GRE FEBURARY 2026

PROJECT ID: 4008-02-70

COUNTY: MANITOWOC

ORDER OF SHEETS

TOTAL SHEETS = 64

25

N

DESIGN DESIGNATION 4008-02-00

A.A.D.T.	(2026)	=	800
A.A.D.T.	(2046)	=	830
D.H.V.		=	100
D.D		=	60/40
T.		=	3.9%
DESIGN SPEED		=	30 MPH
ESALS		=	52,000

CONVENTIONAL SYMBOLS

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

V CLEVELAND, CTH XX

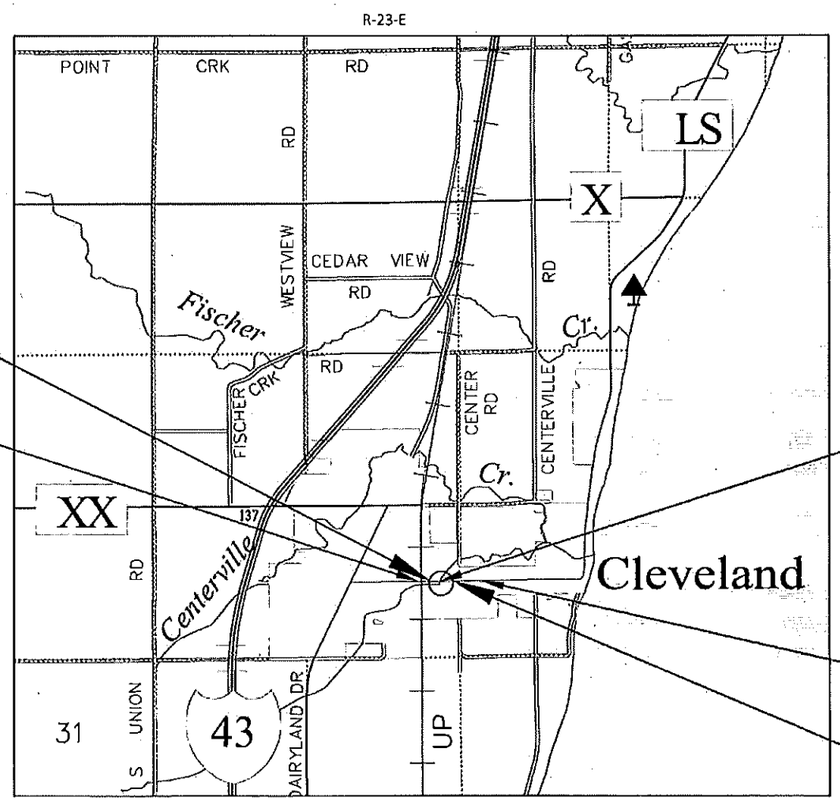
BRANCH OF CENTERVILLE CREEK BRIDGE

CTH XX

MANITOWOC COUNTY

STATE PROJECT NUMBER
4008-02-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4008-02-70		



BEGIN PROJECT
STA 11+75.00
Y =236,060.927
X =210,847.347

BEGIN CONSTRUCTION
STA 10+21

STRUCTURE B-36-256
STA 12+21.98 - STA 12+73.35

END CONSTRUCTION
STA 14+43

END PROJECT
STA 13+25.00

LAYOUT

SCALE 0 0.5 MI

TOTAL NET LENGTH OF CENTERLINE = 0.028 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), MANITOWOC 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
MANITOWOC COUNTY
DATE: 9/29/25 Highway Commissioner
(Signature and Title of Official)

JT ENGINEERING

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

DATE: 10/2/25
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	JT ENGINEERING, INC
Designer	JT ENGINEERING, INC
Project Manager	MICHAEL COHEN
Regional Examiner	REGIONAL EXAMINER
Regional Supervisor	KIMBERLY SLEZAK

APPROVED FOR THE DEPARTMENT
DATE: 10/13/25
(Signature)

E

FILE NAME : X:\PROJECTS\MANITOWOC\240016 4008-02-00 CTH XX V CLEVELAND BRIDGE\DESIGN\C3D\SHEETSPLAN\010101-TI.DWG PLOT DATE : 3/5/2025 1:11 PM PLOT BY JAKE NEERDAELS PLOT NAME :

GENERAL NOTES

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

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

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

ALL DISTURBED AREAS NOT OTHERWISE SURFACED ARE TO BE TOPSOIL, FERTILIZER, SEEDED AND COVERED WITH EROSION MAT.

DO NOT PLACE FERTILIZER WITHIN 20 FEET OF A WETLAND OR WATER BODY.

THE LOCATIONS OF ALL EROSION CONTROL ITEMS AS SHOWN IN THE PLANS IS APPROXIMATE AND SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

TRAFFIC CONTROL SHALL FOLLOW SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES", DETAIL C.

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LBS/SY/IN.

TACK COAT HAS BEEN ESTIMATED AT AN APPLICATION OF 0.05 GAL/SY AND SHALL BE PLACED BETWEEN THE LAYERS OF ASPHALTIC PAVEMENT.

ANY REINFORCEMENT THAT IS IN THE CONCRETE PAVEMENT IS CONSIDERED INCIDENTAL TO REMOVING CONCRETE PAVEMENT

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
TYPICAL SECTIONS
EROSION CONTROL

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 0.64 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.15 ACRES

UTILITY CONTACTS

WE ENERGIES (ELECTRIC)
BRIAN DRESSLER
500 S 116TH STREET
WEST ALLIS, WI 53214
OFFICE: 608-219-2820
EMAIL: BRIAN.DRESSLER@WE-ENERGIES.COM

WISCONSIN PUBLIC SERVICE (GAS)
KASEY KAPPELMAN
800 COLUMBUS STREET
TWO RIVERS, WI 54241
OFFICE: 920-657-1862
EMAIL: KASEY.KAPPELMAN@WISCONSINPUBLICSERVICE.COM

TDS TELECOM (COMMUNICATIONS)
RYAN LATTE
10 COLLEGE AVENUE, SUITTE 218A
APPLETON, WI 54911
OFFICE: 920-xxx-xxxx
EMAIL: RYAN.LATTA@TDSTELECOM.COM

VILLAGE OF CLEVELAND (WATER, SANITARY, STORM SEWER)
STACY GRUNWALD
1150 W WASHINGTON STREET
CLEVELAND, WI 53015
OFFICE: 920-693-3442
EMAIL: SGRUNWALD@CLEVELANDWI.GOV

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

AGENCY/ PROJECTS CONTACTS

WDNR - NE REGION
MATT SCHAEVE
NORTHEAST REGION
2984 SHAWANO AVE
GREEN BAY, WI 54313
PHONE: 920-366-1544
E-MAIL: MATTHEW.SCHAEVE@WISCONSIN.GOV

WISDOT - NE REGION
MICHAEL COHEN
NORTHEAST REGION
944 VANDEPERRAN WAY
GREEN BAY, WI 54304
PHONE: 920-360-1476
E-MAIL: MICHAEL.COHEN@DOT.WI.GOV

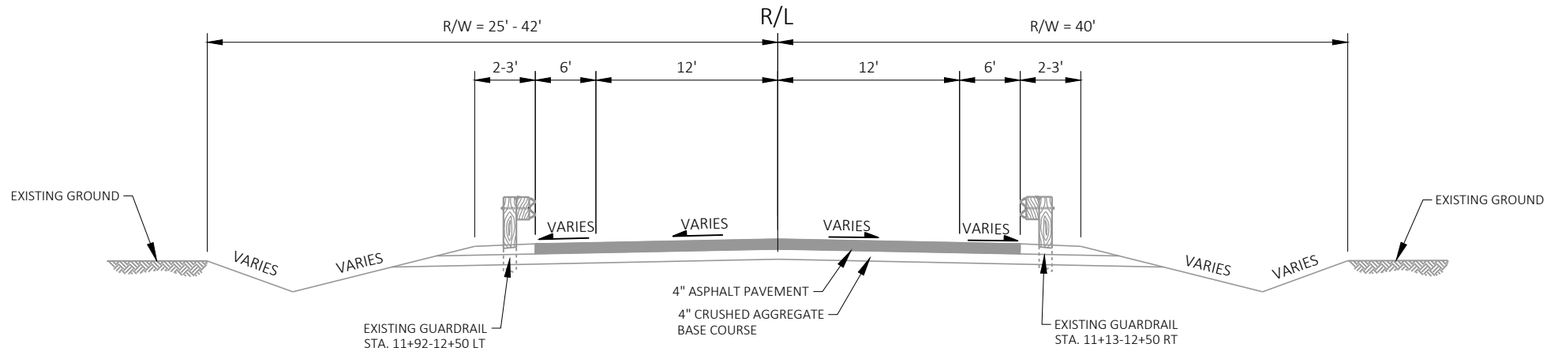
DESIGN CONTACT

JT ENGINEERING, INC.
RICH GLEN
1077 CENTENNIAL CENTRE BLVD
HOBART, WI 54155
PHONE: 920-468-4771
EMAIL: RICHG@JT-ENGINEERING.COM

STANDARD ABBREVIATIONS

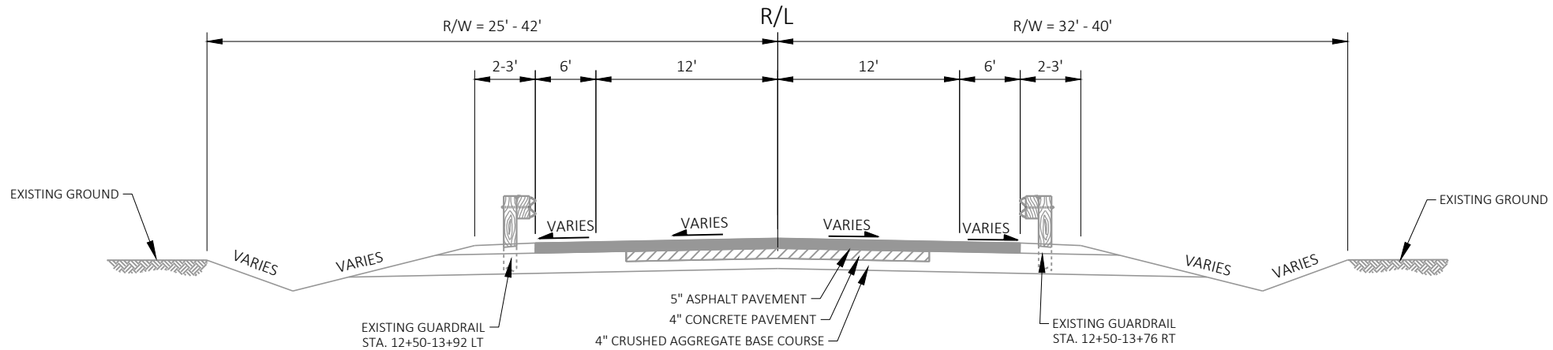
ADT	AVERAGE DAILY TRAFFIC
AC	ASPHALT CEMENT
AGG	AGGREGATE
ASPH	ASPHALT
BM	BENCHMARK
C/L	CENTERLINE
CONC	CONCRETE
CMP	CORRUGATED METAL PIPE
CR	CREEK
D	DEGREE OF CURVE
DHV	DESIGN HOUR VOLUME
ESALS	EQUIVALENT SINGLE AXIS LOADS
EXIST	EXISTING
FE	FIELD ENTRANCE
HYD	HYDRANT
IP	IRON PIPE
L	LENGTH OF CURVE
LC	LONG CHORD OF CURVE
LR	LENGTH OF RUN OFF
MH	MANHOLE
NC	NORMAL CROWN
PT	POINT OF TANGENT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PE	PRIVATE ENTRANCE
R	RADIUS
REM	REMOVE
R/L OR RL	REFERENCE LINE
RCCP	REINFORCED CONCRETE CULVERT PIPE
RCPSS	REINFORCED CONCRETE STORM SEWER
RO	RUNOUT
R/W	RIGHT OF WAY
STA	STATION
SE	SUPER ELEVATION
SS	STORM SEWER
T	TANGENT
TEL	TELEPHONE
TLE	TEMPORARY LIMITED EASEMENT
T	TRUCKS
VC	VERTICAL CURVE
W	WELL

2



EXISTING TYPICAL SECTION

STA 10+21 - 12+32



EXISTING TYPICAL SECTION

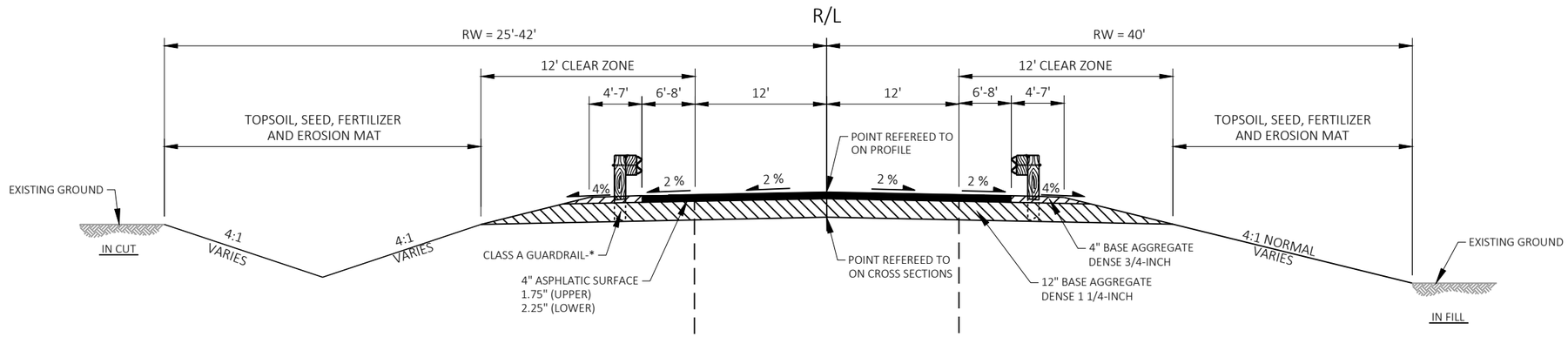
STA 12+59 - 14+43

PROJECT NO: 4008-02-70	HWY: CTH XX	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 3	E

FILE NAME : X:\PROJECTS\MANITOWOC\240016 4008-02-00 CTH XX V CLEVELAND BRIDGE\DESIGN\C3D\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 01-10ft

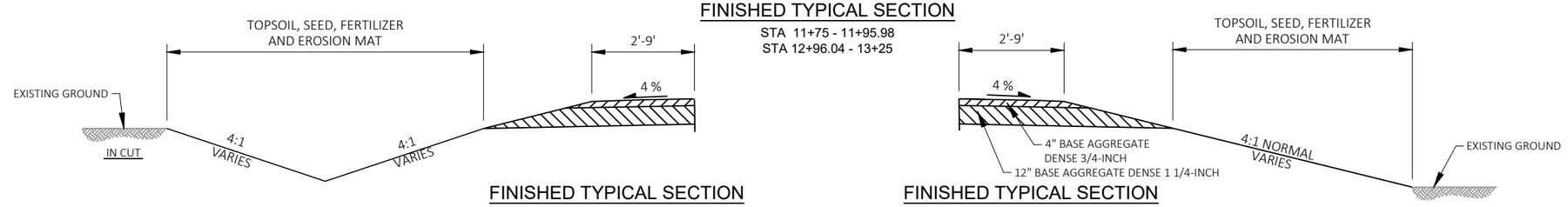
PLOT DATE : 5/27/2025 8:14 AM PLOT BY : EMILY LUSSO PLOT NAME : PLOT SCALE : 1 IN:10 FT

2



FINISHED TYPICAL SECTION

STA 11+75 - 11+95.98
STA 12+96.04 - 13+25



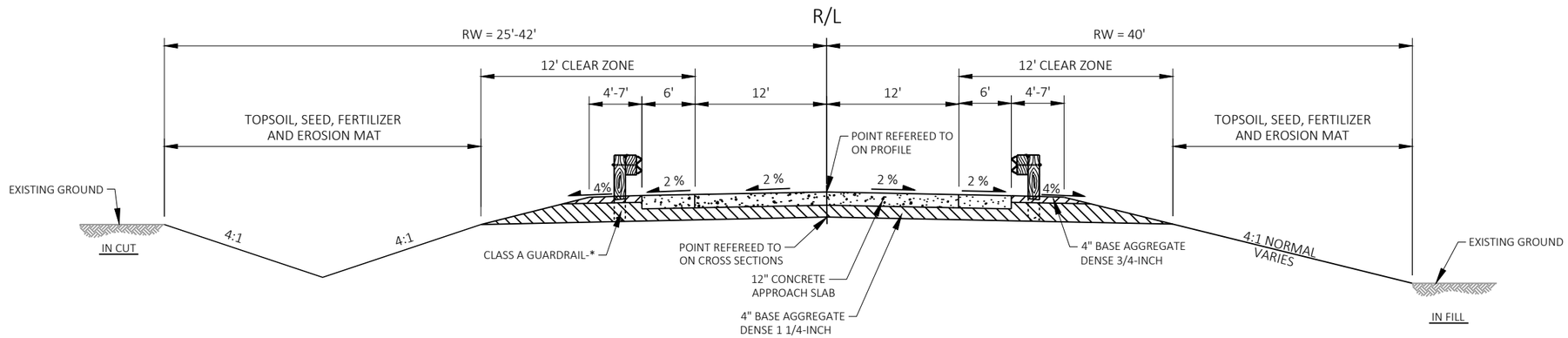
FINISHED TYPICAL SECTION

STA 11+54 - 11+75 LT
STA 13+25 - 14+43 LT

FINISHED TYPICAL SECTION

STA 10+21 - 11+75 RT
STA 13+25 - 14+43 RT

*-NOTE - CLASS A BEAMGUARD LOCATION
STA. 11+62.70 - 12+31.09 LT
STA. 12+86.17 - 13+54.04 LT
STA. 11+41.22 - 12+09.61 RT
STA. 12+62.00 - 13+32.65 RT

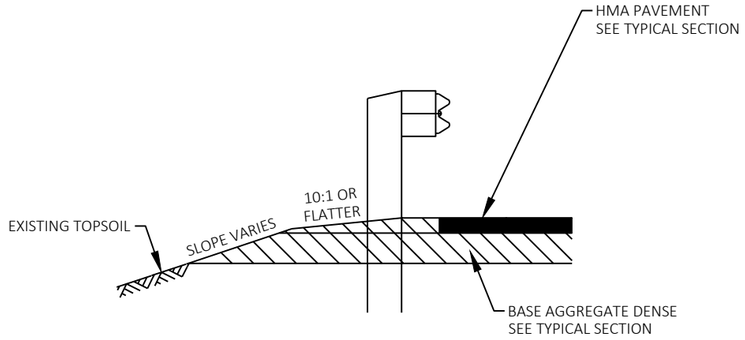


FINISHED TYPICAL SECTION

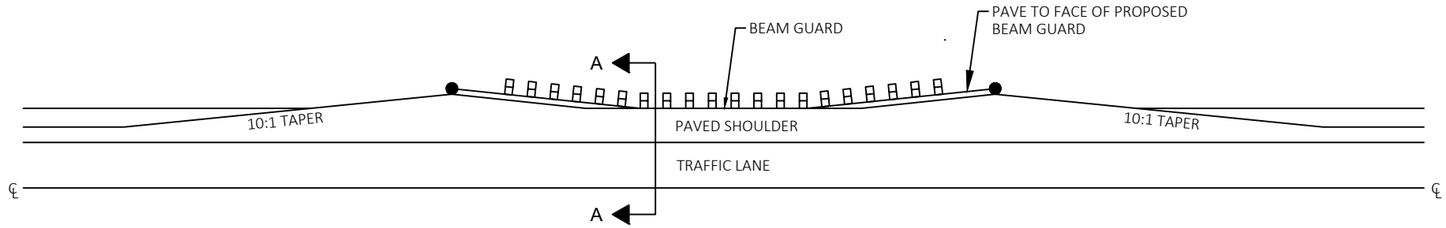
STA 11+95.89 - 12+22.00
STA 12+73.35 - 12+96.04

PROJECT NO: 4008-02-70	HWY: CTH XX	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 4	E

2



SECTION A-A



DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD

2

N

BEGIN CONSTRUCTION
STA 10+21

BP: 10+00.00

PI: 11+34.28

PI: 13+90.00

EP: 15+00.00

ELM STREET

BRANCH CENTERVILLE CREEK

WETLANDS

EXISTING R/W

SI

B-36-0256

11+00

12+00

13+00

14+00

CTH XX

CTH XX

END CONSTRUCTION
STA 14+43

WETLANDS

LEGEND

- EROSION MAT URBAN CLASS I, TYPE B
- SILT FENCE
- RIP RAP
- SLOPE INTERCEPT
- TURBIDITY BARRIER
- TEMPORARY DITCH CHECK
- SURFACE WATER FLOW

PROJECT NO: 4008-02-70	HWY: CTH XX	COUNTY: MANITOWOC	EROSION CONTROL	SHEET 6	E

FILE NAME : X:\PROJECTS\MANITOWOC\240016 4008-02-00 CTH XX V CLEVELAND BRIDGE\DESIGN\C3D\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - EC-01
PLOT DATE : 7/10/2025 6:05 AM
PLOT BY : JAKE NEERDAELS
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

Estimate Of Quantities

4008-02-70

Line	Item	Item Description	Unit	Total	Qty
0002	203.0270	Removing Structure Over Waterway Debris Capture (structure) 01. B-36-913	EACH	1.000	1.000
0004	204.0100	Removing Concrete Pavement	SY	145.000	145.000
0006	204.0150	Removing Curb & Gutter	LF	17.000	17.000
0008	204.0165	Removing Guardrail	LF	462.000	462.000
0010	205.0100	Excavation Common	CY	320.000	320.000
0012	205.0400	Excavation Marsh	CY	75.000	75.000
0014	206.1001	Excavation for Structures Bridges (structure) 01. B-36-0256	EACH	1.000	1.000
0016	208.0100	Borrow	CY	72.000	72.000
0018	209.2500	Backfill Granular Grade 2	TON	150.000	150.000
0020	210.1500	Backfill Structure Type A	TON	480.000	480.000
0022	213.0100	Finishing Roadway (project) 01. 4008-02-70	EACH	1.000	1.000
0024	305.0110	Base Aggregate Dense 3/4-Inch	TON	70.000	70.000
0026	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	605.000	605.000
0028	311.0110	Breaker Run	TON	40.000	40.000
0030	415.0410	Concrete Pavement Approach Slab	SY	192.000	192.000
0032	450.4000	HMA Cold Weather Paving	TON	90.000	90.000
0034	455.0605	Tack Coat	GAL	20.000	20.000
0036	465.0105	Asphaltic Surface	TON	90.000	90.000
0038	502.0100	Concrete Masonry Bridges	CY	239.000	239.000
0040	502.3200	Protective Surface Treatment	SY	307.000	307.000
0042	505.0400	Bar Steel Reinforcement HS Structures	LB	6,300.000	6,300.000
0044	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	33,630.000	33,630.000
0046	513.4061	Railing Tubular Type M	LF	111.000	111.000
0048	516.0500	Rubberized Membrane Waterproofing	SY	18.000	18.000
0050	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	540.000	540.000
0052	606.0300	Riprap Heavy	CY	155.000	155.000
0054	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	200.000	200.000
0056	614.0200	Steel Thrie Beam Structure Approach	LF	82.600	82.600
0058	614.0370	Steel Plate Beam Guard Energy Absorbing Terminal	EACH	4.000	4.000
0060	619.1000	Mobilization	EACH	1.000	1.000
0062	624.0100	Water	MGAL	11.000	11.000
0064	625.0100	Topsoil	SY	990.000	990.000
0066	628.1504	Silt Fence	LF	475.000	475.000
0068	628.1520	Silt Fence Maintenance	LF	475.000	475.000
0070	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0072	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0074	628.2008	Erosion Mat Urban Class I Type B	SY	990.000	990.000
0076	628.6005	Turbidity Barriers	SY	179.000	179.000
0078	628.7504	Temporary Ditch Checks	LF	90.000	90.000
0080	628.7560	Tracking Pads	EACH	2.000	2.000
0082	628.7570	Rock Bags	EACH	20.000	20.000
0084	629.0210	Fertilizer Type B	CWT	1.000	1.000
0086	630.0130	Seeding Mixture No. 30	LB	41.000	41.000
0088	630.0140	Seeding Mixture No. 40	LB	6.000	6.000
0090	630.0200	Seeding Temporary	LB	24.000	24.000
0092	630.0500	Seed Water	MGAL	23.000	23.000
0094	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	5.000	5.000
0096	637.2210	Signs Type II Reflective H	SF	3.000	3.000
0098	637.2230	Signs Type II Reflective F	SF	12.000	12.000

4008-02-70

Line	Item	Item Description	Unit	Total	Qty
0100	638.2602	Removing Signs Type II	EACH	9.000	9.000
0102	638.3000	Removing Small Sign Supports	EACH	9.000	9.000
0104	642.5001	Field Office Type B	EACH	1.000	1.000
0106	643.0420	Traffic Control Barricades Type III	DAY	1,080.000	1,080.000
0108	643.0705	Traffic Control Warning Lights Type A	DAY	1,440.000	1,440.000
0110	643.0900	Traffic Control Signs	DAY	960.000	960.000
0112	643.5000	Traffic Control	EACH	1.000	1.000
0114	645.0111	Geotextile Type DF Schedule A	SY	130.000	130.000
0116	645.0120	Geotextile Type HR	SY	355.000	355.000
0118	646.2020	Marking Line Epoxy 6-Inch	LF	408.000	408.000
0120	650.4500	Construction Staking Subgrade	LF	370.000	370.000
0122	650.5000	Construction Staking Base	LF	370.000	370.000
0124	650.6501	Construction Staking Structure Layout (structure) 01. B-36-0256	EACH	1.000	1.000
0126	650.9911	Construction Staking Supplemental Control (project) 01. 4008-02-70	EACH	1.000	1.000
0128	650.9920	Construction Staking Slope Stakes	LF	370.000	370.000
0130	690.0150	Sawing Asphalt	LF	240.000	240.000
0132	690.0250	Sawing Concrete	LF	3.000	3.000
0134	715.0502	Incentive Strength Concrete Structures	DOL	1,434.000	1,434.000
0136	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0138	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 12+47.67	EACH	1.000	1.000
0140	SPV.0090	Special 01. Flashing Stainless Steel	LF	95.000	95.000

3

204 - PAVEMENT REMOVAL

CATEGORY	STATION	TO	STATION	LOCATION	204.0100 REMOVING CONCRETE PAVEMENT SY	204.0150 REMOVING CURB & GUTTER LF
0010	11+50	-	11+63	LT	-	17
0010	12+60	-	13+25	LT & RT	145	-
				TOTAL 0010	145	17

204 - REMOVING GUARDRAIL

CATEGORY	STATION	TO	STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF
0010	11+92	-	13+92	LT	200
0010	11+14	-	13+76	RT	262
				TOTAL 0010	462

3

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (CY) (1) CUT (2)	EBS EXCAVATION (3)	SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	205.0400 MARSH EXCAVATION (6)	REDUCED MARSH IN FILL (8) FACTOR 1.25	REDUCED EBS IN FILL (9) FACTOR 1.25	EXPANDED MARSH BACKFILL (10) FACTOR 1.25	EXPANDED EBS BACKFILL (11) FACTOR 1.25	UNEXPANDED FILL	EXPANDED FILL (13) FACTOR 1.25	MASS ORDINATE +/- (14)	WASTE (15)	208.0100 BORROW (CY)
DIVISION 1																
CTH XX	10+21/12+33	CTH XX	154	10	36	118	25	25	13	31	13	60	28	90	90	0
WEST B-36-0256			154	10	36	118	25	25	13	31	13	60	28	90	90	0
CTH XX	12+61/14+43	CTH XX	146	10	51	95	50	50	13	63	13	196	167	-72	0	72
EAST B-36-0256			146	10	51	95	50	50	13	63	13	196	167	-72	0	72
GRAND TOTAL			300	20	87	213	75	75	25	94	25	256	195	18	90	72
TOTAL COMMON EXC			320													

NOTES:
(1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(3) EBS EXCAVATION TO BE BACKFILLED WITH BREAKER RUN.
(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
(5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
(6) MARSH EXCAVATION - TO BE BACKFILLED WITH GRANULAR BACKFILL GRADE 2
(8) REDUCED MARSH IN FILL - EXCAVATED MARSH MATERIAL IS USUABLE IN FILLS OUTSIDE THE 1:1 SLOPE. MARSH IN FILL REDUCTION FACTOR = 1.00
(9) REDUCED EBS IN FILL - EXCAVATED EBS MATERIAL IS USUABLE IN FILLS OUTSIDE THE 1:1 SLOPE. EBS IN FILL REDUCTION FACTOR = 1.00
(10) EXPANDED MARSH BACKFILL - THIS IS TO BE FILLED WITH GRANULAR BACKFILL GRADE 2. MARSH BACKFILL FACTOR = 1.00
(11) EXPANDED EBS BACKFILL - THIS IS TO BE FILLED WITH BORROW OR CUT AS WELL.
(13) EXPANDED FILL = (UNEXPANDED FILL - REDUCED MARSH - REDUCED EBS) * 1.25
(14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
(15) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

305 - BASE AGGREGATE

CATEGORY	STATION	TO	STATION	LOCATION	209.2500 BACKFILL GRANULAR GRADE 2 TON	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	311.0110 BREAKER RUN TON	624.0100 WATER MGAL
0010	10+21	-	12+22	LT & RT	50	31	280	20	5
0010	12+74	-	14+43	LT & RT	100	39	325	20	6
				TOTAL 0010	150	70	605	40	11

3

415 - CONCRETE PAVEMENT

CATEGORY	STATION	TO	STATION	LOCATION	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY
0010	11+96	-	12+22	LT & RT	102
0010	12+74	-	12+96	LT & RT	90
				TOTAL 0010	192

465 - ASPHALTIC SURFACE

CATEGORY	STATION	TO	STATION	LOCATION	450.4000 HMA COLD WEATHER PAVING TON	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
0010	10+95	-	11+96	LT & RT	53	12	53
0010	12+96	-	13+90	LT & RT	37	8	37
				TOTAL 0010	90	20	90

3

614 - GUARDRAIL

CATEGORY	STATION	TO	STATION	LOCATION	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH LF	614.0370 STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL EACH	REMARKS
0010	11+41	-	12+10	RT	20.65	1	SW QUAD B--36-0256
0010	11+63	-	12+31	LT	20.65	1	NW QUAD B--36-0256
0010	12+86	-	13+33	RT	20.65	1	SE QUAD B--36-0256
0010	11+63	-	13+54	LT	20.65	1	NE QUAD B--36-0256
				TOTAL 0010	82.60	4	

628 - EROSION CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.6005 TURBIDITY BARRIERS SY	628.7504 TEMPORARY DITCH CHECKS LF	628.7560 TRACKING PADS EACH	628.7570 ROCK BAGS EACH
0010	10+56	-	12+08	RT	170	170	-	-	-	20	-	-
0010	11+50	-	12+46	LT	55	55	-	-	-	10	-	-
0010	12+45	-	14+20	RT	170	170	-	-	-	20	-	-
0010	12+90	-	14+42	LT	-	-	-	-	-	20	-	-
0010	12+18	-	12+57	BRANCH CENTERVILLE CREEK	-	-	-	-	72	-	-	-
0010	12+42	-	12+87	BRANCH CENTERVILLE CREEK	-	-	-	-	77	-	-	-
0010		UNDISTRIBUTED		CTH XX	80	80	5	3	30	20	2	20
				TOTAL 0010	475	475	5	3	179	90	2	20

630 - LANDSCAPING

CATEGORY	STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0140 SEEDING MIXTURE NO. 40 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
0010	10+21	-	11+94	RT	250	250	0.17	11	-	7	6
0010	11+50	-	12+25	LT	100	100	0.07	-	5	-	2
0010	12+69	-	14+43	RT	235	235	0.17	11	-	6	5
0010	13+02	-	14+43	LT	240	240	0.17	11	-	6	5
0010		UNDISTRIBUTED		LT & RT	165	165	0.42	8	1	5	5
				TOTAL 0010	990	990	1.00	41	6	24	23

638 - SIGNING

CATEGORY	STATION	LOCATION	SIGN CODE	SIZE	634.0614 POSTS WOOD 4X6-INCH X 14-FT EACH	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	12+12	RT	W5-52R	12X36	1	-	3	1	1	
0010	12+33	LT	W5-52L	12X36	1	-	3	1	1	
0010	12+62	RT	W5-52R	12X36	1	-	3	1	1	
0010	12+84	LT	W5-52L	12X36	1	-	3	1	1	
0010	11+26	RT	-	24X36	-	-	-	1	1	REMOVE WEIGHT LIMIT 20 TONS
0010	11+78	LT	R2-1	24X36	1	3	-	1	1	SPEED LIMIT 25 MPH
0010	13+78	RT	-	24X36	-	-	-	1	1	REMOVE WEIGHT LIMIT 20 TONS
0010	CTH XX & CTH DAIRYLAND	RT	-	-	-	-	-	1	1	REMOVE 20 TON BRIDGE 0.6 MILES AHEAD
0010	CTH XX & LAKESHORE	LT	-	-	-	-	-	1	1	REMOVE 20 TON BRIDGE 0.6 MILES AHEAD
				TOTAL 0010	5	3	12	9	9	

643 - TRAFFIC CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	APPROX. SERVICE DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III NO. IN SERVICE	643.0420 DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A NO. IN SERVICE	643.0705 DAY	643.0900 TRAFFIC CONTROL SIGNS NO. IN SERVICE	643.0900 DAY	643.5000 TRAFFIC CONTROL EACH	REMARKS
0010	10+21		11+75	CTH XX	60	4	240	6	360	7	420	-	ADVANCED WARNING
0010	10+21	-	13+25	CTH XX	60	10	600	12	720	2	120	1	BRIDGE CLOSURE
0010	13+25		14+69	CTH XX	60	4	240	6	360	7	420	-	ADVANCED WARNING
				TOTAL 0010			1,080		1,440		960	1	

646 - PAVEMENT MARKING

CATEGORY	STATION	TO	STATION	LOCATION	646.2020 MARKING LINE EPOXY 6-INCH LF	REMARKS
0010	11+46	-	13+25	CTH XX	50	YELLOW CENTERLINE
0010	11+46	-	13+25	CTH XX	358	WHITE EDGELINE
				TOTAL 0010	408	

650 - CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.6501.01 CONSTRUCTION STAKING STRUCTURE LAYOUT (.01 B-36-256) EACH	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (4008-02-70) EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	10+21	-	12+22	CTH XX	201	201	1	1	201
0010	12+74	-	14+43	CTH XX	169	169			169
				TOTAL 0010	370	370	1	1	370

690 - SAWING

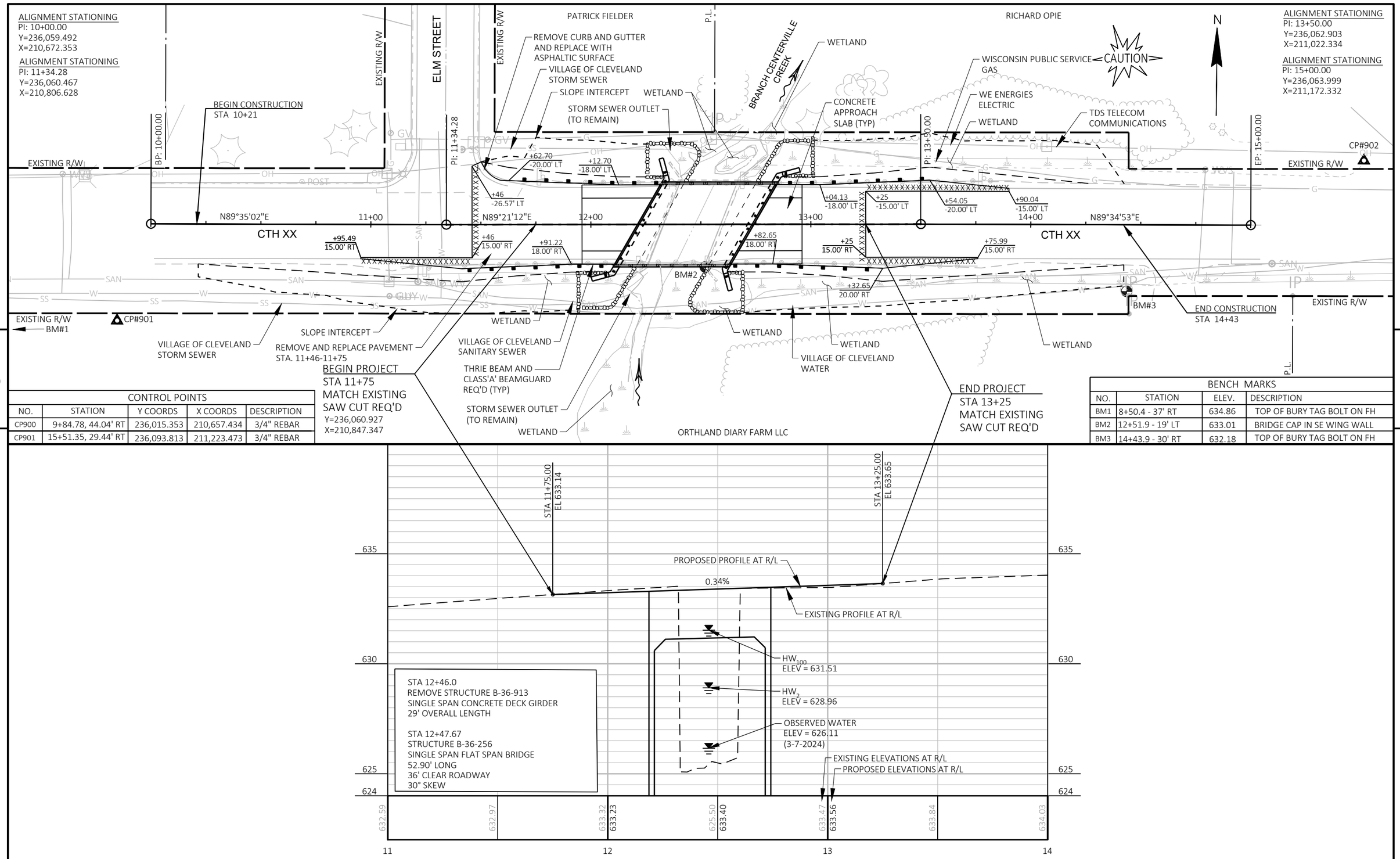
CATEGORY	STATION	TO	STATION	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
0010	11+46	-	11+63	LT	-	3
0010	10+95	-	11+46	LT & RT	95	-
0010	13+25	-	13+90	LT & RT	145	-
				TOTAL 0010	240	3

PROJECT NO: 4008-02-70	HWY: CTH XX	COUNTY: MANITOWOC	MISCELLANEOUS QUANTITIES	SHEET 11	E

FILE NAME : X:\PROJECTS\MANITOWOC\240016 4008-02-00 CTH XX V CLEVELAND BRIDGE\DESIGN\C3D\SHEETSPLAN\030201-MQ.DWG
LAYOUT NAME - 03

PLOT DATE : 7/10/2025 6:11 AM PLOT BY : JAKE NEERDAELS PLOT NAME : PLOT SCALE : 1" = 1'

WISDOT/CADDS SHEET 42



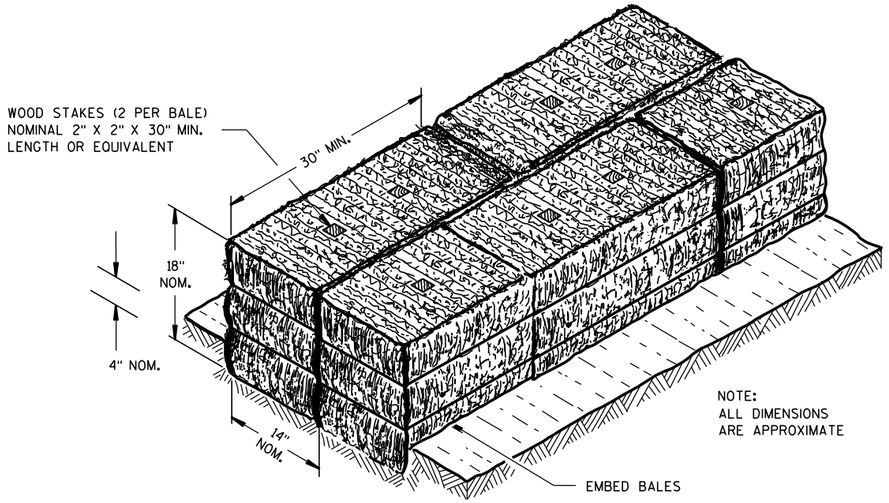
CONTROL POINTS				
NO.	STATION	Y COORDS	X COORDS	DESCRIPTION
CP900	9+84.78, 44.04' RT	236,015.353	210,657.434	3/4" REBAR
CP901	15+51.35, 29.44' RT	236,093.813	211,223.473	3/4" REBAR

BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
BM1	8+50.4 - 37' RT	634.86	TOP OF BURY TAG BOLT ON FH
BM2	12+51.9 - 19' LT	633.01	BRIDGE CAP IN SE WING WALL
BM3	14+43.9 - 30' RT	632.18	TOP OF BURY TAG BOLT ON FH

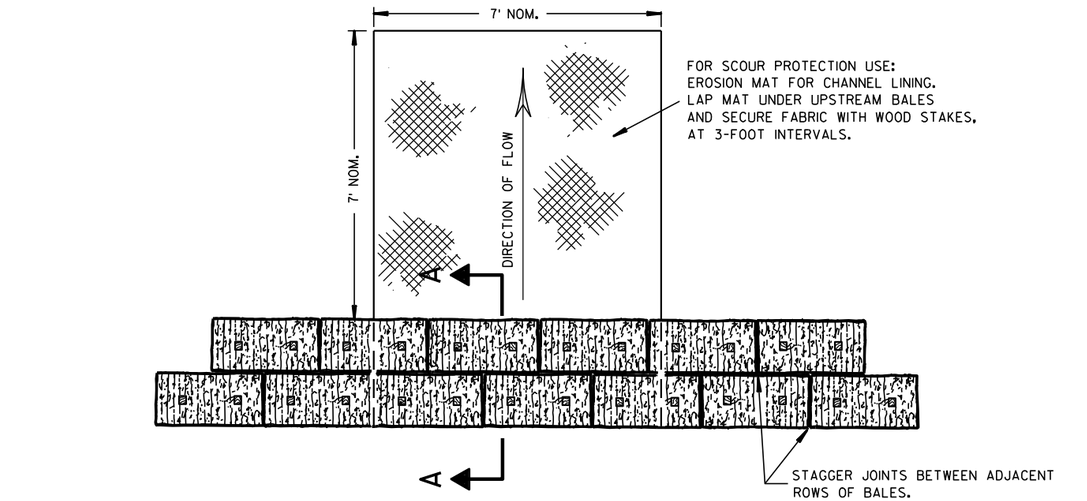
PROJECT NO: 4008-02-70	HWY: CTH XX	COUNTY: MANITOWOC	PLAN AND PROFILE: CTH XX	SHEET 12	E

Standard Detail Drawing List

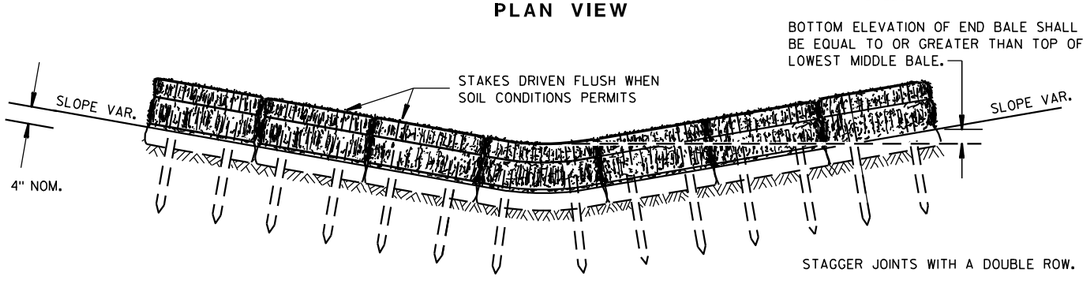
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E14-01	TRACKING PAD
12A03-10	NAME PLATE (STRUCTURES)
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C19-03	HMA LONGITUDINAL JOINTS
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B20-12A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-12F	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"
14B24-09A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-24A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS



SECTION A-A



PLAN VIEW



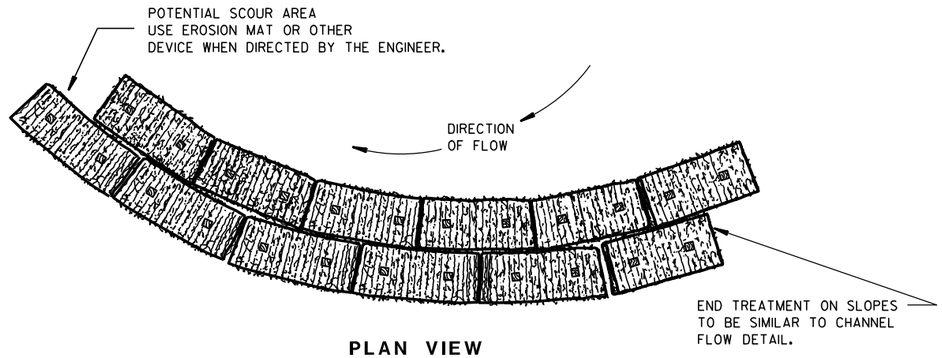
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

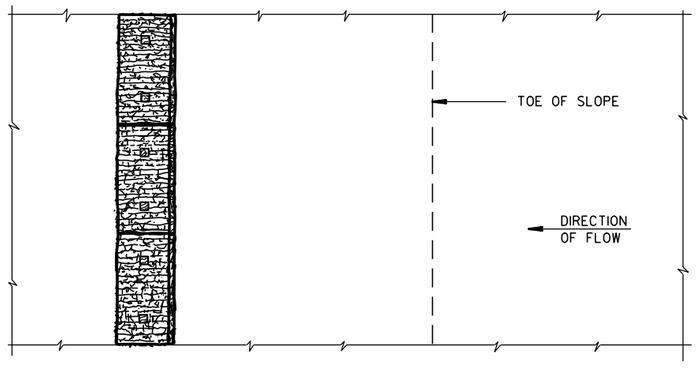
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

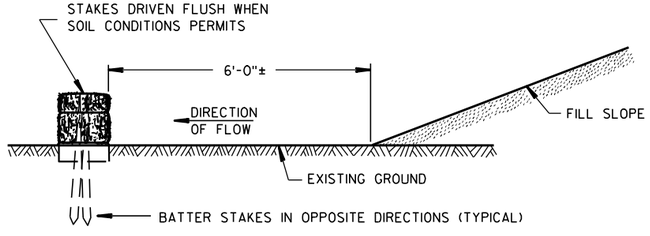


PLAN VIEW

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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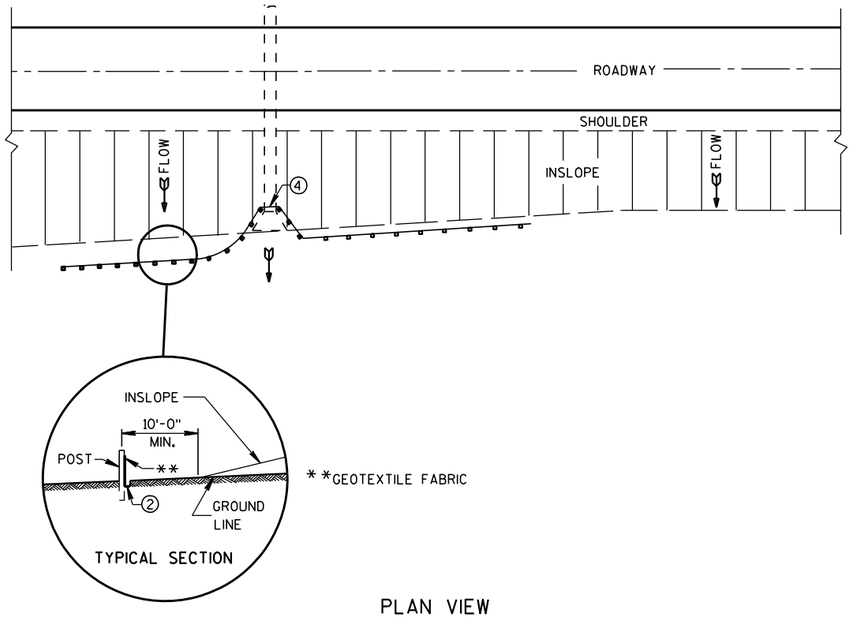
S.D.D. 8 E 8-3

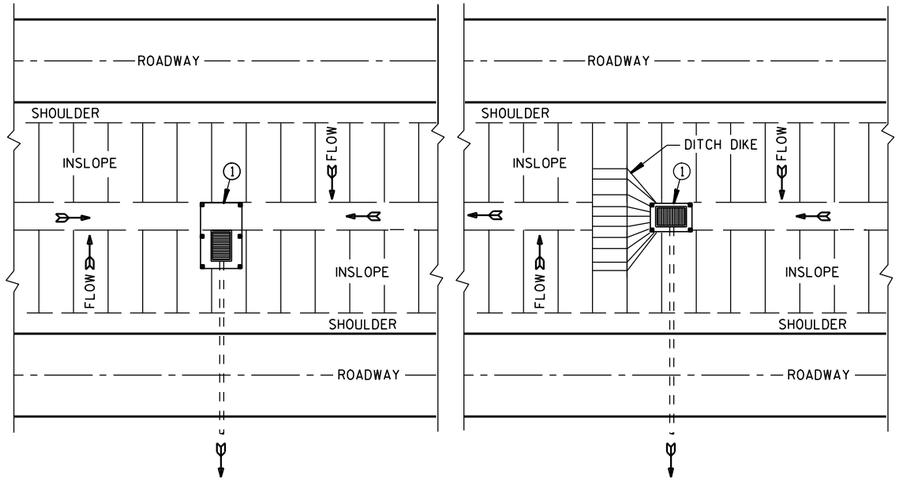
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



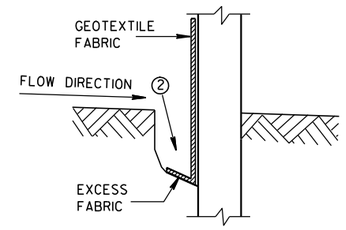
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

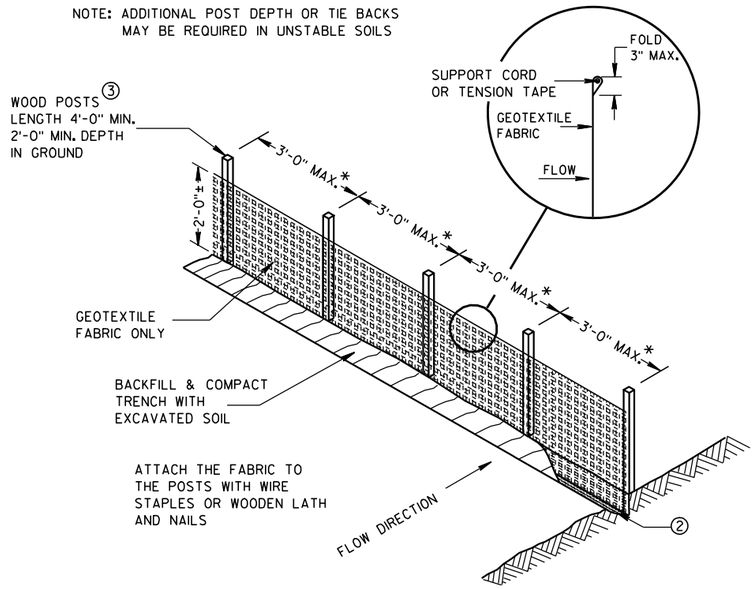
GENERAL NOTES

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

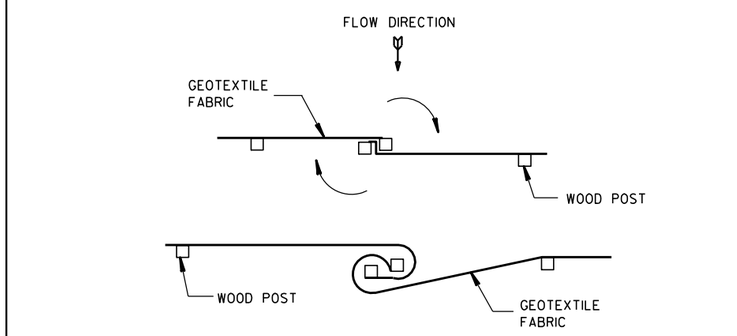
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



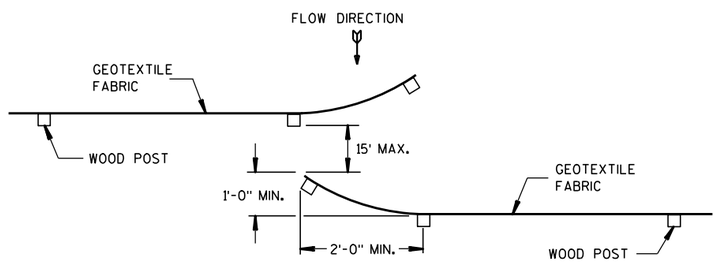
TRENCH DETAIL



SILT FENCE

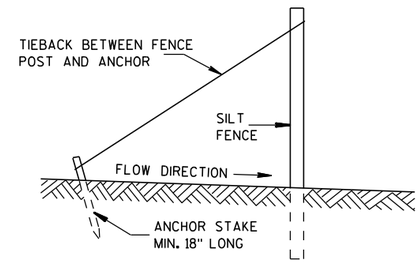


TWIST METHOD



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

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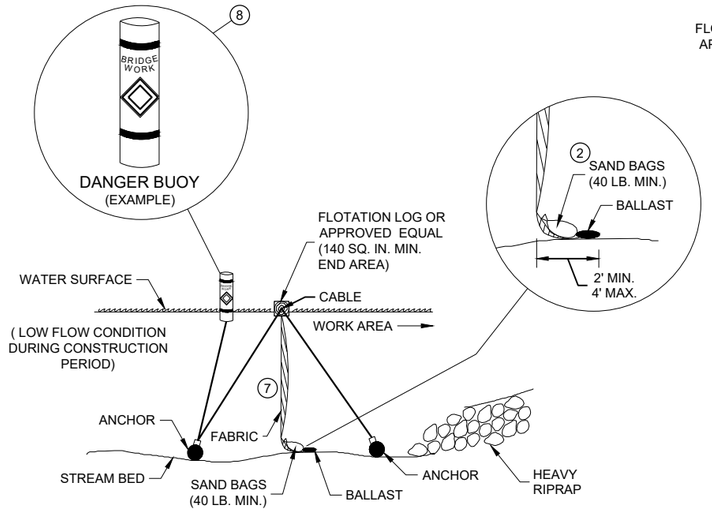
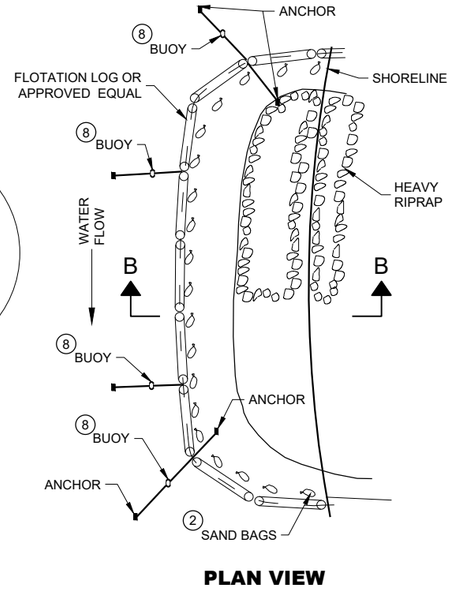
S.D.D. 8 E 9-6

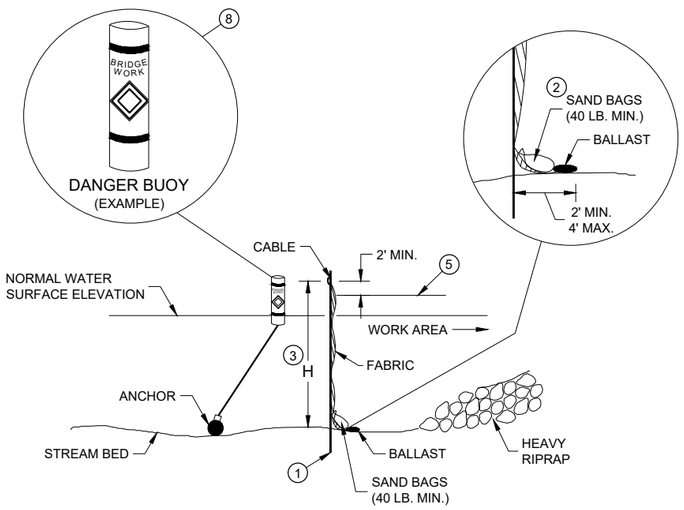


SECTION B - B

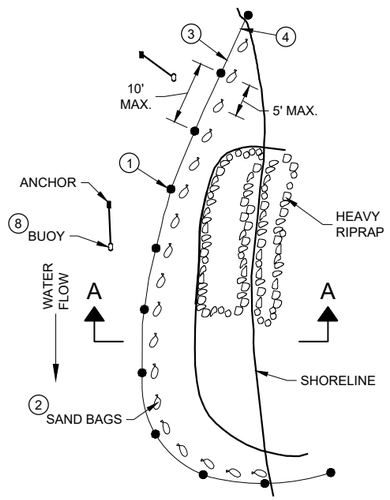


PLAN VIEW

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.

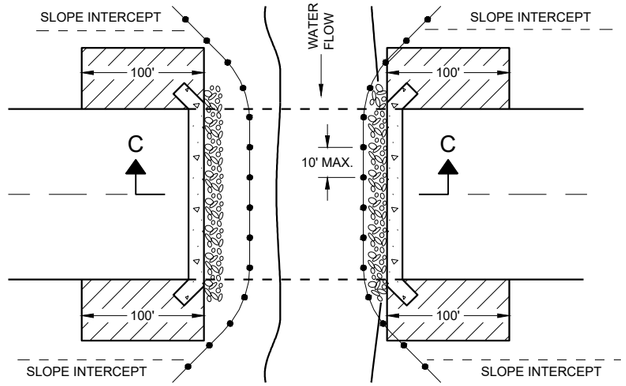
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(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.

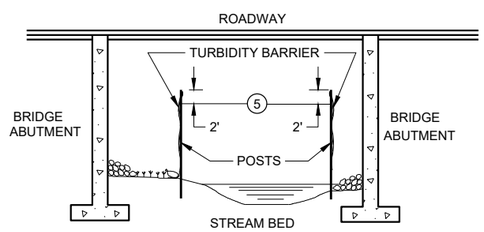
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(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 DEVELOPMENT ENGINEER

FHWA

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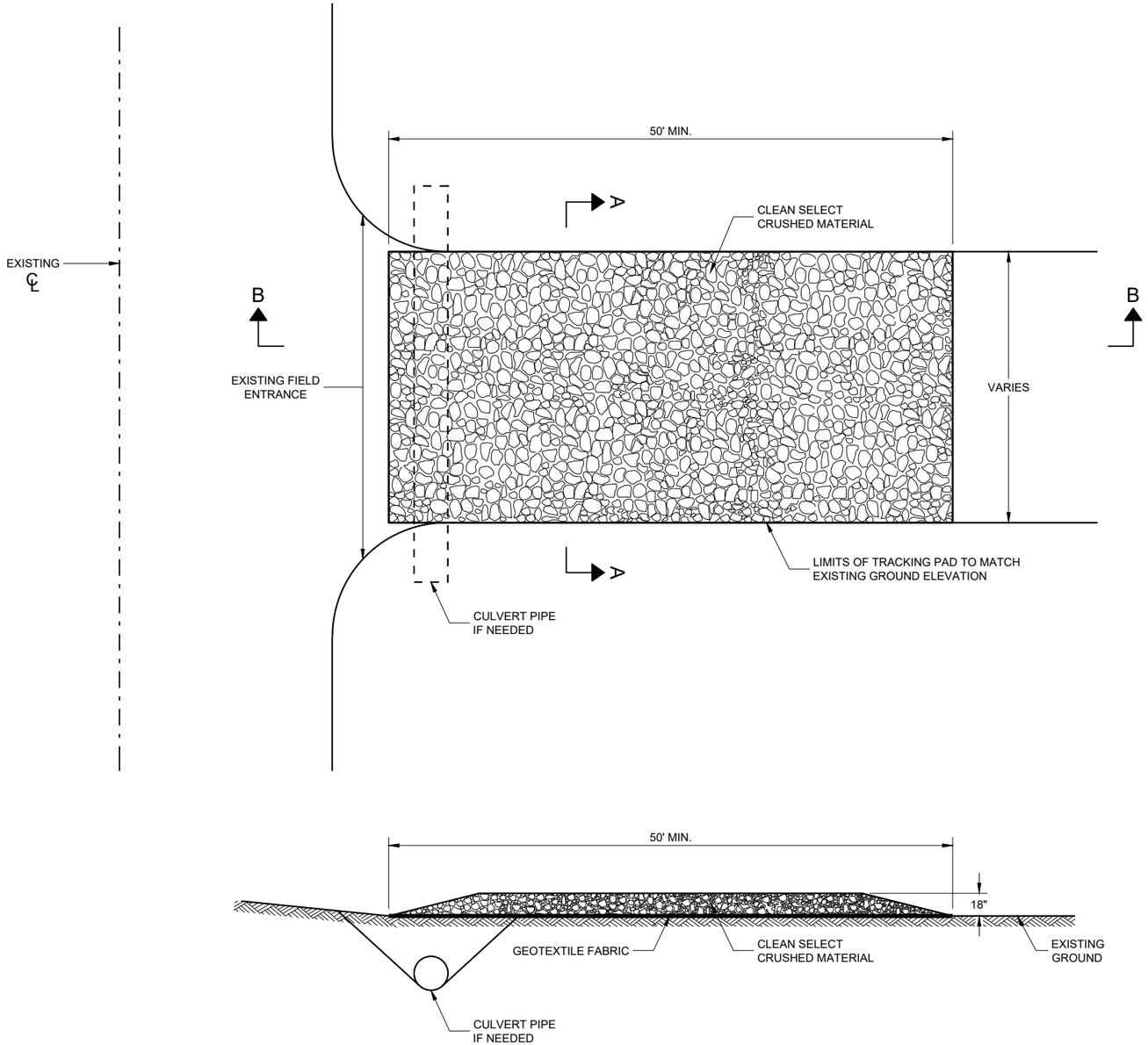
SDD 08E11 - 02



SECTION B - B

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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

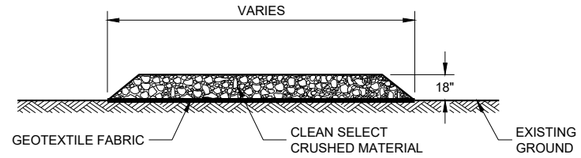
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



SECTION A - A

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

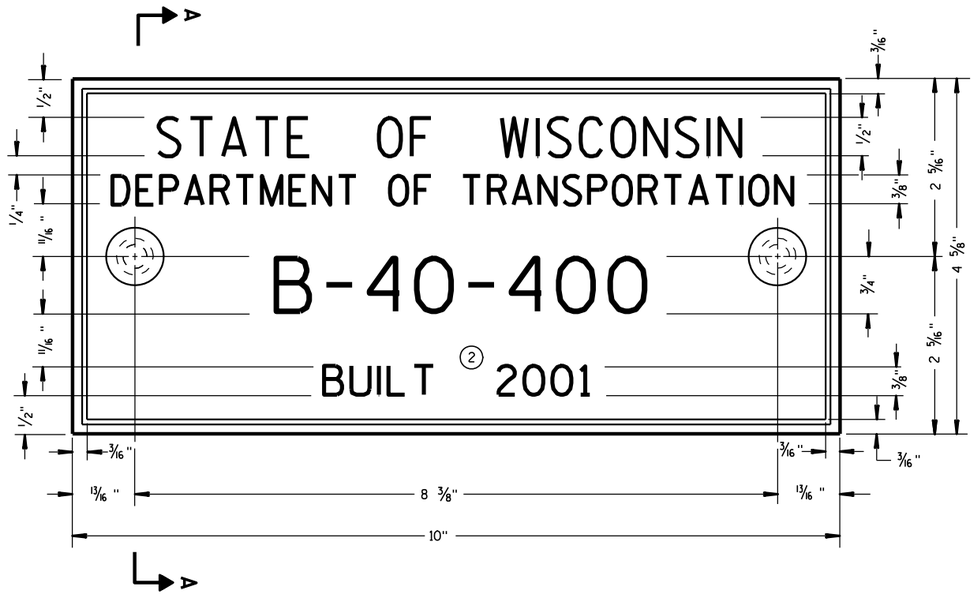
APPROVED

3/24/2011
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVE ENGINEER

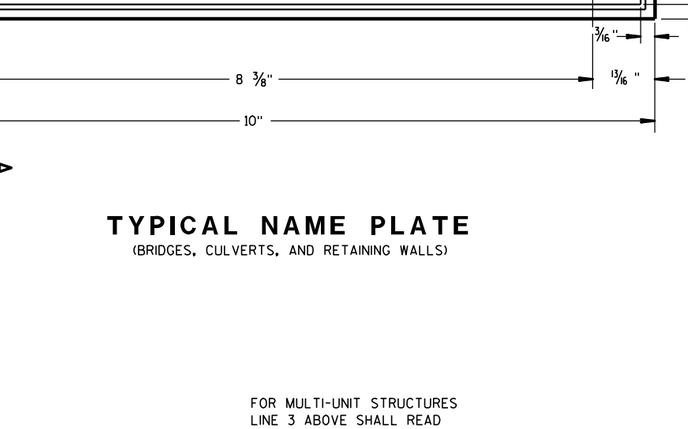
FHWA

6
SDD 08E14 - 01



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION MULTI-UNIT STRUCTURES

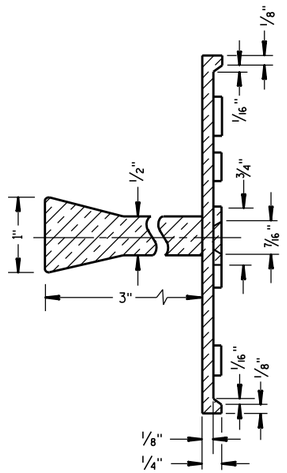
GENERAL NOTES

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.

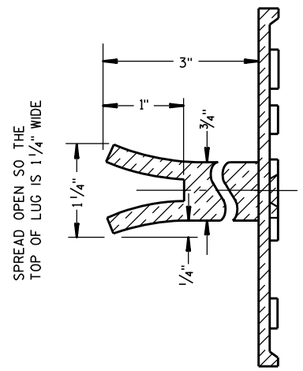
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

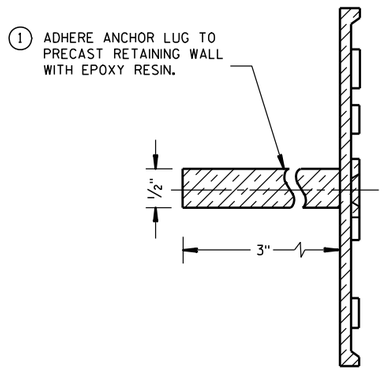
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



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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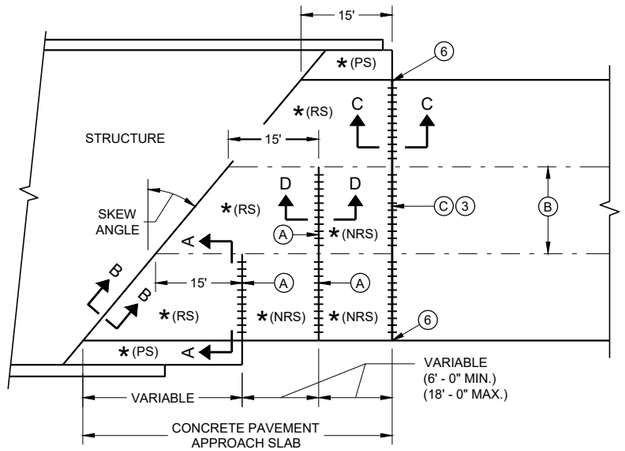
S.D.D. 12 A 3-10



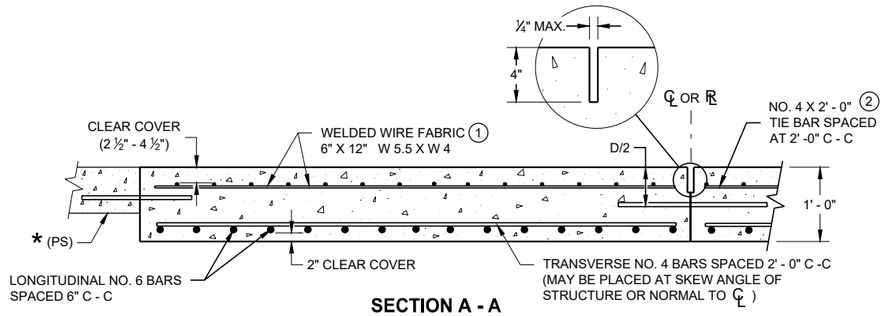
SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)

(RS) = REINFORCED CONCRETE SLAB

(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

(NRS) - NON - REINFORCED CONCRETE SLAB

*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



SECTION A - A
REINFORCEMENT POSITIONING DETAIL

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

(1) THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0 " C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

(2) THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

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

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

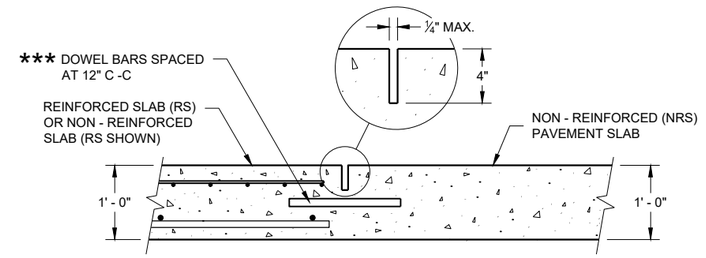
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

(6) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

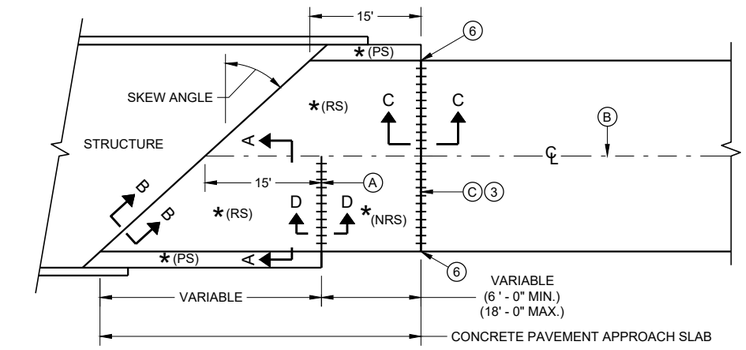
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞ .

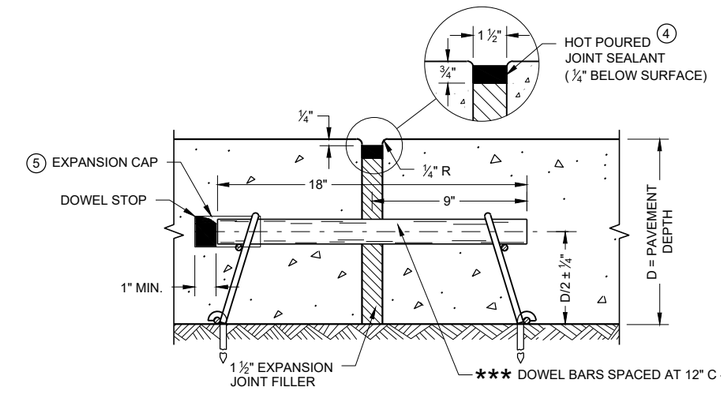


SECTION D - D
CONTRACTION JOINT

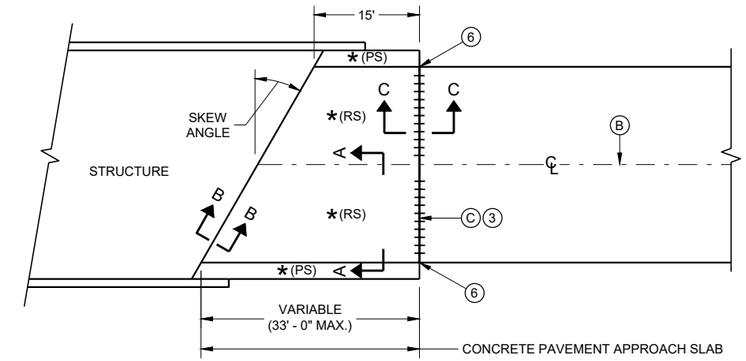


SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')

SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT

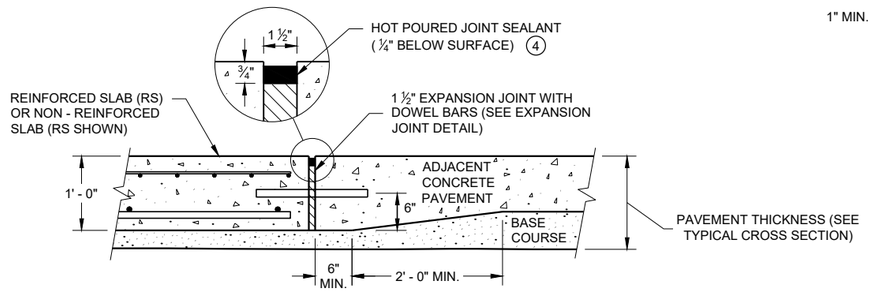


EXPANSION JOINT DETAIL



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

APPROACH SLAB AND ADJACENT PAVEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Peter Kemp, P.E.
PAVEMENT SUPERVIS

FHWA

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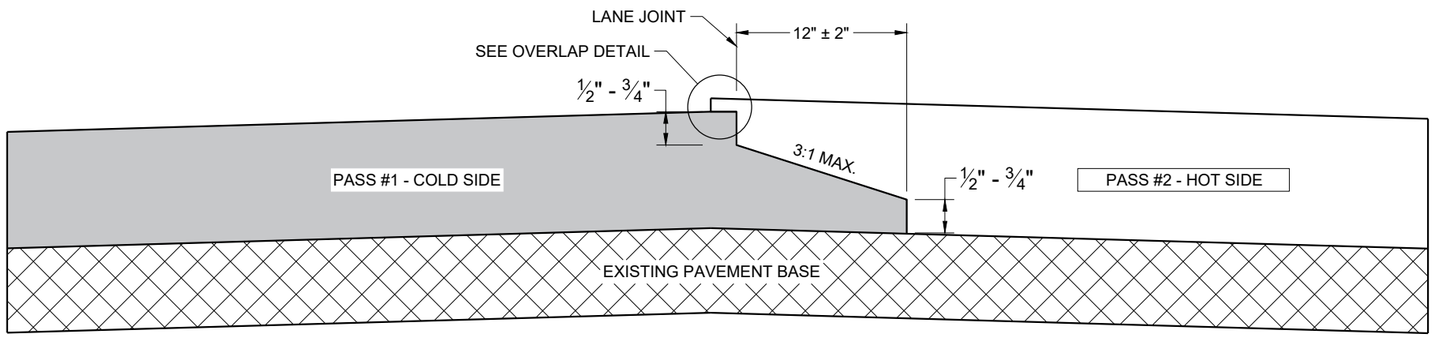
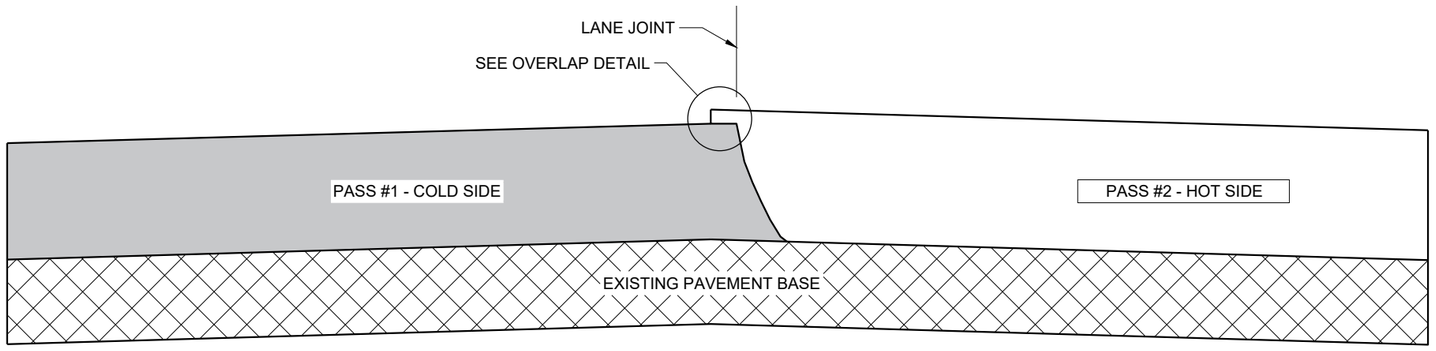
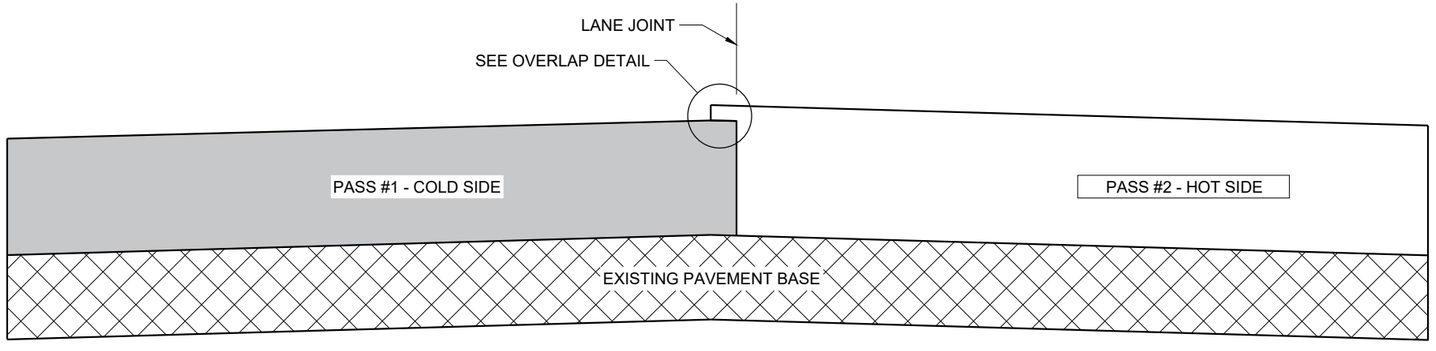
SDD 13B02 - 09a



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

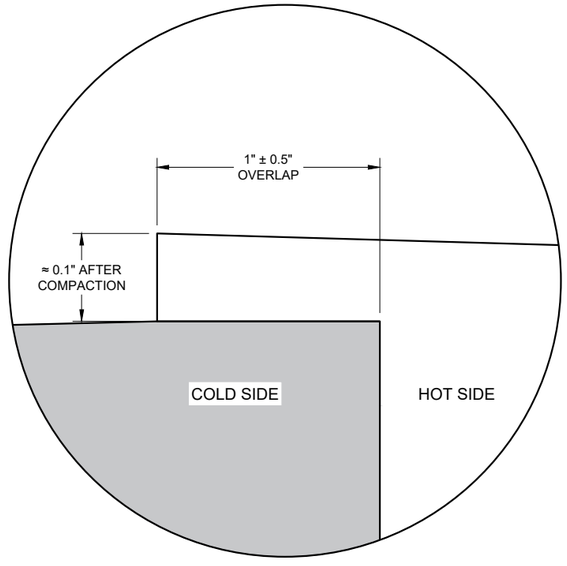
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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)

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SDD 13C19 - 03

SDD 13C19 - 03

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

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

GENERAL NOTES

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

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

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

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

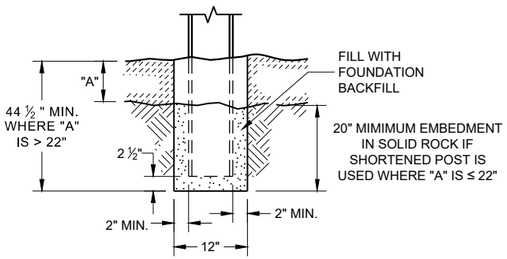
5. IF THE DISTACE FROM BACK OF POST TO SHOULDER HIGHE POINT IS LESS THAN 2 FEET, INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

6. IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCHES IN DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT ADEQUATELY.

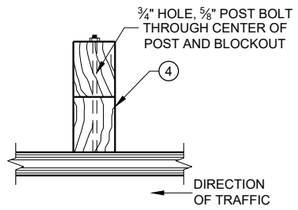
7. WHEN USING STEEL POSTS AND WOOD BLOCKOUTS, INSTALL FOUR 16d GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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

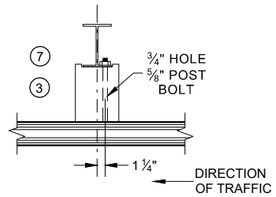
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



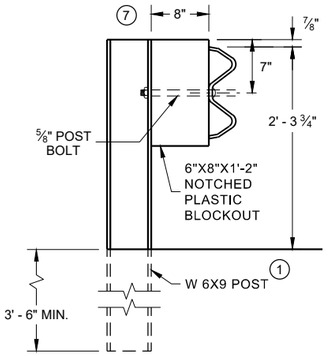
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)



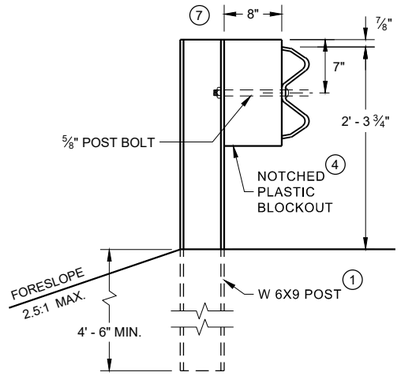
PLAN VIEW
WOOD POST, BLOCKOUT AND BEAM



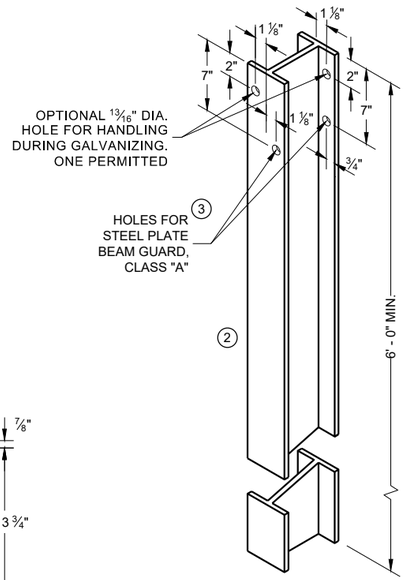
PLAN VIEW
WOOD POST, BLOCKOUT AND BEAM



END VIEW
STEEL POST AND NOTCHED PLASTIC BLOCKOUT ALTERNATIVE STANDARD INSTALLATION

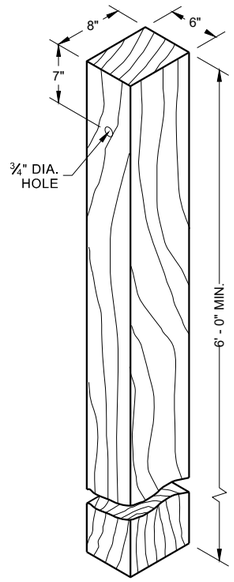


END VIEW
LONGER POST AT HALF POST SPACING W BEAM (LHW)

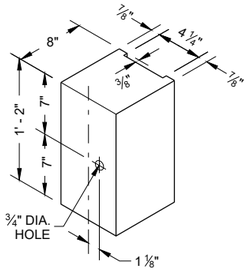


STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)

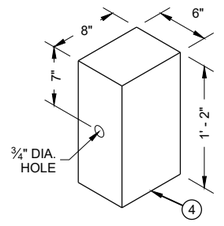
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



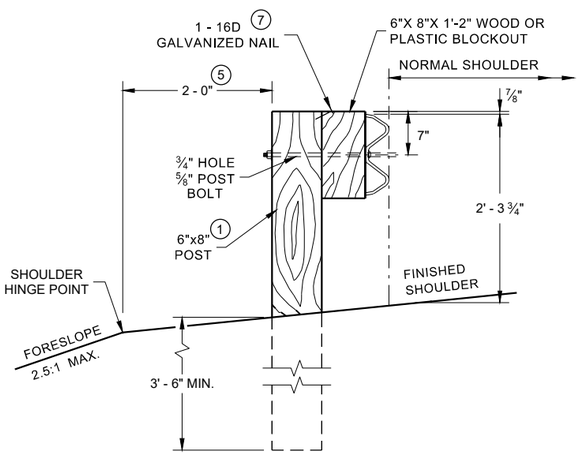
WOOD POST (6" X 8") NOMINAL (1)



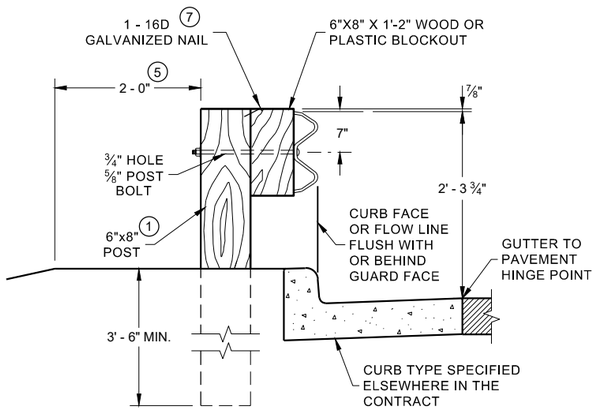
TYPICAL NOTCHED PLASTIC BLOCKOUT FOR STEEL POSTS



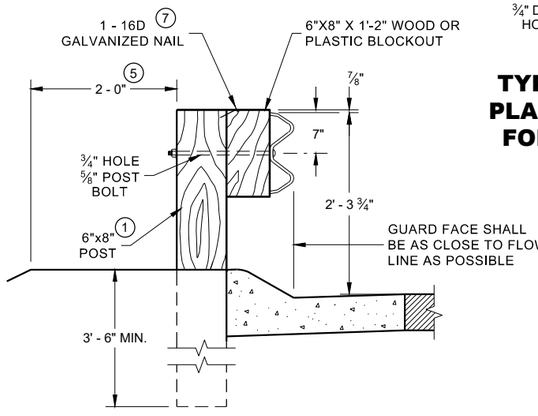
WOOD OR PLASTIC BLOCKOUT FOR WOOD POSTS



END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



END VIEW
LOCATED ALONG A CURBED ROADWAY



END VIEW
LOCATED ALONG A MOUNTABLE CURBED ROADWAY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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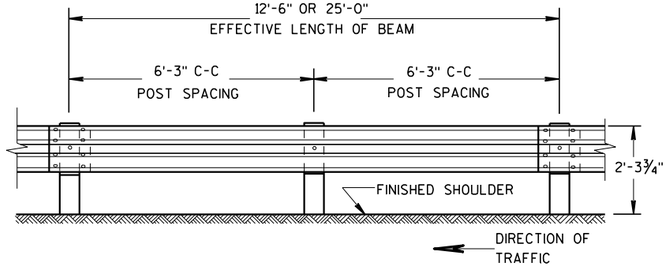
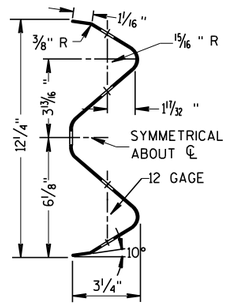
SDD 14B15 -11a

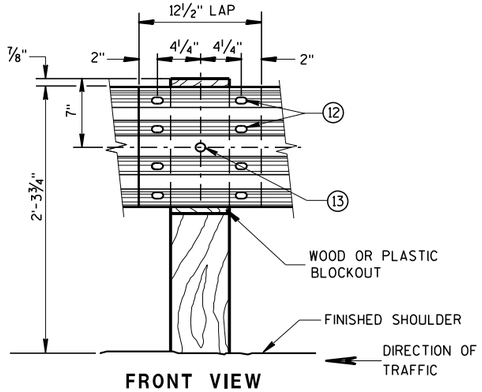


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

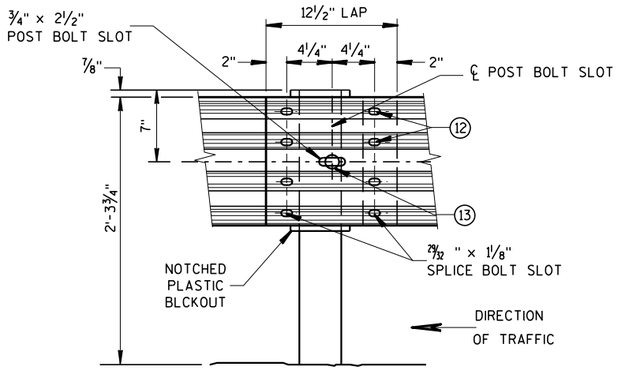
(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.

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

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

FRONT VIEW

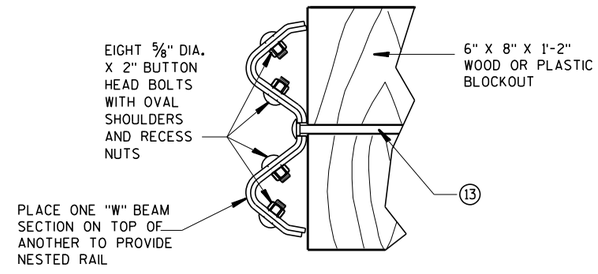
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

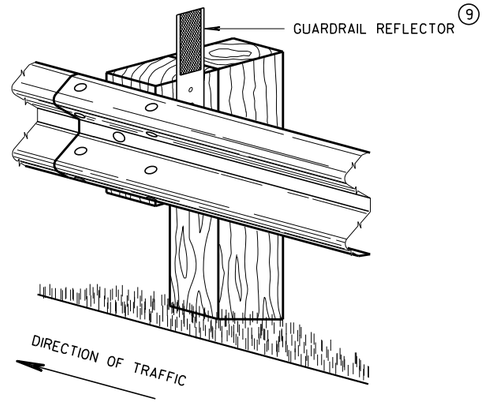
TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD



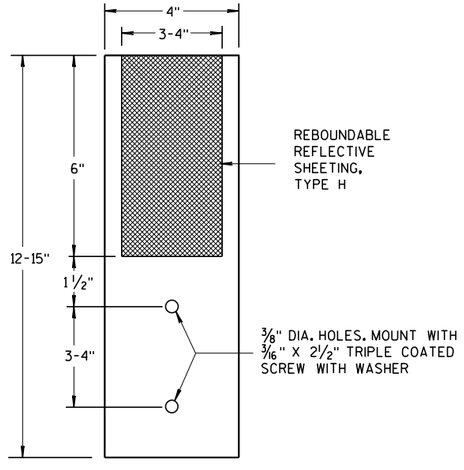
NESTED W BEAM (NW)

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

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



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



4"x 12" GUARDRAIL REFLECTOR

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

STATE OF WISCO 22
DEPARTMENT OF TRANSPORTATION

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S.D.D. 14 B 15-11b

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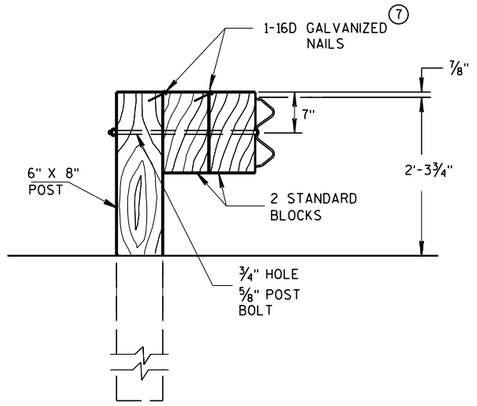
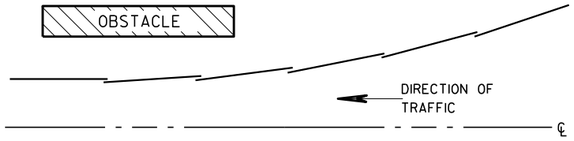
S.D.D. 14 B 15-11b

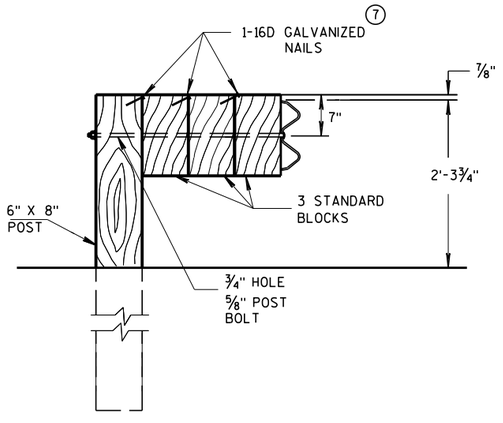


DETAIL FOR DOUBLE BLOCKS

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

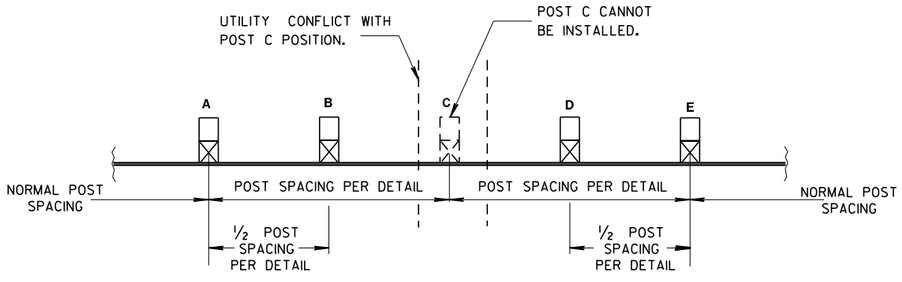


PLAN VIEW
BEAM LAPPING DETAIL



DETAIL FOR TRIPLE BLOCKS

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



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

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

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVISOR

FHWA

6

S.D.D. 14 B 15-11c

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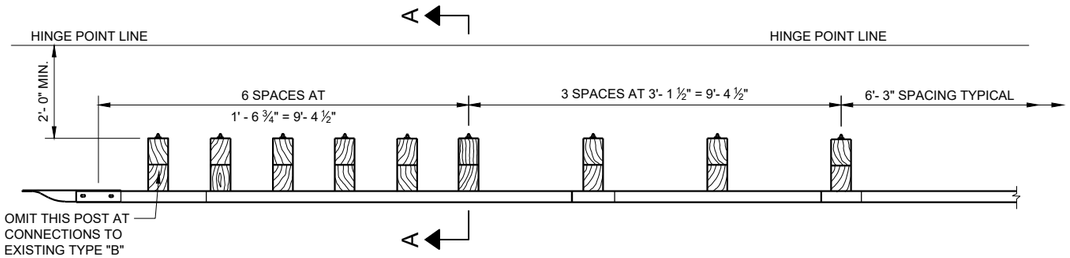
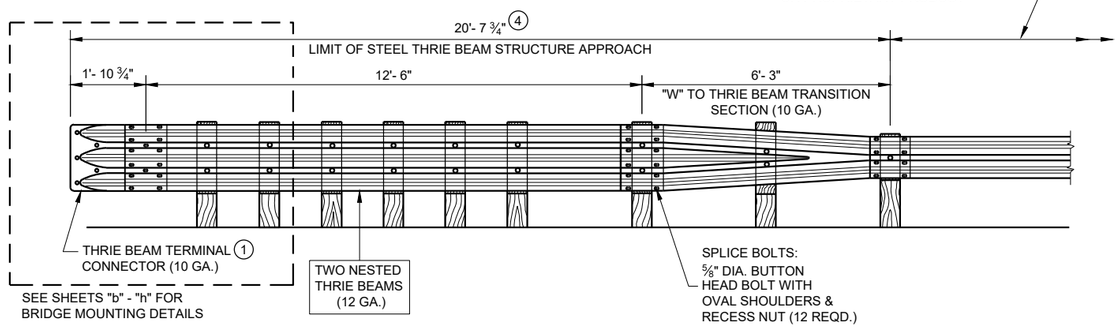
S.D.D. 14 B 15-11c



PLAN VIEW



FRONT VIEW

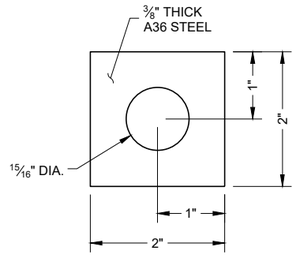


PLATE WASHER DETAIL

GENERAL NOTES

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

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

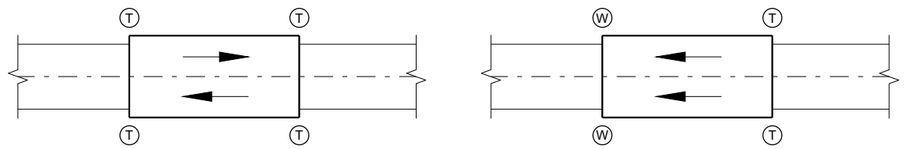
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 ½" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

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

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

(3) POST BOLTS ARE ⅝" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A ⅝" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

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



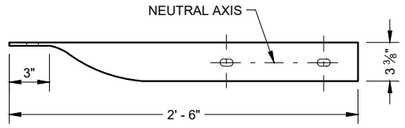
TWO WAY TRAFFIC

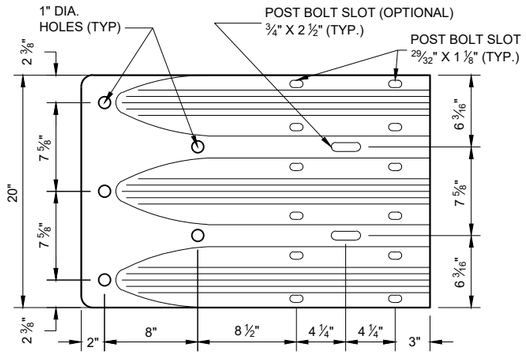
ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

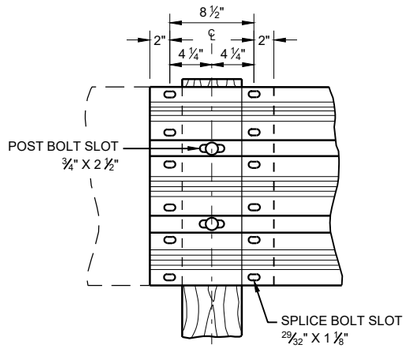
(W) W-BEAM CONNECTION WHEN REQUIRED

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

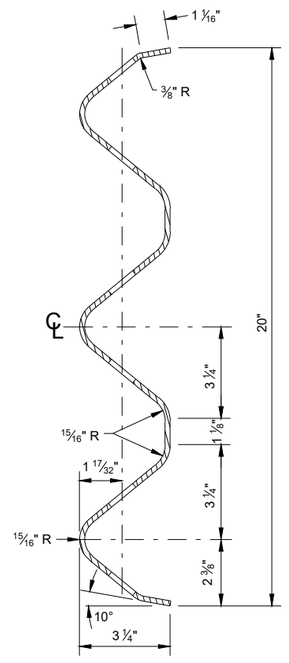




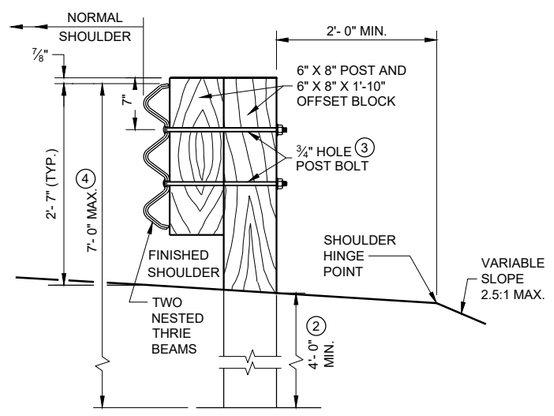
THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE



SECTION THRU BEAM RAIL ELEMENT



SECTION A-A

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

SDD 14B20 - 12a

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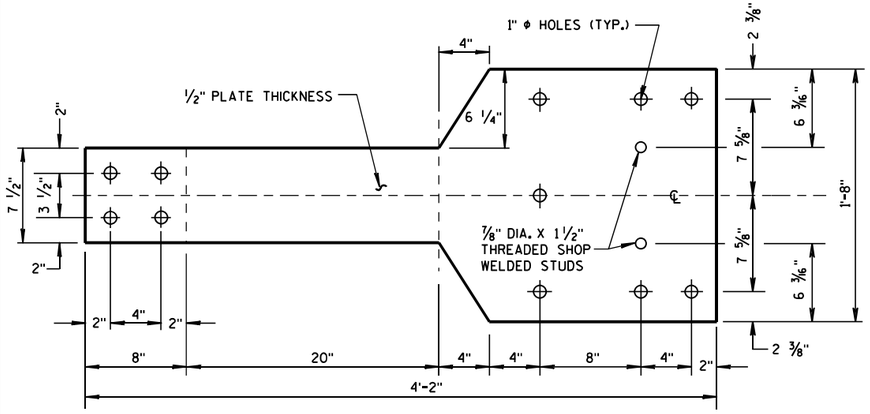
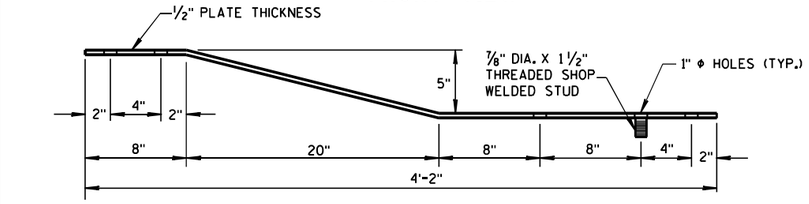
SDD 14B20 - 12a

GENERAL NOTES

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

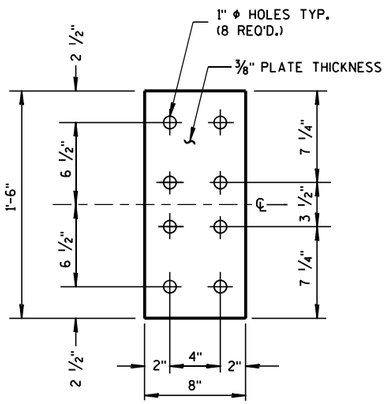


FRONT VIEW



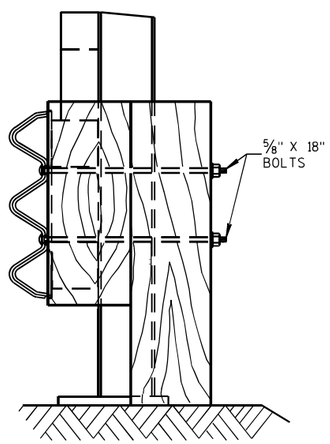
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

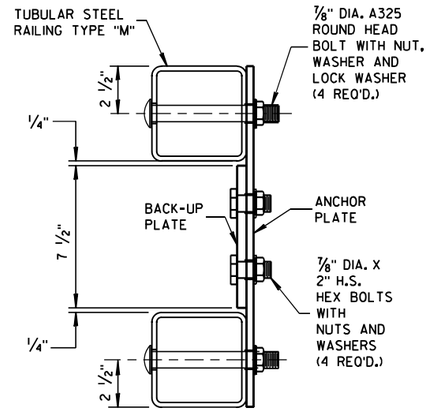


FRONT VIEW

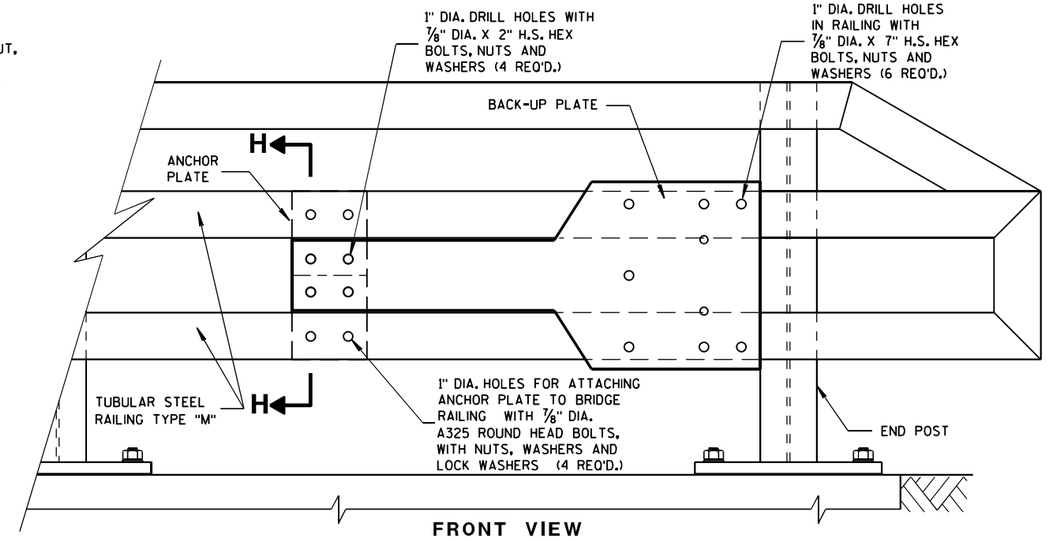
ANCHOR PLATE DETAIL, TYPE "M"



SECTION I-I

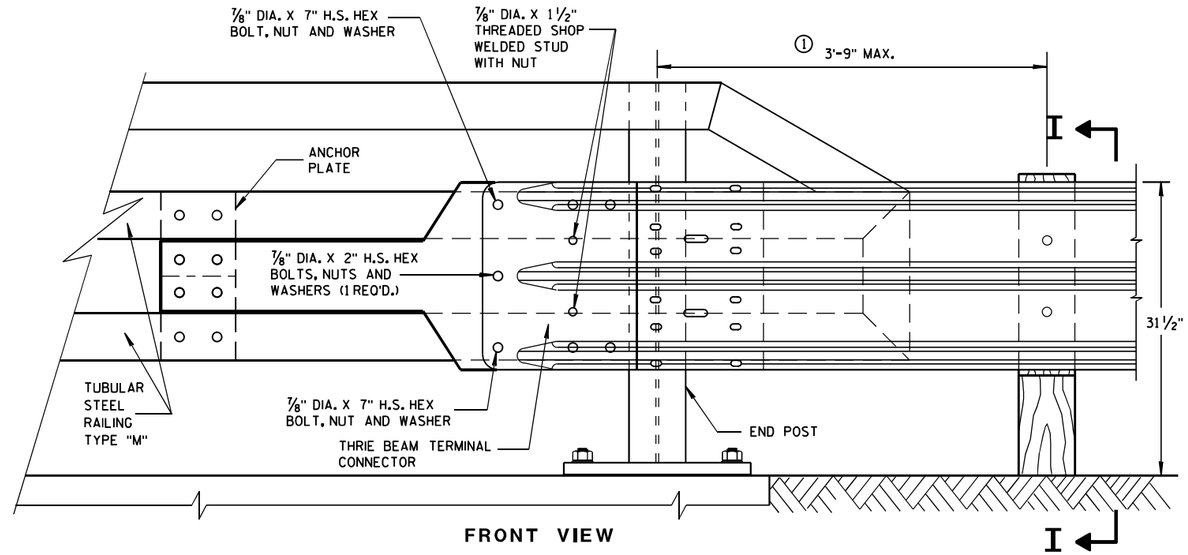


SECTION H-H

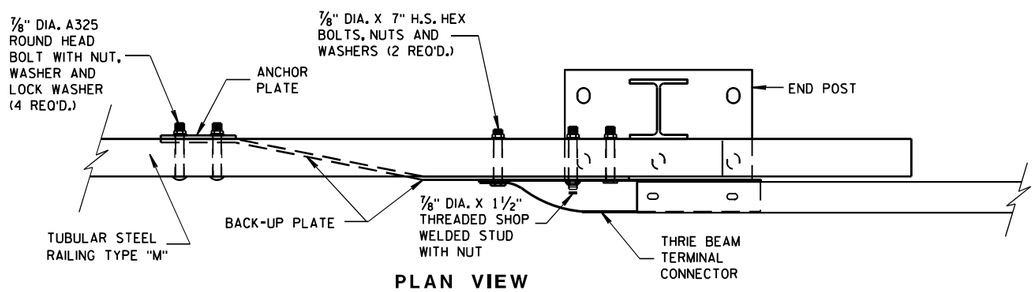


FRONT VIEW

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



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

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SDD 14B20 - 12f

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SDD 14B20 - 12f

BILL OF MATERIALS

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

GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS.

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

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

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

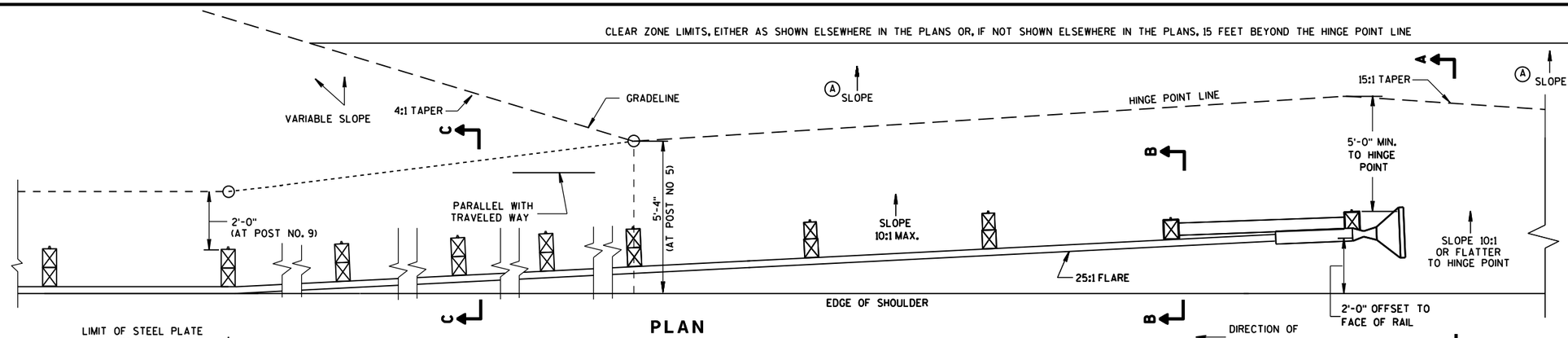
(E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 3 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.

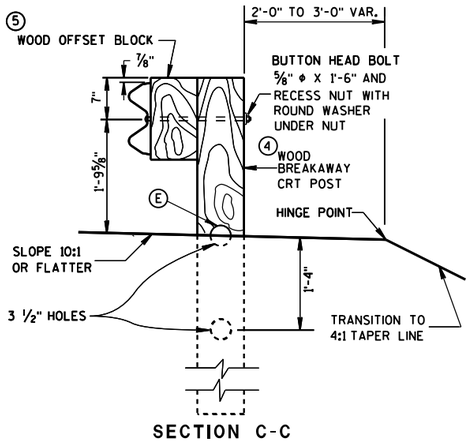
(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

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

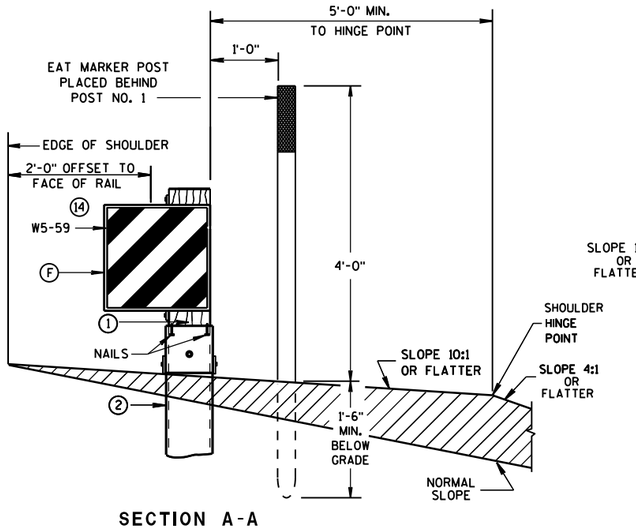
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

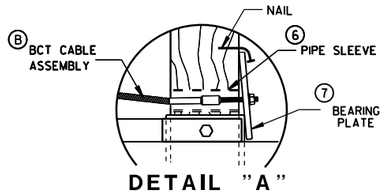




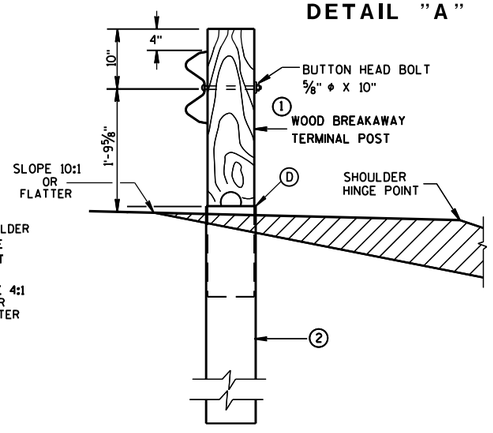
SECTION C-C
TYPICAL AT POST NOS. 6, 8



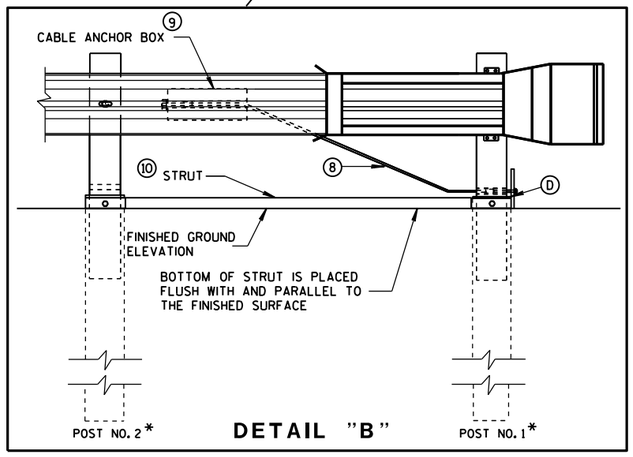
SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



SECTION B-B
TYPICAL AT POST NO. 2*



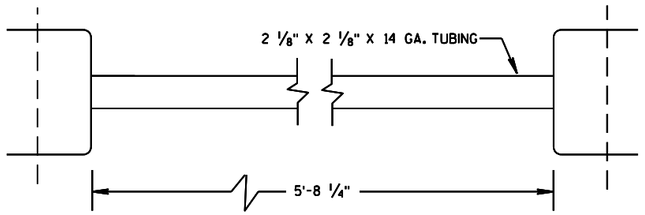
DETAIL "B"

STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL

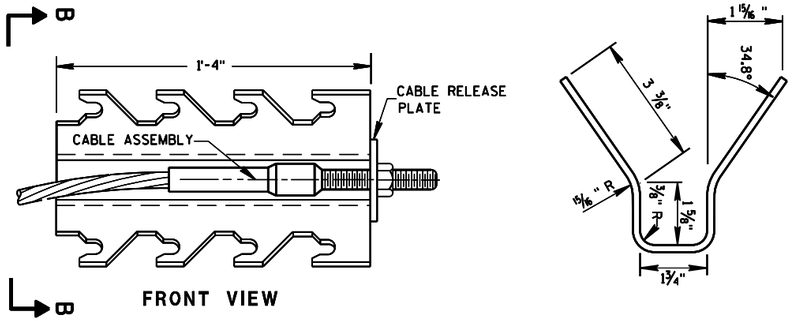
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

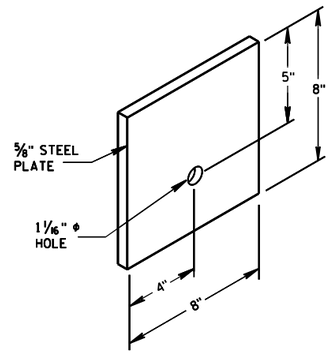
S.D.D. 14 B 24-9a



⑩ STRUT DETAIL



⑨ CABLE ANCHOR BOX



⑦ STEEL BEARING PLATE

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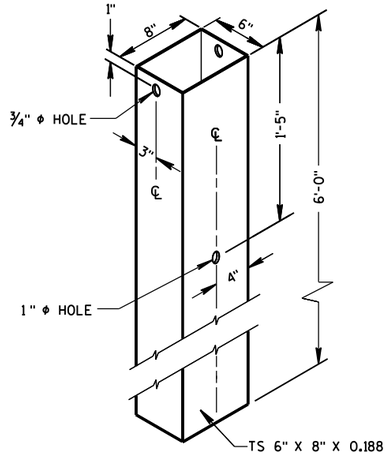
S.D.D. 14 B 24-9b

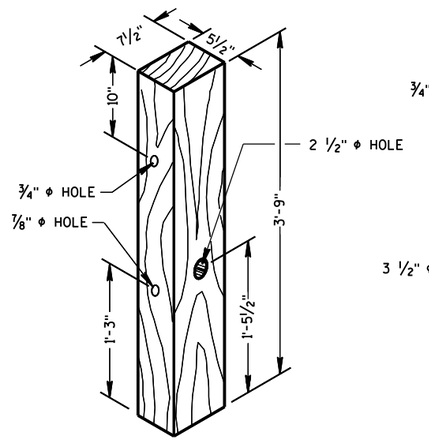
S.D.D. 14 B 24-9b

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

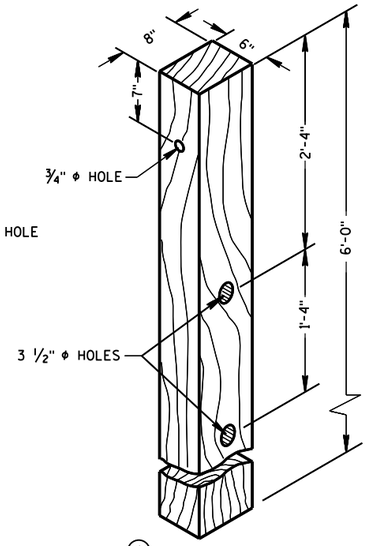
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



② 72" STEEL TUBE
(POSTS NO. 1-2



① TERMINAL POST

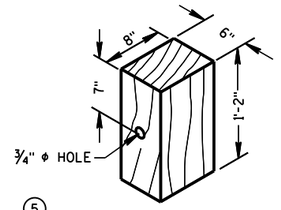


④ CRT POST
(POSTS NO'S 5-8)

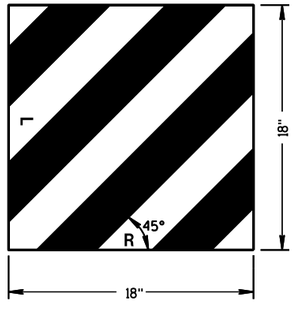
WOOD BREAKAWAY POSTS

GENERAL NOTES

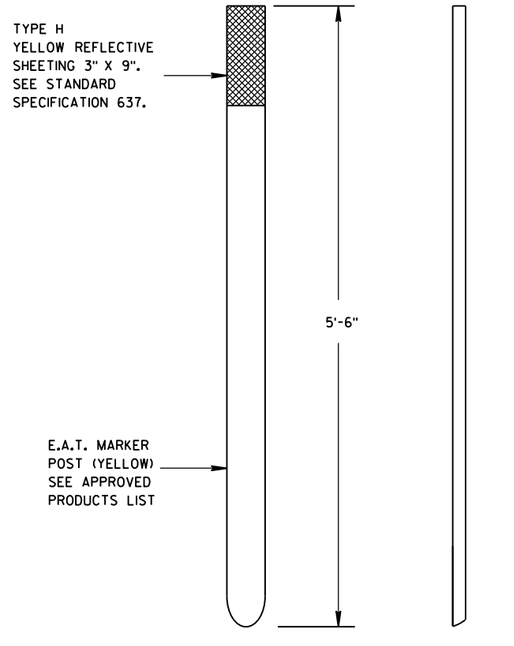
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 ½" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.



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



⑭ REFLECTIVE SHEETING DETAILS



E.A.T. MARKER POST

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
FHWA

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

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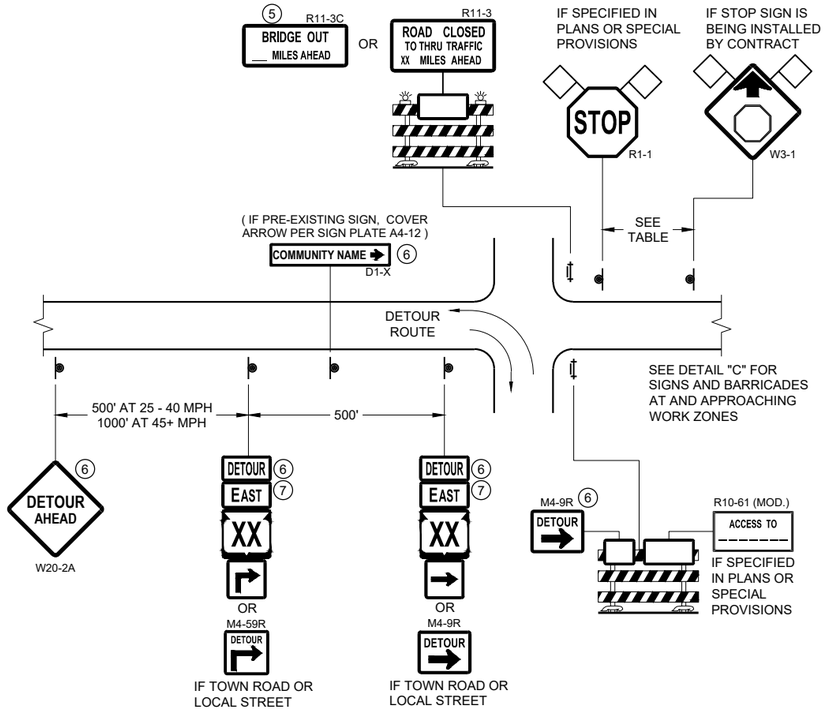
S.D.D. 14 B 24-9c

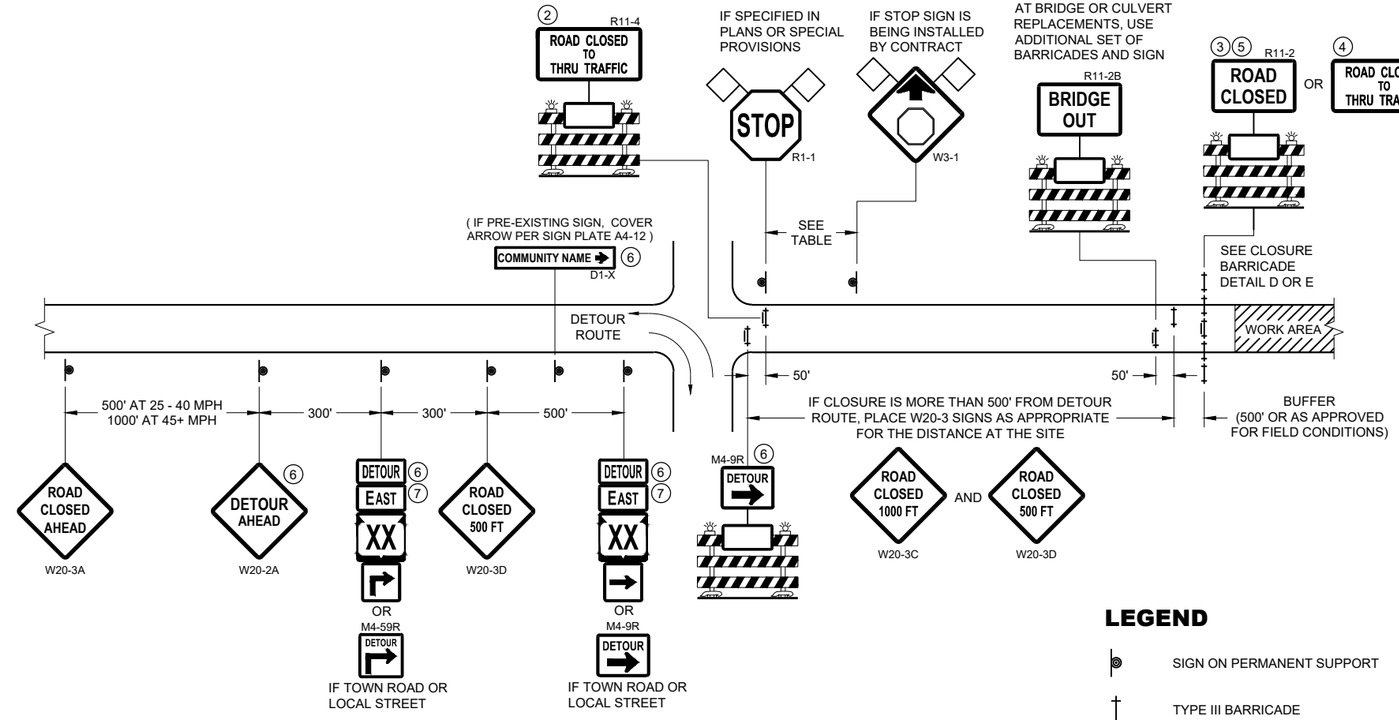
6

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



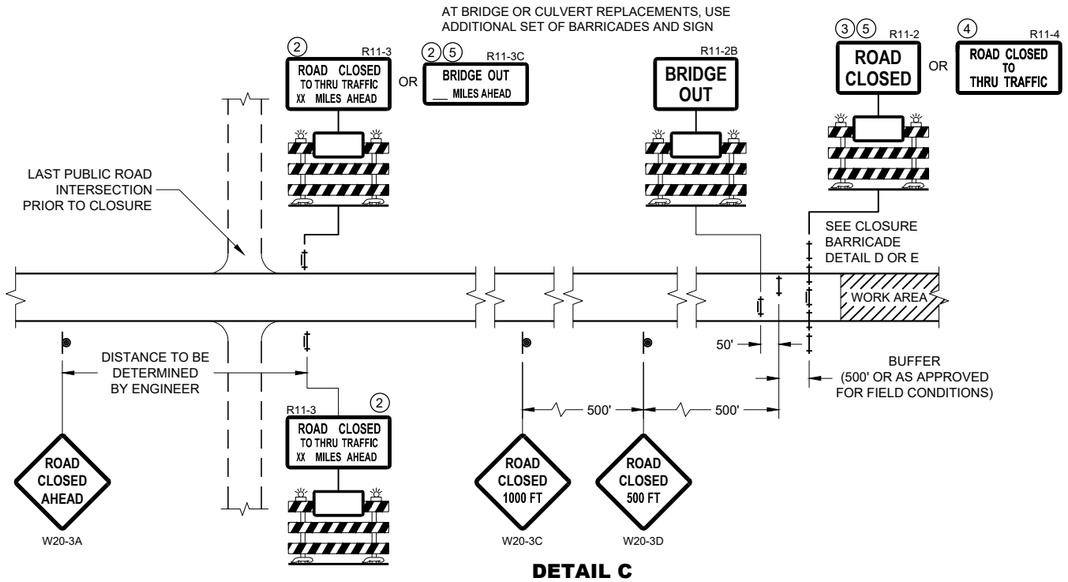
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

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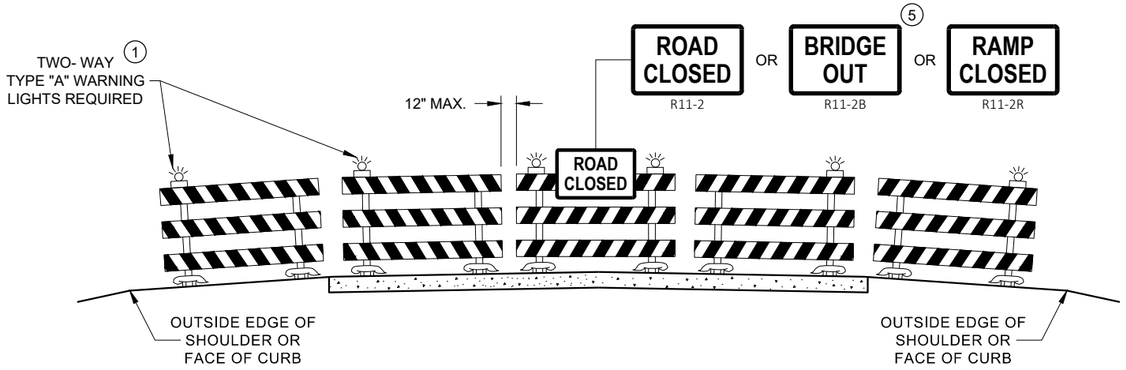
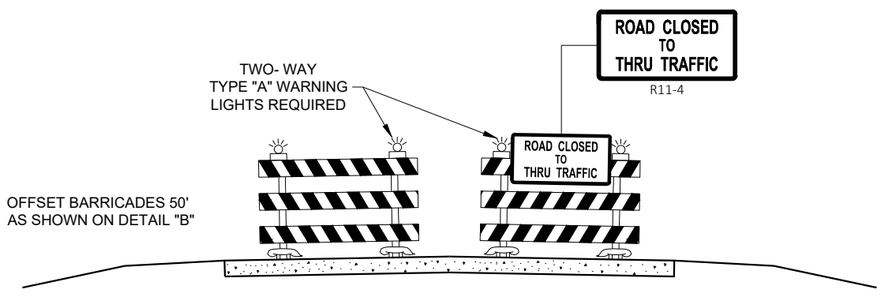
SDD 15C02 - 09a



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 ENGINEER
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 — M4 - 8
- EAST — 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.

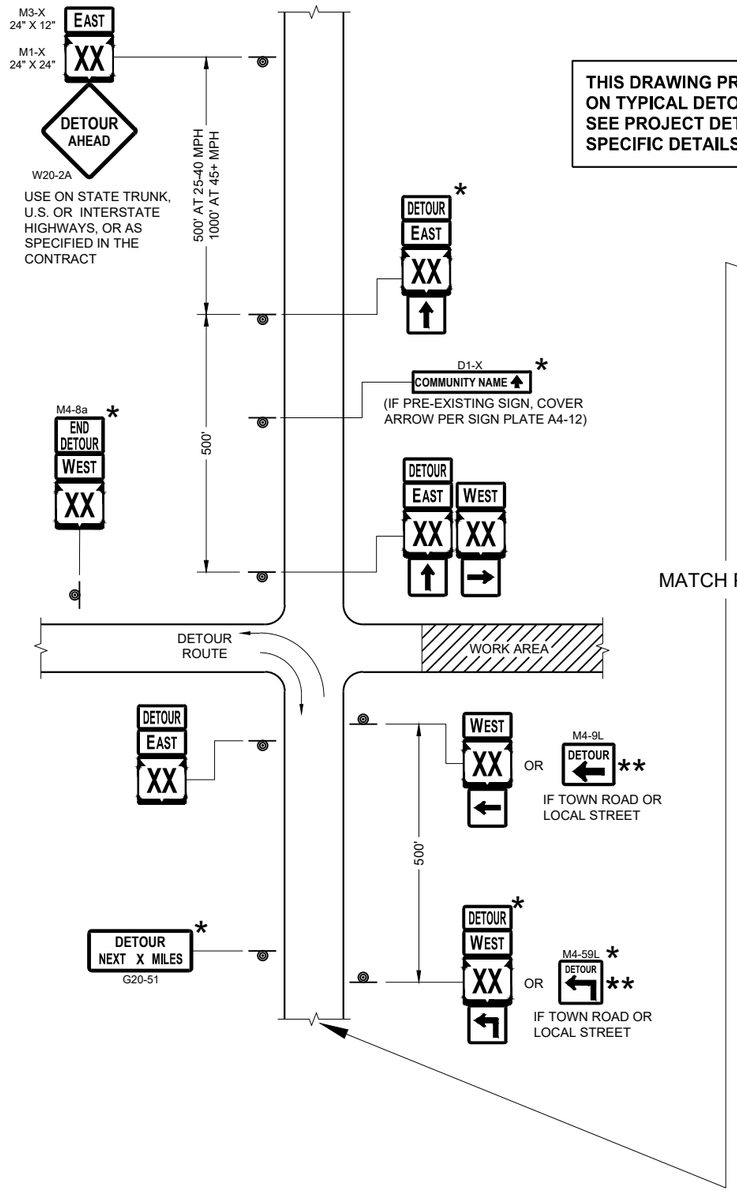
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

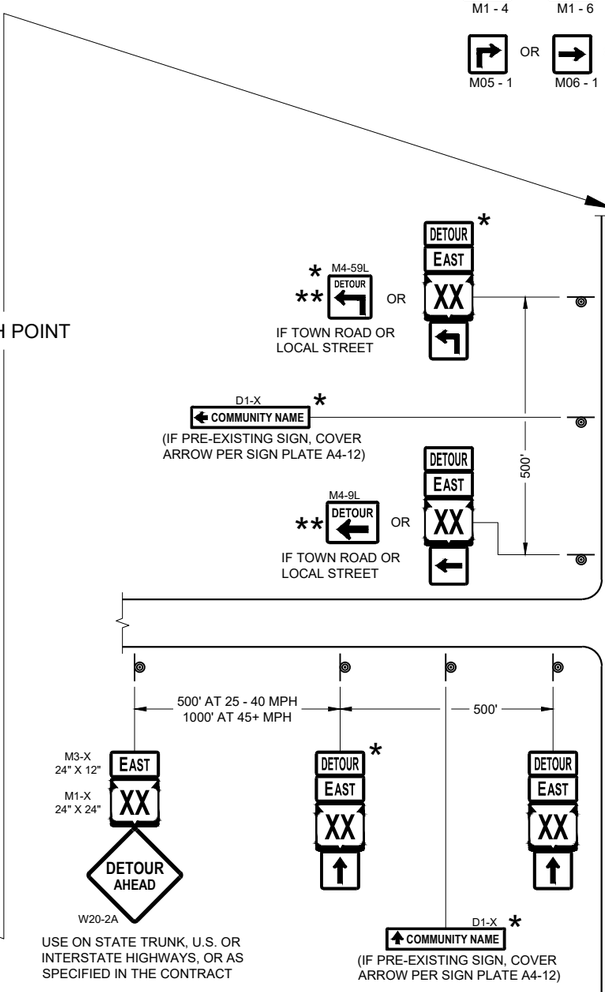
SIGN SIZES SHALL BE AS FOLLOWS:

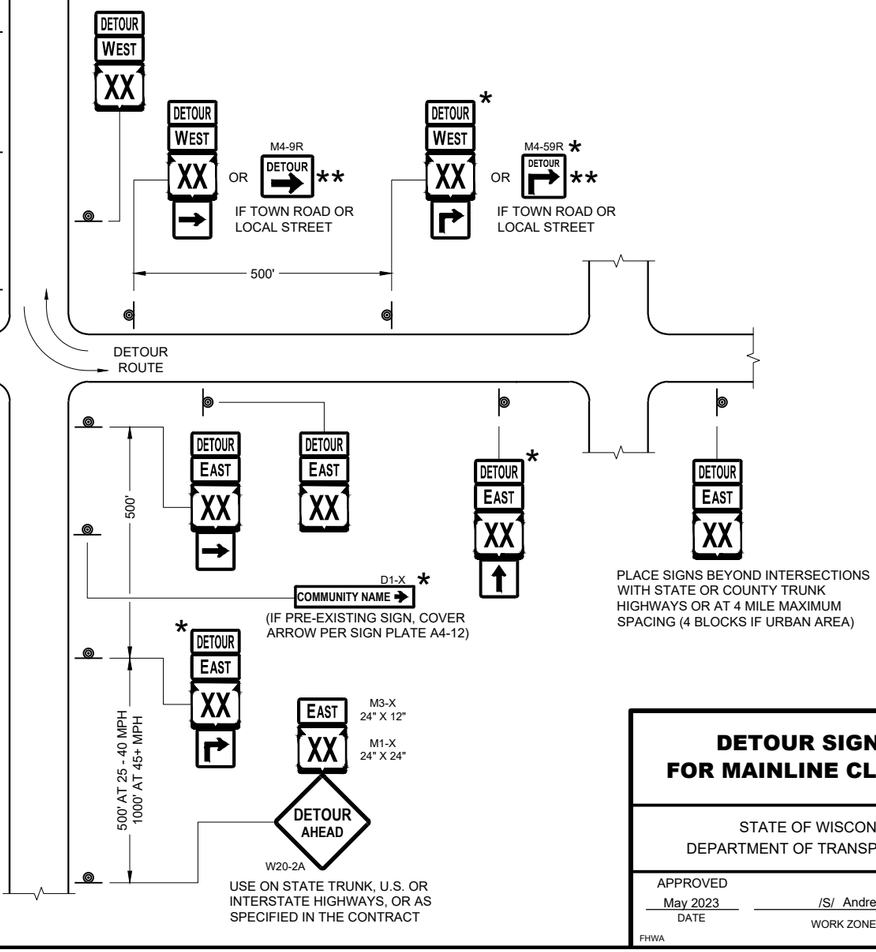
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING 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.







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

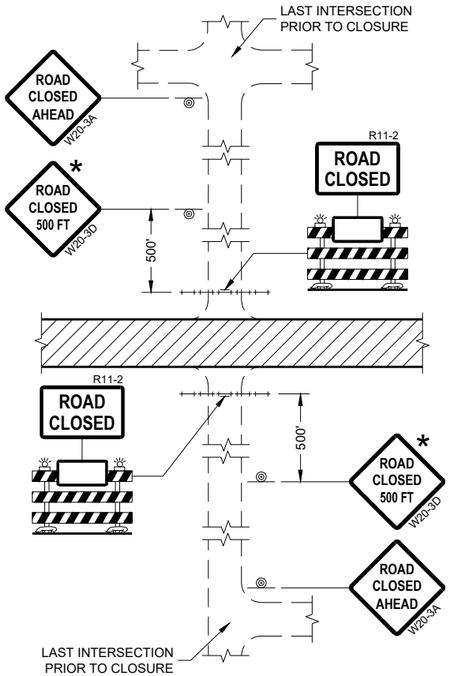
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

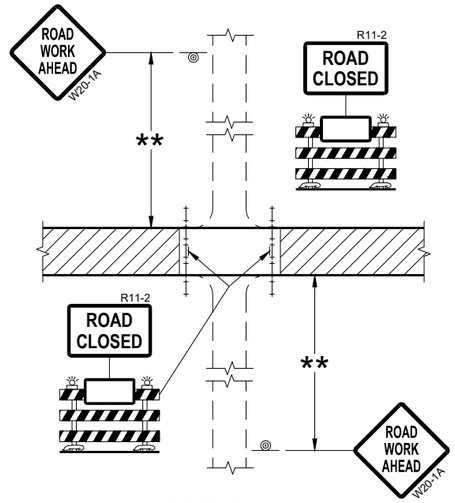
FHWA

6

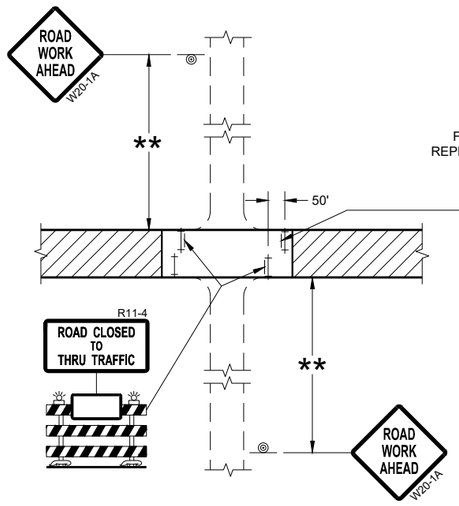
SDD 15C02 - 09c



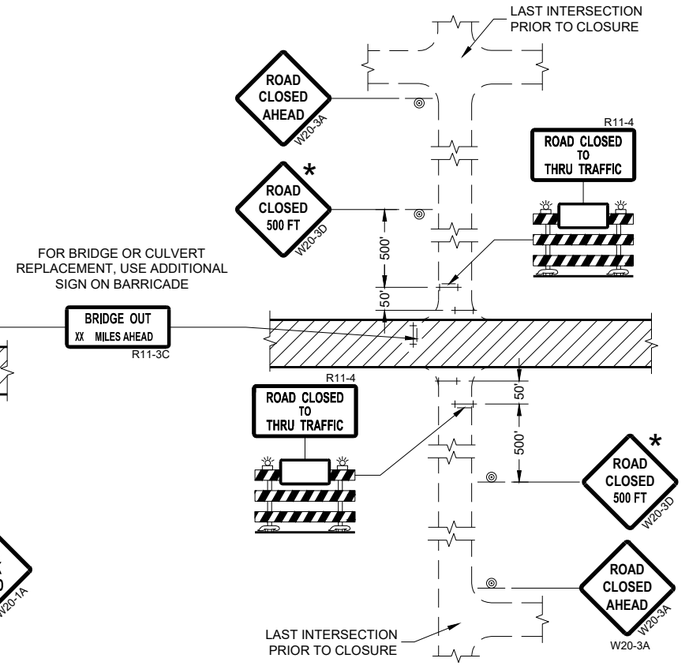
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

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 (500 FEET DESIRABLE) TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

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

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN 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, AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

* OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.

** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

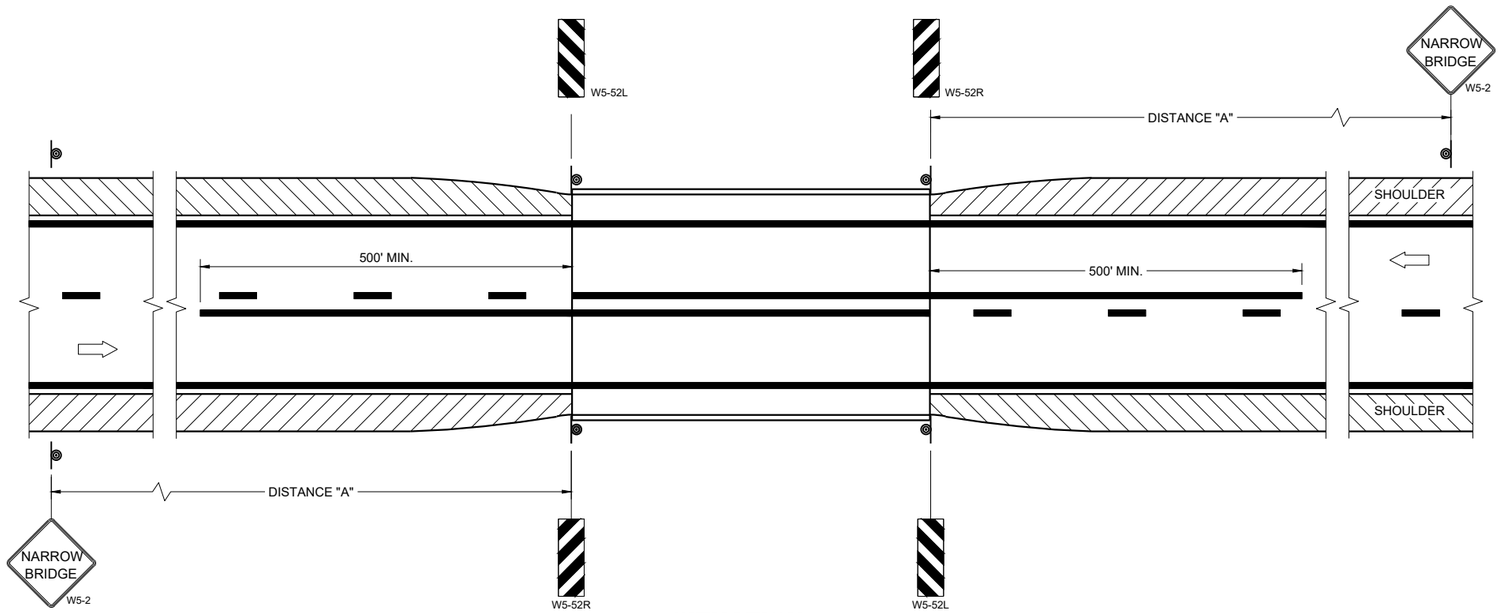
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

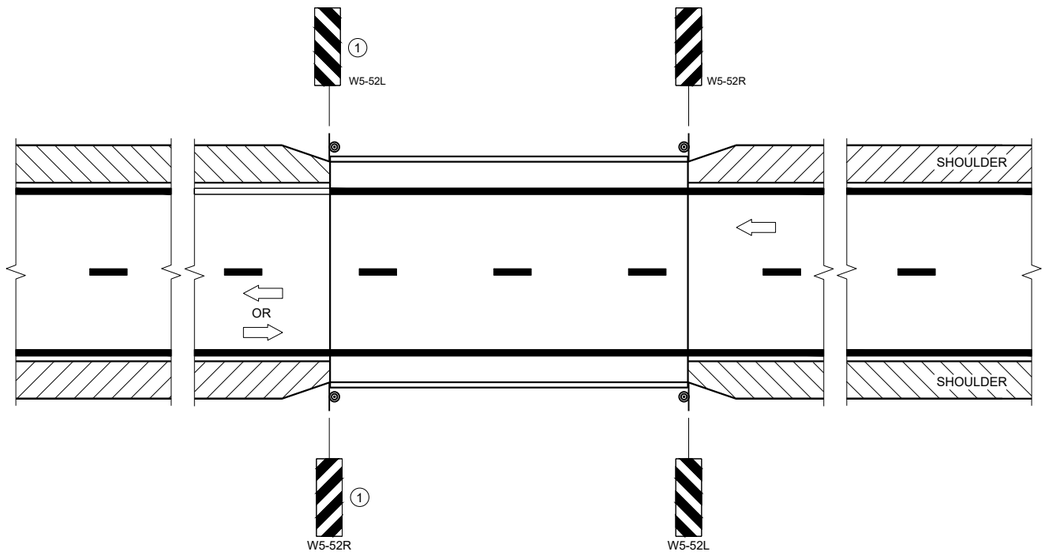
SDD 15C03 - 05

SDD 15C03 - 05



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.

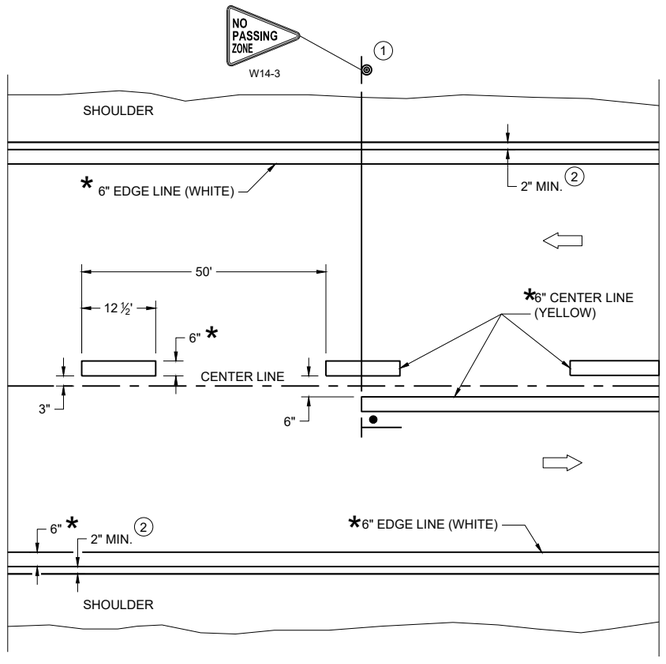
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

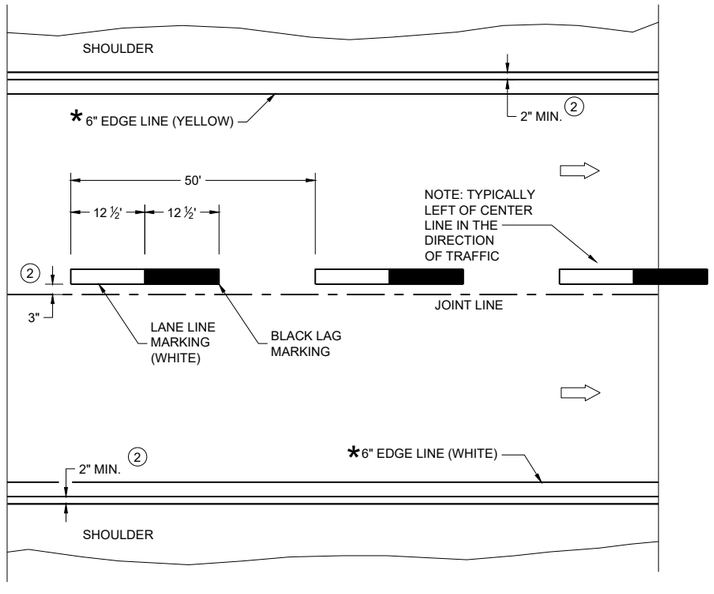
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2024
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

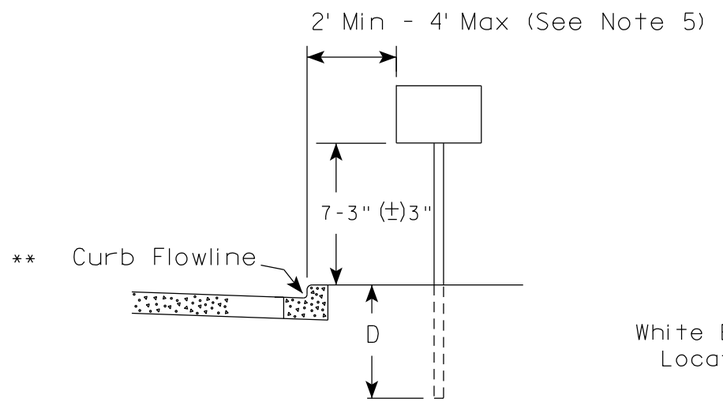
FHWA

6

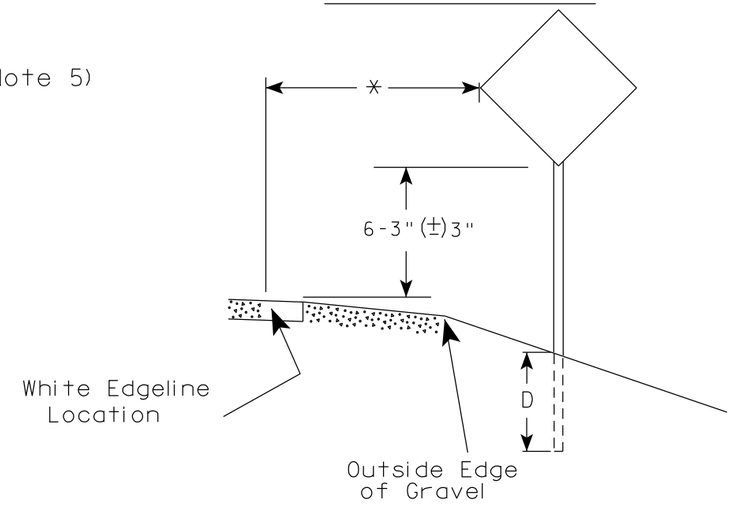
SDD 15C08-24a

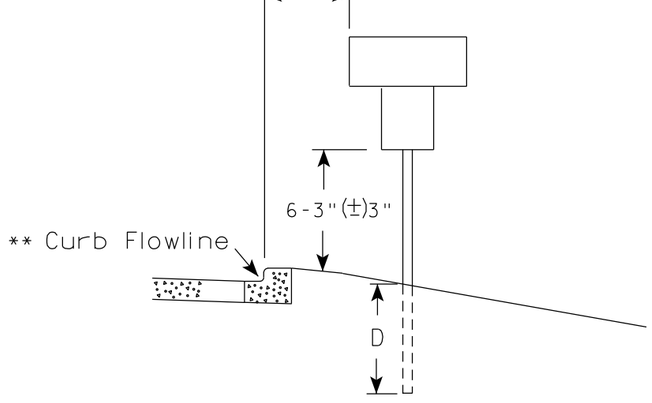
SDD 15C08-24a

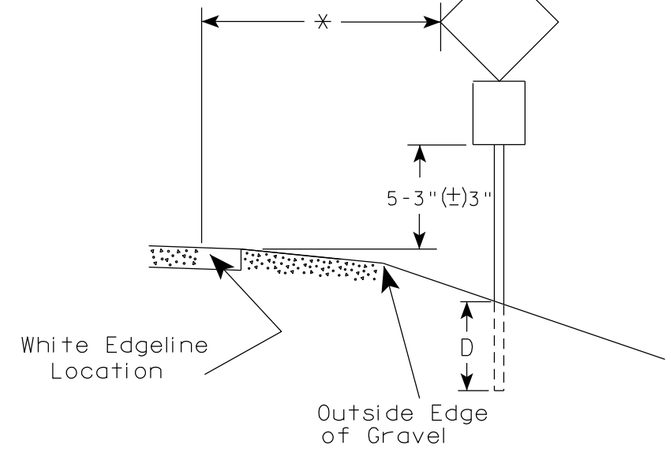
URBAN AREA



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.

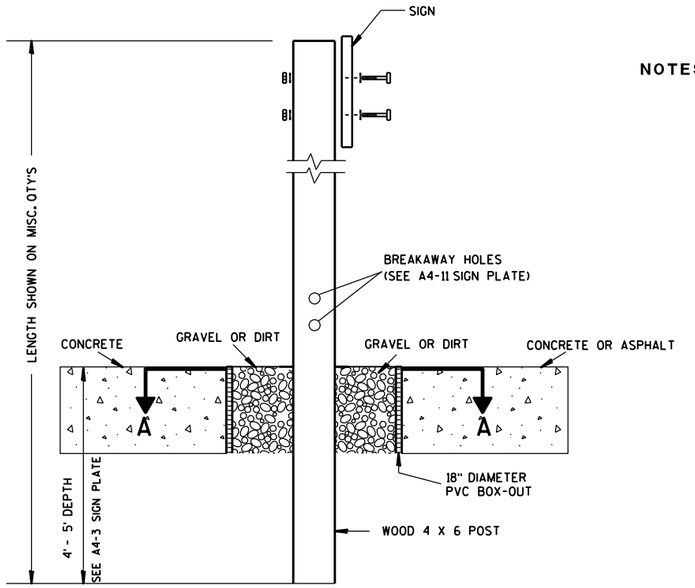
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

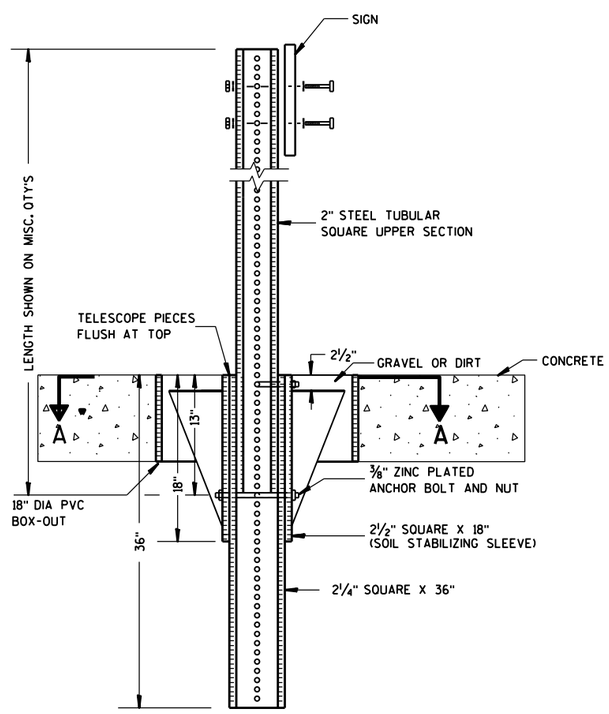
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 35	E



ELEVATION VIEW

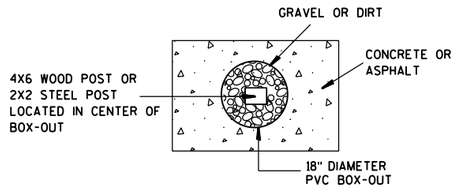
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

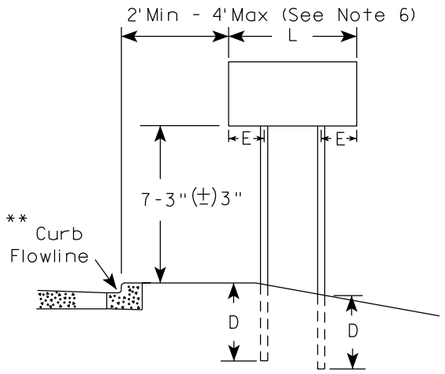
APPROVED Matthew R Rauch
for State Traffic Engineer

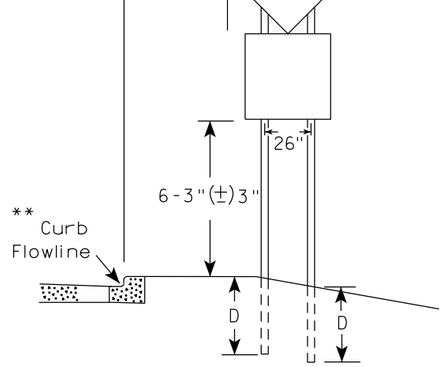
DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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

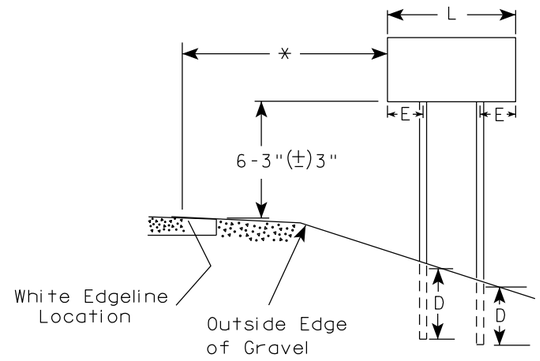
URBAN AREA

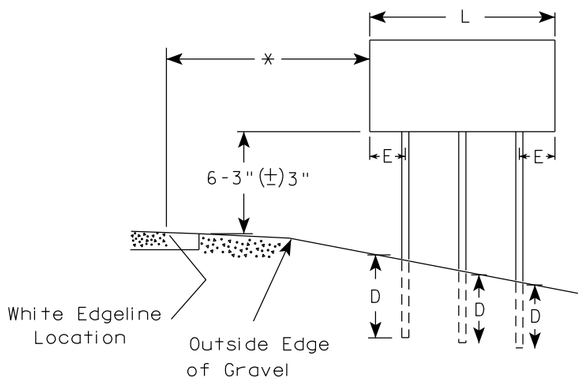


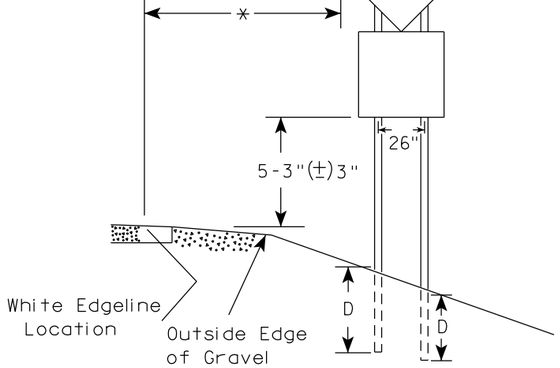


48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

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

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

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

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

POST EMBEDMENT DEPTH

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

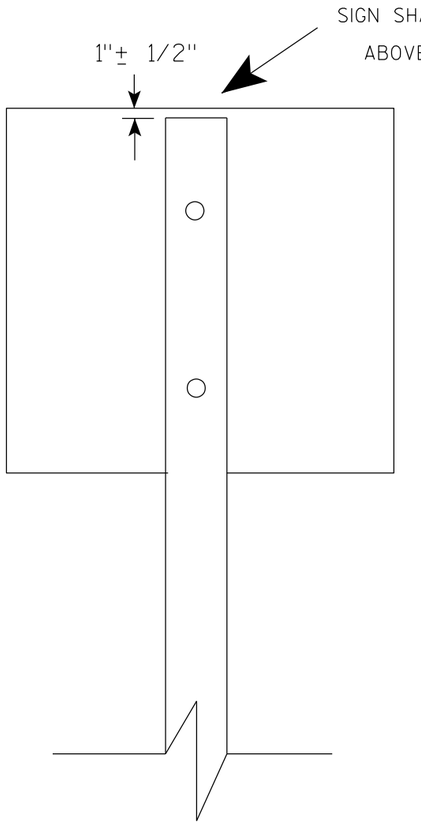
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

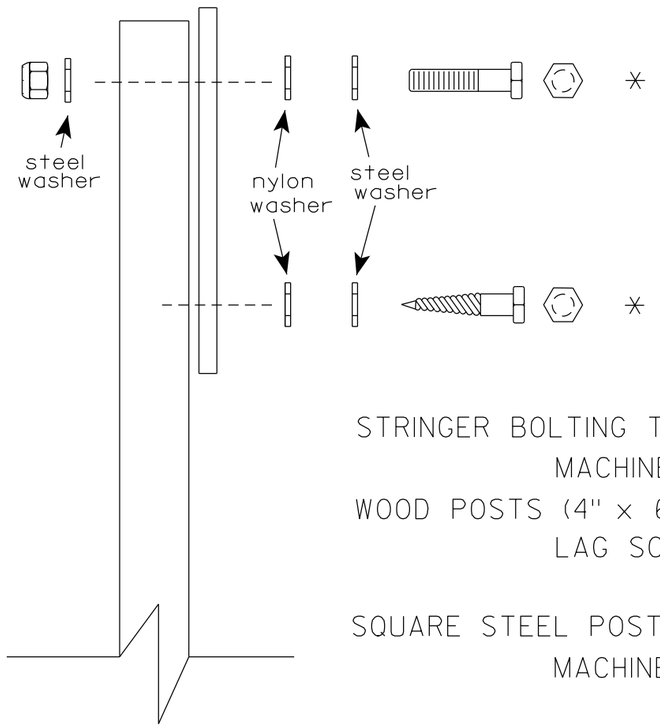
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 37	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

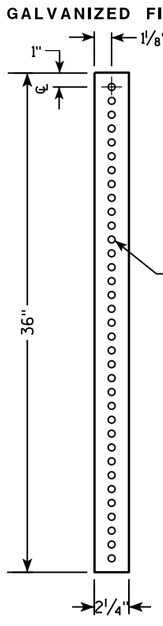
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

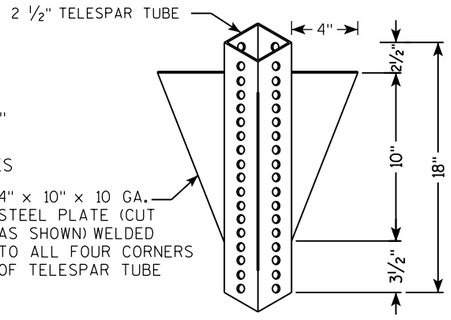
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

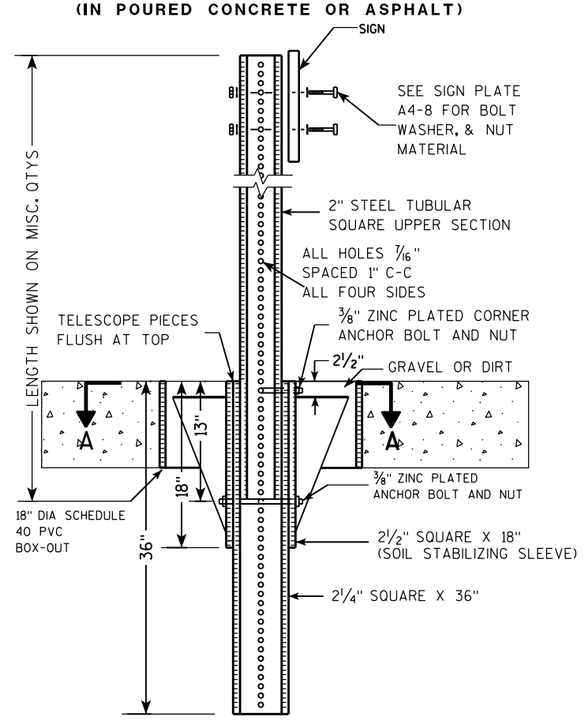
2 ¼ " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



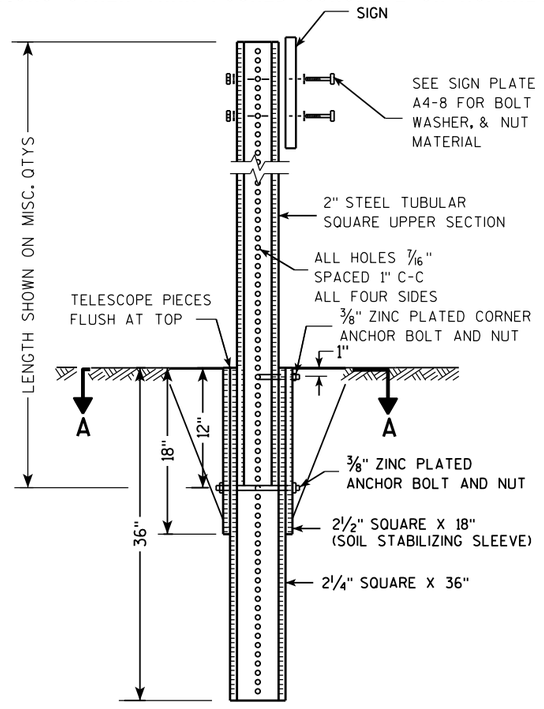
2 ½ " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

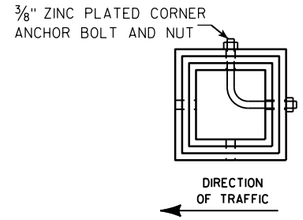


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

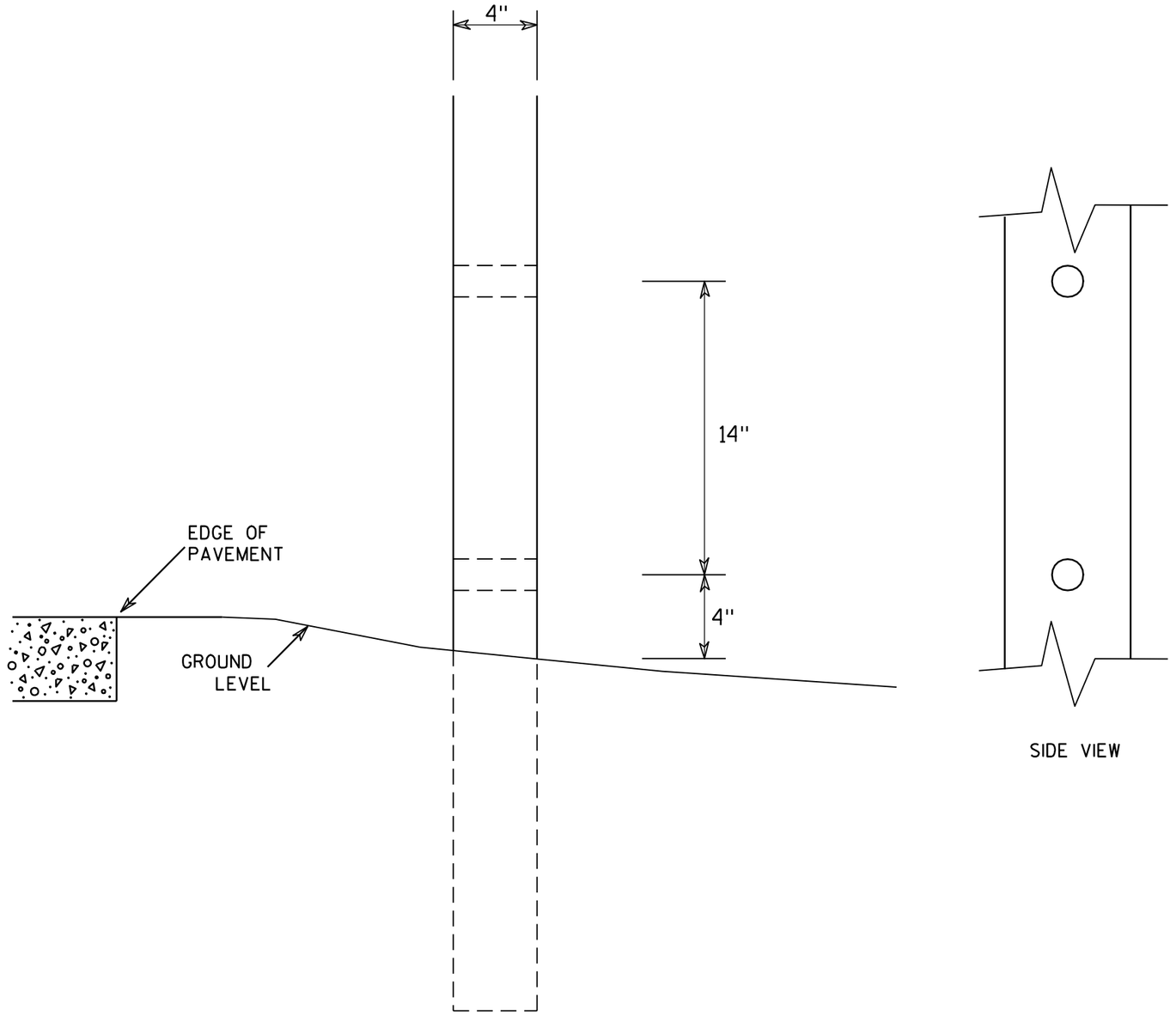
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

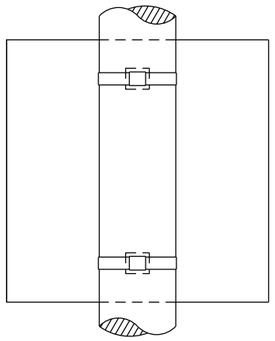
APPROVED Chester J Spang for State Traffic Engineer

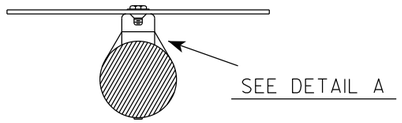
DATE 3/27/97 PLATE NO. A4-11.2

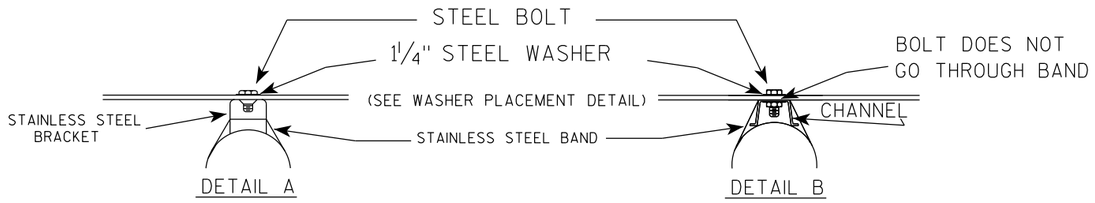
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 40	E

BANDING

SINGLE SIGN



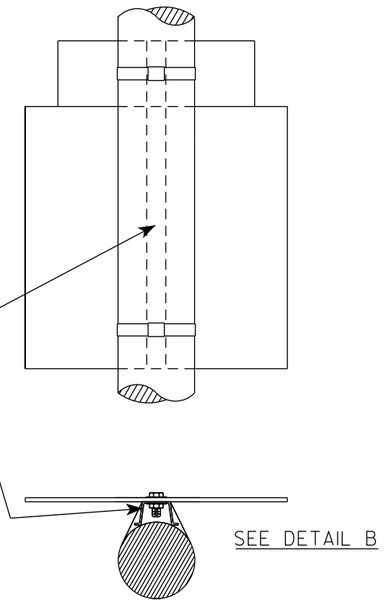




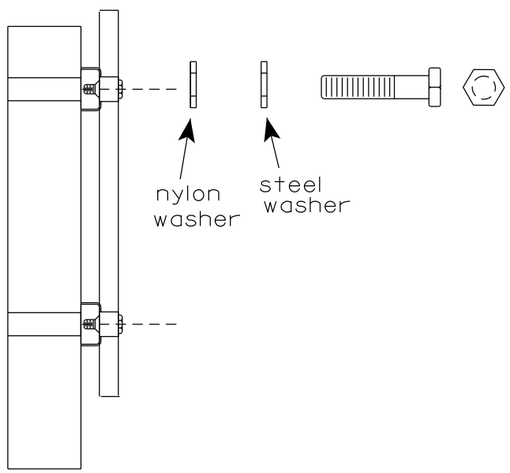
GENERAL NOTES

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

"J" ASSEMBLY



WASHER PLACEMENT



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

STANDARD SIGN
SIGN BANDING DETAILS

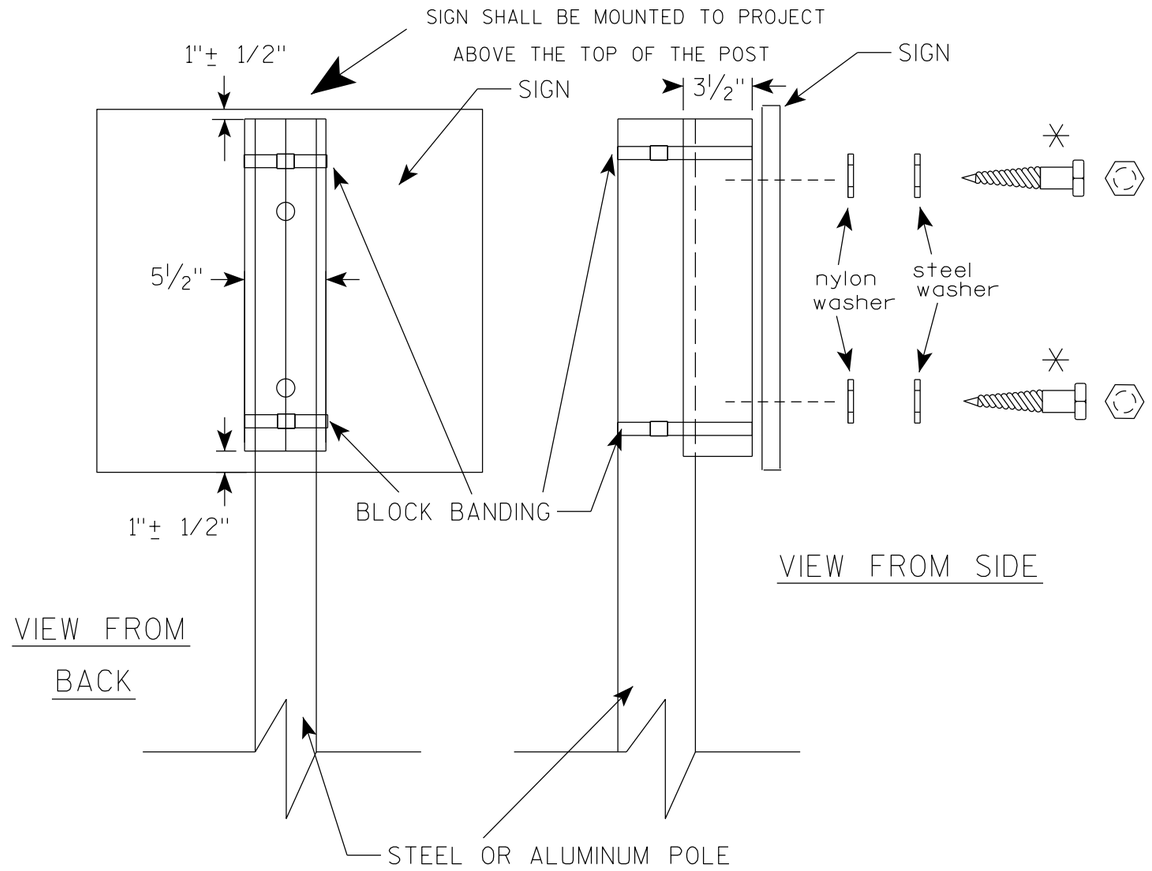
WISCONSIN DEPT OF TRANSPORTATION

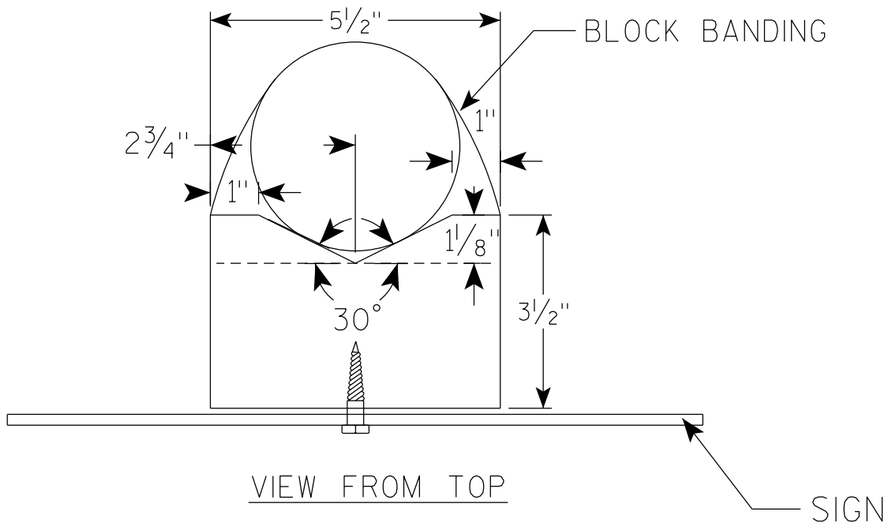
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 41	E

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





GENERAL NOTES

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

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

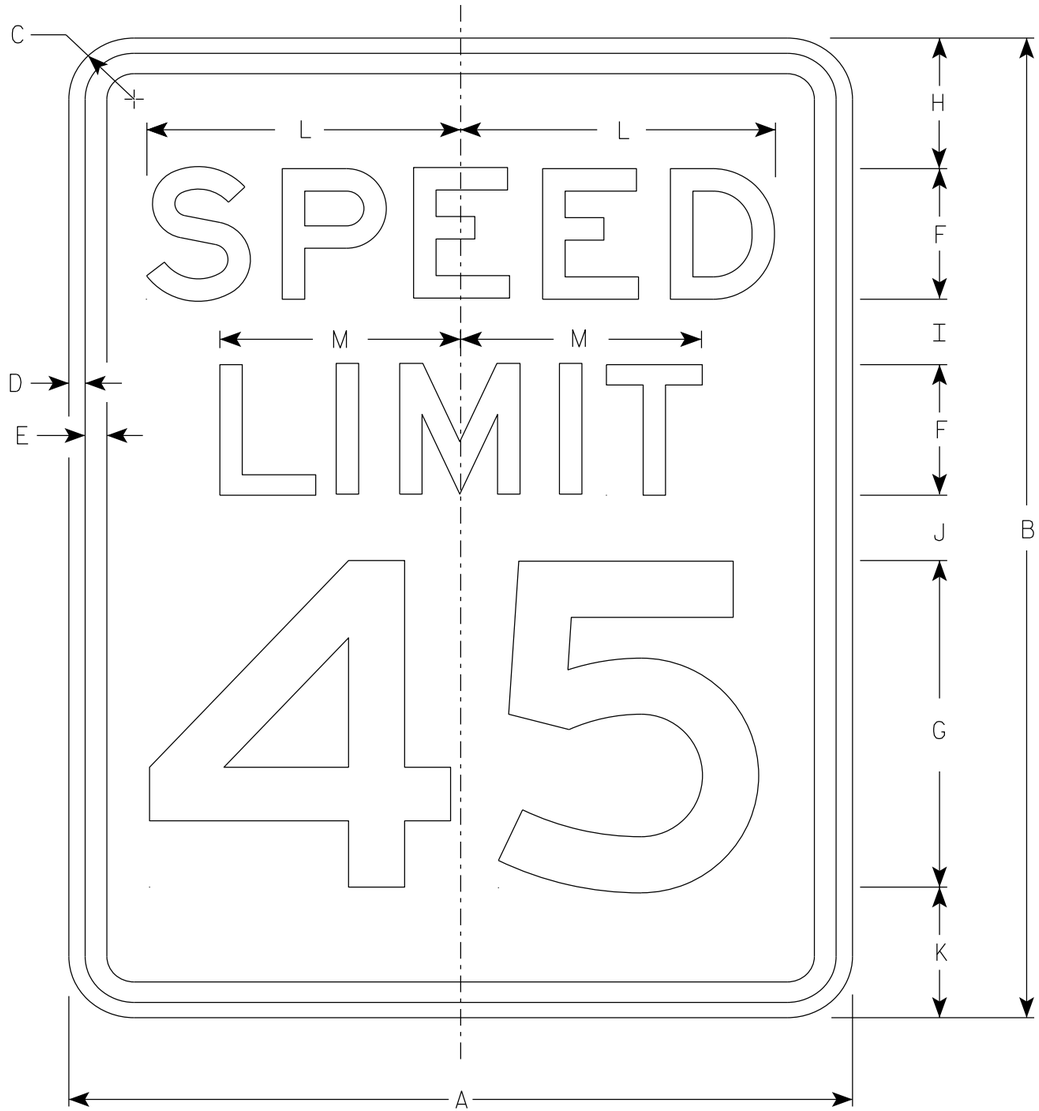
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

SHEET NO: 42 E



R2-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Substitute appropriate numerals and optically adjust spacing 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	18	24	1 1/2	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/2	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 7/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 7/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 7/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	3	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

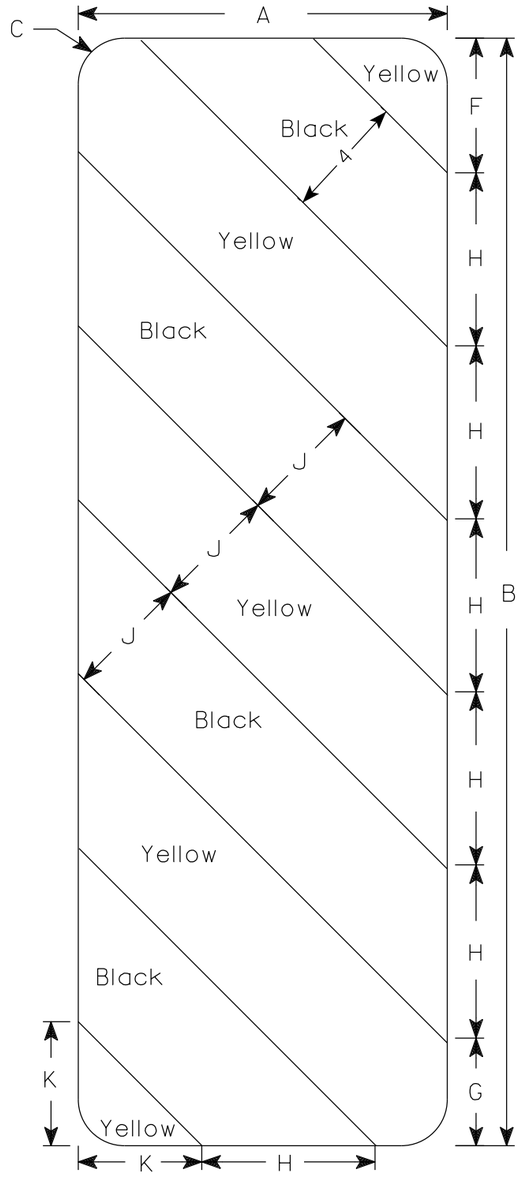
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

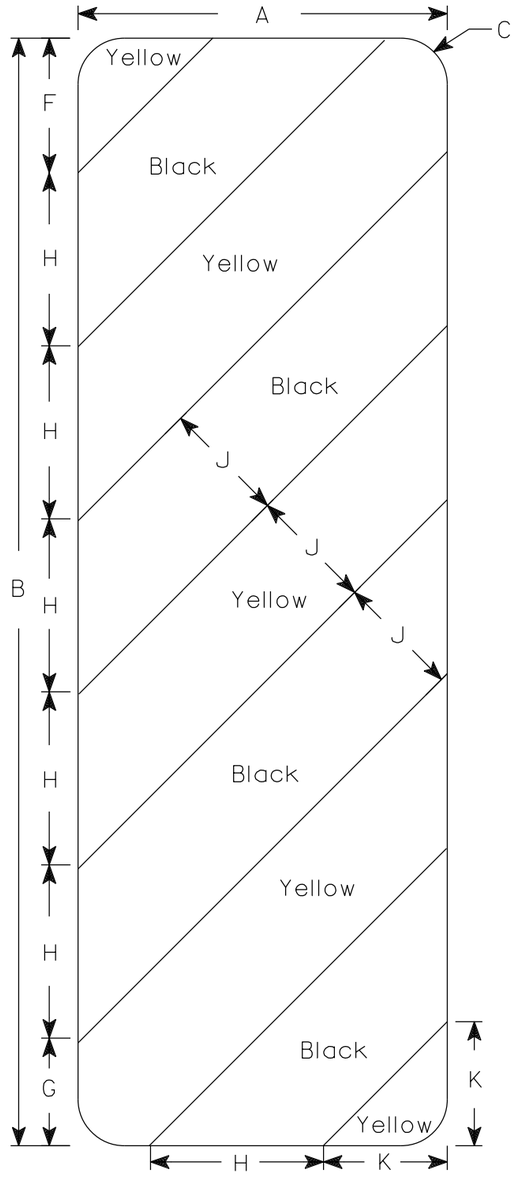
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/1/23 PLATE NO. R2-1.14

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 43 | 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

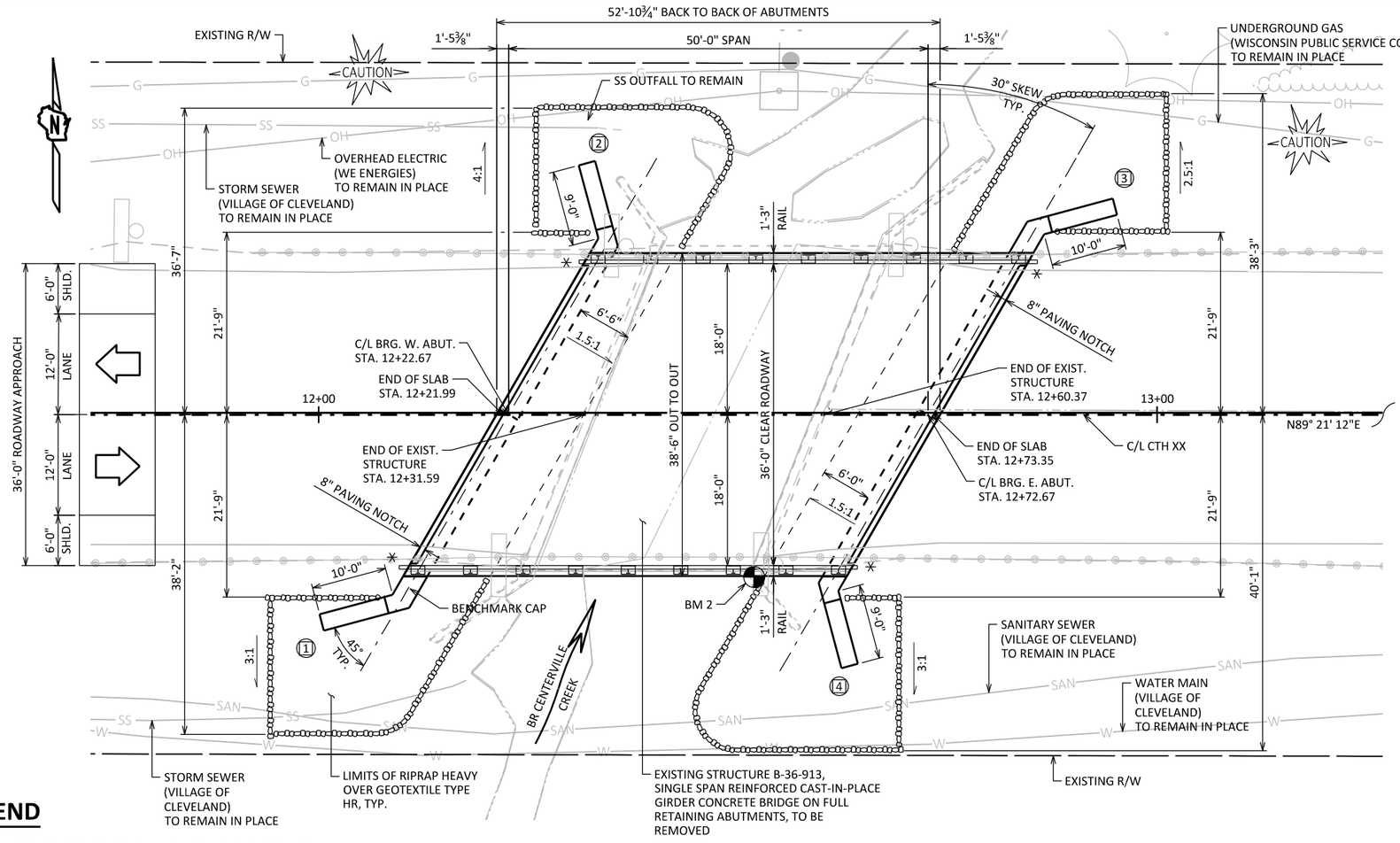
W5-52L & W5-52R

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: 44 E

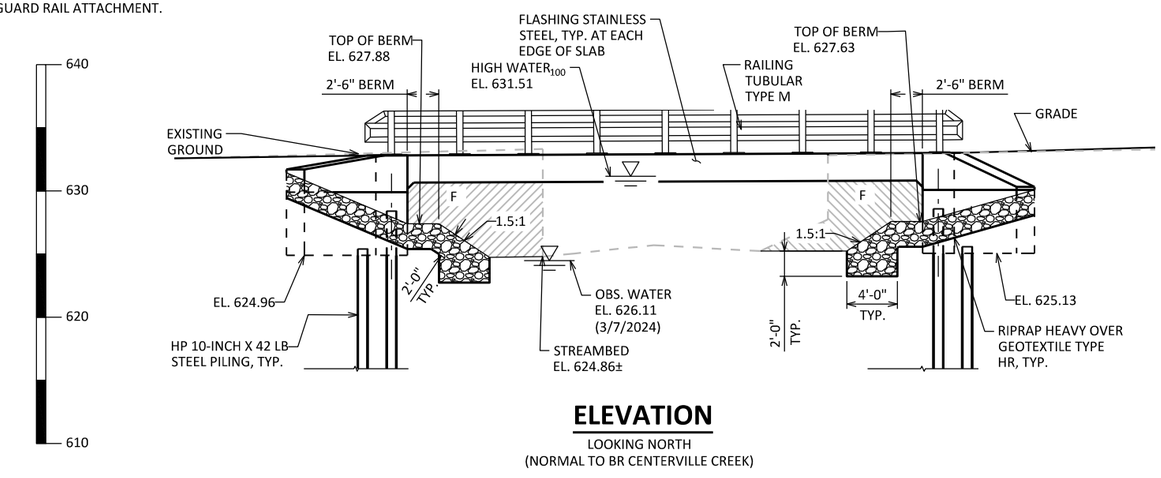


PLAN

SINGLE SPAN REINFORCED CONCRETE FLAT SLAB

LEGEND

- COST OF EXCAVATION SHALL BE INCLUDED IN BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-36-256".
- (X) INDICATES WING WALL NUMBER
- F. FIXED BEARING
- ✳ PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT.



ELEVATION

LOOKING NORTH
(NORMAL TO BR CENTERVILLE CREEK)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.10
OPERATING RATING: RF = 1.42
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY:
- SUPERSTRUCTURE — f'_c = 4,000 PSI
- ALL OTHER — f'_c = 3,500 PSI

BAR STEEL REINFORCEMENT
- GRADE 60 — f_y = 60,000 PSI

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10-INCH X 42 LB STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 170 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.

ESTIMATED 25'-0" LONG AT WEST ABUTMENT.
ESTIMATED 35'-0" LONG AT EAST ABUTMENT.

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

HYDRAULIC DATA

100-YEAR FREQUENCY:

Q_{100}= 620 C.F.S.
V_{100}= 3.0 F.P.S.
HW_{100}= EL. 631.51
WATERWAY AREA = 210.0 SQ. FT.
DRAINAGE AREA = 3.0 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 5

2-YEAR FREQUENCY:

Q_2= 160 C.F.S.
V_2= 1.2 F.P.S.
HW_2= EL. 628.96

TRAFFIC DATA

FEATURE ON: CTH XX

ADT = 800 (2026)
ADT = 830 (2046)
R.D.S. = 30 MPH

LIST OF DRAWINGS:

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.	NORTHING	EASTING
BM 1	8+50.4, 37' RT.	TOP OF BURY TAG BOLT ON HYD	634.86	236021.62	210522.83
BM 2	12+51.94, 19.40' RT	BRIDGE CAP IN SE WING WALL	633.01	236042.40	210924.50
BM 3	14+43.67, 30.32' RT	TOP OF BURB TAG BOLT ON HYD	632.18	236033.27	211116.23

STRUCTURE DESIGN CONTACTS:
CHRISTOPHER MARCUM, PE 715-861-4823
AARON BONK 608-261-0261

WISCONSIN
CHRISTOPHER J. MARCUM
44676
EAU CLAIRE
WISCONSIN
PROFESSIONAL ENGINEER

12/17/2025

NO.	DATE	REVISION	BY

jt ENGINEERING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED JLR 12/17/25
CHIEF STRUCTURES DESIGN ENGINEER DATE

STATE PROJECT NUMBER
4008-02-70

STRUCTURE B-36-256

CTH XX OVER BR CENTERVILLE CREEK

COUNTY	VILLAGE
MANITOWOC	CLEVELAND

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGN CK'D	DRAWN BY	PLANS CK'D
MPG	CJM	ZRT/MPG	CJM

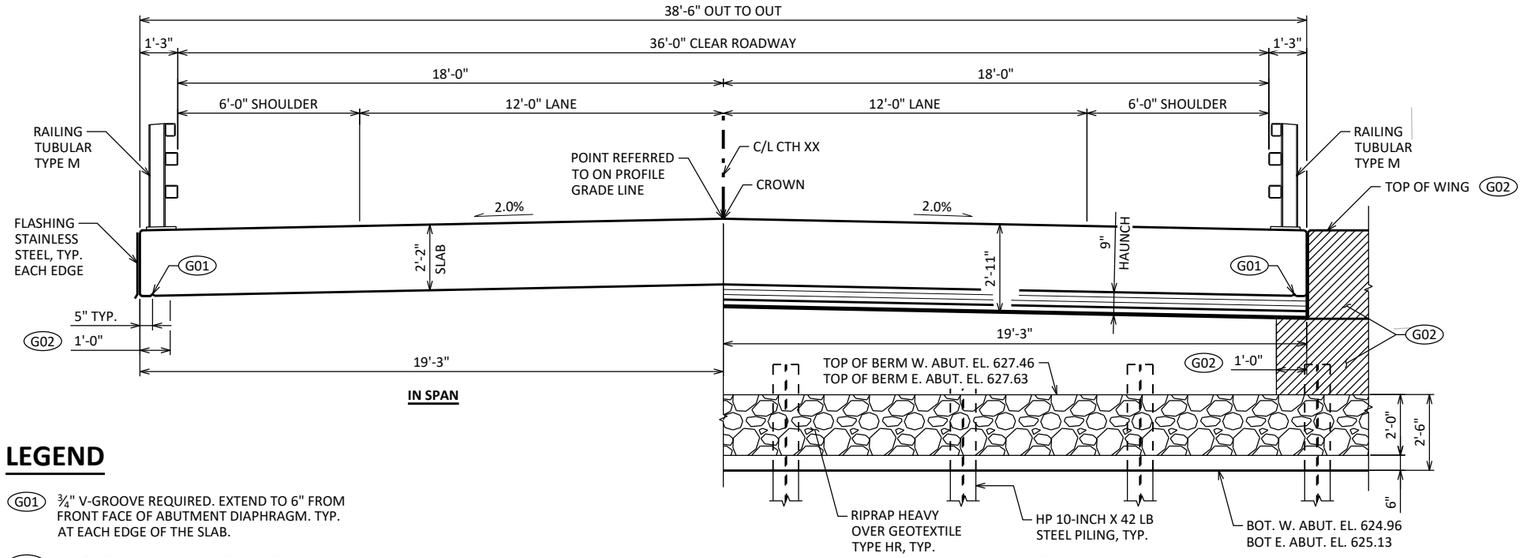
GENERAL PLAN AND ELEVATION

SHEET 1 OF 11
45

I.D. 4008-02-00 DATE: 11/18/2024

8

8



IN SPAN

AT ABUTMENTS
LOOKING AT FRONT FACE

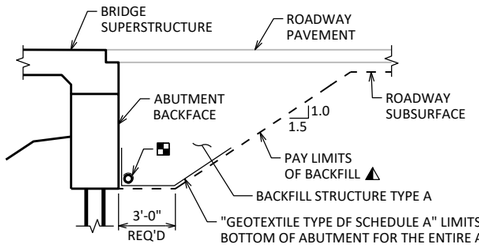
LEGEND

G01 ¾" V-GROOVE REQUIRED. EXTEND TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGM. TYP. AT EACH EDGE OF THE SLAB.

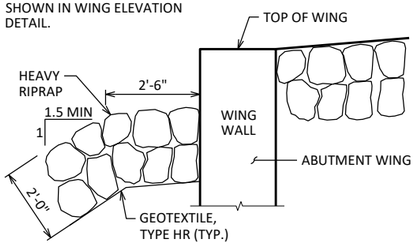
G02 PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK, THE DECK EDGES, THE EXTERIOR 1'-0" OF THE UNDERSIDE OF THE DECK AND DIAPHRAGMS, THE EXPOSED TOP AND FRONT FACES OF THE ABUTMENT AND WINGS TO 1'-0" PAST THE EDGE OF DECK.

TYPICAL SECTION THRU BRIDGE

LOOKING EAST
DIMENSIONS SHOWN ARE NORMAL TO C/L CTH XX



NOTE: PLACE HEAVY RIPRAP AS SHOWN IN WING ELEVATION DETAIL.

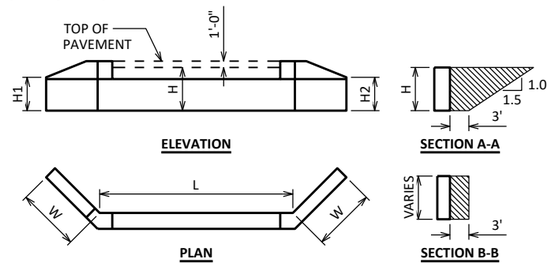


TYPICAL FILL SECTION AT WING

TYPICAL SECTION THRU ABUTMENT

⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

▪ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.



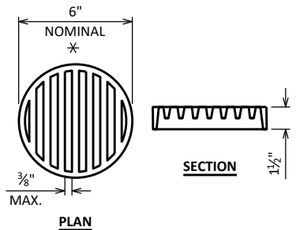
ABUTMENT BACKFILL DIAGRAM

L = ABUTMENT BODY LENGTH AT BACKFACE (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
H1 = WING 1 HEIGHT AT TIP (FT)
H2 = WING 2 HEIGHT AT TIP (FT)
W = WING LENGTH (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H) + (3')(0.5)(H1+H2+H+H)(W)
V_{CY} = V_{CF}(EF)/27
V_{TON} = V_{CY}(2.0)

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	WEST ABUT.	EAST ABUT.	TOTALS
203.0270	REMOVING STRUCTURE OVER WATERWAY DEBRIS CAPTURE B-36-913	EACH	---	---	---	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-36-256	EACH	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	---	240	240	480
502.0100	CONCRETE MASONRY BRIDGES	CY	168	36	35	239
502.3200	PROTECTIVE SURFACE TREATMENT	SY	270	18	19	307
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	---	3,150	3,150	6,300
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	31,800	910	920	33,630
513.4061	RAILING TUBULAR TYPE M	LF	111	---	---	111
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	---	9	9	18
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	---	225	315	540
606.0300	RIPRAP HEAVY	CY	---	75	80	155
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	---	100	100	200
645.0111	GEOTEXTILE DF SCHEDULE A	SY	---	65	65	130
645.0120	GEOTEXTILE TYPE HR	SY	---	175	180	355
SPV.0090	FLASHING STAINLESS STEEL	LF	95	---	---	95
	NON-BID ITEMS					
	PREFORMED JOINT FILLER	SIZE				½" & ¾"
	NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER	SIZE				1"
	NAME PLATE	EACH				1

ALL B-36-256 BID ITEMS ARE CATEGORY 0020

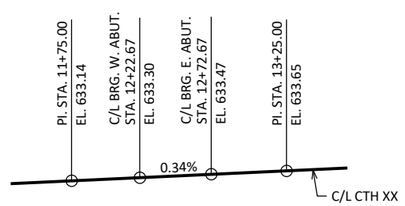


RODENT SHIELD DETAIL

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

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

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



PROFILE GRADE LINE

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE EXISTING STRUCTURE, B-36-913, IS A SINGLE SPAN REINFORCED CONCRETE CAST-IN-PLACE GIRDER BRIDGE ORIGINALLY CONSTRUCTED IN 1917, ON TIMBER PILING. THE EXISTING BRIDGE HAS AN OVERALL LENGTH OF 28'-9" AND AN OVERALL WIDTH OF 38'-9". EXISTING STRUCTURE B-36-913 IS TO BE REMOVED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES B-36-256" SHALL BE THE EXISTING GROUNDLINE.

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

EXCAVATE TO THE BOTTOM OF ABUTMENT ELEVATION PRIOR TO DRIVING PILES.

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

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF SLAB, THE SLAB EDGES, THE EXTERIOR 1'-0" OF THE UNDERSIDE OF THE SLAB AND HAUNCH, THE EXPOSED TOP AND FRONT FACES OF THE ABUTMENT AND WINGS TO 1'-0" PAST THE EDGE OF SLAB.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE "HR" TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

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

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

HORIZONTAL POSITION SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), MANITOWOC 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 (2021). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

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

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

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

STATE PROJECT NUMBER
4008-02-70

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-256

DRAWN BY ZRT/MPG | PLANS CK'D CJM

CROSS SECTION, NOTES, AND QUANTITIES

SHEET 2 OF 11
46

8

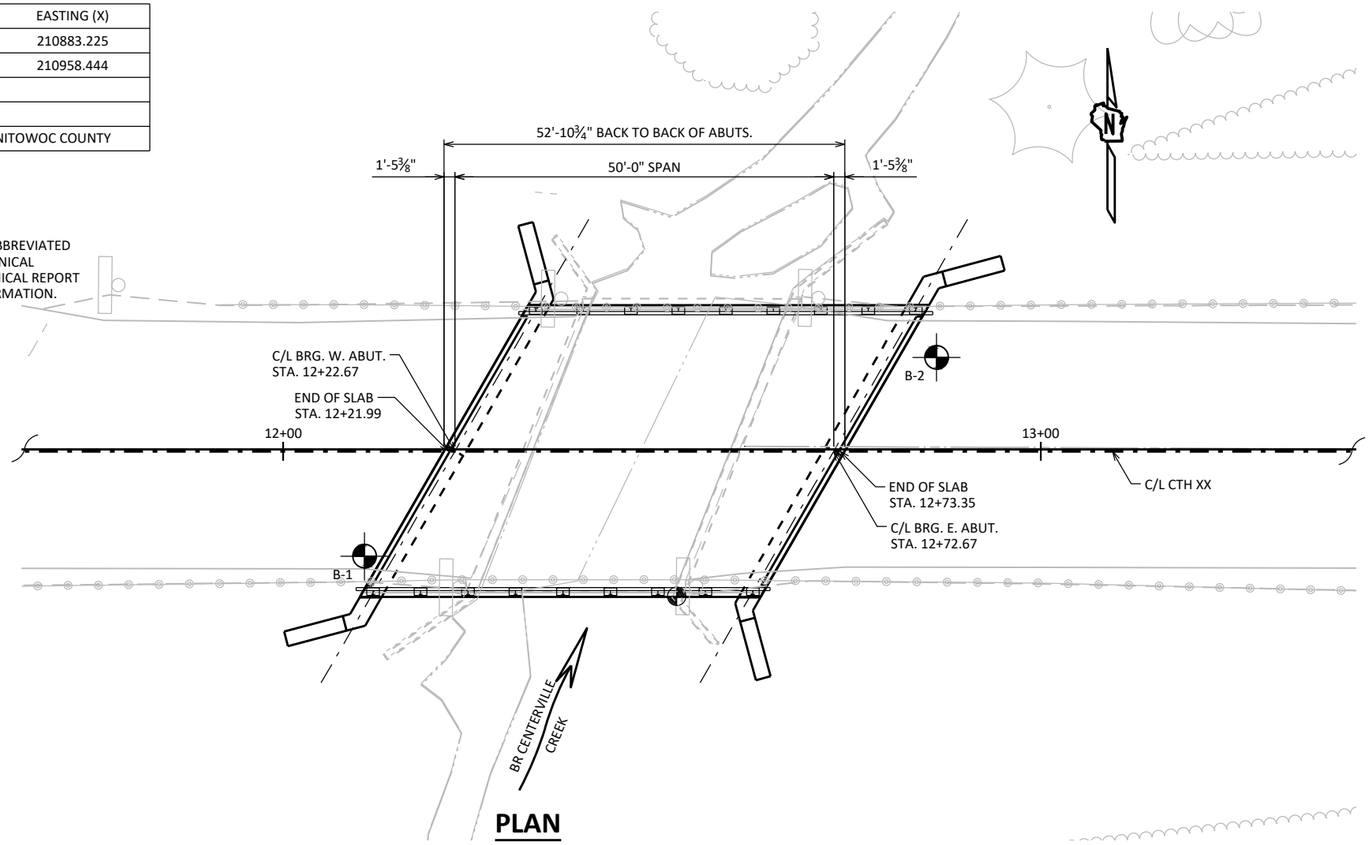
8

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-01	MARCH 19, 2024	236047.461	210883.225
B-02	MARCH 18, 2024	236074.561	210958.444
BORINGS COMPLETED BY: ECS MIDWEST, LLC.			
REPORT COMPLETED BY: ECS MIDWEST, LLC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(2011) MANITOWOC COUNTY			

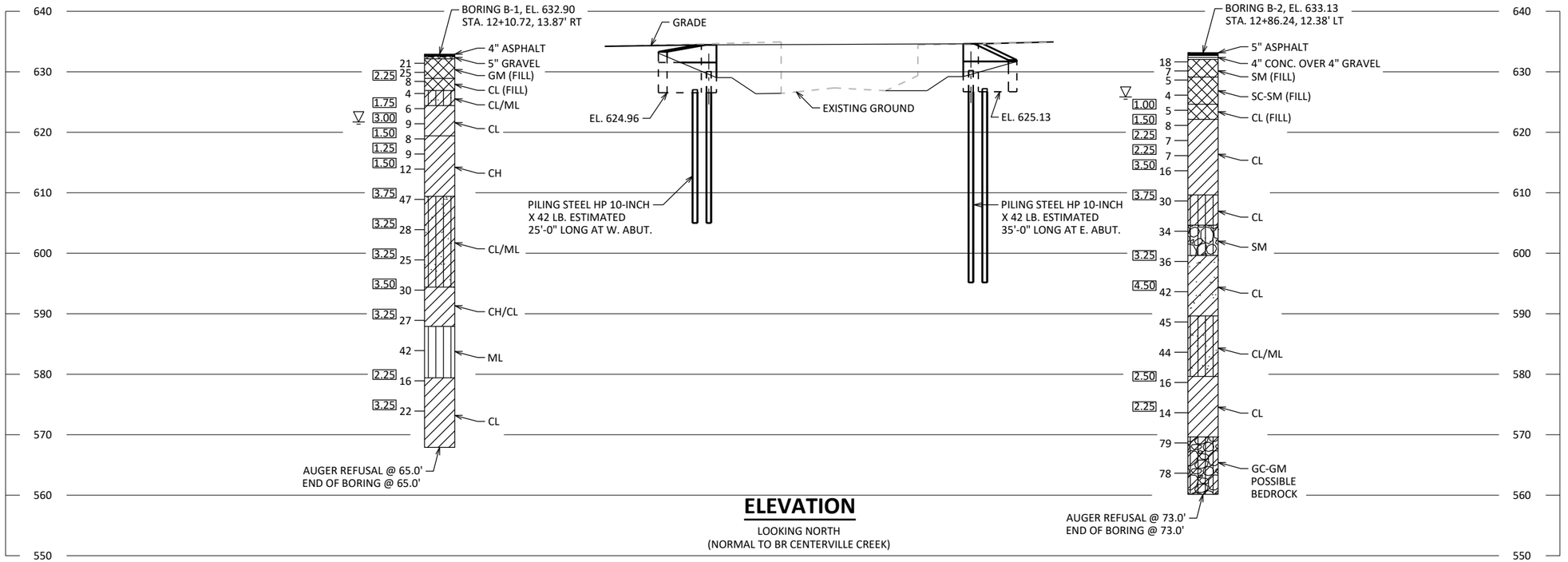
NOTES

BORING STATIONS AND OFFSETS ARE BASED ON C/L CTH XX.

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



PLAN



ELEVATION

LOOKING NORTH
(NORMAL TO BR CENTERVILLE CREEK)

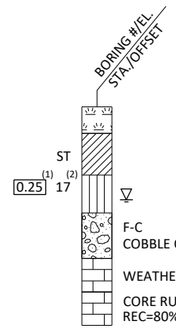
STATE PROJECT NUMBER

4008-02-70

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-256

DRAWN BY ZRT/MPG | PLANS CK'D CJM

SUBSURFACE EXPLORATION

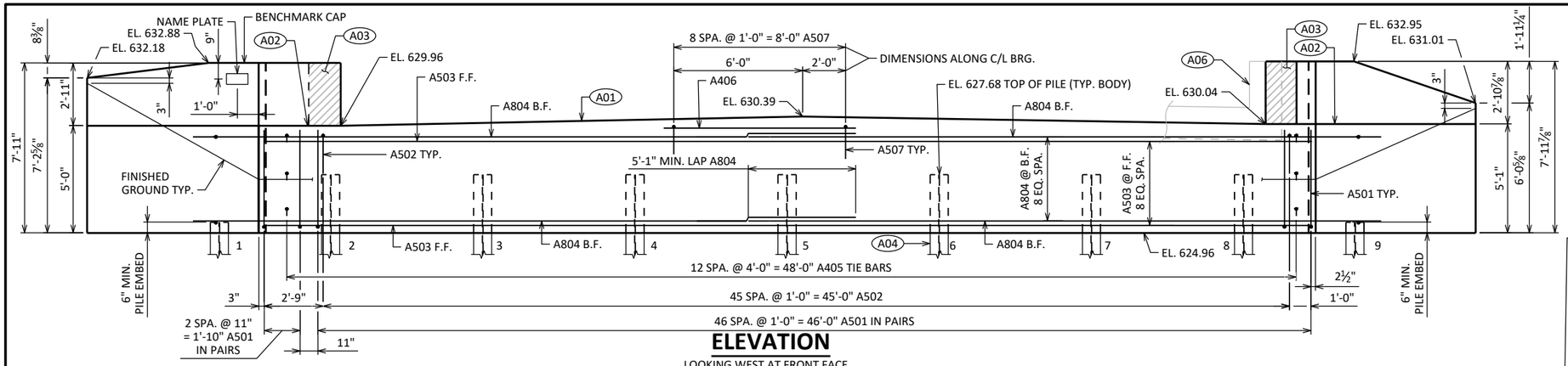
SHEET 3 OF 11
47

8

8

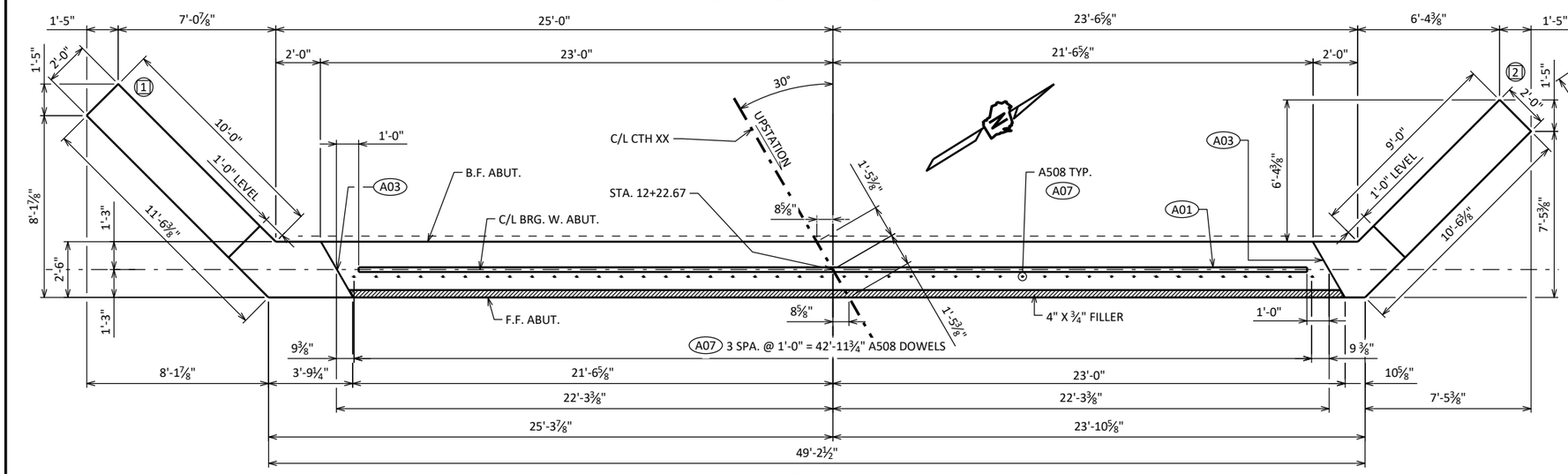
STATE PROJECT NUMBER

4008-02-70

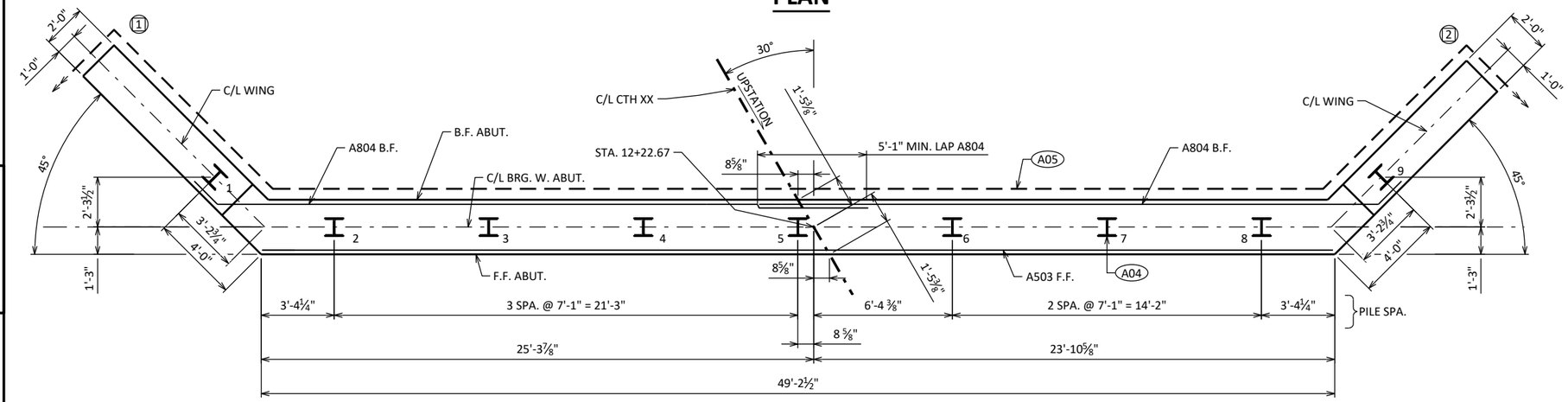


ELEVATION

LOOKING WEST AT FRONT FACE

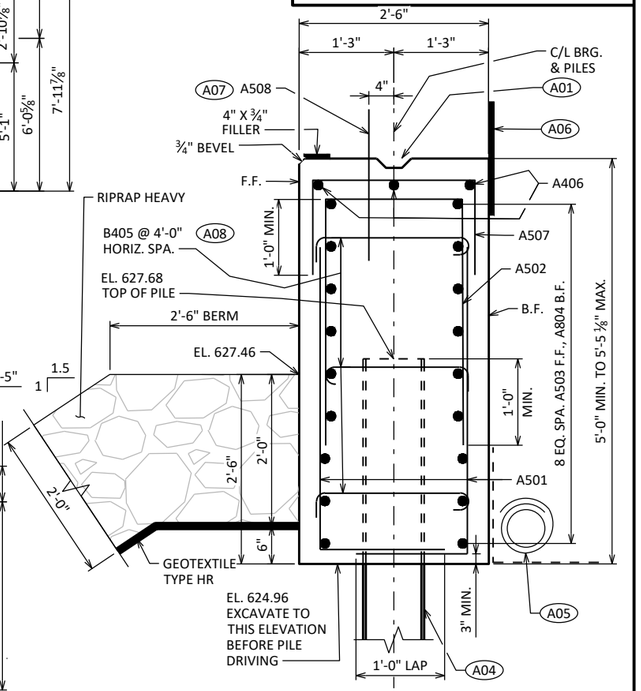


PLAN



PILE PLAN

SHOWING HORIZ. REINF.



SECTION THRU BODY

LEGEND

- (A01) CONST. JOINT KEYWAY FORMED BY A BEVELED 2" X 6".
- (A02) OPT. KEYED CONST. JOINT FORMED BY A BEVELED 2" X 6".
- (A03) ½" FILLER. EXTEND FROM BEARING ELEVATION TO TOP OF WING AS SHOWN. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).
- (A04) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING ESTIMATED 25'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 170 TONS PER PILE.
- (A05) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE SHEET 2 FOR DETAILS.
- (A06) 18" RUBBERIZED MEMBRANE WATERPROOFING (RMW). SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A07) B508 BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED BARS 1'-0".
- (A08) ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.
- (X) INDICATES WINGWALL NUMBER

F.F. = FRONT FACE B.F. = BACK FACE

NOTES

DO NOT PLACE BACKFILL ABOVE 3'-0" FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

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

FOR PILE SPLICE DETAIL, SEE SHEET 8.

SPACE REINFORCEMENT TO MISS PILING STEEL.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-256

DRAWN BY CJM PLANS CK'D NAR

WEST ABUTMENT

SHEET 4 OF 11

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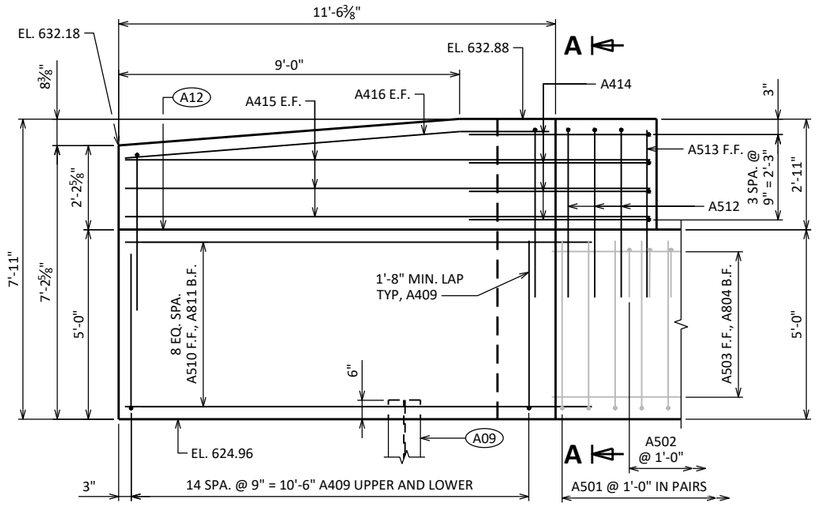
8

8

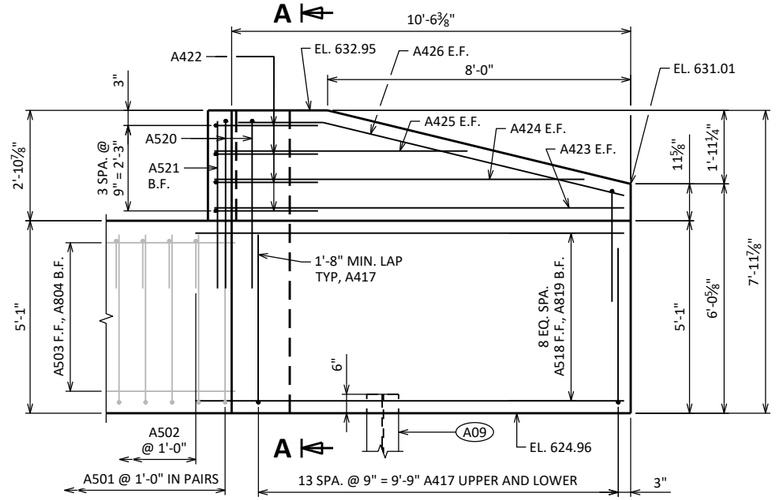
STATE PROJECT NUMBER

4008-02-70



WING 1 ELEVATION

SHOWING FRONT FACE OF WING
NAME PLATE NOT SHOWN FOR CLARITY



WING 2 ELEVATION

SHOWING FRONT FACE OF WING

LEGEND

- (A09) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, ESTIMATED 25'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 170 TONS PER PILE.
- (A10) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE SHEET 2 FOR DETAILS.
- (A11) 18" RUBBERIZED MEMBRANE WATERPROOFING (RMW) SEAL ALL HORIZ. & VERT JOINTS AT BACKFACE.
- (A12) OPTIONAL KEYED CONST. JOINT FORMED BY BEVELED 2" X 6". PROVIDE ¾" "V" GROOVE ON F.F. OF WINGWALL IF OPTIONAL JOINT IS USED.
- (A13) ½" FILLER. EXTEND FROM BEARING ELEVATION TO TOP OF WING AS SHOWN. SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).
- (X) INDICATES WINGWALL NUMBER

F.F. = FRONT FACE B.F. = BACK FACE E.F. = EACH FACE

NOTES

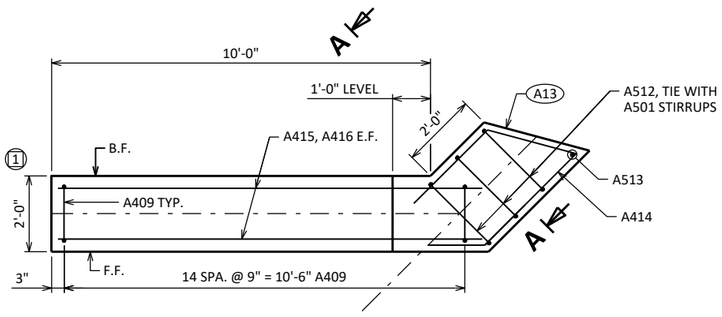
DO NOT PLACE BACKFILL ABOVE 3'-0" FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

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

FOR PILE SPLICE DETAIL, SEE SHEET 8.

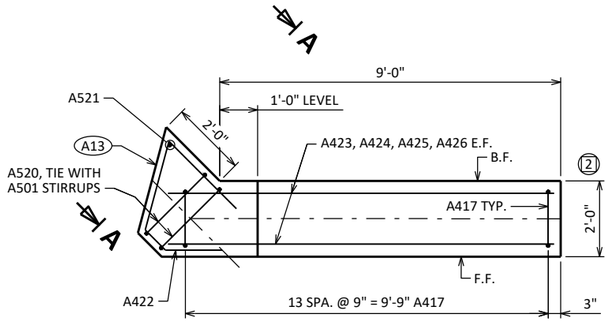
SPACE REINFORCEMENT TO MISS PILING STEEL.

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



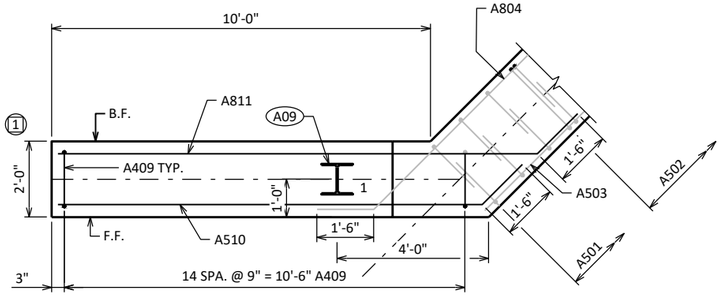
WING 1 PLAN

SHOWING UPPER WING REINFORCEMENT



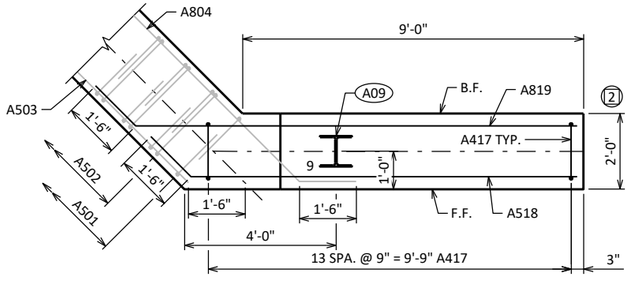
WING 2 PLAN

SHOWING UPPER WING REINFORCEMENT



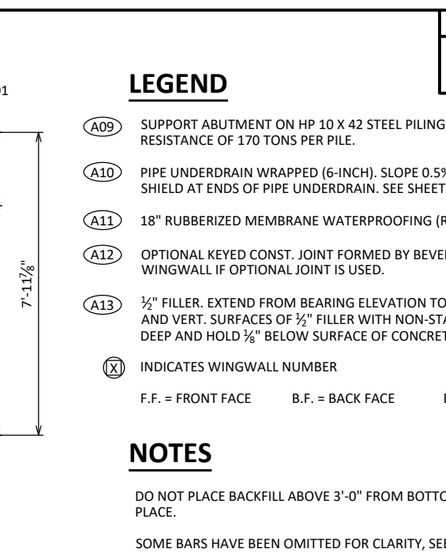
WING 1 PLAN

SHOWING LOWER WING REINFORCEMENT

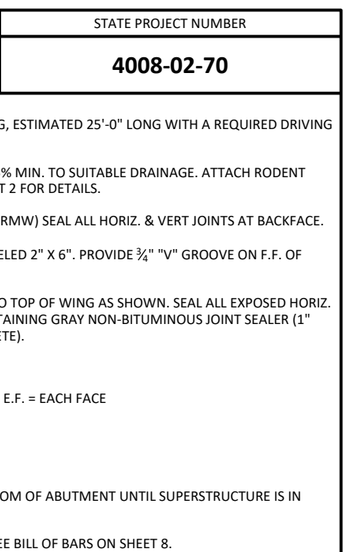


WING 2 PLAN

SHOWING LOWER WING REINFORCEMENT



SECTION THRU WING



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-256

DRAWN BY CJM PLANS CK'D NAR

WEST ABUTMENT DETAILS

SHEET 5 OF 11

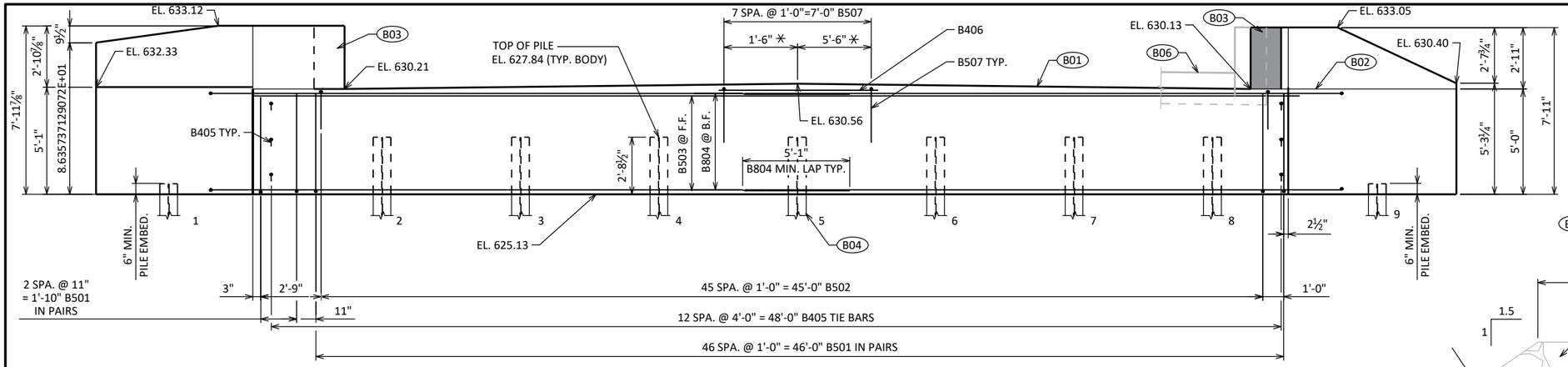
49

8

8

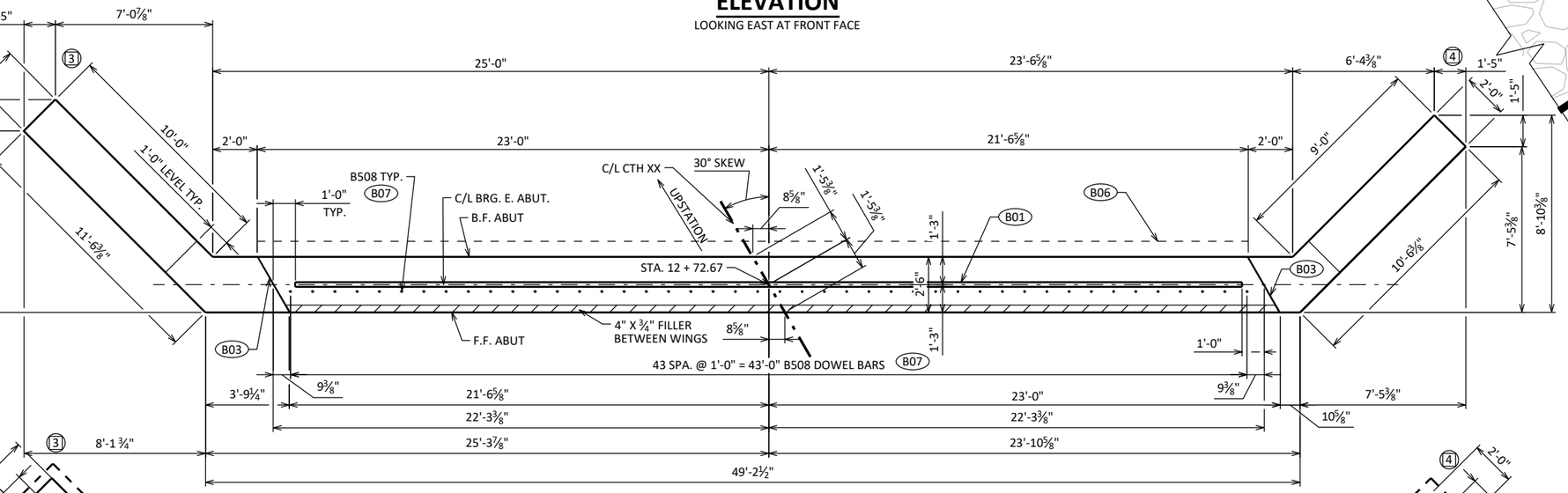
STATE PROJECT NUMBER

4008-02-70

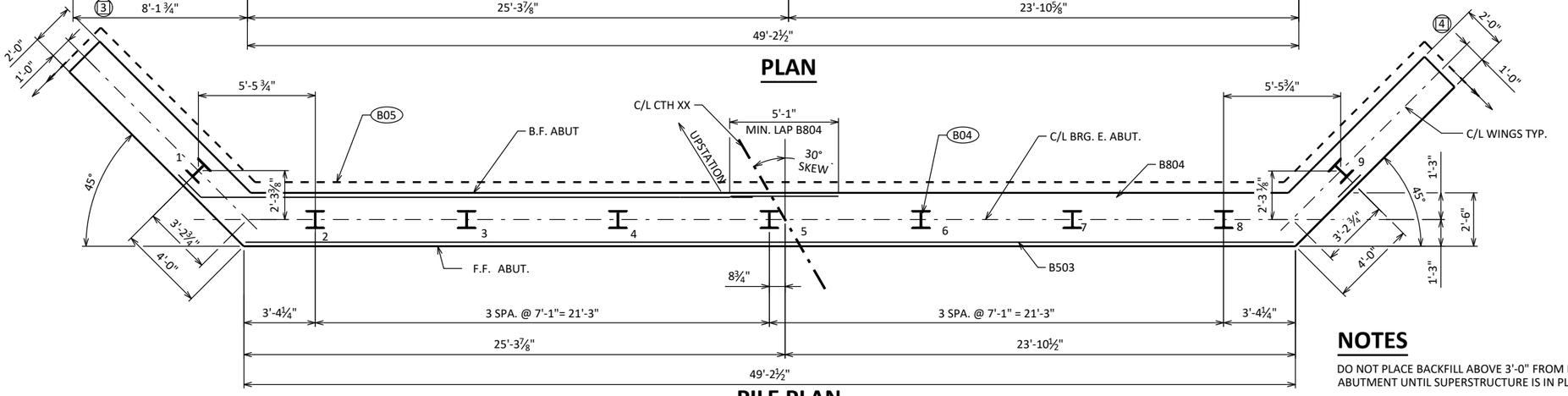


ELEVATION

LOOKING EAST AT FRONT FACE

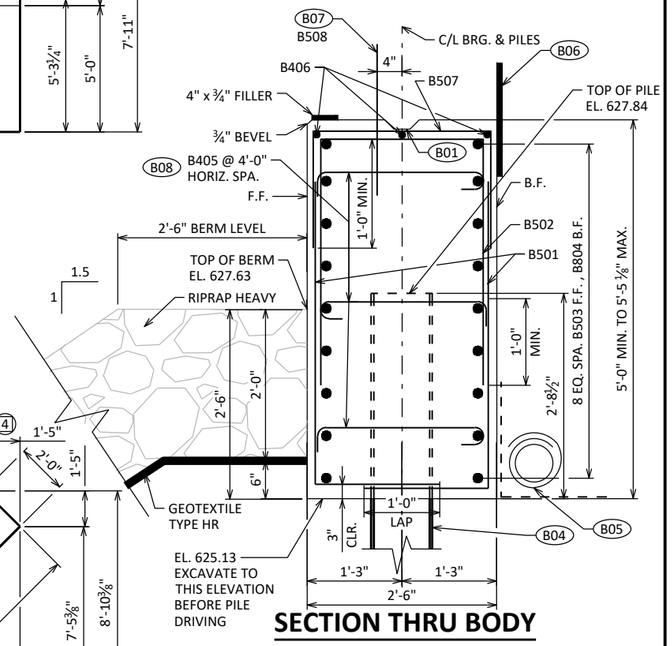


PLAN



PILE PLAN

SHOWING HORIZ. REINF.



SECTION THRU BODY

LEGEND

- (B01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.
- (B02) OPT. KEYED CONST. JOINT FORMED BY A BEVELED 2" X 6".
- (B03) ½" FILLER, EXTEND FROM BEARING ELEVATION TO TOP OF WING AS SHOWN. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).
- (B04) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 35'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 170 TONS PER PILE.
- (B05) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE SHEET 2 FOR DETAILS.
- (B06) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (B07) B506 @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)
- (B08) ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES
- (X) INDICATES WINGWALL NUMBER
- F.F. FRONT FACE
- B.F. BACK FACE
- ✳ DIMENSIONS ALONG C/L BRG.

NOTES

DO NOT PLACE BACKFILL ABOVE 3'-0" FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

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

FOR PILE SPLICE DETAIL. SEE SHEET 8.

SPACE REINFORCEMENT TO MISS PILING STEEL.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-256

DRAWN BY MPG | PLANS CK'D CJM

EAST ABUTMENT

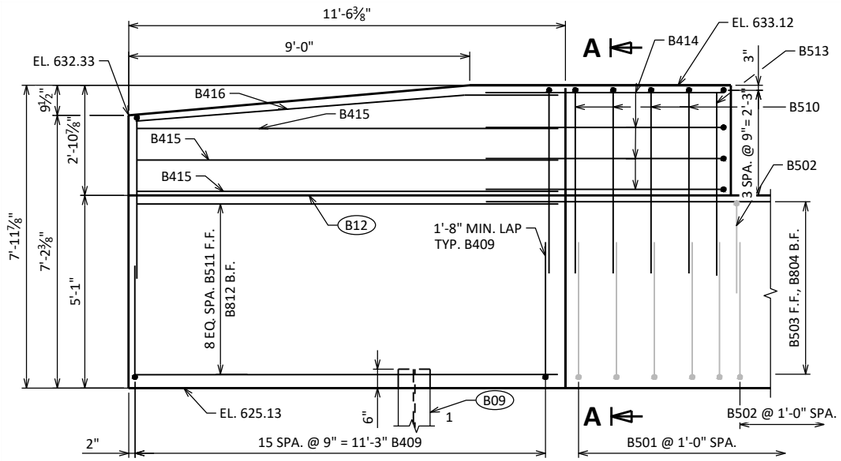
SHEET 6 OF 11

8

8

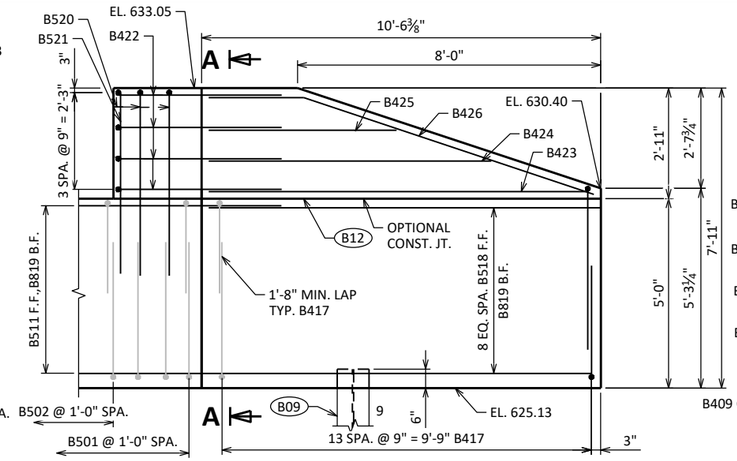
STATE PROJECT NUMBER

4008-02-70



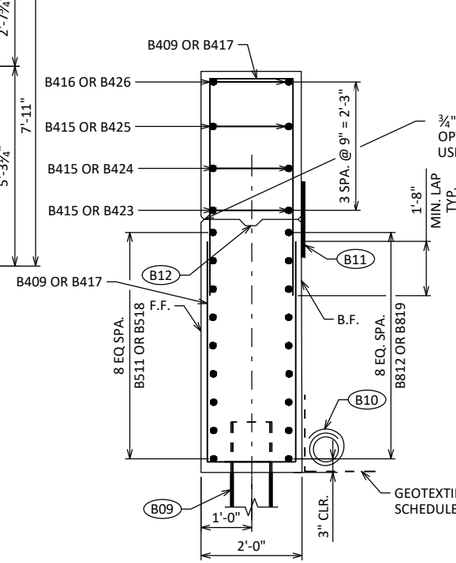
WING 3 ELEVATION

SHOWING F.F. WING



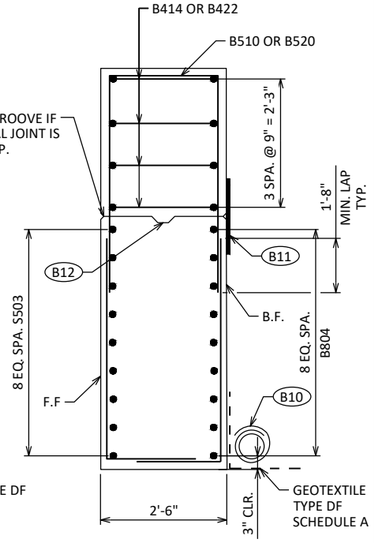
WING 4 ELEVATION

SHOWING F.F. WING

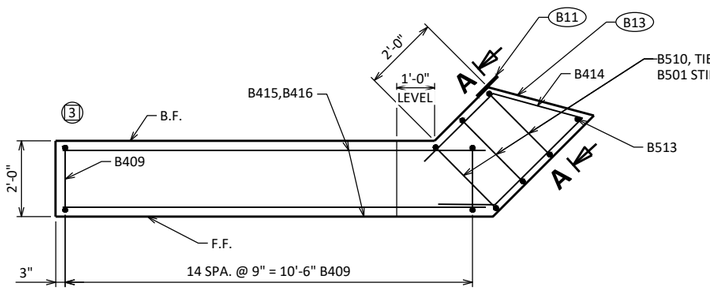


SECTION THRU WING

TYPICAL BOTH WINGS

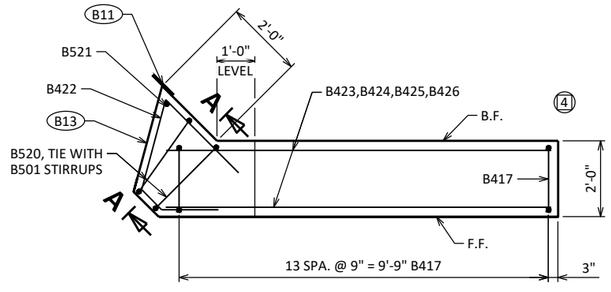


SECTION A-A



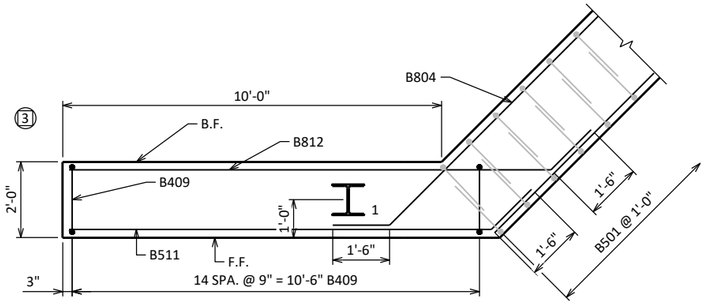
WING 3 PLAN

SHOWING UPPER WING REINFORCEMENT



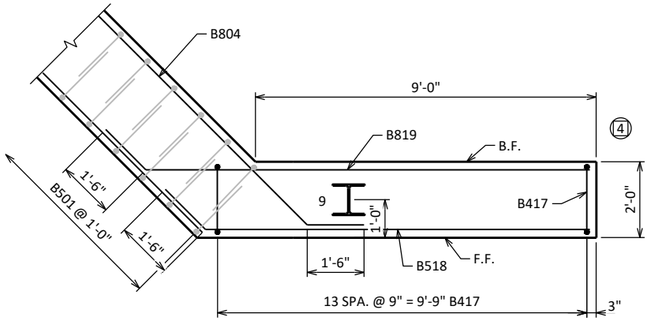
WING 4 PLAN

SHOWING UPPER WING REINFORCEMENT



WING 3 PLAN

SHOWING LOWER WING REINFORCEMENT



WING 4 PLAN

SHOWING LOWER WING REINFORCEMENT

LEGEND

- (B09) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 35'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 170 TONS PER PILE.
- (B10) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE SHEET 2 FOR DETAILS.
- (B11) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (B12) OPTIONAL KEYED CONST. JOINT FORMED BY BEVELED 2" X 6". PROVIDE ¾" "V" GROOVE ON F.F. OF WINGWALL IF OPTIONAL JOINT IS USED.
- (B13) ½" FILLER, EXTEND FROM BEARING ELEVATION TO TOP OF WING AS SHOWN. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

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STRUCTURE B-36-256

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EAST ABUTMENT DETAILS

SHEET 7 OF 11

8

8

STATE PROJECT NUMBER

4008-02-70

BILL OF BARS - WEST ABUTMENT

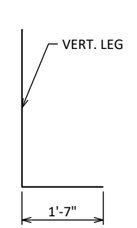
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501		100	6'-0"	X		BODY VERT. BOT.
A502		46	9'-0"	X		BODY VERT. TOP
A503		9	48'-10"			BODY HORIZ. F.F.
A804		18	30'-11"	X		BODY HORIZ. B.F.
A405		39	2'-11"	X		BODY HORIZ. TIES
A406		3	8'-4"			BODY HORIZ. TOP
A507		9	4'-9"	X		BODY VERT. TOP
A508	X	44	2'-0"			BODY DOWELS
A409	X	30	10'-7"	X		WING 1 VERT.
A510	X	9	12'-7"	X		WING 1 HORIZ. F.F.
A811	X	9	14'-7"	X		WING 1 HORIZ. B.F.
A512	X	3	12'-6"	X		WING 1 VERT. TOP
A513	X	1	5'-4"			WING 1 VERT. F.F.
A414	X	4	9'-11"	X		WING 1 HORIZ. TOP
A415	X	6	11'-3"			WING 1 HORIZ. E.F.
A416	X	2	11'-3"	X		WING 1 DIAG. E.F.
A417	X	28	10'-7"	X		WING 2 VERT.
A518	X	9	11'-8"	X		WING 2 HORIZ. F.F.
A819	X	9	13'-7"	X		WING 2 HORIZ. B.F.
A520	X	2	12'-6"	X		WING 2 VERT. TOP
A521	X	1	5'-4"			WING 2 VERT. B.F.
A422	X	4	7'-4"	X		WING 2 HORIZ. TOP
A423	X	2	10'-2"			WING 2 HORIZ. E.F.
A424	X	2	8'-9"			WING 2 HORIZ. E.F.
A425	X	2	5'-8"			WING 2 HORIZ. E.F.
A426	X	2	10'-4"	X		WING 2 DIAG. E.F.

BILL OF BARS - EAST ABUTMENT

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501		100	6'-1"	X		BODY VERT. BOT.
B502		46	9'-0"	X		BODY VERT. TOP
B503		9	48'-10"			BODY HORIZ. F.F.
B804		18	30'-11"	X		BODY HORIZ. B.F.
B405		39	2'-11"	X		BODY HORIZ. TIES
B406		3	7'-4"			BODY HORIZ. TOP
B507		8	4'-6"	X		BODY VERT. TOP
B508	X	44	2'-0"			BODY DOWELS
B409	X	30	10'-7"	X		WING 3 VERT.
B510	X	3	12'-6"	X		WING 3 VERT. TOP
B511	X	9	12'-9"	X		WING 3 HORIZ. F.F.
B812	X	9	14'-7"	X		WING HORIZ. B.F.
B513	X	1	5'-4"			WING 3 VERT. F.F.
B414	X	4	9'-11"	X		WING 3 HORIZ. TOP
B415	X	6	11'-3"			WING 3 HORIZ. E.F.
B416	X	2	11'-3"	X		WING 3 DIAG. E.F.
B417	X	28	10'-7"	X		WING 4 VERT.
B518	X	9	11'-8"	X		WING 4 HORIZ. F.F.
B819	X	9	13'-4"	X		WING 4 HORIZ. B.F.
B520	X	2	12'-6"	X		WING 4 VERT. TOP
B521	X	1	5'-4"			WING 4 VERT. B.F.
B422	X	4	7'-4"	X		WING 4 HORIZ. TOP
B423	X	2	9'-4"			WING 4 HORIZ. E.F.
B424	X	2	8'-1"			WING 4 HORIZ. E.F.
B425	X	2	5'-9"			WING 4 HORIZ. E.F.
B426	X	2	10'-6"	X		WING 4 DIAG. E.F.



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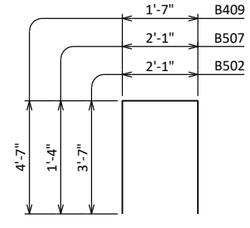
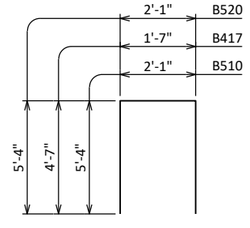
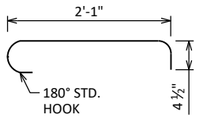


B502,B507,B409



B510,B417,B520



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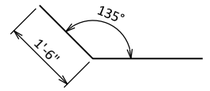
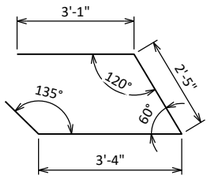


B804,B511,B812,B518,B519



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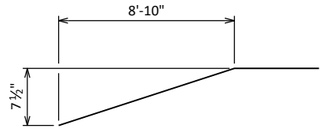

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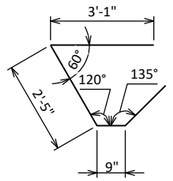

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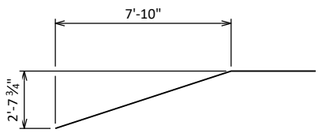

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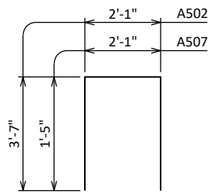
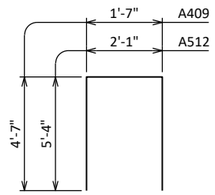
A501



A502, A507



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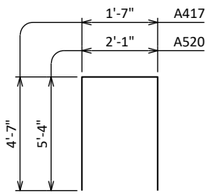
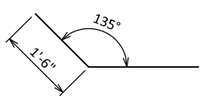
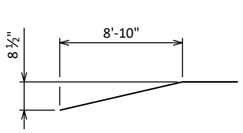


A417, A520



A804, A510, A811, A518, A819



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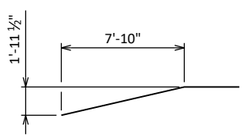

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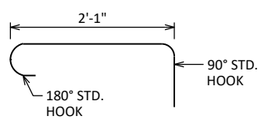

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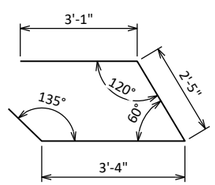

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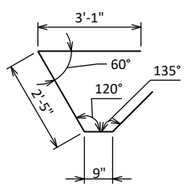

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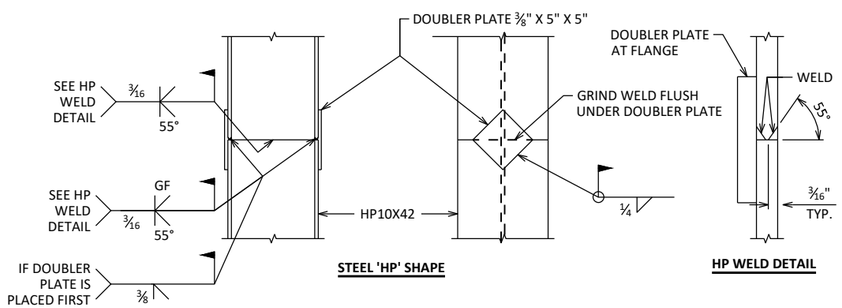

'HP' PILE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-256

DRAWN BY MPG/CJM | PLANS CK'D CJM/ NAR

ABUTMENT BAR STEEL

SHEET 8 OF 11

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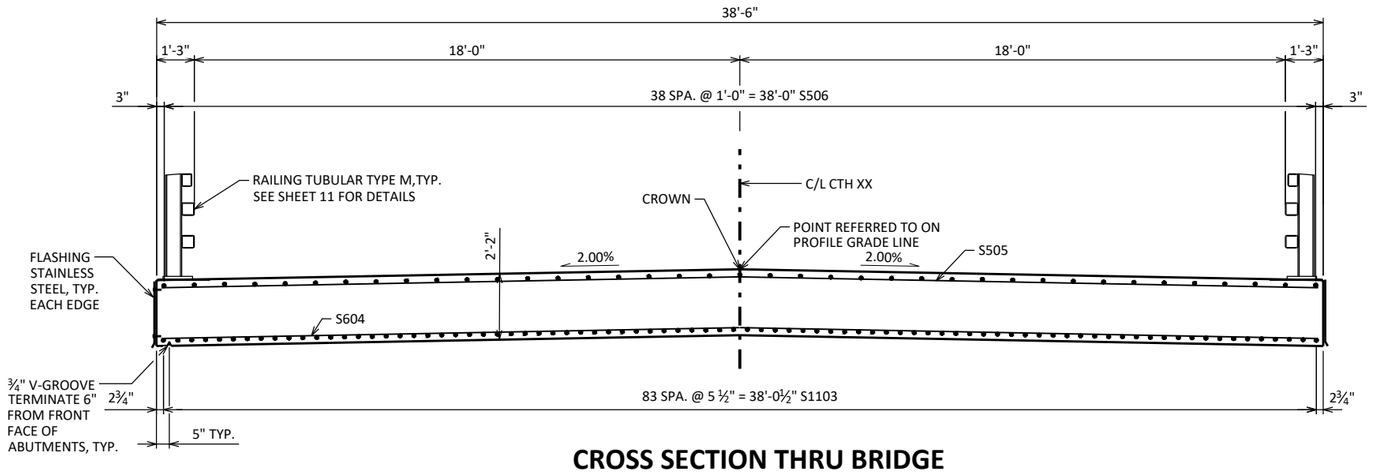
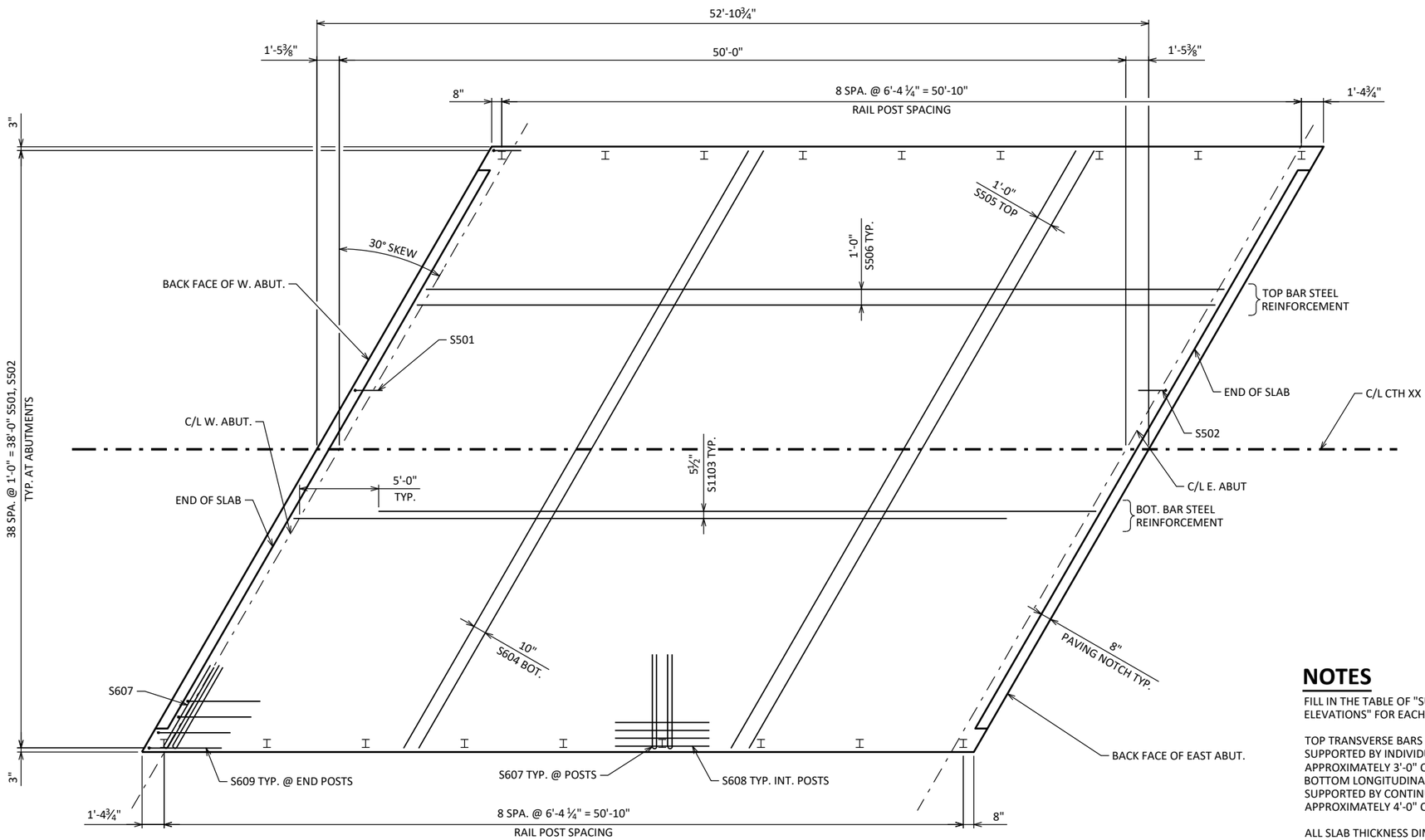


CROSS SECTION THRU BRIDGE

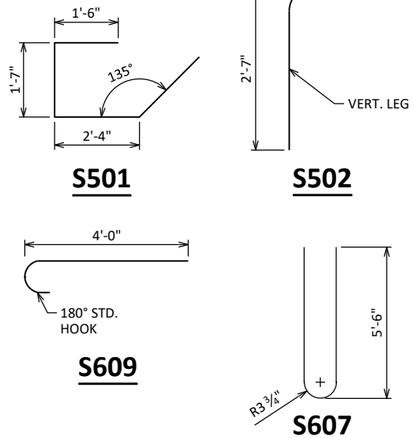


PLAN

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S501	X	79	7'-8"	X		SLAB AT ABUT.
S502	X	79	4'-0"	X		SLAB AT ABUT.
S1103	X	84	46'-2"			SLAB LONG. BOT.
S604	X	69	44'-0"			SLAB TRANS. BOT.
S505	X	53	44'-0"			SLAB TRANS. TOP.
S506	X	39	49'-6"			SLAB LONG. TOP
S607	X	36	11'-2"	X		SLAB AT RAIL POSTS
S608	X	56	6'-0"			SLAB AT INT. RAIL POSTS
S609	X	16	4'-8"	X		SLAB AT END RAIL POSTS



NOTES

FILL IN THE TABLE OF "SURVEY TOP OF SLAB ELEVATIONS" FOR EACH SPAN ON SHEET 10.

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

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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STRUCTURE B-36-256

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SUPERSTRUCTURE

SHEET 9 OF 11
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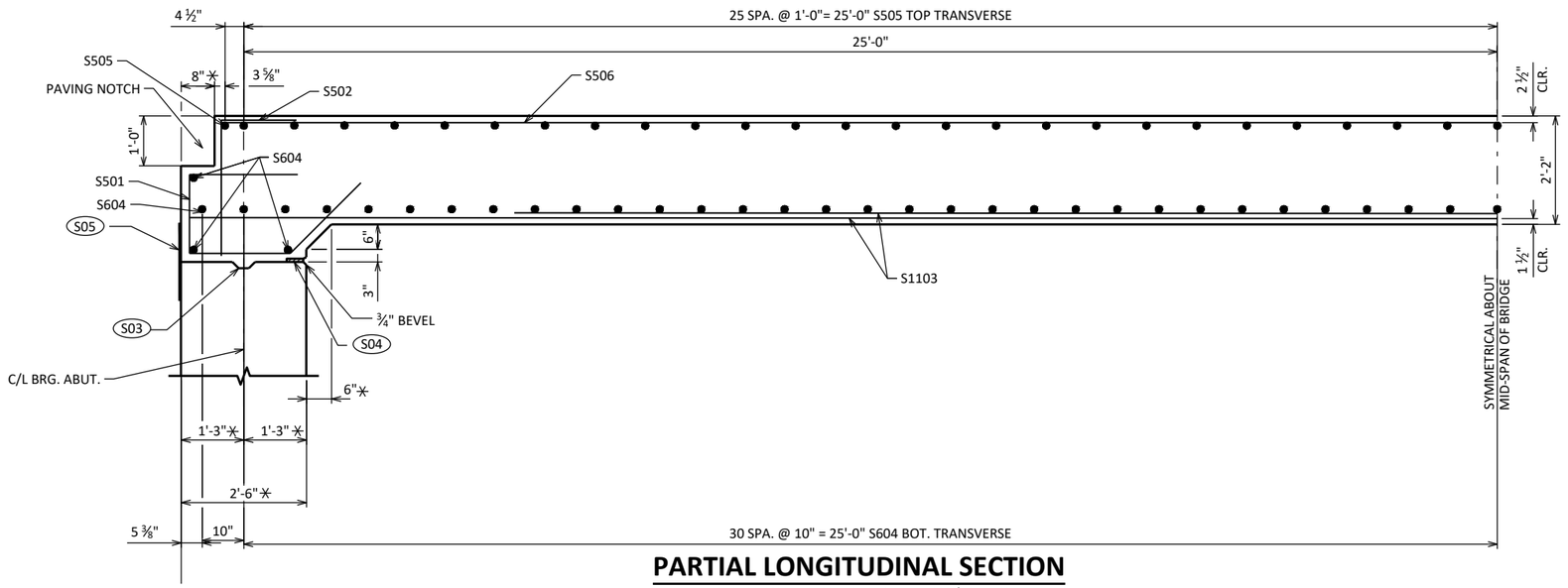


PARTIAL LONGITUDINAL SECTION

DIMENSIONS ARE GIVEN PARALLEL TO C/L CTH XX.
UNLESS OTHERWISE NOTED.

LEGEND

- (S01) ¾" V-GROOVE REQ'D. EXTEND TO 6" FROM FRONT FACE OF ABUTMENT HAUNCH.
- (S02) PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP OF SLAB, EDGE OF SLAB, EXTERIOR 1'-0" OF THE BOTTOM OF SLAB, AND TO THE PAVING NOTCHES.
- (S03) CONSTRUCTION JOINT. KEYWAY FORMED BY A BEVELED 2" X 6".
- (S04) 4" X ¾" PREFORMED FILLER (TO EXTEND BETWEEN EDGES OF SLAB).
- (S05) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACK FACE OF ABUTMENT.
- ✳ DIMENSION IS NORMAL TO C/L BRG. ABUT.

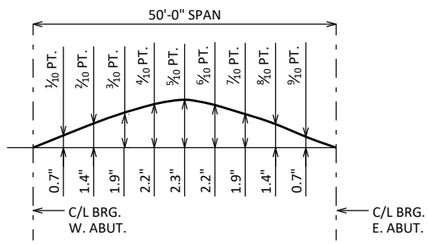
TOP OF SLAB ELEVATIONS

LOCATION	C/L BRG. W. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	C/L BRG. E. ABUT.
N. EDGE OF DECK	632.95	632.97	632.99	633.01	633.02	633.04	633.06	633.07	633.09	633.11	633.12
C/L CTH XX	633.30	633.32	633.34	633.35	633.37	633.39	633.40	633.42	633.44	633.46	633.47
S. EDGE OF DECK	632.88	632.90	632.91	632.93	632.95	632.96	632.98	633.00	633.02	633.03	633.05

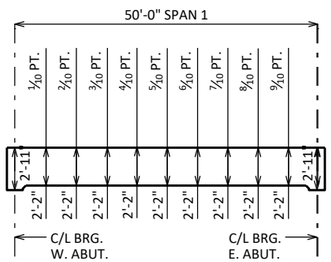
SURVEY TOP OF SLAB ELEVATIONS

LOCATION	W. ABUT	5/10 PT.	E. ABUT
N. EDGE OF DECK			
CL CTH XX			
S. EDGE OF DECK			

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF ABUTMENTS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF DECK AND CROWN OR R/L. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.



CAMBER DIAGRAM



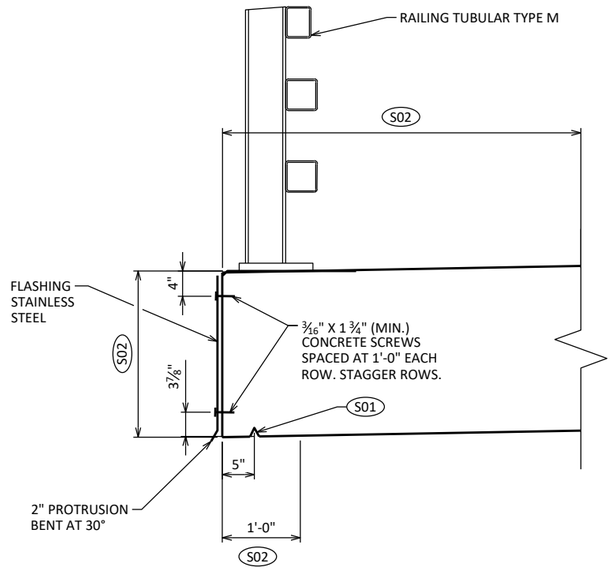
THICKNESS DIAGRAM

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB AND CROWN FOLLOW THIS PROCEDURE:

TOP OF SLAB ELEVATION AT FINAL GRADE
MINUS.....SLAB THICKNESS
PLUS.....CAMBER
PLUS.....FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)

EQUALS = TOP OF SLAB FALSEWORK ELEVATION

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.



TYPICAL EDGE OF SLAB DETAIL

BAR STEEL OMITTED FOR CLARITY

NOTE

THE BID ITEM "FLASHING STAINLESS STEEL" SHALL INCLUDE PROVIDING AND INSTALLING THE STAINLESS STEEL FLASHING, CAULK, 3/16" CONCRETE SCREWS, AND CLEANING OF THE EDGE OF THE DECK PRIOR TO ATTACHMENT OF THE FLASHING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-0256

DRAWN BY MPG | PLANS CK'D CJM

SUPERSTRUCTURE DETAILS

SHEET 10 OF 11

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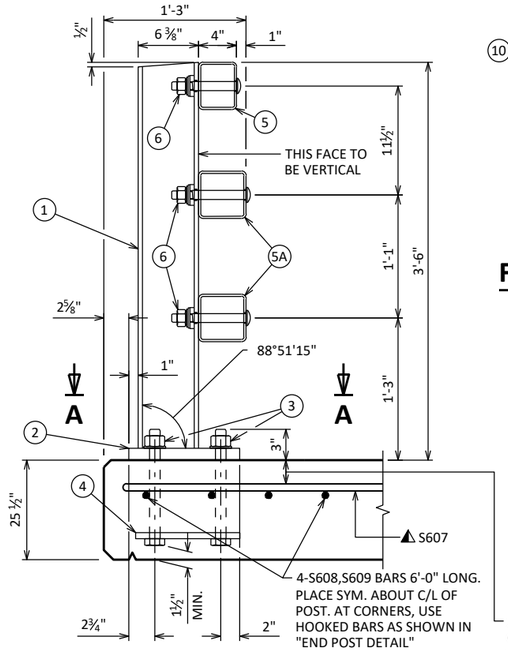
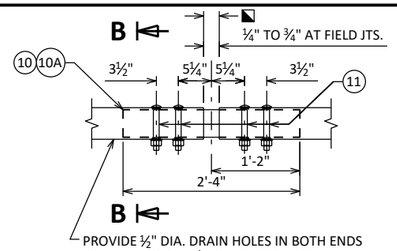
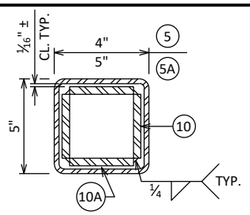


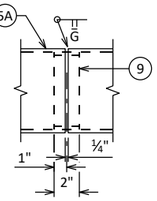
SECTION THRU RAILING ON DECK



FIELD ERECTION JOINT DETAIL

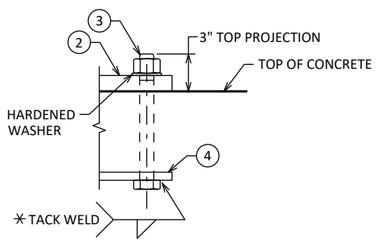


SECTION B-B

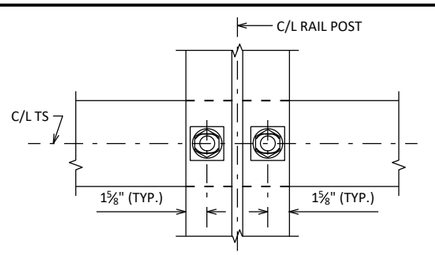


SHOP RAIL SPLICE DETAIL

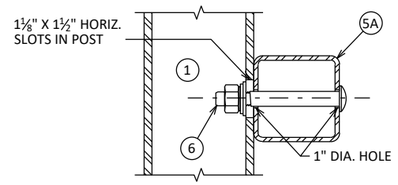
LOCATION MUST BE SHOWN ON SHOP DRAWINGS



ANCHOR BOLTS



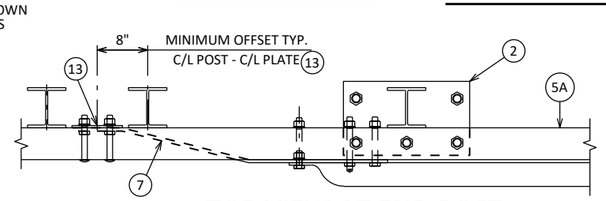
SECTION THRU POST WEB



SECTION THRU RAIL

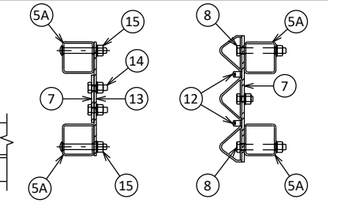
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS



TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT



SECTION C-C

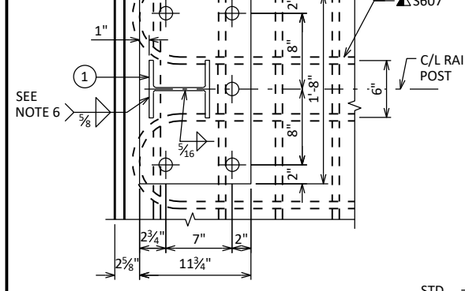
SECTION D-D

LEGEND

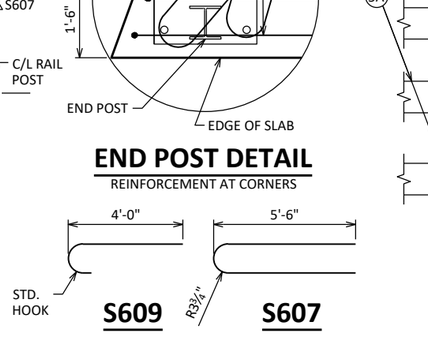
1. W6 X 25 WITH 1⅛" X 1½" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
2. PLATE 1¼" X 11¾" X 1'-8" WITH 1 7/16" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
3. ASTM A449 - 1⅛" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10¾" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTABILITY.)
4. ⅝" X 11" X 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/16" DIA. HOLES FOR ANCHOR BOLTS NO. 3
5. TS 5 X 4 X 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
5A. TS 5 X 5 X 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
6. ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" X 1⅝" X 1⅝" MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
7. ½" THK. BACK-UP PLATE WITH 2 - ⅞" X 1½" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
8. 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR ⅞" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
9. SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".
10. ⅜" X 3⅝" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
10A. ⅜" X 2⅝" X 2'-4" PLATE USED IN NO. 5, ⅜" X 3⅝" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
11. ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15/16" X 1¼" LONGIT. SLOTTED HOLES IN PLATE NO. 10A. AT FIELD JOINTS AND 15/16" X 2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A. PROVIDE 15/16" DIA. ROUND HOLES IN TUBES NO. 5 AND NO. 5A.
12. ⅞" DIA. X 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
13. ⅜" X 8" X 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
14. ⅞" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
15. 1" DIA. HOLES IN TUBES NO. 5A FOR ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

GENERAL NOTES

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



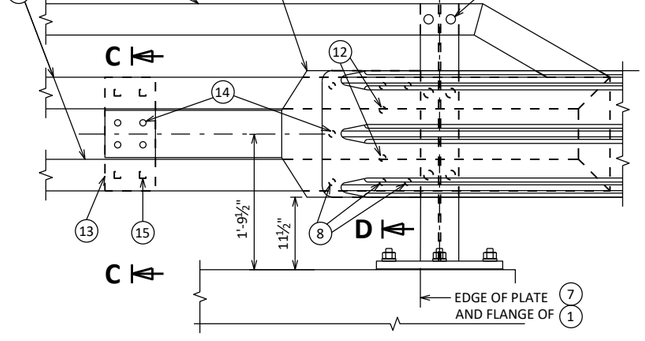
SECTION A-A



END POST DETAIL

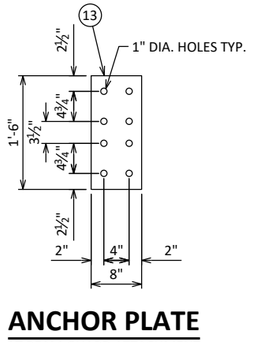
REINFORCEMENT AT CORNERS

S609 S607



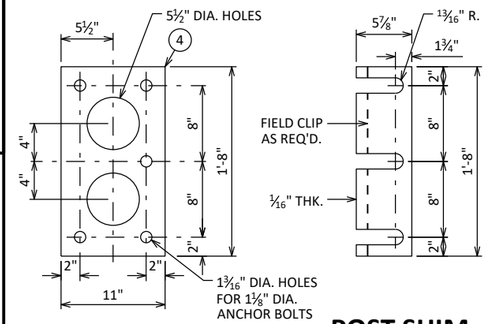
DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT



ANCHOR PLATE

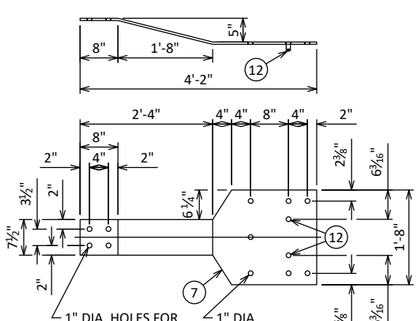
AT BEAM GUARD ATTACHMENT



ANCHOR PLATE

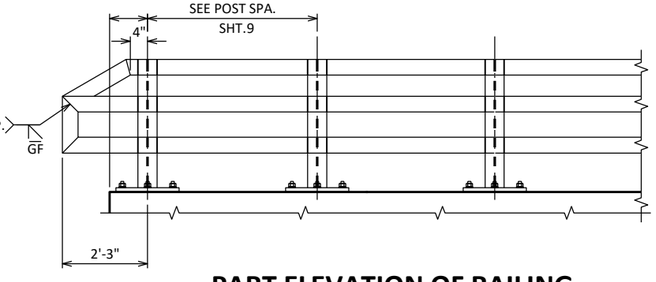
AT RAIL TO DECK CONNECTION

POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-256

DRAWN BY MPG | PLANS CK'D CJM

TUBULAR STEEL RAILING TYPE "M"

SHEET 11 OF 11

55

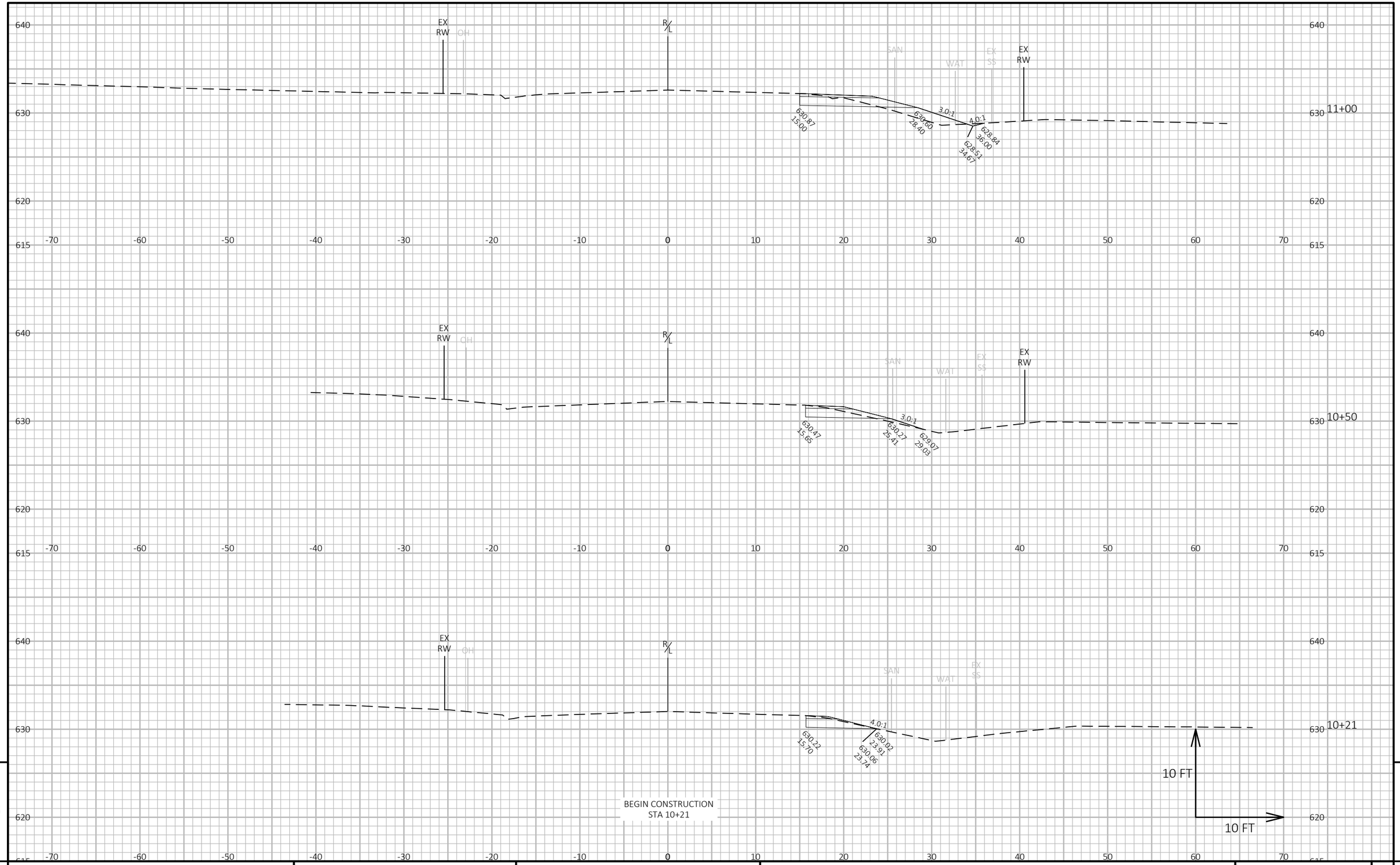
SCALE = 2.00

8

8

STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
							1.00	1.25	
					NOTE 1	NOTE 3	NOTE 1		NOTE 8
10+21	1021.55	0.00	6.05	0.00	0	0	0	0	0
10+30	1030.00	8.45	6.02	0.09	2	0	2	0	2
10+40	1040.00	10.00	5.98	0.39	2	0	4	0	4
10+50	1050.00	10.00	5.95	1.02	2	0	6	0	6
10+60	1060.00	10.00	5.58	2.72	2	1	8	1	7
10+70	1070.00	10.00	5.49	4.62	2	1	10	3	8
10+80	1080.00	10.00	5.57	6.19	2	2	12	5	7
10+90	1090.00	10.00	5.99	6.90	2	2	14	8	7
11+00	1100.00	10.00	7.76	7.21	3	3	17	11	6
11+10	1110.00	10.00	8.11	8.23	3	3	20	15	5
11+20	1120.00	10.00	7.56	9.48	3	3	23	19	4
11+30	1130.00	10.00	7.20	11.82	3	4	26	24	2
11+40	1140.00	10.00	7.01	14.41	3	5	29	30	-1
11+50	1150.00	10.00	17.8	15.70	5	6	34	38	-4
11+60	1160.00	10.00	13.96	14.75	6	6	40	45	-5
11+70	1170.00	10.00	25.86	14.23	7	5	47	51	-4
11+80	1180.00	10.00	60.73	14.11	16	5	63	58	6
11+90	1190.00	10.00	58.34	13.65	22	5	85	64	21
12+00	1200.00	10.00	58.24	3.95	22	3	107	68	40
12+10	1210.00	10.00	56.36	1.67	21	1	128	69	59
12+20	1220.00	10.00	34.60	3.10	17	1	145	70	75
12+29	1229.03	9.03	11.41	13.23	8	3	153	74	79
12+33	1233.00	3.97	0.00	0.00	1	1	154	75	79

STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
							1.00	1.25	
					NOTE 1	NOTE 3	NOTE 1		NOTE 8
12+61	1261.00	0.00	0.00	0.00	0	0	0	0	0
12+64	1263.87	2.87	4.44	4.47	0	0	0	0	0
12+70	1270.00	6.13	16.90	24.89	2	3	2	4	-2
12+80	1280.00	10.00	37.96	24.08	10	9	12	15	-3
12+90	1290.00	10.00	48.85	24.46	16	9	28	26	2
13+00	1300.00	10.00	47.63	46.43	18	13	46	43	4
13+10	1310.00	10.00	47.90	47.18	18	17	64	64	0
13+20	1320.00	10.00	48.73	48.45	18	18	82	86	-4
13+30	1330.00	10.00	12.69	43.64	11	17	93	108	-15
13+40	1340.00	10.00	12.50	40.41	5	16	98	128	-30
13+50	1350.00	10.00	12.87	37.75	5	14	103	145	-42
13+60	1360.00	10.00	13.13	34.97	5	13	108	161	-53
13+70	1370.00	10.00	13.36	31.48	5	12	113	176	-63
13+80	1380.00	10.00	12.69	29.16	5	11	118	190	-72
13+90	1390.00	10.00	12.38	25.95	5	10	123	203	-80
14+00	1400.00	10.00	10.61	19.60	4	8	127	213	-86
14+10	1410.00	10.00	10.37	14.62	4	6	131	220	-89
14+20	1420.00	10.00	10.53	19.17	4	6	135	228	-93
14+30	1430.00	10.00	10.83	17.87	4	7	139	236	-97
14+43	1442.42	12.42	17.61	11.03	7	7	146	245	-99



9

9

PROJECT NO: 4008-02-70	HWY: CTH XX	COUNTY: MANITOWOC	CROSS SECTIONS: CROSS SECTIONS	SHEET 57	E

FILE NAME : X:\PROJECTS\MANITOWOC\240016 4008-02-00 CTH XX V CLEVELAND BRIDGE\DESIGN\C3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090201-xs01

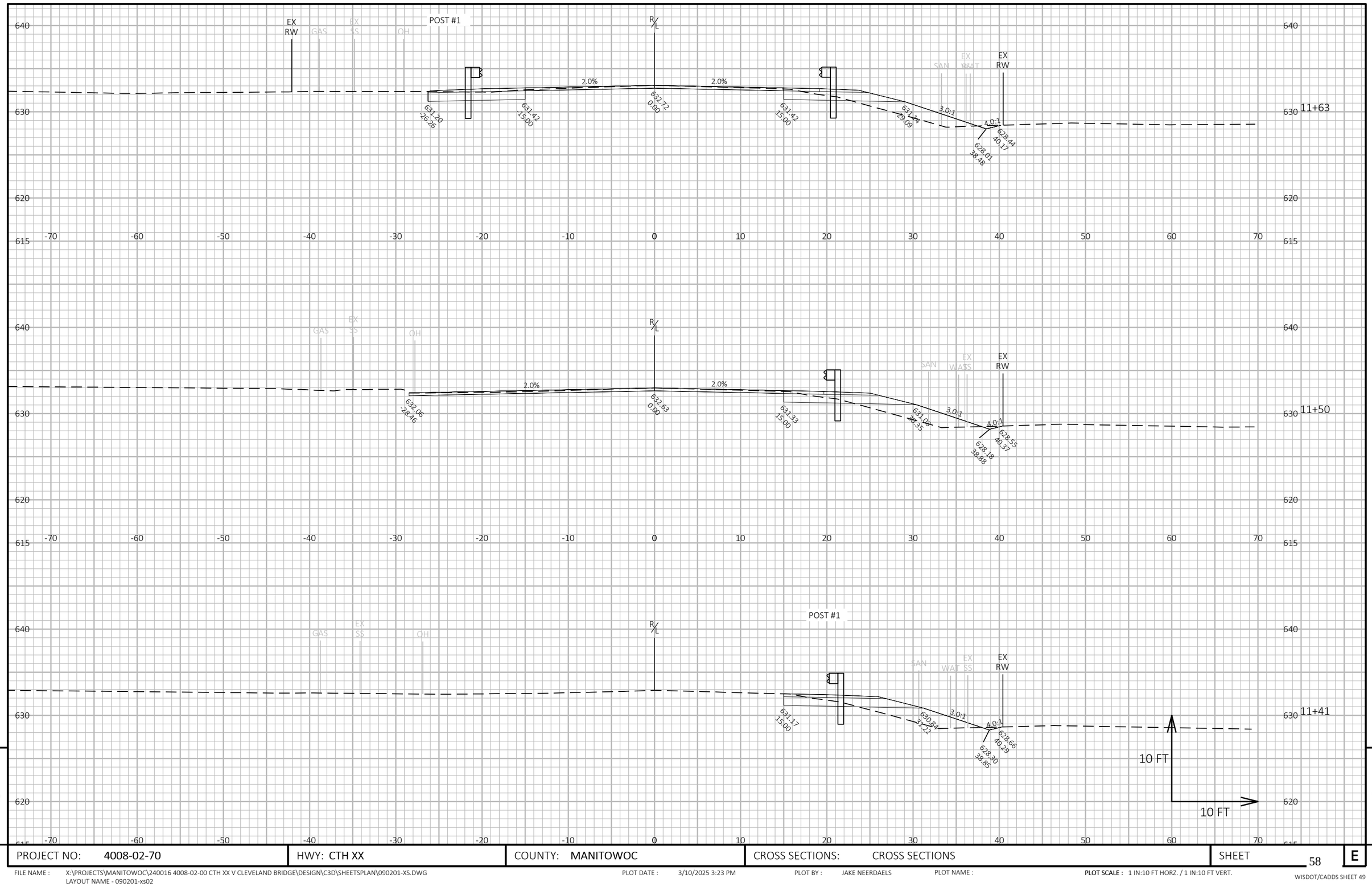
PLOT DATE : 3/5/2025 1:21 PM

PLOT BY : JAKE NEERDAELS

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 4008-02-70	HWY: CTH XX	COUNTY: MANITOWOC	CROSS SECTIONS: CROSS SECTIONS	SHEET 58	E

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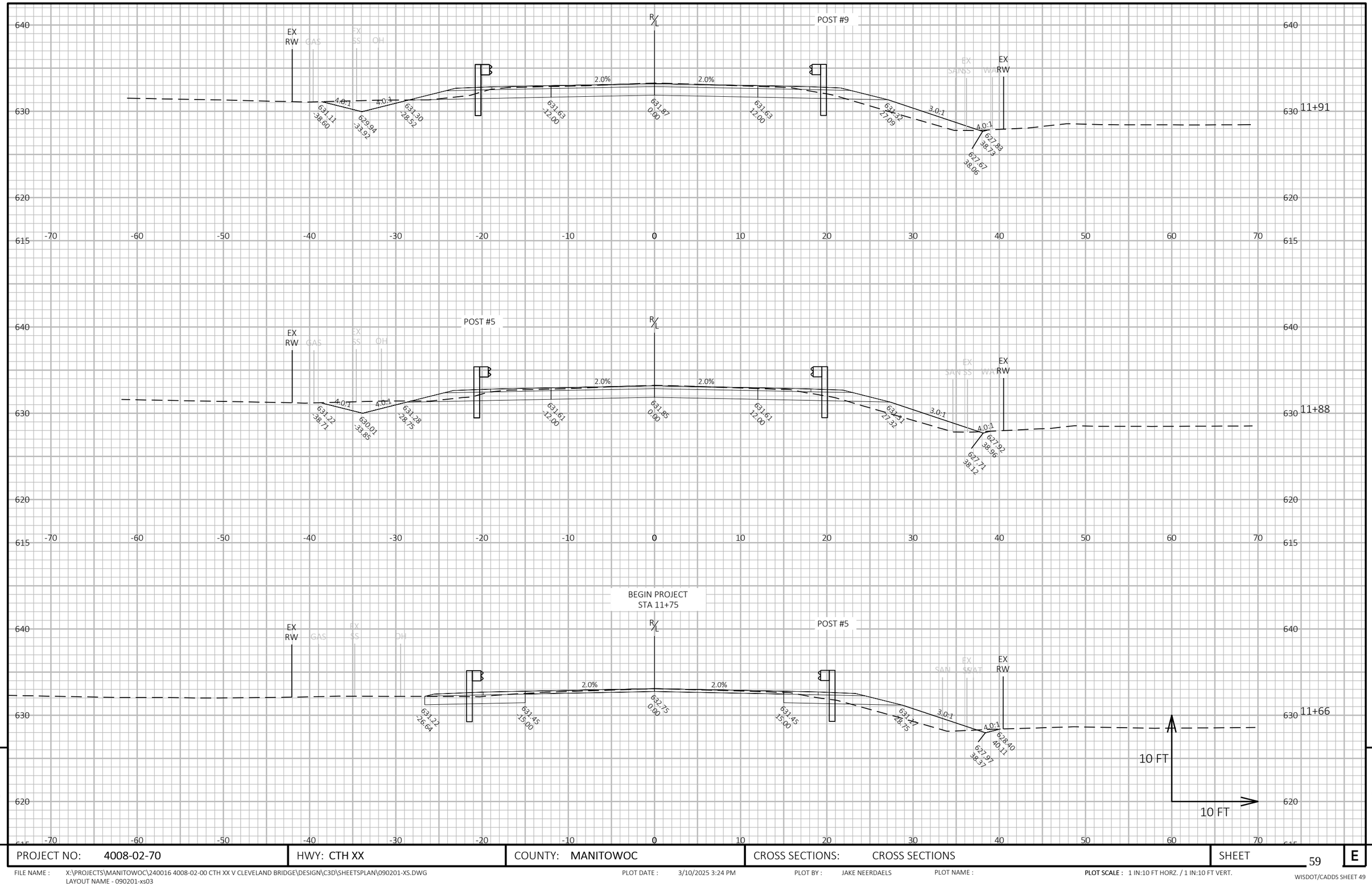
LAYOUT NAME - 090201-xs02

PLOT DATE : 3/10/2025 3:23 PM PLOT BY : JAKE NEERDAELS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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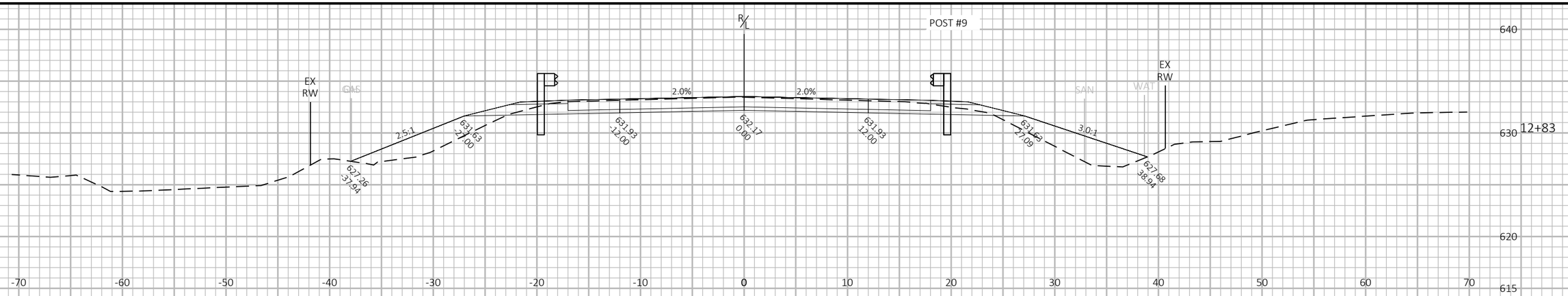
PROJECT NO: 4008-02-70	HWY: CTH XX	COUNTY: MANITOWOC	CROSS SECTIONS: CROSS SECTIONS	SHEET 59	E

FILE NAME : X:\PROJECTS\MANITOWOC\240016 4008-02-00 CTH XX V CLEVELAND BRIDGE\DESIGN\C3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090201-xs03

PLOT DATE : 3/10/2025 3:24 PM PLOT BY : JAKE NEERDAELS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

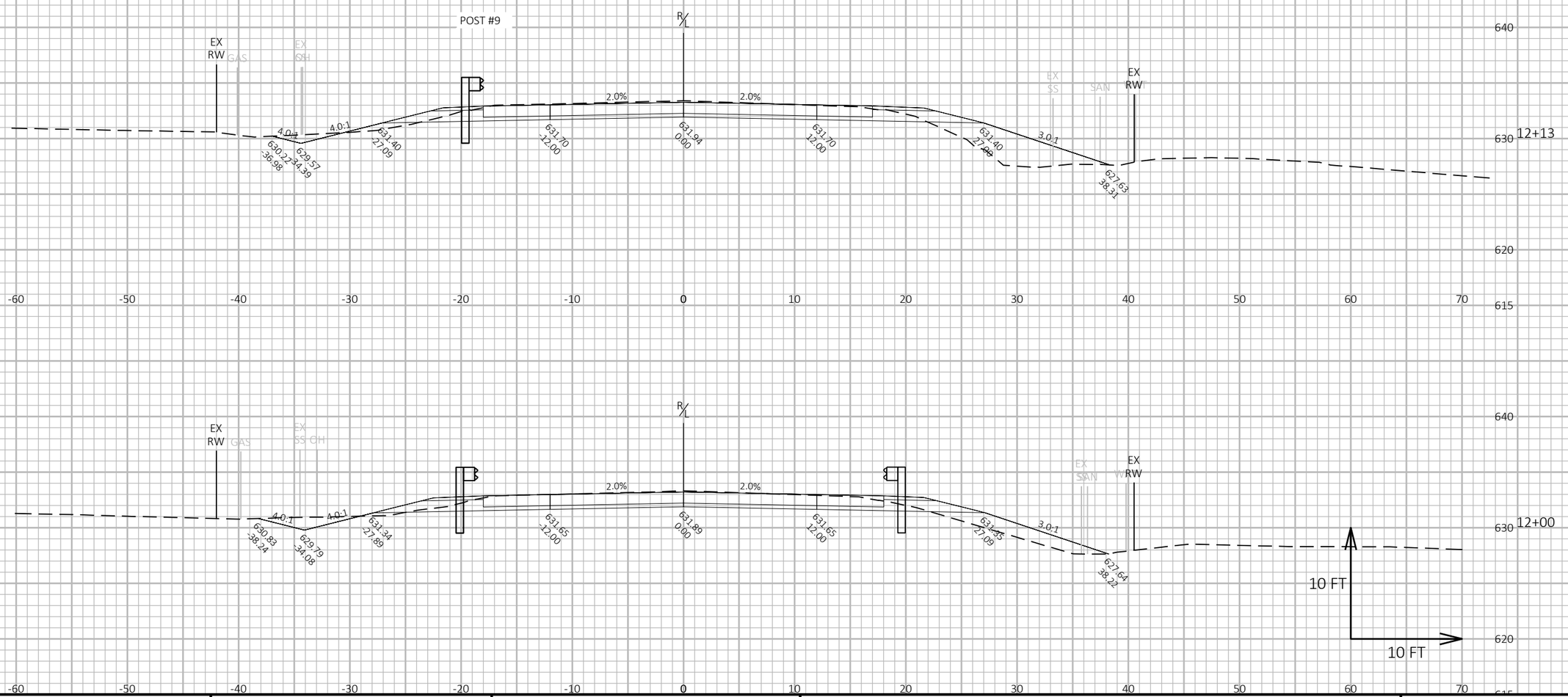
WISDOT/CADDS SHEET 49

POST #9



STRUCTURE B-36-256

POST #9



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PROJECT NO: 4008-02-70	HWY: CTH XX	COUNTY: MANITOWOC	CROSS SECTIONS: CROSS SECTIONS	SHEET 60	E

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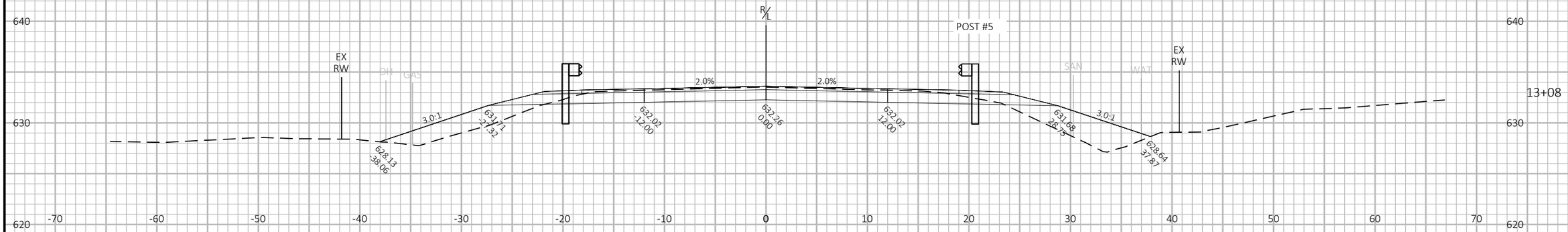
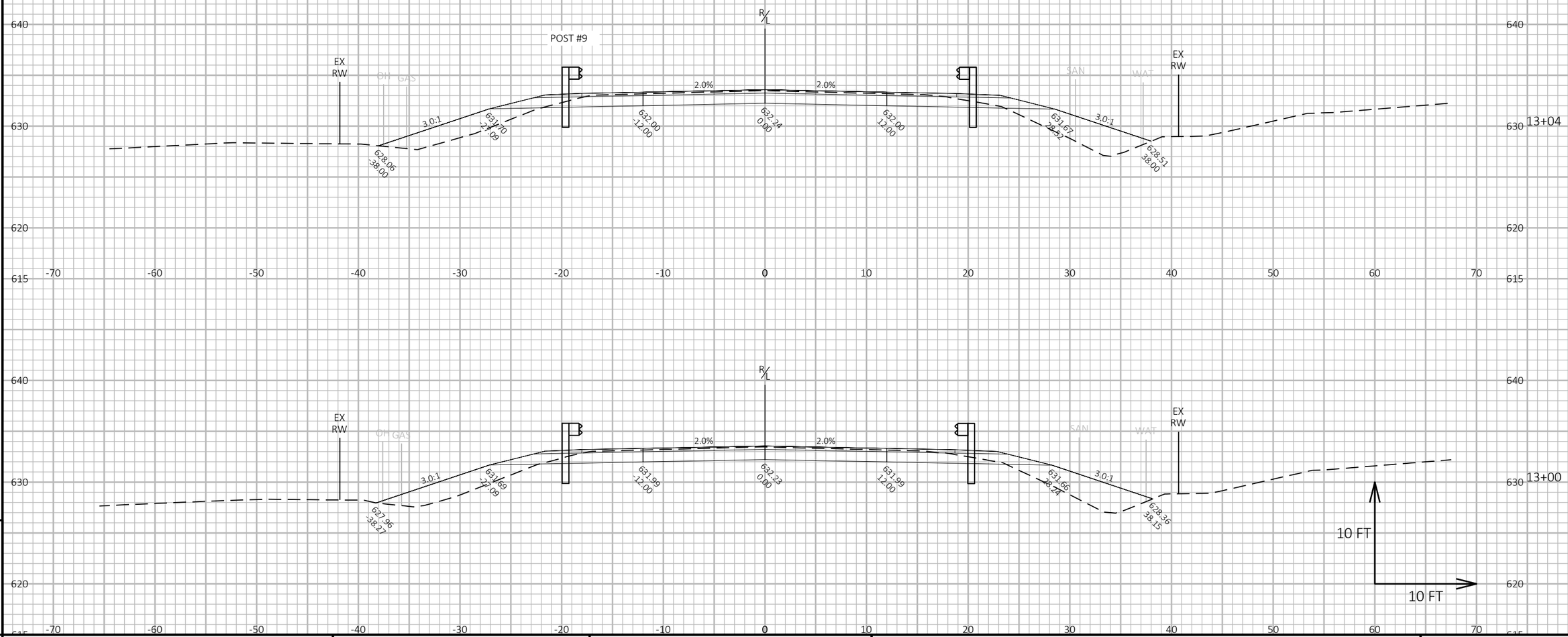
LAYOUT NAME - 090201-xs04

PLOT DATE : 3/3/2025 3:50 PM PLOT BY : JAKE NEERDAELS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

END PROJECT
STA 13+25



13+08



13+04

13+00

9

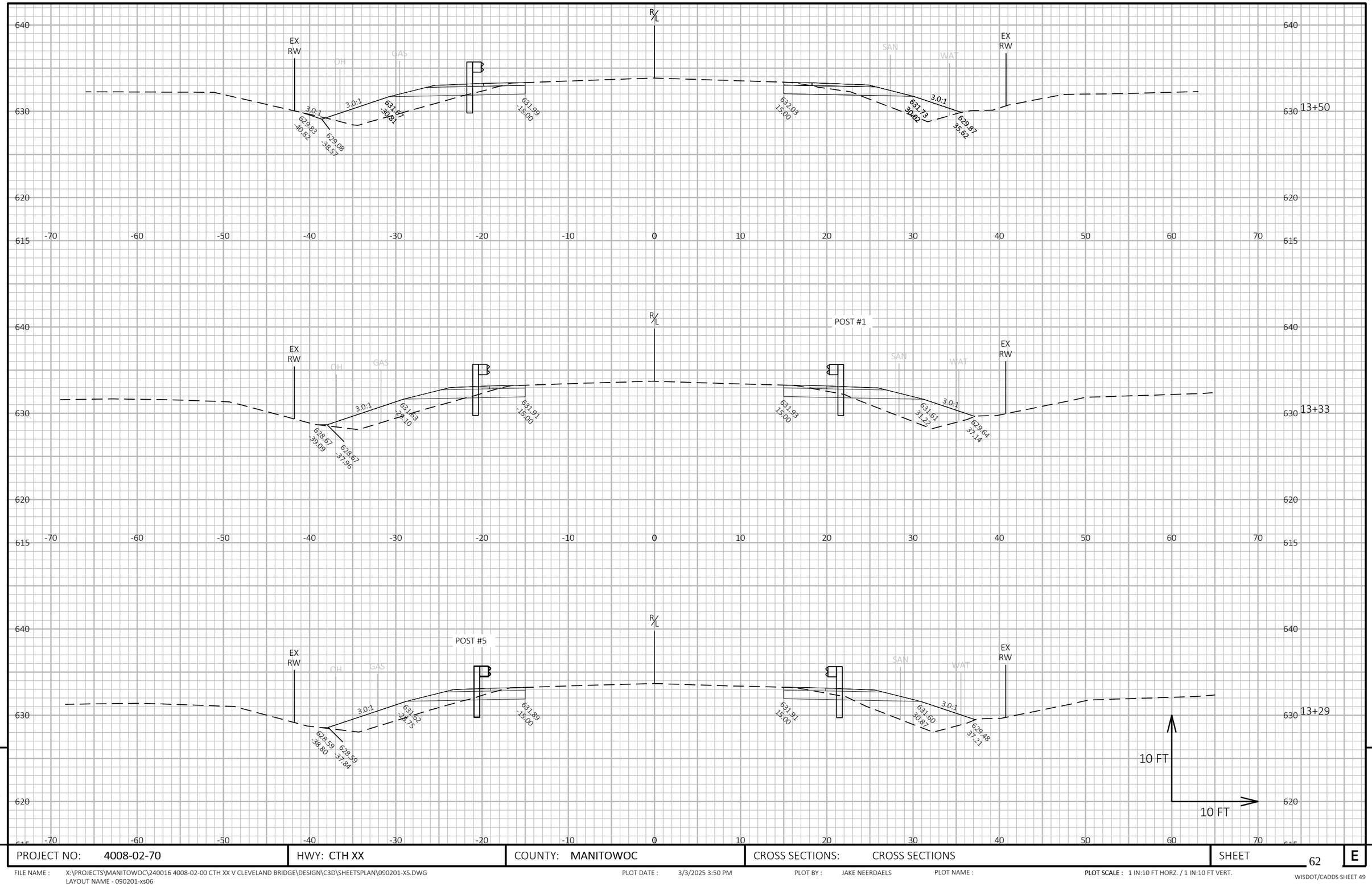
9

PROJECT NO: 4008-02-70	HWY: CTH XX	COUNTY: MANITOWOC	CROSS SECTIONS: CROSS SECTIONS	SHEET 61	E

FILE NAME : X:\PROJECTS\MANITOWOC\240016 4008-02-00 CTH XX V CLEVELAND BRIDGE\DESIGN\C3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090201-xs05

PLOT DATE : 3/3/2025 3:50 PM PLOT BY : JAKE NEERDAELS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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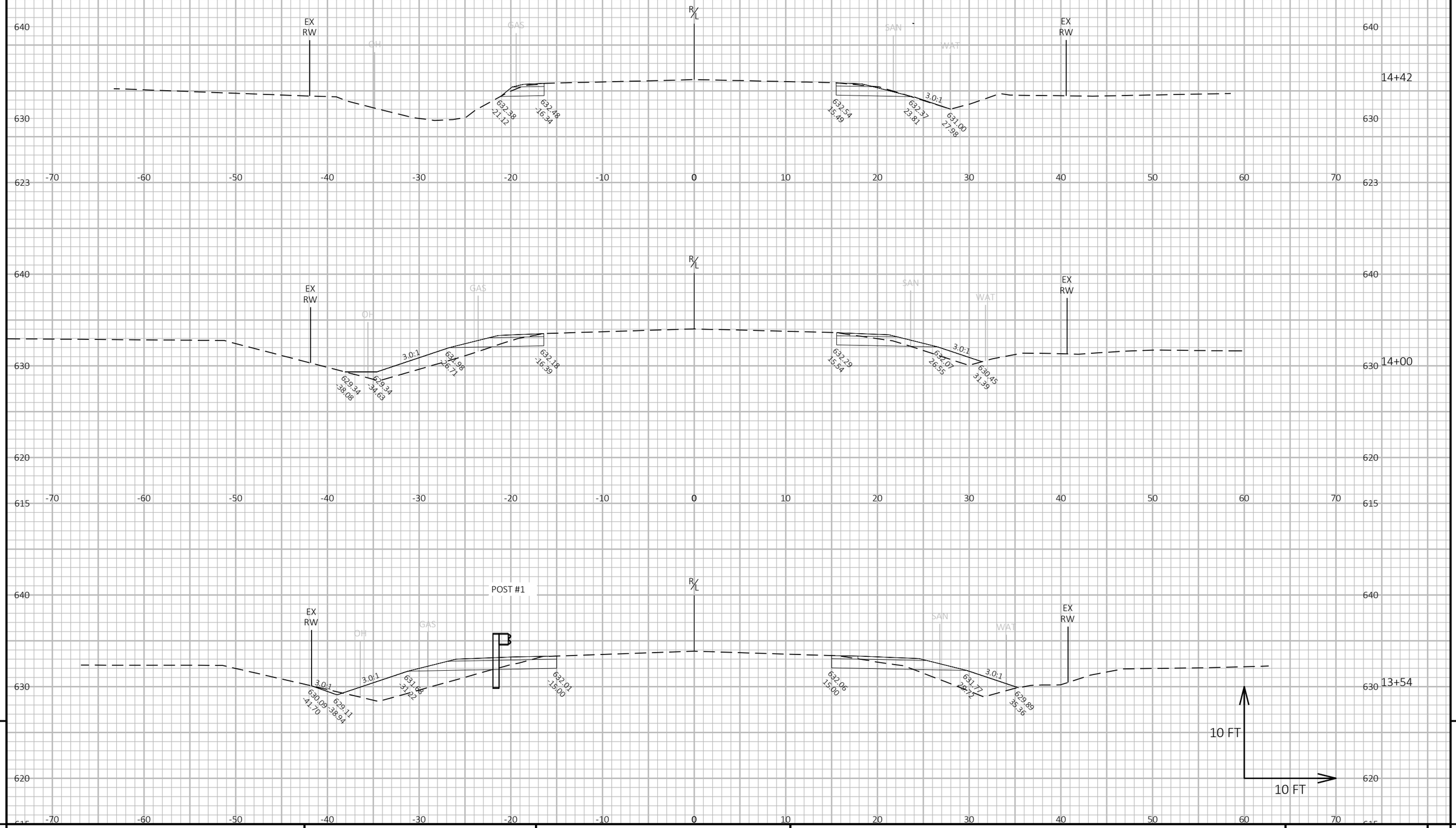
PROJECT NO: 4008-02-70	HWY: CTH XX	COUNTY: MANITOWOC	CROSS SECTIONS: CROSS SECTIONS	SHEET 62	E

FILE NAME : X:\PROJECTS\MANITOWOC\240016 4008-02-00 CTH XX V CLEVELAND BRIDGE\DESIGN\C3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090201-xs06

PLOT DATE : 3/3/2025 3:50 PM PLOT BY : JAKE NEERDAELS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

END CONSTRUCTION
STA 14+43



PROJECT NO: 4008-02-70	HWY: CTH XX	COUNTY: MANITOWOC	CROSS SECTIONS: CROSS SECTIONS	SHEET 63	E

FILE NAME : X:\PROJECTS\MANITOWOC\240016 4008-02-00 CTH XX V CLEVELAND BRIDGE\DESIGN\C3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090201-xs07

PLOT DATE : 3/3/2025 3:50 PM PLOT BY : JAKE NEERDAELS PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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