

GRE DECEMBER 2025

PROJECT ID:
WITH: N/A

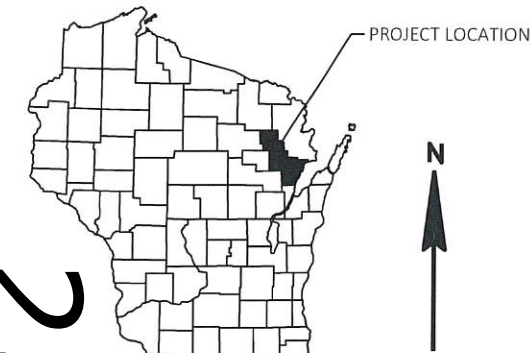
9068-00-01

COUNTY:
OCONTO

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 = 52



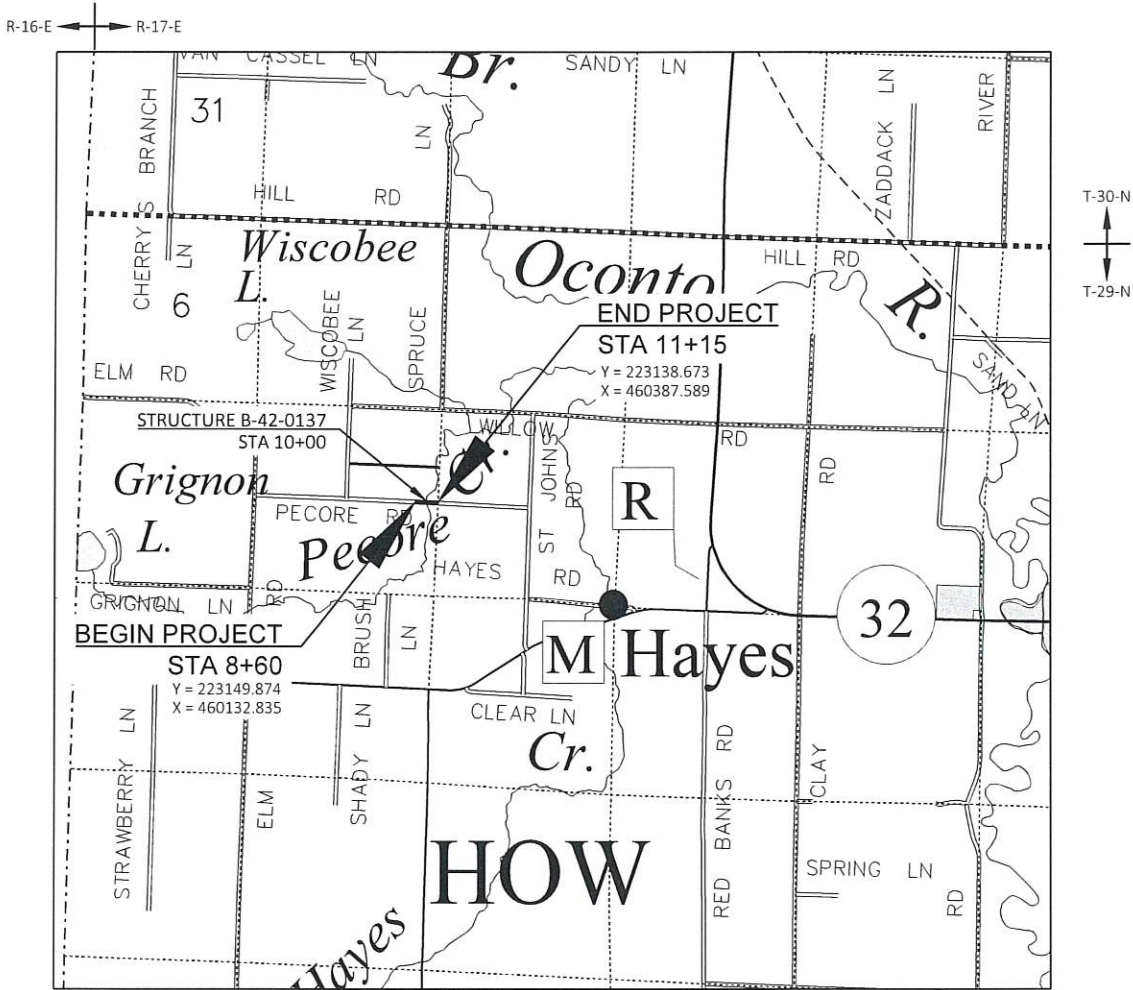
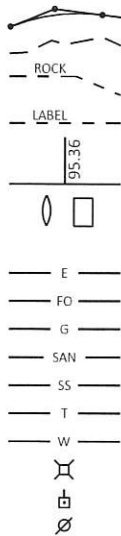
DESIGN DESIGNATION

A.A.D.T.	2026	=	60
A.A.D.T.	2046	=	70
D.H.V.		=	-
D.D.		=	50/50
T.		=	3.5
DESIGN SPEED		=	25 MPH
ESALS		=	-

CONVENTIONAL SYMBOLS

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

PROFILE	
GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	



LAYOUT
SCALE 0 1 MI
TOTAL NET LENGTH OF CENTERLINE = 0.048 MI.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T HOW, PECORE ROAD

PECORE CREEK BRIDGE

LOC STR
OCONTO COUNTY

STATE PROJECT NUMBER
9068-00-01

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9068-00-01	WISC2026086	1

ACCEPTED FOR
OCONTO COUNTY

7/28/2025
DATE
HIGHWAY COMMISSIONER

ORIGINAL PLANS PREPARED BY

AYRES

WISCONSIN
KRISTOFER R. OLSON
E-35236
APPLETON, WI
PROFESSIONAL ENGINEER
7/25/2025
(Date)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor
Designer
Project Manager
Regional Supervisor

APPROVED FOR THE DEPARTMENT
DATE: 7/28/2025
(Signature)

E

UTILITIES CONTACTS

OCONTO ELECTRIC COOP
ELECTRIC
SAMANTHA SALESKY
7479 RAE ROAD
OCONTO, WI 54154
PHONE: 920-846-2816
EMAIL: SSALESKY@OCONTOELECTRIC.COM

LUMEN
COMMUNICATIONS
KYLE SCHLAMPP
20 S WILSON AVE
RICE LAKE, WI 54868
PHONE: 715-292-0082
EMAIL: KYLE.SCHLAMPP@LUMEN.COM

WISCONSIN DNR LIAISON

JIM DOPERALSKI
CENTRAL REGION
2984 SHAWANO AVE
GREEN BAY, WI 54313
PHONE: 920-412-0165
EMAIL: JAMES.DOPERALSKI@WISCONSIN.GOV

TOWN OF HOW

BILL BARTZ, JR.
CHAIRMAN
14410 CEDAR LANE
SURING, WI 54174
PHONE: 920-842-4584
EMAIL: TOWNOFHOW@YAHOO.COM

AYRES ASSOCIATES

KRISTOFER OLSON, PE
STRUCTURAL ENGINEER
700 PILGRIM WAY, SUITE 180
GREEN BAY, WI 54304
PHONE: 920-498-1200
EMAIL: OLSONK@AYRESASSOCIATES.COM

WIS. DEPT OF TRANSPORTATION

ERIK BRATTLUND
NORTHEAST REGION
944 VANDERPERREN WAY
GREEN BAY, WI 54304
PHONE: 920-492-4144
EMAIL: ERIK.BRATTLUND@DOT.WI.GOV

COUNTY HIGHWAY COMMISSIONER

BRANDON HYTINEN
OCONTO COUNTY
202 VAN DYKE STREET
OCONTO, WI 54153
PHONE: 920-834-6886
EMAIL: BRANDON.HYTINEN@CO.OCONTO.WI.US

GENERAL NOTES

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

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

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

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT APPROXIMATE LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR’S EROSION CONTROL IMPLEMENTATION PLAN (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.

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

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

BEARINGS SHOWN ON THE PLAN ARE TRUE BEARINGS.

ALL TIES ON THIS PLAN ARE HORIZONTAL UNLESS DESCRIBED OTHERWISE.

WISDOT WILL FURNISH A BENCHMARK MONUMENT TO BE SET BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER IN THE FIELD.

RUNOFF COEFFICIENT TABLE

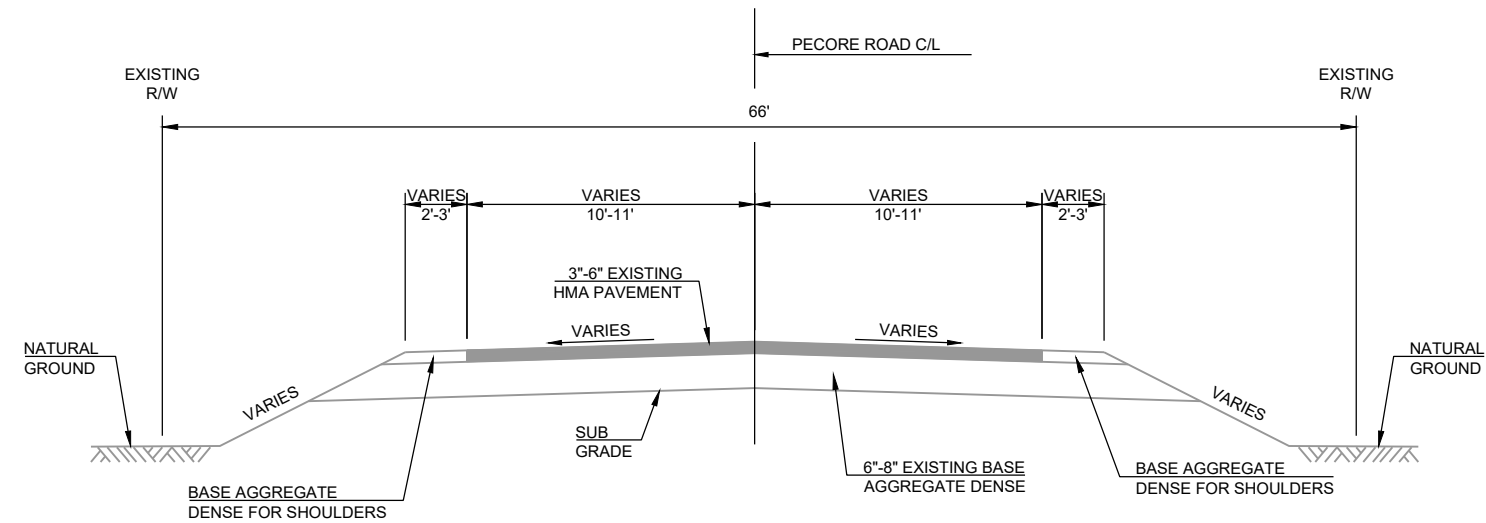
LAND USE:	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS:	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIPTURF:	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPETURF:			.25			.27			.28			.30
			.32			.34			.36			.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 = 0.386 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.294 ACRES

DIGGERSHOTLINE

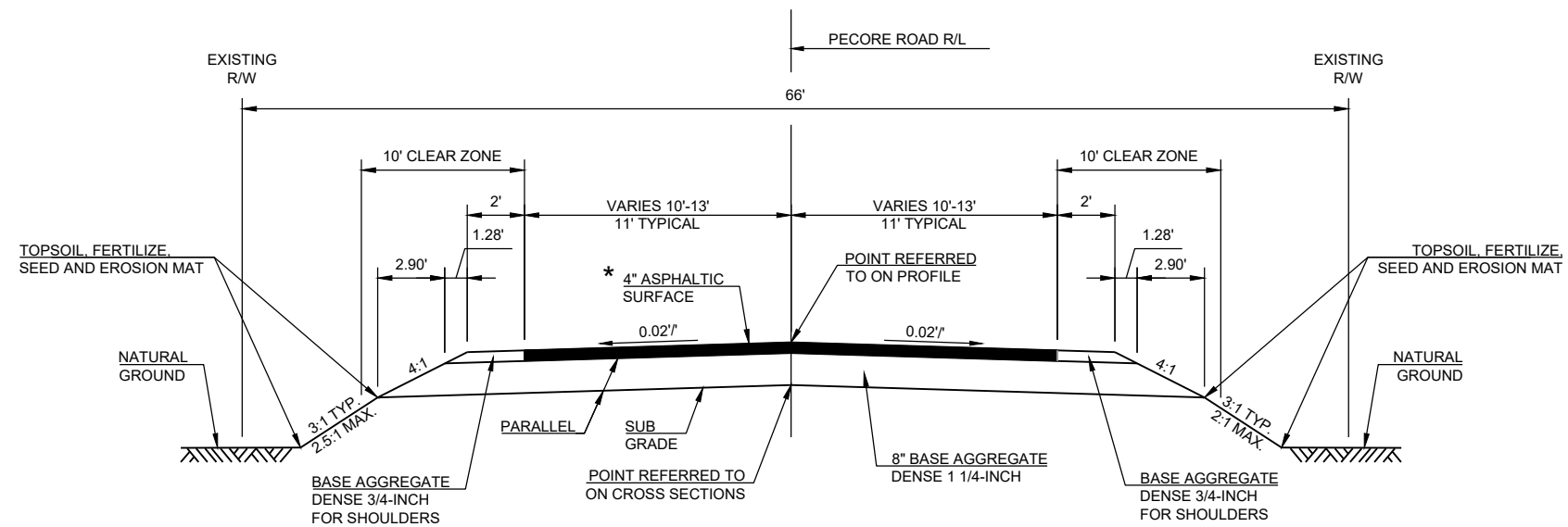
Dial 811 or (800)242-8511

www.DiggersHotline.com



EXISTING TYPICAL SECTION FOR PECORE ROAD

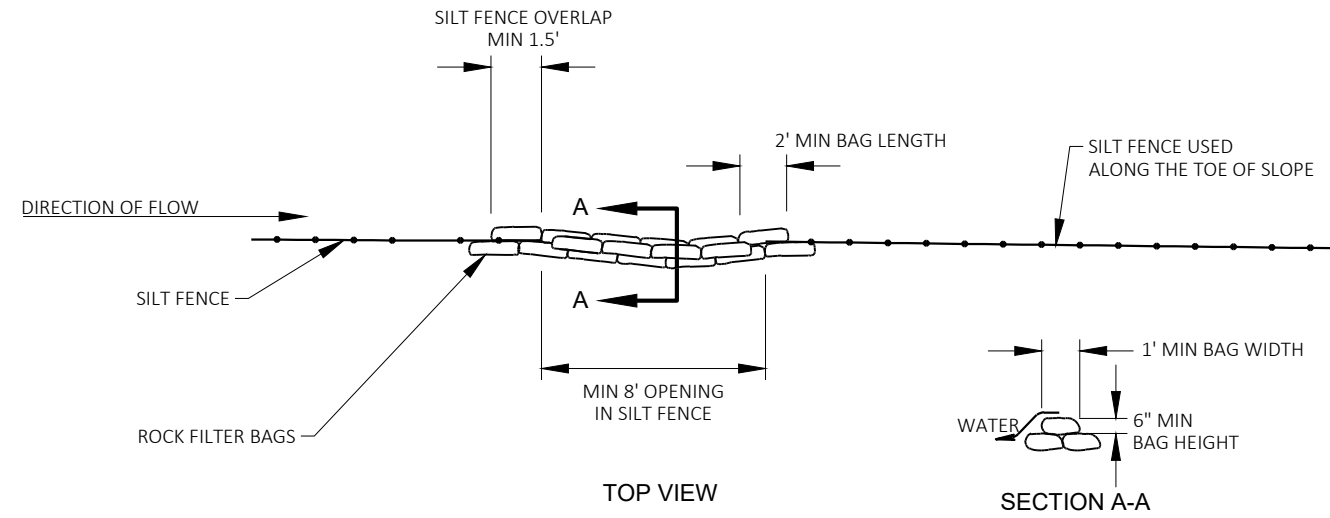
STA. 8+60 - STA. 11+15



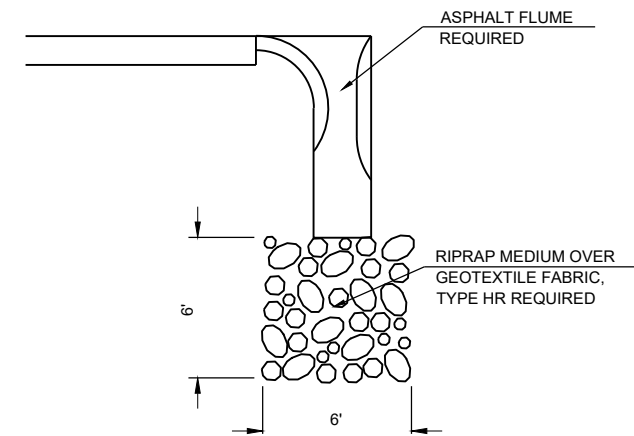
FINISHED TYPICAL SECTION FOR PECORE ROAD

STA. 8+60 - STA. 9+79.8
STA. 10+20.3 - STA. 11+15

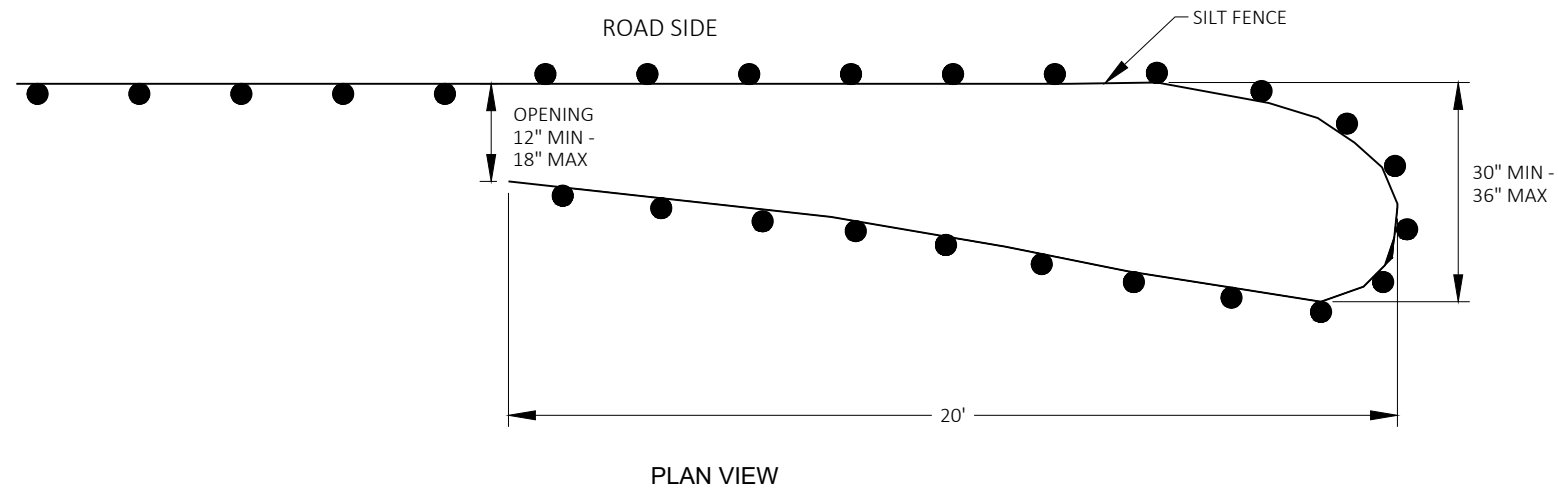
PAVEMENT LAYERS	
* 4" ASPHALTIC SURFACE	1.75" UPPER LAYER 2.25" LOWER LAYER



ROCK BAGS USED FOR SILT FENCE RELIEF



RIPRAP MEDIUM AT ASPHALT FLUME
(SEE MISCELLANEOUS QUANTITIES FOR LOCATION)

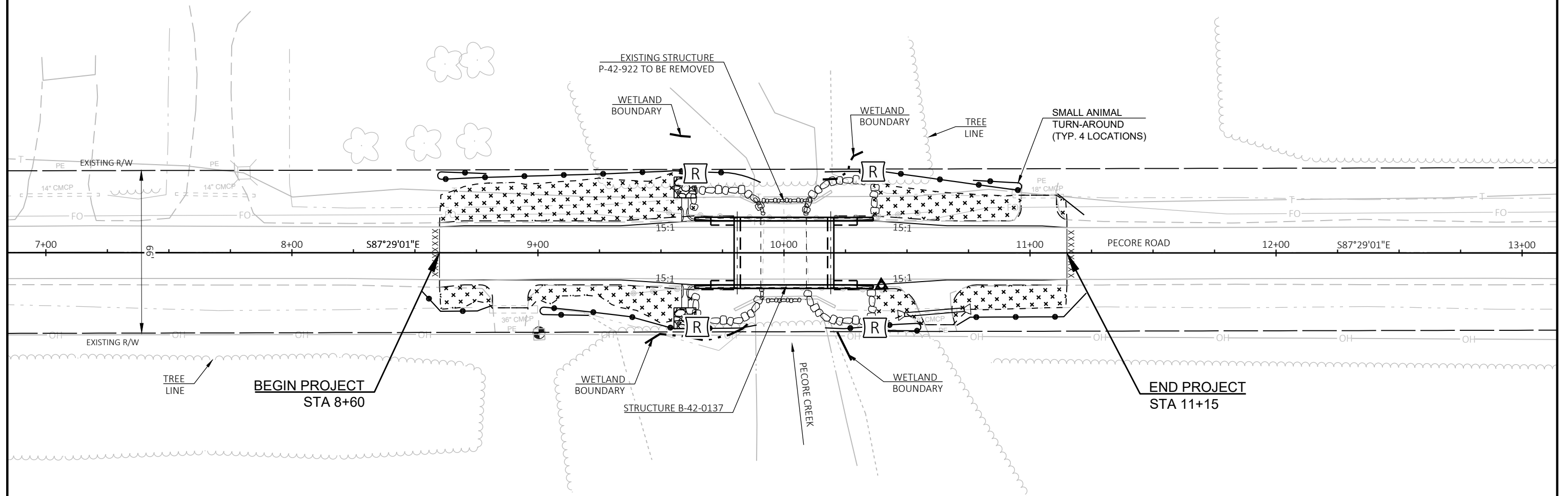


TEMPORARY SMALL ANIMAL TURN-AROUND

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

LEGEND

-  EROSION MAT URBAN CLASS I, TYPE B
-  SILT FENCE
-  SLOPE INTERCEPT
-  MEDIUM RIP RAP
-  ROCK BAGS



Estimate Of Quantities

9068-00-01

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	4.000	4.000
0004	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0006	203.0220	Removing Structure (structure) 01. P-42-922	EACH	1.000	1.000
0008	204.0165	Removing Guardrail	LF	225.000	225.000
0010	205.0100	Excavation Common	CY	143.000	143.000
0012	206.1001	Excavation for Structures Bridges (structure) 01. B-42-0137	EACH	1.000	1.000
0014	206.5001	Cofferdams (structure) 01. B-42-0137	EACH	1.000	1.000
0016	208.0100	Borrow	CY	59.000	59.000
0018	210.1500	Backfill Structure Type A	TON	400.000	400.000
0020	213.0100	Finishing Roadway (project) 01. 9068-00-01	EACH	1.000	1.000
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	45.000	45.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	380.000	380.000
0026	455.0605	Tack Coat	GAL	40.000	40.000
0028	465.0105	Asphaltic Surface	TON	130.000	130.000
0030	465.0315	Asphaltic Flumes	SY	8.000	8.000
0032	502.0100	Concrete Masonry Bridges	CY	186.000	186.000
0034	502.3200	Protective Surface Treatment	SY	120.000	120.000
0036	502.3210	Pigmented Surface Sealer	SY	75.000	75.000
0038	505.0400	Bar Steel Reinforcement HS Structures	LB	3,980.000	3,980.000
0040	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	22,100.000	22,100.000
0042	516.0500	Rubberized Membrane Waterproofing	SY	18.000	18.000
0044	521.1018	Apron Endwalls for Culvert Pipe Steel 18-Inch	EACH	2.000	2.000
0046	521.3118	Culvert Pipe Corrugated Steel 18-Inch	LF	24.000	24.000
0048	550.2104	Piling CIP Concrete 10 3/4 X 0.25-Inch	LF	1,540.000	1,540.000
0050	606.0100	Riprap Light	CY	30.000	30.000
0052	606.0200	Riprap Medium	CY	4.000	4.000
0054	606.0300	Riprap Heavy	CY	160.000	160.000
0056	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	140.000	140.000
0058	619.1000	Mobilization	EACH	1.000	1.000
0060	624.0100	Water	MGAL	10.000	10.000
0062	625.0100	Topsoil	SY	450.000	450.000
0064	628.1504	Silt Fence	LF	600.000	600.000
0066	628.1520	Silt Fence Maintenance	LF	1,200.000	1,200.000
0068	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0070	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0072	628.2008	Erosion Mat Urban Class I Type B	SY	450.000	450.000
0074	628.7570	Rock Bags	EACH	75.000	75.000
0076	629.0210	Fertilizer Type B	CWT	1.000	1.000
0078	630.0120	Seeding Mixture No. 20	LB	5.000	5.000
0080	630.0500	Seed Water	MGAL	10.000	10.000
0082	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0084	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0086	638.2602	Removing Signs Type II	EACH	2.000	2.000
0088	638.3000	Removing Small Sign Supports	EACH	2.000	2.000
0090	642.5001	Field Office Type B	EACH	1.000	1.000
0092	643.0420	Traffic Control Barricades Type III	DAY	1,420.000	1,420.000
0094	643.0705	Traffic Control Warning Lights Type A	DAY	1,704.000	1,704.000
0096	643.0900	Traffic Control Signs	DAY	923.000	923.000
0098	643.5000	Traffic Control	EACH	1.000	1.000

Estimate Of Quantities

9068-00-01					
Line	Item	Item Description	Unit	Total	Qty
0100	645.0111	Geotextile Type DF Schedule A	SY	50.000	50.000
0102	645.0120	Geotextile Type HR	SY	313.000	313.000
0104	650.4500	Construction Staking Subgrade	LF	215.000	215.000
0106	650.5000	Construction Staking Base	LF	215.000	215.000
0108	650.6501	Construction Staking Structure Layout (structure) 01. B-42-0137	EACH	1.000	1.000
0110	650.9911	Construction Staking Supplemental Control (project) 01. 9068-00-01	EACH	1.000	1.000
0112	650.9920	Construction Staking Slope Stakes	LF	215.000	215.000
0114	690.0150	Sawing Asphalt	LF	42.000	42.000
0116	715.0502	Incentive Strength Concrete Structures	DOL	1,116.000	1,116.000
0118	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	300.000	300.000
0120	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	150.000	150.000
0122	SPV.0060	Special 01. Boulder Retards	EACH	8.000	8.000

EARTHWORK SUMMARY

Division	From/To Station	Location	Common Excavation (item #205.0100)	Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate +/- (14)	208.0100 Borrow	Waste
			Cut (1)				Factor 1.25			
0010	8+60 - 11+15	PECORE ROAD	143	81	62	97	121	-59	59	81
Division 0010 Totals			143	81	62	97	121	-59	59	81

- 1) Unsuable Pavement Material is included in Cut
- 4) Unusable Pavement Material = Existing Asphaltic Pavement.
- 5) Available Material = Cut - Unusuable Pavement Material
- 13) Expanded Fill. Factor = 1.25 Expanded Fill = Unexpanded Fill * Fill Factor
- 14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material w ithin the Division.
 Minus indicates a shortage of material w ithin the Division.
- * Factors used to compute anticipated fill and waste volume are for general information only.

