WIS

PROJECT ID: 6739-00-70

COUNTY: MARQUETTE

FEBRUARY 2025

ORDER OF SHEETS

TOTAL SHEETS = 54

36

N

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T CRYSTAL LAKE, DOVER AVENUE

MECAN RIVER BRIDGE P-39-0025

LOCAL STREET

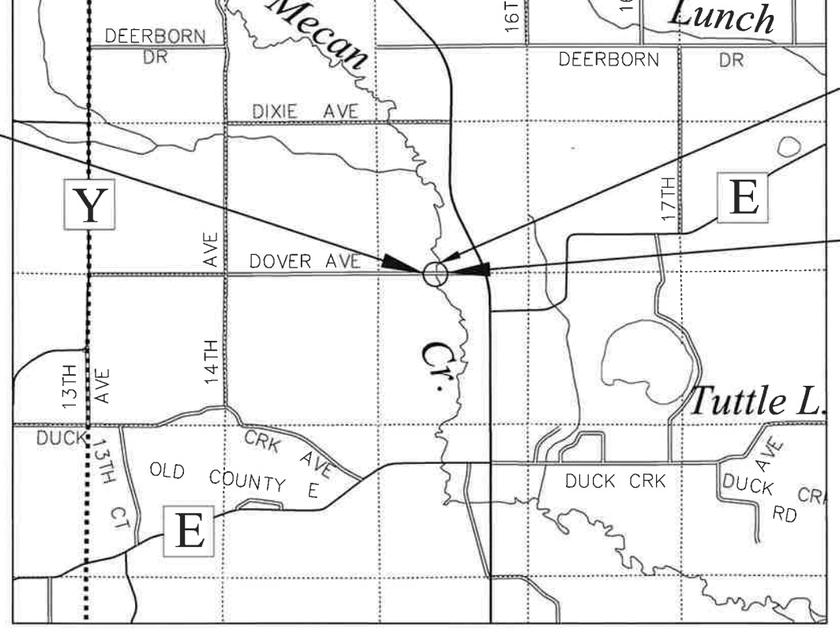
MARQUETTE COUNTY

STATE PROJECT NUMBER
6739-00-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
6739-00-70	WISC 2025330	1

ACCEPTED FOR
TOWN OF CRYSTAL LAKE
DATE: 10-15-24 (Signature and Title of Official)

ORIGINAL PLANS PREPARED BY
JT ENGINEERING



BEGIN PROJECT
STA 11+70.55
Y = 307,414.169
X = 474,320.263

STRUCTURE B-39-082
STA 12+90.76 - STA 13+53.35

END PROJECT
STA 14+66.82

T-17-N

DESIGN DESIGNATION 6739-00-00

A.A.D.T.	(2025)	=	80
A.A.D.T.	(2045)	=	85
D.H.V.		=	9
D.D.		=	50/50
T.		=	5.4%
DESIGN SPEED		=	45 MPH
ESALS		=	0

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'FB'	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
		UTILITY PEDESTAL	
WOODED OR SHRUB AREA		POWER POLE	
		TELEPHONE POLE	

LAYOUT
SCALE 0 1.0 MI

TOTAL NET LENGTH OF CENTERLINE = 0.056 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), MARQUETTE NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

WISCONSIN
JOSEPH W. MALENOFSKI
E-40076
APPLETON, WI
PROFESSIONAL ENGINEER

DATE: 10/15/24 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	JT ENGINEERING INC.
Designer	JT ENGINEERING INC.
Project Manager	JASON SCHAEFFER
Regional Examiner	REGIONAL EXAMINER
Regional Supervisor	DAN ERVA

APPROVED FOR THE DEPARTMENT
DATE: 10/21/2024 (Signature)

E

FILE NAME : X:\PROJECTS\MARQUETTE\230079MW DOVER BRIDGE\DESIGN\C3D\SHEETSPLAN\010101-TI.DWG PLOT DATE : 10/15/2024 3:05 PM PLOT BY : JOE MALENOFSKI PLOT NAME :

GENERAL NOTES

IF THERE ARE UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLANS, THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGER'S HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA.

ANY UTILITY WHICH IS NOT A MEMBER OF DIGGER'S HOTLINE MUST BE CONTRACTED SEPARATELY.

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

SAW CUTS LOCATIONS SHOWN ON THE PLANS ARE SUBJECT TO ADJUSTMENT BY THE ENGINEER IN THE FIELD.

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

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

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

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

ASPHALTIC SURFACE WEIGHT CALCULATIONS ARE BASED ON 112 LBS/SY/IN.

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

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 0.45 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.30 ACRES

UTILITY CONTACTS

ADAMS-COLUMBIA ELECTRIC COOPERATIVE
JESSE KLEMETSON
401 EAST LAKE STREET
FRIENDSHIP, WI 53934
PHONE: 800-831-8629
EMAIL: ACEC_WO@ACECWI.COM

BRIGHTSPEED
SCOTT HEINZELMAN
144 NORTH PEARL STREET
BERLIN, WI 54923
PHONE: 920-757-4802
EMAIL: SCOTT.HEINZELMAN@BRIGHTSPEED.COM

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

AGENCY/PROJECT CONTACTS

WISDOT - NC REGION
JASON SCHAEFFER
1681 SECOND AVENUE
WISCONSIN RAPIDS, WI 54495
PHONE: 715-421-7309
EMAIL: JASON.SCHAEFFER@DOT.WI.GOV

WISCONSIN DNR
MARTY DILLENBURG
625 COUNTY ROAD Y, SUITE 700
OSHKOSH, WI 54901-9731
PHONE: 920-410-7428
EMAIL: MARTY.DILLENBURG@WISCONSIN.GOV

DESIGN CONTACT

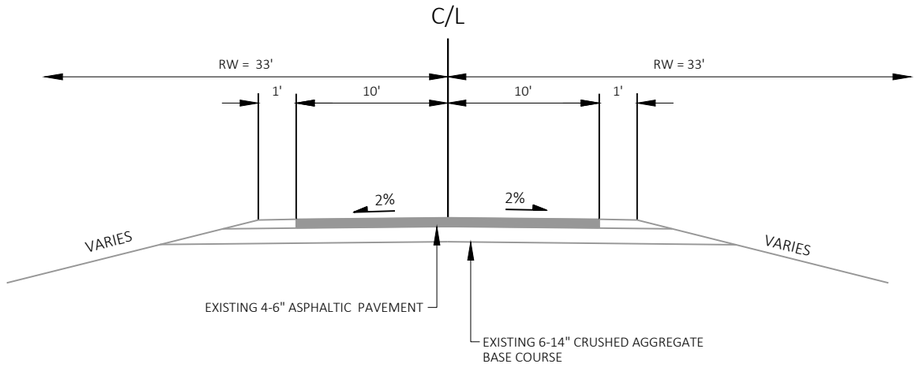
JT ENGINEERING, INC.
RICH GLEN
1077 CENTENNIAL CENTRE BLVD
HOBART, WI 54155
PHONE: 920-468-4771
EMAIL: RICHG@JT-ENGINEERING.COM

STANDARD ABBREVIATIONS

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

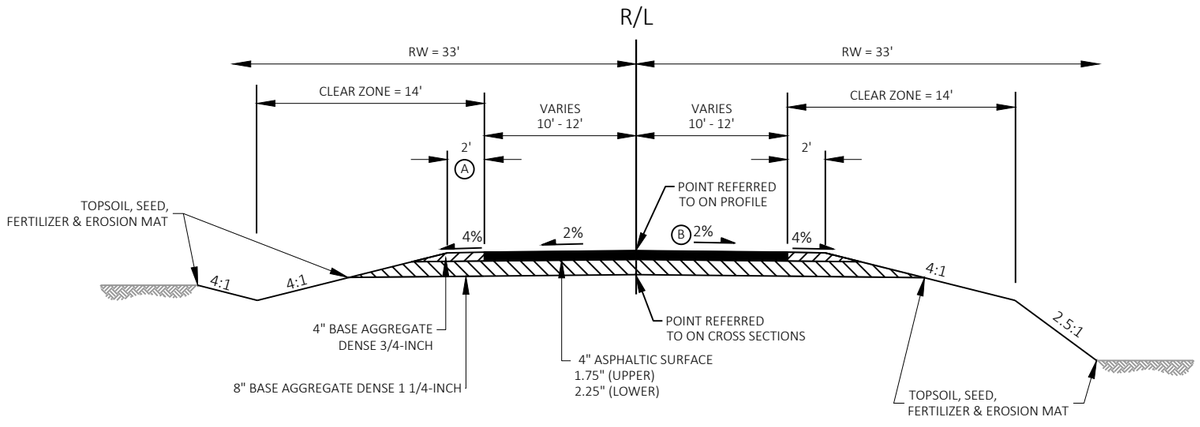
SEQUENCE OF SECTION 2

2



EXISTING TYPICAL SECTION

STA 11+70.55 - 13+02.18
STA 13+42.74 - 14+66.82



(A) STA 14+00 TO STA 14+66.82 LT

MATCH EXISTING BASE AGGREGATE
WIDTH VARIES 6.7' - 14.3'

(B) STA 14+00 TO STA 14+66.82 RT

CROSS SLOPE TRANSITIONS FROM 2% TO 5.4% (MATCH EXISTING)

PROPOSED TYPICAL SECTION

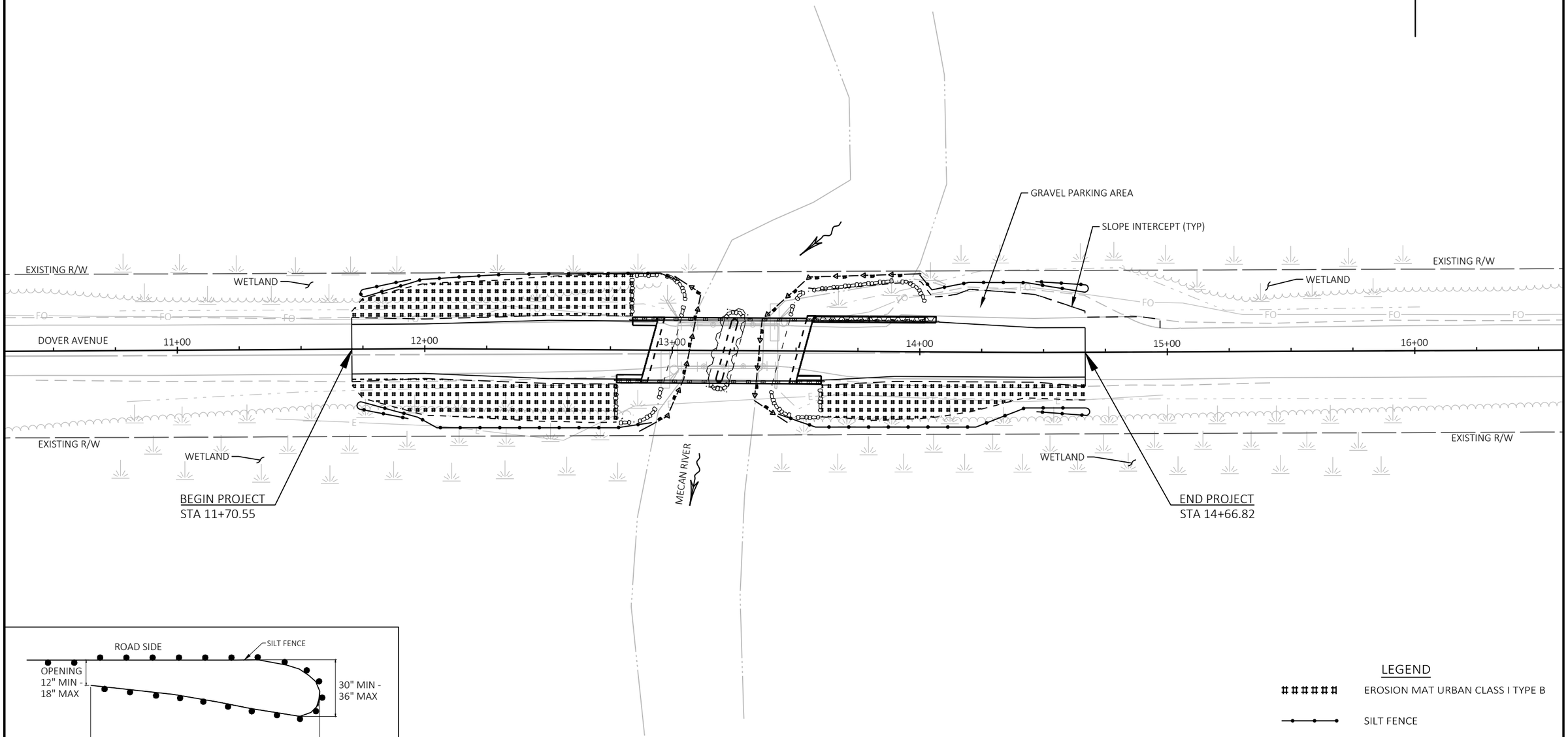
STA 11+70.55 - 12+90.76
STA 13+53.35 - 14+66.82

PROJECT NO: 6739-00-70	HWY: DOVER AVENUE	COUNTY: MARQUETTE	TYPICAL SECTIONS	SHEET 3	E

2

2

N



PLAN VIEW

TEMPORARY SMALL ANIMAL TURN-AROUND

GENERAL NOTES:
SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS.

LEGEND

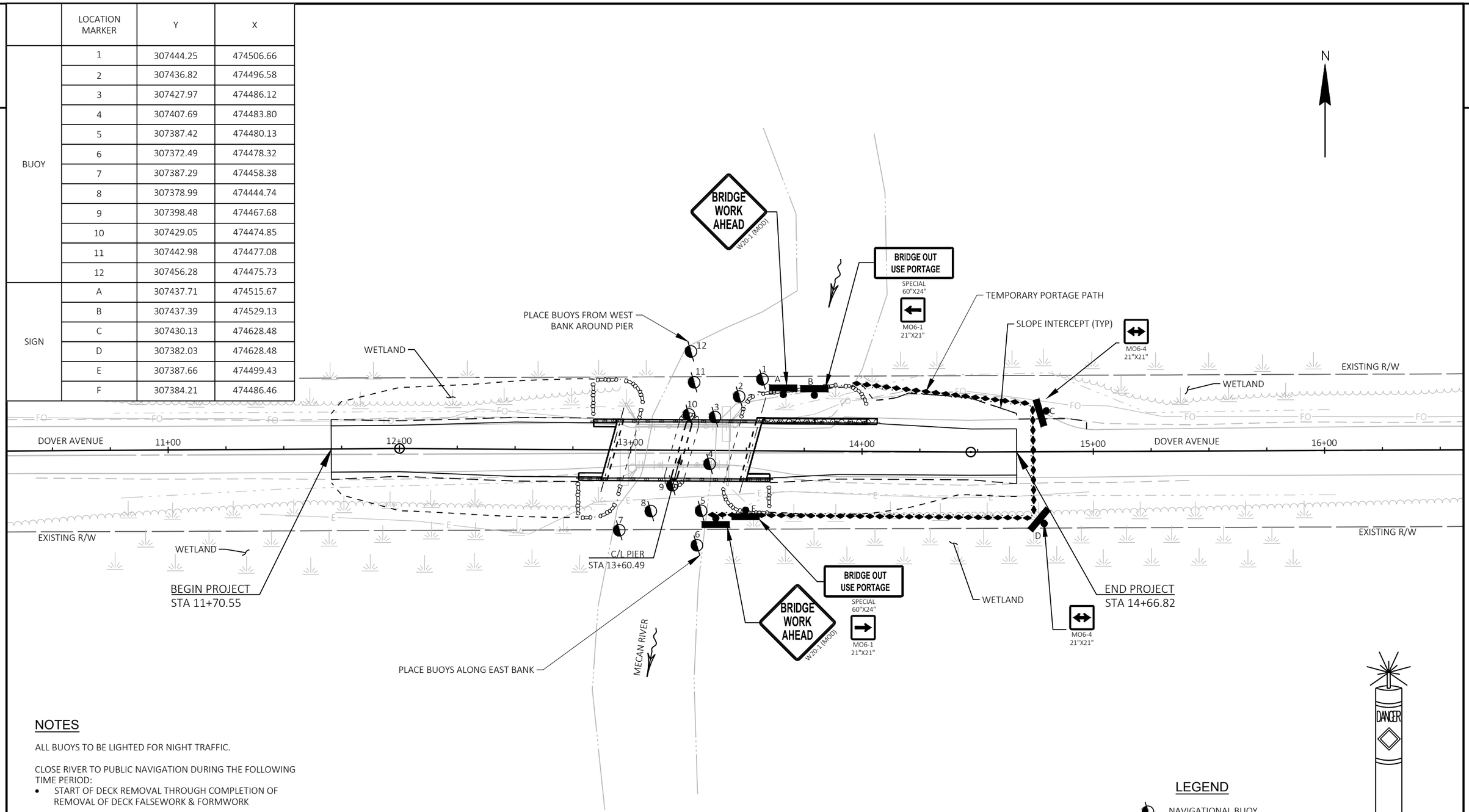
- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- RIP RAP
- TURBIDITY BARRIER
- COFFERDAM

PROJECT NO: 6739-00-70	HWY: DOVER AVENUE	COUNTY: MARQUETTE	EROSION CONTROL	SHEET 4	E

FILE NAME : X:\PROJECTS\MARQUETTE\230079MW DOVER BRIDGE\DESIGN\C3D\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 022001-ec

PLOT DATE : 12/10/2024 2:30 PM PLOT BY : JOE MALENOFSKI PLOT NAME : PLOT SCALE : 1 IN:40 FT

	LOCATION MARKER	Y	X
BUOY	1	307444.25	474506.66
	2	307436.82	474496.58
	3	307427.97	474486.12
	4	307407.69	474483.80
	5	307387.42	474480.13
	6	307372.49	474478.32
	7	307387.29	474458.38
	8	307378.99	474444.74
	9	307398.48	474467.68
	10	307429.05	474474.85
	11	307442.98	474477.08
	12	307456.28	474475.73
SIGN	A	307437.71	474515.67
	B	307437.39	474529.13
	C	307430.13	474628.48
	D	307382.03	474628.48
	E	307387.66	474499.43
	F	307384.21	474486.46



NOTES

ALL BUOYS TO BE LIGHTED FOR NIGHT TRAFFIC.

CLOSE RIVER TO PUBLIC NAVIGATION DURING THE FOLLOWING TIME PERIOD:

- START OF DECK REMOVAL THROUGH COMPLETION OF REMOVAL OF DECK FALSEWORK & FORMWORK

CONTRACTOR TO PLACE SIGNS ALONG PORTAGE ROUTE TO GUIDE USERS ALONG THE ROUTE.

ALL NAVIGATIONAL AIDS AND SIGNAGE SHALL BE PLACED WITHIN THE EXISTING RIGHT OF WAY.

LEGEND

NAVIGATIONAL BUOY

SIGN ON PERMANENT SUPPORT

PORTAGE ROUTE

EXAMPLE BUOY

PROJECT NO: 6739-00-70	HWY: DOVER AVENUE	COUNTY: MARQUETTE	TRAFFIC CONTROL - NAVIGATIONAL	SHEET 5	E

FILE NAME : X:\PROJECTS\MARQUETTE\230079MW DOVER BRIDGE\DESIGN\C3D\SHEETSPLAN\025101_TC(NAV).DWG
LAYOUT NAME - 022001-ec

PLOT DATE : 12/10/2024 2:39 PM PLOT BY : JOE MALENOFSKI PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

Estimate Of Quantities

6739-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	2.000	2.000
0004	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-39-25	EACH	1.000	1.000
0006	204.0110	Removing Asphaltic Surface	SY	12.000	12.000
0008	205.0100	Excavation Common	CY	152.000	152.000
0010	206.1001	Excavation for Structures Bridges (structure) 01. B-39-82	EACH	1.000	1.000
0012	206.3001	Excavation for Structures Retaining Walls (structure) 01. R-39-14	EACH	1.000	1.000
0014	206.5001	Cofferdams (structure) 01. B-39-82	EACH	1.000	1.000
0016	208.0100	Borrow	CY	183.000	183.000
0018	210.1500	Backfill Structure Type A	TON	247.000	247.000
0020	213.0100	Finishing Roadway (project) 01. 6739-00-70	EACH	1.000	1.000
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	44.000	44.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	360.000	360.000
0026	455.0605	Tack Coat	GAL	33.000	33.000
0028	465.0105	Asphaltic Surface	TON	123.000	123.000
0030	502.0100	Concrete Masonry Bridges	CY	186.000	186.000
0032	502.3200	Protective Surface Treatment	SY	272.000	272.000
0034	502.9000.S	Underwater Substructure Inspection (structure) 01. B-39-82	EACH	1.000	1.000
0036	504.0500	Concrete Masonry Retaining Walls	CY	24.000	24.000
0038	505.0400	Bar Steel Reinforcement HS Structures	LB	5,040.000	5,040.000
0040	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	30,450.000	30,450.000
0042	512.0500	Piling Steel Sheet Permanent Delivered	SF	1,905.000	1,905.000
0044	512.0600	Piling Steel Sheet Permanent Driven	SF	1,905.000	1,905.000
0046	513.4061	Railing Tubular Type M	LF	217.000	217.000
0048	516.0500	Rubberized Membrane Waterproofing	SY	21.000	21.000
0050	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	1,080.000	1,080.000
0052	606.0300	Riprap Heavy	CY	195.000	195.000
0054	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	145.000	145.000
0056	619.1000	Mobilization	EACH	1.000	1.000
0058	624.0100	Water	MGAL	6.100	6.100
0060	625.0100	Topsoil	SY	561.000	561.000
0062	628.1504	Silt Fence	LF	605.000	605.000
0064	628.1520	Silt Fence Maintenance	LF	605.000	605.000
0066	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0068	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0070	628.2008	Erosion Mat Urban Class I Type B	SY	561.000	561.000
0072	628.6005	Turbidity Barriers	SY	245.000	245.000
0074	628.7570	Rock Bags	EACH	20.000	20.000
0076	629.0210	Fertilizer Type B	CWT	0.350	0.350
0078	630.0130	Seeding Mixture No. 30	LB	25.000	25.000
0080	630.0200	Seeding Temporary	LB	15.000	15.000
0082	630.0500	Seed Water	MGAL	12.500	12.500
0084	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0086	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0088	638.2602	Removing Signs Type II	EACH	9.000	9.000
0090	638.3000	Removing Small Sign Supports	EACH	9.000	9.000
0092	642.5001	Field Office Type B	EACH	1.000	1.000
0094	643.0420	Traffic Control Barricades Type III	DAY	1,064.000	1,064.000
0096	643.0705	Traffic Control Warning Lights Type A	DAY	1,216.000	1,216.000
0098	643.0900	Traffic Control Signs	DAY	1,672.000	1,672.000

Estimate Of Quantities

6739-00-70

Line	Item	Item Description	Unit	Total	Qty
0100	643.5000	Traffic Control	EACH	1.000	1.000
0102	645.0111	Geotextile Type DF Schedule A	SY	85.000	85.000
0104	645.0120	Geotextile Type HR	SY	427.000	427.000
0106	650.4500	Construction Staking Subgrade	LF	234.000	234.000
0108	650.5000	Construction Staking Base	LF	234.000	234.000
0110	650.6501	Construction Staking Structure Layout (structure) 01. B-39-82	EACH	1.000	1.000
0112	650.6501	Construction Staking Structure Layout (structure) 02. R-39-14	EACH	1.000	1.000
0114	650.9911	Construction Staking Supplemental Control (project) 01. 6739-00-70	EACH	1.000	1.000
0116	650.9920	Construction Staking Slope Stakes	LF	234.000	234.000
0118	690.0150	Sawing Asphalt	LF	70.000	70.000
0120	715.0502	Incentive Strength Concrete Structures	DOL	1,260.000	1,260.000
0122	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	300.000	300.000
0124	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000
0126	SPV.0090	Special 01. Flashing Stainless Steel	LF	126.000	126.000

3

GRUBBING

CATEGORY	STATION	TO	STATION	LOCATION	201.0205 GRUBBING STA
0010	11+70.55	-	12+90.76	DOVER AVENUE	2
				TOTAL 0010	2

REMOVING ASPHALTIC SURFACE

CATEGORY	STATION	TO	STATION	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY
0010	14+67	-	14+97	DOVER AVENUE LT	12
				TOTAL 0010	12

3

BASE AGGREGATE DENSE

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL
0010	11+70.55	-	12+90.76	DOVER AVENUE	16	190	3.1
0010	13+53.35	-	14+66.82	DOVER AVENUE	28	170	3.0
				TOTAL 0010	44	360	6.1

ASPHALTIC ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
0010	11+70.55	-	12+90.76	DOVER AVENUE	17	64
0010	13+53.35	-	14+66.82	DOVER AVENUE	16	59
				TOTAL 0010	33	123

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1) CUT (2)	205.0100 COMMON EXCAVATION (1) EBS EXCAVATION (3)	SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (6) FACTOR 1.25	MASS ORDINATE +/- (7)	WASTE	208.0100 BORROW	COMMENT
DIVISION 1												
DOVER AVENUE	11+70.56/14+66.81		152	0	84	68	201	251	-183	0	183	
DIVISION 1 SUBTOTAL			152	0	84	68	201	251	-183	0	183	
GRAND TOTAL			152	0	84	68	201	251	-183	0	183	
TOTAL COMMON EXC			152									

NOTES:
(1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(3) EBS EXCAVATION TO BE BACKFILLED WITH SELECT BORROW MATERIAL.
(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
(5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL
(6) EXPANDED FILL FACTOR = 1.25
(7) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
(8) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

RESTORATION & EROSION CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.6005 TURBIDITY BARRIERS SY	628.7570 ROCK BAGS EACH	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
0010	11+70.55	-	12+90.76	DOVER AVENUE	370	300	300	-	-	370	90	-	0.23	17	10	8.3
0010	13+53.35	-	14+66.82	DOVER AVENUE	140	250	250	-	-	140	130	-	0.09	6	4	3.1
0010	11+70.55	-	14+66.82	UNDISTRIBUTED	51	55	55	5	3	51	25	20	0.03	2	1	1.1
				TOTAL 0010	561	605	605	5	3	561	245	20	0.35	25	15	12.5

SIGNING

CATEGORY	SIGN NO	LOCATION	SIGN MESSAGE	SIGN CODE	SIZE	634.0614 POSTS WOOD 4X6-INCH X 14-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	1-1	RT	NARROW BRIDGE	W5-2	-	-	-	1	1	LOCATED WEST OF PROJECT LIMITS
0010	1-2	LT	BRIDGE HASH MARKS	W5-52L	12"X36"	1	3	1	1	
0010	1-3	RT	BRIDGE HASH MARKS	W5-52R	12"X36"	1	3	2	2	REMOVE WEIGHT LIMIT 20 TONS SIGN
0010	1-4	LT	BRIDGE HASH MARKS	W5-52L	12"X36"	1	3	2	2	REMOVE WEIGHT LIMIT 20 TONS SIGN
0010	1-5	RT	BRIDGE HASH MARKS	W5-52R	12"X36"	1	3	1	1	
0010	1-6	LT	20 TON BRIDGE 1/2 MILES AHEAD	R12-55	-	-	-	1	1	LOCATED EAST OF PROJECT LIMITS
0010	1-7	LT	NARROW BRIDGE	W5-2	-	-	-	1	1	LOCATED EAST OF PROJECT LIMITS
				TOTAL 0010		4	12	9	9	

SAWING

CATEGORY	STATION	TO	STATION	LOCATION	690.0150 SAWING ASPHALT LF
0010	11+70.55	-	11+70.55	DOVER AVENUE	20
0010	14+66.82	-	14+97	DOVER AVENUE	50
				TOTAL 0010	70

TRAFFIC CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	DURATION** DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0900 TRAFFIC CONTROL SIGNS DAY	643.0900 TRAFFIC CONTROL SIGNS EACH	643.5000 TRAFFIC CONTROL EACH
0010	11+70.55	-	14+66.82	DOVER AVENUE	76	1,064	14	1,216	16	1,672	22	1
				TOTAL 0010		1,064		1,216		1,672		1

** FOR INFORMATION ONLY

CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	11+70.55	-	12+90.76	DOVER AVENUE	120	120	120
0010	13+53.35	-	14+66.82	DOVER AVENUE	114	114	114
				TOTAL 0010	234	234	234

CONTROL POINTS				
NO.	STATION	Y COORDS	X COORDS	DESCRIPTION
CP900	15+51.7, 12.6' RT	307,400.676	474,701.473	3/4" REBAR
CP901	13+52.1, 10.8' LT	307,424.219	474,501.876	SURVEY SPIKE
CP902	12+89.1, 10.0' RT	307,403.747	474,438.727	SURVEY SPIKE
CP903	11+28.4, 13.4' RT	307,400.548	474,278.162	3/4" REBAR

BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
BM1000	11+33, 36' RT	809.68	RR SPIKE IN 10" POPLAR TREE
BM1001	13+43, 6 RT	811.14	CHISELED SQUARE SE CORNER
BM1002	16+82, 35 LT	810.67	RR SPIKE IN 10" OAK TREE

STA 11+70.55 - 12+91 LT & RT
GRUBBING REQ'D

PI: 12+00.00
Y=307,414.350
X=474,349.712

B-39-0082

R-39-0014

AARON MALCHOW

STEPHAN ERICKSON

PI: 14+47.01
Y=307,412.810
X=474,596.714

STA 14+66.82 - 14+97 LT
REMOVING ASPHALTIC SURFACE

BRIGHTSPEED
FIBER OPTIC

1-6 20 TON BRIDGE 1/2 MILES AHEAD — REMOVE
SIGN LOCATED WEST OF
STH 22 INTERSECTION

N

1-1 NARROW BRIDGE — REMOVE
1-2 REMOVE W5-52L 12"X36"
1-3 WEIGHT LIMIT 20 TONS — REMOVE; REMOVE W5-52R 12"X36"
1-4 W5-52R 12"X36"; REMOVE; WEIGHT LIMIT 20 TONS — REMOVE
1-5 W5-52L 12"X36" REMOVE
1-7 NARROW BRIDGE — REMOVE

EXISTING R/W
WETLAND
DOVER AVENUE
11+00
N89°38'54"E
12+00
S89°38'34"E
13+00
14+00
15+00
N89°44'04"E
16+00
STA 12+00 10.0'LT
STA 12+50 11.8'LT
STA 12+00 10.0'RT
STA 12+50 11.8'RT
STA 13+90 10.0'RT
STA 14+47 10.0'LT
CP901
CP902
CP903
CP900
BM#1000
BM#1001
10'
FO
E
XXXXXXXXXXX

SLOPE INTERCEPT (TYP)

MECAN RIVER

MARK JOHNSON
CHRIS GORDAN

ADAMS-COLUMBIA
ELECTRIC COOPERATIVE

APPROXIMATE EDGE OF WATER

P.L.

