAL TO "REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS P-59-069"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-330

DRAWN BY CTMP | PLANS CK'D. PTB

CROSS SECTION AND QUANTITIES

SHEET 2 OF 14

72

8

8

STATE PROJECT NUMBER

4273-00-71

SOIL BORINGS

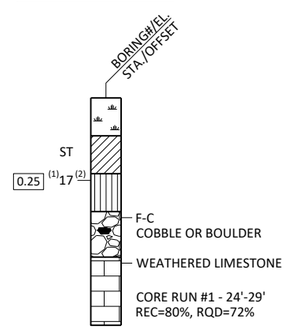
BORING NUMBER	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-1	06/26/23	140,608.3	189,975.1
B-2	06/27/23	140,582.4	190,030.3
B-3	06/28/23	140,605.1	190,094.4
B-4	06/28/23	140,579.1	190,149.5

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

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

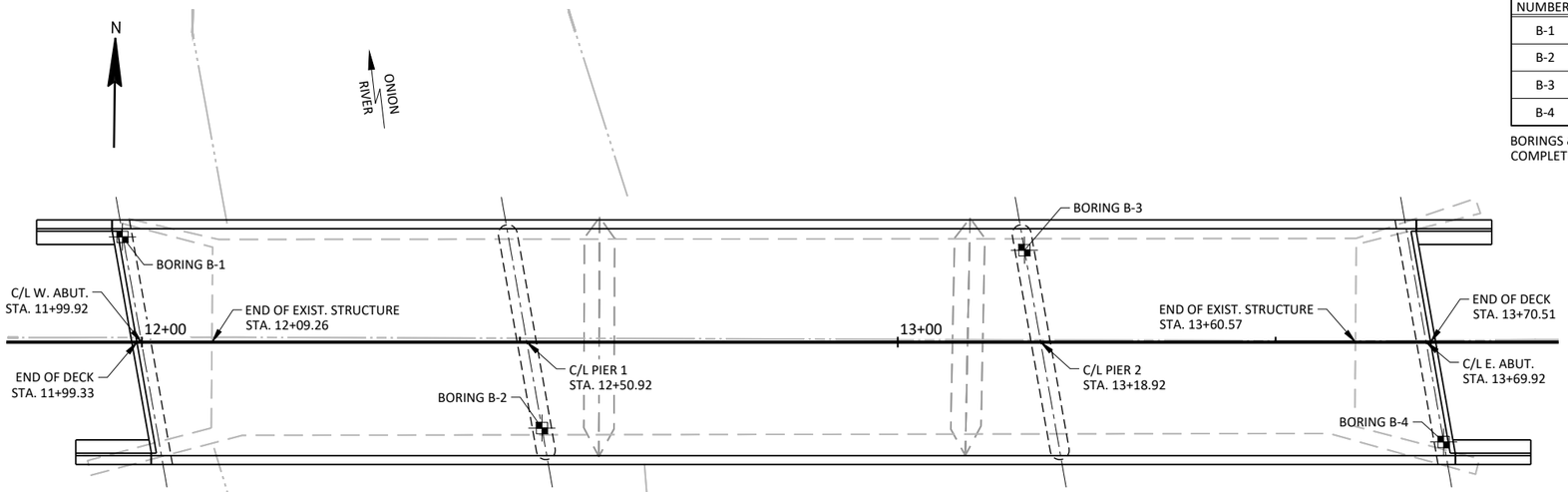
AT TIME OF DRILLING
END OF DRILLING
AFTER DRILLING

ABBREVIATIONS

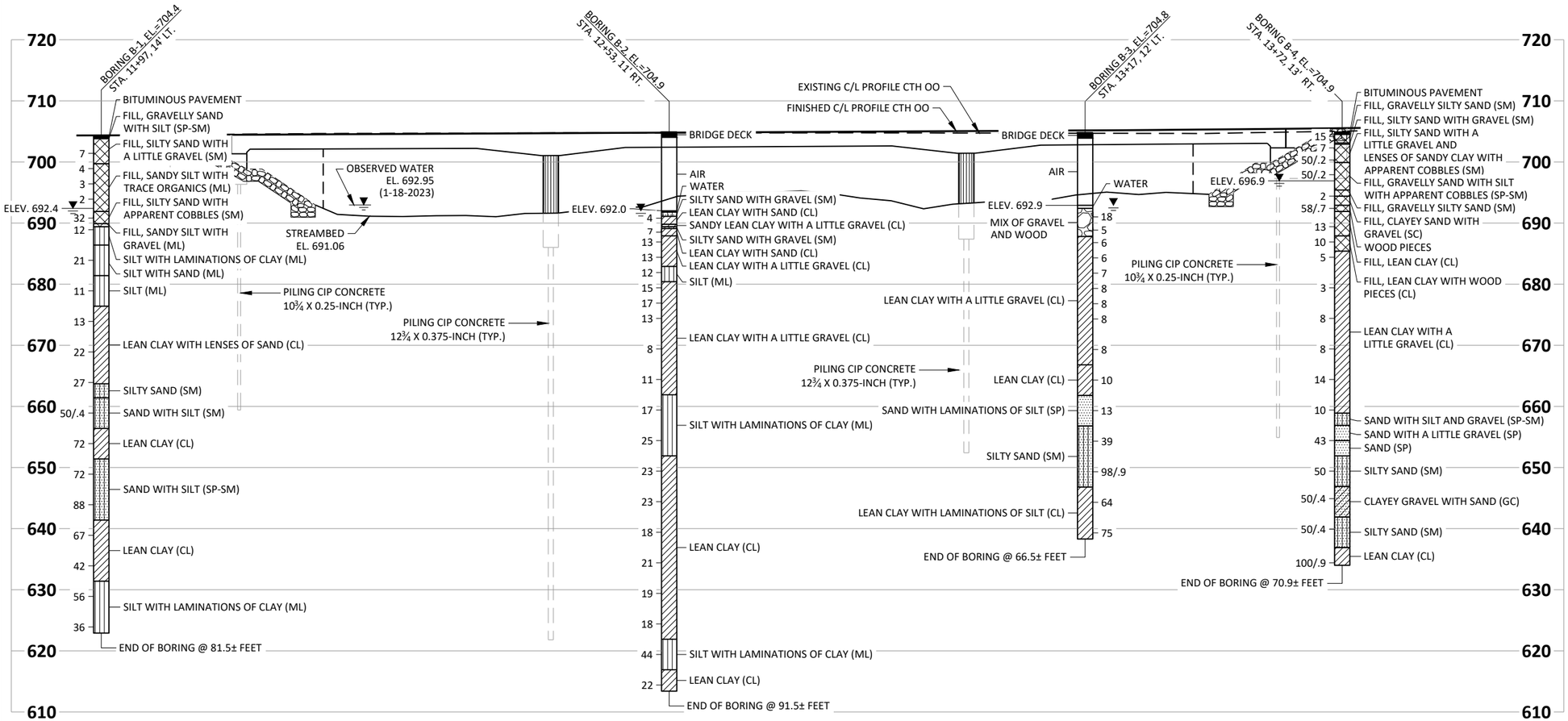
F-FINE M-MEDIUM C-COURSE ST-SHELBY TUBE

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-59-330



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-330

DRAWN BY CTMP | PLANS CK'D. PTB

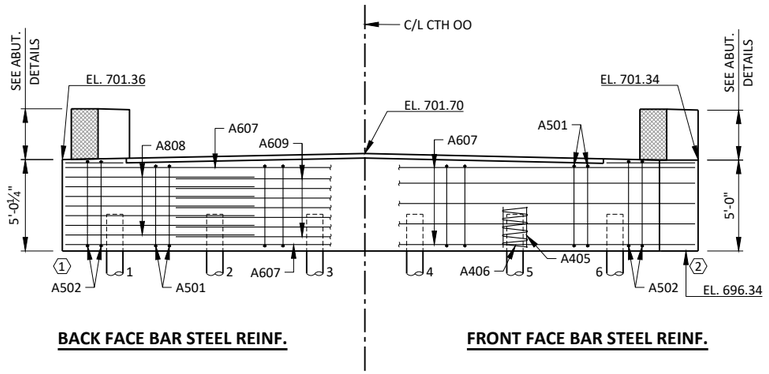
SUBSURFACE EXPLORATION

SHEET 3 OF 14

73

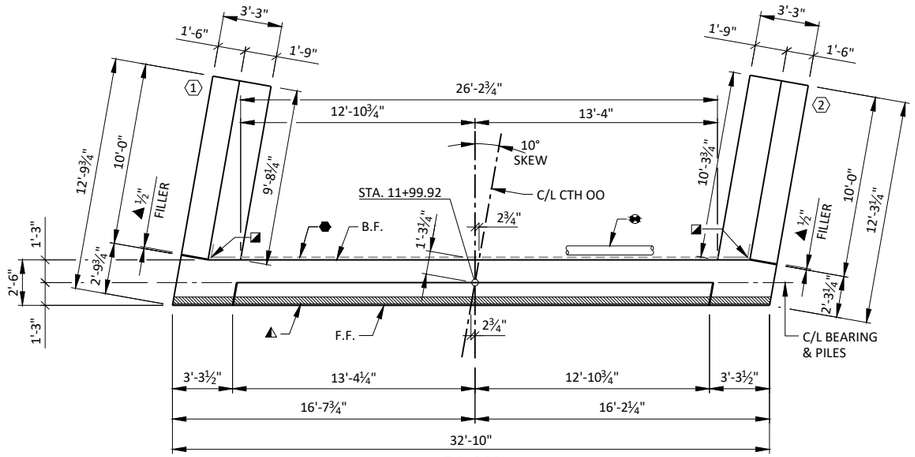
STATE PROJECT NUMBER

4273-00-71

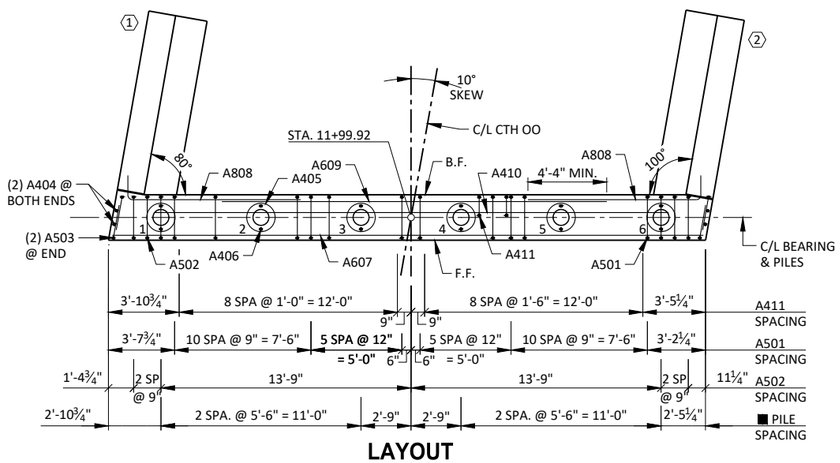


ELEVATION

(WEST ABUTMENT LOOKING WEST)



PLAN



LAYOUT

NOTES

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

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

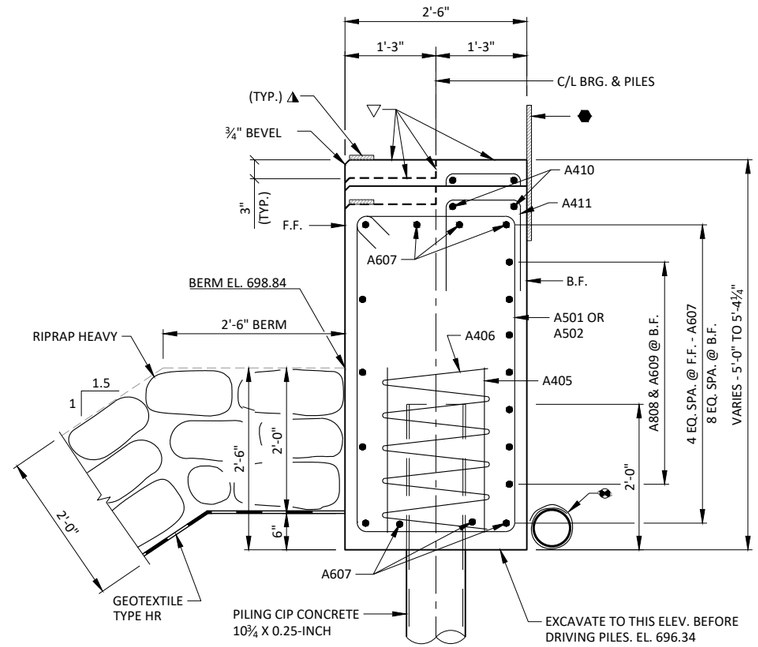
SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE

LEGEND

- ◪ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- ⬣ 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ▲ ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-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.
- ▽ STEEL TROWEL ENTIRE TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ■ PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- ⬲ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."
- ⬡ INDICATES WING NUMBER.



WEST ABUTMENT TO BE SUPPORTED ON PILING CIP CONCRETE 10¾ X 0.25-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 120 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 40 FT PILE LENGTHS AT WEST ABUTMENT.

TYPICAL SECTION THROUGH ABUTMENT BODY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-330

DRAWN BY CJO | PLANS CK'D. PTB

WEST ABUTMENT

SHEET 4 OF 14

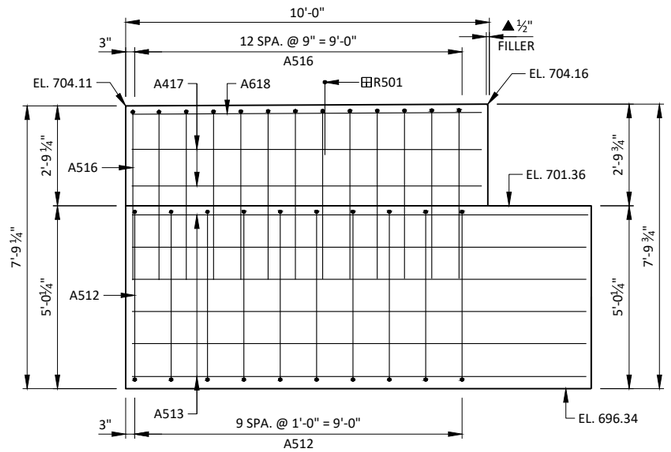
74

8

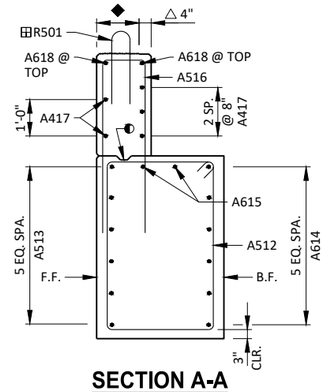
8

STATE PROJECT NUMBER

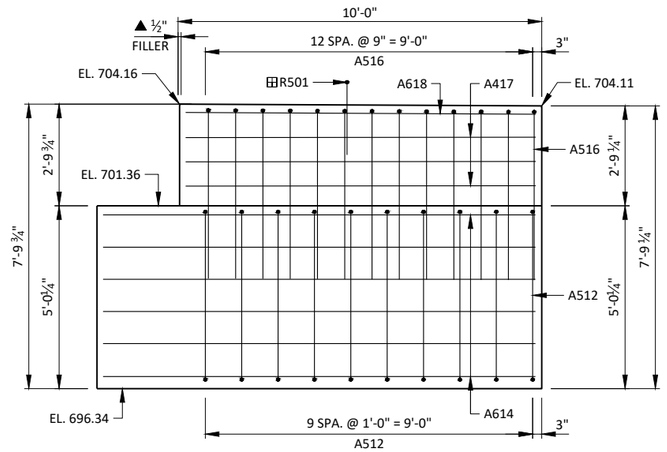
4273-00-71



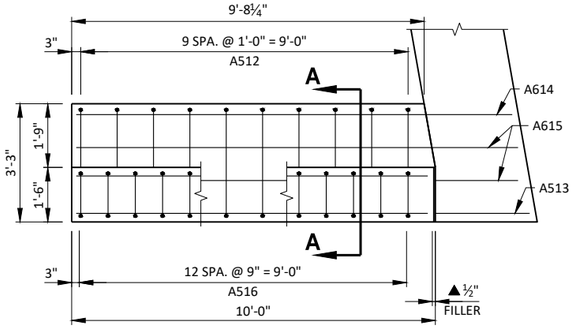
F.F. ELEVATION - WING 1



SECTION A-A



B.F. ELEVATION - WING 1



PLAN VIEW - WING 1

LEGEND

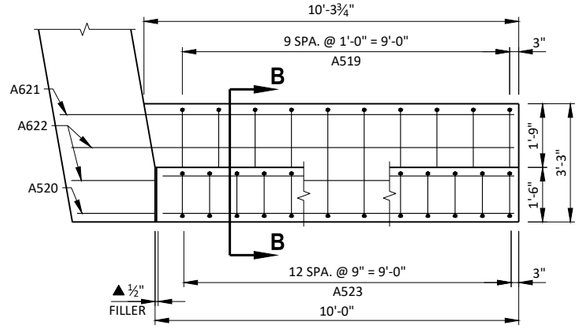
◐ OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6. ¾-INCH "V" GROOVE AT FRONT FACE OF WING WALL AND HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE IF CONSTRUCTION JOINT IS USED. COST IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".

▲ 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)

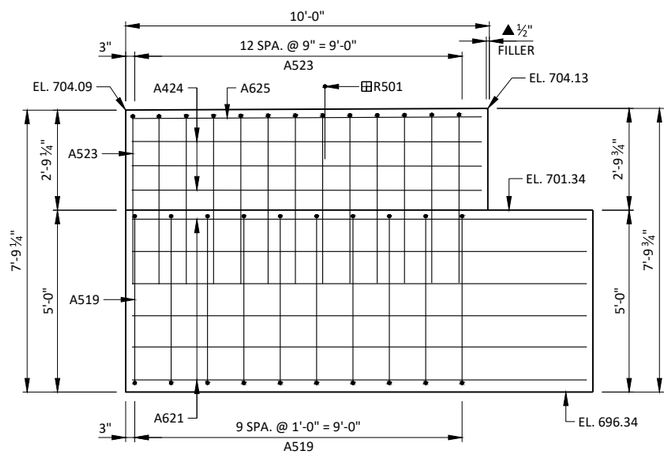
◆ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN IN PARAPET DETAILS.

△ FINISH SURFACE NOT COVERED BY PARAPET SAME AS BRIDGE DECK.

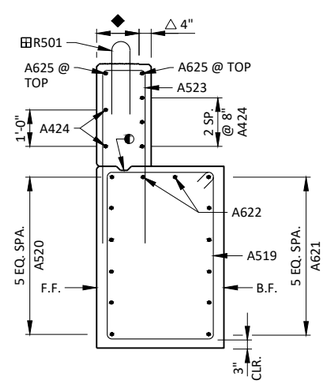
⊞ R501 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED. SEE SHEET 13 FOR PLACEMENT AND SHEET 10 FOR SPACING.



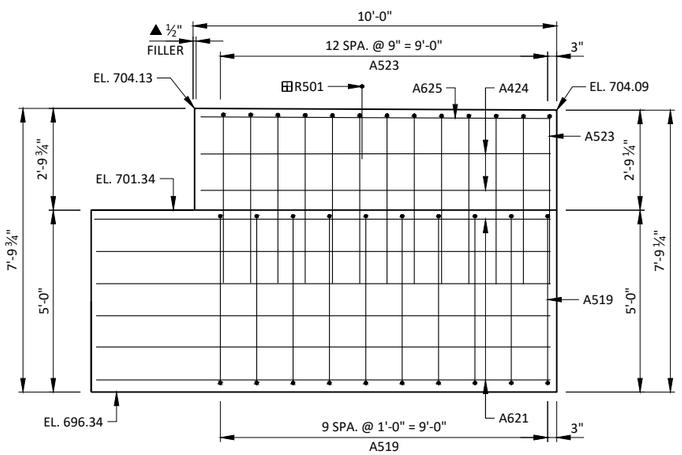
PLAN VIEW - WING 2



B.F. ELEVATION - WING 2



SECTION B-B



F.F. ELEVATION - WING 2

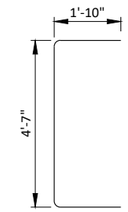
BILL OF BARS
WEST ABUTMENT

1,180 (COATED)
1,960 LB (UNCOATED)

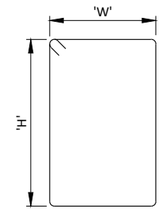
BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
A501	32	13-8	X		BODY -VERT. - STIRRUP
A502	6	14-2	X		BODY - VERT. - STIRRUP
A503	4	8-0	X		BODY - VERT. - AT ENDS
A404	4	4-7			BODY - VERT. - AT ENDS
A405	12	2-3			BODY - VERT. - 2 PER PILE
A406	6	28-0	X		BODY - SPIRAL - 1 PER PILE
A607	11	32-6			BODY - HORIZ. - F.F. & TOP
A808	14	10-8	X		BODY - HORIZ. - B.F. - ENDS
A609	7	21-2			BODY - HORIZ. - B.F.
A410	2	28-3			BODY - HORIZ. - TOP
A411	18	3-3	X		BODY - VERT. - TOP
A512	10	15-8	X	X	WING 1 - VERT. - STIRRUP
A513	6	12-5		X	WING 1- HORIZ. - F.F.
A614	6	11-11		X	WING 1 - HORIZ. - B.F.
A615	2	12-1		X	WING 1- HORIZ. - TOP
A516	13	10-3	X	X	WING 1 - VERT. - TOP
A417	5	9-7		X	WING 1 - HORIZ. - F.F. & B.F. - TOP
A618	2	9-7		X	WING 1 - HORIZ. - TOP
A519	10	15-8	X	X	WING 2 - VERT. - STIRRUP
A520	6	12-0		X	WING 2 - HORIZ. - F.F.
A621	6	12-6		X	WING 2 - HORIZ. - B.F.
A622	2	12-2		X	WING 2 - HORIZ. - TOP
A523	13	10-3	X	X	WING 2 - VERT. - TOP
A424	5	9-7		X	WING 2 - HORIZ. - F.F. & B.F. - TOP
A625	2	9-7		X	WING 2 - HORIZ. - TOP

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

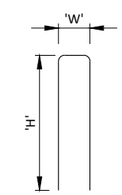
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



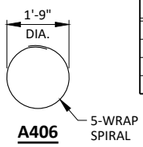
A503



A501, A502
A512, A519



A411, A516, A523



A406

BAR MARK	'W'	'H'
A501	2-2	4-4
A502	2-2	4-7
A512	2-11	4-7
A519	2-11	4-7

BAR MARK	'W'	'H'
A411	11	1-3
A516	1-2	4-8
A523	1-2	4-8

A808

NOTES

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

SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-330

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

WEST ABUTMENT DETAILS

SHEET 5 OF 14

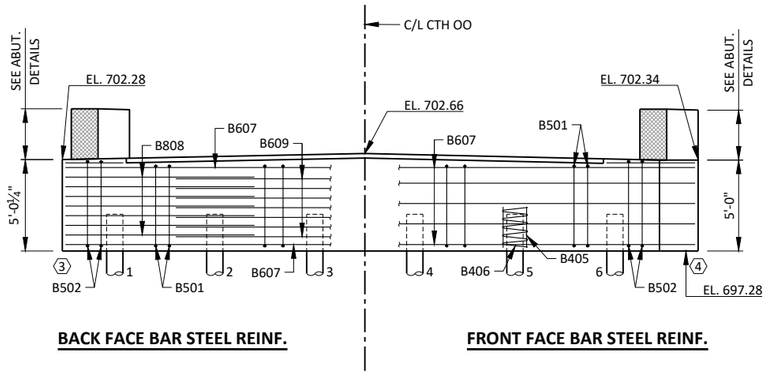
75

8

8

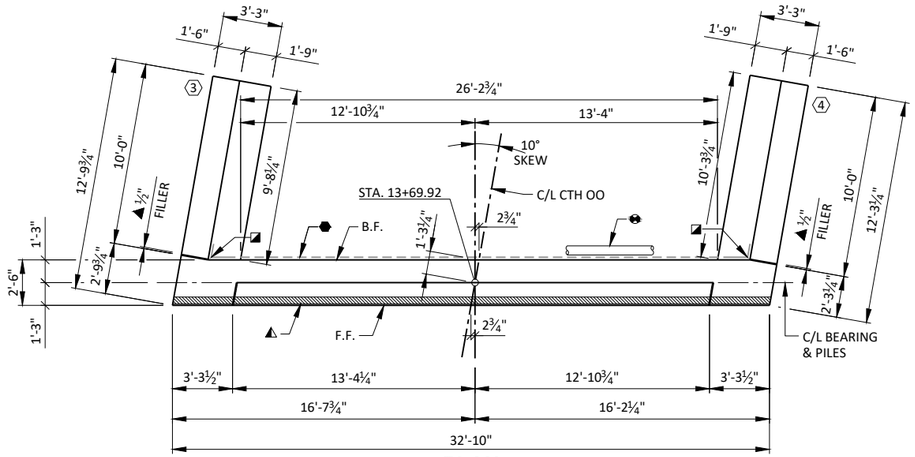
STATE PROJECT NUMBER

4273-00-71

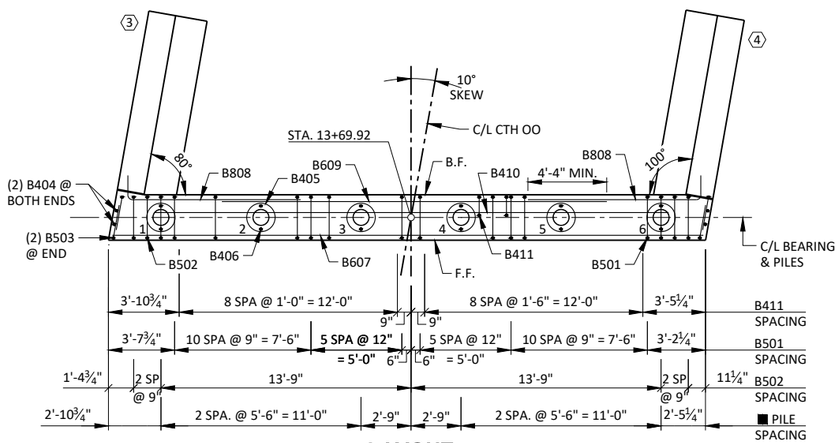


ELEVATION

(EAST ABUTMENT LOOKING EAST)



PLAN



LAYOUT

NOTES

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

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

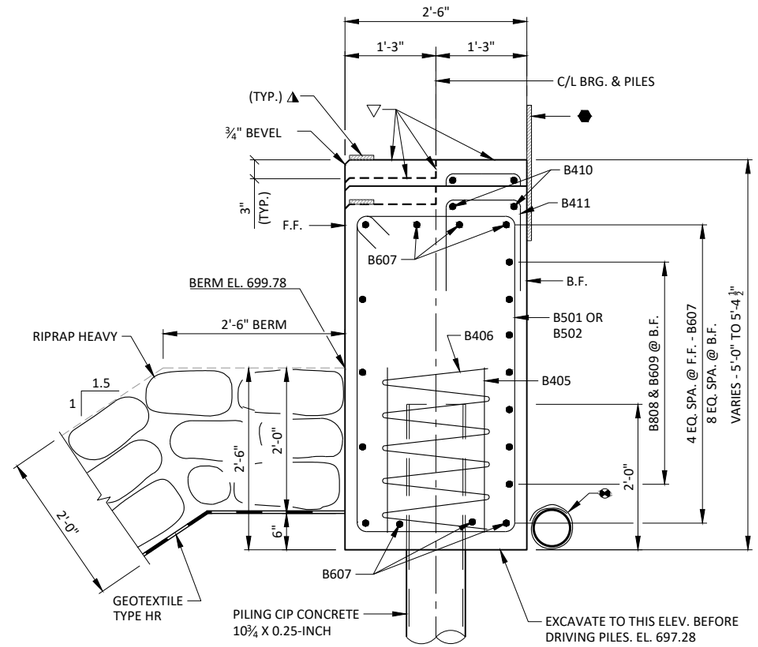
SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE

LEGEND

- ◪ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- ⬣ 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ▲ ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-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.
- ▽ STEEL TROWEL ENTIRE TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ■ PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- ⬙ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."
- ⬡ INDICATES WING NUMBER.



EAST ABUTMENT TO BE SUPPORTED ON PILING CIP CONCRETE 10¾ X 0.25-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 120 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 45 FT PILE LENGTHS AT EAST ABUTMENT.

TYPICAL SECTION THROUGH ABUTMENT BODY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-330

DRAWN BY CJO | PLANS CK'D. PTB

EAST ABUTMENT

SHEET 6 OF 14

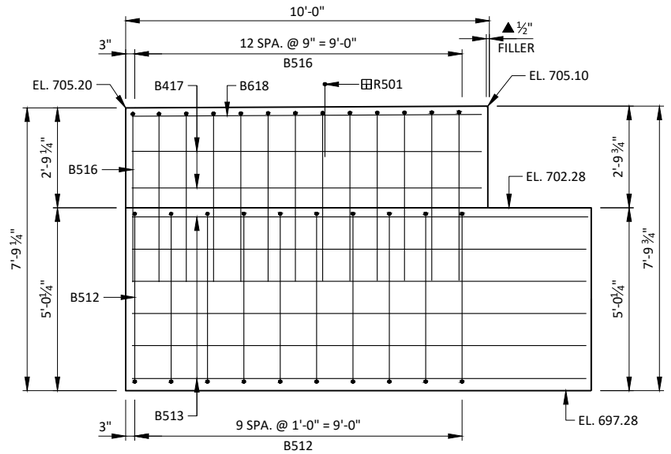
76

8

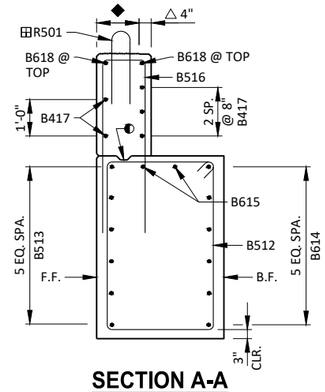
8

STATE PROJECT NUMBER

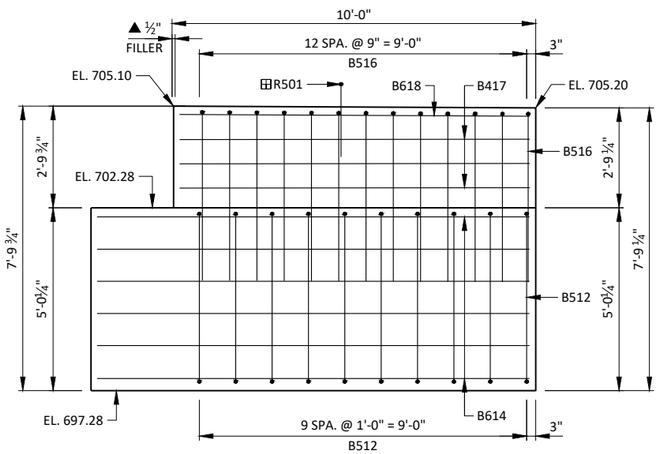
4273-00-71



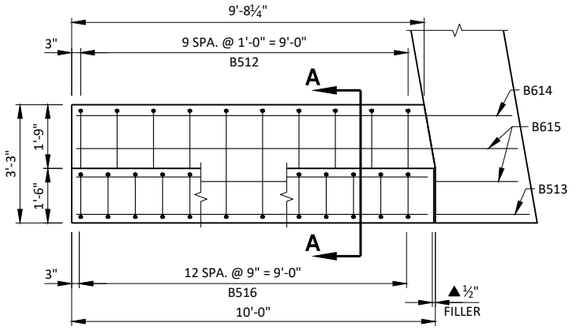
F.F. ELEVATION - WING 3



SECTION A-A



B.F. ELEVATION - WING 3



PLAN VIEW - WING 3

LEGEND

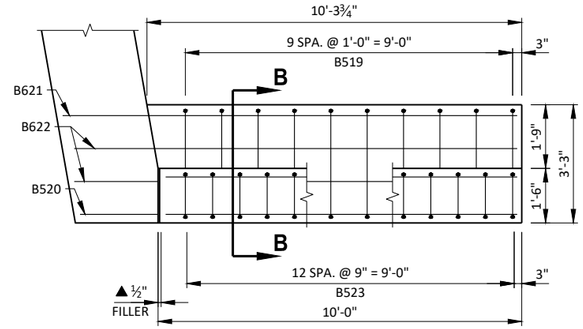
◐ OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6. ¾-INCH "V" GROOVE AT FRONT FACE OF WING WALL AND HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE IF CONSTRUCTION JOINT IS USED. COST IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".

▲ 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)

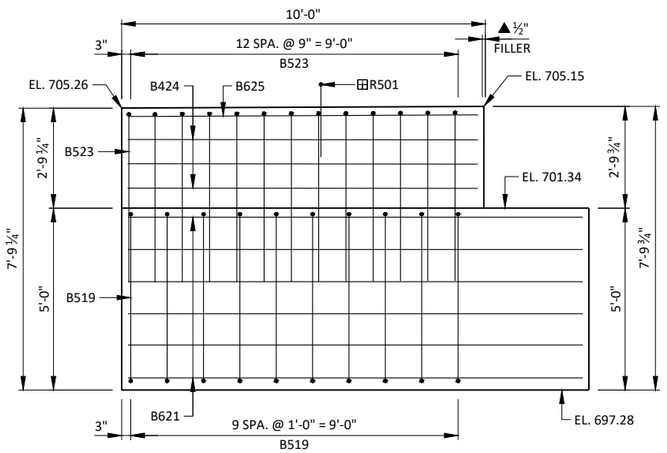
◆ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN IN PARAPET DETAILS.

△ FINISH SURFACE NOT COVERED BY PARAPET SAME AS BRIDGE DECK.

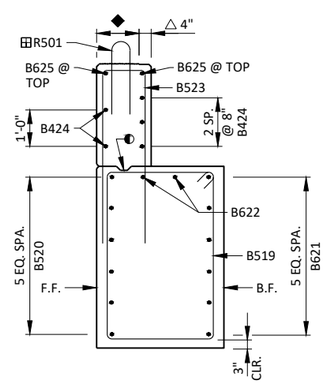
⊞ R501 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED. SEE SHEET 13 FOR PLACEMENT AND SHEET 10 FOR SPACING.