GRUBBING

REMOVE CULVERTS

REMOVING GUARDRAIL

STATION TO		STATION	LOCATION	201.0205 GRUBBING STA
8+00	-	12+00	PECORE ROAD	4
TOTAL 0010				4

STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	REMARKS
10+61	PECORE ROAD, RT	1	20' - 18" CMCP
TOTAL 0010		1	

				204.0165
				REMOVING
				GUARDRAIL
STATION	TO	STATION	LOCATION	LF
9+48	-	10+61	PECORE ROAD, LT	114
9+36	-	10+47	PECORE ROAD, RT	111
TOTAL 0010				225

BASE AGGREGATES DENSE AND WATER

ASPHALTIC SURFACE

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	REMARKS
8+60	-	9+80	PECORE ROAD	20	200	5	WEST APPROACH
10+20	-	11+15	PECORE ROAD	25	180	5	EAST APPROACH
TOTAL 0010				45	380	10	

				455.0605	465.0105	
				TACK COAT	ASPHALTIC	
STATION	TO	STATION	LOCATION	GAL	TON	REMARKS
8+60	-	9+80	PECORE ROAD	22	70	WEST APPROACH
10+20	-	11+15	PECORE ROAD	18	60	EAST APPROACH
TOTAL 0010				40	130	

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

3

3

SILT FENCE					
				628.1504	628.1520
				SILT FENCE	SILT FENCE
STATION	TO	STATION	LOCATION	LF	MAINTENANCE LF
8+60	-	9+80	PECORE ROAD, LT	154	308
10+20	-	11+15	PECORE ROAD, LT	116	232
8+60	-	9+80	PECORE ROAD, RT	144	288
10+20	-	11+15	PECORE ROAD, RT	118	236
UNDISTRIBUTED				68	136
TOTAL 0010				600	1,200

MOBILIZATIONS EROSION CONTROL					
STATION	TO	STATION	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
8+60	-	11+15	PECORE ROAD	5	3
TOTAL 0010				5	3

ROCK BAGS			
628.7570			
ROCK BAGS			
STATION	LOCATION	EACH	REMARKS
9+82	PECORE ROAD, LT	15	SILT FENCE RELIEF
10+18	PECORE ROAD, LT	15	SILT FENCE RELIEF
9+82	PECORE ROAD, RT	15	SILT FENCE RELIEF
10+22	PECORE ROAD, RT	15	SILT FENCE RELIEF
	UNDISTRIBUTED	15	
TOTAL 0010		75	

<u>REMOVE SIGN POST</u>				
		638.2602	638.3000	
		REMOVING	REMOVING	
		SIGNS TYPE II	SMALL SIGN	
STATION	LOCATION	EACH	EACH	REMARKS
9+50	PECORE ROAD, RT	1	1	WEIGHT LIMIT SIGN
10+50	PECORE ROAD, LT	1	1	WEIGHT LIMIT SIGN
TOTAL 0010		2	2	

PROJECT NO: 9068-00-01

FILE NAME : N:\PDS\...\030200_mq.pptx PLOT DATE : October 16, 2025 PLOT BY : A.R.H. PLOT NAME : PLOT SCALE : 1:1

TRAFFIC CONTROL SIGNS

LOCATION	APPOXIMATE SERVICE DAYS	643.0420		643.0705		643.0900		REMARKS
		TRAFFIC CONTROL BARRICADES TYPE III	NO. IN SERVICE	NO. IN SERVICE	DAY	DAY	DAY	
WILLOW RD & PECORE RD INTERSECTION	71	2	142	4	284	3	213	(3)
WEST OF WORK ZONE LIMITS	71	2	142	2	142	3	213	(1)
WEST WORK ZONE LIMITS	71	7	497	8	568	2	142	(2)
EAST WORK ZONE LIMITS	71	7	497	8	568	2	142	(2)
EAST OF WORK ZONE LIMITS	71	2	142	2	142	3	213	(1)
ST JOHNS RD & PECORE RD INTERSECTION	71	2	142	4	284	3	213	(4)
TOTAL 0010		1,420		1,704		923		

- (1) SEE BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL C
- (2) SEE BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL D
- (3) SEE BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL C. BRIDGE OUT 0.4 MILES AHEAD AT WILLOW ROAD
- (4) SEE BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL C. BRIDGE OUT 0.5 MILES AHEAD AT ST JOHNS ROAD

SAWING

		690.0150	
		SAWING	
		ASPHALT	
STATION	LOCATION	LF	REMARKS
8+60	PECORE ROAD	21	WEST APPROACH
11+15	PECORE ROAD	21	EAST APPROACH
TOTAL 0010		42	

CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4500	650.5000	650.9920	650.6501.01	650.9911.01
					CONSTRUCTION STAKING SUBGRADE LF	CONSTRUCTION STAKING BASE LF	CONSTRUCTION STAKING SLOPE STAKES LF	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (01. B-42-0137) EACH	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 9068-00-01) EACH
0010	8+60	-	9+80	PECORE ROAD	120	120	120	0	1
0010	10+20	-	11+15	PECORE ROAD	95	95	95	0	0
TOTAL 0010					215	215	215	0	1
0020	10+00			B-42-0137	0	0	0	1	0
TOTAL 0020					0	0	0	1	0
PROJECT TOTAL					215	215	215	1	1

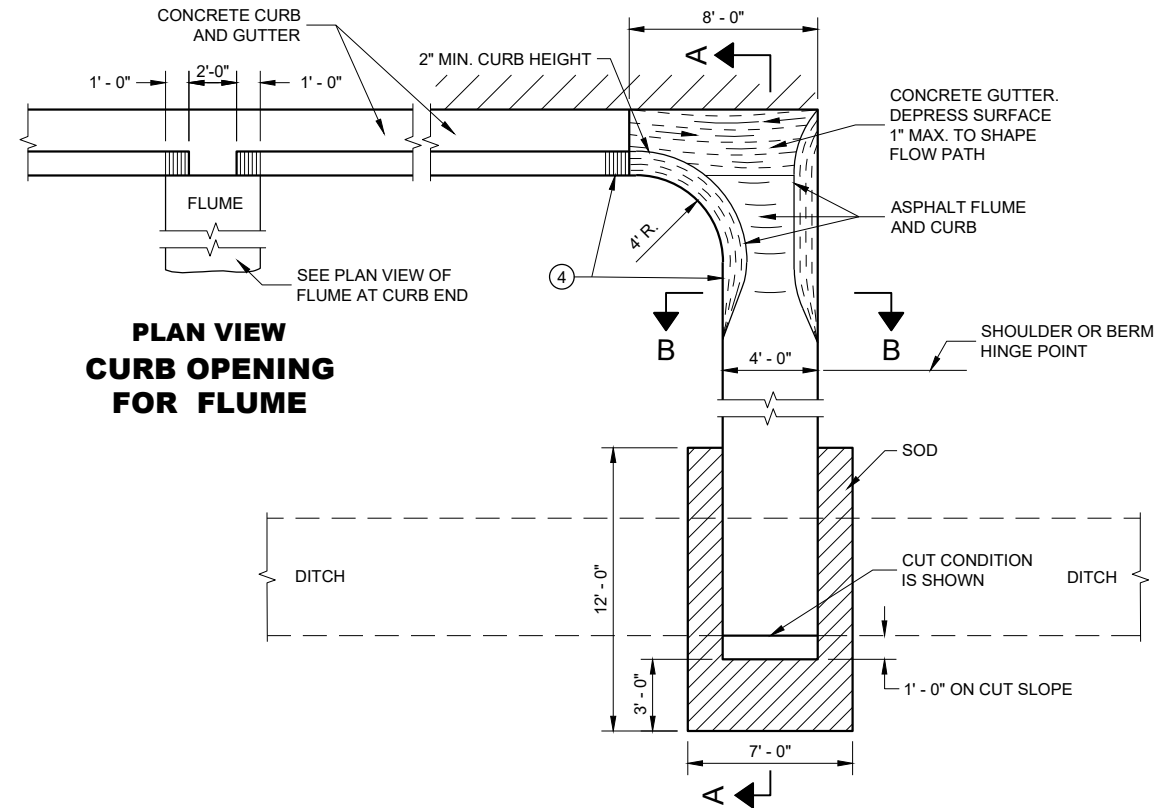
ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

Standard Detail Drawing List

08D04-07	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E09-06	SILT FENCE
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
14B29-01	SAFETY EDGE
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

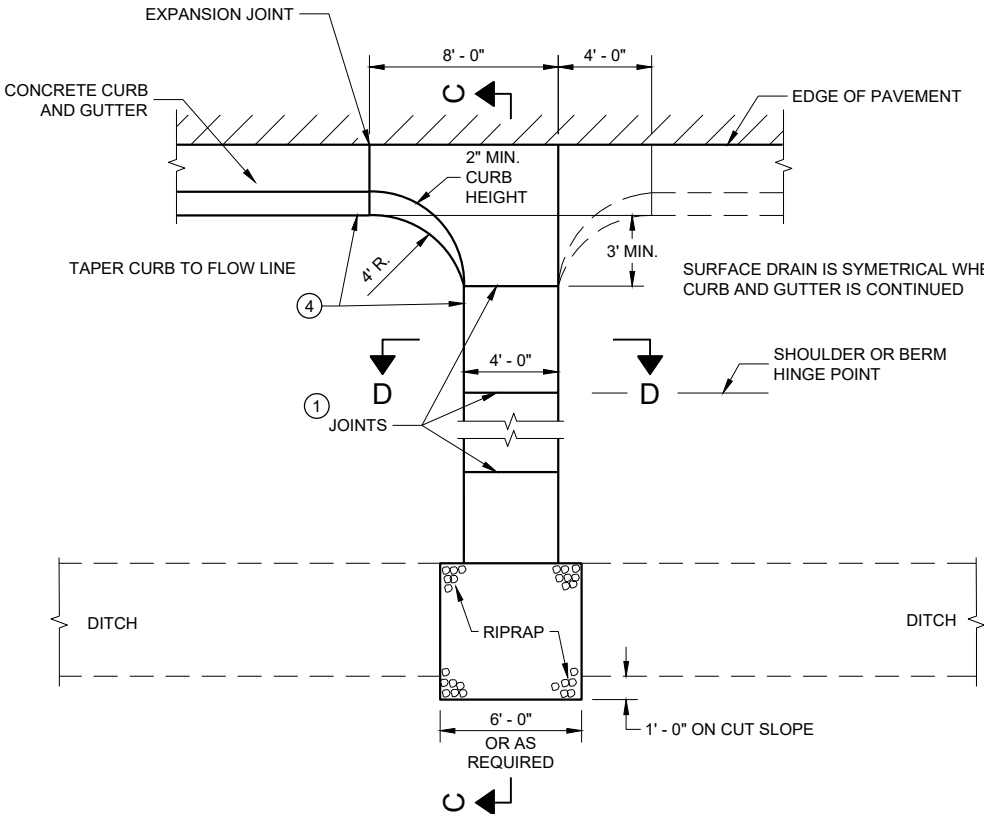
NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

ASPHALTIC FLUME



PLAN VIEW
CURB OPENING
FOR FLUME

PLAN VIEW
FLUME AT CURB END



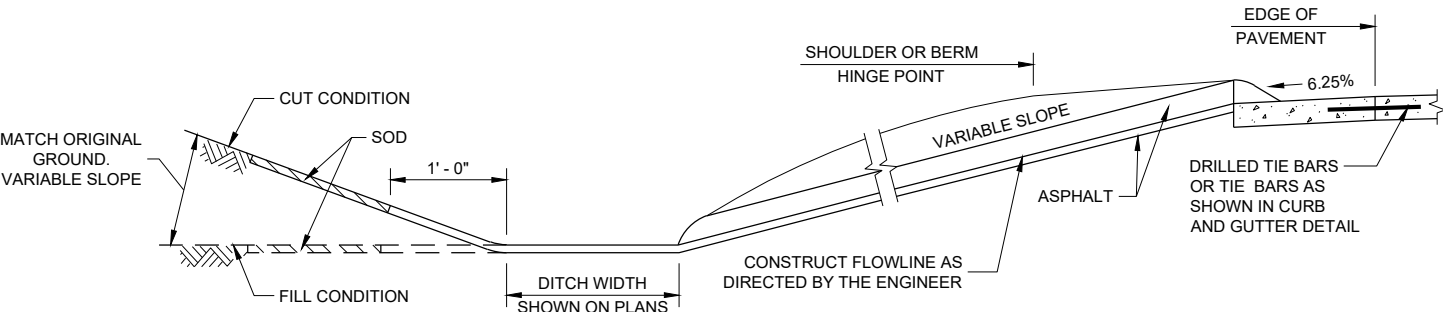
PLAN VIEW
CONCRETE SURFACE DRAIN

GENERAL NOTES

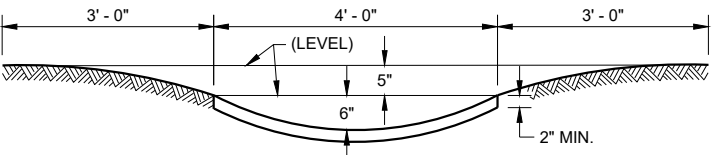
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

4" X 4" - W3.0 X W3.0 CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

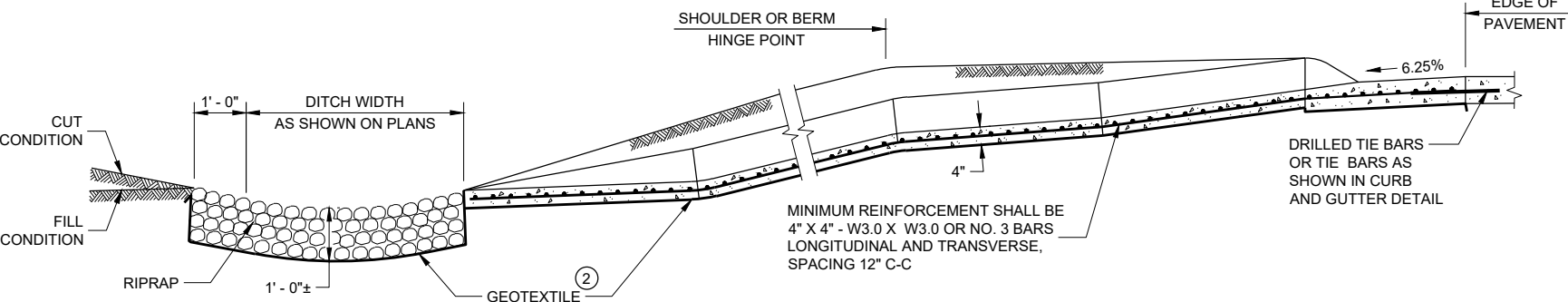
- ① JOINTS SHALL BE 1/8" TO 1/4" WIDE BY 1 1/2" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.
- ④ ANGLE OF FLUME IN RELATION TO BACK OF CURB TO BE CONSTRUCTED PER THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. ANGLE OF FLUME MAY BE OTHER THAN 90 DEGREES AS SHOWN.



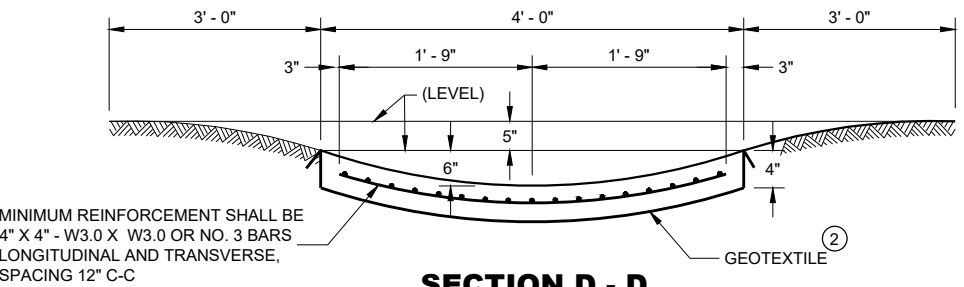
SECTION A - A



SECTION B - B



SECTION C - C

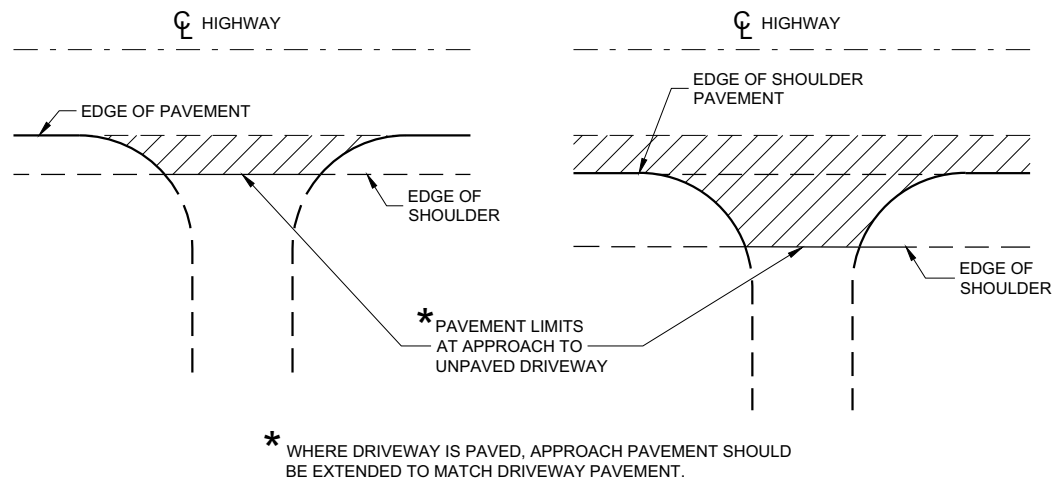


SECTION D - D

CONCRETE SURFACE
DRAINS AND
ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

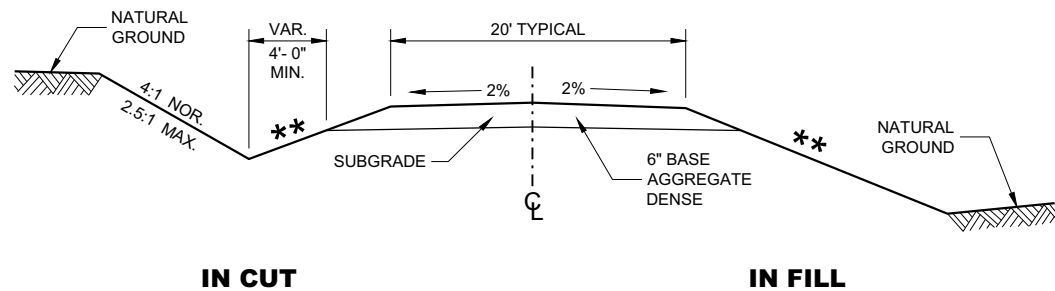
APPROVED
May 2023
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

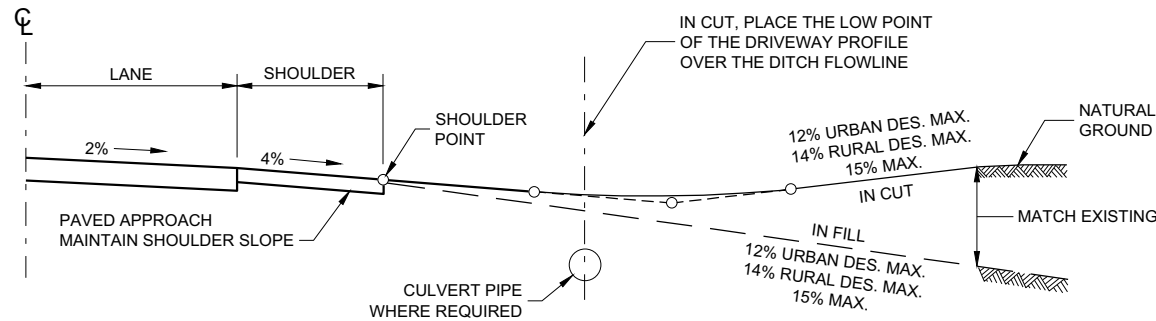
**RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB AND GUTTER OR SIDEWALK)**



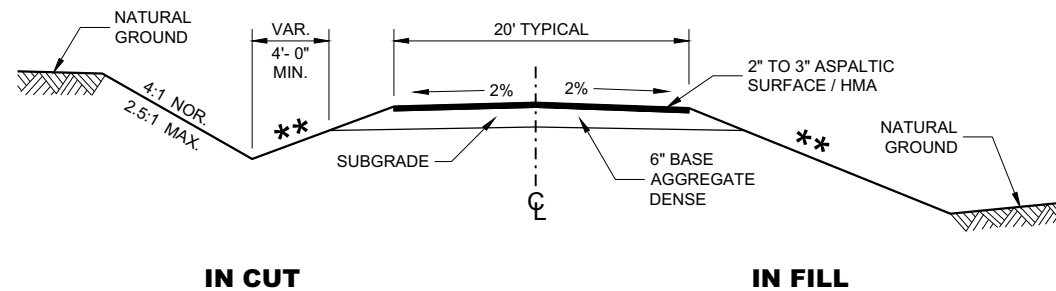
**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
AGGREGATE SURFACE**

****** 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



TYPICAL DRIVEWAY PROFILES



**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 DEVELOPMENT
UNIT SUPERVISOR
FHWA



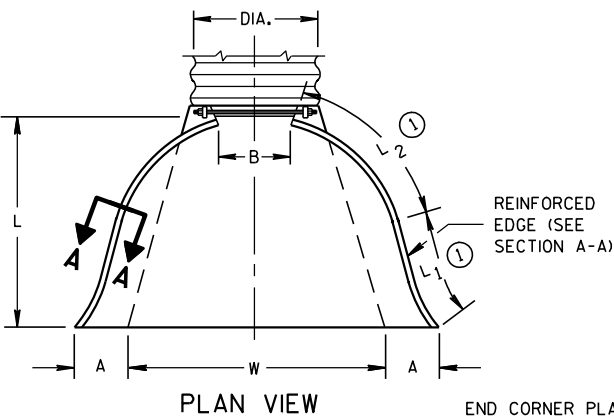
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" 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.



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

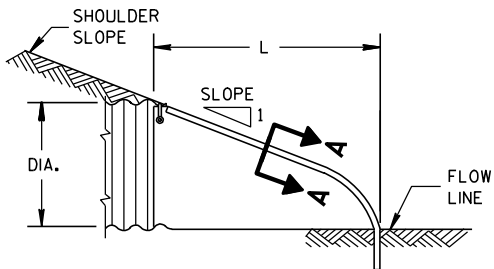
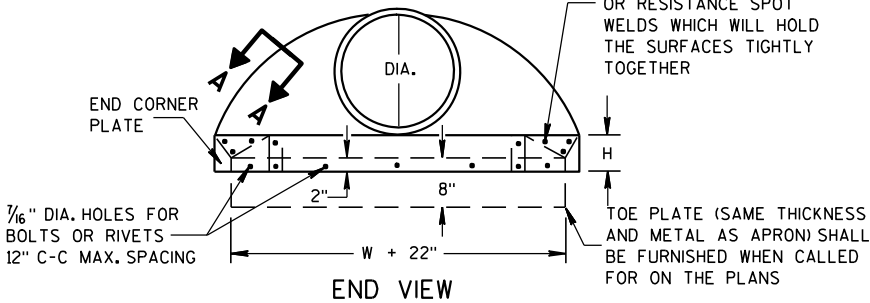
METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE		BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2	Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2	Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3	Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3	Pc.
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3	Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3	Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3	Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3	Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3	Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3	Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3	Pc.

* EXCEPT CENTER PANEL
SEE GENERAL NOTES



END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

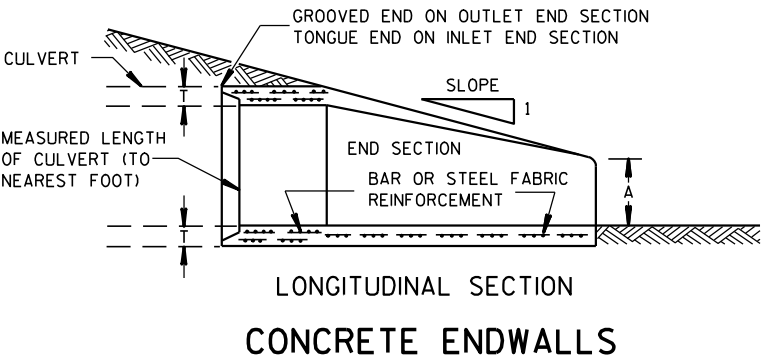
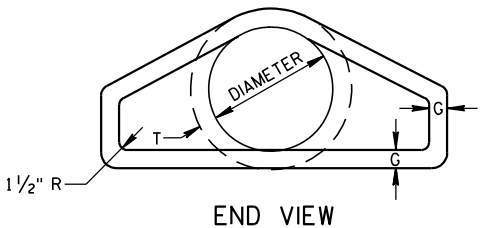
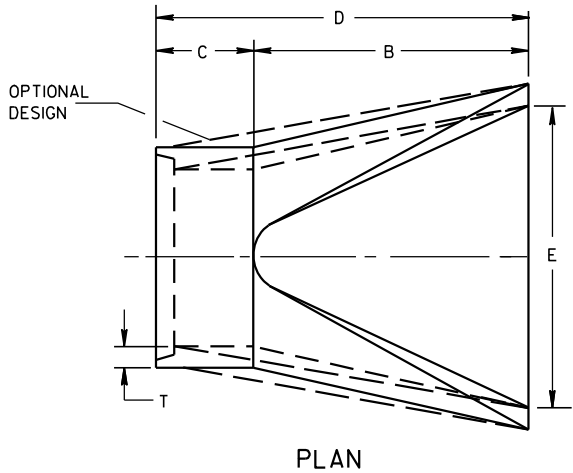
TOE PLATE (SAME THICKNESS AND METAL AS APRON) SHALL BE FURNISHED WHEN CALLED FOR ON THE PLANS



SIDE ELEVATION
METAL ENDWALLS

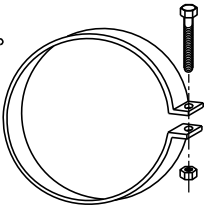
REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 7/8	72 7/8	24	2	3 to 1				
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1				
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1				
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1				
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1				
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1				
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1				
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1				
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1				
48	5	24	72	26	98	84	5	3 to 1				
54	5 1/2	27	65	33 1/4-35	98 1/4-100	90	5 1/2	2 2/5 to 1				
60	6	30-35	60	39	99	96	5	2 to 1				
66	6 1/2	24-30	72-78	21-27	99	102	5 1/2	2 to 1				
72	7	24-36	78	21	99	108	6	2 to 1				
78	7 1/2	24-36	78	21	99	114	6 1/2	2 to 1				
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1				
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1				

* MINIMUM
** MAXIMUM

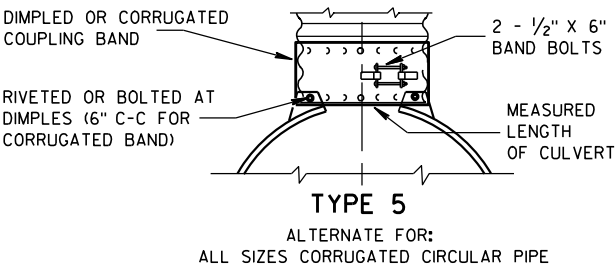
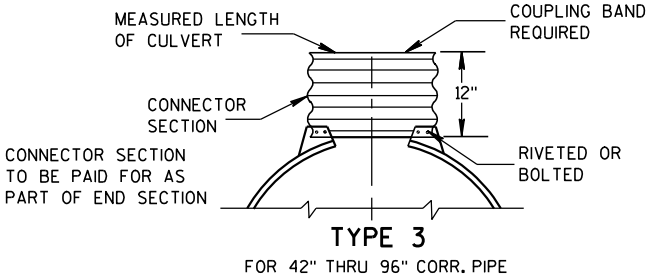
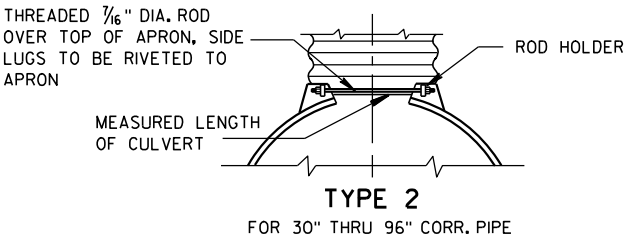
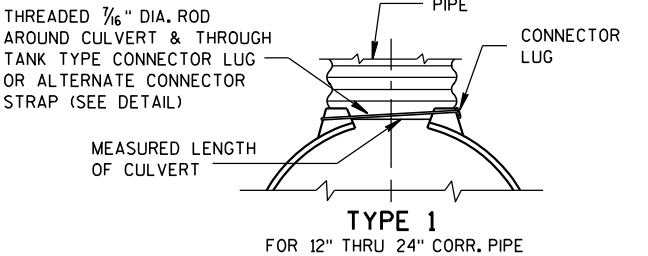


LONGITUDINAL SECTION
CONCRETE ENDWALLS

1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



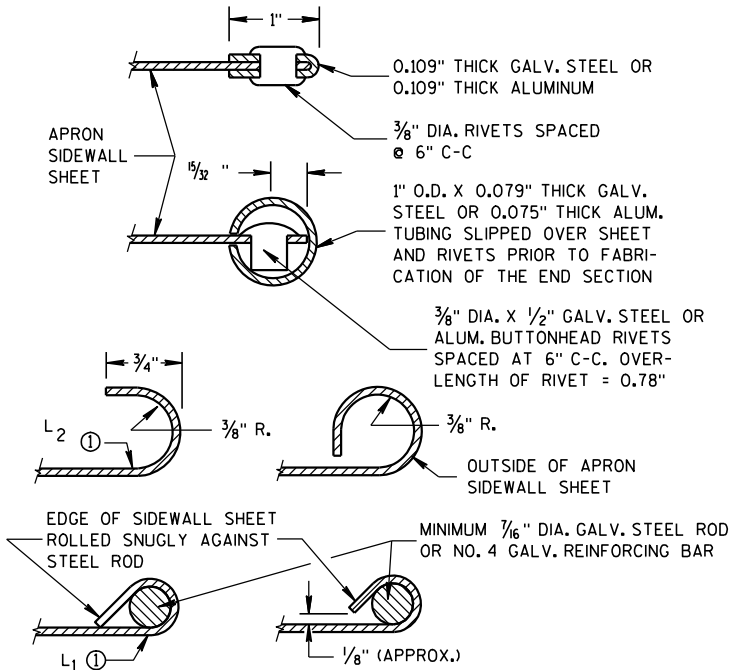
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

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.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

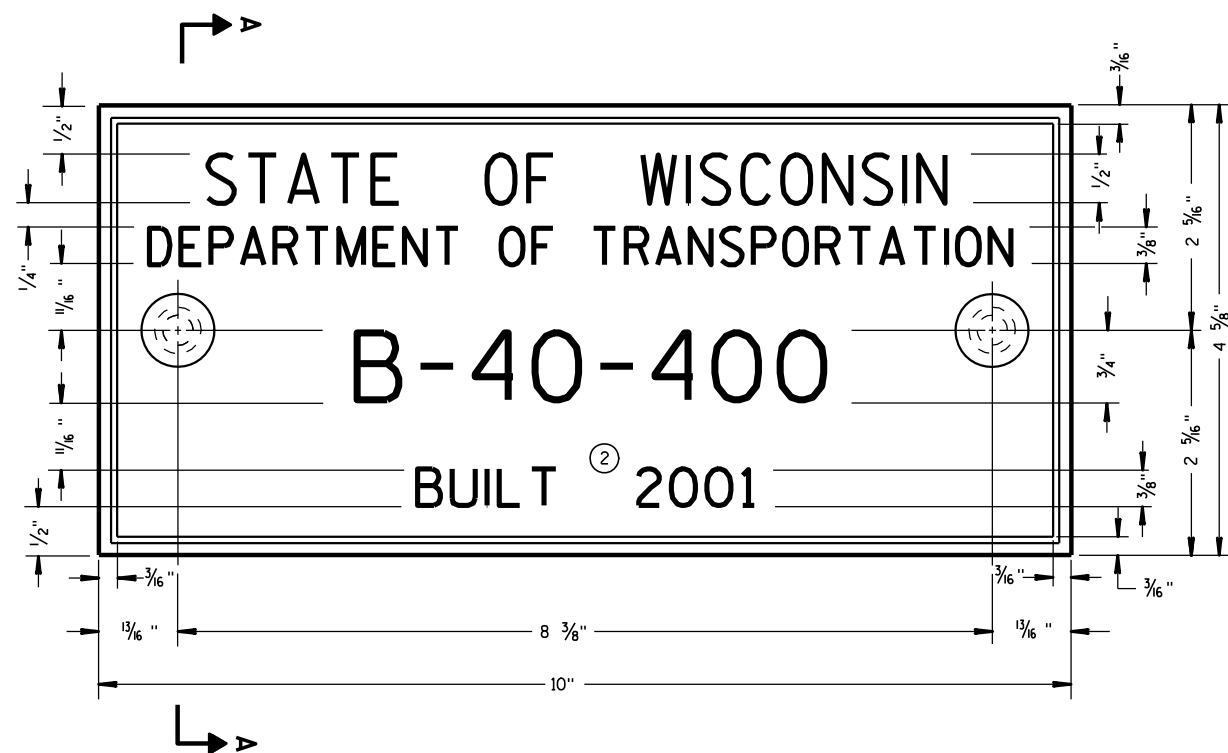
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

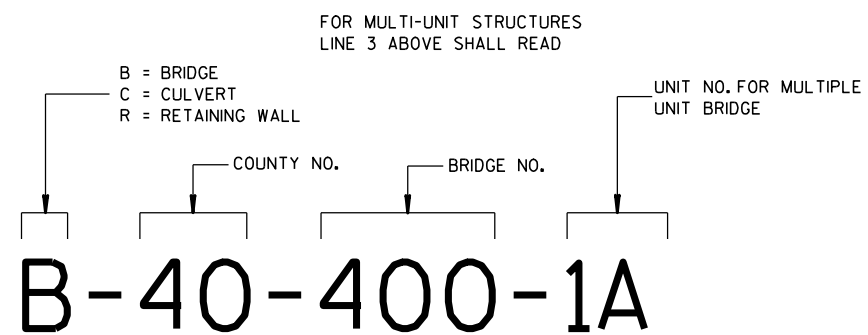
APRON ENDWALLS FOR
CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94
DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



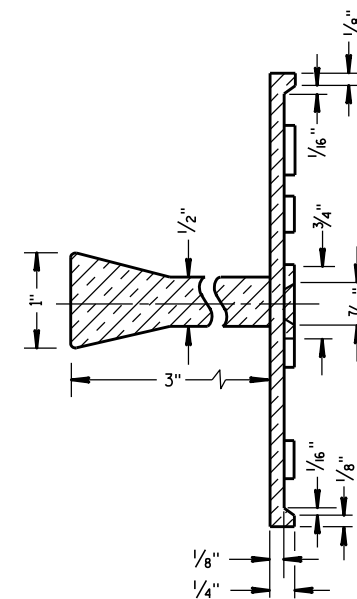
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

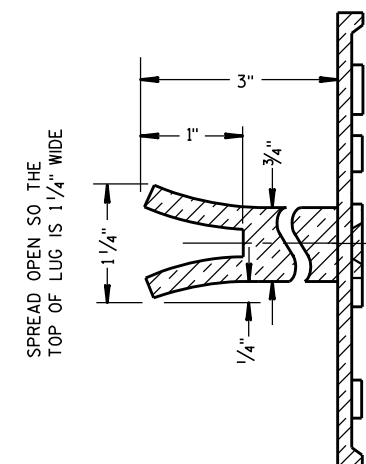
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



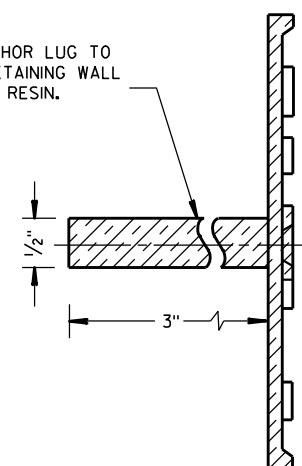
SECTION A-A



SPREAD OPEN SO THE
TOP OF LUG IS 1 1/4" WIDE

ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

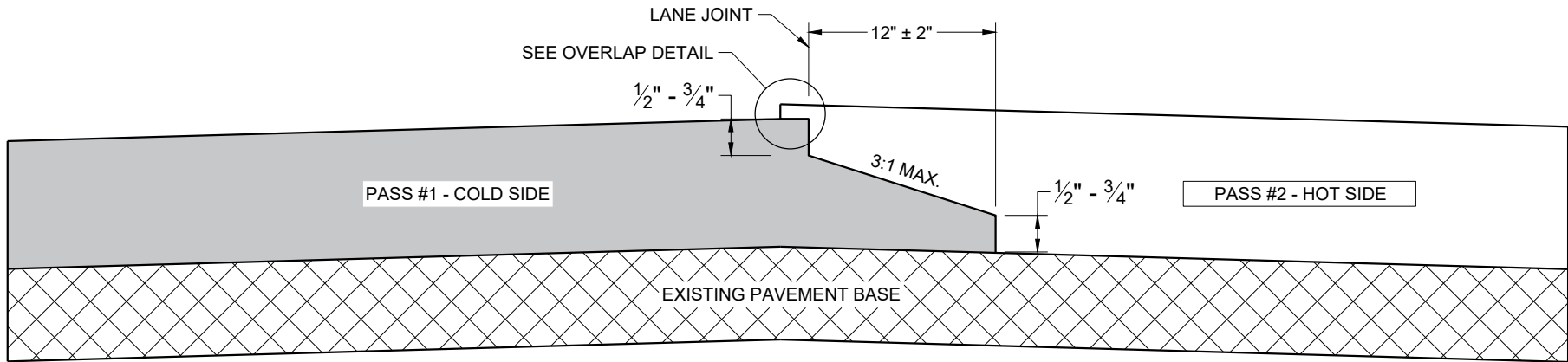
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

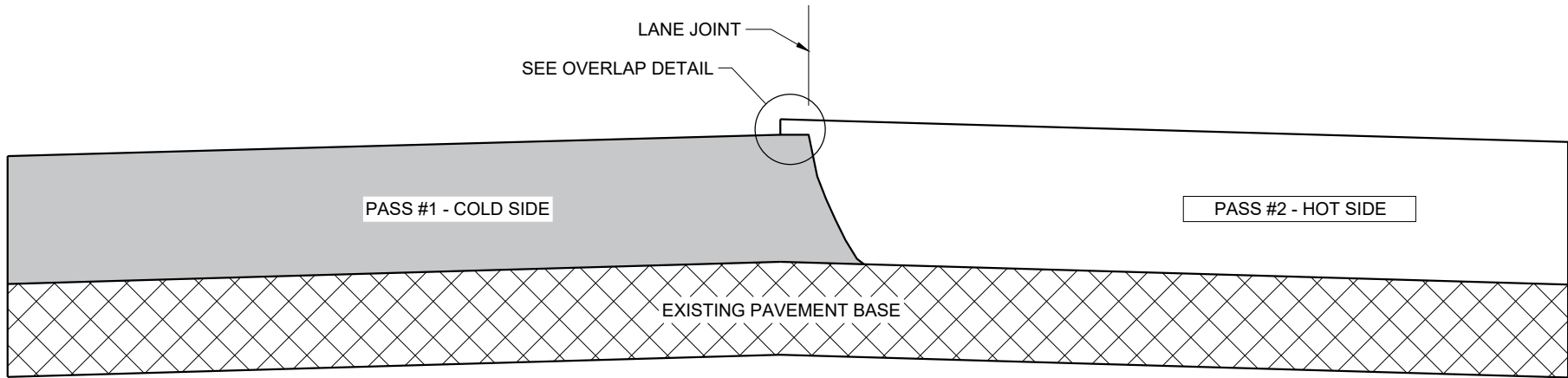
3/26/10
DATE

FHWA

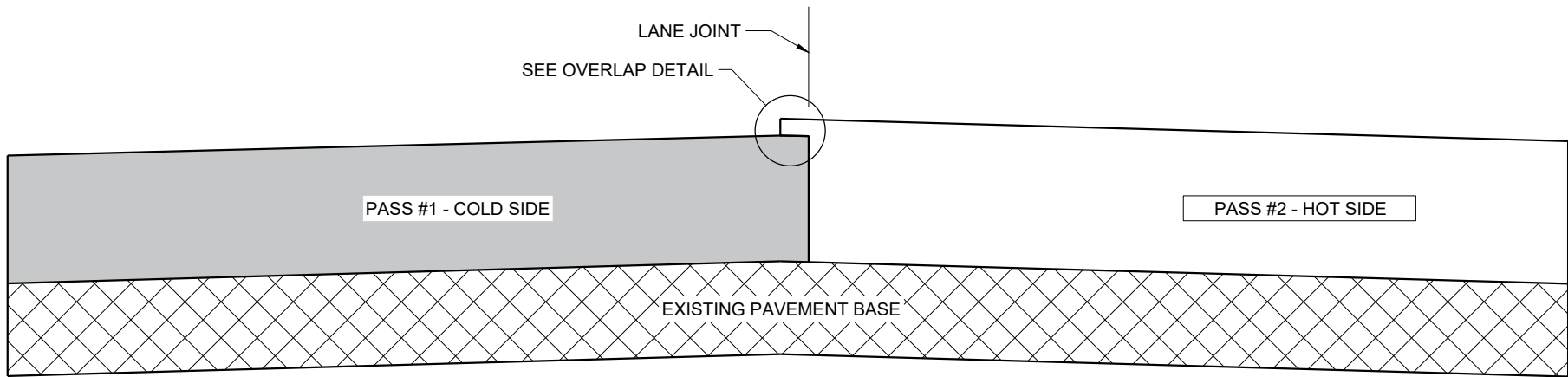
/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

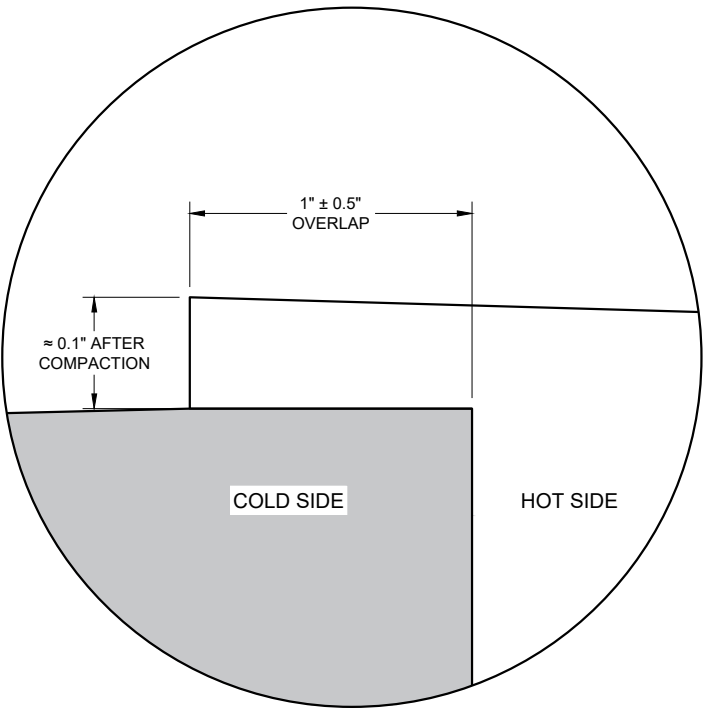
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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

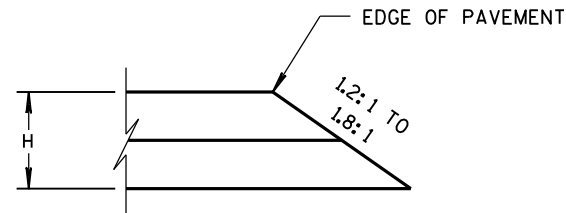


OVERLAP DETAIL (TYPICAL)

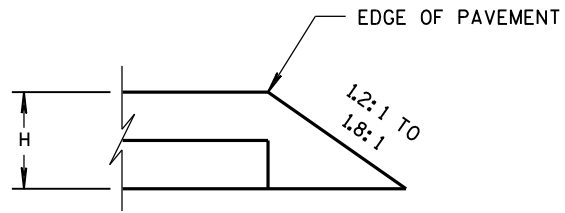
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

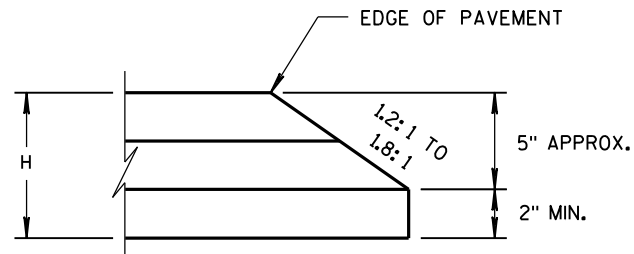
APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGINEER
FHWA



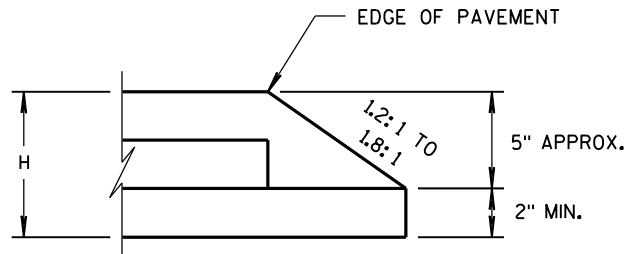
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

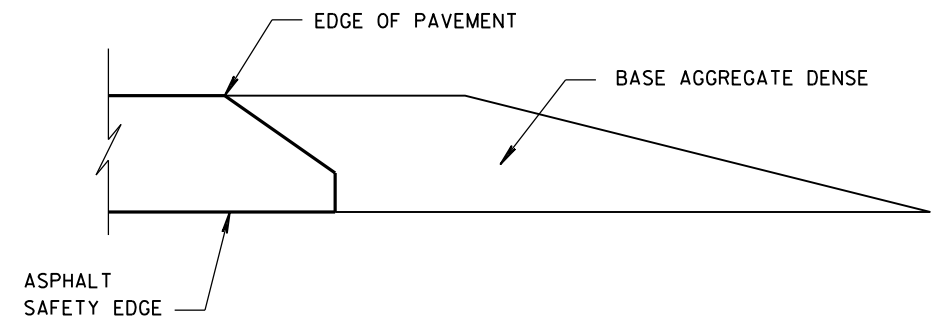


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



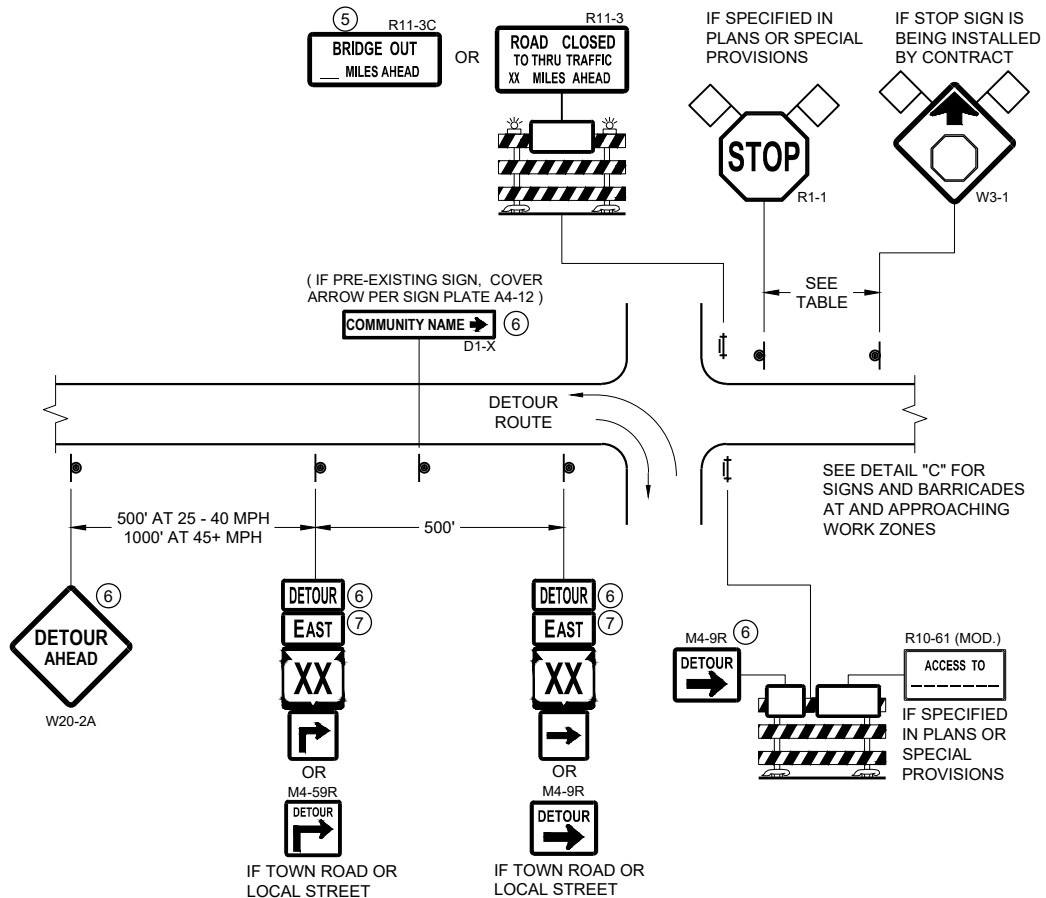
FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE_{SM}

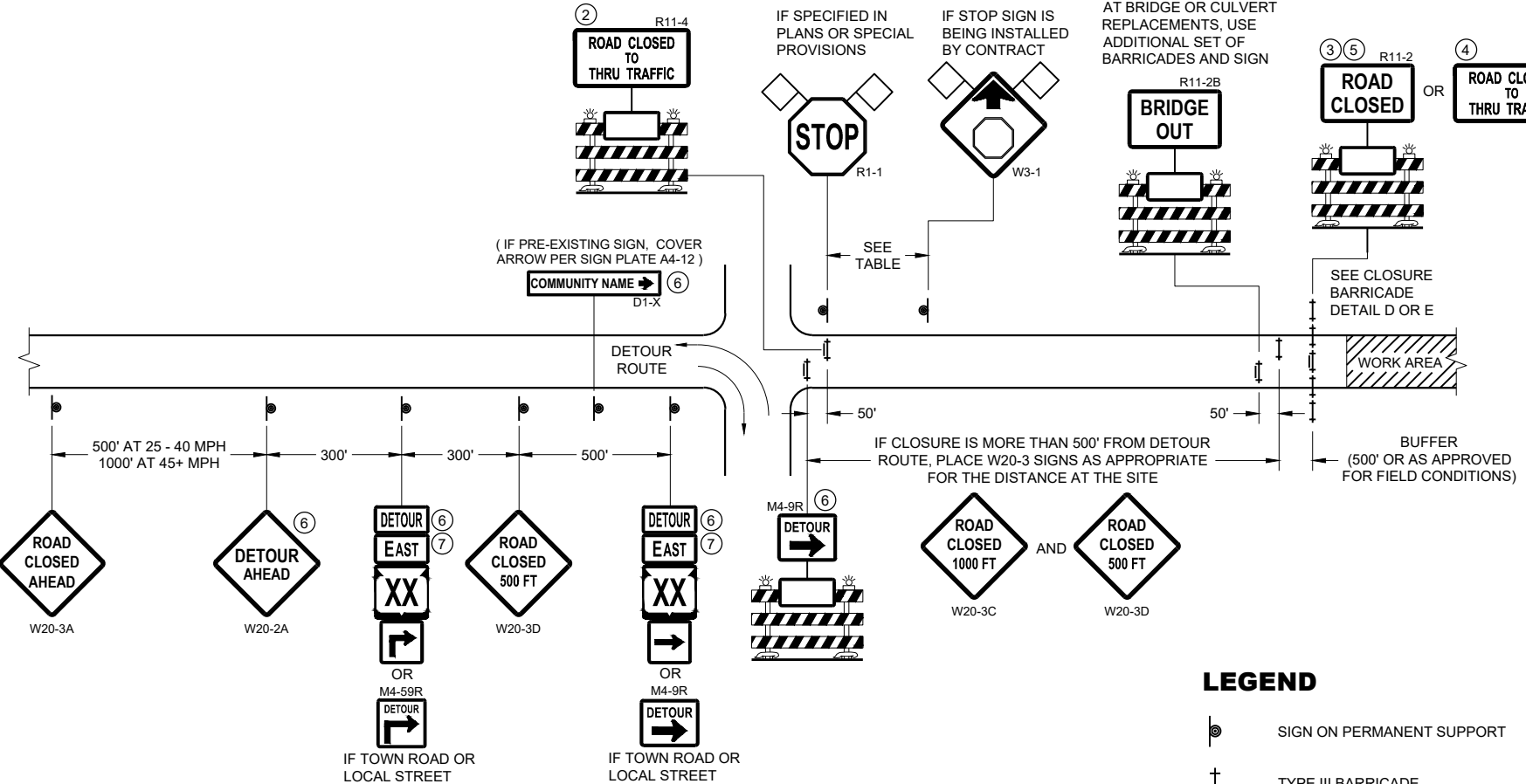
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE
FHWA

/s/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



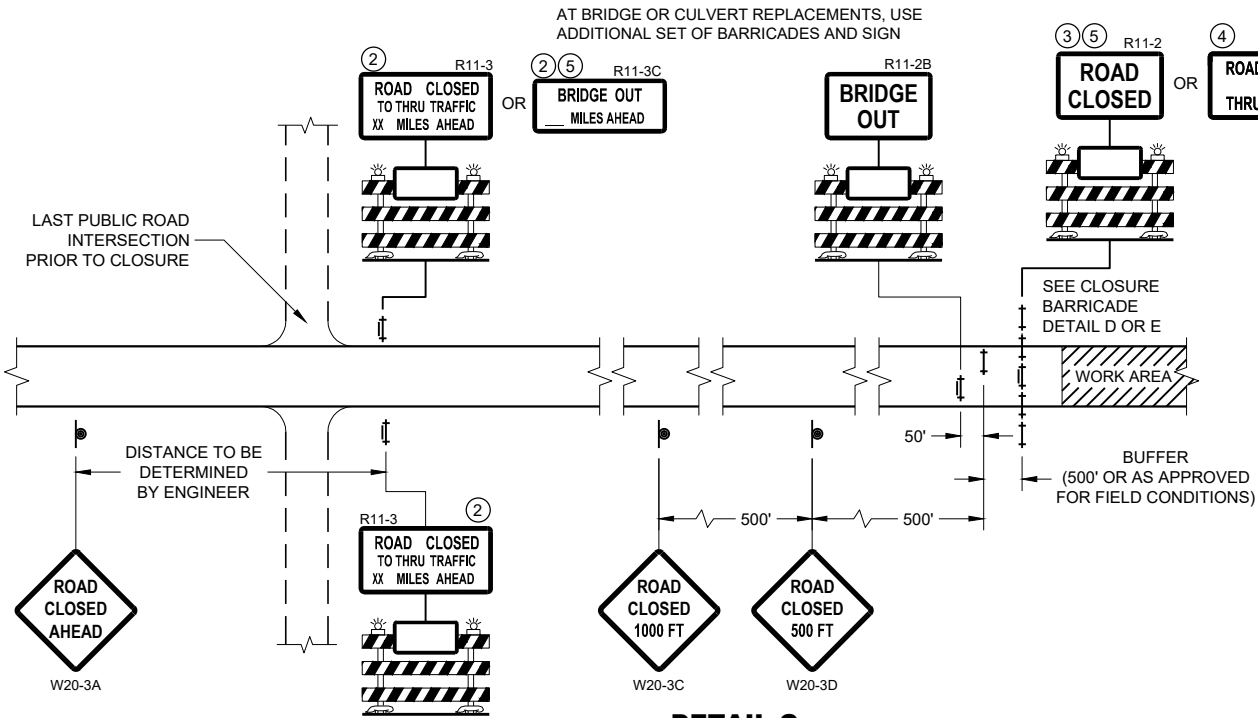
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

- 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 M1 - 5A
- OR M05 - 1 OR M06 - 1

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



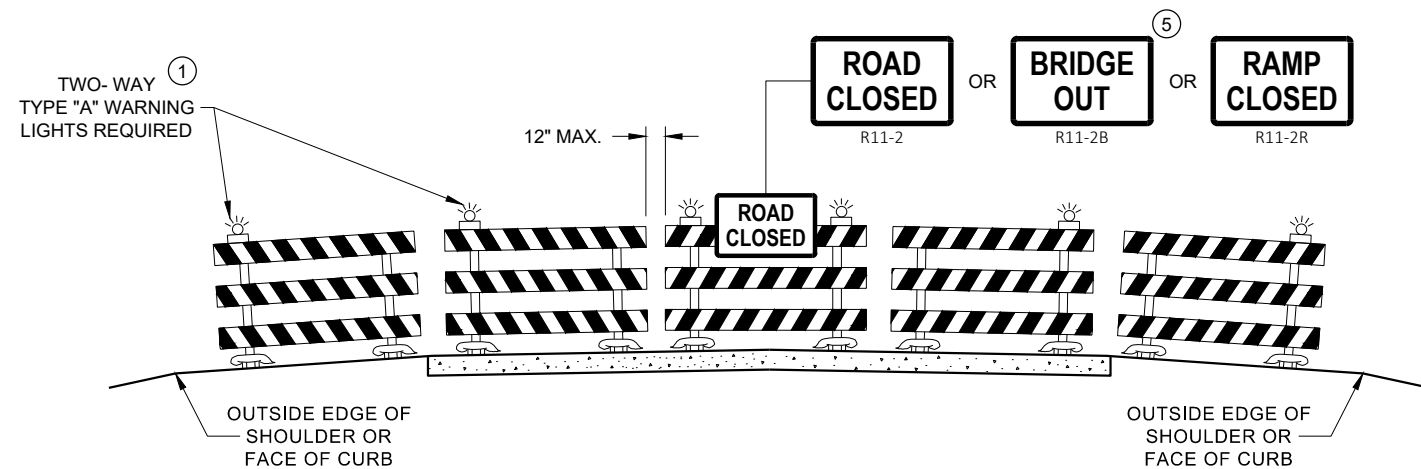
DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

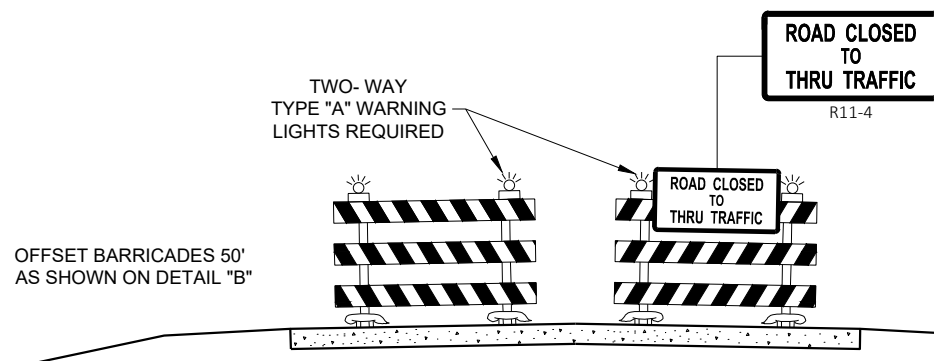
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



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:

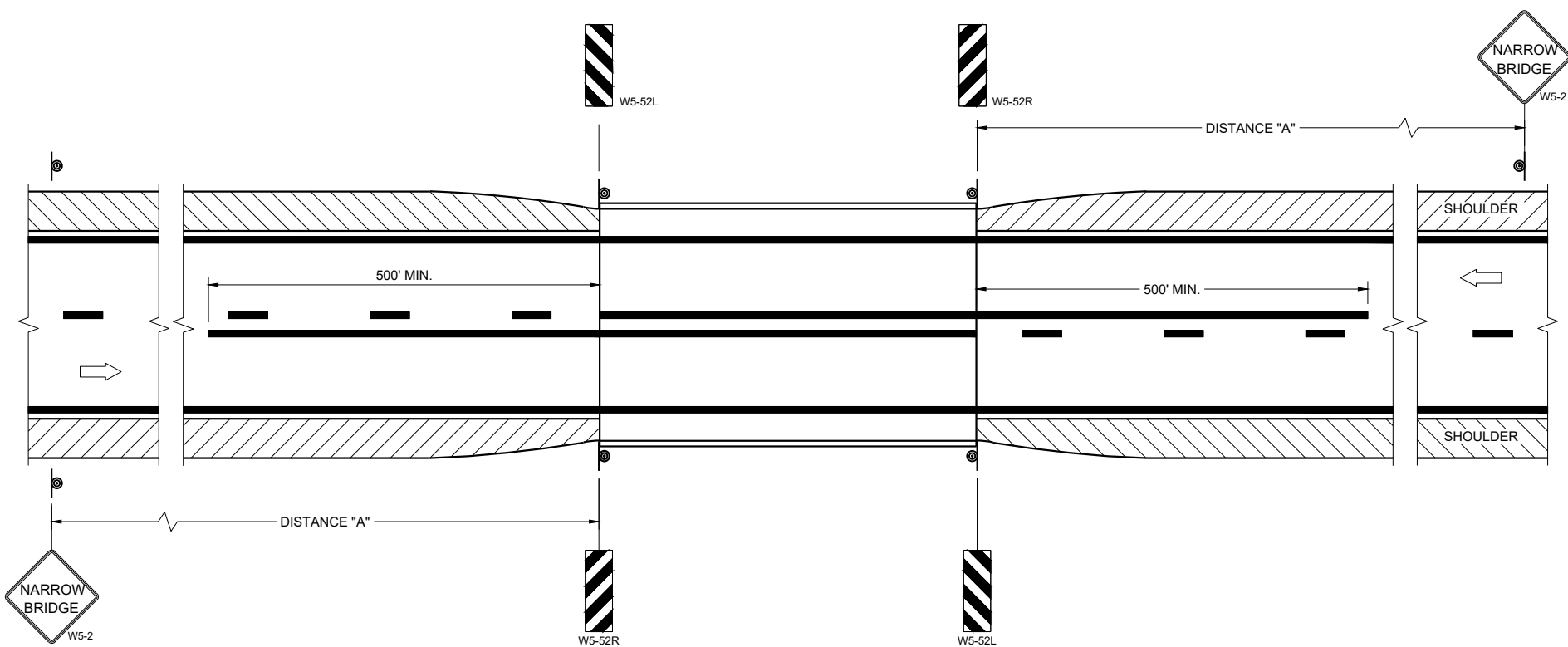
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 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.

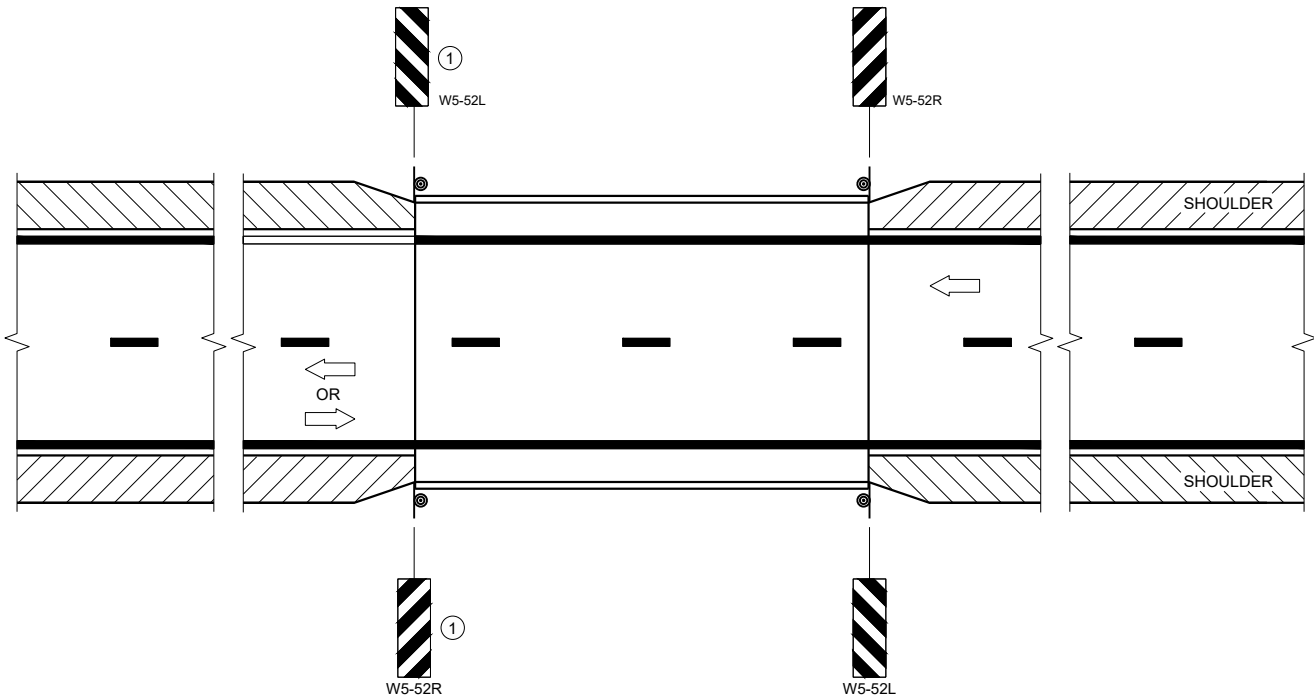
BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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'

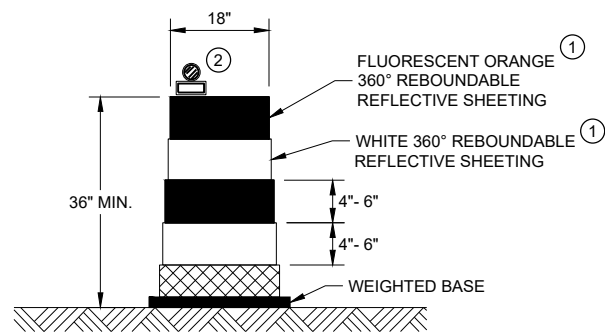
**SIGNING AND MARKING
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

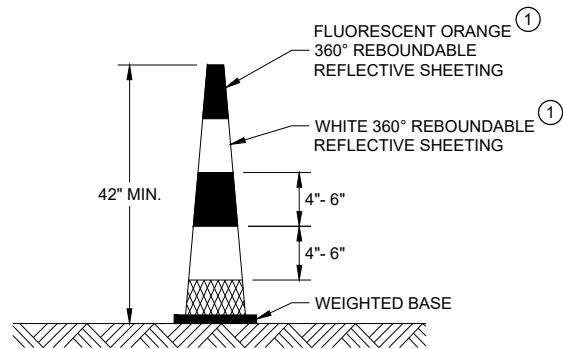
/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA



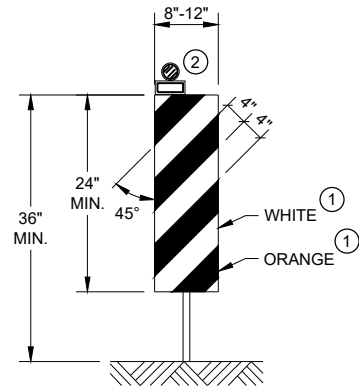
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



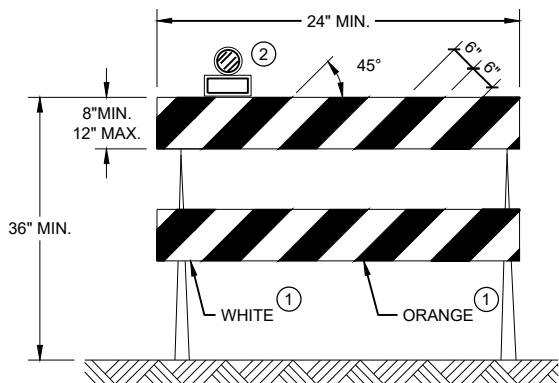
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"



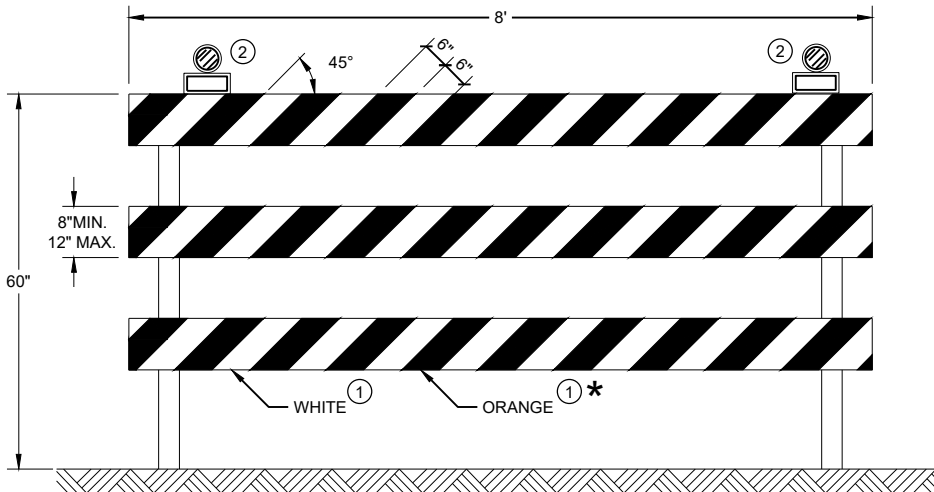
VERTICAL PANEL

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.

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.

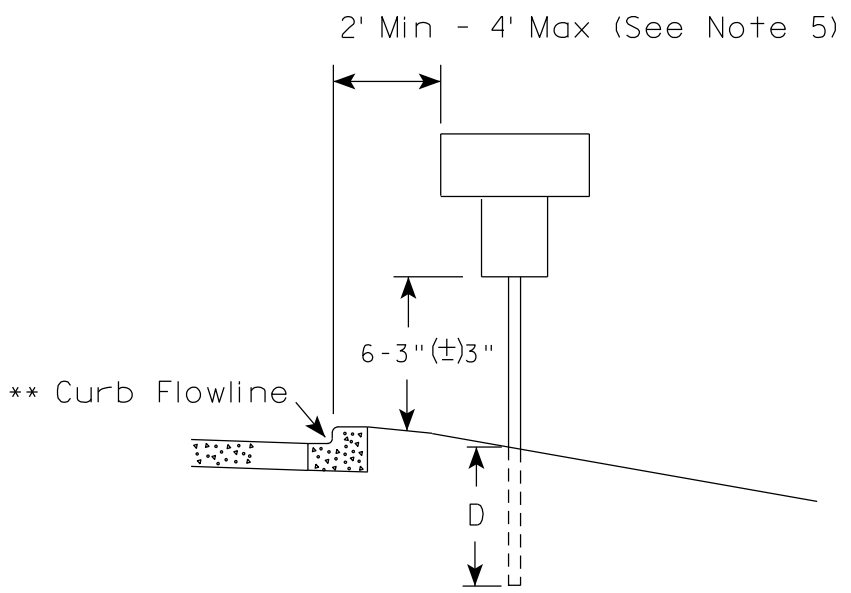
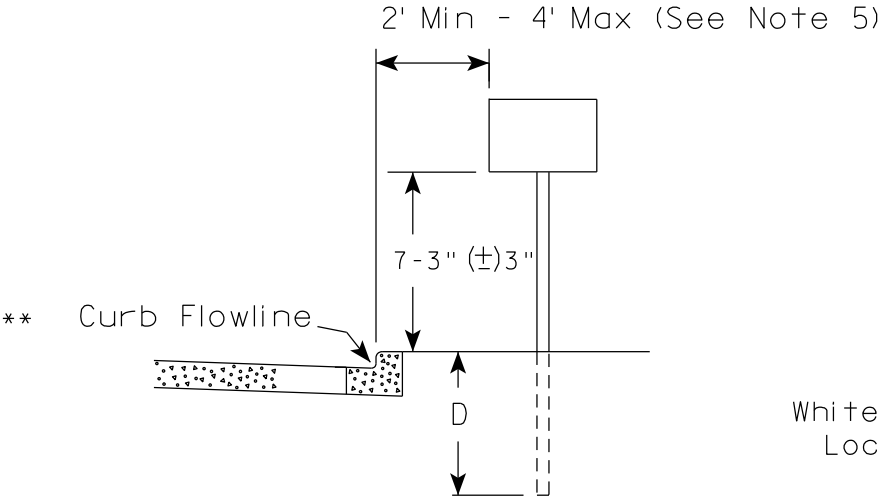
**CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

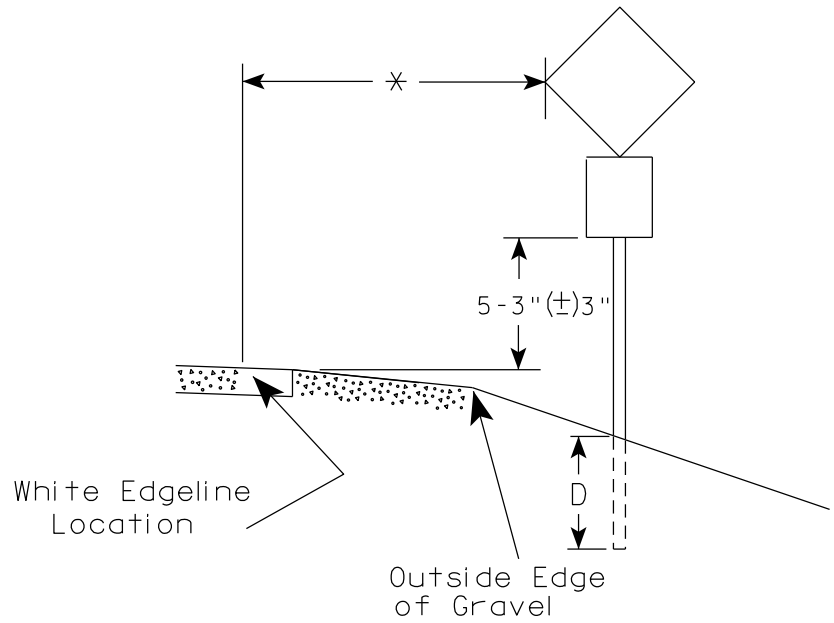
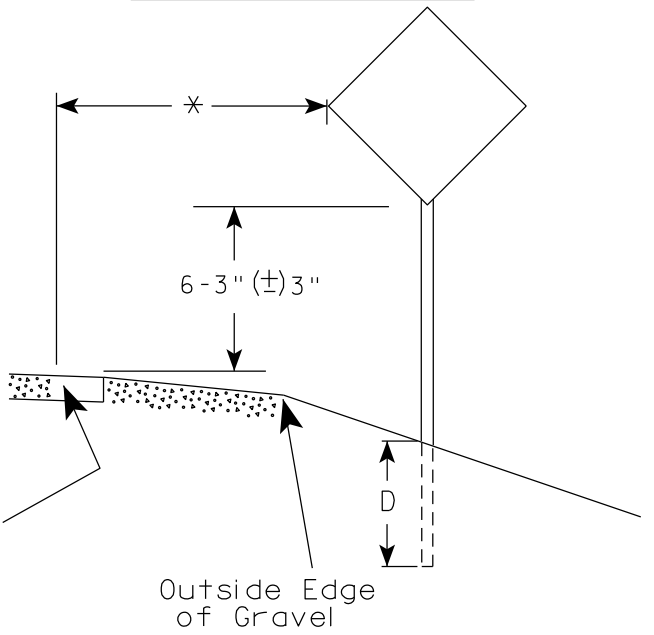
APPROVED
November 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

URBAN AREA



RURAL AREA (See Note 2)



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 directed by the 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.

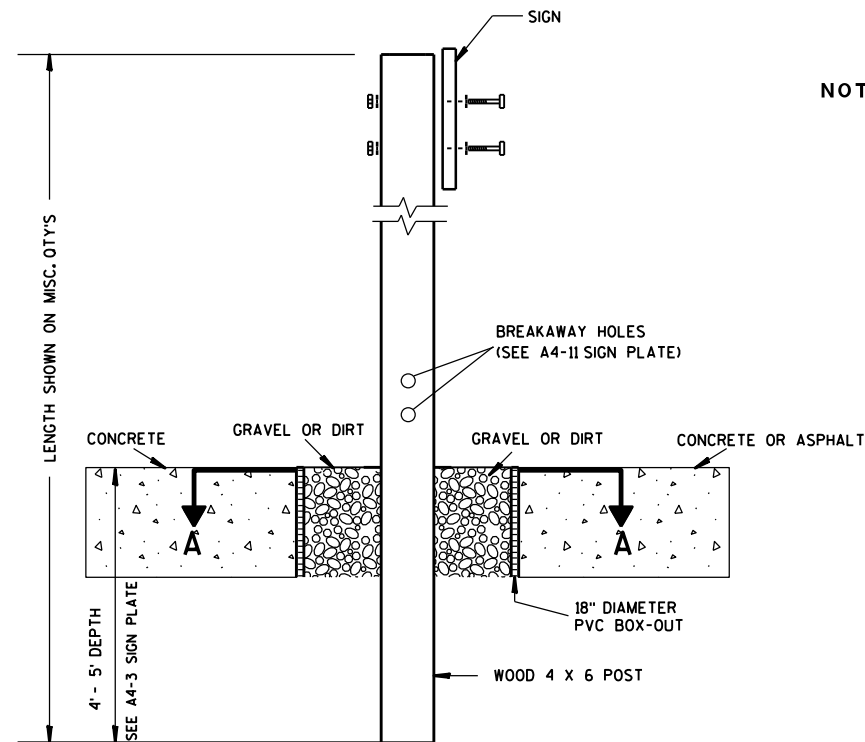
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED 
for State Traffic Engineer

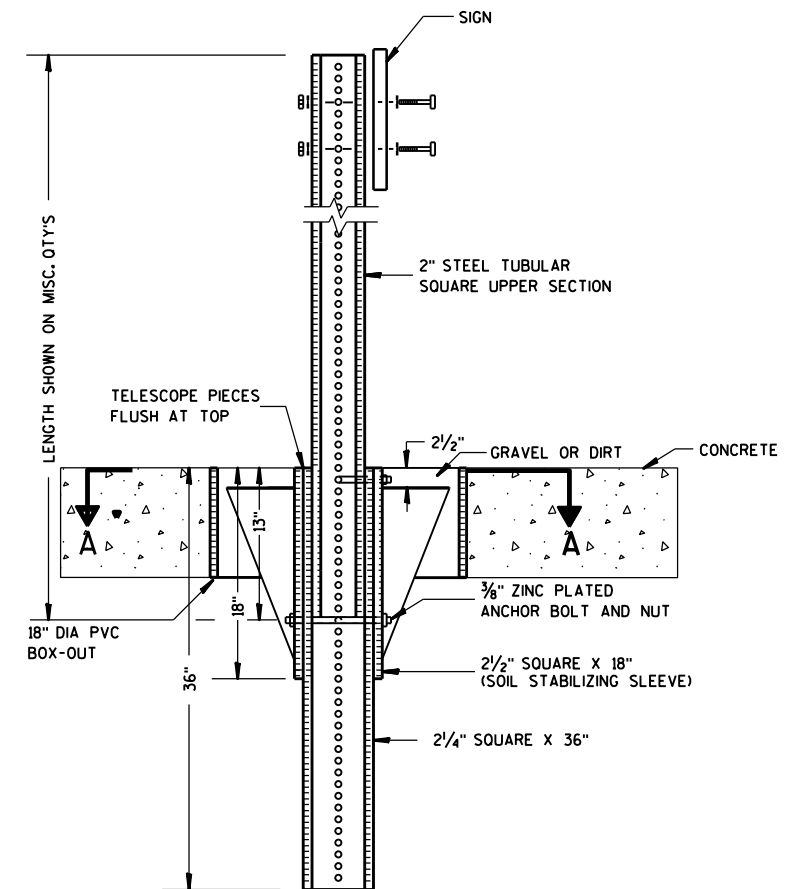
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

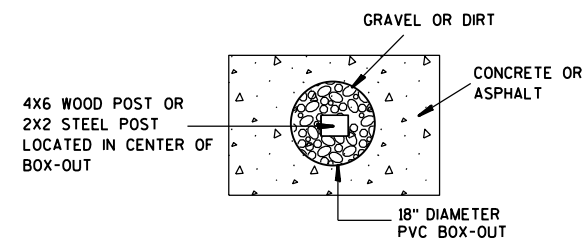
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO:

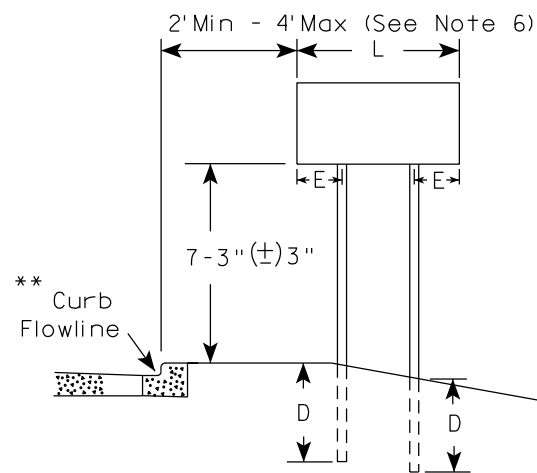
HWY:

COUNTY:

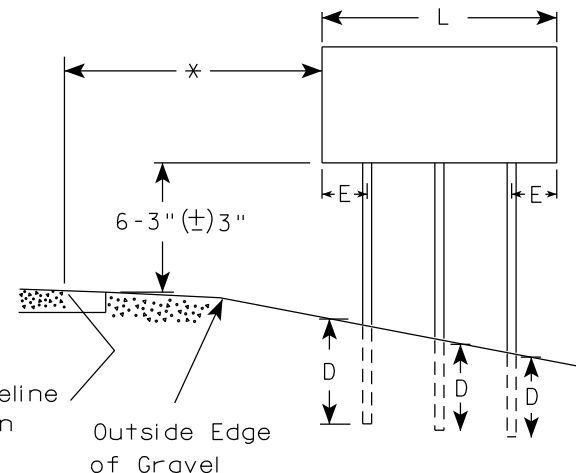
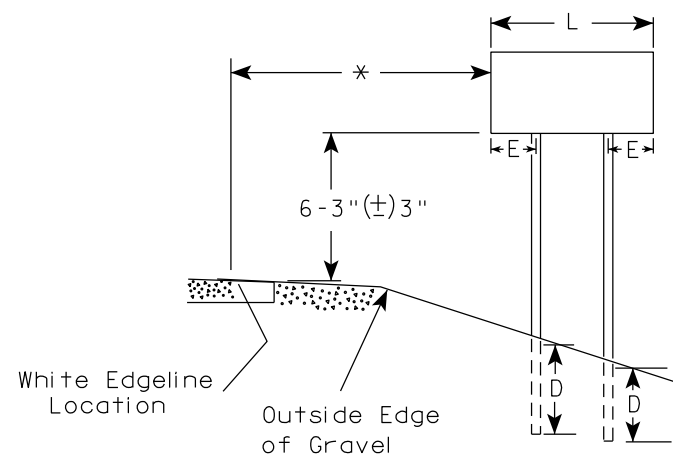
SHEET NO:

E

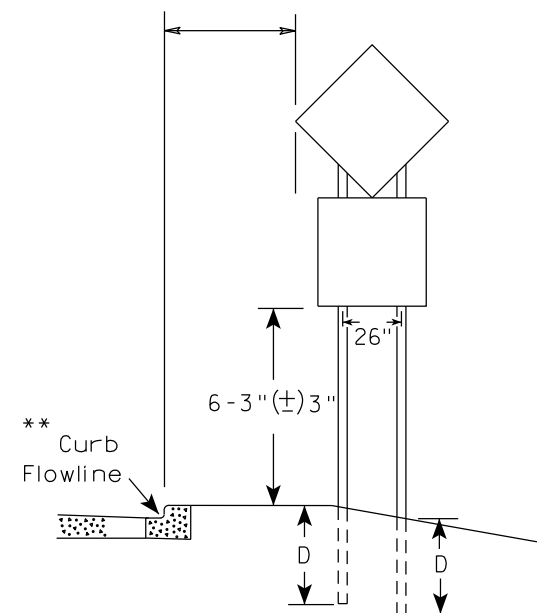
URBAN AREA



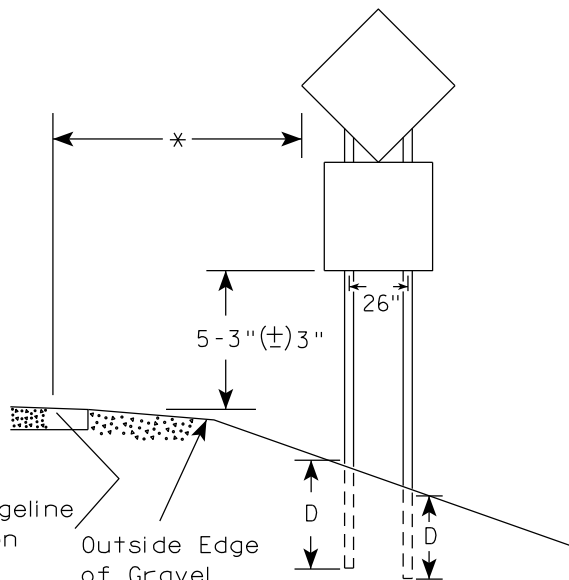
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



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"

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

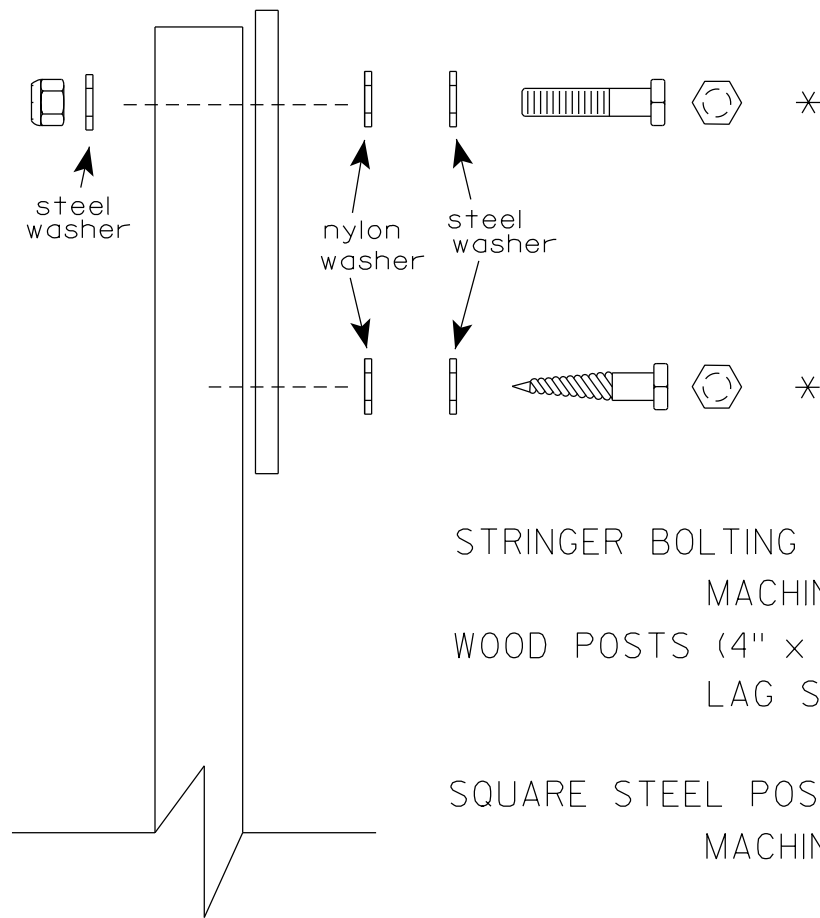
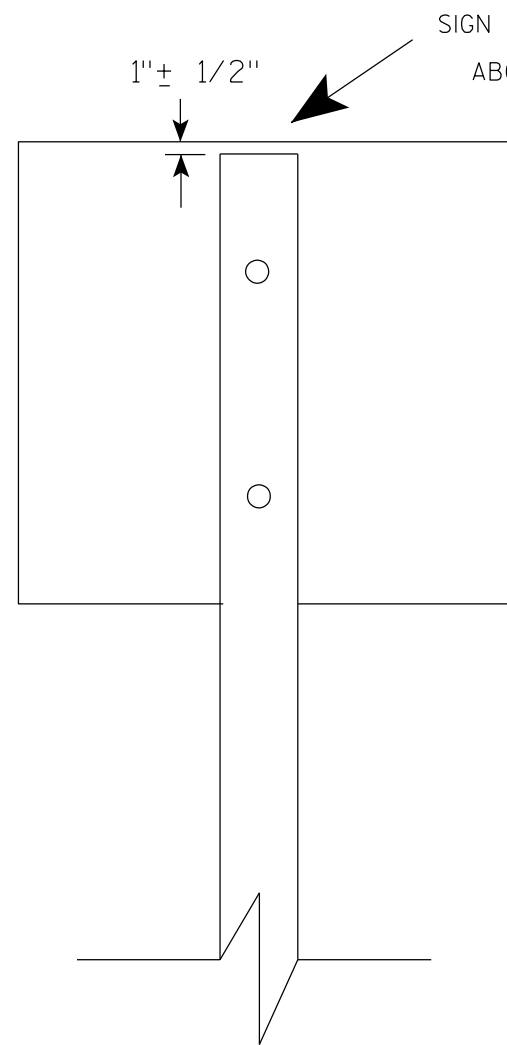
GENERAL NOTES

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.



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.

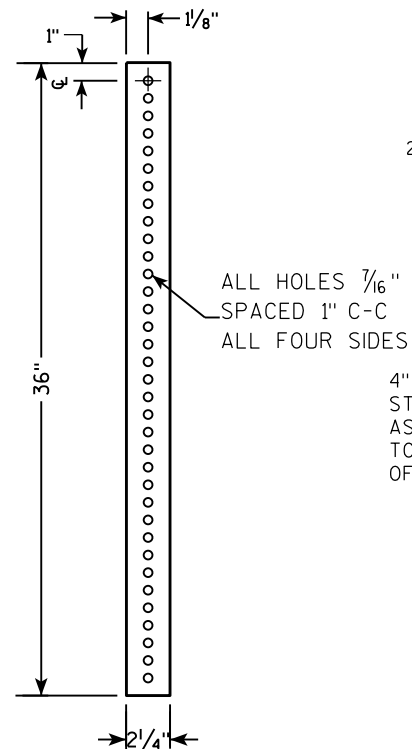
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (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 $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
 - 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

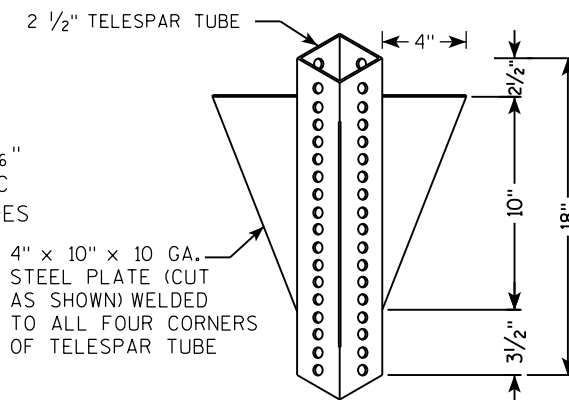
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



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



LENGTH SHOWN ON MISC. QTY'S
 18" DIA SCHEDULE 40 PVC BOX-OUT
 TELESCOPE PIECES FLUSH AT TOP
 2" STEEL TUBULAR SQUARE UPPER SECTION
 ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES
 $\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT
 2" GRAVEL OR DIRT
 $\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT
 2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
 2" SQUARE X 36"
 SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
 SIGN

LENGTH SHOWN ON MISC. QTY'S

SIGN

SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES

$\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT

1"

TELESCOPE PIECES FLUSH AT TOP

36"

18"

12"

$\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT

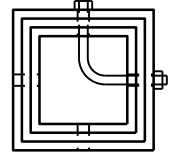
2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)

2 1/4" SQUARE X 36"

A

A

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT



DIRECTION
OF TRAFFIC

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

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

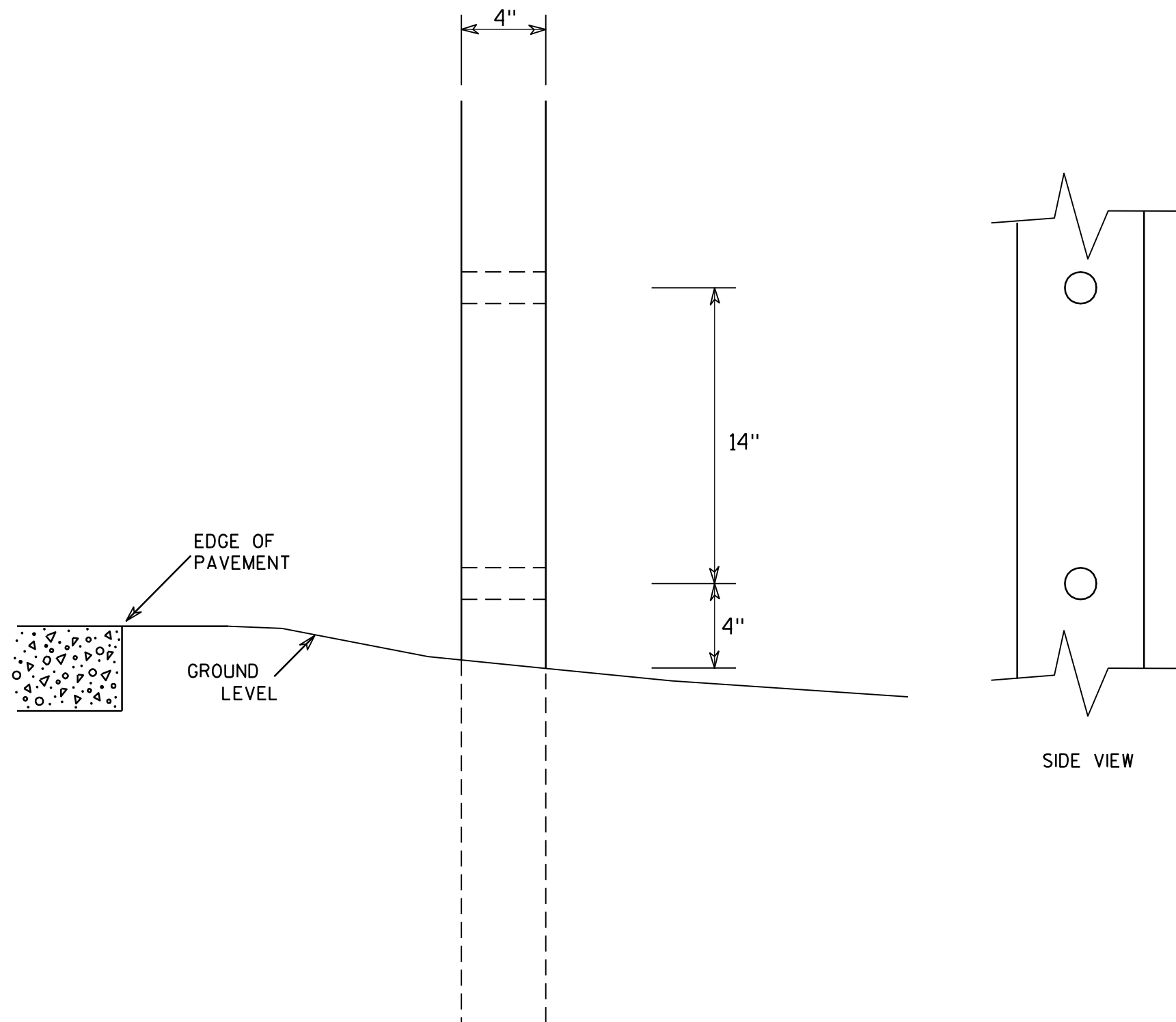
APPROVED Matthew R Rauch

for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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7



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

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:

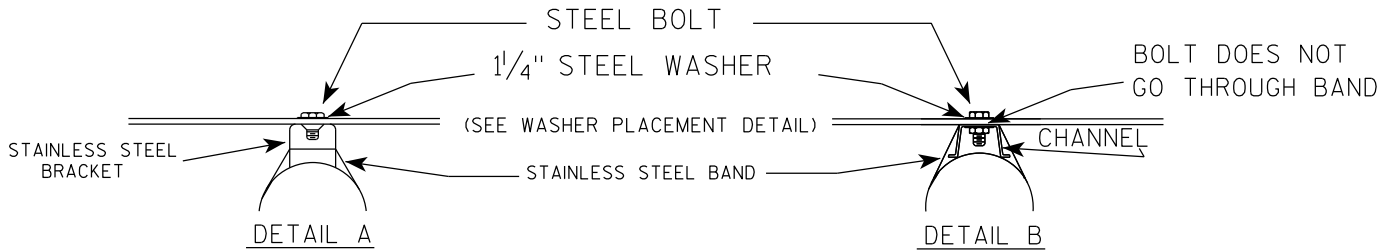
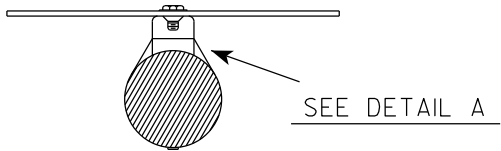
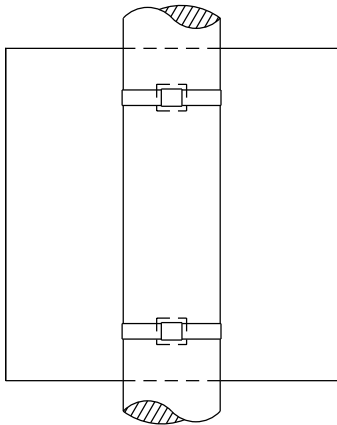
COUNTY:

SHEET NO:

E

BANDING

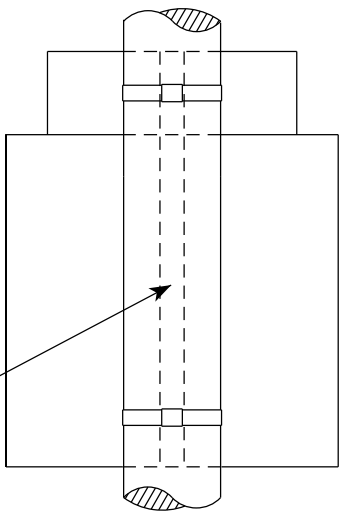
SINGLE SIGN



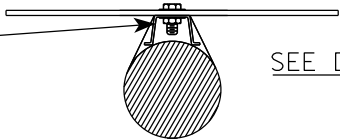
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be $\frac{3}{4}$ " 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

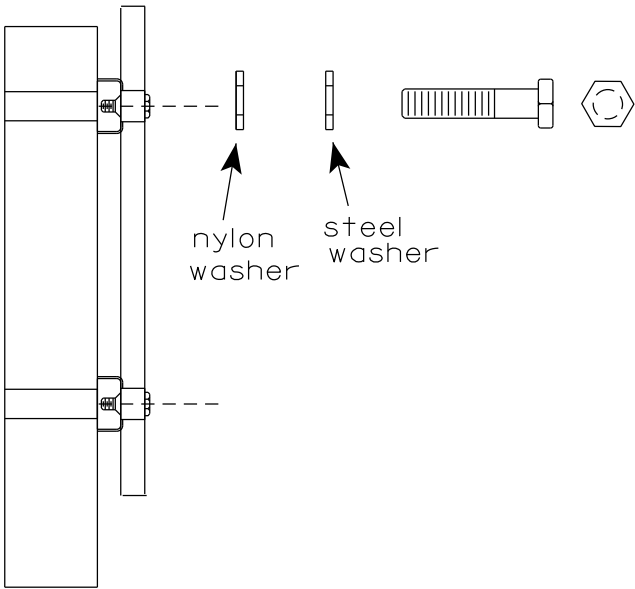
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



WASHER PLACEMENT

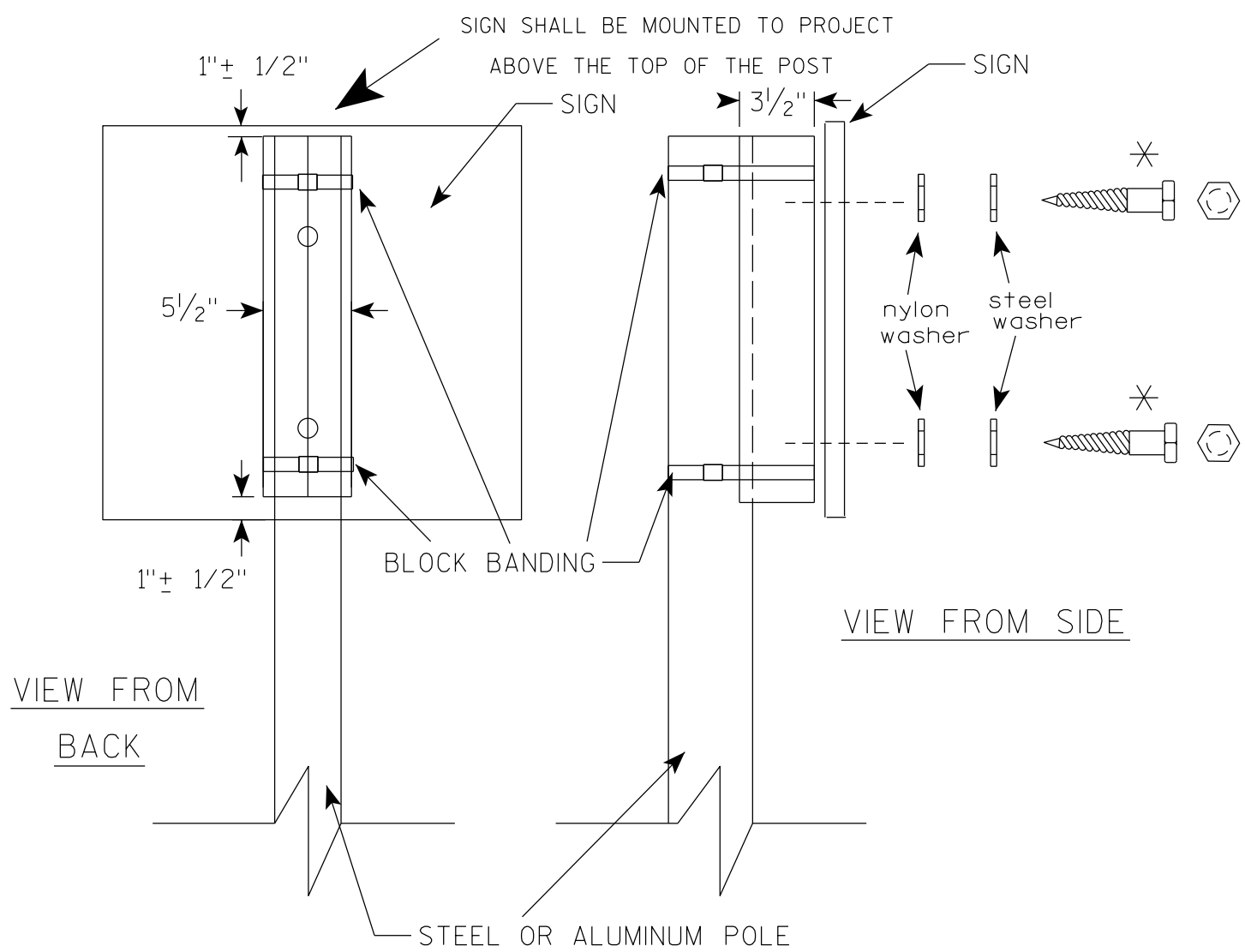


WASHERS (ALL POSTS) -
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

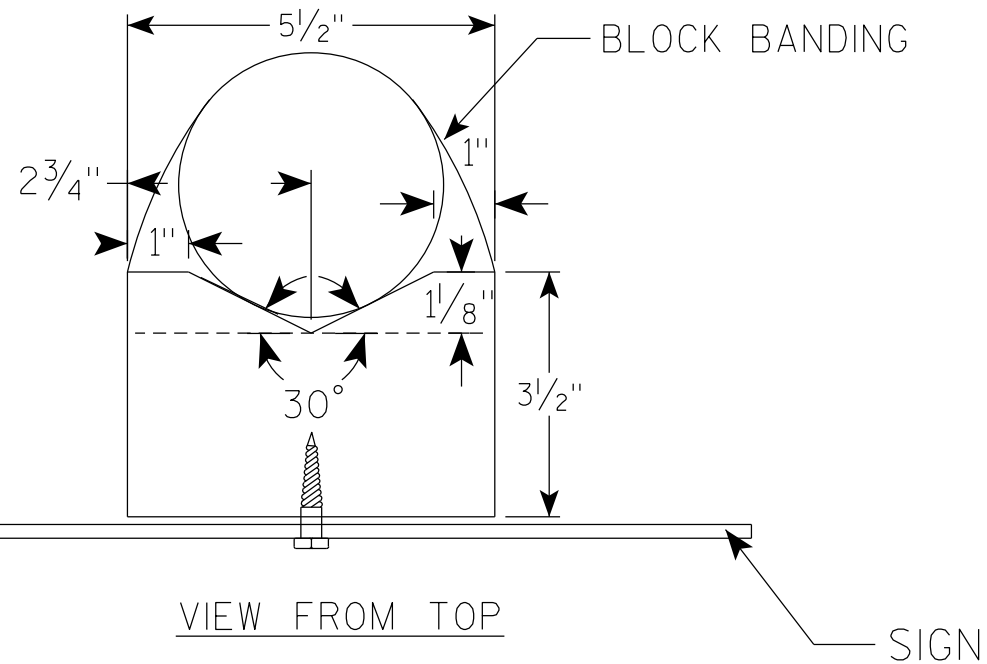
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM
BACK

VIEW FROM SIDE



VIEW FROM TOP

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, $\frac{3}{4}$ " 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 NORMALLY 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 $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

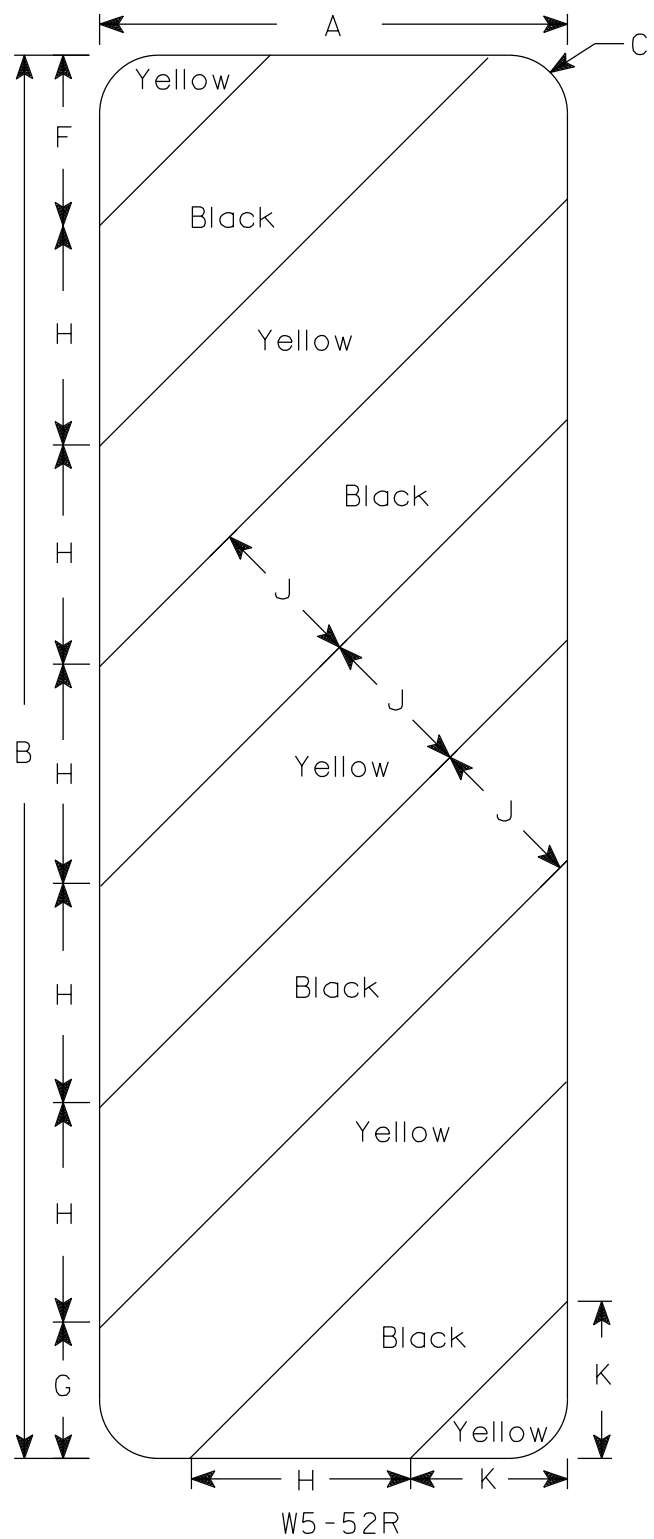
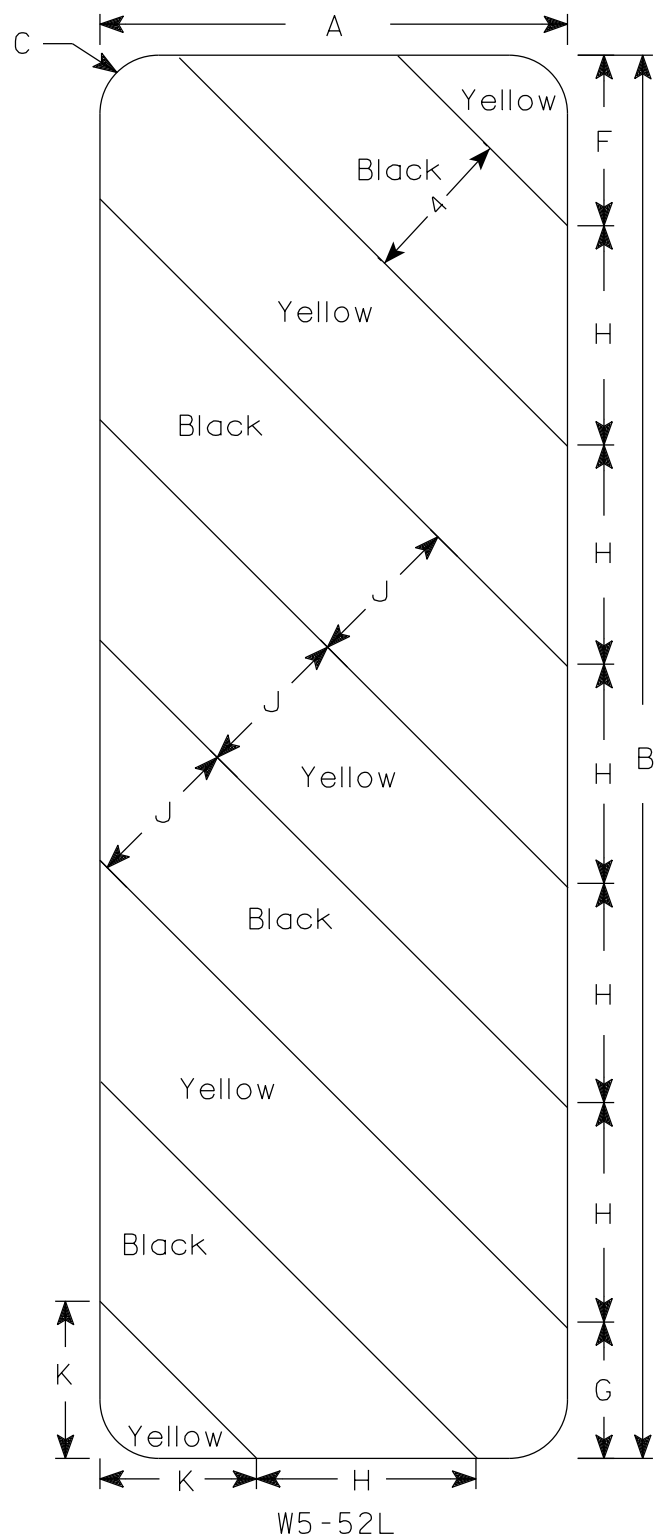
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO:

SHEET NO:

E



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

INDICATES WING NUMBER

STATE PROJECT NUMBER

9068-00-01

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.12
OPERATING RATING: RF = 1.46
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

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

MATERIAL PROPERTIES:

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

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

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON 10 $\frac{3}{4}$ " DIA. X 0.25-INCH C.I.P. CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 110'-0" LONG AT WEST ABUTMENT.
ESTIMATED 110'-0" LONG AT EAST ABUTMENT.

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

HYDRAULIC DATA

100-YEAR FREQUENCY:

$Q_{100} = 370$ C.F.S.
 $V_{100} = 7.8$ F.P.S.
 $HW_{100} = \text{EL. } 823.50$
WATERWAY AREA = 47 SQ. FT.
DRAINAGE AREA = 29.6 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 5

2-YEAR FREQUENCY:

$Q_2 = 150$ C.F.S.
 $V_2 = 4.6$ F.P.S.
 $HW_2 = \text{EL. } 822.44$

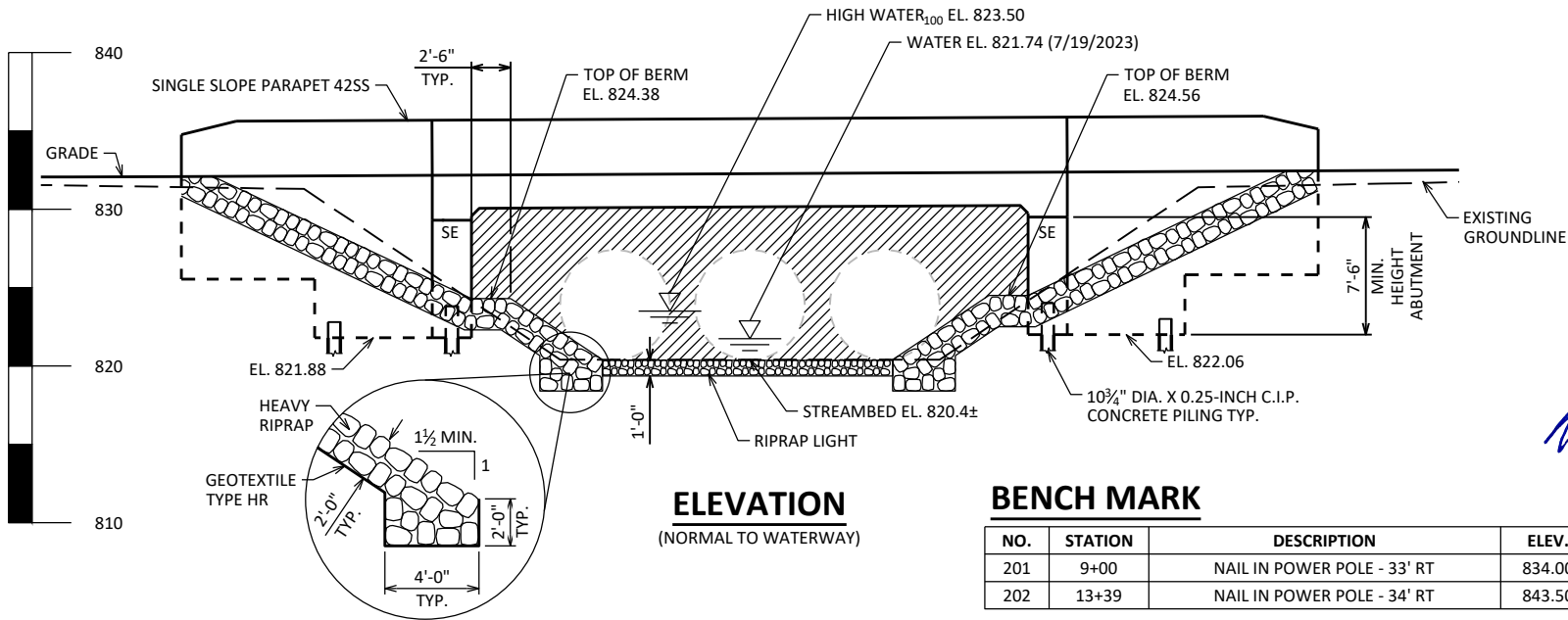
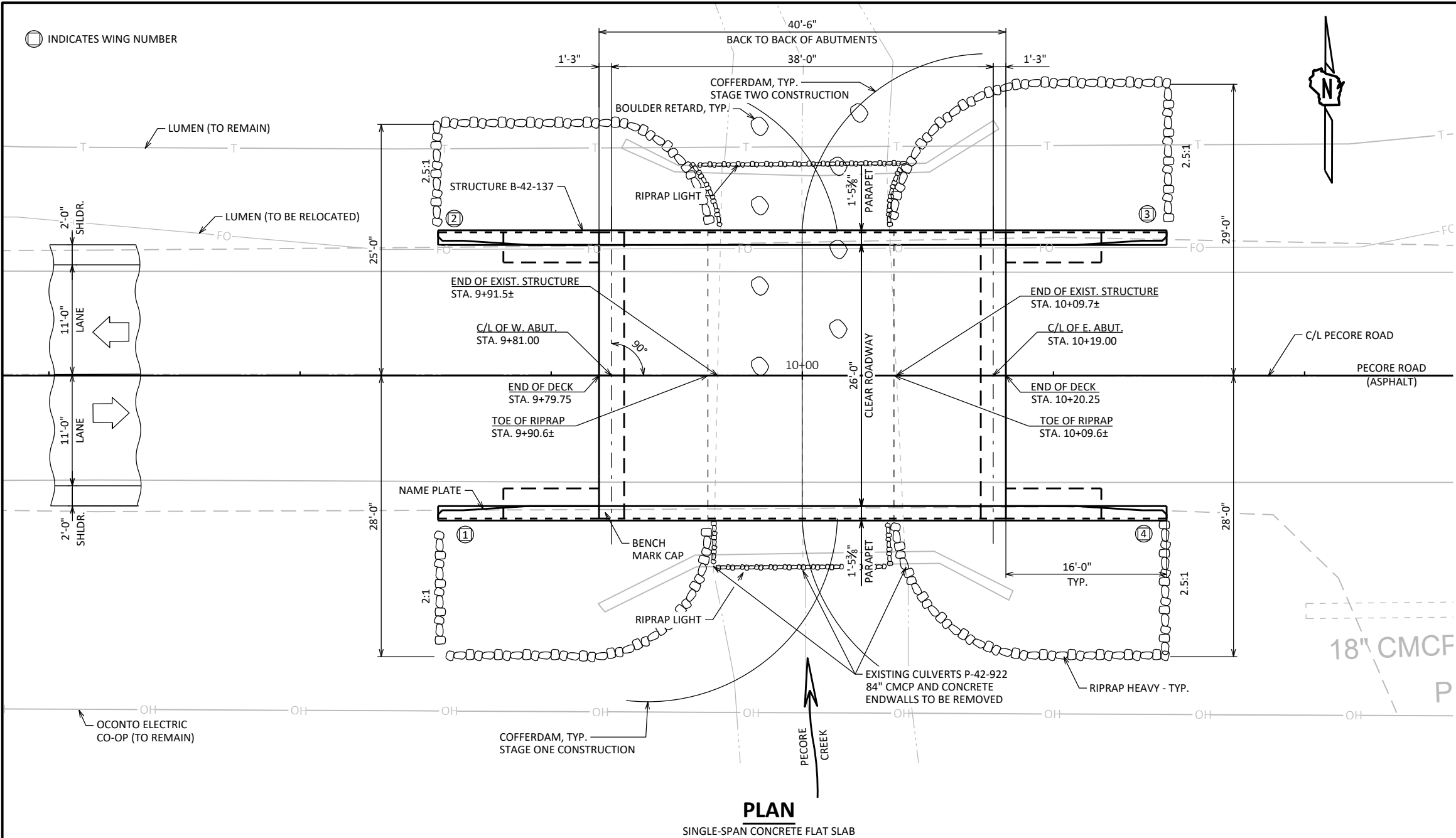
TRAFFIC DATA

FEATURE ON: PECORE ROAD

ADT = 60 (2026)
ADT = 70 (2046)
R.D.S. = 25 MPH

LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES, CROSS-SECTION, AND NOTES
3. STRUCTURE DETAILS
4. SUBSURFACE EXPLORATION
5. WEST ABUTMENT
6. WEST ABUTMENT WING DETAIL
7. WEST ABUTMENT PILE LAYOUT AND BILL OF BARS
8. EAST ABUTMENT
9. EAST ABUTMENT WING DETAIL
10. EAST ABUTMENT PILE LAYOUT AND BILL OF BARS
11. SUPERSTRUCTURE
12. SUPERSTRUCTURE PLAN
13. SINGLE SLOPE PARAPET 42SS



BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
201	9+00	NAIL IN POWER POLE - 33' RT	834.00
202	13+39	NAIL IN POWER POLE - 34' RT	843.50



STRUCTURE DESIGN CONTACTS:
AARON BONK 608-261-0261
KRISTOFER OLSON 920-498-1200

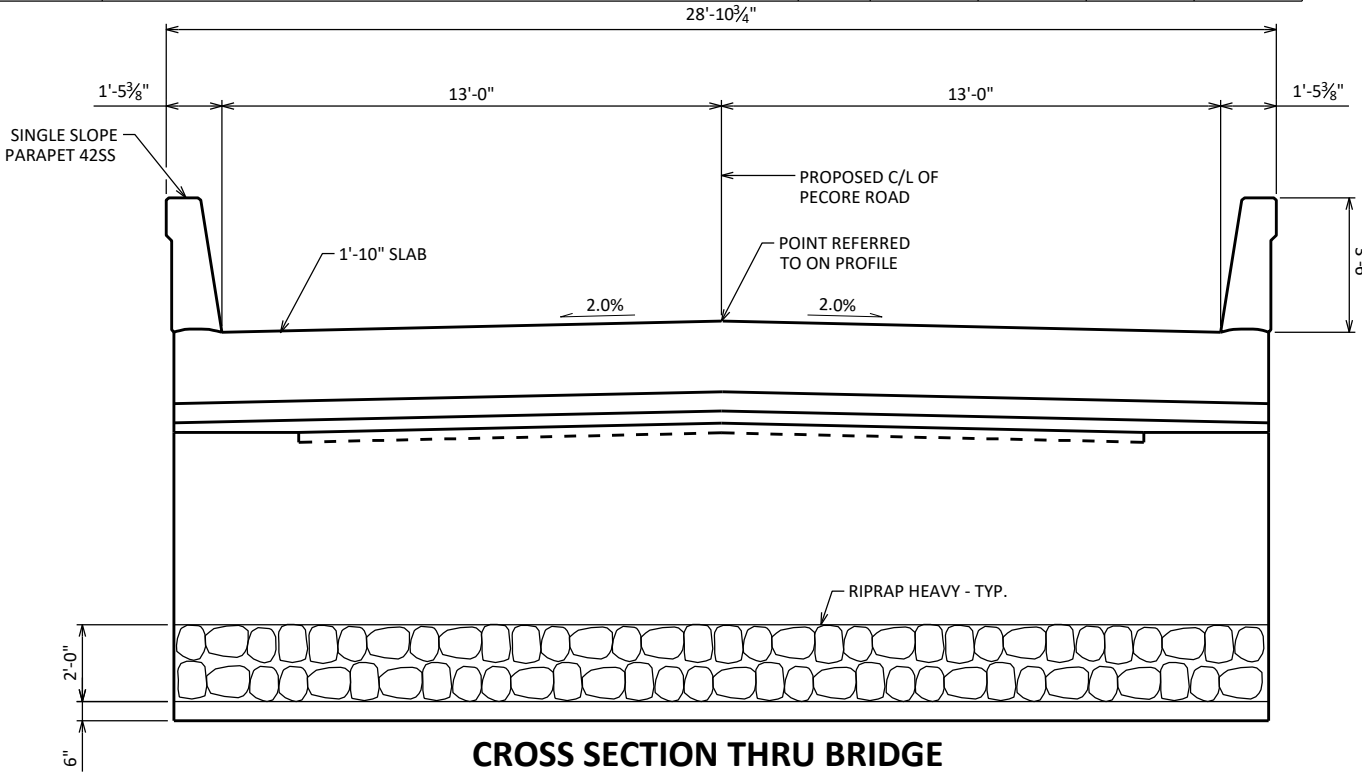
NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY AYRES 700 PILGRIM WAY, SUITE 180 GREEN BAY, WI 54304 www.AyresAssociates.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION ACCEPTED <i>[Signature]</i> 08/05/25 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-42-137			
PECORE ROAD OVER PECORE CREEK			
COUNTY	OCONTO	TOWN	HOW
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATION			
DESIGNED BY	JMC	DESIGN CK'D	NBE
DRAWN BY	JMC	PLANS CK'D	NBE
GENERAL PLAN			SHEET 1 OF 13

I.D.

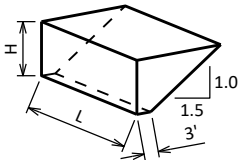
DATE:

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER	W ABUT.	E ABUT.	TOTALS
203.0220	REMOVING STRUCTURE (P-42-922)	EACH	---	---	---	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES (B-42-137)	EACH	---	---	---	1
206.5001	COFFERDAMS (B-42-137)	EACH	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	---	200	200	400
502.0100	CONCRETE MASONRY BRIDGES	CY	94.2	45.9	45.9	186
502.3200	PROTECTIVE SURFACE TREATMENT	SY	120	---	---	120
502.3210	PIGMENTED SURFACE SEALER	SY	45	15	15	75
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURE	LB	---	1,990	1,990	3,980
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	16,280	2,910	2,910	22,100
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	---	9	9	18
550.2104	PIILING CIP CONCRETE 10¾ X 0.25-INCH	LF	---	770	770	1,540
606.0100	RIPRAP LIGHT	CY	---	---	---	30
606.0300	RIPRAP HEAVY	CY	---	75	85	160
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	---	70	70	140
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	---	25	25	50
645.0120	GEOTEXTILE TYPE HR	SY	---	145	160	305
SPV.0060.01	BOULDER RETARDS	EACH	---	---	---	8
	NON-BID ITEMS					
	FILLER	SIZE	---	---	---	½", ¾"

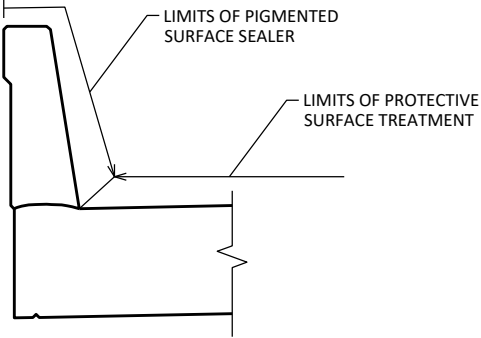


CROSS SECTION THRU BRIDGE

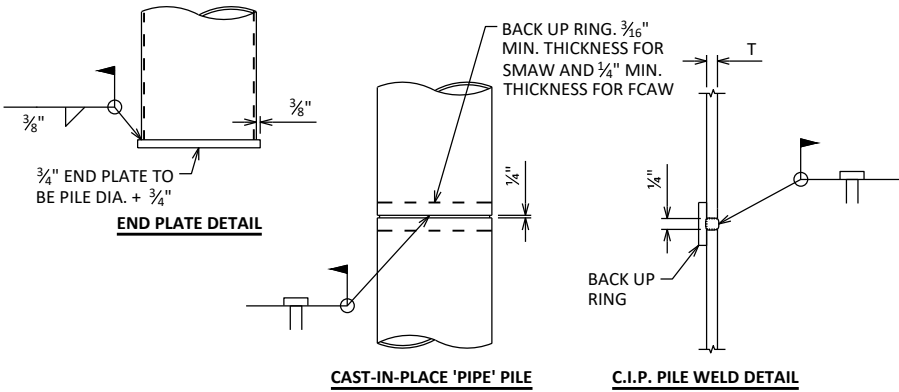


ABUTMENT BACKFILL DIAGRAM

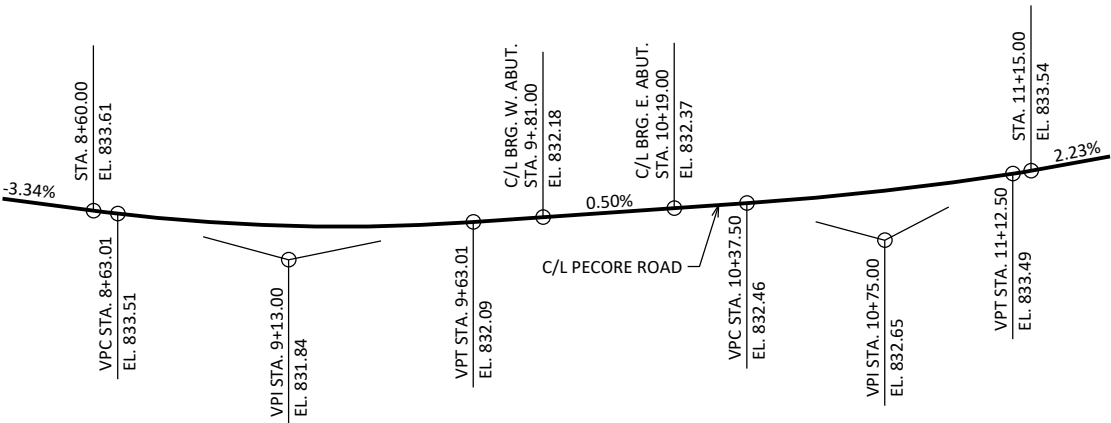
L = OUT TO OUT OF ABUTMENT BODY INCLUDING WINGS (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
 $V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)$
 $V_{CY} = V_{CF}(EF)/27$
 $V_{TON} = V_{CY}(2.0)$



PROTECTIVE SURFACE TREATMENT DETAIL



CIP PILE DETAILS



PROFILE GRADE LINE

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES B-42-137" SHALL BE THE EXISTING GROUNDLINE.

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

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

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED, AS SHOWN IN DETAIL ON THIS SHEET, TO ENTIRE EXPOSED TOP OF SLAB.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS, INCLUDING PARAPETS ON APPROACH SLABS.

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

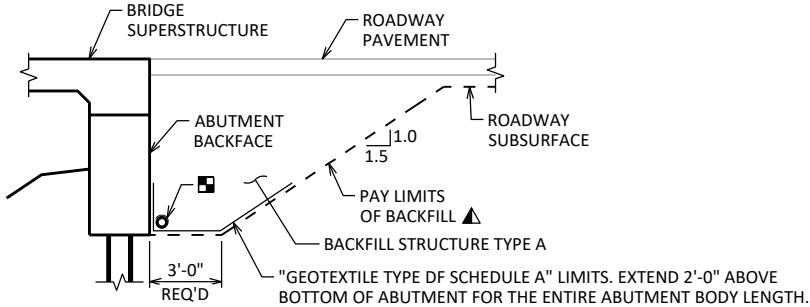
SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

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

STATE PROJECT NUMBER

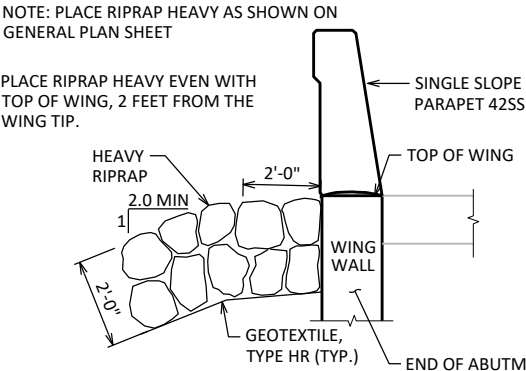
9068-00-01

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-137			
DRAWN BY JMC		PLANS CK'D NBE	
QUANTITIES, CROSS-SECTION, AND NOTES		SHEET 2 OF 13	

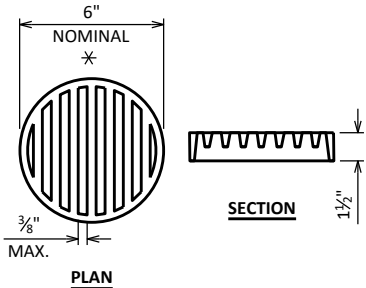


TYPICAL SECTION THRU ABUTMENT

- ▲ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.



TYPICAL FILL SECTION AT WING TIPS



RODENT SHIELD DETAIL

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

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

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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-137			
DRAWN BY		JMC	PLANS CK'D NBE
STRUCTURE DETAILS		SHEET 3 OF 13	

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-01	JANUARY 7, 2025	223154.50	460244.25
B-02	JANUARY 8, 2025	223127.40	460316.75
BORINGS COMPLETED BY: ECS MIDWEST, LLC			
REPORT COMPLETED BY: ECS MIDWEST, LLC			
ALL COORDINATES REFERENCED TO WCCS NAD 83(2011) OCONTO COUNTY			

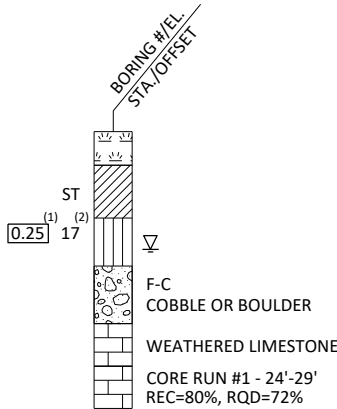
STATE PROJECT NUMBER

9068-00-01

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
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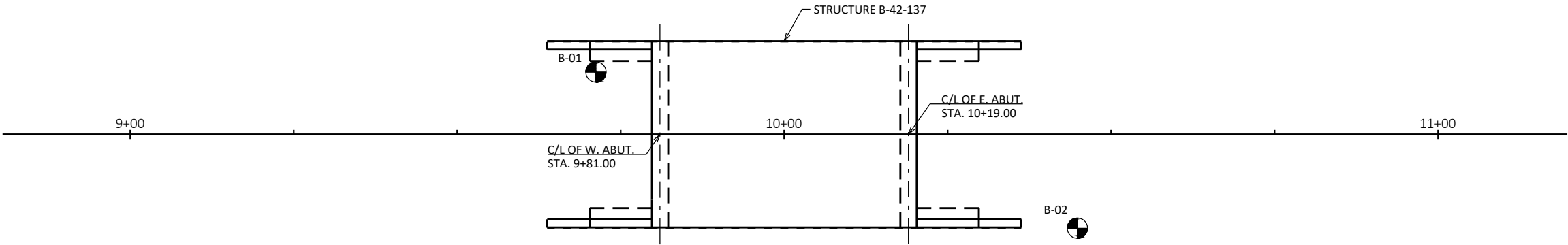
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-42-137

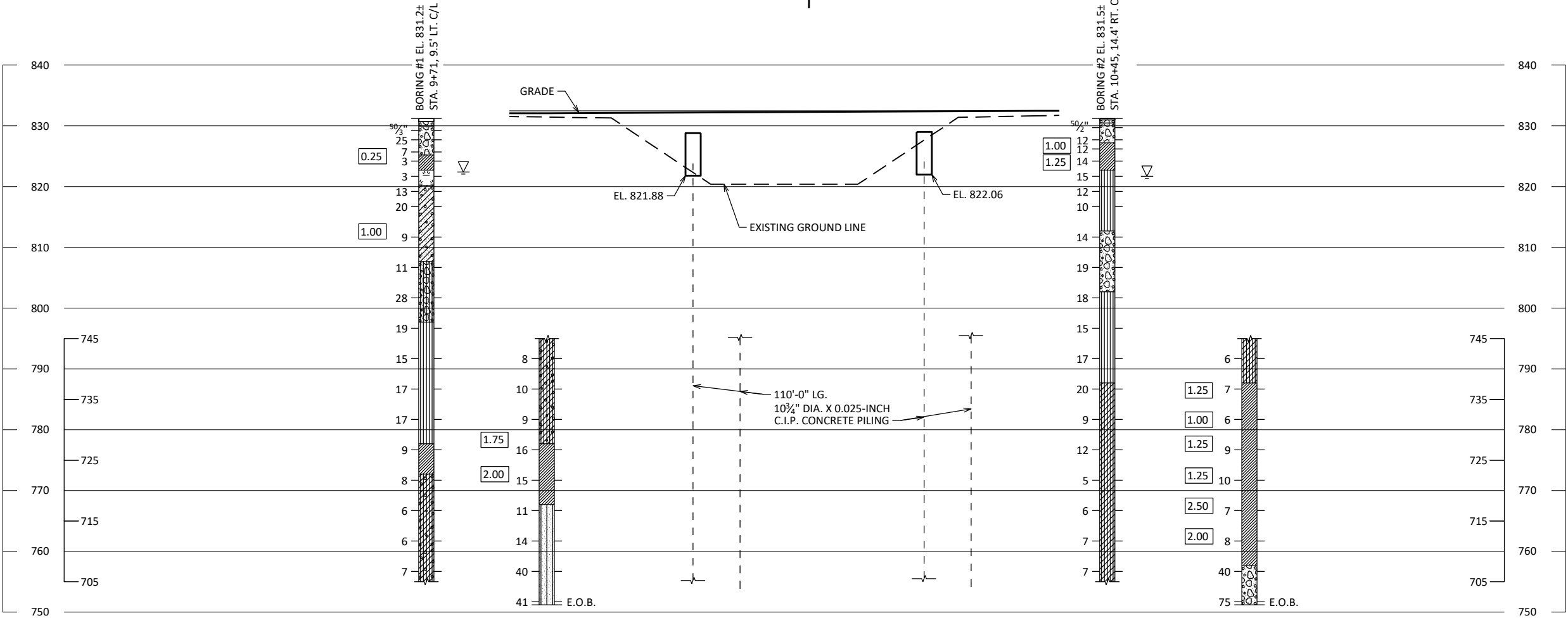
DRAWN BY JMC PLANS CK'D NBE

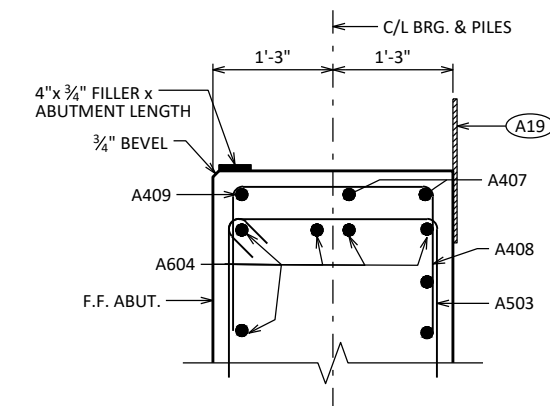
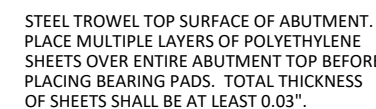
SUBSURFACE
EXPLORATION

SHEET 4 OF 13



PECORE CREEK

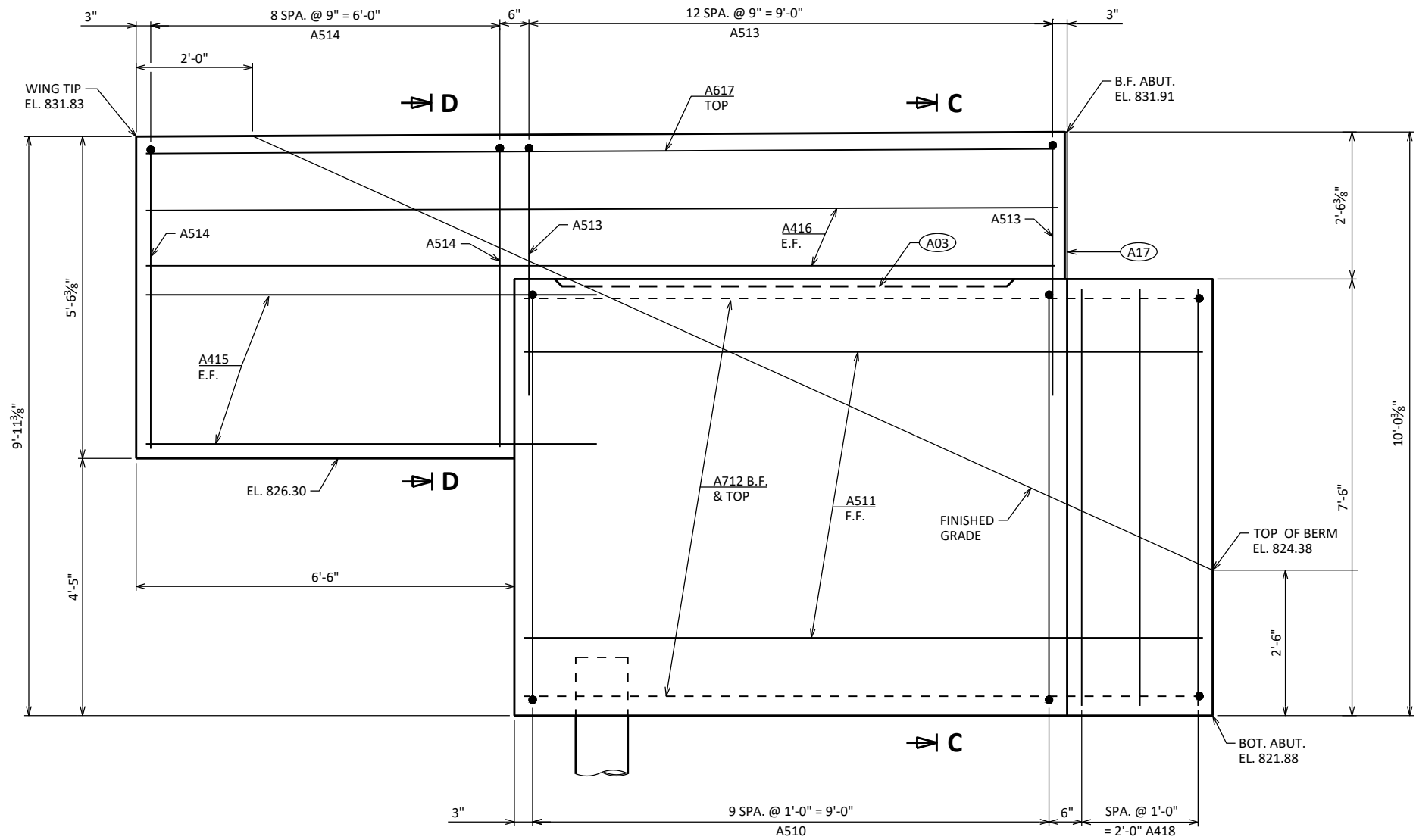




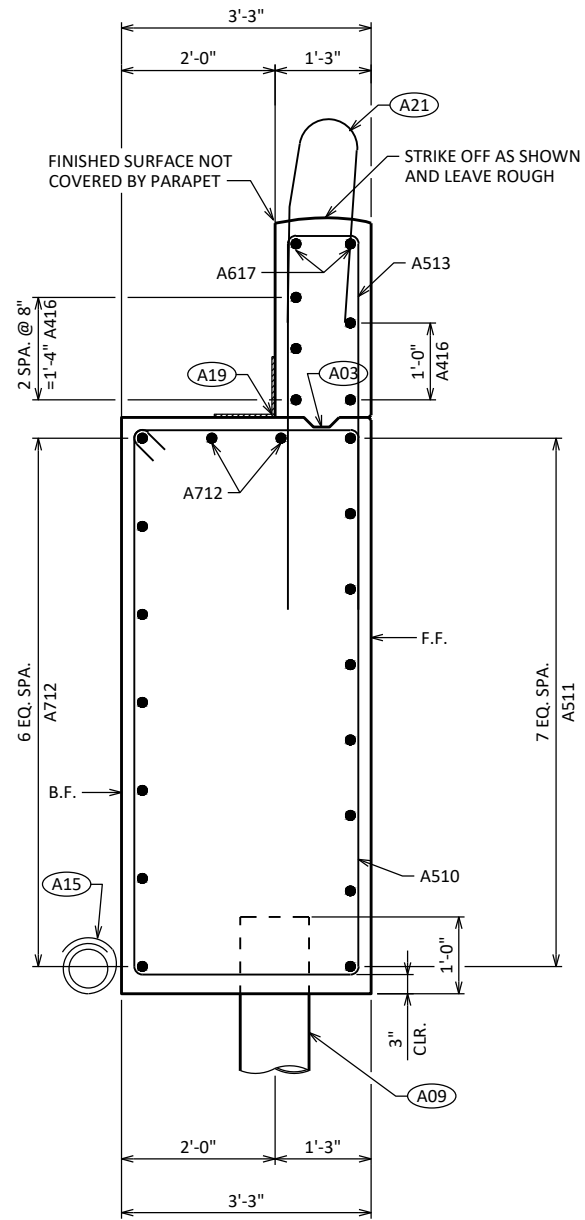
SECTION B

- A09** SUPPORT ABUTMENT ON 10 $\frac{3}{4}$ " DIA. 0.25" CIP CONCRETE PILING, ESTIMATED 110'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE.
- A15** PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- A17** $\frac{1}{2}$ " FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF $\frac{1}{2}$ " FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD $\frac{1}{8}$ " BELOW SURFACE OF CONCRETE) EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE
- A18** $\frac{3}{4}$ " CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.
- A19** 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

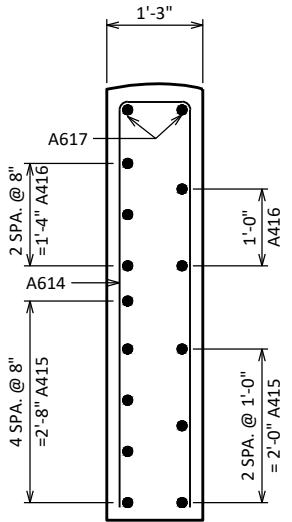
NO.	DATE	REVISION	B
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-42-137	
DRAWN BY		JMC	PLANS CK'D NB
WEST ABUTMENT		SHEET 5 OF 13	



ELEVATION - WING 1
(WING 1 SHOWN - WING 2 SIMILAR)



SECTION C



SECTION D

- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A09) SUPPORT ABUTMENT ON 10³/₈" DIA. 0.25" CIP CONCRETE PILING, ESTIMATED 110'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH); SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 3/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A21) FOR PPT. BARS & DIMENSIONS SEE PARAPET SHEET.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-137			
DRAWN BY JMC		PLANS CK'D NBE	
WEST ABUTMENT WING DETAIL		SHEET 6 OF 13	



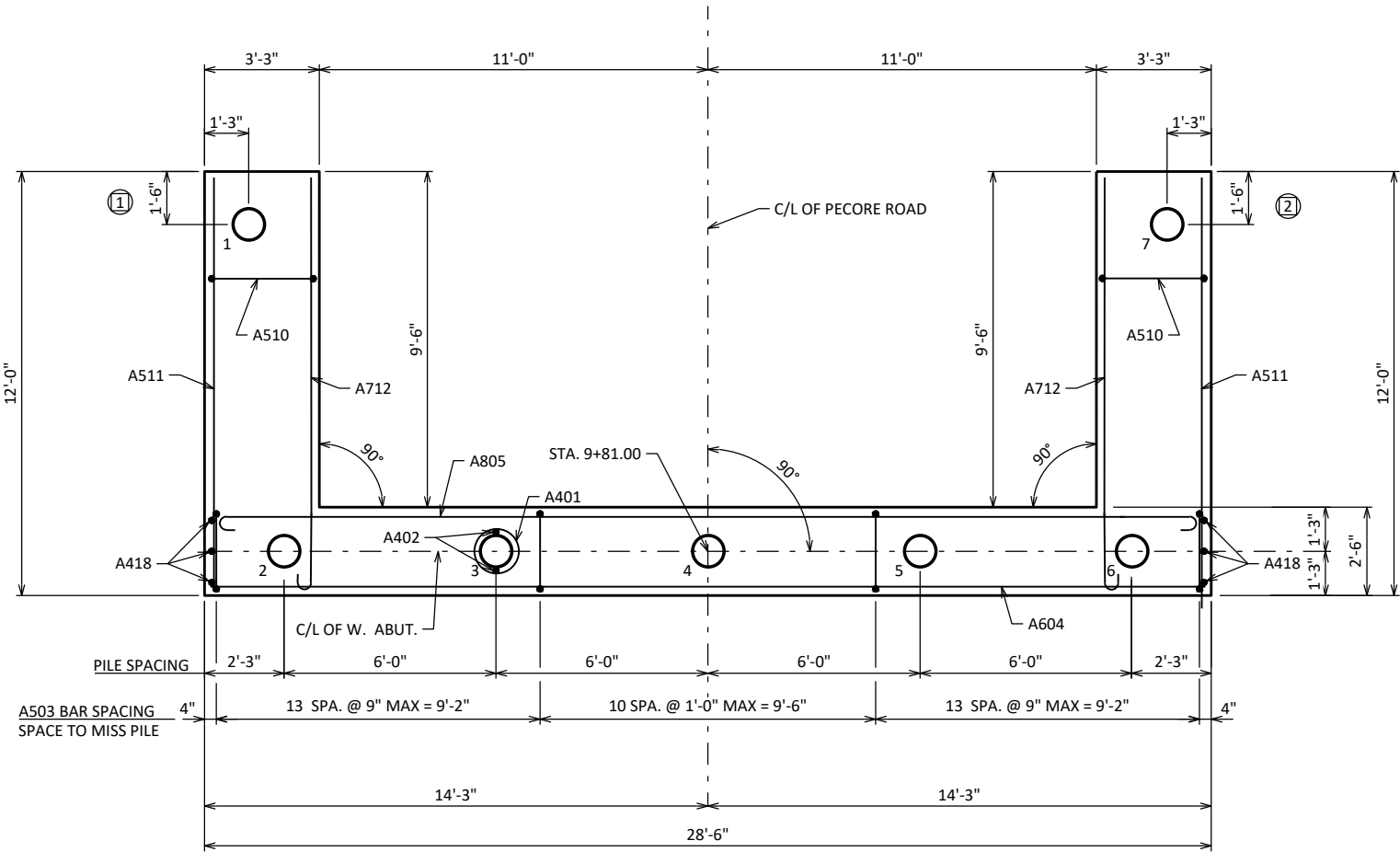
STATE PROJECT NUMBER

9068-00-01

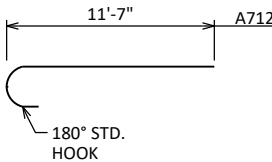
BILL OF BARS

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

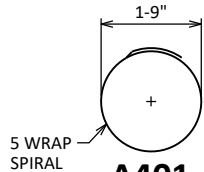
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401		5	28'-0"	X		BODY @ PILES
A402		10	2'-3"			BODY @ PILES
A503		37	18'-8"	X		BODY VERT.
A604		12	28'-2"			BODY HORIZ.
A805		7	29'-10"	X		BODY HORIZ. B.F.
A406		16	3'-3"	X		BODY VERT. TOP
A407		2	28'-2"			BODY HORIZ. TOP
A408		8	4'-6"	X		BODY VERT. TOP
A409		2	2'-11"			BODY HORIZ. TOP
A510	X	20	20'-8"	X		WINGS 1 & 2 VERT.
A511	X	16	11'-7"			WINGS 1 & 2 HORIZ. F.F.
A712	X	18	12'-5"	X		WINGS 1 & 2 HORIZ. B.F. & TOP
A513	X	26	9'-4"	X		WINGS 1 & 2 VERT.
A514	X	18	10'-10"	X		WINGS 1 & 2 VERT.
A415	X	16	7'-10"			WINGS 1 & 2 HORIZ. E.F.
A416	X	10	15'-7"			WINGS 1 & 2 HORIZ. E.F.
A617	X	4	15'-7"			WINGS 1 & 2 E.F. TOP
A418	X	6	7'-2"			BODY VERT. END @ WINGS 1 & 2



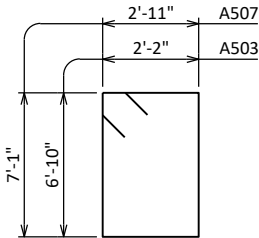
PILE LAYOUT



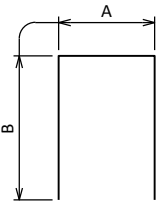
A712



A401

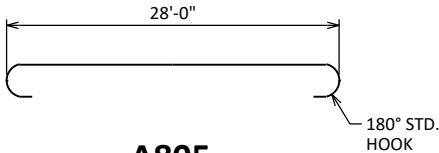


A503, A510



A406, A408, A513, A514

BAR MARK	A	B
A406	11"	1'-3"
A408	2'-2"	1'-3"
A513	11"	4'-4"
A514	11"	5'-1"

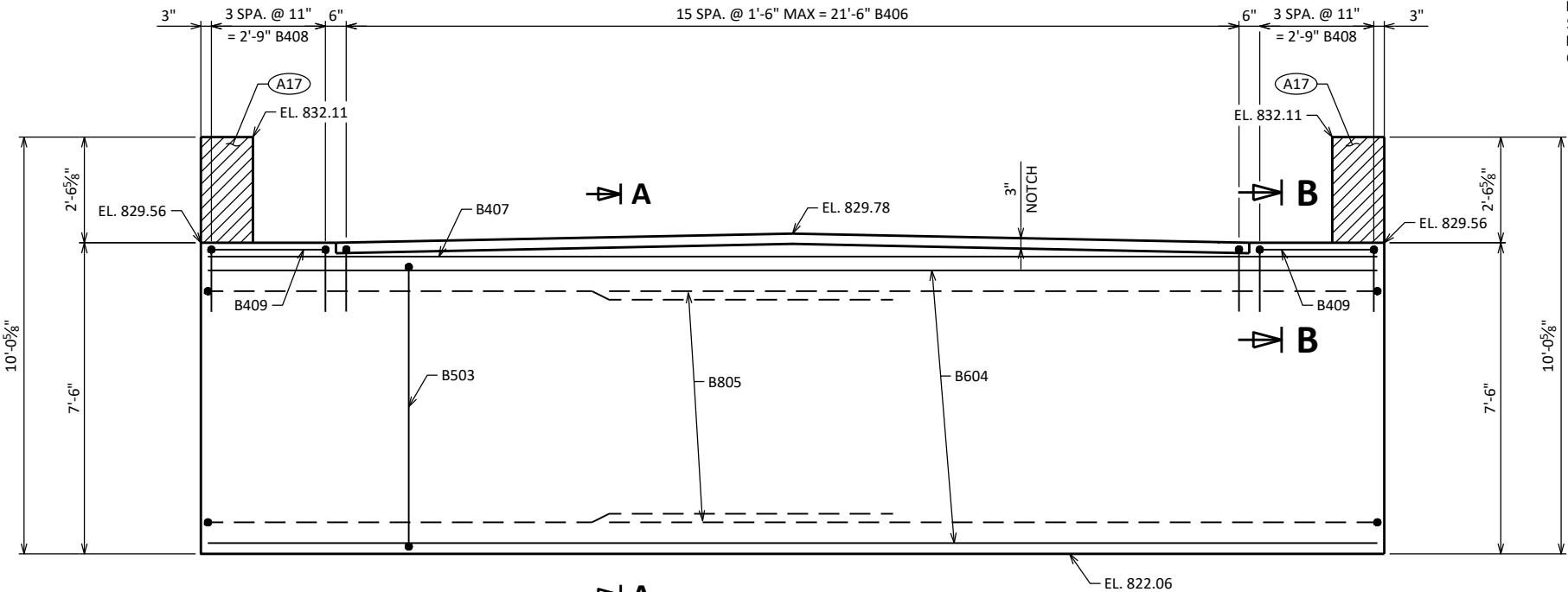


A805

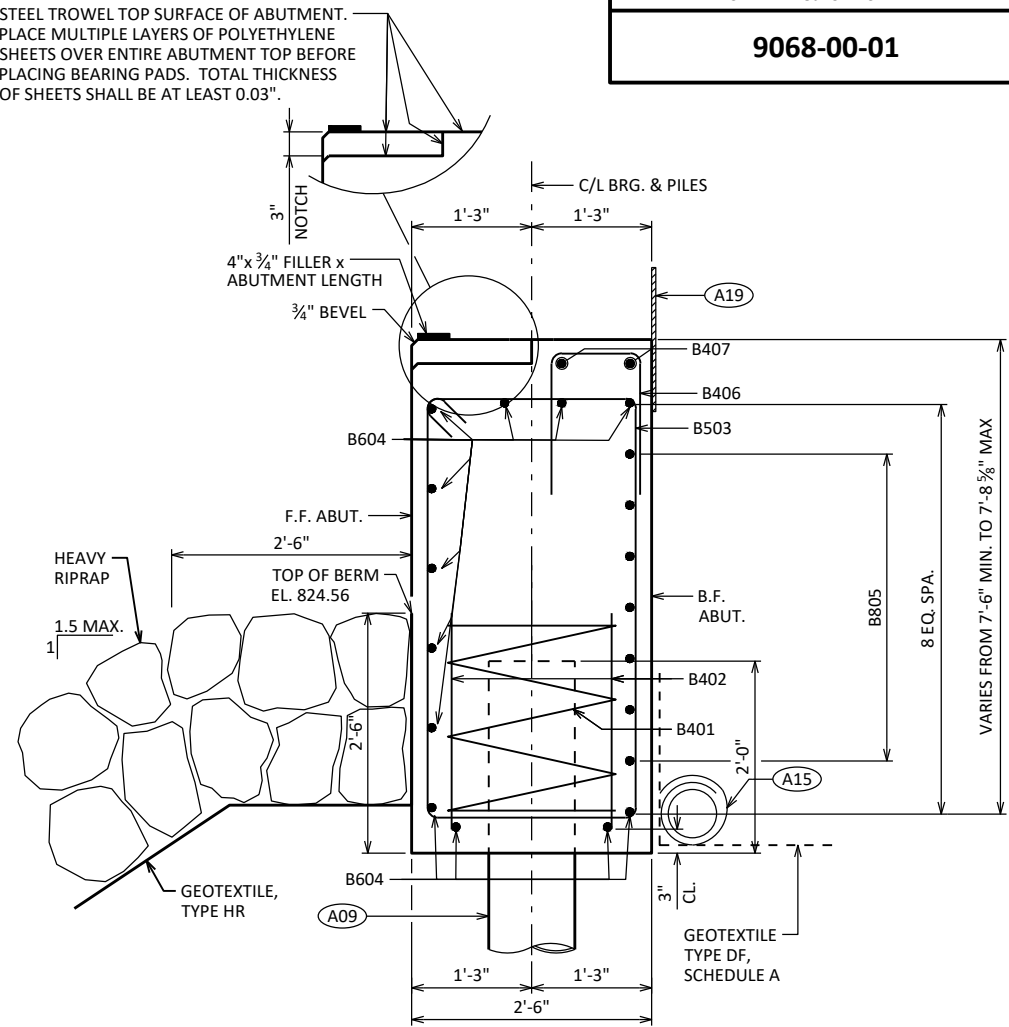
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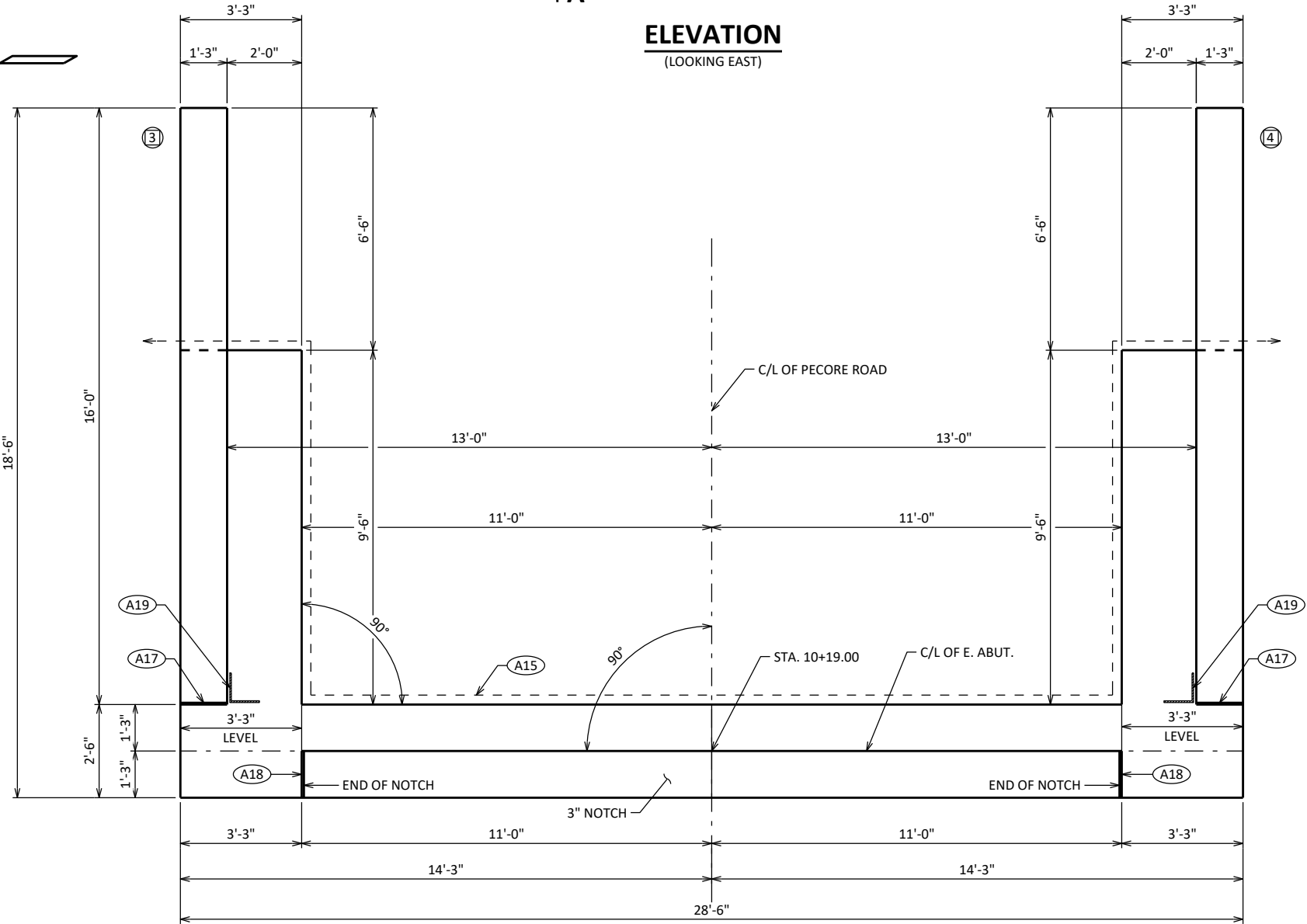
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-137			
DRAWN BY JMC		PLANS CK'D NBE	
WEST ABUTMENT PILE LAYOUT AND BILL OF BARS		SHEET 7 OF 13	



ELEVATION
(LOOKING EAST)

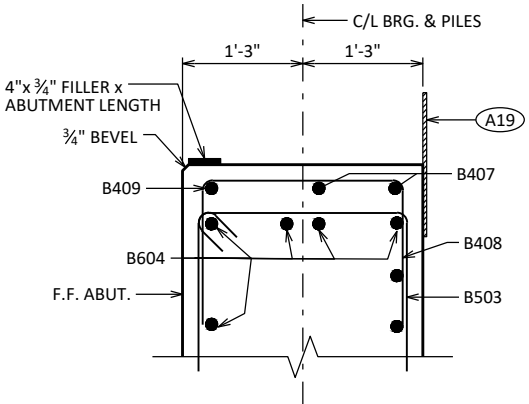


SECTION A



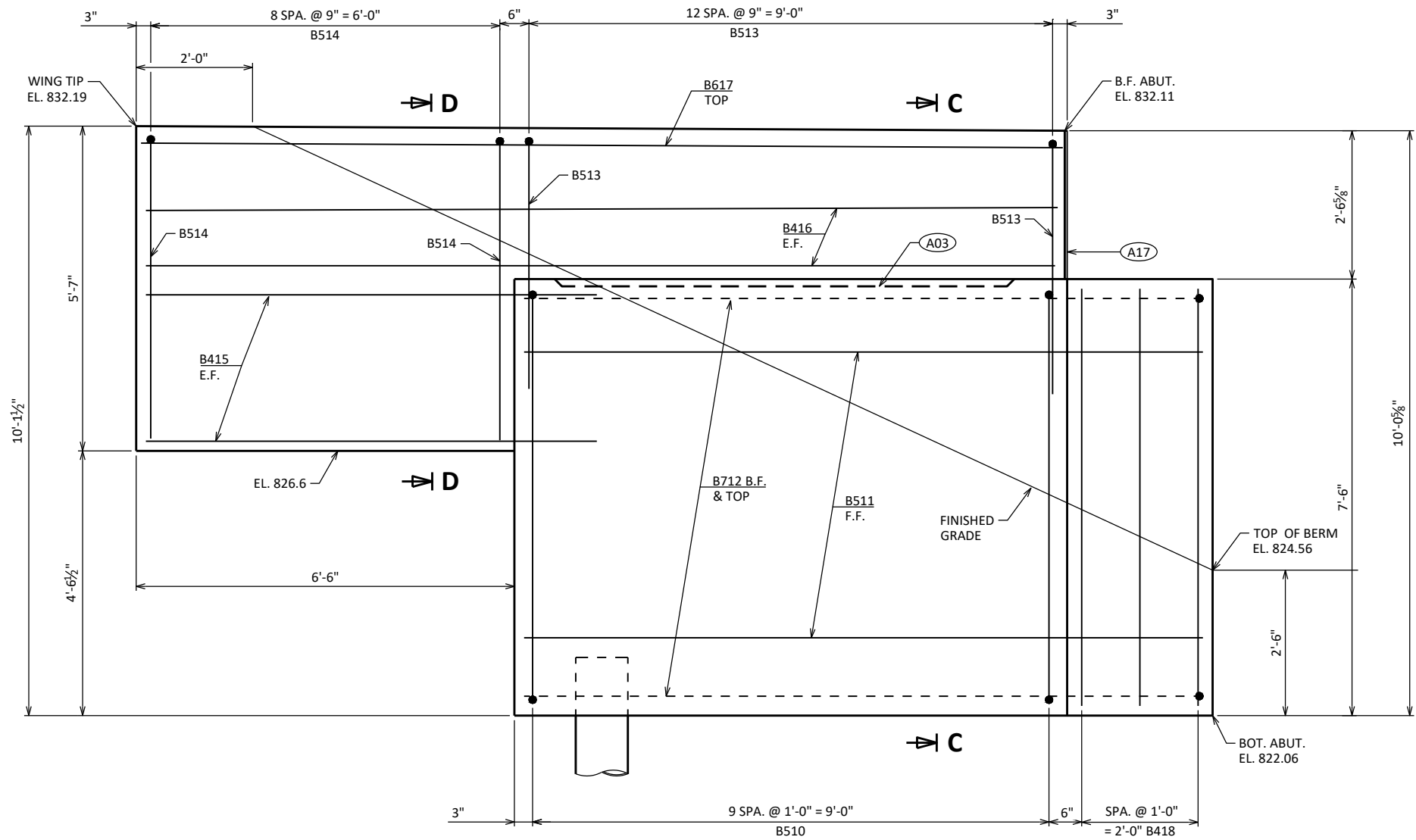
PLAN

- (A09) SUPPORT ABUTMENT ON 10 3/4" DIA. 0.25" CIP CONCRETE PILING, ESTIMATED 110'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/2" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A18) 3/4" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

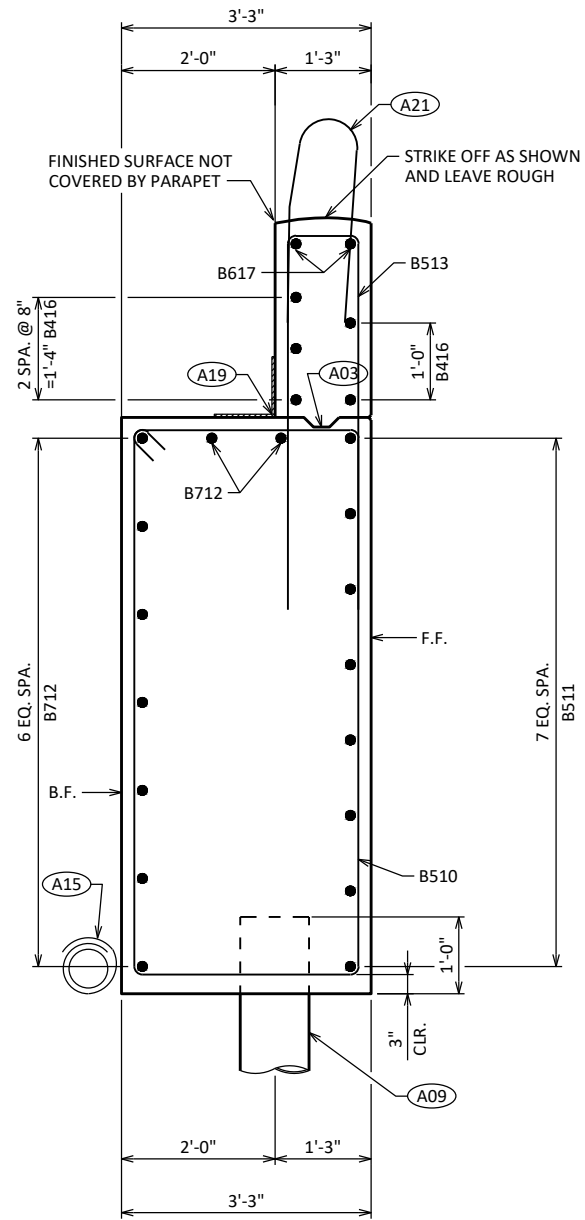


SECTION B

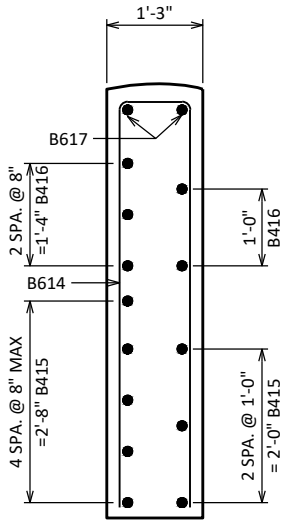
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-137			
DRAWN BY JMC		PLANS CK'D NBE	
EAST ABUTMENT			SHEET 8 OF 13



ELEVATION - WING 3
(WING 4 SHOWN - WING 4 SIMILAR)



SECTION C



SECTION D

- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A09) SUPPORT ABUTMENT ON 10 3/4" DIA. 0.25" CIP CONCRETE PILING, ESTIMATED 110'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/2" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A21) FOR PPT. BARS & DIMENSIONS SEE PARAPET SHEET.

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-137		DRAWN BY JMC PLANS CK'D NBE	
EAST ABUTMENT WING DETAIL		SHEET 9 OF 13	
NO.	DATE	REVISION	BY



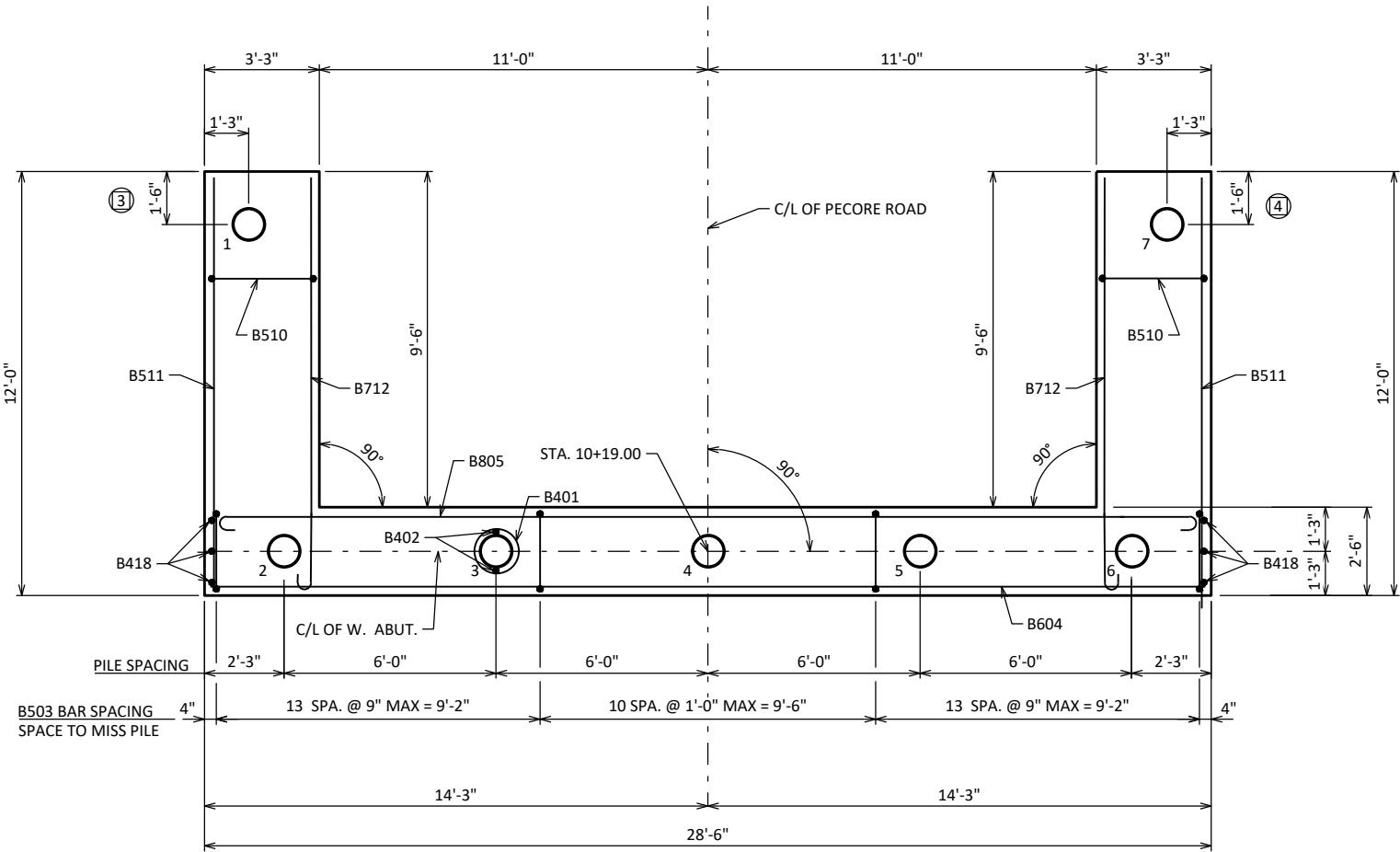
STATE PROJECT NUMBER

9068-00-01

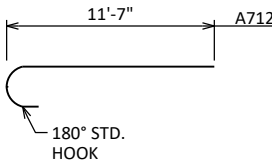
BILL OF BARS

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

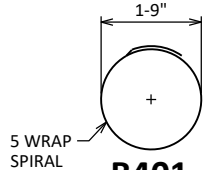
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B401		5	28'-0"	X		BODY @ PILES
B402		10	2'-3"			BODY @ PILES
B503		37	18'-8"	X		BODY VERT.
B604		12	28'-2"			BODY HORIZ.
B805		7	29'-10"	X		BODY HORIZ. B.F.
B406		16	3'-3"	X		BODY VERT. TOP
B407		2	28'-2"			BODY HORIZ. TOP
B408		8	4'-6"	X		BODY VERT. TOP
B409		2	2'-11"			BODY HORIZ. TOP
B510	X	20	20'-8"	X		WINGS 3 & 4 VERT.
B511	X	16	11'-7"			WINGS 3 & 4 HORIZ. F.F.
B712	X	18	12'-5"	X		WINGS 3 & 4 HORIZ. B.F. & TOP
B513	X	26	9'-4"	X		WINGS 3 & 4 VERT.
B514	X	18	10'-10"	X		WINGS 3 & 4 VERT.
B415	X	16	7'-10"			WINGS 3 & 4 HORIZ. E.F.
B416	X	10	15'-7"			WINGS 3 & 4 HORIZ. E.F.
B617	X	4	15'-7"			WINGS 3 & 4 E.F. TOP
B418	X	6	7'-2"			BODY VERT. END @ WINGS 3 & 4



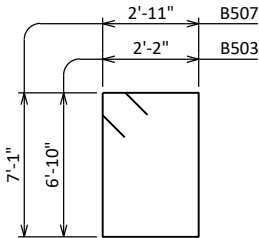
PILE LAYOUT



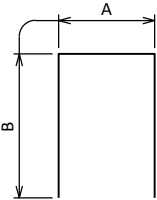
B712



B401

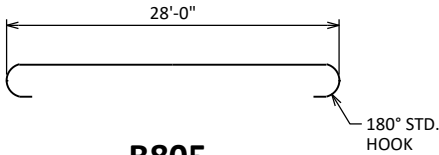


B503, B510



B406, B408, B513, B514

BAR MARK	A	B
B406	11"	1'-3"
B408	2'-2"	1'-3"
B513	11"	4'-4"
B514	11"	5'-1"

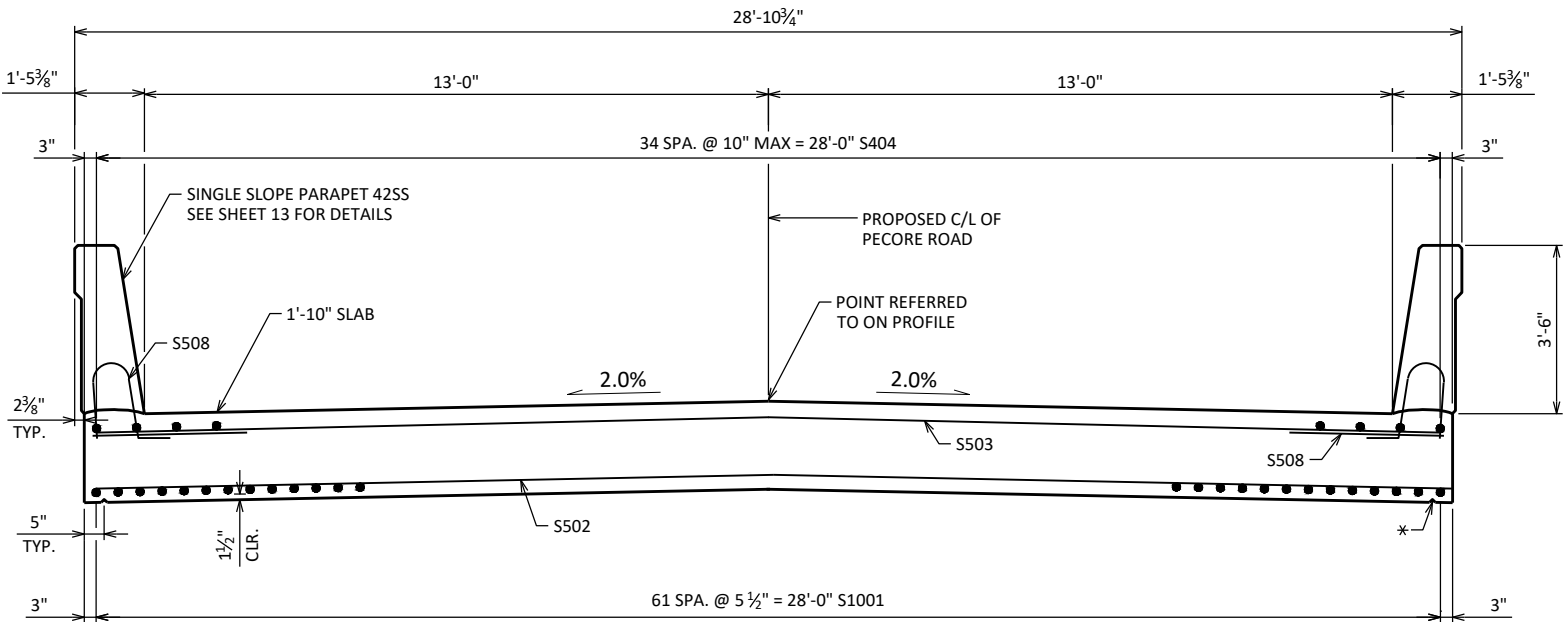


B805

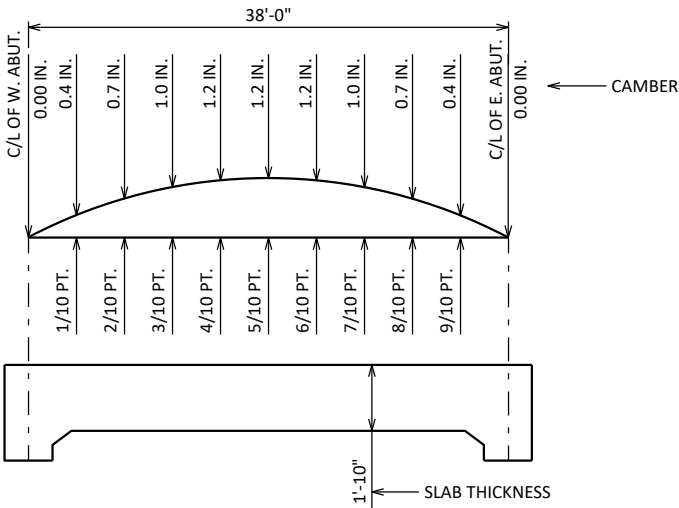
8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-137			
DRAWN BY JMC		PLANS CK'D NBE	
EAST ABUTMENT PILE LAYOUT AND BILL OF BARS		SHEET 10 OF 13	



TYPICAL SECTION THRU BRIDGE



CAMBER AND SLAB THICKNESS DIAGRAM

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

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

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

TOP OF SLAB ELEVATIONS

LOCATION	C/L W. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	C/L E. ABUT.
N. EDGE OF SLAB	831.92	831.94	831.96	831.98	831.99	832.01	832.03	832.05	832.07	832.09	832.11
C/L OF PECORE ROAD	832.18	832.20	832.22	832.24	832.25	832.27	832.29	832.31	832.33	832.35	832.37
S. EDGE OF SLAB	831.92	831.94	831.96	831.98	831.99	832.01	832.03	832.05	832.07	832.09	832.11

NOTES

* 3/4" V-GROOVE REQ'D. EXTEND TO 6" FROM F.F. OF ABUT. BODY.

V-GROOVES ARE REQUIRED.

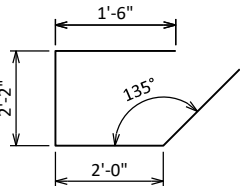
TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

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

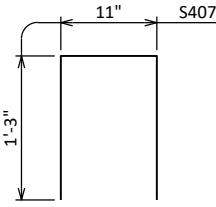
BILL OF BARS

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

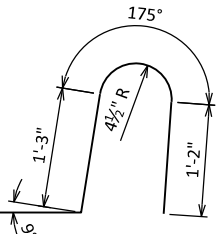
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	
S1001	X	63	34'-2"			SLAB LONG. BOT.
S502	X	65	28'-2"			SLAB TRANS. BOT.
S503	X	41	28'-2"			SLAB TRANS. TOP
S404	X	35	40'-2"			SLAB LONG. TOP
S505	X	58	7'-7"	X		SLAB @ ABUT. DIAPHRAGM STIRRUPS
S406	X	4	21'-8"			SLAB @ ABUT. NOTCH
S407	X	46	3'-3"	X		SLAB @ ABUT. NOTCH
S508	X	82	5'-0"			SLAB @ EDGE TRANS. TOP @ EDGES
S509	X	122	4'-5"			SLAB @ PARAPET VERT.
S510	X	122	6'-8"			PARAPET VERT.
S511	X	16	40'-2"			PARAPET HORIZ.



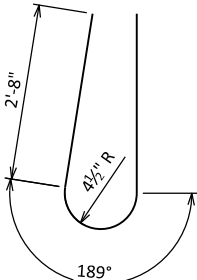
S505



S407



S509



S510

SURVEY TOP OF SLAB ELEVATIONS

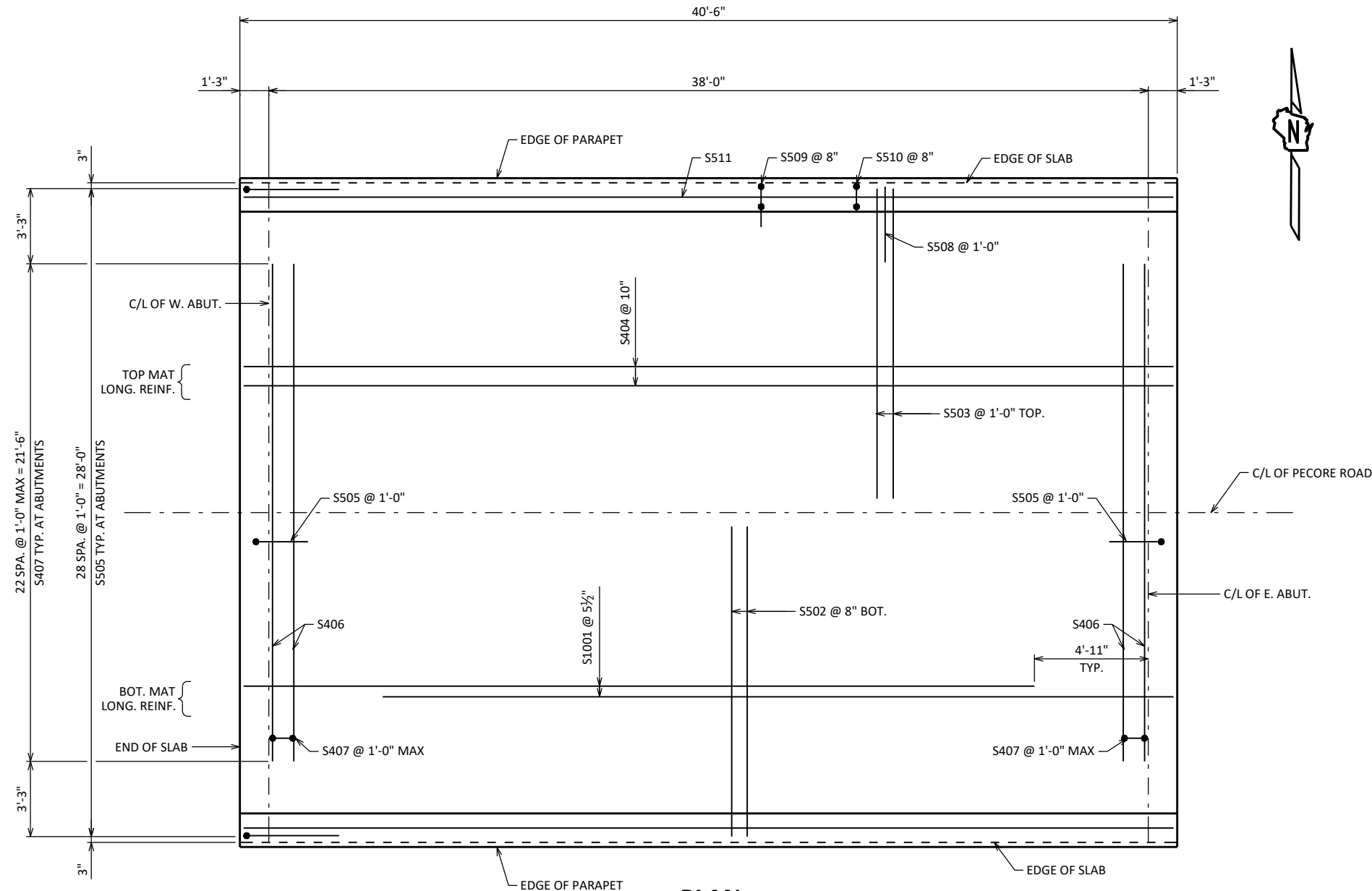
	W. ABUTMENT	5/10 PT.	E. ABUTMENT
N. EDGE OF SLAB			
C/L OF PECORE ROAD			
S. EDGE OF SLAB			

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

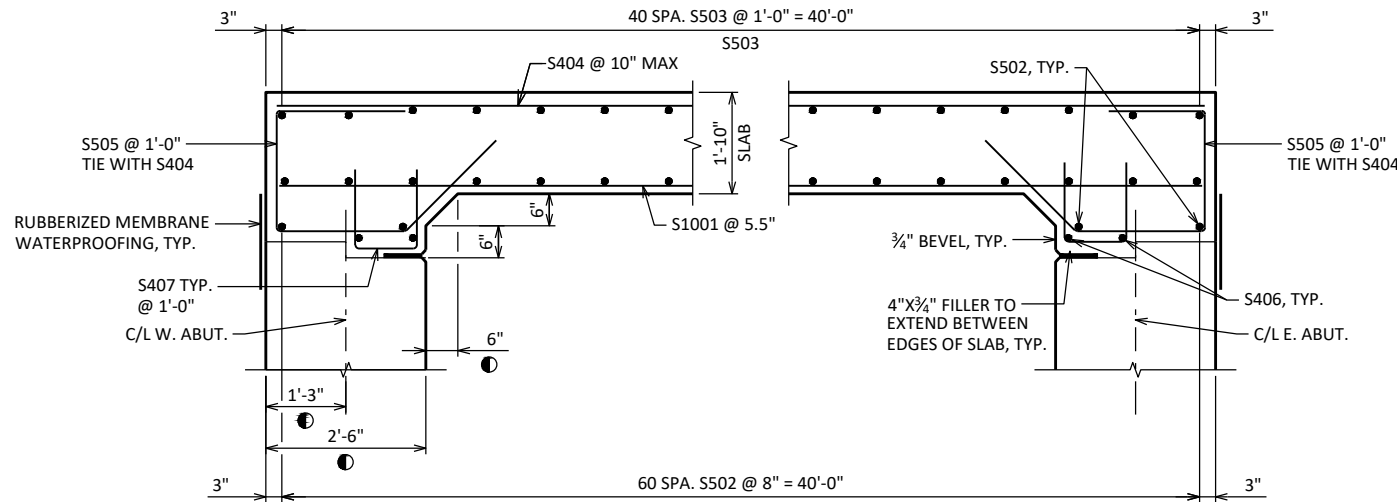
STATE PROJECT NUMBER

9068-00-01

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-137			
DRAWN BY JMC		PLANS CK'D NBE	
SUPERSTRUCTURE			SHEET 11 OF 13



PLAN



LONGITUDINAL SECTION

DIMENSION ARE GIVEN PARALLEL TO C/L ROADWAY UNLESS OTHERWISE NOTED.

MEASURED NORMAL TO C/L OF ABUTMENTS. DIMENSIONS ARE TYPICAL FOR BOTH ABUTMENTS.

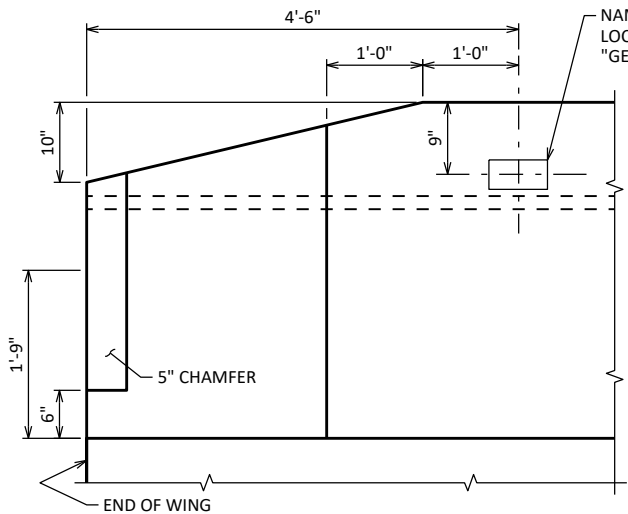
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-137			
DRAWN BY JMC		PLANS CK'D NBE	
SUPERSTRUCTURE PLAN		SHEET 12 OF 13	

BILL OF BARS

FOR WING PARAPETS

BAR MARK	COAT	W. ABUT.	E. ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	24	24	5'-10"	X		PARAPET VERT.
R502	X	24	24	6'-8"	X		PARAPET VERT.
R503	X	24	24	3'-0"	X		PARAPET VERT.
R504	X	34	34	5'-7"	X		PARAPET VERT.
R505	X	10	10	6'-5"	X		PARAPET VERT.
R506	X	12	12	6'-6"	X		PARAPET VERT.
R507	X	2	2	15'-7"	X		PARAPET HORIZ.
R508	X	10	10	15'-7"			PARAPET HORIZ.
R509	X	12	12	5'-5"	X	▲	PARAPET VERT.
R510	X	4	4	15'-8"	X		PARAPET HORIZ.

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

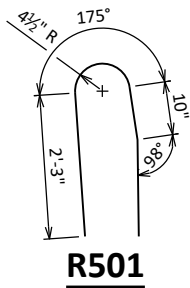


PARAPET END TREATMENT DETAIL
LOOKING AT INSIDE FACE OF PARAPET

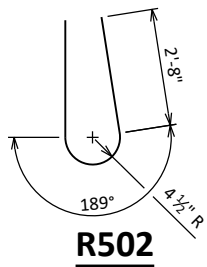
BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

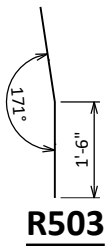
BAR MARK	NO. REQ'D.	LENGTH
R509	4 SERIES OF 6	4'-9" TO 6'-1"



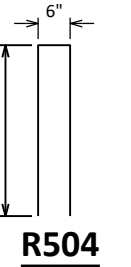
R501



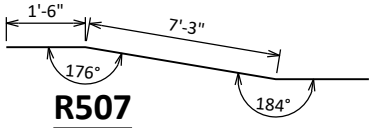
R502



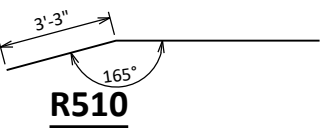
R503



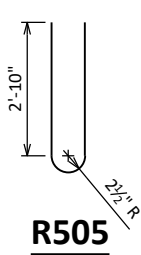
R504



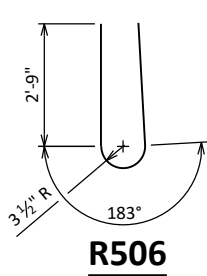
R507



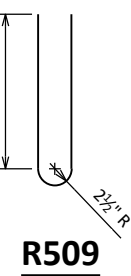
R510



R505



R506



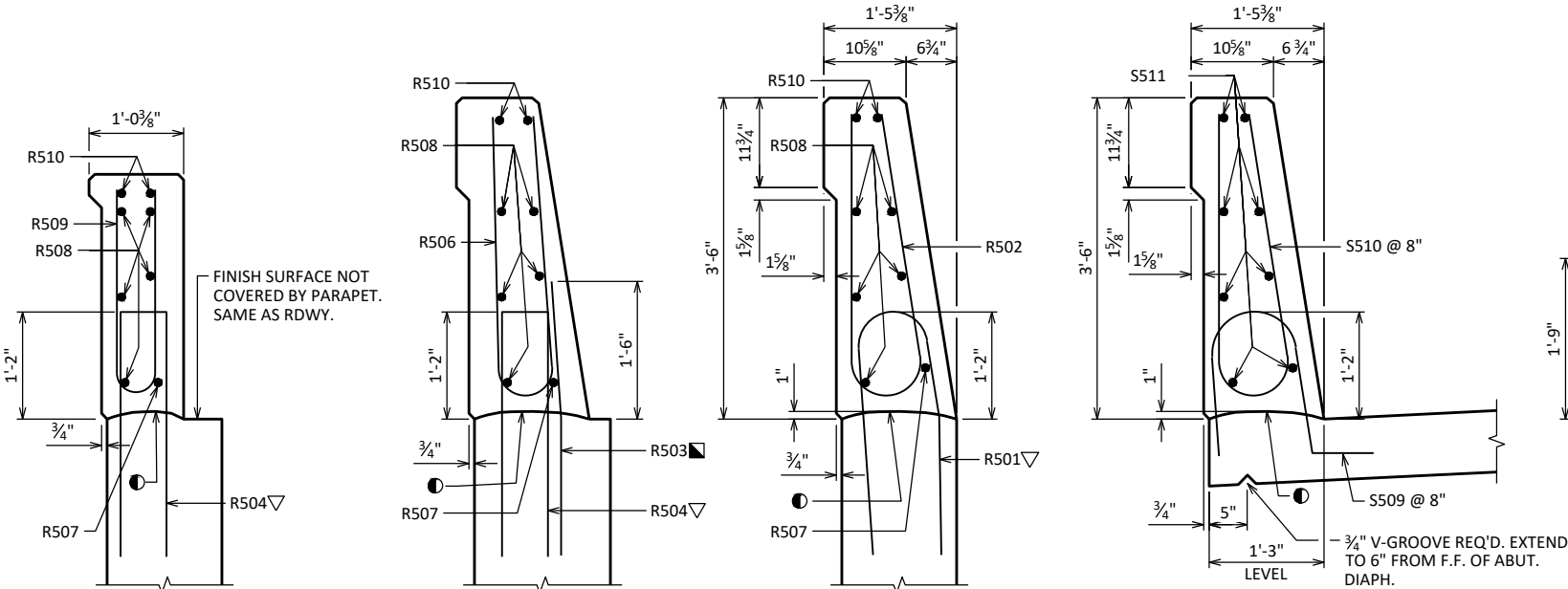
R509

■ BENCH MARK CAP (WHEN SUPPLIED). AVOID PLACING A BENCH MARK CAP BELOW A RAIL OR FENCE SYSTEM THAT IS ATTACHED TO THE TOP OF THE PARAPET.

● CONST. JOINT - STRIKE OFF AS SHOWN

■ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

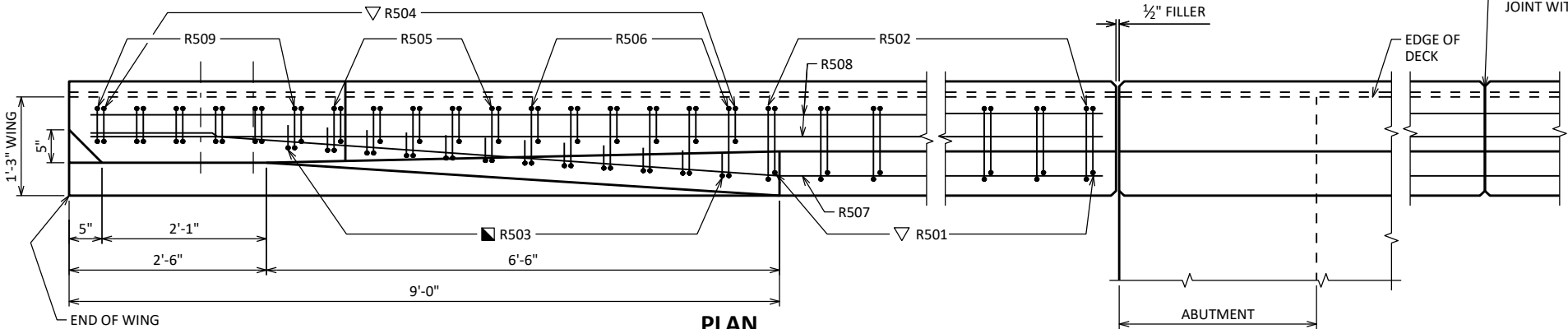


SECTION A-A

SECTION B-B

SECTION C-C

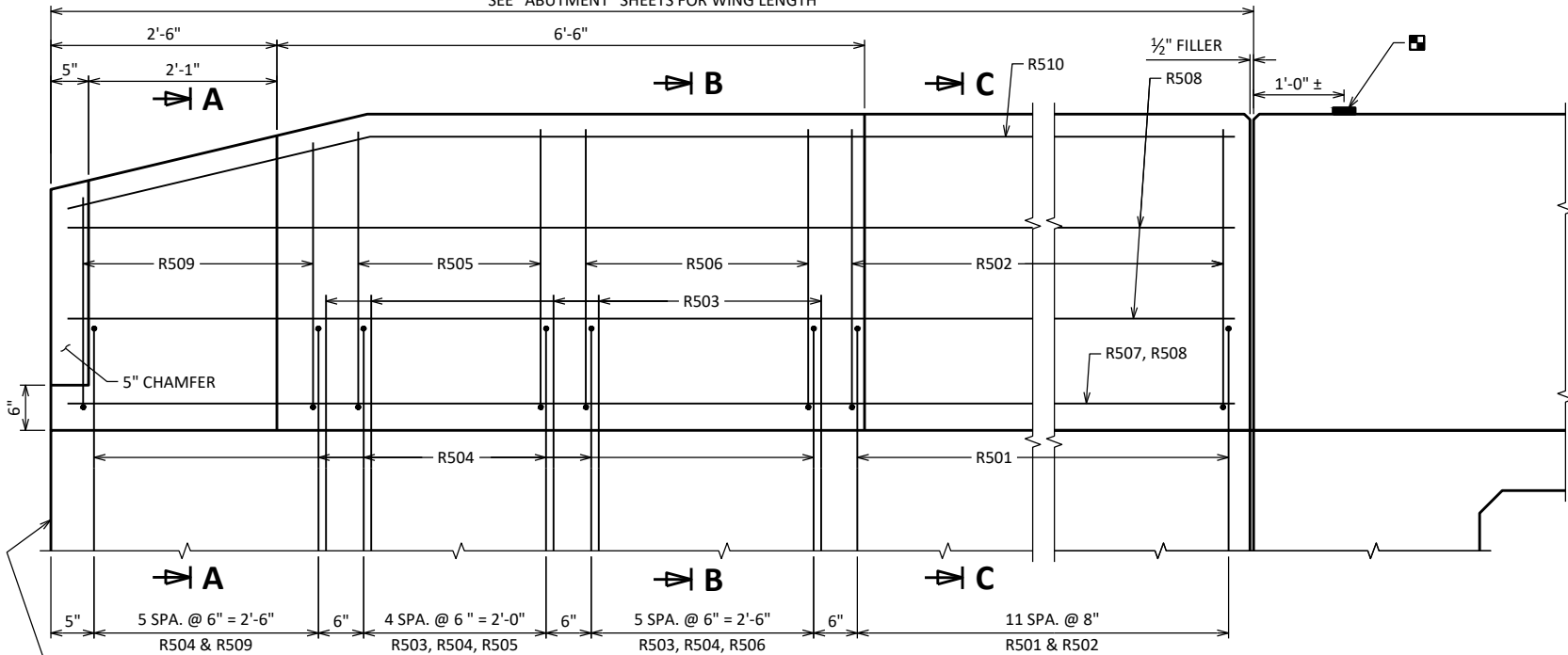
SECTION THRU PARAPET ON DECK



PLAN

SW CORNER SHOWN, OTHERS SIMILAR

SEE "ABUTMENT" SHEETS FOR WING LENGTH



INSIDE ELEVATION

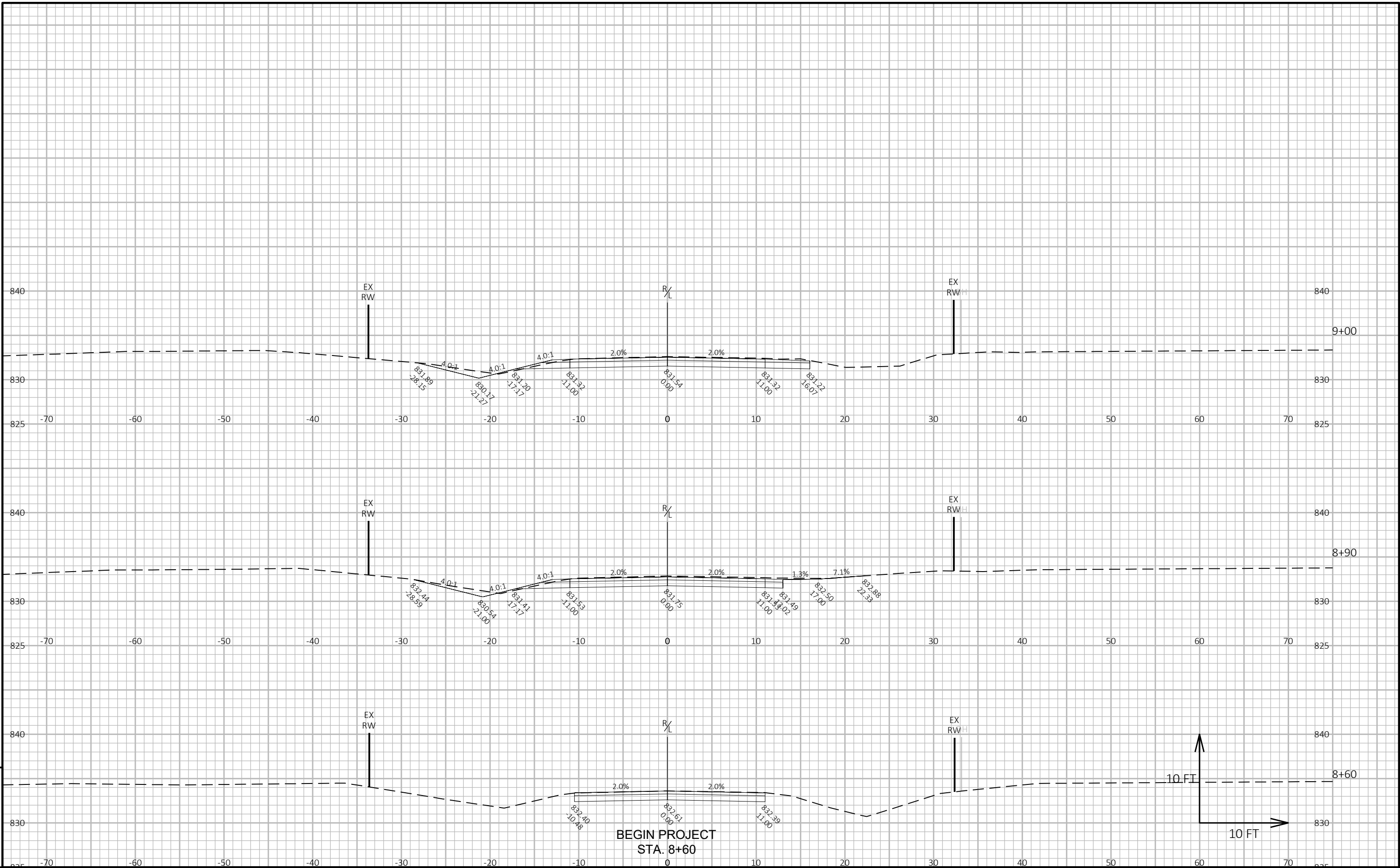
SW CORNER SHOWN, OTHERS SIMILAR

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-42-137			
DRAWN BY JMC		PLANS CK'D NBE	
SINGLE SLOPE PARAPET 42SS			SHEET 13 OF 13

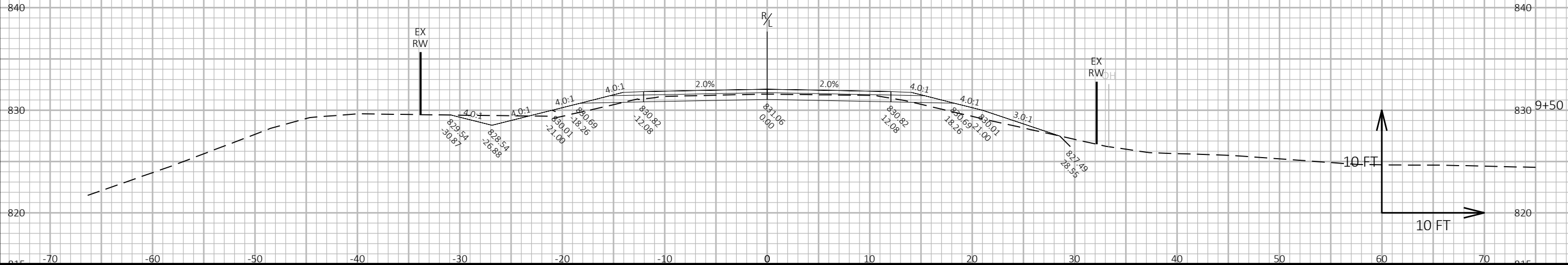
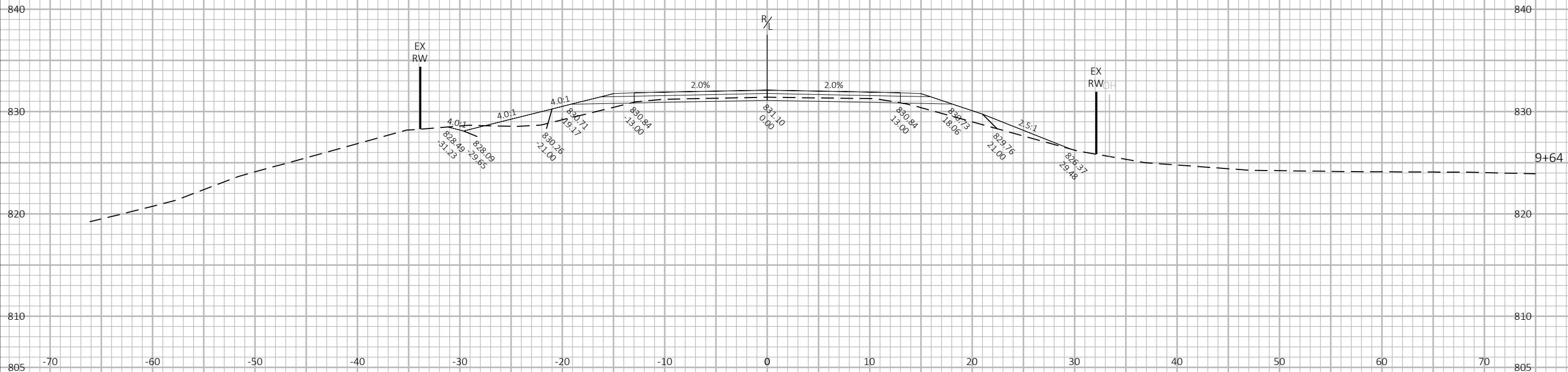
PECORE RD									
STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
				NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 1	NOTE 8
8+60.00	21.6	10.0	0.00	0	0	0	0	0	0
8+90.00	29.8	10.0	4.29	29	11	2	29	3	16
9+00.00	31.2	10.0	3.87	11	4	2	40	5	20
9+50.00	13.3	10.0	16.44	41	19	19	81	29	18
9+63.68	7.7	10.0	24.82	5	5	10	86	41	6
9+79.75	7.7	10.0	24.82	5	6	15	91	60	-14
B-42-0137									
10+20.25	4.5	10.0	35.12	0	0	0	91	60	-14
10+36.32	4.5	10.0	35.12	3	6	21	94	86	-43
10+50.00	10.5	10.0	8.20	4	5	11	98	100	-58
10+60.00	13.5	10.0	12.47	4	4	4	102	105	-63
11+00.00	25.0	10.0	3.85	28	15	12	130	120	-65
11+15.00	21.4	10.0	0.00	13	6	1	143	121	-59
TOTAL				143	81	97			

Notes:
1 - Cut
2 - Salvaged/Unusable Pavement Material
3 - Fill
8 - Mass Ordinate

Cut includes Salvaged/Unusable Pavement material
This does not show up in cross sections
Does not include Unusable Pavement Exc volume
Cut - Unusable Pavement Material - (Fill * Fill Factor)

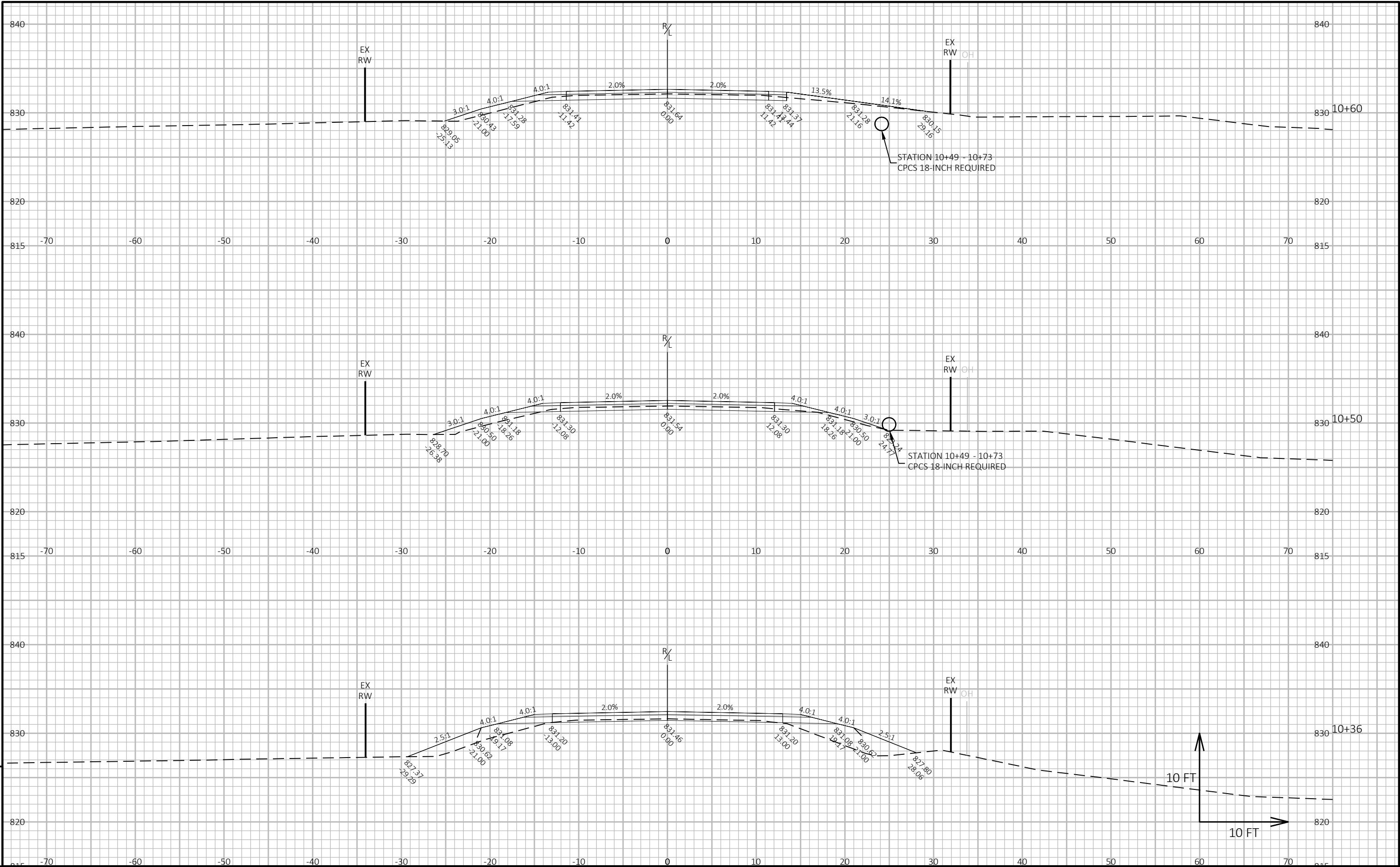


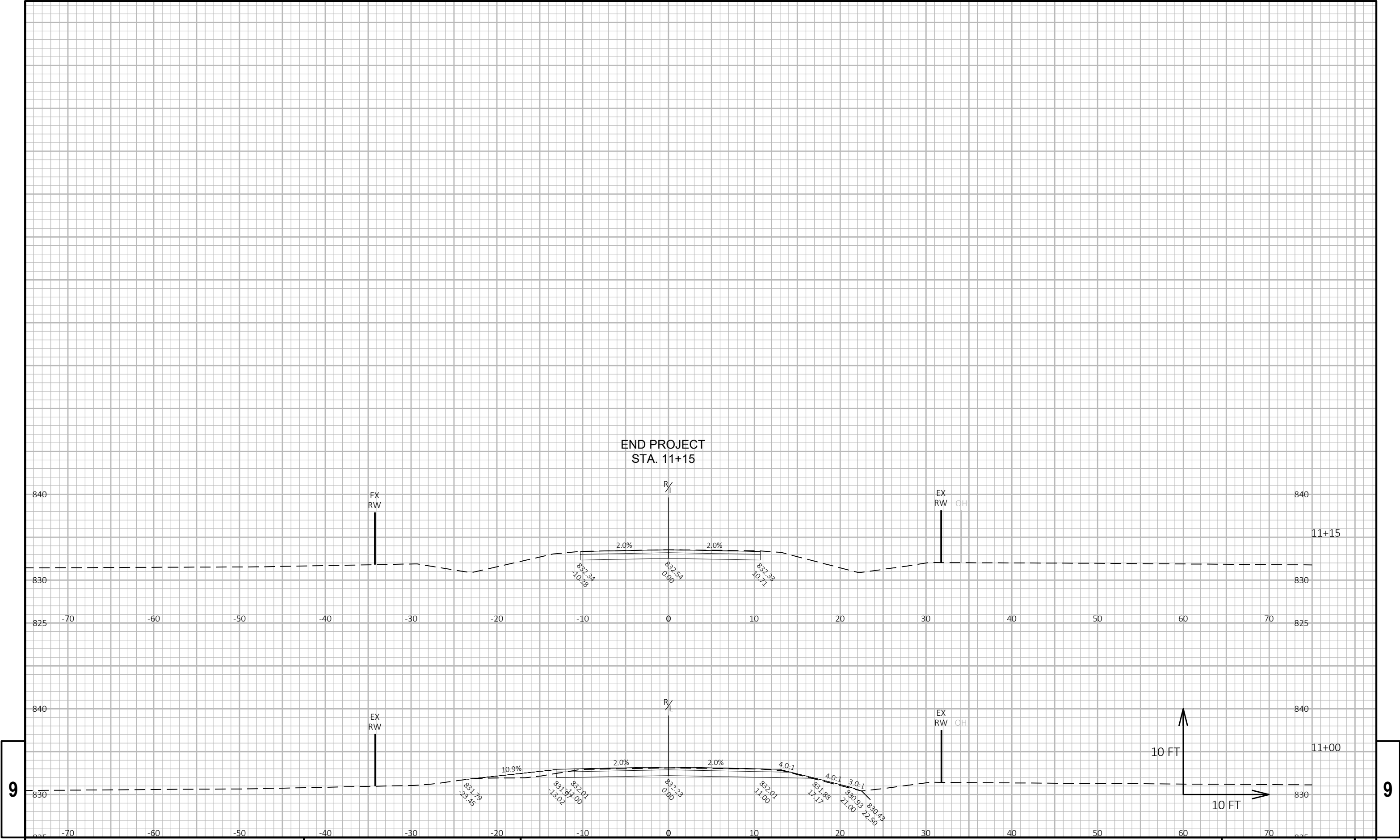
STRUCTURE B-42-0137 REQ'D



9

9



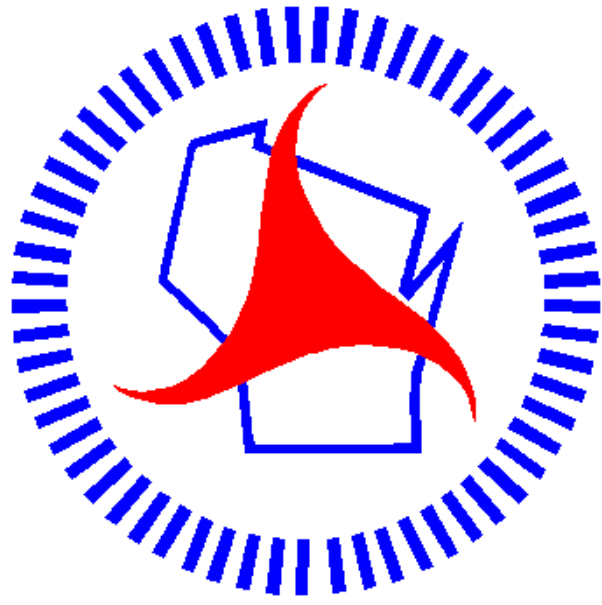


9

9

PROJECT NO: 9068-00-01	HWY: PECORE ROAD	COUNTY: OCONTO	CROSS SECTIONS: CROSS SECTIONS	SHEET E
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Notes



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