EAU

PROJECT ID: 8925-03-72

WITH: N/A

COUNTY: DUNN

NOVEMBER 2025

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
~~Section No.~~	~~4~~	~~Right of Way Plat~~
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 60

36

DESIGN DESIGNATION

A.A.D.T.	2026	=	220
A.A.D.T.	2046	=	230
D.H.V.		=	N/A
D.D.		=	50/50
T.		=	15.6%
DESIGN SPEED		=	45 MPH
ESALS		=	59,000

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

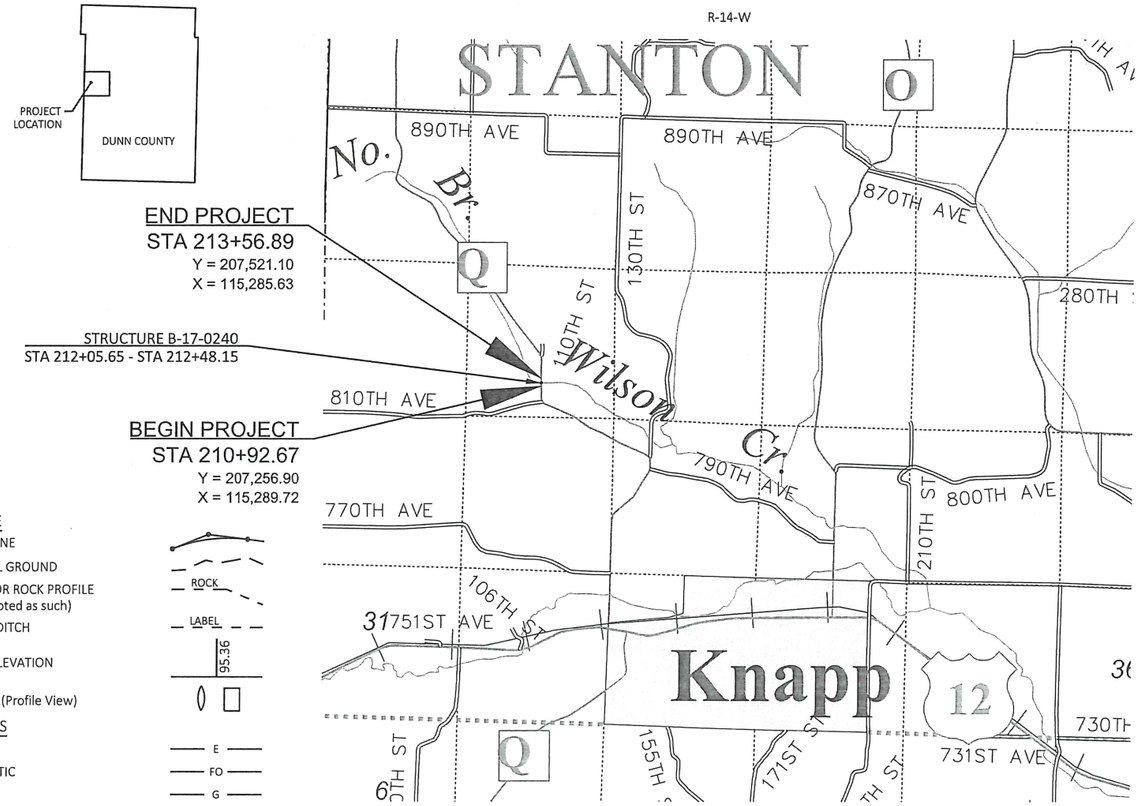
KNAPP - DOWNING

NB WILSON CREEK BRIDGE B-17-0240

CTH Q

DUNN COUNTY

STATE PROJECT NUMBER
8925-03-72



LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.050 MILES

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

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE	300'EB'	ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
MARSH AREA		TELEPHONE	T
		WATER	W
WOODED OR SHRUB AREA		UTILITY PEDESTAL	
		POWER POLE	
		TELEPHONE POLE	

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8925-03-72		

ACCEPTED FOR

DUNN COUNTY

Date 07/21/2025 HIGHWAY COMMISSIONER

(Signature and Title of Official)

ORIGINAL PLANS PREPARED BY

COOPER ENGINEERING

WISCONSIN PROFESSIONAL ENGINEER JACOB A. FRIBERG E-43328 RICE LAKE WI

DATE: 7/2/25 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	COOPER ENGINEERING
Designer	COOPER ENGINEERING
Project Manager	MATTHEW BERG, PE
Regional Examiner	NW REGION
Regional Supervisor	TOU YANG, PE

APPROVED FOR THE DEPARTMENT

DATE: 7/22/2025 (Signature)

E

FILE NAME : G:\2023-PROJ\23258177\C3D\SHEETS\010101_TI.DWG PLOT DATE : 7/16/2025 1:34 PM PLOT BY : JACOB FRIBERG PLOT NAME :

LIST OF STANDARD ABBREVIATIONS

ABUT	ABUTMENT
AC	ACRES
AGG	AGGREGATE
AH	AHEAD
ADT	AVERAGE DAILY TRAFFIC
AVG.	AVERAGE
ASPH	ASPHALTIC
BK.	BACK
BM	BENCHMARK
△	CENTRAL ANGLE OR DELTA
℄ , C/L	CENTERLINE
C & G	CURB AND GUTTER
CABC	CRUSHED AGGREGATE BASE COURSE
CONC.	CONCRETE
COR	CORNER
CORR	CORRUGATED
CSCP	CORRUGATED STEEL CULVERT PIPE
CSPA	CORRUGATED STEEL PIPE ARCH
CTH	COUNTY TRUNK HIGHWAY
CP.	CULVERT PIPE
CY	CUBIC YARD
CWT.	HUNDREDWEIGHT
DIA	DIAMETER
D	DEGREE OF CURVE
DHV	DESIGN HOURLY VOLUME
DWY	DRIVEWAY
EBS	EXC. BELOW SUB GRADE
ELEV., EL	ELEVATION
ELEC.	ELECTRIC
EXC	EXCAVATION
EXIST	EXISTING
E	EAST
FE	FIELD ENTRANCE
FF.	FACE TO FACE
FL, F/L	FLOW LINE
FS	FULL SUPERELEVATION
G	GARAGE
GN	GRID NORTH
H	HOUSE
HYD	HYDRANT
I	INTERSECTION ANGLE
INTERS	INTERSECTION
INV.	INVERT
IP	IRON PIN OR PIPE
LC	LONG CHORD OF CURVE
LF	LINEAR FOOT
LHF	LEFT HAND FORWARD
L	LENGTH OF CURVE
LT.	LEFT
LS	LUMP SUM
MH	MANHOLE
N	NORTH
NC	NORMAL CROWN
PAVT	PAVEMENT
PC	POINT OF CURVATURE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PP	POWER POLE
PT	POINT OF TANGENCY
R	RANGE , RADIUS
RCCP	REINFORCED CONCRETE CULVERT PIPE
RD	ROAD
REBAR	REINFORCEMENT BAR
REQD	REQUIRED
RDWY	ROADWAY
RHF	RIGHT HAND FORWARD
RL, R/L	REFERENCE LINE
RR	RAILROAD
RT.	RIGHT
R/W	RIGHT-OF-WAY
S	SOUTH
SAN S	SANITARY SEWER
SDD	STANDARD DETAIL DRAWING
SE	SUPER ELEVATION
SF.	SQUARE FEET
SHLDR	SHOULDER
SPECS	SPECIFICATIONS
SQ.	SQUARE
SS.	STORM SEWER
SY.	SQUARE YARD
STH	STATE TRUNK HIGHWAY
ST.	STREET
STA.	STATION
SW	SIDEWALK
T	TANGENT
TC	TOP OF CURB
℡ , T/L	TRANSIT LINE
TEL	TELEPHONE
TEMP	TEMPORARY
TLE	TEMPORARY LIMITED EASEMENT
TYP	TYPICAL
USH	UNITED STATES HIGHWAY
UG	UNDERGROUND
V	DESIGN SPEED
VAR.	VARIABLE
VERT	VERTICAL
YD	YARD

UTILITY CONTACTS

ELECTRIC

DUNN ENERGY COOP
ALLISON ZIELSDORF
PO BOX 220
MENOMONIE, WI 54751
PHONE: (715) 232-6240
EMAIL: azielsdorf@dunnenergy.com

COMMUNICATIONS

LUMEN
KYLE SCHLAMPP
20 S WILSON AVE
RICE LAKE, WI 54868
PHONE: (715) 475-2029
EMAIL: Kyle.schlampp@lumen.com

COMMUNICATIONS

WEST WISCONSIN TELCOM
BRAD SCHMIDTKNECHT
912 CRESCENT STREET
MENOMONIE, WI 54751
PHONE: (715) 231-0504
EMAIL: brads@wwt.coop

ALL UTILITIES LISTED ARE MEMBERS OF DIGGERS HOTLINE

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

OTHER CONTACTS

DESIGN CONSULTANT

COOPER ENGINEERING
JACOB FRIBERG
2600 COLLEGE DRIVE
RICE LAKE, WI 54868
PHONE: (715) 234-7008
EMAIL: jfriberg@cooperengineering.net

DUNN COUNTY

HIGHWAY COMMISSIONER
DUSTIN BINDER
3303 HIGHWAY 12 EAST
MENOMONIE, WI
PHONE: (715) 232-2181
EMAIL: dbinder@co.dunn.wi.us

WDNR REGIONAL CONTACT

WDNR/WISDOT LIAISON
LEAH NICOL
1300 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
PHONE: (715) 934-9014
EMAIL: Leah.Nicol@wisconsin.gov

GENERAL NOTES:

NO TREES OR SHRUBS SHALL BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE BEEN DESIGNATED FOR REMOVAL BY THE ENGINEER.

ACCESS TO ALL RESIDENCES & SIDE ROADS SHALL BE MAINTAINED DURING CONSTRUCTION.

THE LOCATION OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

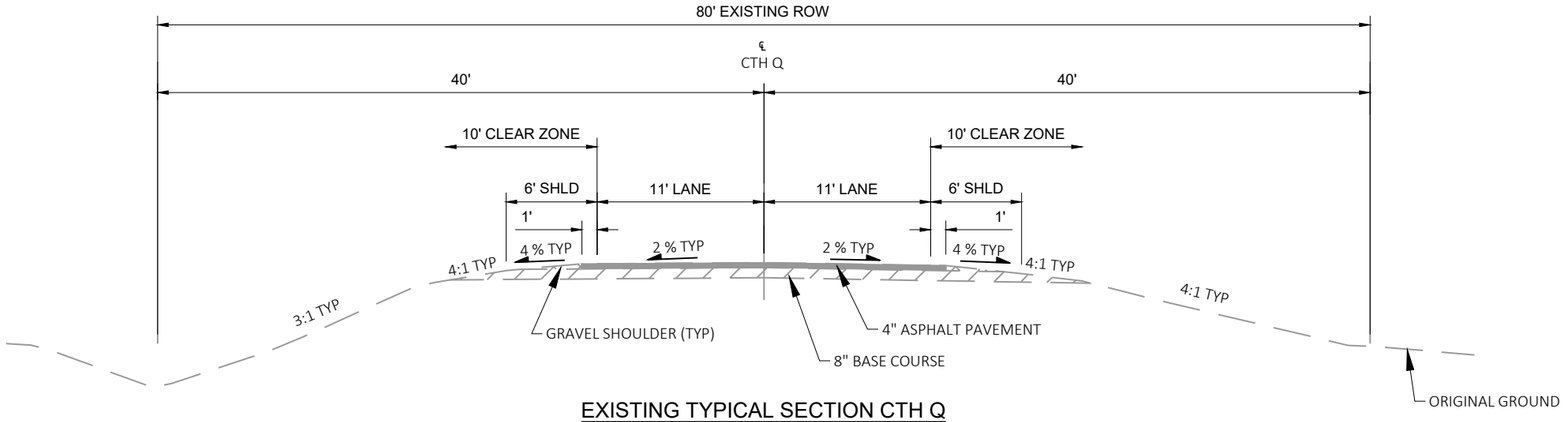
CTH Q WILL BE CLOSED DURING CONSTRUCTION AND NO DETOUR ROUTE WILL BE MARKED UNDER THIS CONTRACT. IF NEEDED, DUNN COUNTY MAY SIGN A DETOUR ROUTE.

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP								
	A			B			C		
	SLOPE RANGE (%)			SLOPE RANGE (%)			SLOPE RANGE (%)		
LAND USE:	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
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36
PAVEMENT:									
ASPHALT	.70 - .95								
CONCRETE	.80 - .95								
BRICK	.70 - .80								
DRIVES, WALKS	.75 - .85								
ROOFS	.75 - .95								
GRAVEL ROADS, SHOULDERS	.40 - .60								

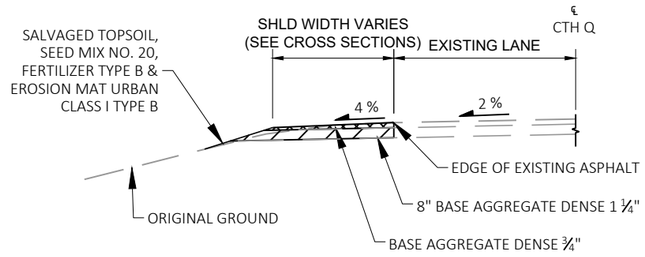
TOTAL PROJECT AREA = 0.49 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.33 ACRES

2



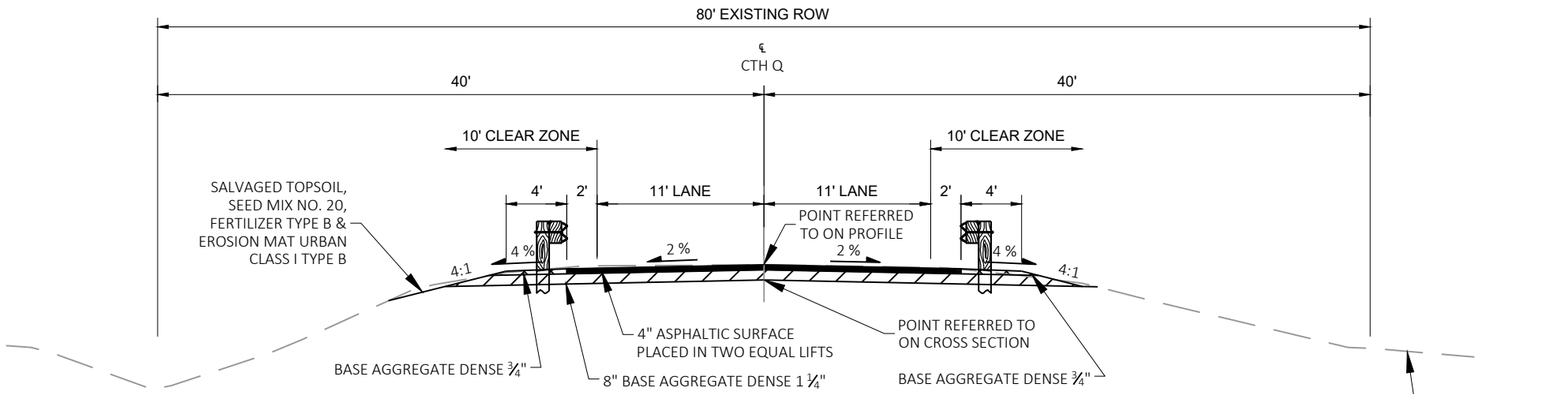
EXISTING TYPICAL SECTION CTH Q

STA 210+92.67 - 213+56.89



PROPOSED TYPICAL HALF SECTION CTH Q

GRAVEL SHOULDER WIDENING FOR BEAM GUARD



PROPOSED TYPICAL SECTION CTH Q

STA 210+92.67 - 213+56.89

PROJECT NO: 8925-03-72	HWY: CTH Q	COUNTY: DUNN	TYPICAL SECTION	SHEET 3	E

2

N

EDGE OF WATER (TYP)

0.5:1

0.5:1

NORTH BRANCH WILSON CREEK

2.5:1

TOE OF SLOPE (TYP)

1:1

1:1

3:1

3.5:1

2:1

3:1

3:1

EDGE OF GRAVEL (TYP)

TOP OF SLOPE (TYP)

EXISTING EDGE OF ASPHALT (TYP)

EXISTING BEAMGUARD (TYP)

P.I. 212+68.35

211+00

212+00

213+00

80' ROW

CTH Q

EXISTING STRUCTURE P-17-936
CONCRETE DECK ON STEEL GIRDERS
20.7' CLEAR ROADWAY WIDTH
29.5' TOTAL LENGTH (BACK TO BACK ABUTS.)
STA 212+12.16 - 212+41.66

4:1

3:1

5:1

4:1

4:1

12:1

1:1

1:1

OBSERVED WATER EL. = 939.97 US
(12/7/2023) 938.42 DS

PROJECT NO: 8925-03-72	HWY: CTH Q	COUNTY: DUNN	EXISTING CONTOUR MAP	SHEET 4	E

FILE NAME : G:\2023-PROJ\23258177\C3D\SHEETS\021601-ECM.DWG
LAYOUT NAME - ECM

PLOT DATE : 7/17/2025 4:48 PM PLOT BY : JACOB FRIBERG PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

N

EDGE OF WATER (TYP)

SILT FENCE NOTE:

TIE SILT FENCE INTO EXISTING ABUTMENTS PRIOR TO CONSTRUCTION. ONCE TURBIDITY BARRIER HAS BEEN PLACED, SILT FENCE CAN BE REMOVED AS NEEDED FOR ABUTMENT CONSTRUCTION & RIPRAP PLACEMENT.

0.5:1

0.5:1

NORTH BRANCH WILSON CREEK

WO5-52L 12"X36"

REMOVE

REMOVE

WO5-52R 12"X36"

2.5:1

PROPOSED EDGE OF GRAVEL (TYP)

EXISTING EDGE OF GRAVEL (TYP)

TOP OF SLOPE (TYP)

EXISTING EDGE OF ASPHALT (TYP)

EXISTING BEAMGUARD (TYP)

211+00

212+00

213+00

80' ROW

CTH Q

BEGIN PROJECT
STA 210+92.67
Y = 207,256.90
X = 115,289.72
MATCH EXISTING
SAW CUT REQ'D

PROPOSED BEAMGUARD (TYP)

PROPOSED EDGE OF ASPHALT (TYP)

END PROJECT
STA 213+56.89
Y = 207,521.10
X = 115,285.63
MATCH EXISTING
SAW CUT REQ'D

12:1

1:1

1:1

WO5-52R 12"X36"

REMOVE

REMOVE

WO5-52L 12"X36"

SLOPE INTERCEPT (TYP)

EXISTING STRUCTURE P-17-936
CONCRETE DECK ON STEEL GIRDERS
20.7' CLEAR ROADWAY WIDTH
29.5' TOTAL LENGTH (BACK TO BACK ABUTS.)
STA 212+12.16 - 212+41.66

PROPOSED STRUCTURE B-17-0240
SINGLE SPAN CONCRETE FLAT SLAB BRIDGE
26' CLEAR ROADWAY WIDTH
42.5' OVERALL LENGTH (BACK TO BACK ABUTS.)

OBSERVED WATER EL. = 939.97 US
(12/7/2023) 938.42 DS

EROSION CONTROL LEGEND

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

PROJECT NO: 8925-03-72	HWY: CTH Q	COUNTY: DUNN	PERMANENT SIGNING & EROSION CONTROL PLAN	SHEET 5	E

2

N

STH 170
(DOWNING)
5.5 MILES

DWY

BRIDGE OUT
5 1/2 MILES AHEAD
R11-3C

PLACE BARRICADES AND
SIGNS IMMEDIATELY SOUTH
OF STH 170 INTERSECTION.

CTH Q

ROAD
CLOSED
1000 FT
W20-3-C

DWY

ROAD
CLOSED
500 FT
W20-3-D

NORTH BRANCH WILSON CREEK

810TH AVE

CTH Q

DWY

SEE CLOSURE
BARRICADE DETAIL E

BRIDGE
OUT
R11-2-B
48"X30"

SEE CLOSURE
BARRICADE DETAIL D

BRIDGE
OUT
R11-2-B
48"X30"

SEE CLOSURE
BARRICADE DETAIL E

BRIDGE
OUT
R11-2-B
48"X30"

ROAD
CLOSED
500 FT
W20-3-D

DWY

ROAD
CLOSED
1000 FT
W20-3-C

CTH Q

NORTH BRANCH WILSON CREEK

REFER TO STANDARD DETAIL DRAWING "BARRICADES AND
SIGNS FOR MAINLINE CLOSURES" & "BARRICADES AND
SIGNS FOR VARIOUS CLOSURES" FOR MORE DETAIL

BRIDGE OUT
2 MILES AHEAD
R11-3C

PLACE BARRICADES AND
SIGNS IMMEDIATELY NORTH
OF USH 12 INTERSECTION.

DWY

DWY

USH 12
(KNAPP)
2 MILES

PROJECT NO: 8925-03-72	HWY: CTH Q	COUNTY: DUNN	TRAFFIC CONTROL OVERVIEW	SHEET 6	E

Estimate Of Quantities

8925-03-72

Line	Item	Item Description	Unit	Total	Qty
0002	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-17-0936	EACH	1.000	1.000
0004	204.0165	Removing Guardrail	LF	312.000	312.000
0006	205.0100	Excavation Common	CY	310.000	310.000
0008	206.1001	Excavation for Structures Bridges (structure) 01. B-17-0240	EACH	1.000	1.000
0010	210.1500	Backfill Structure Type A	TON	300.000	300.000
0012	213.0100	Finishing Roadway (project) 01. 8925-03-72	EACH	1.000	1.000
0014	305.0110	Base Aggregate Dense 3/4-Inch	TON	130.000	130.000
0016	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	470.000	470.000
0018	455.0605	Tack Coat	GAL	50.000	50.000
0020	465.0105	Asphaltic Surface	TON	150.000	150.000
0022	502.0100	Concrete Masonry Bridges	CY	133.000	133.000
0024	502.3200	Protective Surface Treatment	SY	187.000	187.000
0026	505.0400	Bar Steel Reinforcement HS Structures	LB	4,160.000	4,160.000
0028	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	19,990.000	19,990.000
0030	513.4061	Railing Tubular Type M	LF	90.000	90.000
0032	516.0500	Rubberized Membrane Waterproofing	SY	12.000	12.000
0034	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	630.000	630.000
0036	606.0300	Riprap Heavy	CY	95.000	95.000
0038	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	142.000	142.000
0040	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0042	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0044	618.0100	Maintenance and Repair of Haul Roads (project) 01. 8925-03-72	EACH	1.000	1.000
0046	619.1000	Mobilization	EACH	1.000	1.000
0048	624.0100	Water	MGAL	5.000	5.000
0050	625.0500	Salvaged Topsoil	SY	520.000	520.000
0052	628.1504	Silt Fence	LF	800.000	800.000
0054	628.1520	Silt Fence Maintenance	LF	800.000	800.000
0056	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0058	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0060	628.2008	Erosion Mat Urban Class I Type B	SY	520.000	520.000
0062	628.6005	Turbidity Barriers	SY	60.000	60.000
0064	629.0210	Fertilizer Type B	CWT	0.400	0.400
0066	630.0120	Seeding Mixture No. 20	LB	30.000	30.000
0068	630.0500	Seed Water	MGAL	10.000	10.000
0070	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0072	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0074	638.2602	Removing Signs Type II	EACH	4.000	4.000
0076	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0078	642.5001	Field Office Type B	EACH	1.000	1.000
0080	643.0420	Traffic Control Barricades Type III	DAY	1,440.000	1,440.000
0082	643.0705	Traffic Control Warning Lights Type A	DAY	2,340.000	2,340.000
0084	643.0900	Traffic Control Signs	DAY	1,080.000	1,080.000
0086	643.5000	Traffic Control	EACH	1.000	1.000
0088	645.0111	Geotextile Type DF Schedule A	SY	88.000	88.000
0090	645.0120	Geotextile Type HR	SY	135.000	135.000
0092	646.1020	Marking Line Epoxy 4-Inch	LF	1,060.000	1,060.000
0094	650.4500	Construction Staking Subgrade	LF	280.000	280.000
0096	650.5000	Construction Staking Base	LF	280.000	280.000
0098	650.6501	Construction Staking Structure Layout (structure) 01. B-17-0240	EACH	1.000	1.000

Estimate Of Quantities

8925-03-72

Line	Item	Item Description	Unit	Total	Qty
0100	650.9911	Construction Staking Supplemental Control (project) 01. 8925-03-72	EACH	1.000	1.000
0102	650.9920	Construction Staking Slope Stakes	LF	280.000	280.000
0104	690.0150	Sawing Asphalt	LF	50.000	50.000
0106	715.0502	Incentive Strength Concrete Structures	DOL	1,330.000	1,330.000
0108	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. STA 25+25	EACH	1.000	1.000
0110	SPV.0090	Special 01. Flashing Stainless Steel	LF	75.000	75.000

3

CATEGORY	POST #1 STA	LOCATION	REMOVING GUARDRAIL 204.0165 LF	MGS THRIE BEAM TRANSITION 614.2500 LF	MGS GUARDRAIL TERMINAL EAT 614.2610 EA
0010	211+16	RT	78	39.4	1
0010	211+16	LT	78	39.4	1
0010	213+38	RT	78	39.4	1
0010	213+38	LT	78	39.4	1
		TOTAL 0010	312	157.6	4

EARTHWORK SUMMARY

CATEGORY	STATION	TO	STATION	SIDE	EXCAVATION COMMON 205.0100 CY	SALVAGED/ UNUSEABLE PAVEMENT MATERIAL CY	AVAILABLE MATERIAL CY	UNEXPANDED FILL CY	EXPANDED FILL (FACTOR = 1.25) CY	MASS ORDINATE +/- CY
0010	210+65	-	212+06	LT/RT	160	65	95	5	7	88
0010	212+48	-	213+90	LT/RT	150	55	95	10	13	82
				TOTAL 0010	310	120	190	15	20	170

3

BASE AGGREGATE DENSE & ASPHALT SUMMARY

CATEGORY	STATION	TO	STATION	SIDE	ASPHALT THICKNESS (IN)	LAYERS	BASE AGGREGATE DENSE 3/4-INCH 305.0110 TON	BASE AGGREGATE DENSE 1 1/4-INCH 305.0120 TON	TACK COAT 455.0605 GAL	ASPHALTIC SURFACE 465.0105 TON	WATER 624.0100 MGAL	SAWING ASPHALT 690.0150 LF
0010	210+65	-	210+93	LT	-	-	10	20	-	-	0.3	-
0010	210+93	-	212+06	LT/RT	4	2	55	215	25	75	2.2	25
0010	212+48	-	213+57	LT/RT	4	2	55	215	25	75	2.2	25
0010	213+57	-	213+90	LT	-	-	10	20	-	-	0.3	-
						TOTAL 0010	130	470	50	150	5	50

RESTORATION SUMMARY

CATEGORY	LOCATION	SALVAGED TOPSOIL 625.0500 SY	EROSION MAT URBAN CLASS I TYPE B 628.2008 SY	FERTILIZER TYPE B 629.0210 CWT	SEEDING MIX NO. 20 630.0120 LB	SEED WATER 630.0500 MGAL
0010	B-17-0240 SW	135	135	0.09	7	2
0010	B-17-0240 SE	80	80	0.06	4	2
0010	B-17-0240 NW	115	115	0.08	6	2
0010	B-17-0240 NE	85	85	0.06	4	2
0010	UNDISTRIBUTED	105	105	0.11	9	2
	TOTAL 0010	520	520	0.4	30	10

SILT FENCE

CATEGORY	LOCATION	SILT FENCE 628.1504 LF	SILT FENCE MAINTENANCE 628.1520 LF
0010	B-17-0240 SW	180	180
0010	B-17-0240 SE	130	130
0010	B-17-0240 NW	150	150
0010	B-17-0240 NE	175	175
0010	UNDISTRIBUTED	165	165
	TOTAL 0010	800	800

EROSION CONTROL MOBILIZATION

CATEGORY	LOCATION	MOBILIZATIONS EROSION CONTROL 628.1905 EA	MOBILIZATIONS EMERGENCY EROSION CONTROL 628.1910 EA	REMARKS
0010	PROJECT	1	-	EROSION CONTROL
0010	PROJECT	1	-	RESTORATION SOUTH SIDE
0010	PROJECT	1	-	RESTORATION NORTH SIDE
0010	PROJECT	-	2	UNDISTRIBUTED
	TOTAL 0010	3	2	

PROJECT NO: 8925-03-72	HWY: CTH Q	COUNTY: DUNN	MISCELLANEOUS QUANTITIES	SHEET 9	E

3

TURBIDITY BARRIER

CATEGORY	LOCATION	TURBIDITY BARRIER 628.6005 SY	REMARKS
0010	B-17-0240 SOUTH	40	SE CORNER
0010	B-17-0240 NORTH	20	NW CORNER
	TOTAL 0010	60	

SIGNING

CATEGORY	LOCATION	POSTS WOOD 4x6-INCH x 12 FT 634.0612 EA	SIGNS TYPE II REFLECTIVE F 637.2230 SF	REMOVING SIGNS TYPE II 638.2602 EA	REMOVING SMALL SIGN SUPPORTS 638.3000 EA	REMARKS
0010	B-17-0240 SW	1	3	1	1	W5-52L
0010	B-17-0240 SE	1	3	1	1	W5-52R
0010	B-17-0240 NW	1	3	1	1	W5-52R
0010	B-17-0240 NE	1	3	1	1	W5-52L
	TOTAL 0010	4	12	4	4	

TRAFFIC CONTROL ITEMS

CATEGORY	DAYS	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 #	DAYS	TRAFFIC CONTROL WARNING LIGHTS TYPE A 643.0705 #	DAYS	TRAFFIC CONTROL SIGNS 643.0900 #	DAYS	REMARKS
0010	90	4	360	5	450	1	90	ROAD CLOSED DETAIL D SOUTH SIDE
0010	90	4	360	5	450	1	90	ROAD CLOSED DETAIL D NORTH SIDE
0010	90	4	360	8	720	5	450	ADVANCED ROAD CLOSED SOUTH SIDE
0010	90	4	360	8	720	5	450	ADVANCED ROAD CLOSED NORTH SIDE
	TOTAL 0010		1,440		2,340		1,080	

PAVEMENT MARKING SUMMARY

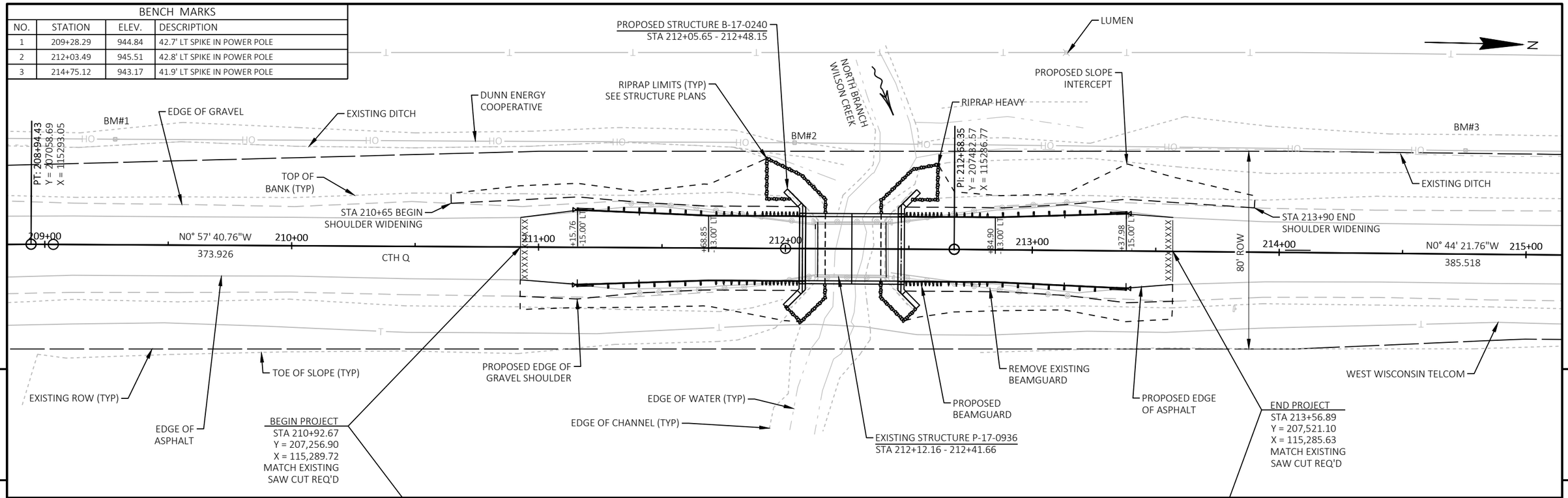
CATEGORY	STATION	TO	STATION	SIDE	MARKING LINE EPOXY 4-INCH 646.1020 LF	MARKING LINE EPOXY 4-INCH, YELLOW * LF	MARKING LINE EPOXY 4-INCH, WHITE * LF	REMARKS
0010	210+93	-	213+57	CL	530	530	-	DOUBLE YELLOW CENTERLINE
0010	210+93	-	213+57	LT	265	-	265	LT WHITE EDGELINE
0010	210+93	-	213+57	RT	265	-	265	RT WHITE EDGELINE
				TOTAL 0010	1060	530	530	

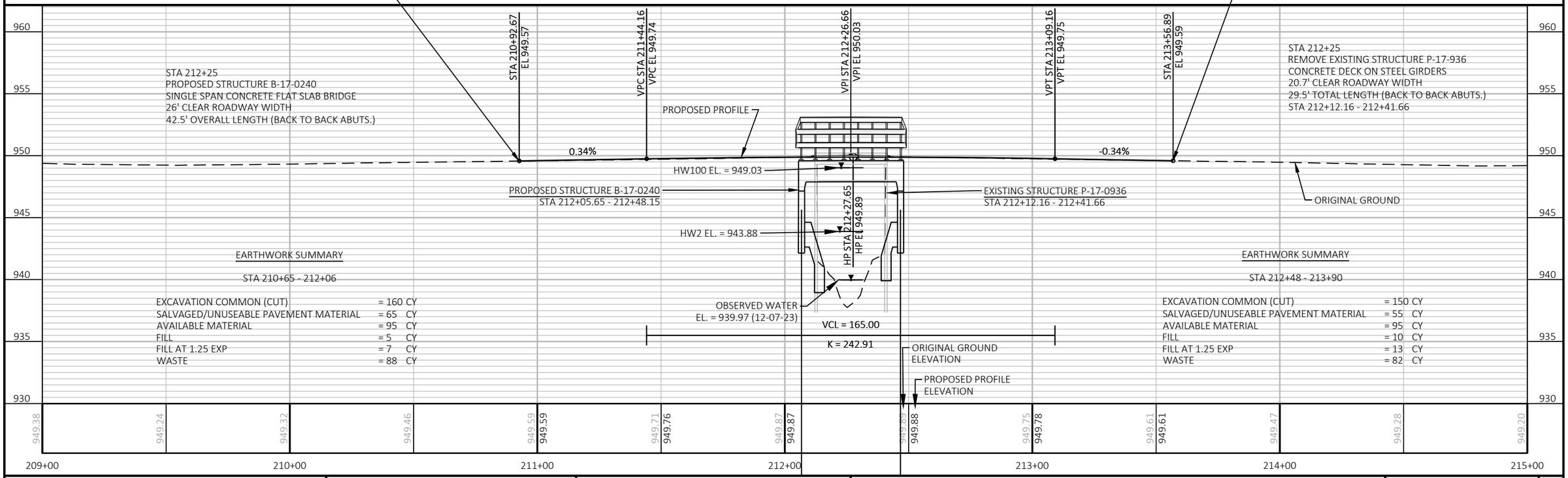
*FOR INFORMATION ONLY

CONSTRUCTION STAKING SUMMARY

CATEGORY	STATION	TO	STATION	CONSTRUCTION STAKING SUBGRADE 650.4500 LF	CONSTRUCTION STAKING BASE 650.5000 LF	CONSTRUCTION STAKING SLOPE STAKES 650.9920 LF
0010	210+65	-	212+06	140	140	140
0010	212+48	-	213+90	140	140	140
			TOTAL 0010	280	280	280

BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
1	209+28.29	944.84	42.7' LT SPIKE IN POWER POLE
2	212+03.49	945.51	42.8' LT SPIKE IN POWER POLE
3	214+75.12	943.17	41.9' LT SPIKE IN POWER POLE





EARTHWORK SUMMARY

STA 210+65 - 212+06

EXCAVATION COMMON (CUT)	= 160 CY
SALVAGED/UNUSEABLE PAVEMENT MATERIAL	= 65 CY
AVAILABLE MATERIAL	= 95 CY
FILL	= 5 CY
FILL AT 1.25 EXP	= 7 CY
WASTE	= 88 CY

EARTHWORK SUMMARY

STA 212+48 - 213+90

EXCAVATION COMMON (CUT)	= 150 CY
SALVAGED/UNUSEABLE PAVEMENT MATERIAL	= 55 CY
AVAILABLE MATERIAL	= 95 CY
FILL	= 10 CY
FILL AT 1.25 EXP	= 13 CY
WASTE	= 82 CY

PROJECT NO: 8925-03-72	HWY: CTH Q	COUNTY: DUNN	PLAN AND PROFILE: CTH Q	SHEET 11	E

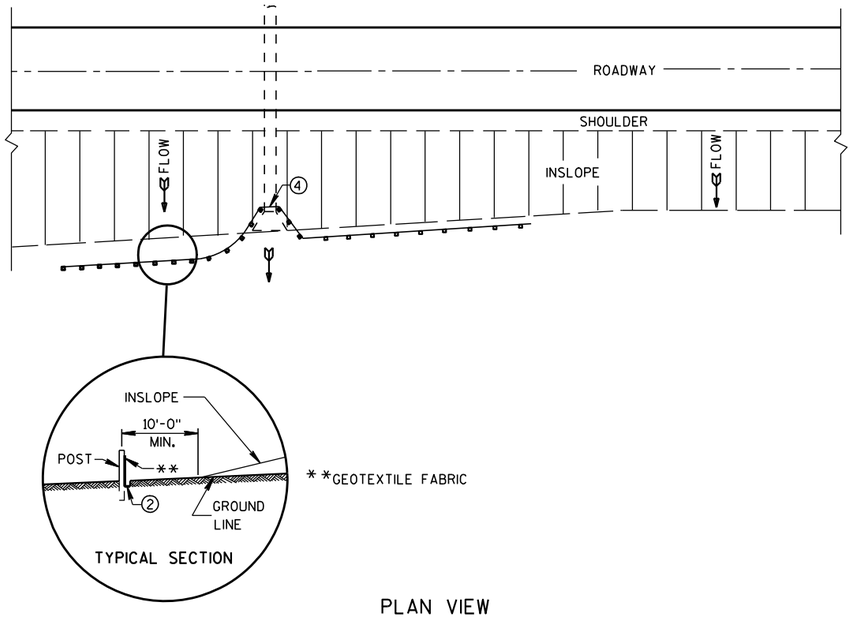
FILE NAME : G:\2023-PROJ\23258177\C3D\SHEETS\050201_PP.DWG
LAYOUT NAME - PLAN & PROFILE

PLOT DATE : 7/17/2025 4:44 PM PLOT BY : JACOB FRIBERG PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 44

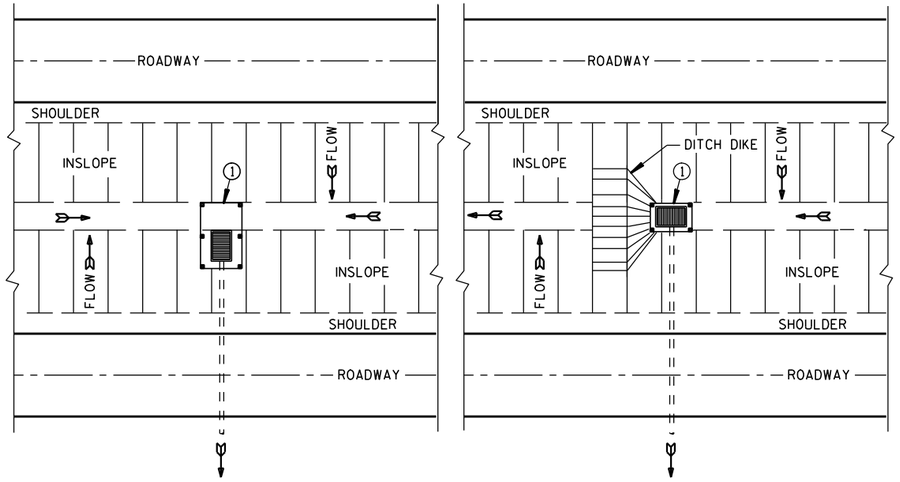
Standard Detail Drawing List

08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-24A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



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.

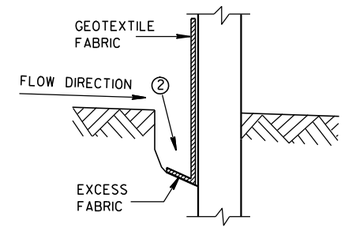
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

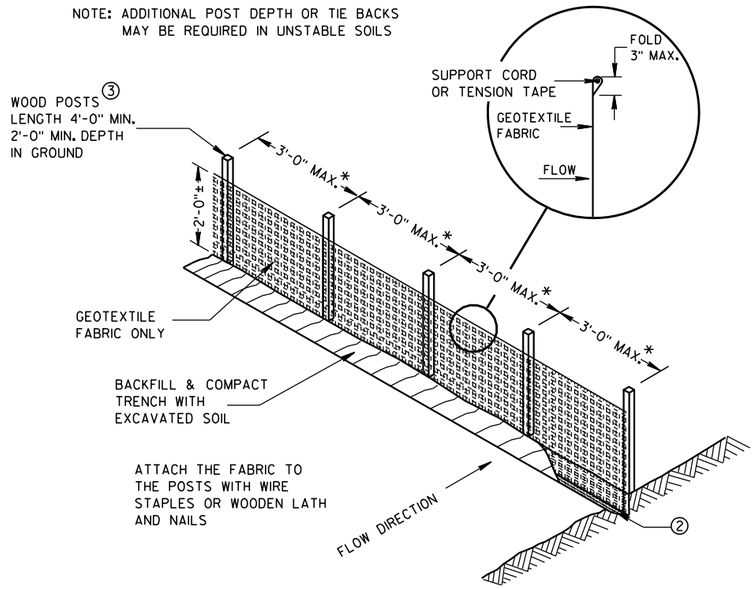
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

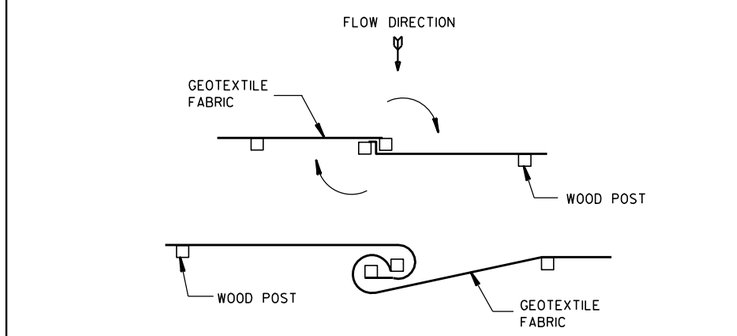
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



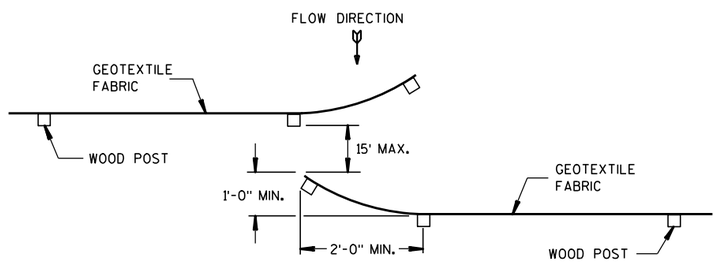
TRENCH DETAIL



SILT FENCE

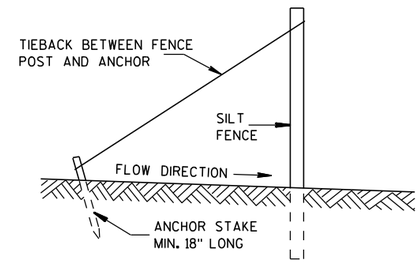


TWIST METHOD



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

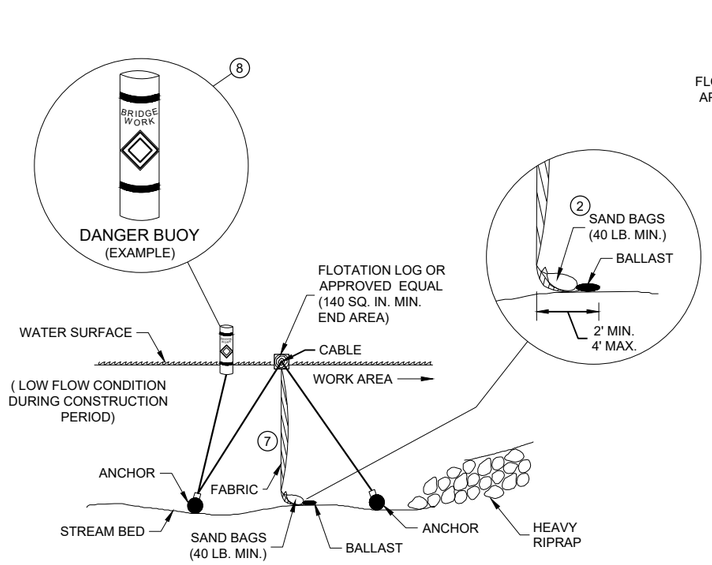
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

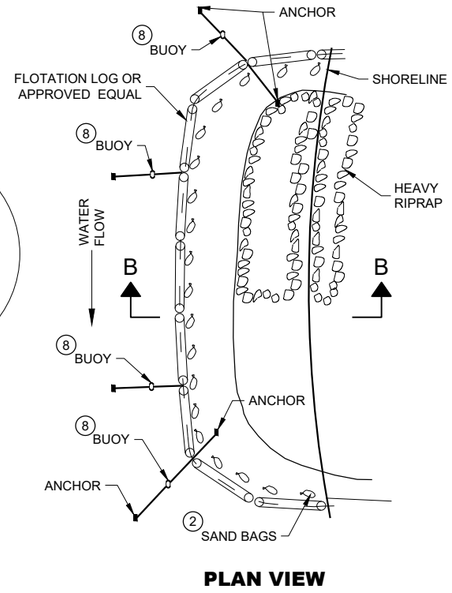
S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

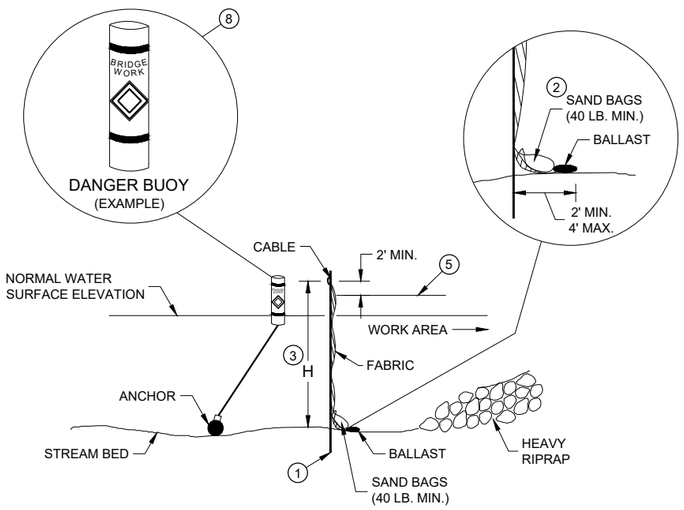


SECTION B - B

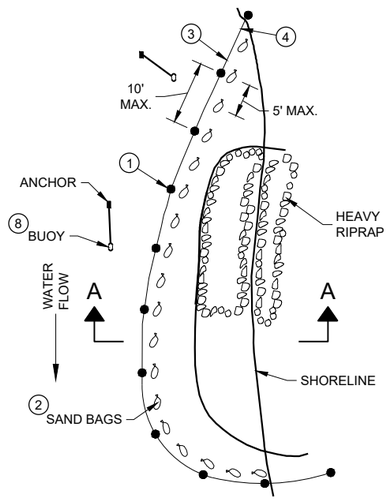


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

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

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

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

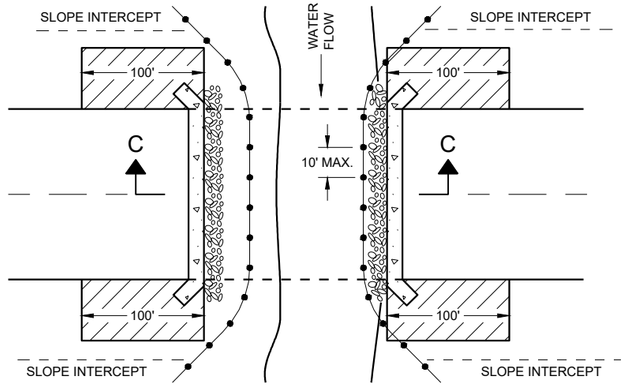
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

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

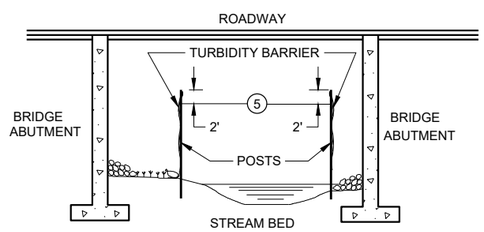
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

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

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



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

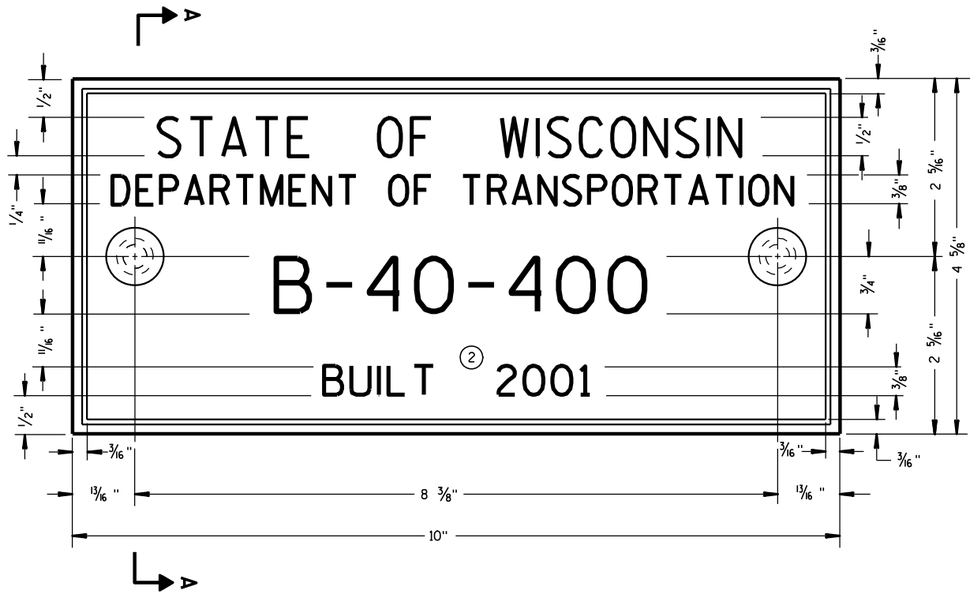
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6
SDD 08E11 - 02



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION MULTI-UNIT STRUCTURES

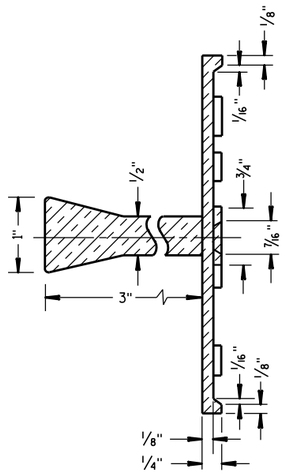
GENERAL NOTES

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.

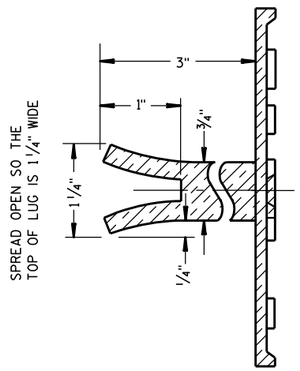
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

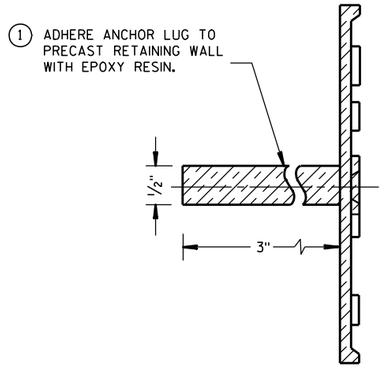
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

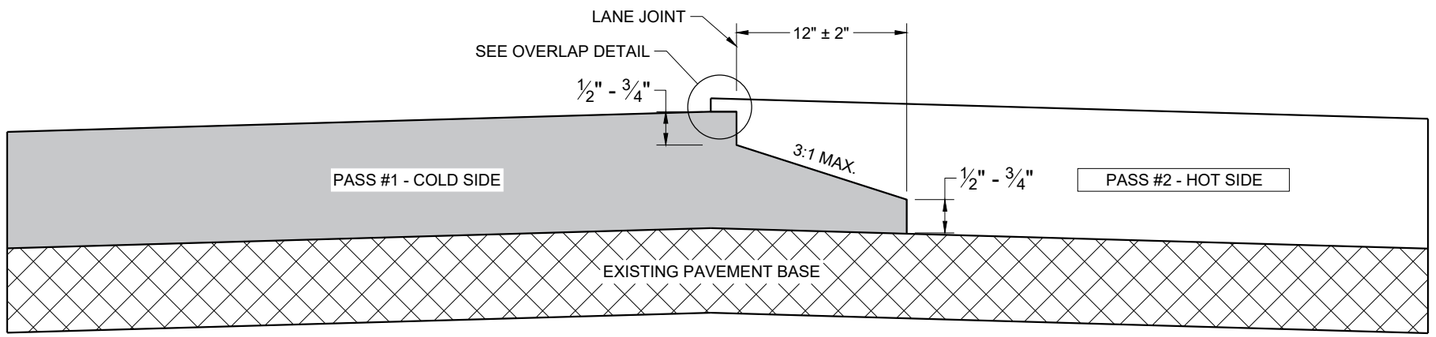
3/26/10 DATE

/S/ Scot Beck CHIEF STRUCTURAL DEVELOPMENT ENGINEER

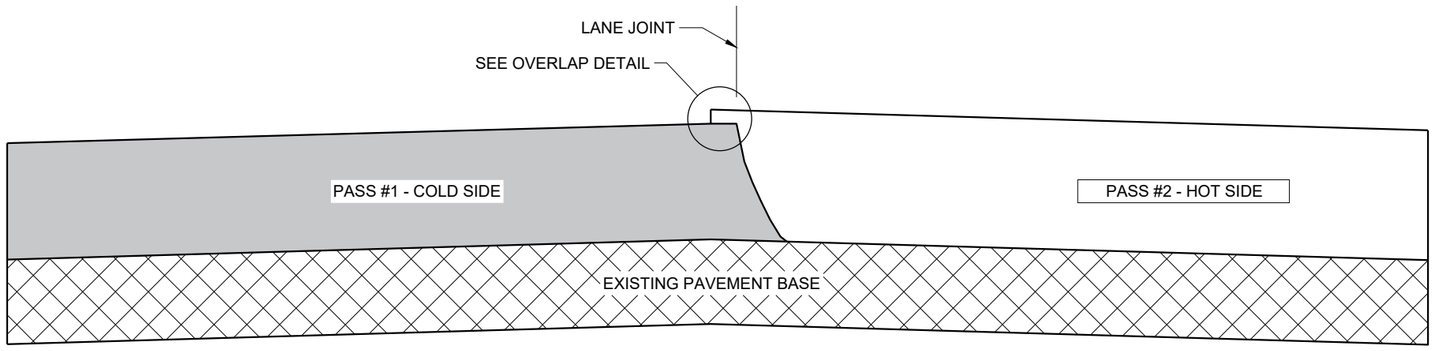
FHWA

6

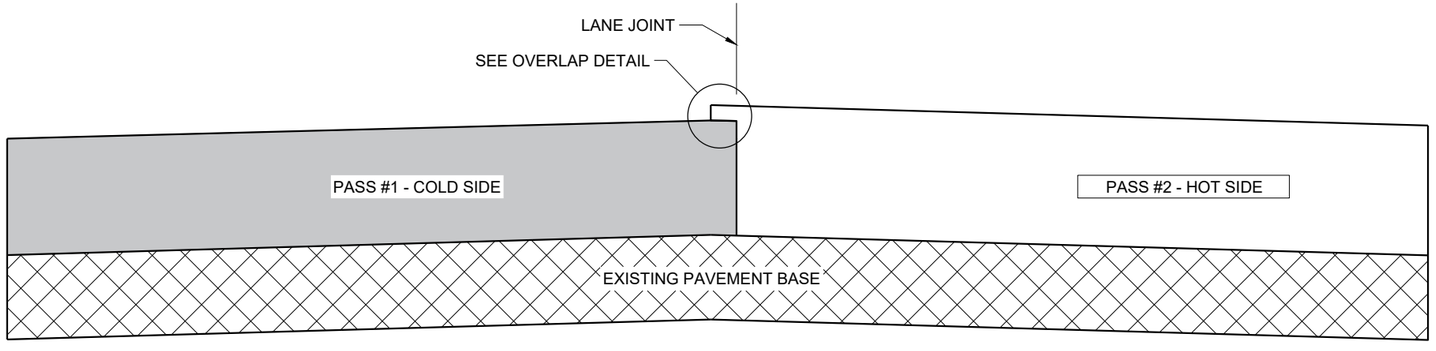
S.D.D. 12 A 3-10



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

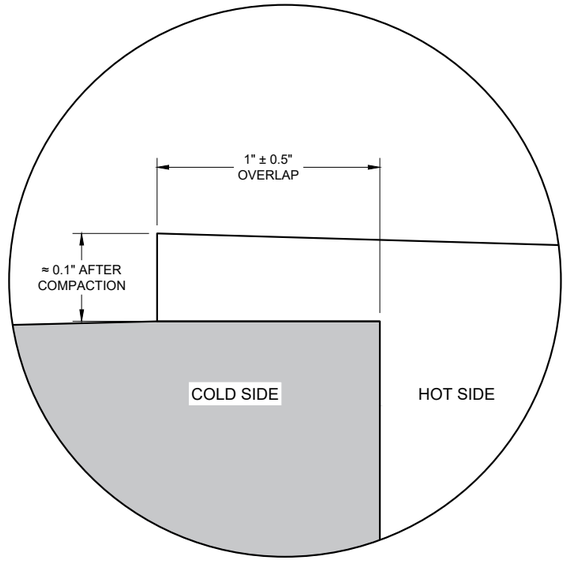
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2020 DATE	/S/ Steven Hefel HMA PAVEMENT ENGIN

FHWA

6

SDD 13C19 - 03

6

SDD 13C19 - 03

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

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

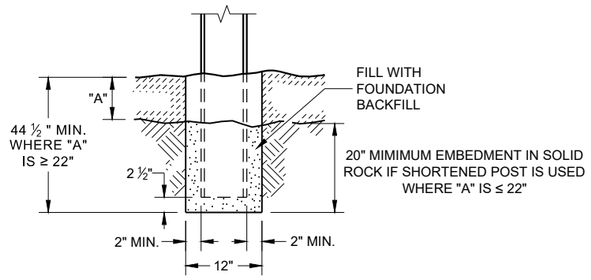
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

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

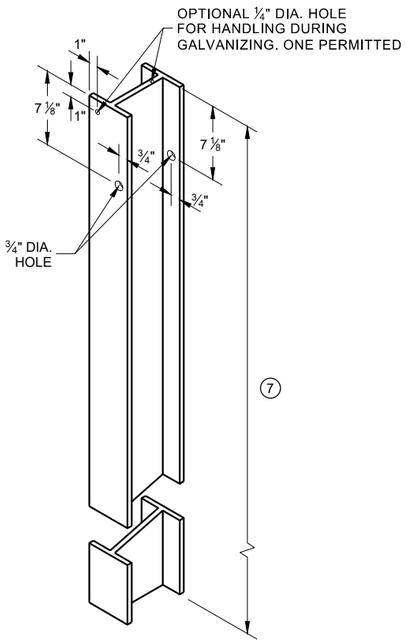
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

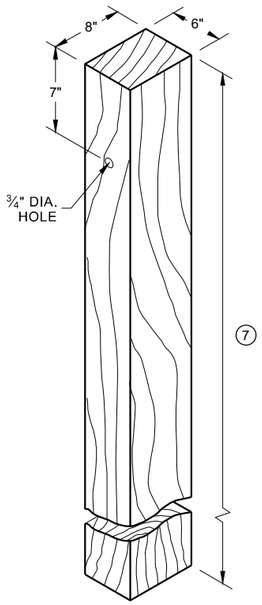
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



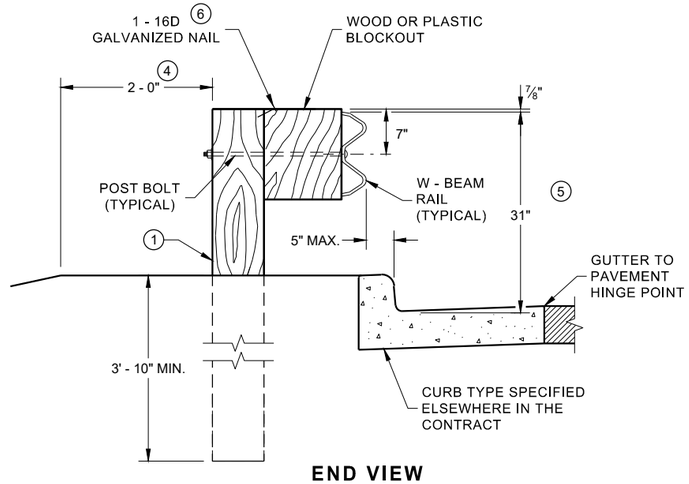
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



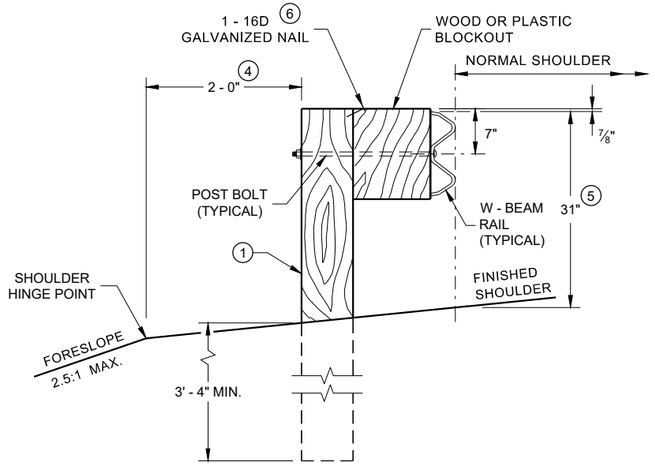
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



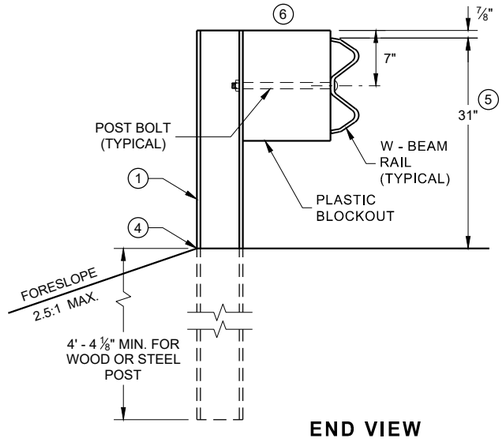
WOOD POST (6" X 8") NOMINAL (1)



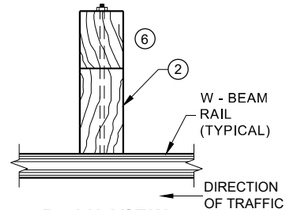
END VIEW
LOCATED ALONG A CURBED ROADWAY



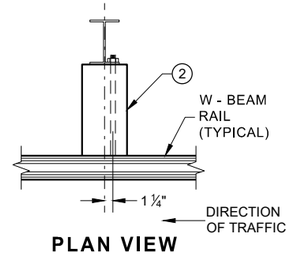
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



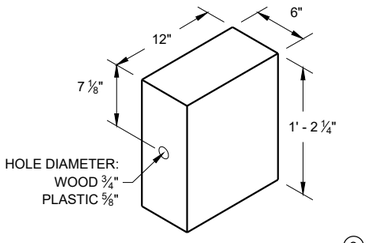
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

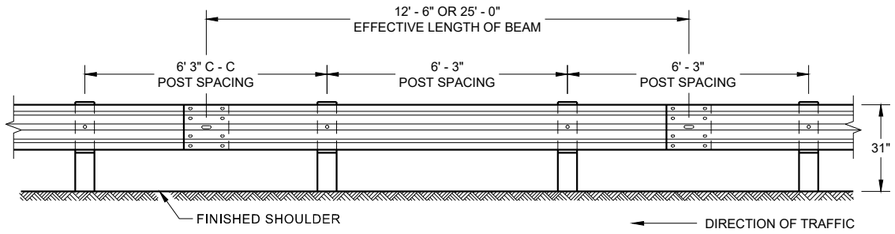
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

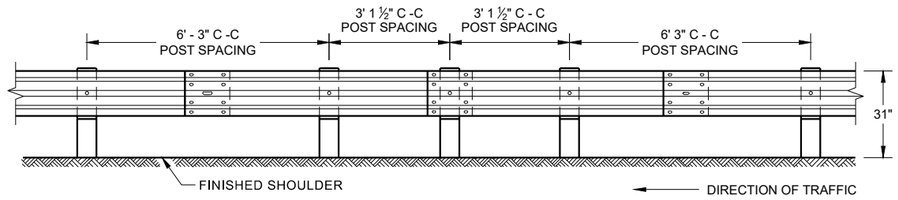
SDD 14B42 - 07a

6

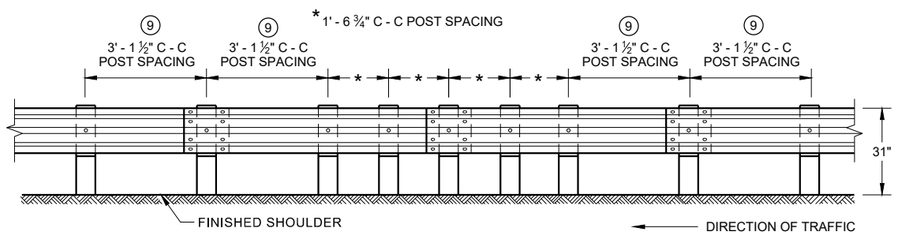
SDD 14B42 - 07a



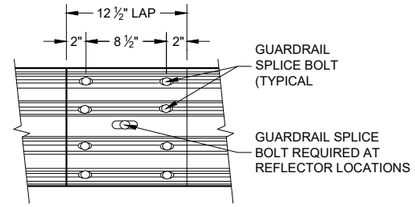
FRONT VIEW
POST SPACING STANDARD INSTALLATION



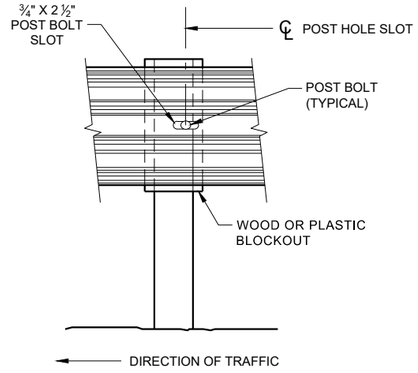
FRONT VIEW
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



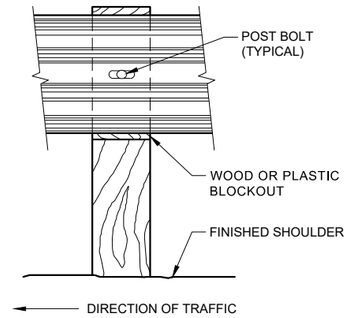
FRONT VIEW
QUARTER POST SPACING (QS)



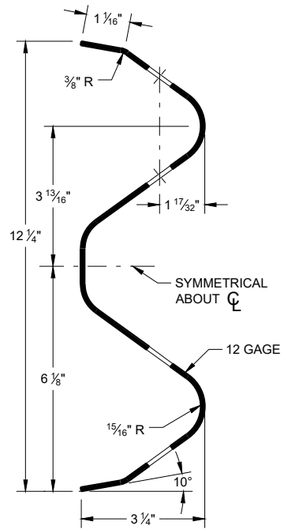
FRONT VIEW
MID-SPAN BEAM SPLICE



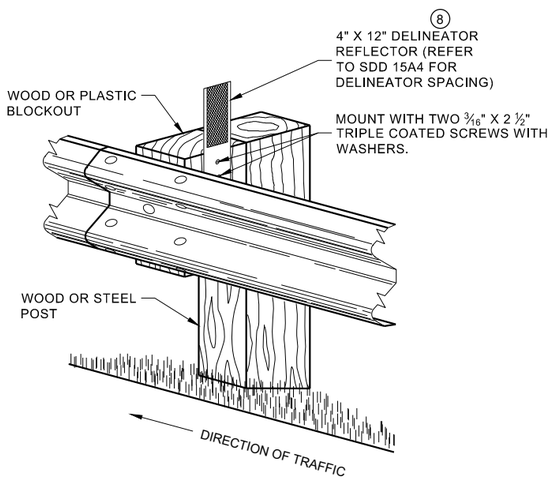
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

GENERAL NOTES

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

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

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

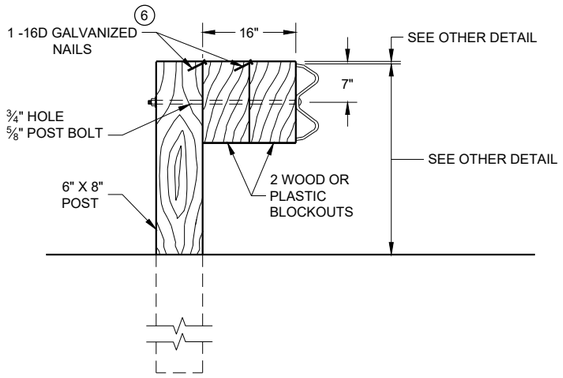
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

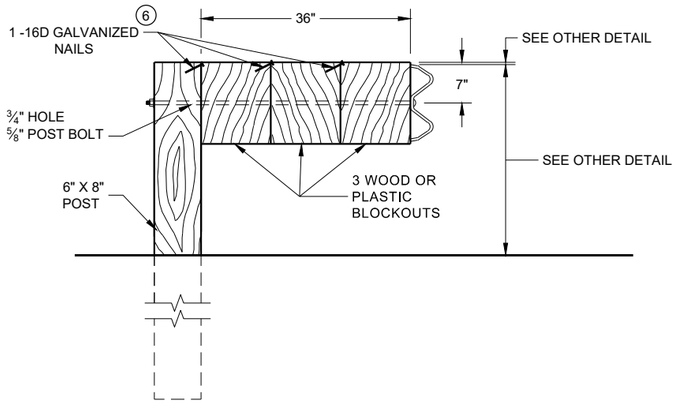
6

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



DETAIL FOR 16" BLOCKOUT DEPTH

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



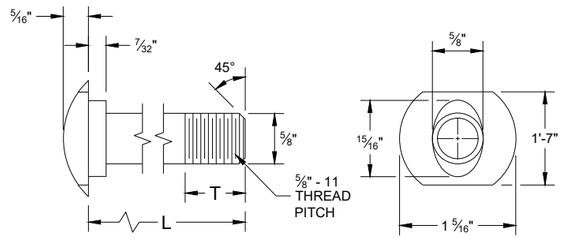
DETAIL FOR 36" BLOCKOUT DEPTH

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

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

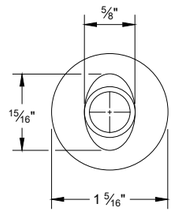
NOTE:

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

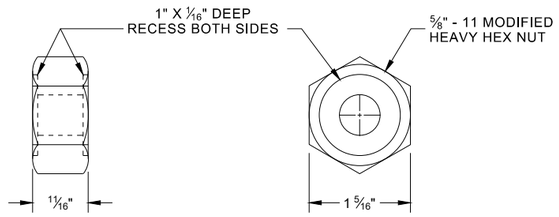


POST BOLT TABLE

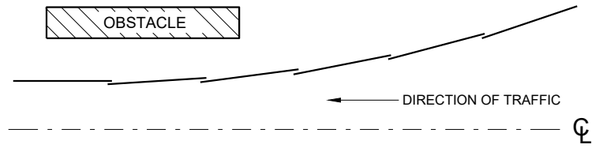
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



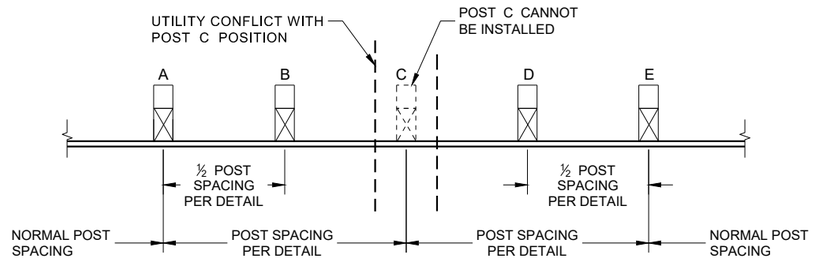
ALTERNATE BOLT HEAD



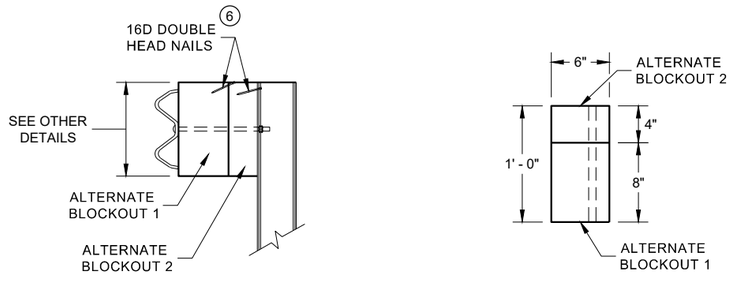
POST BOLT, SPLICE BOLT AND RECESS NUT



PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW

PLAN VIEW

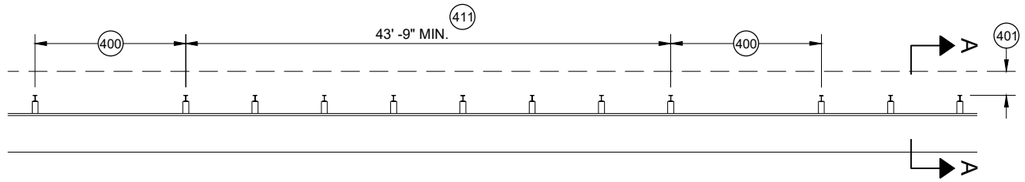
ALTERNATE WOOD BLOCKOUT DETAIL

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

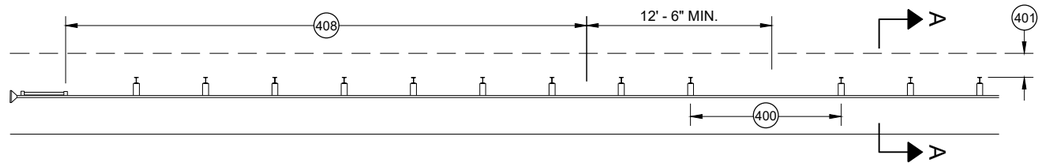
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

6

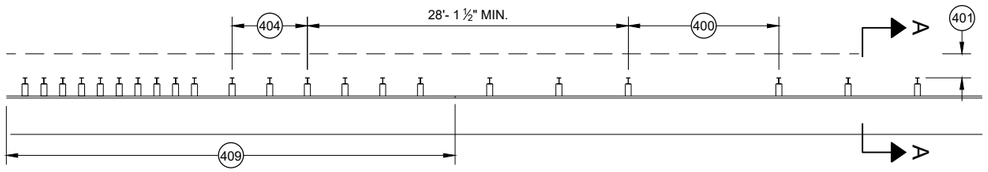
SDD 14B42 - 07c



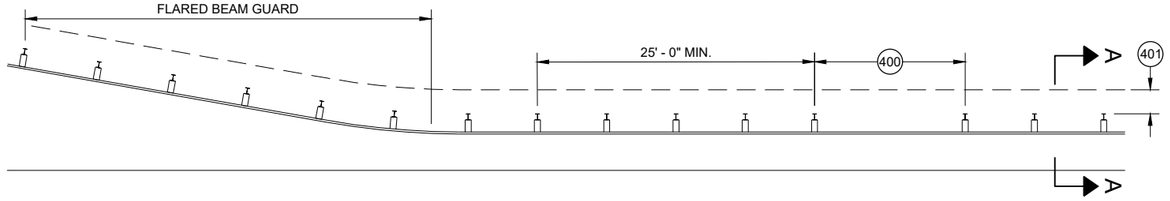
MISSING POST IN MGS GUARDRAIL



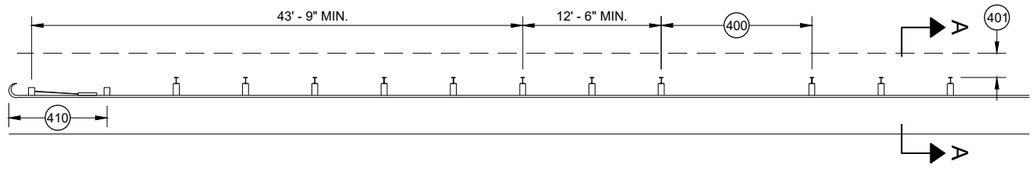
MISSING POST IN MGS GUARDRAIL NEAR EAT



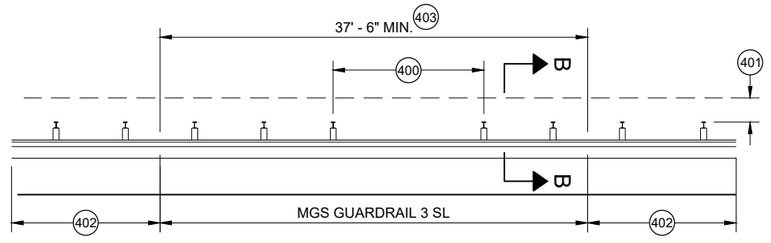
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

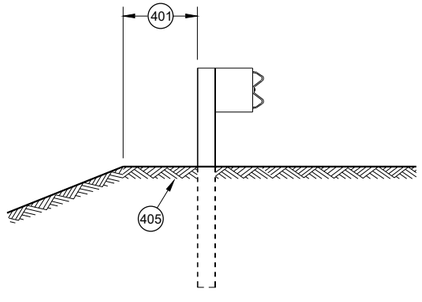


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

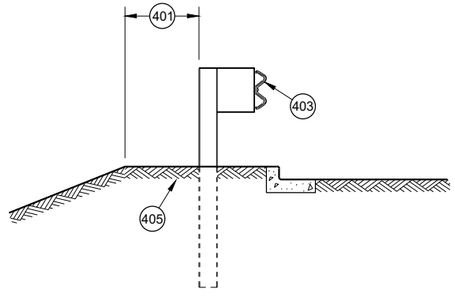


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

6

SDD 14B42 - 07d

GENERAL NOTES

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

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

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

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

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

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

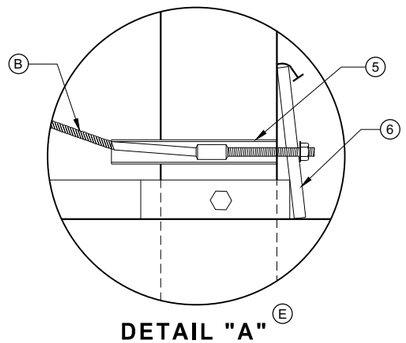
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

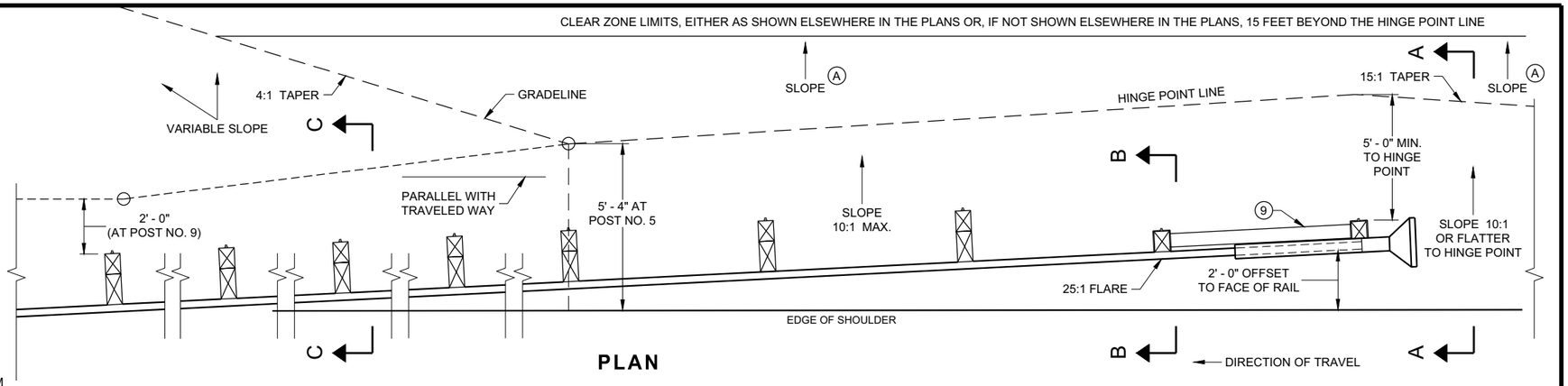
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

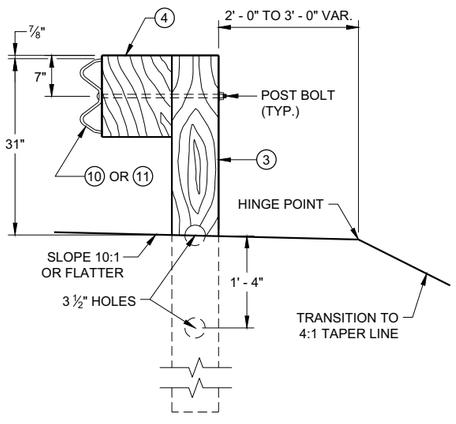
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

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

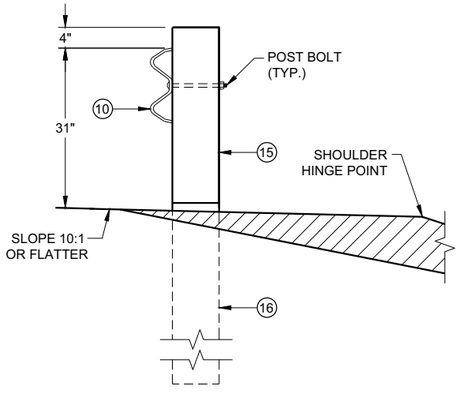


DETAIL "A" (E)

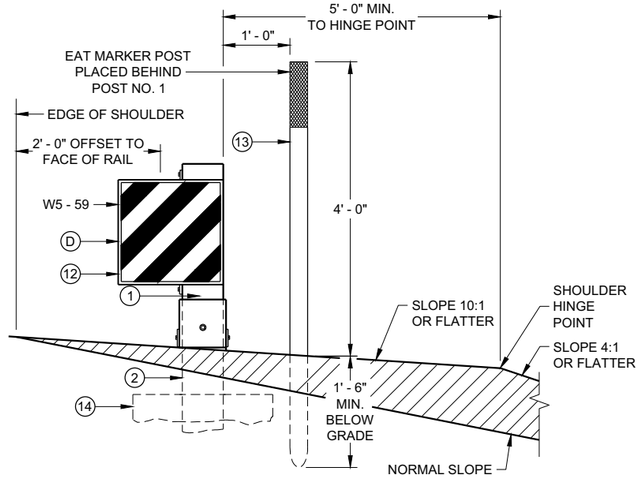




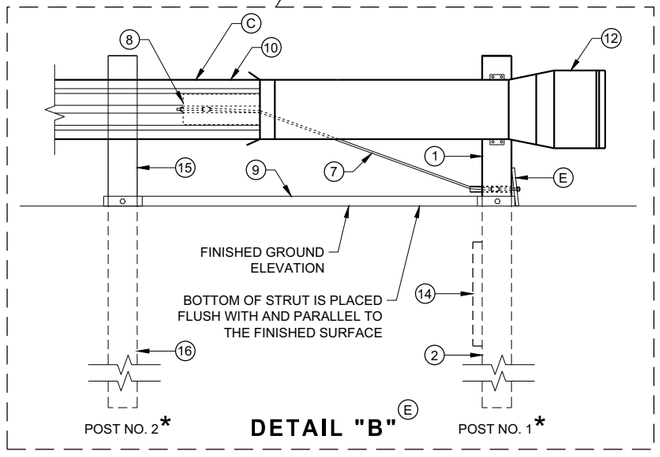
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



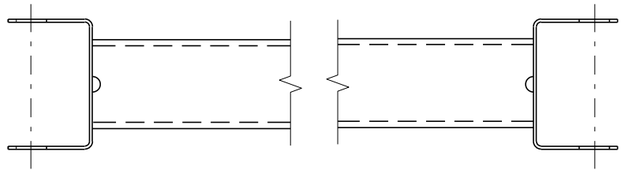
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

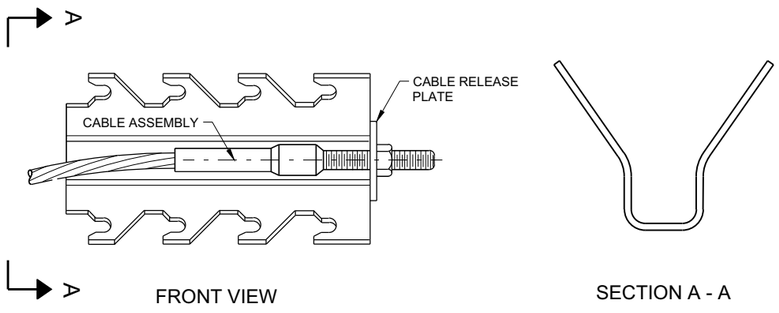
SDD 14B44 - 04a



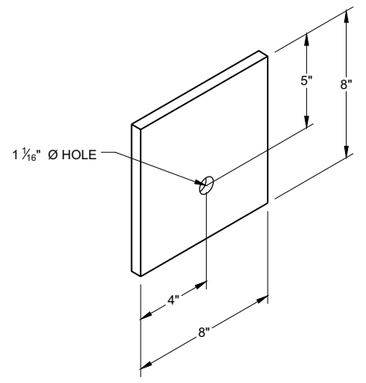
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

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



GENERIC ANCHOR CABLE BOX ⑧ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

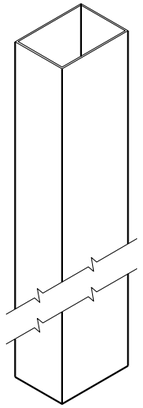
6

SDD 14B44 - 04b

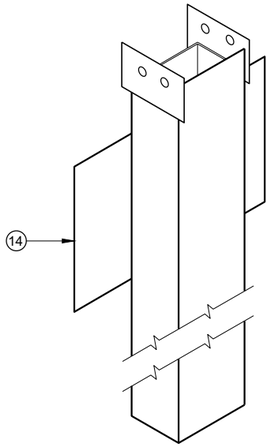
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

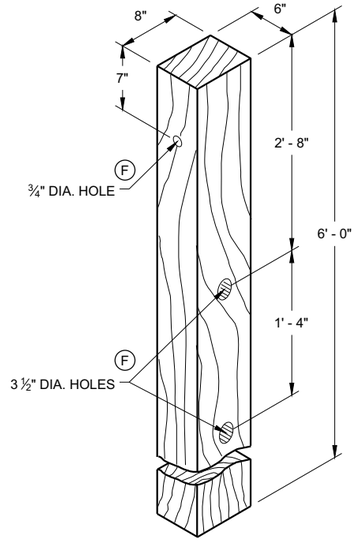
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



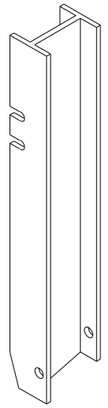
UPPER POST NO. 1 (1) (E)



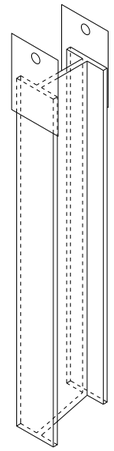
LOWER POST NO. 1 (2) (E)



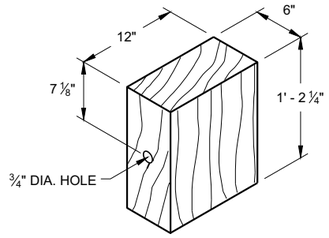
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



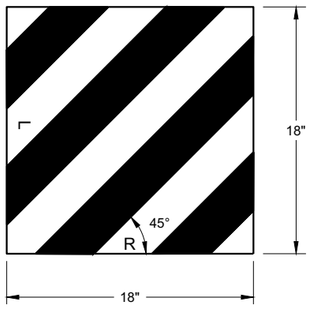
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

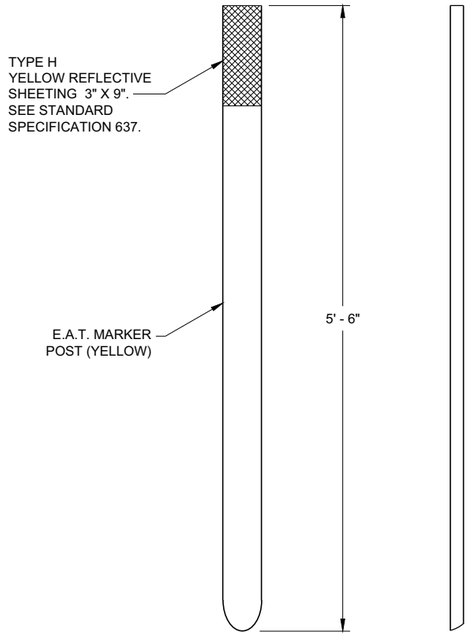


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



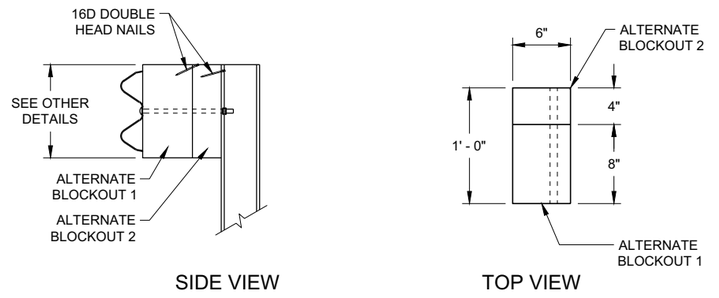
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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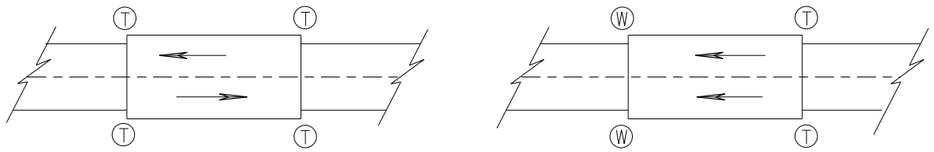
SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

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

TRANSITION USES STEEL POSTS ONLY.

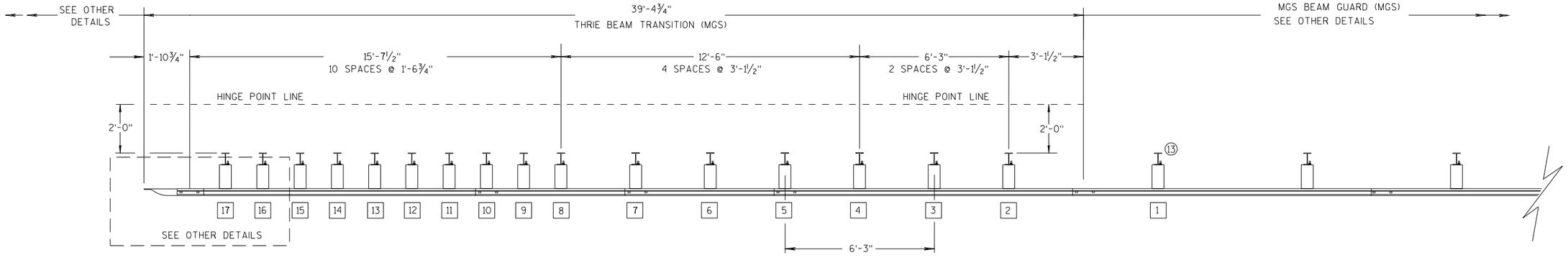
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

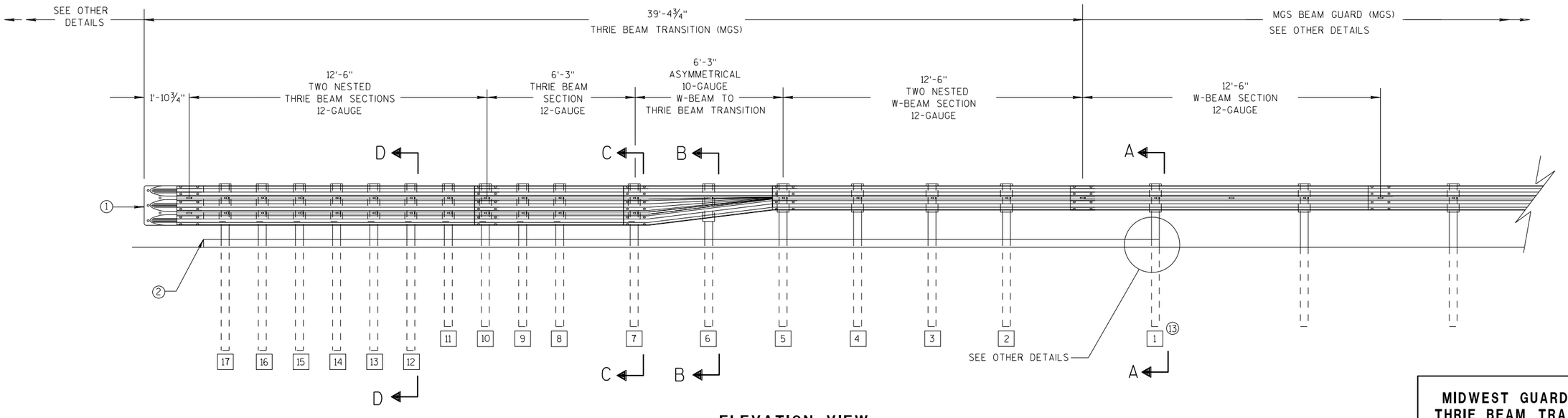
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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

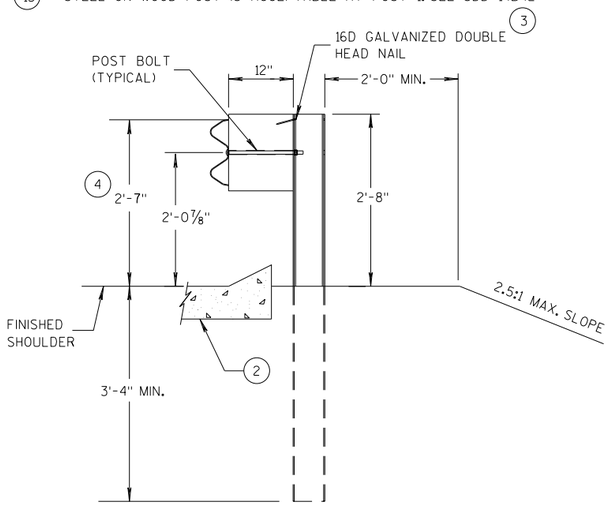
GENERAL NOTES

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

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

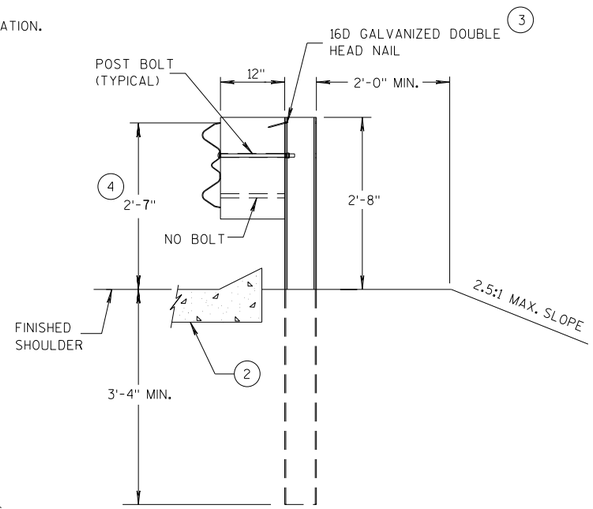
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



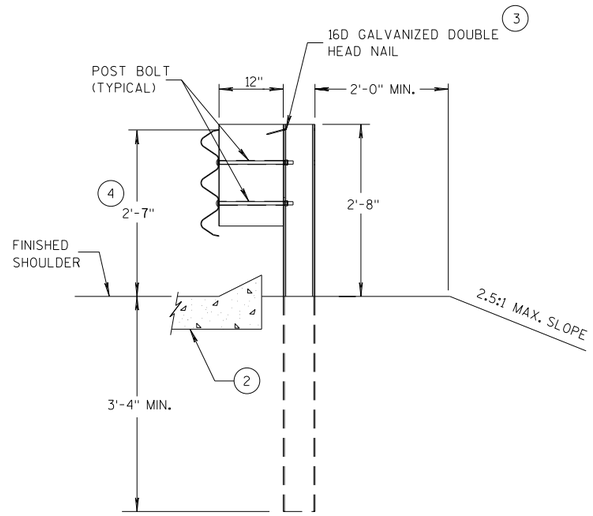
SECTION A-A (13)

POSTS 1-5



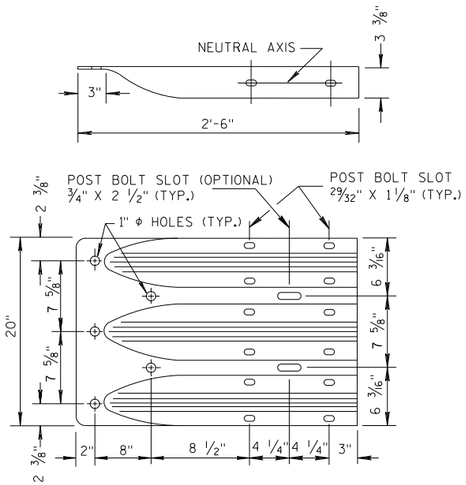
SECTION B-B

POST 6

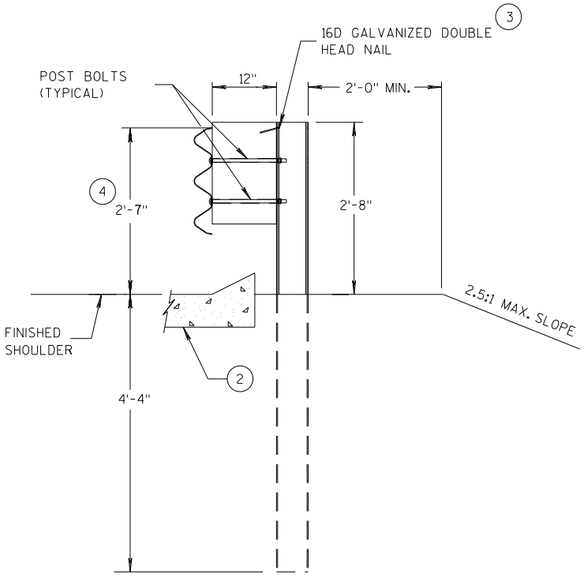


SECTION C-C

POSTS 7-11

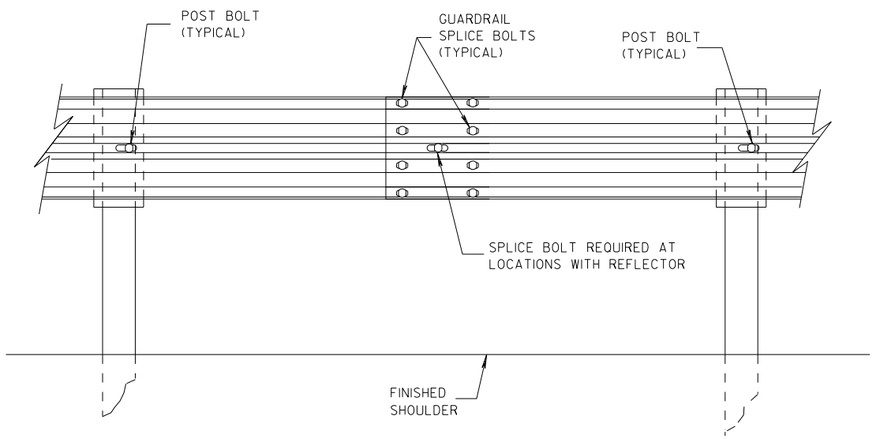


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

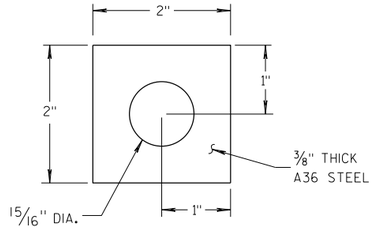
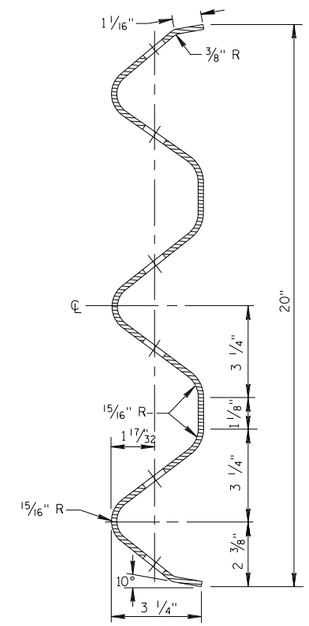


PLATE WASHER DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

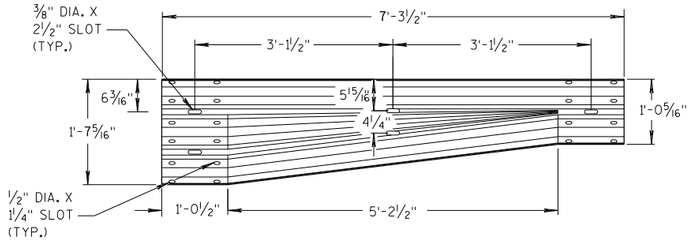
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 25

6

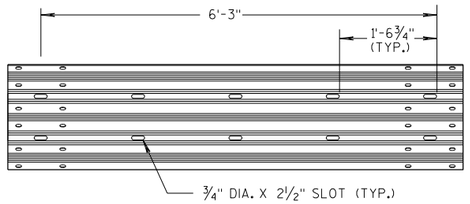
S.D.D. 14 B 45-5b

6

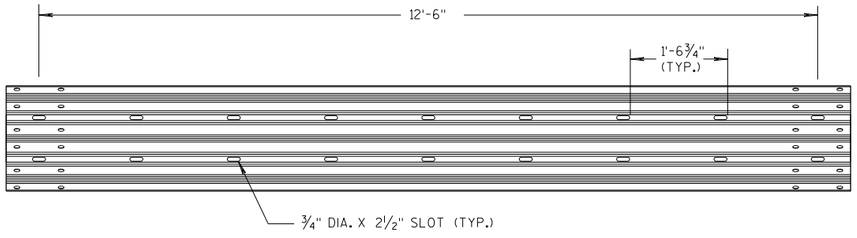
S.D.D. 14 B 45-5b



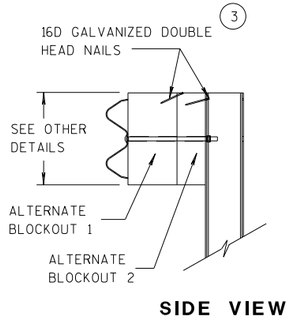
W-BEAM TO THRIE BEAM TRANSITION SECTION



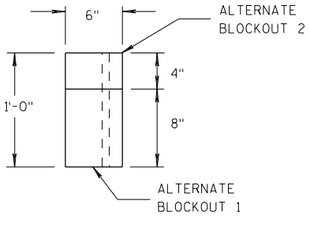
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

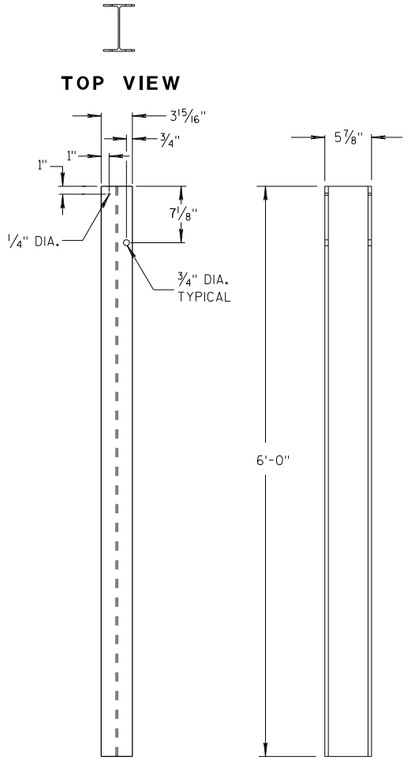


SIDE VIEW



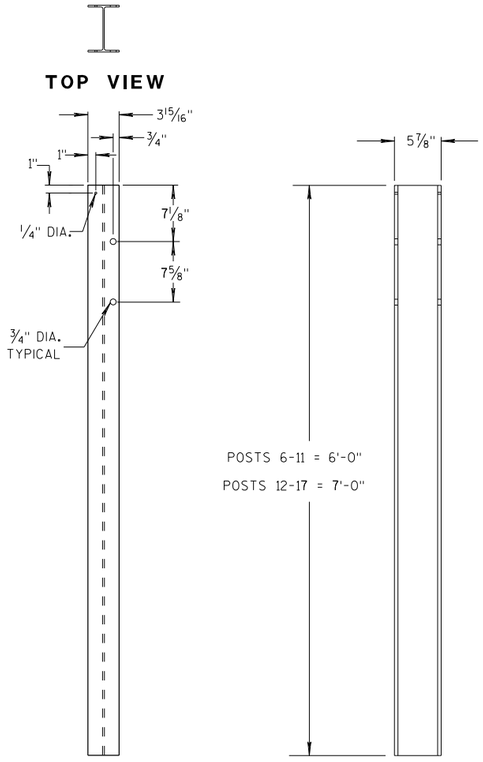
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



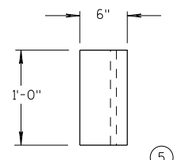
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

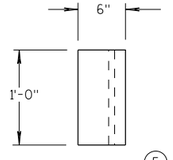


FRONT VIEW SIDE VIEW

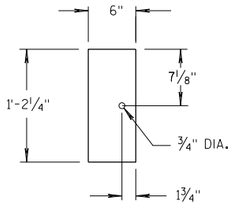
STEEL POSTS 6-17



TOP VIEW (5)

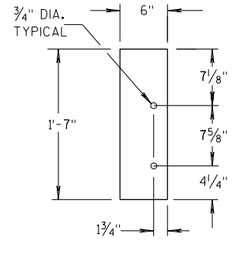


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

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

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

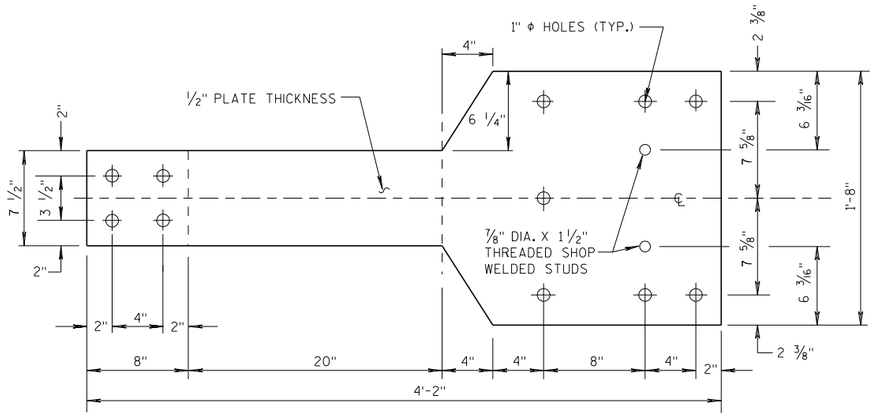
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

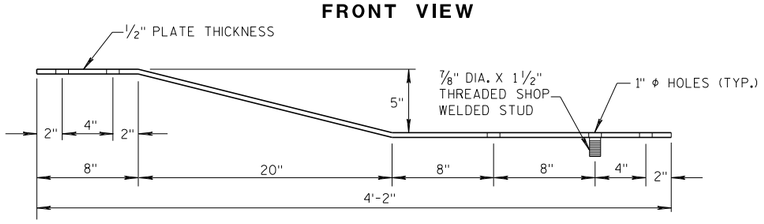
S.D.D. 14 B 45-5c

GENERAL NOTES

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

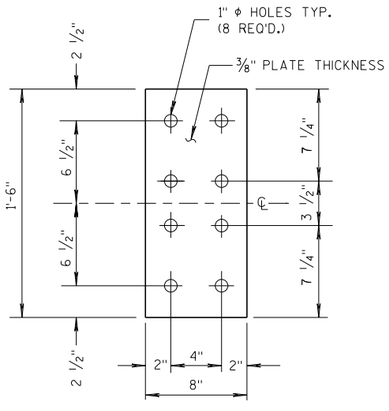


FRONT VIEW



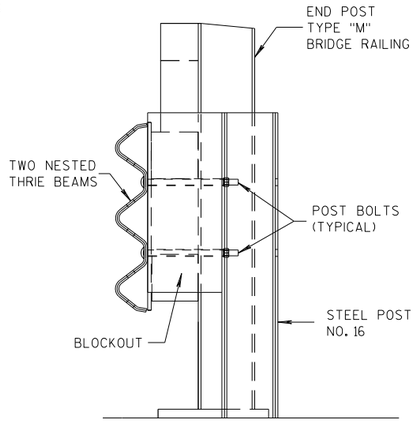
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

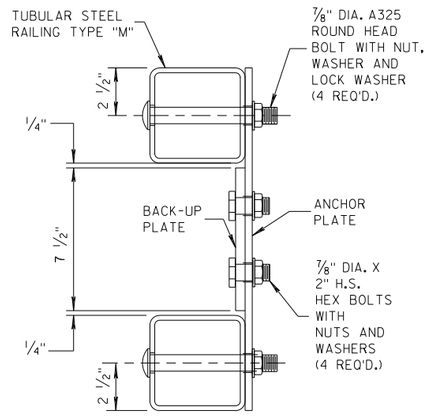


FRONT VIEW

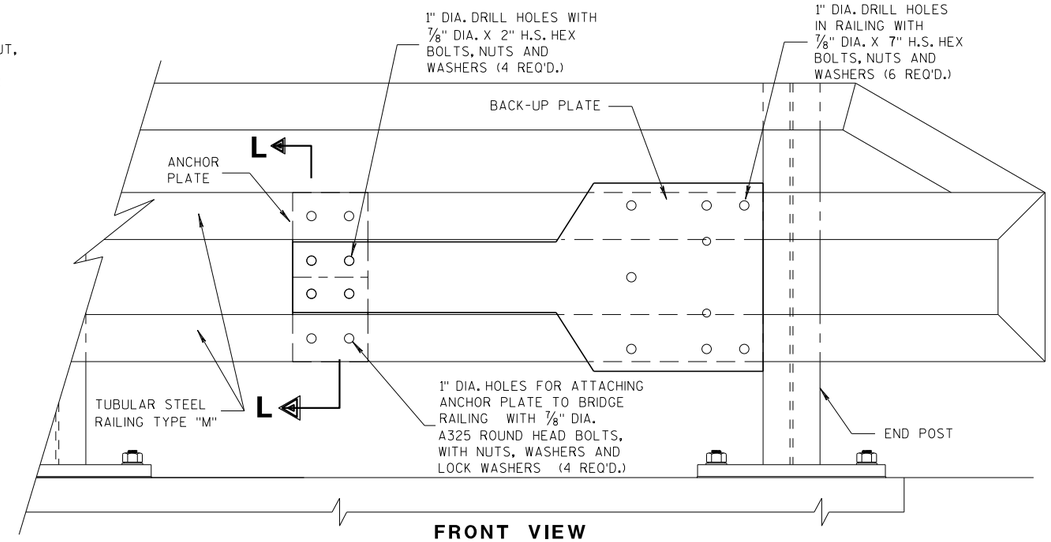
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

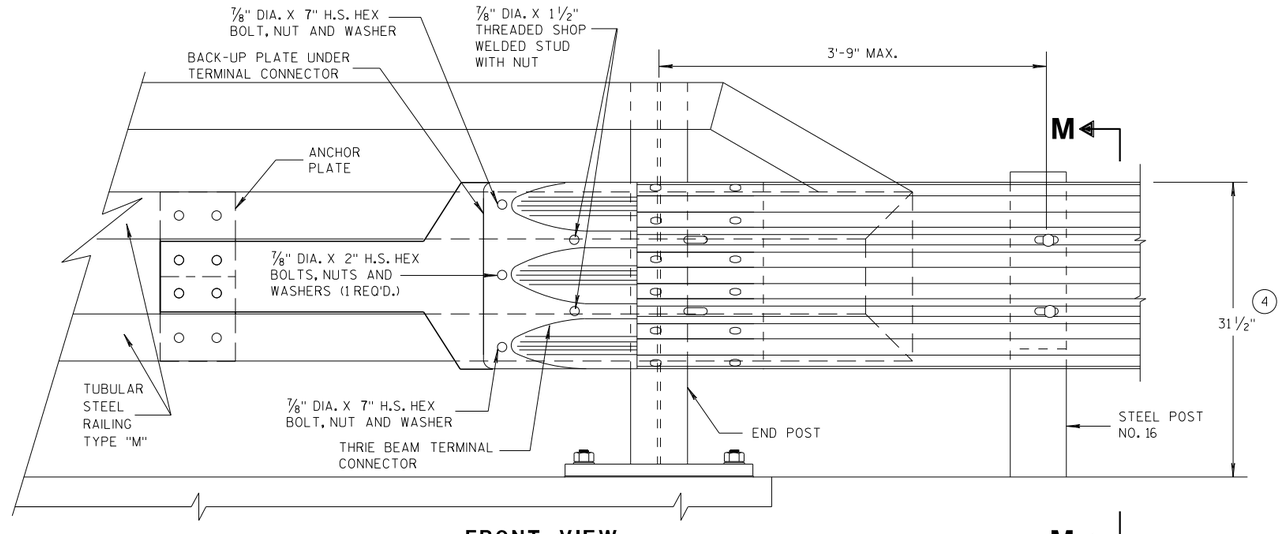


SECTION L-L

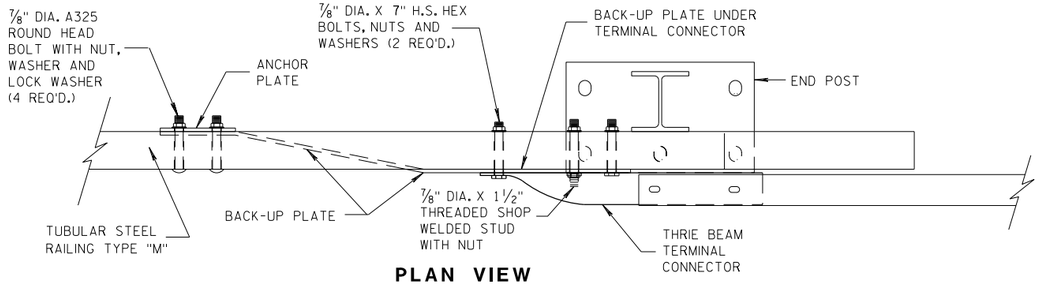


FRONT VIEW

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



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
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S.D.D. 14 B 45-5h

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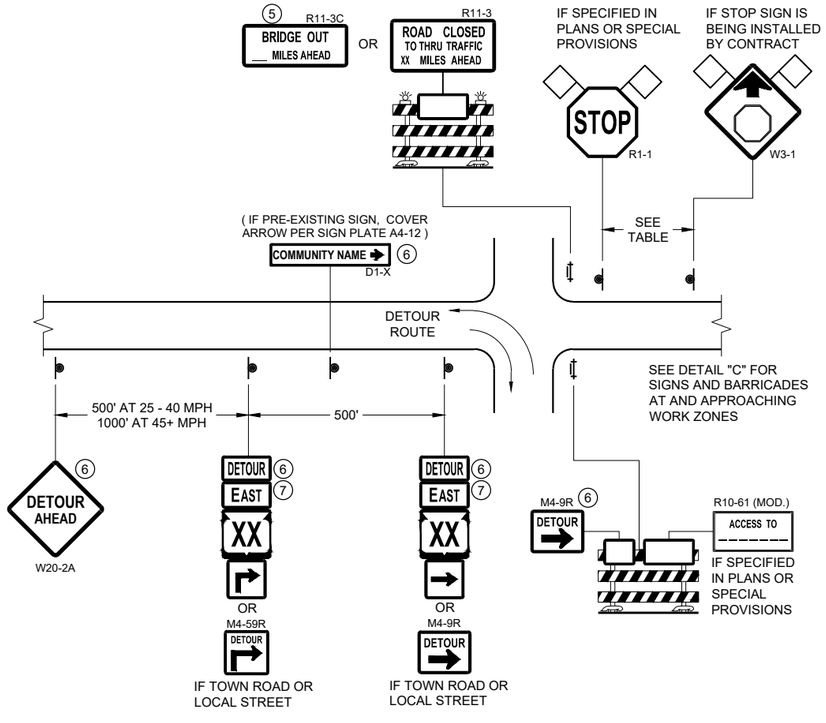
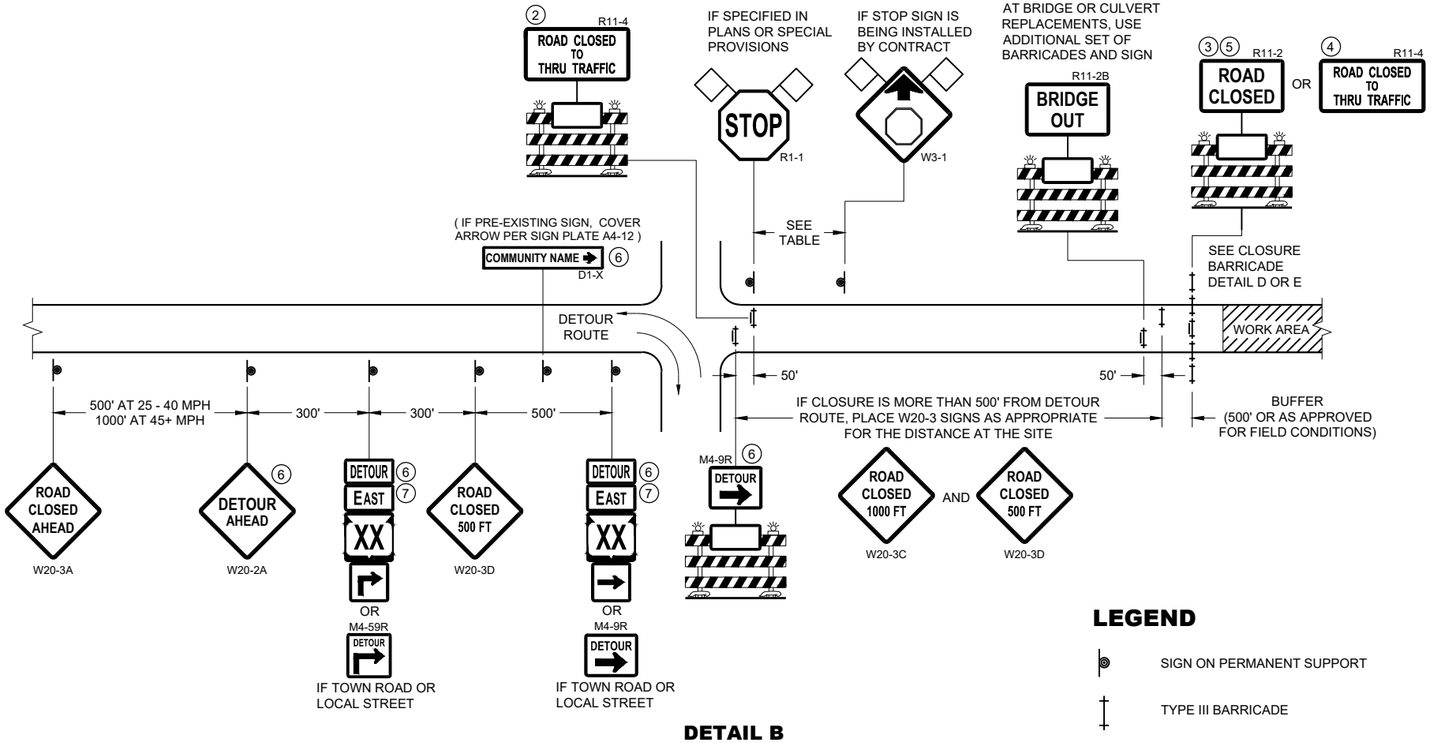


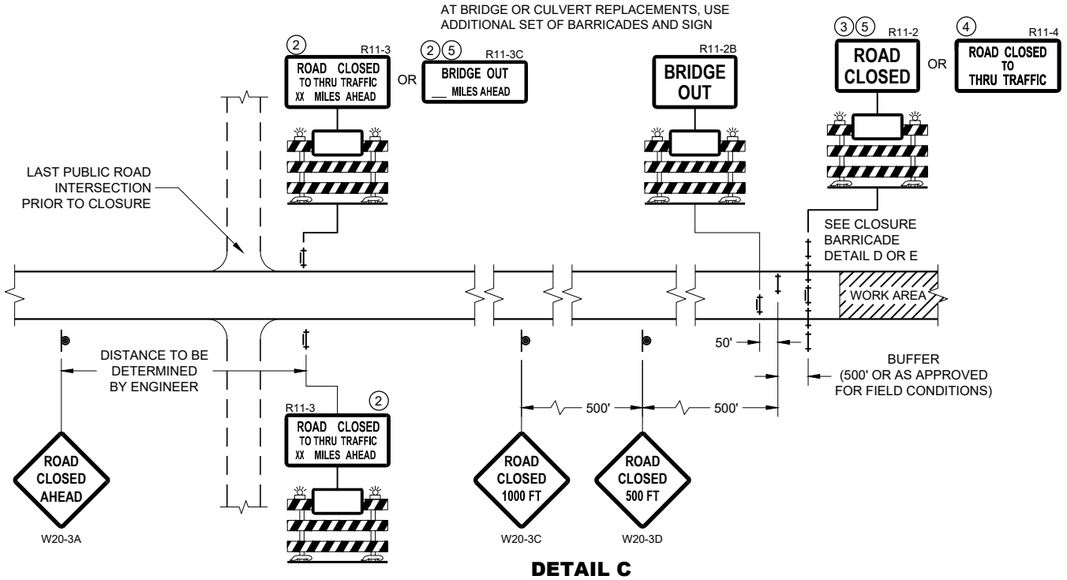
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



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

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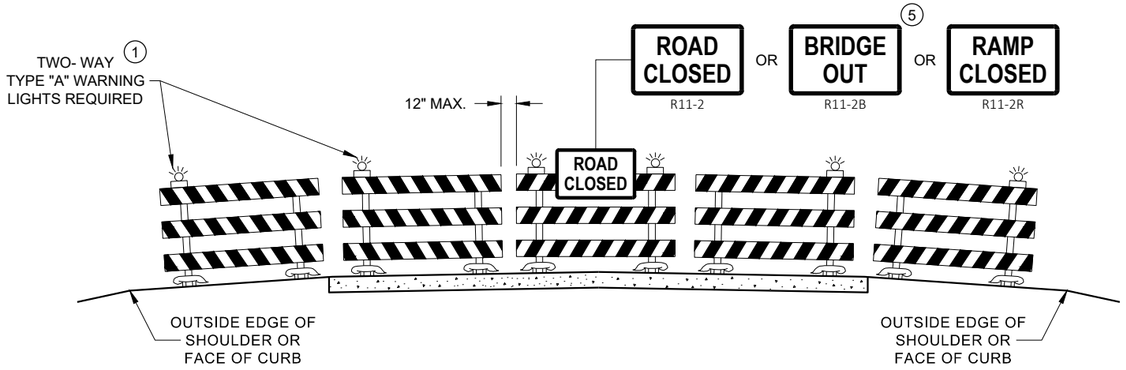
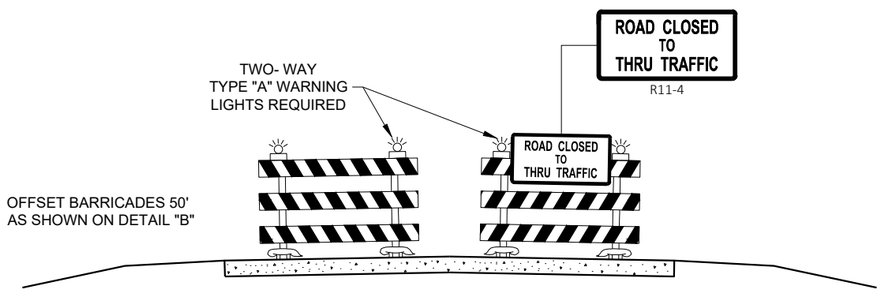
SDD 15C02 - 09a



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 ENGINEE
FHWA

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SDD 15C02 - 09b

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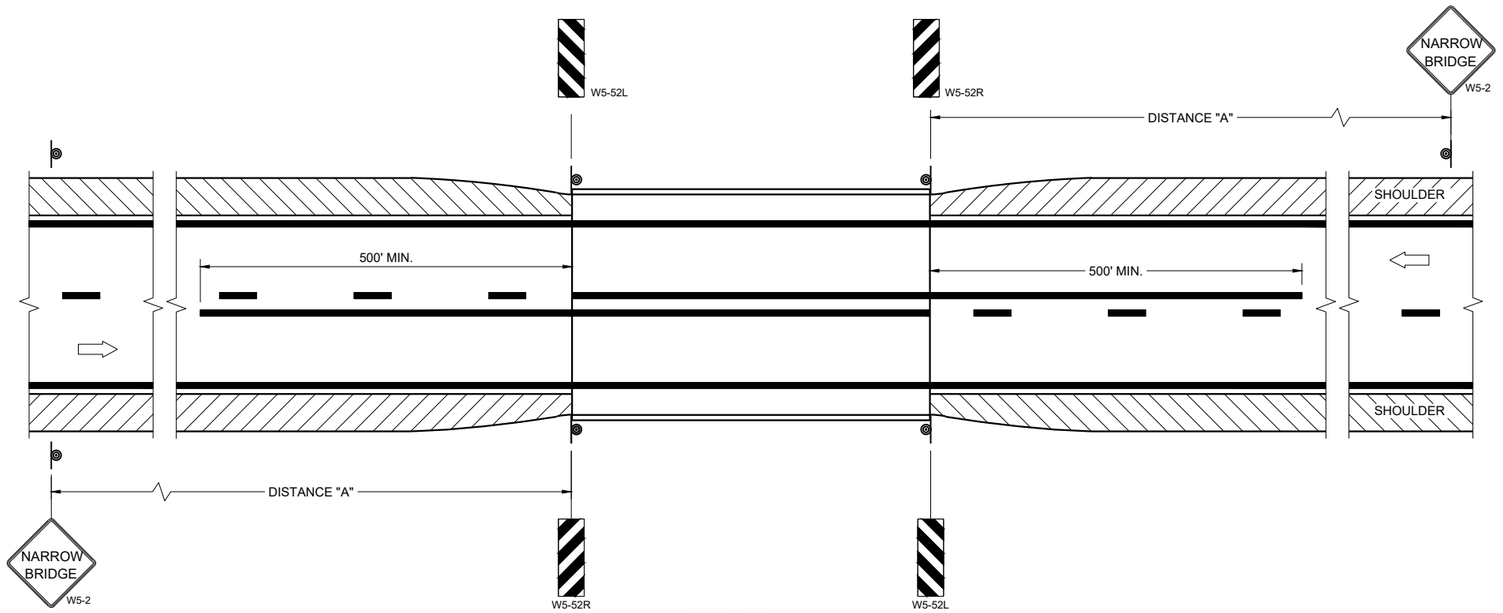
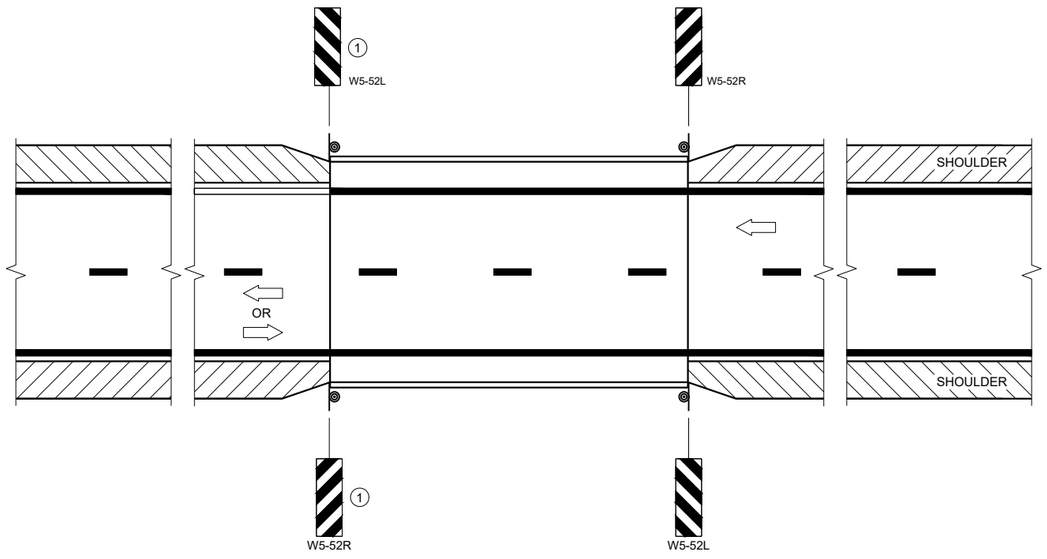
SDD 15C02 - 09b



SITUATION 1

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



SITUATION 2

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

GENERAL NOTES

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

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

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

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

(1) OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

DISTANCE TABLE

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

SIGNING AND MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
SDD 15C06-12

GENERAL NOTES

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

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

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

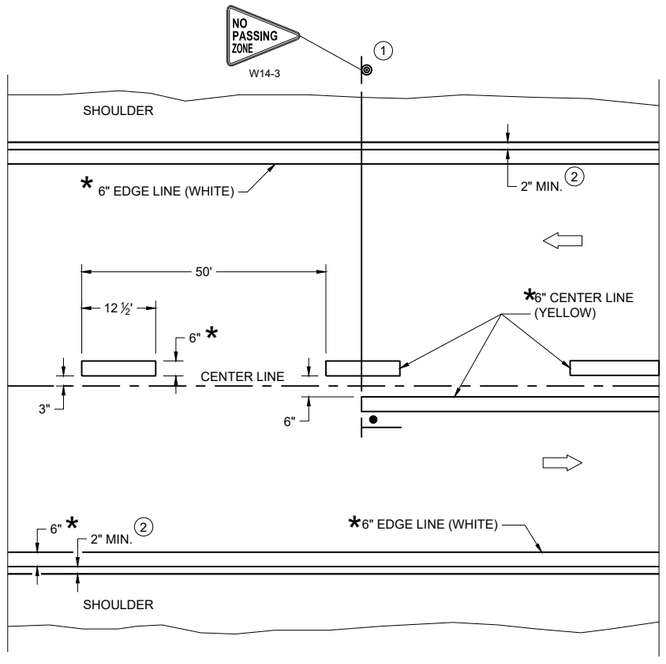
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

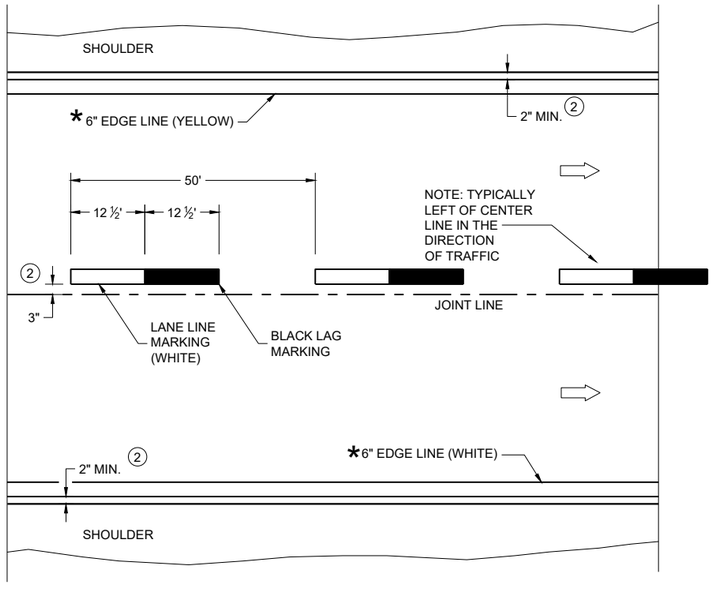
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

6

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2024
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

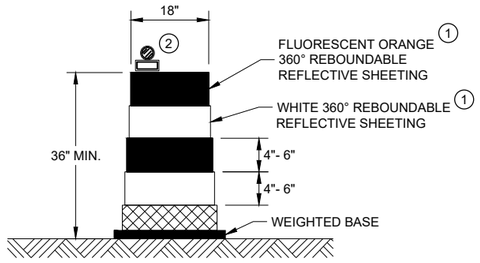
FHWA

SDD 15C08-24a

SDD 15C08-24a

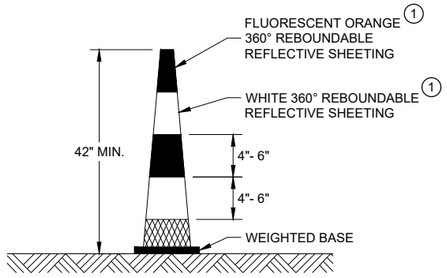
GENERAL NOTES

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



DRUM

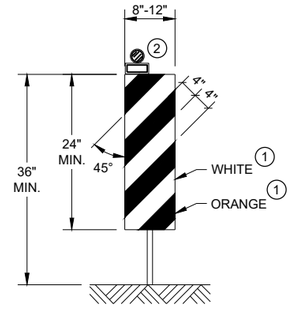
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

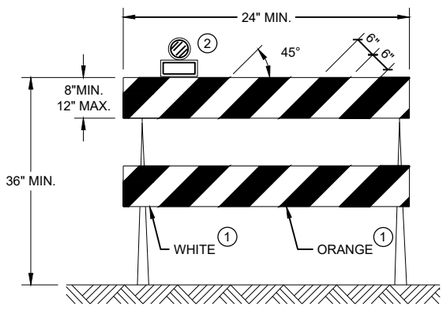
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



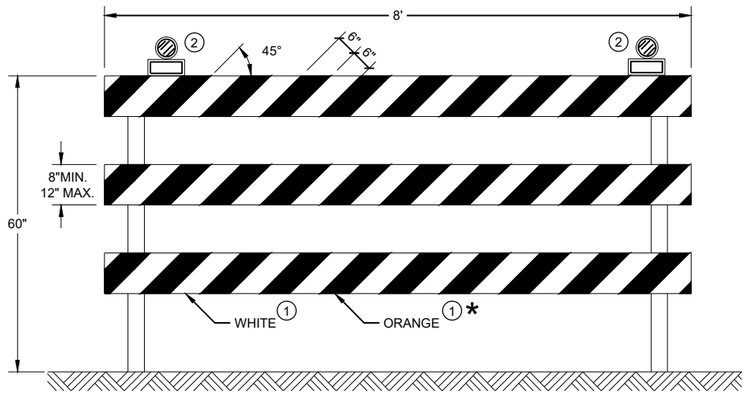
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

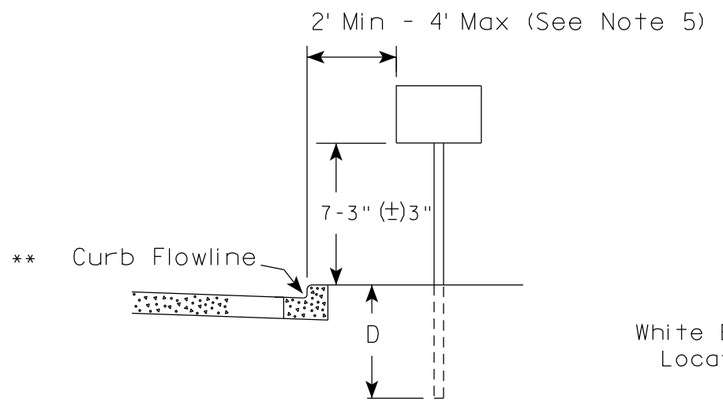
6

SDD 15C11 - 10b

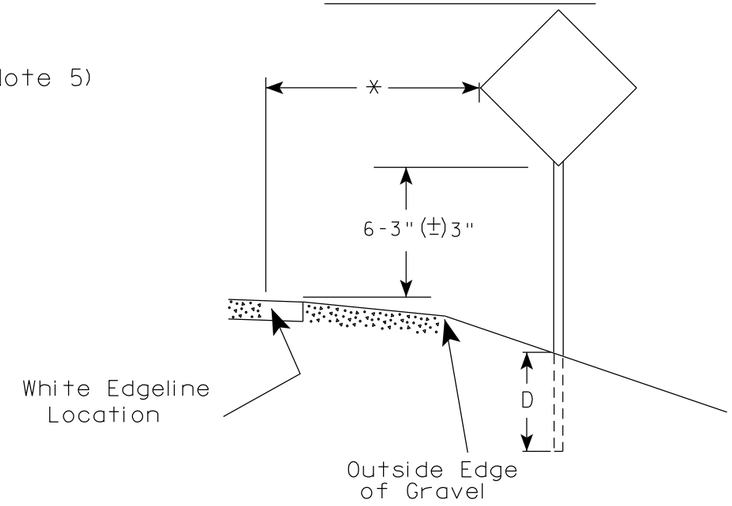
6

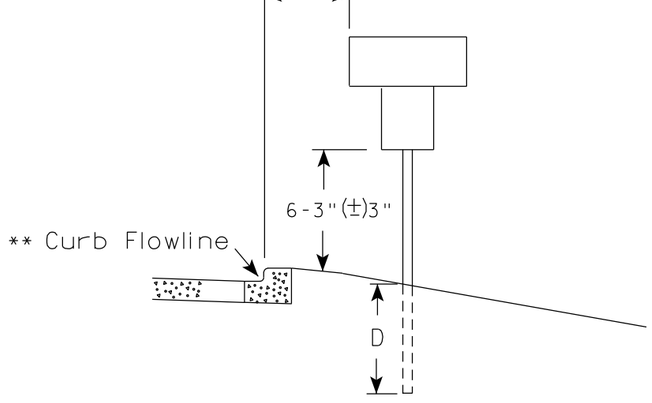
SDD 15C11 - 10b

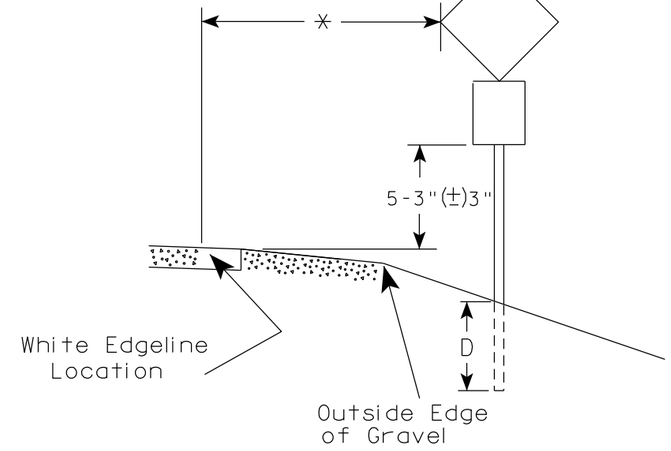
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directd by the Engineer.

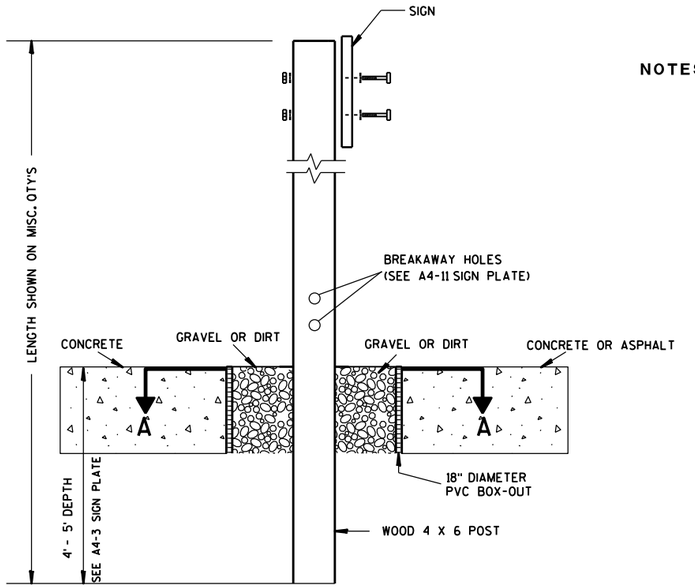
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

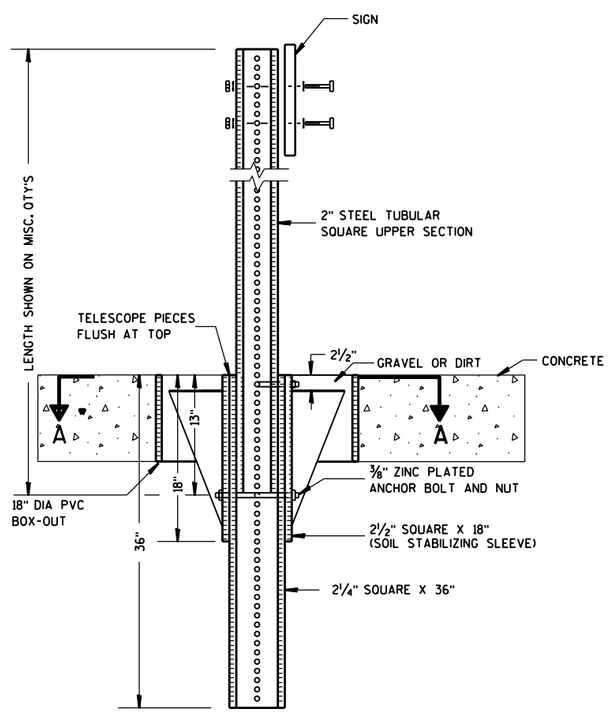
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 33	E



ELEVATION VIEW

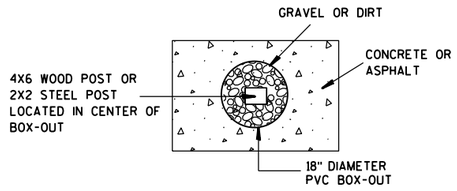
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

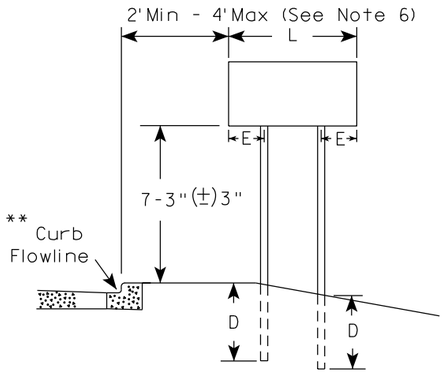
APPROVED Matthew R Rauch
for State Traffic Engineer

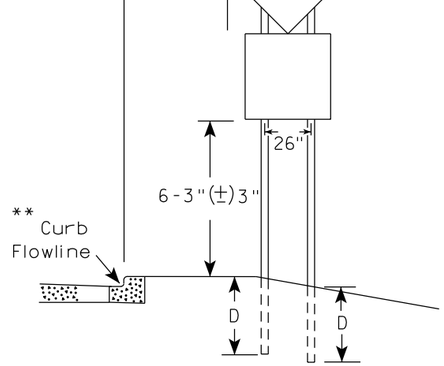
DATE 1/27/14 PLATE NO. A4-3B.1

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

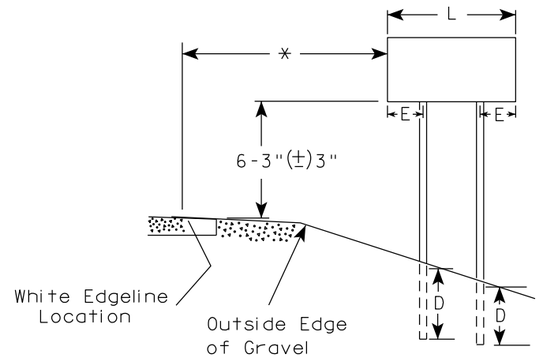
URBAN AREA

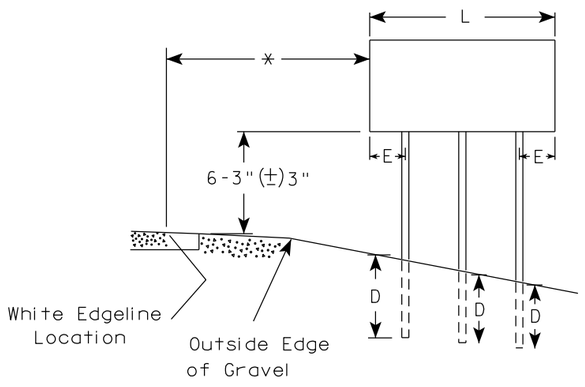


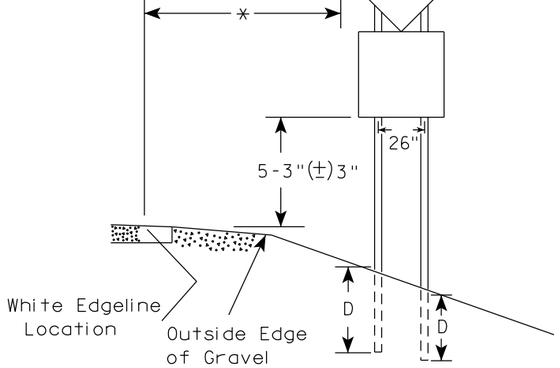


48" DIAMOND WARNING SIGN

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'

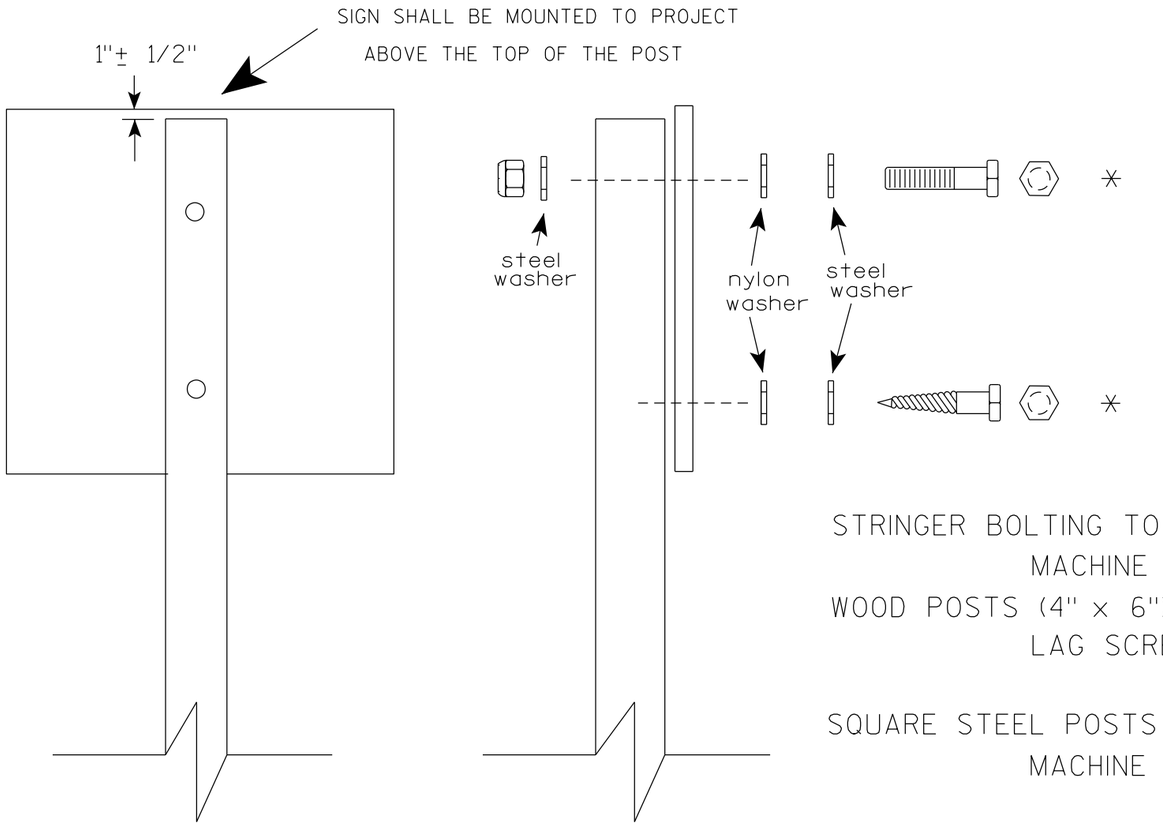
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

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: 35	E



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

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

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

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

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

ATTACHMENT OF SIGNS TO POSTS

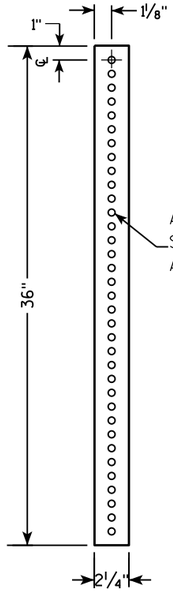
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

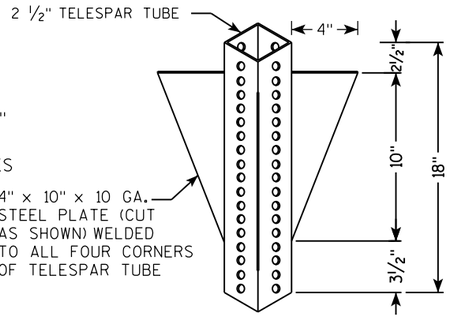
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

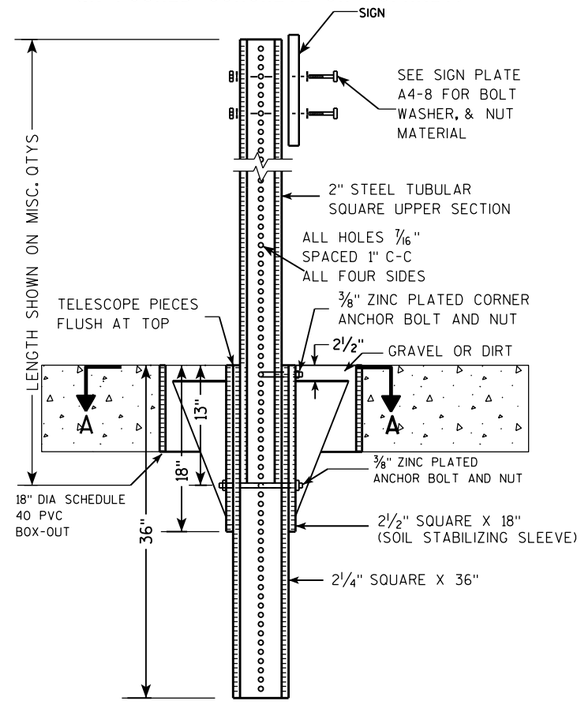
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



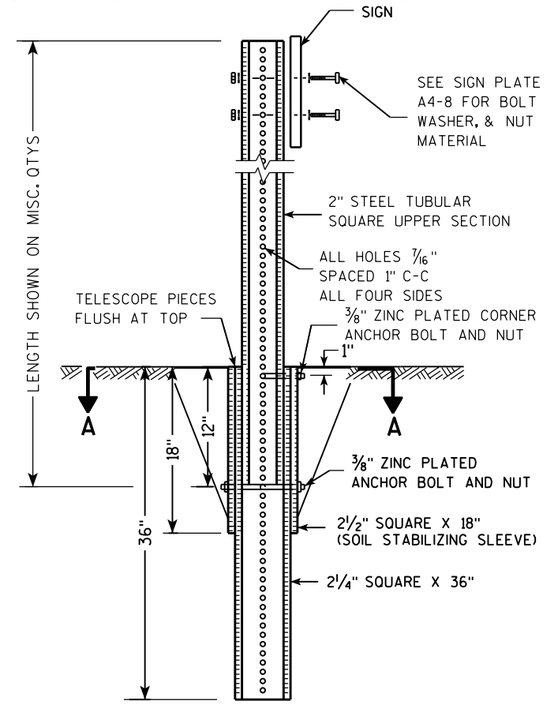
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

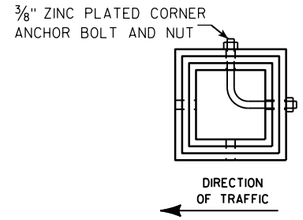


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

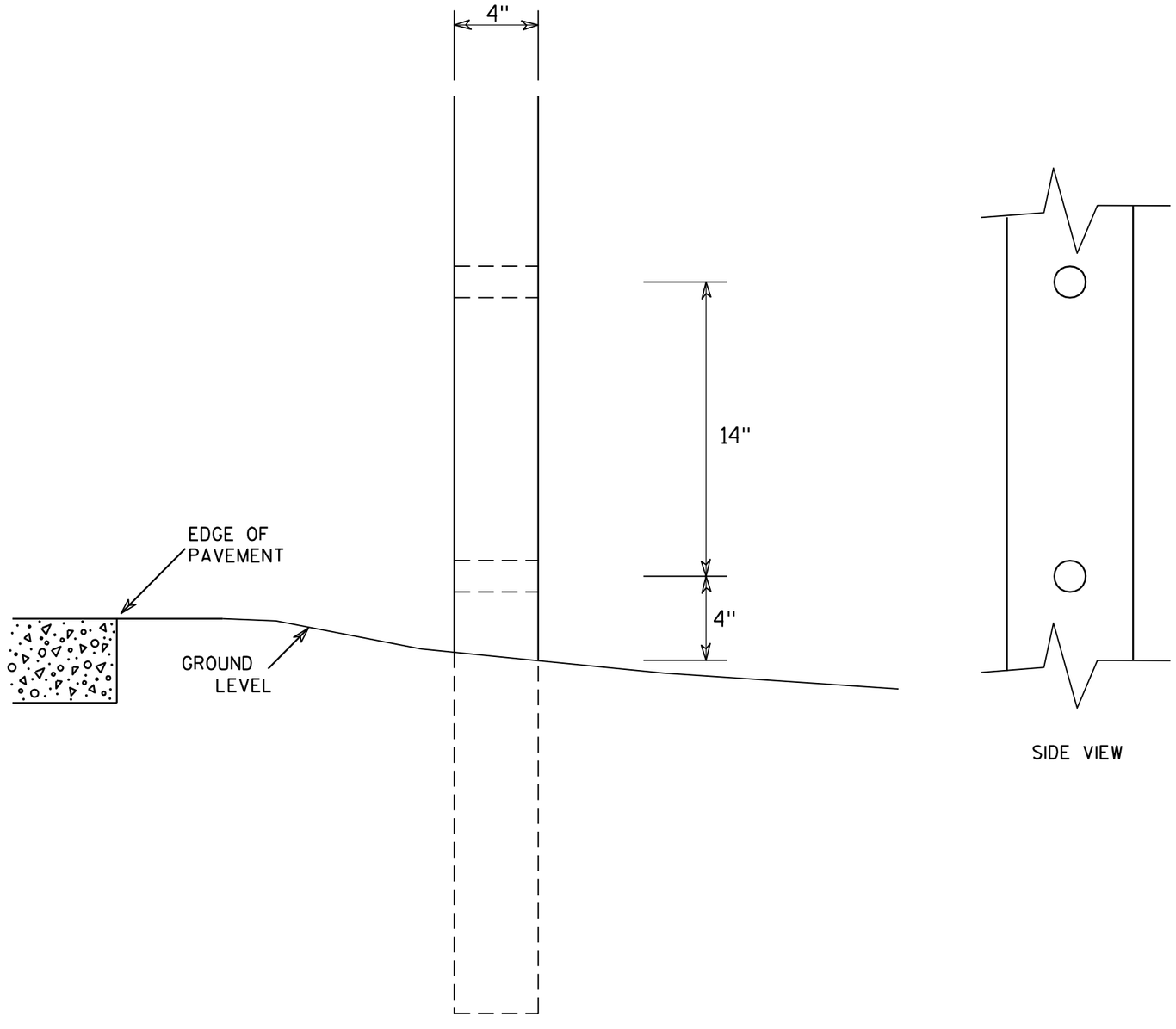
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

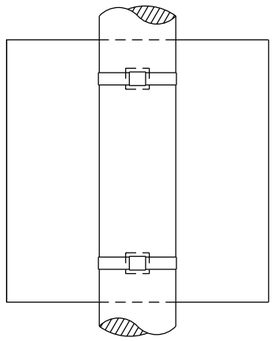
APPROVED Chester J Spang for State Traffic Engineer

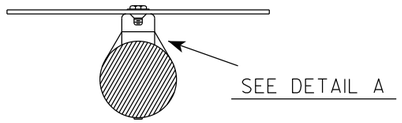
DATE 3/27/97 PLATE NO. A4-11.2

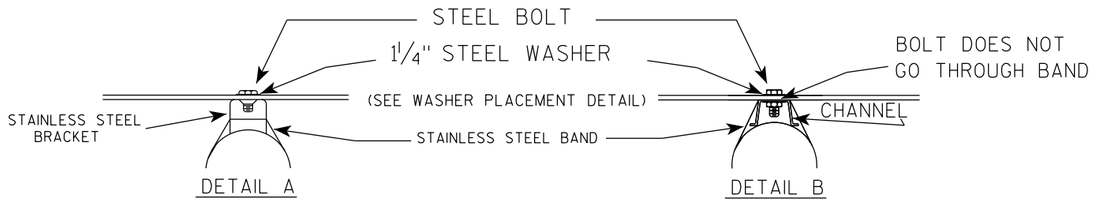
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 38	E

BANDING

SINGLE SIGN



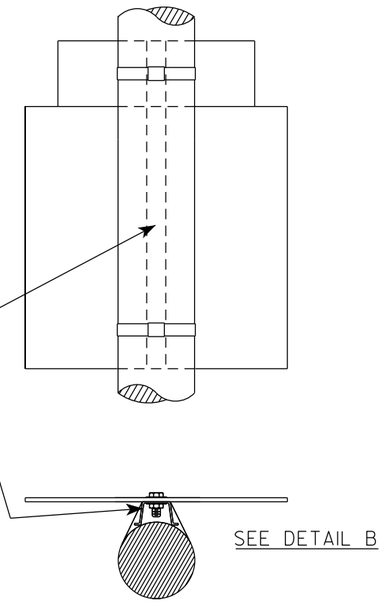




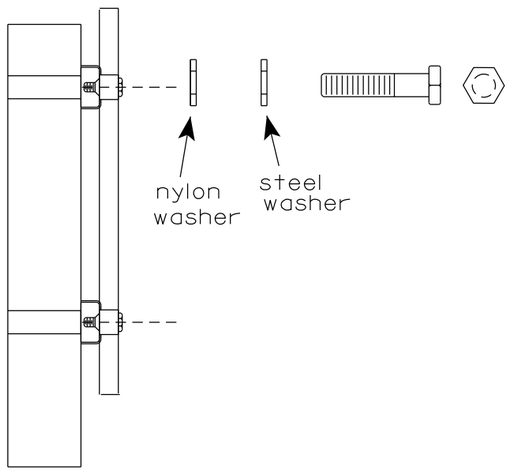
GENERAL NOTES

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

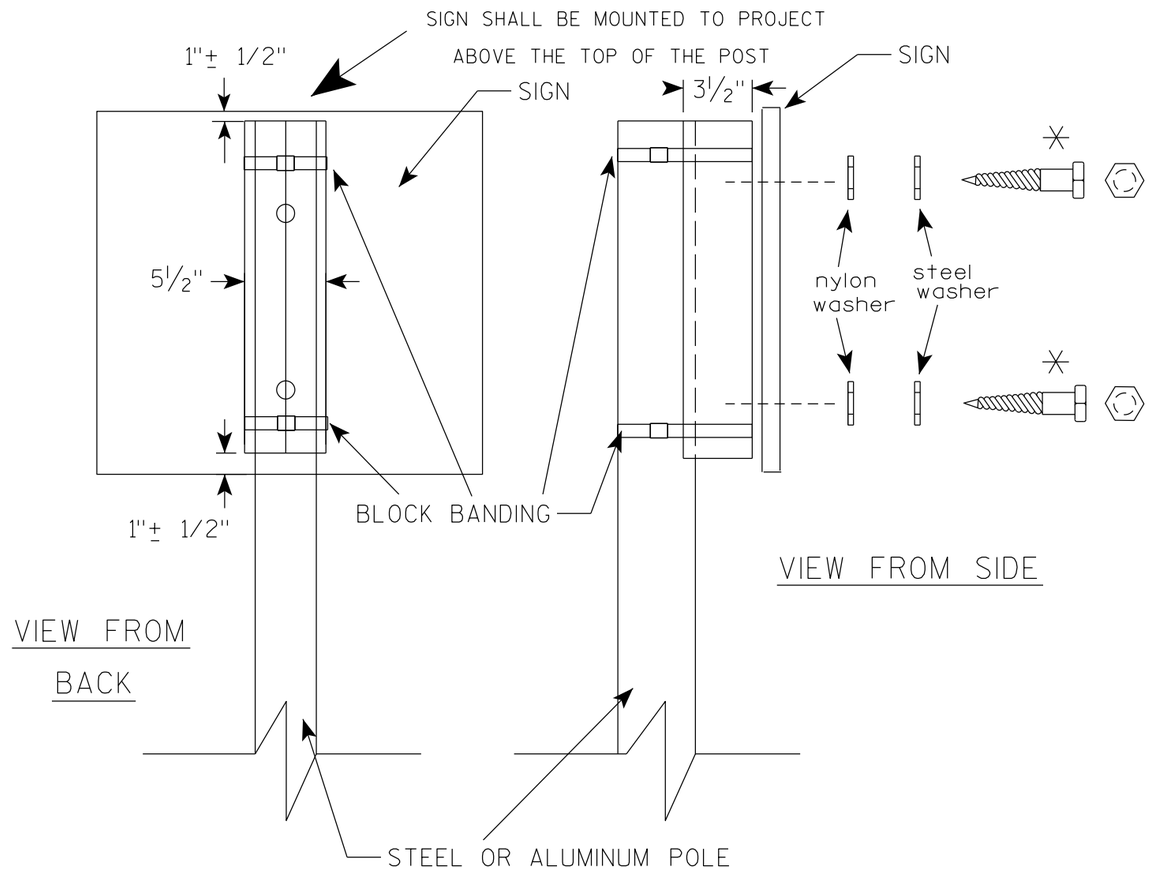
WISCONSIN DEPT OF TRANSPORTATION

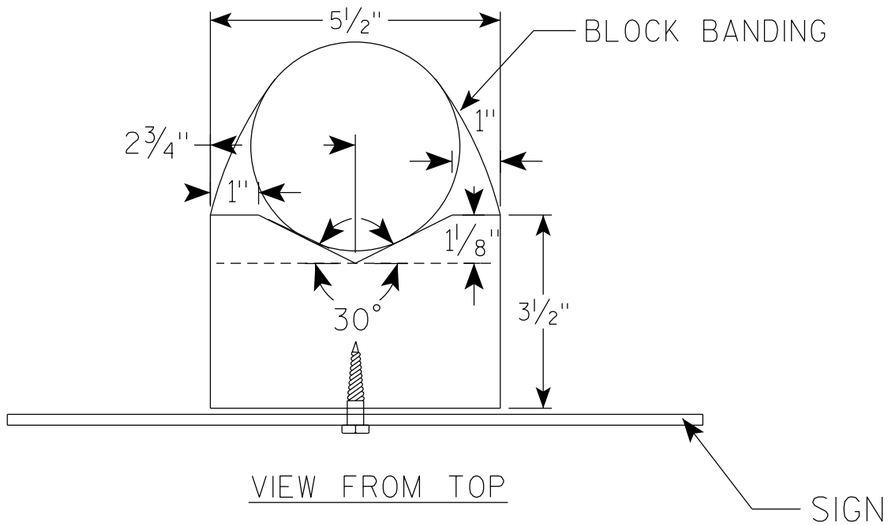
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 39	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)

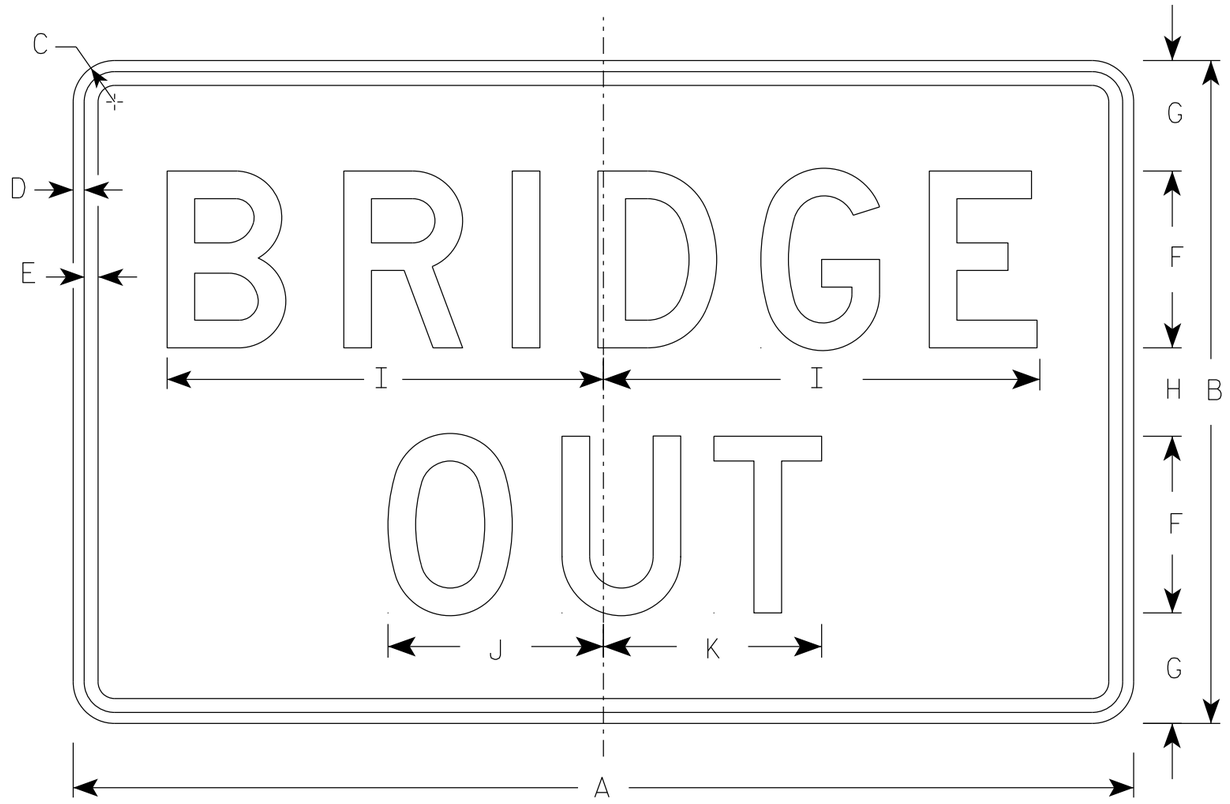
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

SHEET NO: 40 E



R11-2B

NOTES

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

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

STANDARD SIGN
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

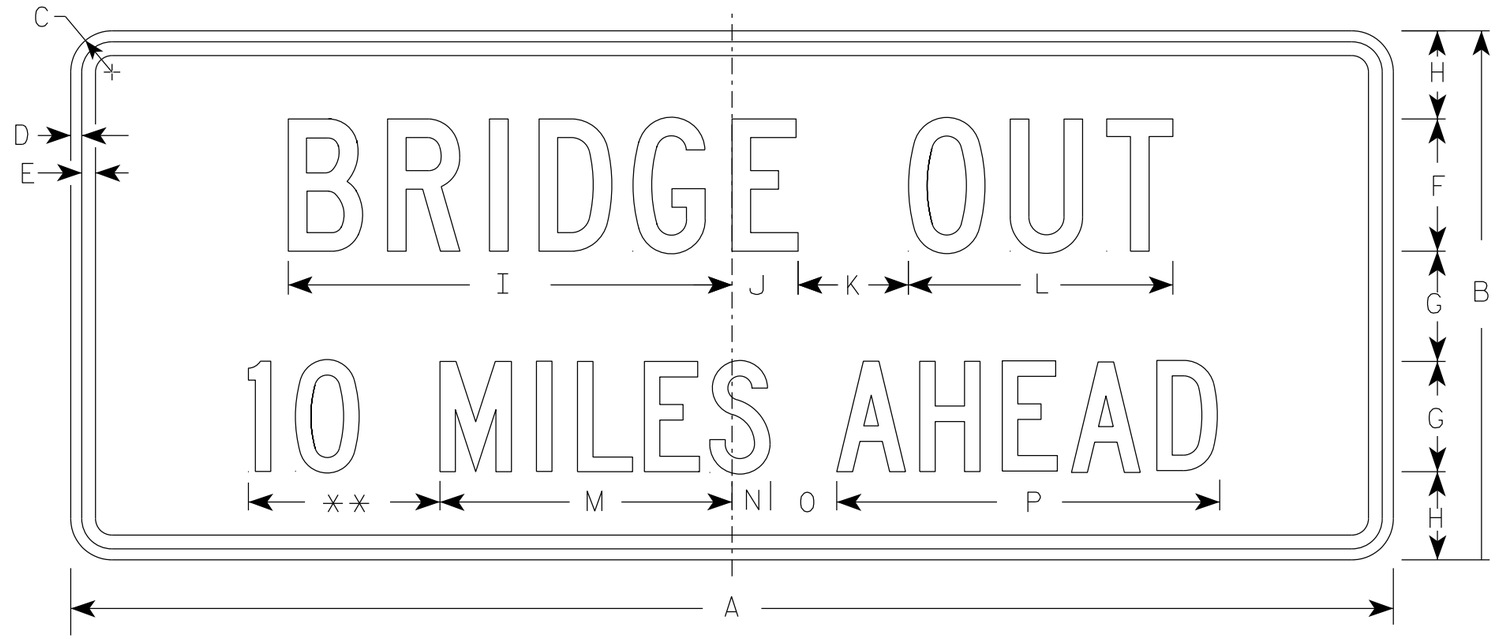
DATE 2/5/24 PLATE NO. R11-2B.3

PROJECT NO:

SHEET NO: 41 E

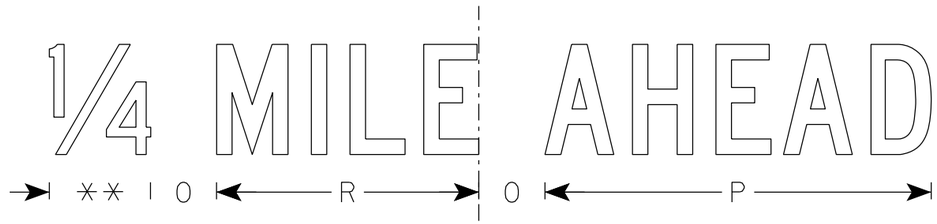
NOTES

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



R11-3C

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	15	1 1/2	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4		7 1/8									3.75
2S	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

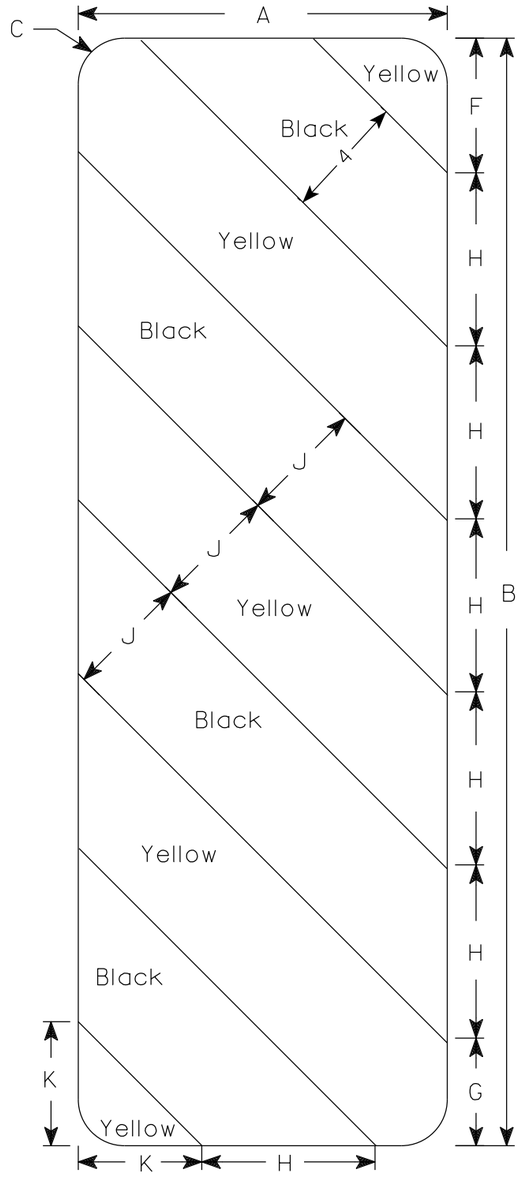
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

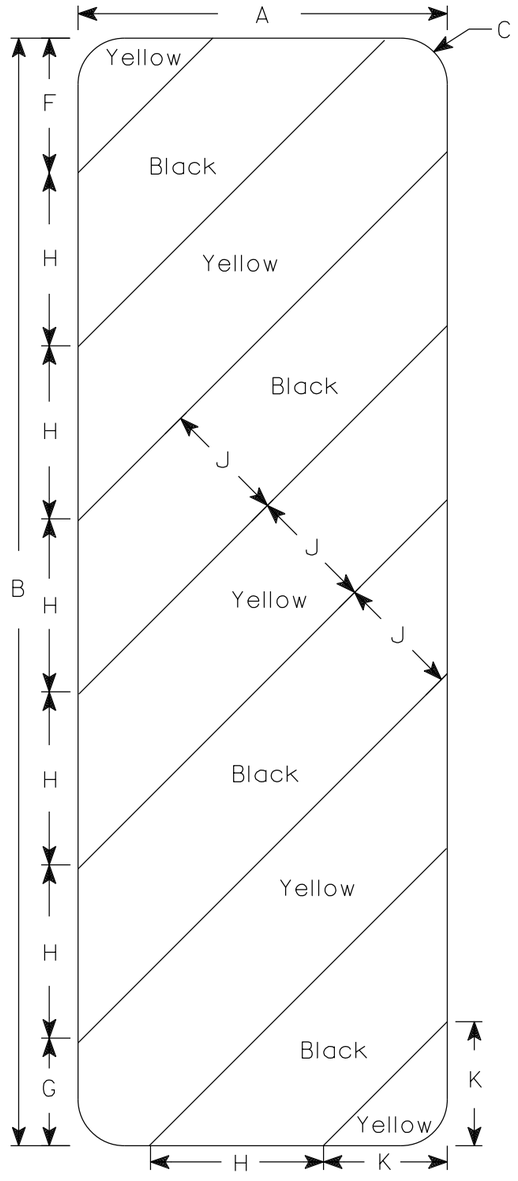
DATE 2/5/24 PLATE NO. R11-3C.4

PROJECT NO:

SHEET NO: 42 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

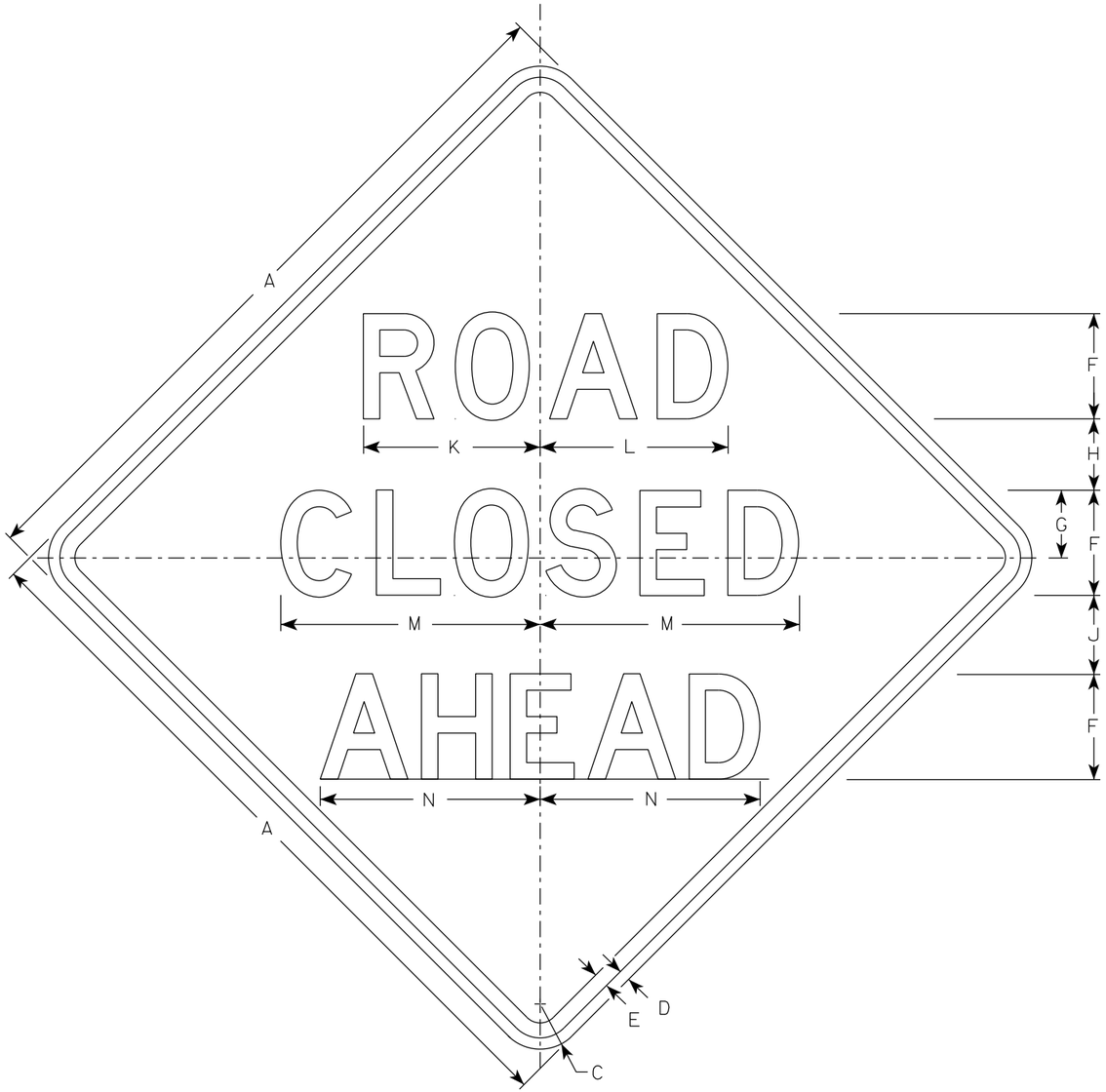
APPROVED Matthew R Rauch
For State Traffic Engineer

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

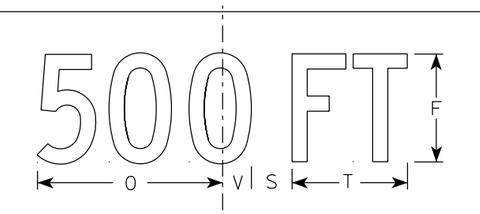
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 43 E

7

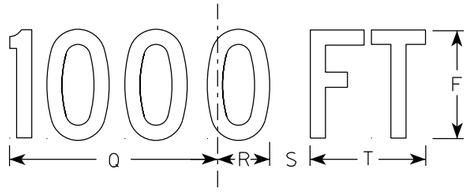
7



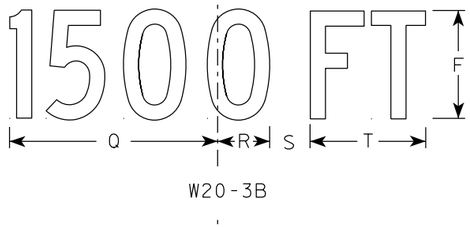
W20-3A



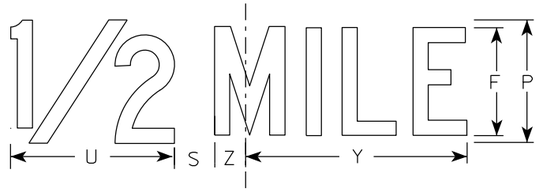
W20-3D



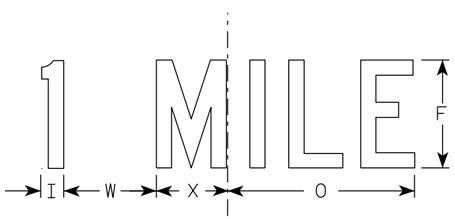
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

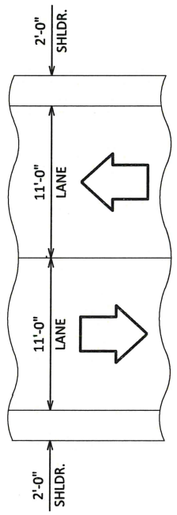
DATE 1/10/2024 PLATE NO. W20-3.8

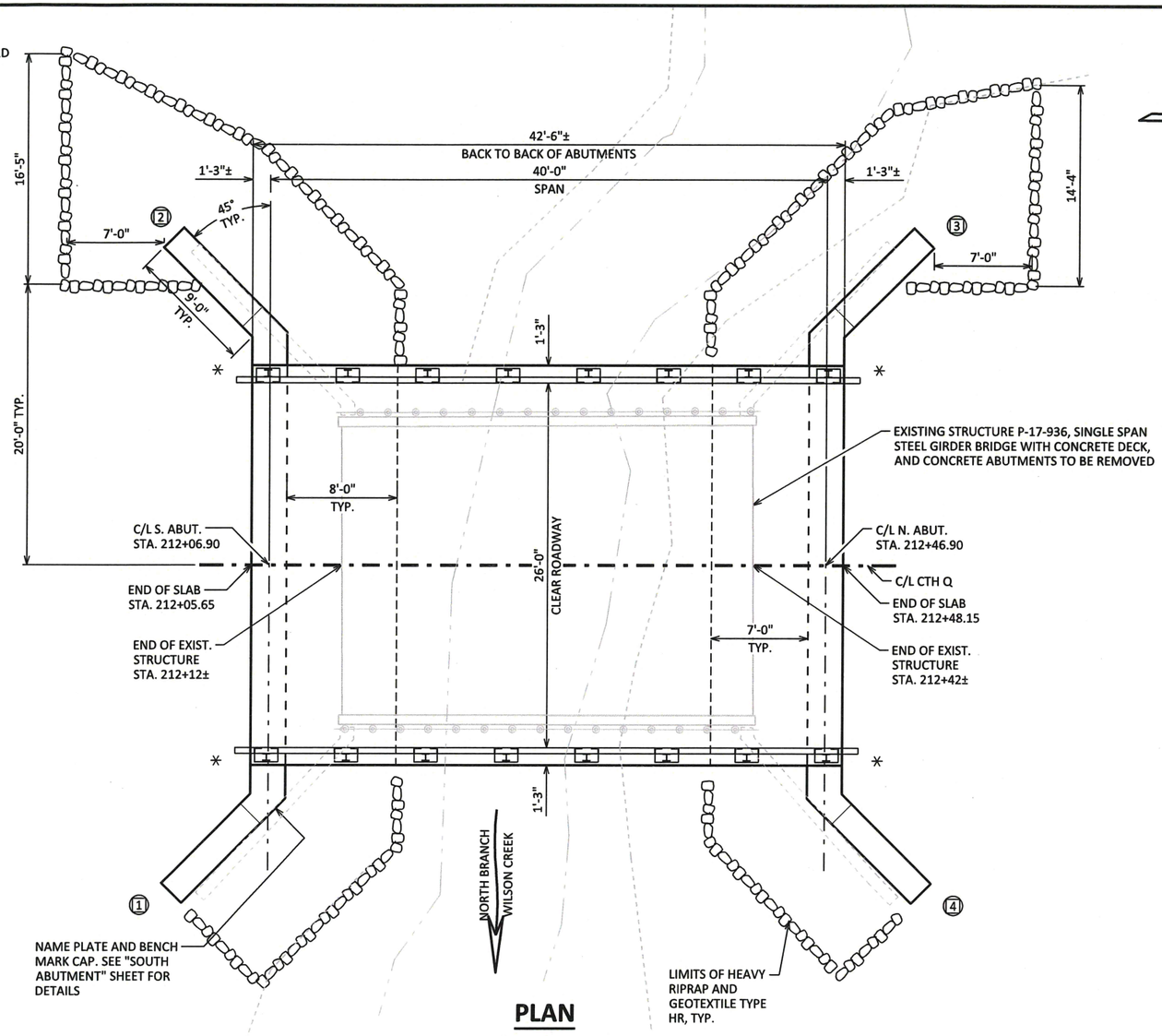
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 44 | E

STATE PROJECT NUMBER
8925-03-72

* PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT.

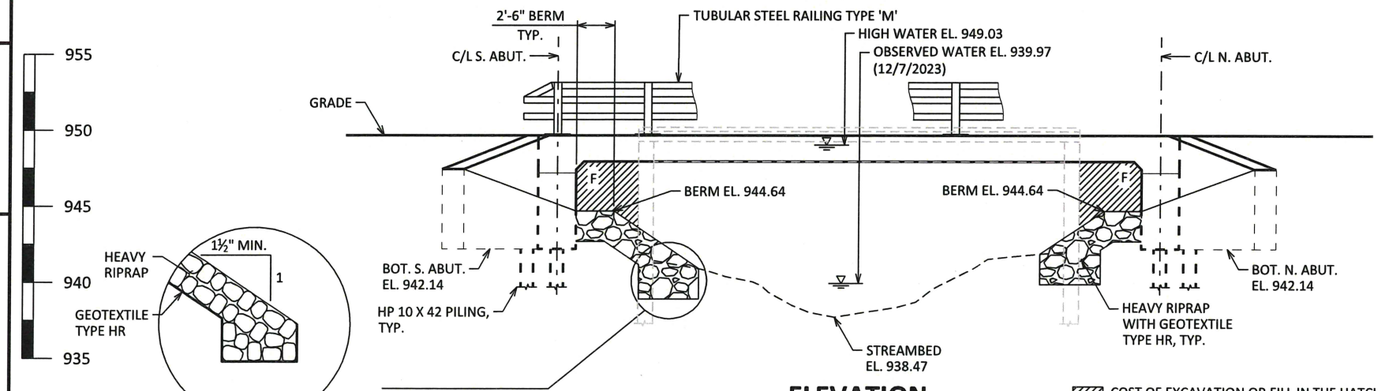
(n) INDICATES WING NUMBER





PLAN

SINGLE SPAN FLAT SLAB



ELEVATION

NORMAL TO WATERWAY

COST OF EXCAVATION OR FILL IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-17-0240".

THIS SHEET WAS CREATED BY THE WISDOT BUREAU OF STRUCTURES STANDARD BRIDGE DESIGN TOOL VERSION 1.1.0.0

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 1.06
OPERATING RATING FACTOR: RF = 1.38
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 P.S.I.
ALL OTHER — f'c = 3,500 P.S.I.

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

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10 x 42 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS †† PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 45 FEET LONG.

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

TRAFFIC VOLUME

FEATURE ON CTH Q
ADT = 220 (2026)
R.D.S. = 45 M.P.H.

HYDRAULIC DATA

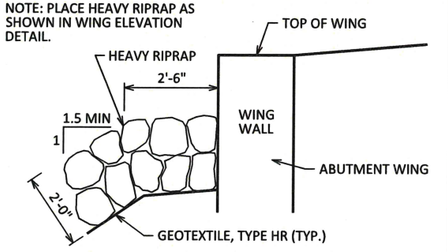
100 YEAR FREQUENCY

Q_{100} = 1640 C.F.S.
VEL. = 8.8 F.P.S.
HW_{100} = EL. 949.03
WATERWAY AREA = 186 SQ. FT.
DRAINAGE AREA = 7.3 SQ. MI.
ROADWAY OVERTOPPING = NA
SCOUR CRITICAL CODE = 5

2 YEAR FREQUENCY

Q_2 = 340 C.F.S.
VEL. = 7.7 F.P.S.
HW_2 = EL. 943.88 FT.

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



TYPICAL FILL SECTION AT WING

LIST OF DRAWINGS

STRUCTURE DESIGN CONTACTS:

JACOB FRIBERG 715-234-7008
AARON BONK 608-261-0261

THESE PLANS ARE BASED UPON STANDARD BRIDGE PLANS DEVELOPED AND MAINTAINED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION THROUGH THE USE OF THE WISDOT STANDARD BRIDGE DESIGN TOOL. THE UNDERSIGNED DESIGNER CERTIFIES THE ACCURACY OF THE BRIDGE TYPE, SIZE AND LOCATION, HYDRAULICS AND FOUNDATION SUPPORT, AND INFORMATION IN THE PLANS THAT IS NOT PART OF THE STANDARD PLANS SUPPLIED BY THE DEPARTMENT. THE DESIGNER FURTHER CERTIFIES THAT USE OF THE STANDARD BRIDGE DESIGN TOOL FOR DEVELOPMENT OF THIS PLAN IS CONSISTENT WITH THE GUIDANCE PROVIDED IN THE WISDOT BRIDGE MANUAL.

NO.	DATE	REVISION	BY

COOPER ENGINEERING
2600 COLLEGE DRIVE, P.O. BOX 230
RICE LAKE, WISCONSIN 54868-0230
TELEPHONE (715) 234-7008
FAX (715) 234-1025

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORATION

ACCEPTED JLR 08/04/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-17-240

CTH Q OVER NORTH BRANCH WILSON CREEK

COUNTY	TOWN
DUNN	STANTON

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
JAF	SKP	TAG	SKP

GENERAL PLAN

SHEET 1 OF 10
45

SCALE =

LD 8925-03-02 DATE: MAY 2024

8

8

STATE PROJECT NUMBER

8925-03-72

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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-17-0240" 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.

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.

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.

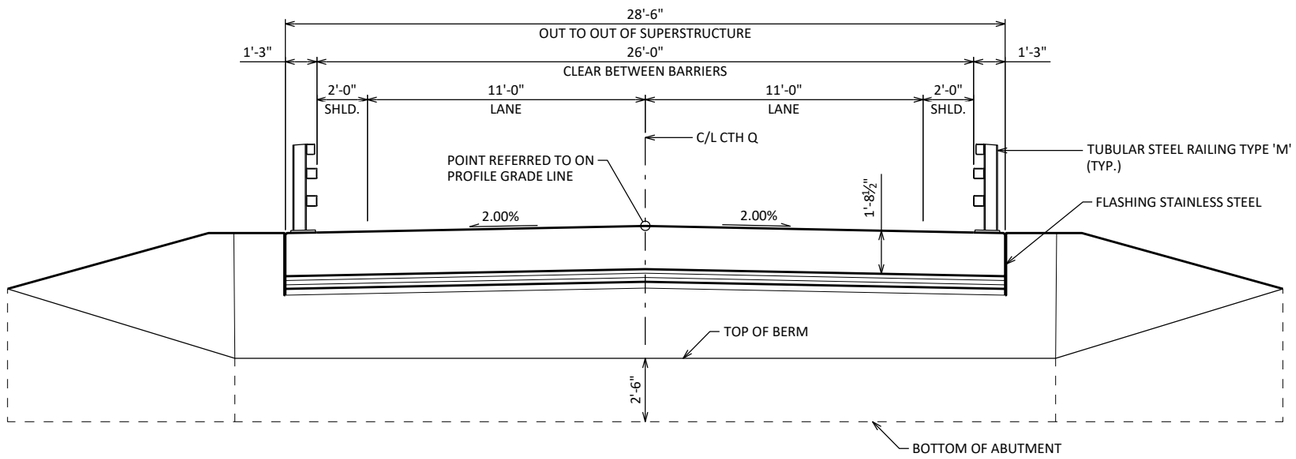
AT ABUTMENTS, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

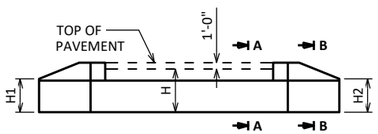
SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

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

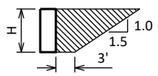
CROSS SECTION THRU ROADWAY

LOOKING UPSTATION
(PILING NOT SHOWN FOR CLARITY)

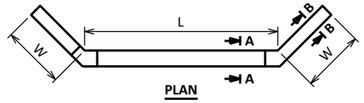




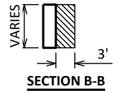
ELEVATION



SECTION A-A



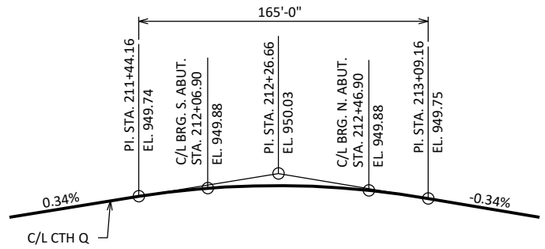
PLAN



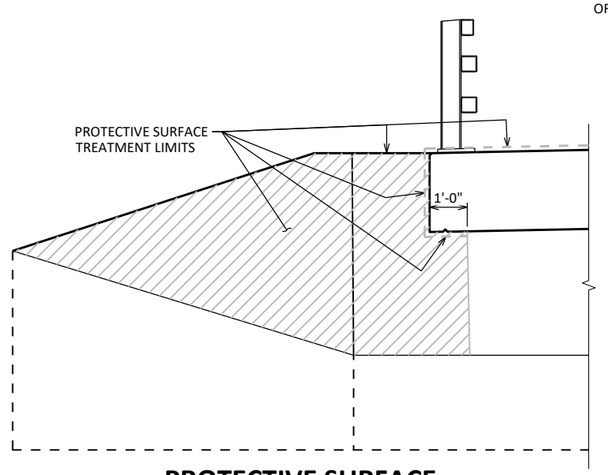
SECTION B-B

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)



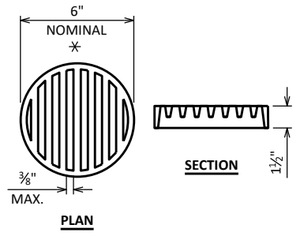
PROFILE GRADE LINE



PROTECTIVE SURFACE TREATMENT DETAILS

BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
2	212+03	43' LT; SPIKE IN POWER POLE	945.51



PLAN

RODENT SHIELD DETAIL

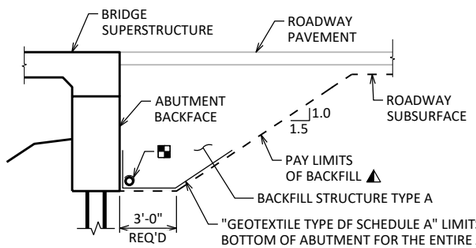
⁎ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

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.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER	S. ABUT.	N. ABUT.	TOTALS
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-17-936	EACH	---	---	---	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-17-0240	EACH	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	---	150	150	300
502.0100	CONCRETE MASONRY BRIDGES	CY	81	26	26	133
502.3200	PROTECTIVE SURFACE TREATMENT	SY	157	15	15	187
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	---	2,080	2,080	4,160
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	16,990	1,500	1,500	19,990
513.4061	RAILING TUBULAR TYPE M	LF	90	---	---	90
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	---	6	6	12
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	---	315	315	630
606.0300	RIPRAP HEAVY	CY	---	50	45	95
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	---	71	71	142
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	---	44	44	88
645.0120	GEOTEXTILE TYPE HR	SY	---	70	65	135
SPV.0090.01	FLASHING STAINLESS STEEL	LF	75			75
	NON-BID ITEMS					
	FILLER	SIZE	---	---	---	½", ¾"



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.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-17-240

DRAWN BY TAG | PLANS CK'D SKP

CROSS SECTION & QUANTITIES

SHEET 2
46

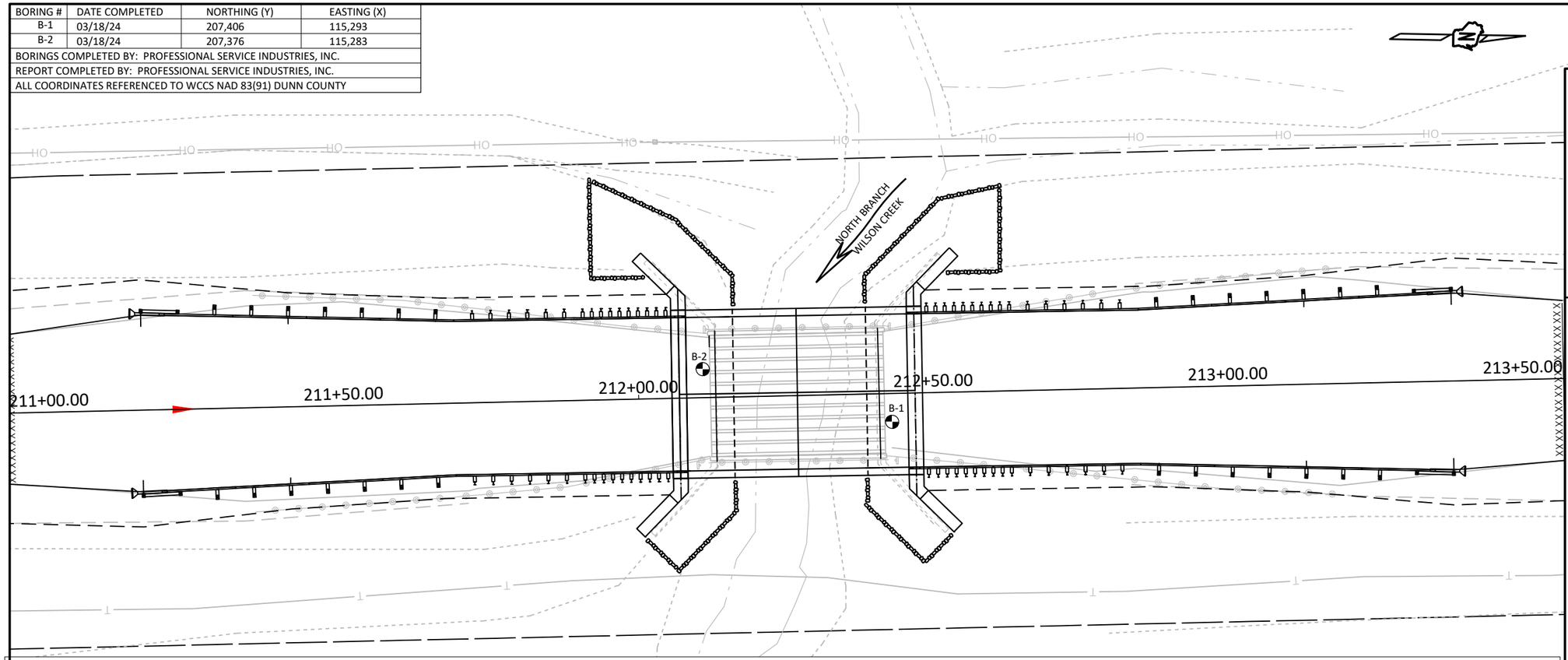
SCALE =

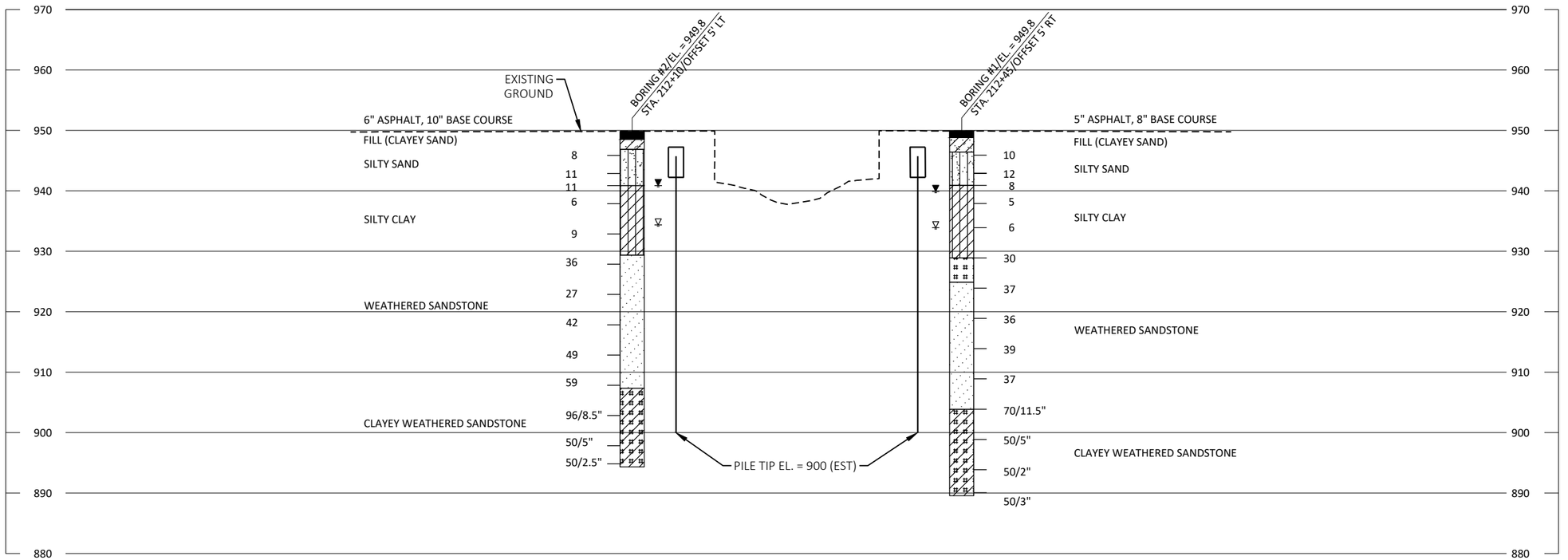
8

8

THIS SHEET WAS CREATED BY THE WISDOT BUREAU OF STRUCTURES STANDARD BRIDGE DESIGN TOOL VERSION 1.1.0.0

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-1	03/18/24	207,406	115,293
B-2	03/18/24	207,376	115,283
BORINGS COMPLETED BY: PROFESSIONAL SERVICE INDUSTRIES, INC.			
REPORT COMPLETED BY: PROFESSIONAL SERVICE INDUSTRIES, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DUNN COUNTY			





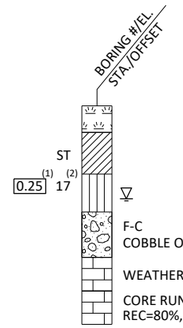
STATE PROJECT NUMBER

8925-03-72

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-17-240

DRAWN BY HJO PLANS CK'D JAF

SUBSURFACE EXPLORATION

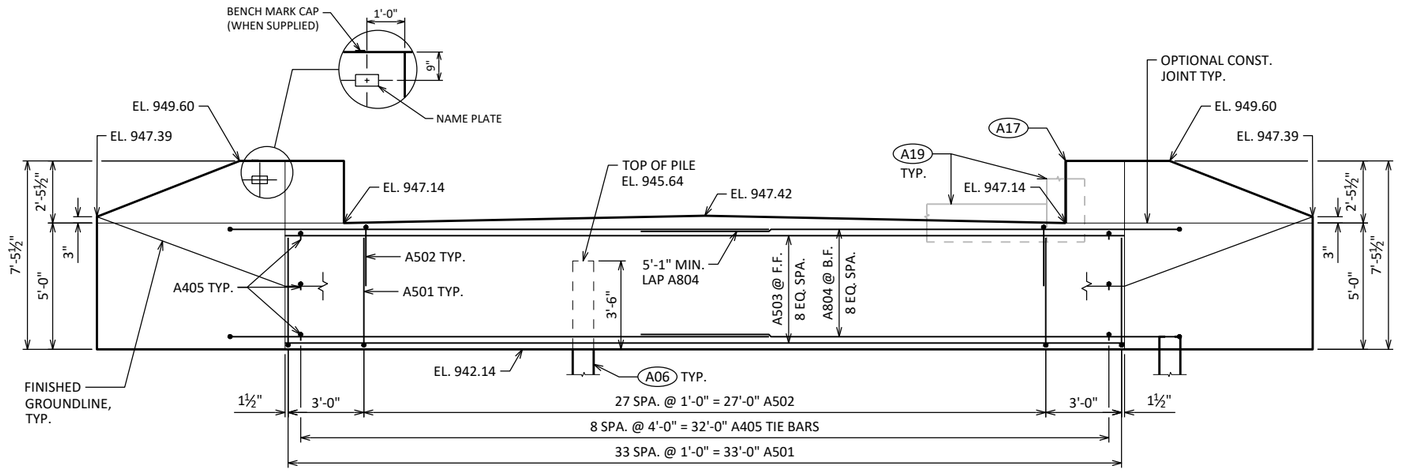
SHEET 3
47

8

8

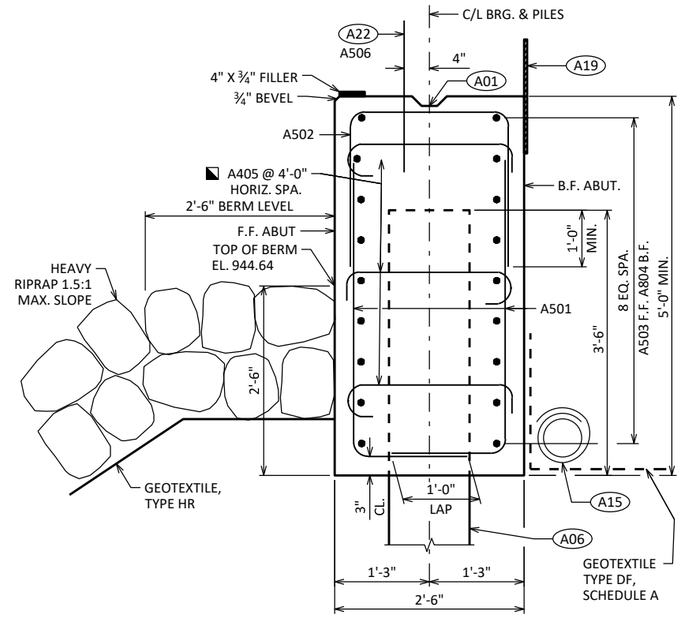
STATE PROJECT NUMBER

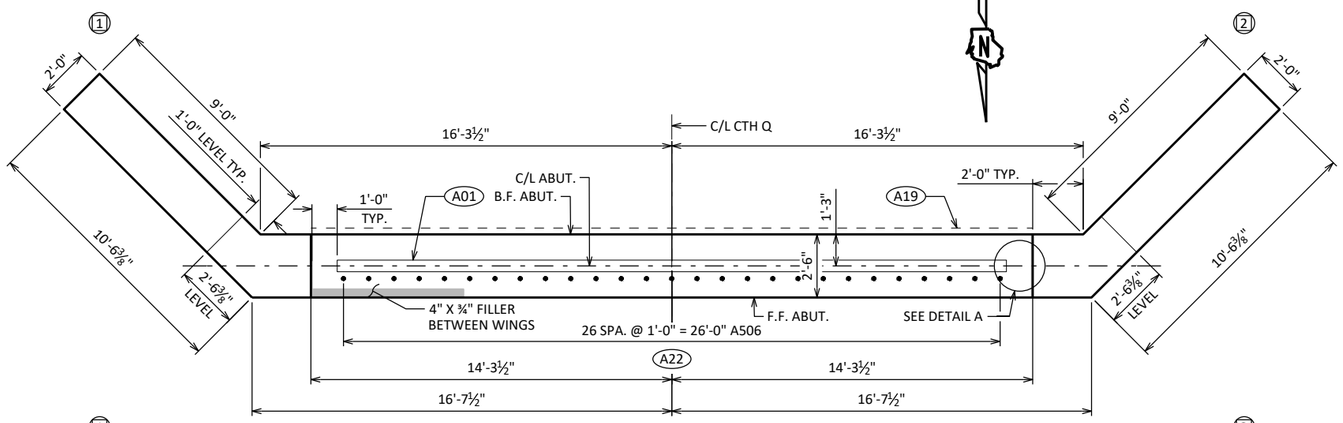
8925-03-72



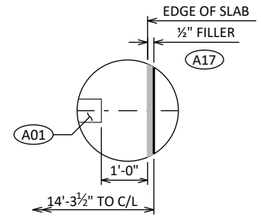
ELEVATION

LOOKING DOWNSTATION

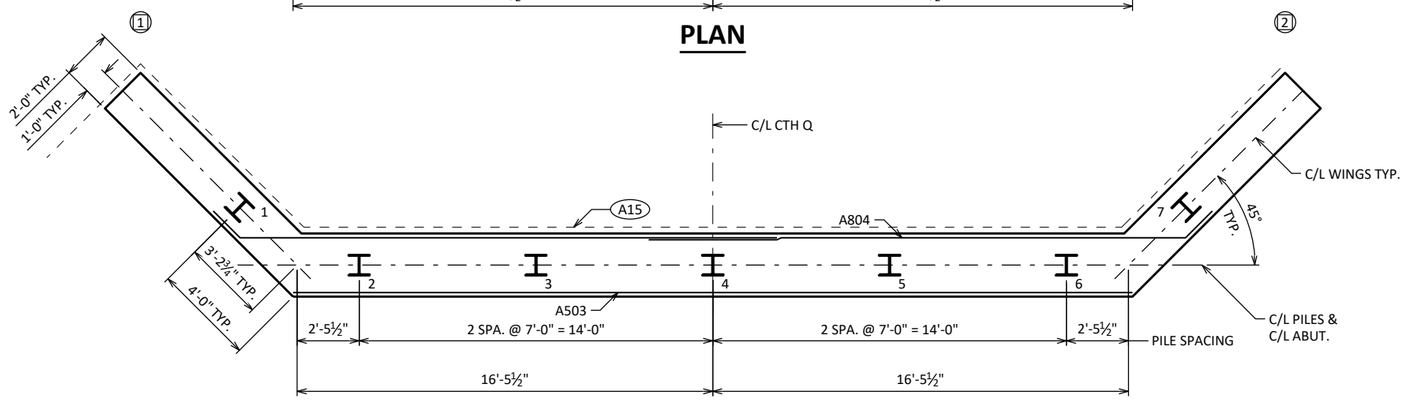




PLAN



DETAIL A



PILE PLAN

A01 CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6.

A06 SUPPORT ABUTMENT ON HP 10 x 42 PILING, ESTIMATED 45' LONG WITH A REQUIRED DRIVING RESISTANCE OF 180TONS PER PILE.

A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

A17 ½" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

A19 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

A22 A506 BARS SPACED @ 1'-0" CNTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

◪ ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-17-240

DRAWN BY TAG | PLANS CK'D SKP

SOUTH ABUTMENT

SHEET 4
48

SCALE =

THIS SHEET WAS CREATED BY THE WISDOT BUREAU OF STRUCTURES STANDARD BRIDGE DESIGN TOOL VERSION 1.1.0.0

8

8

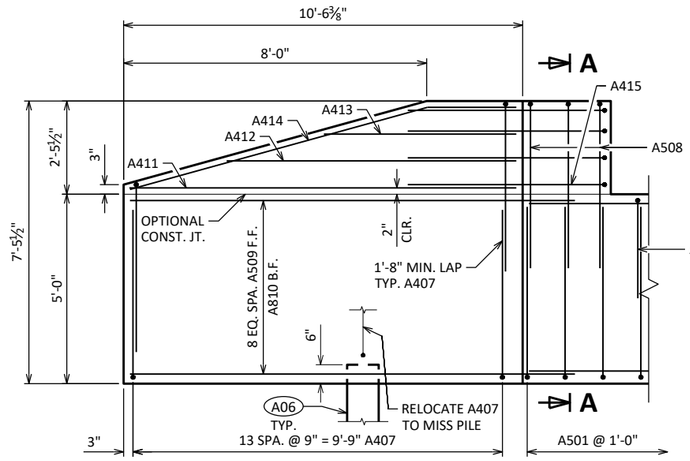
STATE PROJECT NUMBER

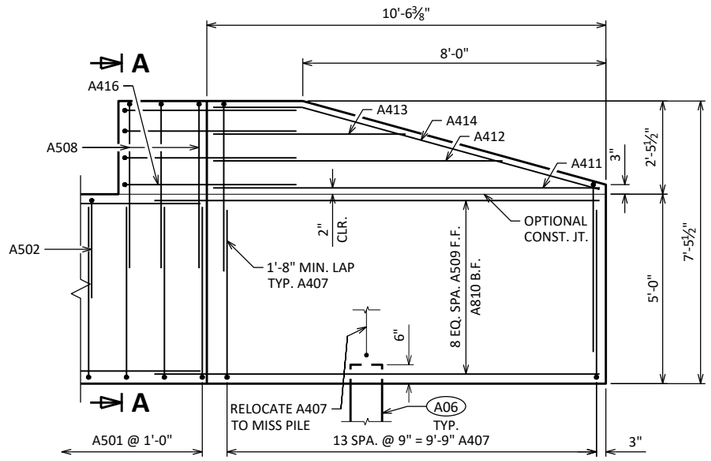
8925-03-72

BILL OF BARS

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

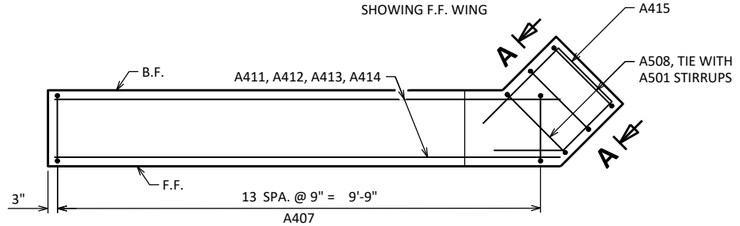
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501		68	6'-0"	X		ABUT BODY STIRRUPS
A502		28	7'-1"	X		ABUT BODY STIRRUPS - TOP U-BAR
A503		9	33'-3"			ABUT BODY HORIZ. - F.F.
A804		18	22'-7"	X		ABUT BODY HORIZ. - B.F.
A405		27	3'-0"	X		ABUT BODY TIE BARS
A506	X	27	2'-0"			ABUT BODY DOWEL BARS
A407	X	56	10'-4"	X		WING STIRRUPS
A508	X	6	10'-7"	X		WING CORNER STIRRUPS
A509	X	18	11'-9"	X		WING LOWER HORIZ - F.F.
A810	X	18	13'-3"	X		WING LOWER HORIZ. - B.F.
A411	X	4	10'-1"			WING UPPER HORIZ.
A412	X	4	7'-6"			WING UPPER HORIZ.
A413	X	4	5'-0"			WING UPPER HORIZ.
A414	X	4	9'-8"	X		WING TOP HORIZ.
A415	X	4	8'-3"	X		WING 1 UPPER HORIZ. CORNER
A416	X	4	8'-4"	X		WING 2 UPPER HORIZ. CORNER





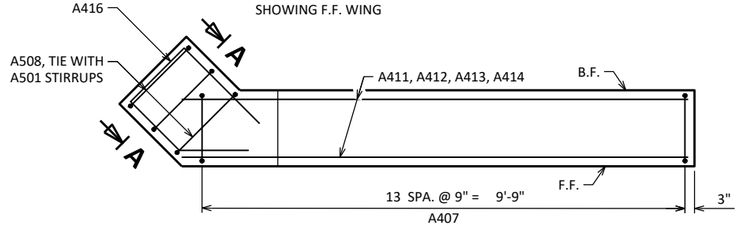
WING 1 ELEVATION

SHOWING F.F. WING



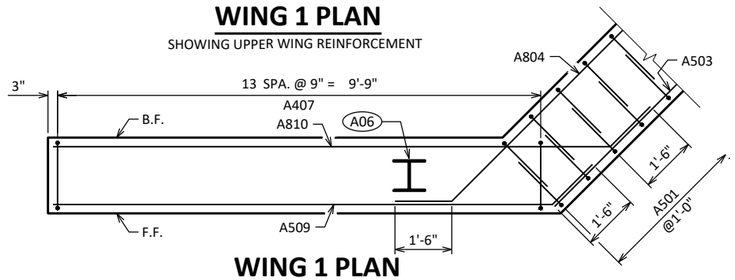
WING 2 ELEVATION

SHOWING F.F. WING



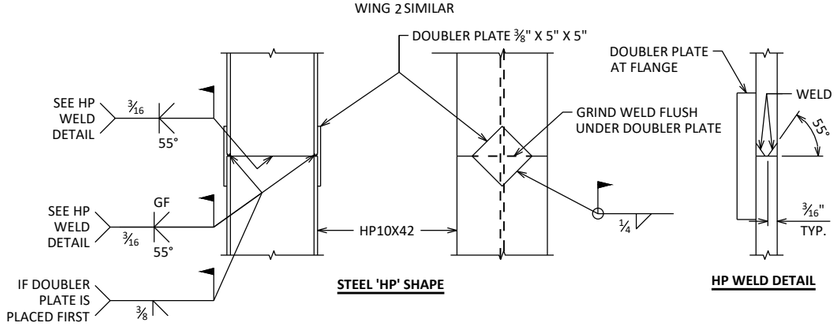
WING 1 PLAN

SHOWING UPPER WING REINFORCEMENT

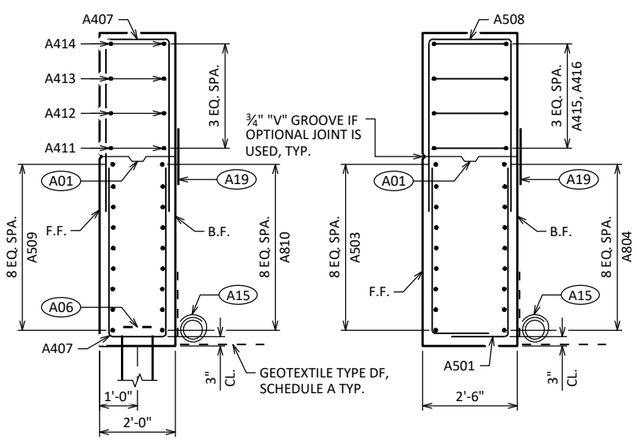


WING 1 PLAN

SHOWING LOWER WING REINFORCEMENT
WING 2 SIMILAR



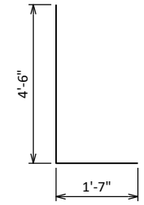
'HP' PILE DETAILS



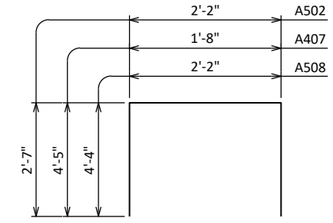
SECTION THRU WING 1

TYPICAL BOTH WINGS

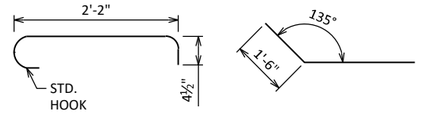
SECTION A-A



A501

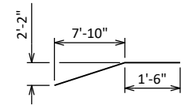


A502, A407, A508

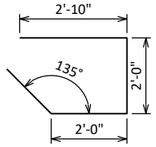


A405

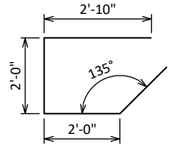
A804, A509, A810



A414



A415



A416

(A01) OPTIONAL CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6. PROVIDE ¾" "V" GROOVE ON F.F. OF WINGWALL IF JOINT IS USED.

(A06) SUPPORT ABUTMENT ON HP 10 x 42 PILING, ESTIMATED 45' LONG WITH A REQUIRED DRIVING RESISTANCE OF 180TONS PER PILE.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A19) 18" RUBBERIZED MEMBRANE WATERPROOFING, ONLY IF OPTIONAL CONSTRUCTION JOINT IS USED. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY STRUCTURES".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-17-240

DRAWN BY TAG | PLANS CK'D SKP

SOUTH ABUTMENT DETAILS

SHEET 5
49

SCALE =

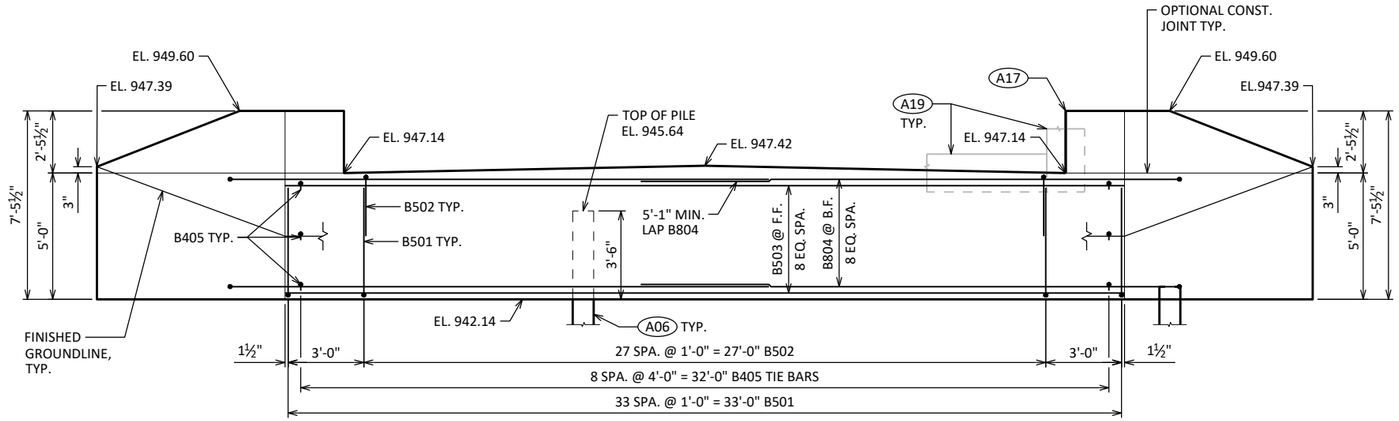
THIS SHEET WAS CREATED BY THE WISDOT BUREAU OF STRUCTURES STANDARD BRIDGE DESIGN TOOL VERSION 1.1.0.0

8

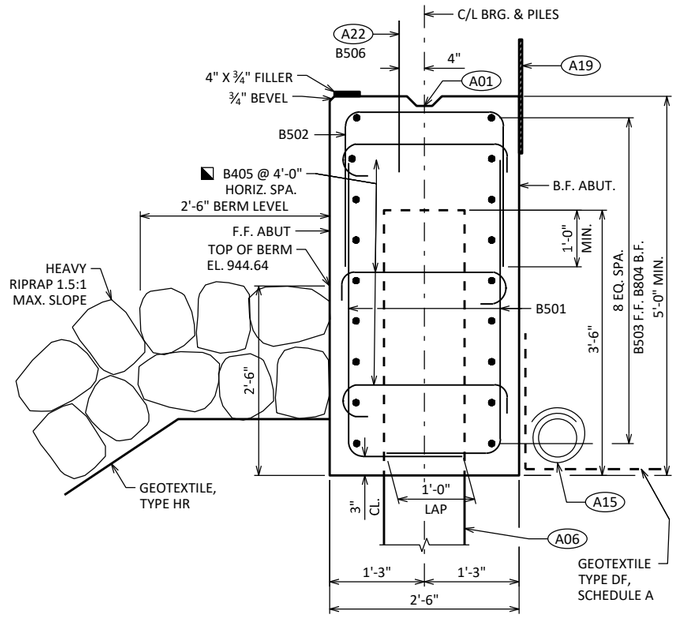
8

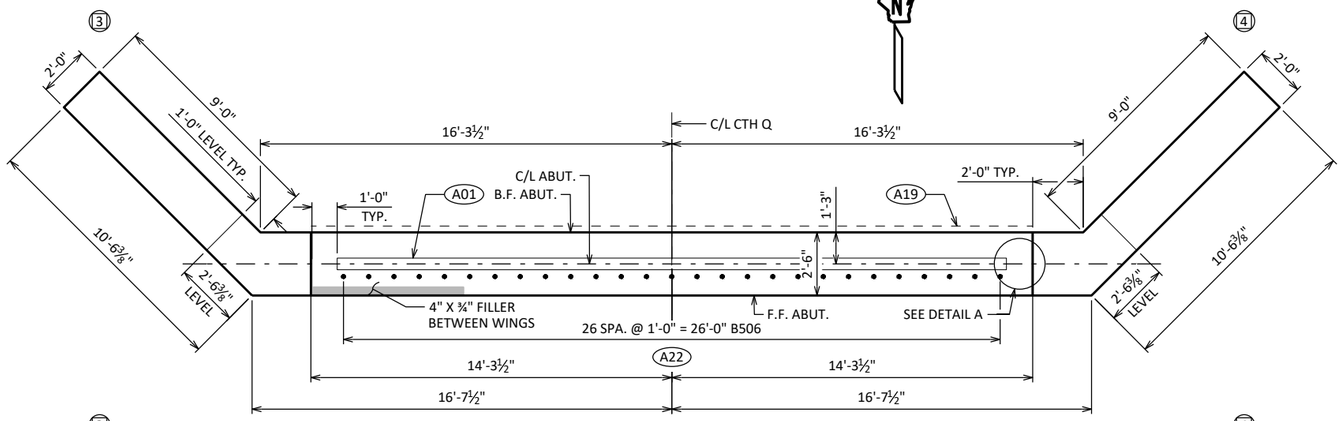
STATE PROJECT NUMBER

8925-03-72

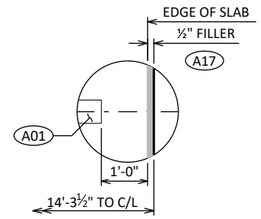


ELEVATION
LOOKING UPSTATION

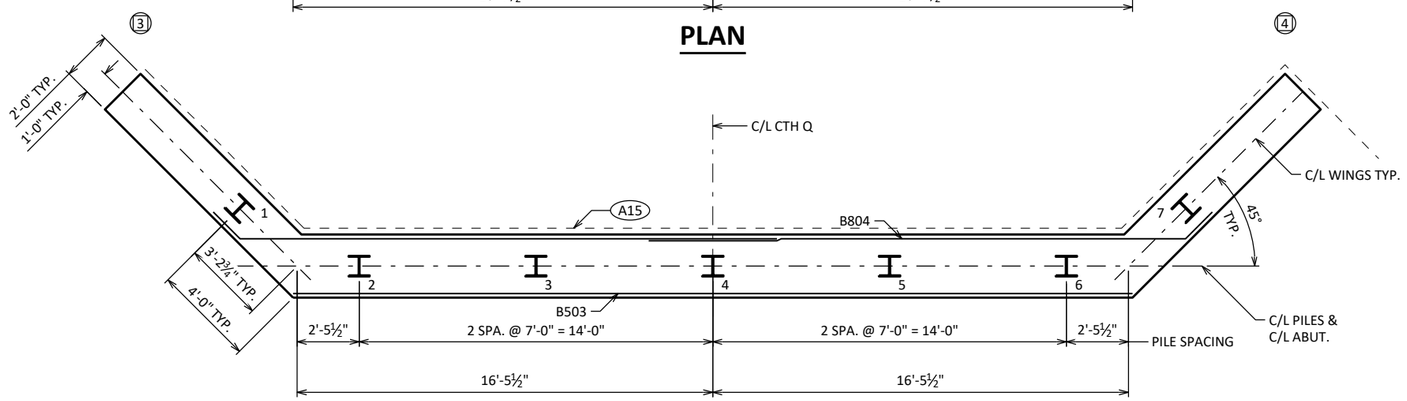




PLAN



DETAIL A



PILE PLAN

A01 CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6.

A06 SUPPORT ABUTMENT ON HP 10 x 42 PILING, ESTIMATED 45' LONG WITH A REQUIRED DRIVING RESISTANCE OF 180TONS PER PILE.

A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

A17 ½" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

A19 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

A22 B506 BARS SPACED @ 1'-0" CNTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

◪ ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-17-240

DRAWN BY TAG | PLANS CK'D SKP

NORTH ABUTMENT

SHEET 6
50

SCALE =

THIS SHEET WAS CREATED BY THE WISDOT BUREAU OF STRUCTURES STANDARD BRIDGE DESIGN TOOL VERSION 1.1.0.0

8

8

STATE PROJECT NUMBER

8925-03-72

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
B501		68	6'-0"	X		ABUT BODY STIRRUPS
B502		28	7'-1"	X		ABUT BODY STIRRUPS - TOP U-BAR
B503		9	33'-3"			ABUT BODY HORIZ. - F.F.
B804		18	22'-7"	X		ABUT BODY HORIZ. - B.F.
B405		27	3'-0"	X		ABUT BODY TIE BARS
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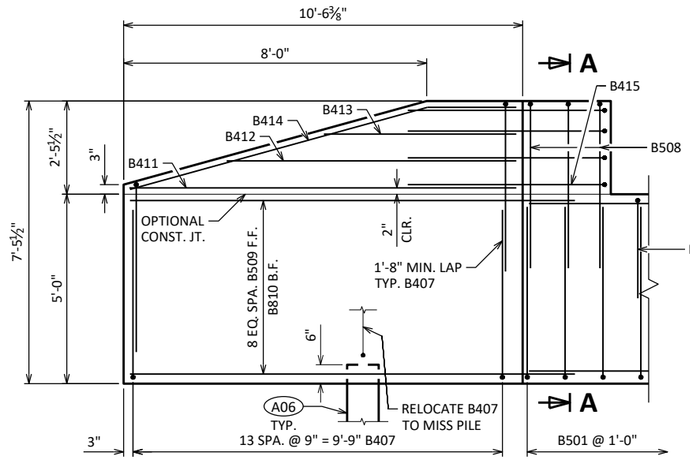
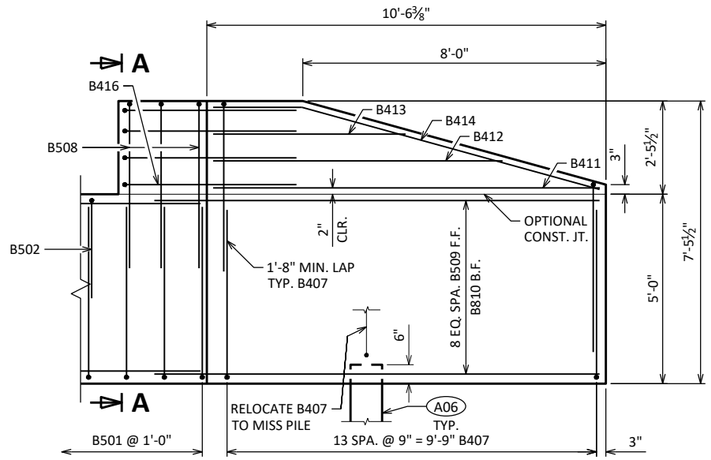
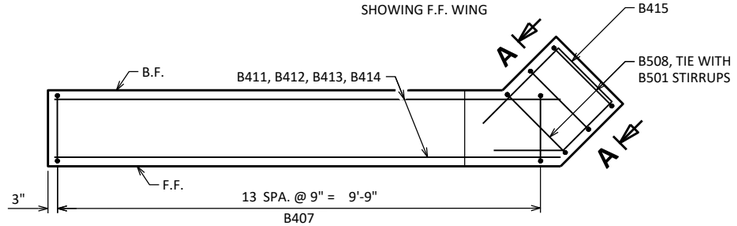
B509	X	18	11'-9"	X		WING LOWER HORIZ - F.F.
B810	X	18	13'-3"	X		WING LOWER HORIZ. - B.F.
B411	X	4	10'-1"			WING UPPER HORIZ.
B412	X	4	7'-6"			WING UPPER HORIZ.
B413	X	4	5'-0"			WING UPPER HORIZ.
B414	X	4	9'-8"	X		WING TOP HORIZ.
B415	X	4	8'-3"	X		WING 3 UPPER HORIZ. CORNER
B416	X	4	8'-4"	X		WING 4 UPPER HORIZ. CORNER





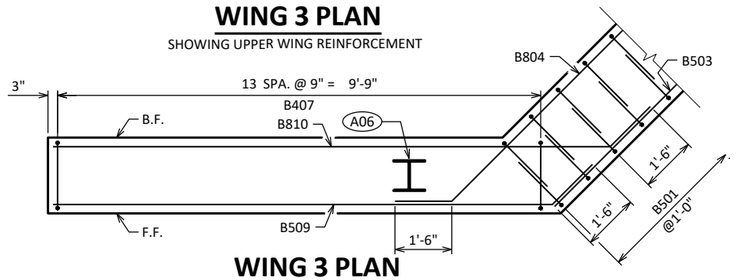
WING 3 ELEVATION

SHOWING F.F. WING



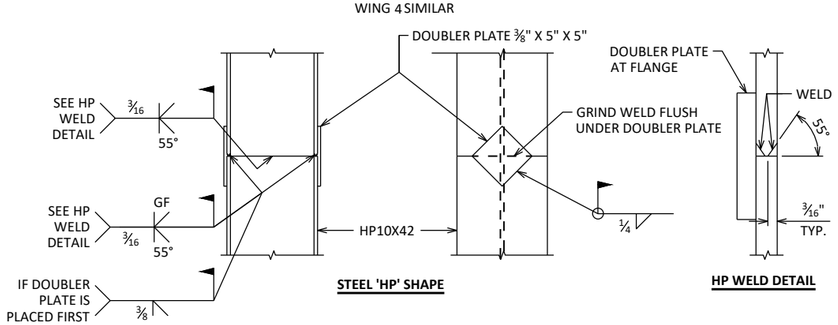
WING 3 PLAN

SHOWING UPPER WING REINFORCEMENT



WING 3 PLAN

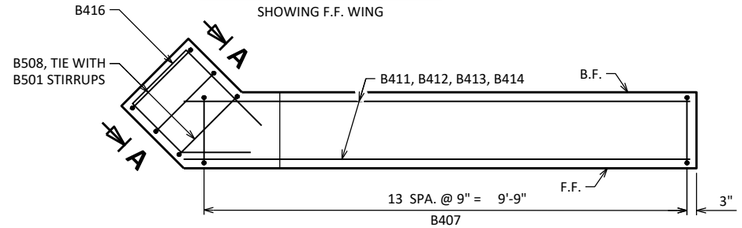
SHOWING LOWER WING REINFORCEMENT
WING 4 SIMILAR



'HP' PILE DETAILS

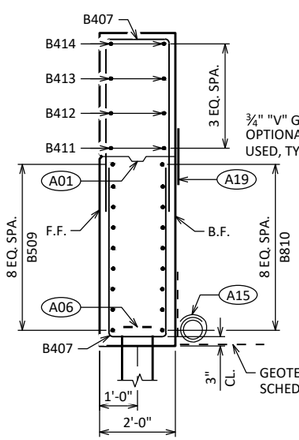
WING 4 ELEVATION

SHOWING F.F. WING



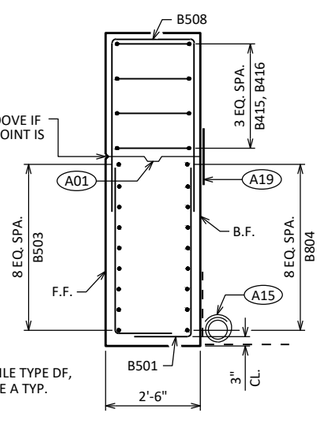
WING 4 PLAN

SHOWING UPPER WING REINFORCEMENT

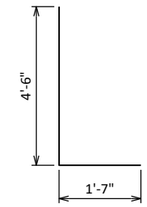


SECTION THRU WING 3

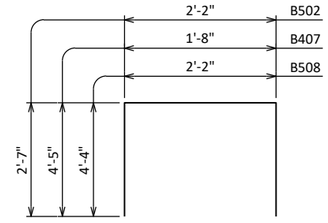
TYPICAL BOTH WINGS



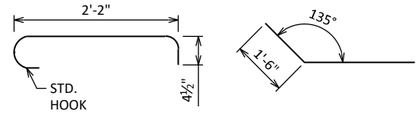
SECTION A-A



B501



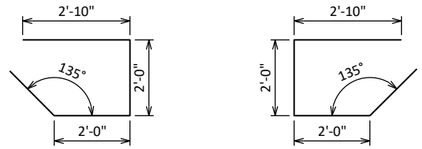
B502, B407, B508



B405

B804, B509, B810

B414



B415

B416

(A01) OPTIONAL CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6. PROVIDE ¾" "V" GROOVE ON F.F. OF WINGWALL IF JOINT IS USED.

(A06) SUPPORT ABUTMENT ON HP 10 x 42 PILING, ESTIMATED 45' LONG WITH A REQUIRED DRIVING RESISTANCE OF 180TONS PER PILE.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A19) 18" RUBBERIZED MEMBRANE WATERPROOFING, ONLY IF OPTIONAL CONSTRUCTION JOINT IS USED. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY STRUCTURES".

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STRUCTURE B-17-240

DRAWN BY TAG | PLANS CK'D SKP

NORTH ABUTMENT DETAILS

SHEET 7
51

SCALE =

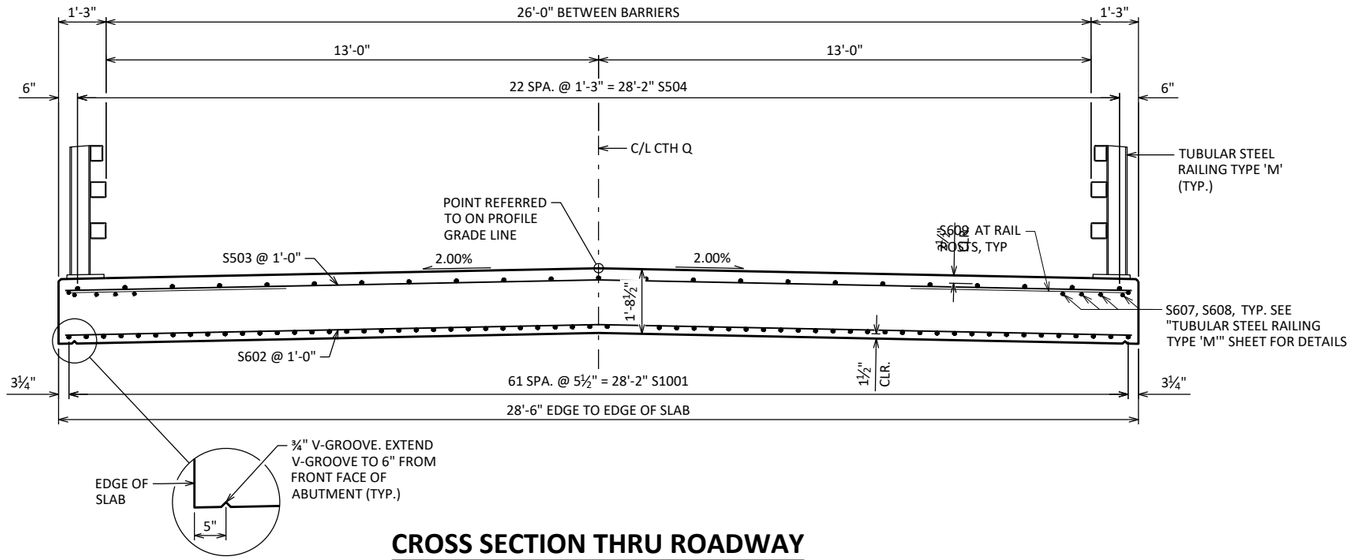
THIS SHEET WAS CREATED BY THE WISDOT BUREAU OF STRUCTURES STANDARD BRIDGE DESIGN TOOL VERSION 1.1.0.0

8

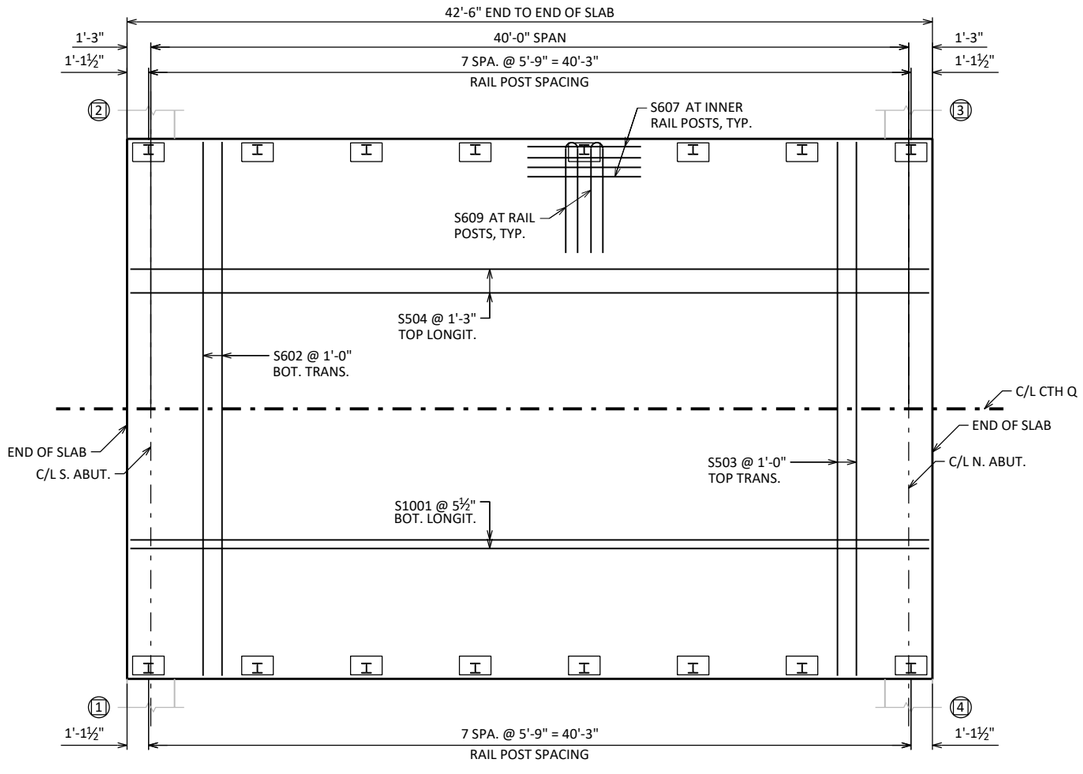
8

STATE PROJECT NUMBER

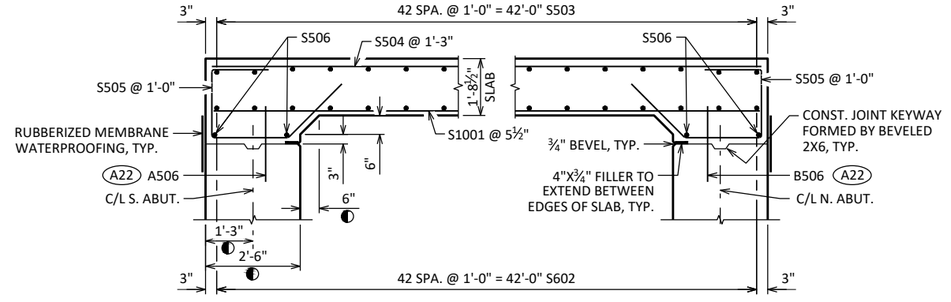
8925-03-72



CROSS SECTION THRU ROADWAY



PLAN

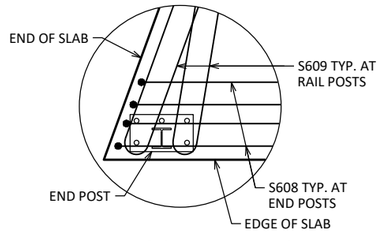


LONGITUDINAL SECTION

DIMENSIONS ARE GIVEN PARALLEL TO ℄ ROADWAY UNLESS OTHERWISE NOTED.

◐ MEASURED NORMAL TO THE ℄ OF ABUTMENT. DIMENSIONS ARE TYPICAL FOR BOTH ABUTMENTS.

(A22) A506, B506 BARS SPACED @ 1'-0" CNTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)



END POST DETAILS

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STRUCTURE B-17-240

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SUPERSTRUCTURE

SHEET 8
52

SCALE =

8

8

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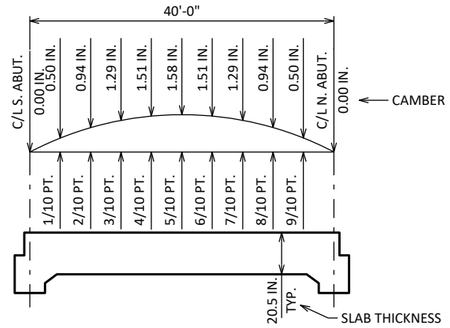


CAMBER AND SLAB THICKNESS DIAGRAM

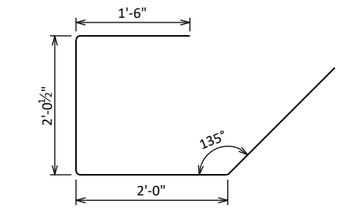
CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. PARAPETS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED, EXCEPT FOR STAGED CONSTRUCTION.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE FOLLOW THIS PROCEDURE:

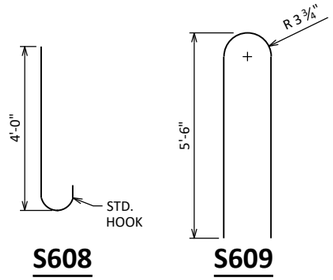
	TOP OF SLAB ELEVATION AT FINAL GRADE
LESS	SLAB THICKNESS
PLUS	CAMBER
PLUS	FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
EQUALS	TOP OF SLAB FALSEWORK ELEVATION

TOP OF SLAB ELEVATIONS

LOCATION	C/L BRG. S. 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. N. ABUT.
W. EDGE OF DECK	949.59	949.60	949.60	949.60	949.60	949.60	949.60	949.60	949.60	949.60	949.60
CROWN OR R/L	949.88	949.88	949.88	949.89	949.89	949.89	949.89	949.89	949.89	949.88	949.88
E. EDGE OF DECK	949.59	949.60	949.60	949.60	949.60	949.60	949.60	949.60	949.60	949.60	949.60



S505



S608 **S609**

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
S1001	X	62	42'-2"			SLAB BOTTOM LONGITUDINAL
S602	X	43	28'-2"			SLAB BOTTOM TRANSVERSE
S503	X	43	28'-2"			SLAB TOP TRANSVERSE
S504	X	23	42'-2"			SLAB TOP LONGITUDINAL
S505	X	58	7'-4"	X		ABUTMENT DIAPHRAGM STIRRUPS
S506	X	4	28'-2"			ABUTMENT DIAPHRAGM LONGITUDINAL
S607	X	48	6'-0"			SLAB TOP LONGIT. UNDER RAIL POSTS
S608	X	16	4'-8"	X		SLAB TOP LONGIT. UNDER RAIL END POSTS
S609	X	32	11'-3"	X		SLAB TOP HOOKS UNDER RAIL POSTS

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DECK FLASHING NOTES

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

FLASHING TO BE INSTALLED AFTER PROTECTIVE SURFACE TREATMENT APPLICATION.

CONCRETE SCREWS SHALL BE 410 STAINLESS STEEL.

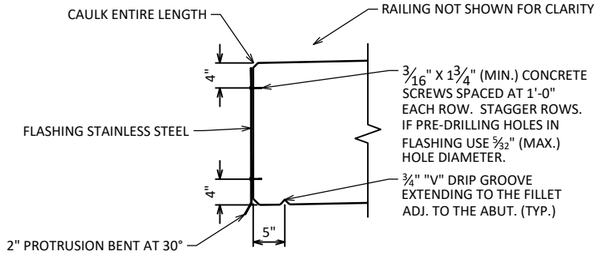
EXTEND FLASHING TO B.F. ABUTMENT DIAPHRAGM.

TOP OF FLASHING TO BEGIN APPROX. 1-INCH BELOW TOP OF DECK/SLAB SURFACE.

THE FLASHING IS TO BE CONSTANT HEIGHT BASED ON THE THINNEST SLAB DEPTH OVER THE BRIDGE LENGTH.

PROVIDE 2" MINIMUM FLASHING OVERLAP, FASTEN WITH 3/16" X 2" (MIN.) CONCRETE SCREWS.

CAULK SHALL BE NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER.



EDGE OF DECK FLASHING DETAIL

SURVEY TOP OF SLAB ELEVATIONS

LOCATION	SOUTH ABUTMENT	5/10 PT.	NORTH ABUTMENT
W. GUTTER			
CROWN OR R/L			
E. GUTTER			

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

NOTES

FILL IN THE TABLE OF "SURVEY TOP OF SLAB ELEVATIONS" FOR EACH SPAN ON AS BUILT PLANS.

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

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

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STRUCTURE B-17-240

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SUPERSTRUCTURE DETAILS

SHEET 9
53

SCALE =

8

8

STATE PROJECT NUMBER

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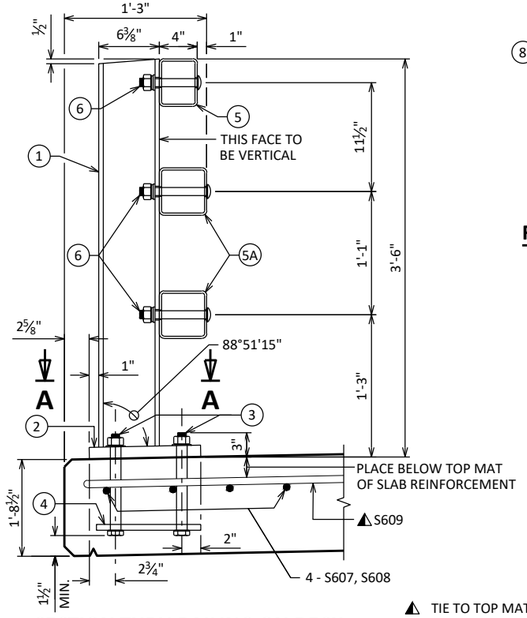
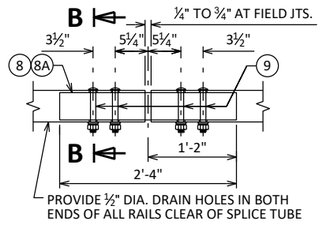
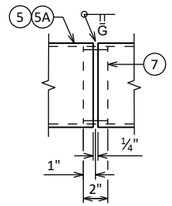


TIE TO TOP MAT OF STEEL.

SECTION THRU RAILING ON DECK

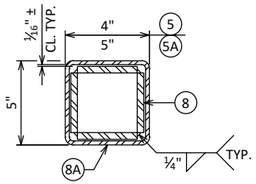


FIELD ERECTION JOINT DETAIL

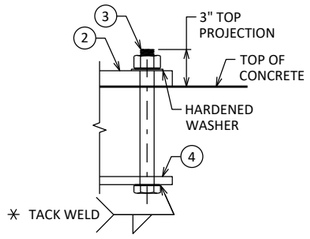


SHOP RAIL SPLICE DETAIL

LOCATION MUST BE SHOWN ON SHOP DRAWINGS

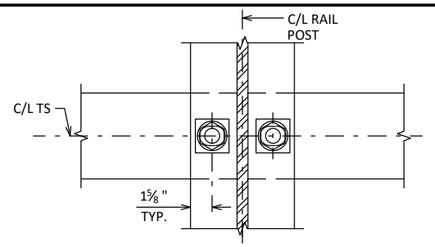


SECTION B-B

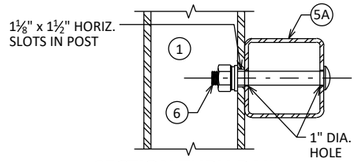


ANCHOR BOLTS

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



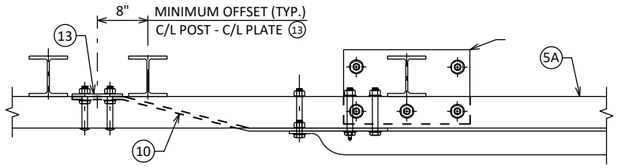
SECTION THRU POST WEB



SECTION THRU RAIL

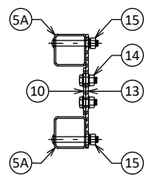
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

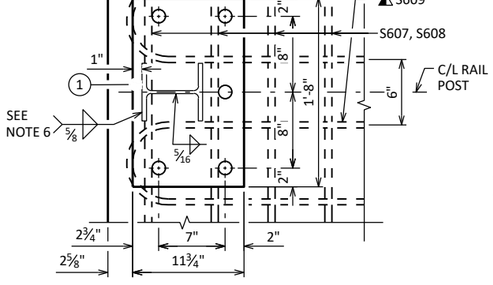


TOP VIEW AT END POST

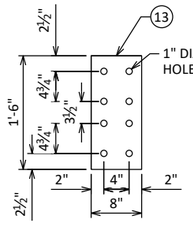
THRIE BEAM RAIL ATTACHMENT



SECTION C-C

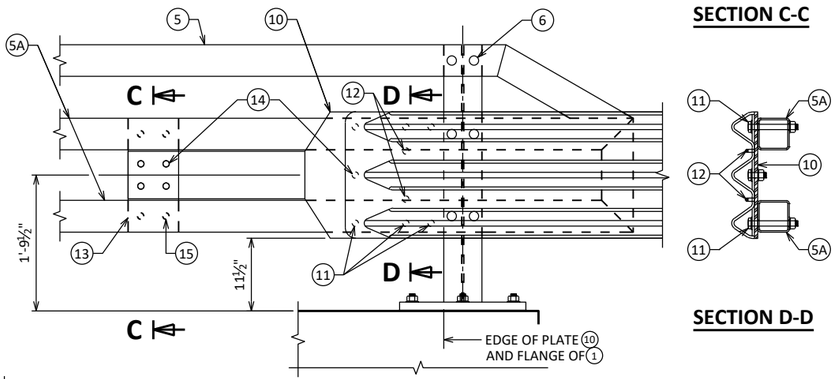


SECTION A-A



ANCHOR PLATE

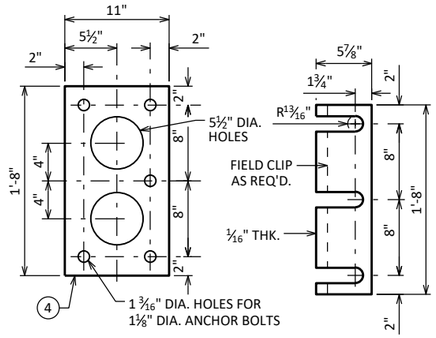
AT BEAM GUARD ATTACHMENT



DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT

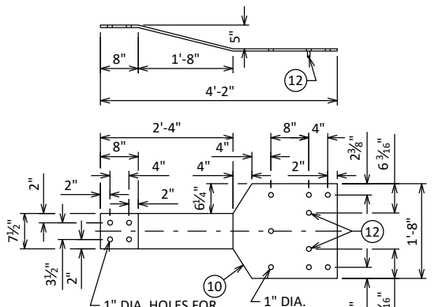
SECTION D-D



ANCHOR PLATE

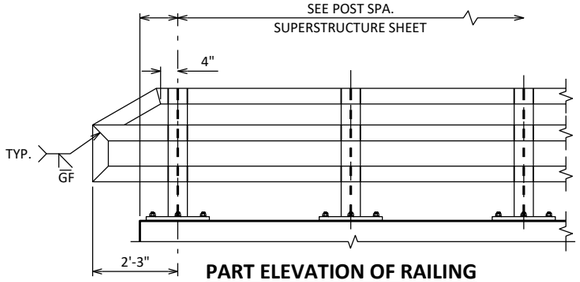
AT RAIL TO DECK CONNECTION

POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

LEGEND

1. 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 1 ¼" x 11 ¾" x 1'-8" WITH 1 7/16" OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
3. ASTM A449 - 1 ⅛" 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 10 ¾" 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 CONSTRUCTIBILITY.)
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 1 ⅝" X 1 ⅝" MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION).
7. SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".
8. ⅜" X 3 ⅝" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
8A. ⅜" X 2 ⅝" X 2'-4" PLATE USED IN NO. 5, ⅜" X 3 ⅝" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
9. ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15/16" x 1 ¼" LONGIT. SLOTTED HOLES IN PLATE NO. 10A AT FIELD JOINTS AND 15/16" X 2 ¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 8A. PROVIDE 15/16" DIA. ROUND HOLES IN TUBES NO. 5 AND NO. 5A.
10. ½" THK. BACK-UP PLATE WITH 2 - ⅞" X 1 ½" 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.
11. 1" DIA. HOLES IN PLATE NO. 10 & TUBES NO. 5A FOR ⅞" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 10.
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.
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.

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-17-240

DRAWN BY TAG | PLANS CK'D SKP

TUBULAR STEEL RAILING TYPE 'M'

SHEET 10
54

SCALE =

THIS SHEET WAS CREATED BY THE WISDOT BUREAU OF STRUCTURES STANDARD BRIDGE DESIGN TOOL VERSION 1.1.0.0

CTH Q

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	FILL	CUT NOTE 1	SALVAGED/ UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	CUT 1.00 NOTE 1	EXPANDED FILL 1.25 NOTE 4	MASS ORDINATE NOTE 5
210+65	0	5.69	0.00	0.00	0	0	0	0	0	0
210+93	28	37.67	12.65	0.04	6	0	0	6	0	6
211+16	23	34.98	14.85	2.16	31	12	1	37	2	23
211+41	25	38.97	16.55	0.00	34	15	1	71	4	41
211+66	25	38.64	15.45	0.12	36	15	0	107	4	62
211+99	33	30.81	11.95	3.96	42	17	2	149	6	84
212+06	7				11	6	1	160	7	88
BRIDGE								160	7	88
212+48	0				0	0	0	160	7	88
212+55	7	31.81	9.59	9.46	10	6	2	170	10	89
212+88	33	33.37	12.63	0.10	40	14	6	210	17	108
213+13	25	33.13	14.46	0.02	31	13	0	241	17	126
213+38	25	41.04	12.96	2.42	34	13	1	275	19	146
213+57	19	39.25	11.34	0.59	28	9	1	303	20	163
213+90	33	5.68	0.00	0.01	7	0	0	310	20	170
				COLUMN TOTAL	310	120	15			

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNSUABLE PAVEMENT EXC VOLUME
4 - EXPANDED FILL	EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR
5 - MASS ORDINATE	MASS ORDINATE = AVAILABLE MATERIAL - EXPANDED FILL PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL. MINUS INDICATES A SHORTAGE OF MATERIAL.

9

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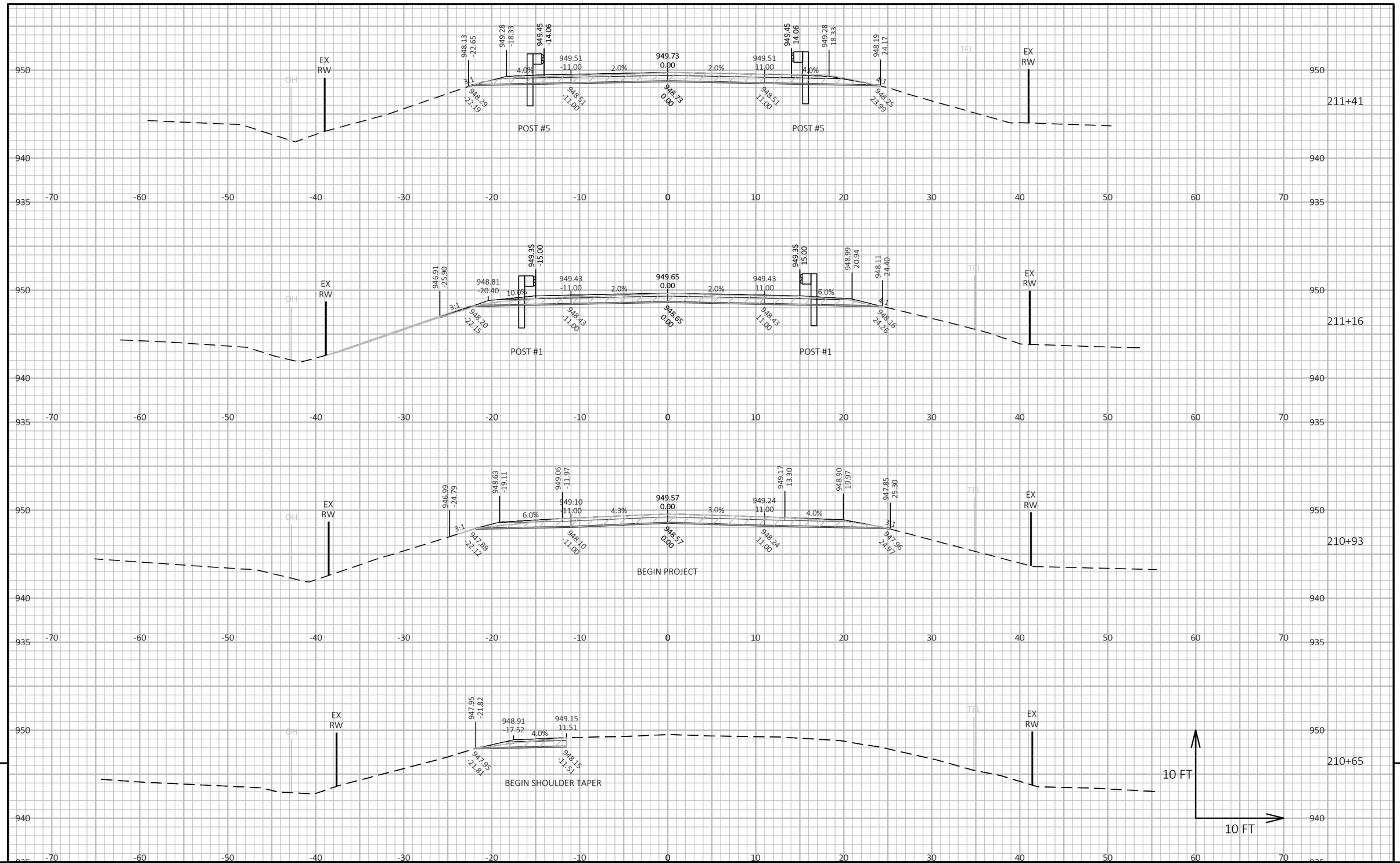
PROJECT NO: 8925-03-72 | HWY: CTH Q | COUNTY: DUNN | EARTHWORK DATA | SHEET 55 | E

FILE NAME : G:\2023-PROJ\23258177\C3D\SHEETS\090100_EW.DWG
LAYOUT NAME - 090100_ew - EARTHWORK DATA

PLOT DATE : 5/21/2025 12:28 PM PLOT BY : JACOB FRIBERG PLOT NAME : PLOT SCALE : 1" = 1'

WISDOT/CADDS SHEET 49



9

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PROJECT NO: 8925-03-72	HWY: CTH Q	COUNTY: DUNN	CROSS SECTIONS: CTH Q	SHEET 56	E

FILE NAME : G:\2023-PROJ\23258177\C3D\SHEETS\090201-XS.DWG
LAYOUT NAME - 01

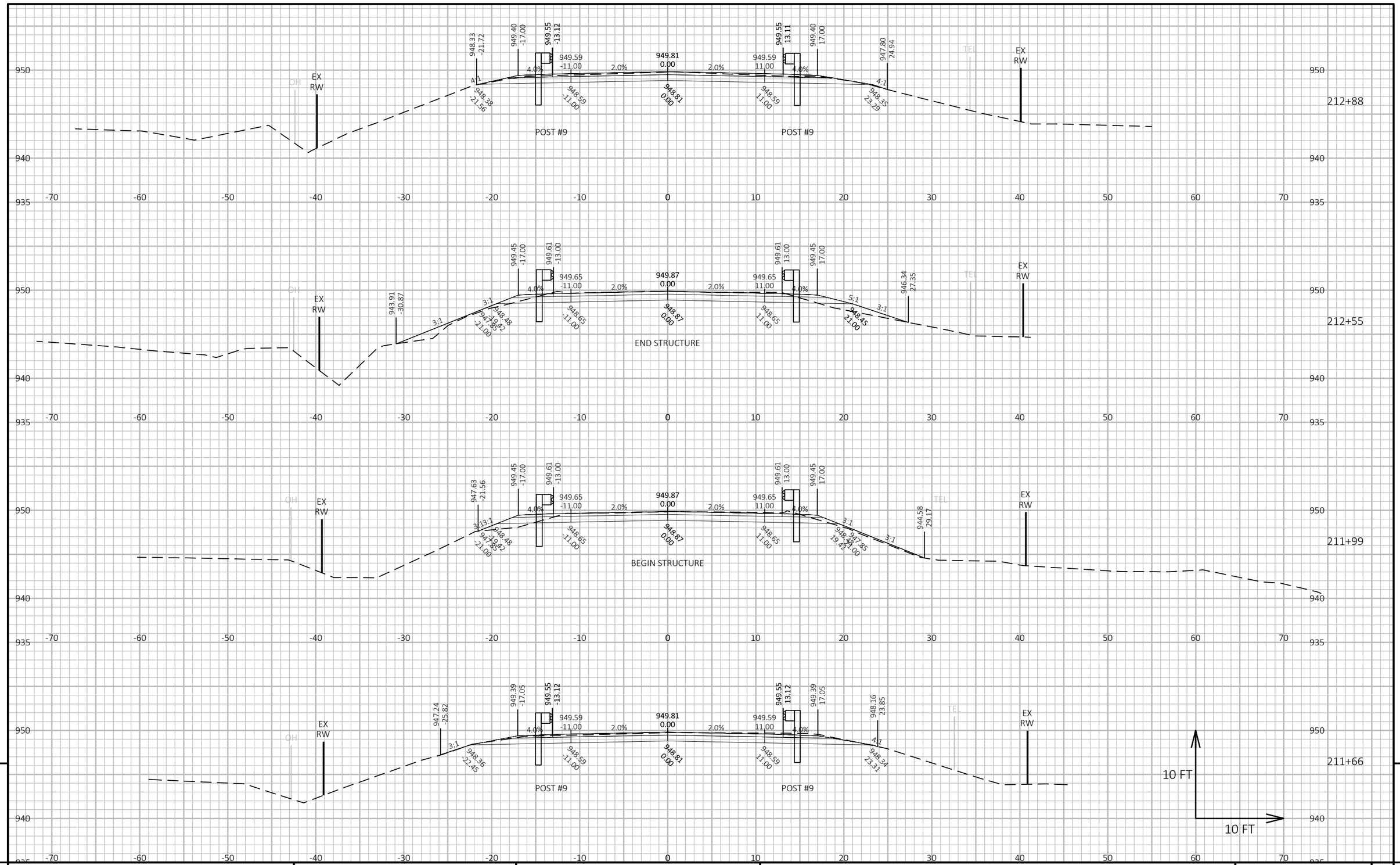
PLOT DATE : 7/16/2025 2:36 PM

PLOT BY : JACOB FRIBERG

PLOT NAME :

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

WISDOT/CADDS SHEET 49



PROJECT NO: 8925-03-72	HWY: CTH Q	COUNTY: DUNN	CROSS SECTIONS: CTH Q	SHEET 57	E

FILE NAME : G:\2023-PROJ\23258177\C3D\SHEETS\090201-XS.DWG
LAYOUT NAME - 02

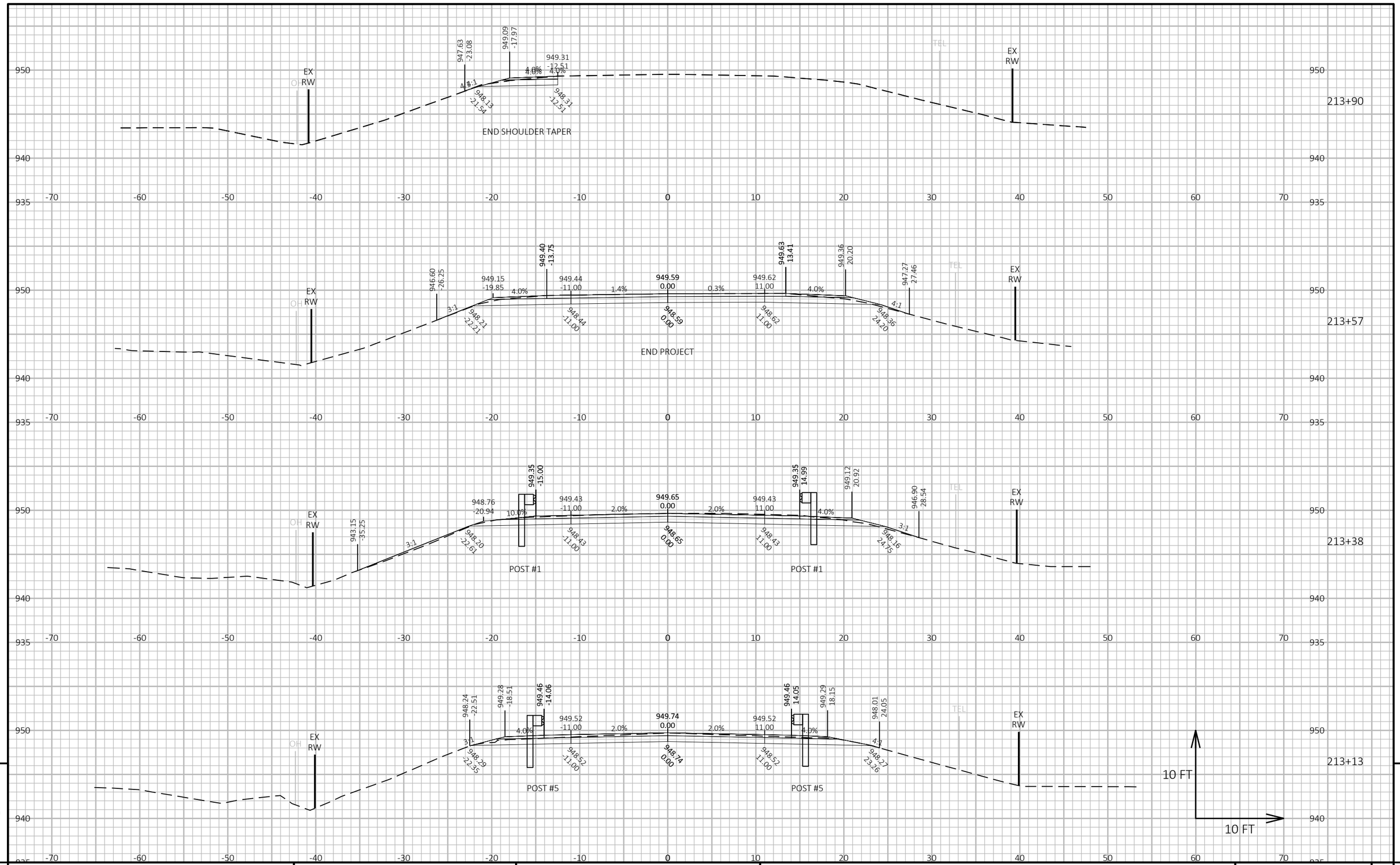
PLOT DATE : 5/21/2025 9:31 AM

PLOT BY : JACOB FRIBERG

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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PROJECT NO: 8925-03-72	HWY: CTH Q	COUNTY: DUNN	CROSS SECTIONS: CTH Q	SHEET 58	E

FILE NAME : G:\2023-PROJ\23258177\C3D\SHEETS\090201-XS.DWG
LAYOUT NAME - 03

PLOT DATE : 5/21/2025 9:31 AM

PLOT BY : JACOB FRIBERG

PLOT NAME :

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

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

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through innovation and exceptional service.

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