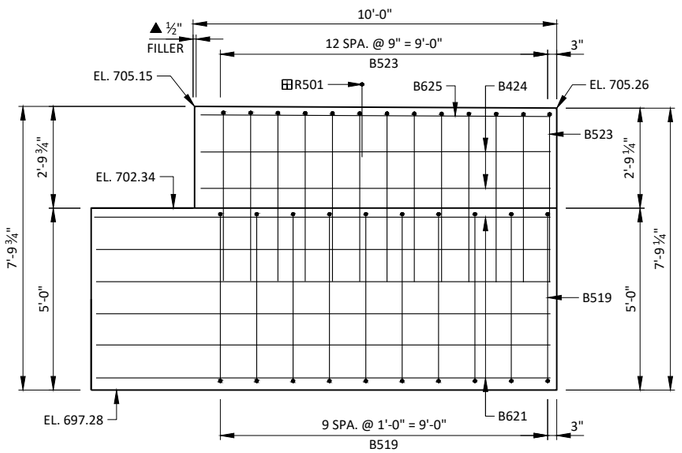
PLAN VIEW - WING 4



B.F. ELEVATION - WING 4



SECTION B-B



F.F. ELEVATION - WING 4

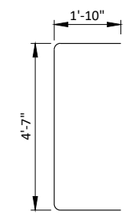
BILL OF BARS
EAST ABUTMENT

1,180 (COATED)
1,960 LB (UNCOATED)

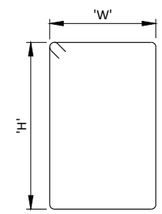
BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
B501	32	13-8	X		BODY -VERT. - STIRRUP
B502	6	14-2	X		BODY - VERT. - STIRRUP
B503	4	8-0	X		BODY - VERT. - AT ENDS
B404	4	4-7			BODY - VERT. - AT ENDS
B405	12	2-3			BODY - VERT. - 2 PER PILE
B406	6	28-0	X		BODY - SPIRAL - 1 PER PILE
B607	11	32-6			BODY - HORIZ. - F.F. & TOP
B808	14	10-8	X		BODY - HORIZ. - B.F. - ENDS
B609	7	21-2			BODY - HORIZ. - B.F.
B410	2	28-3			BODY - HORIZ. - TOP
B411	18	3-3	X		BODY - VERT. - TOP
B512	10	15-8	X	X	WING 3 - VERT. - STIRRUP
B513	6	12-5		X	WING 3- HORIZ. - F.F.
B614	6	11-11		X	WING 3 - HORIZ. - B.F.
B615	2	12-1		X	WING 3- HORIZ. - TOP
B516	13	10-3	X	X	WING 3 - VERT. - TOP
B417	5	9-7		X	WING 3 - HORIZ. - F.F. & B.F. - TOP
B618	2	9-7		X	WING 3 - HORIZ. - TOP
B519	10	15-8	X	X	WING 4 - VERT. - STIRRUP
B520	6	12-0		X	WING 4 - HORIZ. - F.F.
B621	6	12-6		X	WING 4 - HORIZ. - B.F.
B622	2	12-2		X	WING 4 - HORIZ. - TOP
B523	13	10-3	X	X	WING 4 - VERT. - TOP
B424	5	9-7		X	WING 4 - HORIZ. - F.F. & B.F. - TOP
B625	2	9-7		X	WING 4 - HORIZ. - TOP

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

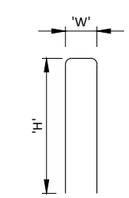
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



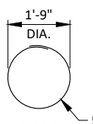
B503



B501, B502
B512, B519



B411, B516, B523



B406

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

BAR MARK	'W'	'H'
B411	11	1-3
B516	1-2	4-8
B523	1-2	4-8

A808

NOTES

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

SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-330

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

EAST ABUTMENT DETAILS

SHEET 7 OF 14

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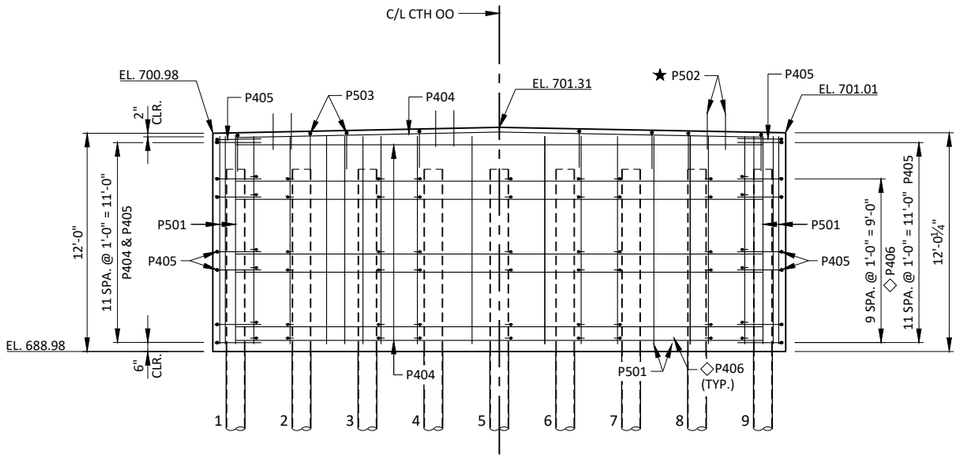
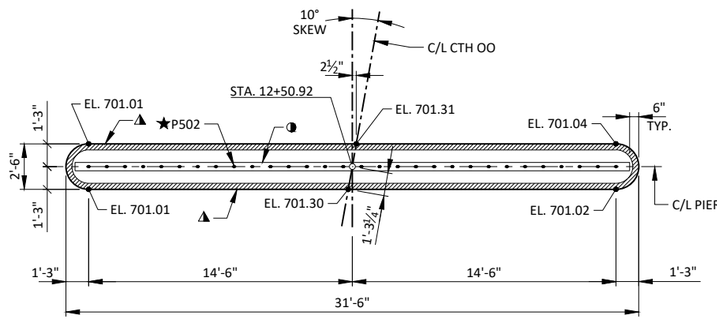
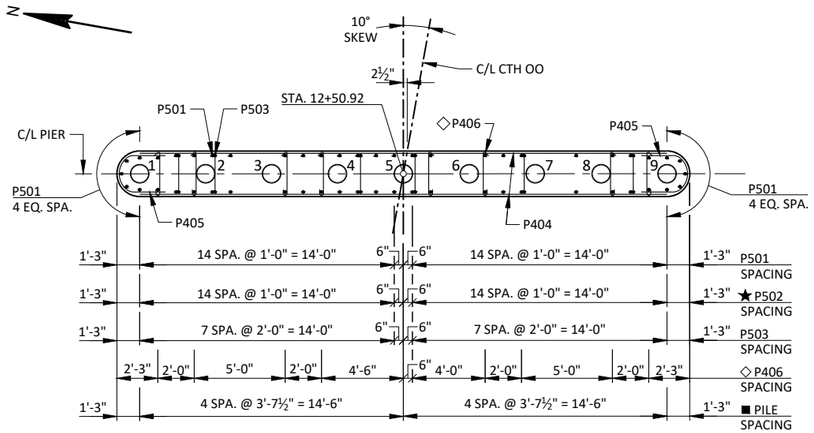


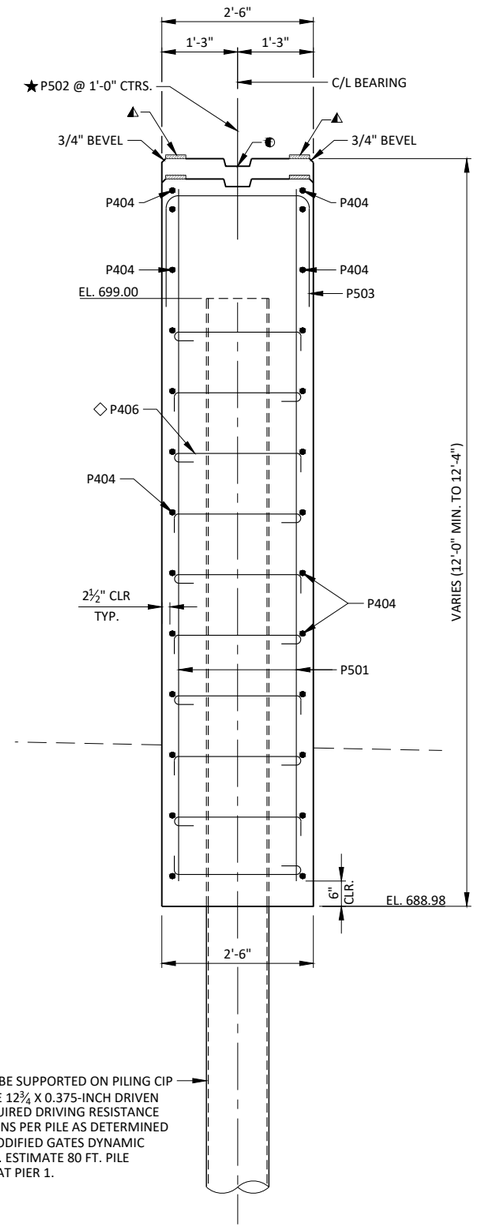
ELEVATION



PLAN



LAYOUT



PIER 1 TO BE SUPPORTED ON PILING CIP CONCRETE 12¾ X 0.375-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 200 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 80 FT. PILE LENGTHS AT PIER 1.

TYPICAL SECTION THROUGH PIER

STATE PROJECT NUMBER

4273-00-71

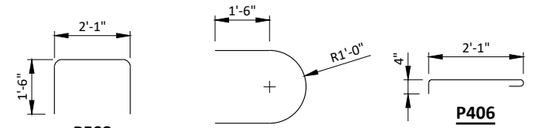
BILL OF BARS
PIER 1

60 LB (COATED)
1,590 LB (UNCOATED)

	BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
	P501	66	11-4			BODY - VERT. - E.F. & BOTH ENDS
★	P502	30	2-0		X	BODY - VERT. - DOWELS
	P503	16	4-10	X		BODY - VERT. - TOP
	P404	24	29-0			BODY - HORIZ. - E.F.
	P405	24	6-2	X		BODY - HORIZ. - ENDS
◇	P406	90	2-9	X		TIE BARS

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

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



NOTES

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

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

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

E.F. - EACH FACE

AT PIER 1, CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH STANDARD SPEC. 502.3.5.3.

LEGEND

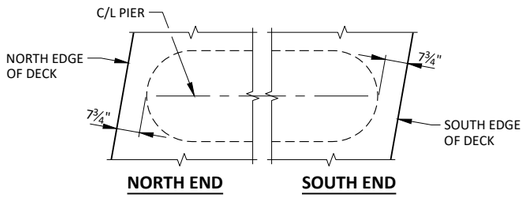
◑ KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.

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

★ P502 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.



PLAN AT END OF PIER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-330

DRAWN BY CJO | PLANS CK'D. PTB

PIER 1

SHEET 8 OF 14

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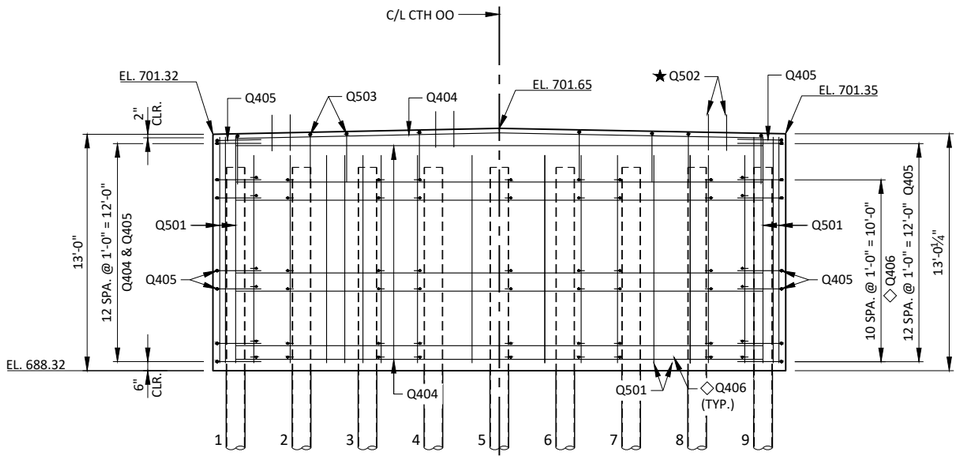
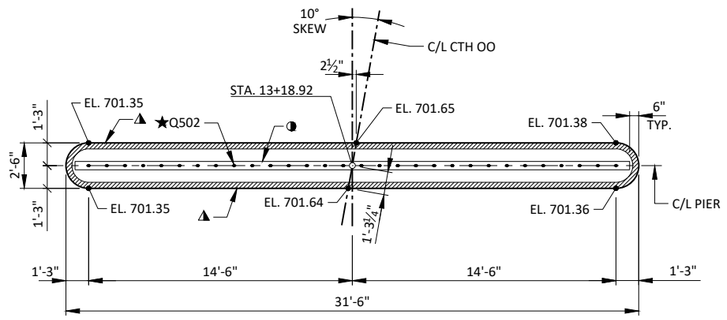
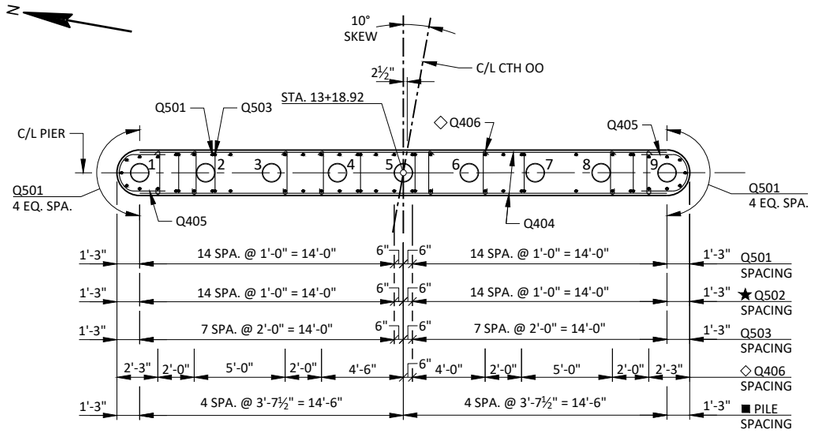


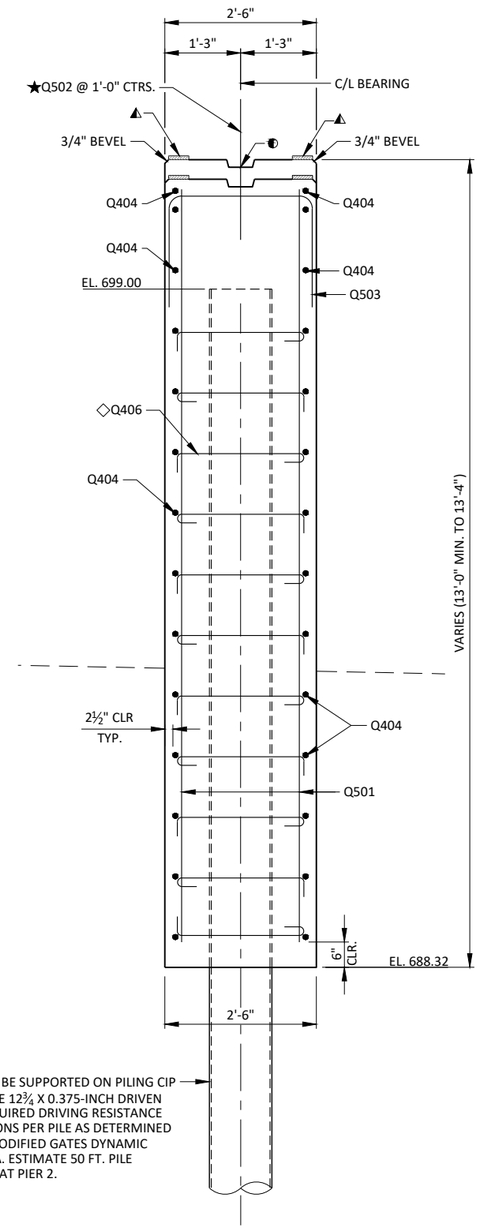
ELEVATION



PLAN



LAYOUT



PIER 2 TO BE SUPPORTED ON PILING CIP CONCRETE 12¾ X 0.375-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 200 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 50 FT. PILE LENGTHS AT PIER 2.

TYPICAL SECTION THROUGH PIER

STATE PROJECT NUMBER

4273-00-71

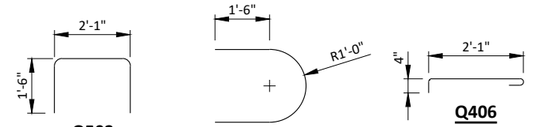
BILL OF BARS
PIER 2

60 LB (COATED)
1,680 LB (UNCOATED)

	BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
	Q501	66	12-4			BODY - VERT. - E.F. & BOTH ENDS
★	Q502	30	2-0		X	BODY - VERT. - DOWELS
	Q503	16	4-10	X		BODY - VERT. - TOP
	Q404	24	29-0			BODY - HORIZ. - E.F.
	Q405	24	6-2	X		BODY - HORIZ. - ENDS
◇	Q406	99	2-9	X		TIE BARS

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

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



NOTES

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

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

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

E.F. - EACH FACE

AT PIER 2, CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH STANDARD SPEC. 502.3.5.3.

