RHI

PROJECT ID: 9531-03-70

WITH: N/A

FEBRUARY 2025

ORDER OF SHEETS

TOTAL SHEETS = 46

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

V HATLEY, COLUMBUS STREET

PLOVER RIVER BRIDGE B-37-0478

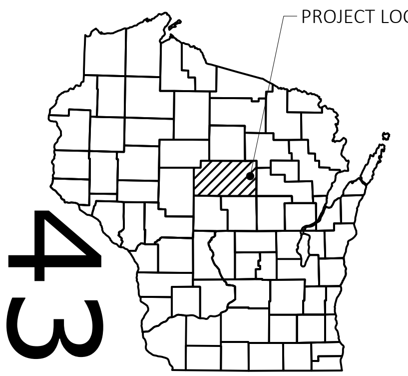
LOC STR

MARATHON COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9531-03-70	WISC 2025342	1

STATE PROJECT NUMBER
9531-03-70

PROJECT LOCATION

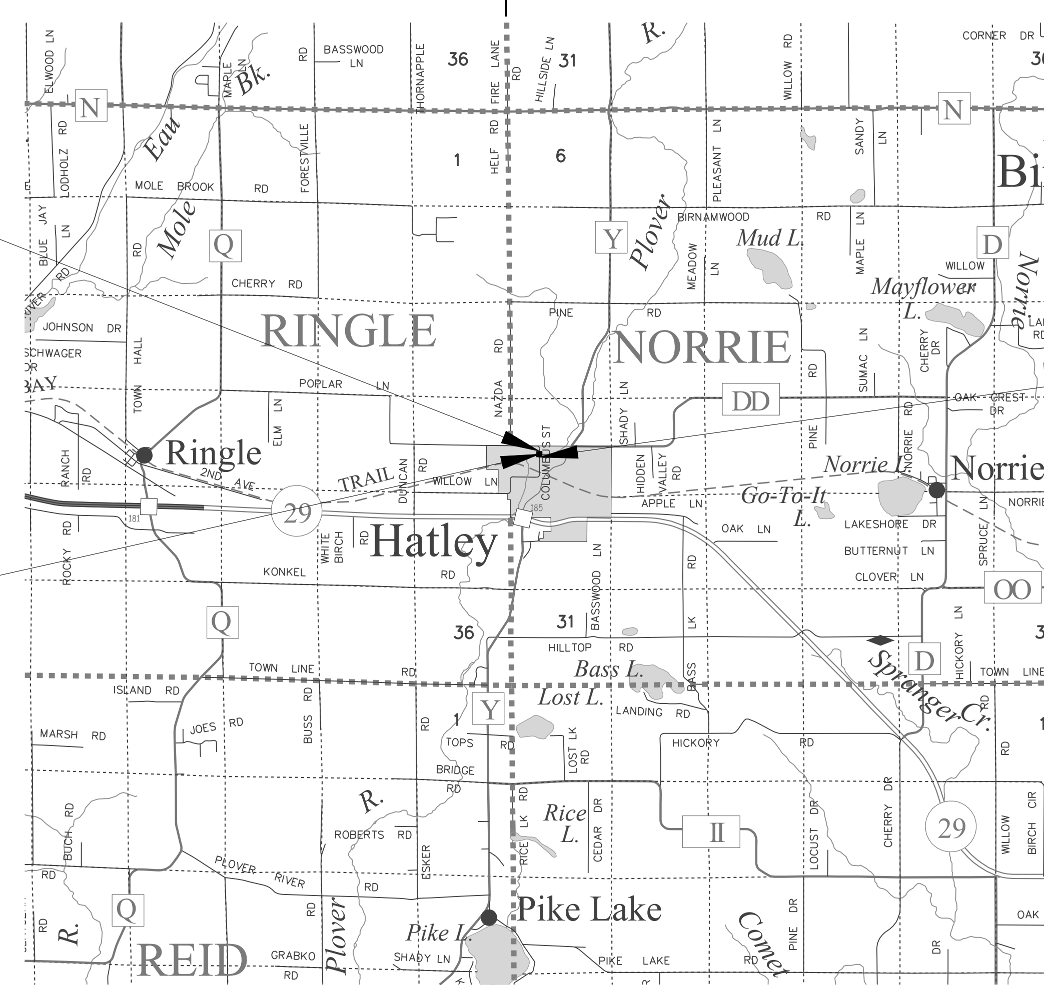


43

N

BEGIN PROJECT 9531-03-70
STA 8+64
Y = 177,222.7416
X = 356,298.0320

BRIDGE B-37-0478



END PROJECT 9531-03-70
STA 11+36
Y = 177,494.7395
X = 356,297.9529

DESIGN DESIGNATION

A.A.D.T.	(2025)	=	194
A.A.D.T.	(2045)	=	209
D.H.V.		=	N/A
D.D.		=	50/50
T.		=	10%
DESIGN SPEED		=	30 MPH
ESALS		=	37,000

COUNTY: MARATHON

CONVENTIONAL SYMBOLS

PLAN
- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

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

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

LAYOUT

SCALE 0 — 2 MI

TOTAL NET LENGTH OF CENTERLINE = 0.052 MI

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

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

ACCEPTED FOR

MARATHON COUNTY

Date 10/21/2024 *James M. Griesbach*
COUNTY HIGHWAY COMMISSIONER

ORIGINAL PLANS PREPARED BY

MSA

146 North Central Ave, Marshfield WI 54449
(715) 384-2133 www.msa-ps.com

WISCONSIN PROFESSIONAL ENGINEER
ALEX PASSOW
E-464886
MINOCQUA
WI

DATE: 10/21/2024 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MSA PROFESSIONAL SERVICES, INC.
Designer	MSA PROFESSIONAL SERVICES, INC.
Project Manager	MICHAEL GRAGE, PE
Regional Examiner	N/A
Regional Supervisor	DAN ERVA, PE

APPROVED FOR THE DEPARTMENT

DATE: 10/21/2024 (Signature)

E

FILE NAME : G:\01\01452\01452073\CADD\SHEETSPLAN\010101-TI.DWG PLOT DATE : 8/26/2024 4:31 PM PLOT BY : SHAWN DOLENS PLOT NAME :

UTILITIES CONTACTS

ALLIANT ENERGY
ELECTRIC
STEVEN CYCHOSZ
708 NE 7TH STREET
MARION, WI 54950
PHONE: 715-754-4323 (OFFICE)
PHONE: 715-290-4102 (MOBILE)
EMAIL: STEVENCYCHOSZ@ALLIANTENERGY.COM

FRONTIER COMMUNICATIONS OF WI
COMMUNICATIONS
CHRIS POLLACK
521 4TH STREET
WAUSAU, WI 54403
PHONE: 715-847-1240 (OFFICE)
EMAIL: CHRISTOPHER.POLLACK@FTR.COM

WISCONSIN PUBLIC SERVICE CORPORATION
GAS
TYLER DAHLSTROM
1700 SHERMAN STREET
WAUSAU, WI 54402
PHONE: 715-848-7387 (OFFICE)
PHONE: 715-432-9212 (MOBILE)
EMAIL: TYLER.DAHLSTROM@WISCONSINPUBLICSERVICE.COM

WISCONSIN DNR LIAISON

JAY SCHIEFELBEIN
2984 SHAWANO AVENUE
GREEN BAY, WI 54313
PHONE: 920-360-3784
EMAIL: JEREMIAH.SCHIEFELBEIN@WISCONSIN.GOV

WISDOT CONTACT

MICHAEL GRAGE
510 N. HANSON LAKE ROAD
RHINELANDER, WI 54501
PHONE: 715-365-5705
EMAIL: MICHAEL.GRAGE@DOT.WI.GOV

COUNTY HIGHWAY COMMISSIONER

JIM GRIESBACH, COMMISSIONER
MARATHON COUNTY HIGHWAY DEPARTMENT
1430 WEST STREET
WAUSAU, WI 54401
PHONE: 715-261-1800
EMAIL: JAMES.GRIESBACH@CO.MARATHON.WI.US

DESIGN CONTACT

SEAN SPROMBERG, PE
MSA PROFESSIONAL SERVICES, INC.
146 NORTH CENTRAL AVENUE
MARSHFIELD, WI 54449
PHONE: 715-304-0451
EMAIL: SSPROMBERG@MSA-PS.COM

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 STRIPTURF:	.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 SLOPETURF:			.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 = 0.34 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.27 ACRES

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

GENERAL NOTES

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

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

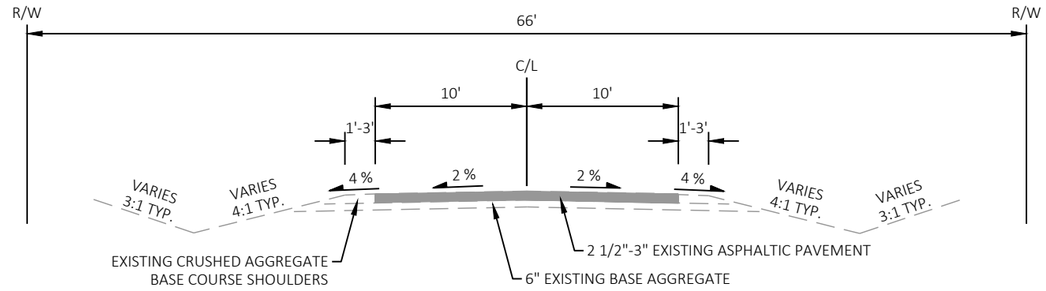
RIGHT OF WAY LOCATIONS ARE APPROXIMATE.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED AND EROSION MATTED.

STANDARD ABBREVIATIONS

ABUT	ABUTMENT	LC	LONG CHORD OF CURVE
AC	ACRE	LS	LUMP SUM
AGG	AGGREGATE	MGAL	ONE THOUSAND GALLONS
AH	AHEAD	MH	MANHOLE
∠	ANGLE	ML OR M/L	MATCH LINE
AADT	ANNUAL AVERAGE DAILY TRAFFIC	NOM	NOMINAL
ASPH	ASPHALTIC	NC	NORMAL CROWN
BK	BACK	NB	NORTHBOUND
BC	BACK OF CURB	NO	NUMBER
BAD	BASE AGGREGATE DENSE	OD	OUTSIDE DIAMETER
BL OR B/L	BASE LINE	PAVT	PAVEMENT
BM	BENCH MARK	PLE	PERMANENT LIMITED EASEMENT
CB	CATCH BASIN	PC	POINT OF CURVATURE
CL OR C/L	CENTER LINE	PI	POINT OF INTERSECTION
Δ	CENTRAL ANGLE OR DELTA	PT	POINT OF TANGENCY
CE	COMMERCIAL ENTRANCE	PCC	PORTLAND CEMENT CONCRETE
CONC	CONCRETE	LB	POUND
CONST	CONSTRUCTION	PSI	POUNDS PER SQUARE INCH
CP	CONTROL POINT	PE	PRIVATE ENTRANCE
CO	COUNTY	PROJ	PROJECT
CTH	COUNTY TRUCK HIGHWAY	PL	PROPERTY LINE
CY	CUBIC YARD	PRW	PROPOSED RIGHT OF WAY
CP	CULVERT PIPE	R	RADIUS
CPRC	CULVERT PIPE REINFORCED CONCRETE	RL OR R/L	REFERENCE LINE
C & G	CURB AND GUTTER	REQD	REQUIRED
D	DEGREE OF CURVE	RT	RIGHT
DHV	DESIGN HOUR VOLUME	R/W	RIGHT OF WAY
DIA	DIAMETER	RD	ROAD
DWY	DRIVEWAY	RDWY	ROADWAY
EA	EACH	SHLDR	SHOULDER
EB	EASTBOUND	SW	SIDEWALK
EL OR ELEV	ELEVATION	SB	SOUTHBOUND
EMB	EMBANKMENT	SPECS	SPECIFICATIONS
EW	ENDWALL	SF	SQUARE FEET
EAT	ENERGY ABSORBING TERMINAL	SY	SQUARE YARD
ESALS	EQUIVALENT SINGLE AXLE LOADS	SDD	STANDARD DETAIL DRAWINGS
EXC	EXCAVATION	STH	STATE TRUNK HIGHWAY
EBS	EXCAVATION BELOW SUBGRADE	STA	STATION
EXIST	EXISTING	SE	SUPERELEVATION
FERT	FERTILIZER	SL OR S/L	SURVEY LINE
FE	FIELD ENTRANCE	TEMP	TEMPORARY
FL OR F/L	FLOW LINE	TI	TEMPORARY INTEREST
FT	FOOT	TLE	TEMPORARY LIMITED EASEMENT
FTMS	FREE TRAFFIC MANAGEMENT SYSTEM	TC	TOP OF CURB
HE	HIGHWAY EASEMENT	TL OR T/L	TRANSIT LINE
CWT	HUNDRED WEIGHT	T	TRUCKS (PERCENT OF)
IN DIA	INCH DIAMETER	TYP	TYPICAL
INL	INLET	USH	UNITED STATES HIGHWAY
ID	INSIDE DIAMETER	VAR	VARIABLE
INTERS	INTERSECTION	VC	VERTICAL CURVE
IH	INTERSTATE HIGHWAY	VPC	VERTICAL POINT OF CURVATURE
INV	INVERT	VPI	VERTICAL POINT OF INTERSECTION
JT	JOINT	VPT	VERTICAL POINT OF TANGENCY
LT	LEFT	W	WEST
L	LENGTH OF CURVE	WB	WESTBOUND
LF	LINEAR FOOT		

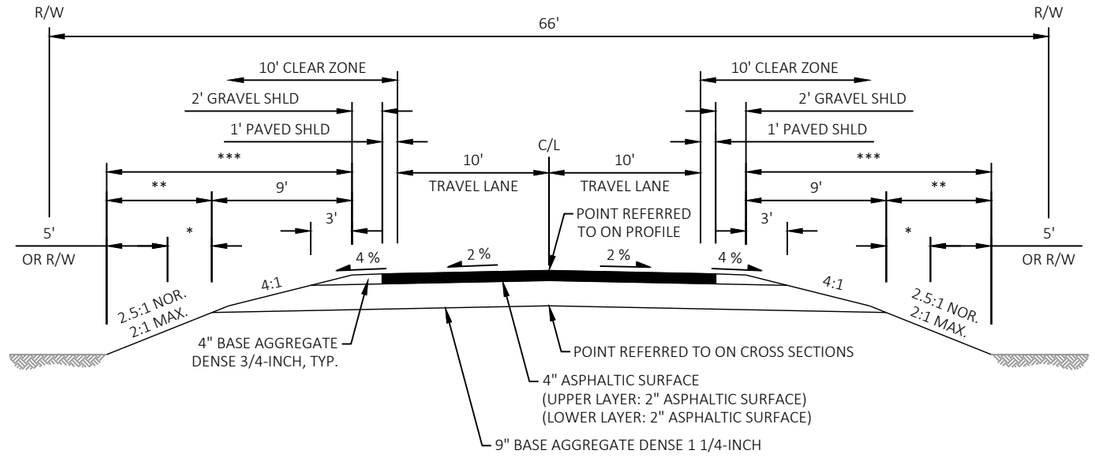
2



EXISTING TYPICAL SECTION

STA 8+64 - STA 11+36

* LIMITS OF TOPSOIL
** LIMITS OF EROSION MAT URBAN CLASS 1 TYPE B
*** LIMITS OF SEEDING MIXTURE NO. 20, SEEDING TEMPORARY & FERTILIZER TYPE B



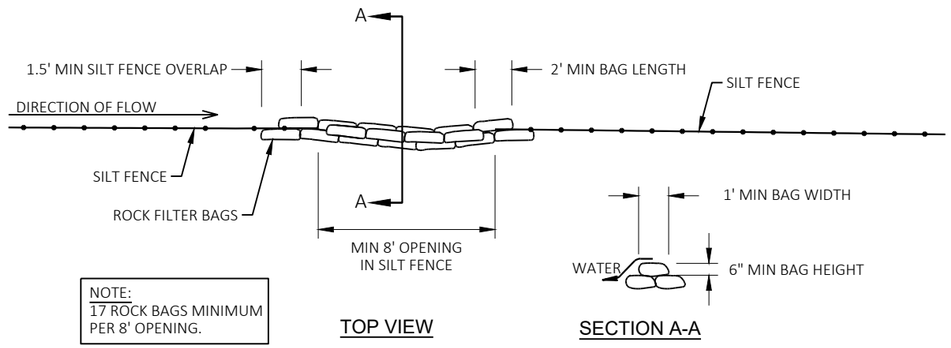
FINISHED TYPICAL SECTION

STA 8+64 - STA 11+36

PROJECT NO: 9531-03-70	HWY: LOC STR	COUNTY: MARATHON	TYPICAL SECTIONS	SHEET 3	E

FILE NAME : G:\01\01452\01452073\CADD\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 020301-ts
PLOT DATE : 9/3/2024 1:50 PM
PLOT BY : SHAWN DOLENS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2



NOTE:
17 ROCK BAGS MINIMUM PER 8' OPENING.

TOP VIEW

SECTION A-A

ROCK BAGS USED FOR SILT FENCE RELIEF

PROJECT NO: 9531-03-70	HWY: LOC STR	COUNTY: MARATHON	CONSTRUCTION DETAILS	SHEET 4	E

Estimate Of Quantities

9531-03-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	4.000	4.000
0004	201.0205	Grubbing	STA	4.000	4.000
0006	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-37-707	EACH	1.000	1.000
0008	205.0100	Excavation Common	CY	163.000	163.000
0010	205.0506.S	Excavation, Hauling, and Disposal of Creosote Contaminated Soil	TON	190.000	190.000
0012	206.1001	Excavation for Structures Bridges (structure) 01. B-37-478	EACH	1.000	1.000
0014	209.2500	Backfill Granular Grade 2	TON	92.000	92.000
0016	210.1500	Backfill Structure Type A	TON	270.000	270.000
0018	213.0100	Finishing Roadway (project) 01. 9531-03-70	EACH	1.000	1.000
0020	305.0110	Base Aggregate Dense 3/4-Inch	TON	30.000	30.000
0022	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	340.000	340.000
0024	455.0605	Tack Coat	GAL	38.000	38.000
0026	465.0105	Asphaltic Surface	TON	120.000	120.000
0028	502.0100	Concrete Masonry Bridges	CY	219.000	219.000
0030	502.3200	Protective Surface Treatment	SY	293.000	293.000
0032	505.0400	Bar Steel Reinforcement HS Structures	LB	4,910.000	4,910.000
0034	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	31,300.000	31,300.000
0036	513.4061	Railing Tubular Type M	LF	198.000	198.000
0038	516.0500	Rubberized Membrane Waterproofing	SY	18.000	18.000
0040	550.0020	Pre-Boring Rock or Consolidated Materials	LF	66.000	66.000
0042	550.0500	Pile Points	EACH	8.000	8.000
0044	550.1120	Piling Steel HP 12-Inch X 53 Lb	LF	305.000	305.000
0046	606.0300	Riprap Heavy	CY	170.000	170.000
0048	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	200.000	200.000
0050	618.0100	Maintenance and Repair of Haul Roads (project) 01. 9531-03-70	EACH	1.000	1.000
0052	619.1000	Mobilization	EACH	1.000	1.000
0054	624.0100	Water	MGAL	12.000	12.000
0056	625.0100	Topsoil	SY	610.000	610.000
0058	628.1504	Silt Fence	LF	550.000	550.000
0060	628.1520	Silt Fence Maintenance	LF	550.000	550.000
0062	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0064	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0066	628.2008	Erosion Mat Urban Class I Type B	SY	610.000	610.000
0068	628.2027	Erosion Mat Class II Type C	SY	100.000	100.000
0070	628.6005	Turbidity Barriers	SY	320.000	320.000
0072	628.7504	Temporary Ditch Checks	LF	20.000	20.000
0074	628.7570	Rock Bags	EACH	98.000	98.000
0076	629.0210	Fertilizer Type B	CWT	0.450	0.450
0078	630.0120	Seeding Mixture No. 20	LB	18.000	18.000
0080	630.0200	Seeding Temporary	LB	18.000	18.000
0082	630.0500	Seed Water	MGAL	13.000	13.000
0084	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0086	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0088	638.2102	Moving Signs Type II	EACH	2.000	2.000
0090	638.2602	Removing Signs Type II	EACH	2.000	2.000
0092	642.5001	Field Office Type B	EACH	1.000	1.000
0094	643.0420	Traffic Control Barricades Type III	DAY	1,890.000	1,890.000
0096	643.0705	Traffic Control Warning Lights Type A	DAY	2,930.000	2,930.000
0098	643.0900	Traffic Control Signs	DAY	1,470.000	1,470.000

9531-03-70

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	160.000	160.000
0104	645.0120	Geotextile Type HR	SY	310.000	310.000
0106	650.4500	Construction Staking Subgrade	LF	200.000	200.000
0108	650.5000	Construction Staking Base	LF	200.000	200.000
0110	650.6501	Construction Staking Structure Layout (structure) 01. B-37-478	EACH	1.000	1.000
0112	650.9911	Construction Staking Supplemental Control (project) 01. 9531-03-70	EACH	1.000	1.000
0114	650.9920	Construction Staking Slope Stakes	LF	200.000	200.000
0116	690.0150	Sawing Asphalt	LF	42.000	42.000
0118	715.0502	Incentive Strength Concrete Structures	DOL	1,320.000	1,320.000
0120	999.2005.S	Maintaining Bird Deterrent System (station) Station 10+00	EACH	1.000	1.000
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

CATEGORY	STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
0010	8+64	-	9+80	RT & LT	2	2
0010	10+20	-	11+36	RT & LT	2	2
				TOTAL 0010	4	4

CATEGORY	LOCATION	205.0506.S EXCAVATION, HAULING, AND DISPOSAL OF CREOSOTE CONTAMINATED SOIL TON
0010	SOUTH ABUTMENT	95
0010	NORTH ABUTMENT	95
	TOTAL 0010	190

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	8+64	-	9+64	LT & RT	15	170	6
0010	10+36	-	11+36	LT & RT	15	170	6
				TOTAL 0010	30	340	12

CATEGORY	STATION	TO	STATION	LOCATION	205.0100 EXCAVATION COMMON CY	UNEXPANDED FILL CY	EXPANDED FILL (1) CY	MASS ORDINATE +/- (2) CY	WASTE CY
0010	8+64	-	9+50	MAINLINE	76	24	30	46	-46
0010	10+50	-	11+36	MAINLINE	87	28	35	52	-52
				TOTAL 0010	163				-98

(1) EXPANDED FILL FACTOR = 1.25
(2) THE MASS ORDINATE + OR - QUANTITY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
(3) EXISTING PAVEMENT BASED ON AVERAGE THICKNESS OF 3"

CATEGORY	STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
0010	8+64	-	9+64	MAINLINE	19	60
0010	10+36	-	11+36	MAINLINE	19	60
				TOTAL 0010	38	120

CATEGORY	STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.2027 EROSION MAT CLASS II TYPE C SY	628.7504 TEMPORARY DITCH CHECKS LF	628.7570 ROCK BAGS EACH	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
0010	8+64	-	9+64	LT	120	120	--	--	17	0.08	4	4	3
0010	8+64	-	9+64	RT	120	120	--	--	17	0.08	4	4	3
0010	10+36	-	11+36	LT	120	120	--	--	17	0.08	4	4	3
0010	10+36	-	11+36	RT	150	150	--	--	17	0.09	4	4	3
0010			UNDISTRIBUTED		100	100	100	20	30	0.12	2	2	1
				TOTAL 0010	610	610	100	20	98	0.45	18	18	13

3

CATEGORY	STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	8+64	-	9+64	LT	115	115	--	--
0010	8+64	-	9+64	RT	120	120	--	--
0010	10+36	-	11+36	LT	120	120	--	--
0010	10+36	-	11+36	RT	120	120	--	--
0010			PROJECT 9531-03-70		--	--	5	2
0010			UNDISTRIBUTED		75	75	--	--
				TOTAL 0010	550	550	5	2

CATEGORY	LOCATION	628.6005 TURBIDITY BARRIERS SY
0010	PROJECT 9531-03-70	320
	TOTAL 0010	320

3

CATEGORY	STATION	LOCATION	634.0612 POSTS WOOD 4X6-INCH X 12-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2102 MOVING SIGNS TYPE II EACH	638.2602 REMOVING SIGNS TYPE II EACH	REMARKS
0010	9+49	LT	1	3	-	-	W5-52L 12"X36"
0010	9+49	RT	1	3	-	-	W5-52R 12"X36"
0010	10+51	LT	1	3	-	-	W5-52L 12"X36"
0010	10+51	RT	1	3	-	-	W5-52R 12"X36"
0010	ADVANCED SIGNING		-	-		2	NARROW BRIDGE SIGNS
0010	ADVANCED SIGNING		-	-	2	-	SPEED LIMIT AND CURVE SIGNS
		TOTAL 0010	4	12	2	2	

CATEGORY	LOCATION	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0900 TRAFFIC CONTROL SIGNS DAY
0010	PROJECT 9531-03-70	1,710	2,660	1,330
0010	UNDISTRIBUTED	180	270	140
	TOTAL 0010	1,890	2,930	1,470

CATEGORY	STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.6501.01 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (01. B-37-478) EACH	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 9531-03-70) EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	8+64	-	9+64	MAINLINE	100	100	--	--	100
0010	10+36	-	11+36	MAINLINE	100	100	--	--	100
0010	8+64	-	11+36	PROJECT	--	--	--	1	--
0020			B-37-478		--	--	1	--	--
				TOTAL 0010	200	200	1	1	200

CATEGORY	STATION	LOCATION	690.0150 SAWING ASPHALT LF
0010	8+64	MAINLINE	21
0010	11+36	MAINLINE	21
		TOTAL 0010	42

PROJECT NO: 9531-03-70	HWY: LOC STR	COUNTY: MARATHON	MISCELLANEOUS QUANTITIES	SHEET: 8	E

LEGEND
SILT FENCE
RIPRAP HEAVY
TURBIDITY BARRIER
EROSION MAT URBAN CLASS 1 TYPE B

CLINT O INMAN
SANDRA L INMAN

MYRON J ALBRENT
EUGENE E ALBRENT

KYLE RESCH
JENNIFER RESCH

JORDAN FALKOWSKI
JOSHUA FALKOWSKI

JORDAN FALKOWSKI

N

CONTROL POINTS

NO.	STATION	DESCRIPTION	Y	X
1	7+90.71, 16.33'RT	IRON ROD	177,149.53	356,314.71
5	12+07.54, 14.90'LT	IRON ROD	177,566.35	356,283.41

BENCH MARKS

NO.	STATION	ELEV.	DESCRIPTION
2	9+21.46, 20.52'RT	1262.59	SPK NAIL
6	9+75.84, 11.17'RT	1264.34	MAG NAIL
3	10+23.85, 13.81'LT	1261.71	CHISEL 'X'
4	11+36.91, 17.79'RT	1264.17	SPK NAIL

BEGIN PROJECT
STA 8+64
Y = 177,222.7416
X = 356,298.0320
SAWCUT REQUIRED

END PROJECT
STA 11+36
Y = 177,494.7395
X = 356,297.9529
SAWCUT REQUIRED

BF: 7+50.00
Y = 177108.743
X = 356298.566

PI: 9+50.00
Y = 177308.739
X = 356297.629

PI: 10+50.00
Y = 177408.740
X = 356297.520

PI: 12+00.00
Y = 177558.739
X = 356298.275

EP: 12+50.00
Y = 177608.738
X = 356298.527

APPROX. R/W
66'
APPROX. R/W

CAUTION GAS

COLUMBUS STREET
(ASPHALT)

N0°16'06"W
8+00
N0°03'45"W
10+00
N0°17'18"E
12+00
N0°17'19"E

STA 8+89 -11.00' LT
STA 9+01.75 -11.00' LT
STA 9+51.75 -13.00' LT
STA 8+89 11.00' RT
STA 9+01.75 11.00' RT
STA 9+51.75 13.00' RT
STA 10+48.25 13.00' LT
STA 10+98.25 -11.00' LT
STA 11+11 -11.00' LT
STA 10+48.25 13.00' RT
STA 10+98.25 11.00' RT
STA 11+11 11.00' RT

CP 1
CP 5
BM 2
BM 3
BM 4
BM 6

W5-52L 12"X36"
W5-52R 12"X36"

EDGE OF ASPHALTIC SURFACE (TYP.)
EDGE OF BASE AGGREGATE SHLD. (TYP.)
5' (TYP.)
PLOVER RIVER
OVERHEAD ELECTRIC (ALLIANT ENERGY)
COMMUNICATIONS (FRONTIER COMMUNICATIONS OF WI)
GAS (WISCONSIN PUBLIC SERVICE CORPORATION)
SLOPE INTERCEPT (TYP.)
EXISTING EDGE OF PAVEMENT (TYP.)
SLOPE INTERCEPT (TYP.)
EXISTING STRUCTURE P-37-0707 (TO BE REMOVED)
PROPOSED STRUCTURE B-37-0478
LIMITS OF EXCAVATION, HAULING, AND DISPOSAL OF CREOSOTE CONTAMINATED SOIL (TYP.)
EDGE OF WATER (TYP.)
EDGE OF WETLAND (TYP.)
P.L.

STA 8+64.00 EL 1263.91
STA 8+90.00 EL 1264.02
STA 11+00.00 EL 1264.92
STA 11+36.00 EL 1265.23

PROPOSED PROFILE
EXISTING PROFILE
0.44%
0.43%
0.84%
HIGH WATER 100 ELEV. = 1264.16
OBSERVED WATER ELEV. = 1256.50 +/- (07-24-2023)
STREAMBED ELEV. = 1254.40 +/-
EXISTING PROFILE ELEV AT CL
PROPOSED PROFILE ELEV AT CL

1265
1260
1255
1253

1263.84 1263.98 1264.07 1264.40 1264.28 1264.70 1264.49 1264.92 1264.71 1264.92 1264.92 1265.36

7 8 9 10 11 12 13

PROPOSED STRUCTURE B-37-0478
STA 10+00
TWO SPAN CONCRETE FLAT SLAB BRIDGE
26.0 FT CLEAR ROADWAY WIDTH
72.5 FT OVERALL LENGTH
NO SKEW

REMOVE EXISTING STRUCTURE P-37-0707
STA 10+00
SINGLE SPAN STEEL DECK GIRDER BRIDGE
23.7 FT CLEAR ROADWAY WIDTH
50.2 FT OVERALL LENGTH
NO SKEW

EARTHWORK SUMMARY
STA. 8+64 - STA 9+50

COMMON EXC.	76 CY
FILL	24 CY
FILL EXPANSION	25%
EXPANDED FILL	30 CY
WASTE	46 CY

EARTHWORK SUMMARY
STA. 10+50 - STA 11+36

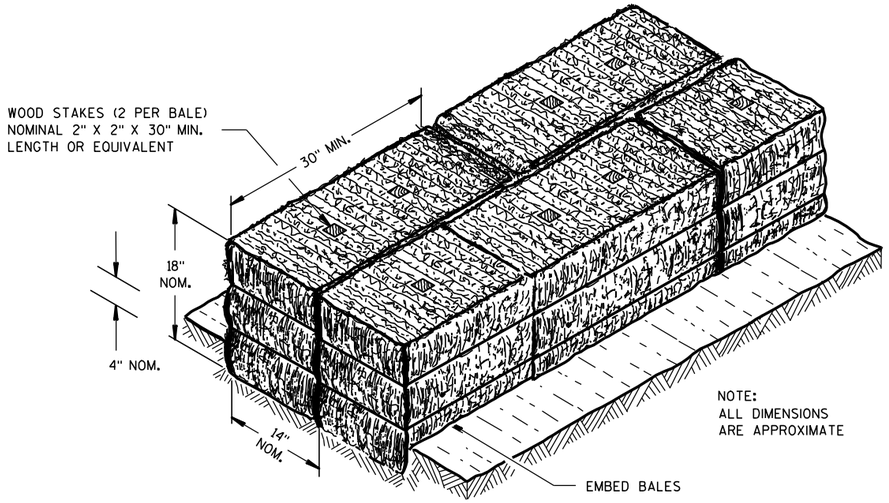
COMMON EXC.	87 CY
FILL	28 CY
FILL EXPANSION	25%
EXPANDED FILL	35 CY
WASTE	52 CY

PROJECT NO: 9531-03-70	HWY: LOC STR	COUNTY: MARATHON	PLAN AND PROFILE	SHEET 9	E

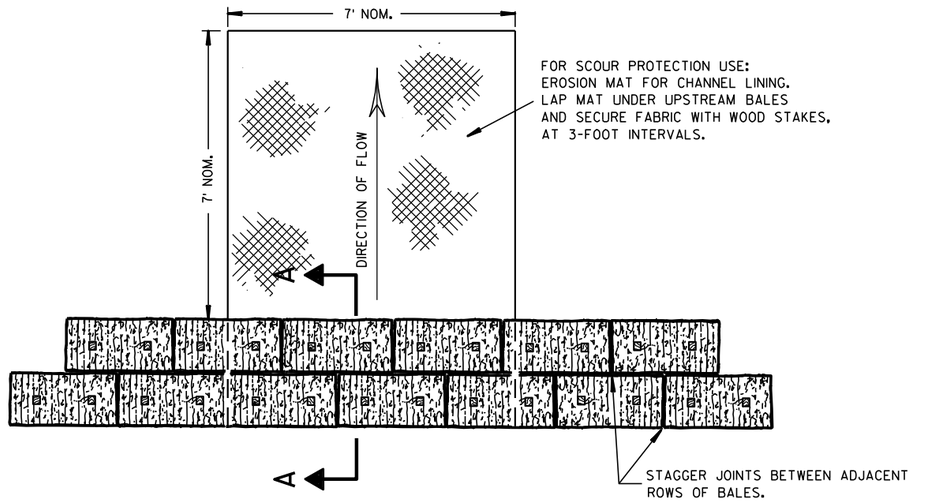
FILE NAME : G:\01\01452\01452073\CADD\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 050101-pp
PLOT DATE : 10/29/2024 10:06 AM
PLOT BY : SHAWN DOLENS
PLOT NAME :
PLOT SCALE : 1 IN:40 FT

Standard Detail Drawing List

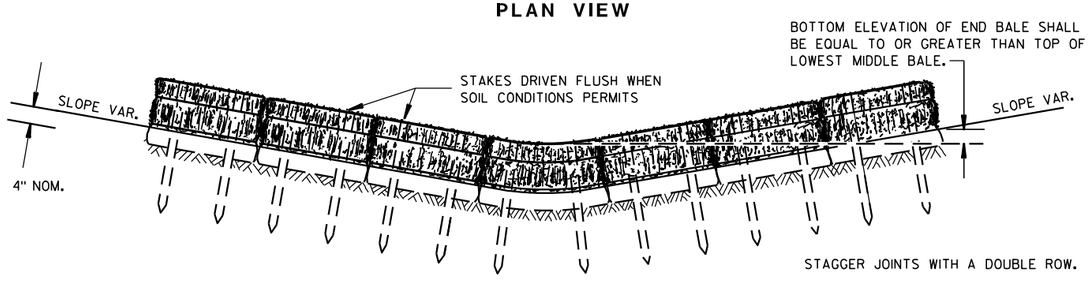
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



SECTION A-A



PLAN VIEW



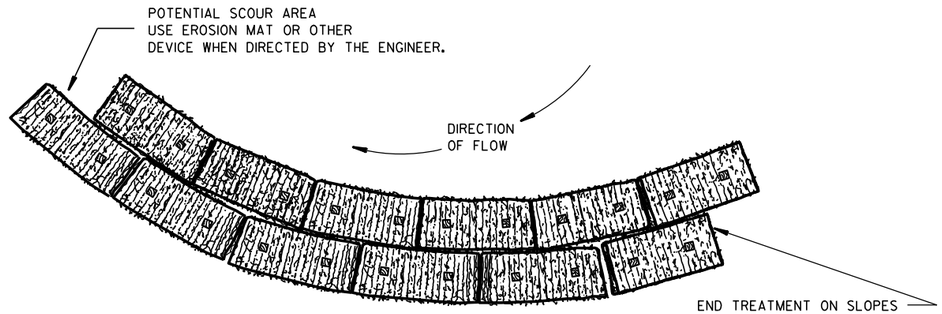
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

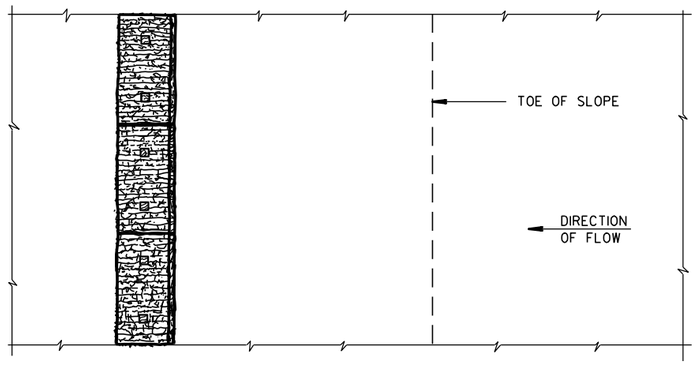
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

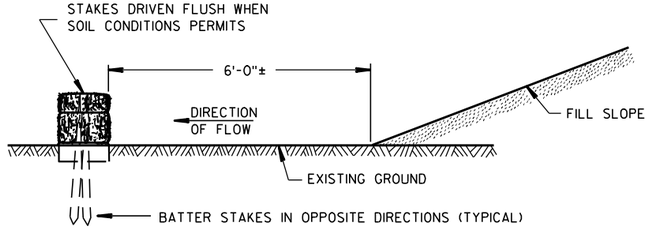


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

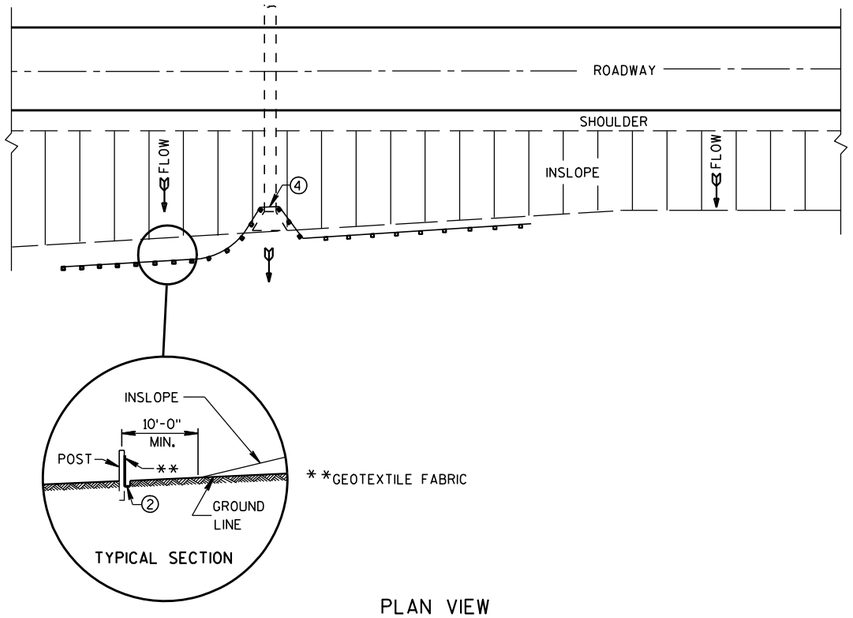
APPROVED

6/04/02 DATE — /S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

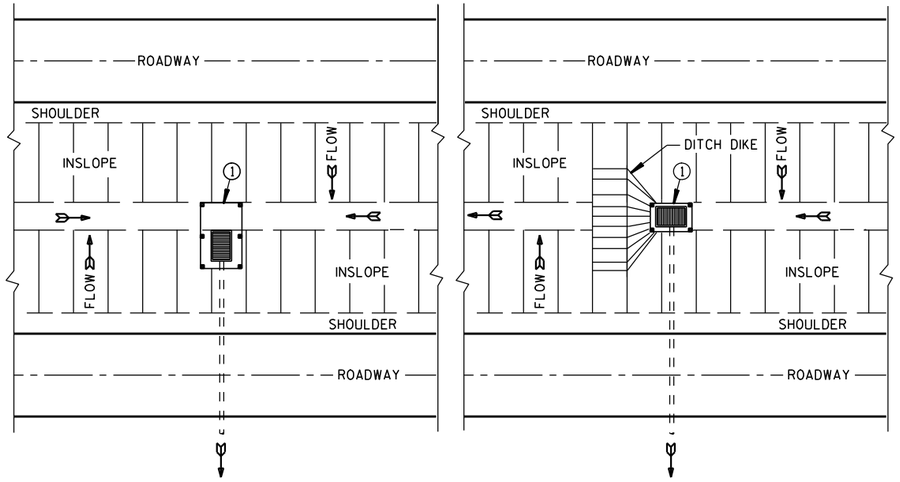
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



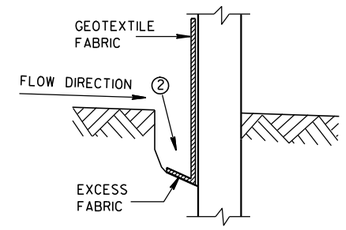
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

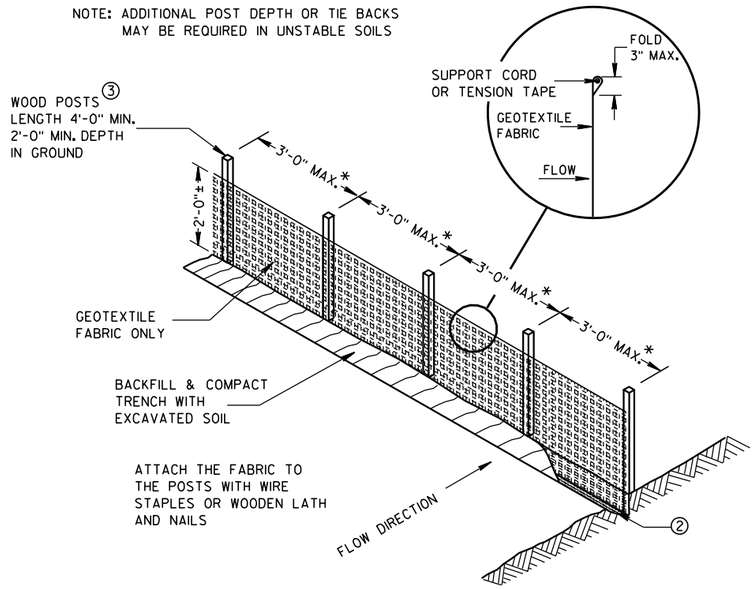
GENERAL NOTES

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

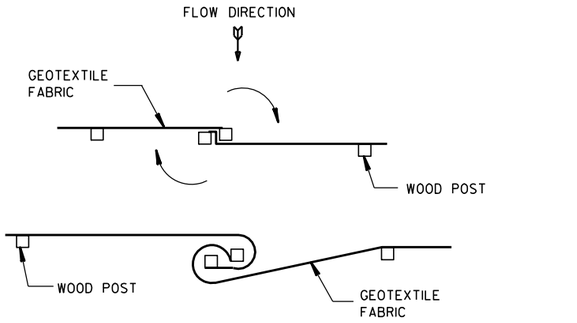
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



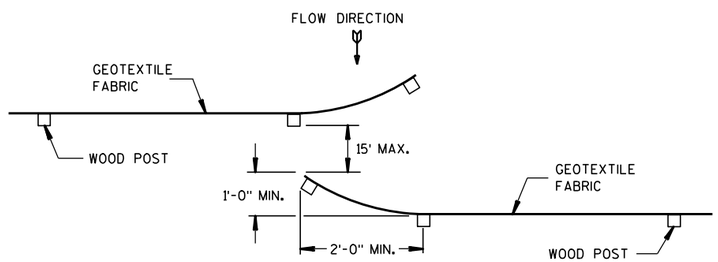
TRENCH DETAIL



SILT FENCE

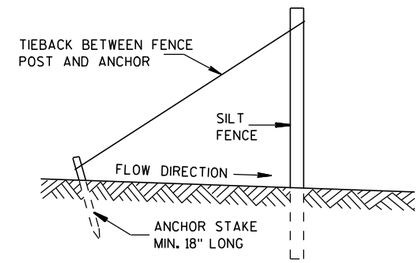


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

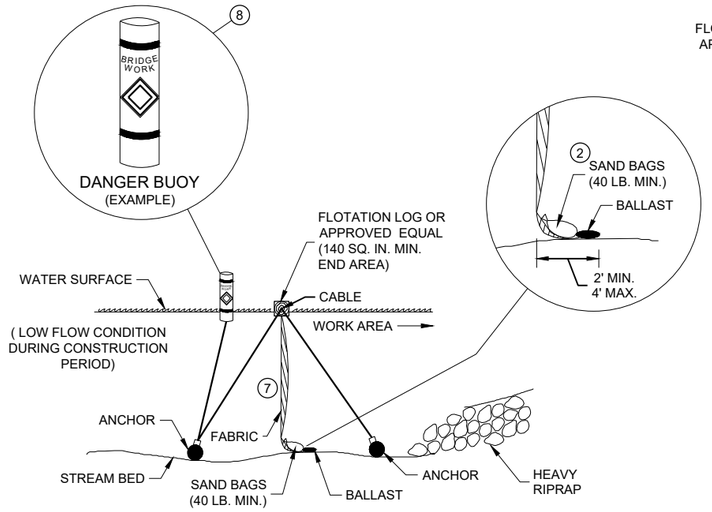
SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

6

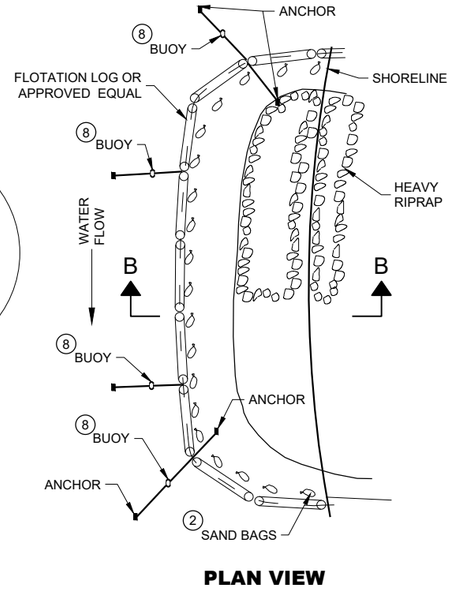
S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

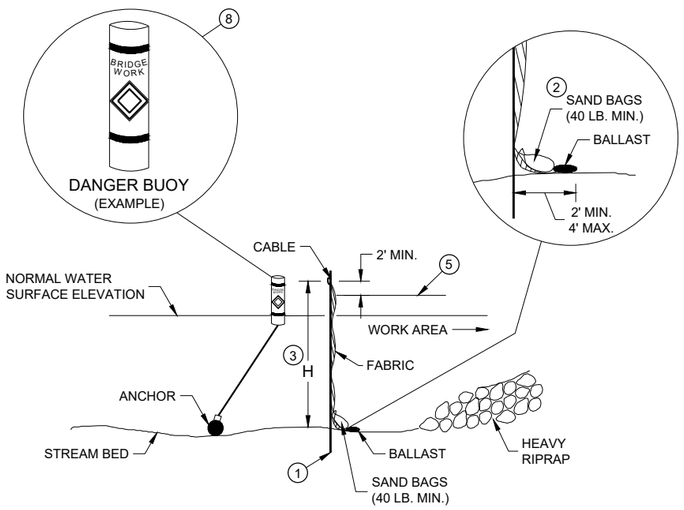


SECTION B - B

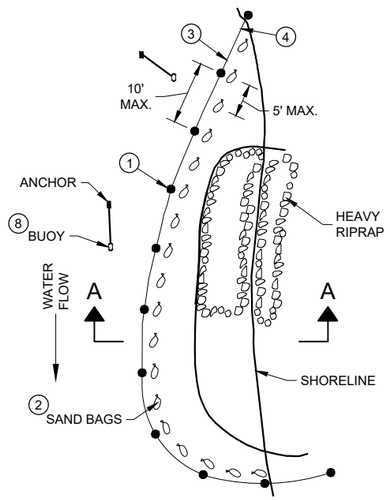


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

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

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

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

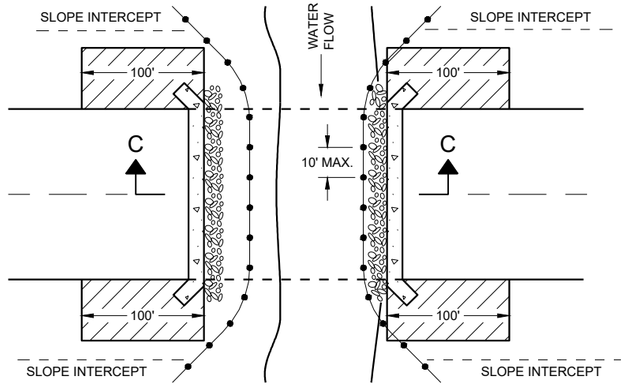
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

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

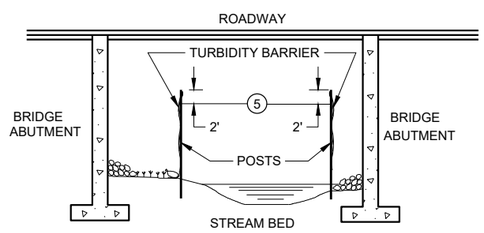
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

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

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



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

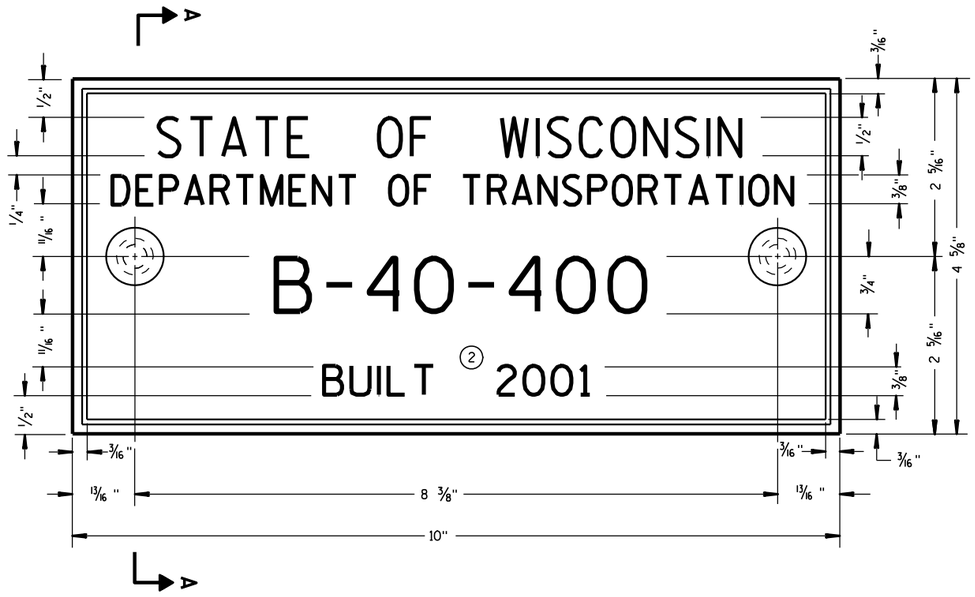
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

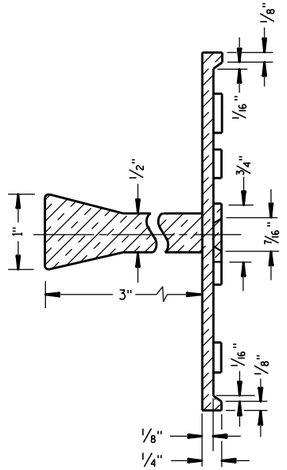
GENERAL NOTES

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.

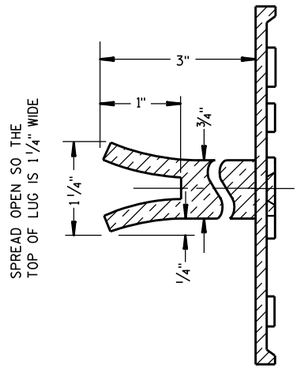
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

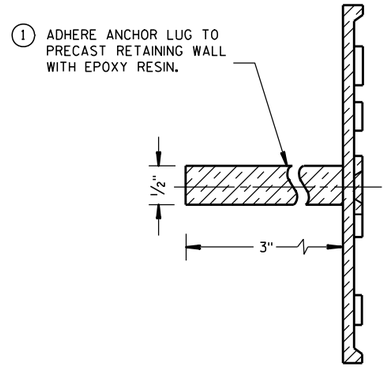
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

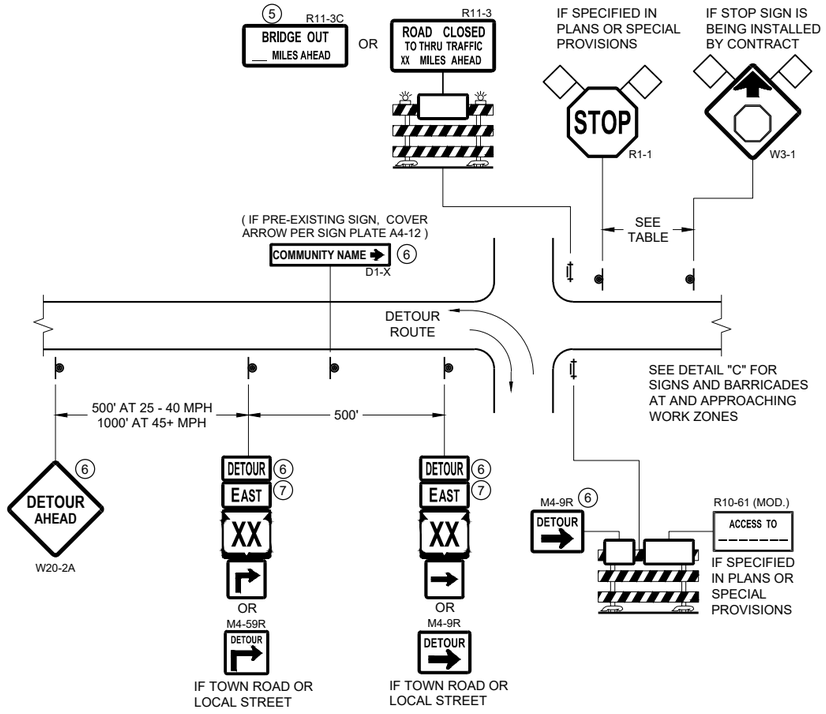
3/26/10 DATE

/S/ Scot Beck CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA

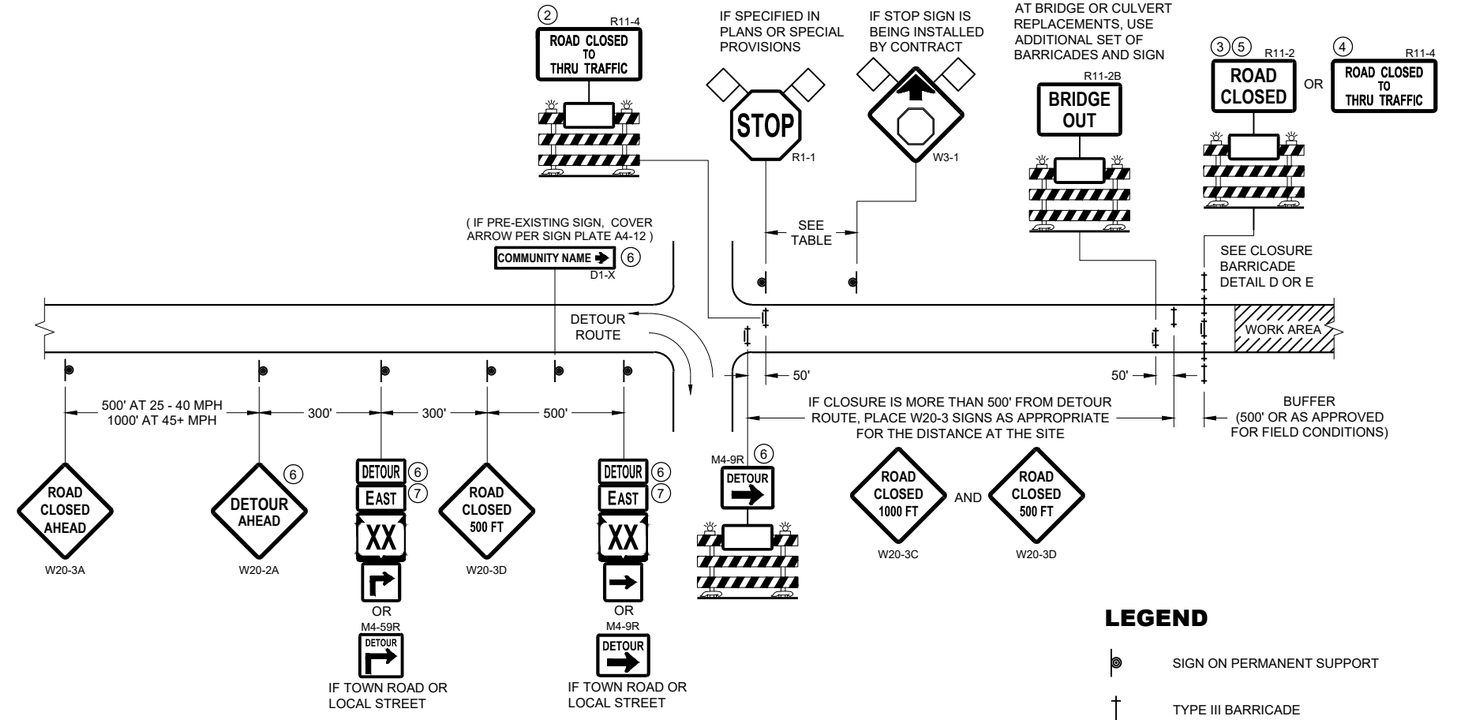
6

S.D.D. 12 A 3-10



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)

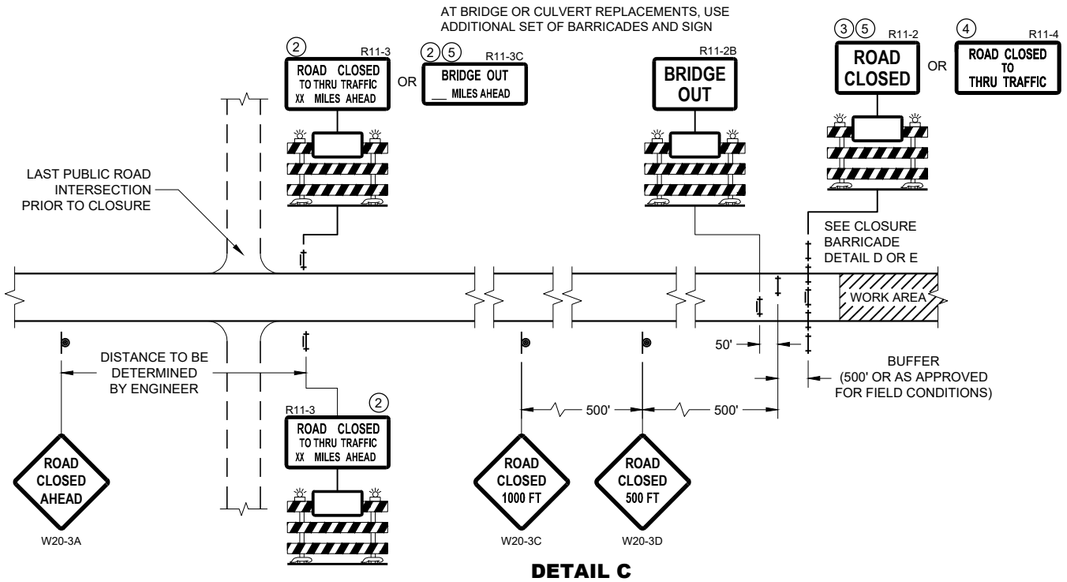
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

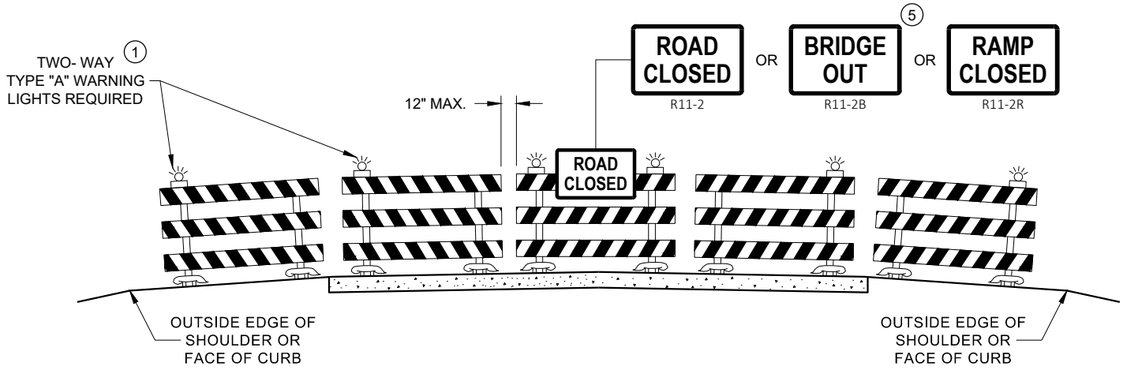
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

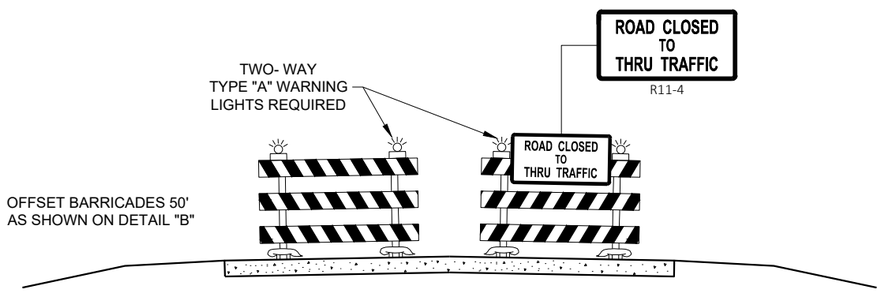
FHWA

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

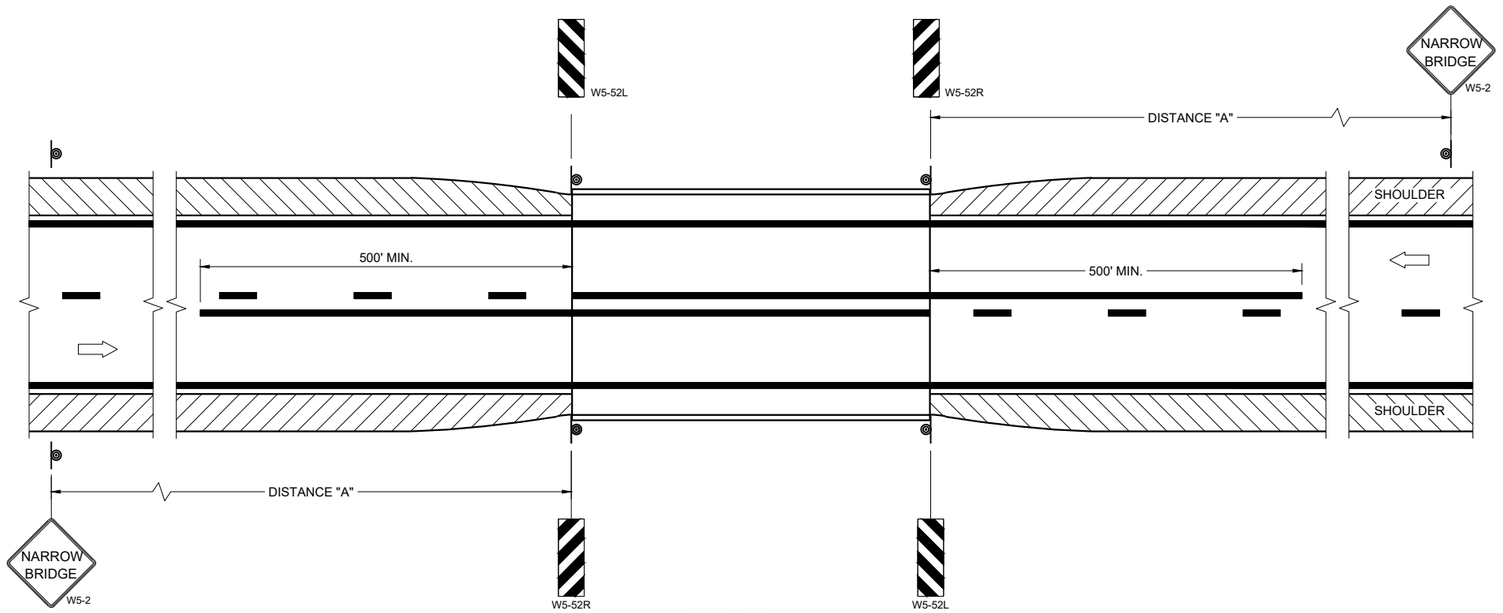
APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

SDD 15C02 - 09b

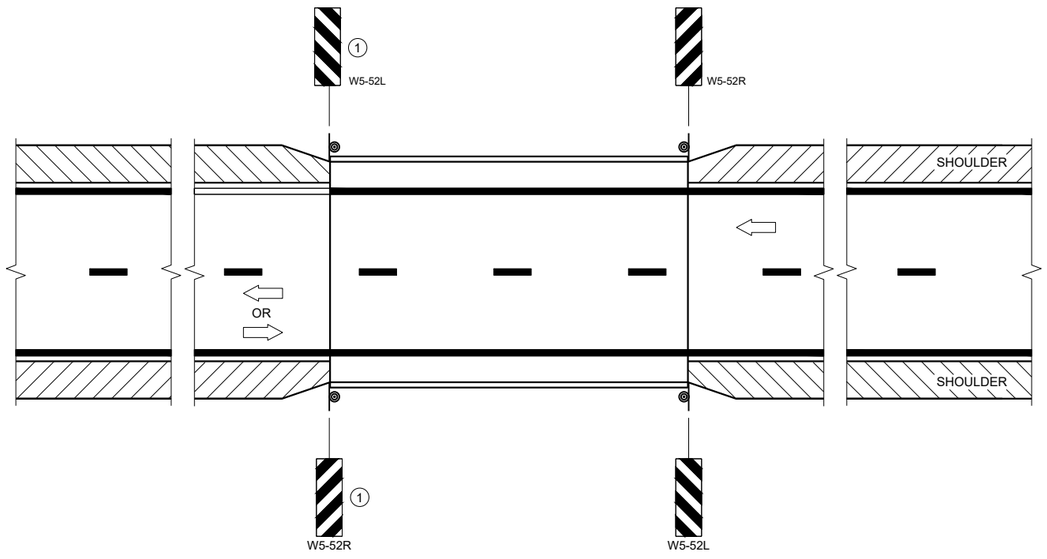
6

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

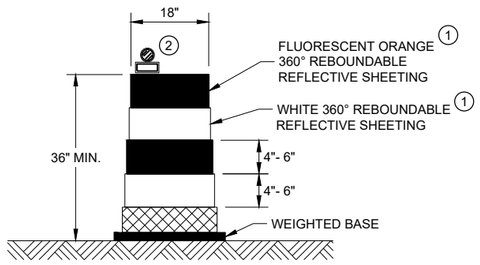
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
SDD 15C06-12

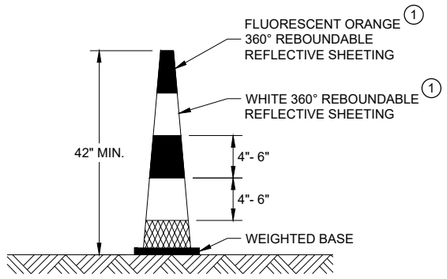
GENERAL NOTES

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

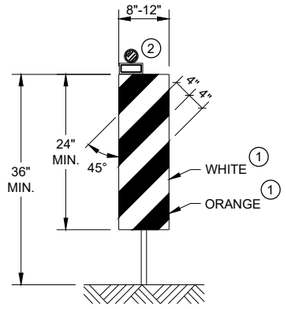
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

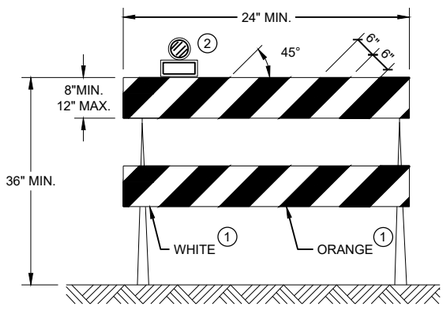
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



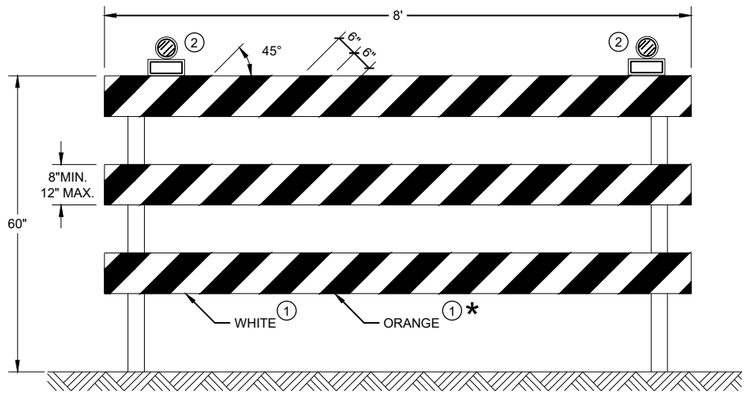
VERTICAL PANEL

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

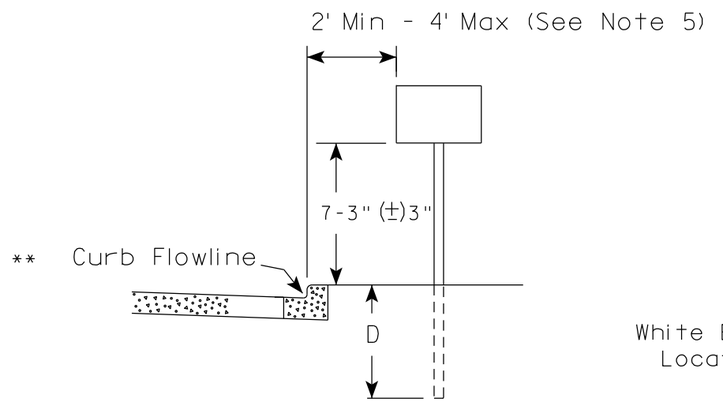
6

SDD 15C11 - 10b

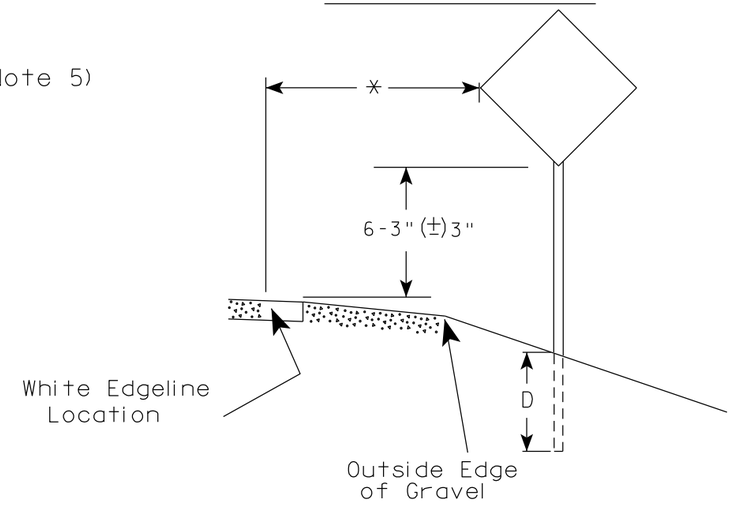
6

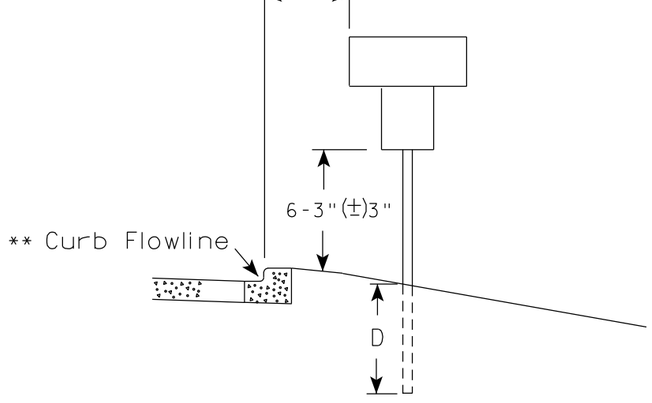
SDD 15C11 - 10b

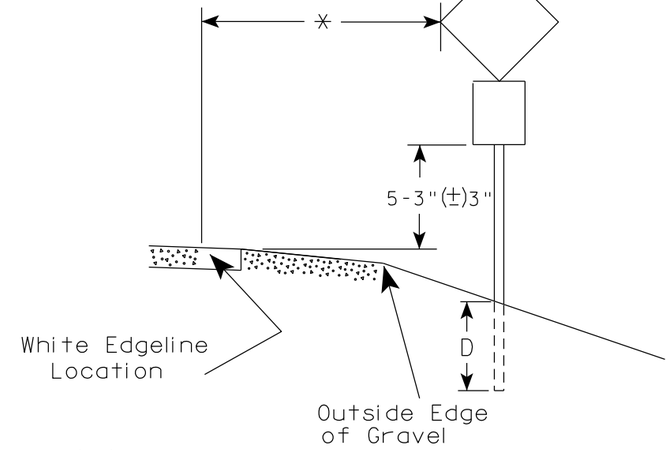
URBAN AREA



RURAL AREA (See Note 2)







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

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

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'

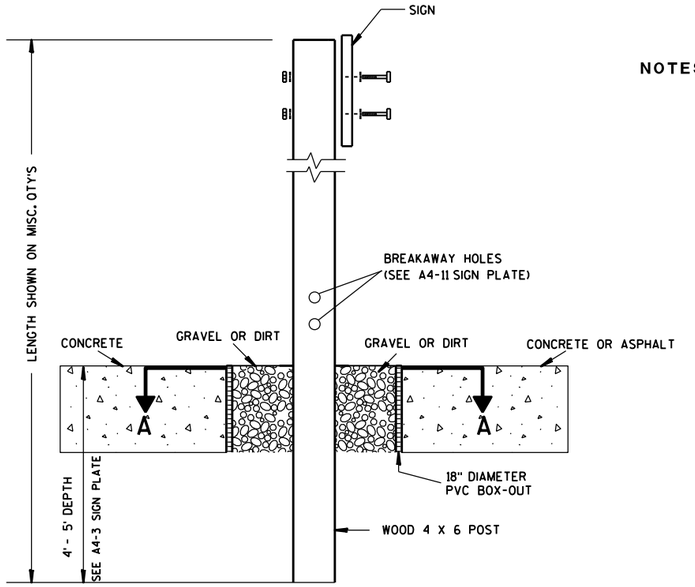
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

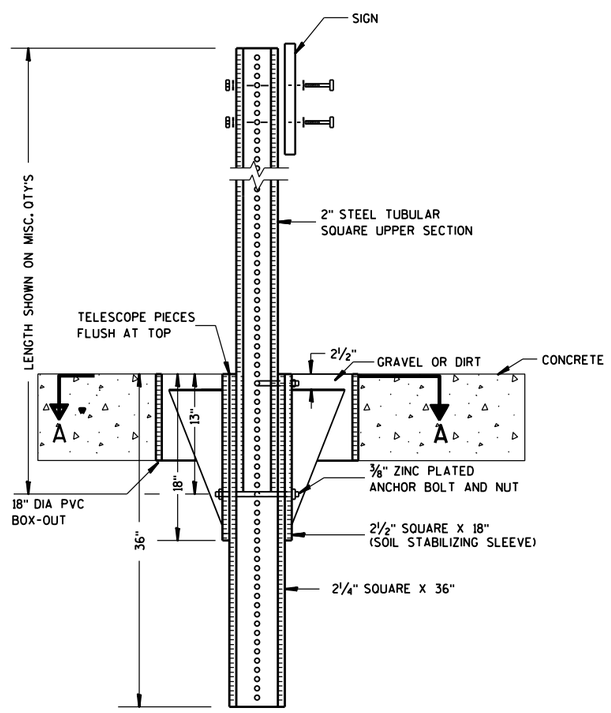
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 19	E



ELEVATION VIEW

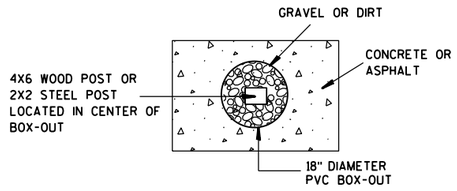
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

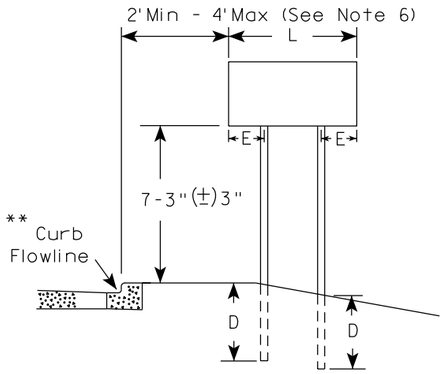
APPROVED Matthew R Rauch
for State Traffic Engineer

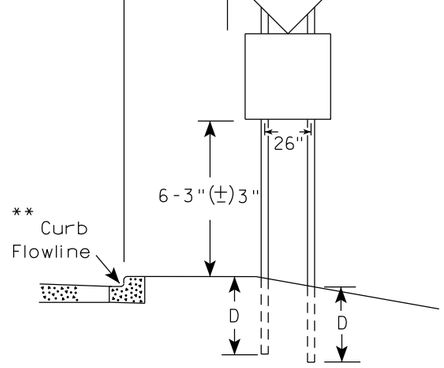
DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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

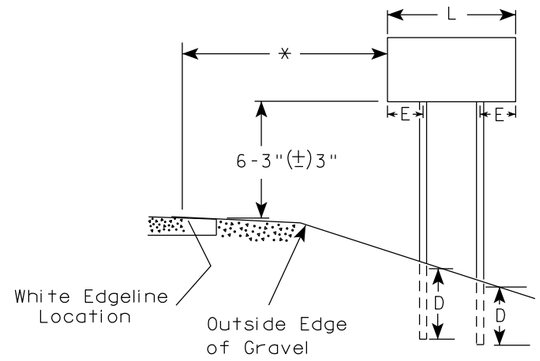
URBAN AREA

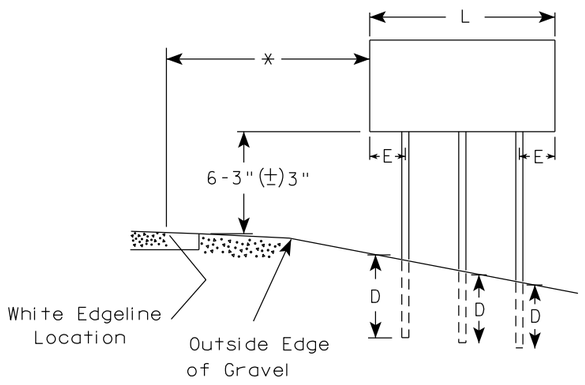


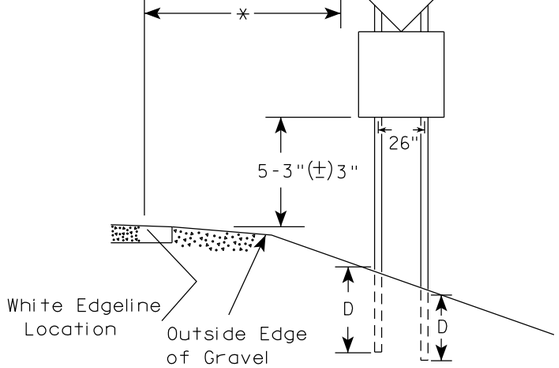


48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN

GENERAL NOTES

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

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

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

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

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

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

POST EMBEDMENT DEPTH

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

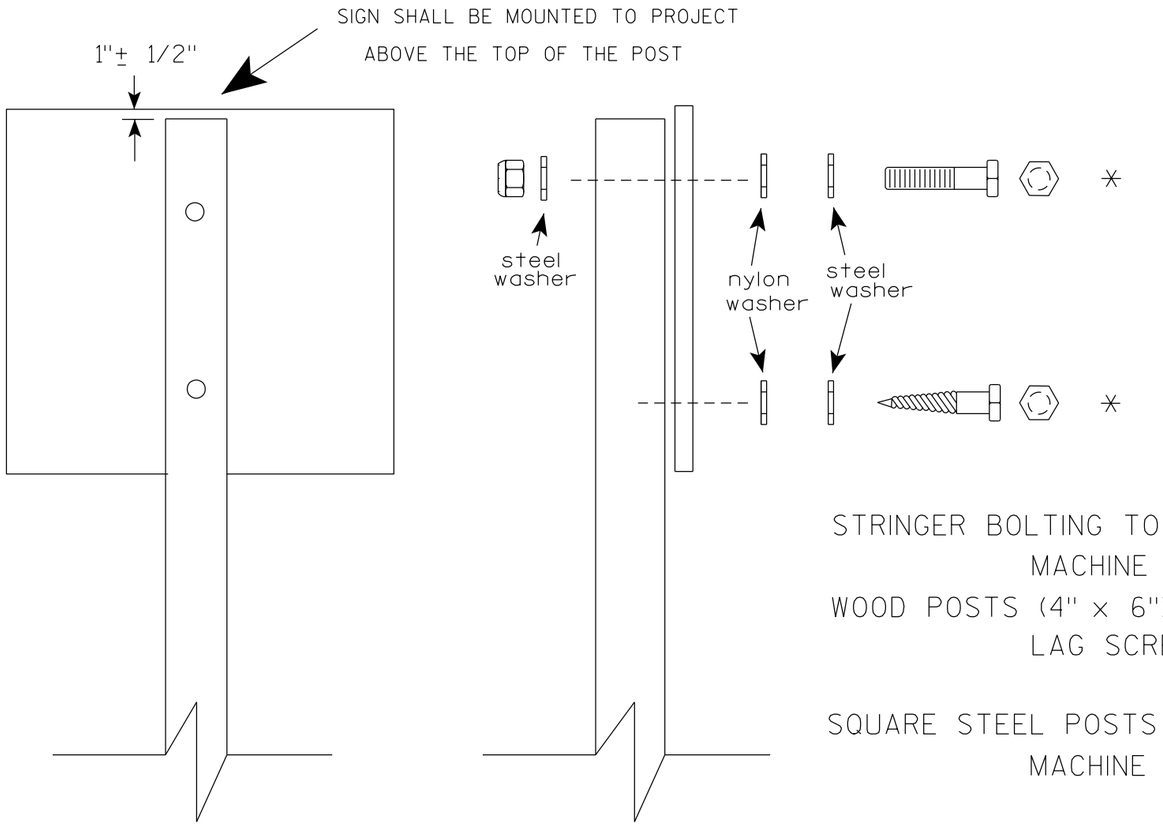
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 21	E



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

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

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

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

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

ATTACHMENT OF SIGNS TO POSTS

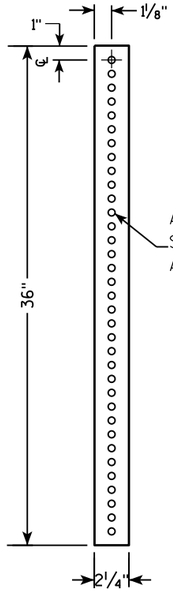
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

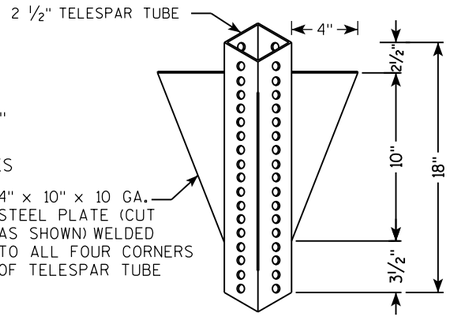
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

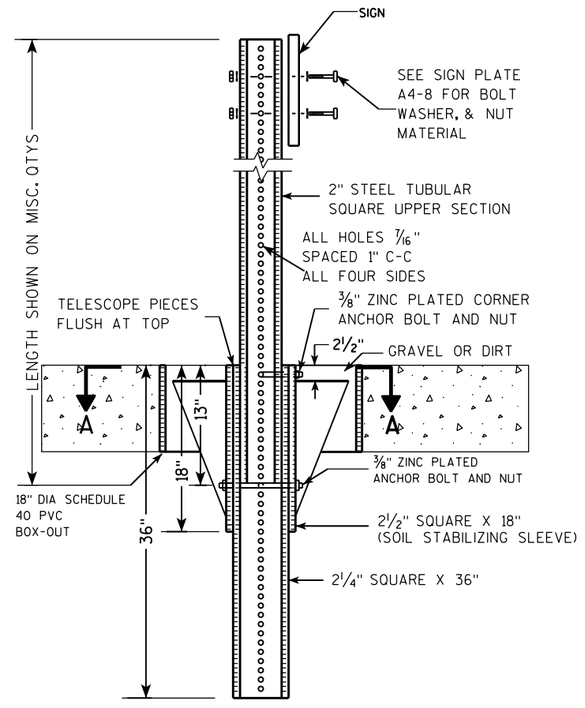
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



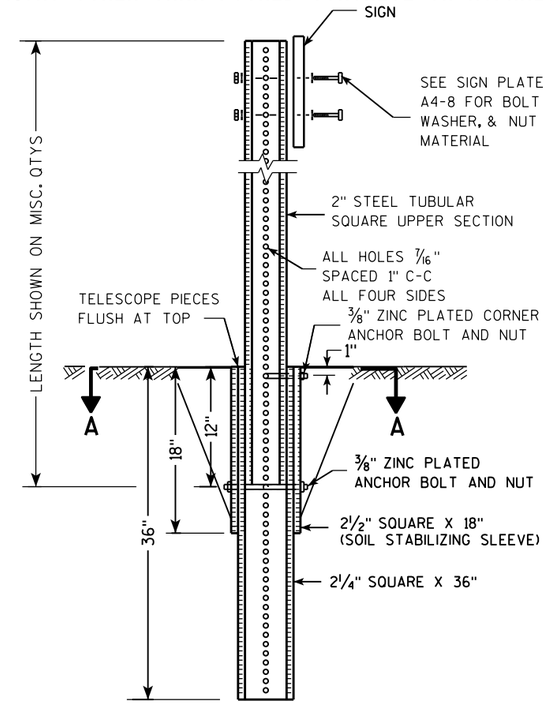
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

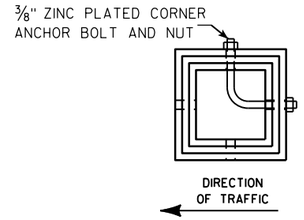


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

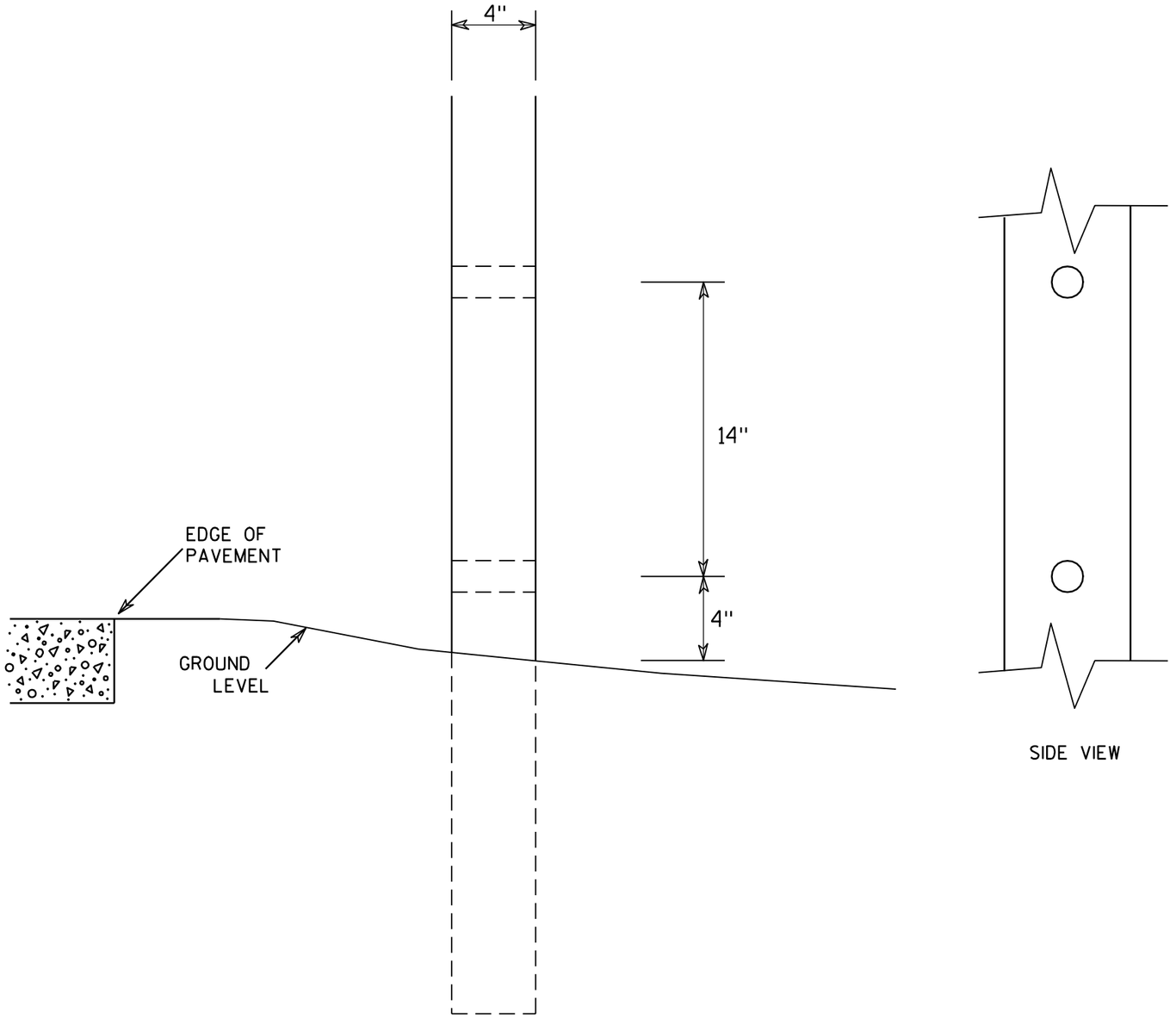
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

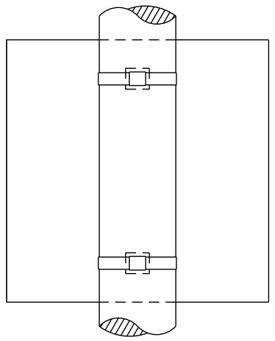
APPROVED Chester J Spang for State Traffic Engineer

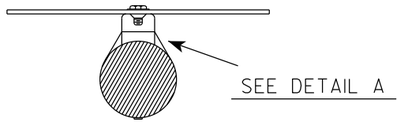
DATE 3/27/97 PLATE NO. A4-11.2

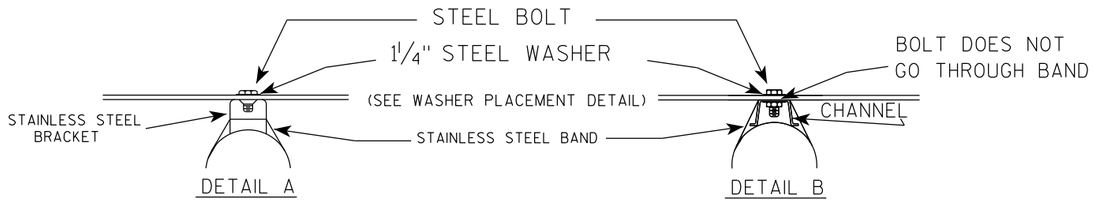
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 24	E

BANDING

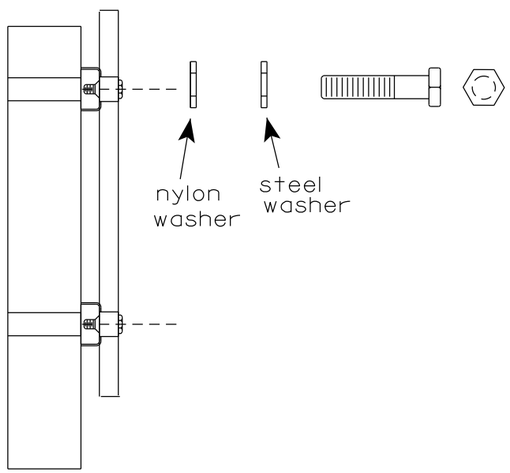
SINGLE SIGN







WASHER PLACEMENT

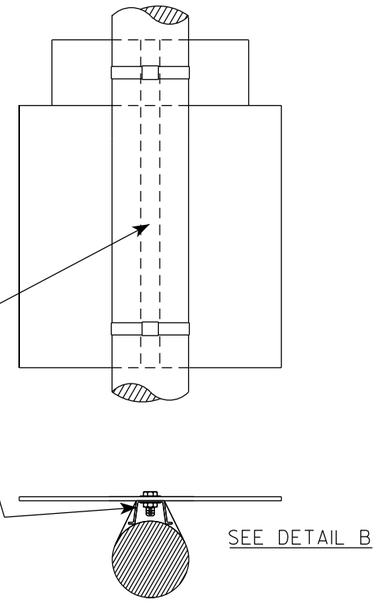


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

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

"J" ASSEMBLY



STANDARD SIGN
SIGN BANDING DETAILS

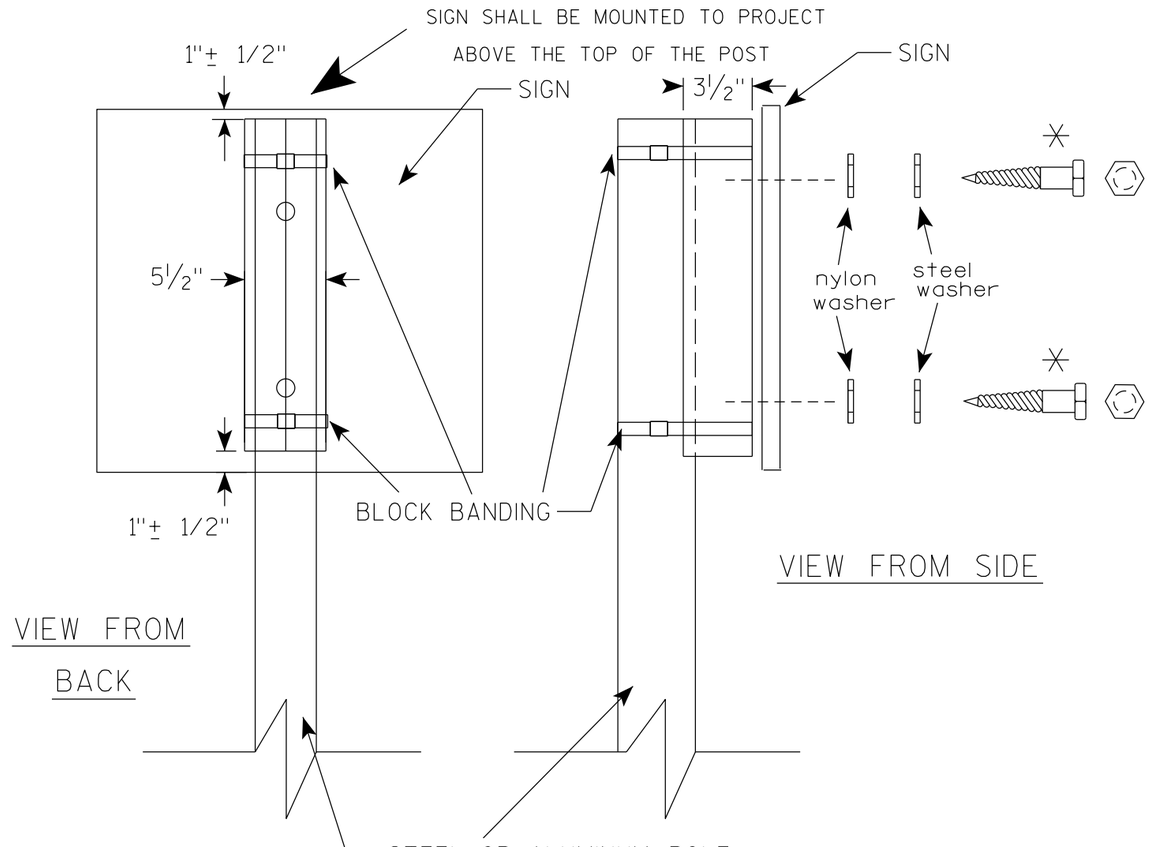
WISCONSIN DEPT OF TRANSPORTATION

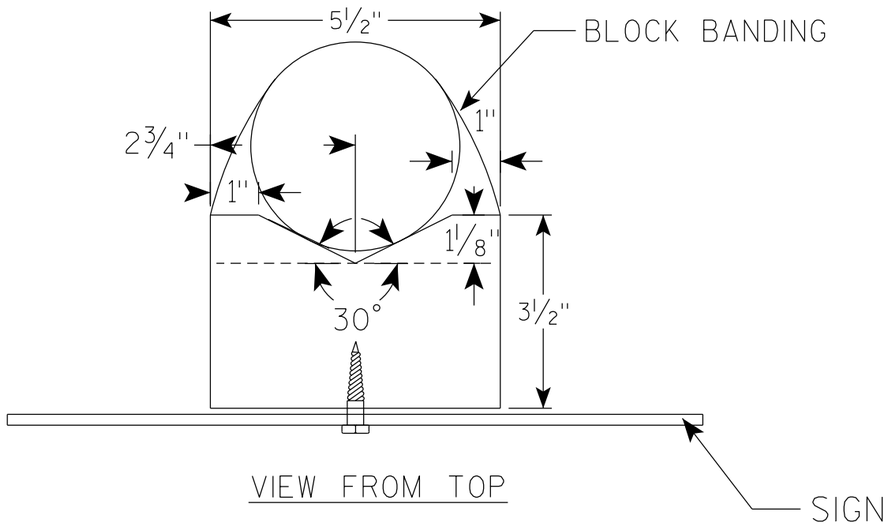
APPROVED Matthew R Rauch
for State Traffic Engineer

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

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

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





GENERAL NOTES

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

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

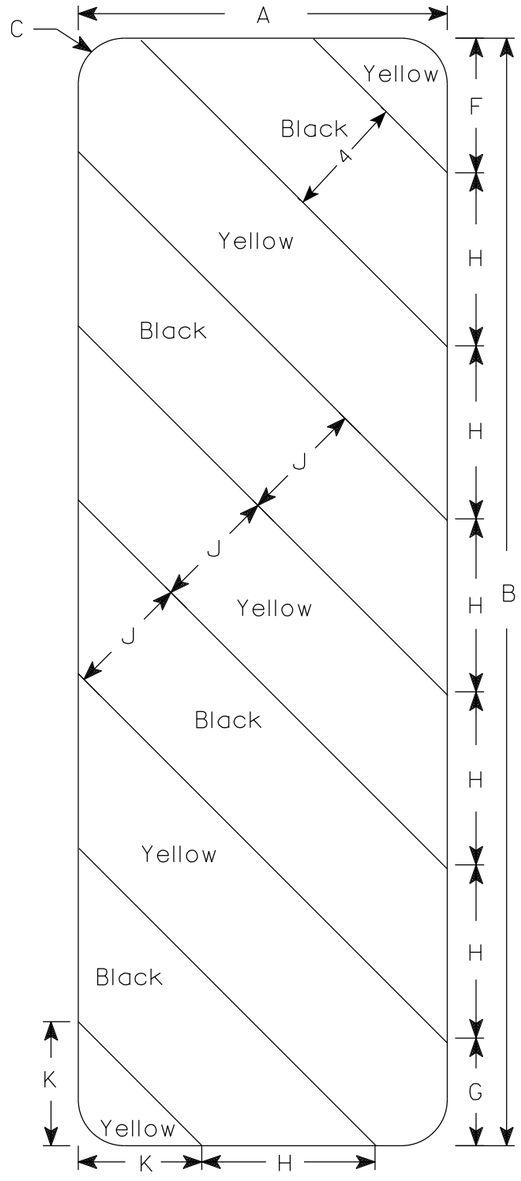
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

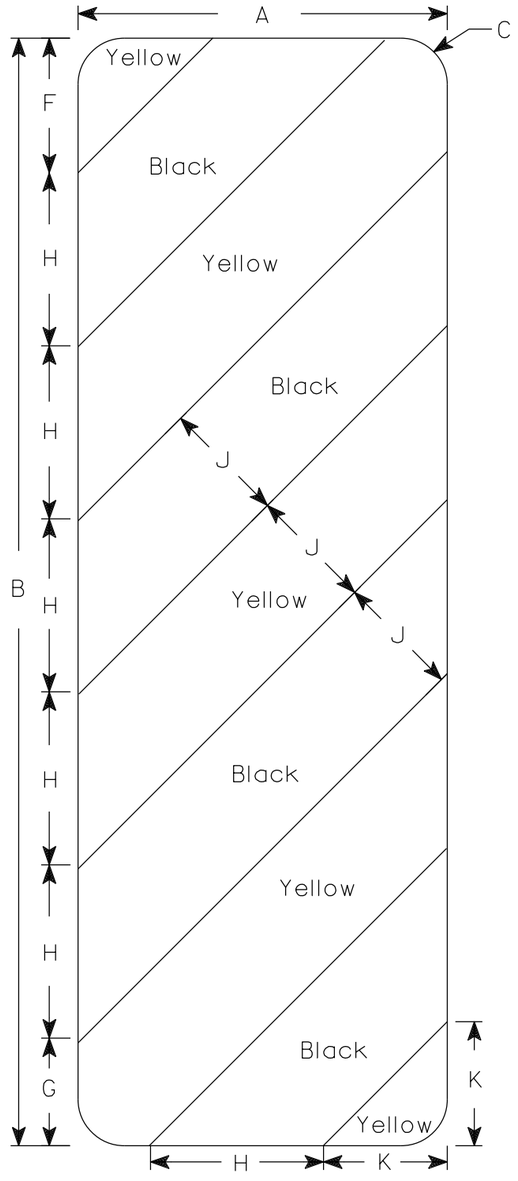
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 26 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

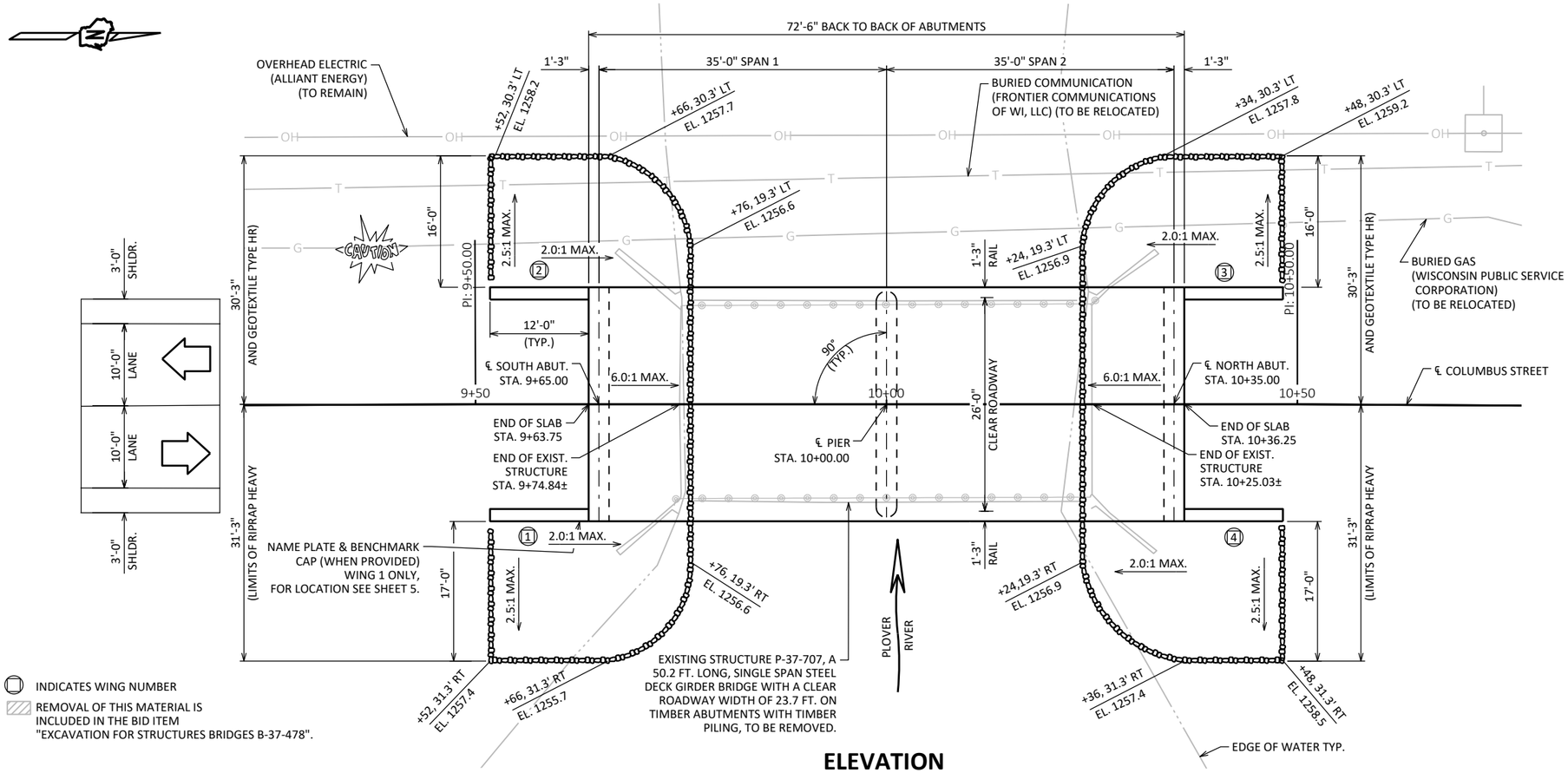
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 27 E

STATE PROJECT NUMBER

9531-03-70

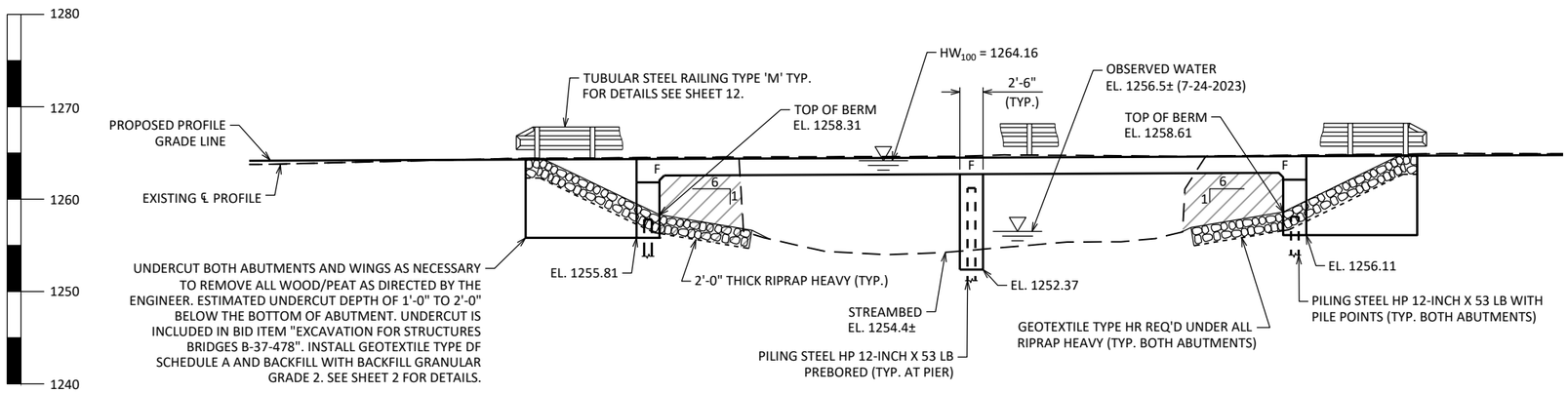


INDICATES WING NUMBER

REMOVAL OF THIS MATERIAL IS INCLUDED IN THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-37-478".

ELEVATION

(TWO SPAN FLAT CONCRETE SLAB BRIDGE)



ELEVATION

NORMAL TO WATERWAY

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.10
OPERATING RATING: RF = 1.43
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

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

MATERIAL PROPERTIES:

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

HIGH STRENGTH BAR STEEL:
REINFORCEMENT, GRADE 60 — f_y = 60,000 PSI
PILING STEEL HP 12-INCH X 53 LB — f_y = 50,000 PSI

TRAFFIC DATA

A.A.D.T. (2025) = 194
A.A.D.T. (2045) = 209
ROADWAY DESIGN SPEED = 30 MPH

FOUNDATION DATA

ABUTMENTS AND PIER TO BE SUPPORTED ON HP 12-INCH X 53 LB PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS**PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 25'-0" LONG WITH PILE POINTS AT SOUTH ABUTMENT.
◆ESTIMATED 25'-0" LONG AT PIER.
ESTIMATED 20'-0" LONG WITH PILE POINTS AT NORTH ABUTMENT.

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

◆ THE CONTRACTOR SHALL PREBORE THE PIER PILING 3'-0" MIN. INTO FIRM BEDROCK. SEAT PREBORE PILING BY TAPPING IN PLACE, DRIVING NOT REQUIRED.
ESTIMATED 13'-0" LONG PREBORE AT PIER.

HYDRAULIC DATA

100-YEAR FREQUENCY:

Q_{100}= 2,600 C.F.S.
Q_{BRIDGE} = 2,465 C.F.S.
$Q_{ROADWAY}$ = 135 C.F.S.
V_{100}= 5.60 F.P.S.
HW_{100}= EL. 1264.16
WATERWAY AREA = 440 SQ. FT.
DRAINAGE AREA = 43.3 SQ. MI.
ROADWAY OVERTOPPING = 83 YEARS
SCOUR CRITICAL CODE = 5

2-YEAR FREQUENCY:

Q_2= 885 C.F.S.
V_2= 3.75 F.P.S.
HW_2= EL. 1259.85

ROADWAY OVERTOPPING

FREQUENCY = 83 YEARS
Q = 2,500 C.F.S.
HW. = EL. 1263.77

WISCONSIN PROFESSIONAL ENGINEER
NATHAN J KINDT
E-48663
SUAMICO
WIS.

Nathan J. Kindt

9-13-2024

LIST OF DRAWINGS:

CONSULTANT DESIGN CONTACT:
NATHAN KINDT
(920) 392-5155

BRIDGE OFFICE CONTACT:
AARON BONK
(608) 261-0261

NO.	DATE	REVISION	BY

MSA
ENGINEERING | ARCHITECTURE | SURVEYING
FUNDING | PLANNING | ENVIRONMENTAL
146 N CENTRAL AVE STE 201, MARSHFIELD, WI 54449
(715) 384-2133 www.msa-ps.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

STRUCTURE B-37-478

COLUMBUS STREET OVER PLOVER RIVER

COUNTY	~~TOWN/CITY~~/VILLAGE
MARATHON	HATLEY

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	JDH	DESIGNED CK'D	NJK	DRAWN BY	EKK	PLANS CK'D	NJK

GENERAL PLAN

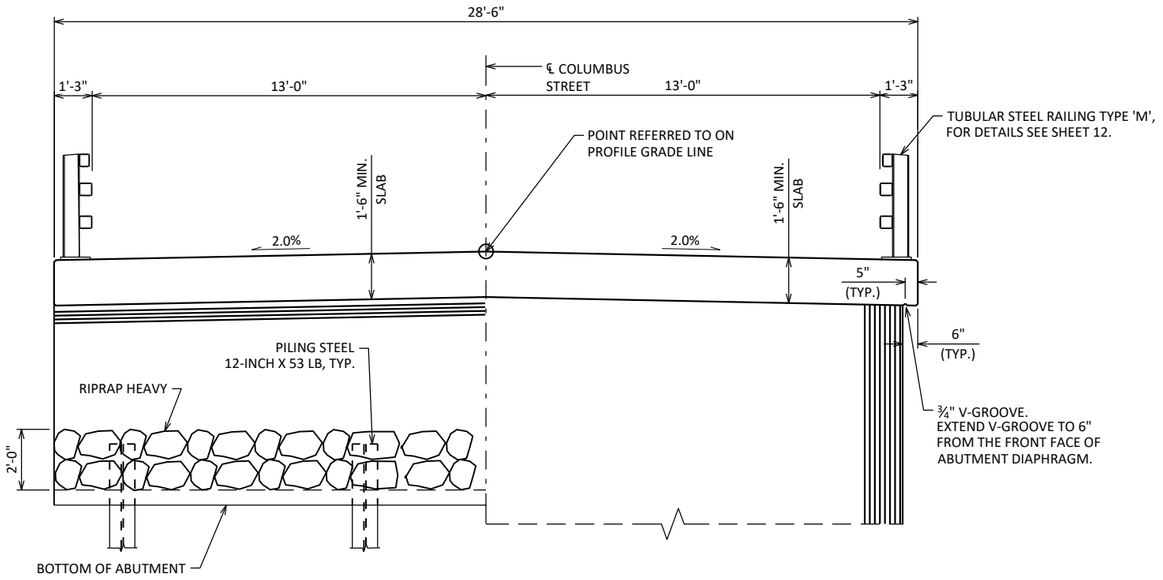
SHEET 1 OF 12
28

8

8

G:\01\01452\01452073\CADD\SheetsPlan\Structures\01452073_B-37-478_01_GeneralPlan.dwg

DATE: 9/4/2024 7:28 AM



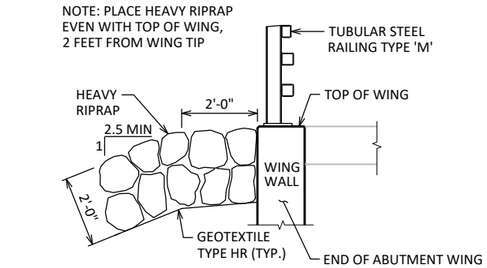
AT ABUTMENTS

AT PIER

(PILING NOT SHOWN)

CROSS SECTION THRU BRIDGE

(LOOKING NORTH)

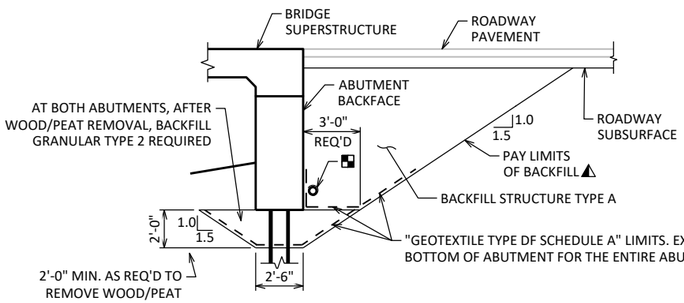


TYPICAL FILL SECTION AT WING TIPS

PROFILE GRADE LINE

TOTAL ESTIMATED QUANTITIES

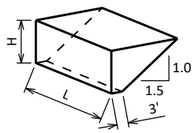
ITEM NUMBER	BID ITEM	UNIT	SOUTH ABUT.	PIER	NORTH ABUT.	SUPER	TOTAL
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-37-707	EACH	-	-	-	-	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-37-478	EACH	-	-	-	-	1
209.2500	BACKFILL GRANULAR GRADE 2	TON	46	-	46	-	92
210.1500	BACKFILL STRUCTURE TYPE A	TON	135	-	135	-	270
502.0100	CONCRETE MASONRY BRIDGES	CY	36.5	26.1	36.6	119.0	219
502.3200	PROTECTIVE SURFACE TREATMENT	SY	12	-	12	269	293
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1,840	1,230	1,840	-	4,910
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,655	55	1,655	27,935	31,300
513.4061	RAILING TUBULAR TYPE M	LF	-	-	-	198	198
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	9	-	9	-	18
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	-	66	-	-	66
550.0500	PILE POINTS	EACH	4	-	4	-	8
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	100	125	80	-	305
606.0300	RIPRAP HEAVY	CY	85	-	85	-	170
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	100	-	100	-	200
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	80	-	80	-	160
645.0120	GEOTEXTILE TYPE HR	SY	155	-	155	-	310
	NON-BID ITEMS						
	FILLER	SIZE					½", ¾"



TYPICAL SECTION THRU ABUTMENT

⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES BRIDGES STRUCTURE B-37-478. 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. SEE SHEET 7 FOR DETAILS.



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)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

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

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-37-478" SHALL BE THE EXISTING GROUNDLINE.

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

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

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO USGS NAVD 88 (2012 ADJUSTED). BENCHMARK REFERENCES AT THE PROJECT SITE WERE SET BY THE CONSULTANT USING GPS TECHNOLOGY.

THE QUANTITY FOR BACKFILL STRUCTURES AND ABUTMENT BEDDING MATERIAL IS CALCULATED BASED ON THE PAY LIMITS SHOWN ON THE PLANS, INCLUDING 2' FOR REPLACEMENT OF WOOD/PEAT REMOVAL UNDER BOTH ABUTMENTS, AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENT AND ABUTMENT WINGS FOR 3 FEET, AND FOR 2 FEET UNDER BOTH ABUTMENTS. GEOTEXTILE DF SCHEDULE A SHALL BE SET AT THE BOTTOM OF THE EXCAVATION.

IF COFFERDAMS ARE USED, BACKFILL THE COFFERDAMS TO THE BOTTOM OF THE PROPOSED ABUTMENT BEFORE REMOVING THE SHEETING.

EXCAVATION BELOW THE NORTH AND SOUTH ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL.

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

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.

STATE PROJECT NUMBER

9531-03-70

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-37-478

DRAWN BY EKK | PLANS CK'D NJK

CROSS SECTION, QUANTITIES & NOTES

SHEET 2
29

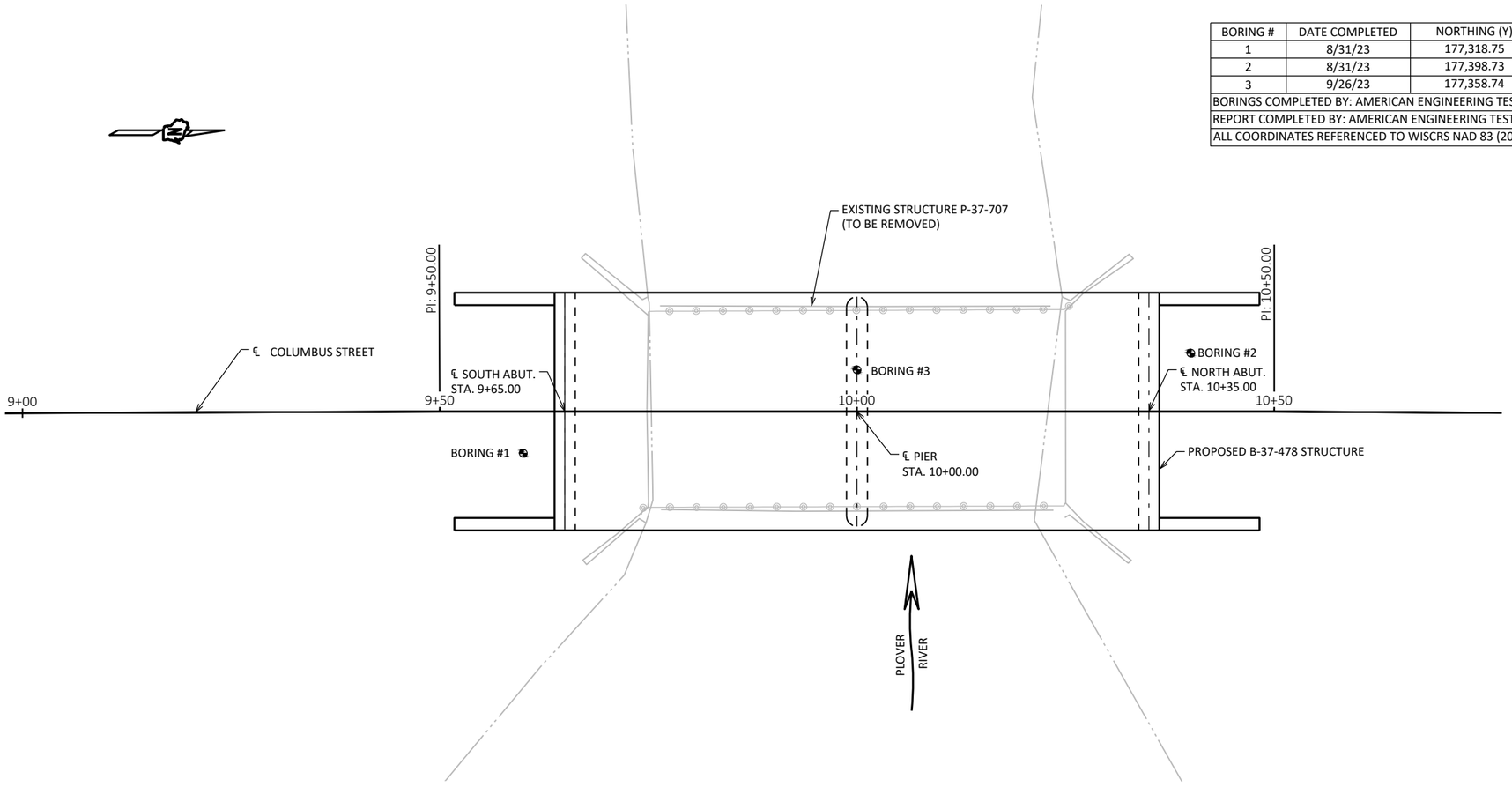
8

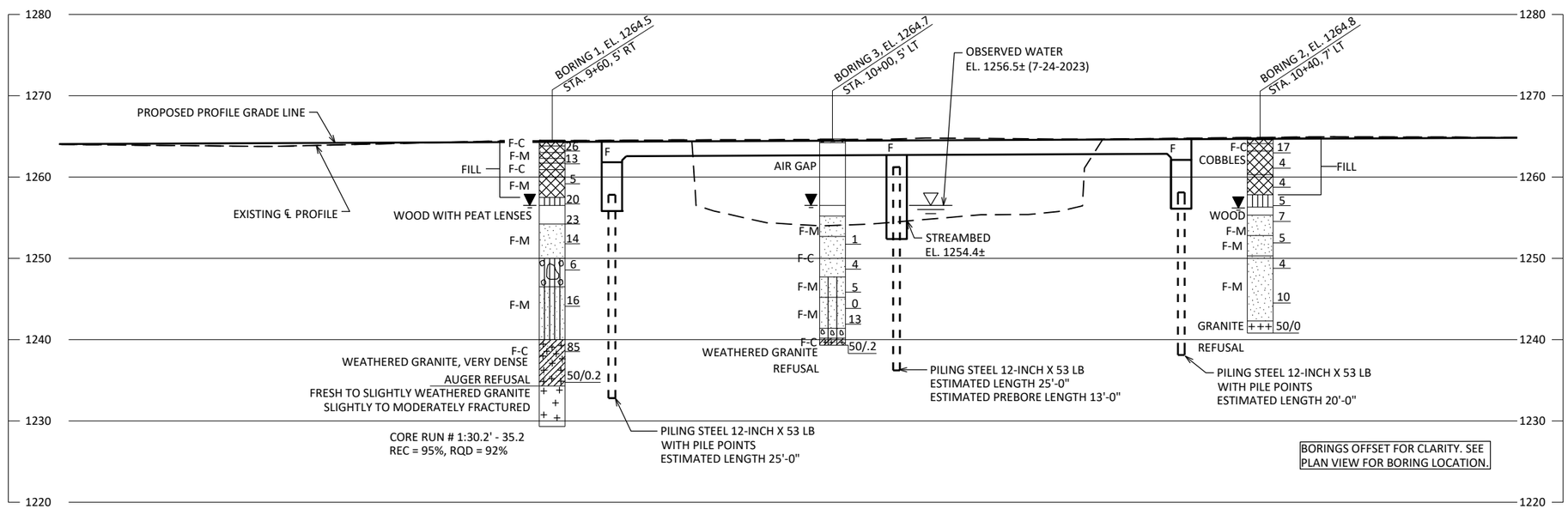
8

G:\01\01452\01452073\CADD\SheetsPlan\Structures\01452073_B-37-478_02_Cross Section & Quantities.dwg

8/28/2024 11:03 AM

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	8/31/23	177,318.75	356,302.62
2	8/31/23	177,398.73	356,290.53
3	9/26/23	177,358.74	356,292.57
BORINGS COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.			
REPORT COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.			
ALL COORDINATES REFERENCED TO WISCRS NAD 83 (2011) MARATHON COUNTY			





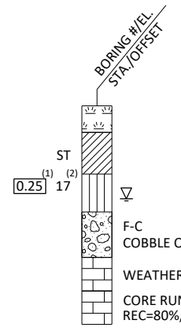
STATE PROJECT NUMBER

9531-03-70

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-37-478

DRAWN BY EKK | PLANS CK'D NJK

SUBSURFACE EXPLORATION

SHEET 3
30

8

8

G:\01\01452\01452073\CADD\SheetsPlan\Structures\01452073_B-37-478_03_SUBSURFACE EXPLORATION.dwg

8/28/2024 7:39 AM

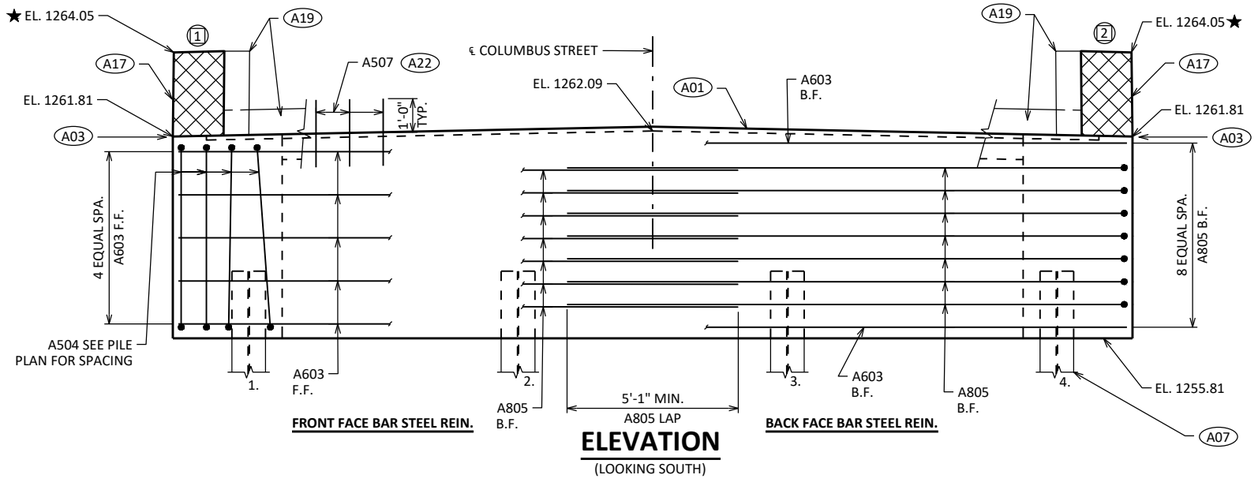
STATE PROJECT NUMBER

9531-03-70

NOTE:

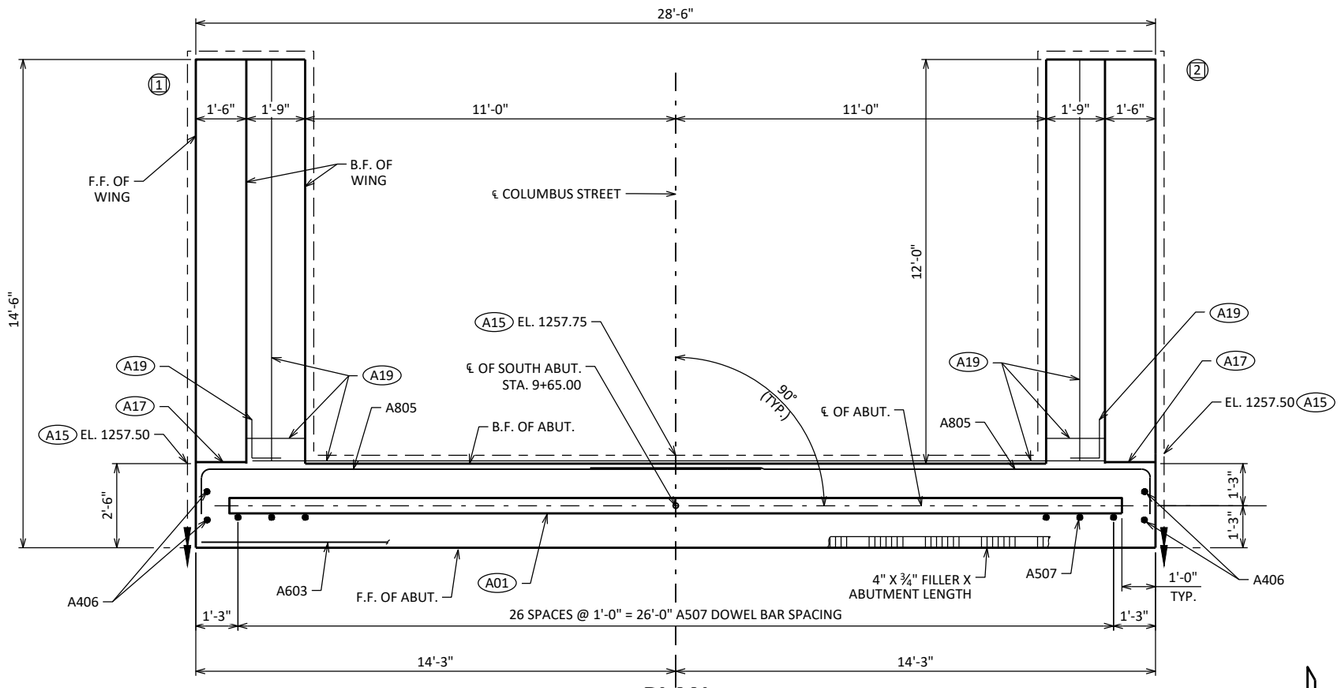
FOR WING DETAILS SEE SHEET 5.

★-ELEVATION GIVEN AT THE B.F. OF ABUTMENT.

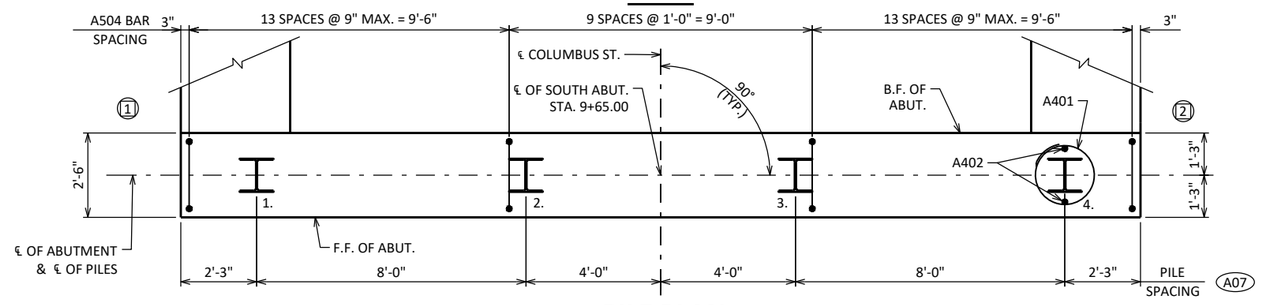


ELEVATION

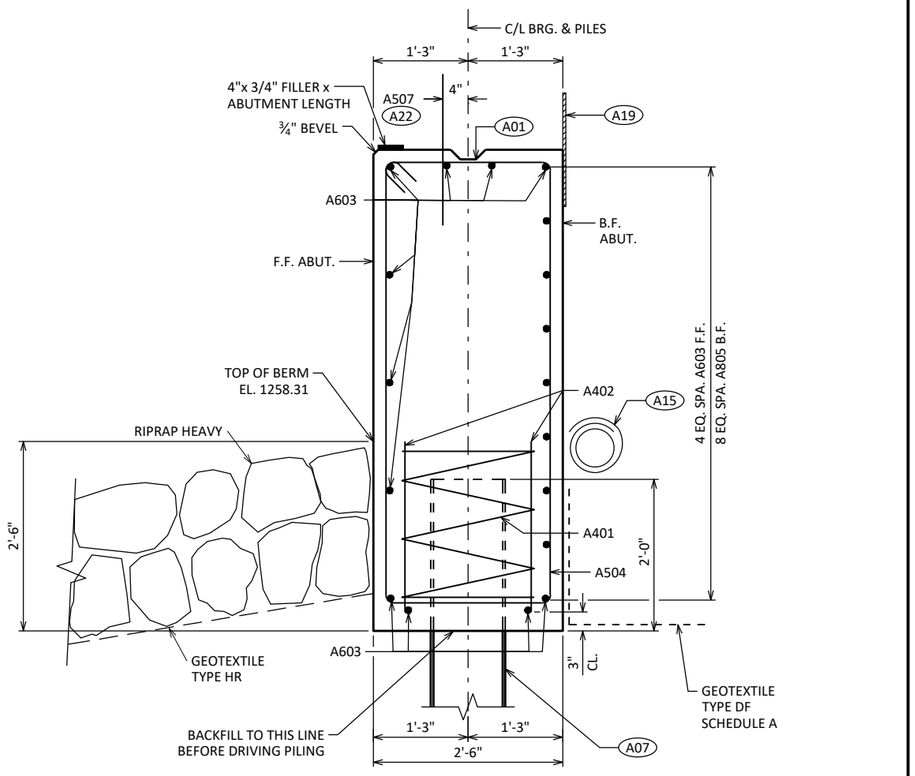
(LOOKING SOUTH)



PLAN



PILE PLAN



SECTION THRU BODY

LEGEND

- (A01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.
- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A07) SUPPORT ABUTMENT ON HP 12 X 53 STEEL PILING WITH PILE POINTS, ESTIMATED 25'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. SEE SHEET 7 FOR DETAILS.
- (A17) ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A22) BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

(1) (2) - INDICATES WING NUMBER

F.F. - FRONT FACE
B.F. - BACK FACE
CL. - CLEAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-37-478

DRAWN BY RLR | PLANS CK'D NJK

SOUTH ABUTMENT

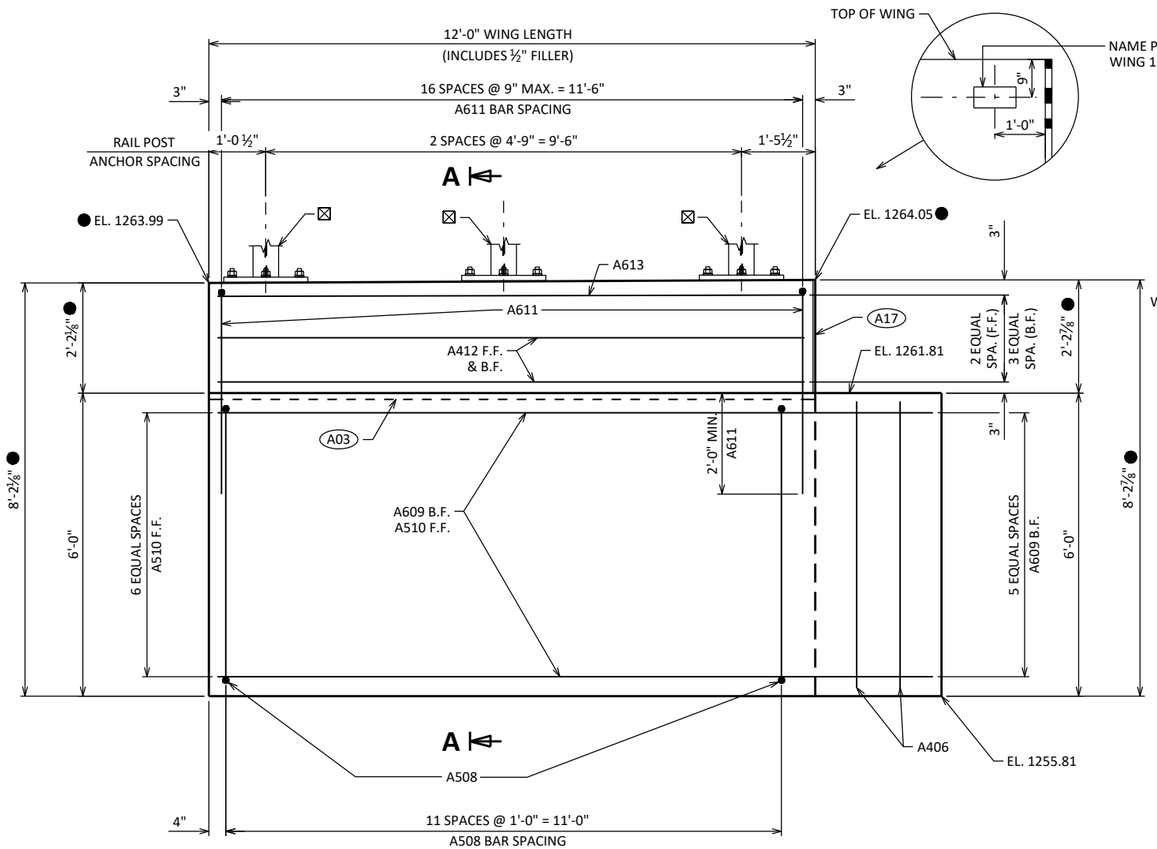
SHEET 4
31

SCALE =

8

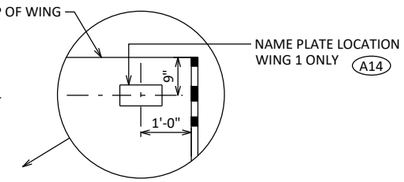
STATE PROJECT NUMBER

9531-03-70



ELEVATION - WING

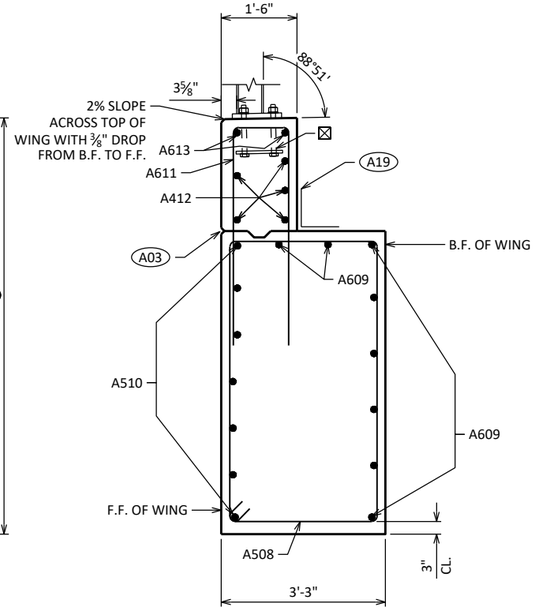
(LOOKING AT F.F. OF WING)
WING 1 SHOWN. WING 2 SIMILAR



NOTES:

☒ - FOR RAIL POST ANCHOR DETAILS SEE SHEET 12.

● - ELEVATIONS AND DIMENSIONS ARE GIVEN AT THE F.F. OF WING.



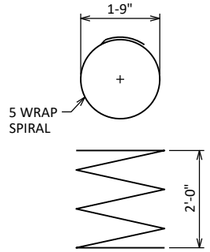
SECTION A-A THRU WING

BILL OF BARS - SOUTH ABUTMENT

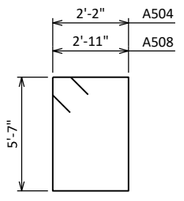
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
A401		4	28'-0"	X	ABUTMENT BODY - 1/PILE - SPIRAL WRAP
A402		8	2'-3"		ABUTMENT BODY - 2/PILE - VERT.
A603		11	28'-2"		ABUTMENT BODY - F.F., TOP & BOTTOM - HORIZ.
A504		36	16'-2"	X	ABUTMENT BODY - STIRRUP
A805		14	17'-9"	X	ABUTMENT BODY - B.F. - HORIZ.
A406		4	5'-7"		ABUTMENT BODY - END - VERT.
A507	X	27	2'-0"		ABUTMENT BODY - DOWEL - VERT.
A508	X	24	17'-8"	X	WINGS 1 & 2 - BASE - STIRRUP - VERT.
A609	X	16	13'-11"		WINGS 1 & 2 - BASE - B.F. & TOP - HORIZ.
A510	X	14	14'-2"		WINGS 1 & 2 - BASE - F.F. - HORIZ.
A611	X	34	9'-2"	X	WINGS 1 & 2 - TOP - STIRRUP - VERT.
A412	X	10	11'-7"		WINGS 1 & 2 - TOP - F.F. & B.F. - HORIZ.
A613	X	4	11'-7"		WINGS 1 & 2 - TOP - F.F. & B.F. - HORIZ.

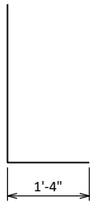
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



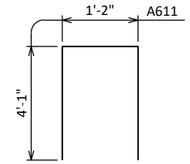
A401



A504, A508



A805



A611

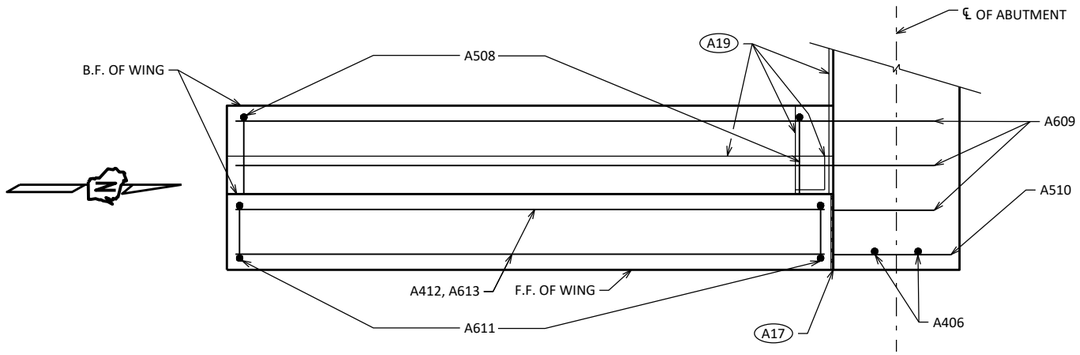
LEGEND

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 X 6. (18" RMW @ B.F. & B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).

(A14) CONTRACTOR SHALL SUPPLY A NEW NAME PLATE PER 502.3.11 OF STD.SPEC.

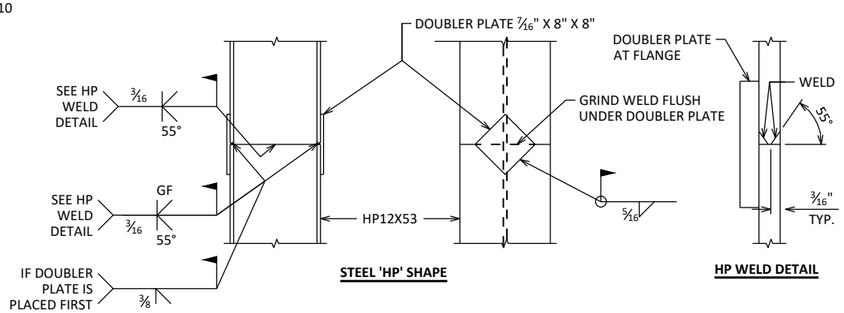
(A17) ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACE OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW TOP OF WING AT INSIDE FACE.

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



PLAN - WING

WING 1 SHOWN. WING 2 SIMILAR



STEEL 'HP' SHAPE

HP WELD DETAIL

'HP' PILE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-37-478

DRAWN BY RLR | PLANS CK'D NJK

SOUTH ABUTMENT DETAILS

SHEET 5
32

8

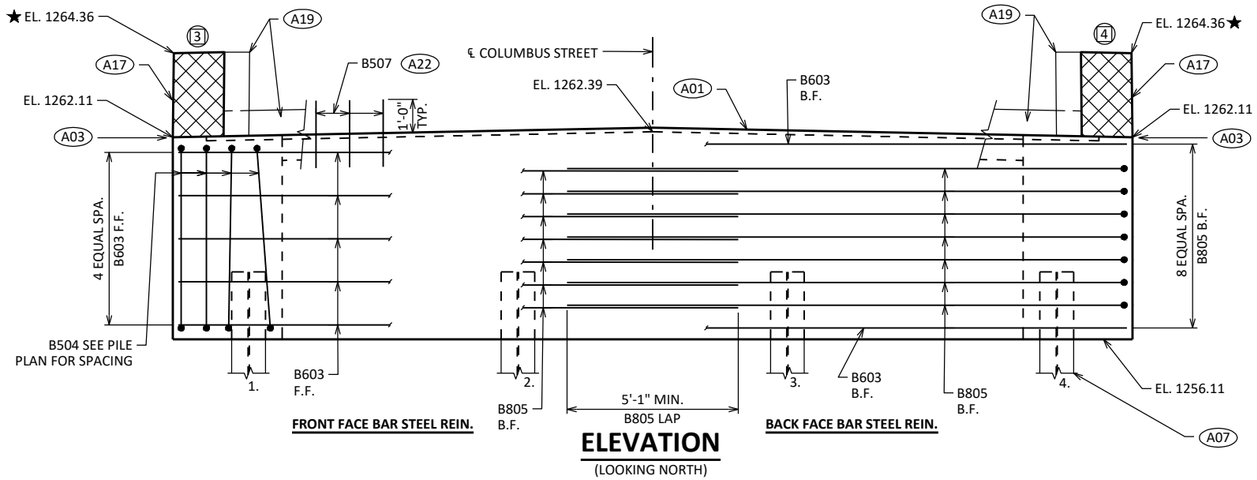
8

G:\01\01452\01452073\CADD\SheetsPlan\Structures\01452073_B-37-478_05_S Abut Det.dwg

8/28/2024 9:09 AM

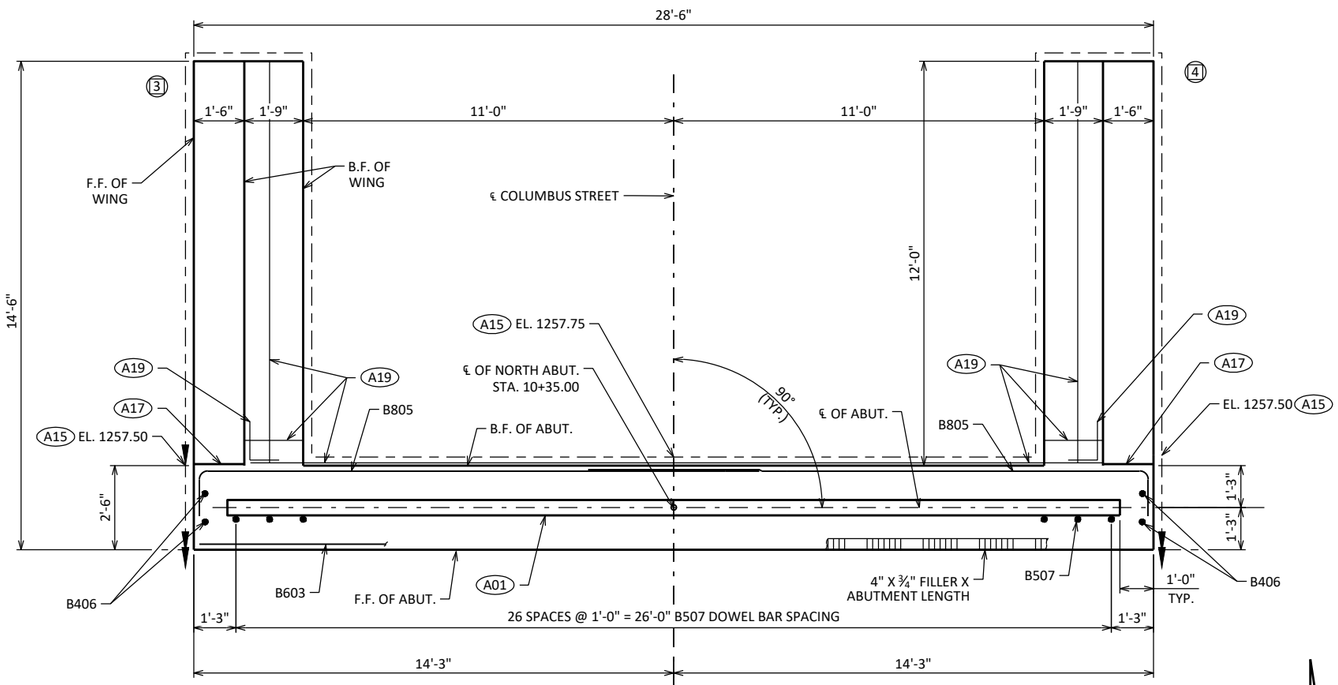
STATE PROJECT NUMBER

9531-03-70

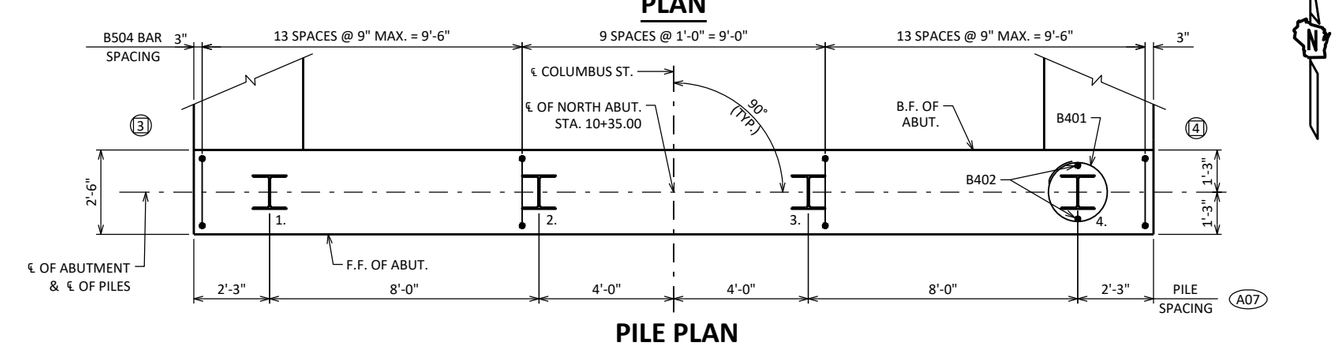


ELEVATION

(LOOKING NORTH)



PLAN

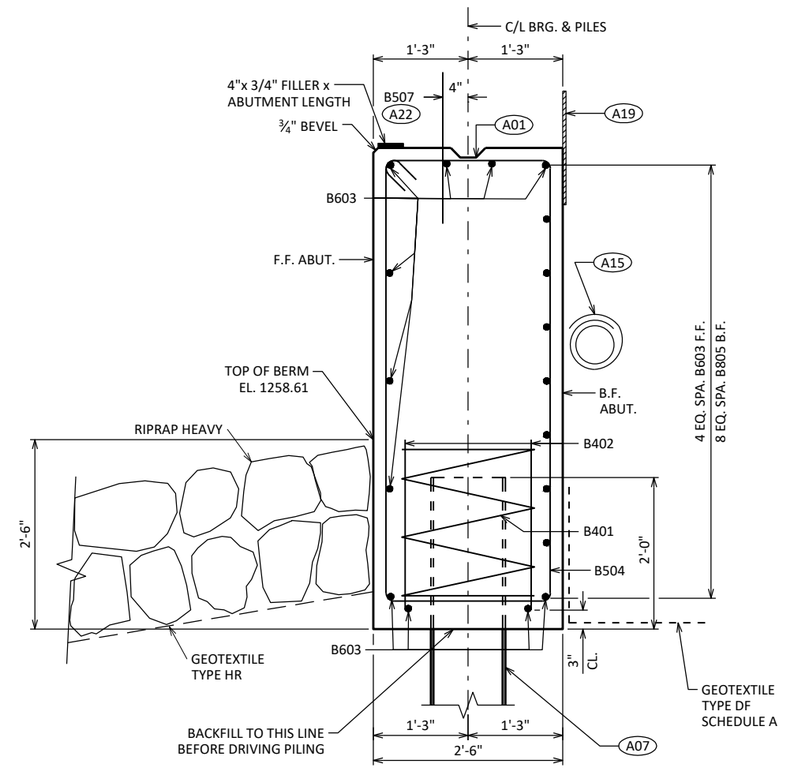


PILE PLAN

NOTE:

FOR WING DETAILS SEE SHEET 7.

★-ELEVATION GIVEN AT THE B.F. OF ABUTMENT.



SECTION THRU BODY

LEGEND

- (A01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.
- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A07) SUPPORT ABUTMENT ON HP 12 X 53 STEEL PILING WITH PILE POINTS, ESTIMATED 20'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. SEE SHEET 7 FOR DETAILS.
- (A17) ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A22) BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

(3)(4) - INDICATES WING NUMBER

F.F. - FRONT FACE
B.F. - BACK FACE
CL. - CLEAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-37-478

DRAWN BY RLR | PLANS CK'D NJK

NORTH ABUTMENT

SHEET 6
33

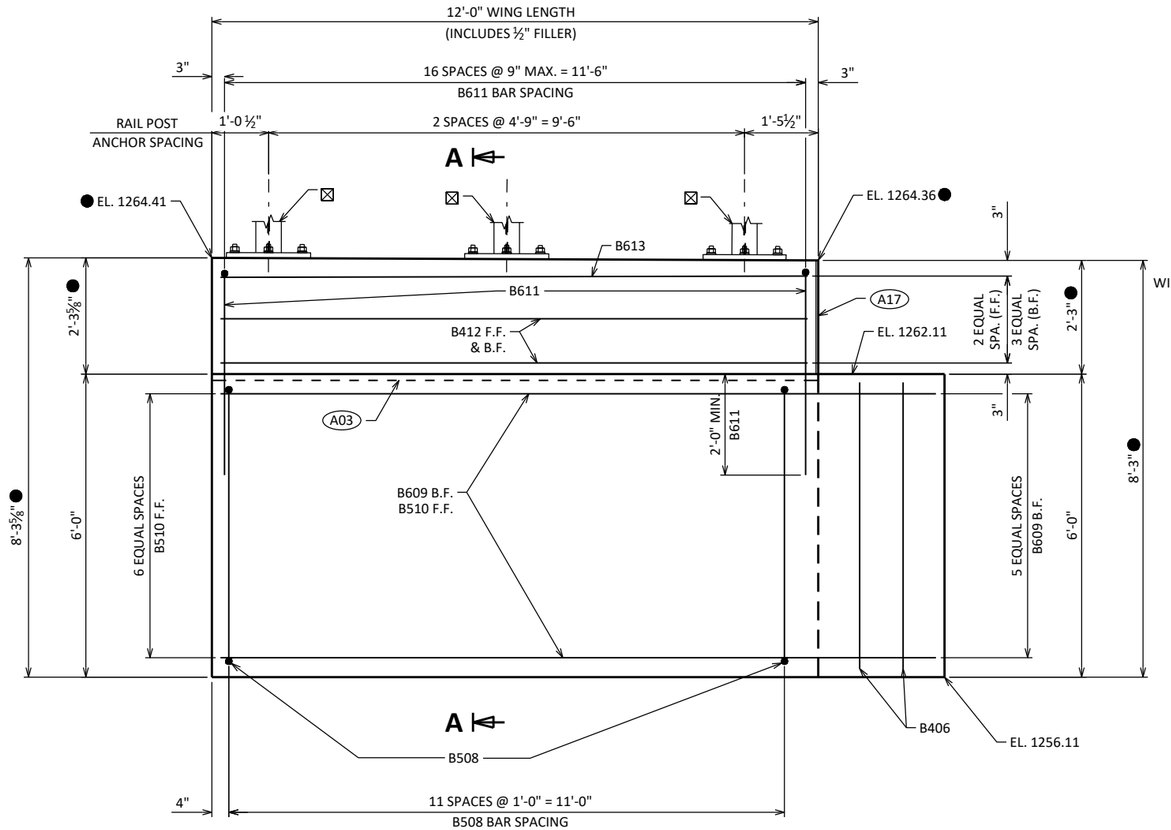
SCALE =

8

8

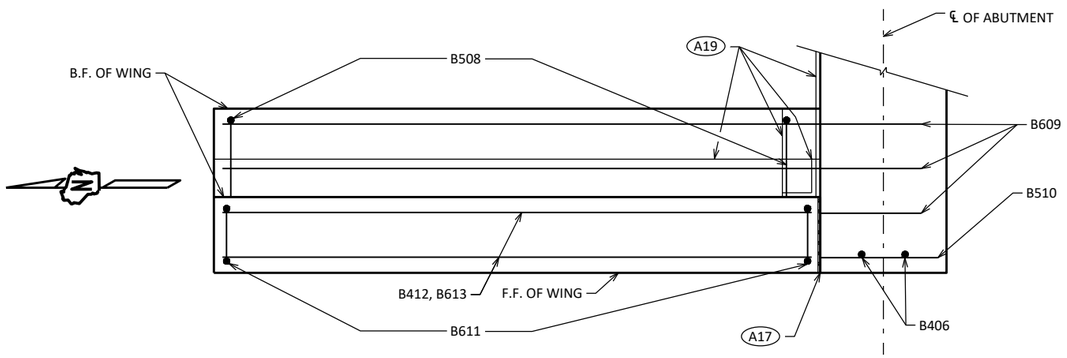
STATE PROJECT NUMBER

9531-03-70



ELEVATION - WING

(LOOKING AT F.F. OF WING)
WING 3 SHOWN. WING 4 SIMILAR



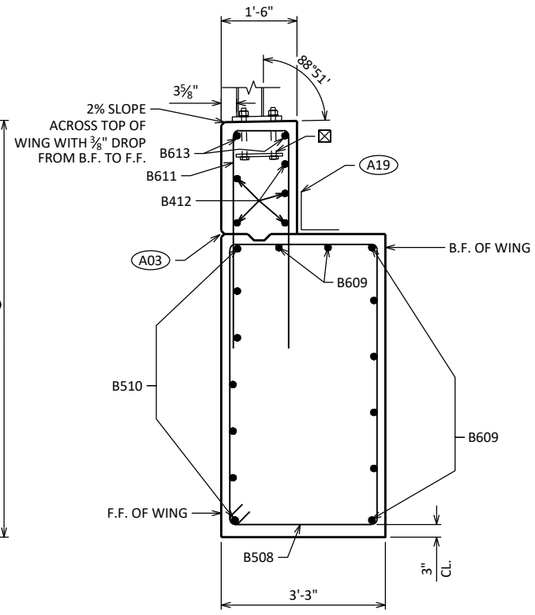
PLAN - WING

WING 3 SHOWN. WING 4 SIMILAR

NOTES:

☒- FOR RAIL POST ANCHOR DETAILS SEE SHEET 12.

●- ELEVATIONS AND DIMENSIONS ARE GIVEN AT THE F.F. OF WING.



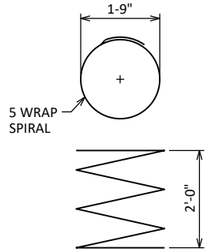
SECTION A-A THRU WING

BILL OF BARS - NORTH ABUTMENT

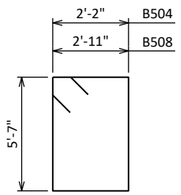
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
B401		4	28'-0"	X	ABUTMENT BODY - 1/PILE - SPIRAL WRAP
B402		8	2'-3"		ABUTMENT BODY - 2/PILE - VERT.
B603		11	28'-2"		ABUTMENT BODY - F.F., TOP & BOTTOM - HORIZ.
B504		36	16'-2"	X	ABUTMENT BODY - STIRRUP
B805		14	17'-9"	X	ABUTMENT BODY - B.F. - HORIZ.
B406		4	5'-7"		ABUTMENT BODY - END - VERT.
B507	X	27	2'-0"		ABUTMENT BODY - DOWEL - VERT.
B508	X	24	17'-8"	X	WINGS 1 & 2 - BASE - STIRRUP - VERT.
B609	X	16	13'-11"		WINGS 1 & 2 - BASE - B.F. & TOP - HORIZ.
B510	X	14	14'-2"		WINGS 1 & 2 - BASE - F.F. - HORIZ.
B611	X	34	9'-2"	X	WINGS 1 & 2 - TOP - STIRRUP - VERT.
B412	X	10	11'-7"		WINGS 1 & 2 - TOP - F.F. & B.F. - HORIZ.
B613	X	4	11'-7"		WINGS 1 & 2 - TOP - F.F. & B.F. - HORIZ.

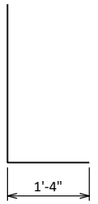
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



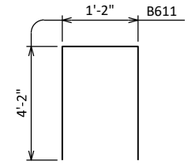
B401



B504, B508



B805



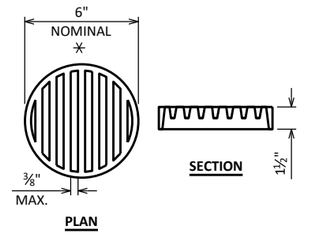
B611

LEGEND

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 X 6. (18" RMW @ B.F. & B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).

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

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



RODENT SHIELD DETAIL

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

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

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-37-478

DRAWN BY RLR | PLANS CK'D NJK

NORTH ABUTMENT DETAILS

SHEET 7
34

8

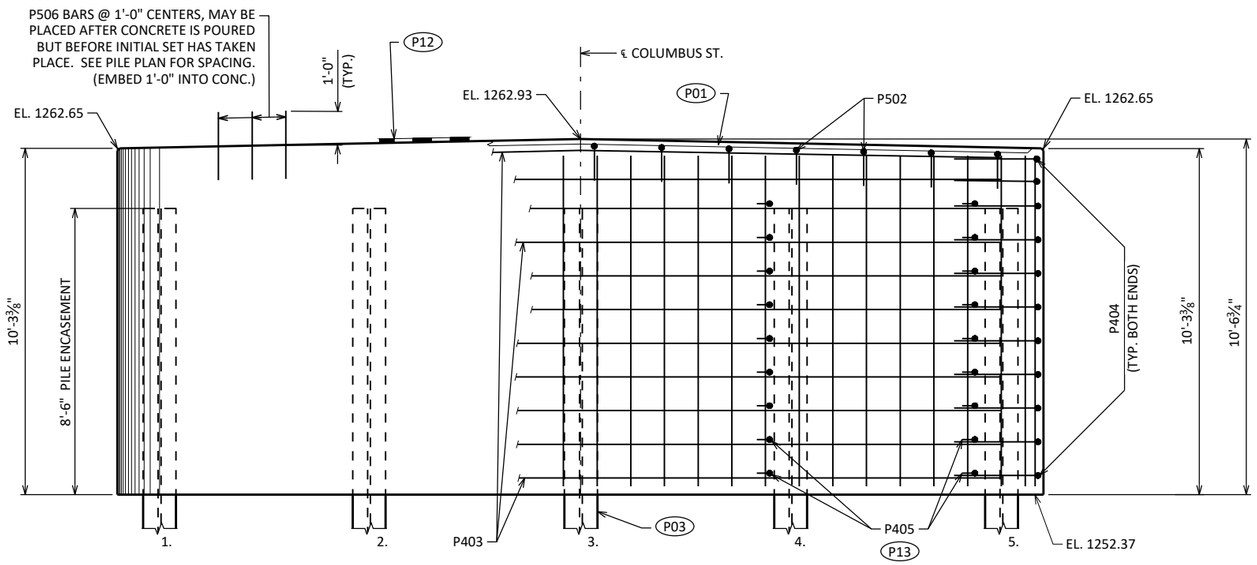
8

G:\01\01452\01452073\CADD\SheetsPlan\Structures\01452073_B-37-478_07_N Abut Det.dwg

8/28/2024 7:44 AM

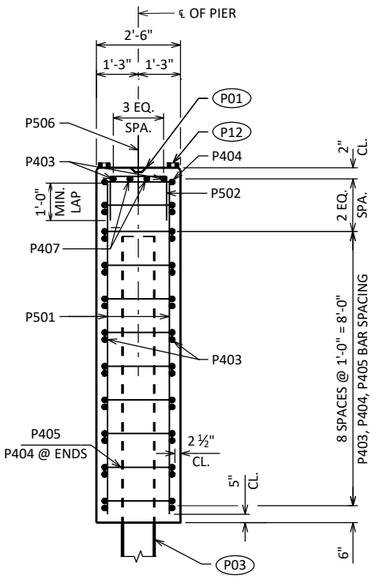
STATE PROJECT NUMBER

9531-03-70



ELEVATION

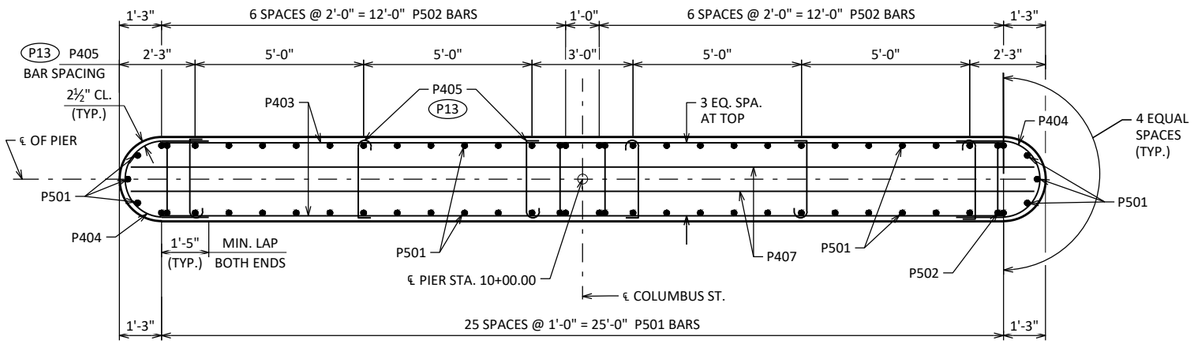
(LOOKING NORTH)



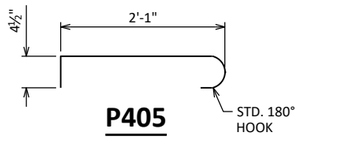
TYPICAL SECTION THRU PIER

LEGEND

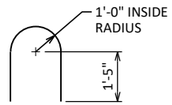
P01	CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.
P03	SUPPORT PIER ON HP 12 X 53 STEEL PILING, ESTIMATED 25'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE. THE CONTRACTOR SHALL PREBORE THE PIER PILING 3'-0" MIN. INTO FIRM BEDROCK. SEAT PREBORE PILING BY TAPPING IN PLACE, DRIVING NOT REQUIRED.
P12	4"X ¾" FILLER, TYPICAL ALL AROUND TOP EDGES OF PIER.
P13	ADJACENT TO EACH PILE ONE SIDE ONLY. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.
CL.	CLEAR



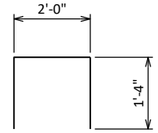
PLAN



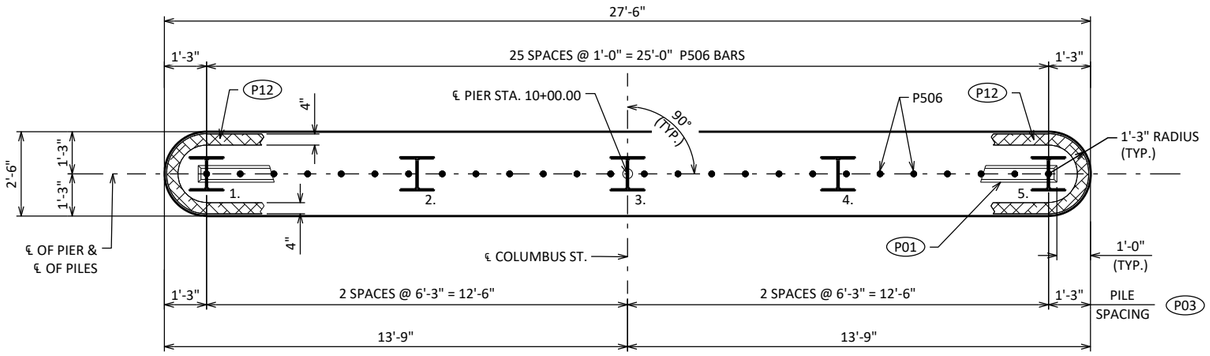
P405



P404



P502



PILE PLAN

BILL OF BARS - PIER

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
P501		58	9'-8"		PIER - VERT.
P502		14	4'-5"	X	PIER - STIRRUPS - TOP - VERT.
P403		22	25'-0"		PIER - SIDES - HORIZ.
P404		22	6'-1"	X	PIER - AT ENDS - HORIZ.
P405		45	2'-11"	X	PIER - TIES - HORIZ.
P506	X	26	2'-0"		PIER - DOWELS @ TOP - VERT.
P407		2	26'-10"		PIER - TOP - HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-37-478

DRAWN BY RLR | PLANS CK'D NJK

PIER

SHEET 8
35

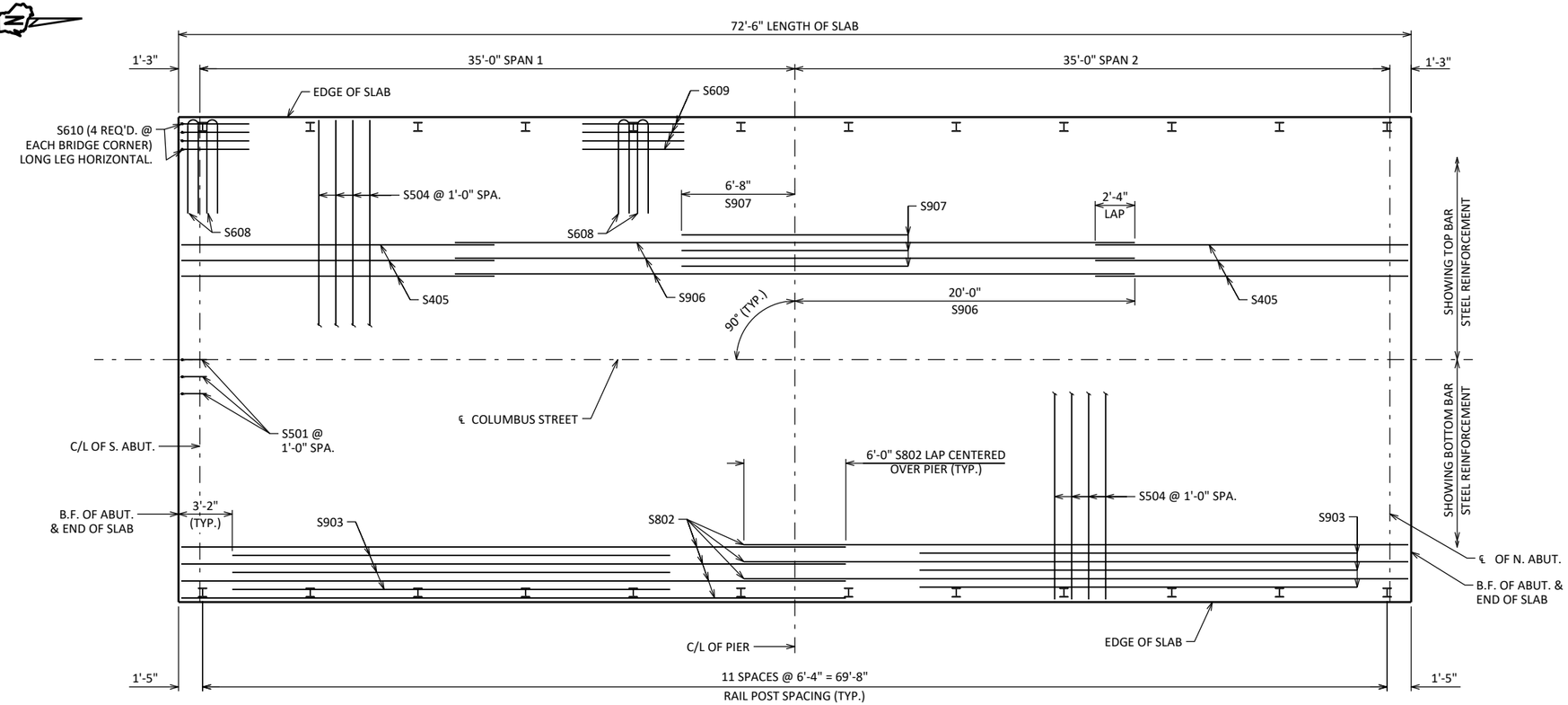
SCALE =

G:\01\01452\01452073\CADD\SheetsPlan\Structures\01452073_B-37-478_08_pier.dwg

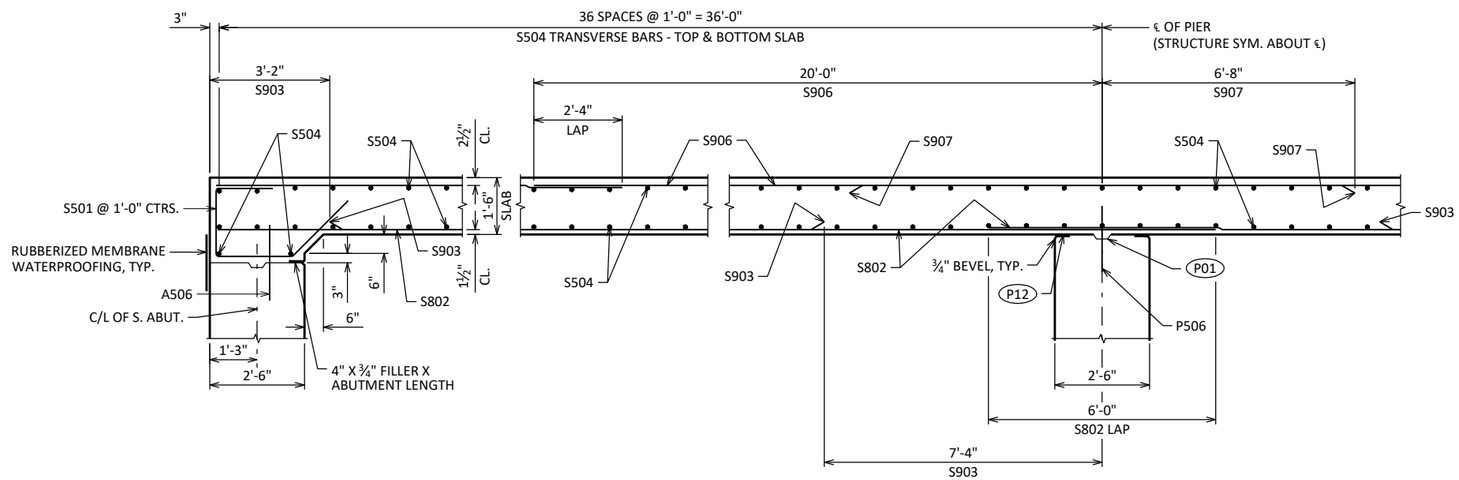
8/28/2024 7:43 AM

STATE PROJECT NUMBER

9531-03-70



PLAN



LONGITUDINAL SECTION

(LOOKING WEST)

P01 CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.

P12 4"X ¾" FILLER, TYPICAL ALL AROUND TOP EDGES OF PIER.

CL. CLEAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-37-478

DRAWN BY RLR | PLANS CK'D NJK

SUPERSTRUCTURE

SHEET 9
36

SCALE = 6

8

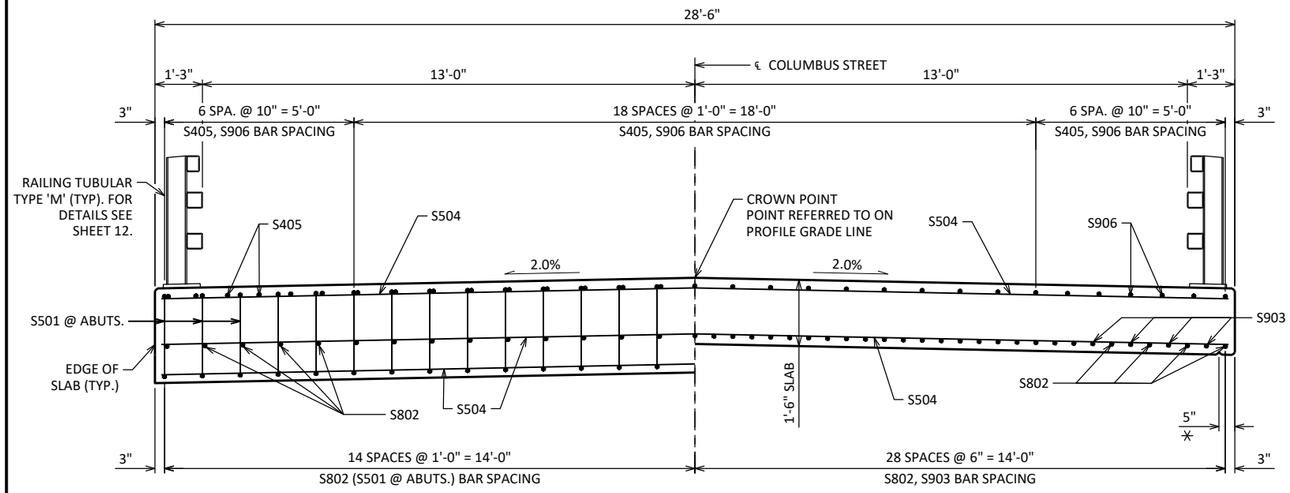
8

G:\01\01452\01452073\CADD\SheetsPlan\Structures\01452073_B-37-478_09_Super.dwg

8/22/2024 11:18 PM

STATE PROJECT NUMBER

9531-03-70

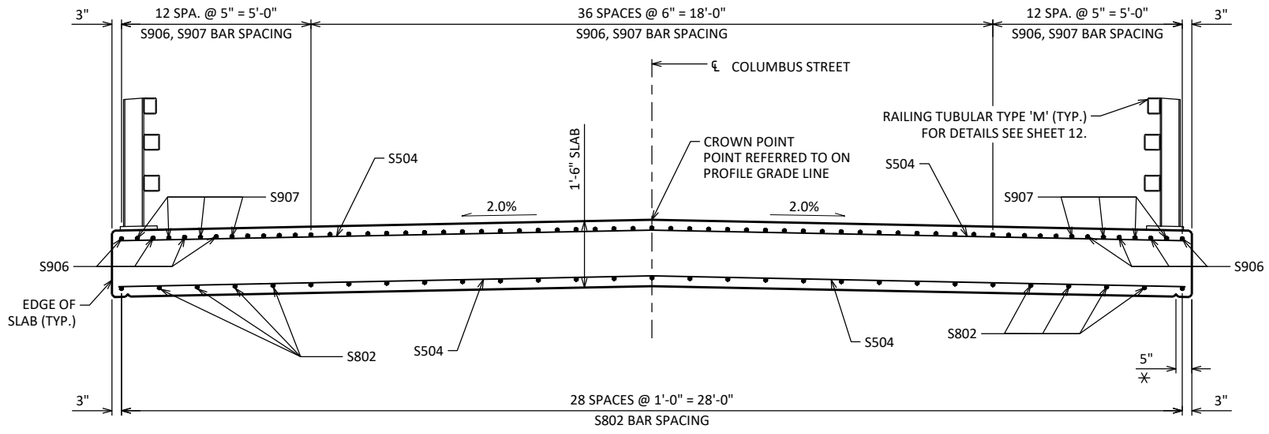


✳ ¾" V-GROOVE REQ'D. EXTEND V-GROOVE TO 6" FROM F.F. OF ABUT. DIAPH.

AT ABUTMENTS **IN SPAN**

CROSS SECTION THRU BRIDGE

(LOOKING NORTH)



CROSS SECTION THRU BRIDGE - AT PIER

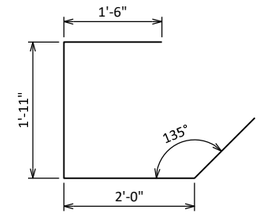
(LOOKING NORTH)

BILL OF BARS - SUPERSTRUCTURE

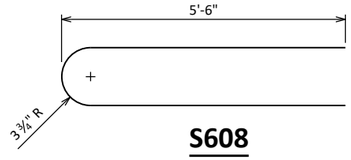
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
S501	X	58	7'-3"	X	DIAPHRAGM @ ABUTS. - VERT.
S802	X	58	39'-1"		SLAB - BOTTOM - @ ABUTS. & IN SPAN - LONGIT.
S903	X	56	25'-9"		SLAB - BOTTOM - IN SPAN - LONGIT.
S504	X	146	28'-2"		SLAB - TOP & BOTTOM - TRANS.
S405	X	62	18'-5"		SLAB - TOP - @ ABUTS. - LONGIT.
S906	X	62	40'-0"		SLAB - TOP - IN SPAN & OVER PIER - LONGIT.
S907	X	31	13'-4"		SLAB - TOP - OVER PIER - LONGIT.
S608	X	48	11'-4"	X	SLAB @ RAIL POST, 2 PER POST
S609	X	80	6'-0"		SLAB @ RAIL POST, 4 PER POST
S610	X	16	4'-8"	X	SLAB @ RAIL POST, 4 PER CORNER POST

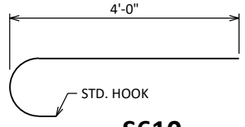
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



S501



S608



S610

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-37-478

DRAWN BY RLR | PLANS CK'D NJK

SUPERSTRUCTURE SECTIONS

SHEET 10
37

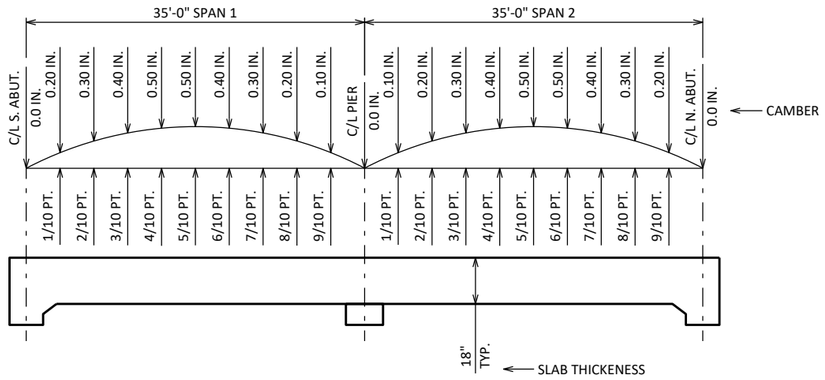
SCALE = 6

8

8

STATE PROJECT NUMBER

9531-03-70



CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS.

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

SLAB-SUPPORTING FALSEWORK SHALL REMAIN IN-PLACE UNTIL ALL STAGES OF THE SUPERSTRUCTURE HAS CURED, FOR DEFLECTION CONTROL BETWEEN STAGES. DO NOT RELEASE ANY FALSEWORK UNTIL TYPE M RAILING HAS BEEN CONSTRUCTED. (FOR STAGED CONSTRUCTION)

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

	TOP OF SLAB ELEVATION AT FINAL GRADE
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

SURVEY TOP OF SLAB ELEVATIONS

	LOCATION	S. ABUTMENT	5/10 PT.	PIER	5/10 PT.	N. ABUTMENT
☆	EAST EDGE OF SLAB					
	℄ COLUMBUS STREET					
☆	WEST EDGE OF SLAB					

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

NOTES

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

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

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

☆ EDGE OF SLAB ELEVATION IS THE TOP OUTER EDGE OF THE SLAB BENEATH OPEN RAILING.

TOP OF SLAB ELEVATIONS

LOCATION	C/L BRG. S. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	C/L 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. N. ABUT.
EAST EDGE OF SLAB	1264.06	1264.07	1264.09	1264.10	1264.12	1264.13	1264.15	1264.16	1264.18	1264.19	1264.21	1264.22	1264.24	1264.25	1264.27	1264.28	1264.30	1264.31	1264.33	1264.34	1264.36
C/L COLUMBUS STREET	1264.34	1264.36	1264.37	1264.39	1264.40	1264.42	1264.43	1264.45	1264.46	1264.48	1264.49	1264.51	1264.52	1264.54	1264.55	1264.57	1264.58	1264.60	1264.61	1264.63	1264.64
WEST EDGE OF SLAB	1264.06	1264.07	1264.09	1264.10	1264.12	1264.13	1264.15	1264.16	1264.18	1264.19	1264.21	1264.22	1264.24	1264.25	1264.27	1264.28	1264.30	1264.31	1264.33	1264.34	1264.36

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-37-478

DRAWN BY EKK | PLANS CK'D NJK

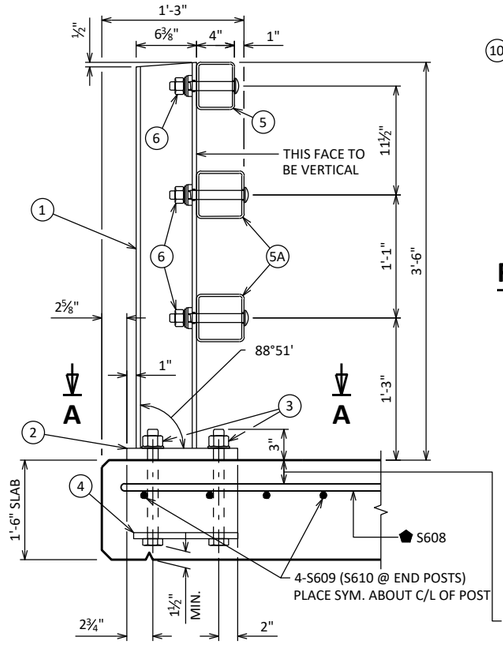
SUPERSTRUCTURE DETAILS

SHEET 11
38

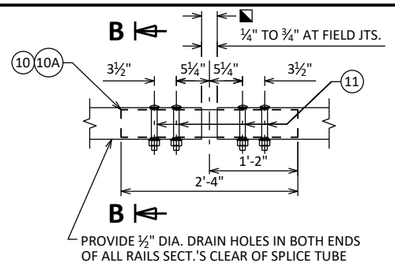
SCALE = 2.25

STATE PROJECT NUMBER

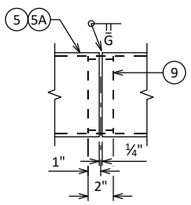
9531-03-70



SECTION THRU RAILING ON SLAB

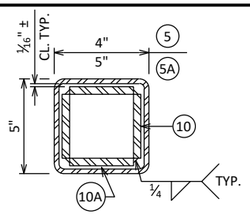


FIELD ERECTION JOINT DETAIL

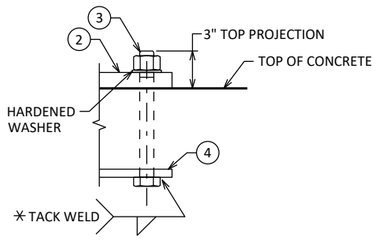


SHOP RAIL SPLICE DETAIL

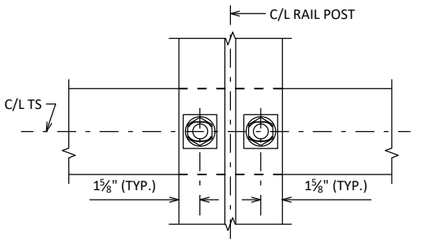
LOCATION MUST BE SHOWN ON SHOP DRAWINGS



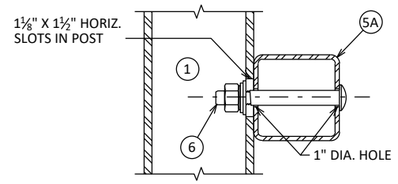
SECTION B-B



ANCHOR BOLTS



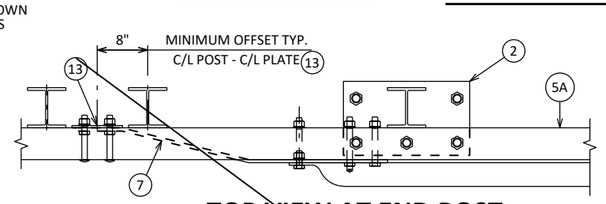
SECTION THRU POST WEB



SECTION THRU RAIL

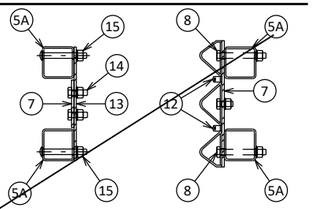
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS



TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT



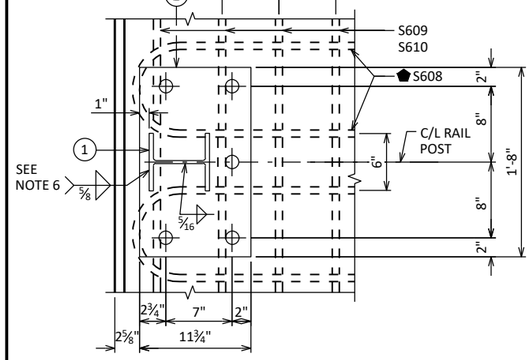
SECTION C-C SECTION D-D

LEGEND

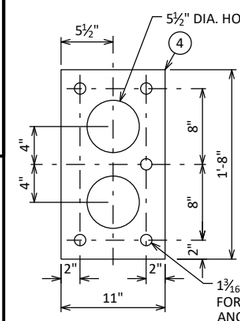
1. W6 X 25 WITH 1⅛" X 1½" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
2. PLATE 1¼" X 11¾" X 1'-8" WITH 1⁷⁄₁₆" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
3. ASTM A449 - 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. (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 1³⁄₁₆" 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 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.
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.
10. PAINTING IS NOT REQUIRED.

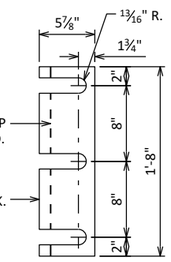


SECTION A-A

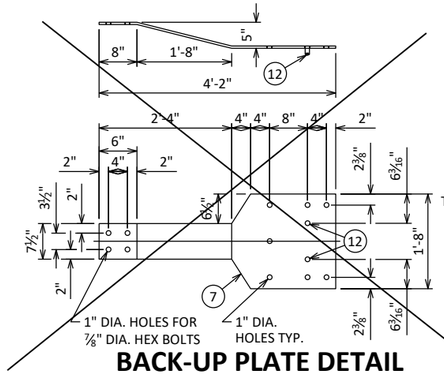


ANCHOR PLATE

AT RAIL TO SLAB CONNECTION

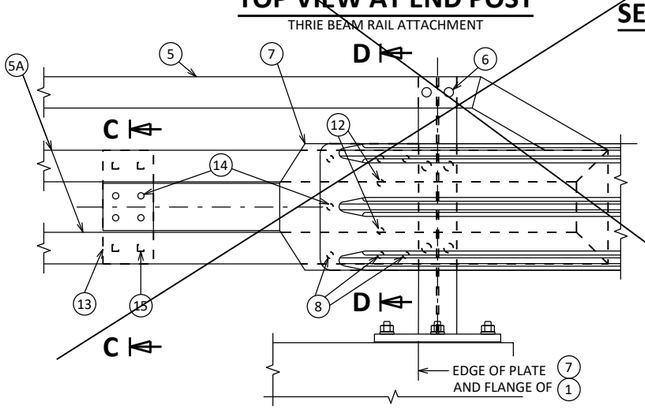


POST SHIM DETAIL



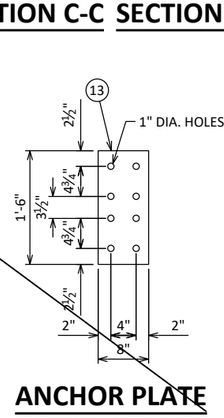
BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



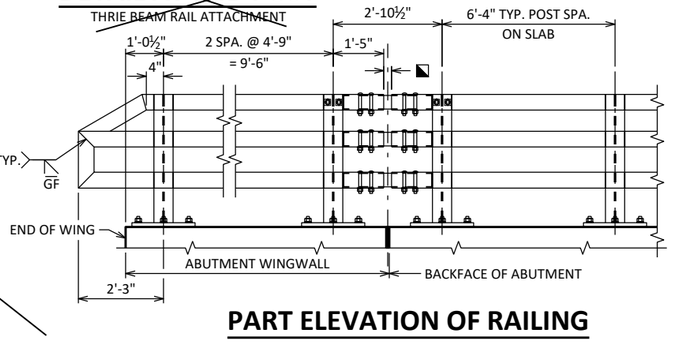
DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT



ANCHOR PLATE

AT BEAM GUARD 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.

◹ ½" MIN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-37-478

DRAWN BY RLR | PLANS CK'D NJK

TUBULAR STEEL RAILING TYPE 'M'

SHEET 12
39

SCALE = 2.00

8/28/2024 7:40 AM

G:\01\01452\01452073\CADD\SheetsPlan\Structures\01452073_B-37-478_12_Rail.dwg

COLUMBUS STREET - SOUTH OF BRIDGE

STATION	REAL STATION	DISTANCE	AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)				
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	CUT	EXPANDED FILL	EXPANDED MARSH BACKFILL	REDUCED MARSH IN FILL	MASS ORDINATE
											1.00	1.25	1.00	1.00	
							NOTE 1	NOTE 2	NOTE 3		NOTE 1		NOTE 4	NOTE 6	NOTE 8
8+64.00	864.00	0.00	28.82	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0
8+75.00	875.00	11.00	26.54	0.00	0.76	0.00	11	0	0	0	11	0	0	0	11
8+89.00	889.00	14.00	25.07	0.00	3.60	0.00	13	0	1	0	24	1	0	0	23
9+00.00	900.00	11.00	23.47	0.00	9.67	0.00	10	0	3	0	34	5	0	0	29
9+25.00	925.00	25.00	19.20	0.00	8.61	0.00	20	0	8	0	54	15	0	0	39
9+50.00	950.00	25.00	28.33	0.00	17.93	0.00	22	0	12	0	76	30	0	0	46

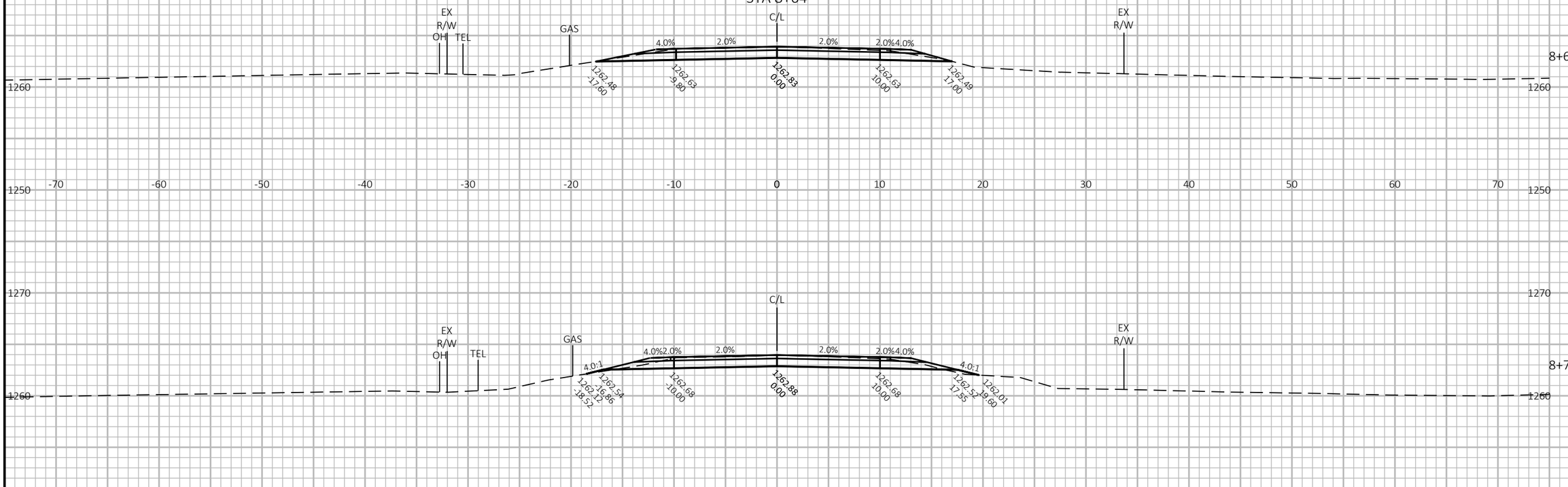
COLUMBUS STREET - NORTH OF BRIDGE

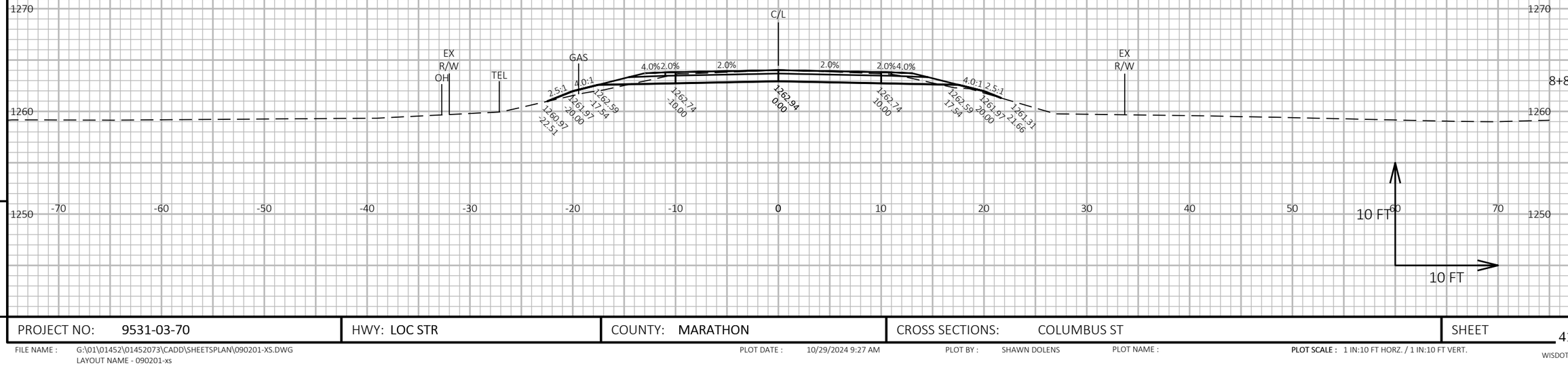
STATION	REAL STATION	DISTANCE	AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)				
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	CUT	EXPANDED FILL	EXPANDED MARSH BACKFILL	REDUCED MARSH IN FILL	MASS ORDINATE
											1.00	1.25	1.00	1.00	
							NOTE 1	NOTE 2	NOTE 3		NOTE 1		NOTE 4	NOTE 6	NOTE 8
10+50.00	1050.00	0.00	37.68	0.00	5.20	0.00	0	0	0	0	0	0	0	0	0
10+75.00	1075.00	25.00	26.58	0.00	16.89	0.00	30	0	10	0	30	13	0	0	18
11+00.00	1100.00	25.00	24.14	0.00	8.59	0.00	23	0	12	0	53	28	0	0	26
11+11.00	1111.00	11.00	24.43	0.00	5.86	0.00	10	0	3	0	63	31	0	0	32
11+25.00	1125.00	14.00	25.97	0.00	3.36	0.00	13	0	2	0	76	34	0	0	42
11+36.00	1136.00	11.00	26.70	0.00	0.00	0.00	11	0	1	0	87	35	0	0	52

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
4 - EXPANDED MARSH BACKFILL	WILL BE BACKFILLED WITH GRANULAR BACKFILL (OR CUT, OR BORROW)
6 - REDUCED MARSH IN FILL	REDUCED MARSH EXCAVATION THAT CAN BE USED IN FILL
8 - MASS ORDINATE	IF MARSH OR EBS TO BE BACKFILLED WITH COMMON OR BORROW: [(CUT - SALVAGED PAVT - EXPANDED MARSH EXC - EXPANDED EBS) - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)]

MATCH EXISTING

BEGIN PROJECT
STA 8+64





9

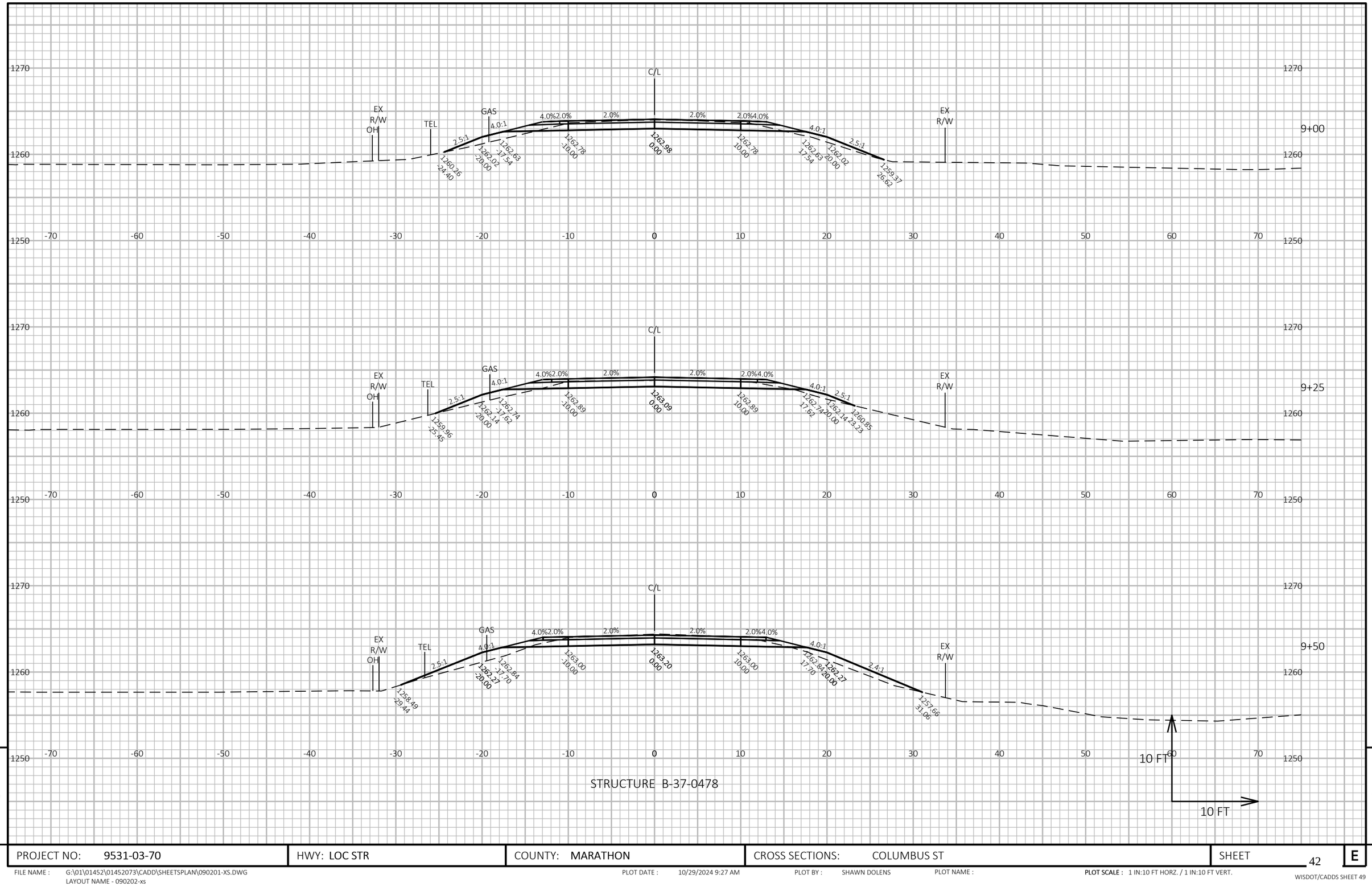
9

PROJECT NO: 9531-03-70	HWY: LOC STR	COUNTY: MARATHON	CROSS SECTIONS: COLUMBUS ST	SHEET 41	E

FILE NAME : G:\01\01452\01452073\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090201-xs

PLOT DATE : 10/29/2024 9:27 AM PLOT BY : SHAWN DOLENS PLOT NAME :

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



STRUCTURE B-37-0478

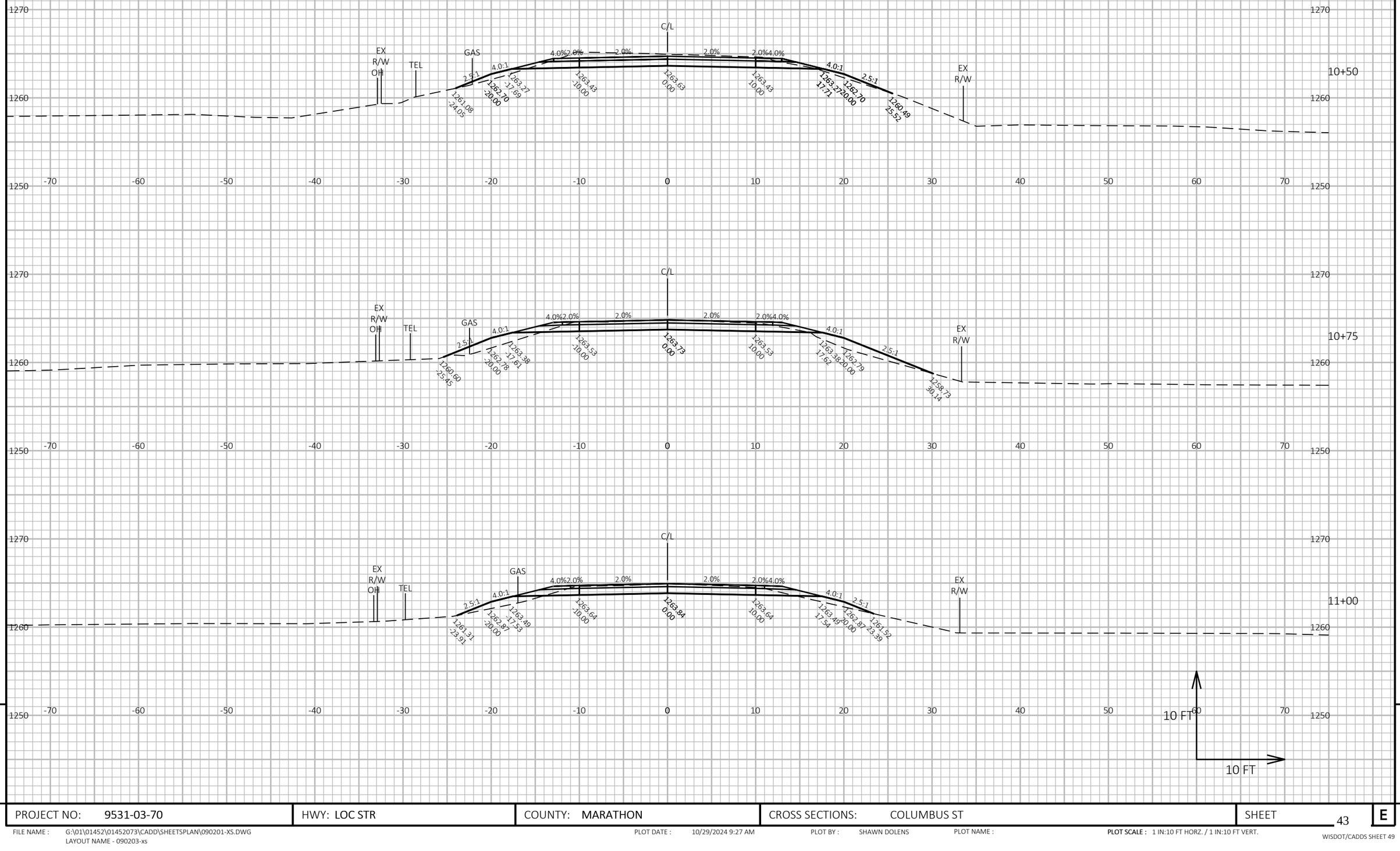
9 9

PROJECT NO: 9531-03-70	HWY: LOC STR	COUNTY: MARATHON	CROSS SECTIONS: COLUMBUS ST	SHEET 42	E

FILE NAME : G:\01\01452\01452073\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090202-xs

PLOT DATE : 10/29/2024 9:27 AM PLOT BY : SHAWN DOLENS PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

STRUCTURE B-37-0478

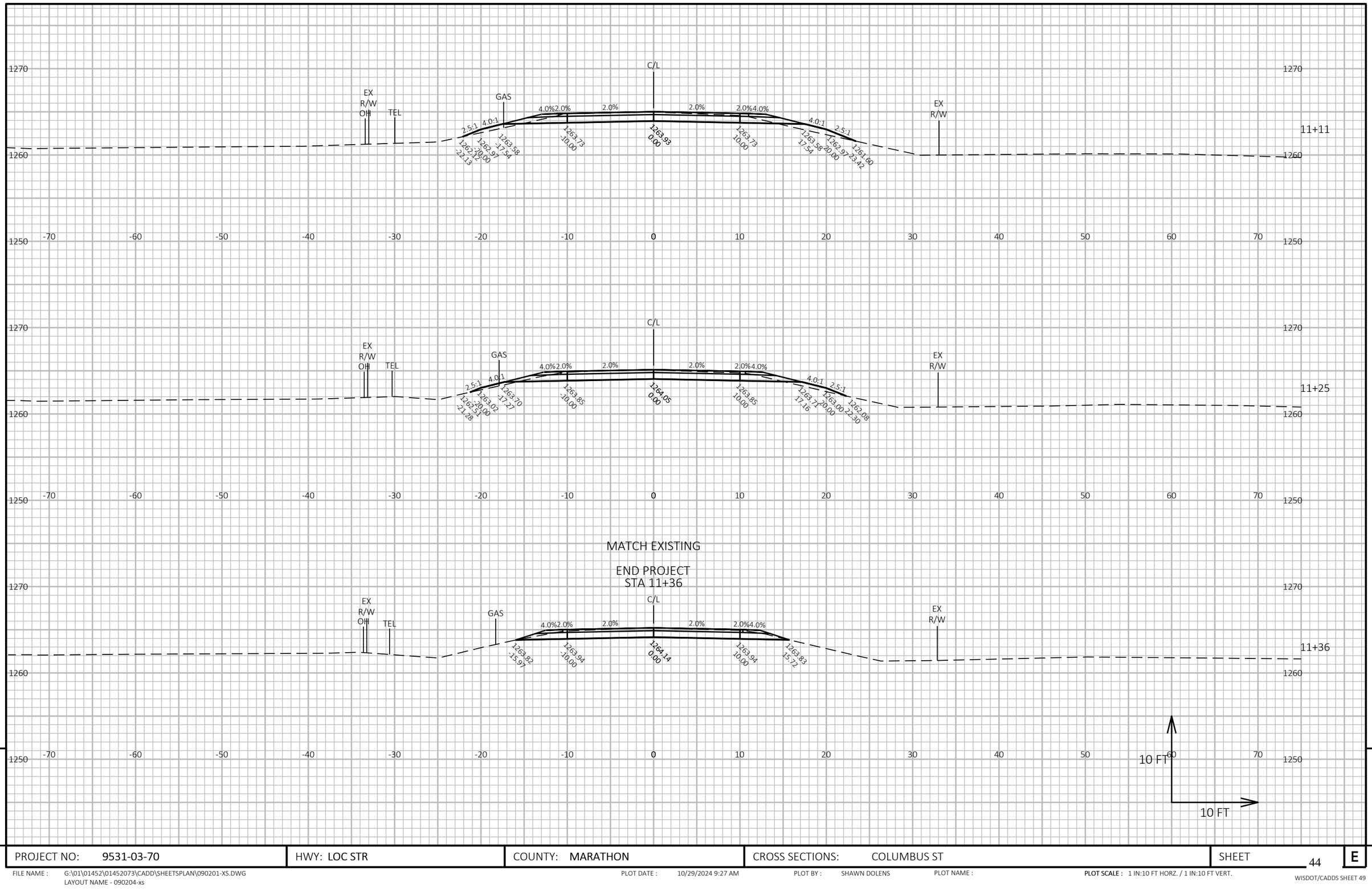


PROJECT NO: 9531-03-70	HWY: LOC STR	COUNTY: MARATHON	CROSS SECTIONS: COLUMBUS ST	SHEET 43	E

FILE NAME : G:\01\01452\01452073\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090203-xs

PLOT DATE : 10/29/2024 9:27 AM PLOT BY : SHAWN DOLENS PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 9531-03-70	HWY: LOC STR	COUNTY: MARATHON	CROSS SECTIONS: COLUMBUS ST	SHEET 44	E

FILE NAME : G:\01\01452\01452073\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090204-xs

PLOT DATE : 10/29/2024 9:27 AM PLOT BY : SHAWN DOLENS PLOT NAME :

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

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov