EAU

OCTOBER 2025

PROJECT ID: 7868-00-70

WITH: N/A

COUNTY: PEPIN

ORDER OF SHEETS

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

TOTAL SHEETS = 58

21

N

DESIGN DESIGNATION 7868-00-00

A.A.D.T.	2026	=	91
A.A.D.T.	2046	=	100
D.H.V.		=	15
D.D.		=	62/38
T.		=	7.7%
DESIGN SPEED		=	50 MPH
ESALS		=	7,300

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T DURAND, DORWINS MILL ROAD

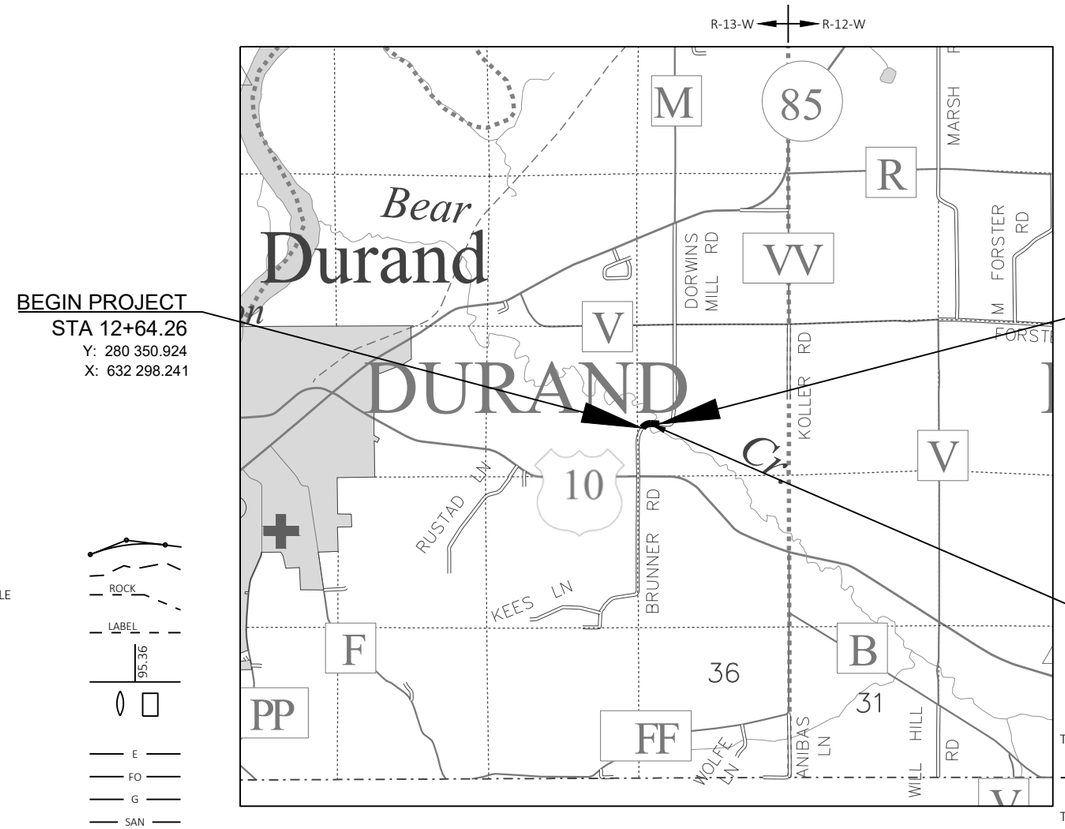
BEAR CREEK BRIDGE B-46-0057

LOC STR

PEPIN COUNTY

STATE PROJECT NUMBER
7868-00-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7868-00-70	WISC 2026015	1



BEGIN PROJECT
STA 12+64.26
Y: 280 350.924
X: 632 298.241

END PROJECT
STA 14+38.09

STRUCTURE B-46-0057
STA 13+51.19

LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.033 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), PEPIN 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.

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

ACCEPTED FOR

PEPIN COUNTY

6/19/2025 (Date) (Signature and Title of Official) County Highway Commissioner

ORIGINAL PLANS PREPARED BY

WESTBROOK
Associated Engineers, Inc.
619 EAST HOXIE STREET
P.O. BOX 429
SPRING GREEN, WISCONSIN 53588
PHONE (608) 588-7866
FAX (608) 588-7954

WISCONSIN
AARON B. PALMER
E-35695
RICHLAND CENTER, WI
PROFESSIONAL ENGINEER

DATE: 6/17/25 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WESTBROOK ASSOCIATED ENGINEERS, INC.
Designer	WESTBROOK ASSOCIATED ENGINEERS, INC.
Project Manager	MATTHEW BERG, P.E.
Regional Examiner	NW REGION
Regional Supervisor	TOU YANG, P.E.

APPROVED FOR THE DEPARTMENT

DATE: 6/26/2025 (Signature)

E

STANDARD ABBREVIATIONS

ABUT	ABUTMENT	MGAL	ONE THOUSAND GALLONS
AC	ACRE	ML OR M/L	MATCH LINE
AGG	AGGREGATE	NOM	NOMINAL
AH	AHEAD	NC	NORMAL CROWN
∠	ANGLE	NB	NORTHBOUND
AADT	ANNUAL AVERAGE DAILY TRAFFIC	NO	NUMBER
ASPH	ASPHALTIC	OD	OUTSIDE DIAMETER
BK	BACK	PAVT	PAVEMENT
BAD	BASE AGGREGATE DENSE	PC	POINT OF CURVATURE
BL OR B/L	BASE LINE	PI	POINT OF INTERSECTION
BM	BENCH MARK	PT	POINT OF TANGENCY
CL OR C/L	CENTER LINE	PCC	PORTLAND CEMENT CONCRETE
Δ	CENTRAL ANGLE OR DELTA	LB	POUND
CONC	CONCRETE	PSI	POUNDS PER SQUARE INCH
CONST	CONSTRUCTION	PE	PRIVATE ENTRANCE
CP	CONTROL POINT	PROJ	PROJECT
CO	COUNTY	PL	PROPERTY LINE
CTH	COUNTY TRUCK HIGHWAY	R	RADIUS
CY	CUBIC YARD	RL OR R/L	REFERENCE LINE
D	DEGREE OF CURVE	REQD	REQUIRED
DHV	DESIGN HOUR VOLUME	RT	RIGHT
DIA	DIAMETER	RHF	RIGHT HAND FORWARD
DD	DIRECTIONAL DISTRIBUTION	R/W	RIGHT OF WAY
DWY	DRIVEWAY	RD	ROAD
EA	EACH	RDWY	ROADWAY
EB	EASTBOUND	SHLDR	SHOULDER
EL OR ELEV	ELEVATION	SW	SIDEWALK
EMB	EMBANKMENT	SB	SOUTHBOUND
ESALS	EQUIVALENT SINGLE AXLE LOADS	SPECS	SPECIFICATIONS
EXC	EXCAVATION	SF	SQUARE FEET
EXIST	EXISTING	SY	SQUARE YARD
FERT	FERTILIZER	SDD	STANDARD DETAIL DRAWINGS
FL OR F/L	FLOW LINE	STH	STATE TRUNK HIGHWAY
FT	FOOT	STA	STATION
HES	HIGH EARLY STRENGTH	SE	SUPERELEVATION
CWT	HUNDRED WEIGHT	SL OR S/L	SURVEY LINE
IN DIA	INCH DIAMETER	TEMP	TEMPORARY
ID	INSIDE DIAMETER	T	TRUCKS (PERCENT OF)
IH	INTERSTATE HIGHWAY	TYP	TYPICAL
INV	INVERT	USH	UNITED STATES HIGHWAY
JT	JOINT	VAR	VARIABLE
LT	LEFT	VC	VERTICAL CURVE
LHF	LEFT HAND FORWARD	VPC	VERTICAL POINT OF CURVATURE
L	LENGTH OF CURVE	VPI	VERTICAL POINT OF INTERSECTION
LF	LINEAR FOOT	VPT	VERTICAL POINT OF TANGENCY
LC	LONG CHORD OF CURVE	W	WEST
LS	LUMP SUM	WB	WESTBOUND

WISCONSIN DNR LIAISON

AMY LESIK
DNR WEST CENTRAL REGION HEADQUARTERS
1300 WEST CLAIREMONT AVE
EAU CLAIRE, WI 54701
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EMAIL: AMYL.LESIK@WISCONSIN.GOV

DESIGN PROJECT MANAGER

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EMAIL: APALMER@WESTBROOKENG.COM

COUNTY HIGHWAY COMMISSIONER

CHRIS BATES
PEPIN COUNTY
N5585 COUNTY ROAD N
ARKANSAW, WI 54721
PHONE: (715) 285-5550
EMAIL: CBATES@CO.PEPIN.WI.US

UTILITIES CONTACTS

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ELECTRIC
LOREN LUZINSKI
PO BOX 220
MENOMONIE, WI 54751
PHONE: (715) 232-6240
EMAIL: LOREN@DUNNENERGY.COM

NELSON TELEPHONE COOPERATIVE
COMMUNICATIONS
MATT HOYT
318 3RD AVENUE WEST
DURAND, WI 54736
PHONE: (715) 672-4204
EMAIL: MATT@NTECFIBER.COM

GENERAL NOTES

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.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY OPERATIONS, OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

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

APPLY TACK COAT BETWEEN LAYERS OF HMA PAVEMENT AT A RATE OF 0.05 GAL/SY.

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

RIGHT OF WAY INFORMATION, AS SHOWN ON THE PLANS, IS APPROXIMATE.

THE CONTRACTOR IS TO WORK WITH UTMOST CARE AND PROTECT ALL SURVEY MARKERS. REMOVAL OF ANY SURVEY MARKER IS TO BE WITH THE APPROVAL OF THE ENGINEER.

WHEN THE QUANTITY OF THE ITEMS OF BASE AGGREGATE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYERS SHOWN ON THE PLAN IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

EROSION CONTROL FEATURES, AS SHOWN IN THE PLANS, ARE AT APPROXIMATE LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S ECIP AND APPROVED BY THE ENGINEER. MAINTAIN EROSION CONTROL MEASURES UNTIL SUCH A TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

THE PROPOSED SHOULDER WIDTH SHOWN IN THE TYPICAL SECTIONS ARE MINIMUM WIDTH. PERPETUATE EXISTING SHOULDERS THAT ARE WIDER THAN WHAT IS SHOWN IN THE TYPICAL SECTIONS.

THE CONTRACTOR'S PAVING OPERATION SHALL BE CONSISTENT WITH THE TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING LANE.

SAWCUTS, AS SHOWN ON THE PLANS, ARE SUGGESTED LOCATIONS AND MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER TO BETTER SUIT FIELD CONDITIONS.

REMOVAL OF ASPHALTIC SURFACES WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE SHALL REQUIRE A SAWCUT MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

THE EXACT LOCATION AND WIDTH OF DRIVEWAYS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. DRIVEWAYS SHALL BE REPLACED IN KIND. ALL RESIDENTIAL DRIVEWAYS SHALL BE A MAXIMUM OF 24 FEET WIDE.

CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES EXCEPT WHEN PAVING OPERATIONS REQUIRE THE DRIVEWAY TO BE CLOSED. ACCESS TO DRIVEWAYS SHALL BE RE-ESTABLISHED IMMEDIATELY AFTER OPERATIONS ARE COMPLETED. ACCESS SHALL BE PROVIDED DURING ALL NON-WORKING HOURS.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

DO NOT DRIVE OR STORE EQUIPMENT, OR STORE CONSTRUCTION MATERIALS IN ENVIRONMENTALLY SENSITIVE AREAS, WETLANDS OR WATERWAYS.

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											

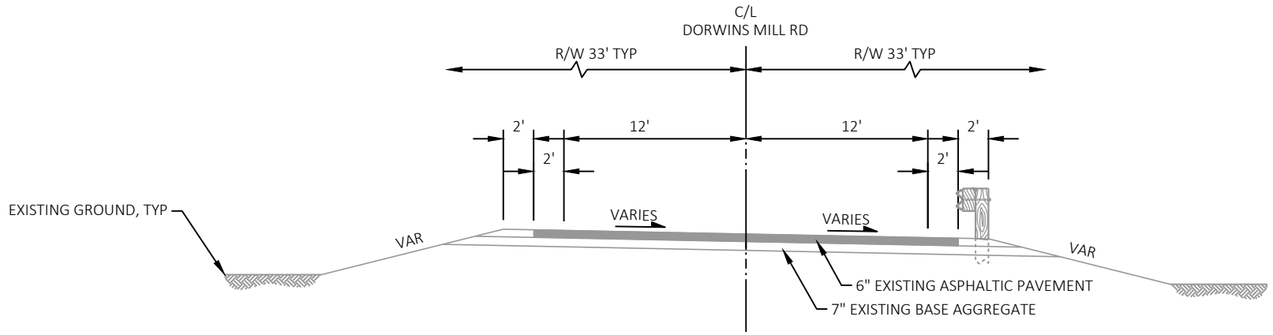
TOTAL PROJECT AREA = 0.26 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.13 ACRES

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

ORDER OF SECTION 2 DETAIL SHEETS

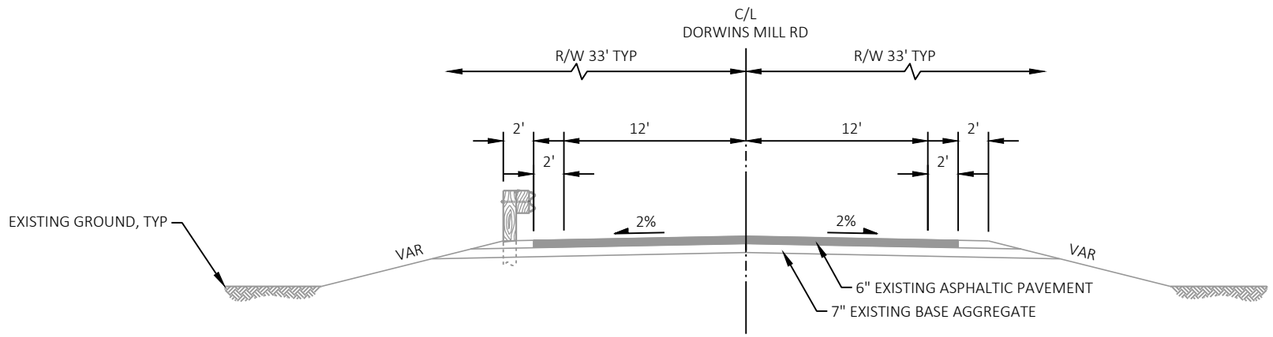
GENERAL NOTES
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PERMANENT SIGNING
ALIGNMENT DETAILS AND CONTROL POINTS

2



EXISTING TYPICAL - SUPERELEVATED SECTION

STA 12+64.26 - 13+14.26

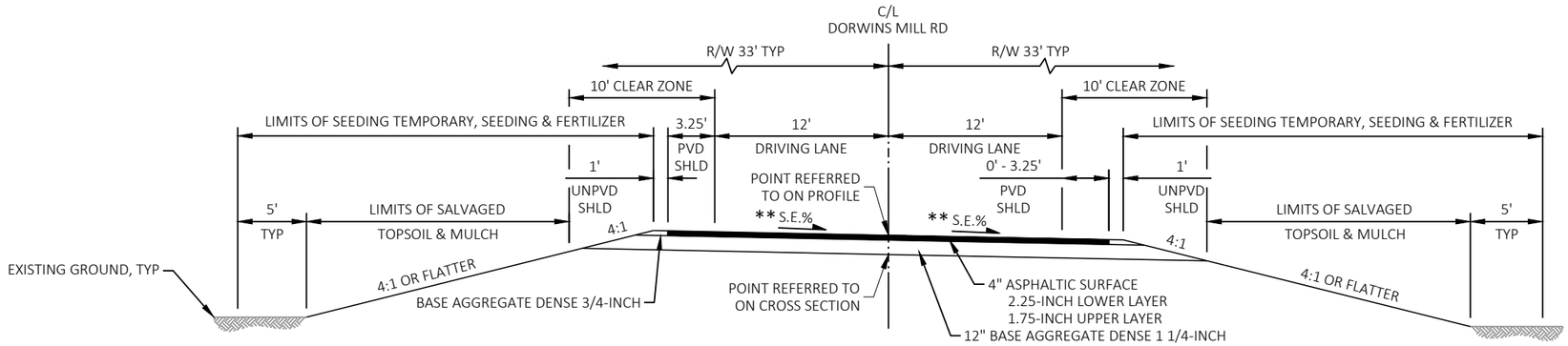


EXISTING TYPICAL SECTION

STA 13+88.09 - 14+38.09

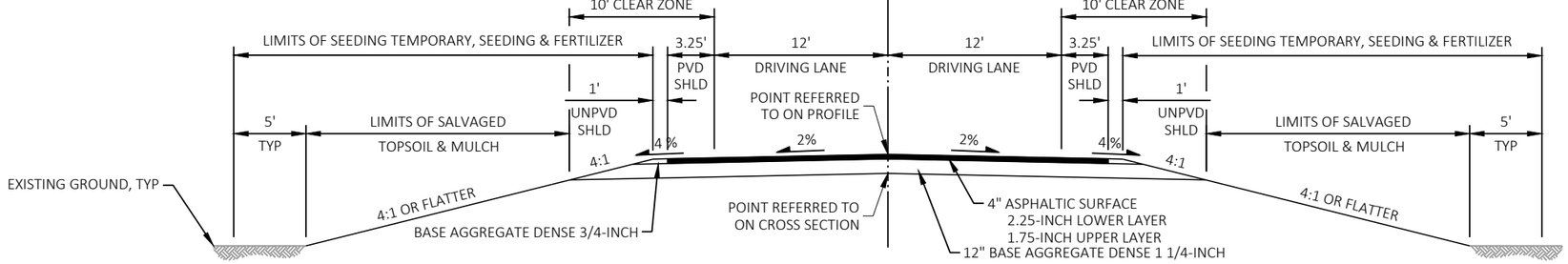
PROJECT NO: 7868-00-70	HWY: DORWINS MILL ROAD	COUNTY: PEPIN	TYPICAL SECTIONS	SHEET 3	E

FILE NAME : G:\00-PROJECT FILES\2023\23194 ID 7868-00-00, T OF DURAND, DORWINS MILL RD, BEAR CREEK BRIDGE, PEPIN COUNTY\0-CAD\SHEETS\020301_TS.DWG
LAYOUT NAME - 020301_ts
PLOT DATE : 8/13/2025 8:08 AM
PLOT BY : ERIK MEYER
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



PROPOSED TYPICAL - SUPERELEVATED SECTION

STA 12+64.26 - 12+90.20



PROPOSED TYPICAL SECTION

STA 14+11.03 - 14+38.09

SUPERELEVATION TABLE

STATION	REMARK	LEFT UNPAVED SHOULDER	LEFT LANE	RIGHT LANE	RIGHT UNPAVED SHOULDER
12+64.26	BOP MATCH EXISTING	2.90%	2.90%	-5.20%	-5.20%
12+75.00		1.80%	1.80%	-4.30%	-4.30%
13+00.00		-0.70%	-0.70%	-2.30%	-2.30%
13+03.61		-2.62%	-1.02%	-2.00%	-2.00%
13+13.46	NORMAL CROWN	-4.00%	-2.00%	-2.00%	-4.00%

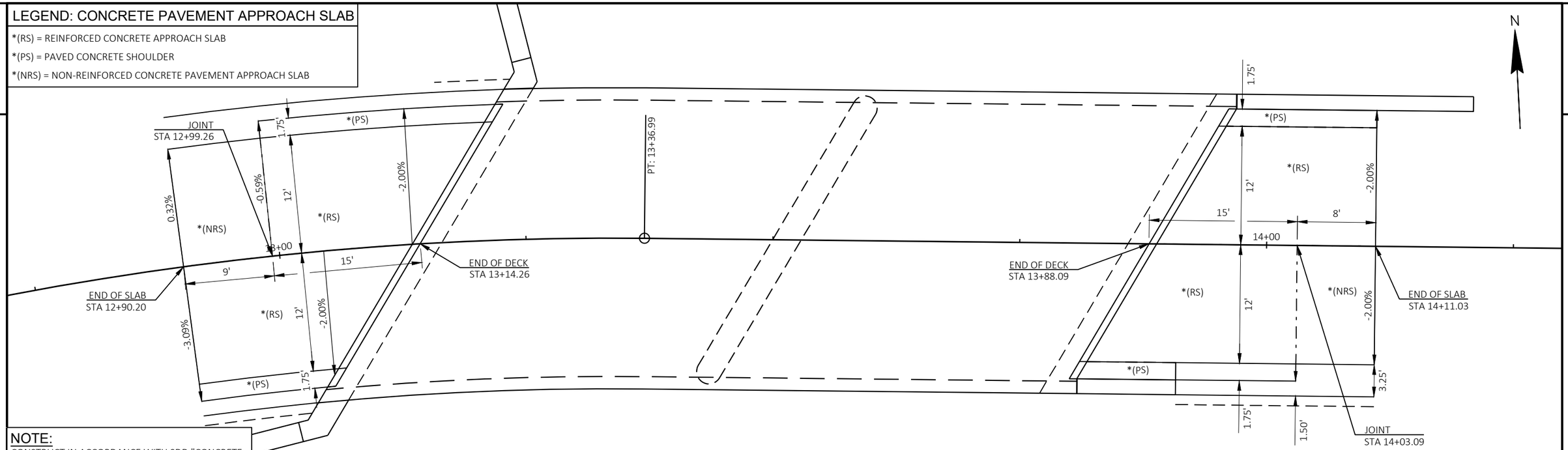
** SEE SUPERELEVATION TABLE

LEGEND: CONCRETE PAVEMENT APPROACH SLAB

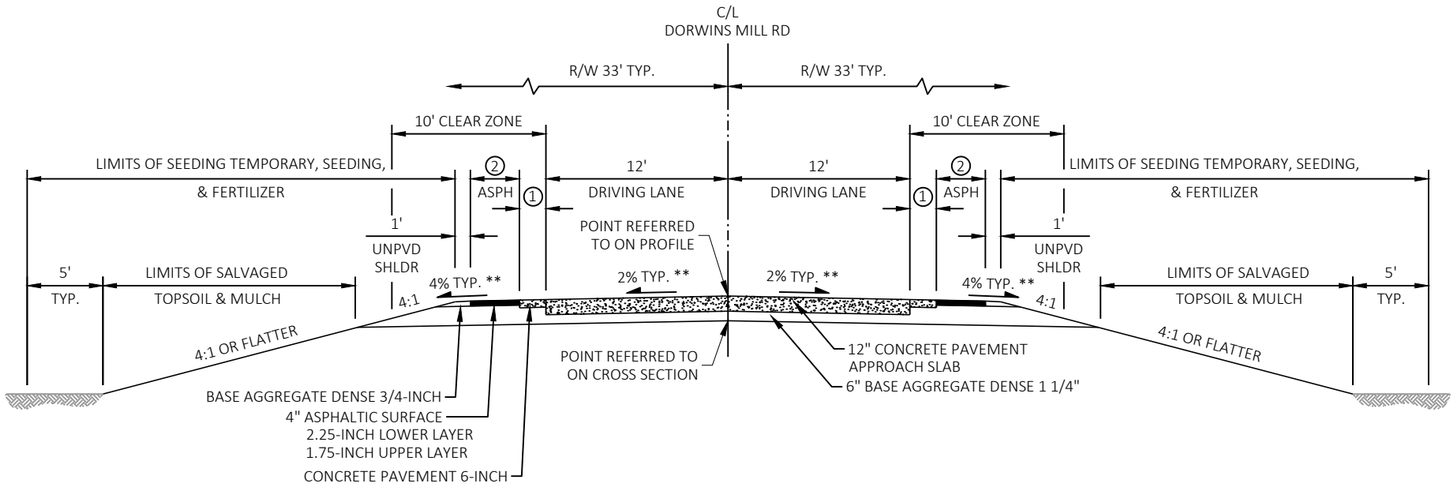
*(RS) = REINFORCED CONCRETE APPROACH SLAB

*(PS) = PAVED CONCRETE SHOULDER

*(NRS) = NON-REINFORCED CONCRETE PAVEMENT APPROACH SLAB



NOTE:
CONSTRUCT IN ACCORDANCE WITH SDD "CONCRETE PAVEMENT APPROACH SLAB" AND SDD "CONCRETE PAVEMENT SHOULDERS"



CONCRETE APPROACH SLAB TYPICAL SECTION

STA 12+90.20 - STA 13+14.26
STA 13+88.09 - STA 14+11.03

① PAVED CONCRETE SHOULDER VARIES 0' TO 1.75'.

② PAVED ASPHALTIC SHOULDER VARIES 1.5' TO 3.25'.

** SEE SUPERELEVATION TABLE ON TYPICAL SECTION SHEET

PROJECT NO: 7868-00-70	HWY: DORWINS MILL ROAD	COUNTY: PEPIN	CONSTRUCTION DETAILS	SHEET 5	E

FILE NAME : G:\00-PROJECT FILES\2023\23194 ID 7868-00-00, T OF DURAND, DORWINS MILL RD, BEAR CREEK BRIDGE, PEPIN COUNTY\0-CAD\SHEETS\021001_CD.DWG
LAYOUT NAME - 021001_cd
PLOT DATE : 8/13/2025 8:35 AM
PLOT BY : ERIK MEYER
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 44

NOTE:
CONSTRUCT IN ACCORDANCE WITH SDD "SIGNING AND MARKING FOR TWO LANE BRIDGES"

N

ENVIRONMENTALLY SENSITIVE AREA

W5-52L
12"X36"

REMOVE

REMOVE

W5-52R
12"X36"

2

2R

4R

4

BEAR CREEK

BM 1

BM 2

CP 1

CP 2

CP 3

PC: 10+29.32

BP: 10+00.00

11+00

12+00

13+00

14+00

15+00

16+00

DORWINS MILL RD
(ASPHALT)

PT: 13+36.99

PI: 16+26.42

1

1R

3R

3

W5-52R
12"X36"

REMOVE

REMOVE

W5-52L
12"X36"

WELL

POST

FO

LEGEND: PERMANENT SIGNING

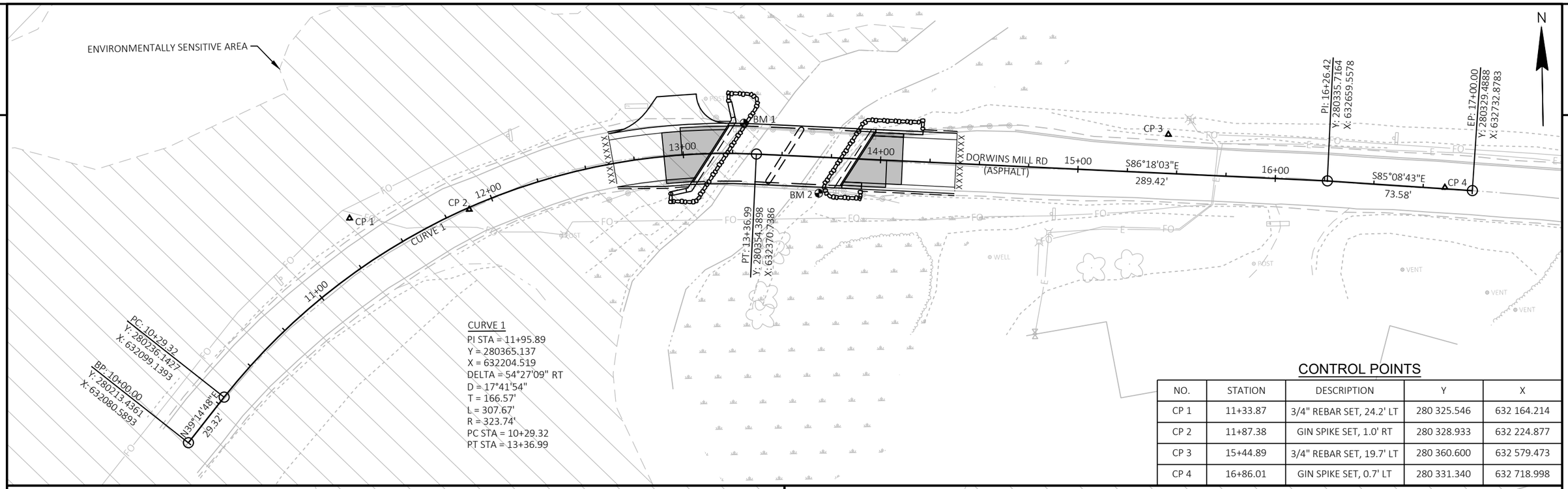
- PROPOSED SIGN MOUNTED ON POST(S)
- EXISTING SIGN
- 0X — DENOTES SIGN NUMBER
  - WORK CODE: R=REMOVE
  - SIGN COUNT SEQUENCE

PROJECT NO: 7868-00-70	HWY: DORWINS MILL ROAD	COUNTY: PEPIN	PERMANENT SIGNING	SHEET 6	E

FILE NAME : G:\00-PROJECT FILES\2023\23194 ID 7868-00-00, T OF DURAND, DORWINS MILL RD, BEAR CREEK BRIDGE, PEPIN COUNTY\0-CAD\SHEETS\023201_PS.DWG
LAYOUT NAME - 023201_ps

PLOT DATE : 4/25/2025 1:53 PM PLOT BY : ERICA BAUER PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

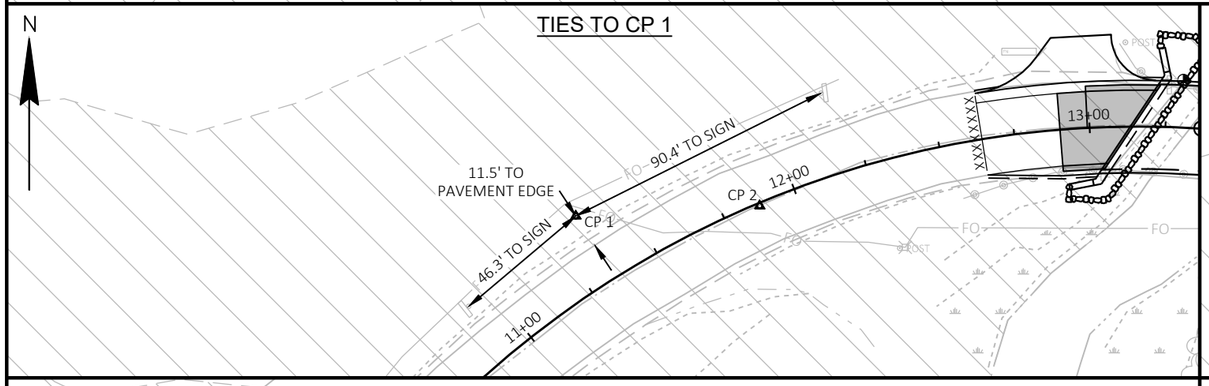


CURVE 1
PI STA = 11+95.89
Y = 280365.137
X = 632204.519
DELTA = 54°27'09" RT
D = 17°41'54"
T = 166.57'
L = 307.67'
R = 323.74'
PC STA = 10+29.32
PT STA = 13+36.99

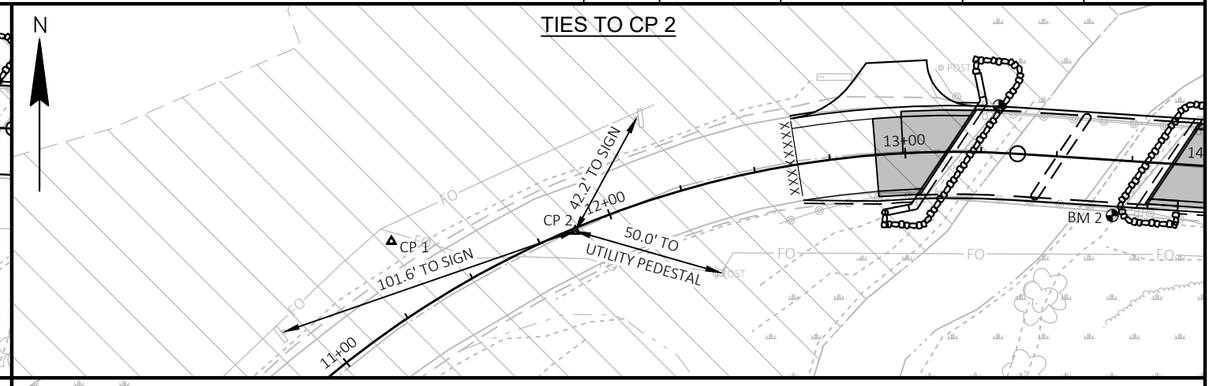
CONTROL POINTS

NO.	STATION	DESCRIPTION	Y	X
CP 1	11+33.87	3/4" REBAR SET, 24.2' LT	280 325.546	632 164.214
CP 2	11+87.38	GIN SPIKE SET, 1.0' RT	280 328.933	632 224.877
CP 3	15+44.89	3/4" REBAR SET, 19.7' LT	280 360.600	632 579.473
CP 4	16+86.01	GIN SPIKE SET, 0.7' LT	280 331.340	632 718.998

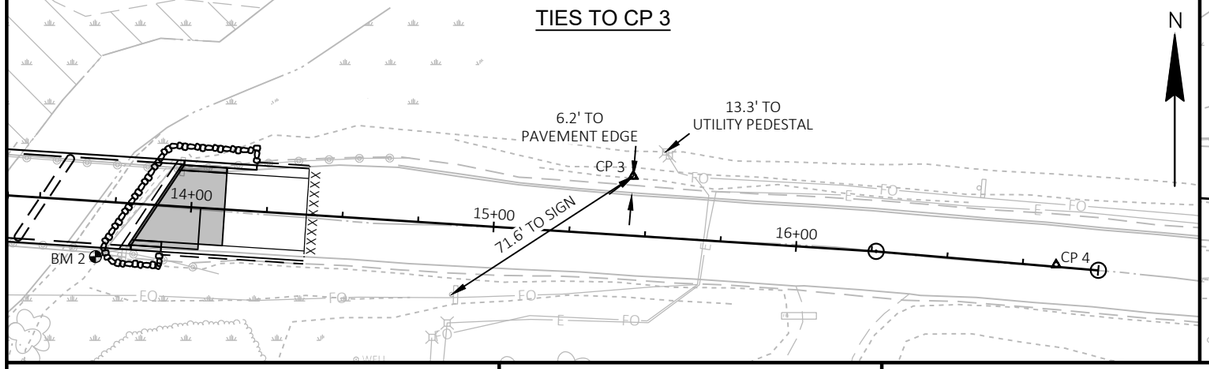
TIES TO CP 1



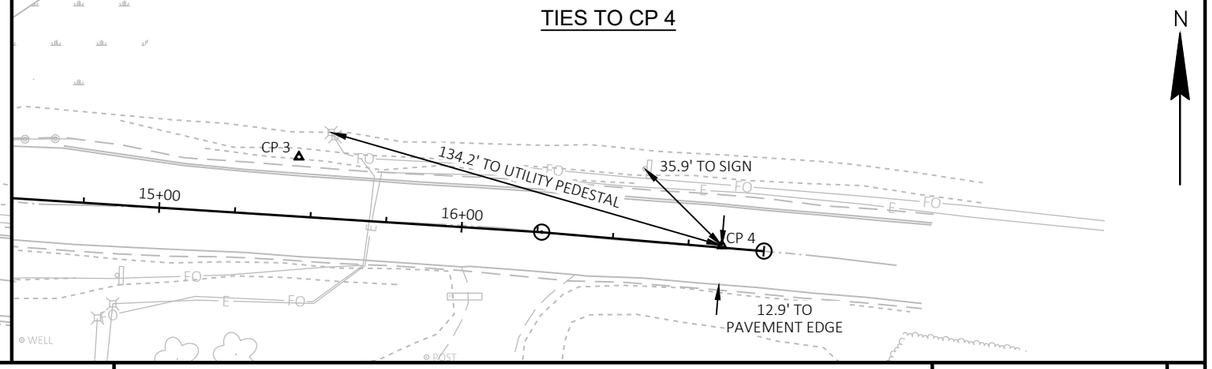
TIES TO CP 2



TIES TO CP 3



TIES TO CP 4



PROJECT NO: 7868-00-70	HWY: DORWINS MILL ROAD	COUNTY: PEPIN	ALIGNMENT DETAILS AND CONTROL POINTS	SHEET 7	E

FILE NAME : G:\00-PROJECT FILES\2023\23194 ID 7868-00-00, T OF DURAND, DORWINS MILL RD, BEAR CREEK BRIDGE, PEPIN COUNTY\0-CAD\SHEETS\027201_AD.DWG
LAYOUT NAME - 027201_ad
PLOT DATE : 4/30/2025 2:20 PM
PLOT BY : ERICA BAUER
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 42

Estimate Of Quantities

7868-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-46-913	EACH	1.000	1.000
0004	204.0165	Removing Guardrail	LF	200.000	200.000
0006	205.0100	Excavation Common	CY	179.000	179.000
0008	206.1001	Excavation for Structures Bridges (structure) 01. B-46-0057	EACH	1.000	1.000
0010	210.1500	Backfill Structure Type A	TON	300.000	300.000
0012	213.0100	Finishing Roadway (project) 01. 7868-00-70	EACH	1.000	1.000
0014	305.0110	Base Aggregate Dense 3/4-Inch	TON	6.000	6.000
0016	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	230.000	230.000
0018	415.0060	Concrete Pavement 6-Inch	SY	16.000	16.000
0020	415.0410	Concrete Pavement Approach Slab	SY	127.000	127.000
0022	455.0605	Tack Coat	GAL	10.000	10.000
0024	465.0105	Asphaltic Surface	TON	43.000	43.000
0026	502.0100	Concrete Masonry Bridges	CY	250.000	250.000
0028	502.3200	Protective Surface Treatment	SY	335.000	335.000
0030	505.0400	Bar Steel Reinforcement HS Structures	LB	7,020.000	7,020.000
0032	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	35,870.000	35,870.000
0034	513.4061	Railing Tubular Type M	LF	190.000	190.000
0036	516.0500	Rubberized Membrane Waterproofing	SY	14.000	14.000
0038	550.0020	Pre-Boring Rock or Consolidated Materials	LF	276.000	276.000
0040	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	440.000	440.000
0042	606.0300	Riprap Heavy	CY	90.000	90.000
0044	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	180.000	180.000
0046	618.0100	Maintenance and Repair of Haul Roads (project) 01. 7868-00-70	EACH	1.000	1.000
0048	619.1000	Mobilization	EACH	1.000	1.000
0050	624.0100	Water	MGAL	2.500	2.500
0052	625.0500	Salvaged Topsoil	SY	70.000	70.000
0054	627.0200	Mulching	SY	70.000	70.000
0056	628.1504	Silt Fence	LF	422.000	422.000
0058	628.1520	Silt Fence Maintenance	LF	674.000	674.000
0060	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0062	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0064	628.6005	Turbidity Barriers	SY	285.000	285.000
0066	629.0210	Fertilizer Type B	CWT	0.150	0.150
0068	630.0130	Seeding Mixture No. 30	LB	15.000	15.000
0070	630.0200	Seeding Temporary	LB	10.000	10.000
0072	630.0500	Seed Water	MGAL	4.500	4.500
0074	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0076	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0078	638.2602	Removing Signs Type II	EACH	4.000	4.000
0080	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0082	642.5001	Field Office Type B	EACH	1.000	1.000
0084	643.0420	Traffic Control Barricades Type III	DAY	2,200.000	2,200.000
0086	643.0705	Traffic Control Warning Lights Type A	DAY	3,960.000	3,960.000
0088	643.0900	Traffic Control Signs	DAY	2,200.000	2,200.000
0090	643.5000	Traffic Control	EACH	1.000	1.000
0092	645.0111	Geotextile Type DF Schedule A	SY	67.000	67.000
0094	645.0120	Geotextile Type HR	SY	175.000	175.000
0096	650.4500	Construction Staking Subgrade	LF	100.000	100.000
0098	650.5000	Construction Staking Base	LF	53.000	53.000

Estimate Of Quantities

7868-00-70

Line	Item	Item Description	Unit	Total	Qty
0100	650.6501	Construction Staking Structure Layout (structure) 01. B-46-0057	EACH	1.000	1.000
0102	650.7000	Construction Staking Concrete Pavement	LF	47.000	47.000
0104	650.9911	Construction Staking Supplemental Control (project) 01. 7868-00-70	EACH	1.000	1.000
0106	650.9920	Construction Staking Slope Stakes	LF	100.000	100.000
0108	690.0150	Sawing Asphalt	LF	58.000	58.000
0110	715.0502	Incentive Strength Concrete Structures	DOL	1,500.000	1,500.000
0112	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0114	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 13+51	EACH	1.000	1.000
0116	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	300.000	300.000
0118	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000

3

EARTHWORK

DIVISION	FROM/TO STATION	205.0100 EXCAVATION COMMON (1) CUT (2)	SALVAGED/UNUSABLE PAVEMENT MATERIAL (3)	AVAILABLE MATERIAL (4)	UNEXPANDED FILL	EXPANDED FILL (5) FACTOR 1.25	MASS ORDINATE +/- (6)	WASTE (7)
WEST APPROACH	12+64.26/13+13.46	86	26	60	0	0	60	
EAST APPROACH	13+88.86/14+38.09	91	25	66	0	0	66	
SUBTOTAL		177	51	126	0	0	126	126
DRIVEWAY	15+27.02	2	0	2	0	0	2	
SUBTOTAL		2	0	2	0	0	2	2
GRAND TOTAL		179	51	128	0	0	128	128

NOTES:
(1) EXCAVATION COMMON IS THE SUM OF THE CUT.
(2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(3) SALVAGED/UNUSABLE PAVEMENT MATERIAL CONSISTS OF EXISTING ASPHALTIC PAVEMENT.
(4) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
(5) EXPANDED FILL FACTOR = 1.25, EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR
(6) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
(7) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

REMOVING GUARDRAIL

STATION	TO	STATION	LOCATION	204.0165 LF
12+55	-	13+08	WEST APPROACH, RT	52
13+10	-	13+30	WEST APPROACH, LT	28
13+72	-	14+11	EAST APPROACH, RT	39
13+90	-	14+71	EAST APPROACH, LT	81
			TOTAL	200

BASE AGGREGATE DENSE

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
12+64.26	-	13+14.26	WEST APPROACH	3	108	1.2
13+88.09	-	14+38.09	EAST APPROACH	3	107	1.1
			DRIVEWAY	---	15	0.2
			TOTAL	6	230	2.5

3

CONCRETE PAVEMENT APPROACH SLAB

STATION	TO	STATION	LOCATION	415.0060 CONCRETE PAVEMENT 6-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY
12+90.20	-	13+14.26	WEST APPROACH	8	65
13+88.09	-	14+11.03	EAST APPROACH	8	62
			TOTAL	16	127

ASPHALTIC SURFACE

STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
12+64.26	-	12+90.20	WEST APPROACH	5	21
14+11.03	-	14+38.09	EAST APPROACH	5	22
			TOTAL	10	43

FINISHING ITEMS

STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
12+64	-	13+02	WEST APPROACH, RT	10	10	0.02	2	1	0.7
12+64	-	13+24	WEST APPROACH, LT	9	9	0.03	2	1	0.9
13+91	-	14+38	EAST APPROACH, RT	24	24	0.04	3	2	1.3
14+21	-	14+38	EAST APPROACH, LT	12	12	0.02	2	1	0.6
			UNDISTRIBUTED	15	15	0.04	6	5	1.0
			TOTAL	70	70	0.15	15	10	4.5

SILT FENCE

STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
12+48	-	13+14	WEST APPROACH, RT	67	134
12+58	-	12+84	WEST APPROACH, LT	31	62
13+10	-	13+46	WEST APPROACH, LT	48	96
13+57	-	14+46	EAST APPROACH, RT	97	194
13+87	-	14+78	EAST APPROACH, LT	94	188
			UNDISTRIBUTED	85	---
			TOTAL	422	674

MOBILIZATIONS EROSION CONTROL

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
ID 7868-00-70	4	2
TOTAL	4	2

TURBIDITY BARRIERS

LOCATION	628.6005 SY
WEST ABUTMENT	59
EAST ABUTMENT	55
PIER	113
UNDISTRIBUTED	58
TOTAL	285

ALL ITEMS CATEGORY 0010 UNLESS NOTED OTHERWISE

3

PERMANENT SIGNING

STATION	LOCATION	SIGN NUMBER	SIGN CODE	634.0612 POSTS WOOD 4X6-INCH X 12-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
13+01	WEST APPROACH, RT	W5-52R	1	1	3	---	---	BRIDGE HASH MARKS
13+05	WEST APPROACH, RT	W5-52R	1R	---	---	1	1	BRIDGE HASH MARKS
13+23	WEST APPROACH, LT	W5-52L	2	1	3	---	---	BRIDGE HASH MARKS
13+27	WEST APPROACH, LT	W5-52L	2R	---	---	1	1	BRIDGE HASH MARKS
13+17	EAST APPROACH, RT	W5-52L	3R	---	---	1	1	BRIDGE HASH MARKS
13+95	EAST APPROACH, LT	W5-52R	4R	---	---	1	1	BRIDGE HASH MARKS
13+92	EAST APPROACH, RT	W5-52L	3	1	3	---	---	BRIDGE HASH MARKS
14+22	EAST APPROACH, LT	W5-52R	4	1	3	---	---	BRIDGE HASH MARKS
			TOTAL	4	12	4	4	

TRAFFIC CONTROL

LOCATION	DURATION DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III NO.	DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A NO.	DAY	643.0900 TRAFFIC CONTROL SIGNS NO.	DAY	643.5000 TRAFFIC CONTROL EACH
WEST APPROACH	88	9	792	18	1,584	9	792	---
EAST APPROACH	88	9	792	18	1,584	9	792	---
UNDISTRIBUTED	88	7	616	9	792	7	616	---
PROJECT	---	---	---	---	---	---	---	1
	TOTAL	25	2,200	45	3,960	25	2,200	1

PLACE TRAFFIC CONTROL IN ACCORDANCE WITH SDD 15C02 "BARRICADES AND SIGNS FOR MAINLINE, DETOUR, ON RAMP, OFF RAMP CLOSURES AND ADVANCED WIDTH RESTRICTION." PLACEMENT SUBJECT TO ENGINEER APPROVAL.

*CATEGORY 0020

CONSTRUCTION STAKING

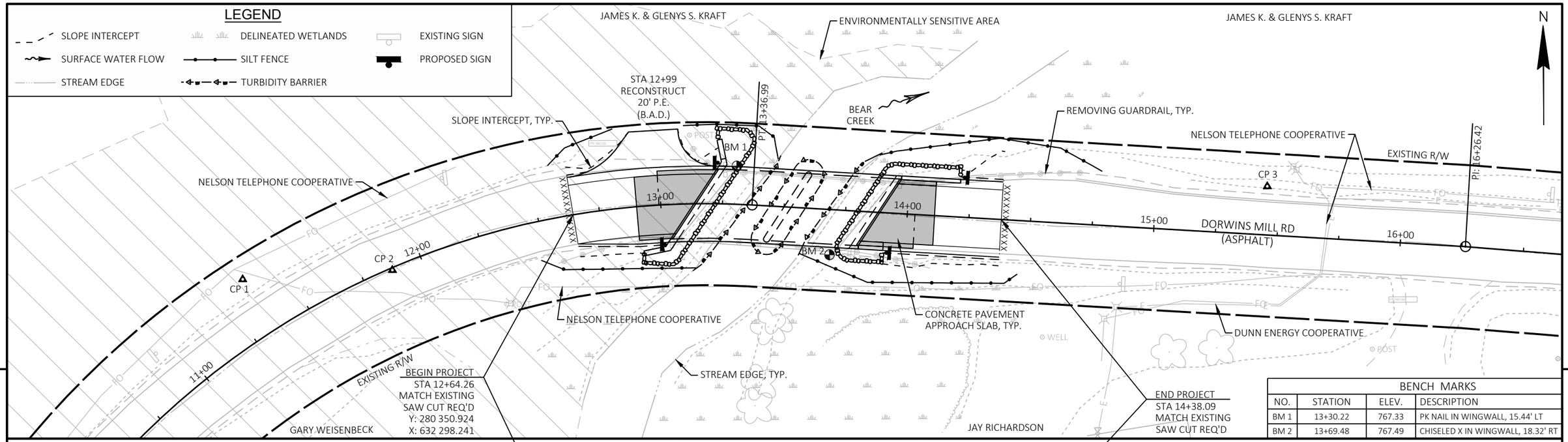
STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.6501.01 CONSTRUCTION STAKING STRUCTURE LAYOUT 01. B-46-0057 EACH	650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT LF	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL 01. 7868-00-70 EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
12+64	-	13+14	WEST APPROACH	50	26	---	24	---	50
13+88	-	14+38	EAST APPRAOCH	50	27	---	23	---	50
			ID 7868-00-70	---	---	1	---	1	---
			TOTAL	100	53	1*	47	1	100

SAWING ASPHALT

STATION	LOCATION	690.0150 LF
12+64	WEST APPROACH	28
14+38	EAST APPROACH	30
	TOTAL	58

ALL ITEMS CATEGORY 0010 UNLESS NOTED OTHERWISE

PROJECT NO: 7868-00-70	HWY: DORWINS MILL ROAD	COUNTY: PEPIN	MISCELLANEOUS QUANTITIES	SHEET 11	E



BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
BM 1	13+30.22	767.33	PK NAIL IN WINGWALL, 15.44' LT
BM 2	13+69.48	767.49	CHISELED X IN WINGWALL, 18.32' RT

STA 13+51.19
REMOVE EXISTING STRUCTURE P-46-0913
66.00-FT OVERALL LENGTH AND
28.50-FT CLEAR ROADWAY WIDTH
SINGLE SPAN PRESTRESSED CONCRETE OPEN GIRDER STRUCTURE

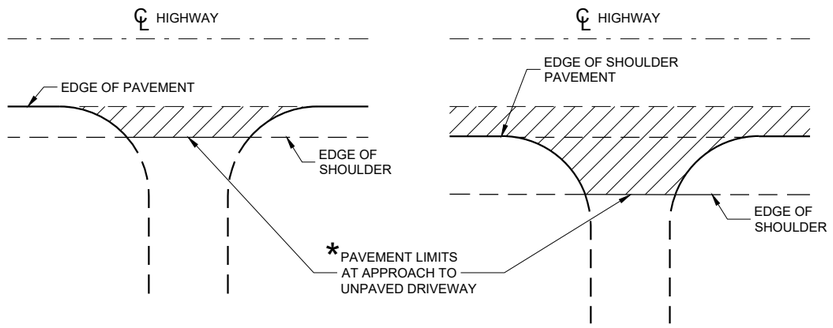
STA 13+51.19
STRUCTURE B-46-0057 REQUIRED
74.90-FT OVERALL LENGTH AND
28.00-FT CLEAR ROADWAY WIDTH
TWO SPAN REINFORCED CONCRETE FLAT SLAB STRUCTURE

PROJECT NO: 7868-00-70	HWY: DORWINS MILL ROAD	COUNTY: PEPIN	PLAN AND PROFILE	SHEET 12	E

Standard Detail Drawing List

08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13A03-07	CONCRETE PAVEMENT SHOULDERS
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C11-14A	RURAL DOWELED CONCRETE PAVEMENT
13C11-14B	RURAL DOWELED CONCRETE PAVEMENT
13C18-08A	CONCRETE PAVEMENT JOINTING
13C18-08B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-08C	CONCRETE PAVEMENT JOINT TYPES
13C19-03	HMA LONGITUDINAL JOINTS
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

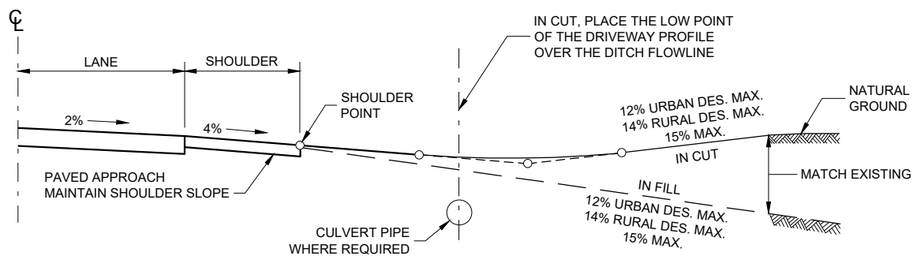
6



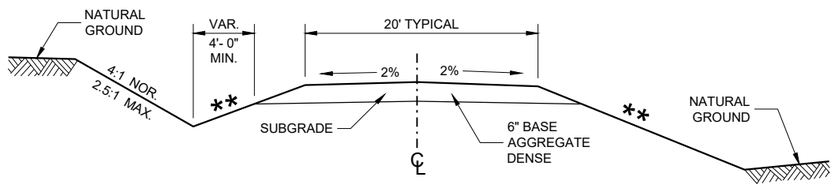
PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB AND GUTTER OR SIDEWALK)



TYPICAL DRIVEWAY PROFILES

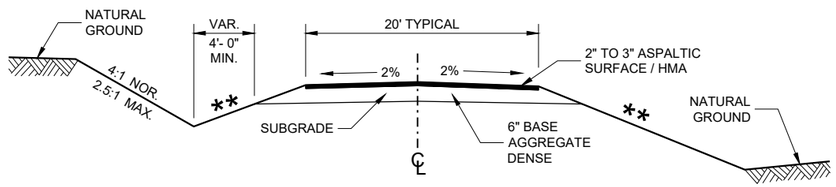


IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE AGGREGATE SURFACE

** SLOPE CAN VARY WITH SPEED. SEE 11-45-30.6.2

POSTED SPEED MPH	MAX. SLOPE
<35	4:1
≥ 35 TO < 60	6:1
≥60	10:1



IN CUT **IN FILL**

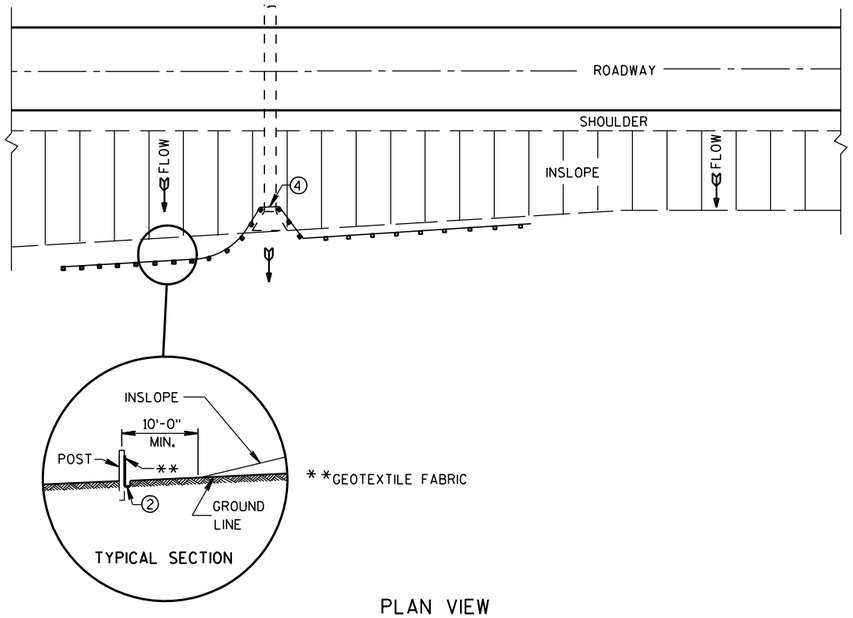
TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE ASPHALTIC SURFACE

DRIVEWAYS WITHOUT CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

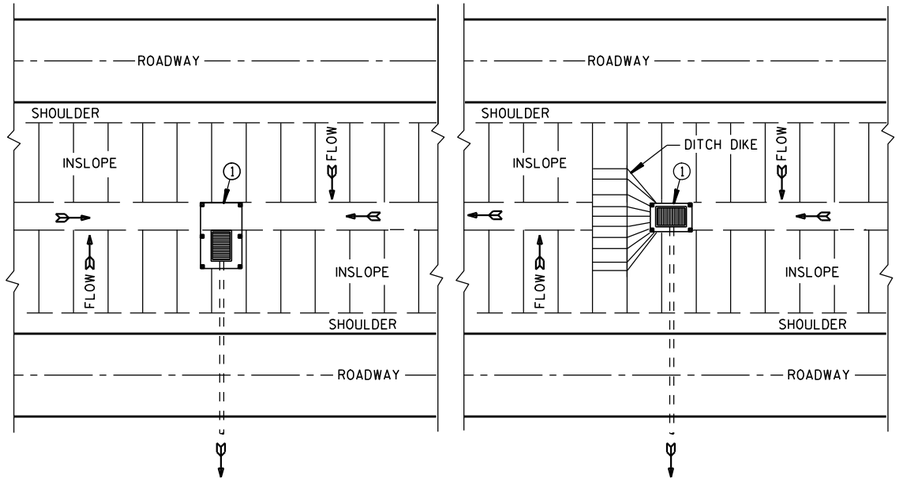
APPROVED
December 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR
FHWA

6
SDD 08D21 - 01



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



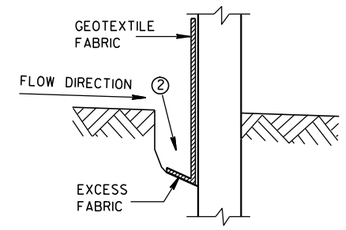
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

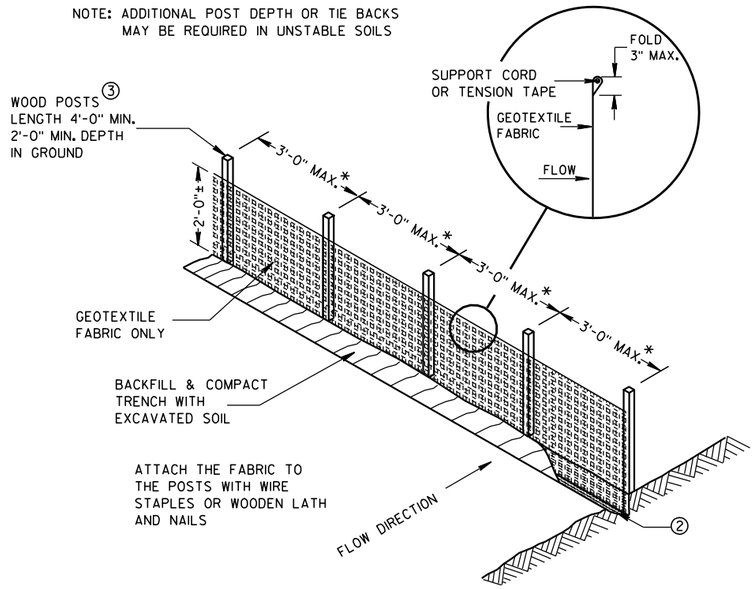
GENERAL NOTES

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

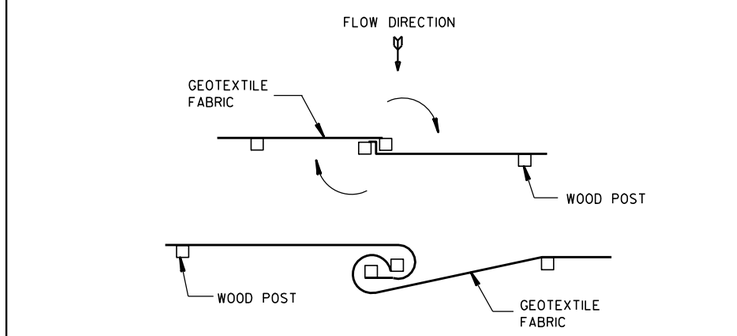
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



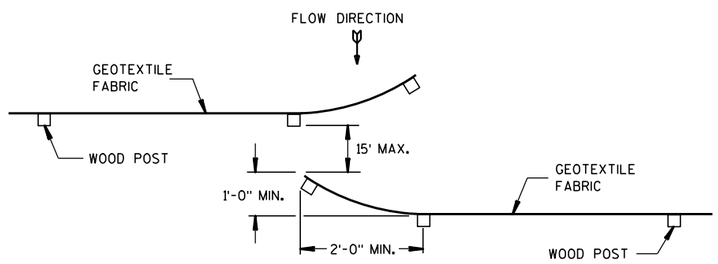
TRENCH DETAIL



SILT FENCE

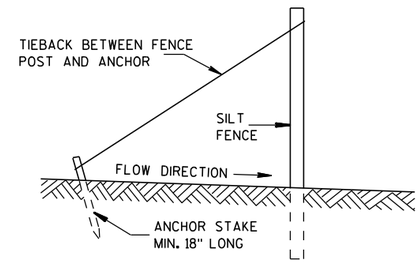


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

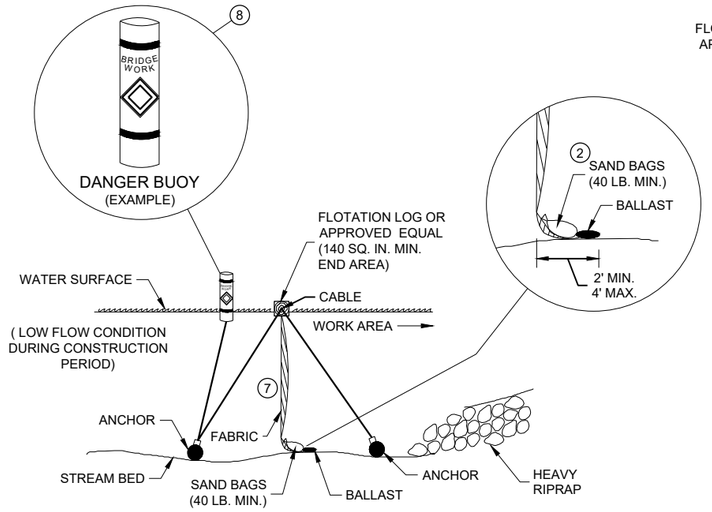
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

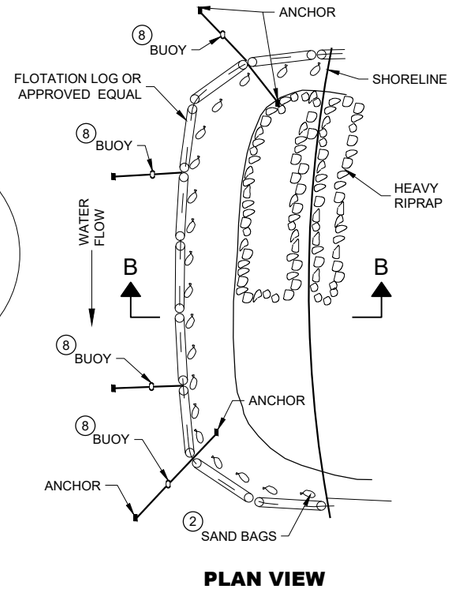
S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

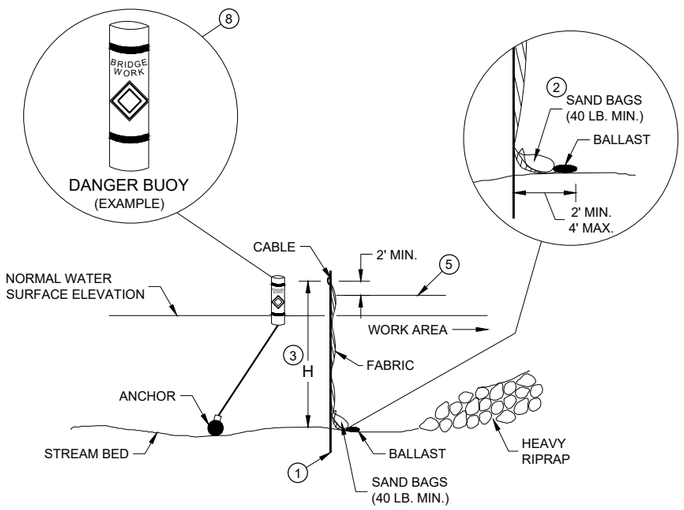


SECTION B - B

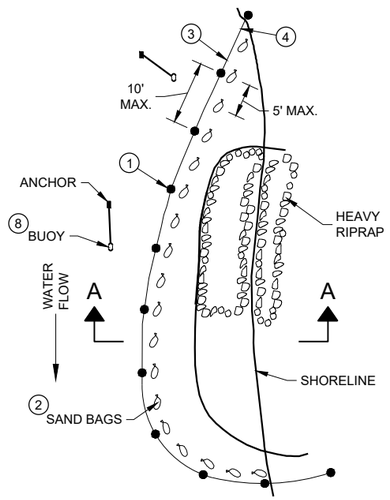


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

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

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

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

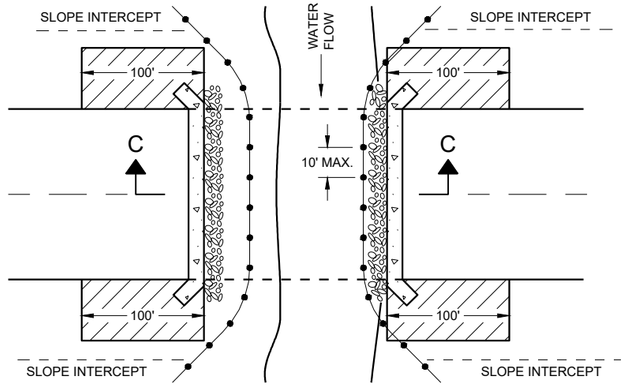
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

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

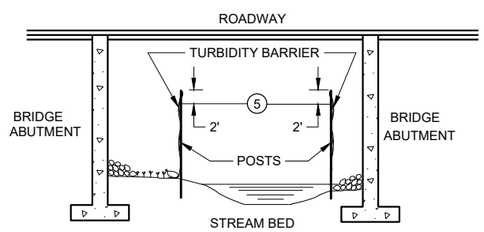
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

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

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



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

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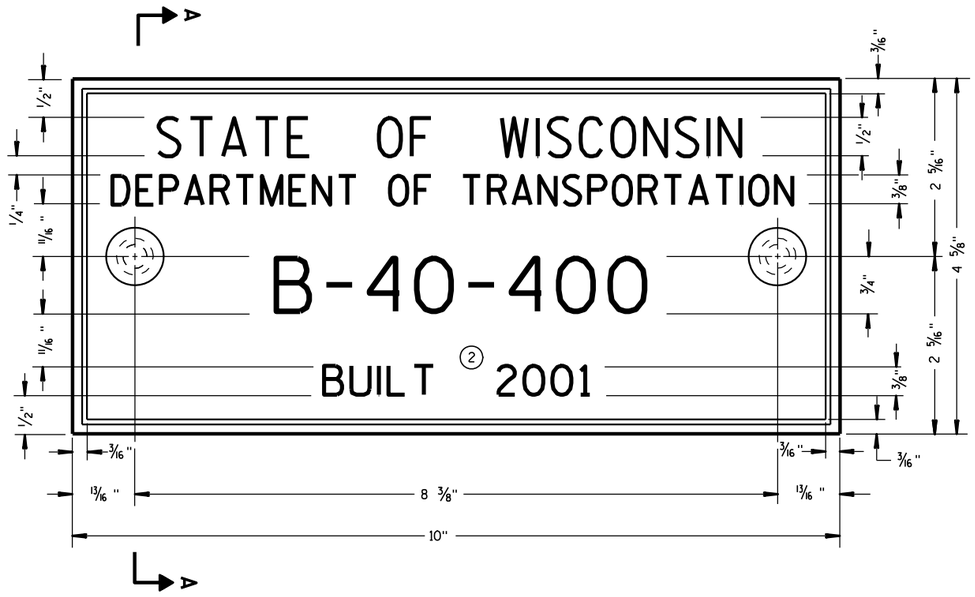
SDD 08E11 - 02



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

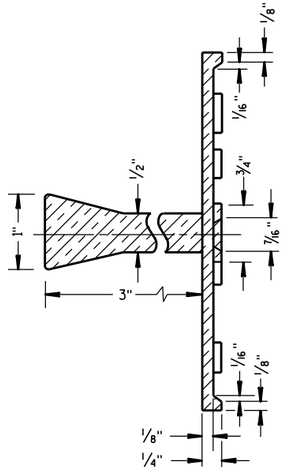
GENERAL NOTES

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.

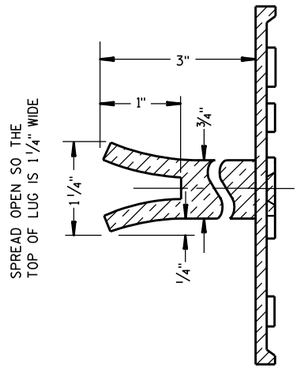
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

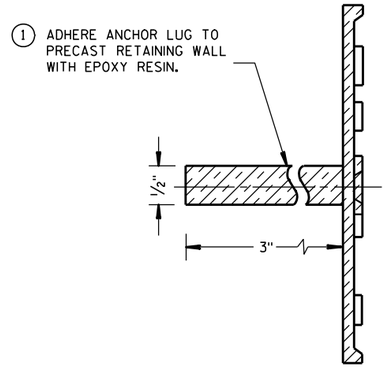
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



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

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S.D.D. 12 A 3-10

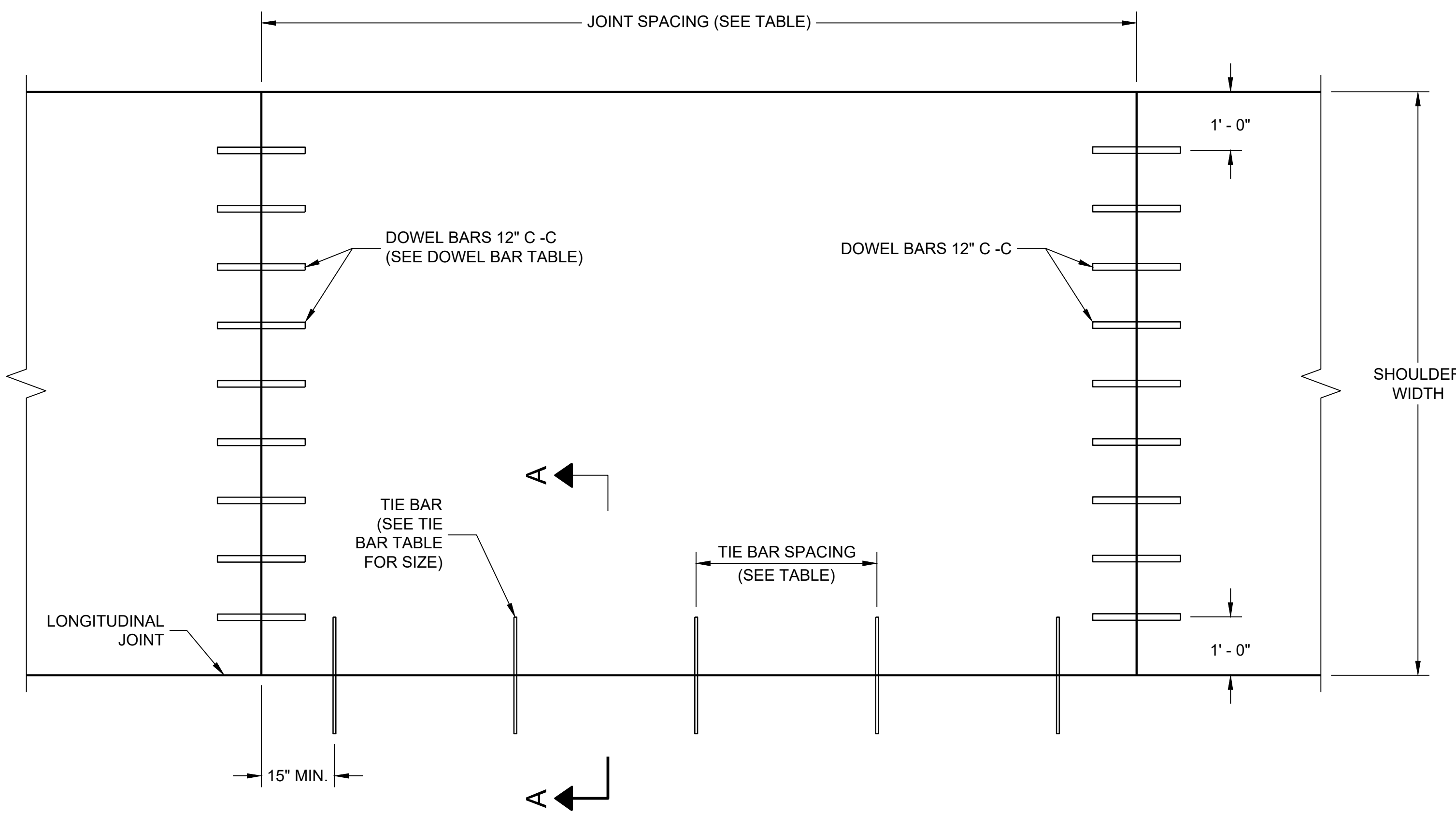
GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

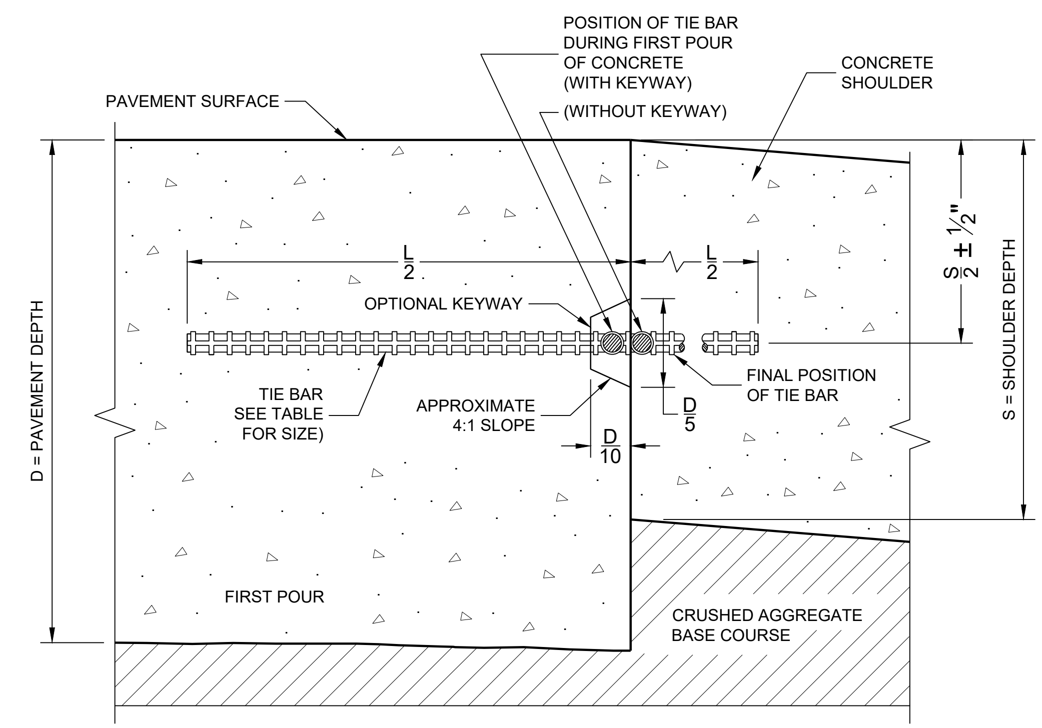
FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



PLAN VIEW

CONCRETE PAVEMENT SHOULDER



SECTION A - A

LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
<10 ½"	NO. 4	30"	36"
>10 ½"	NO. 5	36"	36"
	NO. 4*	30"	24" **

* SUBSTITUTE BENT BATS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES.

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

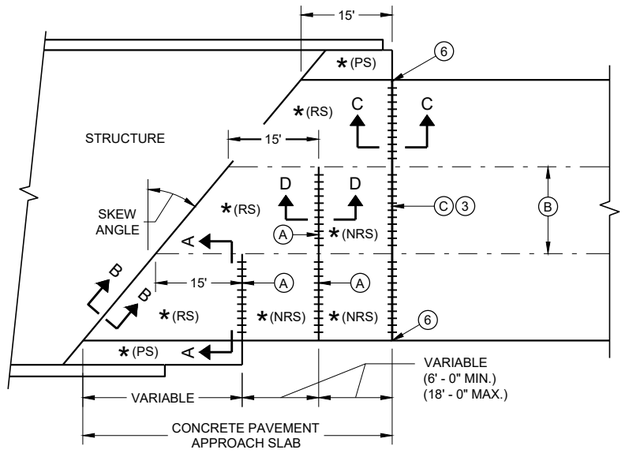
PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER ***	CONTRACTION JOINT SPACING
6", 6 ½"	NONE	12"
7", 7 ½"	1"	14"
8" & ABOVE	1 ¼"	15"

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FRO THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 — /S/ Peter Kemp
DATE — PAVEMENT SUPERVISOR
FHWA



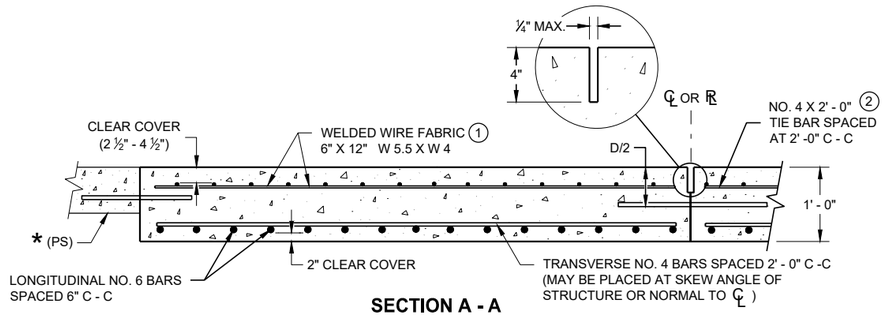
SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)

(RS) = REINFORCED CONCRETE SLAB

(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

(NRS) - NON - REINFORCED CONCRETE SLAB

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



SECTION A - A
REINFORCEMENT POSITIONING DETAIL

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

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

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

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

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

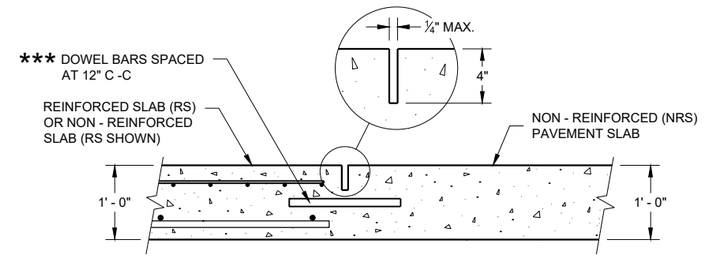
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

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

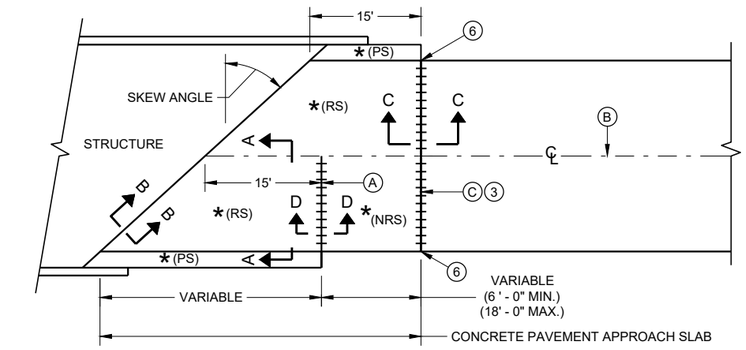
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

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

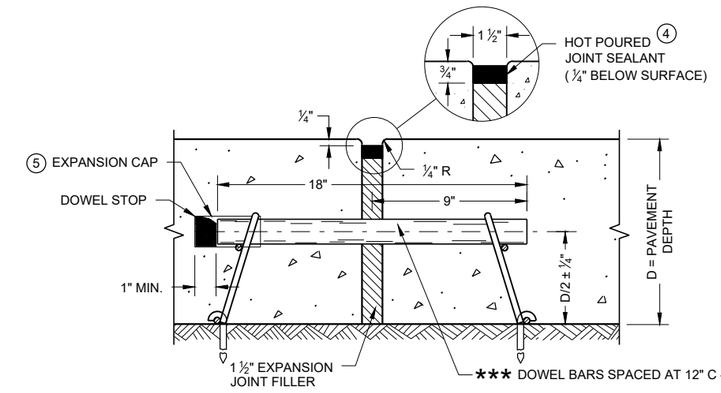


SECTION D - D
CONTRACTION JOINT

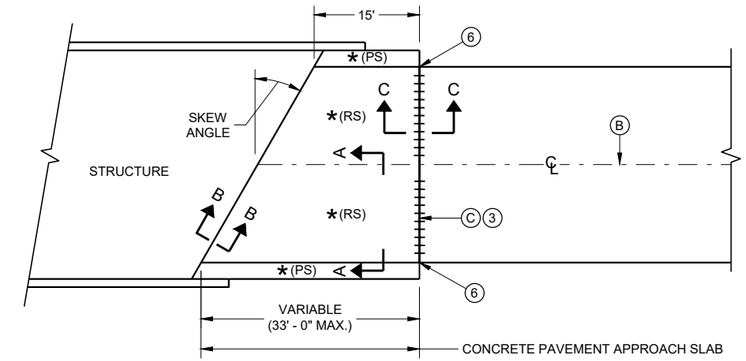


SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')

SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT

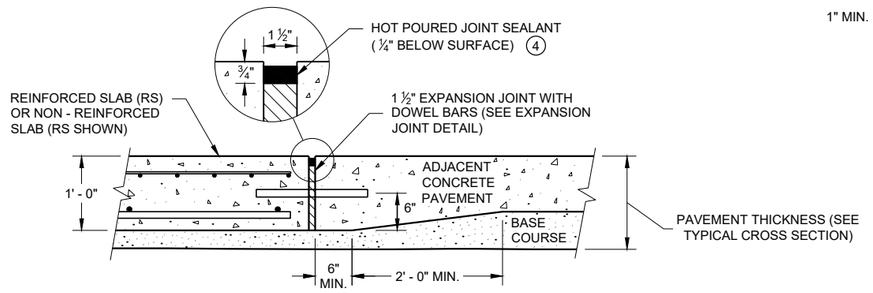


EXPANSION JOINT DETAIL



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

APPROACH SLAB AND ADJACENT PAVEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

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

FHWA

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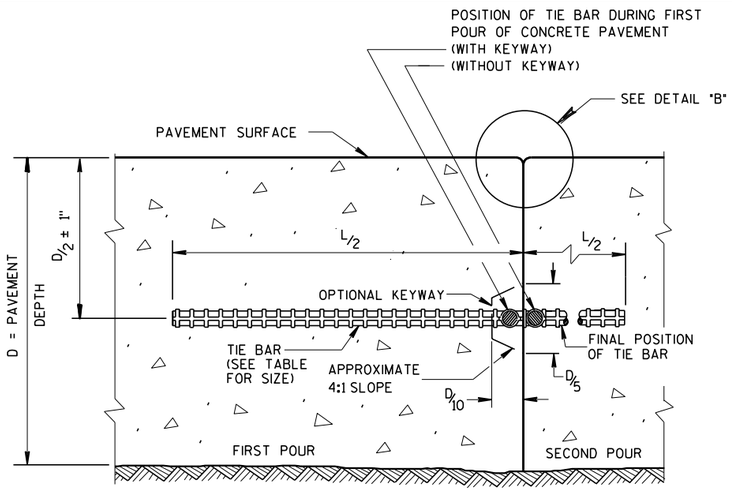
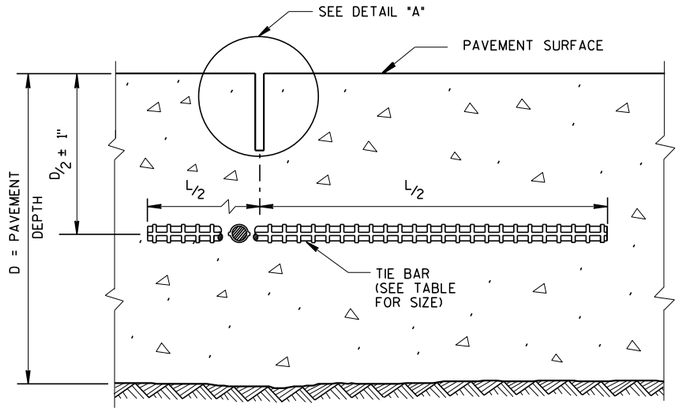
SDD 13B02 - 09a



CONSTRUCTION JOINT



SAWED JOINT

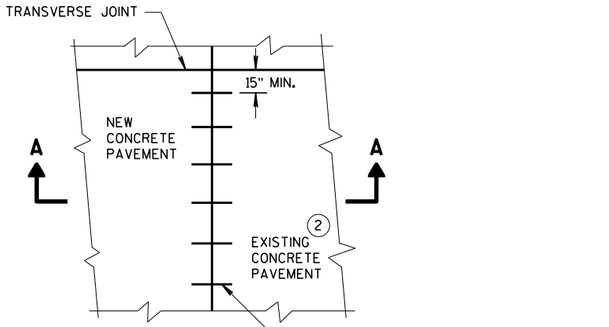
GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

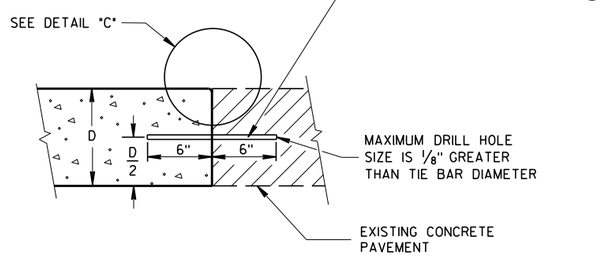
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

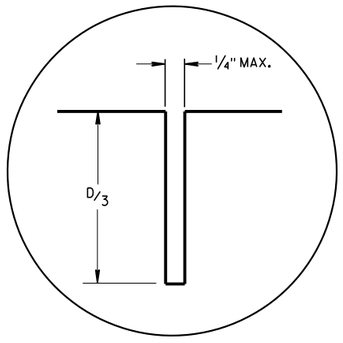


PLAN VIEW

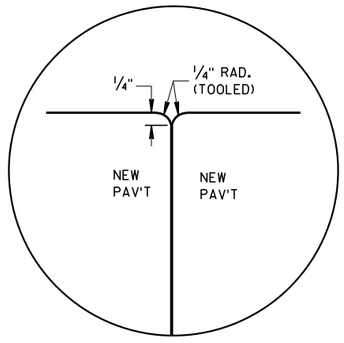


SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"



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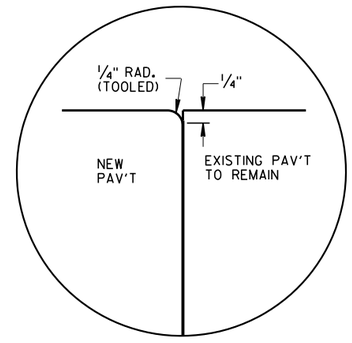


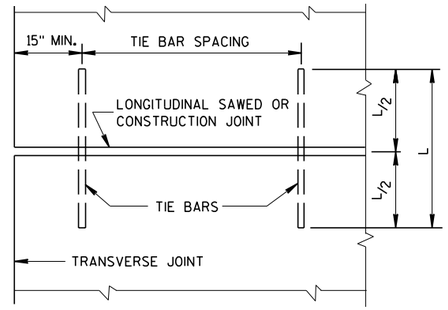
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Peter Kemp P.E. — PAVEMENT SUPE
FHWA

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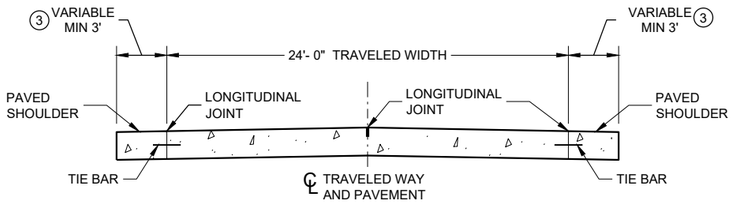
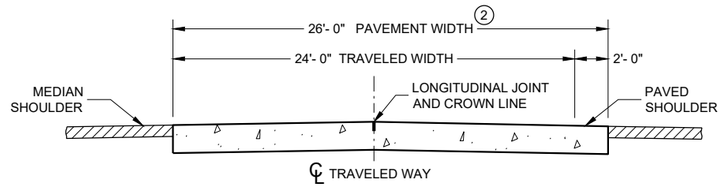
S.D.D. 13 C 1-19

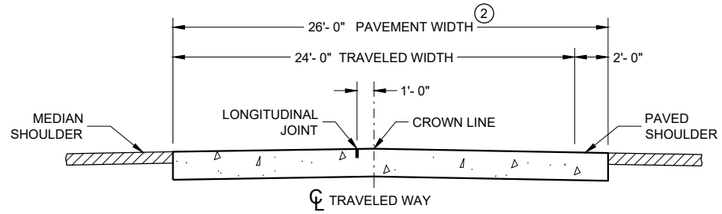


SECTION A - A

TWO-LANE TWO-WAY HIGHWAY (1)



SECTION B - B



ALTERNATIVE SECTION B - B

DIVIDED HIGHWAY (1)

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES FROM AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE CONTRACTION JOINTS.

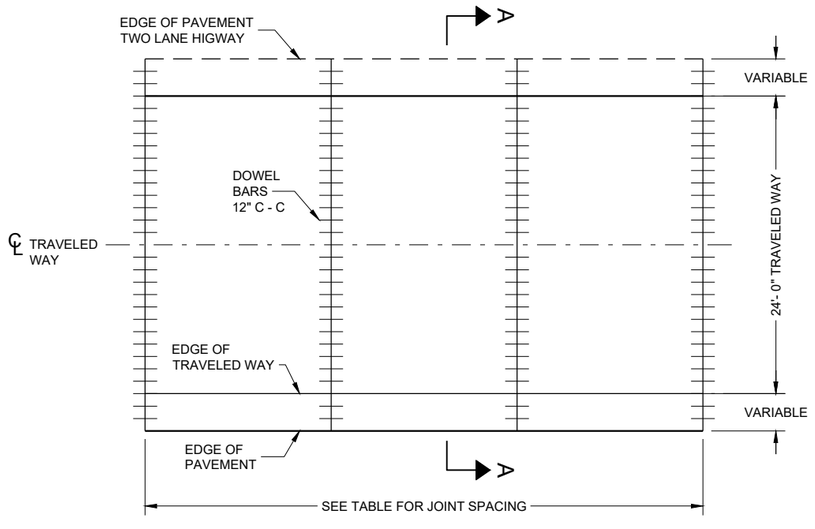
(1) REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

(2) MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED "PAVED SHOULDER" AS CONCRETE PAVEMENT.

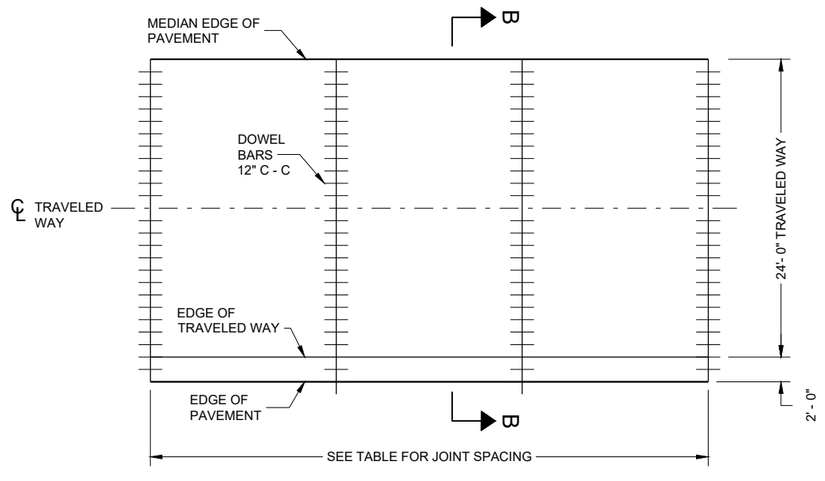
(3) SHOULDER WIDTHS LESS THAN 3 FEET SHALL BE PAVED INTEGRAL TO THE MAINLINE CONCRETE PAVEMENT, SEE SECTION B-B.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8" & ABOVE	1 ¼"	15'



CONTRACTION JOINT LAYOUT FOR TWO-LANE TWO-WAY HIGHWAY



CONTRACTION JOINT LAYOUT FOR DIVIDED HIGHWAY

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

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SDD 13C11 - 14a

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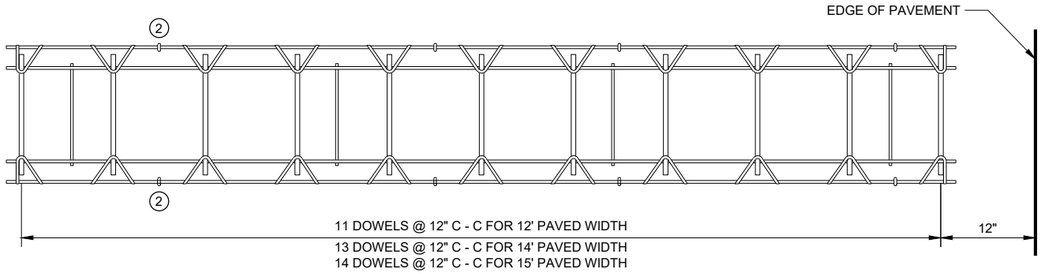
SDD13C11 - 14a



PLAN VIEW

SIDE VIEW

(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY (1)

GENERAL NOTES

(1) OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTION CONTRACTION JOINTS.

(2) SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

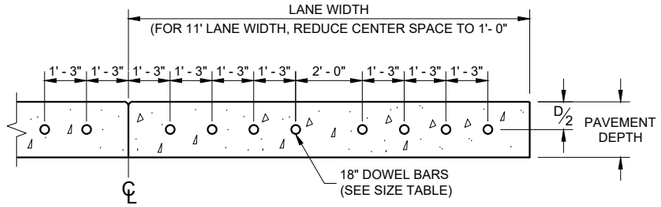
(3) FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼" RADIUS AT FORMED JOINTS.

(4) PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

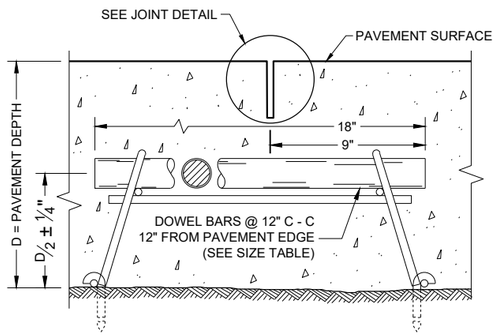
(5) INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C - C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO THE "DRILLED DOWEL BAR CONSTRUCTION JOINT" DETAIL.

(6) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

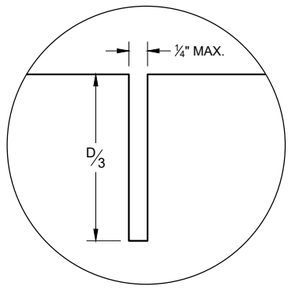
(7) ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS ⅛" GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



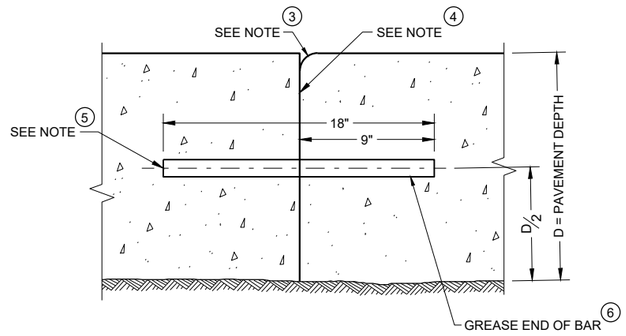
DRILLED DOWEL BAR CONSTRUCTION JOINT (7)



DOWELED CONTRACTION JOINT



JOINT DETAIL



TRANSVERSE CONSTRUCTION JOINT

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUPERVISOR

FHWA

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SDD 13C11 - 14b

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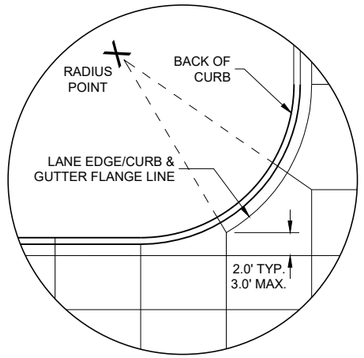
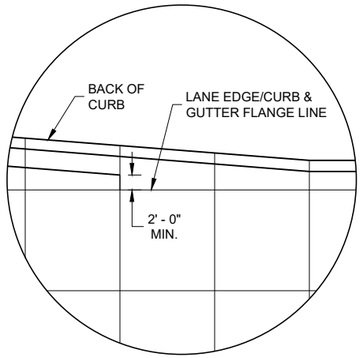
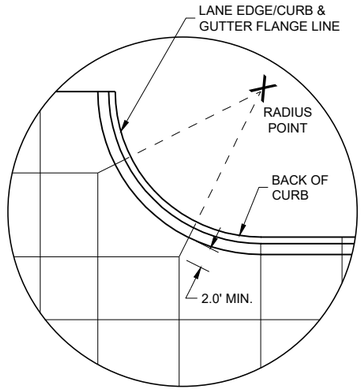
SDD 13C11 - 14b



DETAIL "A"



DETAIL "B"



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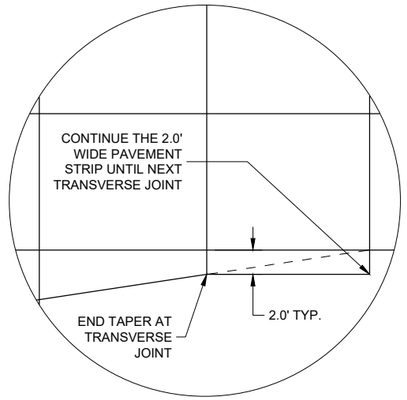


DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

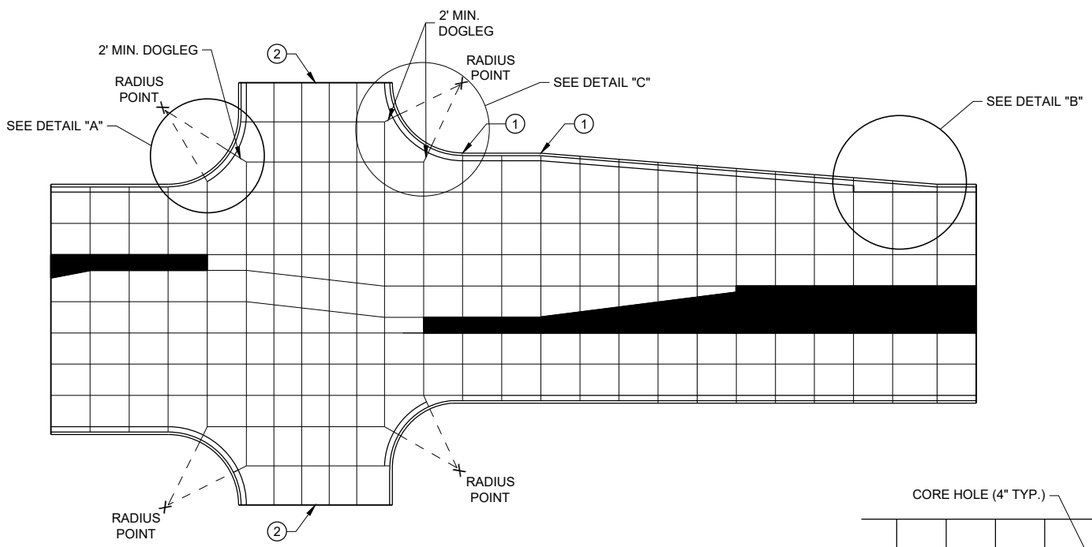
AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.

(2) CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.

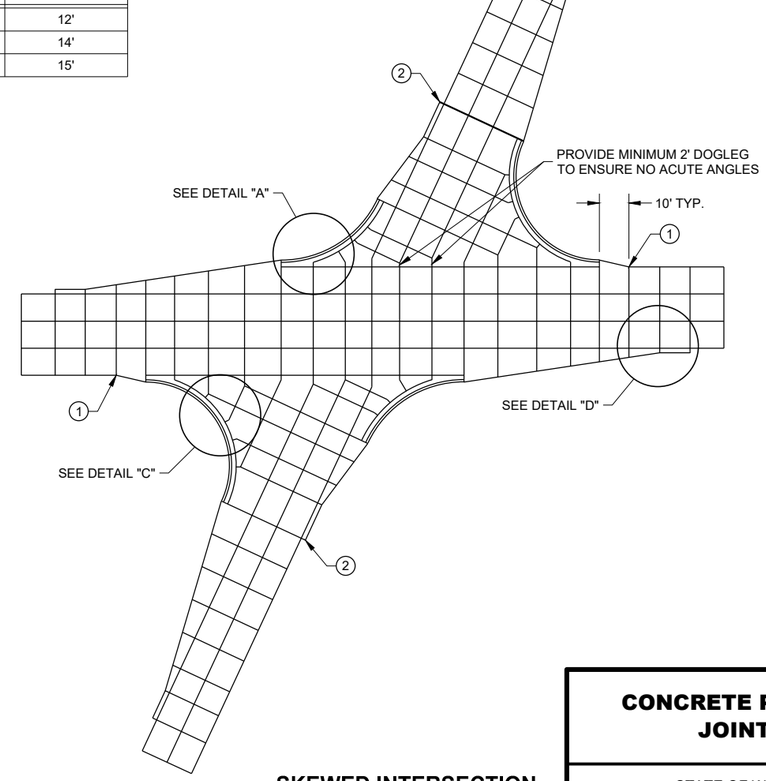
(3) THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



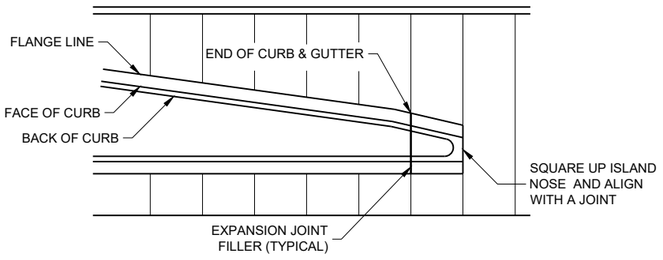
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

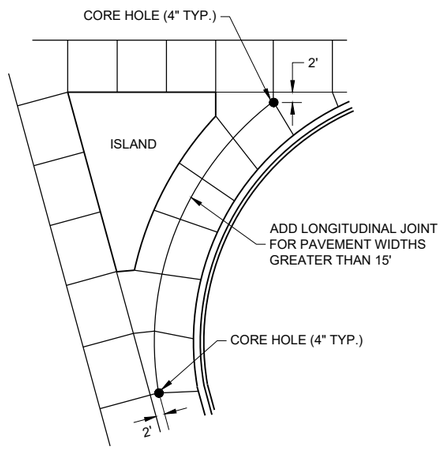
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 ½"	12'
7", 7 ½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 13C18 - 08a

6

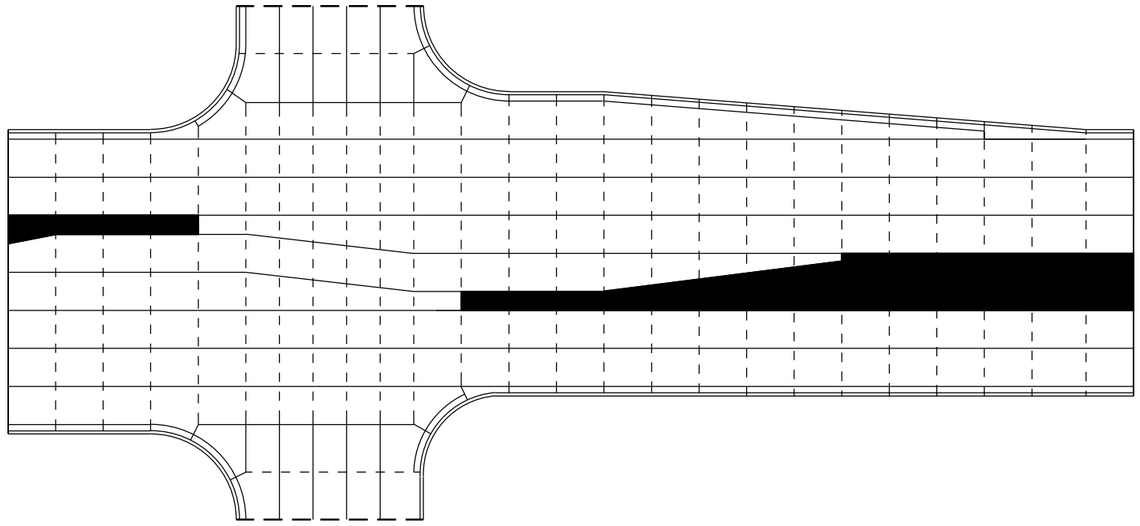
SDD 13C18 - 08a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

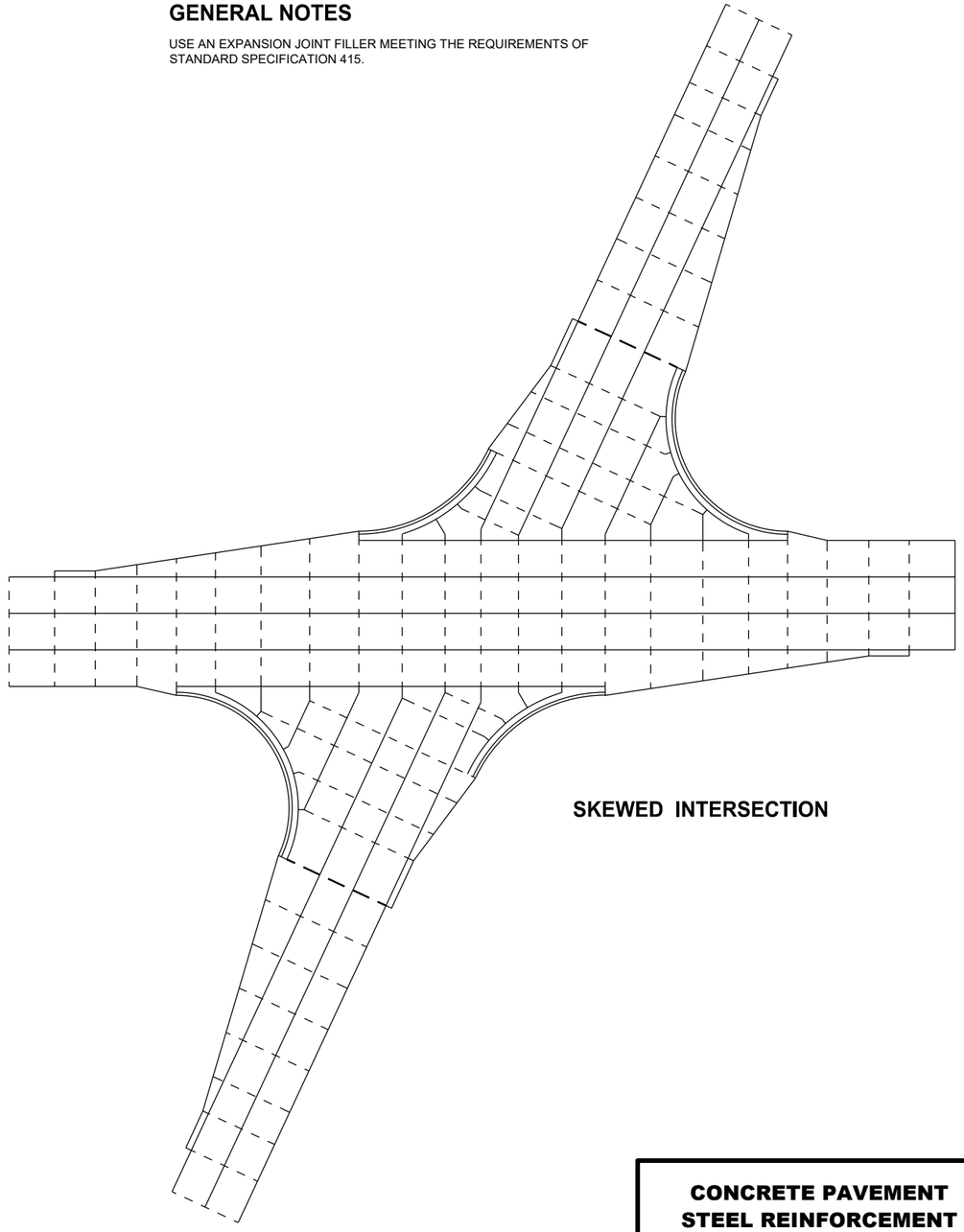
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

6

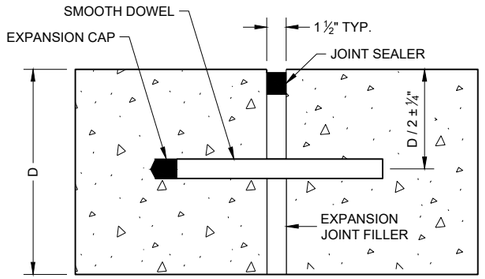
SDD 13C18 - 08b

CONCRETE PAVEMENT STEEL REINFORCEMENT

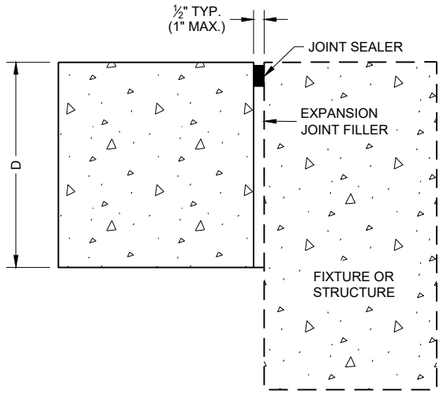
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 13C18 - 08b



DOWELED TRANSVERSE (1)



UNTIED - LONGITUDINAL

EXPANSION JOINTS

TIE BAR TABLE

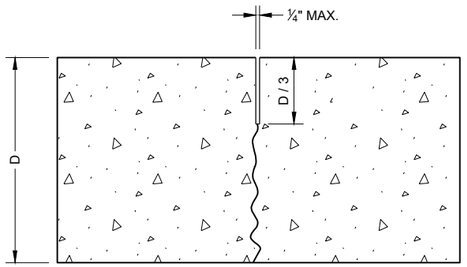
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

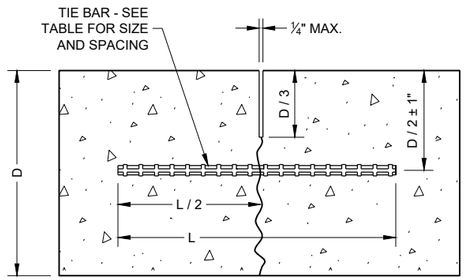
** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

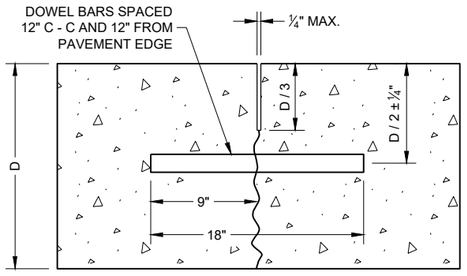
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATETHE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
5. IF JOINT IS FORMED, PROVIDE A ¼" RADIUS.
6. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



UNDOWELED TRANSVERSE

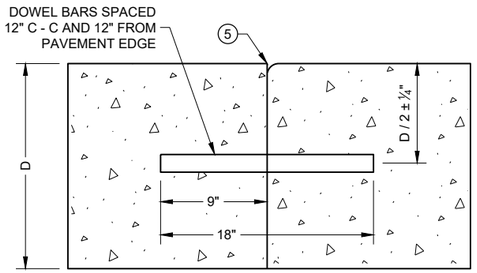


TIED LONGITUDINAL

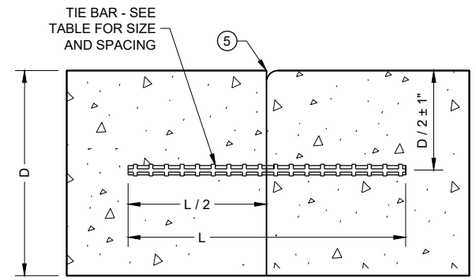


DOWELED TRANSVERSE

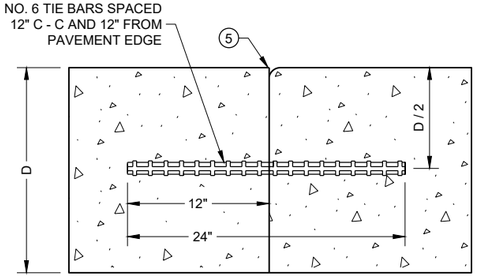
CONTRACTION JOINTS (2)



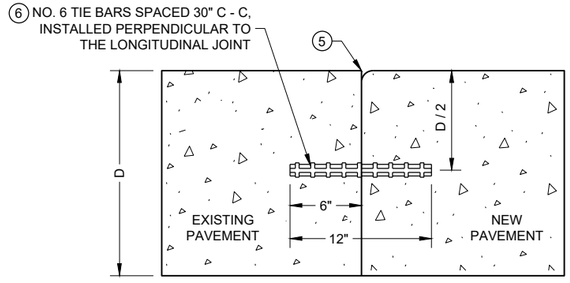
DOWELED TRANSVERSE (3)



TIED LONGITUDINAL



TIED TRANSVERSE (3)
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



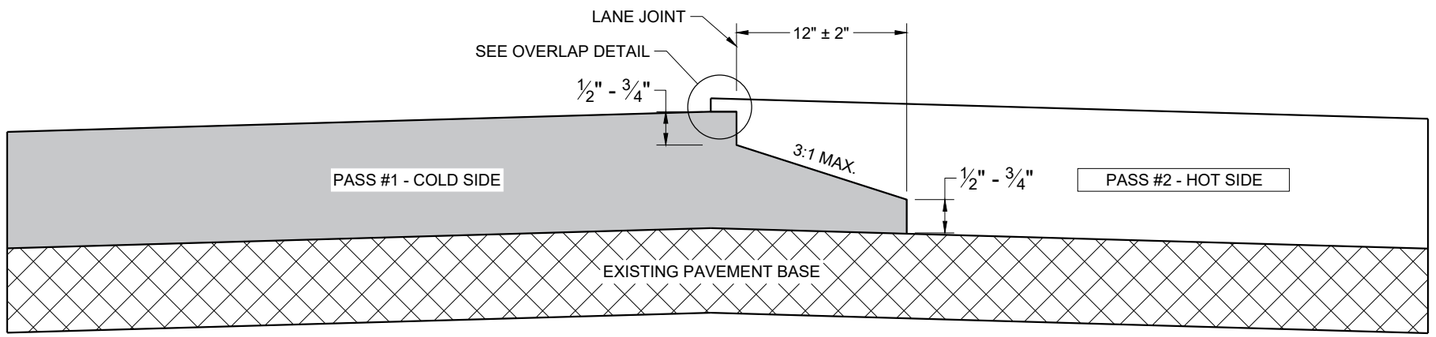
TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS (4)

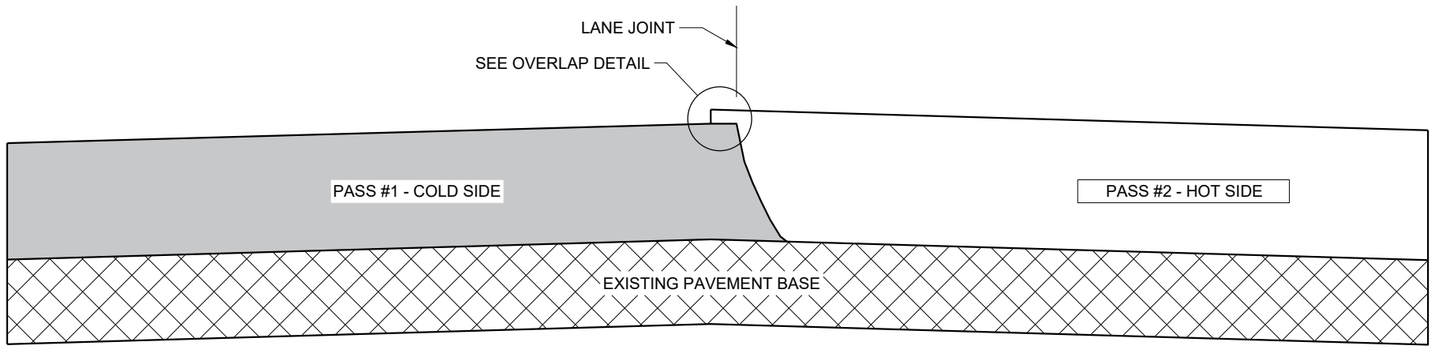
CONCRETE PAVEMENT JOINT TYPES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

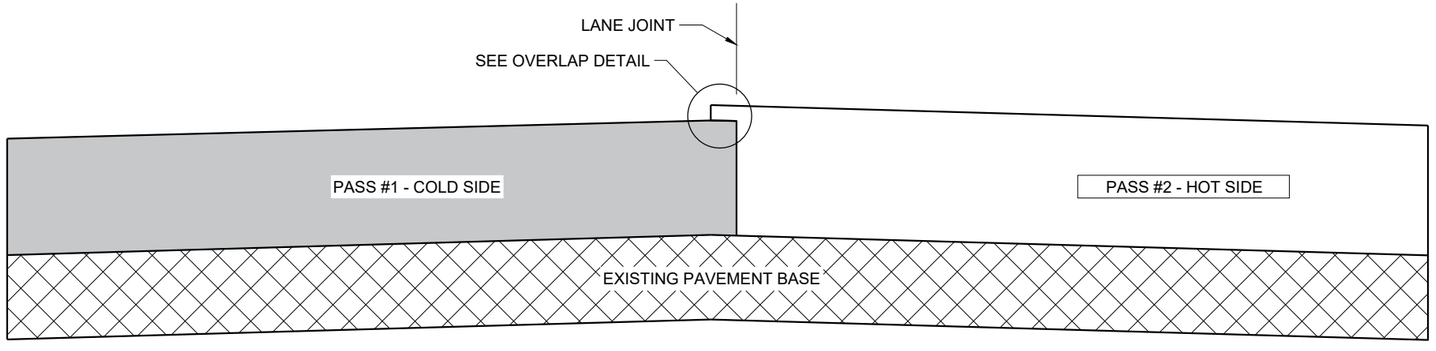
6
SDD 13C18 - 08c



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

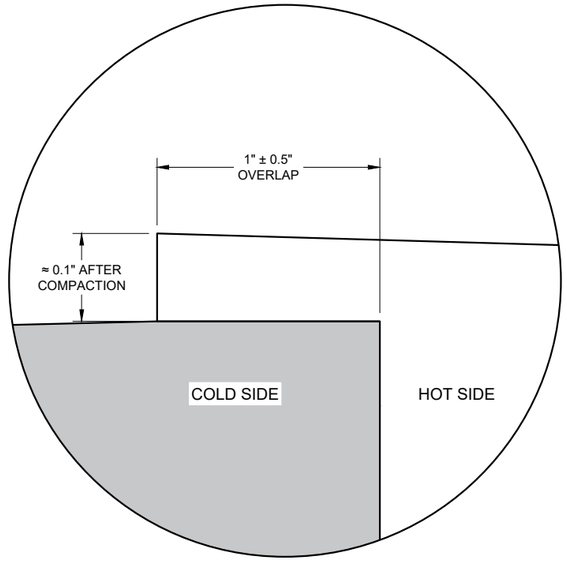
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

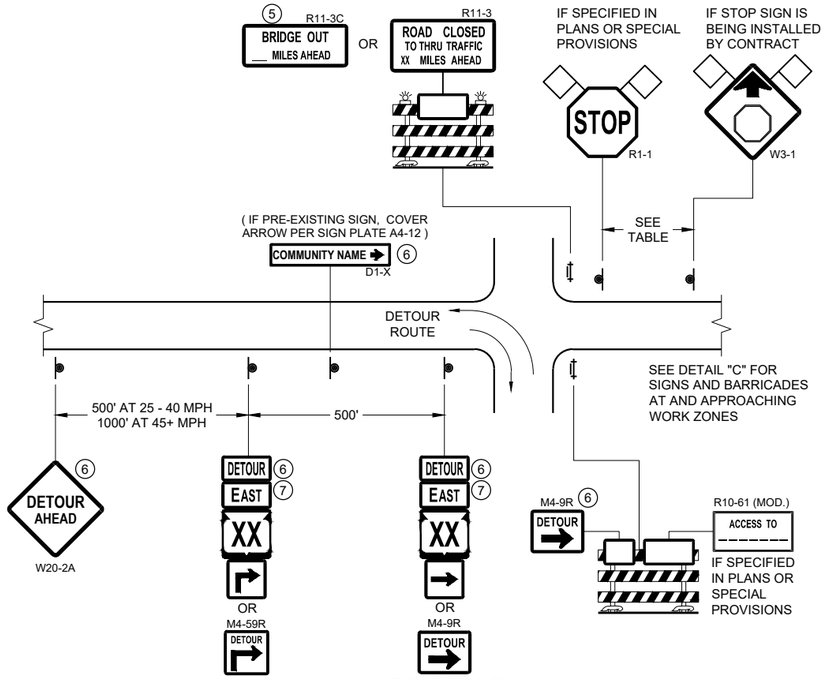
HMA LONGITUDINAL JOINTS

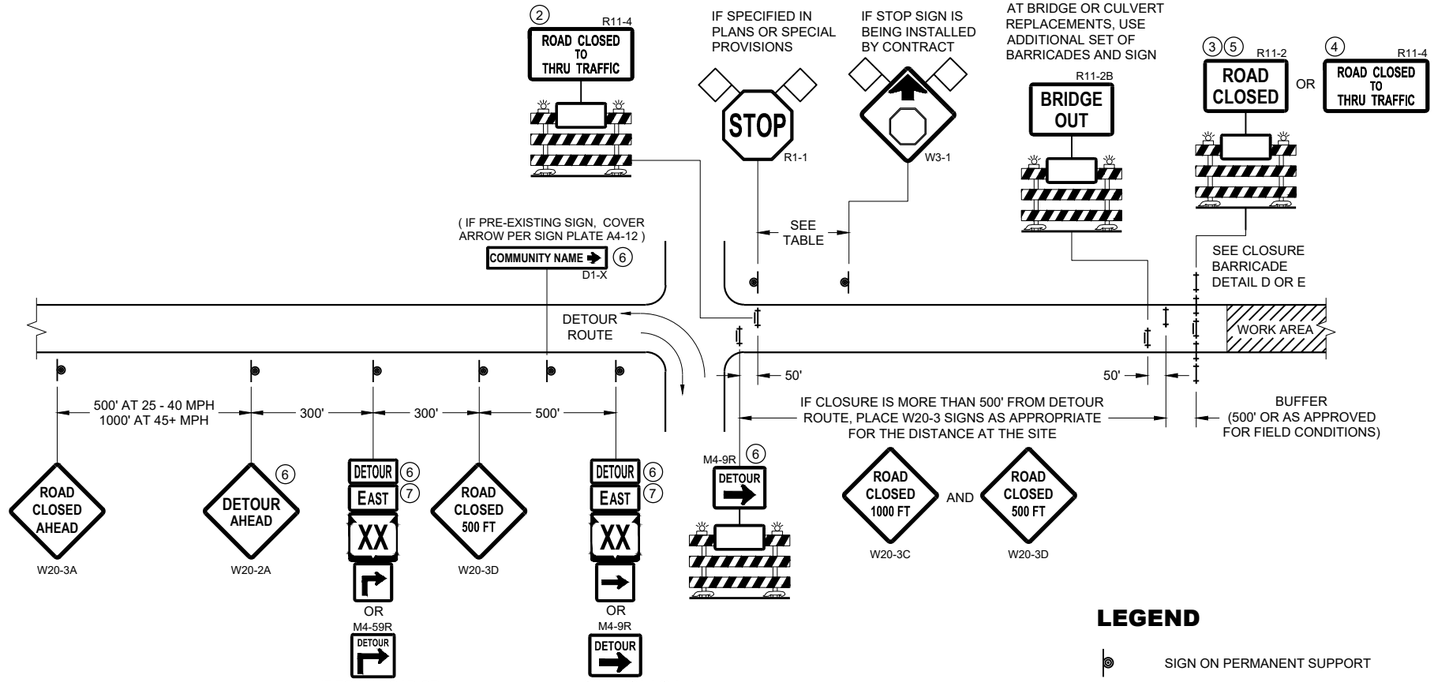
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA





DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

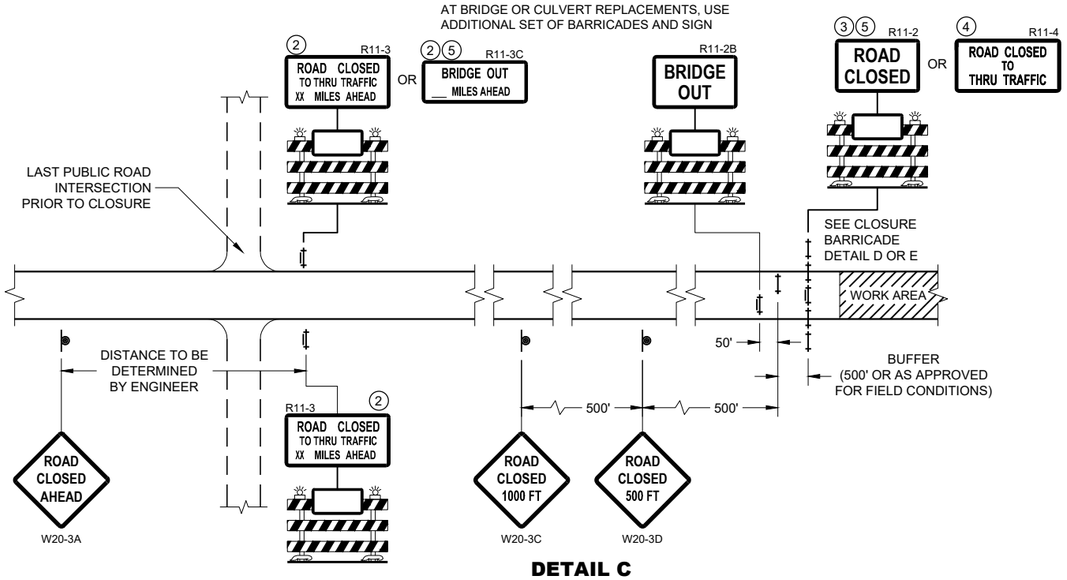
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

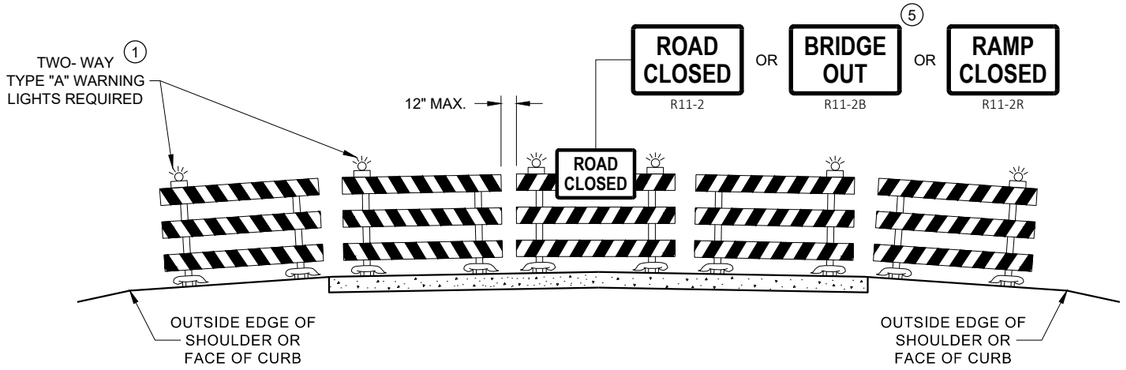
APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

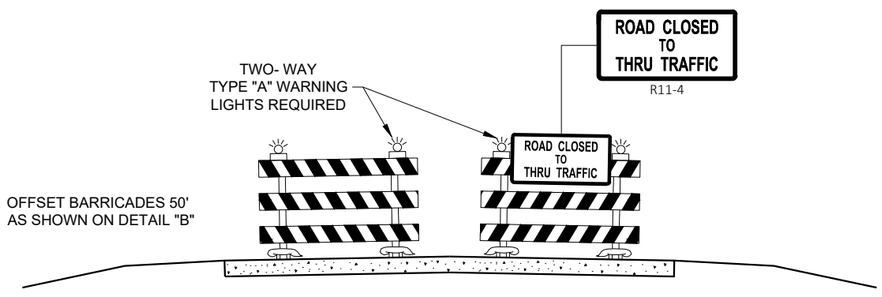
6

SDD 15C02 - 09a

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

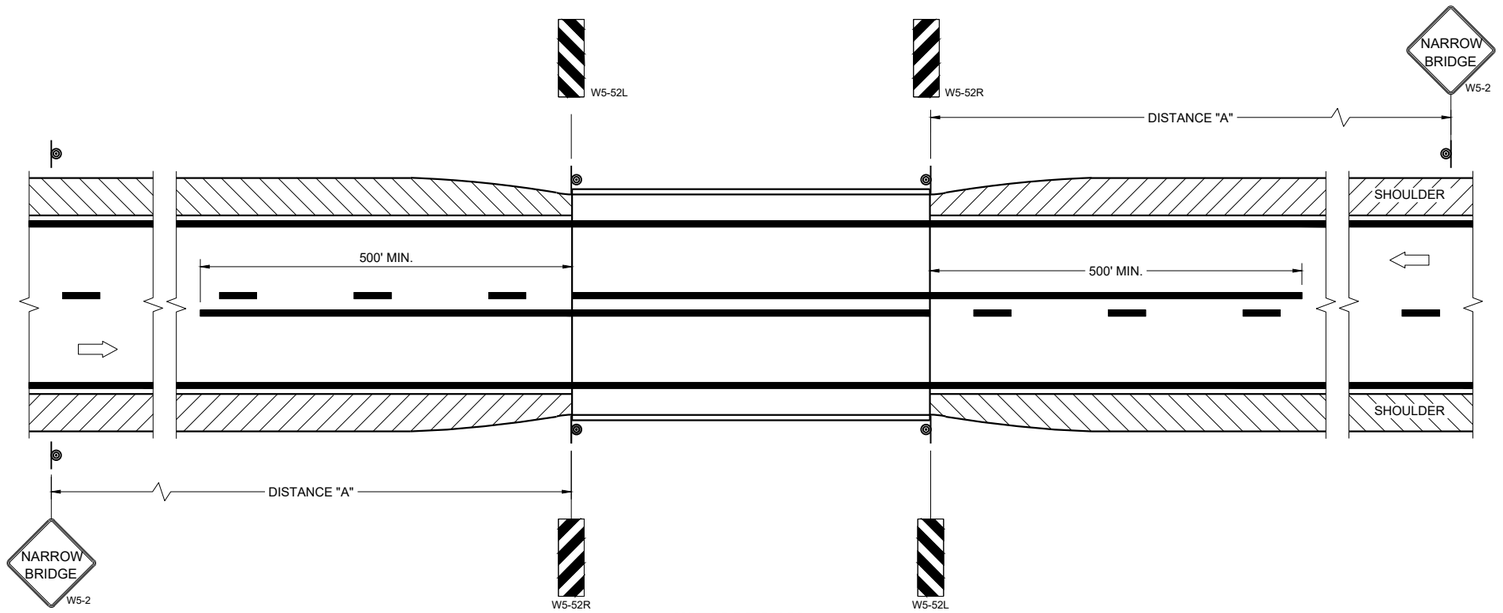
APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

SDD 15C02 - 09b

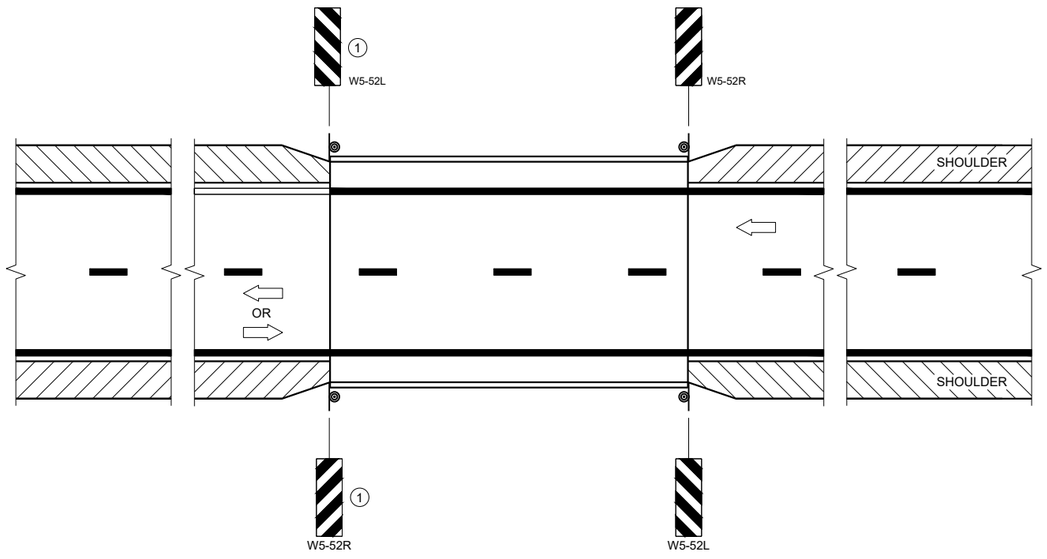
6

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

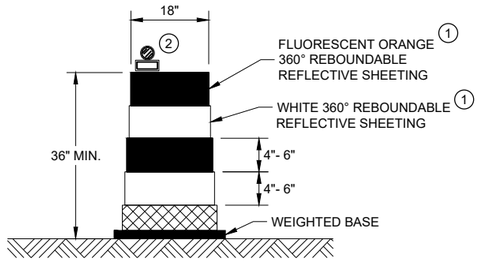
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
SDD 15C06-12

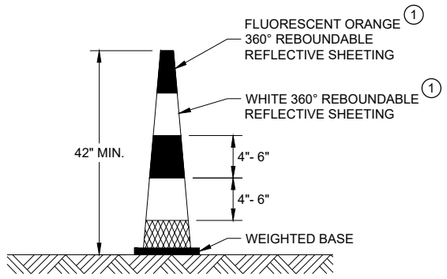
GENERAL NOTES

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

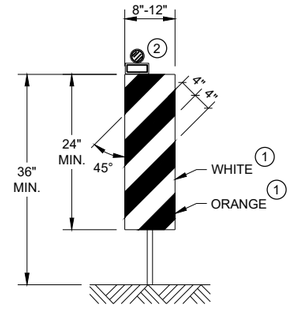
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

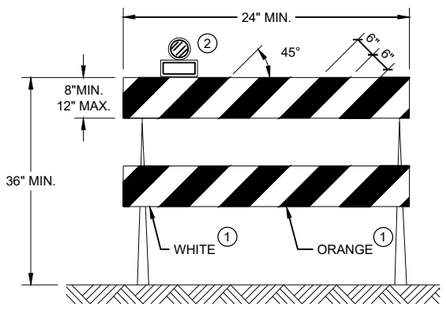
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



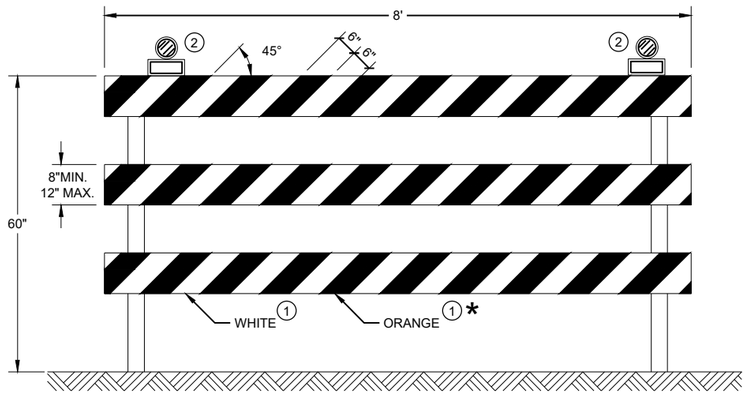
VERTICAL PANEL

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 ENGINEER

FHWA

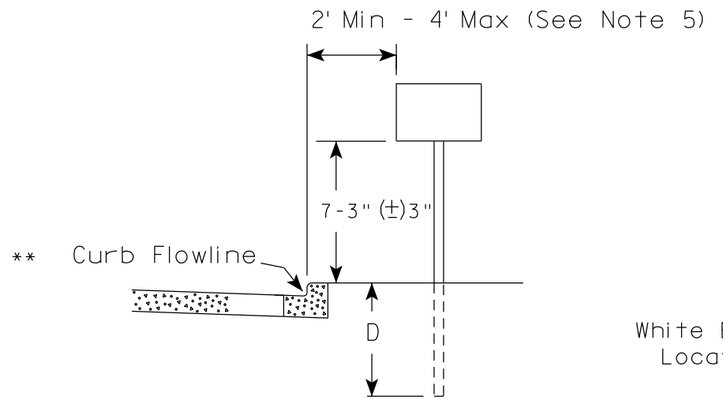
6

SDD 15C11 - 10b

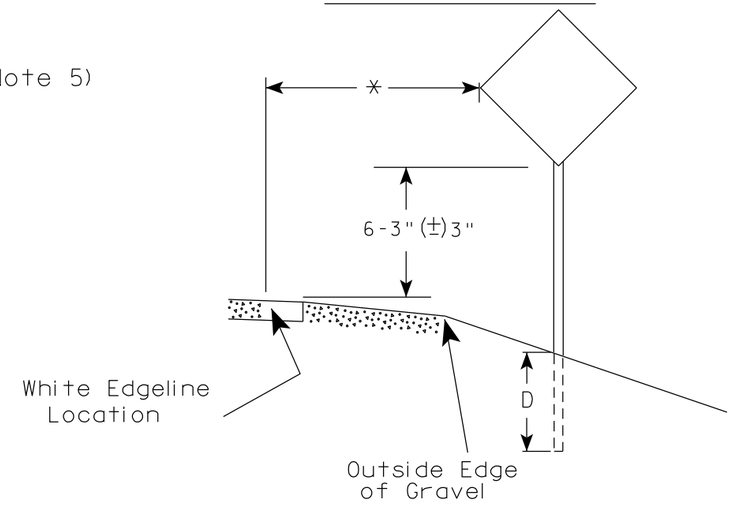
6

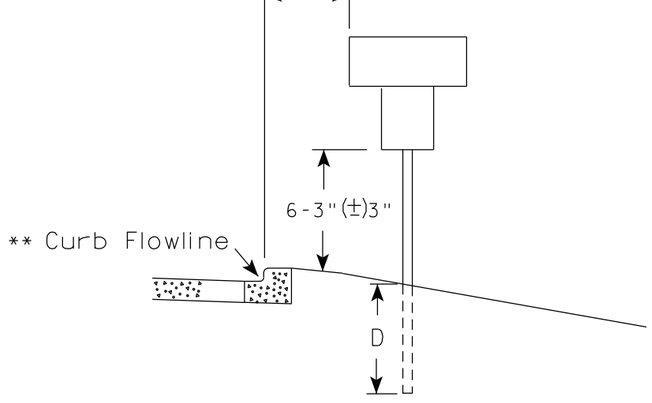
SDD 15C11 - 10b

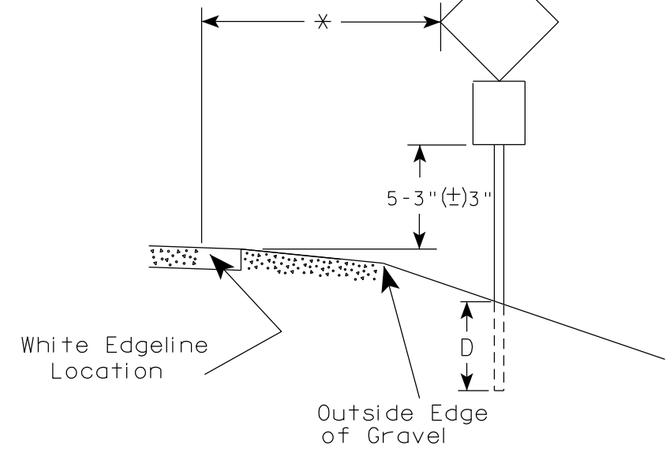
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

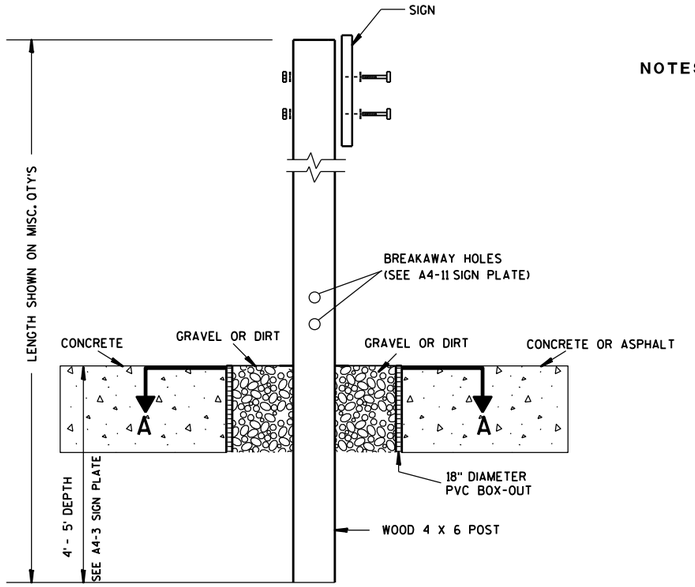
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

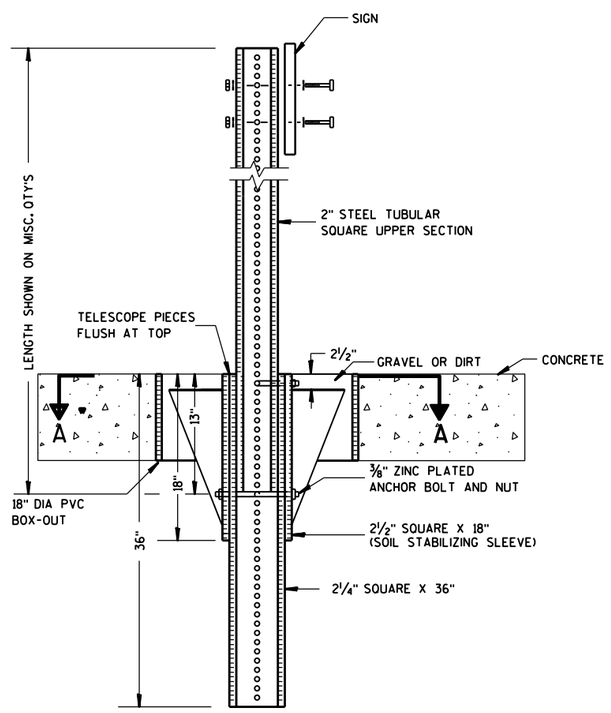
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 31	E



ELEVATION VIEW

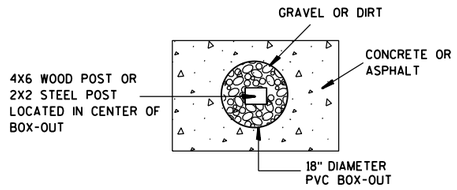
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

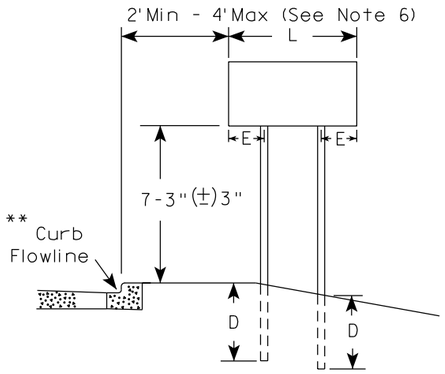
APPROVED Matthew R Rauch
for State Traffic Engineer

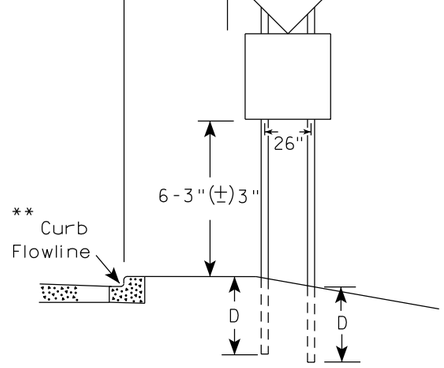
DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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

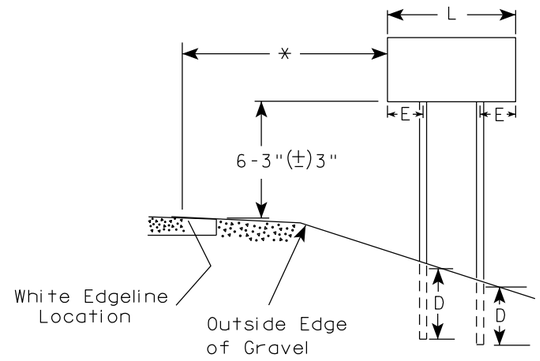
URBAN AREA

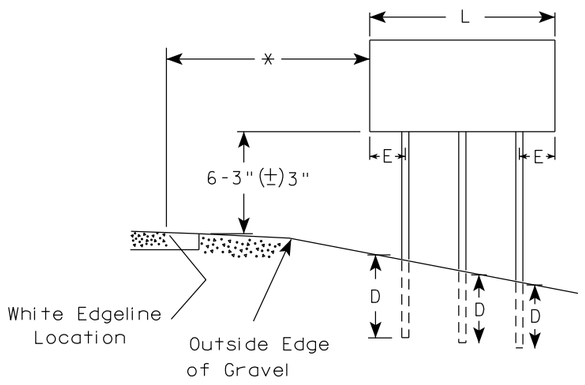


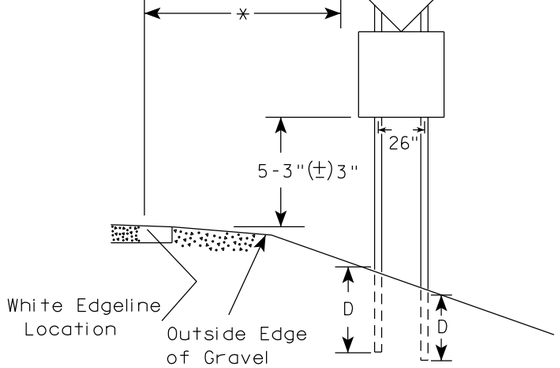


48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

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

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

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

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

POST EMBEDMENT DEPTH

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

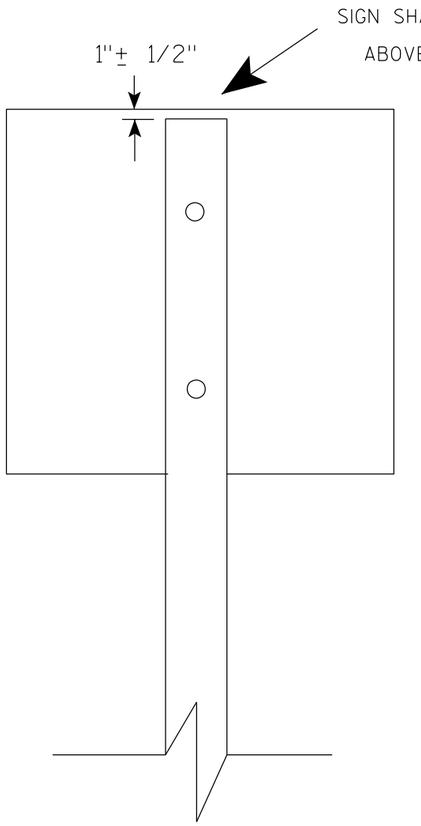
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

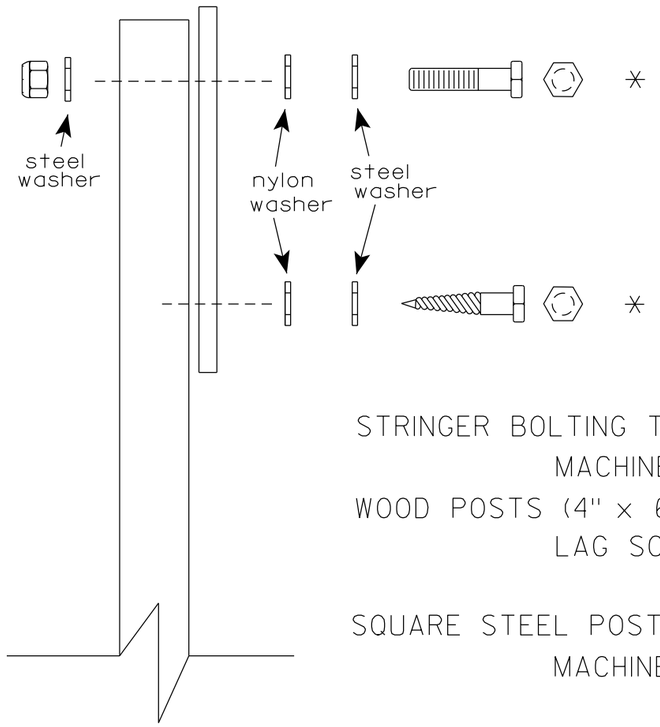
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 33	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

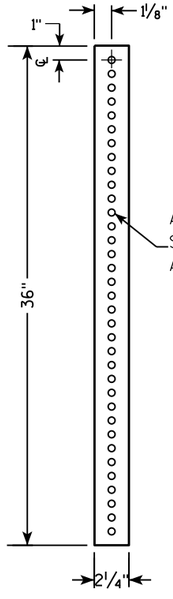
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

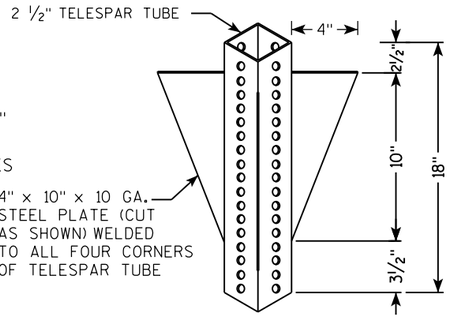
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

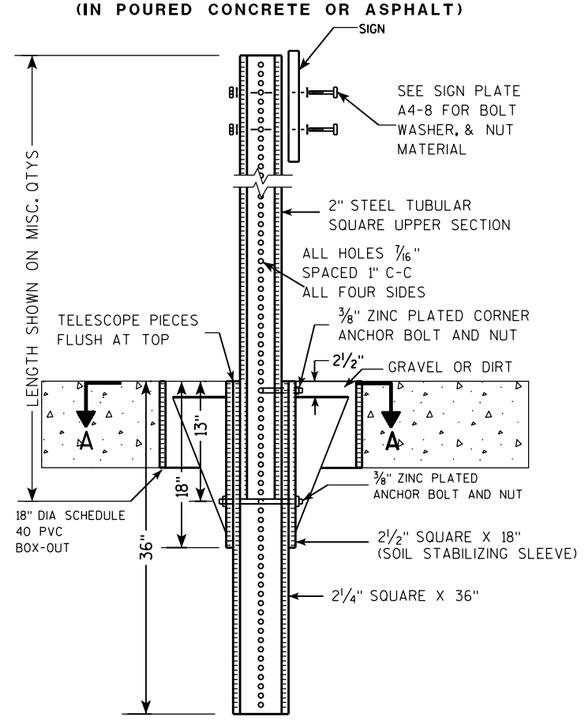
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



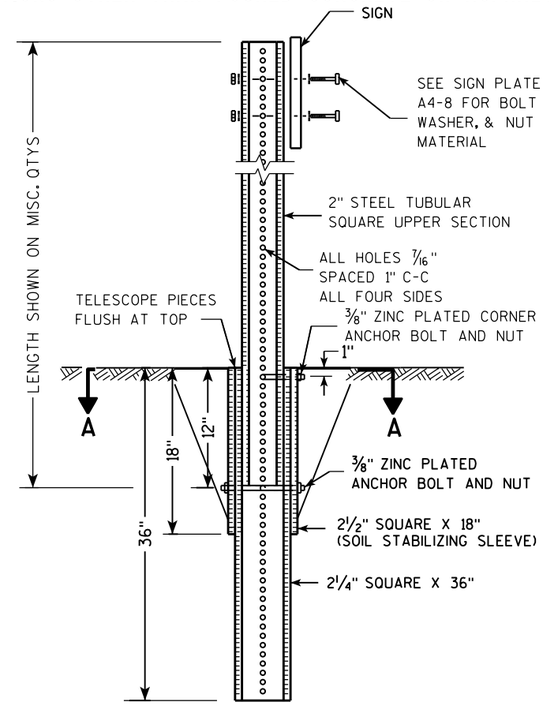
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

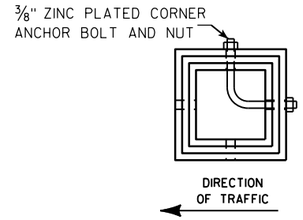


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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).

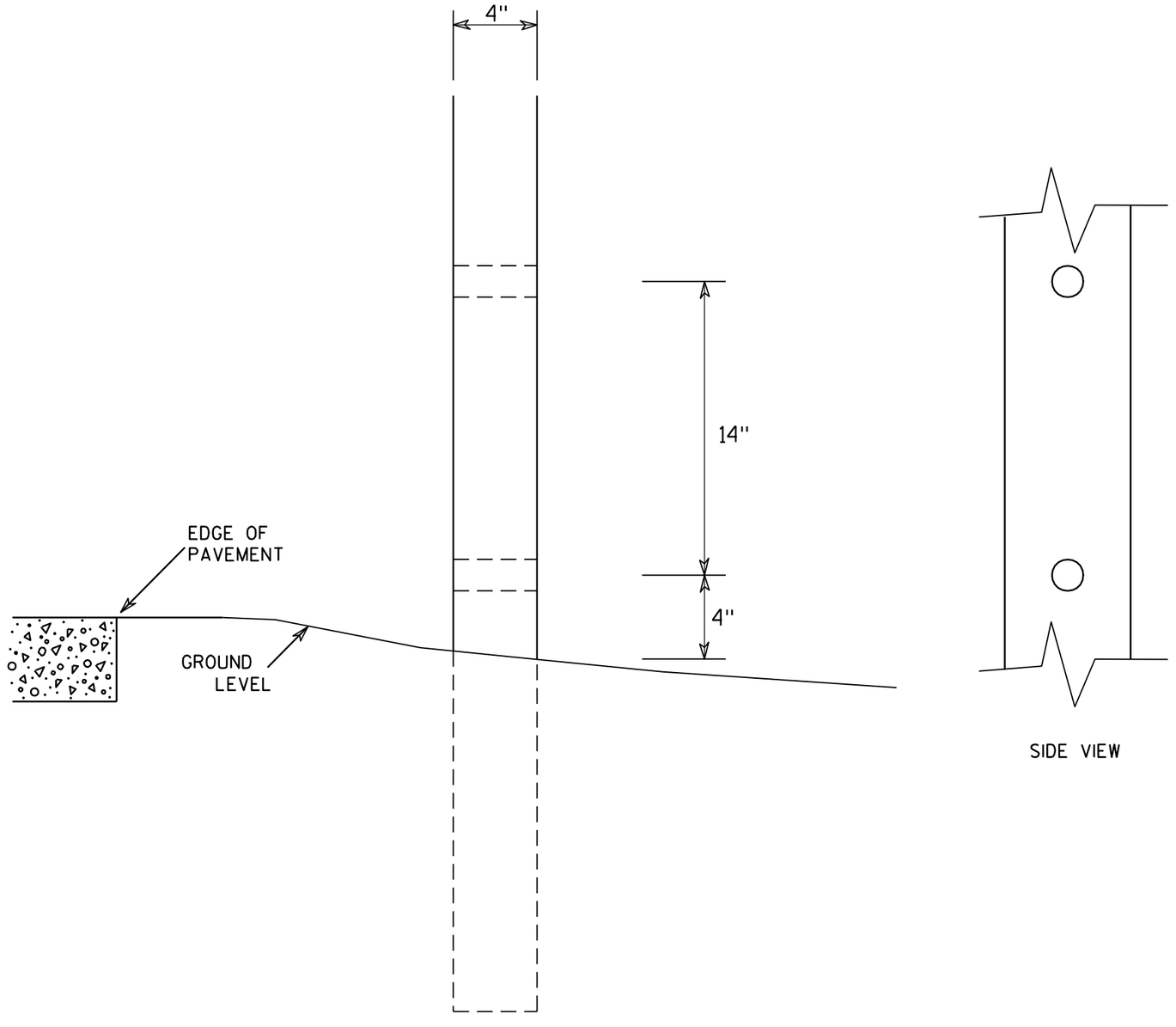
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 35 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

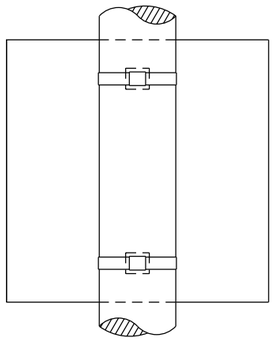
APPROVED Chester J Spang for State Traffic Engineer

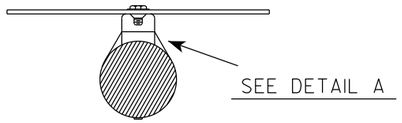
DATE 3/27/97 PLATE NO. A4-11.2

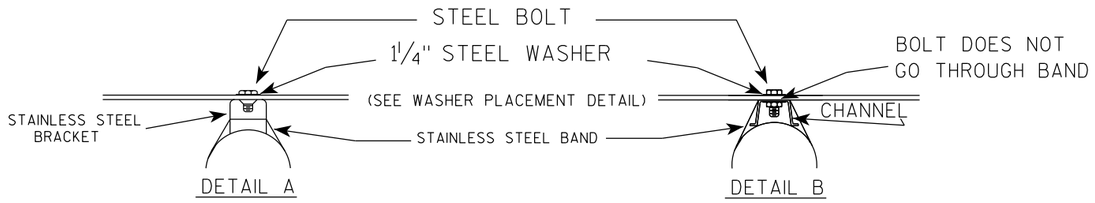
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 36	E

BANDING

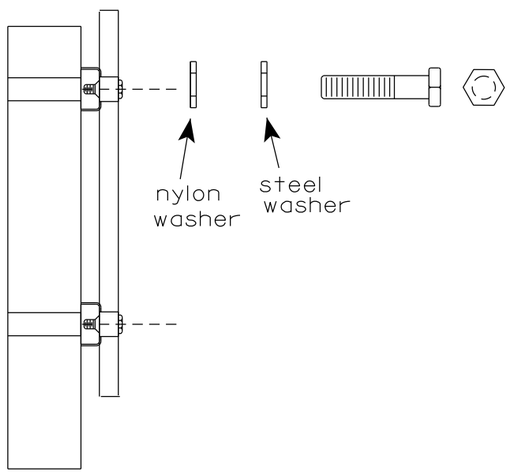
SINGLE SIGN







WASHER PLACEMENT

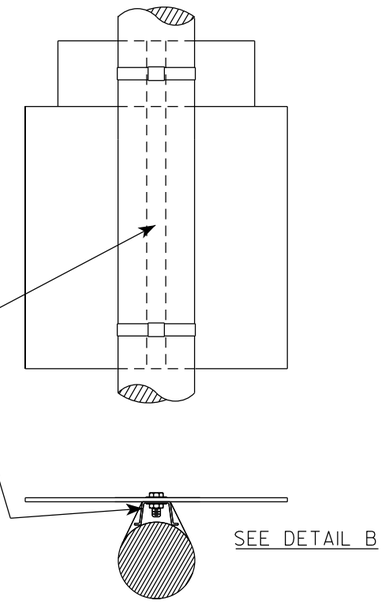


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

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

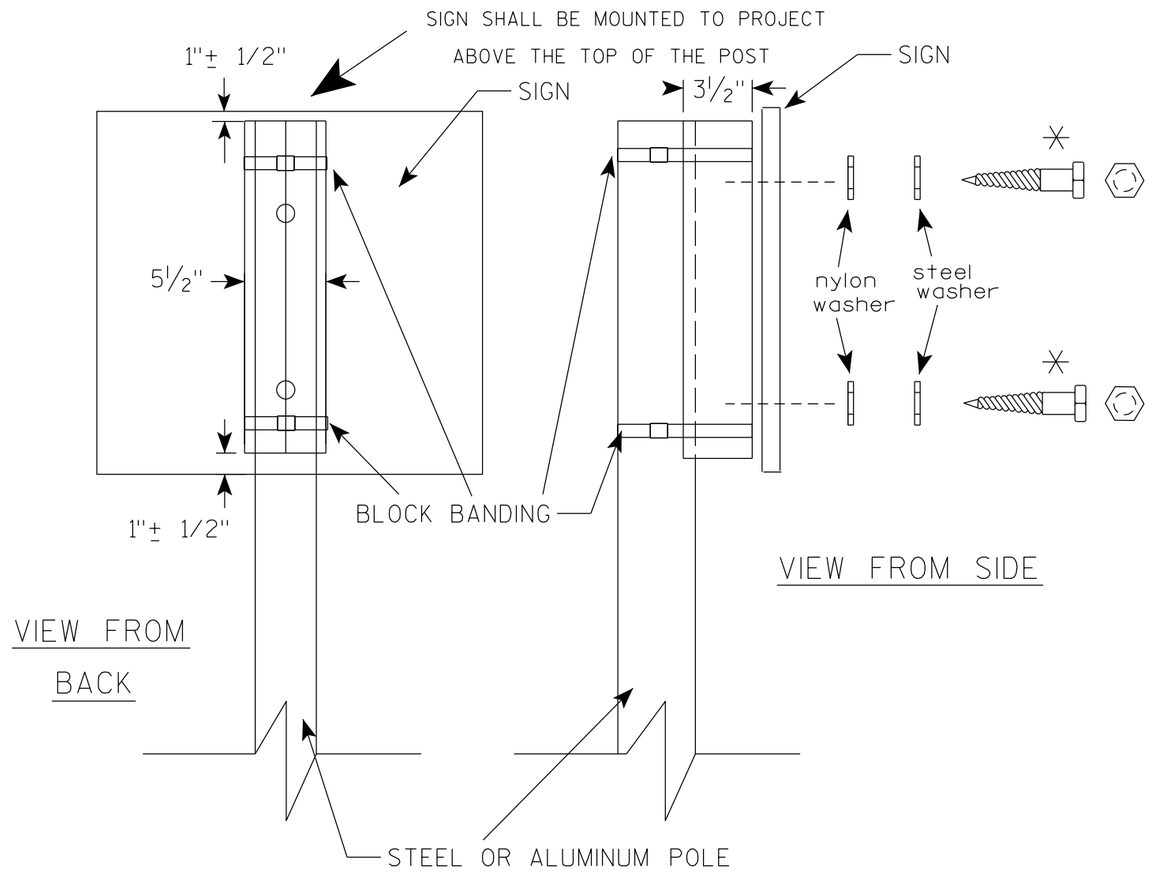
WISCONSIN DEPT OF TRANSPORTATION

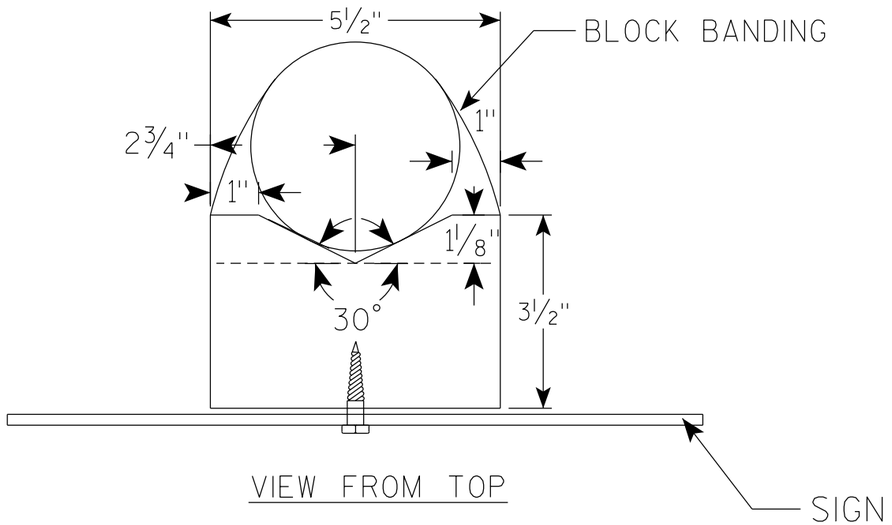
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 37	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)

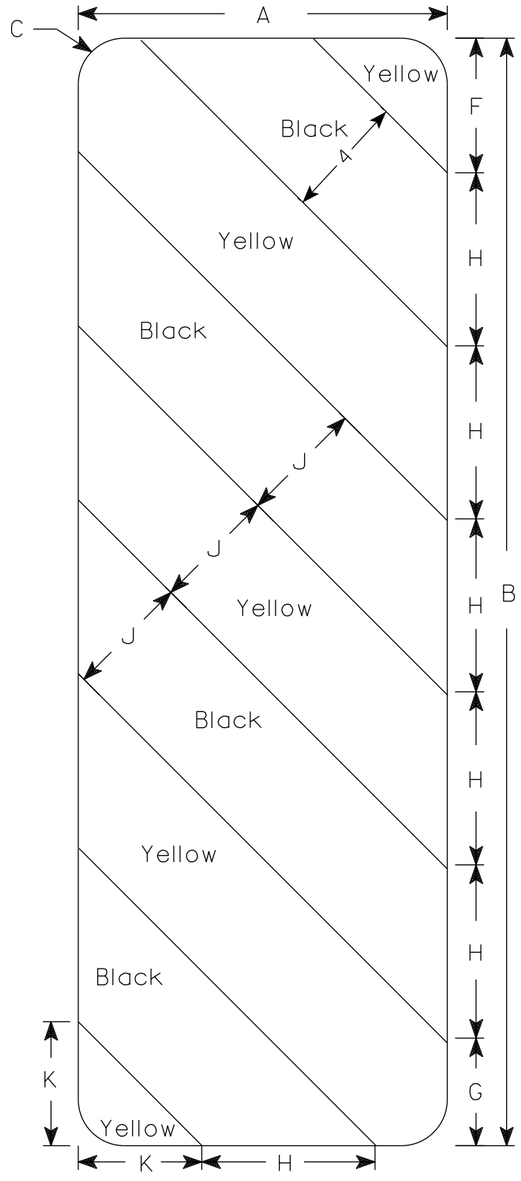
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

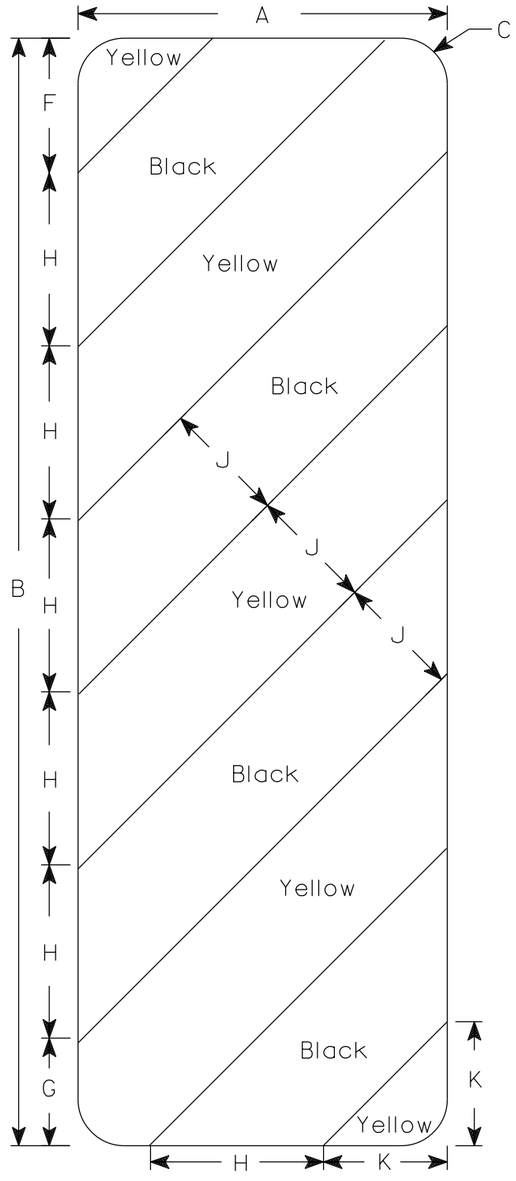
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 38 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

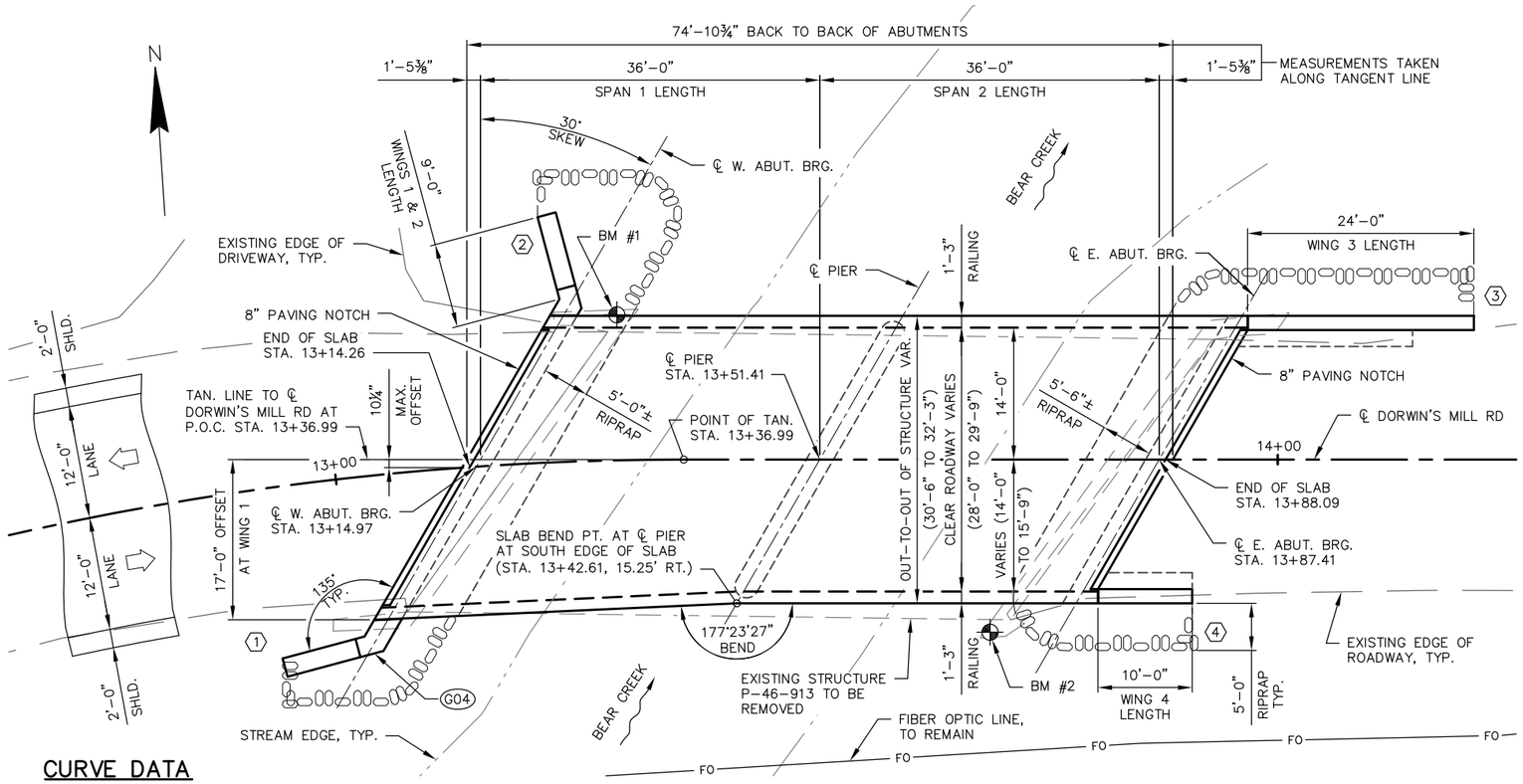
W5-52L & W5-52R

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: 39 E

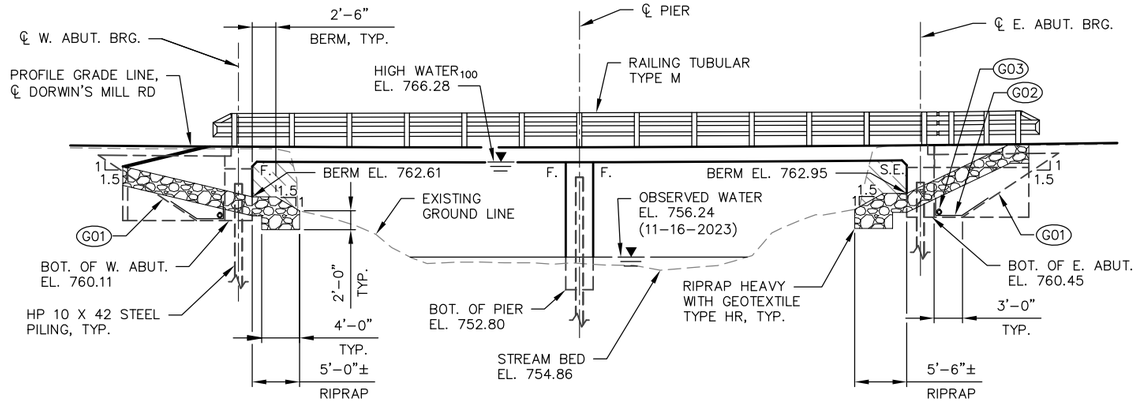


PLAN B-46-57

(TWO SPAN CONCRETE FLAT SLAB BRIDGE)

CURVE DATA

℄ DORWIN'S MILL RD
P.I. STA. 11+95.89
Δ = 54°27'09" RT
D. = 17°41'54"
T. = 166.57'
R. = 323.74'
L. = 307.67'
P.C. STA. 10+29.32
P.T. STA. 13+36.99



ELEVATION

(THRU BEAR CREEK, LOOKING NORTH)

BENCH MARKS

NO.	STATION/OFFSET	DESCRIPTION	ELEVATION
BM #1	13+30.22, 15.44' LT.	PK NAIL IN WINGWALL	767.33
BM #2	13+69.48, 18.32' RT.	CHISELED X IN WINGWALL	767.49

HORIZONTAL DATUM AND ADJUSTMENT: NAD 83 (2011)
VERTICAL DATUM AND ADJUSTMENT: NAVD 88 (2012)
COORDINATE REFERENCE SYSTEM: WISCRS PEPIN CO.

TRAFFIC DATA:

DORWIN'S MILL ROAD
A.A.D.T. (2026) — 91
A.A.D.T. (2046) — 100
DESIGN SPEED — 50 M.P.H.

BRIDGE OFFICE CONTACT
AARON BONK, P.E.
(608) 261-0261

CONSULTANT CONTACT
ANDY KNUTSON, P.E., S.E.
(608) 588-7866

NOTES

EXCAVATION AS INDICATED IN THE HATCH AREAS, TO BE INCLUDED IN THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-46-57".

(G01) BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCLUDED WITH BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-46-57". LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

(G02) "GEOTEXTILE TYPE DF SCHEDULE A" LIMITS. EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT FOR THE ENTIRE ABUTMENT BODY LENGTH.

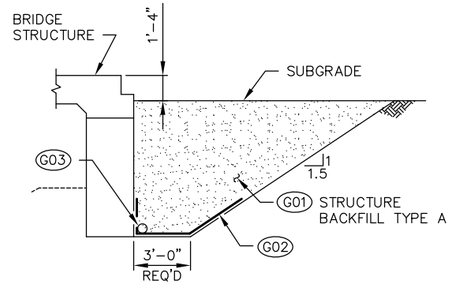
(G03) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED IN "EAST ABUTMENT DETAILS" SHEET.

(G04) NAME PLATE REQUIRED AND BENCH MARK CAP (WHEN SUPPLIED). FOR LOCATION SEE "WEST ABUTMENT" SHEET.

⬡ INDICATES WING NUMBER

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION, GENERAL NOTES & QUANTITIES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT DETAILS
6. EAST ABUTMENT
7. EAST ABUTMENT DETAILS
8. EAST ABUTMENT WING DETAILS
9. EAST ABUTMENT REINFORCEMENT
10. PIER DETAILS
11. SUPERSTRUCTURE
12. SUPERSTRUCTURE LONGITUDINAL SECTIONS
13. SUPERSTRUCTURE TYPICAL SECTIONS
14. SUPERSTRUCTURE REINFORCEMENT
15. RAILING TUBULAR TYPE M



ABUTMENT BACKFILL DETAIL

(TYPICAL AT BOTH ABUTMENTS)

STATE PROJECT NUMBER

7868-00-70

DESIGN DATA

LIVE LOAD:

DESIGN LOADING — HL-93
INVENTORY RATING FACTOR — RF=1.23
OPERATING RATING FACTOR — RF=1.60
WISCONSIN STANDARD PERMIT VEHICLE RATING (WIS.-SPV): — 250 KIPS

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

MATERIAL PROPERTIES:

CONCRETE MASONRY, SLAB — $f'c$ = 4,000 P.S.I.
ALL OTHER — $f'c$ = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT — fy = 60,000 P.S.I.

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON HP 10 X 42 STEEL PILING SEATED IN PREBORED HOLES CORED 5 FEET MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 110 TONS PER PILE** AT W. ABUT. AND 130 TONS PER PILE** AT E. ABUT. AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 20 FT PILE LENGTHS AT W. ABUT. AND 20 FT PILE LENGTHS AT E. ABUT.

PIER TO BE SUPPORTED ON HP 10 X 42 STEEL PILING SEATED IN PREBORED HOLES CORED 5 FEET MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 150 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 ESTIMATED 20 FT PILE LENGTHS AT PIER.

**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 DYNAMIC FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

HYDRAULIC DATA:

Q_{100} — 3,300 C.F.S.
DRAINAGE AREA — 45 SQ. MI.
BRIDGE WATER AREA — 353.2 SQ. FT.
BRIDGE VELOCITY — 9.34 F.P.S.
HIGH WATER$_{100}$ EL. — 766.28 FT.
ROADWAY OVERTOPPING — N/A
SCOUR CRITICAL CODE — 5
Q_2 — 783 C.F.S.
Q_2 ELEVATION — 760.38 FT.
Q_2 VELOCITY — 6.26 F.P.S.

NO.	DATE	REVISION	BY

WESTBROOK Associated Engineers, Inc.
619 EAST HOXIE STREET
P.O. BOX 429
SPRING GREEN, WI 53588
PHONE (608) 588-7866
FAX (608) 588-7954

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED BMK 06/03/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-46-57

DORWIN'S MILL RD OVER BEAR CREEK

COUNTY: PEPIN
TOWN/~~CITY/VILLAGE~~: DURAND
DESIGN SPEC.: AASHTO LRFD DESIGN SPEC.

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JDO	CDS	JDO	ACK

GENERAL PLAN

SHEET 1 OF 15

40

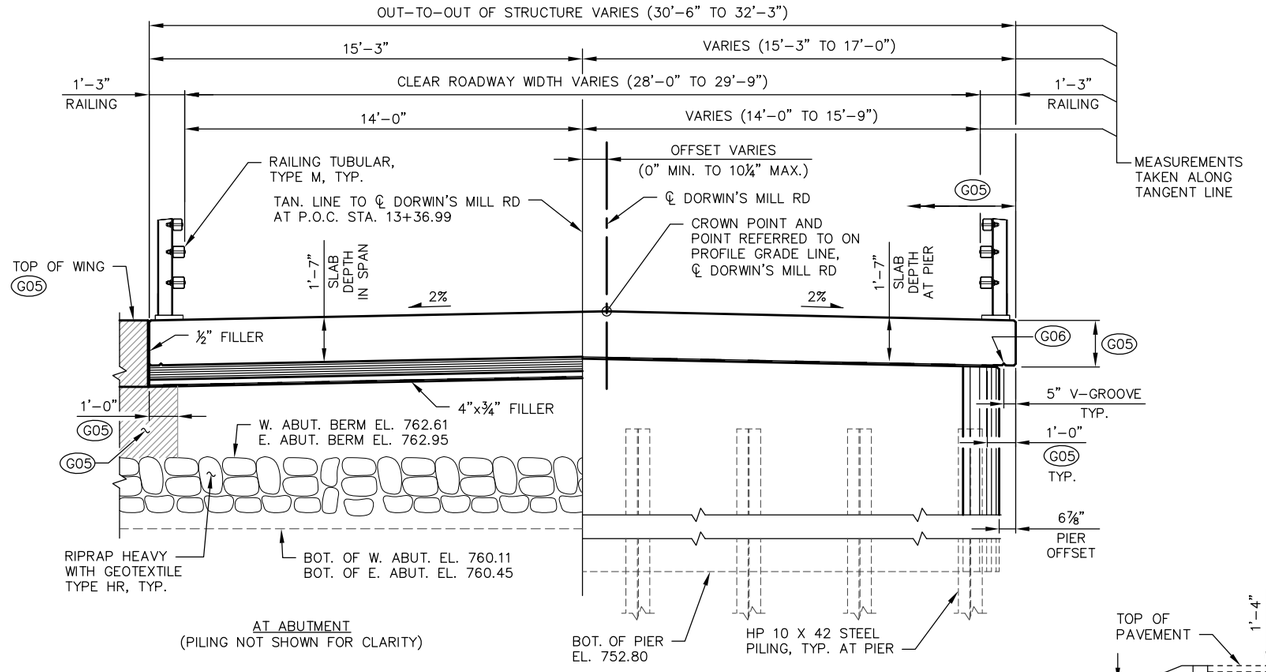
8

8

FILE: B460057_01_gen.dwg
PLOT SCALE:

I.D. 7868-00-70

PLOT DATE: Apr 09, 2025



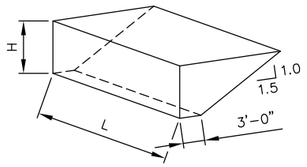
CROSS SECTION THRU ROADWAY

(LOOKING EAST)

NOTES

(G05) COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS. PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO ENTIRE EXPOSED TOP OF SLAB INCLUDING THE SLAB EDGES AND 1'-0" UNDER THE SLAB, THE TOP AND EXTERIOR EXPOSED FACE OF WINGS, AND THE FRONT FACE OF WINGS, AND THE FRONT FACE OF THE ABUTMENTS TO 1'-0" PAST THE EDGE OF SLAB.

(G06) ¾" V-GROOVE REQ'D. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT BODY.



EAST ABUTMENT BACKFILL DIAGRAM

L = OUT TO OUT OF ABUTMENT, 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)

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	W. ABUT.	PIER	E. ABUT.	SUPER.	TOTALS
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-46-913	EACH	---	---	---	---	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-46-57	EACH	---	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	170	---	130	---	300
502.0100	CONCRETE MASONRY BRIDGES	CY	30.9	40.7	38.8	140.0	250
502.3200	PROTECTIVE SURFACE TREATMENT	SY	15	---	15	305	335
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2610	1820	2590	---	7020
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1440	70	2250	32110	35870
513.4061	RAILING TUBULAR TYPE M	LF	---	---	37	153	190
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	7	---	7	---	14
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	128	64	84	---	276
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	160	160	120	---	440
606.0300	RIPRAP HEAVY	CY	45	---	45	---	90
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	85	---	95	---	180
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	40	---	27	---	67
645.0120	GEOTEXTILE TYPE HR	SY	87	---	88	---	175
(NON-BID ITEM)	FILLER	SIZE					½" & ¾"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

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

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCLUDED WITH BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-46-57".

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

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

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

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

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-46-57" SHALL BE THE EXISTING GROUND LINE.

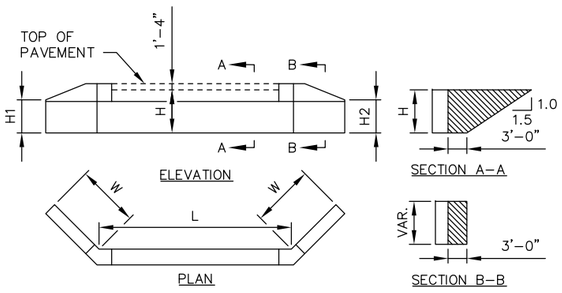
THE EXISTING STREAM BED SHALL BE USED AS THE UPPER LIMIT OF EXCAVATION AT THE PIER.

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

SHALLOW BEDROCK (LESS THAN 10-FT BELOW ABUTMENTS & PIER) WAS ENCOUNTERED IN THE BORINGS. A MINIMUM OF 5-FEET OF PRE-BORE INTO SUITABLE BEDROCK IS REQUIRED AT BOTH THE WEST ABUTMENT, EAST ABUTMENT AND PIER LOCATIONS. THE CONTRACTOR AND THE CONSTRUCTION ENGINEER SHOULD ANTICIPATE VARIABLE DEPTHS TO BEDROCK AT PILE LOCATIONS.

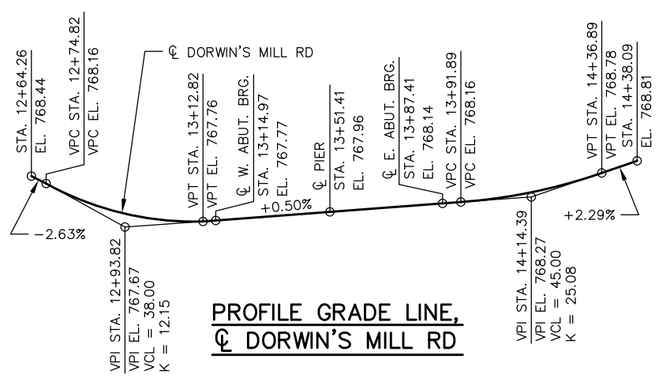
PILES PLACED IN PREBORED HOLES CORED INTO ROCK DO NOT REQUIRE DRIVING. PILES SHALL BE "FIRMLY SEATED" ON ROCK AFTER PLACEMENT IN PREBORED HOLES.

THE EXISTING STRUCTURE P-46-913 IS A SINGLE SPAN PRESTRESSED CONCRETE CHANNEL GIRDER BRIDGE WITH AN OVERALL LENGTH OF 66'-0" AND A CLEAR ROADWAY WIDTH OF 28'-6". SUPERSTRUCTURE AND ABUTMENTS SHALL BE REMOVED IN ACCORDANCE WITH THE BID ITEM "REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-46-913".

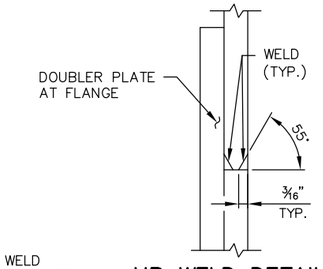


WEST ABUTMENT BACKFILL DIAGRAM

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

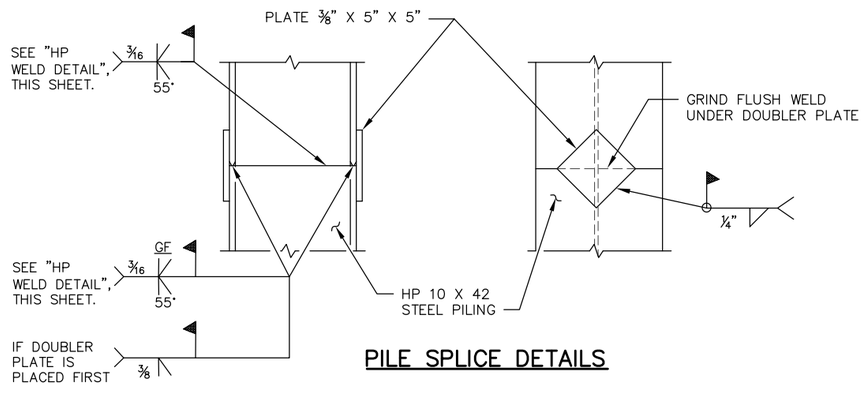


PROFILE GRADE LINE, ℄ DORWIN'S MILL RD



HP WELD DETAIL

(FLANGE SHOWN, WEB SIMILAR)



PILE SPLICE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STATE PROJECT NUMBER
7868-00-70

STRUCTURE B-46-57

DRAWN BY JDO | PLANS CK'D ACK

CROSS SECTION, GENERAL NOTES & QUANTITIES

SHEET 2 OF 15

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8

I.D. 7868-00-70

PLOT DATE: Apr 09, 2025

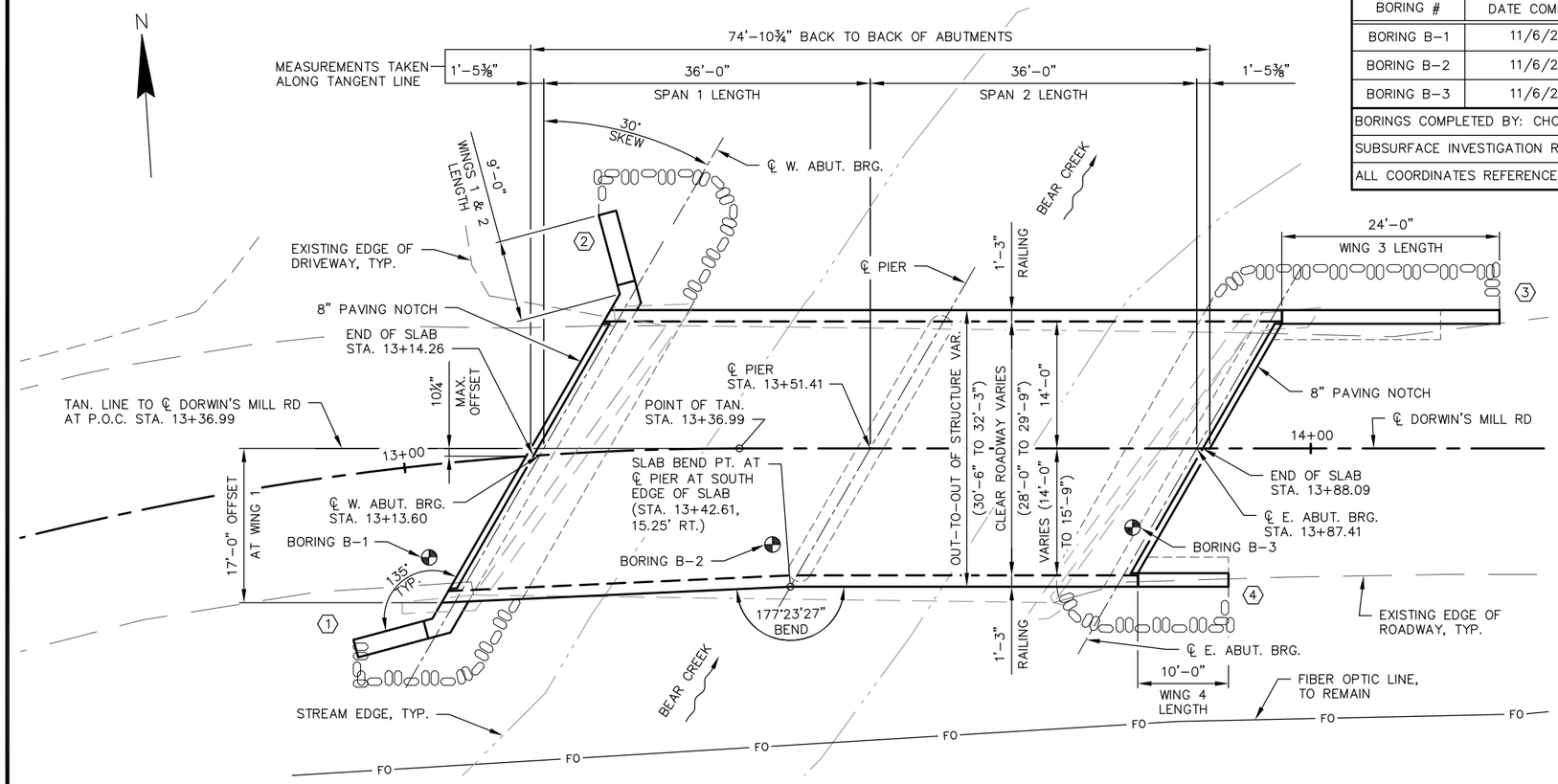
FILE: B460057_02_crs.dwg
PLOT SCALE:

B-46-57 BORINGS

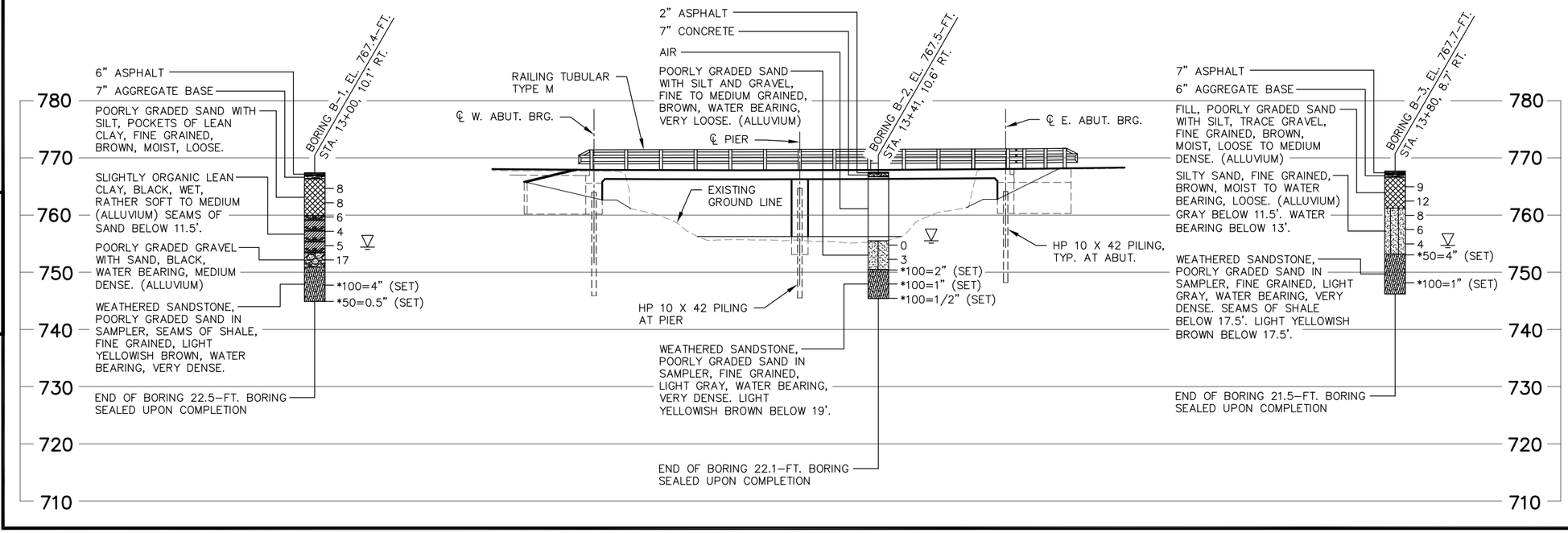
BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
BORING B-1	11/6/2023	280344.6	632335.8
BORING B-2	11/6/2023	280343.6	632373.7
BORING B-3	11/6/2023	280342.9	632413.4
BORINGS COMPLETED BY: CHOSEN VALLEY TESTING, INC.			
SUBSURFACE INVESTIGATION REPORT: CHOSEN VALLEY TESTING, INC.			
ALL COORDINATES REFERENCED TO WISCRS, PEPIN COUNTY			

NOTE

⬡ INDICATES WING NUMBER



PLAN B-46-57



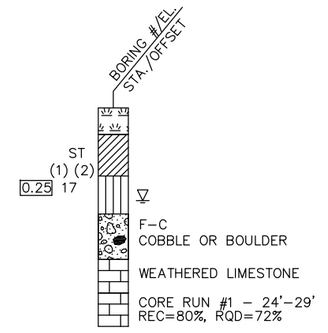
STATE PROJECT NUMBER

7868-00-70

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

▽ AT TIME OF DRILLING
▼ END OF DRILLING
▽ AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-46-57

DRAWN BY JDO · PLANS CK'D ACK

SUBSURFACE EXPLORATION

SHEET 3 OF 15

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8

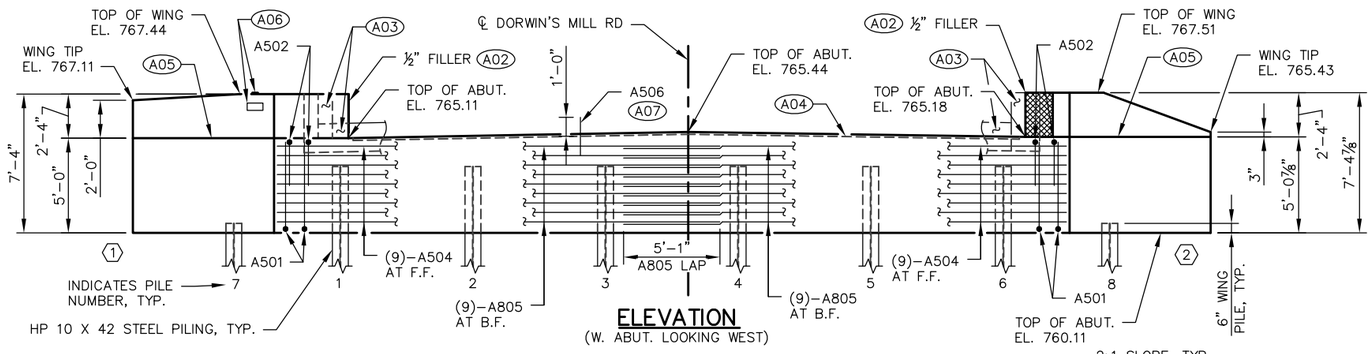
I.D. 7868-00-70

PLOT DATE: Apr 09, 2025

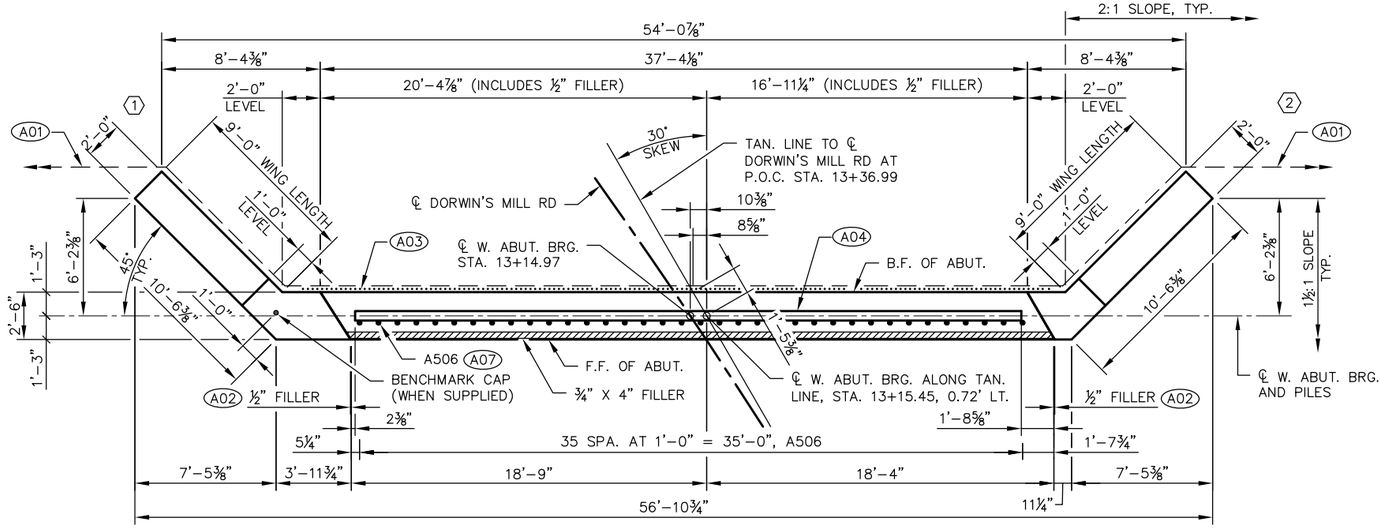
FILE: B460057_03_bor.dwg
PLOT SCALE:

STATE PROJECT NUMBER

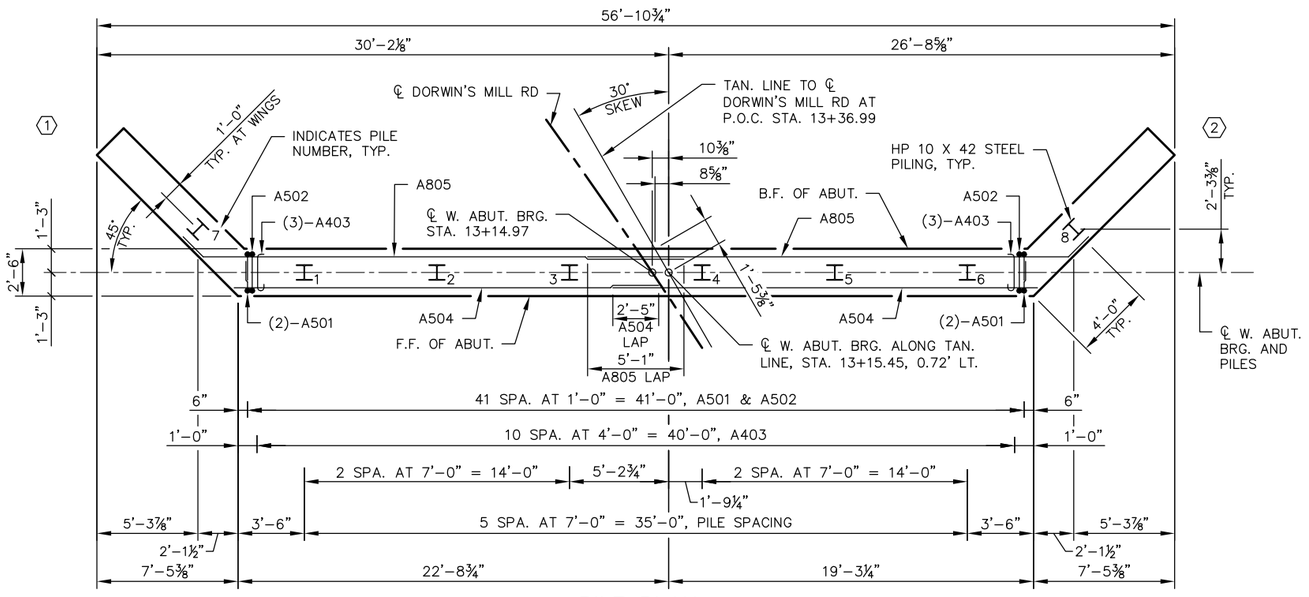
7868-00-70



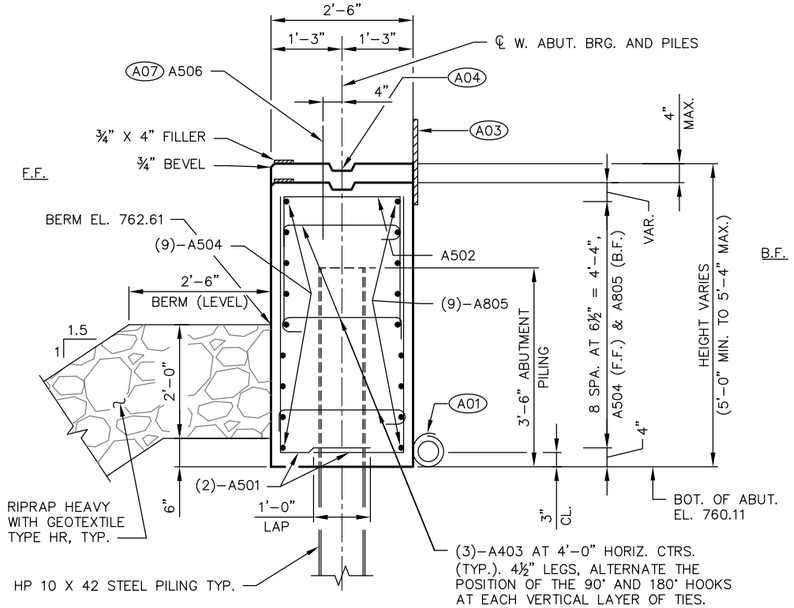
ELEVATION
(W. ABUT. LOOKING WEST)



PLAN



PILE PLAN



TYPICAL SECTION THRU WEST ABUTMENT
(LOOKING SOUTH)

NOTES

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

WEST ABUTMENT TO BE SUPPORTED ON HP 10 X 42 PILING SEATED IN PREBORED HOLES CORED 5 FEET MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 110 TONS PER PILE AT WEST ABUTMENT AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 20 FT PILE LENGTHS AT WEST ABUTMENT.

SEE "CROSS SECTION, GENERAL NOTES & QUANTITIES" SHEET FOR PILE SPLICE DETAILS.

(A01) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON "EAST ABUTMENT DETAILS" SHEET. RODENT SHIELD SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

(A02) SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). ½" FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.

(A03) 18" RUBBERIZED MEMBRANE WATERPROOFING (R.M.W.), SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

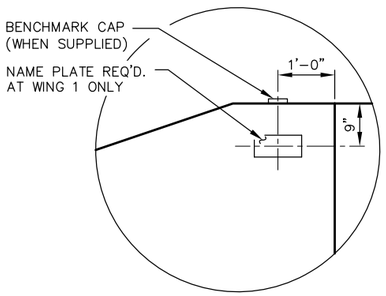
(A04) KEYED CONST. JT. FORMED BY BEVELED 2 X 6

(A05) OPTIONAL KEYED CONST. JT. FORMED BY BEVELED 2 X 6, TYP.

(A06) NAME PLATE & BENCHMARK CAP (WHEN SUPPLIED) AT WING 1 ONLY. SEE "NAME PLATE & BENCHMARK DETAIL", THIS SHEET.

(A07) A506 BARS MAY BE PLACED AFTER CONCRETE HAS BEEN POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED 1'-0" INTO ABUTMENT BODY.

⬡ INDICATES WING NUMBER



NAME PLATE & BENCHMARK DETAIL

F.F. – FRONT FACE
B.F. – BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-46-57

DRAWN BY CDS | PLANS CK'D ACK

WEST ABUTMENT

SHEET 4 OF 15

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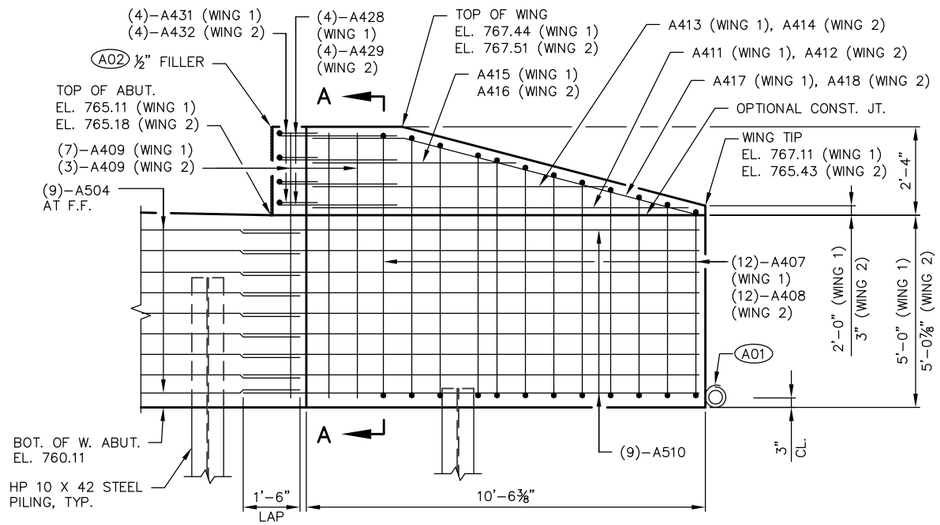
8

8

I.D. 7868-00-70

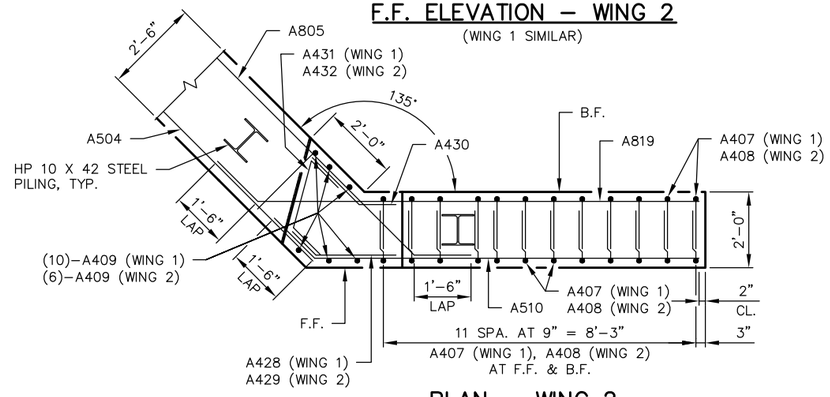
PLOT DATE: Apr 09, 2025

FILE: B460057_04-05_Wabut.dwg
PLOT SCALE:



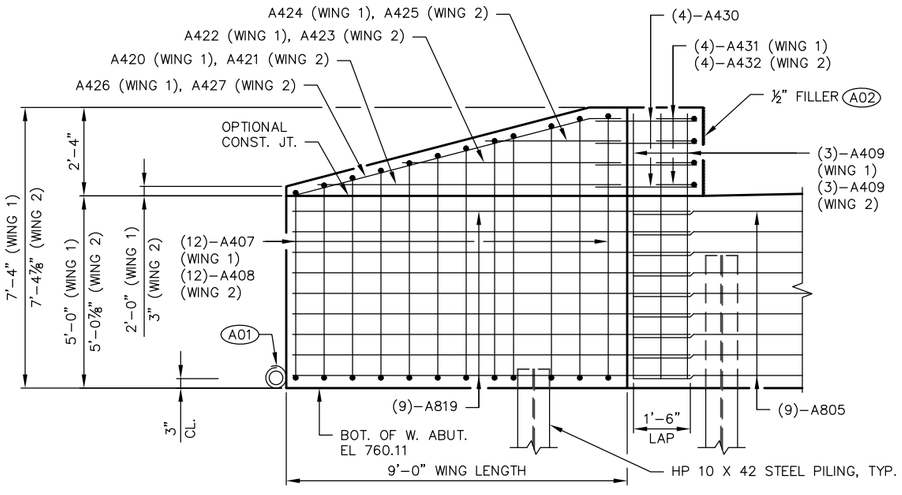
F.F. ELEVATION – WING 2

(WING 1 SIMILAR)



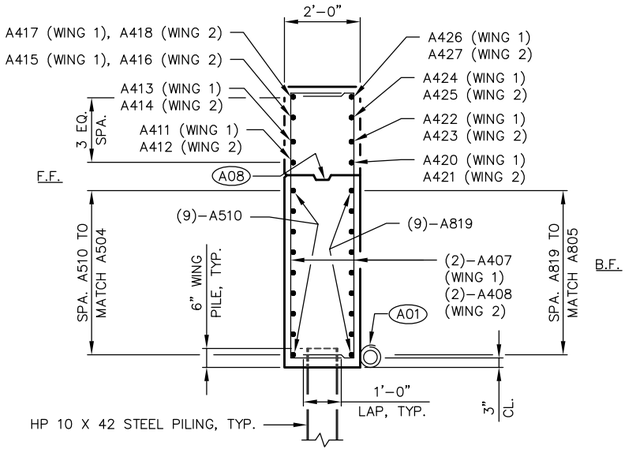
PLAN – WING 2

(WING 1 SIMILAR)



B.F. ELEVATION – WING 2

(WING 1 SIMILAR)



SECTION A–A

NOTES

DO NOT PLACE FILL ABOVE 3'–0" FROM THE BOTTOM OF THE ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

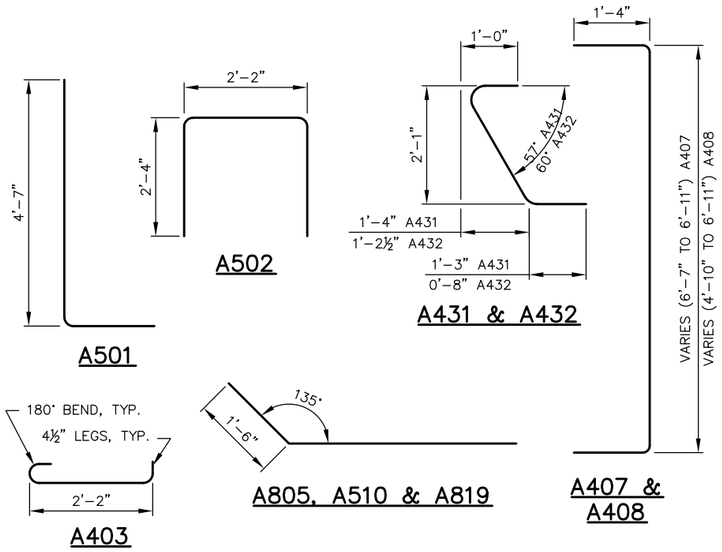
WEST ABUTMENT TO BE SUPPORTED ON HP 10 X 42 PILING SEATED IN PREBORED HOLES CORED 5 FEET MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 110 TONS PER PILE AT WEST ABUTMENT AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 20 FT PILE LENGTHS AT WEST ABUTMENT.

SEE "CROSS SECTION, GENERAL NOTES & QUANTITIES" SHEET FOR PILE SPLICE DETAILS.

(A01) PIPE UNDERDRAIN WRAPPED (6–INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON "EAST ABUTMENT DETAILS" SHEET. RODENT SHIELD SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6–INCH".

(A02) SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON–STAINING GRAY NON–BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.) ½" FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.

(A08) OPTIONAL CONSTRUCTION JOINT, SEAL B.F. WITH R.M.W. IF CONST. JOINT IS USED. COST INCLUDED WITH THE BID ITEM "CONCRETE MASONRY BRIDGES". PLACE ¾" "V" GROOVE ON F.F. OF WALL IF CONST. JT. IS USED.



BILL OF BARS
WEST ABUTMENT

COATED = 1,440 LBS.
UNCOATED = 2,610 LBS.

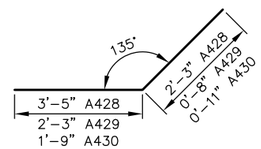
MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION	
A501		84	6'–1"	X		BODY – STIRRUP – F.F. & B.F.	VERT.
A502		42	6'–7"	X		BODY – STIRRUP – TOP	VERT.
A403		33	3'–1"	X		BODY – TIES	HORIZ.
A504		18	22'–3"			BODY – F.F.	HORIZ.
A805		18	27'–1"	X		BODY – B.F.	HORIZ.
A506	36		2'–0"			BODY – TOP DOWELS	VERT.
A407	24		9'–3"	X	⚠	WING 1 – STIRRUP – F.F. & B.F.	VERT.
A408	24		8'–5"	X	⚠	WING 2 – STIRRUP – F.F. & B.F.	VERT.
A409	16		6'–11"			WINGS 1 & 2 – F.F. & B.F.	VERT.
A510	18		11'–9"	X		WINGS 1 & 2 – F.F.	HORIZ.
A411	1		10'–2"			WING 1 – F.F.	HORIZ.
A412	1		9'–10"			WING 2 – F.F.	HORIZ.
A413	1		10'–2"			WING 1 – F.F.	HORIZ.
A414	1		7'–9"			WING 2 – F.F.	HORIZ.
A415	1		10'–2"			WING 1 – F.F.	HORIZ.
A416	1		5'–4"			WING 2 – F.F.	HORIZ.
A417	1		10'–2"	X		WING 1 – F.F. – TOP	HORIZ.
A418	1		10'–5"	X		WING 2 – F.F. – TOP	HORIZ.
A819	18		13'–3"	X		WINGS 1 & 2 – B.F.	HORIZ.
A420	1		8'–8"			WING 1 – B.F.	HORIZ.
A421	1		8'–0"			WING 2 – B.F.	HORIZ.
A422	1		8'–8"			WING 1 – B.F.	HORIZ.
A423	1		5'–9"			WING 2 – B.F.	HORIZ.
A424	1		8'–8"			WING 1 – B.F.	HORIZ.
A425	1		3'–6"			WING 2 – B.F.	HORIZ.
A426	1		8'–8"	X		WING 1 – B.F. – TOP	HORIZ.
A427	1		8'–11"	X		WING 2 – B.F. – TOP	HORIZ.
A428	4		5'–8"	X		WING 1 – F.F. – CORNER	HORIZ.
A429	4		2'–11"	X		WING 2 – F.F. – CORNER	HORIZ.
A430	8		2'–8"	X		WINGS 1 & 2 – B.F. – CORNER	HORIZ.
A431	4		4'–7"	X		WING 1 – TOP CORNER	HORIZ.
A432	4		3'–11"	X		WING 2 – TOP CORNER	HORIZ.

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

ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.

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

A417, A418, A426, & A427



A428, A429, & A430

BAR BEND DIMENSIONS

MARK	"A"	"B"	"C"
A417	7'–9"	2'–5"	178°
A418	8'–0"	2'–5"	165°
A426	7'–10"	0'–10"	178°
A427	8'–1"	0'–10"	165°

F.F. – FRONT FACE
B.F. – BACK FACE

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
A407	2 SERIES OF 12	9'–1" TO 9'–5"
A408	2 SERIES OF 12	7'–4" TO 9'–5"

BUNDLE AND TAG EACH SERIES SEPARATELY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–46–57

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WEST ABUTMENT DETAILS

SHEET 5 OF 15

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STATE PROJECT NUMBER
7868–00–70

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I.D. 7868–00–70

PLOT DATE: Apr 09, 2025

FILE: B460057_04–05_Wabut.dwg
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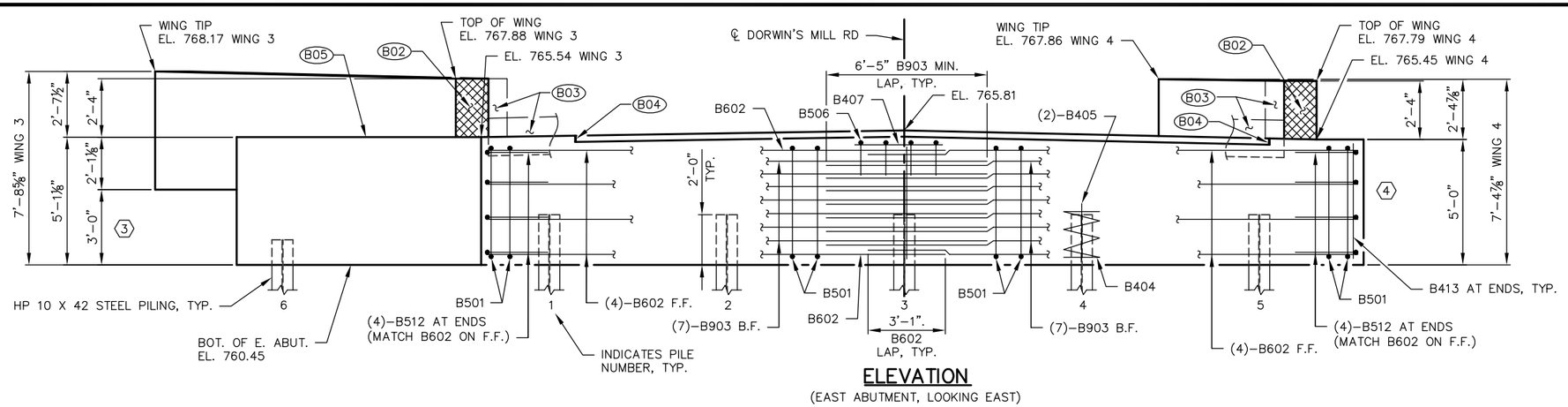
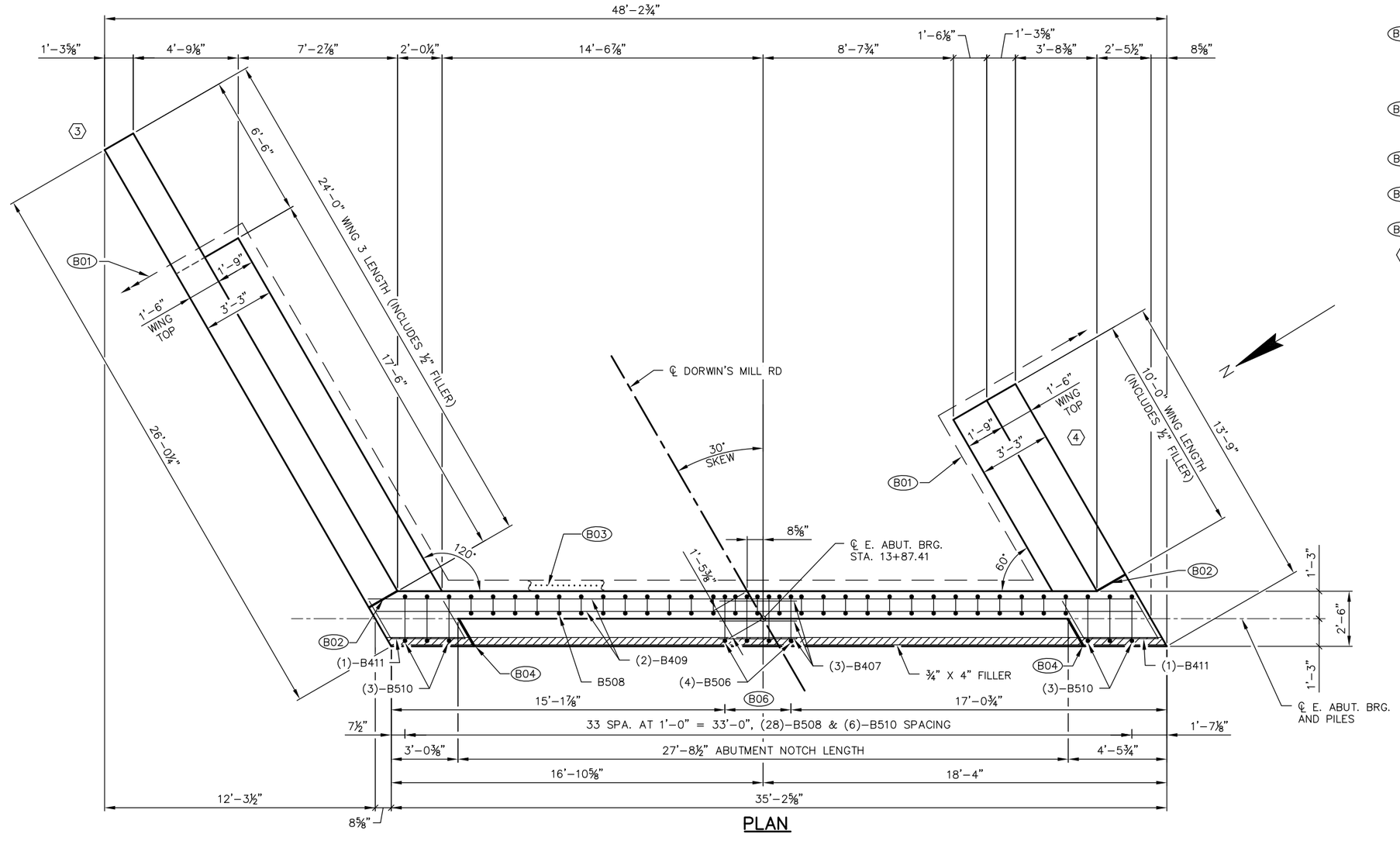


ELEVATION

(EAST ABUTMENT, LOOKING EAST)



PLAN

NOTES

DO NOT PLACE FILL ABOVE 3'–0" FROM THE BOTTOM OF THE ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

EAST ABUTMENT TO BE SUPPORTED ON HP 10 X 42 PILING SEATED IN PREBORED HOLES CORED 5 FEET MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 130 TONS PER PILE AT EAST ABUTMENT AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 20 FT PILE LENGTHS AT EAST ABUTMENT.

SEE "CROSS SECTION, GENERAL NOTES & QUANTITIES" SHEET FOR PILE SPLICE DETAILS.

(B01) PIPE UNDERDRAIN WRAPPED (6–INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON "EAST ABUTMENT DETAILS" SHEET. RODENT SHIELD SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6–INCH".

(B02) ½" FILLER. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON–STAINING GRAY NON–BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). ½" FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.

(B03) 18" RUBBERIZED MEMBRANE WATERPROOFING (R.M.W.), SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

(B04) ¾" CORK FILLER ON VERTICAL FACE ONLY. SET VERTICAL FACE PARALLEL TO SKEW ANGLE.

(B05) OPTIONAL KEYED CONST. JT. FORMED BY BEVELED 2 X 6, TYP.

(B06) 3 SPA. AT 1'–0" = 3'–0", B506

⬡ INDICATES WING NUMBER

F.F. – FRONT FACE
B.F. – BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–46–57

DRAWN BY CDS | PLANS CK'D ACK

EAST ABUTMENT

SHEET 6 OF 15

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STATE PROJECT NUMBER

7868–00–70

I.D. 7868–00–70

PLOT DATE: Apr 09, 2025

FILE: B460057_06–09_Eabut.dwg
PLOT SCALE:

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STATE PROJECT NUMBER
7868-00-70

NOTES

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

EAST ABUTMENT TO BE SUPPORTED ON HP 10 X 42 PILING SEATED IN PREBORED HOLES CORED 5 FEET MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 130 TONS PER PILE AT EAST ABUTMENT AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 20 FT PILE LENGTHS AT EAST ABUTMENT.

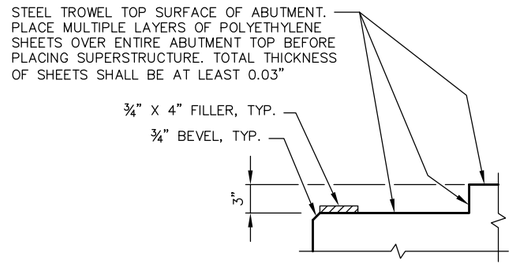
SEE "CROSS SECTION, GENERAL NOTES & QUANTITIES" SHEET FOR PILE SPLICE DETAILS.

(B01) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET. RODENT SHIELD SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

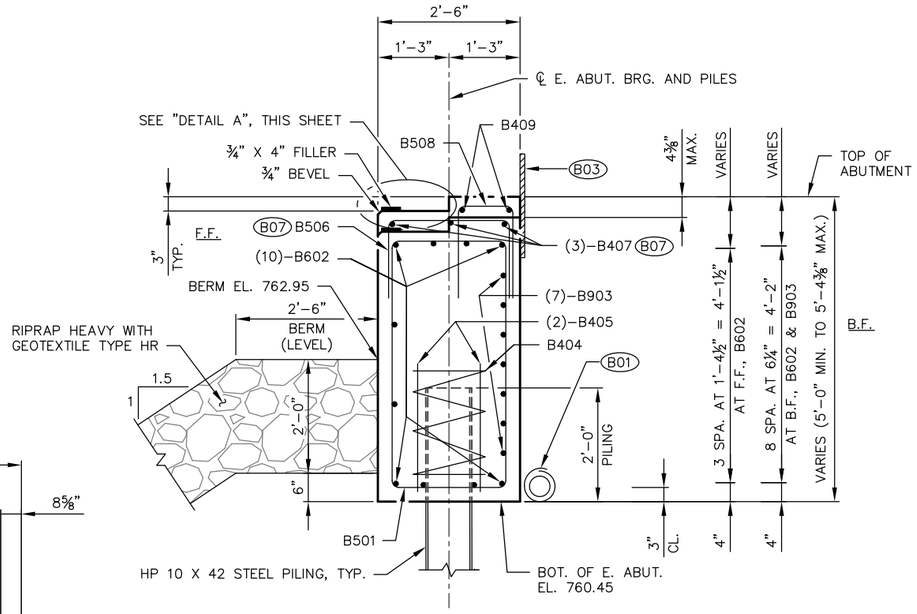
(B03) 18" RUBBERIZED MEMBRANE WATERPROOFING (R.M.W.), SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

(B07) B506 & B407 BARS REQUIRED WHEN ABUTMENT HEIGHT IS OVER 5'-4" (4" ABOVE MIN. ABUTMENT HEIGHT). SEE "EAST ABUTMENT" SHEET FOR PLACEMENT OF B506 BARS.

⬡ INDICATES WING NUMBER

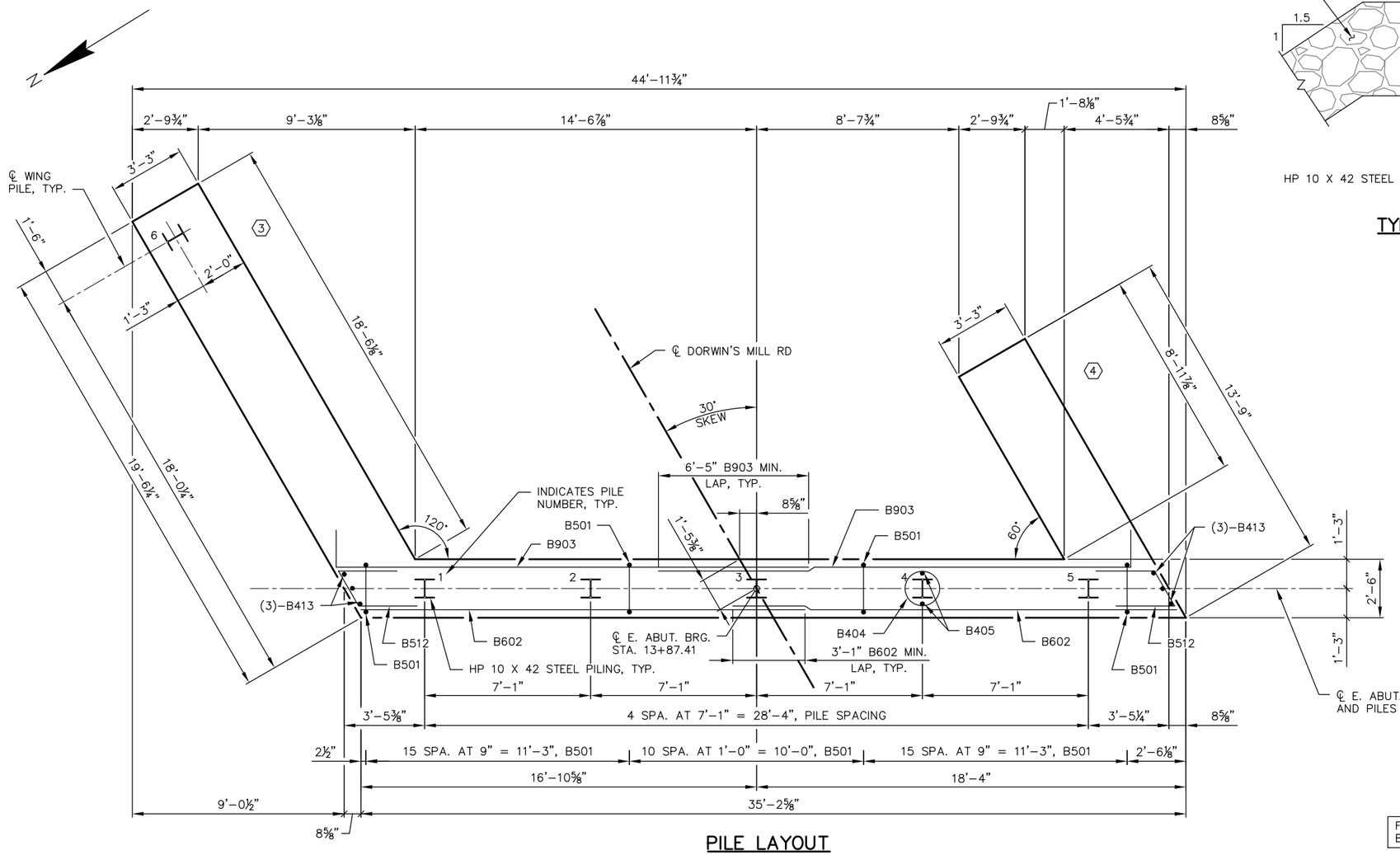


DETAIL A



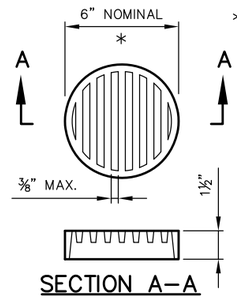
TYPICAL SECTION THRU ABUTMENT

(THRU ABUTMENT NOTCH SHOWN, NEAR WINGS SIMILAR)



PILE LAYOUT

F.F. – FRONT FACE
B.F. – BACK FACE



SECTION A-A

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

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.

THE RODENT SHIELD. PIPE COUPLING AND SCREWS SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

RODENT SHIELD DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-46-57

DRAWN BY CDS | PLANS CK'D ACK

EAST ABUTMENT DETAILS

SHEET 7 OF 15

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I.D. 7868-00-70

PLOT DATE: Apr 09, 2025

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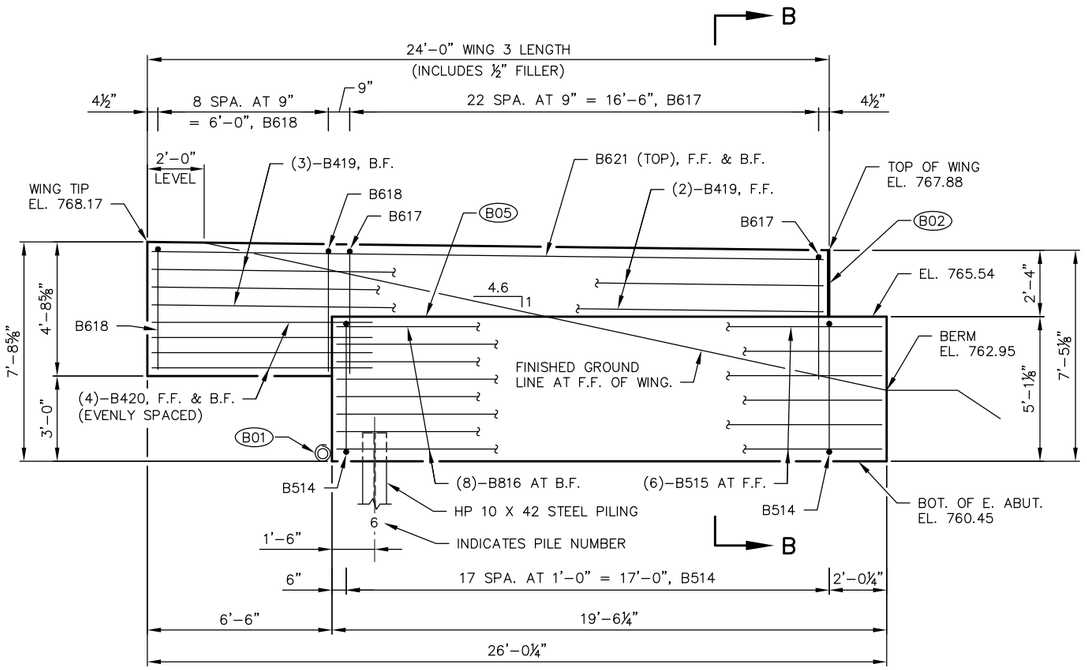
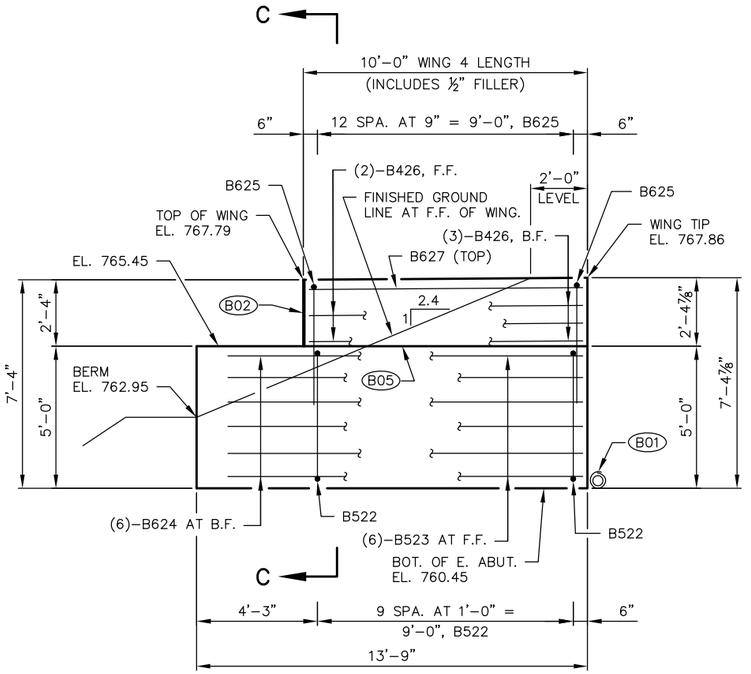


WING 3 ELEVATION

(LOOKING AT FRONT FACE OF WING)



WING 4 ELEVATION

(LOOKING AT FRONT FACE OF WING)

NOTES

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

EAST ABUTMENT TO BE SUPPORTED ON HP 10 X 42 PILING SEATED IN PREBORED HOLES CORED 5 FEET MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 130 TONS PER PILE AT EAST ABUTMENT AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 20 FT PILE LENGTHS AT EAST ABUTMENT.

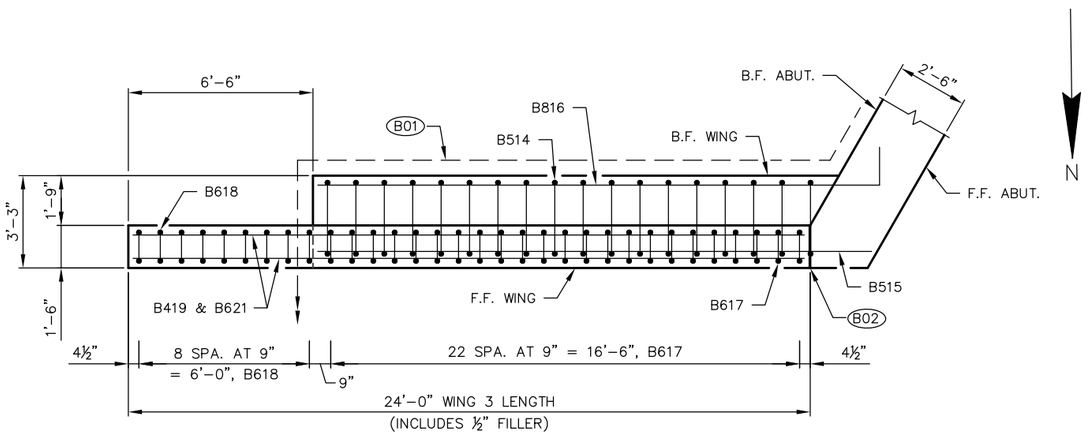
SEE "CROSS SECTION, GENERAL NOTES & QUANTITIES" SHEET FOR PILE SPLICE DETAILS.

SEE "EAST ABUTMENT REINFORCEMENT" SHEET FOR SECTION B-B AND SECTION C-C.

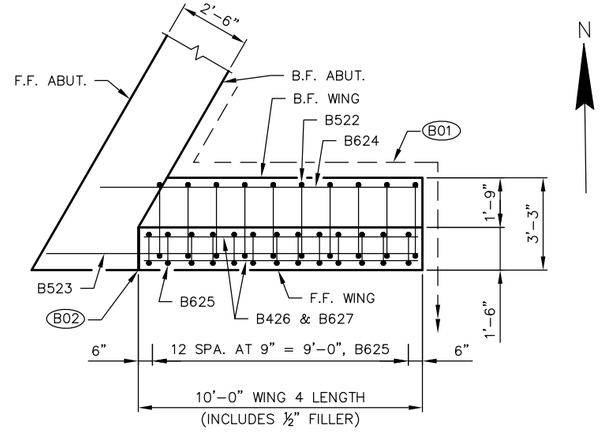
(B01) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON "EAST ABUTMENT DETAILS" SHEET. RODENT SHIELD SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

(B02) ½" FILLER. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). ½" FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.

(B05) OPTIONAL KEYED CONST. JT. FORMED BY BEVELED 2 X 6, TYP.



WING 3 PLAN



WING 4 PLAN

F.F. - FRONT FACE
B.F. - BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-46-57

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EAST ABUTMENT WING DETAILS

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I.D. 7868-00-70

PLOT DATE: Apr 09, 2025

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PLOT SCALE:

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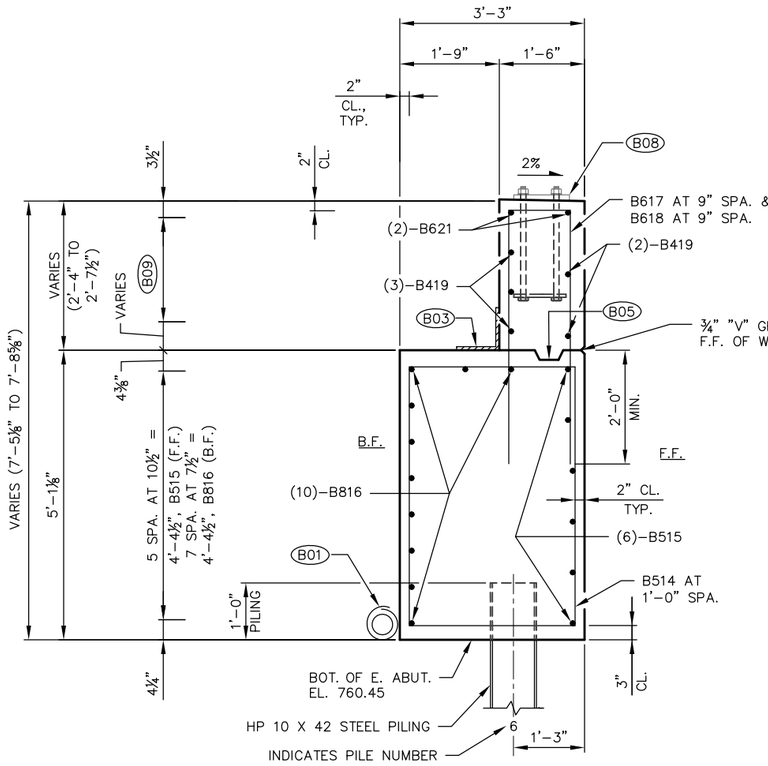
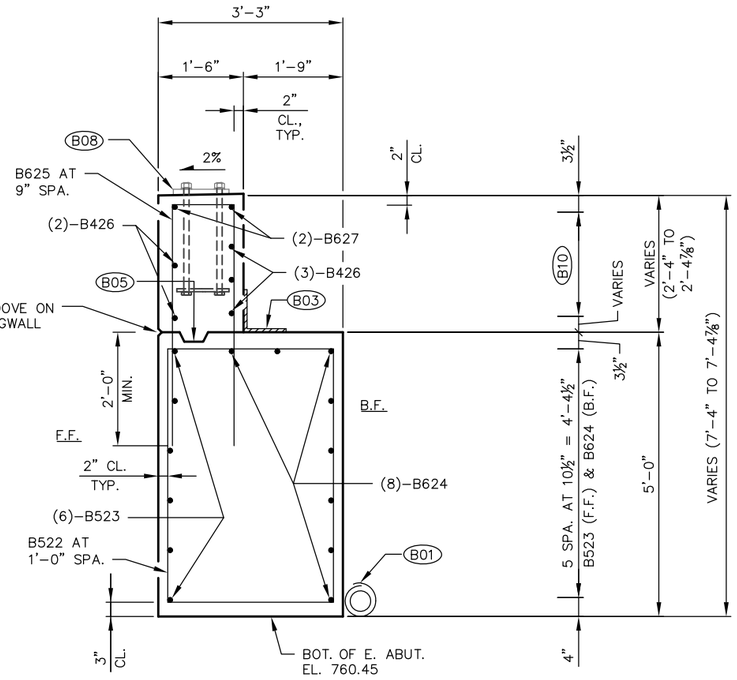


SECTION B-B
(WING 3)



SECTION C-C
(WING 4)

BILL OF BARS
EAST ABUTMENT

COATED = 2,250 LBS.
UNCOATED = 2,590 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION	
B501		41	13'-8"	X		BODY - STIRRUP	VERT.
B602		20	19'-0"			BODY - F.F., BOT. & TOP	HORIZ.
B903		14	21'-6"	X		BODY - B.F.	HORIZ.
B404		5	28'-0"	X		BODY - PILING STIRRUP	VERT.
B405		10	2'-3"			BODY - PILING	VERT.
B506		4	4'-9"	X		BODY - TOP STIRRUP	VERT.
B407		3	3'-6"			BODY - TOP	HORIZ.
B508		28	3'-8"	X		BODY - STIRRUP IN NOTCH	VERT.
B409		2	34'-10"			BODY - IN NOTCH	HORIZ.
B510		6	4'-11"	X		BODY - STIRRUP IN NOTCH (WINGS)	VERT.
B411		2	7'-9"	X		BODY - NOTCH (WINGS)	HORIZ.
B512		8	7'-1"	X		BODY - ENDS NEAR WINGS	HORIZ.
B413		6	4'-7"			BODY - ENDS NEAR WINGS	VERT.
B514	18		15'-8"	X		WING 3 - STIRRUP (BODY)	VERT.
B515	6		19'-3"			WING 3 - F.F. (BODY)	HORIZ.
B816	10		20'-11"			WING 3 - B.F. & TOP (BODY)	HORIZ.
B617	23		9'-8"	X		WING 3 - TOP STIRRUP	VERT.
B618	9		9'-4"	X		WING 3 - TOP STIRRUP	VERT.
B419	5		23'-7"			WING 3 - TOP F.F. & B.F.	HORIZ.
B420	8		7'-9"			WING 3 - F.F. & B.F.	HORIZ.
B621	2		23'-7"			WING 3 - TOP	HORIZ.
B522	10		15'-6"	X		WING 4 - STIRRUP (BODY)	VERT.
B523	6		13'-3"			WING 4 - F.F. (BODY)	HORIZ.
B624	8		11'-2"			WING 4 - B.F. & TOP (BODY)	HORIZ.
B625	13		9'-4"	X		WING 4 - TOP STIRRUP	VERT.
B426	5		9'-7"			WING 4 - TOP F.F. & B.F.	HORIZ.
B627	2		9'-7"			WING 4 - TOP	HORIZ.

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

ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.

NOTES

(B01) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON "EAST ABUTMENT DETAILS" SHEET. RODENT SHIELD SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

(B03) 18" RUBBERIZED MEMBRANE WATERPROOFING (R.M.W.), SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

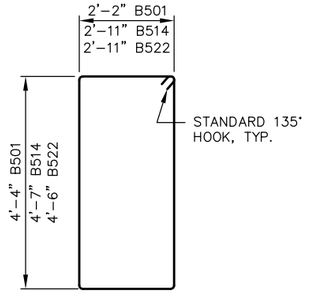
(B05) OPTIONAL KEYED CONST. JT. FORMED BY BEVELED 2 X 6, TYP.

(B08) SEE "RAILING TUBULAR TYPE M" SHEET FOR ANCHORAGE DETAILS. SEE "SUPERSTRUCTURE" SHEET FOR RAIL POST SPACING ON WINGS.

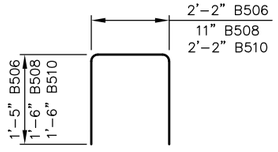
(B09) 2 SPA. AT 11" = 1'-10", B419 & B621 (F.F.) - WING 3
3 SPA. AT 7½" = 1'-10½", B419 & B621 (B.F.) - WING 3

(B10) 2 SPA. AT 11" = 1'-10", B426 & B627 (F.F.) - WING 4
3 SPA. AT 7½" = 1'-10½", B426 & B627 (B.F.) - WING 4

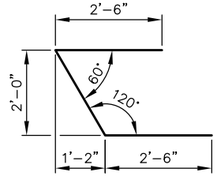
F.F. - FRONT FACE
B.F. - BACK FACE



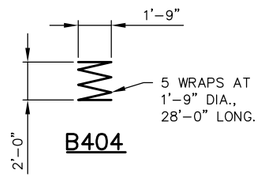
B501, B514 & B522



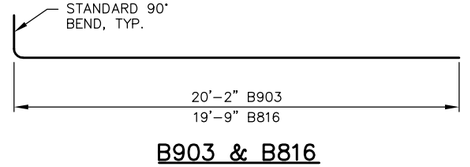
B506, B508 & B510



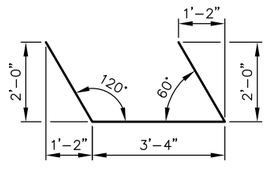
B512



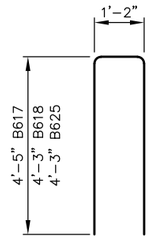
B404



B903 & B816



B411



B617, B618 & B625

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-46-57

DRAWN BY CDS | PLANS CK'D ACK

EAST ABUTMENT REINFORCEMENT

SHEET 9 OF 15

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I.D. 7868-00-70

PLOT DATE: Apr 09, 2025

FILE: B460057_06-09_Eabut.dwg
PLOT SCALE:

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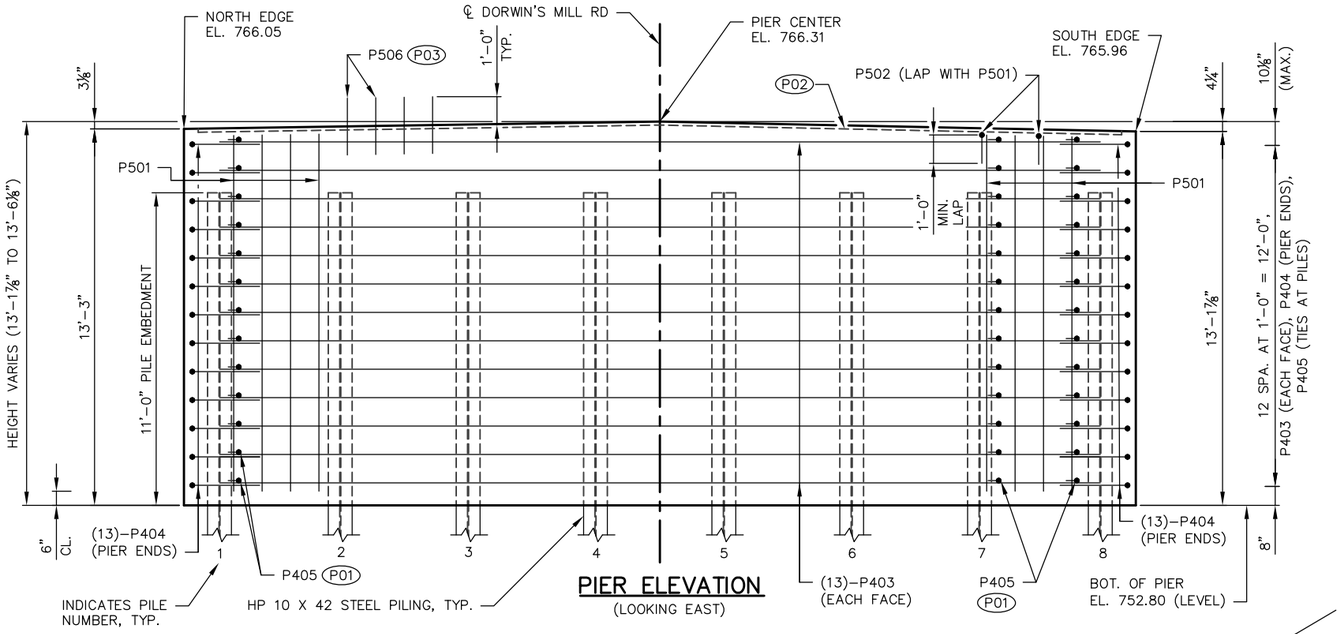
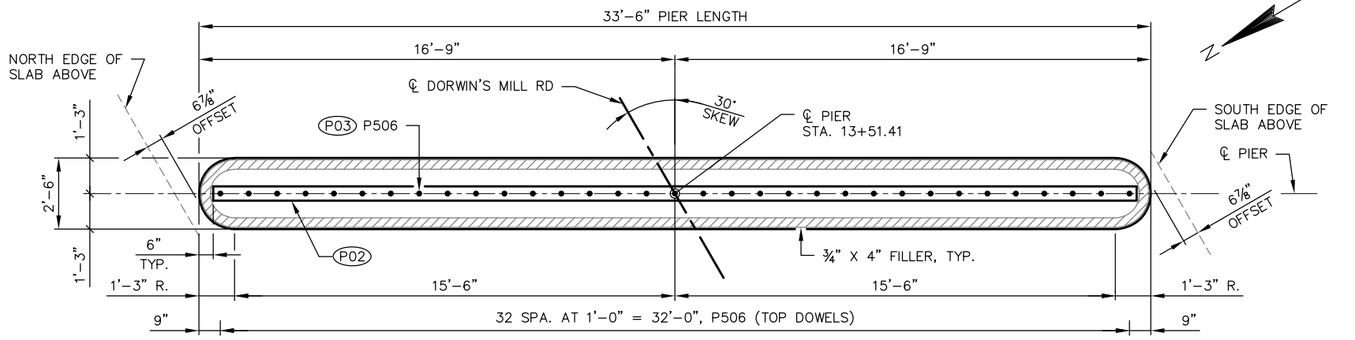
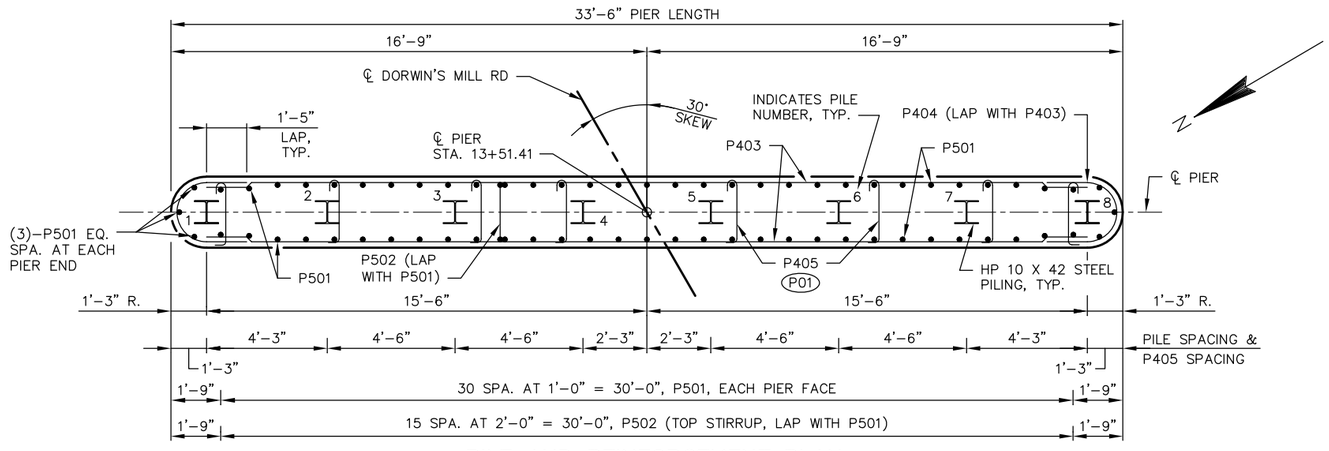


PIER ELEVATION
(LOOKING EAST)



TOP PLAN



PILE AND REINFORCEMENT PLAN

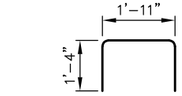
BILL OF BARS
PIER

COATED = 70 LBS.
UNCOATED = 1,820 LBS.

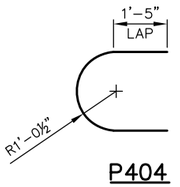
MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION	
P501		68	12'-6"			PIER – SIDES	VERT.
P502		16	4'-4"	X		PIER – TOP STIRRUP	VERT.
P403		26	31'-0"			PIER – SIDES	HORIZ.
P404		26	6'-2"	X		PIER – END STIRRUP	HORIZ.
P405		104	3'-0"	X		PIER – TIES	HORIZ.
P506	33		2'-0"			PIER – TOP DOWELS	VERT.

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

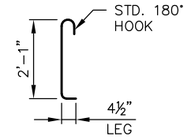
ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.



P502



P404



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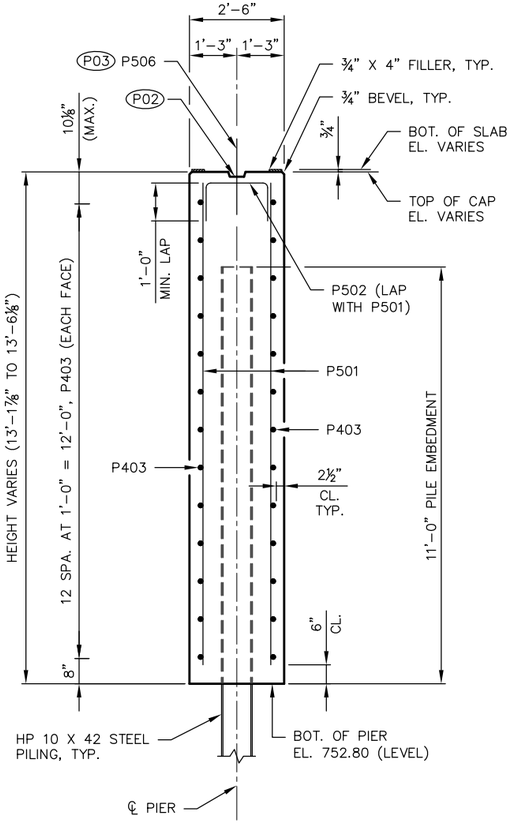

TYPICAL SECTION THRU PIERS

NOTES

PIER TO BE SUPPORTED ON HP 10 X 42 PILING SEATED IN PREBORED HOLES CORED 5 FEET MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 150 TONS PER PILE AT THE PIER AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 20 FT PILE LENGTHS AT THE PIER.

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

SEE "CROSS SECTION, GENERAL NOTES & QUANTITIES" SHEET FOR PILE SPLICE DETAILS.

(P01) PLACE P405 BARS ADJACENT TO EACH PILE ONLY. TIE TO NEAREST VERT. P501 BAR. VERTICAL SPA. AT 1'-0" TO MATCH P403 OUTSIDE BARS. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

(P02) KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".

(P03) P506 BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.

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STRUCTURE B-46-57

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PIER DETAILS

SHEET 10 OF 15

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I.D. 7868-00-70

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FILE: B460057_10_pier.dwg
PLOT SCALE:

STATE PROJECT NUMBER
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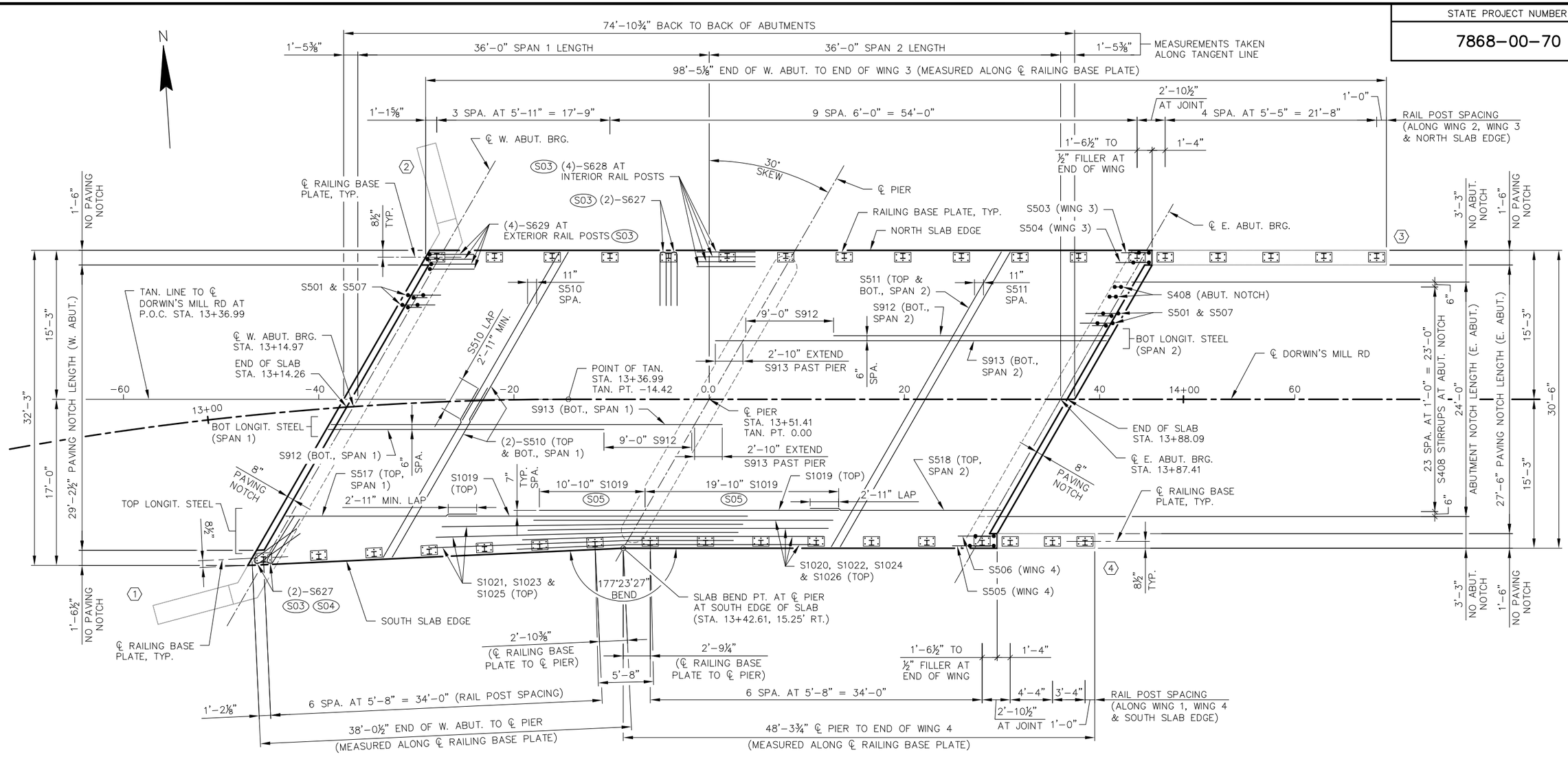
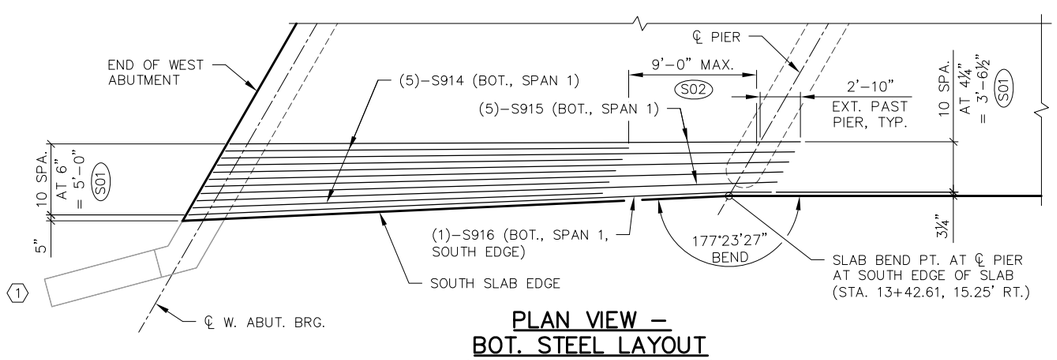


PLAN VIEW



PLAN VIEW – BOT. STEEL LAYOUT AT SLAB FLARE AREA

NOTES

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 (+).

RAILING TO BE INSTALLED ON THE SLAB AFTER FALSEWORK HAS BEEN RELEASED.

⬡ INDICATES WING NUMBER

(S01) SPACING OF S914, S915 & S916 NEAR THE SOUTH SLAB EDGE IN SPAN 1 (IN BEND AREA OF SLAB). BARS TO BE FLARED FROM 4¼" SPA. AT ℄ PIER TO 6" SPA. AT W. ABUTMENT.

(S02) S914 BARS TO EXTEND FROM 2" CLEAR OF WEST ABUTMENT TO A MAXIMUM OF 9'-0" FROM THE ℄ PIER.

(S03) SEE "RAILING TUBULAR TYPE M" SHEET FOR PLACEMENT OF RAIL POST REINFORCEMENT.

(S04) ADJUST ORIENTATION OF S627 BAR AT END POST NEAR WINGS TO ENSURE 2" CLEAR COVER AT END OF SLAB AND PAVING NOTCH. SEE "SUPERSTRUCTURE TYPICAL SECTIONS" SHEET FOR "END RAIL POST DETAIL".

(S05) LONGER LEG LENGTH (19'-10") OF S1019 BARS TO ALTERNATE BETWEEN SPAN 1 & SPAN 2. EVERY OTHER BAR SHALL BE LONGER INTO SPAN 1, SIMILAR WITH SPAN 2.

F.F. – FRONT FACE
B.F. – BACK FACE

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-46-57

DRAWN BY CDS | PLANS CK'D ACK

SUPERSTRUCTURE

SHEET 11 OF 15

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PLOT SCALE:

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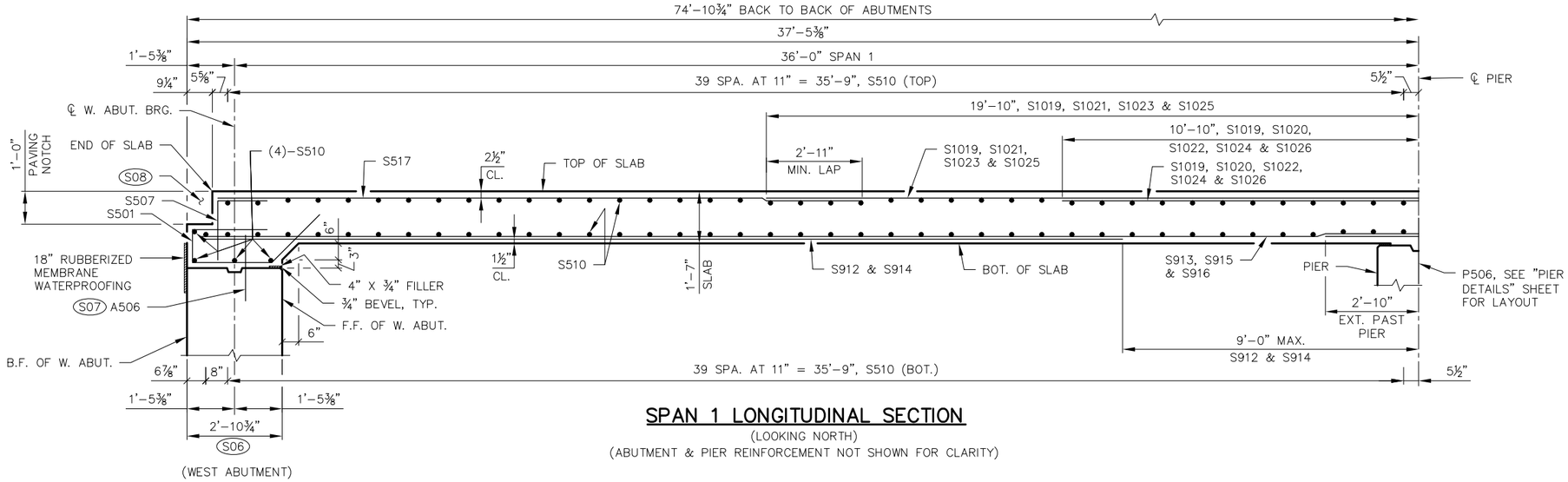
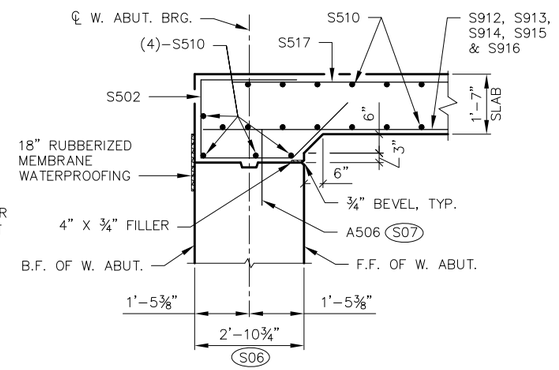


(WEST ABUTMENT)

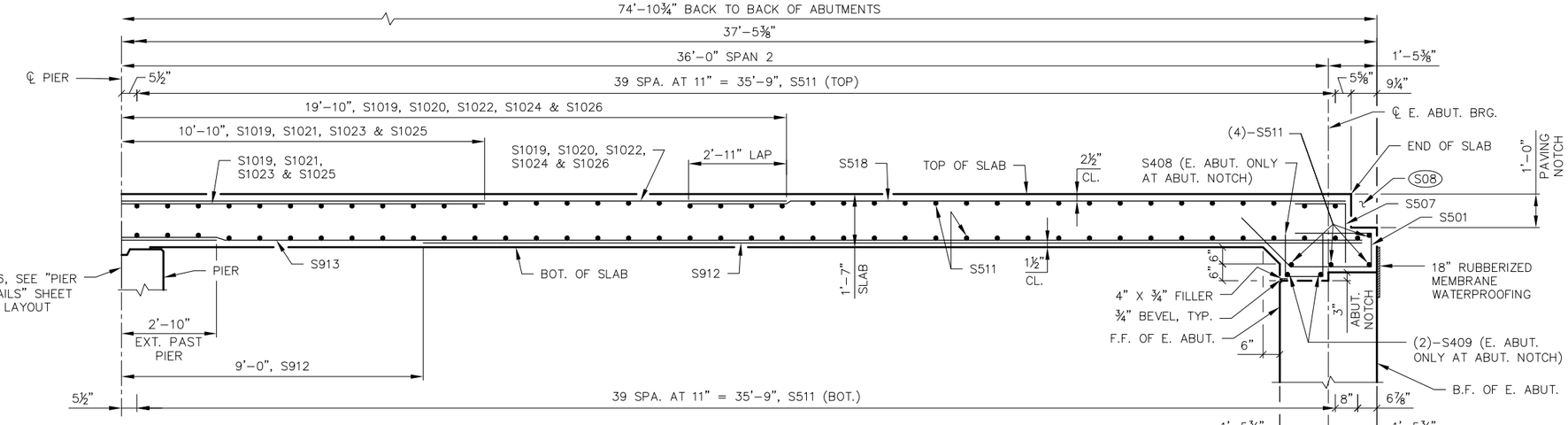
SPAN 1 LONGITUDINAL SECTION

(LOOKING NORTH)

(ABUTMENT & PIER REINFORCEMENT NOT SHOWN FOR CLARITY)



SLAB REIN. WITHOUT PAVING NOTCH (AT W. ABUT. NEAR WINGS)

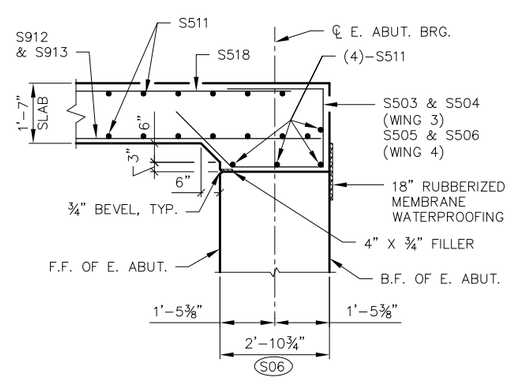


(EAST ABUTMENT)

SPAN 2 LONGITUDINAL SECTION

(LOOKING NORTH)

(ABUTMENT & PIER REINFORCEMENT NOT SHOWN FOR CLARITY)



SLAB REIN. WITHOUT PAVING NOTCH (AT E. ABUT. NEAR WINGS)

NOTES

(S06) DIMENSION IS TAKEN PARALLEL TO ℄ DORWIN'S MILL RD/TANGENT LINE TO ℄ DORWIN'S MILL RD.

(S07) SEE "WEST ABUTMENT" SHEET FOR LAYOUT.

(S08) APPLY PROTECTION SURFACE TREATMENT TO THE VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES.

F.F. – FRONT FACE
B.F. – BACK FACE

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STRUCTURE B-46-57

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SUPERSTRUCTURE LONGITUDINAL SECTIONS

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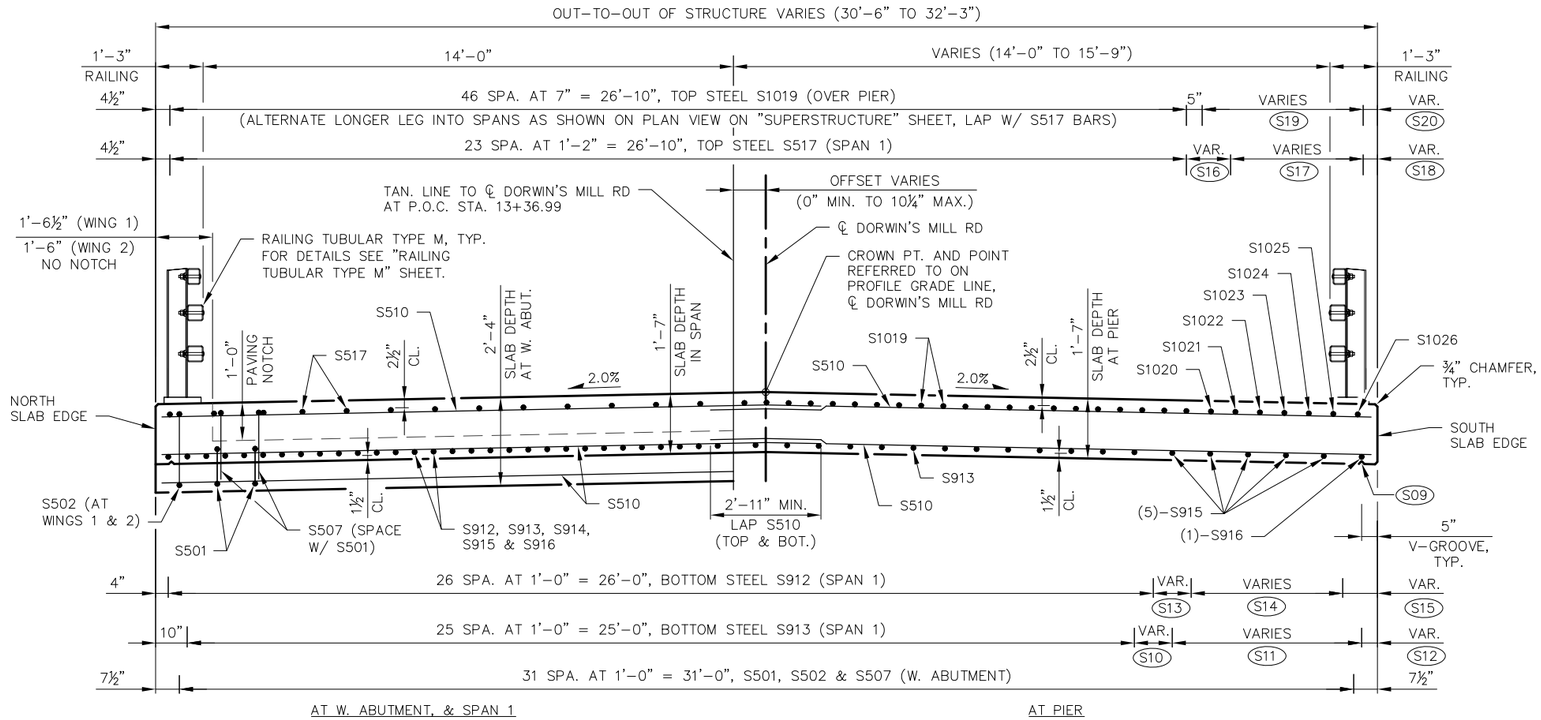
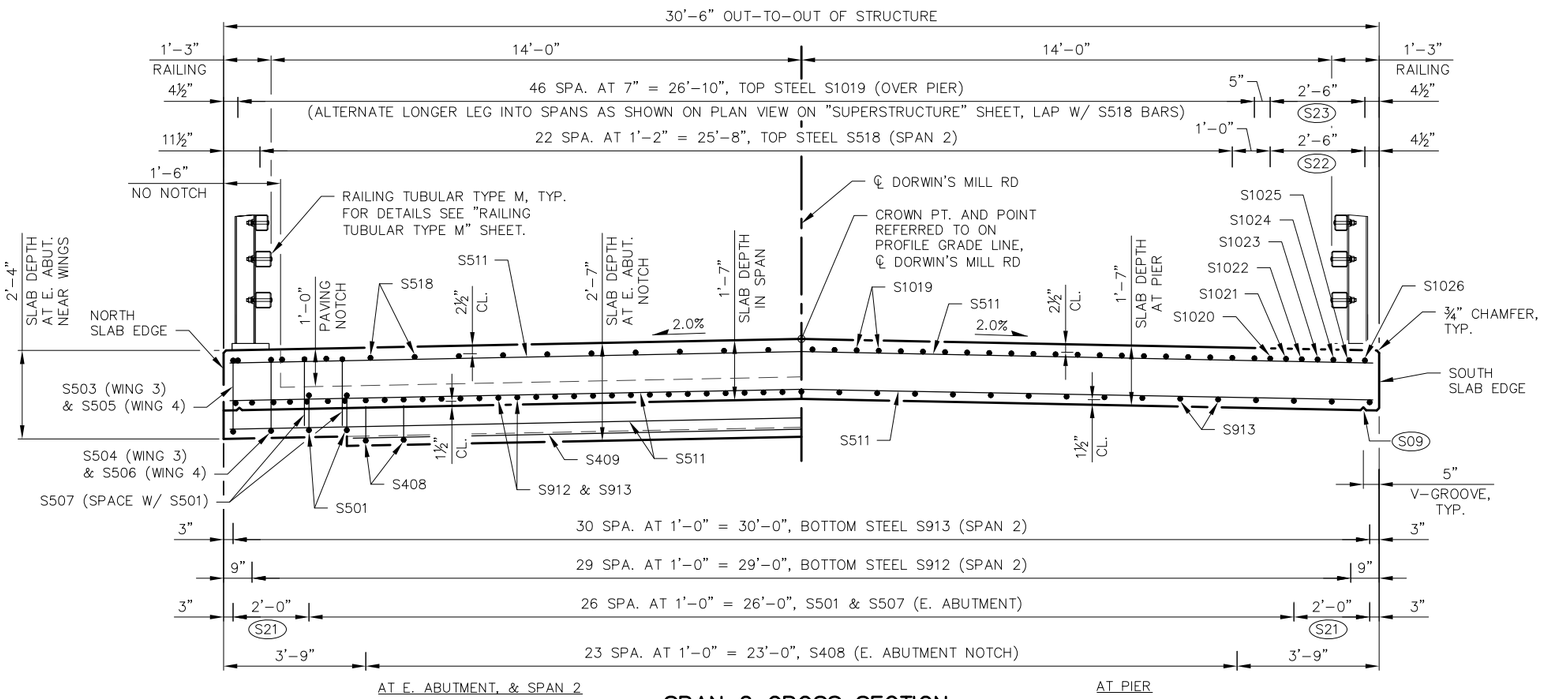


SPAN 1 CROSS SECTION
(LOOKING EAST)



SPAN 2 CROSS SECTION
(LOOKING EAST)

NOTES

(S09) ¾" V-GROOVE. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT BODY. V-GROOVES ARE REQUIRED.

(S10) VARIES (10¼" TO 1'-0")

(S11) VARIES (5 SPA. AT 8½" = 3'-6½" TO 5 SPA. AT 1'-0" = 5'-0"), S915 & S916

(S12) VARIES (3¼" TO 5"), TO S916

(S13) VARIES (9½" TO 1'-0"), TO S914

(S14) VARIES (4 SPA. AT 9½" = 3'-2" TO 4 SPA. AT 1'-0" = 4'-0"), S914

(S15) VARIES (7" TO 11"), TO S914

(S16) VARIES (1'-1" TO 1'-3½"), S517

(S17) VARIES (2 SPA. AT 1'-1" = 2'-2" TO 2 SPA. AT 1'-3½" = 2'-7"), S517

(S18) VARIES (11¾" TO 1'-2"), TO S517

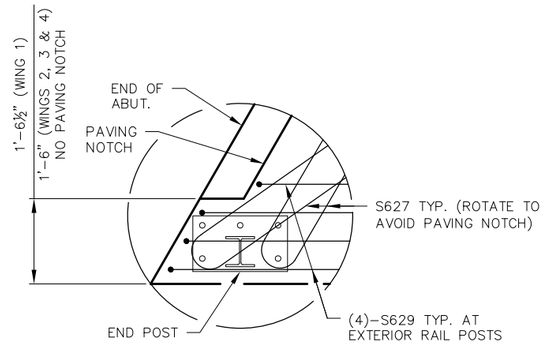
(S19) VARIES (6 SPA. AT 5" = 2'-6" TO 6 SPA. AT 5¾" = 2'-10½"), S1020, S1021, S1022, S1023, S1024, S1025 & S1026

(S20) VARIES (4½" TO 4¾"), TO S1026

(S21) 2 SPA. AT 1'-0" = 2'-0" (S503 & S504, WING 3), (S505 & S506, WING 4)

(S22) 3 SPA. AT 10" = 2'-6", S518

(S23) 6 SPA. AT 5" = 2'-6", S1020, S1021, S1022, S1023, S1024, S1025 & S1026



END RAIL POST DETAIL
(WINGS 1 & 3 RAIL POST SHOWN, WINGS 2 & 4 SIMILAR)
(ONLY RAIL POST REINFORCEMENT SHOWN FOR CLARITY)

F.F. – FRONT FACE
B.F. – BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-46-57

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SUPERSTRUCTURE TYPICAL SECTIONS

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TOP OF SLAB ELEVATIONS

SPAN PT	NORTH SLAB EDGE	℄ DORWIN'S MILL RD	SOUTH SLAB EDGE
℄ W. ABUT.	767.51	767.77	767.44
0.1	767.53	767.79	767.44
0.2	767.55	767.81	767.45
0.3	767.56	767.83	767.45
0.4	767.59	767.85	767.47
0.5	767.61	767.86	767.49
0.6	767.63	767.88	767.51
0.7	767.65	767.90	767.54
0.8	767.66	767.92	767.56
0.9	767.68	767.94	767.58
℄ PIER	767.70	767.96	767.61
1.1	767.72	767.97	767.63
1.2	767.74	767.99	767.65
1.3	767.75	768.01	767.67
1.4	767.77	768.03	767.68
1.5	767.79	768.05	767.70
1.6	767.81	768.06	767.72
1.7	767.83	768.08	767.74
1.8	767.85	768.10	767.76
1.9	767.86	768.12	767.77
℄ E. ABUT.	767.88	768.14	767.79

SOUTH SLAB EDGE

SPAN PT	STA. ON ℄ DORWIN'S MILL RD	DISTANCE ALONG TANGENT LINE	OFFSET ALONG TANGENT LINE (RIGHT)	EDGE OF SLAB EDGE ELEVATION
℄ W. ABUT.	13+04.02	-45.78	16.93	767.44
0.1	13+07.91	-42.08	16.77	767.44
0.2	13+11.79	-38.38	16.60	767.45
0.3	13+15.68	-34.69	16.43	767.45
0.4	13+19.57	-30.99	16.26	767.47
0.5	13+23.46	-27.29	16.09	767.49
0.6	13+27.35	-23.59	15.92	767.51
0.7	13+31.24	-19.90	15.76	767.54
0.8	13+35.13	-16.20	15.59	767.56
0.9	13+38.92	-12.50	15.42	767.58
℄ PIER	13+42.61	-8.80	15.25	767.61
1.1	13+46.21	-5.20	15.25	767.63
1.2	13+49.81	-1.60	15.25	767.65
1.3	13+53.41	2.00	15.25	767.67
1.4	13+57.01	5.60	15.25	767.68
1.5	13+60.61	9.20	15.25	767.70
1.6	13+64.21	12.80	15.25	767.72
1.7	13+67.81	16.40	15.25	767.74
1.8	13+71.41	20.00	15.25	767.76
1.9	13+75.01	23.60	15.25	767.77
℄ E. ABUT.	13+78.61	27.20	15.25	767.79

NORTH SLAB EDGE

SPAN PT	STA. ON ℄ DORWIN'S MILL RD	DISTANCE ALONG TANGENT LINE	OFFSET ALONG TANGENT LINE (LEFT)	EDGE OF SLAB EDGE ELEVATION
℄ W. ABUT.	13+24.80	-27.20	15.25	767.51
0.1	13+28.24	-23.60	15.25	767.53
0.2	13+31.67	-20.00	15.25	767.55
0.3	13+35.11	-16.40	15.25	767.56
0.4	13+38.62	-12.80	15.25	767.59
0.5	13+42.22	-9.20	15.25	767.61
0.6	13+45.82	-5.60	15.25	767.63
0.7	13+49.42	-2.00	15.25	767.65
0.8	13+53.02	1.60	15.25	767.66
0.9	13+56.62	5.20	15.25	767.68
℄ PIER	13+60.21	8.80	15.25	767.70
1.1	13+63.81	12.40	15.25	767.72
1.2	13+67.41	16.00	15.25	767.74
1.3	13+71.01	19.60	15.25	767.75
1.4	13+74.61	23.20	15.25	767.77
1.5	13+78.21	26.80	15.25	767.79
1.6	13+81.81	30.40	15.25	767.81
1.7	13+85.41	34.00	15.25	767.83
1.8	13+89.01	37.60	15.25	767.85
1.9	13+92.61	41.20	15.25	767.86
℄ E. ABUT.	13+96.21	44.80	15.25	767.88

BILL OF BARS SUPERSTRUCTURE

COATED = 32,110 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION	
S501	57		7'-7"	X		SLAB AT ABUTMENTS - TIES	VERT.
S502	2		8'-7"	X		SLAB AT W. ABUT. - TIES (NEAR WINGS 1 & 2)	VERT.
S503	1		7'-1"	X		SLAB AT E. ABUT. - TIES (NEAR WING 3)	VERT.
S504	1		8'-3"	X		SLAB AT E. ABUT. - TIES (NEAR WING 3)	VERT.
S505	1		9'-11"	X		SLAB AT E. ABUT. - TIES (NEAR WING 4)	VERT.
S506	1		8'-9"	X		SLAB AT E. ABUT. - TIES (NEAR WING 4)	VERT.
S507	57		3'-4"	X		SLAB AT ABUTMENTS - TIES (W/ S501)	VERT.
S408	24		3'-4"	X		SLAB AT E. ABUT. - TIES AT ABUT. NOTCH	VERT.
S409	2		27'-3"			SLAB AT E. ABUT. - TIES AT ABUT. NOTCH	TRANS.
S510	170		19'-11"			SLAB SPAN 1 - TOP & BOT.	TRANS.
S511	85		34'-10"			SLAB SPAN 2 - TOP & BOT.	TRANS.
S912	57		28'-3"			SLAB - BOT. IN SPANS 1 & 2	LONGIT.
S913	57		40'-1"			SLAB - BOT. IN SPANS 1 & 2	LONGIT.
S914	5		28'-11"			SLAB - BOT. IN SPAN 1 (FLARE AREA)	LONGIT.
S915	5		40'-11"			SLAB - BOT. IN SPAN 1 (FLARE AREA)	LONGIT.
S916	1		41'-1"	X		SLAB - BOT. IN SPAN 1 (FLARE AREA)	LONGIT.
S517	27		20'-0"			SLAB - TOP IN SPAN 1	LONGIT.
S518	27		19'-7"			SLAB - TOP IN SPAN 2	LONGIT.
S1019	47		30'-8"			SLAB - TOP OVER PIER	LONGIT.
S1020	1		30'-8"			SLAB - TOP OVER PIER (FLARE AREA)	LONGIT.
S1021	1		30'-10"	X		SLAB - TOP OVER PIER (FLARE AREA)	LONGIT.
S1022	1		30'-10"	X		SLAB - TOP OVER PIER (FLARE AREA)	LONGIT.
S1023	1		31'-0"	X		SLAB - TOP OVER PIER (FLARE AREA)	LONGIT.
S1024	1		30'-11"	X		SLAB - TOP OVER PIER (FLARE AREA)	LONGIT.
S1025	1		31'-2"	X		SLAB - TOP OVER PIER (FLARE AREA)	LONGIT.
S1026	1		31'-0"	X		SLAB - TOP OVER PIER (FLARE AREA)	LONGIT.
S627	54		11'-6"	X		SLAB - TOP AT RAIL POSTS	TRANS.
S628	92		6'-0"			SLAB - TOP AT INTERIOR RAIL POSTS	LONGIT.
S629	16		4'-8"	X		SLAB - TOP AT END RAIL POSTS	LONGIT.

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

ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.

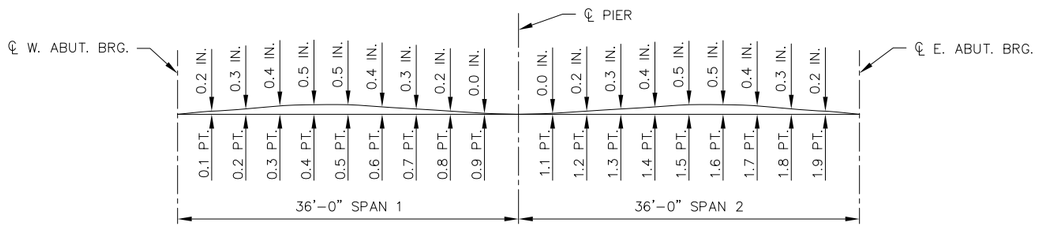
SURVEY TOP OF SLAB ELEVATIONS

	℄ W. ABUT. BRG.	SPAN 1 5/10 PT.	℄ PIER	SPAN 2 5/10 PT.	℄ E. ABUT. BRG.
NORTH SLAB EDGE					
℄ DORWIN'S MILL RD					
SOUTH SLAB EDGE					

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

NOTE

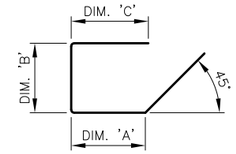
CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.



SLAB CAMBER DIAGRAM

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

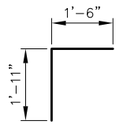
	TOP OF SLAB ELEVATION AT FINAL GRADE
LESS	SLAB THICKNESS
PLUS	CAMBER
PLUS	FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
EQUALS	TOP OF SLAB FALSEWORK ELEVATION.



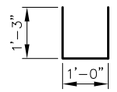
S501, S502 S503, S504, S505 & S506

BAR BEND TABLE #1

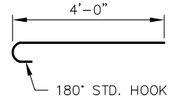
MARK	DIM 'A'	DIM 'B'	DIM 'C'
S501	2'-4"	1'-0"	2'-6"
S502	2'-4"	2'-0"	2'-6"
S503	1'-7"	2'-0"	1'-9"
S504	2'-2"	2'-0"	2'-4"
S505	3'-0"	2'-0"	3'-2"
S506	2'-5"	2'-0"	2'-7"



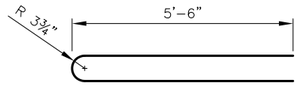
S507



S408



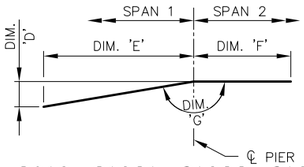
S629



S627

BAR BEND TABLE #2

MARK	DIM 'D'	DIM 'E'	DIM 'F'	DIM 'G'
S916	1'-7"	38'-3"	2'-10"	178.0°
S1021	0'-3"	20'-0"	10'-10"	179.3°
S1022	0'-2"	11'-0"	19'-10"	178.9°
S1023	0'-6"	20'-2"	10'-10"	178.6°
S1024	0'-4"	11'-1"	19'-10"	178.2°
S1025	0'-9"	20'-4"	10'-10"	177.9°
S1026	0'-6"	11'-2"	19'-10"	177.5°



S916, S1021, S1022, S1023, S1024, S1025 & S1026

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-46-57

DRAWN BY CDS | PLANS CK'D ACK

SUPERSTRUCTURE REINFORCEMENT

SHEET 14 OF 15

53

8

8

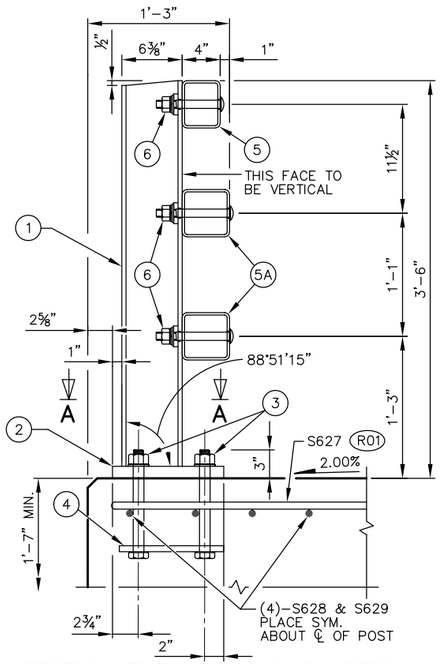
FILE: B460057_11-14_super.dwg
PLOT SCALE:

I.D. 7868-00-70

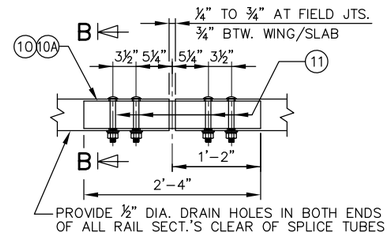
PLOT DATE: Apr 09, 2025

STATE PROJECT NUMBER

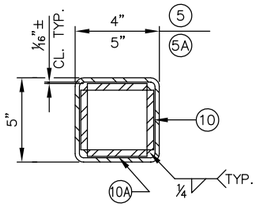
7868-00-70



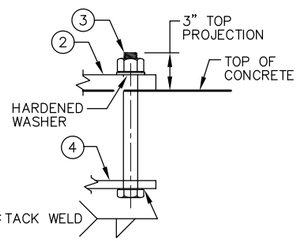
SECTION THRU RAILING ON DECK



FIELD ERECTION JOINT DETAIL

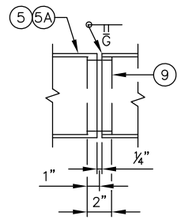


SECTION B-B



ANCHOR BOLTS

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



SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)

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. USE 10¾" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTABILITY.)

(4) ⅝" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 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.)

(9) SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".

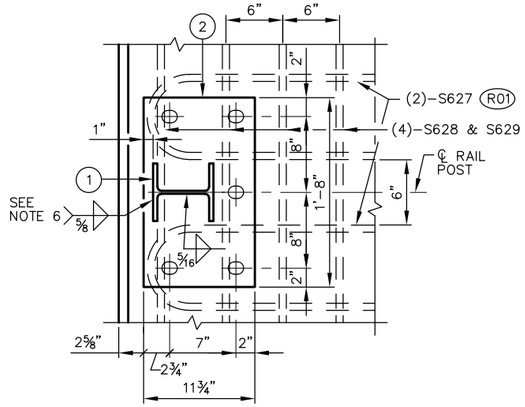
(10) ⅜" x 3⅝" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.

(10A) ⅜" x 2⅝" x 2'-4" PLATE USED IN NO. 5, ⅜" x 3⅝" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.

(11) ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE ¹⁵⁄₁₆" x 1¼" LONGIT. SLOTTED HOLES IN PLATE NO. 10A. AT FIELD JOINTS AND ¹⁵⁄₁₆" x 2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A. PROVIDE ¹⁵⁄₁₆" DIA. ROUND HOLES IN TUBES NO. 5 AND NO. 5A.

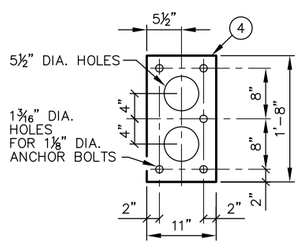
NOTES

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 1/8 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 S.S.P.C. SPECIFICATIONS.



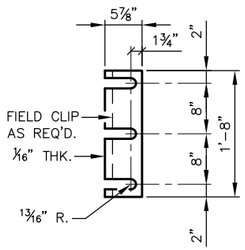
SECTION A-A

R01 TIE TO TOP MAT OF STEEL.

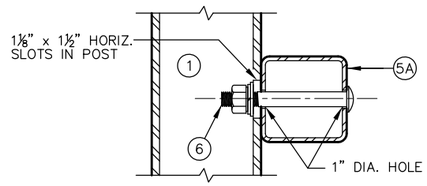


ANCHOR PLATE

AT RAIL TO DECK CONNECTION



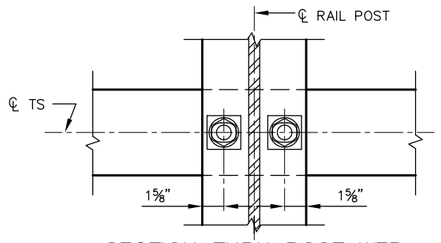
POST SHIM DETAIL



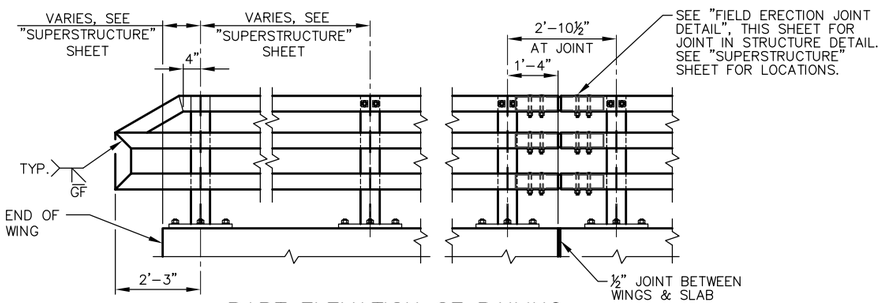
SECTION THRU RAIL

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

TYPICAL RAIL TO POST CONNECTIONS



SECTION THRU POST WEB



PART ELEVATION OF RAILING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-46-57

DRAWN BY CDS | PLANS CK'D ACK

RAILING TUBULAR TYPE M

SHEET 15 OF 15

54

I.D. 7868-00-70

PLOT DATE: Apr 09, 2025

FILE: B460057_15_mrail.dwg
PLOT SCALE:

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STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
					NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 4
12+64.26	0.00	51.47	14.00	0.00	0	0	0	0	0	0
12+75.00	10.74	53.94	14.00	0.00	21	6	0	21	0	15
12+99.26	24.26	49.36	14.25	0.00	46	13	0	67	0	48
13+13.46	14.20	24.24	10.50	0.00	19	7	0	86	0	60
STRUCTURE B-46-0057										
			DIVISION 1 TOTAL		86	26	0			

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
					NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 4
STRUCTURE B-46-0057										
13+88.86	0.00	20.20	10.50	0.00	0	0	0	0	0	0
14+00.00	11.14	52.87	13.50	0.00	15	5	0	15	0	10
14+25.00	25.00	51.23	14.00	0.00	48	13	0	63	0	45
14+38.09	13.09	62.66	15.00	0.00	28	7	0	91	0	66
			DIVISION 2 TOTAL		91	25	0			
			PROJECT TOTAL		177	51	0			

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 - MASS ORDINATE	[(CUT) - (FILL*FILL FACTOR) - (SALVAGED/UNUSABLE PAVEMENT MATERIAL)]
	PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

9

9

PROJECT NO: 7868-00-70 | HWY: DORWINS MILL ROAD | COUNTY: PEPIN | EARTHWORK DATA | SEET 55 | E

STA. 12+99, LT
RECONSTRUCT
20' P.E. (B.A.D.)

EX RW

6.3% 2.0% 0.6% 2.4% 2.4%

766.74 -30.25
766.72 -16.50
766.18 -16.25
766.20 -12.00
766.27 0.00
765.98 12.00
765.88 16.25
EX RW

12+99.00

STA. 12+64.26
BEGIN PROJECT
MATCH EXISTING
SAWCUT REQUIRED

EX RW

1.0% 1.4% 1.8% 4.3% 4.3% 10.0%

768.45 -17.00
767.13 -16.25
767.05 -12.00
766.83 0.00
766.31 12.00
765.92 21.04
765.38 26.40
FO
EX RW

12+75.00

EX RW

FO
EX RW

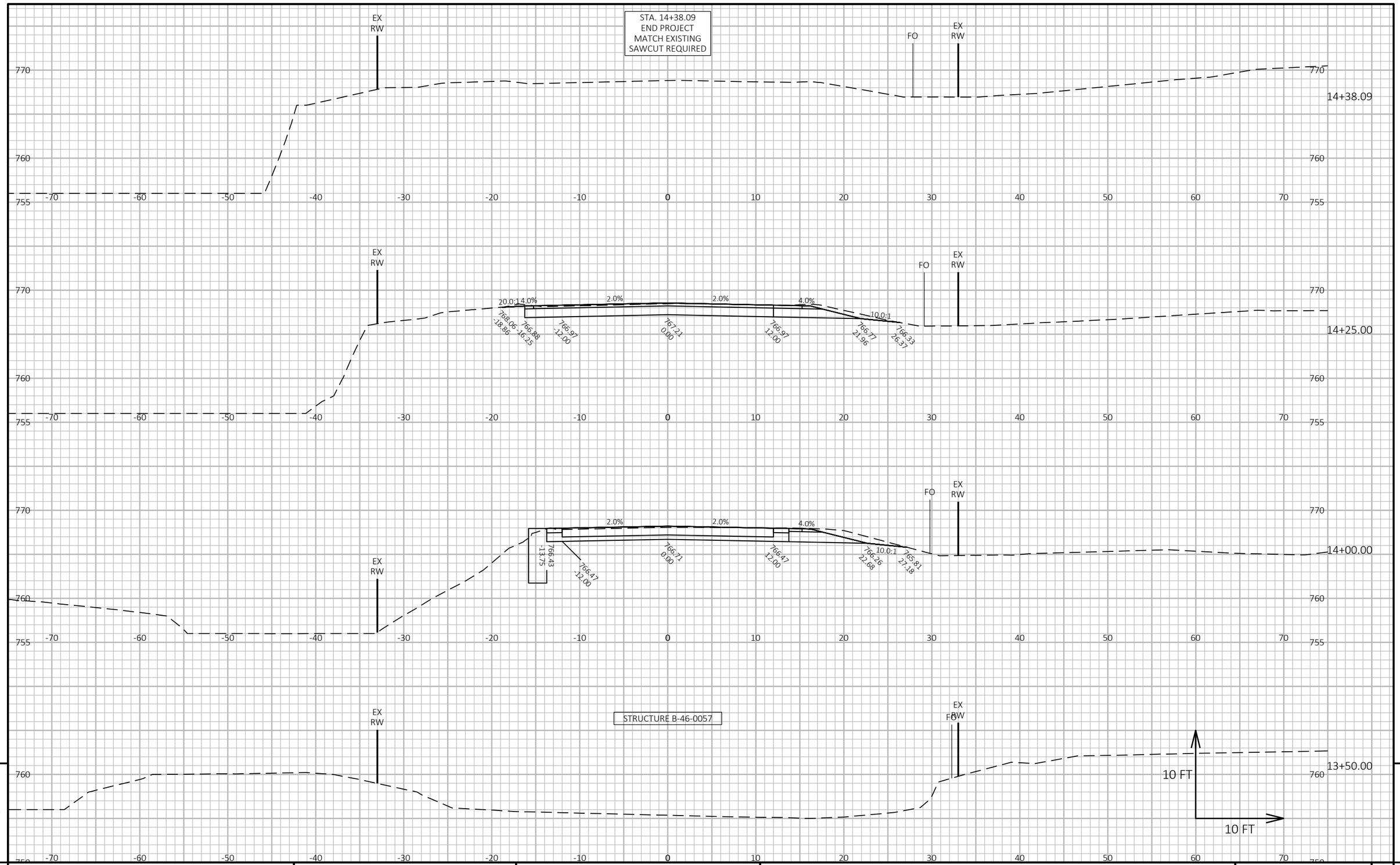
12+64.26

10 FT
10 FT

770 760 750
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9 9

PROJECT NO: 7868-00-70	HWY: DORWINS MILL ROAD	COUNTY: PEPIN	CROSS SECTIONS	SHEET 56	E



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PROJECT NO: 7868-00-70	HWY: DORWINS MILL ROAD	COUNTY: PEPIN	CROSS SECTIONS	SHEET 57	E

FILE NAME : G:\00-PROJECT FILES\2023\23194 ID 7868-00-00, T OF DURAND, DORWINS MILL RD, BEAR CREEK BRIDGE, PEPIN COUNTY\0-CAD\SHEETS\090201_XS.DWG
LAYOUT NAME - 090202_xs

PLOT DATE : 6/16/2025 3:07 PM

PLOT BY : GAVIN WIPPERFURTH

PLOT NAME :

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

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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