LEGEND

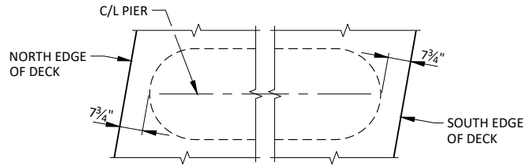
◑ KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.

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

★ Q502 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".

■ PILE SPACING MEASURED AT BASE OF SHAFT.

◇ PLACE Q406 BARS ADJACENT TO EACH PILE ONLY. TIE TO NEAREST VERTICAL NO. 5 BAR. VERTICAL SPACING @ 1'-0" TO MATCH NO. 4 OUTSIDE BARS FROM BASE OF SHAFT TO TOP OF PILING. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.



PLAN AT END OF PIER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-330

DRAWN BY CJO | PLANS CK'D. PTB

PIER 2

SHEET 9 OF 14

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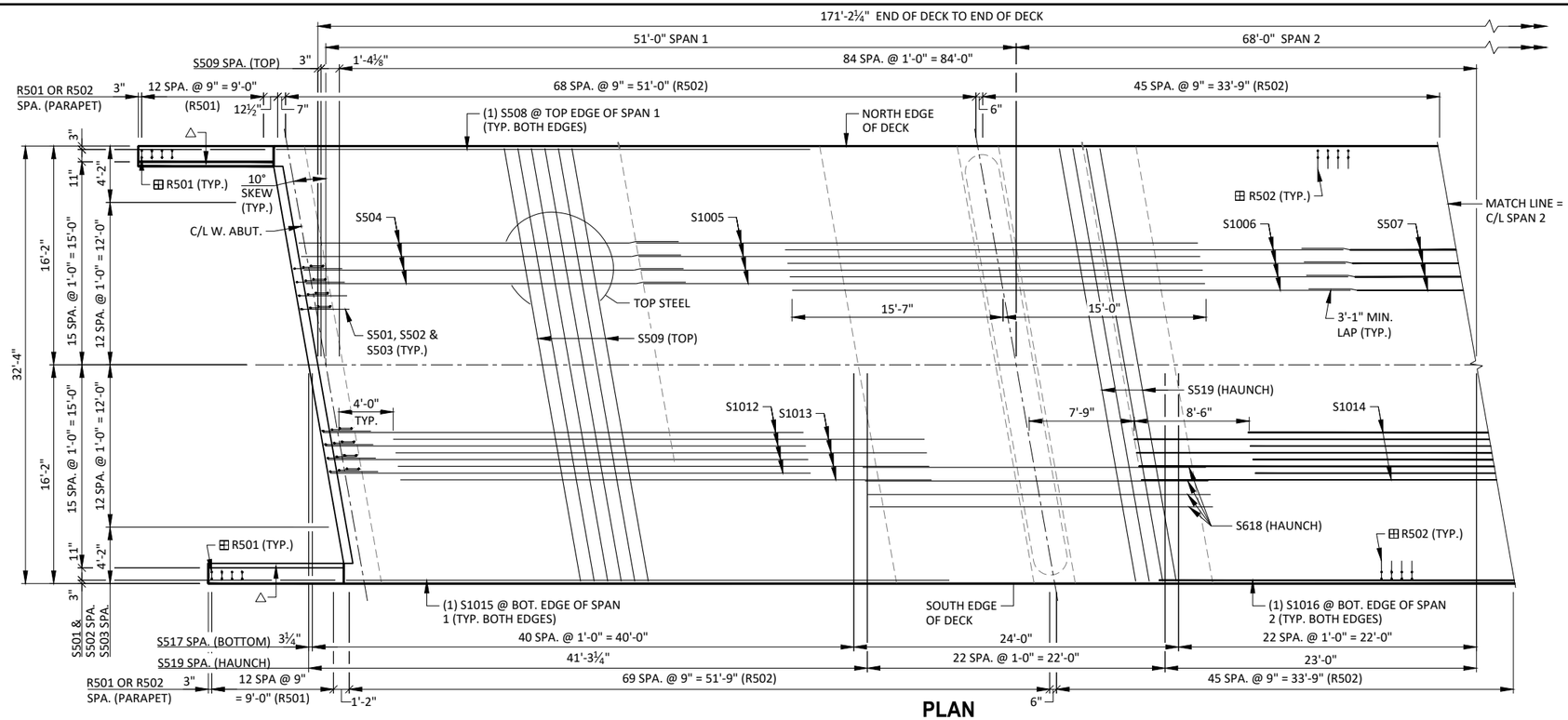
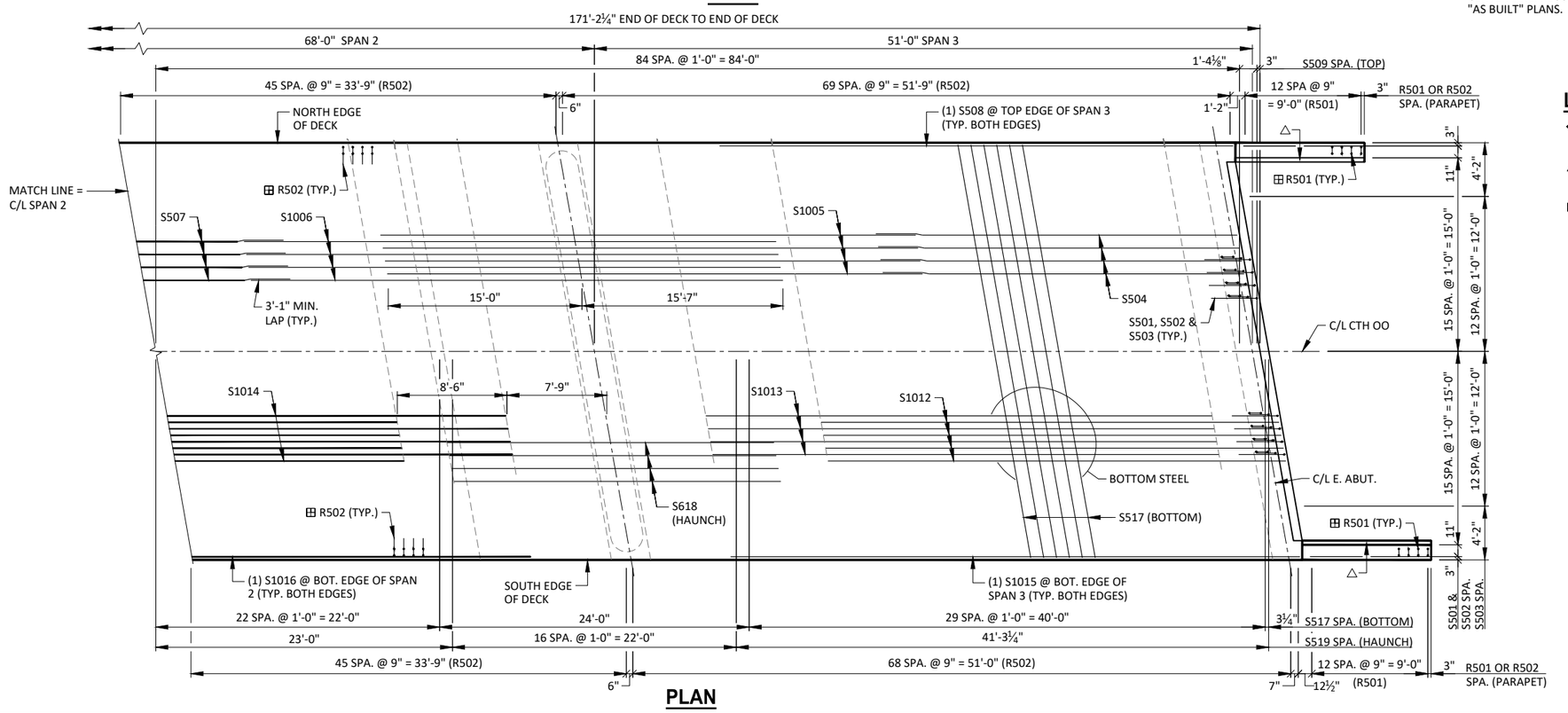


PLAN



PLAN

N

NOTES

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

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

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

PLACE TRANSVERSE BARS PARALLEL TO THE CENTERLINE OF SUBSTRUCTURE UNITS.

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

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

SURVEY TOP OF DECK ELEVATIONS

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

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

LEGEND

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

△ FINISH SURFACES NOT COVERED BY PARAPET SAME AS BRIDGE DECK.

⊞ R502 BARS TO BE TIED TO DECK STEEL BEFORE DECK IS POURED AND R501 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED. SEE SHEET 13 FOR PLACEMENT AND THIS SHEET FOR SPACING.

STATE PROJECT NUMBER

4273-00-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-330

DRAWN BY CJO | PLANS CK'D. PTB

SUPERSTRUCTURE

SHEET 10 OF 14

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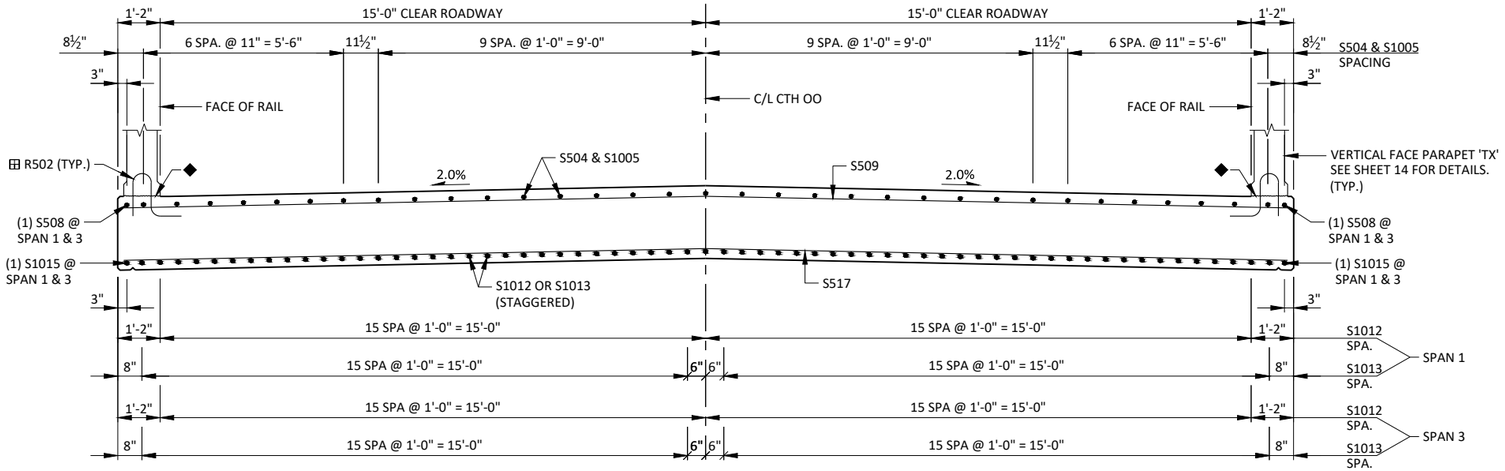
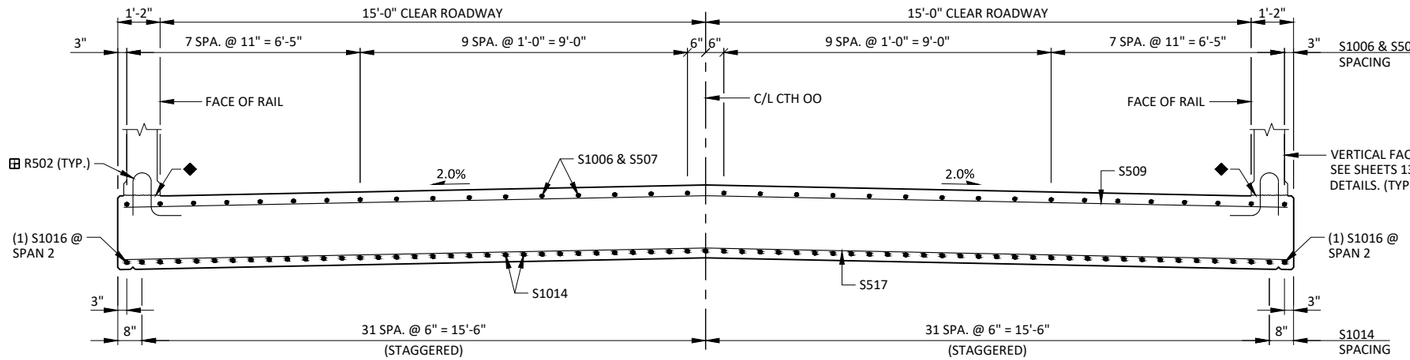


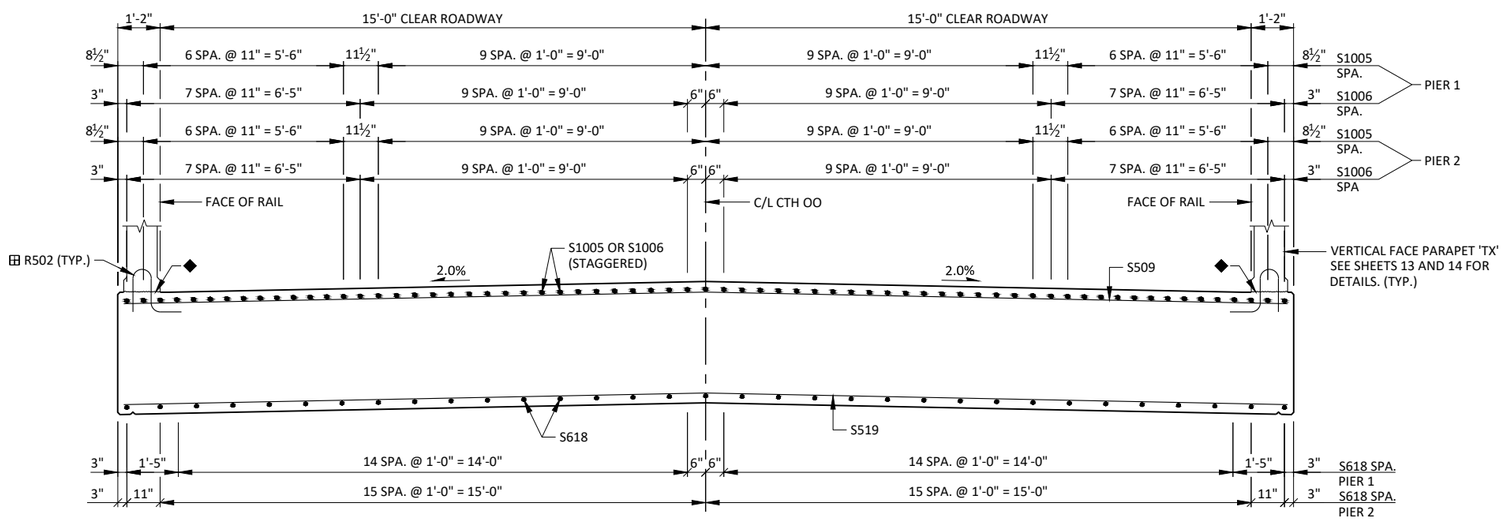
CROSS SECTION THROUGH ROADWAY

SPANS 1 & 3 (IN SPAN LOOKING EAST)



CROSS SECTION THROUGH ROADWAY

SPAN 2 (IN SPAN LOOKING EAST)



CROSS SECTION THROUGH ROADWAY

PIERS (AT PIERS LOOKING EAST)

NOTES

SEE SHEET 12 FOR BILL OF BARS.

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

PLACE TRANSVERSE BARS PARALLEL TO THE CENTERLINE OF SUBSTRUCTURE UNITS.

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

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

LEGEND

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

△ FINISH SURFACES NOT COVERED BY PARAPET SAME AS BRIDGE DECK.

⊞ R502 BARS TO BE TIED TO DECK STEEL BEFORE DECK IS POURED AND R501 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED. SEE SHEET 13 FOR PLACEMENT AND SHEET 10 FOR SPACING.

STATE PROJECT NUMBER

4273-00-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-330

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

SUPERSTRUCTURE DETAILS (1 OF 2)

SHEET 11 OF 14

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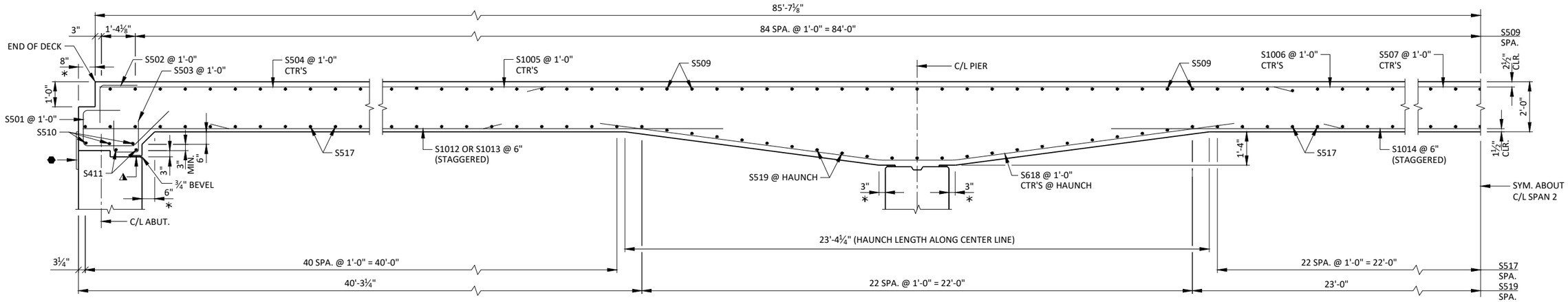
8

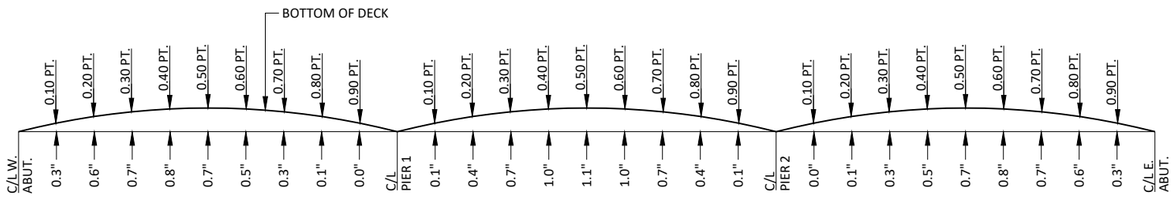
STATE PROJECT NUMBER
4273-00-71

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 1	0.10 PNT.	0.20 PNT.	0.30 PNT.	0.40 PNT.	0.50 PNT.	0.60 PNT.	0.70 PNT.	0.80 PNT.	0.90 PNT.	C/L PIER 2	0.10 PNT.	0.20 PNT.	0.30 PNT.	0.40 PNT.	0.50 PNT.	0.60 PNT.	0.70 PNT.	0.80 PNT.	0.90 PNT.	C/L E. ABUT.
N. EDGE OF DECK	704.14	704.16	704.19	704.22	704.24	704.27	704.29	704.32	704.34	704.37	704.39	704.43	704.46	704.50	704.53	704.56	704.60	704.63	704.67	704.70	704.73	704.76	704.79	704.81	704.85	704.88	704.92	704.95	705.00	705.04	705.09
C/L	704.45	704.47	704.50	704.52	704.55	704.57	704.60	704.63	704.65	704.68	704.70	704.74	704.77	704.80	704.84	704.87	704.91	704.94	704.97	705.01	705.04	705.07	705.09	705.12	705.16	705.19	705.23	705.27	705.31	705.36	705.41
S. EDGE OF DECK	704.17	704.19	704.22	704.24	704.27	704.29	704.32	704.34	704.37	704.39	704.42	704.45	704.49	704.52	704.56	704.59	704.62	704.66	704.69	704.73	704.76	704.79	704.81	704.85	704.88	704.92	704.96	705.00	705.04	705.09	705.14



PARTIAL LONGITUDINAL SECTION THROUGH ROADWAY



CAMBER DIAGRAM

CAMBER SPAN AS SHOWN TO PROVIDE FOR THEORETICAL DEADLOAD DEFLECTION AND FUTURE PLASTIC FLOW. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

LEGEND

- ⬣ 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ∗ DIMENSION IS NORMAL TO THE C/L OF SUBSTRUCTURE UNITS.
- ◮ ¾"x4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.

BILL OF BARS
SUPERSTRUCTURE — 75,460 LB (COATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
S501	66	6-10	X	X	END OF DECK
S502	66	2-11	X	X	END OF DECK - TOP
S503	50	3-2	X	X	END OF DECK - BOTTOM
S504	66	28-1		X	SLAB - TOP - LONG. - SPANS 1 & 3
S1005	66	41-6		X	SLAB - TOP - LONG. - SPANS 1 & 3
S1006	68	41-3		X	SLAB - TOP - LONG. - SPAN 2
S507	34	22-10		X	SLAB - TOP - LONG. - SPAN 2
S508	4	40-0		X	SLAB - TOP - LONG. - SPANS 1 & 3 - EDGES
S509	171	32-6		X	SLAB - TOP - TRANS.
S510	6	32-6		X	SLAB - TRANS. AT ABUTMENTS
S411	4	25-10		X	SLAB - TRANS. AT ABUTMENTS - BOTTOM
S1012	62	35-6		X	SLAB - BOTTOM - LONG. - SPANS 1 & 3
S1013	64	39-3		X	SLAB - BOTTOM - LONG. - SPANS 1 & 3
S1014	63	44-0		X	SLAB - BOTTOM - LONG. - SPAN 2
S1015	4	44-8		X	SLAB - BOTTOM - LONG. - SPANS 1 & 3 - EDGES
S1016	2	52-6		X	SLAB - BOTTOM - LONG. - SPAN 2 - EDGES
S517	127	32-6		X	SLAB - BOTTOM - TRANS.
S618	65	25-7	X	X	SLAB - BOTTOM - HAUNCH - LONG.
S519	46	32-6		X	SLAB - BOTTOM - HAUNCH - TRANS.

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

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

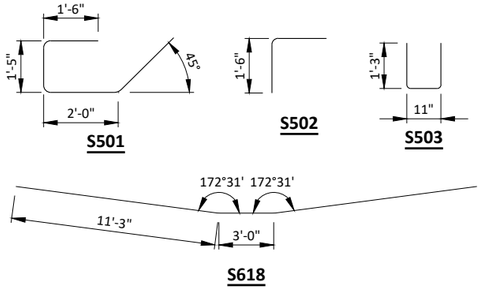
NOTES

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

PLACE TRANSVERSE BARS PARALLEL TO THE CENTERLINE OF SUBSTRUCTURE UNITS.

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

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



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-330

DRAWN BY CJO | PLANS CK'D. PTB

SUPERSTRUCTURE DETAILS (2 OF 2)

SHEET 12 OF 14

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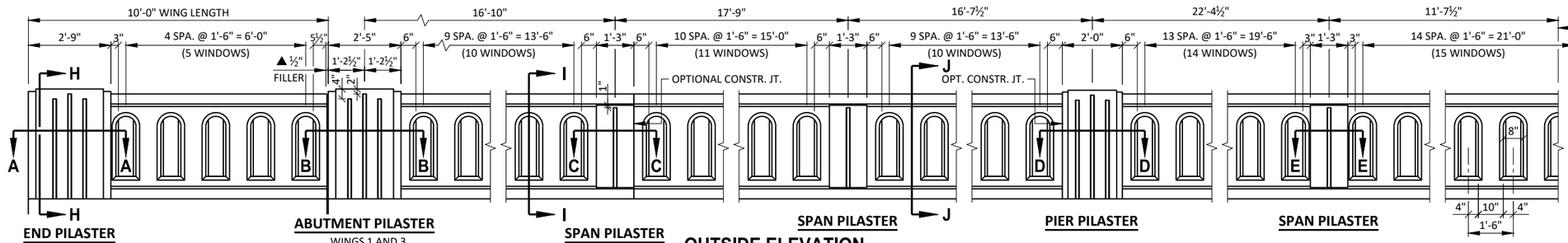
STATE PROJECT NUMBER
4273-00-71



OUTSIDE ELEVATION

(S. PARAPET LOOKING NORTH, N. PARAPET LOOKING SOUTH)

NOTES

SEE SHEET 14 FOR BILL OF BARS.

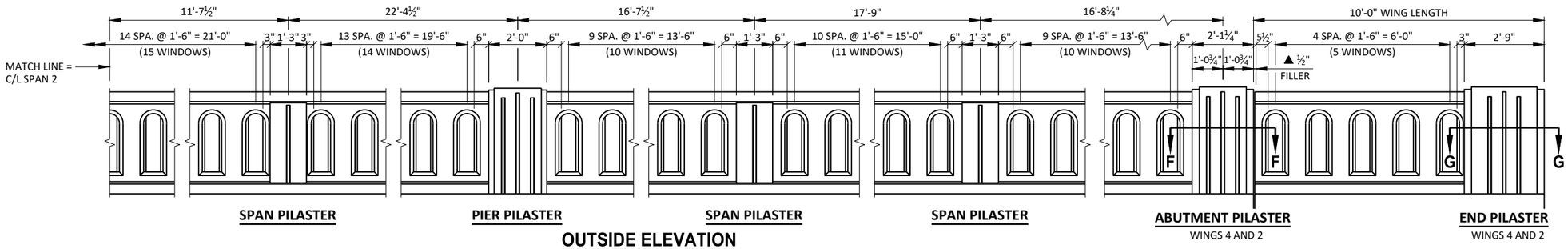
VERTICAL RUSTICATION GROOVES REQUIRED AT BOTH FACES OF ALL PILASTERS. AT BEAM GUARD ATTACHMENT LOCATIONS AT END PILASTERS, USE STANDARD RUSTICATION GROOVES AS SHOWN ON THIS SHEET. AT NAME PLATE LOCATION (END PILASTER AT WING 1) SHORTEN RUSTICATION GROOVES AS SHOWN ON NAME PLATE DETAIL SHOWN ON SHEET 14.

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINFORCEMENT THROUGH THE JOINT. LAP LONGITUDINAL BARS A MINIMUM OF 3'-3" (#5 BARS) OR 5'-0" (#7 BARS).

BID ITEM SHALL BE "PARAPET CONCRETE TYPE 'TX' ", WHICH SHALL INCLUDE ALL ITEMS SHOWN.

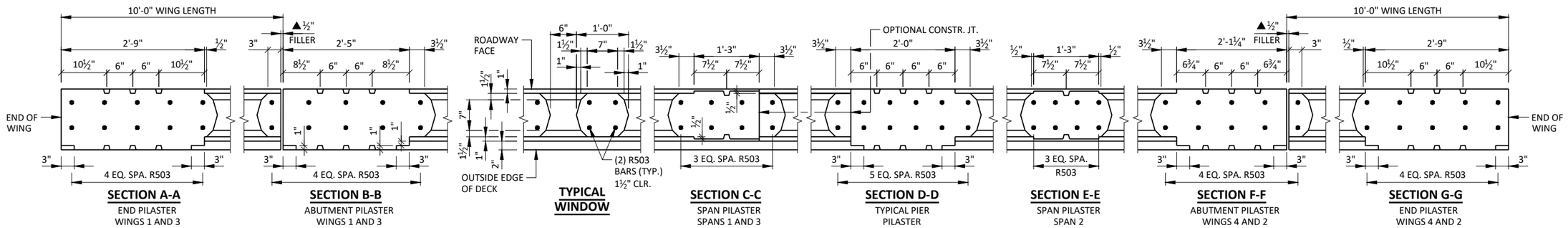
LEGEND

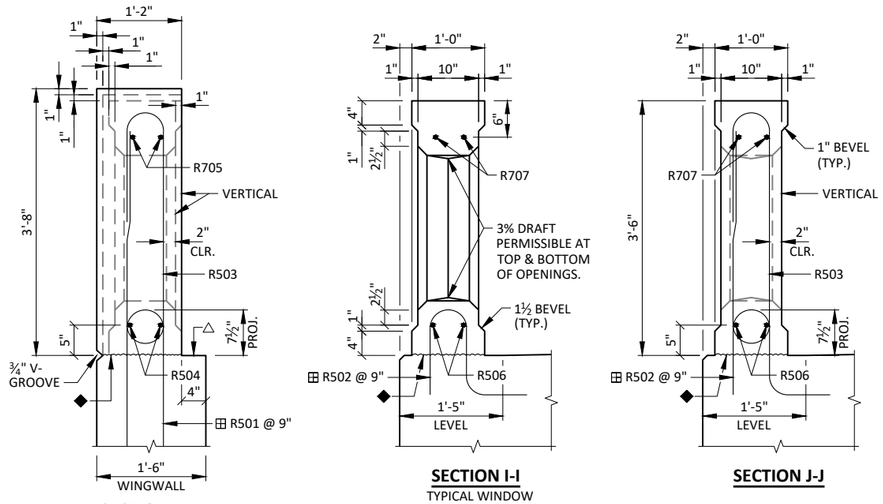
- ▲ ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE)
- ◆ HORIZONTAL CONSTRUCTION JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- △ FINISH SURFACES NOT COVERED BY PARAPET SAME AS BRIDGE DECK.
- ⊞ R502 BARS TO BE TIED TO DECK STEEL BEFORE DECK IS POURED AND R501 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED. SEE THIS SHEET FOR PLACEMENT AND SHEET 10 FOR SPACING.

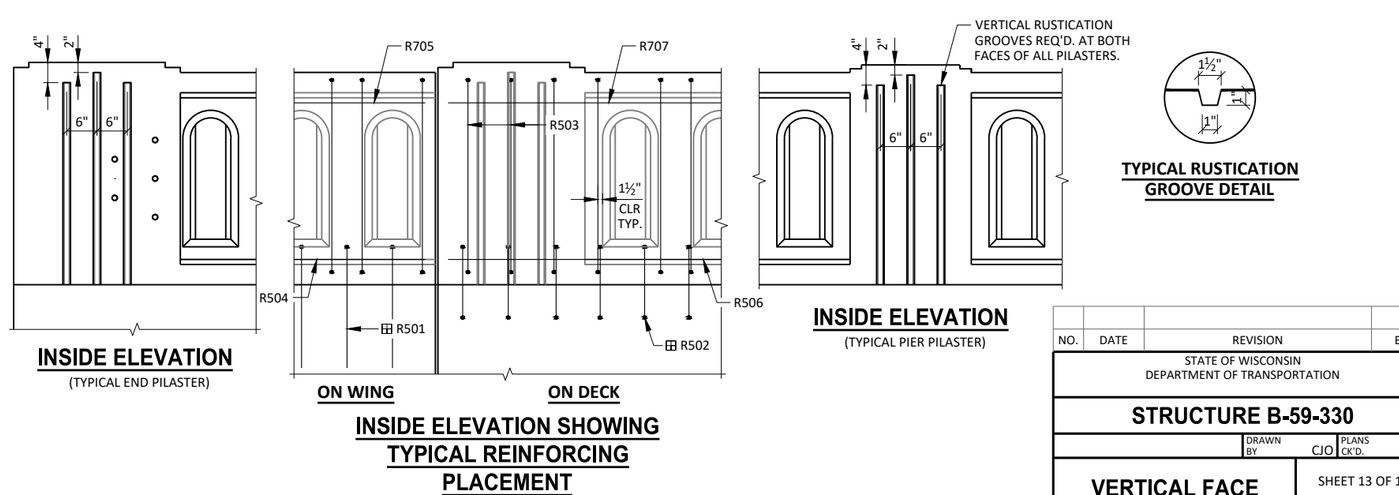


OUTSIDE ELEVATION

(S. PARAPET LOOKING NORTH, N. PARAPET LOOKING SOUTH)







NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-330

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

VERTICAL FACE PARAPET 'TX'

SHEET 13 OF 14

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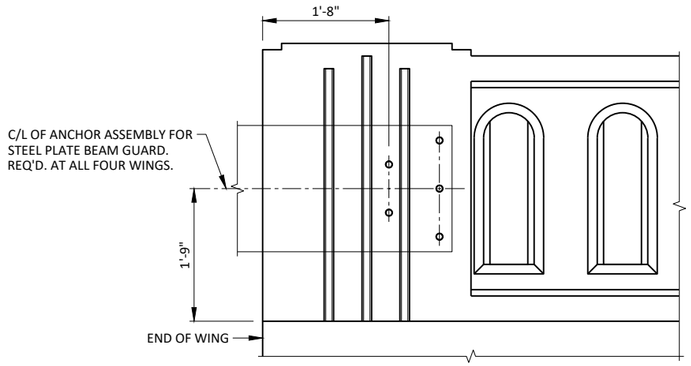
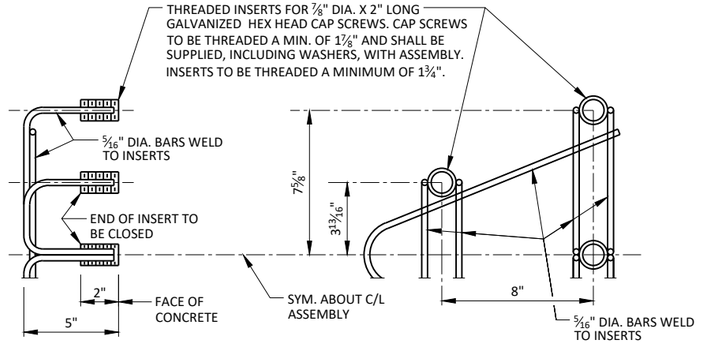
STATE PROJECT NUMBER

4273-00-71



INSIDE ELEVATION SHOWING TYPICAL BEAM GUARD ATTACHMENT

(TYPICAL END PILASTER)



DETAIL OF ANCHOR ASSEMBLY

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

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

NOTES

VERTICAL RUSTICATION GROOVES REQUIRED AT BOTH FACES OF ALL PILASTERS. AT BEAM GUARD ATTACHMENT LOCATIONS AT END PILASTERS, USE STANDARD RUSTICATION GROOVES AS SHOWN ON SHEET 13. AT NAME PLATE LOCATION (END PILASTER AT WING 1) SHORTEN RUSTICATION GROOVES AS SHOWN ON NAME PLATE DETAIL SHOWN ON THIS SHEET.

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINFORCEMENT THROUGH THE JOINT. LAP LONGITUDINAL BARS A MINIMUM OF 3'-3" (#5 BARS) OR 5'-0" (#7 BARS).

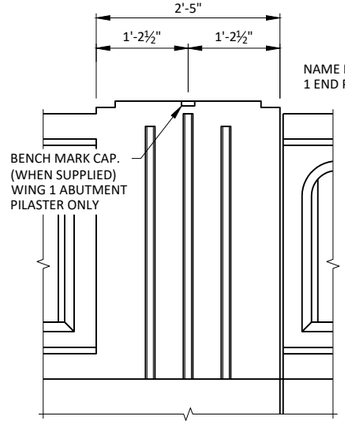
BILL OF BARS
PARAPET — 8,860 LB (COATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
R501	52	4-4	X	X	PARAPET - VERT. - AT WINGS - BOT.
R502	462	3-4	X	X	PARAPET - VERT. - AT DECK - BOT.
R503	528	8-2	X	X	PARAPET - VERT.
R504	8	9-7		X	PARAPET - HORIZ. - AT WINGS - BOT.
R705	8	9-7		X	PARAPET - HORIZ. - AT WINGS - TOP
R506	16	27-8		X	PARAPET - HORIZ. - AT SPANS 1 & 3 - BOT. (3'-3" LAP)
R707	16	28-7		X	PARAPET - HORIZ. - AT SPANS 1 & 3 - TOP (5'-0" LAP)
R508	8	35-6		X	PARAPET - HORIZ. - AT SPAN 2 - BOT. (3'-3" LAP.)
R709	8	36-4		X	PARAPET - HORIZ. - AT SPAN 2 - TOP (5'-0" LAP)

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

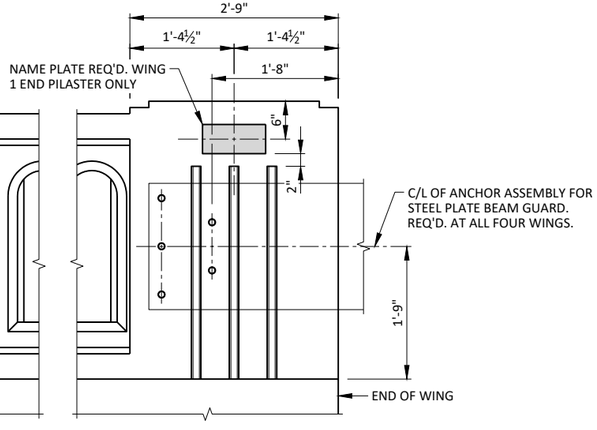
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

BAR TABLE FOR INFORMATION ONLY. COST INCIDENTAL TO PARAPET CONCRETE TYPE 'TX'



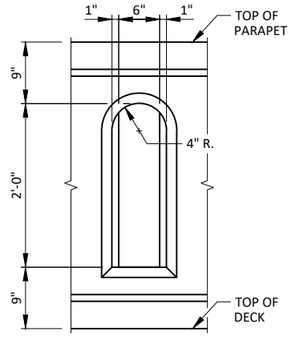
BENCHMARK CAP DETAIL

(INSIDE FACE OF ABUTMENT PILASTER)
(WING 1 ONLY)



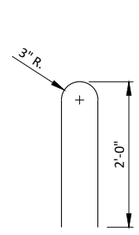
NAME PLATE DETAIL

(INSIDE FACE OF END PILASTER)
(WING 1 ONLY)

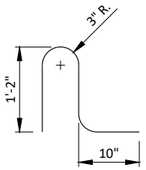


WINDOW DETAIL

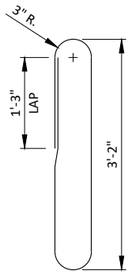
(TYPE A)



R501



R502



R503

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-330

DRAWN BY CJO | PLANS CK'D. PTB

VERTICAL FACE PARAPET 'TX' DETAILS

SHEET 14 OF 14

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8

EARTHWORK-CTH OO

	AREA (SF)		INCREMENTAL VOL (CY)			CUMMULATIVE VOLUME (CY)			
STATION	CUT	FILL	CUT NOTE 1	FILL	FILL (25%) NOTE 2	CUT 1.00 NOTE 1	FILL	FILL (25%) NOTE 2	MASS ORDINATE NOTE 3
10+45.78	17	71	0	0	0	0	0	0	0
10+50	18	73	3	11	14	3	11	14	-11
11+00	20	108	35	168	209	37	179	224	-186
11+50	46	146	61	235	294	98	414	518	-419
11+99	46	146	83	263	329	182	677	847	-665
13+71	62	101	66	108	135	248	786	982	-734
14+00	62	101	91	100	125	339	886	1107	-769
14+50	36	7	63	10	13	402	896	1120	-719
15+00	32	4	57	5	6	459	901	1126	-667
15+50	30	1	15	1	1	474	902	1127	-653
15+70	11	2	16	2	2	490	903	1129	-639
16+00	19	1	10	1	1	500	904	1130	-630
16+31.54	0	0	0	0	0	500	904	1130	-630
COLUMN TOTALS =			500	904	1,130				-630

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

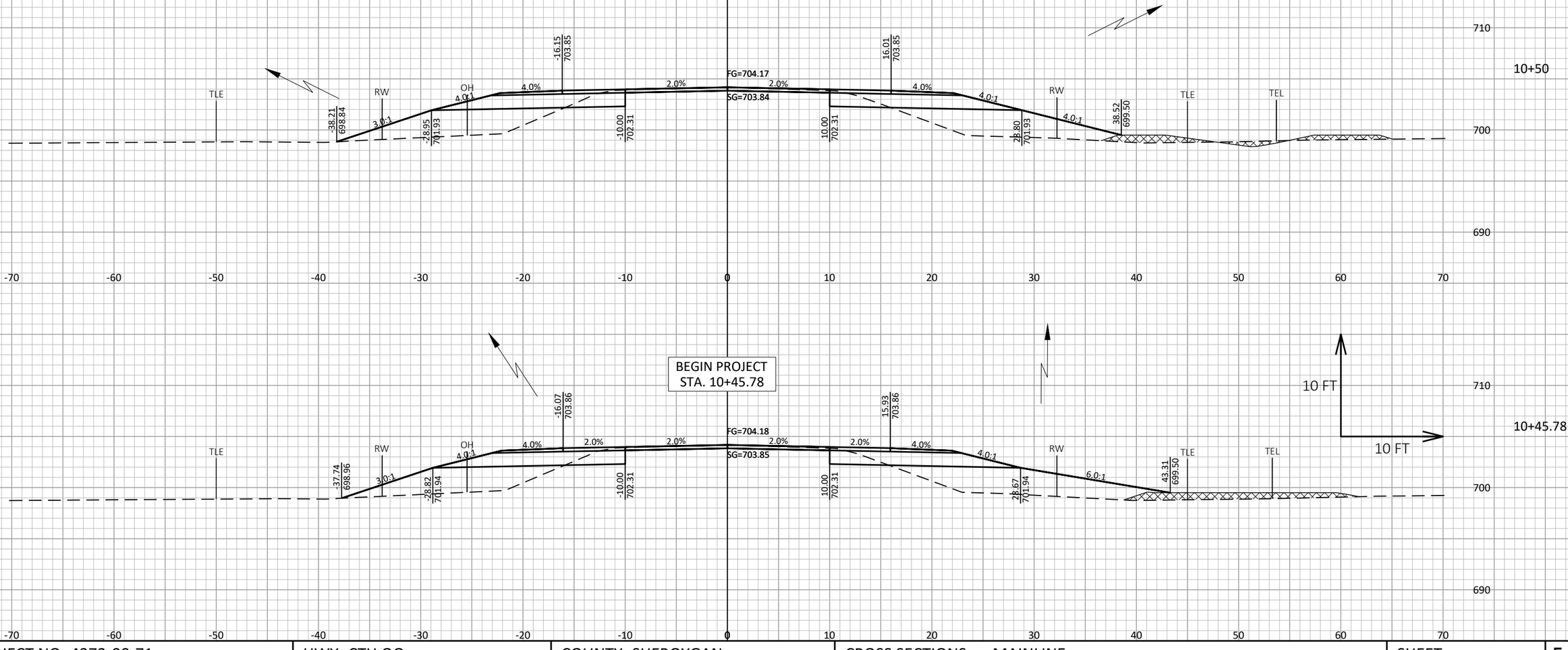
9

9

PROJECT NO: 4273-00-71	HWY: CTH OO	COUNTY: SHEBOYGAN	EARTHWORK TABLE	SHEET 85	E

LEGEND

BIOINFILTRATION BASIN.
WORK TO BE DONE BY OTHERS.



9

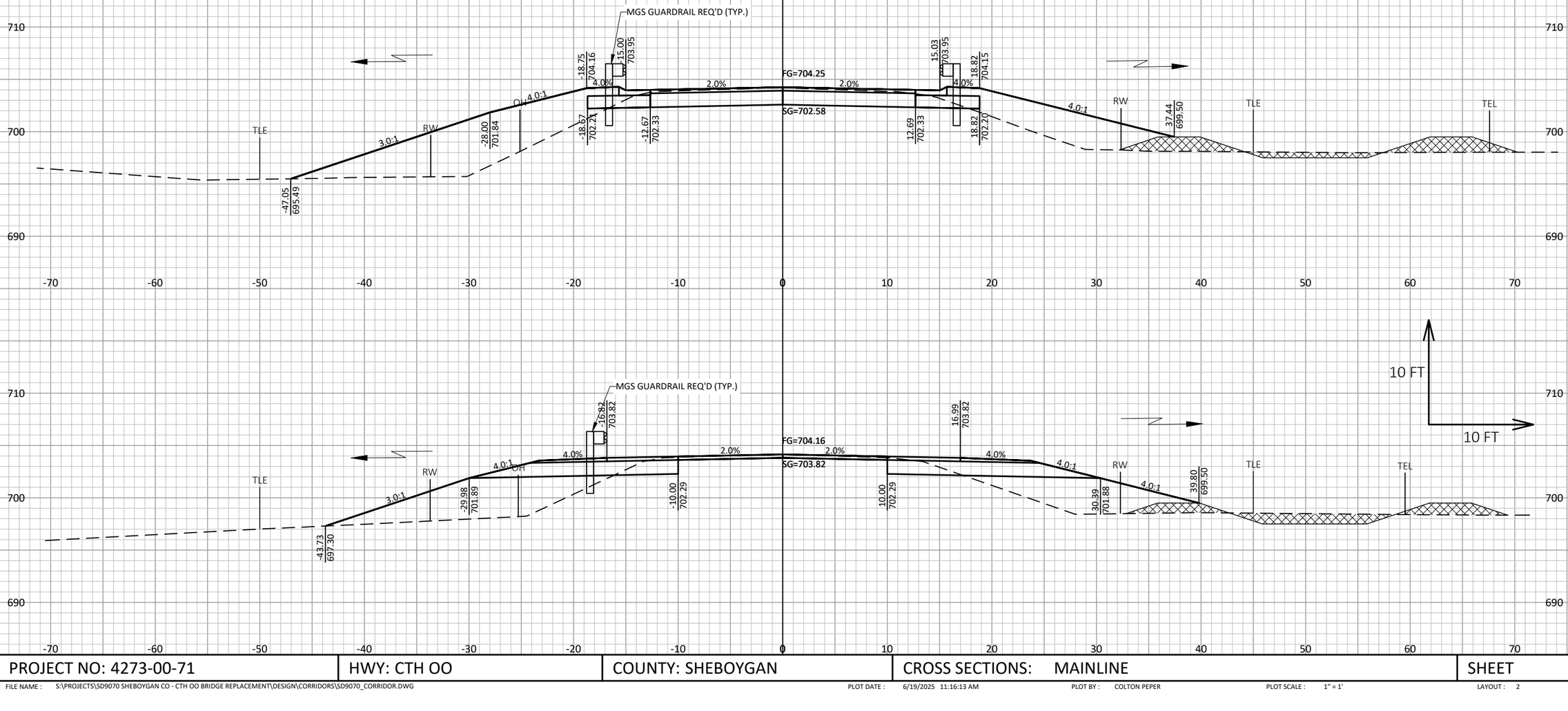
9

PROJECT NO: 4273-00-71	HWY: CTH OO	COUNTY: SHEBOYGAN	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : S:\PROJECTS\SD9070 SHEBOYGAN CO - CTH OO BRIDGE REPLACEMENT\DESIGN\CORRIDORS\SD9070_CORRIDOR.DWG
PLOT DATE : 6/19/2025 10:52:39 AM
PLOT BY : COLTON PEPER
PLOT SCALE : 1" = 1'
LAYOUT : 1

LEGEND

BIOINFILTRATION BASIN.
WORK TO BE DONE BY OTHERS.



PROJECT NO: 4273-00-71	HWY: CTH OO	COUNTY: SHEBOYGAN	CROSS SECTIONS: MAINLINE	SHEET 87 E

FILE NAME : S:\PROJECTS\SD9070 SHEBOYGAN CO - CTH OO BRIDGE REPLACEMENT\DESIGN\CORRIDORS\SD9070_CORRIDOR.DWG
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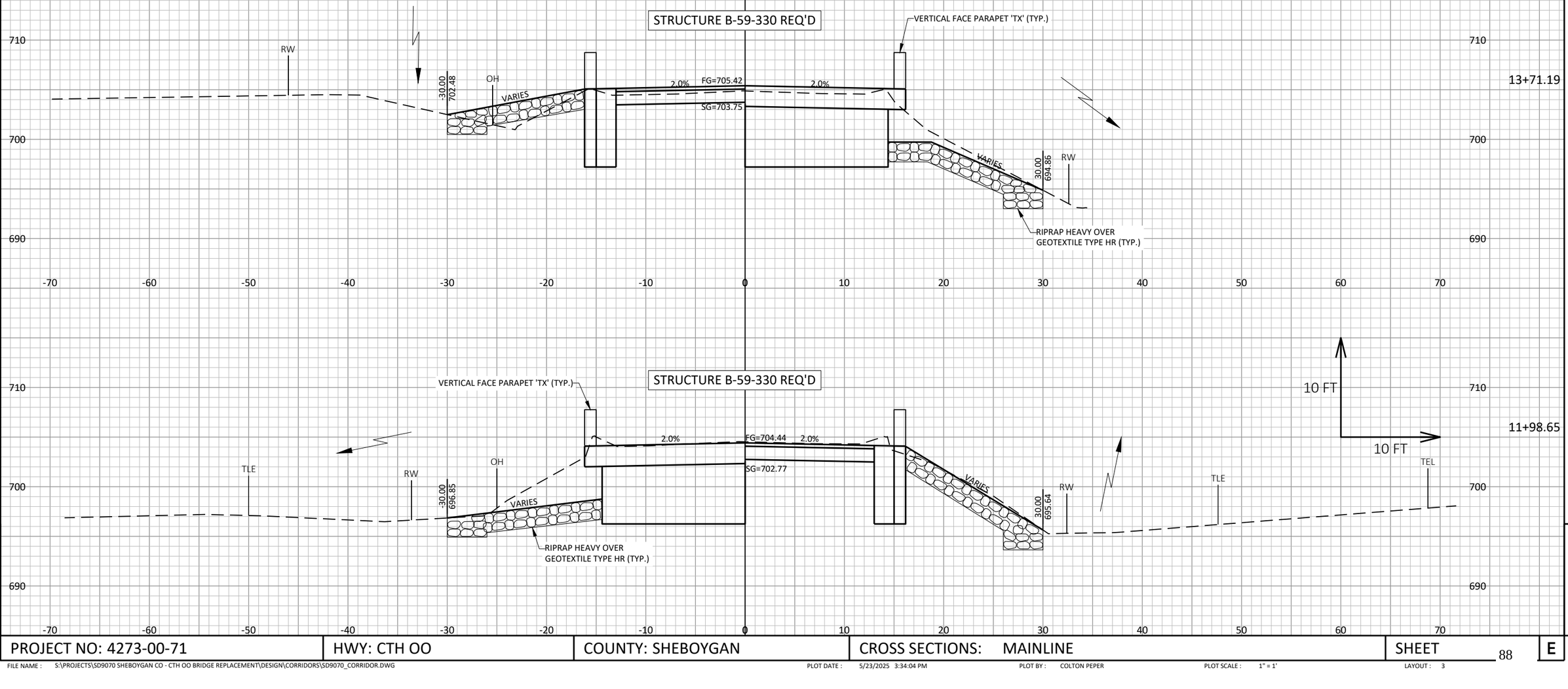
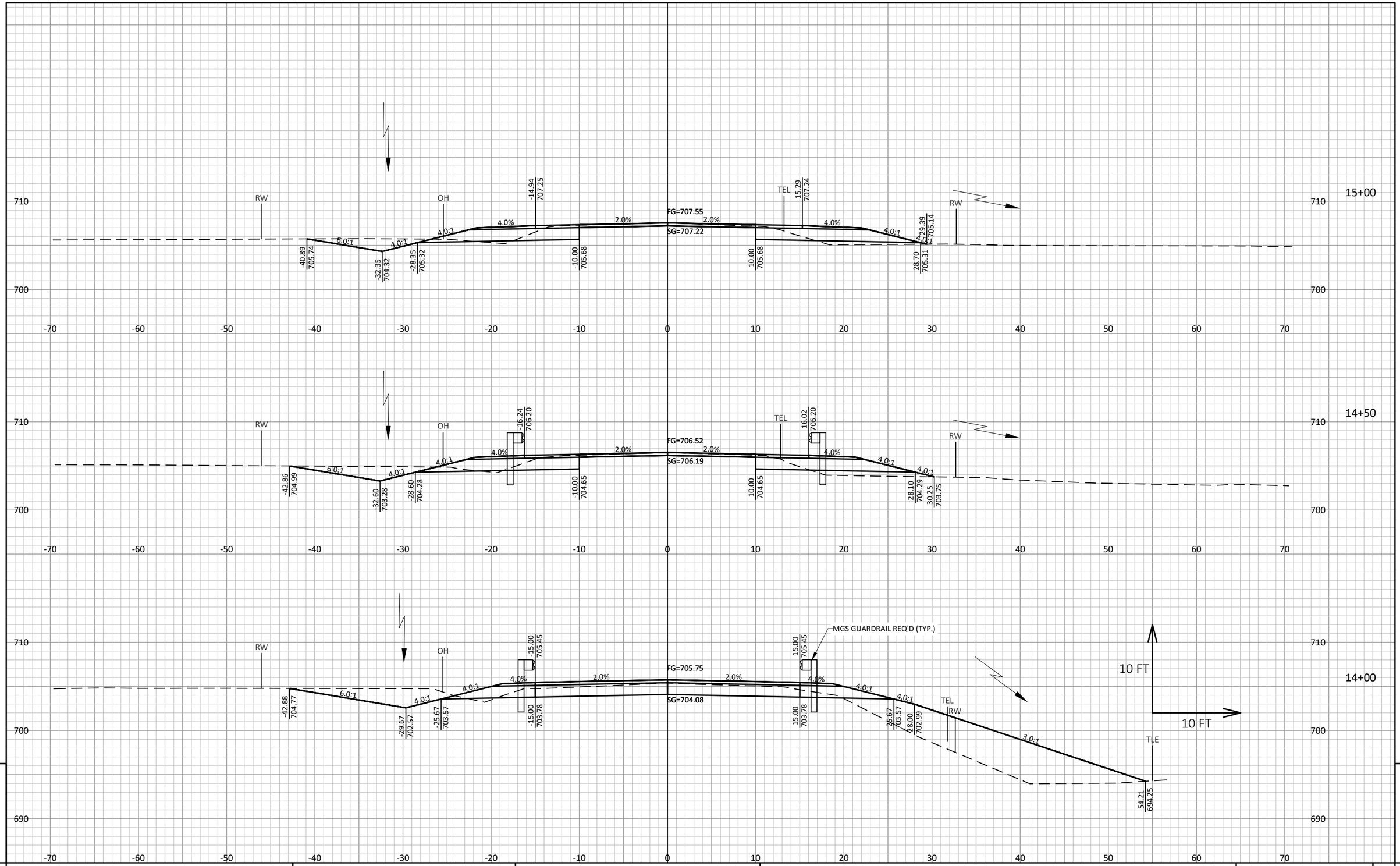
PLOT BY : COLTON PEPER
PLOT SCALE : 1" = 1'
LAYOUT : 2



PROJECT NO: 4273-00-71	HWY: CTH OO	COUNTY: SHEBOYGAN	CROSS SECTIONS: MAINLINE	SHEET	E

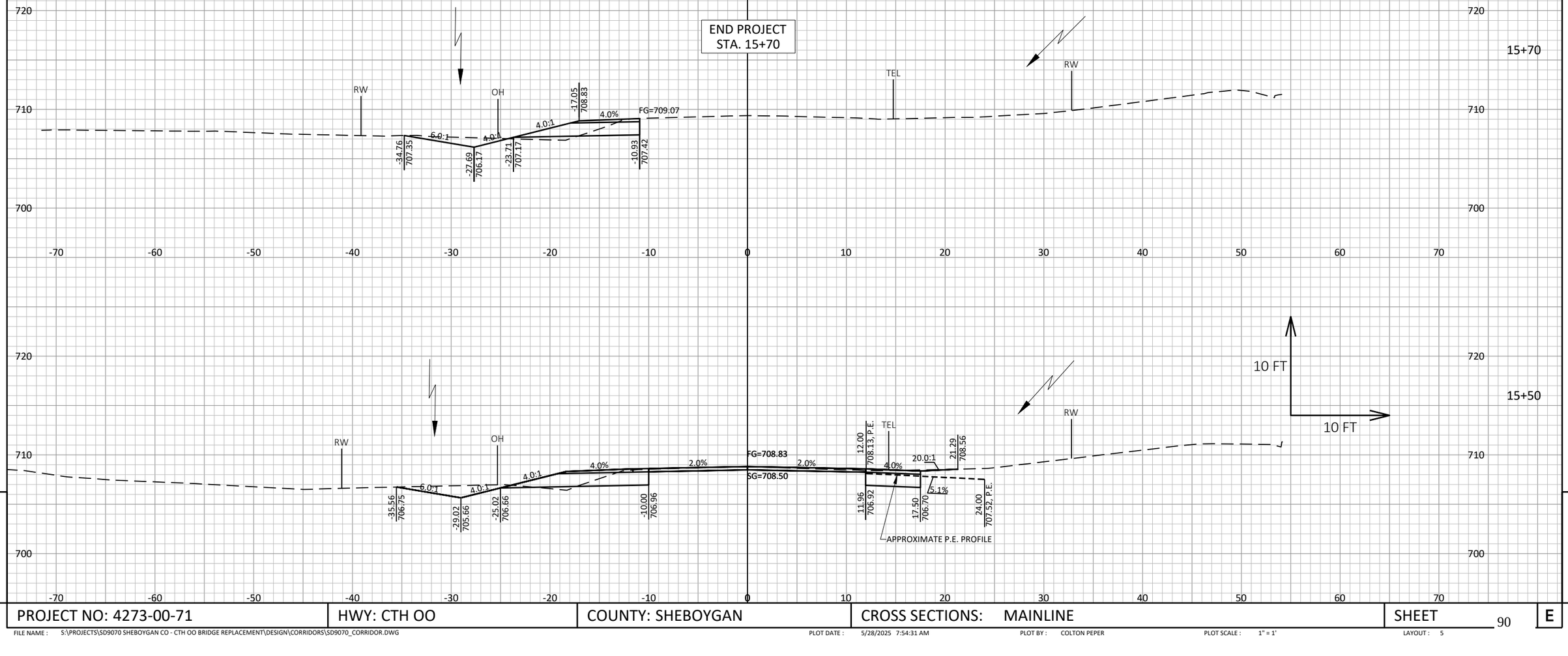
FILE NAME : S:\PROJECTS\SD9070 SHEBOYGAN CO - CTH OO BRIDGE REPLACEMENT\DESIGN\CORRIDORS\SD9070_CORRIDOR.DWG PLOT DATE : 5/23/2025 3:34:04 PM PLOT BY : COLTON PEPER PLOT SCALE : 1" = 1' LAYOUT : 3



9

9

PROJECT NO: 4273-00-71	HWY: CTH OO	COUNTY: SHEBOYGAN	CROSS SECTIONS: MAINLINE	SHEET 89	E



9

9

PROJECT NO: 4273-00-71	HWY: CTH OO	COUNTY: SHEBOYGAN	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : S:\PROJECTS\SD9070 SHEBOYGAN CO - CTH OO BRIDGE REPLACEMENT\DESIGN\CORRIDORS\SD9070_CORRIDOR.DWG
PLOT DATE : 5/28/2025 7:54:31 AM
PLOT BY : COLTON PEPER
PLOT SCALE : 1" = 1'
LAYOUT : 5

END CONSTRUCTION
STA. 16+31.54
MATCH EXISTING

720
710
700

RW
OH
TEL
RW

16+31.54

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

720
710
700

RW
OH
-34.26
708.48
6.0:1
-25.87
707.08
4.0:1
-21.86
708.08
4.0:1
-15.04
709.79
4.0%
FG=709.96
-10.83
708.30

TEL
RW

10 FT
10 FT

16+00

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

720
710
700

9

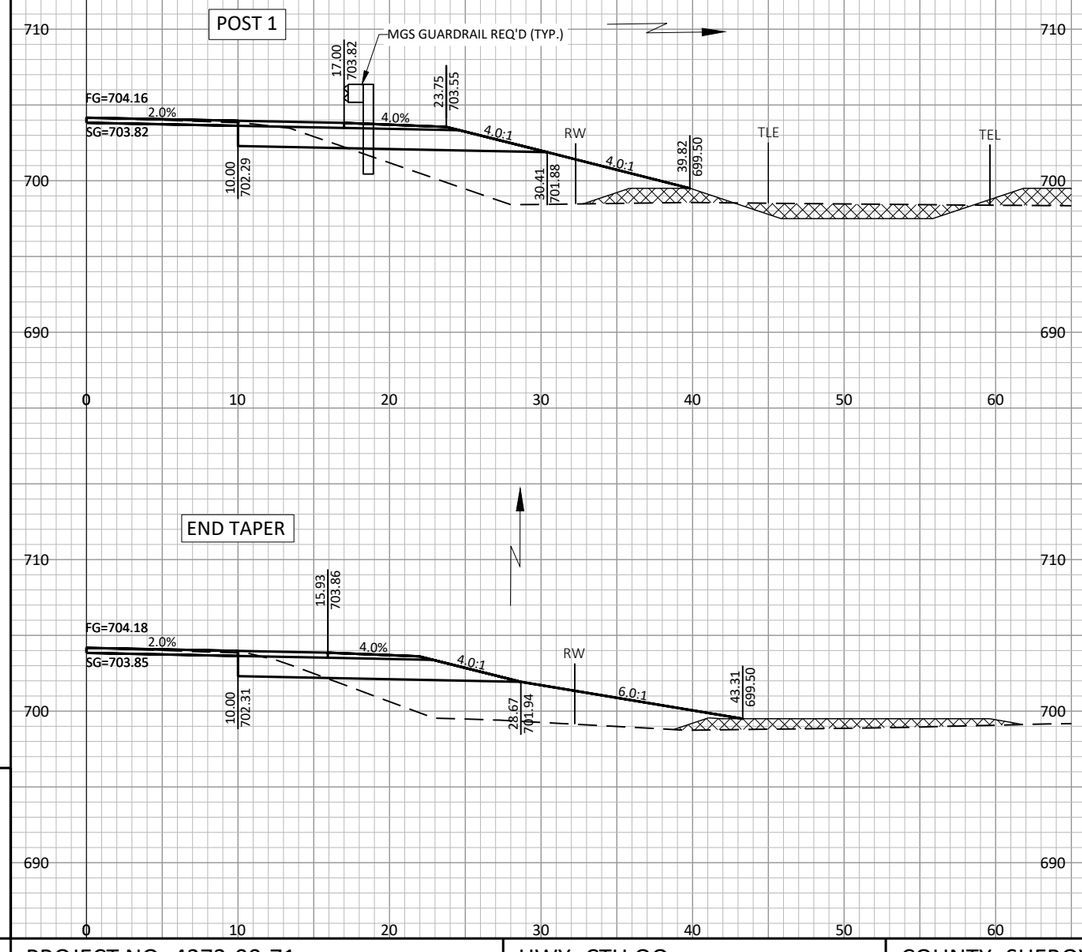
9

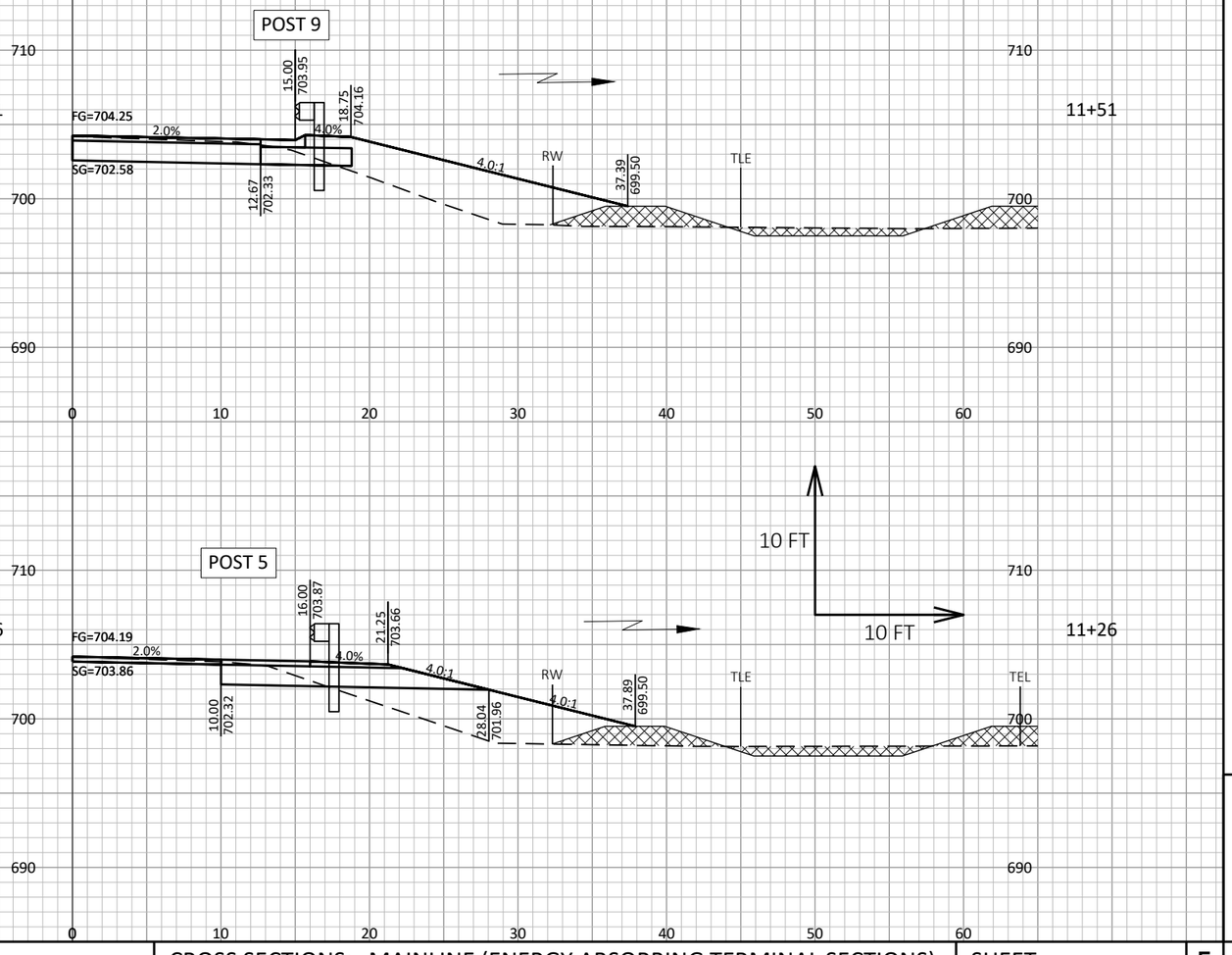
PROJECT NO: 4273-00-71	HWY: CTH OO	COUNTY: SHEBOYGAN	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : S:\PROJECTS\SD9070 SHEBOYGAN CO - CTH OO BRIDGE REPLACEMENT\DESIGN\CORRIDORS\SD9070_CORRIDOR.DWG
PLOT DATE : 5/23/2025 3:34:10 PM
PLOT BY : COLTON PEPER
PLOT SCALE : 1" = 1'
LAYOUT : 6

LEGEND

BIOINFILTRATION BASIN.
WORK TO BE DONE BY OTHERS.





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PROJECT NO: 4273-00-71	HWY: CTH OO	COUNTY: SHEBOYGAN	CROSS SECTIONS: MAINLINE (ENERGY ABSORBING TERMINAL SECTIONS)	SHEET	E

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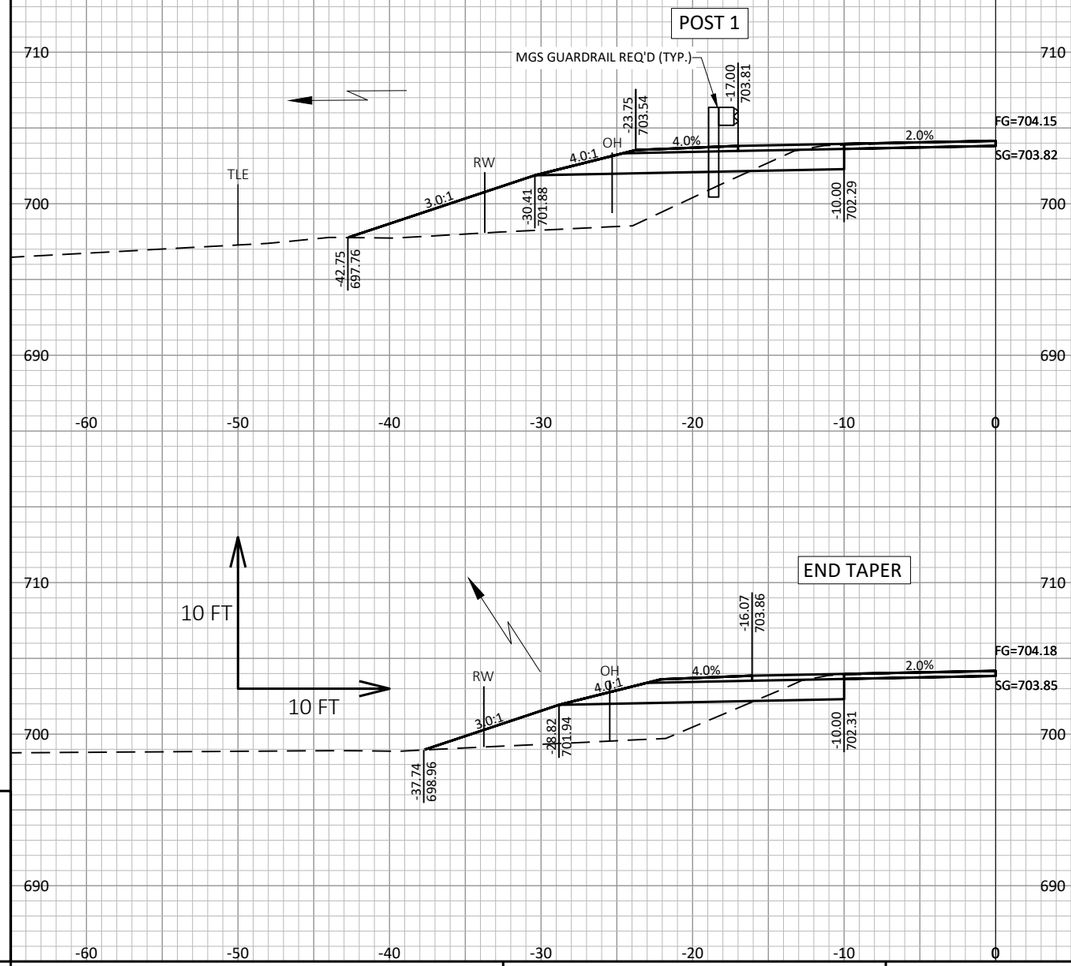
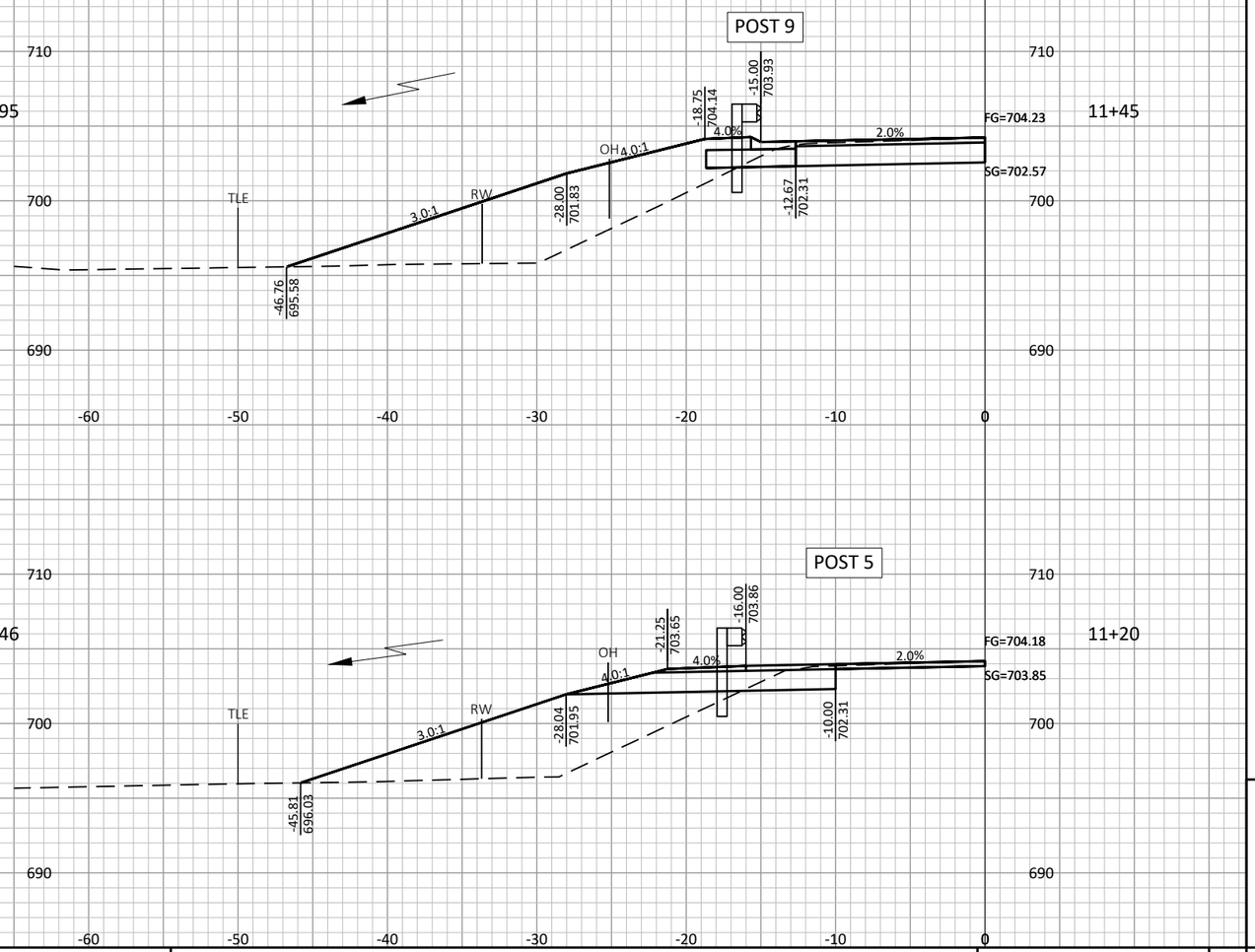
PLOT DATE : 6/19/2025 11:19:14 AM PLOT BY : COLTON PEPER PLOT SCALE : 1" = 1' LAYOUT : SW EAT





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PROJECT NO: 4273-00-71	HWY: CTH OO	COUNTY: SHEBOYGAN	CROSS SECTIONS: MAINLINE (ENERGY ABSORBING TERMINAL SECTIONS)	SHEET	E

FILE NAME : S:\PROJECTS\SD9070 SHEBOYGAN CO - CTH OO BRIDGE REPLACEMENT\DESIGN\CORRIDORS\SD9070_CORRIDOR.DWG
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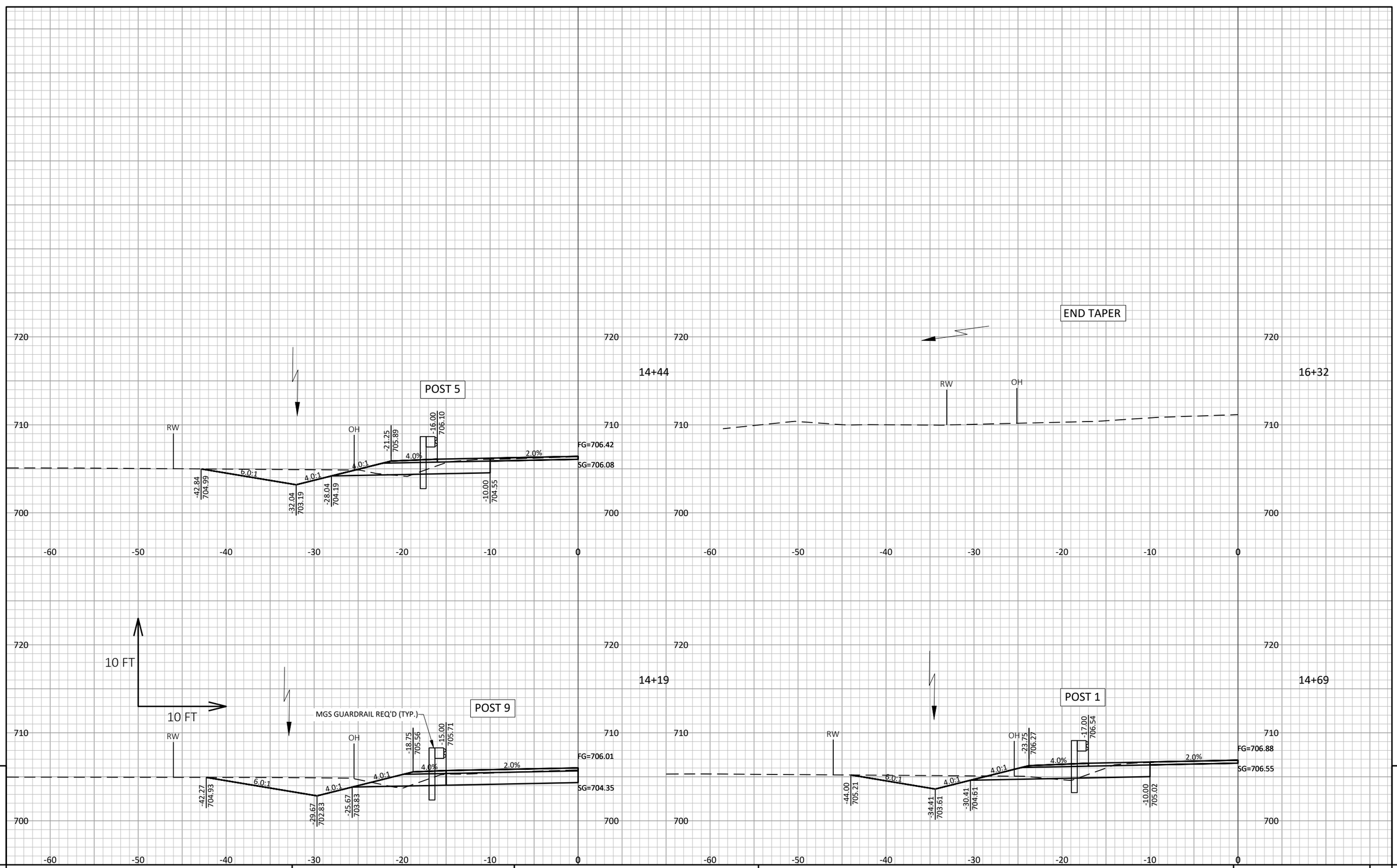

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PROJECT NO: 4273-00-71	HWY: CTH OO	COUNTY: SHEBOYGAN	CROSS SECTIONS: MAINLINE (ENERGY ABSORBING TERMINAL SECTIONS)	SHEET	E

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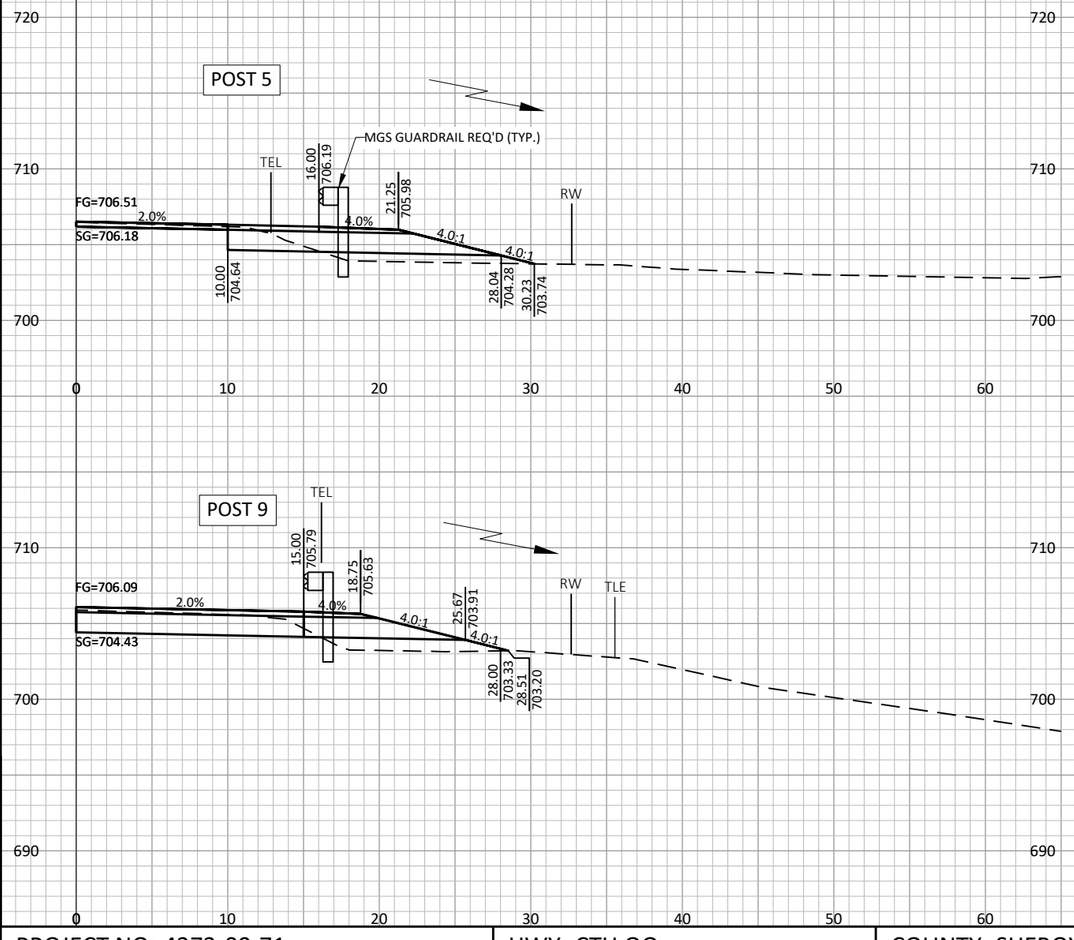

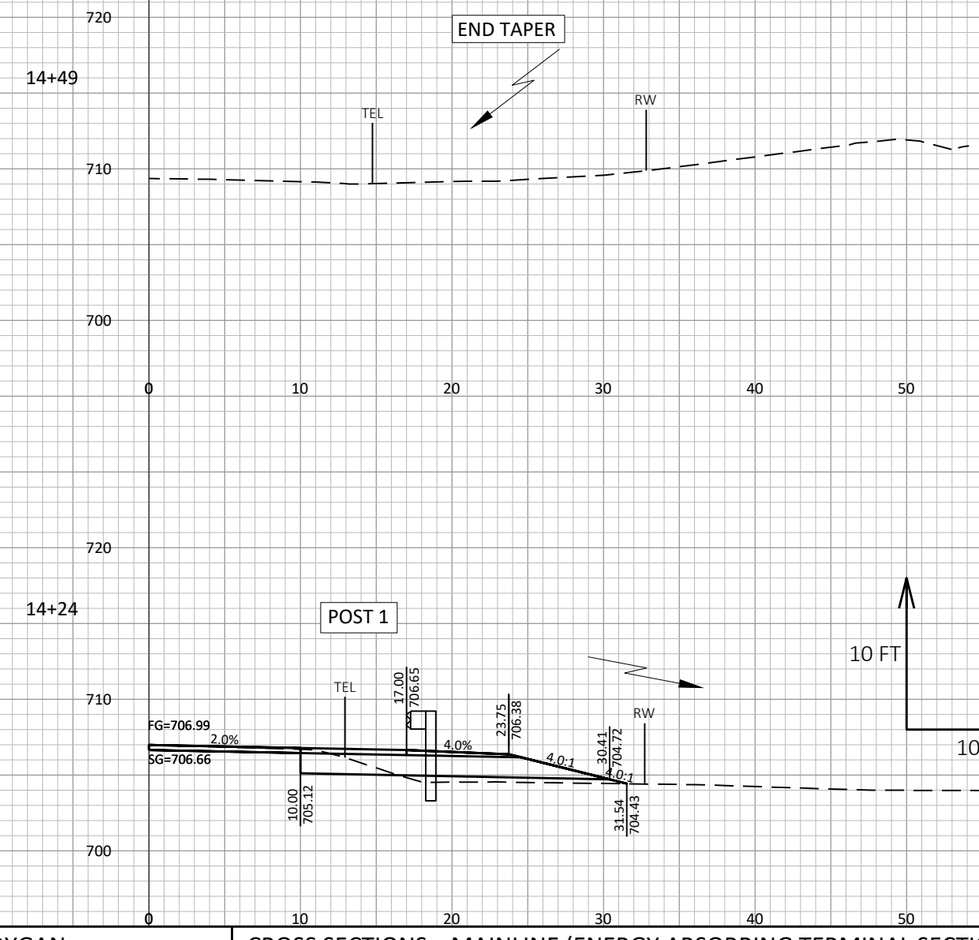

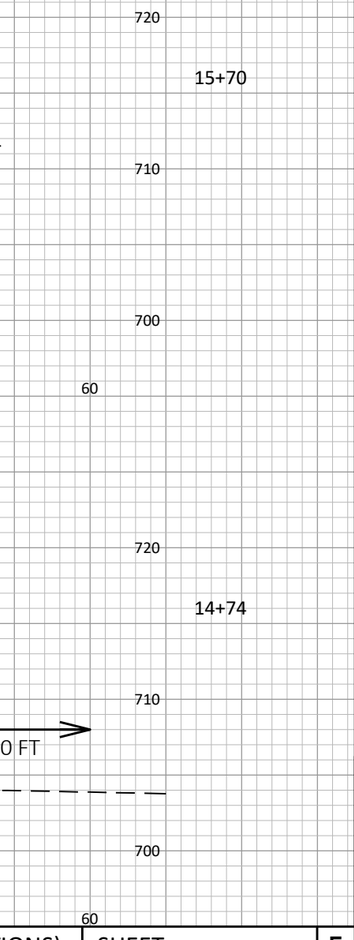

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PROJECT NO: 4273-00-71	HWY: CTH OO	COUNTY: SHEBOYGAN	CROSS SECTIONS: MAINLINE (ENERGY ABSORBING TERMINAL SECTIONS)	SHEET	E

FILE NAME : S:\PROJECTS\SD9070 SHEBOYGAN CO - CTH OO BRIDGE REPLACEMENT\DESIGN\CORRIDORS\SD9070_CORRIDOR.DWG
PLOT DATE : 5/28/2025 7:57:49 AM
PLOT BY : COLTON PEPER
PLOT SCALE : 1" = 1'
LAYOUT : SE EAT

Wisconsin Department of Transportation

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