ALIGNMENT STATIONING
PI: 10+00.00
Y=307,413.122
X=474,149.716

BEGIN PROJECT
STA 11+70.55
MATCH EXISTING
SAW CUT REQ'D
Y=307,414.169
X=474,320.263

END PROJECT
STA 14+66.82
MATCH EXISTING
SAW CUT REQ'D

ALIGNMENT STATIONING
PI: 16+84.99
Y=307,413.913
X=474,834.693

STA 11+70.55
EL 809.58

VCL = 140.00
K = 65.72

VPC STA 12+50.00
VPC EL 810.37

VPI STA 13+20.00
VPI EL 811.07

VPT STA 13+90.00
VPT EL 810.28

STA 14+66.82
EL 809.41

PROPOSED PROFILE
EXISTING PROFILE
1.00%
-1.13%

HP STA 13+15.72
HP EL 810.70

HW_{100}
ELEV = 808.02

HW_2
ELEV = 806.41

OBSERVED WATER
ELEV = 804.00
(8/28/2023)

EXISTING PROFILE ELEVATIONS
PROPOSED PROFILE ELEVATIONS

809.77	809.78	809.78	809.72	809.60	809.66	809.87	810.07	810.37	810.55	810.68	810.67	810.61	809.78	810.17	809.44	809.61	809.40	809.63	809.92	810.15

10+30 11+00 12+00 13+00 14+00 15+00 16+00 16+25

810
805
800
798

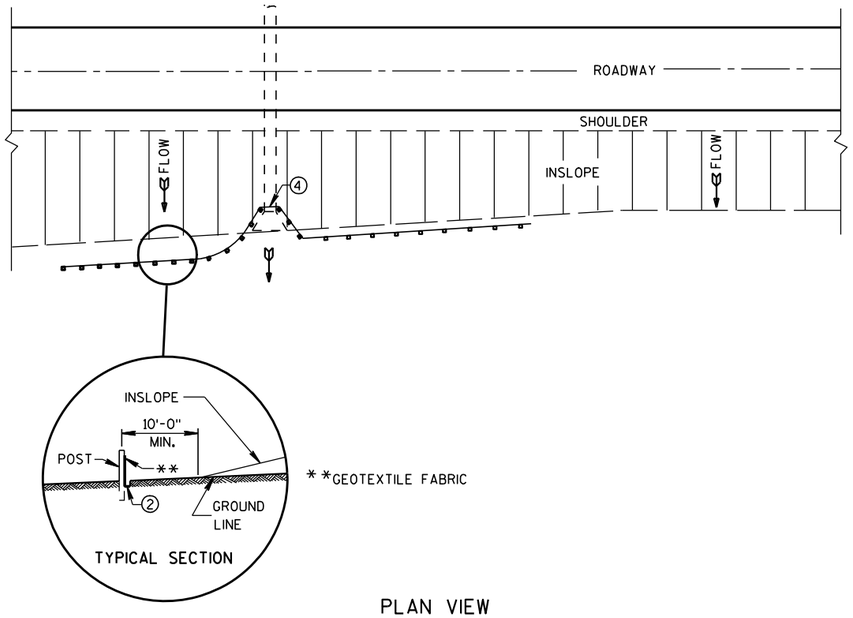
STA 13+22.46
REMOVE STRUCTURE P-36-025
SINGLE SPAN PRESTRESSED CONCRETE CHANNEL
40.5 FOOT OVERALL LENGTH

STA 13+22.05
STRUCTURE B-39-082
TWO SPAN CONCRETE FLAT SLAB BRIDGE
62.58 FEET LONG
24 FOOT CLEAR ROADWAY WIDTH
15° LHF SKEW

PROJECT NO: 6739-00-70	HWY: DOVER AVENUE	COUNTY: MARQUETTE	PLAN AND PROFILE: DOVER AVENUE	SHEET 10	E

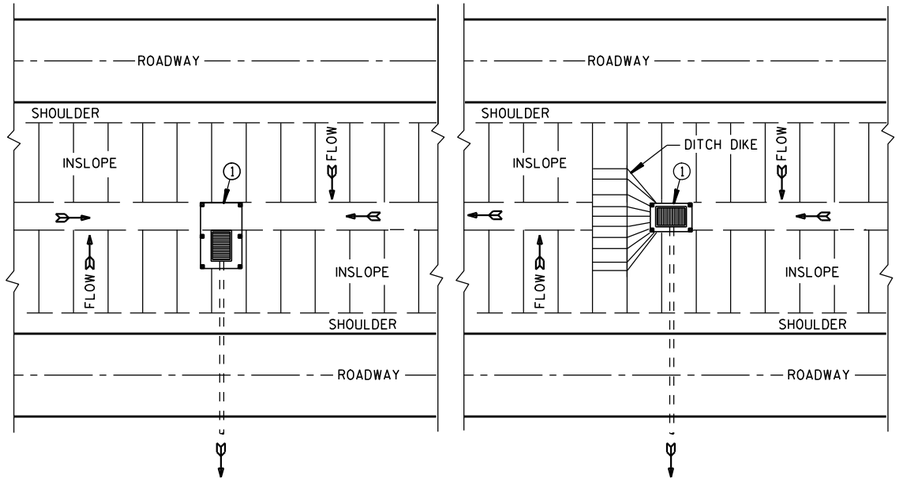
Standard Detail Drawing List

08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



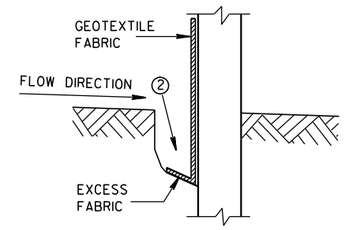
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

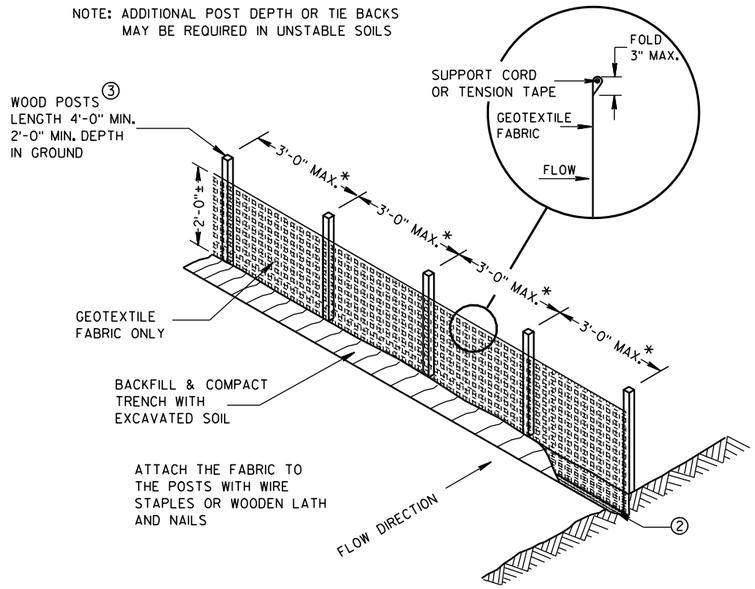
GENERAL NOTES

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

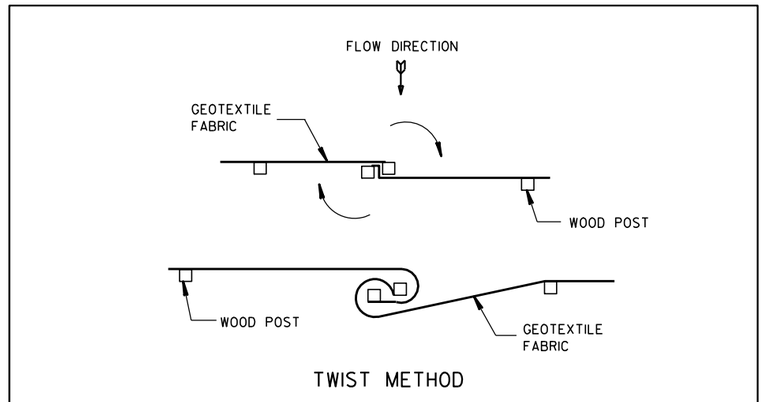
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



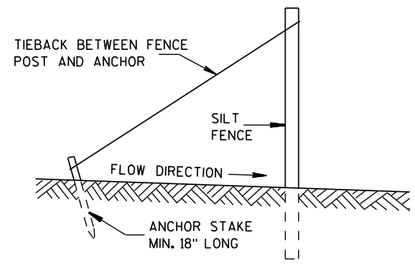
TRENCH DETAIL



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

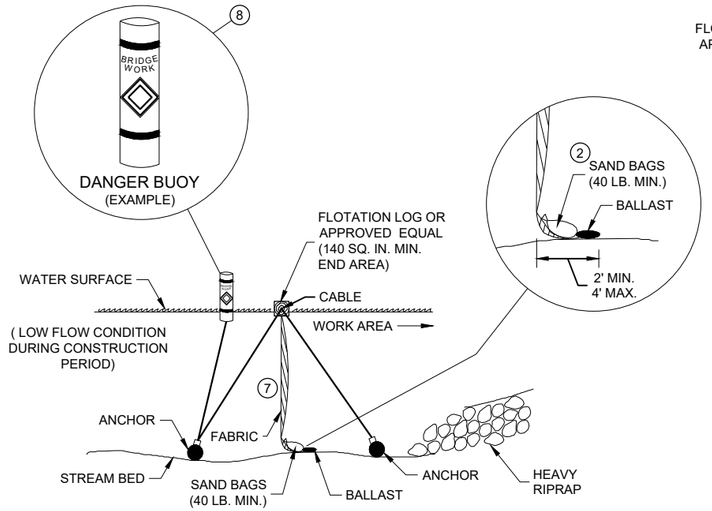
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

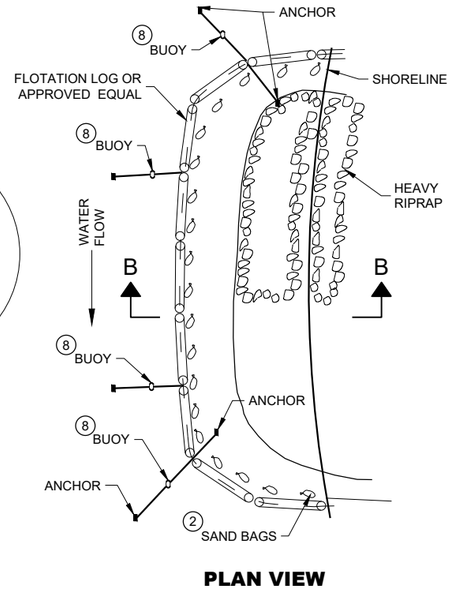
S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

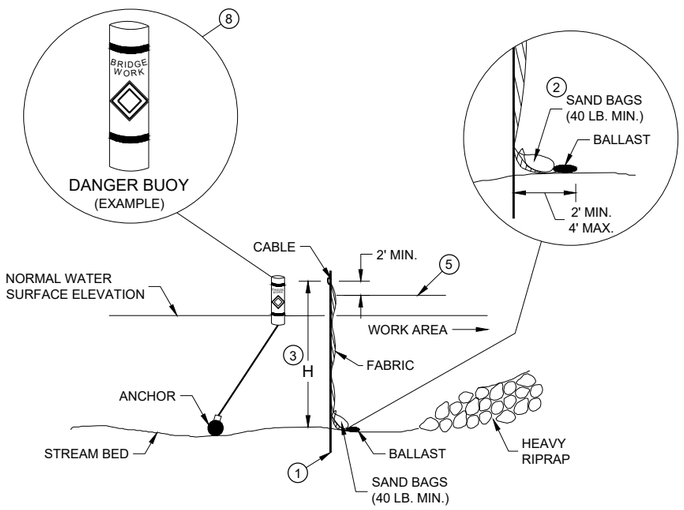


SECTION B - B

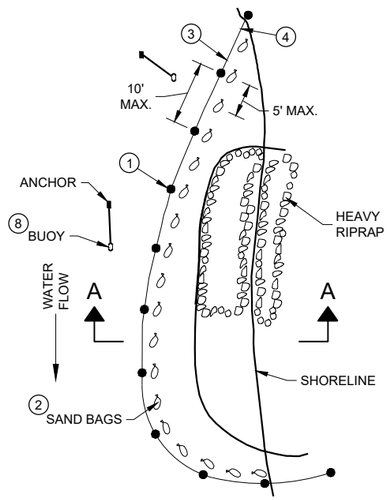


PLAN VIEW

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.

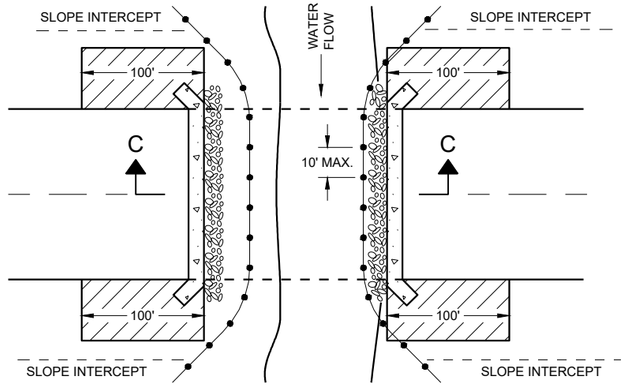
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(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.

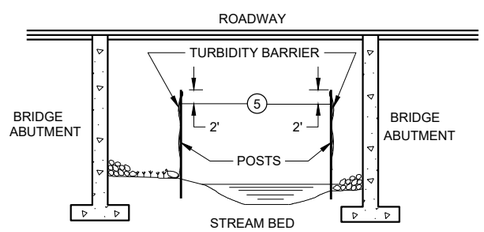
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(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

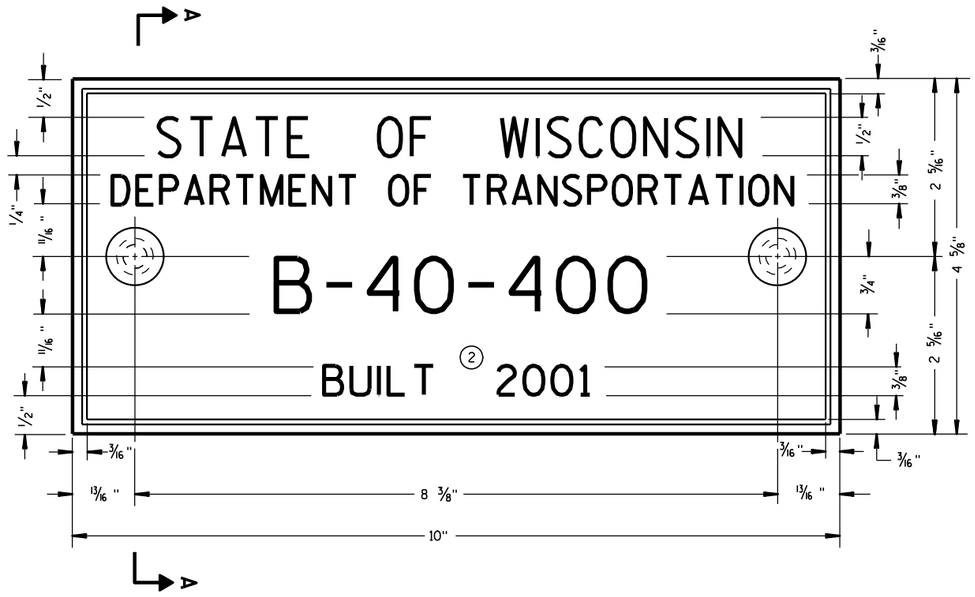
TURBIDITY BARRIER

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

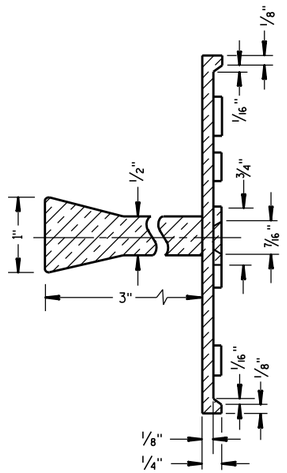
GENERAL NOTES

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.

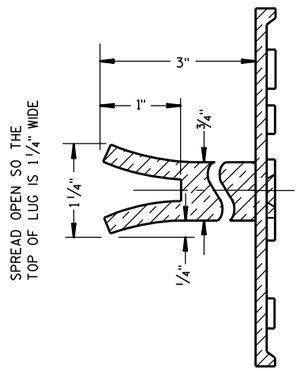
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

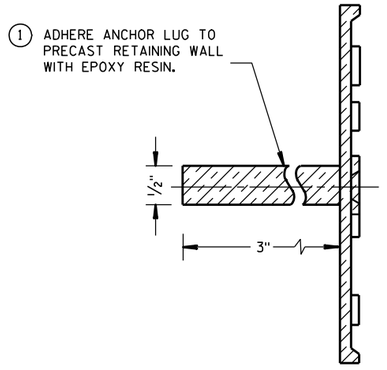
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

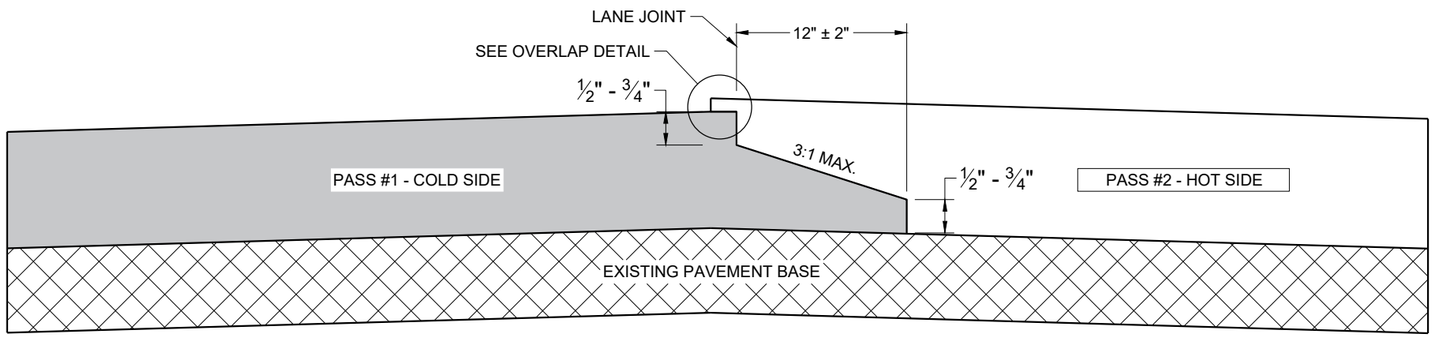
3/26/10 DATE

/S/ Scot Beck CHIEF STRUCTURAL DEVELOPMENT ENGINEER

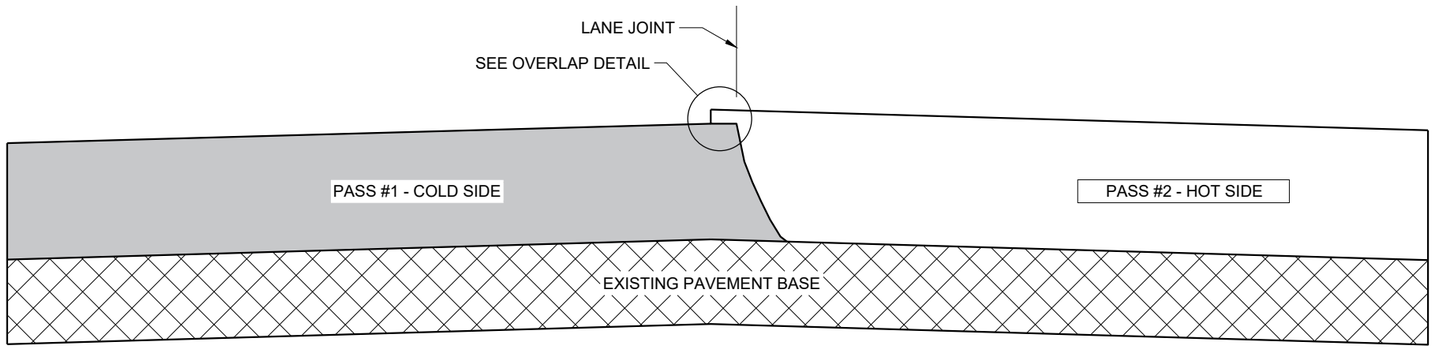
FHWA

6

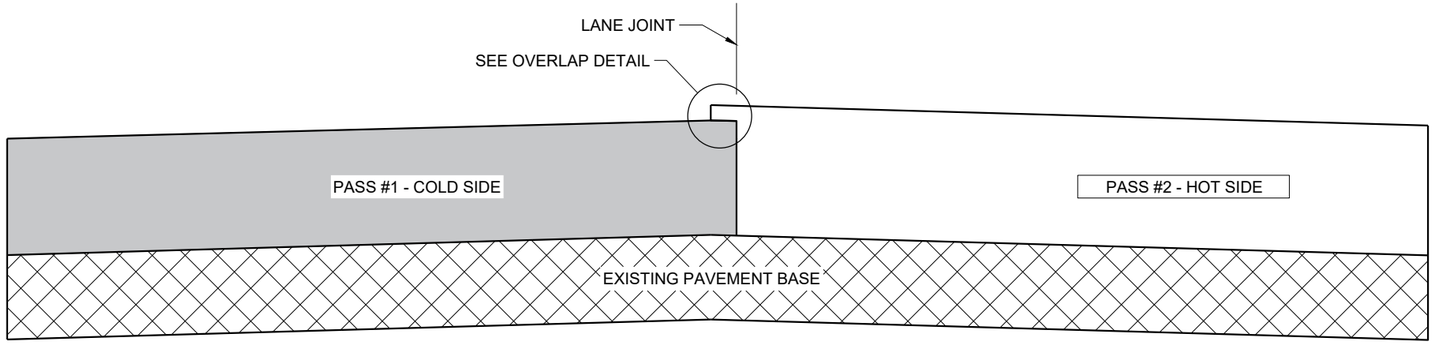
S.D.D. 12 A 3-10



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

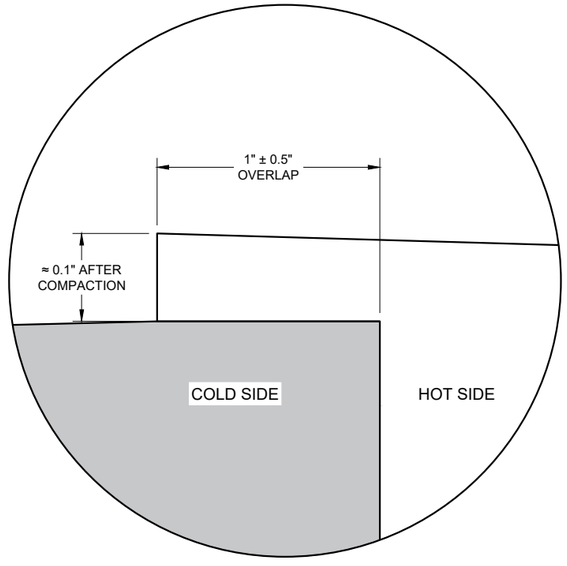
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

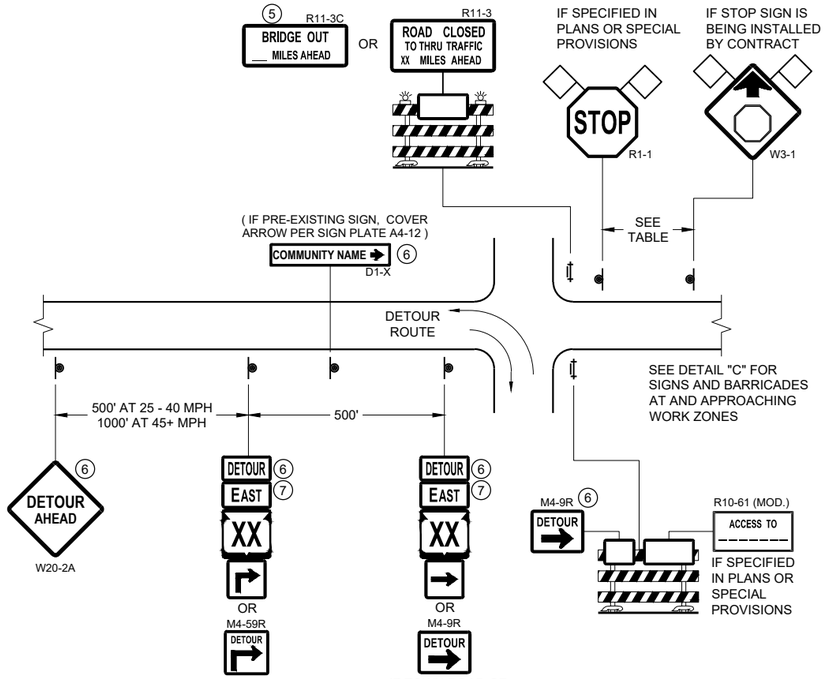
HMA LONGITUDINAL JOINTS

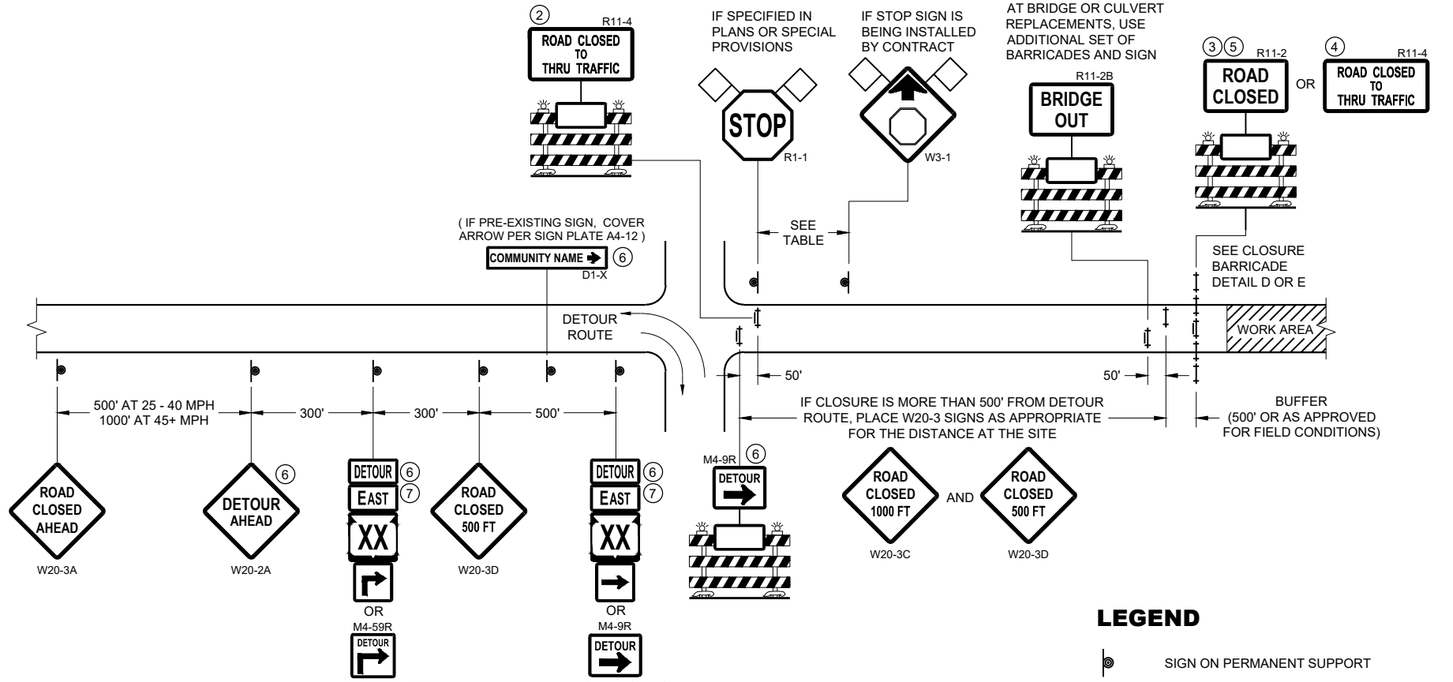
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA



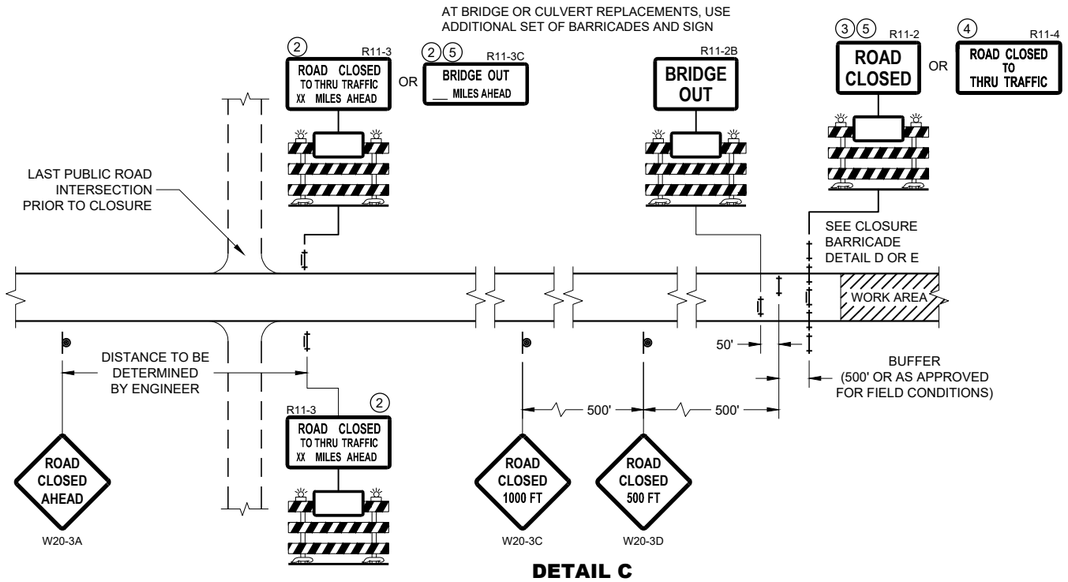


DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

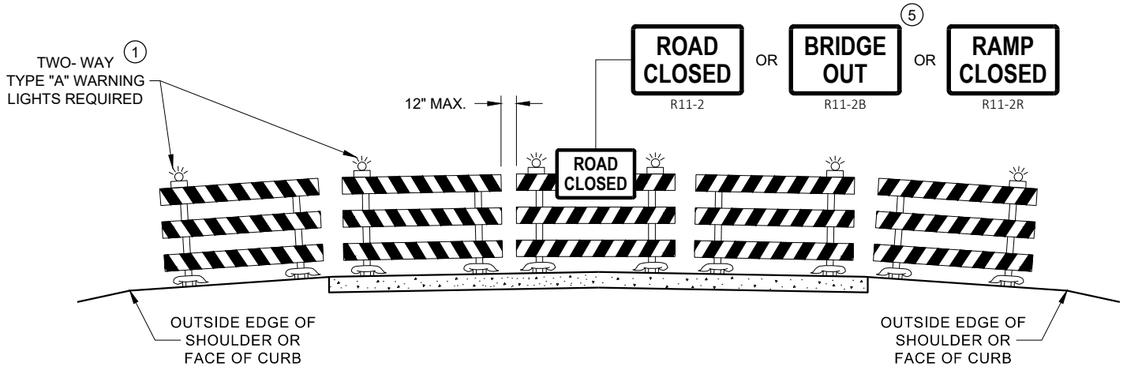
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

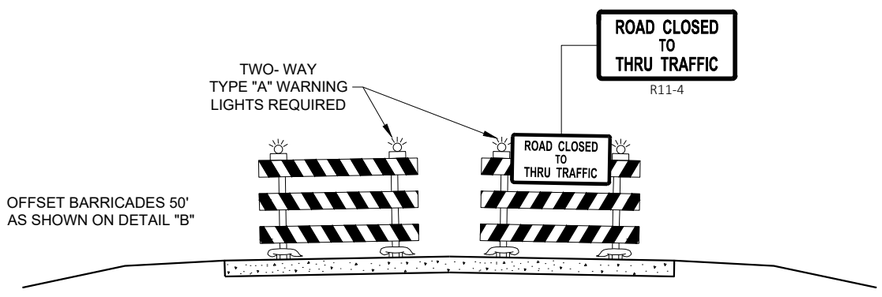
FHWA

6

SDD 15C02 - 09a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

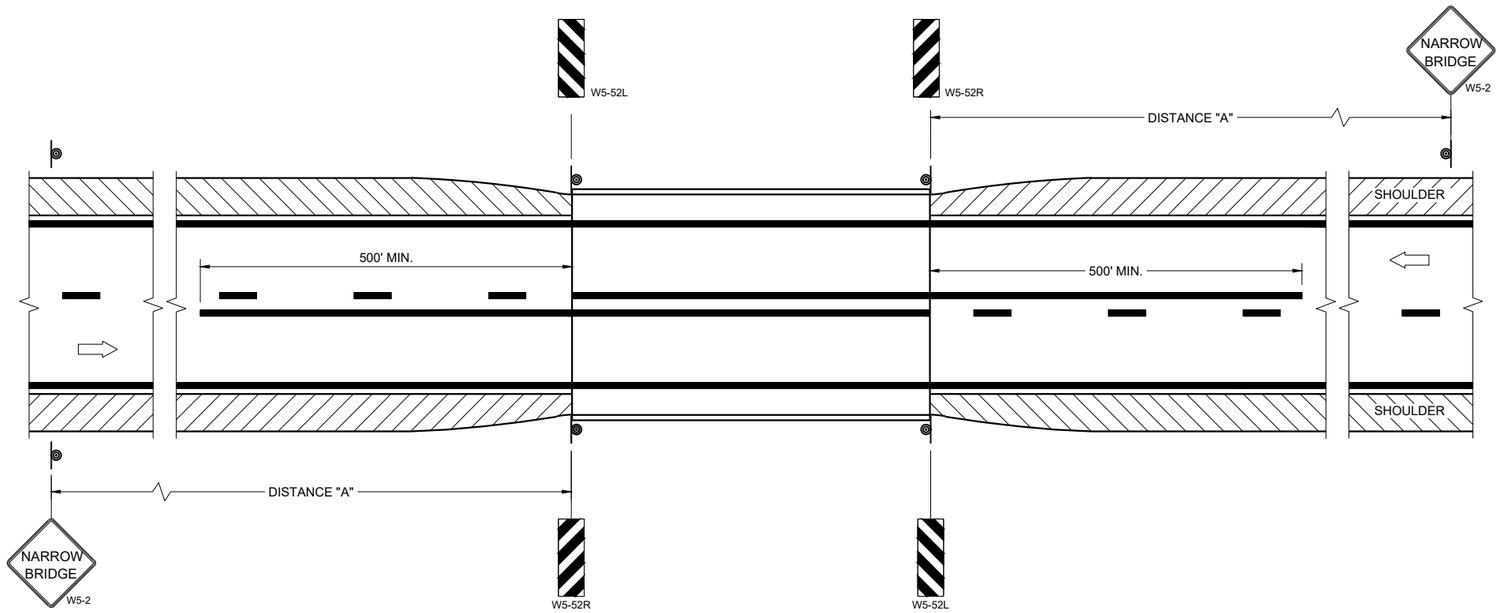
APPROVED
May 2023 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEE
FHWA

6

SDD 15C02 - 09b

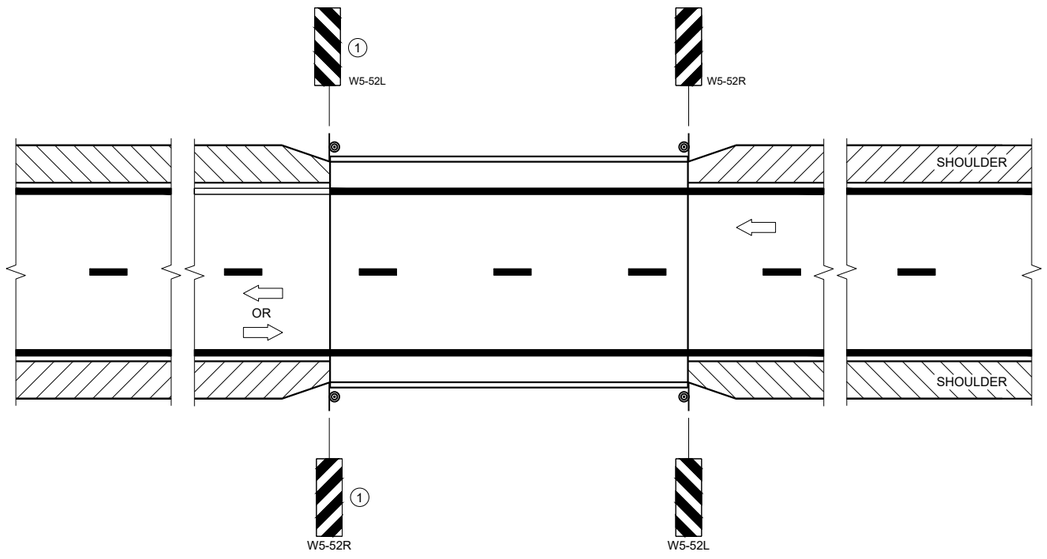
6

SDD 15C02 - 09b



SITUATION 1

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



SITUATION 2

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

GENERAL NOTES

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

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

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

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

(1) OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

DISTANCE TABLE

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

SIGNING AND MARKING FOR TWO LANE BRIDGES

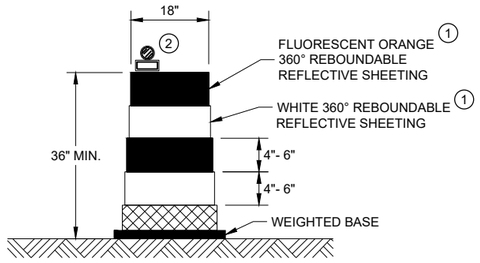
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
SDD 15C06-12

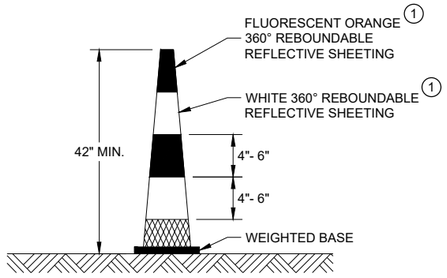
GENERAL NOTES

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



DRUM

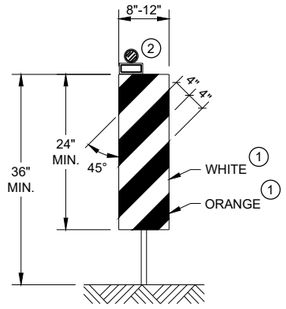
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

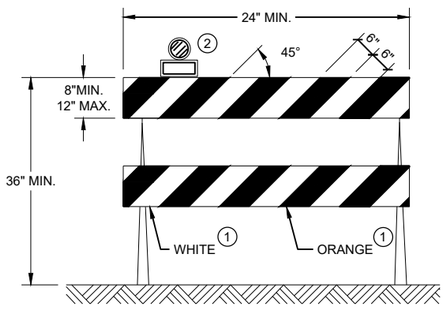
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



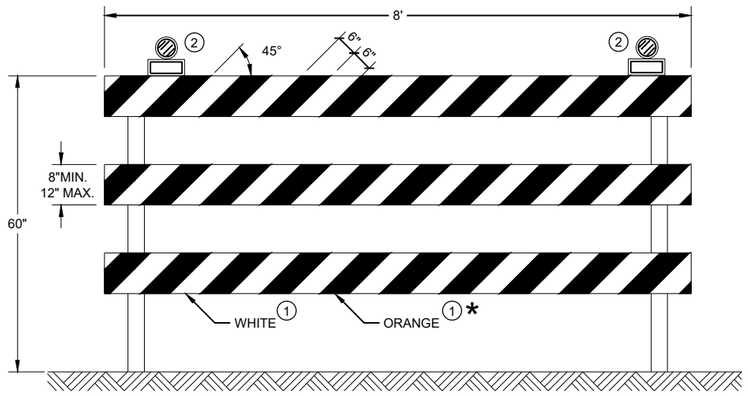
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

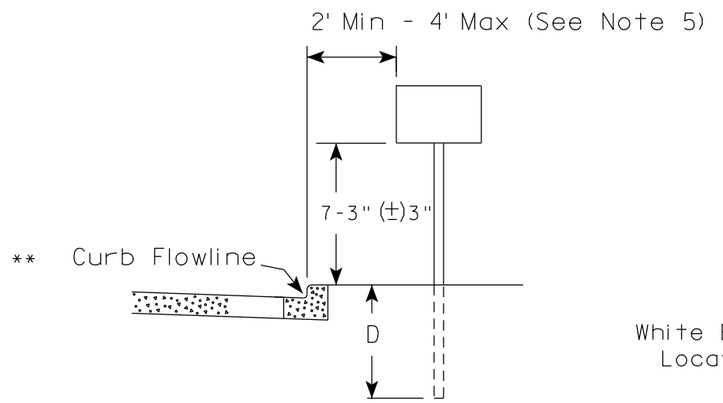
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

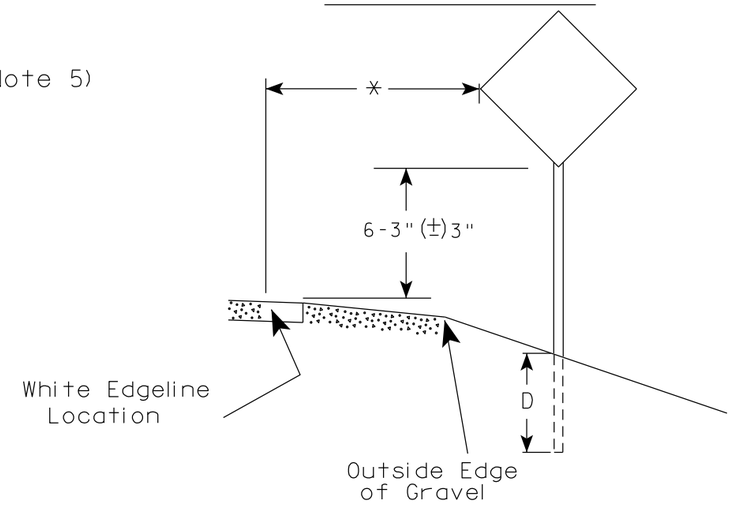
6

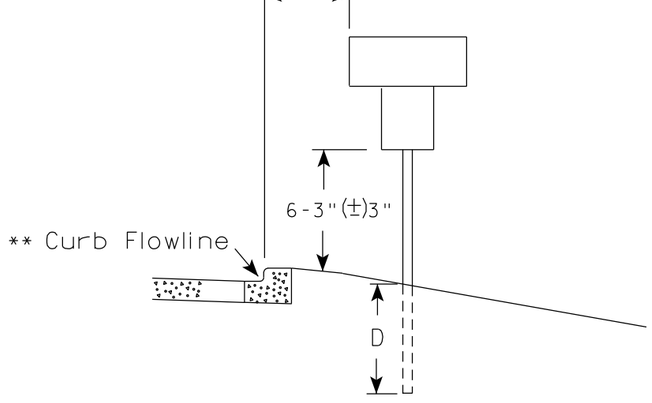
SDD 15C11 - 10b
SDD 15C11 - 10b

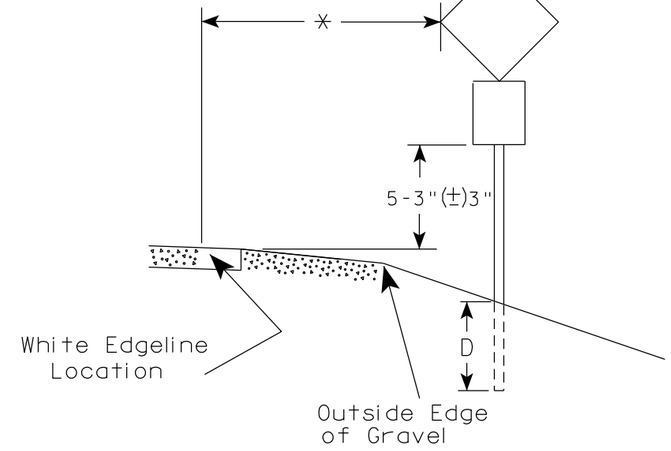
URBAN AREA



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.

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.

POST EMBEDMENT DEPTH

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

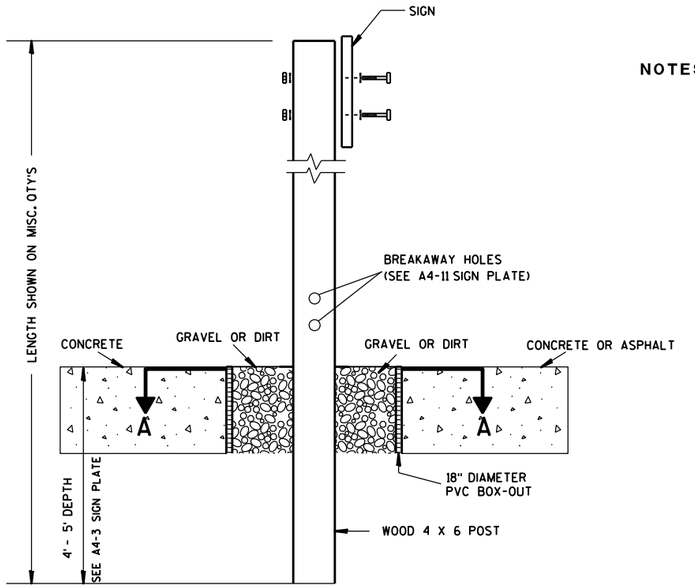
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

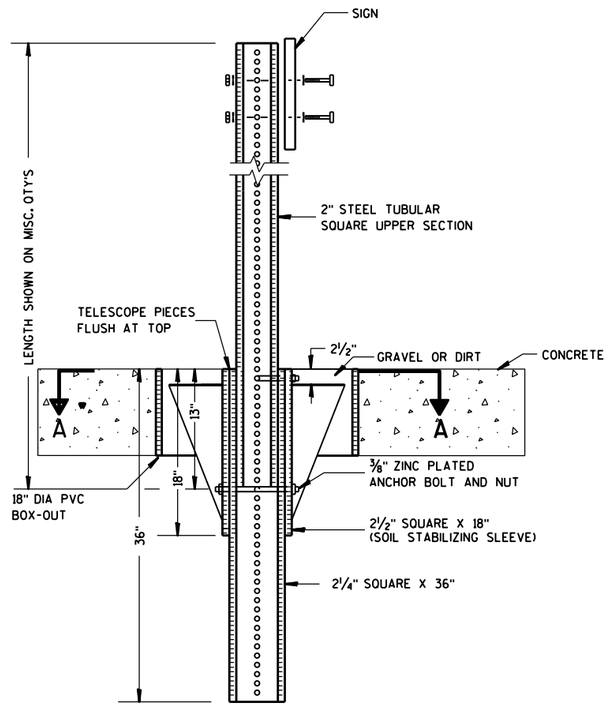
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 20	E



ELEVATION VIEW

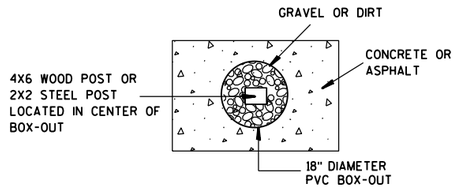
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

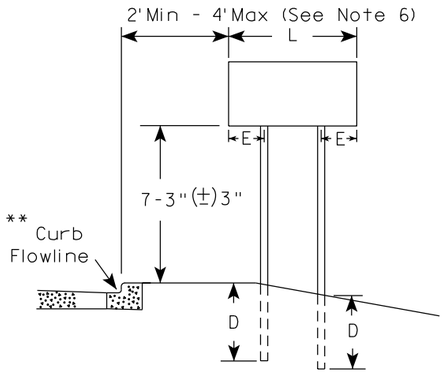
WISCONSIN DEPT OF TRANSPORTATION

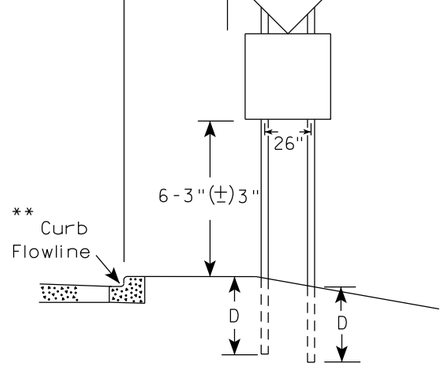
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

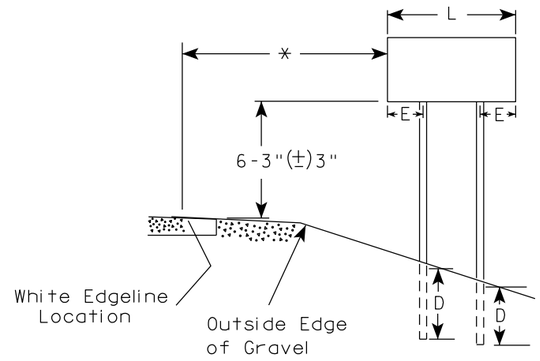
URBAN AREA

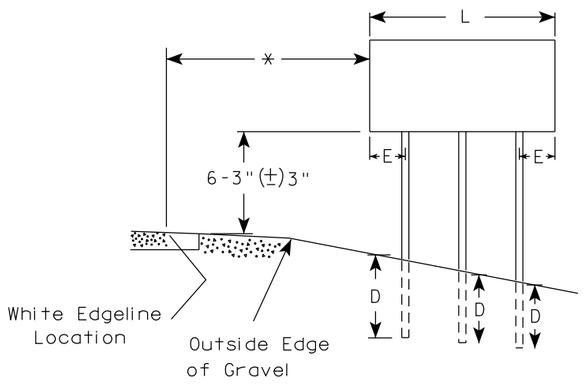


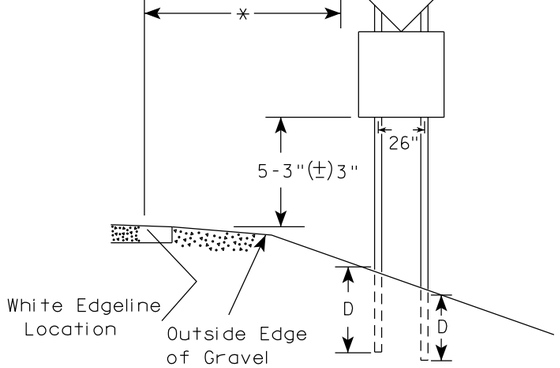


48" DIAMOND WARNING SIGN

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'

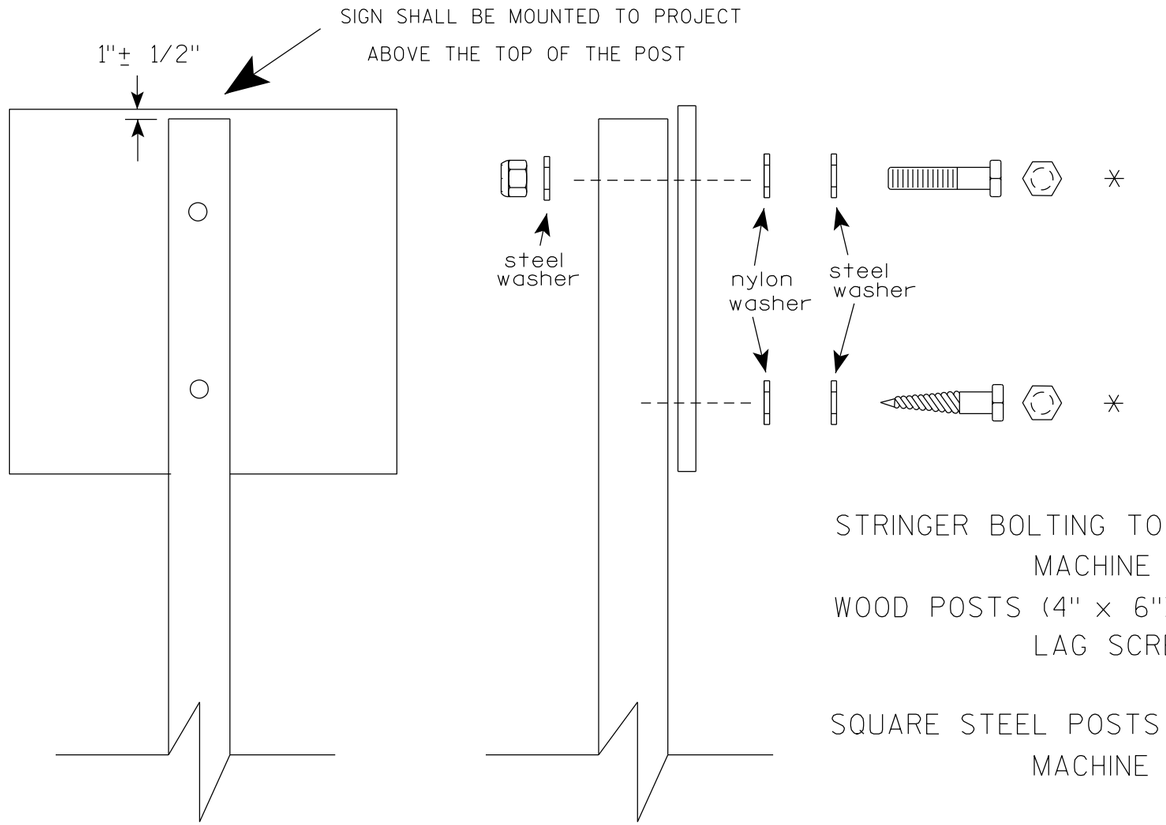
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

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: 22	E



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

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

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

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

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

ATTACHMENT OF SIGNS TO POSTS

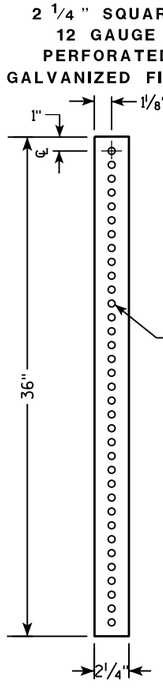
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

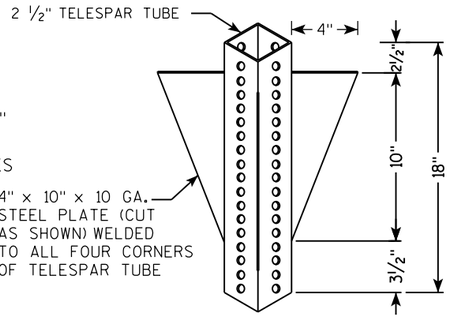
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

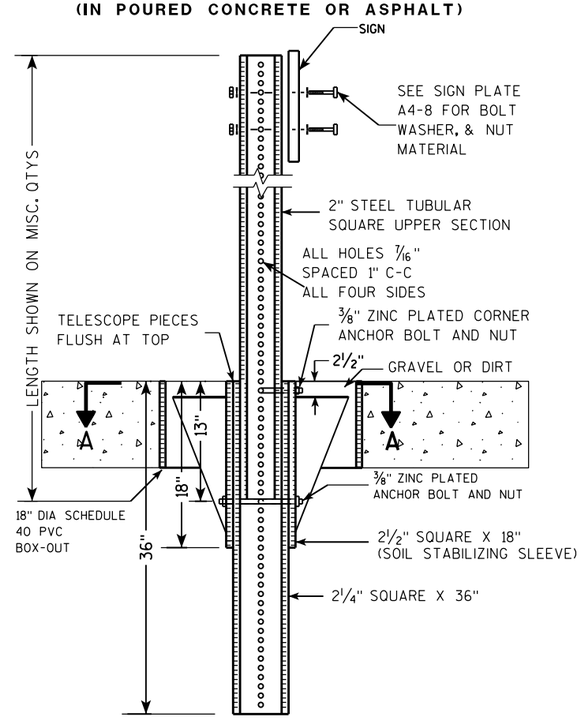
2 ¼ " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



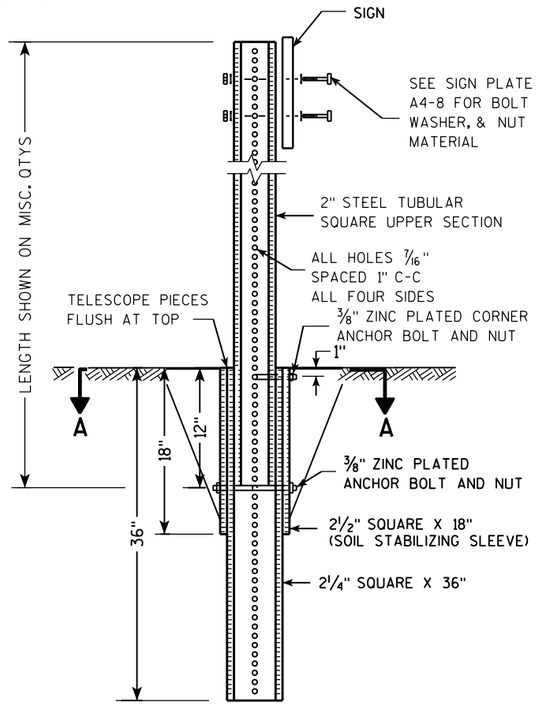
2 ½ " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

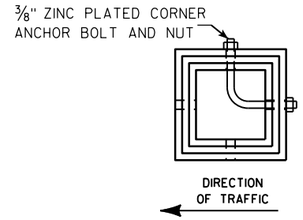


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

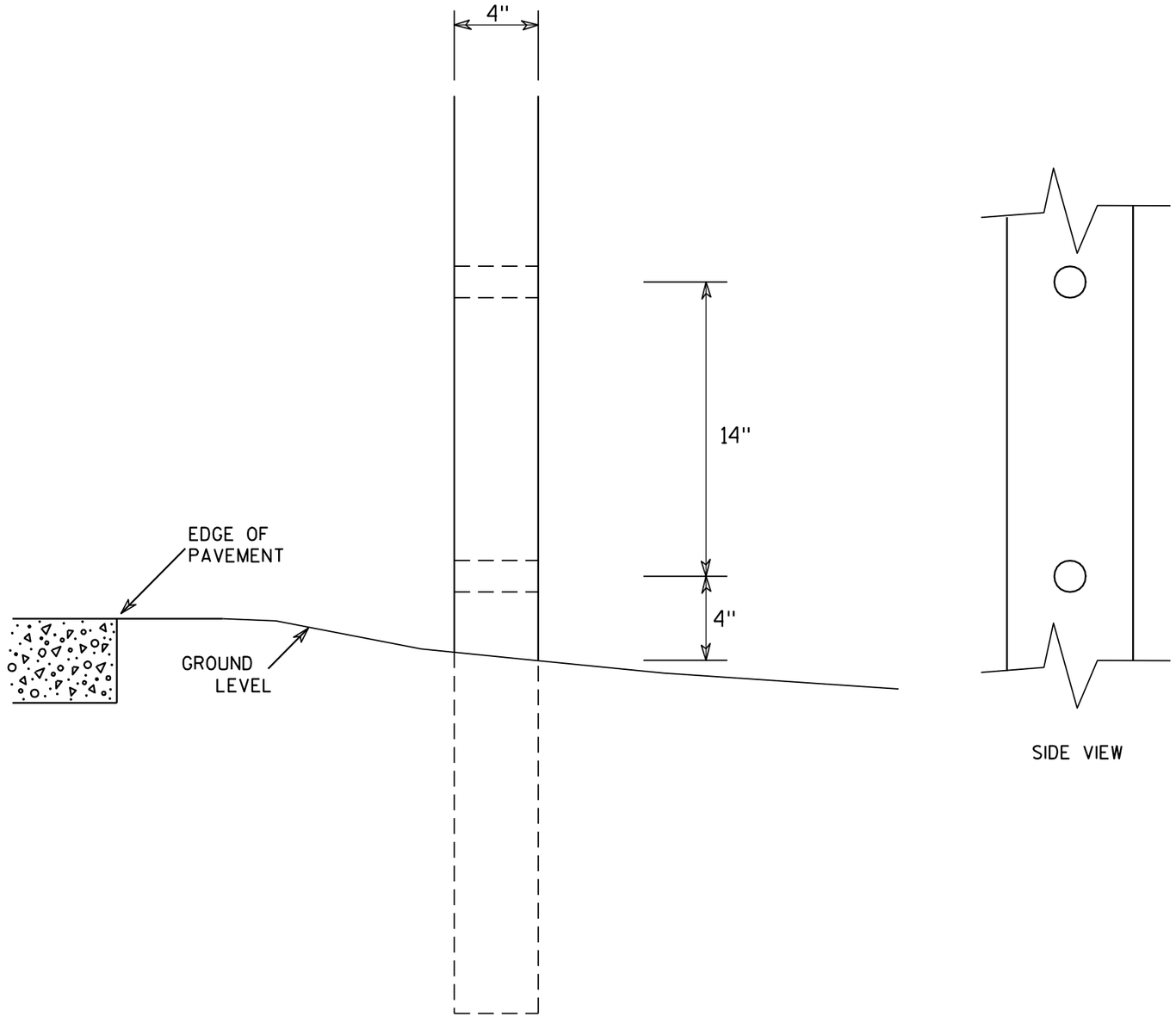
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

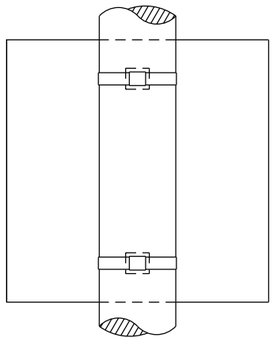
APPROVED Chester J Spang
for State Traffic Engineer

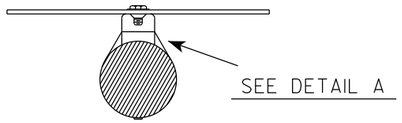
DATE 3/27/97 PLATE NO. A4-11.2

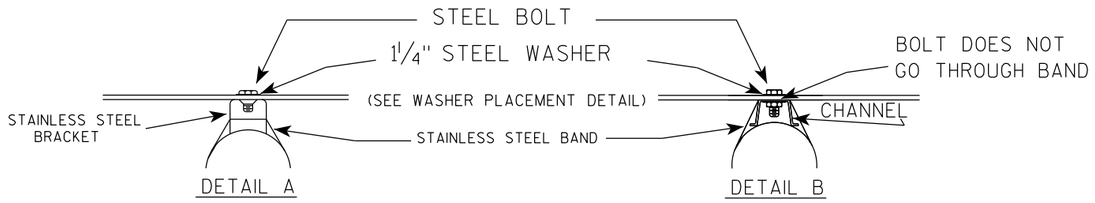
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 25	E

BANDING

SINGLE SIGN



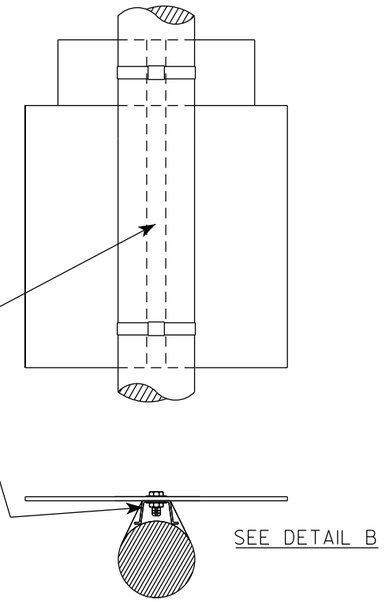




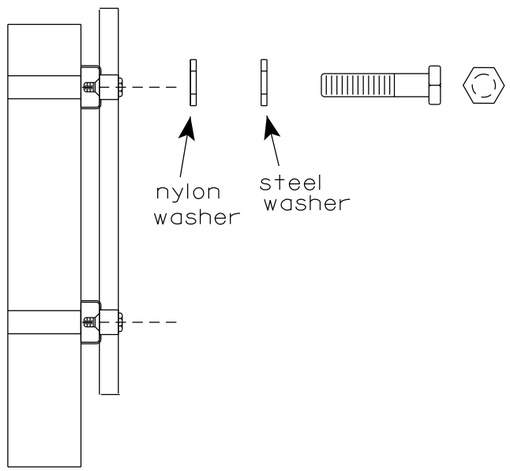
GENERAL NOTES

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

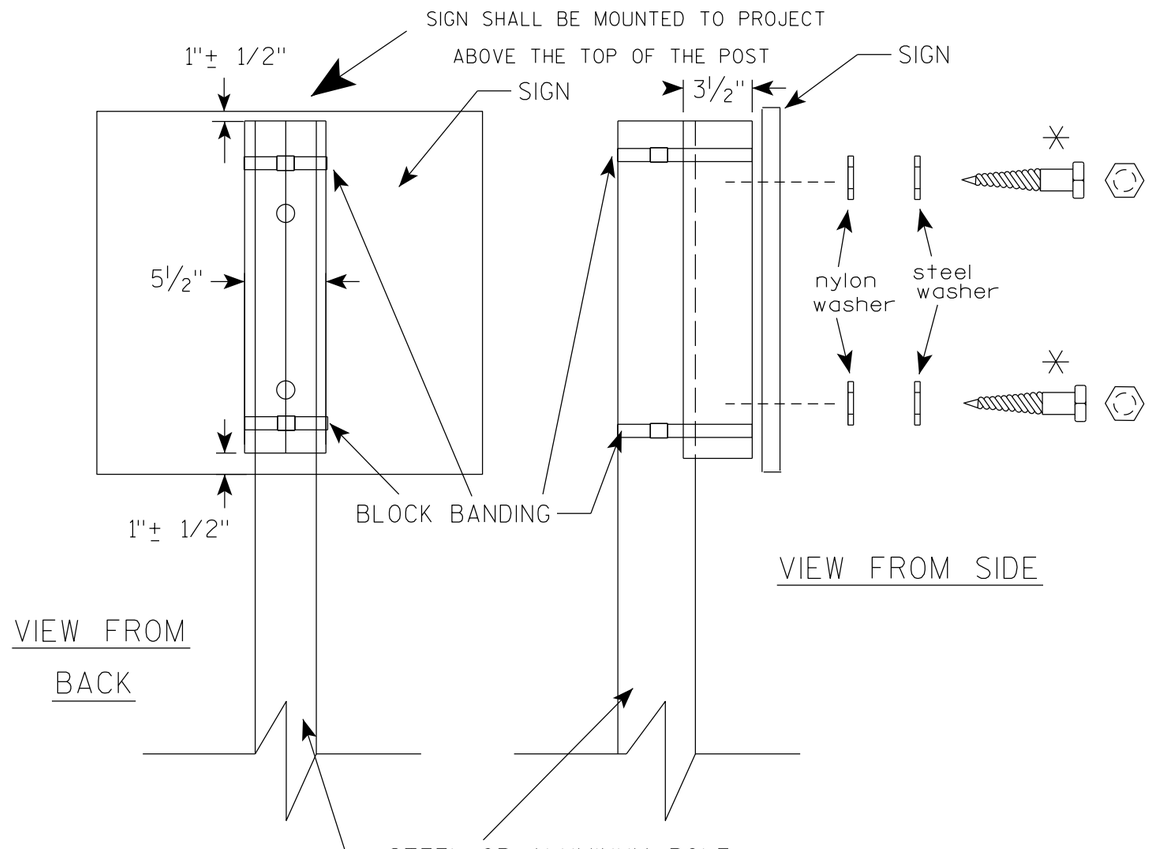
DATE 6/10/19 PLATE NO. A5-9.4

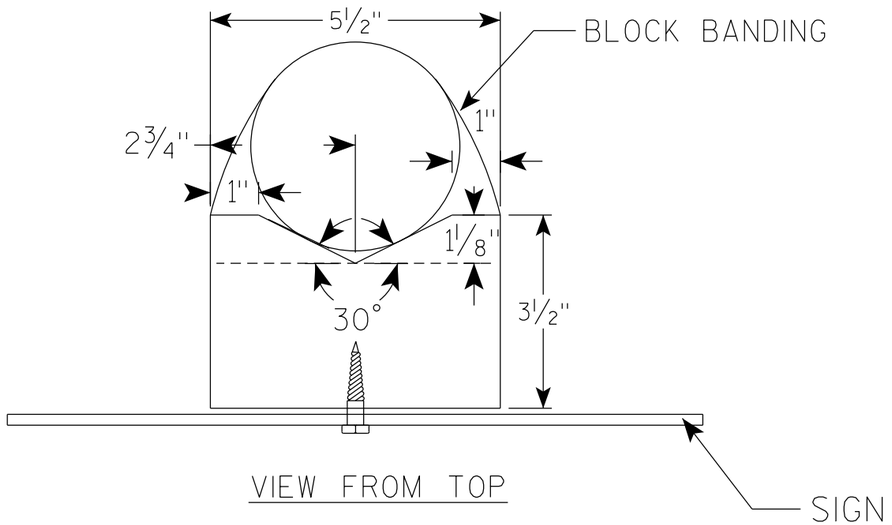
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 26	E

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

7

7





GENERAL NOTES

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

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

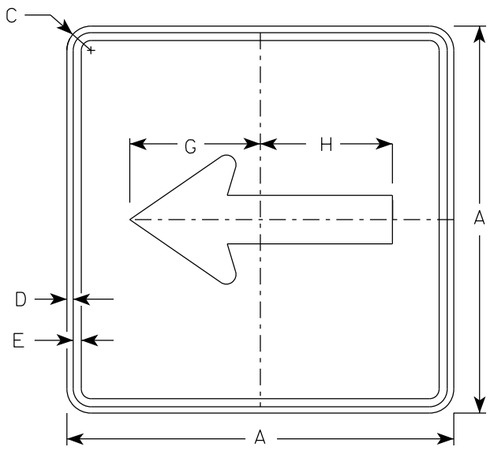
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

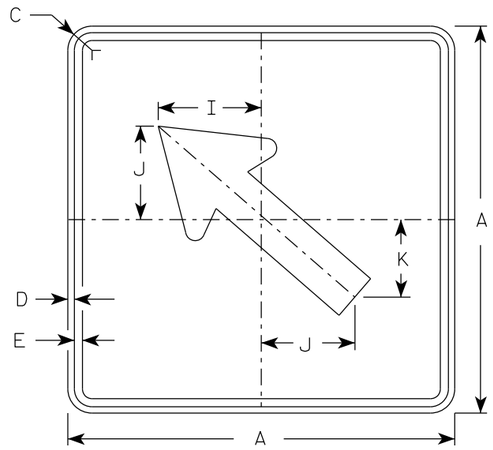
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

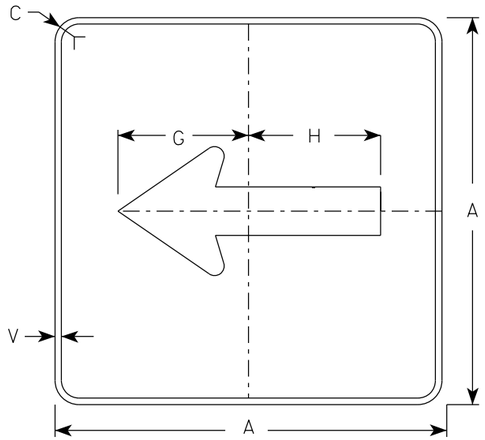
SHEET NO: 27 E



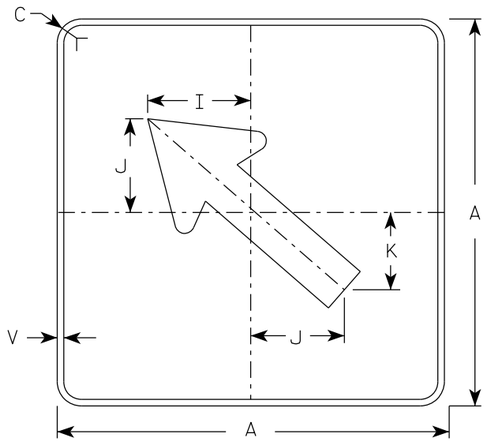
M6-1
MM6-1
MO6-1
MP6-1



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



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

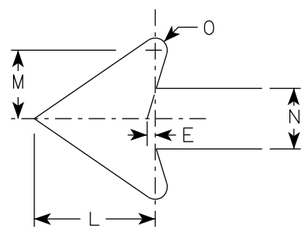


MB6-2
MK6-2
MN6-2
MR6-2

NOTES

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

ARROW DETAIL



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

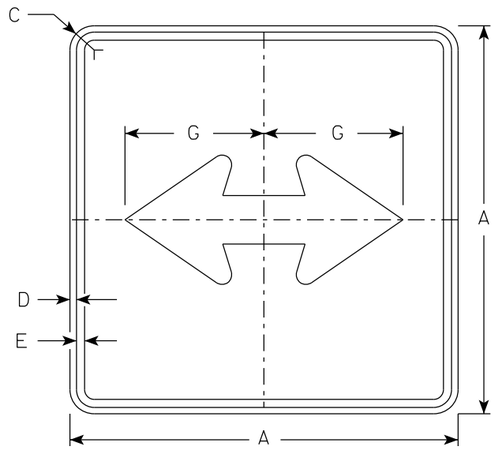
STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

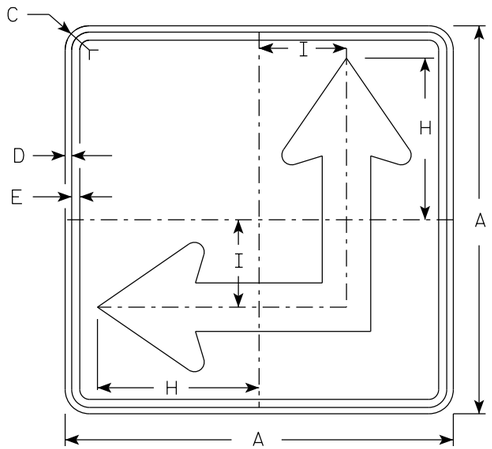
APPROVED Matthew R Rauch
For State Traffic Engineer

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

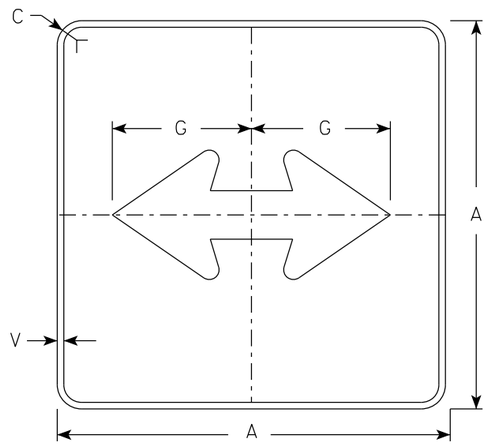
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 28 | E



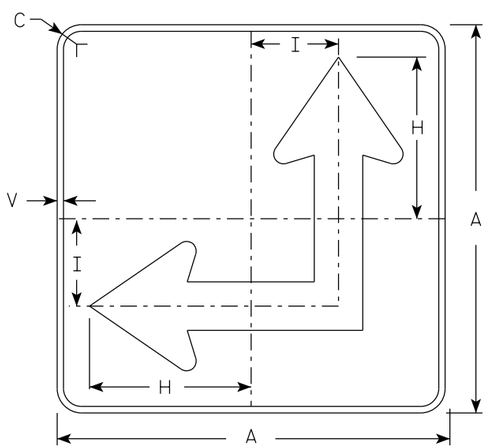
M6-4
MM6-4
MO6-4
MP6-4



M6-6
MM6-6
MO6-6
MP6-6



MB6-4
MK6-4
MN6-4
MR6-4

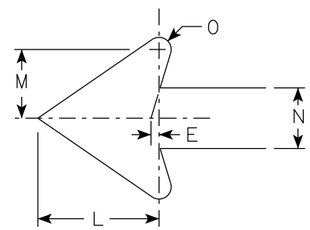


MB6-6
MK6-6
MN6-6
MR6-6

NOTES

1. Signs are Type II - Type H Reflective except as Shown
2. Color:
   Background - See Note 4
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-4 and M6-6 Background - White
   Message - Black
   MB6-4 and MB6-6 Background - Blue
   Message - White
   MK6-4 and MK6-6 Background - Green
   Message - White
   MM6-4 and MM6-6 Background - White
   Message - Green
   MN6-4 and MN6-6 Background - Brown
   Message - White
   MO6-4 and MO6-6 Background - Orange - Type F Reflective
   Message - Black
   MP6-4 and MP6-6 Background - White
   Message - Blue
   MR6-4 and MR6-6 Background - Brown
   Message - Yellow
5. M6-6R same as M6-6L except arrow points ahead and right.

ARROW DETAIL



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2							1/2					3.06
2M	21		1 1/2	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2							1/2					3.06
3	30		1 7/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
4	30		1 7/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
5	30		1 7/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4							1/2					6.25

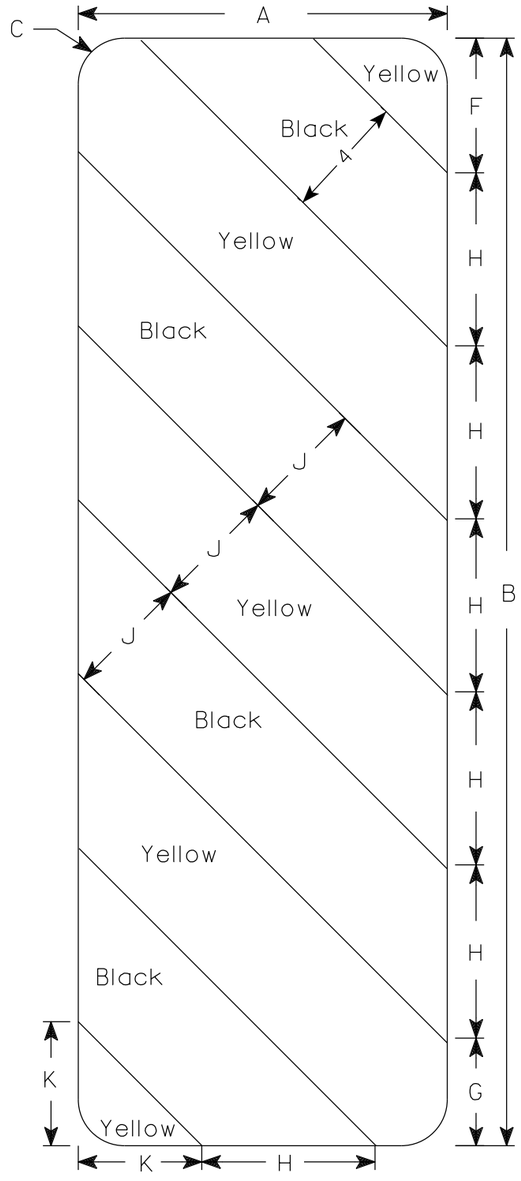
STANDARD SIGN
M6-4 & M6-6
SERIES

WISCONSIN DEPT OF TRANSPORTATION

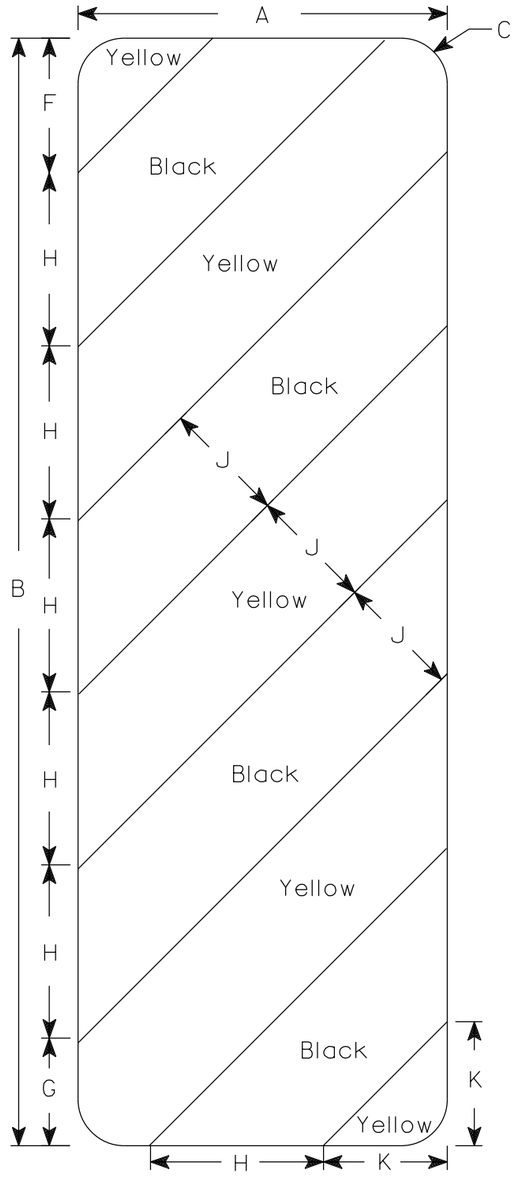
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M6-4.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 29 | 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: 30 E

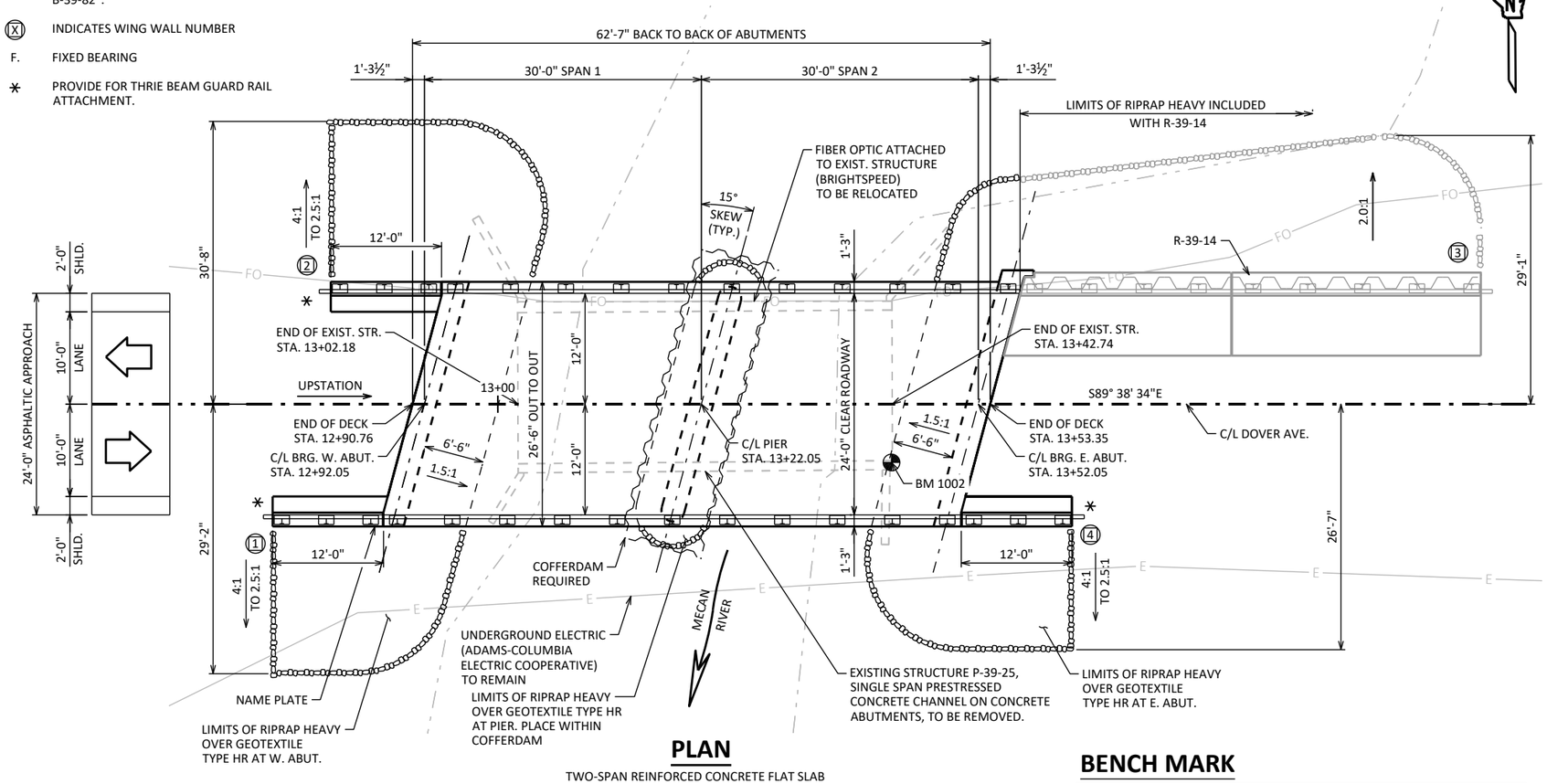
LEGEND

COST OF EXCAVATION SHALL BE INCLUDED IN BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-39-82".

(X) INDICATES WING WALL NUMBER

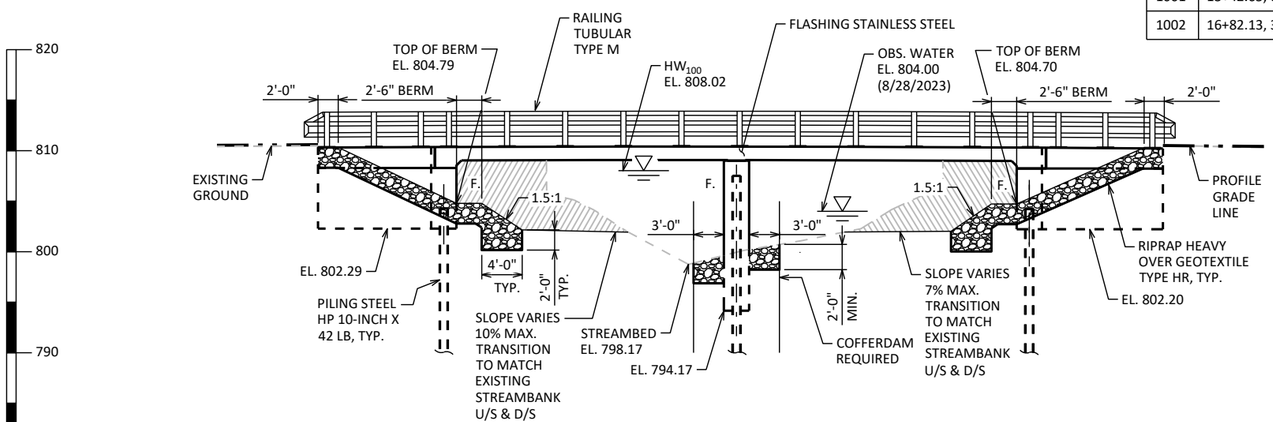
F. FIXED BEARING

* PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT.



PLAN

TWO-SPAN REINFORCED CONCRETE FLAT SLAB



ELEVATION

LOOKING NORTH AT DOWNSTREAM FACE (NORMAL TO MECAN RIVER)

BENCH MARK

NO.	STATION/OFFSET	DESCRIPTION	ELEV.
1000	11+33.23, 35.67' RT.	RR SPIKE IN 10" POPLAR TREE	809.68
1001	13+42.65, 6.32' RT.	CHIS. SQUARE SE BRIDGE WING	811.14
1002	16+82.13, 34.92' LT.	RR SPIKE IN 10" OAK TREE	810.67

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.28
OPERATING RATING: RF = 1.66
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 240 (KIPS)

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

MATERIAL PROPERTIES:

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

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

FOUNDATION DATA

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

ESTIMATED 70-'0" LONG AT WEST ABUTMENT.
ESTIMATED 80-'0" LONG AT EAST ABUTMENT.

PIER TO BE SUPPORTED ON HP 10-INCH X 42 LB STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.

ESTIMATED 80-'0" 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 PILE CAPACITY.

HYDRAULIC DATA

100-YEAR FREQUENCY:

Q_{100}= 1,060 C.F.S.
V_{100}= 3.33 F.P.S.
HW_{100}= EL. 808.02
WATERWAY AREA = 318 SQ. FT.
DRAINAGE AREA = 99.3 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 5

2-YEAR FREQUENCY:

Q_2= 480 C.F.S.
V_2= 2.38 F.P.S.
HW_2= EL. 806.41

TRAFFIC DATA

FEATURE ON: DOVER AVE.

ADT = 80 (2025)
ADT = 85 (2045)
R.D.S. = 45 MPH

LIST OF DRAWINGS

WISCONSIN PROFESSIONAL ENGINEER
VINCENT J. DIFRANCES
E-45790
MILWAUKEE
WI
10/16/2024

STRUCTURE DESIGN CONTACTS:
VINCENT DIFRANCES 262-573-3864
AARON BONK 608-261-0261

NO.	DATE	REVISION	BY

jt ENGINEERING REAL. TRUSTED. PROVEN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORATION

ACCEPTED SDR 11/12/24
CHIEF STRUCTURES DESIGN ENGINEER DATE

STATE PROJECT NUMBER
6739-00-70

STRUCTURE B-39-82

DOVER AVE. OVER MECAN RIVER

COUNTY	TOWN
MARQUETTE	CRYSTAL LAKE

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
VJD	CJM	VJD	CJM

GENERAL PLAN AND ELEVATION

SHEET 1 OF 13
31

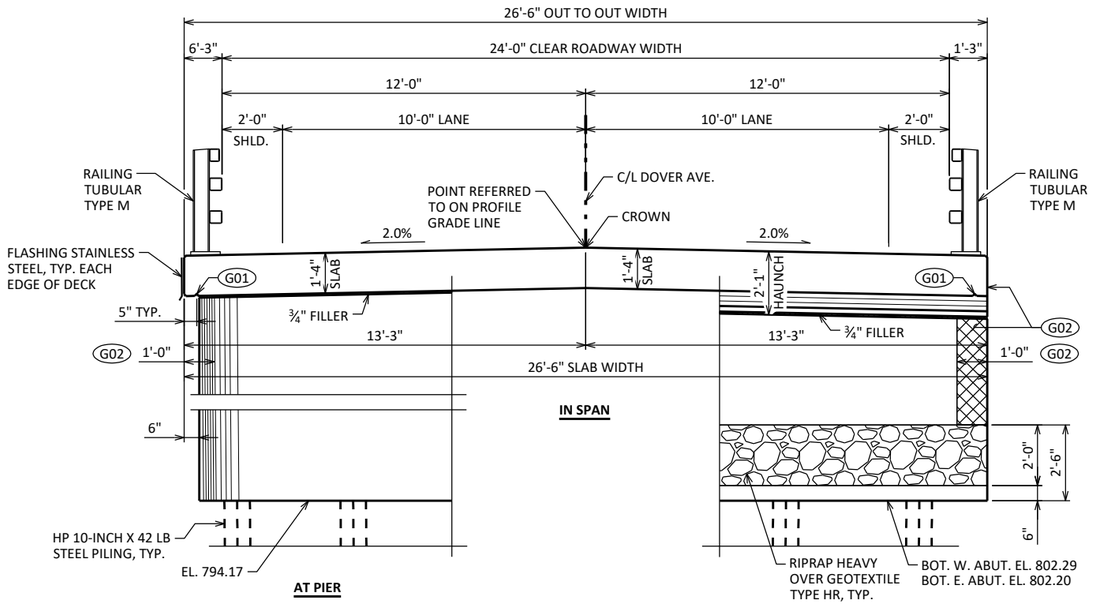
SCALE = N.T.S.

I.D. 6739-00-00 DATE: 10/16/2024

8 8

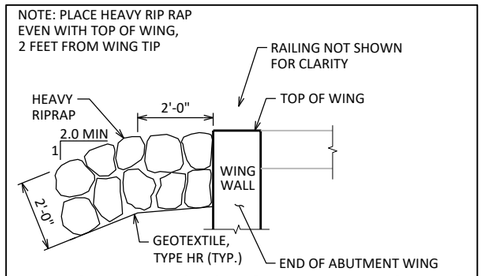
STATE PROJECT NUMBER

6739-00-70



TYPICAL SECTION THRU BRIDGE

LOOKING NORTH
DIMENSIONS SHOWN ARE NORMAL TO C/L DOVER AVE.



TYPICAL FILL SECTION AT WING TIPS

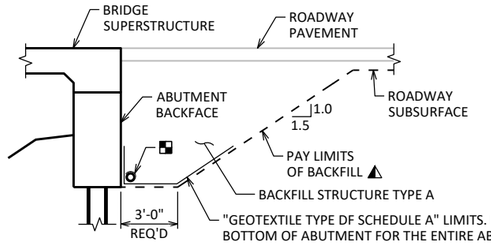
LEGEND

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

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

ABUTMENT BACKFILL DIAGRAM

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



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.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE EXISTING STRUCTURE, P-39-025, IS A SINGLE SPAN PRESTRESSED CONCRETE CHANNEL BRIDGE ORIGINALLY CONSTRUCTED IN 1977. THE SUPERSTRUCTURE IS SUPPORTED ON FULL RETAINING CONCRETE ABUTMENTS WITH UNKNOWN FOUNDATIONS. THE EXISTING BRIDGE HAS AN OVERALL LENGTH OF 40'-7" AND AN OVERALL WIDTH OF 18'-6". EXISTING STRUCTURE P-39-025 IS TO BE REMOVED.

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

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES B-39-82" SHALL BE THE EXISTING GROUNDLINE.

THE EXISTING STREAM BED SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS.

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

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

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

EXCAVATION BELOW THE LIMITS OF THE RIPRAP BERMS MAY BE REQUIRED TO REACH SOUND BEDDING MATERIALS AS DETERMINED BY THE ENGINEER IN THE FIELD. BACKFILL OVER EXCAVATION WITH "BACKFILL STRUCTURE TYPE A" TO BOTTOM OF RIPRAP ELEVATION. COST FOR BACKFILL MATERIAL AND EXCAVATION BELOW THE RIPRAP BERM LIMITS AS SHOWN SHALL BE INCIDENTAL TO THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-39-82".

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

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

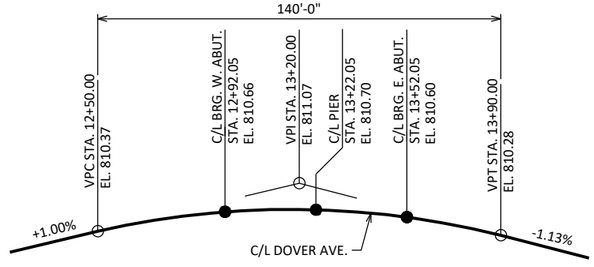
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE "HR" TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

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

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

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

CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF BRIDGE B-39-82 WITH R-39-14.



PROFILE GRADE LINE

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	WEST ABUT.	PIER	EAST ABUT.	TOTALS
203.0250	REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS P-39-25	EACH	-	-	-	-	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-39-82	EACH	-	-	-	-	1
206.5001	COFFERDAMS B-39-82	EACH	-	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	-	122	-	125	247
502.0100	CONCRETE MASONRY BRIDGES	CY	87	36	36	27	186
502.3200	PROTECTIVE SURFACE TREATMENT	SY	220	13	-	9	242
502.9000.S	UNDERWATER SUBSTRUCTURE INSPECTION B-39-82	EACH	-	-	-	-	1
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	-	1,740	1,660	1,640	5,040
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	25,010	1,750	60	960	27,780
513.4061	RAILING TUBULAR TYPE M	LF	126	26	-	13	165
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-	9	-	7	16
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	-	280	480	320	1,080
606.0300	RIPRAP HEAVY	CY	-	76	17	47	140
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	-	85	-	60	145
645.0111	GEOTEXTILE DF SCHEDULE A	SY	-	46	-	39	85
645.0120	GEOTEXTILE TYPE HR	SY	-	154	60	103	317
SPV.0090.01	FLASHING STAINLESS STEEL	LF	126	-	-	-	126
	NON-BID ITEMS						
	PREFORMED JOINT FILLER	SIZE					½" & ¾"
	NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER	SIZE					1"
	NAME PLATE	EACH					1

ALL B-39-82 BID ITEMS ARE CATEGORY 0020

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-39-82

DRAWN BY VJD | PLANS CK'D ZRM

CROSS SECTION, NOTES, AND QUANTITIES

SHEET 2 OF 13
32

SCALE = N.T.S.

8

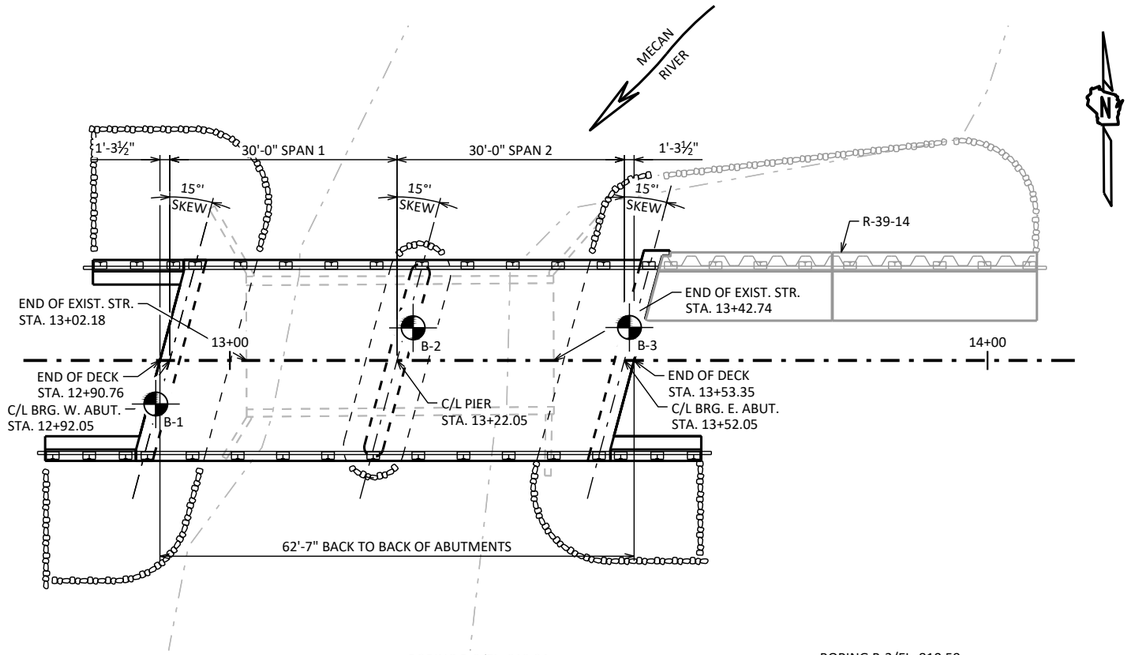
8

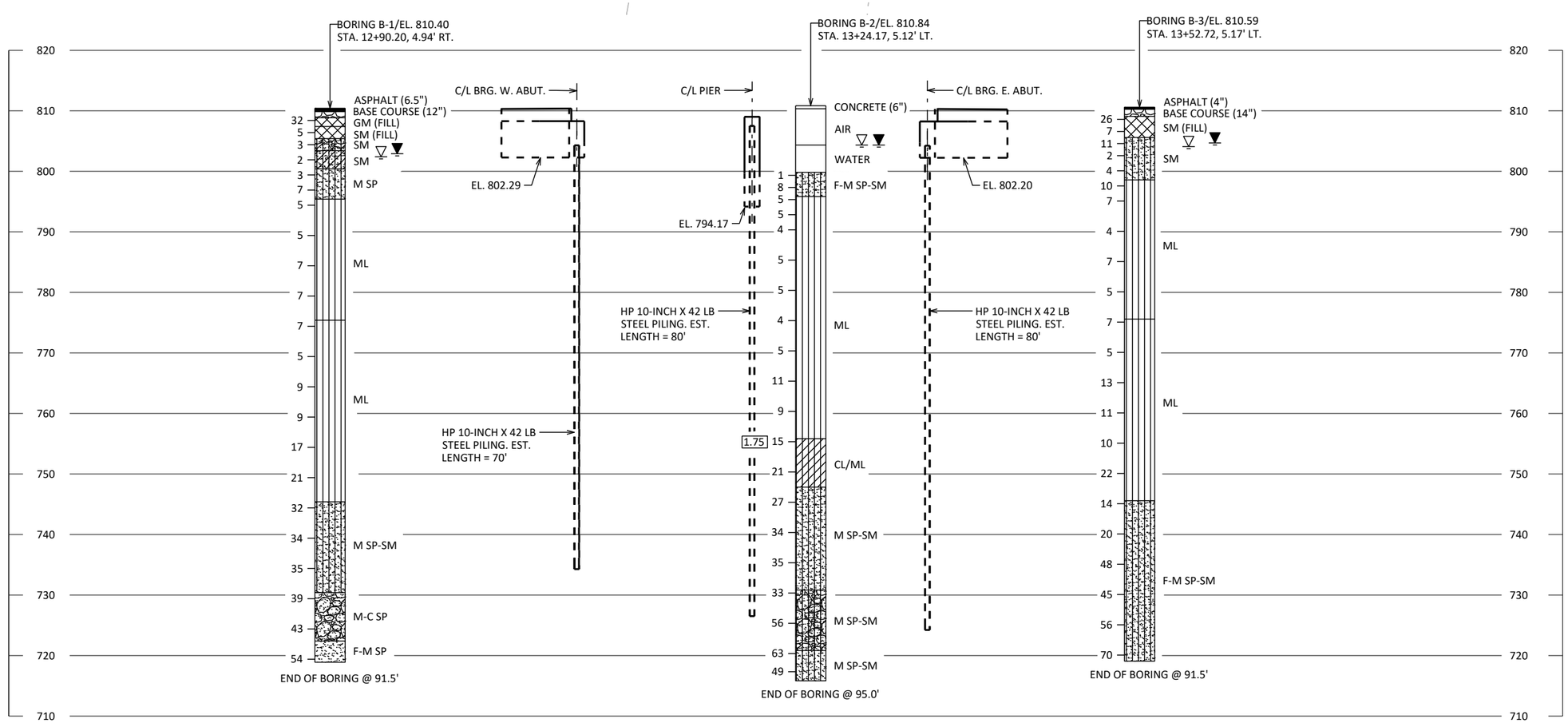
BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	AUGUST 18,2023	307408.8496	474439.8821
2	AUGUST 17, 2023	307418.6944	474473.9074
3	AUGUST 17, 2023	307418.5642	474502.4590
BORINGS COMPLETED BY: ECS MIDWEST, LLC.			
REPORT COMPLETED BY: ECS MIDWEST, LLC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91), MARQUETTE COUNTY			

NOTES

BORING STATIONS AND OFFSETS ARE BASED ON C/L DOVER AVE.

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





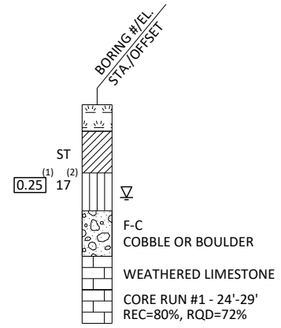
STATE PROJECT NUMBER

6739-00-70

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

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

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-39-82

DRAWN BY VJD | PLANS CK'D ZRM

SUBSURFACE EXPLORATION

SHEET 3 OF 13

33

SCALE = N.T.S.

8

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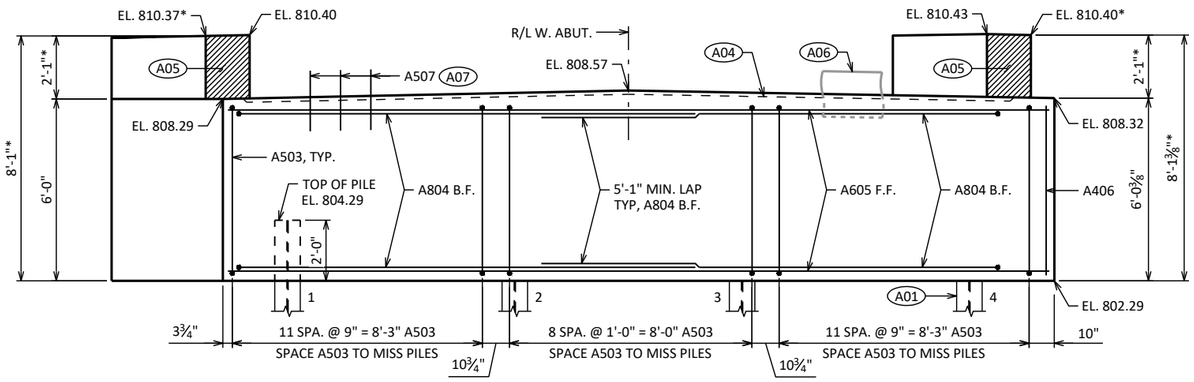
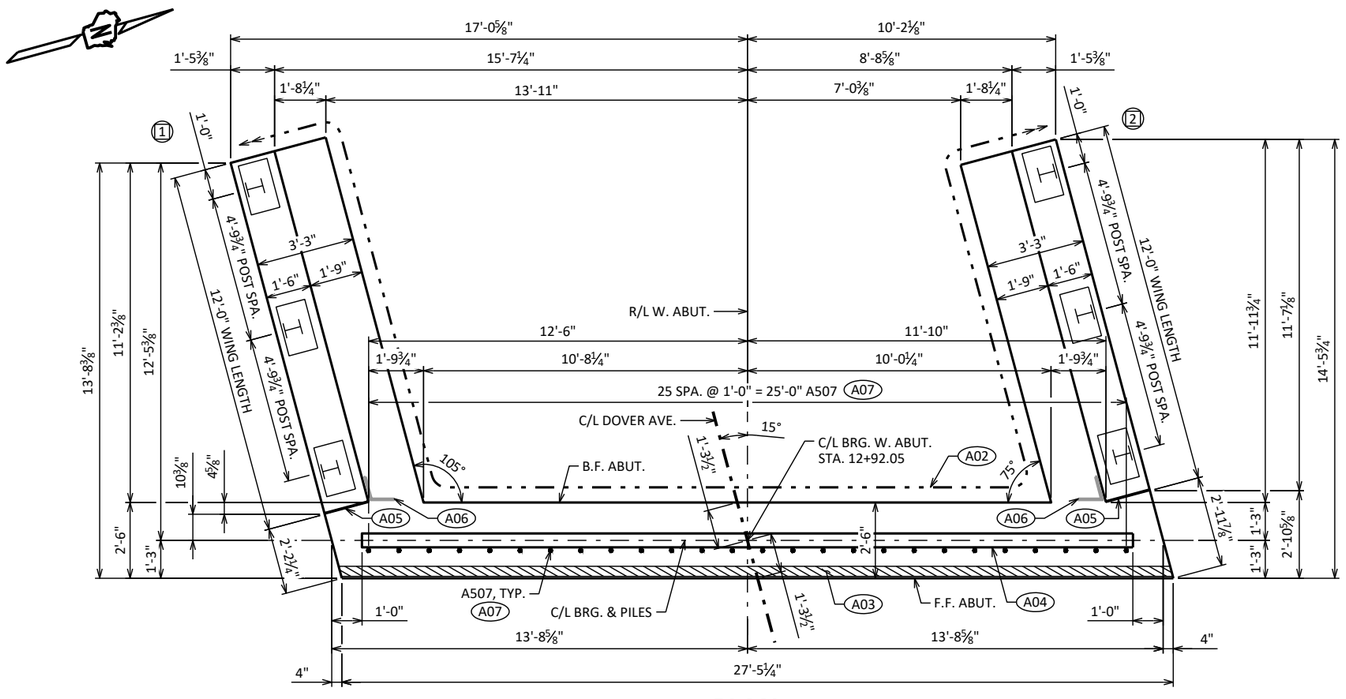
STATE PROJECT NUMBER

6739-00-70

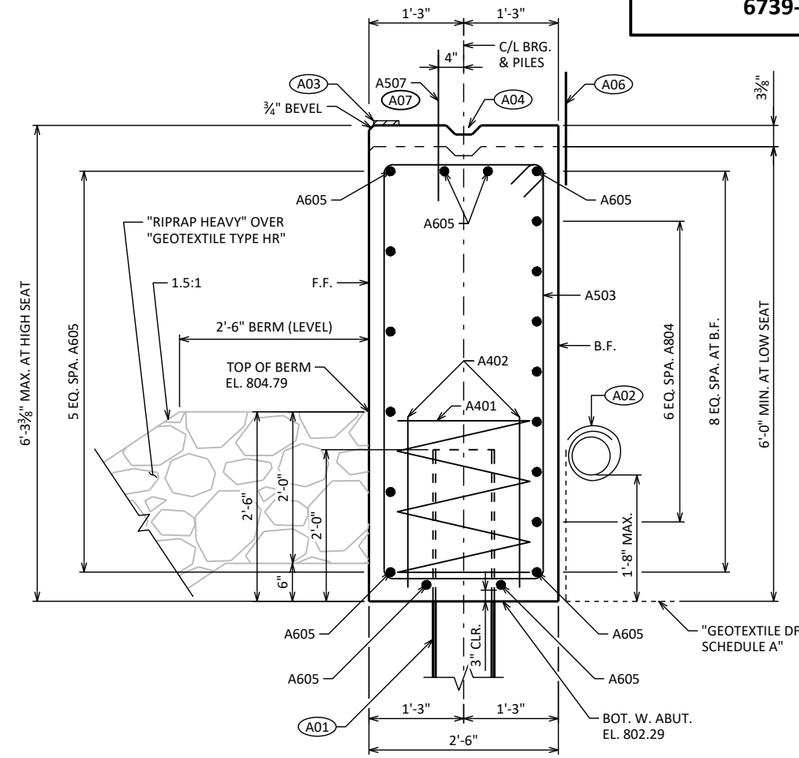


ELEVATION

LOOKING AT FRONT FACE



PLAN



SECTION THRU ABUTMENT

DIMENSIONS ARE NORMAL TO C/L BRG.

LEGEND

- (A01) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 70'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.
- (A02) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. SEE SHEET 2 FOR RODENT SHIELD DETAIL.
- (A03) 4" X ¾" PREFORMED JOINT FILLER, OUT TO OUT OF ABUTMENT.
- (A04) KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".
- (A05) ½" FILLER. EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL. FILLER INCLUDED IN WING LENGTH.
- (A06) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACK FACE.
- (A07) BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED BARS 1'-0" INTO CONCRETE.

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

(X) INDICATES WING WALL NUMBER

* DIMENSION IS TAKEN AT FRONT FACE OF WING TO NOTED ELEVATION.

NOTES

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

SPACE A503 BARS TO MISS STEEL PILING.

SEE SHEET 8 FOR PILE SPLICE DETAIL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-39-82

DRAWN BY VJD PLANS CK'D CJM

WEST ABUTMENT

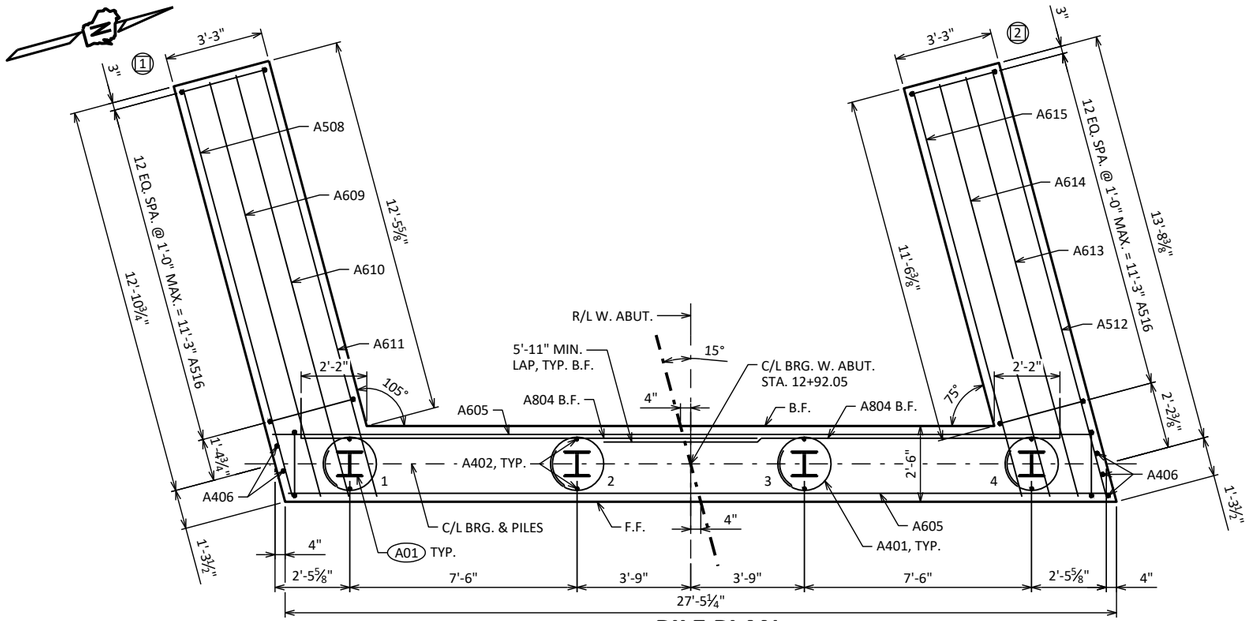
SHEET 4 OF 13

8

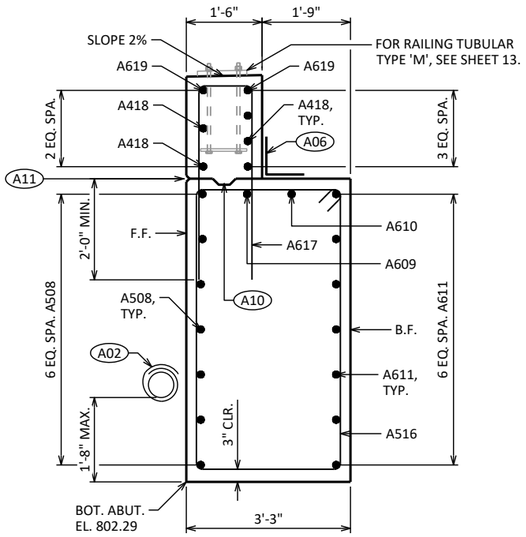
8

STATE PROJECT NUMBER

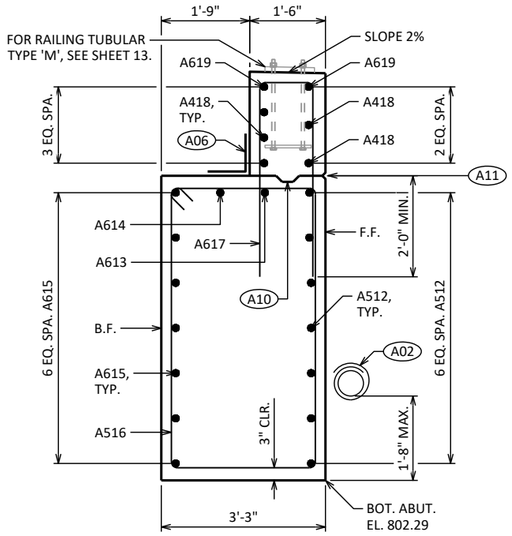
6739-00-70



PILE PLAN



SECTION THRU WING 1



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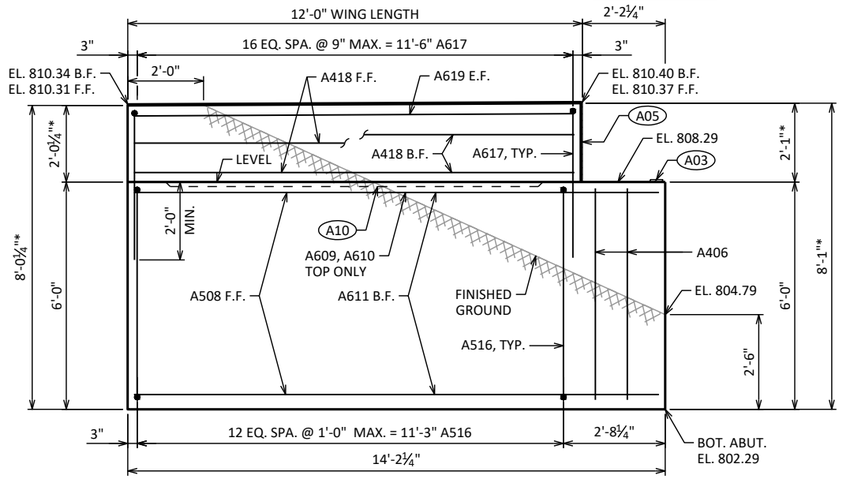
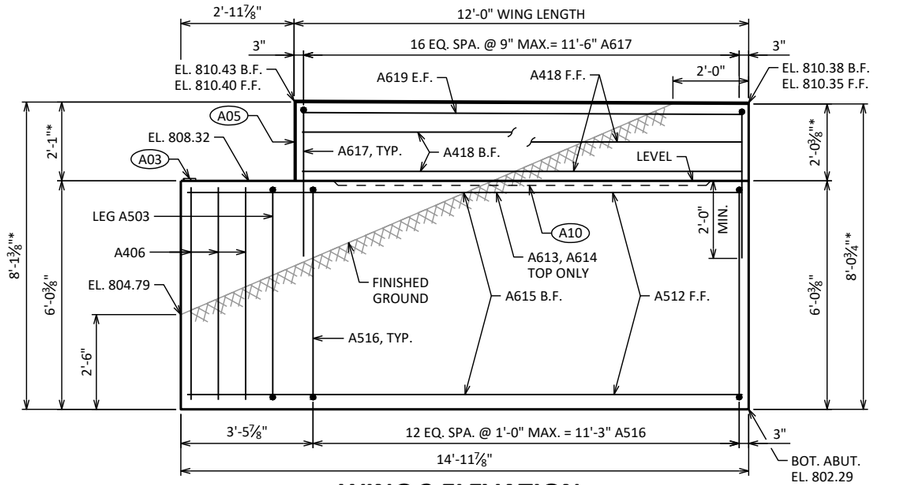


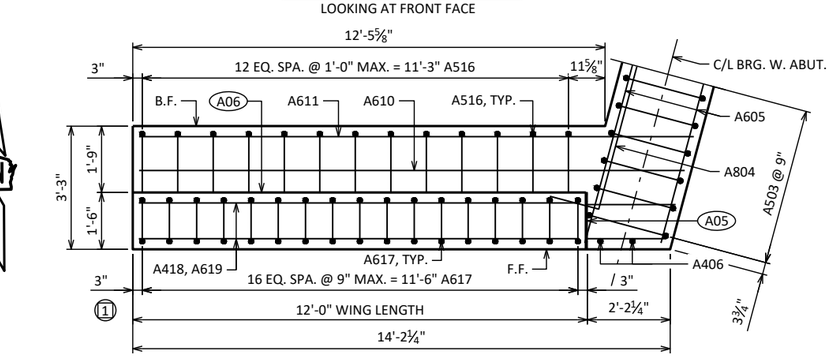
WING 1 ELEVATION

LOOKING AT FRONT FACE

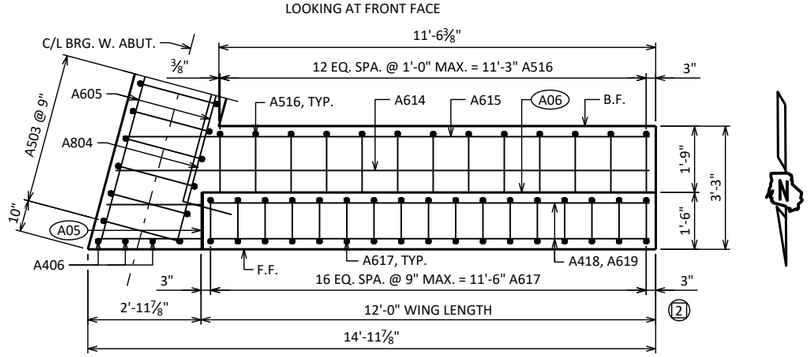


WING 2 ELEVATION

LOOKING AT FRONT FACE



WING 1 PLAN



WING 2 PLAN

NOTES

SOME BARS ARE OMITTED FOR CLARITY. SEE BILL OF BARS ON SHEET 8 AND WEST ABUTMENT ON SHEET 4.

LEGEND

- (A01) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 70'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.
- (A02) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. SEE SHEET 2 FOR RODENT SHIELD DETAIL.
- (A03) 4" X ¾" PREFORMED JOINT FILLER, OUT TO OUT OF ABUTMENT.
- (A05) ½" FILLER. EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL. FILLER INCLUDED IN WING LENGTH.
- (A06) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACK FACE.
- (A10) OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY WITH MEMBRANE ON BACK FACE.
- (A11) ¾" "V" GROOVE ON FRONT FACE OF WINGWALL.
- F.F. = FRONT FACE B.F. = BACK FACE E.F. = EACH FACE
- (X) INDICATES WING WALL NUMBER
- * DIMENSION IS TAKEN AT FRONT FACE OF WING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-39-82

DRAWN BY VJD | PLANS CK'D CJM

WEST ABUTMENT DETAILS

SHEET 5 OF 13

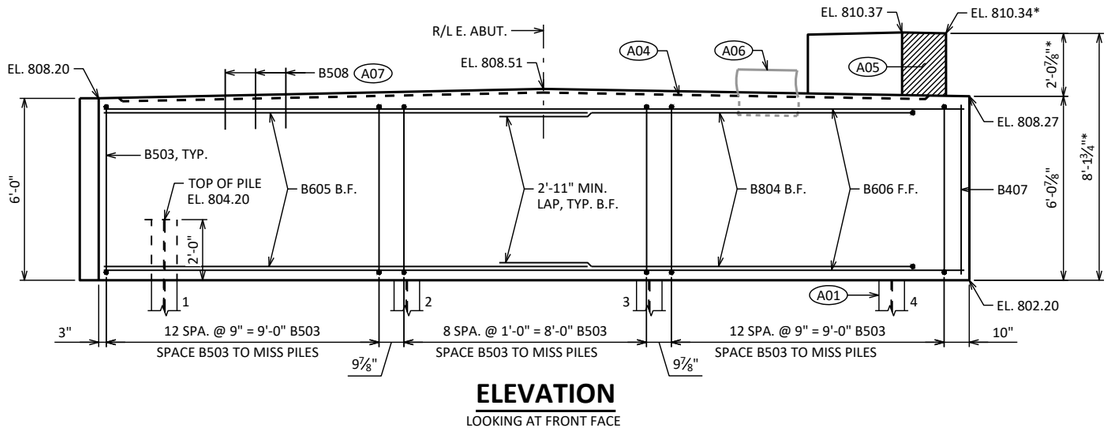
35

8

8

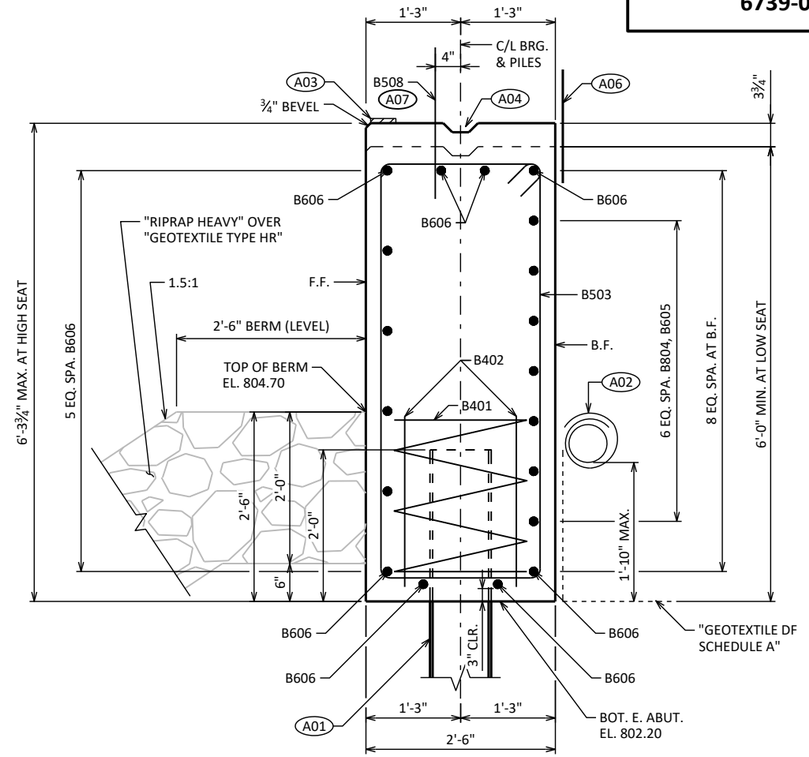
STATE PROJECT NUMBER

6739-00-70



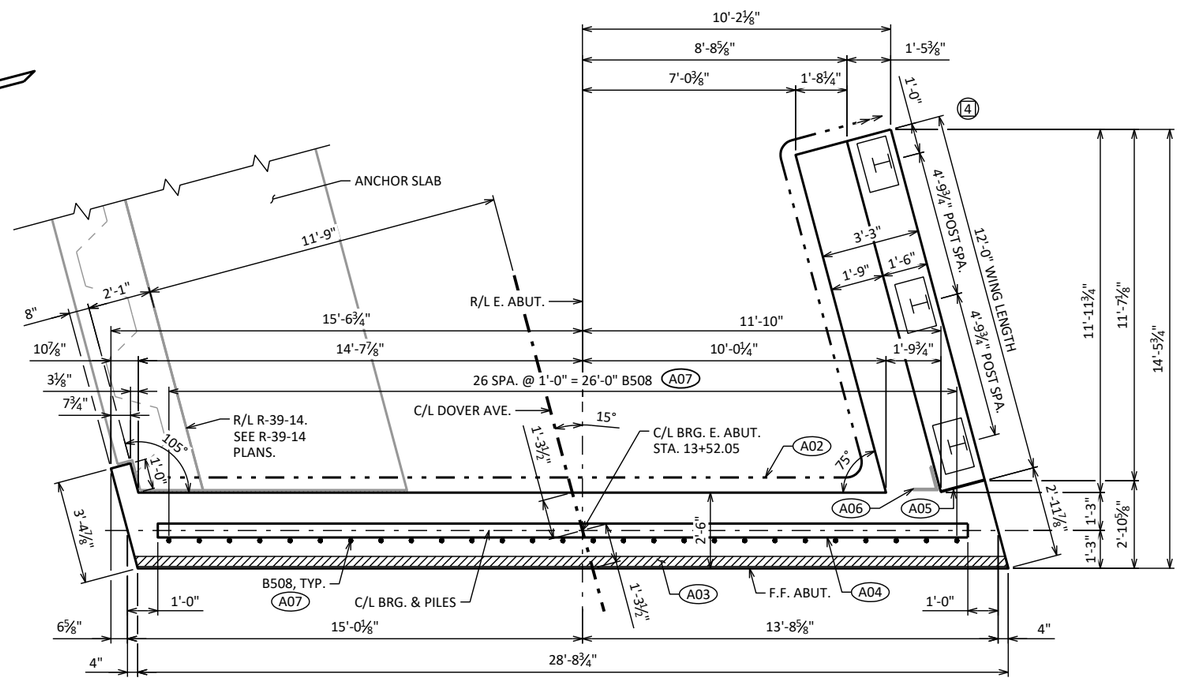
ELEVATION

LOOKING AT FRONT FACE



SECTION THRU ABUTMENT

DIMENSIONS ARE NORMAL TO C/L BRG.



PLAN

LEGEND

- (A01) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 80'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.
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F.F. = FRONT FACE B.F. = BACK FACE

(X) INDICATES WING WALL NUMBER

* DIMENSION IS TAKEN AT FRONT FACE OF WING TO NOTED ELEVATION.

NOTES

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

SPACE B503 BARS TO MISS STEEL PILING.

SEE SHEET 8 FOR PILE SPLICE DETAIL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-39-82

DRAWN BY VJD | PLANS CK'D CJM

EAST ABUTMENT

SHEET 6 OF 13

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STATE PROJECT NUMBER

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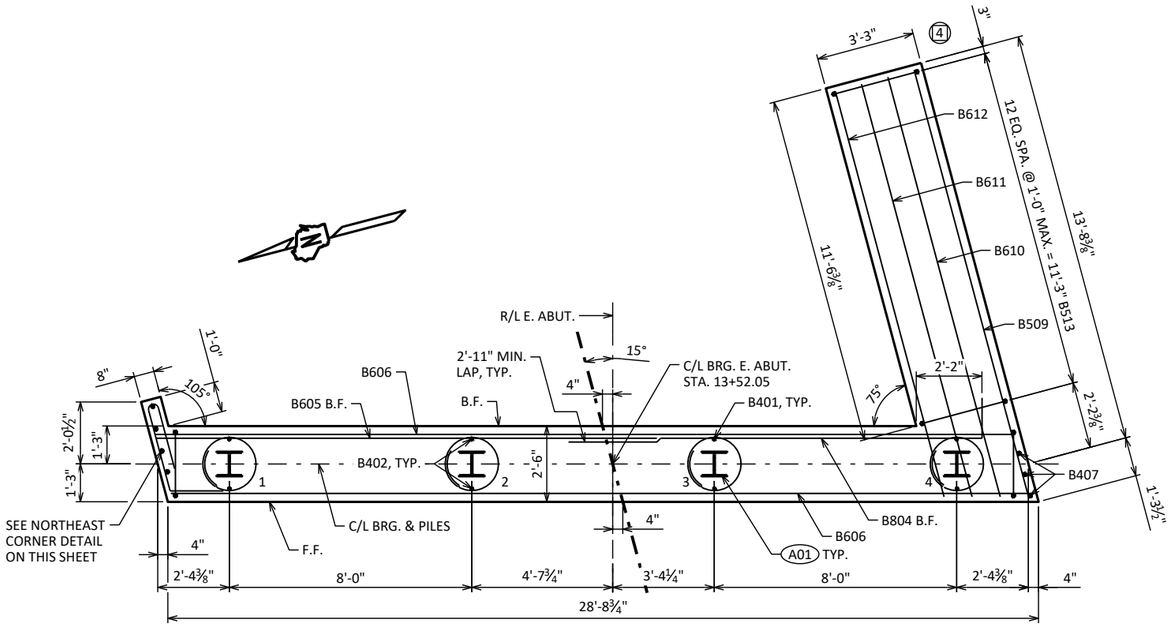
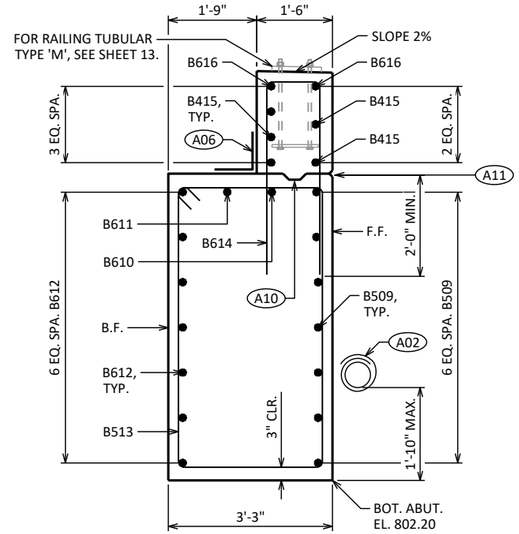
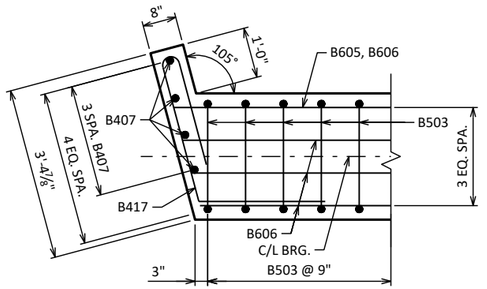


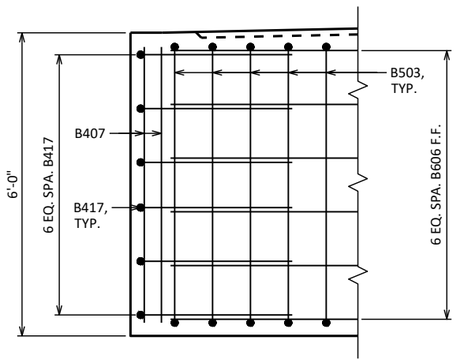
PILE PLAN



SECTION THRU WING 4

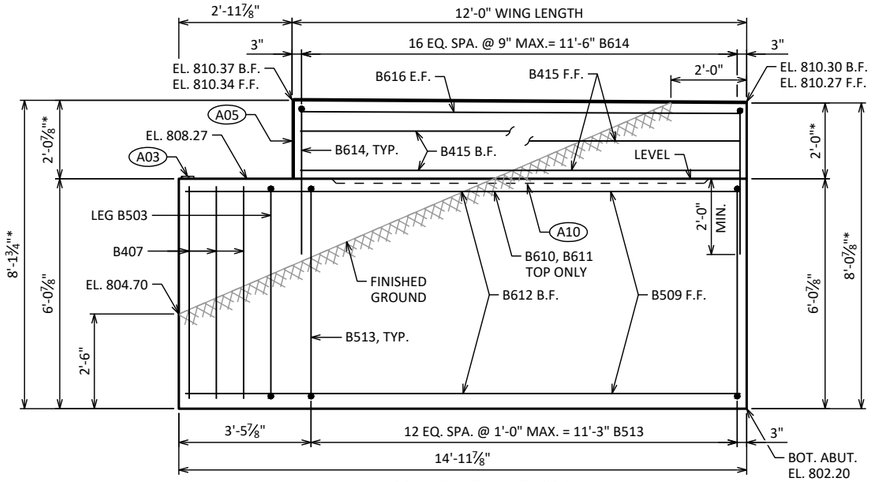


PLAN - NORTHEAST CORNER



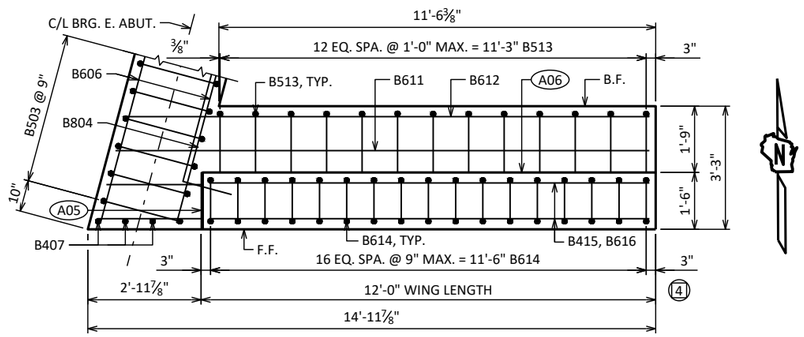
ELEVATION - NORTHEAST CORNER

LOOKING AT FRONT FACE ABUTMENT
ABUTMENT CORNER NOT SHOWN FOR CLARITY



WING 4 ELEVATION

LOOKING AT FRONT FACE



WING 4 PLAN

NOTES

SOME BARS ARE OMITTED FOR CLARITY. SEE BILL OF BARS ON SHEET 8 AND EAST ABUTMENT ON SHEET 6.

LEGEND

- (A01) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 80'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.
- (A02) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. SEE SHEET 2 FOR RODENT SHIELD DETAIL.
- (A03) 4" X ¾" PREFORMED JOINT FILLER, OUT TO OUT OF ABUTMENT.
- (A05) ½" FILLER. EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL. FILLER INCLUDED IN WING LENGTH.
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- (A10) OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY WITH MEMBRANE ON BACK FACE.
- (A11) ¾" "V" GROOVE ON FRONT FACE OF WINGWALL.
- F.F. = FRONT FACE B.F. = BACK FACE E.F. = EACH FACE
- (X) INDICATES WING WALL NUMBER
- * DIMENSION IS TAKEN AT FRONT FACE OF WING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-39-82

DRAWN BY VJD | PLANS CK'D CJM

EAST ABUTMENT DETAILS

SHEET 7 OF 13

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8

8

STATE PROJECT NUMBER

6739-00-70

BILL OF BARS - WEST ABUTMENT

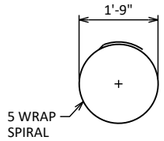
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401		4	28'-0"	X		ABUT. BODY - VERT. - PILES
A402		8	2'-3"			ABUT. BODY - VERT. - PILES
A503		33	16'-0"	X		ABUT. BODY - VERT. - STIRRUPS
A804		14	16'-3"	X		ABUT. BODY - HORIZ. - BACK FACE
A605		12	27'-1"			ABUT. BODY - HORIZ.
A406	X	5	5'-7"			ABUT. BODY - VERT. - ENDS
A507	X	26	2'-0"			ABUT. BODY - VERT. - DOWELS
A508	X	7	13'-11"			WING 1 - BODY - HORIZ. - FRONT FACE
A609	X	1	14'-2"			WING 1 - BODY - HORIZ.
A610	X	1	14'-5"			WING 1 - BODY - HORIZ.
A611	X	7	14'-7"			WING 1 - BODY - HORIZ. - BACK FACE
A512	X	7	14'-7"			WING 2 - BODY - HORIZ. - FRONT FACE
A613	X	1	14'-4"			WING 2 - BODY - HORIZ.
A614	X	1	14'-1"			WING 2 - BODY - HORIZ.
A615	X	7	13'-10"			WING 2 - BODY - HORIZ. - BACK FACE
A516	X	26	17'-4"	X		WING 1 & 2 - BODY - VERT. - STIRRUPS
A617	X	34	8'-10"	X		WING 1 & 2 - STEM - VERT.
A418	X	10	11'-7"			WING 1 & 2 - STEM - HORIZ. - EACH FACE
A619	X	4	11'-7"			WING 1 & 2 - STEM - HORIZ. - EACH FACE - TOP

BILL OF BARS - EAST ABUTMENT

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B401		4	28'-0"	X		ABUT. BODY - VERT. - PILES
B402		8	2'-3"			ABUT. BODY - VERT. - PILES
B503		35	16'-0"	X		ABUT. BODY - VERT. - STIRRUPS
B804		7	14'-10"	X		ABUT. BODY - HORIZ. - BACK FACE
B605		7	16'-7"			ABUT. BODY - HORIZ. - BACK FACE
B606		12	28'-4"			ABUT. BODY - HORIZ.
B407	X	7	5'-7"			ABUT. BODY - VERT. - ENDS
B508	X	27	2'-0"			ABUT. BODY - VERT. - DOWELS
B509	X	7	14'-7"			WING 4 - BODY - HORIZ. - FRONT FACE
B610	X	1	14'-4"			WING 4 - BODY - HORIZ.
B611	X	1	14'-1"			WING 4 - BODY - HORIZ.
B612	X	7	13'-10"			WING 4 - BODY - HORIZ. - BACK FACE
B513	X	13	17'-4"	X		WING 4 - BODY - VERT. - STIRRUPS
B614	X	17	8'-10"	X		WING 4 - STEM - VERT.
B415	X	5	11'-7"			WING 4 - STEM - HORIZ. - EACH FACE
B616	X	2	11'-7"			WING 4 - STEM - HORIZ. - EACH FACE - TOP
B417	X	7	8'-0"	X		ABUT. BODY - HORIZ. - NORTHEAST CORNER



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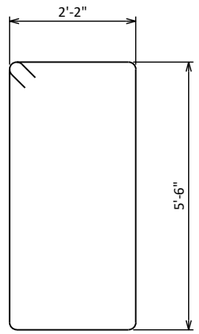

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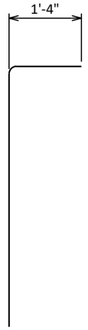

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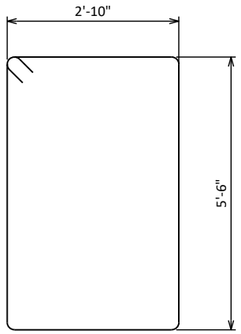

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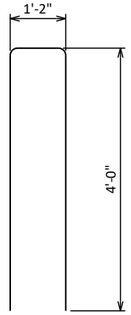

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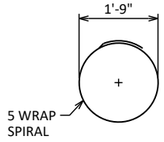

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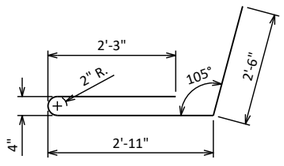

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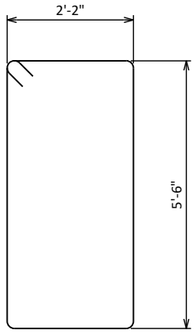

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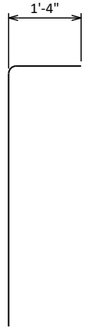

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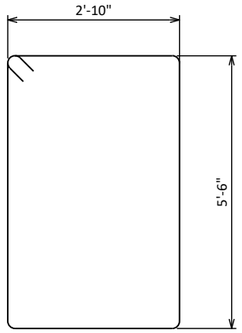

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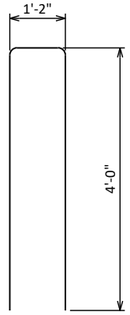

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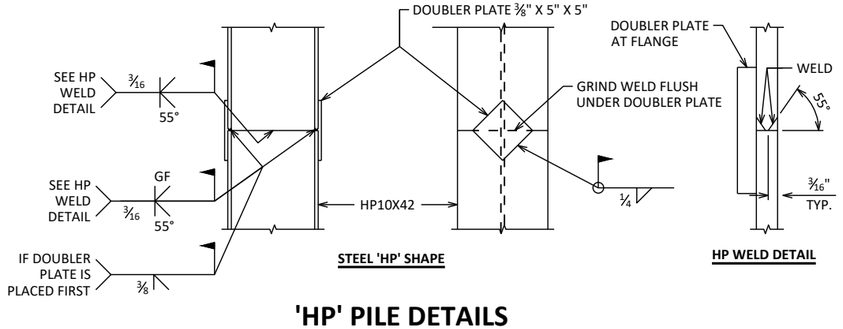

'HP' PILE DETAILS

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ABUTMENT DETAILS

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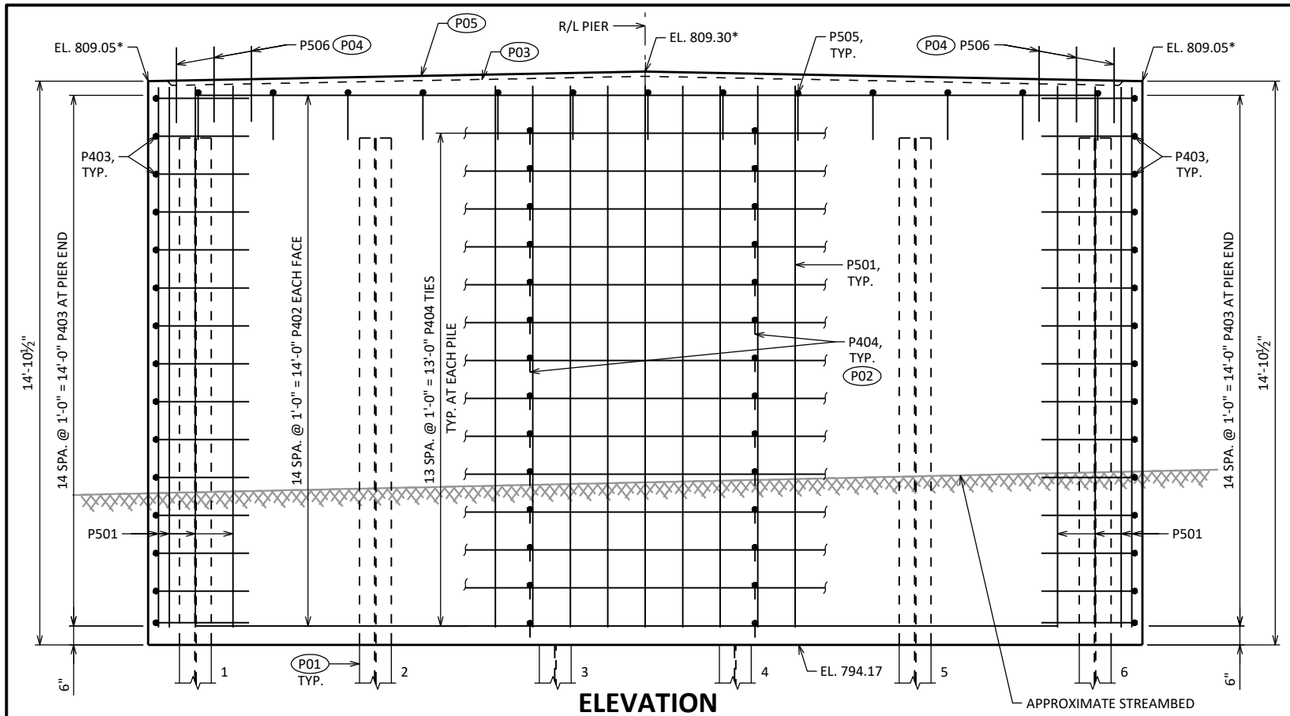
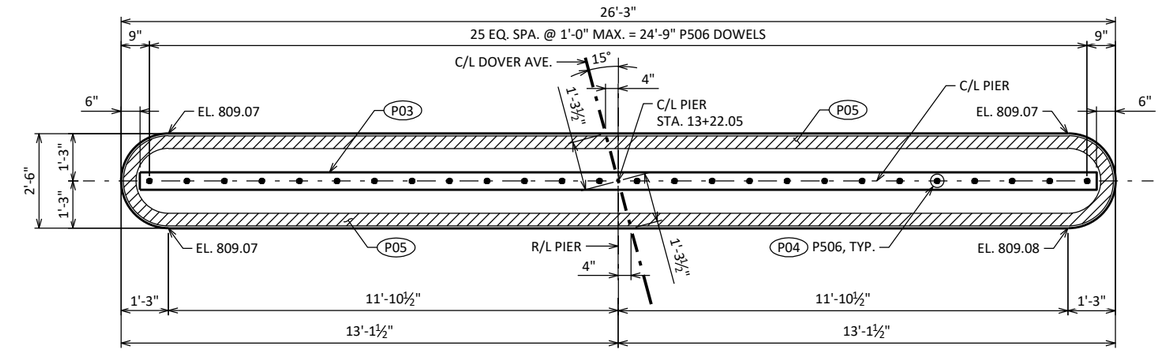
6739-00-70



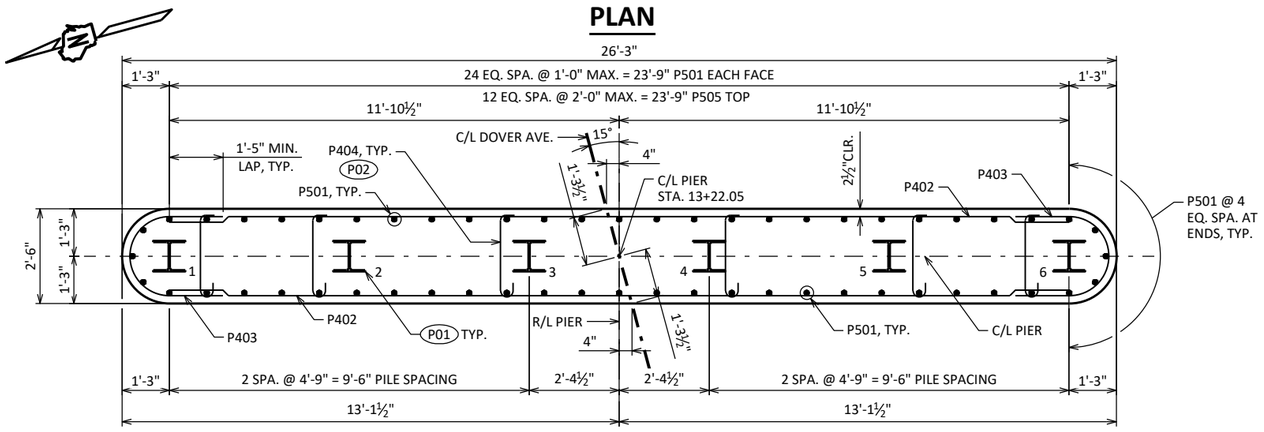
ELEVATION

LOOKING EAST

DIMENSIONS AND ELEVATIONS ARE AT C/L PIER



PLAN



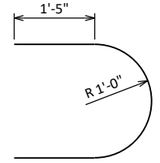
PILE PLAN

SHOWING SHAFT REINFORCEMENT

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
P501		56	14'-3"			SHAFT - VERTICAL
P402		30	23'-9"			SHAFT - HORIZONTAL
P403		30	6'-0"	X		SHAFT - HORIZONTAL - ENDS
P404		84	3'-0"	X		SHAFT - HORIZONTAL - TIES
P505		13	4'-5"	X		SHAFT - VERTICAL - TOP
P506	X	26	2'-0"			SHAFT - VERTICAL - DOWELS



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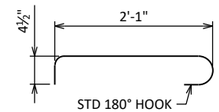

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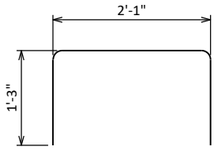

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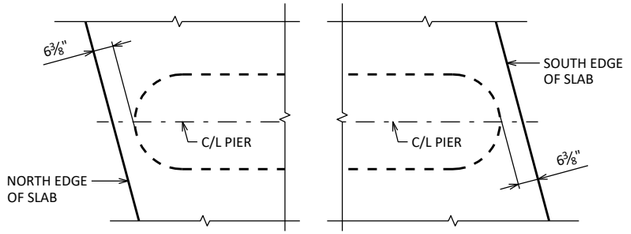
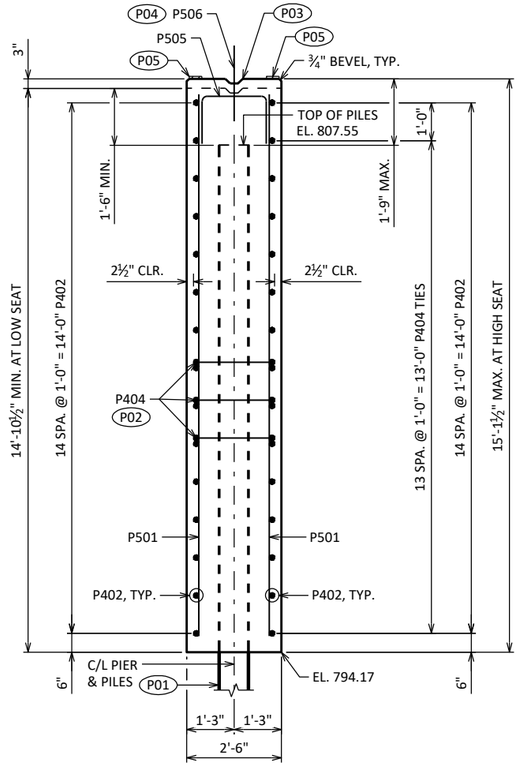


PLAN AT PIER ENDS



SECTION THRU PIER

DIMENSIONS ARE NORMAL TO C/L PIER

NOTES

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

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

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

SEE SHEET 1 FOR LIMITS OF RIPRAP HEAVY AND GEOTEXTILE TYPE HR AT THE PIER. PLACE WITHIN COFFERDAM AND PRIOR TO REMOVING COFFERDAM.

FOR PILE SPLICE DETAIL, SEE SHEET 8.

LEGEND

(P01) SUPPORT PIER ON HP 10 X 42 STEEL PILING WITH PILE POINTS, ESTIMATED 80'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

(P02) PLACE P404 ADJACENT TO EACH PILE ON ONE SIDE ONLY. TIE TO NEAREST VERTICAL P501. VERTICALLY SPACE AT 1'-0" TO MATCH P402 OUTSIDE BARS. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

(P03) KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".

(P04) P506 PIER DOWELS. 2'-0" LONG SPACED AT 1'-0" MAX. CENTERS. EMBED 1'-0" INTO CONCRETE. BARS MAY BE PLACED AFTER CONCRETE HAS BEEN POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

(P05) 4" X ¾" PREFORMED FILLER.

✳ ELEVATION IS AT CENTERLINE OF PIER. ELEVATIONS NEGLECT THE KEYED CONSTRUCTION JOINT.

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PIER

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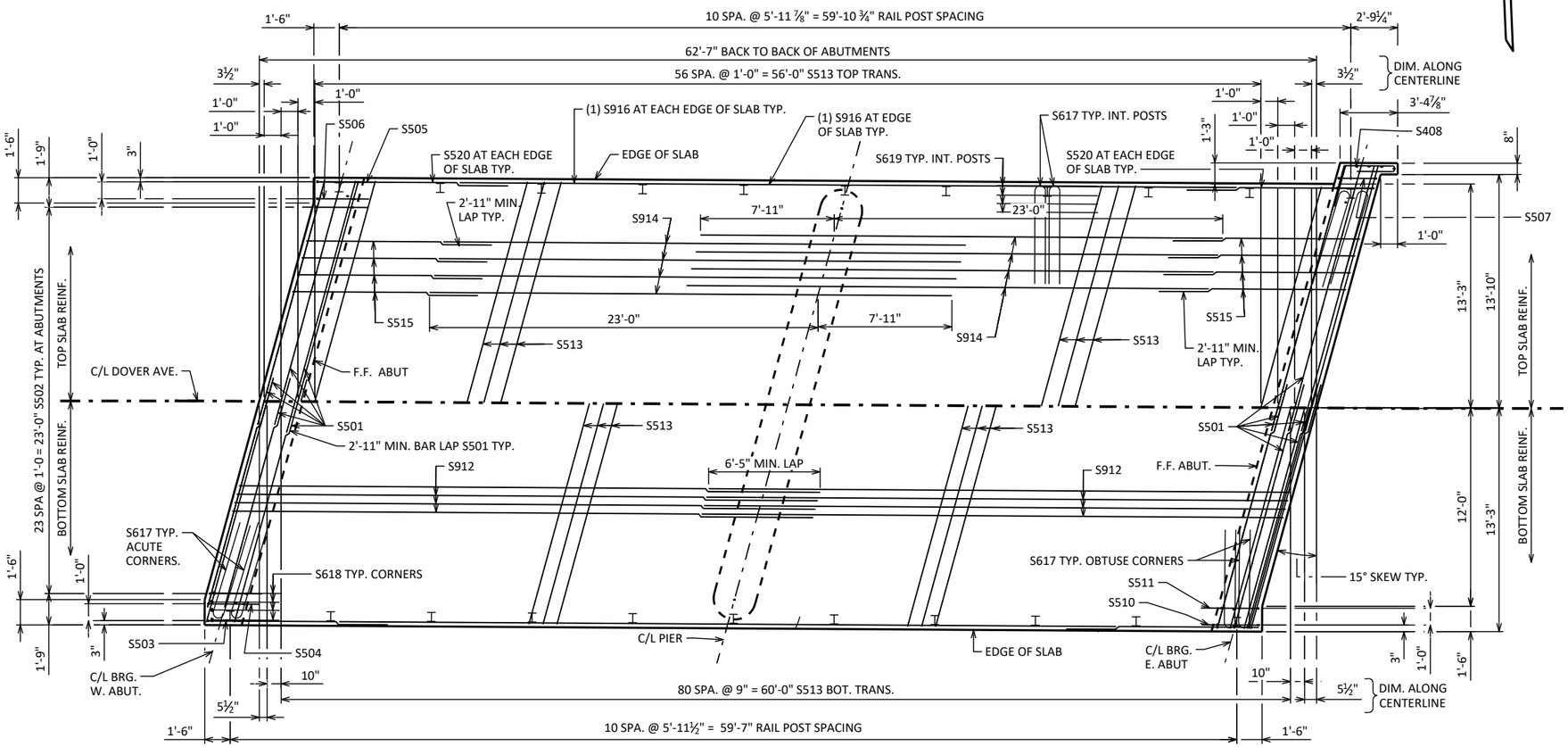
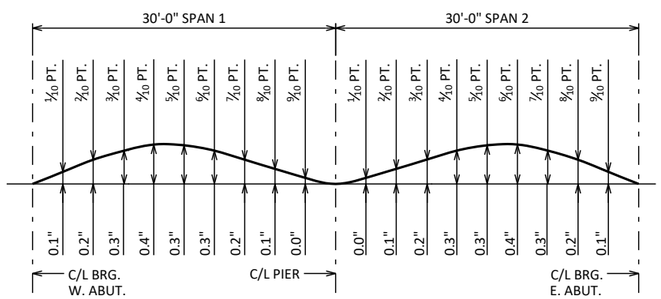
TOP OF DECK ELEVATIONS

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

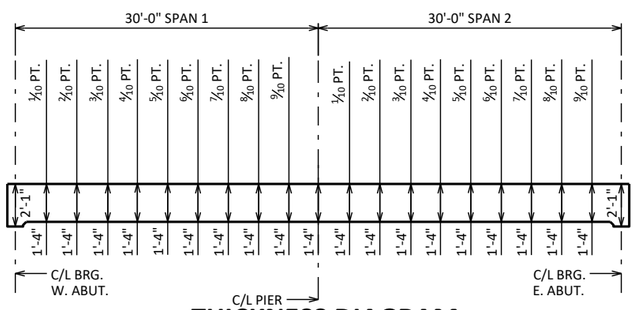
LOCATION	C/L BRG. W. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	C/L PIER	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	C/L BRG. E. ABUT.
N. EDGE OF SLAB	810.40	810.41	810.42	810.42	810.43	810.43	810.43	810.43	810.43	810.43	810.43	810.42	810.41	810.41	810.40	810.39	810.37	810.36	810.35	810.33	810.31
C/L DOVER AVE.	810.66	810.67	810.67	810.68	810.69	810.69	810.70	810.70	810.70	810.70	810.70	810.69	810.69	810.68	810.67	810.66	810.65	810.64	810.63	810.61	810.60
S. EDGE OF SLAB	810.38	810.39	810.40	810.41	810.42	810.42	810.43	810.43	810.43	810.43	810.43	810.43	810.43	810.42	810.42	810.41	810.40	810.39	810.38	810.37	810.35



SUPERSTRUCTURE REINFORCEMENT PLAN



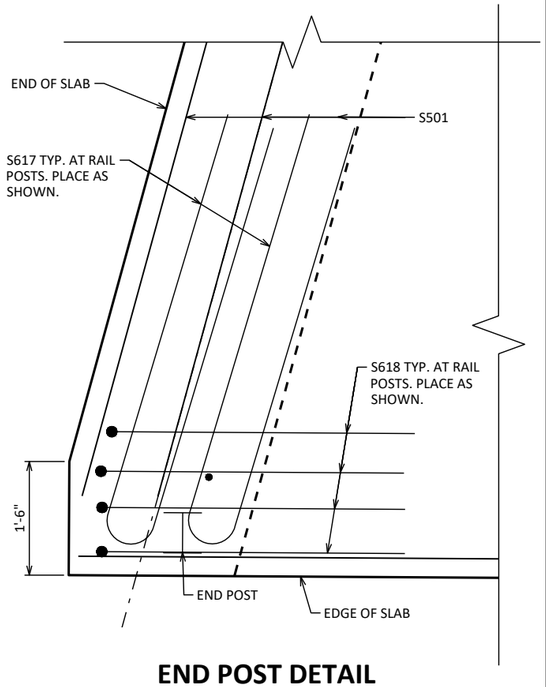
CAMBER DIAGRAM



THICKNESS DIAGRAM

TO DETERMINE FALSEWORK ELEVATION AT GUTTER AND CROWN FOLLOW THIS PROCEDURE:

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



END POST DETAIL

WING 1 SHOWN, WING 3 SIMILAR FOR RAILING REBAR

NOTES

ALL TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED ON THE SKEW.

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

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

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTION.

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

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

SURVEY TOP OF SLAB ELEVATIONS

LOCATION	C/L BRG. W. ABUT.	5/10 PT.	C/L PIER	5/10 PT.	C/L BRG. E. ABUT.
NORTH EDGE OF SLAB					
C/L DOVER AVE.					
SOUTH EDGE OF SLAB					

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SUPERSTRUCTURE

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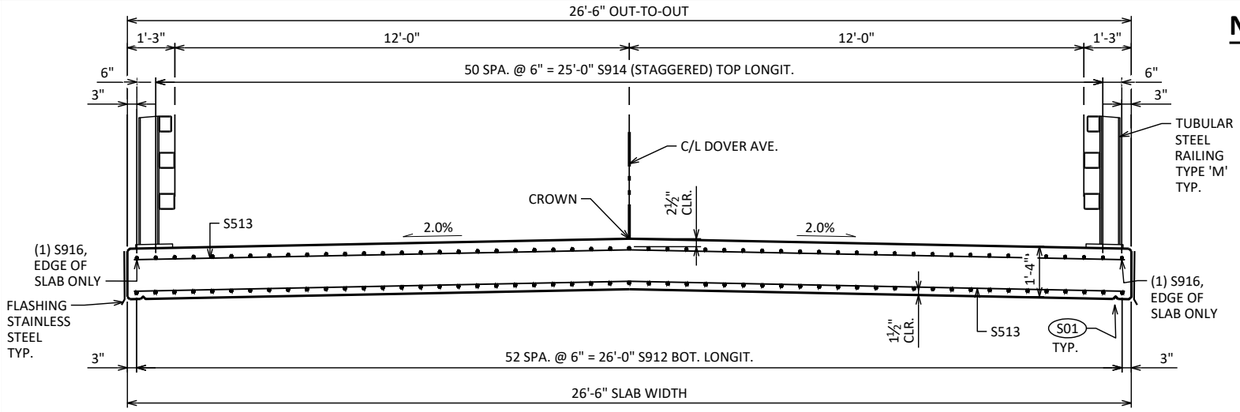
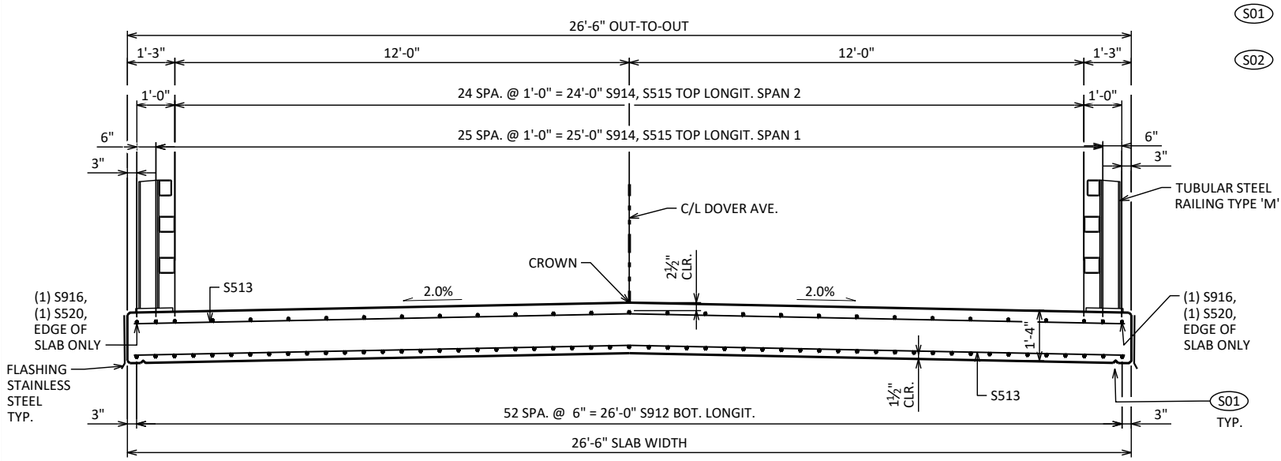


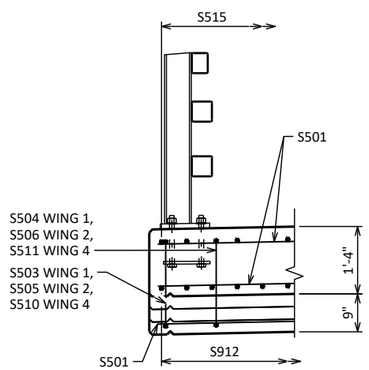
CROSS SECTION THRU BRIDGE - AT PIER

AT PIER CENTERLINE SHOWING REINFORCEMENT
DIMENSIONS NORMAL TO C/L DOVER AVE
LOOKING EAST



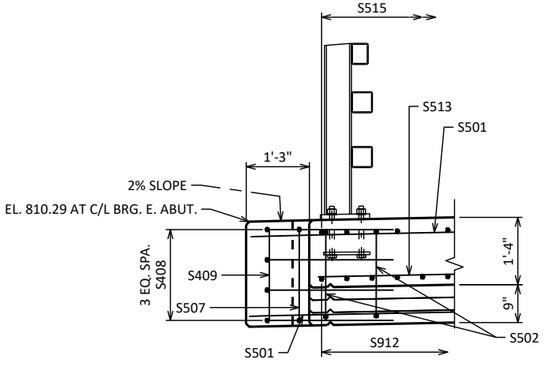
CROSS SECTION THRU BRIDGE - IN SPAN

IN SPAN SHOWING REINFORCEMENT
DIMENSIONS NORMAL TO C/L DOVER AVE
LOOKING EAST



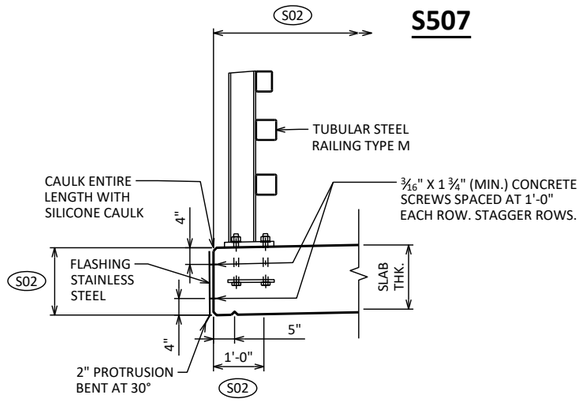
SECTION THRU TYPE M RAIL

AT WINGS 1, 2 & 4
SHOWING ABUTMENT HAUNCH



SECTION THRU TYPE M RAIL

AT WING 3
SHOWING ABUTMENT HAUNCH



TYPICAL EDGE OF DECK DETAIL

BAR STEEL OMITTED FOR CLARITY

NOTES

PLACE TRANSVERSE BARS PARALLEL TO THE CENTERLINE OF THE SUBSTRUCTURE UNITS.

THE BID ITEM "FLASHING STAINLESS STEEL" SHALL INCLUDE PROVIDING AND INSTALLING THE STAINLESS STEEL FLASHING, SILICONE CAULK, AND 3⁄16" CONCRETE SCREWS.

FLASHING TO BE INSTALLED AFTER PROTECTIVE SURFACE TREATMENT APPLICATION.

CONCRETE SCREWS SHALL BE 410 STAINLESS STEEL.

EXTEND FLASHING STAINLESS STEEL TO BACK FACE OF ABUTMENT DIAPHRAGM.

TOP OF FLASHING STAINLESS STEEL TO BEGIN APPROXIMATELY 1-INCH BELOW TOP OF SLAB SURFACE.

THE FLASHING IS TO BE A 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.

LEGEND

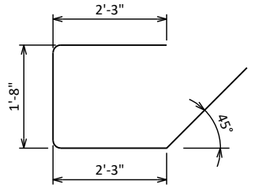
(S01) ¾" V-GROOVE REQUIRED. EXTEND TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGM.

(S02) COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS. APPLY PRIOR TO INSTALLING FLASHING. SEE NOTES.

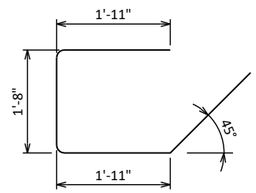
BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S501	X	24	15'-8"			TRANSVERSE OVER ABUTS.
S502	X	48	7'-8"	X		SLAB DIAPH. VERT.
S503	X	1	7'-0"	X		SLAB DIAPH VERT. WING 1
S504	X	1	7'-6"	X		SLAB DIAPH VERT. WING 1
S505	X	1	8'-4"	X		SLAB DIAPH VERT. WING 2
S506	X	1	7'-10"	X		SLAB DIAPH VERT. WING 2
S507	X	1	8'-6"	X		SLAB DIAPH VERT. WING 3
S408	X	4	8'-0"	X		SLAB DIAPH HORIZ. WING 3
S409	X	5	1'-9"			SLAB DIAPH VERT. WING 3
S510	X	1	8'-4"	X		SLAB DIAPH VERT. WING 4
S511	X	1	7'-10"	X		SLAB DIAPH VERT. WING 4
S912	X	106	34'-5"			BOTTOM LONGIT.
S513	X	138	27'-1"			TRANSVERSE TOP AND BOT.
S914	X	51	30'-11"			TOP LONGIT. OVER PIER
S515	X	51	11'-1"			TOP LONGIT. OVER ABUTS.
S916	X	2	46'-0"			TOP LONGIT. EDGES
S617	X	44	11'-6"	X		SLAB AT RAIL POSTS
S618	X	16	4'-10"	X		SLAB AT RAIL END
S619	X	72	6'-0"			TOP INTERIOR RAIL POST
S520	X	4	11'-5"			TOP LONGIT. ENDS - EDGE OF SLAB



S502



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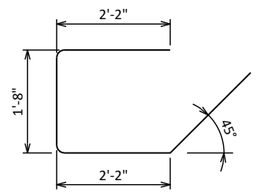

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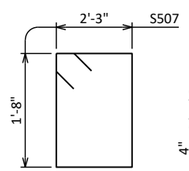

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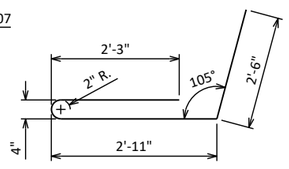

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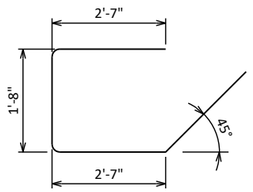
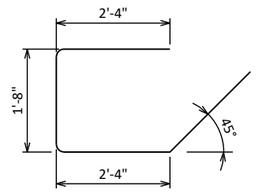


S505, S510



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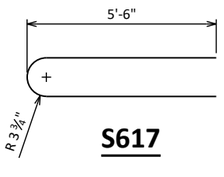
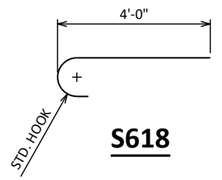


S617



S618

STATE PROJECT NUMBER

6739-00-70

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-39-82

DRAWN BY CJM | PLANS CK'D VJD

SUPERSTRUCTURE DETAILS 1

SHEET 11 OF 13

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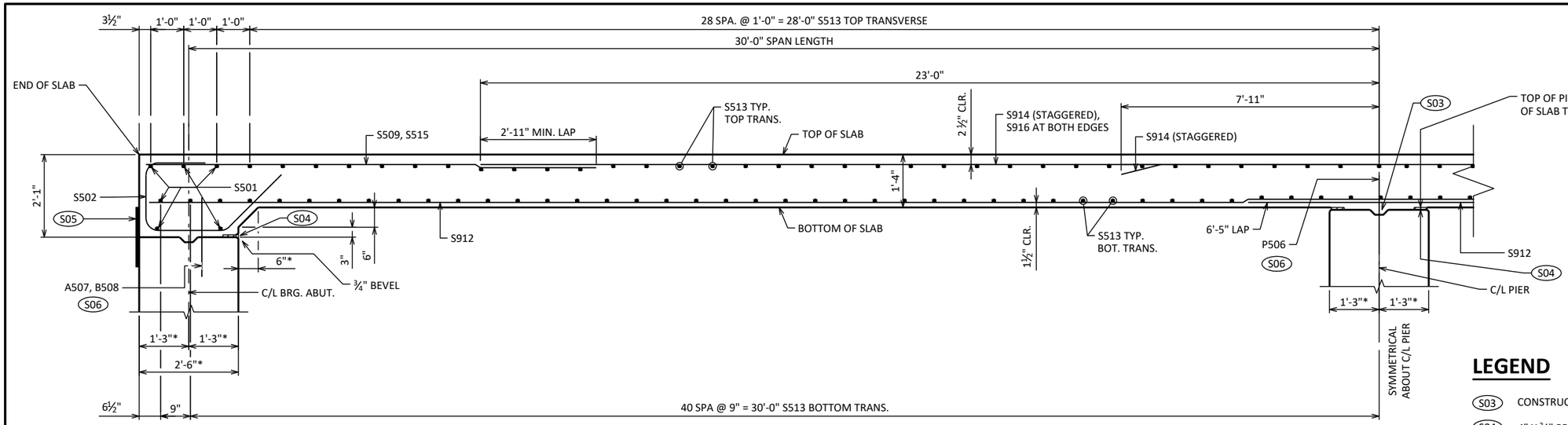
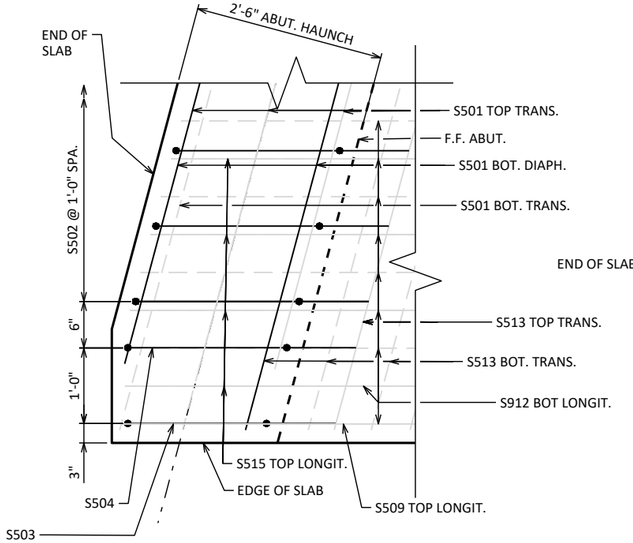


PARTIAL LONGITUDINAL SECTION

DIMENSIONS ARE ALONG C/L DOVER AVE. UNLESS OTHERWISE NOTED.
DIMENSIONS AND LAYOUT IS SYMMETRICAL ABOUT C/L PIER

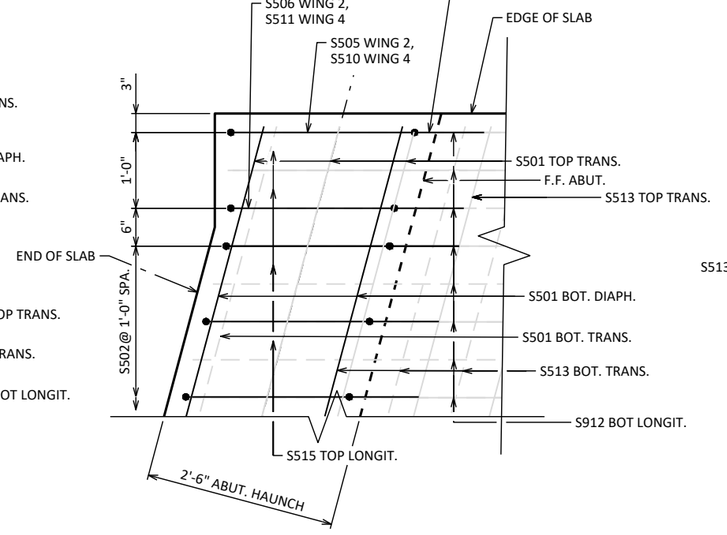
LEGEND

- (S03) CONSTRUCTION JOINT. KEYWAY FORMED BY A BEVELED 2" X 6".
- (S04) 4" X ¾" PREFORMED FILLER (LENGTH OF ABUTMENT AND PIER).
- (S05) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACK FACE OF ABUTMENT.
- (S06) ABUTMENT & PIER DOWEL BARS. BARS MAY BE PLACED AFTER SUBSTRUCTURE CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED BARS 1'-0"
- * DIMENSION IS NORMAL TO CENTERLINE OF SUBSTRUCTURE.



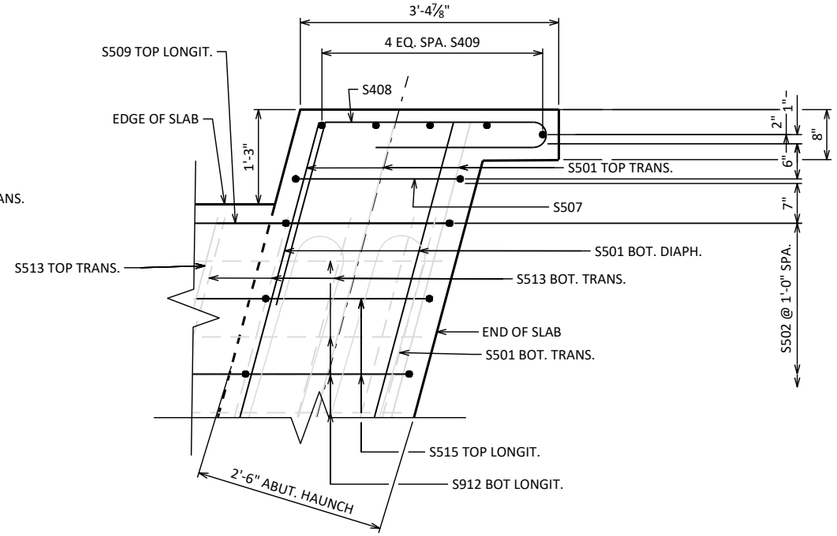
CORNER DETAIL - WING 1

SHOWING VERT. HAUNCH BAR PLACEMENT



CORNER DETAIL - WING 2 & 4

SHOWING VERT. HAUNCH BAR PLACEMENT
WING 2 CORNER SHOWN, WING 4 CORNER SIMILAR



CORNER DETAIL - WING 3

SHOWING VERT. HAUNCH BAR PLACEMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-39-82

DRAWN BY CJM | PLANS CK'D VJD

SUPERSTRUCTURE DETAILS 2

SHEET 12 OF 13

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STATE PROJECT NUMBER

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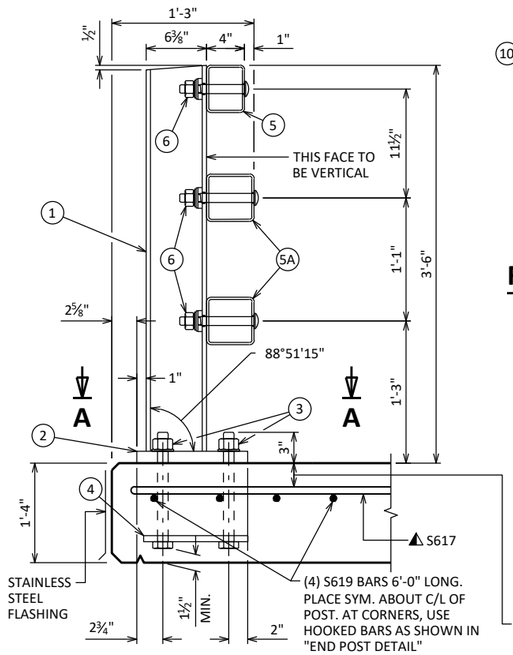
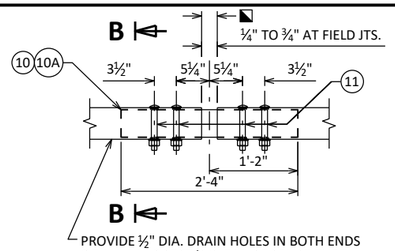
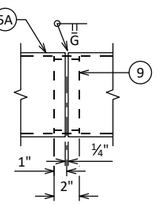


SECTION THRU RAILING ON DECK

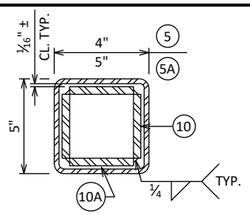


FIELD ERECTION JOINT DETAIL

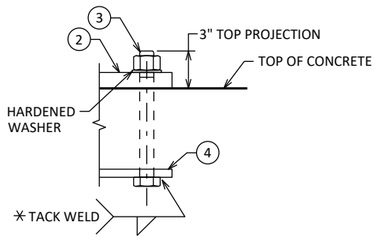


SHOP RAIL SPLICE DETAIL

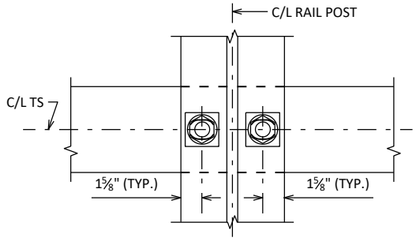
LOCATION MUST BE SHOWN ON SHOP DRAWINGS



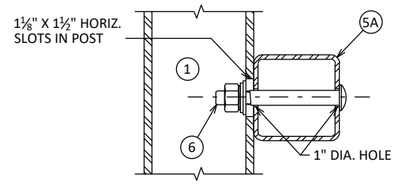
SECTION B-B



ANCHOR BOLTS



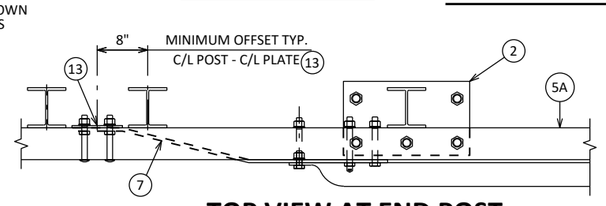
SECTION THRU POST WEB



SECTION THRU RAIL

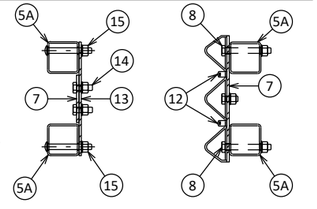
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS



TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT



SECTION C-C

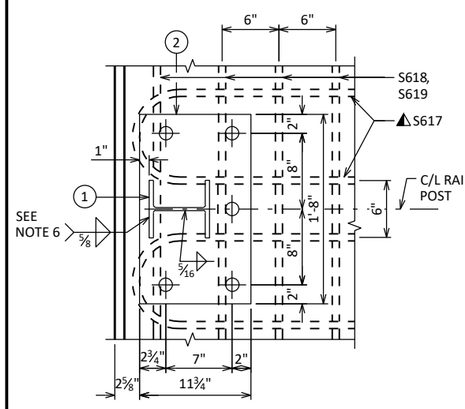
SECTION D-D

LEGEND

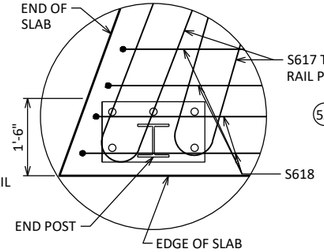
1. W6 X 25 WITH 1½" X 1½" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
2. PLATE 1¼" X 11¾" X 1'-8" WITH 1 7⁄16" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
3. ASTM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

GENERAL NOTES

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

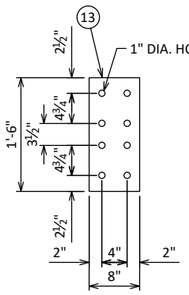


SECTION A-A



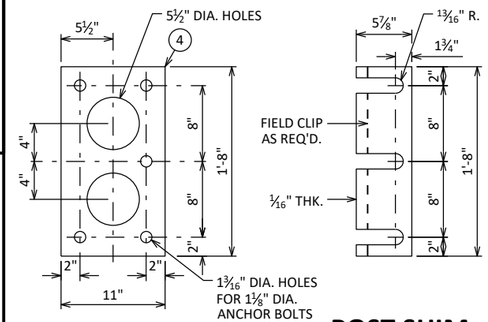
END POST DETAIL

REINFORCEMENT AT CORNERS



ANCHOR PLATE

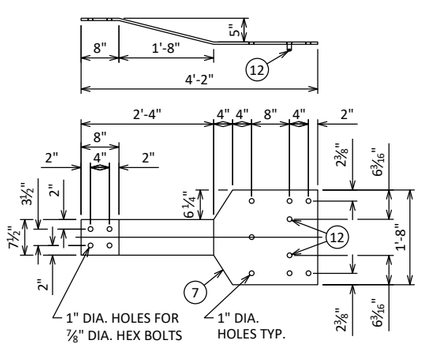
AT BEAM GUARD ATTACHMENT



ANCHOR PLATE

AT RAIL TO DECK CONNECTION

POST SHIM DETAIL

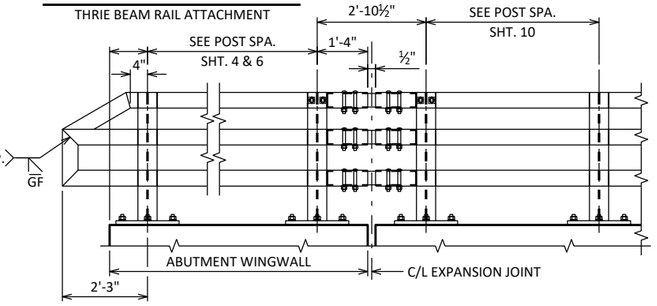


BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT

DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT



PART ELEVATION OF RAILING

▲ TIE TO TOP MAT OF STEEL.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-39-82

DRAWN BY CJM | PLANS CK'D VJD

TUBULAR STEEL RAILING TYPE "M"

SHEET 13 OF 13

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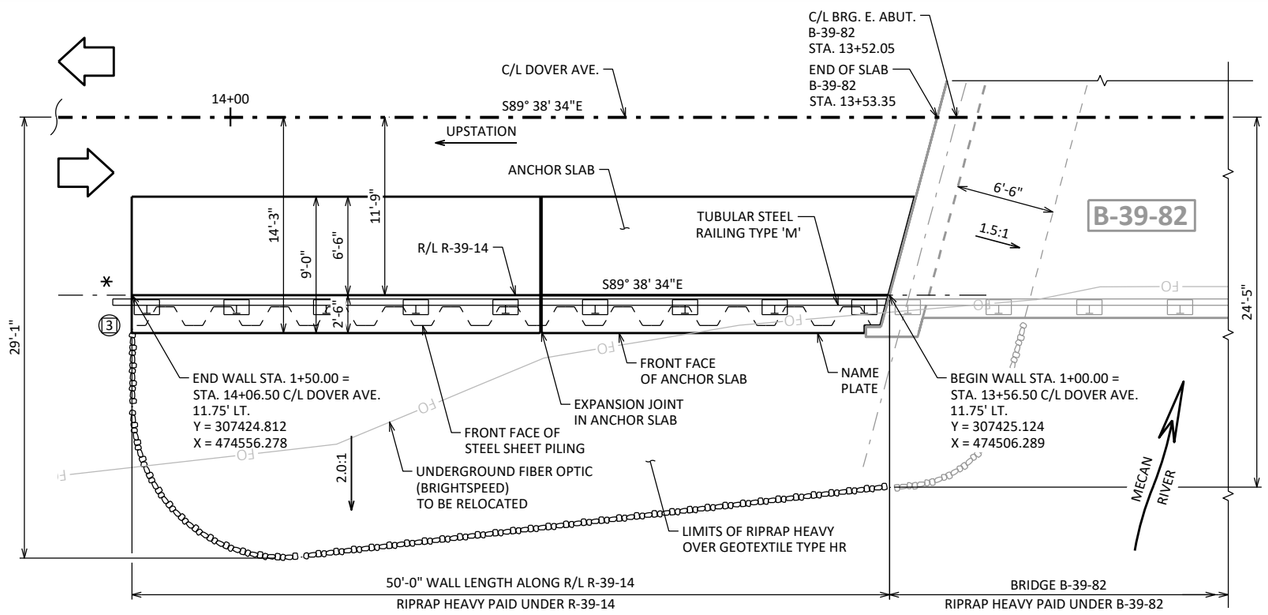
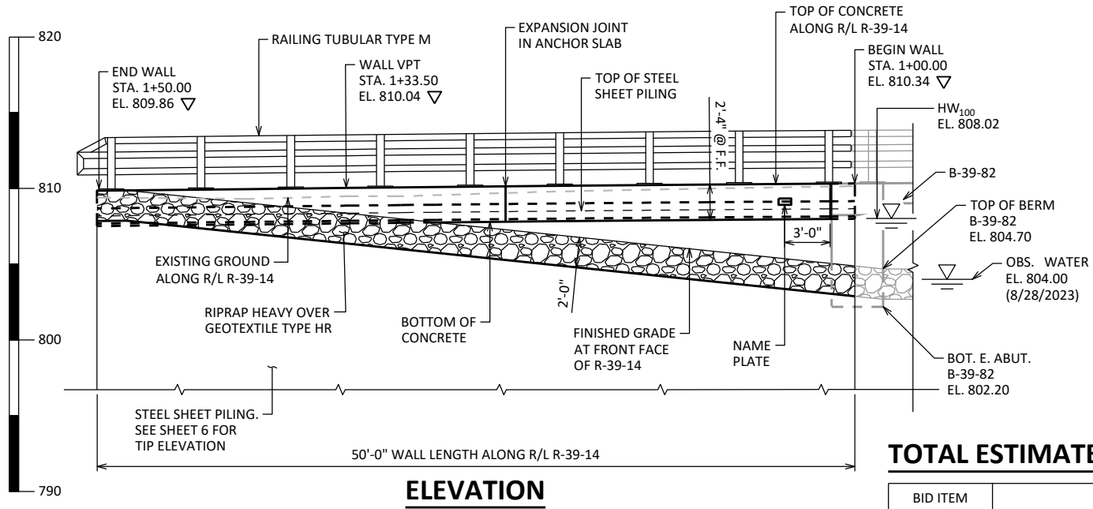


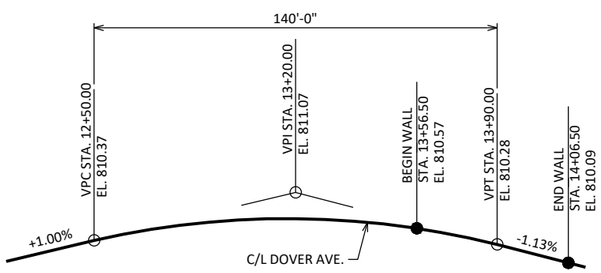
PLAN

SHEET PILE RETAINING WALL



ELEVATION

LOOKING SOUTH AT FRONT FACE



PROFILE GRADE LINE

TRAFFIC DATA

FEATURE ON: DOVER AVE.

ADT = 80 (2025)
ADT = 85 (2045)
R.D.S. = 45 MPH

LEGEND

- (X) INDICATES WING WALL NUMBER
- ✱ PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT.
- ▽ TOP OF WALL ELEVATION AT R/L R-39-14. SEE DETAIL ON SHEET 2 FOR SLOPED COPING.
- INDICATES TRAFFIC DIRECTION

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. WALL DETAILS
3. ANCHOR SLAB DETAILS 1
4. ANCHOR SLAB DETAILS 2
5. TUBULAR STEEL RAILING TYPE 'M'
6. SUBSURFACE EXPLORATION

GEOMETRY TABLE

WALL STA.	C/L DOVER AVE. STA.	C/L DOVER AVE. OFFSET	TOP OF WALL ELEV. ▽	FINISHED GRADE @ F.F. OF WALL	EXISTING GRADE @ F.F. OF WALL
1+00.00	13+56.50	11.75' LT.	810.34	804.89	809.87
1+10.00	13+66.50	11.75' LT.	810.27	805.94	809.59
1+20.00	13+76.50	11.75' LT.	810.18	806.98	809.41
1+30.00	13+86.50	11.75' LT.	810.08	808.02	809.08
1+33.50	13+90.00	11.75' LT.	810.04	808.38	809.14
1+40.00	13+96.50	11.75' LT.	809.97	809.06	809.06
1+50.00	14+06.50	11.75' LT.	809.86	809.86	809.04

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
206.3001	EXCAVATION FOR STRUCTURES RETAINING WALLS R-39-14	EACH	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	30
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	24
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,670
512.0500	PILING STEEL SHEET PERMANENT DELIVERED	SF	1,905
512.0600	PILING STEEL SHEET PERMANENT DRIVEN	SF	1,905
513.4061	RAILING TUBULAR TYPE M	LF	52
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	5
606.0300	RIPRAP HEAVY	CY	55
645.0120	GEOTEXTILE TYPE HR	SY	110
	NON-BID ITEMS		
	EXPANDED POLYSTYRENE	SIZE	1"
	NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER	SIZE	1"
	CORK FILLER	SIZE	1"
	NAME PLATE	EACH	1

ALL R-39-14 BID ITEMS ARE CATEGORY 0020

STATE PROJECT NUMBER

6739-00-70

DESIGN DATA

LIVE LOAD:

LIVE LOAD SURCHARGE (SHEET PILE WALL) — 240 PSF

MATERIAL PROPERTIES:

CONCRETE MASONRY:
RETAINING WALLS — f'_c = 3,500 PSI

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

STEEL SHEET PILING
ASTM A328 — f_y = 39,000 PSI

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

ALL WALL STATIONING AND OFFSETS ARE GIVEN TO THE FRONT FACE OF R-39-14.

THE PLAN QUANTITY FOR THE BID ITEM "PILING STEEL SHEET PERMANENT DELIVERED" AND "PILING STEEL SHEET PERMANENT DRIVEN" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF CUTOFF (ESTIMATED AS 1'-8" BELOW TOP OF WALL ELEVATION TO THE SHEET PILE TIP ELEVATION).

COORDINATE THE CONSTRUCTION OF WALL R-39-14 WITH BRIDGE B-39-82.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF JOINT FILLER AND EXPANDED POLYSTYRENE WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW THE SURFACE).

THE EXISTING GROUND LINE SHALL BE USED AT THE UPPER LIMITS OF EXCAVATION.

STEEL SHEET PILING SHALL BE PAINTED ACCORDING TO STANDARD SPECIFICATION 550.3.11.3. PAINT PILES BLACK, AMS COLOR #27038.

EXCAVATION BELOW THE LIMITS OF THE RIPRAP BERMS MAY BE REQUIRED TO REACH SOUND BEDDING MATERIALS AS DETERMINED BY THE ENGINEER IN THE FIELD. BACKFILL OVER-EXCAVATION WITH "BACKFILL STRUCTURE TYPE A" TO BOTTOM OF RIPRAP ELEVATION. COST FOR BACKFILL MATERIAL AND EXCAVATION BELOW THE RIPRAP BERM LIMITS AS SHOWN SHALL BE INCIDENTAL TO THE BID ITEM "EXCAVATION FOR STRUCTURES RETAINING WALLS R-39-14".

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

BENCH MARKS

NO.	STATION/OFFSET	DESCRIPTION	ELEV.
1000	11+33.23, 35.67' RT.	RR SPIKE IN 10" POPLAR TREE	809.68
1001	13+42.65, 6.32' RT.	CHIS. SQUARE SE BRIDGE WING	811.14
1002	16+82.13, 34.92' LT.	RR SPIKE IN 10" OAK TREE	810.67

WISCONSIN
VINCENT J. DIFRANCES
E-45790
MILWAUKEE
WI
PROFESSIONAL ENGINEER
10/16/2024

STRUCTURE DESIGN CONTACTS:

VINCENT DIFRANCES 262-573-3864
AARON BONK 608-261-0261

NO.	DATE	REVISION	BY

JT ENGINEERING
REAL. TRUSTED. PROVEN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 12/04/24
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-39-14

ALONG DOVER AVE.

COUNTY MARQUETTE | TOWN CRYSTAL LAKE

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGN CK'D	DRAWN BY	PLANS CK'D
VJD	CJM	VJD	CJM/ZRM

GENERAL PLAN AND ELEVATION

SHEET 1 OF 6
44

I.D. 6739-00-00 DATE: 10/16/2024

8

8

STATE PROJECT NUMBER

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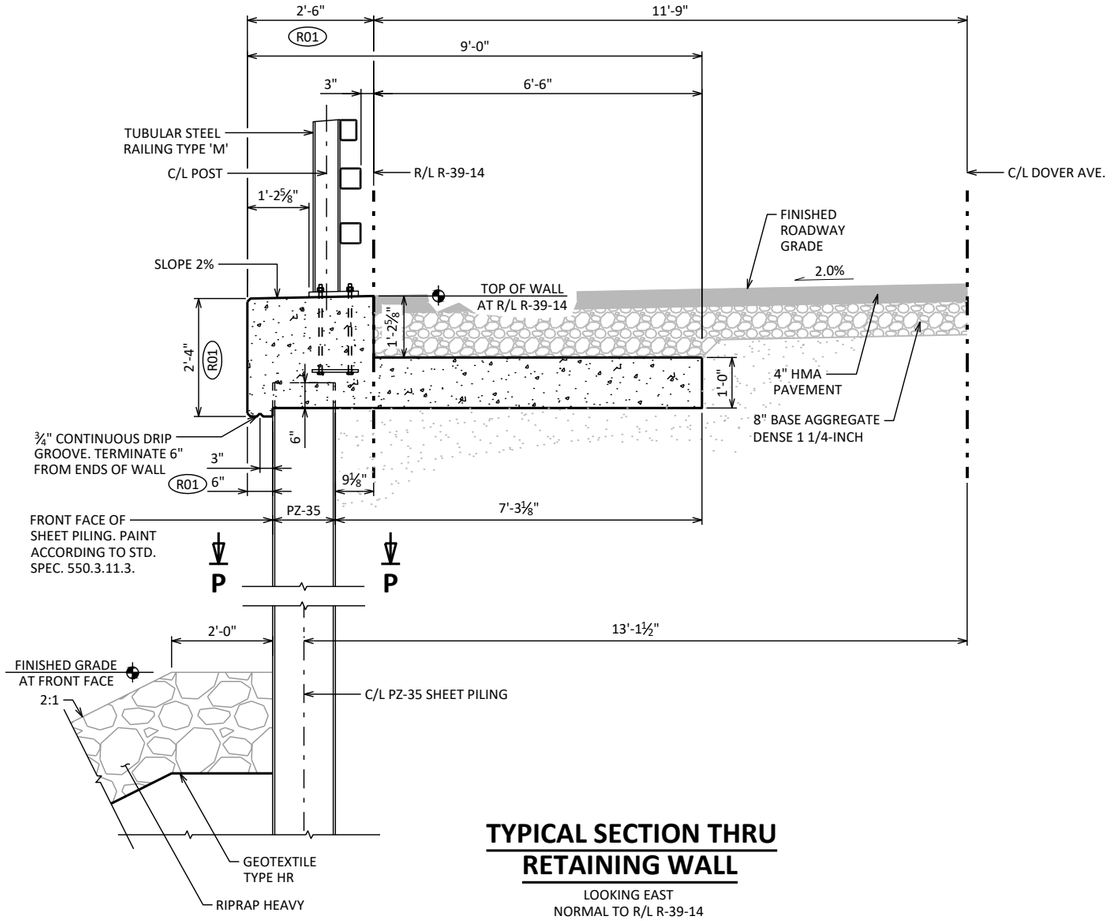
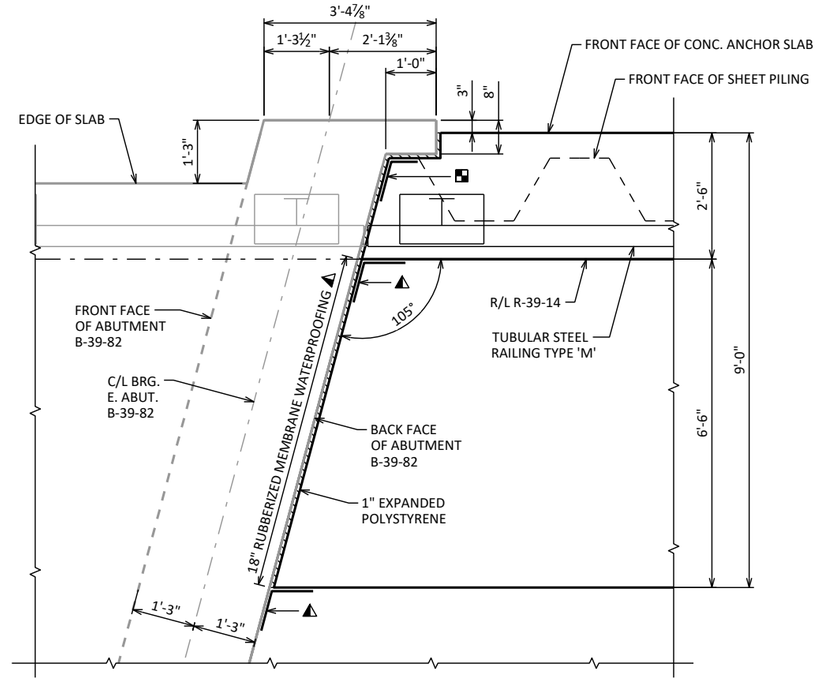


TYPICAL SECTION THRU RETAINING WALL

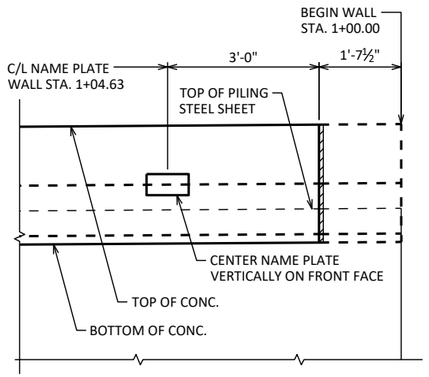
LOOKING EAST
NORMAL TO R/L R-39-14



PLAN - ANCHOR SLAB AT ABUTMENT

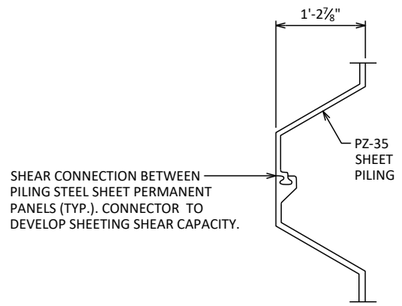
LEGEND

- SEAL EXPOSED VERT. SURFACE OF EXPANDED POLYSTYRENE AND STEEL SHEET PILE WITH 18" RUBBERIZED MEMBRANE WATERPROOFING AT ABUTMENT BACK FACE AND SUPERSTRUCTURE DIAPHRAGM BELOW BOTTOM OF CONC.
- ▲ SEAL EXPOSED VERT. AND HORIZ. SURFACES OF EXPANDED POLYSTYRENE WITH 18" RUBBERIZED MEMBRANE WATERPROOFING AT ABUTMENT BACK FACE AND SUPERSTRUCTURE DIAPHRAGM.
- (R01) PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE EXPOSED TOP, FRONT FACE, AND DRIP EDGE OF THE ANCHOR SLAB.



NAME PLATE DETAIL

LOOKING SOUTH AT FRONT FACE



SECTION P-P

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-39-14

DRAWN BY ZRM | PLANS CK'D VJD

WALL DETAILS

SHEET 2 OF 6
45

8

8

STATE PROJECT NUMBER

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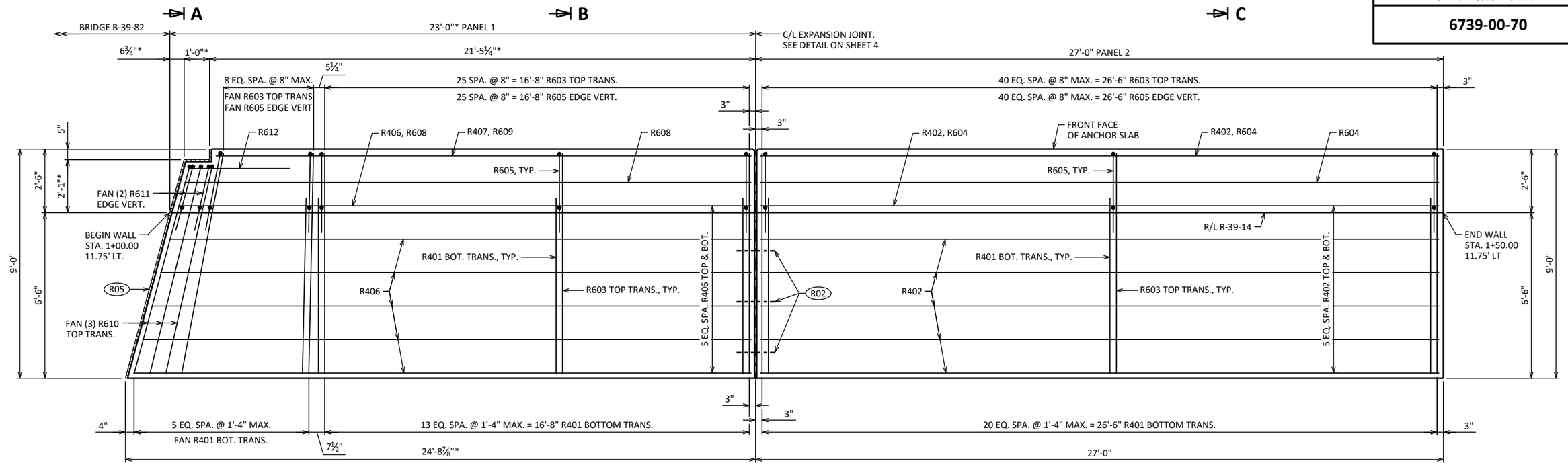
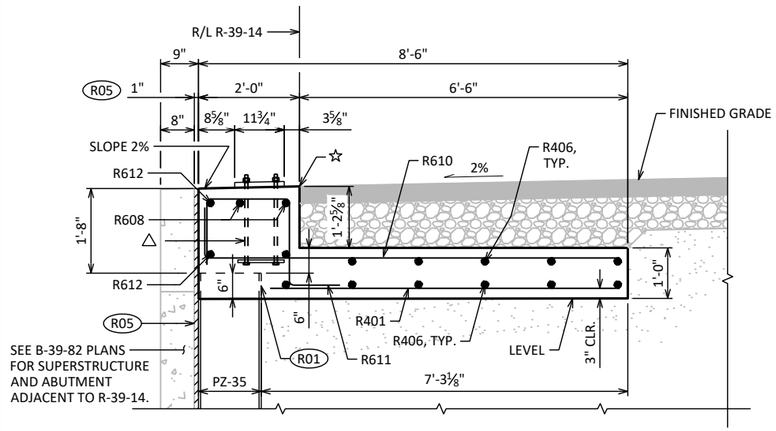
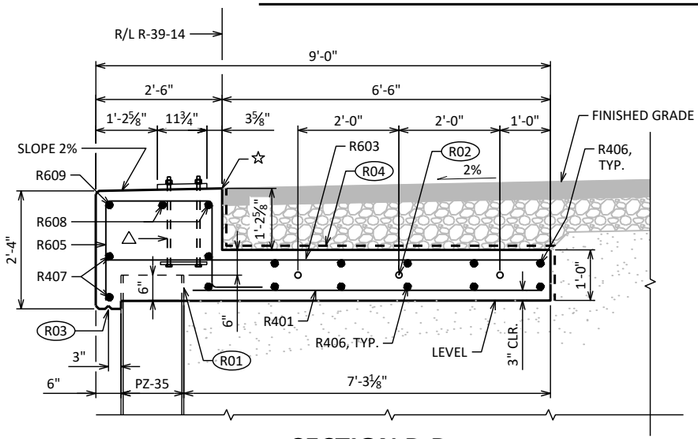


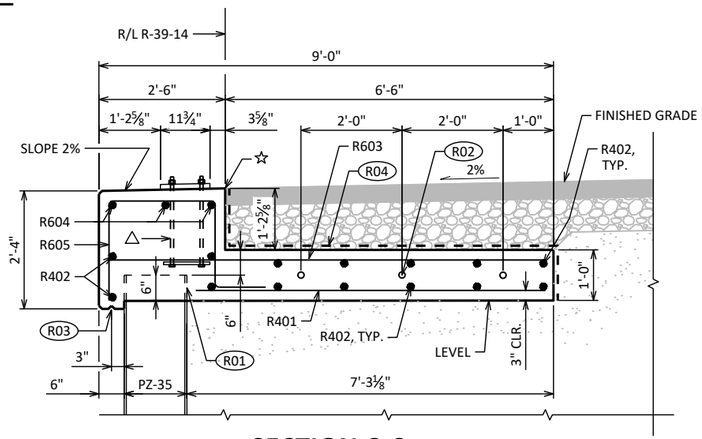
ANCHOR SLAB REINFORCEMENT PLAN



SECTION A-A



SECTION B-B



SECTION C-C

LEGEND

- R01 — USE APPROVED DEBONDER AT ALL SURFACES WHERE ANCHOR SLAB INTERFACES WITH STEEL SHEET PILE.
- R02 — (3) - ¾" DIA. SMOOTH DOWEL BARS, 1'-6" LONG, AT EXPANSION JOINT. EMBED 9". USE APPROVED DEBONDER ON ½ BAR LENGTH. COST INCLUDED IN "CONCRETE MASONRY RETAINING WALLS".
- R03 — ¾" CONTINUOUS DRIP GROOVE. TERMINATE 6" FROM ENDS OF THE WALL.
- R04 — 18" RUBBERIZED MEMBRANE WATERPROOFING TO BE PLACED ON THESE SURFACES AT EACH JOINT.
- R05 — 1" EXPANDED POLYSTYRENE. SEAL WITH NON-STAINING GRAY NON-BITUMINOUS SEALER.
- ☆ — TOP OF WALL ELEVATION REFERRED TO ON THE GENERAL PLAN AND ELEVATION.
- * — DIMENSION INCLUDES 1" EXPANDED POLYSTYRENE.
- △ — ASTM A449 - 1⅛" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D PER POST. 1'-9" LONG. SEE SHEET 5 FOR TUBULAR STEEL RAILING TYPE 'M' DETAILS. SEE SHEET 4 FOR POST SPACING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-39-14

DRAWN BY VJD | PLANS CK'D CJM

ANCHOR SLAB DETAILS 1

SHEET 3 OF 6
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BILL OF BARS - ANCHOR SLAB

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

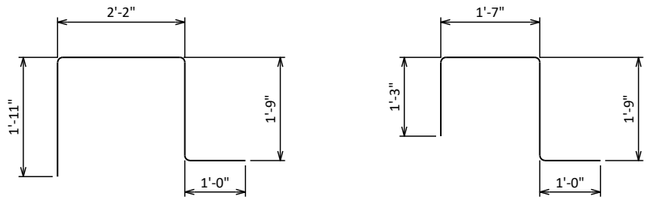
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R401	X	41	6'-11"			ANCHOR SLAB - BOT. TRANS.
R402	X	14	26'-8"			ANCHOR SLAB - LONGIT. - PANEL 2
R603	X	76	8'-8"			ANCHOR SLAB - TOP TRANS.
R604	X	3	26'-8"			ANCHOR SLAB - LONGIT. - PANEL 2
R605	X	76	6'-4"	X		ANCHOR SLAB - VERT.
⚠ R406	X	12	23'-4"		X	ANCHOR SLAB - LONGIT. - PANEL 1
R407	X	2	21'-0"			ANCHOR SLAB - LONGIT. - PANEL 1
⚠ R608	X	2	22'-4"		X	ANCHOR SLAB - LONGIT. - PANEL 1
R609	X	1	21'-0"			ANCHOR SLAB - LONGIT. - PANEL 1
R610	X	3	9'-0"	X		ANCHOR SLAB - TOP TRANS. - PANEL 1
R611	X	2	5'-1"	X		ANCHOR SLAB - VERT. - PANEL 1
R612	X	2	4'-0"			ANCHOR SLAB - LONGIT. - PANEL 1

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

BAR SERIES TABLE

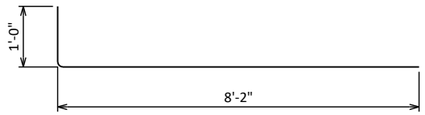
BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
R406	2 SERIES OF 6	22'-5" TO 24'-3"
R608	1 SERIES OF 2	22'-2" TO 22'-6"

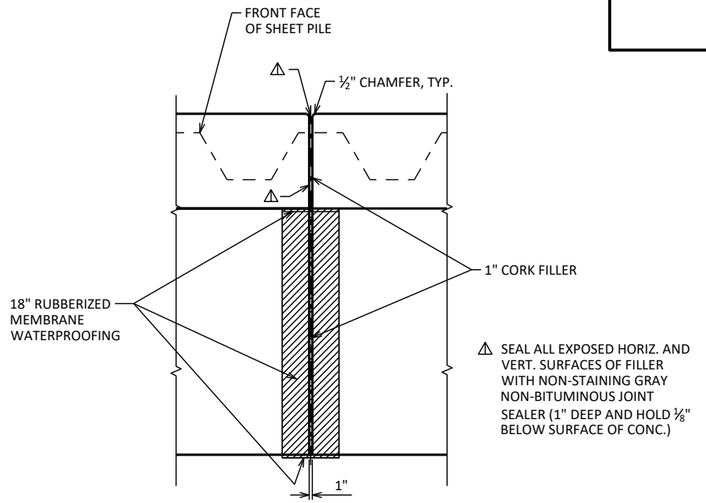


R605

R611

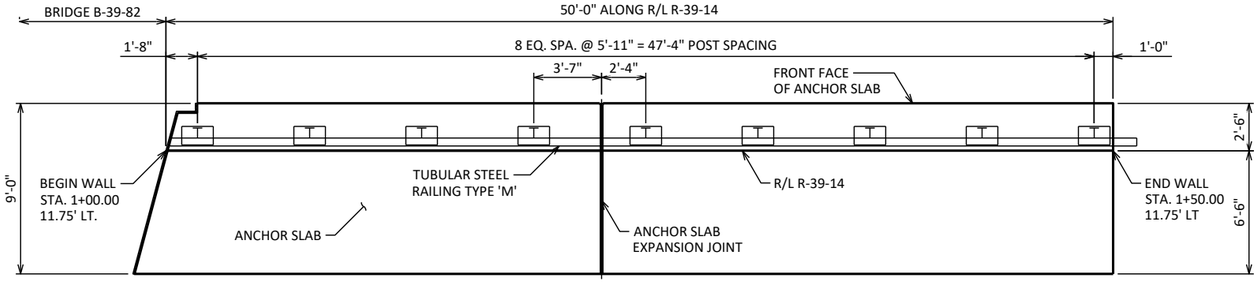


R610



ANCHOR SLAB EXPANSION JOINT DETAIL

DO NOT RUN BAR STEEL THRU JOINT, EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF ANCHOR SLAB.



POST SPACING PLAN

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-39-14

DRAWN BY VJD | PLANS CK'D CJM

ANCHOR SLAB DETAILS 2

SHEET 4 OF 6

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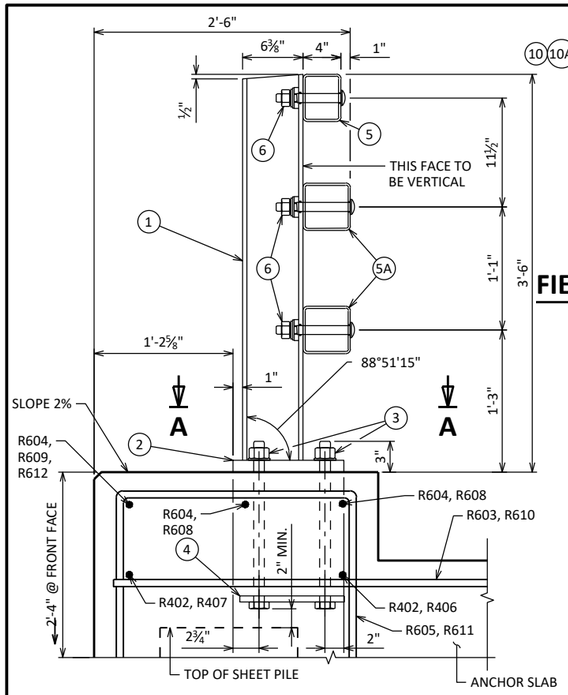
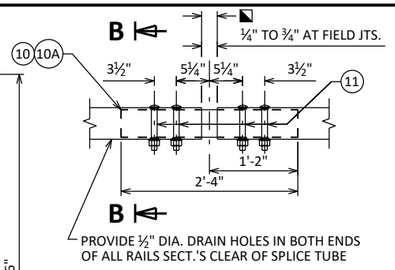
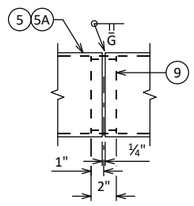


SECTION THRU RAILING

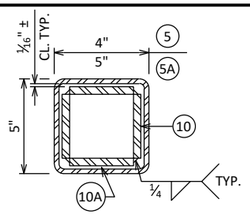


FIELD ERECTION JOINT DETAIL

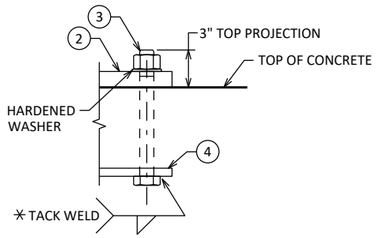


SHOP RAIL SPLICE DETAIL

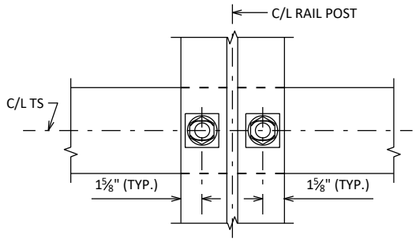
LOCATION MUST BE SHOWN ON SHOP DRAWINGS



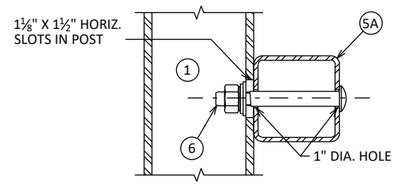
SECTION B-B



ANCHOR BOLTS



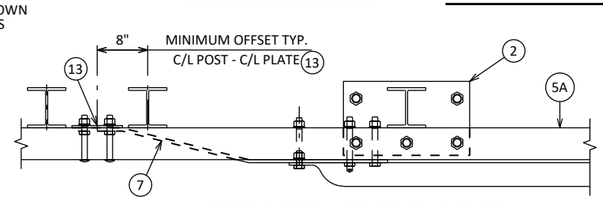
SECTION THRU POST WEB



SECTION THRU RAIL

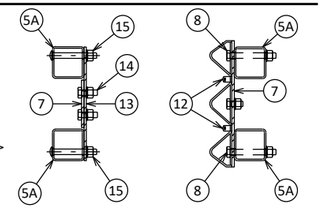
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

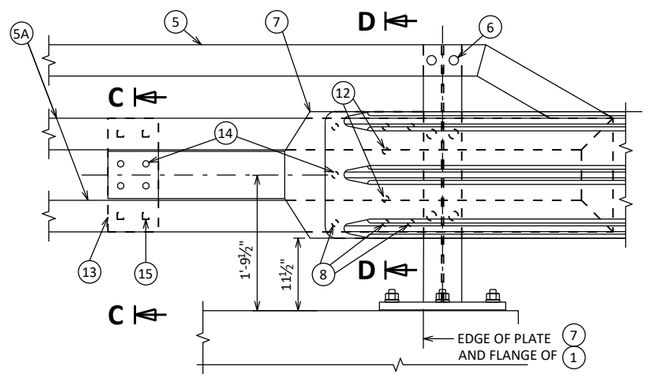


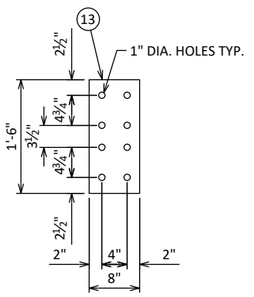
TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT



SECTION C-C SECTION D-D





ANCHOR PLATE

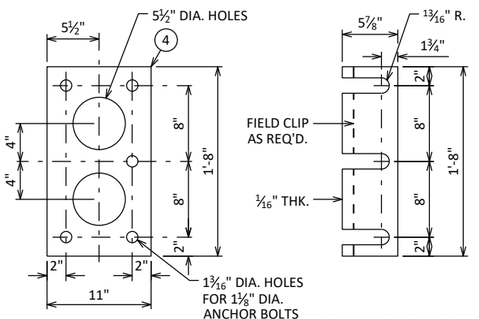
AT BEAM GUARD ATTACHMENT

LEGEND

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

GENERAL NOTES

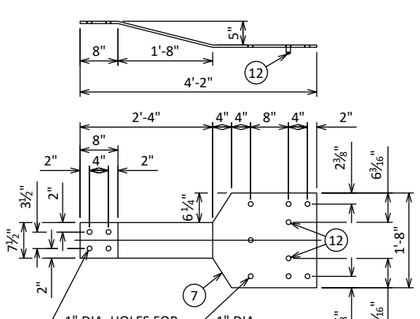
1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES,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



ANCHOR PLATE

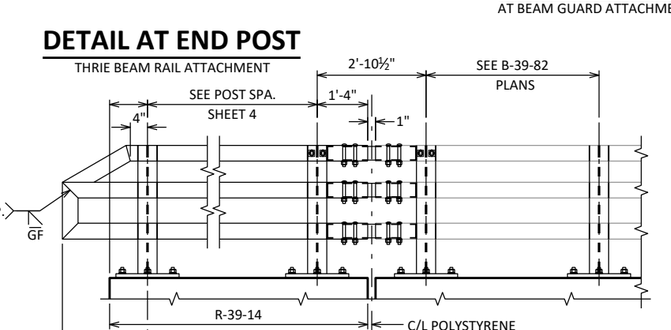
AT RAIL TO DECK CONNECTION

POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-39-14

DRAWN BY VJD | PLANS CK'D CJM

TUBULAR STEEL RAILING TYPE "M"

SHEET 5 OF 6

48

SCALE = 2.00

8

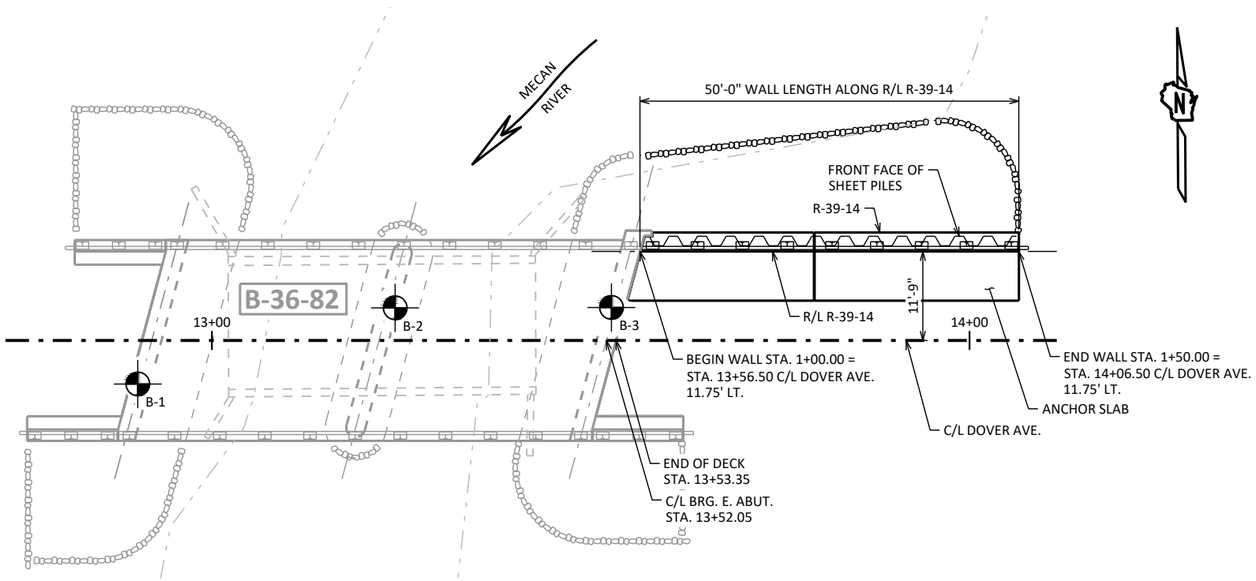
8

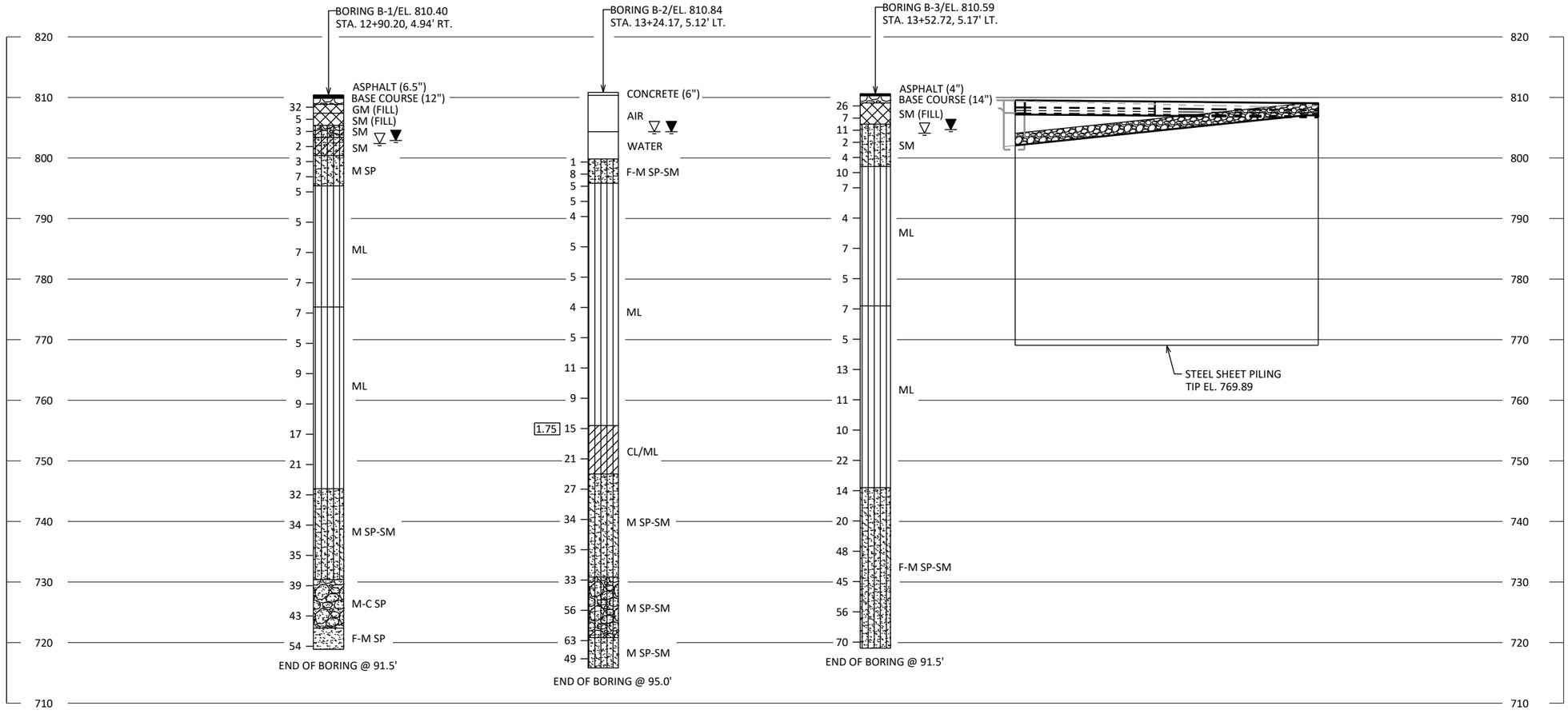
BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	AUGUST 18,2023	307408.8496	474439.8821
2	AUGUST 17, 2023	307418.6944	474473.9074
3	AUGUST 17, 2023	307418.5642	474502.4590
BORINGS COMPLETED BY: ECS MIDWEST, LLC.			
REPORT COMPLETED BY: ECS MIDWEST, LLC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(11), MARQUETTE COUNTY			

NOTES

BORING STATIONS AND OFFSETS ARE BASED ON C/L DOVER AVE.

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





STATE PROJECT NUMBER

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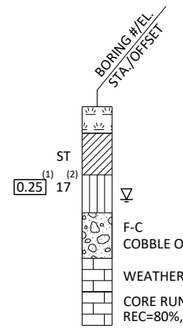
MATERIAL SYMBOLS

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 R-39-14

DRAWN BY ZRM | PLANS CK'D VJD

SUBSURFACE EXPLORATION

SHEET 6 OF 6
49

8

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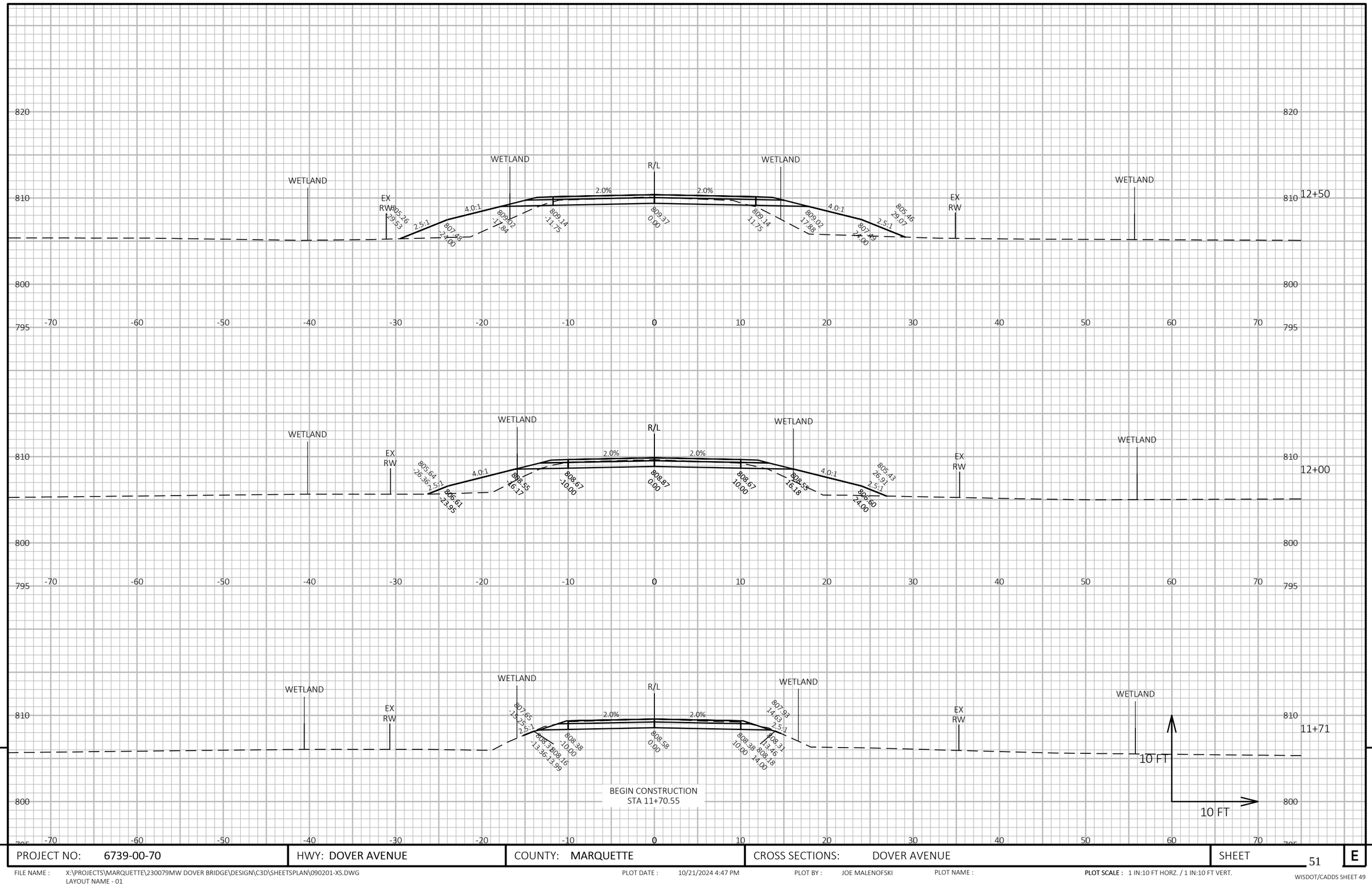
STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
11+70.55	1170.55	0.00	22.19	9.00	0.00	0	0	0	0	0	0
11+75	1175.00	4.45	20.83	9.00	5.08	4	2	0	4	0	3
12+00	1200.00	25.00	16.32	9.00	31.98	17	8	17	21	21	-10
12+25	1225.00	25.00	12.57	8.50	43.62	13	8	35	34	65	-49
12+50	1250.00	25.00	14.05	8.50	54.89	12	8	46	46	123	-102
12+75	1275.00	25.00	17.99	8.50	56.31	15	8	51	61	186	-159
12+80	1280.00	5.00	18.99	8.50	23.50	3	2	7	64	195	-166
12+86	1286.00	6.00	18.04	8.50	0.01	4	2	3	68	199	-168
12+90.76	1290.76	4.76	0.00	8.25	0.00	2	2	0	70	199	-167
13+53.35	1353.35	0.00	9.11	6.90	0.03	0	0	0	0	0	0
13+58	1358.00	4.65	21.56	7.68	11.38	3	1	1	3	1	0
13+77	1377.00	19.00	16.91	10.64	22.99	14	6	12	17	16	-7
13+78	1378.00	1.00	16.73	10.80	23.12	1	0	1	18	18	-8
14+00	1400.00	22.00	12.46	10.80	16.17	12	9	16	30	38	-24
14+02	1402.00	2.00	13.07	10.80	16.52	1	1	1	31	39	-25
14+25	1425.00	23.00	16.69	10.80	4.48	13	9	9	44	50	-33
14+50	1450.00	25.00	26.69	10.80	0.02	20	10	2	64	53	-25
14+66.82	1466.82	16.82	31.10	10.80	0.01	18	7	0	82	53	-14



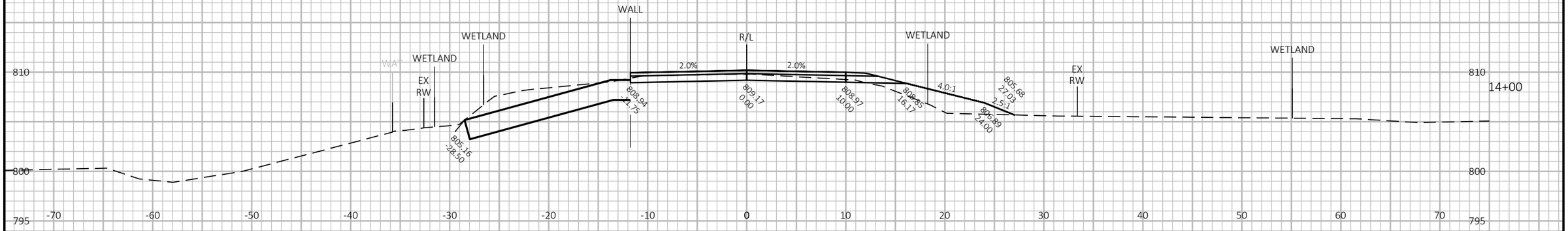
PROJECT NO: 6739-00-70	HWY: DOVER AVENUE	COUNTY: MARQUETTE	CROSS SECTIONS: DOVER AVENUE	SHEET 51 E

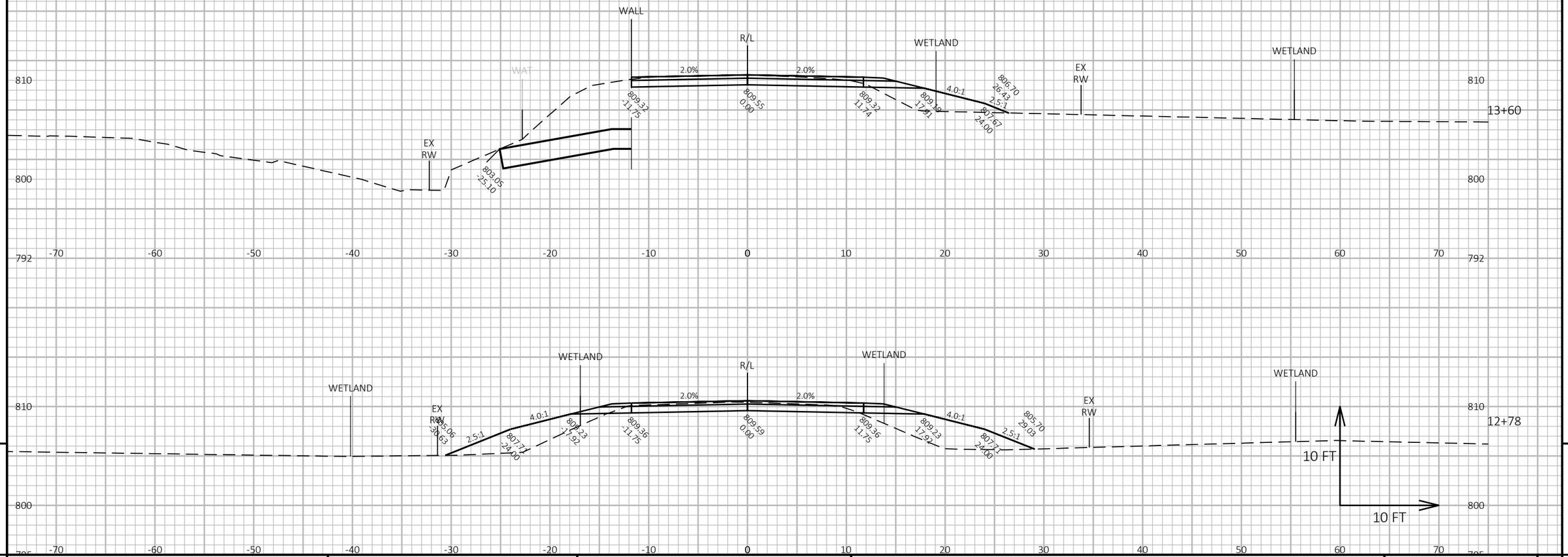
FILE NAME : X:\PROJECTS\MARQUETTE\230079MW DOVER BRIDGE\DESIGN\C3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 01

PLOT DATE : 10/21/2024 4:47 PM PLOT BY : JOE MALENOFSKI PLOT NAME :

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

WISDOT/CADDS SHEET 49





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PROJECT NO: 6739-00-70	HWY: DOVER AVENUE	COUNTY: MARQUETTE	CROSS SECTIONS: DOVER AVENUE	SHEET 52	E

FILE NAME : X:\PROJECTS\MARQUETTE\230079MW DOVER BRIDGE\DESIGN\C3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 02

PLOT DATE : 10/21/2024 4:47 PM PLOT BY : JOE MALENOFSKI PLOT NAME :

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

END CONSTRUCTION
STA 14+66.82

MATCH EXISTING
PARKING AREA

WETLAND
WETLAND
EX
RW
R/L
WETLAND
EX
RW
WETLAND

808.73
-16.95
12.0:1
2.0%
5.3%
807.33
19.34
4.0:1
808.10
-16.17
808.22
-10.00
808.42
0.00
807.89
10.00
807.41
19.03

14+66

MATCH EXISTING
PARKING AREA

WETLAND
WETLAND
EX
RW
R/L
WETLAND
EX
RW
WETLAND

808.34
-22.30
10.4:1
2.0%
4.5%
807.63
18.60
4.0:1
808.18
-16.17
808.41
-10.00
808.61
0.00
808.15
10.00
807.79
17.98

14+50

10 FT
10 FT

9 9

PROJECT NO: 6739-00-70	HWY: DOVER AVENUE	COUNTY: MARQUETTE	CROSS SECTIONS: DOVER AVENUE	SHEET 53	E

FILE NAME : X:\PROJECTS\MARQUETTE\230079MW DOVER BRIDGE\DESIGN\C3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 03

PLOT DATE : 10/21/2024 4:47 PM PLOT BY : JOE MALENOFSKI PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov